

Pioneering for You

wilo

*Wilo brings the future.*

## Wilo General Catalogue Building Services

Explore our solutions for Heating, Air-Conditioning, Cooling,  
Water Supply, Drainage and Sewage

DISCOVER  
ADDITIONAL  
DIGITAL  
CONTENT



# NOW. PUMP TECHNOLOGY OF THE FUTURE

## WILO-STRATOS MAXO: THE WORLD'S FIRST SMART PUMP\*.



Your new partner is the most flexible pump: the Wilo-Stratos MAXO is the perfect fit for any application and ensures optimal system efficiency thanks to its intelligent control mode. Furthermore, the pump can be integrated into all relevant systems due to diverse interfaces. And with optimised and innovative energy-saving features the Wilo-Stratos MAXO meets the changing requirements superbly. No other pump on the market offers you more efficiency, connectivity and convenience. This is how already today we are making your life easier with the innovations of tomorrow.

## WILO BRINGS THE FUTURE.

Discover the future of pump technology:  
[www.wilo.com/wilo-stratos-maxo](http://www.wilo.com/wilo-stratos-maxo)

\* We understand a smart-pump as a new category of pumps, which goes far beyond our high-efficiency pumps or pumps with pump intelligence. Only the combination of the latest sensor technology and innovative control functions (e.g. Dynamic Adapt plus and Multi-Flow Adaptation), bidirectional connectivity (e.g. Bluetooth, integrated analogue inputs, binary inputs and outputs, Wilo Net interface), software updates and excellent usability (e.g. thanks to the Setup Guide, the preview principle for predictive navigation and the tried and tested Green Button Technology) make this pump a smart-pump.

Pioneering for You

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# **THE CATALOGUE OF THE FUTURE.**

**THE SMART WAY OF PRESENTING INNOVATIVE SOLUTIONS:  
WILO'S NEW GENERAL CATALOGUE FOR BUILDING SERVICES.**



Wilo brings the future: Our smart products and solutions show you the way into the future. Together with our innovative services Wilo pumps and pump systems make your daily life a little easier – thanks to maximum energy efficiency, user-friendliness and connectivity. And with the new general catalogue for Building Services we build a bridge into the world of tomorrow: We combine a classic product overview with detailed digital information and practical online tools. This allows you to access relevant data even faster.

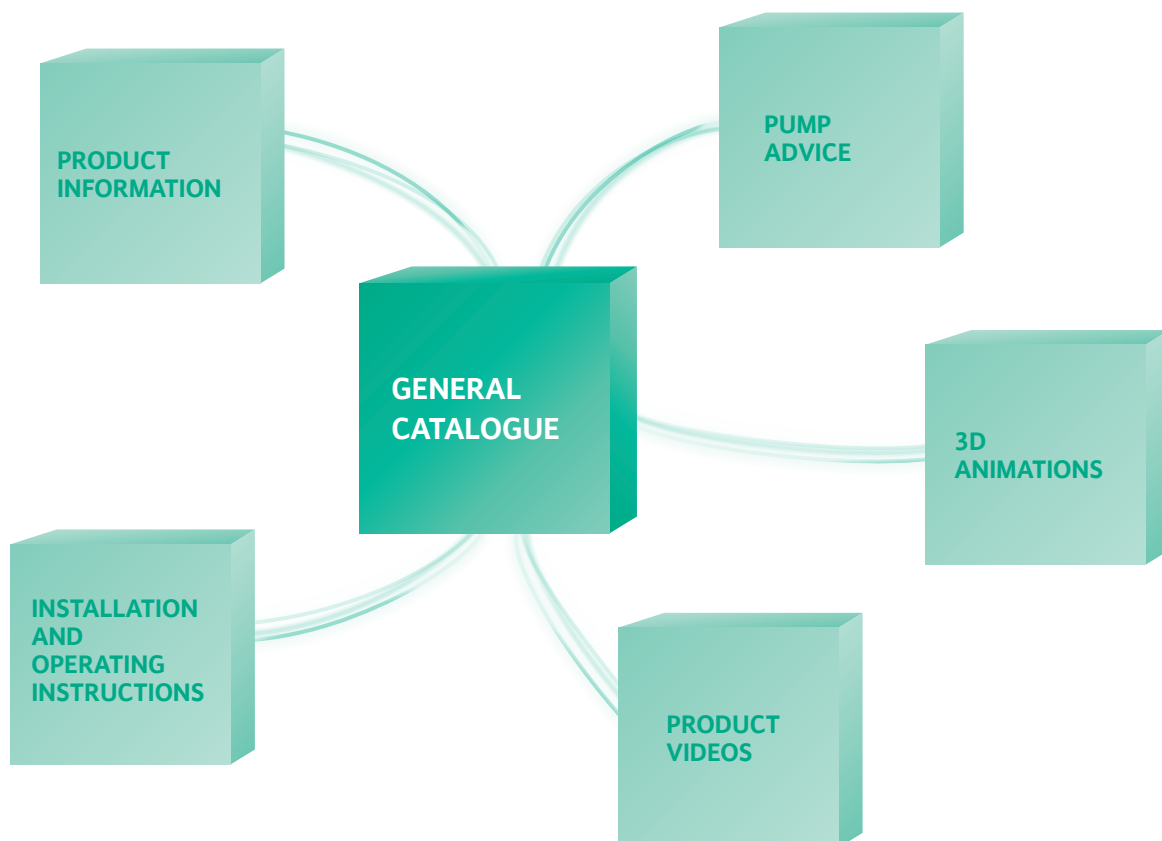
#### NEW CONCEPT, COMPREHENSIVE OVERVIEW

For the first time we have combined all fields of application in Building Services – heating, air-conditioning, cooling, water supply as well as drainage and sewage – in a single catalogue. We present our highlights for each field extensively, while the remaining products are concisely summarised. Additional information is digitally linked to the catalogue. With a single click the PDF version gives you the possibility to open the Online Catalogue and the pump selection software

Wilo-Select 4 online and to call up 3D animations, product videos and installation and operating instructions. In the printed version a smartphone icon shows you that additional digital content is available: Simply scan and enjoy quick access to further product information. This is made possible by the Wilo Assistant, our helpful app for smartphones and tablets.

#### DIRECT LINKING TO ONLINE SERVICES

The linking with Wilo's digital services like the online product catalogue and the pump selection software Wilo-Select 4 is particularly practical. You can decide for yourself how much detail you want to go into and then simply jump from the general catalogue to the digital services. That too is maximum connection with Wilo. Your added advantage: By informing yourself about further product data and services, you will always be up-to-date, e.g. when we carry out updates or optimisations. Being connected to Wilo means being connected with the future.



Faster access to Wilo's digital services with the new general catalogue.

An aerial photograph of a rural landscape. In the background, three large wind turbines stand on a forested ridge. Below them, a white mosque with a minaret is visible. To the left, a dam structure is partially seen. The middle ground features a large field of green crops, possibly corn, with a power line tower and several power lines crossing the scene. In the foreground, a residential area with several white houses is visible. The overall scene is bright and clear, suggesting a sunny day.

# DISCOVER WILO SOLUTIONS.

We offer a wide variety of intelligent pumps and systems to make our users' everyday lives simply more pleasant. Our energy-efficient solutions are suitable for residential, public and commercial properties. Wilo products are used in heating, air-conditioning, cooling and water supply applications as well as for drainage and sewage.

An aerial photograph of a city with a river and a wastewater treatment plant. The city buildings are white, and the river is blue. The wastewater treatment plant is in the foreground, with several circular tanks and a building. A yellow dot is on the river, and another yellow dot is on the wastewater treatment plant building. White lines connect these dots to the text boxes on the left.

**1 HEATING, AIR-CONDITIONING, COOLING**

Wilo delivers individual solutions and highly efficient technology for applications in heating, air-conditioning, cooling and domestic hot water.

**2 WATER SUPPLY**

Innovative products and systems from Wilo support applications in rainwater utilisation, water supply and pressure boosting, fire fighting and raw water intake.

**3 DRAINAGE AND SEWAGE**

Wilo pumps and lifting units ensure safe and reliable operation in drainage and sewage disposal.

Click "Play", learn more about our system solutions and which advantages Wilo products have for you.









# HEATING, AIR-CONDITIONING, COOLING

Heating, air-conditioning,  
cooling



## Wilo-Stratos PICO

Glandless circulation pump with screwed connection, blocking-current proof EC motor and integrated electronic power control.

- Can be used in heating and air-conditioning systems from +2 °C to +110°C
- Only 3 watts minimum power consumption
- Displays the current power consumption or the current flow and cumulated kWh
- Wilo-Connector
- Additional functions: Dynamic Adapt, venting routine, setback operation, key lock and Reset function

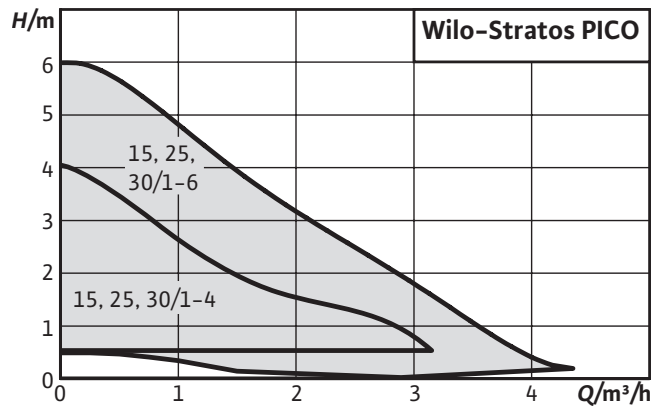


with Wilo-Connector



easy installation





Series modification



### Design

Glandless circulation pump with screwed connection, blocking-current proof EC motor and integrated electronic power control.

### Application

All hot water heating systems, air-conditioning applications, industrial circulation systems.

### Type key

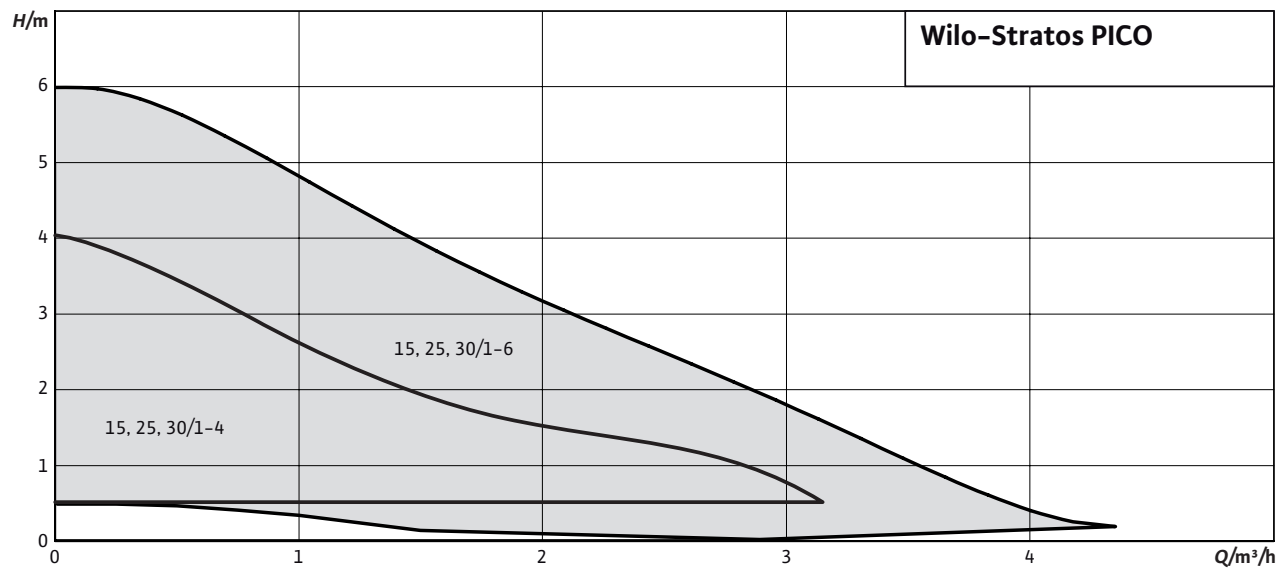
Example: **Wilo-Stratos PICO 30/1-4**  
**Stratos PICO** High-efficiency pump (screw-end pump), electronically controlled  
**30/** Nominal connection diameter  
**1-4** Nominal delivery head range [m]  
**130** Port-to-port length  
**N** Stainless steel housing

| Technical data                                                                          |                   |
|-----------------------------------------------------------------------------------------|-------------------|
| <b>Approved fluids (other fluids on request)</b>                                        |                   |
| Heating water (in accordance with VDI 2035)                                             | •                 |
| Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked) | •                 |
| <b>Permitted field of application</b>                                                   |                   |
| Temperature range at max. ambient temperature +25 °C                                    | +2...+110 °C      |
| Temperature range at max. ambient temperature +40 °C                                    | +2...+95 °C       |
| Temperature range at max. ambient temperature +60 °C                                    | +2...+70 °C       |
| Rated pressure <i>PN</i>                                                                | 10 bar            |
| <b>Electrical connection</b>                                                            |                   |
| Mains connection                                                                        | 1~230 V, 50/60 Hz |

• = appropriate, - = not appropriate  
 The benchmark for the most efficient circulators is  $E_{EEI} \leq 0.20$ .  
 Please also observe the rating plate for the energy efficiency index.

| Technical data                |                                       |
|-------------------------------|---------------------------------------|
| <b>Motor/electronics</b>      |                                       |
| Motor protection              | Not required (blocking-current proof) |
| Electromagnetic compatibility | EN 61800-3                            |
| Emitted interference          | EN 61000-6-3                          |
| Interference resistance       | EN 61000-6-2                          |
| Speed control                 | Frequency converter                   |
| Protection class              | IP X4D                                |
| Insulation class              | F                                     |

• = appropriate, - = not appropriate  
 The benchmark for the most efficient circulators is  $E_{EEI} \leq 0.20$ .  
 Please also observe the rating plate for the energy efficiency index.



**Equipment/function**

**Operating modes**

- Δ p-c for constant differential pressure
- Δ p-v for variable differential pressure, combinable with the Dynamic Adapt control function

**Manual functions**

- Setting the operating mode
- Setting of pump output (delivery head)
- Setting automatic setback operation
- Reset function for resetting the electricity meter
- Reset function for resetting to factory settings
- "Hold" function (key lock) for disabling the settings

**Automatic functions**

- Infinitely variable power adjustment according to the operating mode
- Automatic setback operation
- Automatic venting function
- Automatic dry running detection
- Automatic restart

**Signal and display functions**

- Display of the current power consumption in W
- Display of the current flow in m³/h
- Display of the cumulative kilowatt hours in kWh
- Indication of fault signals (error codes)

**Equipment**

- Wrench attachment point on pump body
- Quick electrical connection with Wilo-Connector
- Automatic venting
- Blocking-current proof motor

- Particle filter
- Thermal insulation as standard for heating applications

**Scope of delivery**

- Pump
- Thermal insulation
- Wilo-Connector
- Gaskets
- Installation and operating instructions

**Options**

- Stratos PICO...N version with pump housing made of stainless steel for use in underfloor heating systems
- Stratos PICO...130 version with short port-to-port length of 130 mm

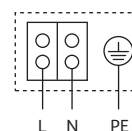
**Accessories**

- Screwed connections
- Adapter fittings
- Wilo-Connector with 2 m connection cable and shock-proof plug
- Angle plug with 2 m connection cable

**Note**

TÜV SÜD certificate can be viewed at: [www.wilo.com/legal](http://www.wilo.com/legal)

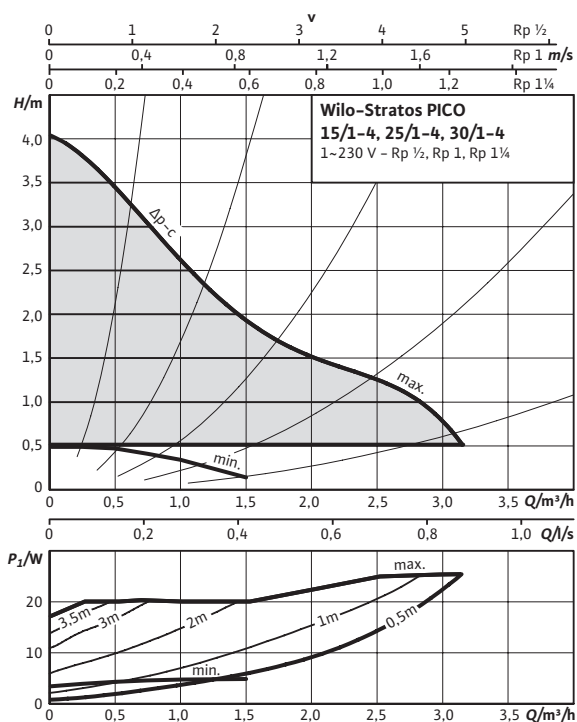
**Terminal diagram**



Blocking current-proof motor  
**Single-phase motor (EM) 2-pole - 1-230 V, 50 Hz**

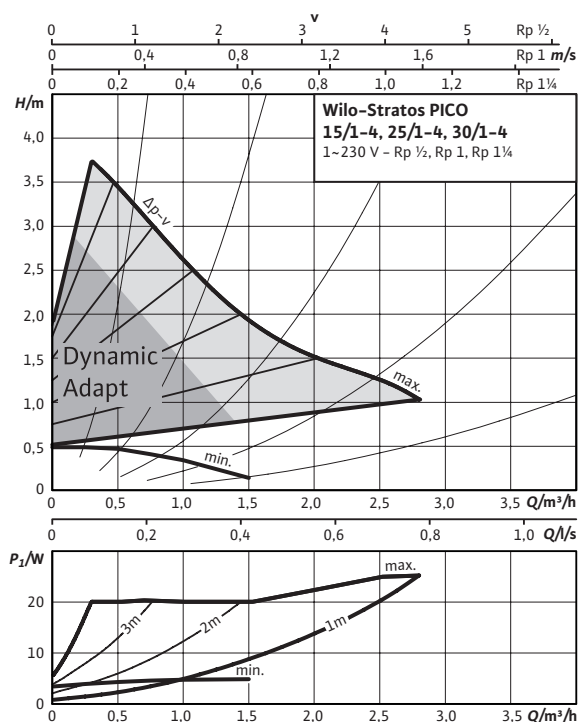
Pump curves

$\Delta p$ -c (constant)

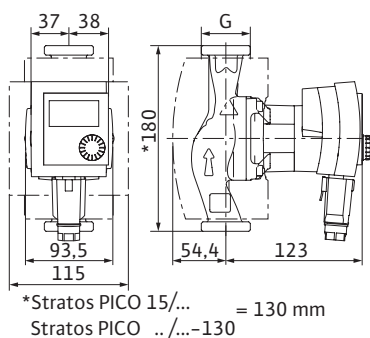


Pump curves

$\Delta p$ -v (variable)



Dimension drawing



Technical data

|                                          |                   |
|------------------------------------------|-------------------|
| Rated pressure                           | PN 10             |
| Mains connection                         | 1~230 V, 50/60 Hz |
| Speed $n$                                | 0 rpm             |
| Power consumption $P_1$                  | 3 - 25 W          |
| Current consumption $I$                  | max. 0.33 A       |
| Minimum suction head at 50 / 95 / 110 °C | 0.5 / 3 / 10 m    |

Materials

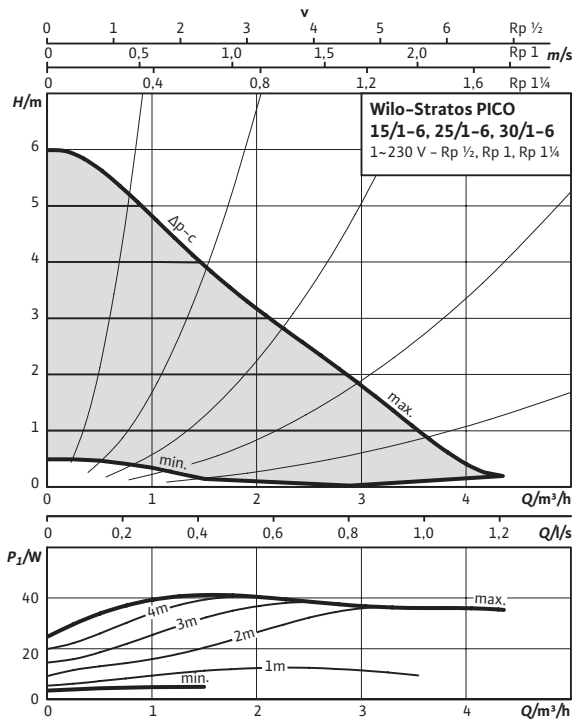
|              |                             |
|--------------|-----------------------------|
| Pump housing | Grey cast iron (EN-GJL-200) |
| Impeller     | Plastic (PP - 40% GF)       |
| Pump shaft   | Stainless steel             |
| Bearing      | Carbon, metal impregnated   |

Information for order placements

| Wilo-Stratos PICO...    | Threaded pipe union | Thread | Energy efficiency index (EEI) | Overall length | Weight approx. | Art no. |
|-------------------------|---------------------|--------|-------------------------------|----------------|----------------|---------|
|                         |                     |        |                               | $L_0$<br>mm    | $m$<br>kg      |         |
| Stratos PICO 15/1-4     | Rp ½                | G 1    | ≤ 0.20                        | 130            | 1.7            | 4132460 |
| Stratos PICO 25/1-4     | Rp 1                | G 1½   | ≤ 0.20                        | 180            | 2.1            | 4132462 |
| Stratos PICO 25/1-4-130 | Rp 1                | G 1½   | ≤ 0.20                        | 130            | 1.7            | 4132466 |
| Stratos PICO 30/1-4     | Rp 1¼               | G 2    | ≤ 0.20                        | 180            | 2.1            | 4132464 |

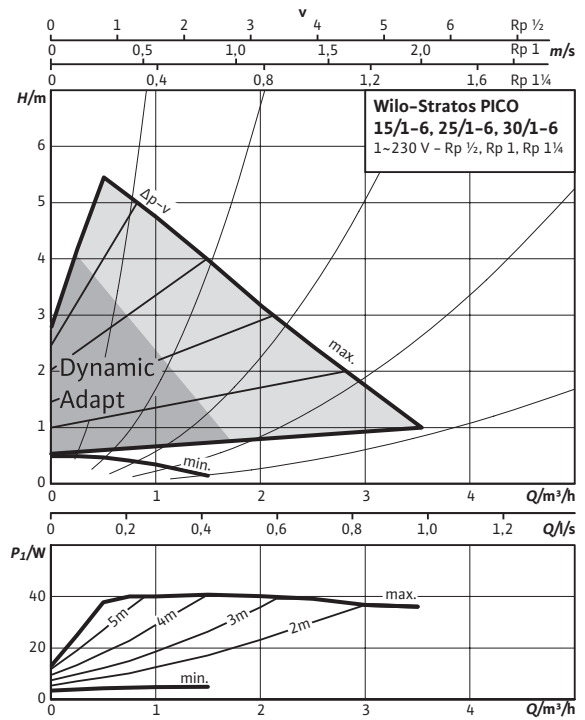
Pump curves

$\Delta p$ -c (constant)

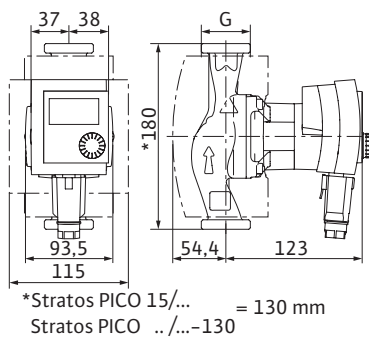


Pump curves

$\Delta p$ -v (variable)



Dimension drawing



Technical data

|                                          |                   |
|------------------------------------------|-------------------|
| Rated pressure                           | PN 10             |
| Mains connection                         | 1~230 V, 50/60 Hz |
| Speed <i>n</i>                           | 1200 - 4230 rpm   |
| Power consumption <i>P</i> <sub>1</sub>  | 3 - 40 W          |
| Current consumption <i>I</i>             | max. 0.44 A       |
| Minimum suction head at 50 / 95 / 110 °C | 0.5 / 3 / 10 m    |

Materials

|                                        |                             |
|----------------------------------------|-----------------------------|
| Pump housing                           | Grey cast iron (EN-GJL-200) |
| Pump housing (stainless steel version) | Stainless steel             |
| Impeller                               | Plastic (PP - 40% GF)       |
| Pump shaft                             | Stainless steel             |
| Bearing                                | Carbon, metal impregnated   |

Information for order placements

| Wilo-Stratos PICO...    | Threaded pipe union | Thread | Energy efficiency index (EEI) | Overall length           | Weight approx. | Art no. |
|-------------------------|---------------------|--------|-------------------------------|--------------------------|----------------|---------|
|                         |                     |        |                               | <i>L</i> <sub>0</sub> mm | <i>m</i> kg    |         |
| Stratos PICO 15/1-6     | Rp ½                | G 1    | ≤ 0.20                        | 130                      | 1.7            | 4132461 |
| Stratos PICO 25/1-6     | Rp 1                | G 1½   | ≤ 0.20                        | 180                      | 2.0            | 4132463 |
| Stratos PICO 25/1-6-130 | Rp 1                | G 1½   | ≤ 0.20                        | 130                      | 1.7            | 4132467 |
| Stratos PICO 25/1-6-N   | Rp 1                | G 1½   | ≤ 0.20                        | 180                      | 2.0            | 4209769 |
| Stratos PICO 30/1-6     | Rp 1¼               | G 2    | ≤ 0.20                        | 180                      | 2.1            | 4132465 |

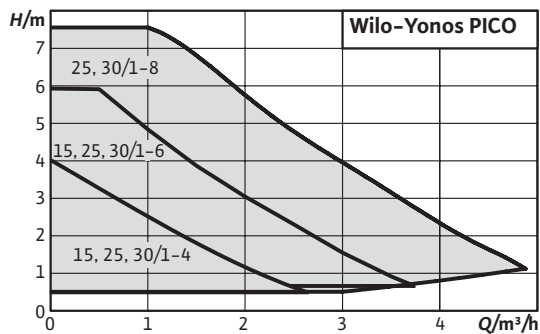


### Wilo-Yonos PICO



Glandless circulation pump with screwed connection, blocking-current proof EC motor and integrated electronic power control.

- LED display for adjusting the setpoint in 0.1 m increments and showing effective consumption
- Tool-free electrical connection using the Wilo-Connector
- Unique pump venting function
- Simple adjustment when replacing an uncontrolled standard pump with preselectable speed stages, e.g. Wilo-Star-RS
- Very high starting torque for reliable starting



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

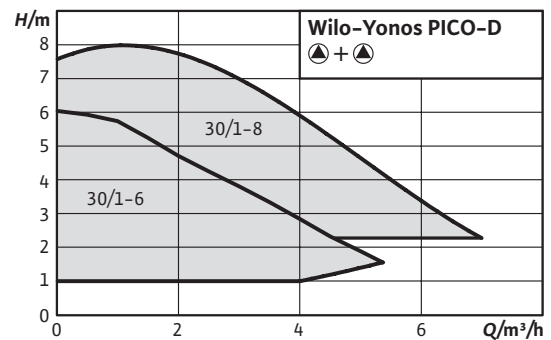


### Wilo-Yonos PICO-D



Glandless circulation double pump with screwed connection, blocking-current proof EC motor and integrated electronic power control.

- LED display for adjusting the setpoint in 0.1 m increments and showing effective consumption
- Tool-free electrical connection using the Wilo-Connector
- Unique pump venting function per pump
- Double pump for individual ( $\Delta p$ -c and  $\Delta p$ -v) or parallel operation ( $\Delta p$ -c)
- Very high starting torque for reliable starting



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

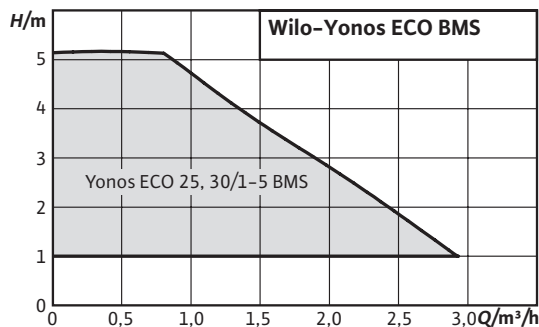


**Wilo-Yonos ECO...-BMS**



Glandless circulation pump with threaded connection, EC motor with automatic power adjustment.

- Potential-free collective fault signal contact (SSM) for connection to external monitoring units (e.g. building automation) and control input 0-10 V
- Control cable (4-wire, 1.5 m) for SSM connection and 0-10 V
- Wilo-Connector
- Thermal insulation as standard
- Pump housing with cataphoretic (KTL) coating protects against corrosion due to condensation formation



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

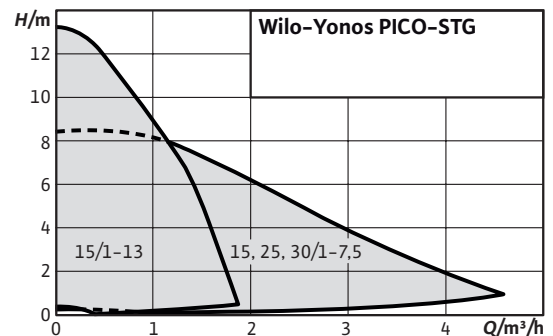


**Wilo-Yonos PICO-STG**



Glandless circulation pump with screwed connection, blocking-current proof EC motor and integrated electronic power control.

- Green button for setting the control mode  $\Delta p-v$  or the fixed speed
- External speed control via integrated interface PWM 1 (geothermal) and PWM 2 (solar)
- Flexible connection cable with Wilo-Connector
- Pump housing with cataphoretic coating protects against corrosion due to condensation formation
- Operation and fault display via ring LED



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)





## You want convenience and efficiency.

### Top-notch support before, during and after installation.

The Wilo-Yonos PICO-STG high-efficiency pump for residential solar and geothermal energy systems makes installation and operation even more efficient and convenient. For example, proven Green Button Technology allows you to easily pre-set the  $\Delta p$ -v control mode or the fixed speed. Alternatively, the speed of the high-efficiency pump can be externally controlled via two integrated pulse-width modulation (PWM) interfaces. Thanks to the Wilo-Connector, establishing electrical connections is a cinch: simply join and connect and you're done! **Wilo is going beyond pumps.**

### Wilo-Yonos PICO-STG

- Green button for setting  $\Delta p$ -v control mode or fixed speed
- External speed control thanks to built-in PWM 1 (geothermal) and PWM 2 (solar thermal) interfaces
- Flexible connection cable with Wilo-Connector
- Pump housing with cataphoretic coating protects against corrosion due to condensation formation
- Ring LED for operation and malfunction display





## Wilo-Stratos MAXO

Smart glandless circulator with screwed connection or flange connection, EC motor with integrated electronic power adjustment.

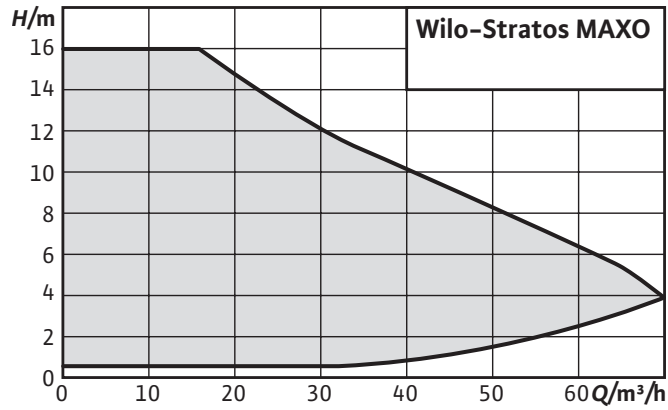
- Intuitive operation by application-guided settings with the setup guide combined with a new display and operating button with the Green Button Technology.
- Maximum energy efficiency delivered by the combination of optimised and energy saving functions (e.g. No-Flow Stop).
- Perfect system efficiency by new, innovative and intelligent controlling functions such as Dynamic Adapt plus, Multi-Flow Adaptation, T-const. and  $\Delta T$ -const.
- Latest communication interfaces (e.g. Bluetooth) for connecting to mobile devices and direct pump networking for multiple pump control via Wilo Net.
- Maximum electric installation comfort by the clearly arranged and spacious terminal room and the optimised Wilo-Connector



front view



back view



### Design

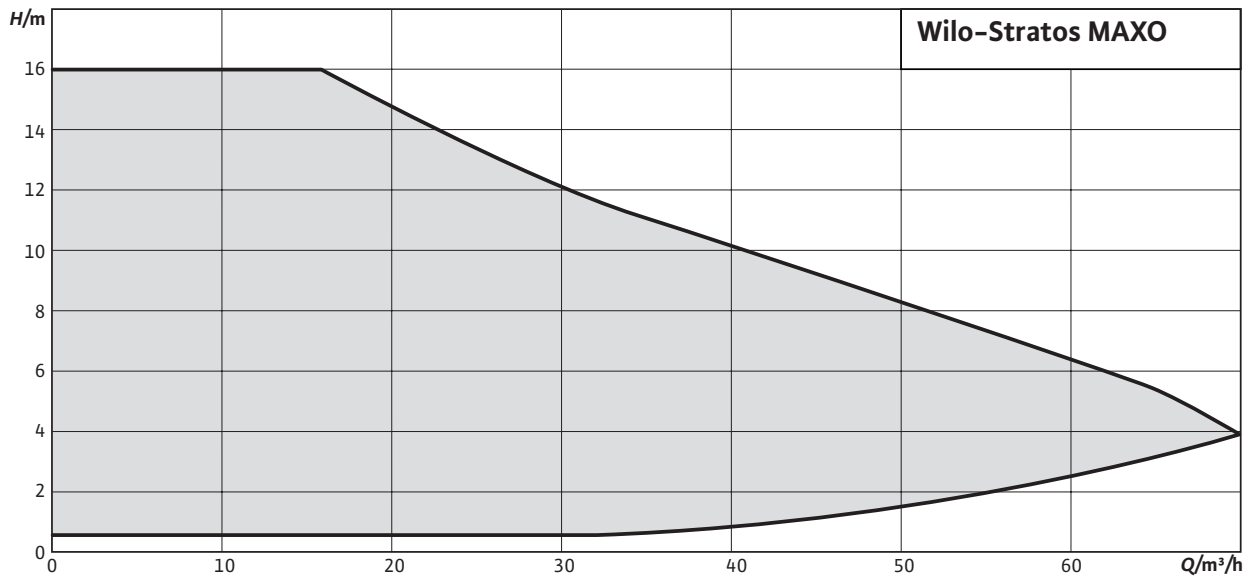
Smart glandless circulator with screwed connection or flange connection, EC motor with integrated electronic power adjustment.

### Application

Hot-water heating systems of all kinds, air-conditioning systems, closed cooling circuits, industrial circulation systems.

### Type key

Example: **Wilo-Stratos MAXO 30/0,5-12**  
**Stratos MAXO** High-efficiency pump (screw-end or flange-end pump), electronically controlled  
**30/** Nominal connection diameter  
**0.5-12** Nominal delivery head range [m]



**Equipment/function****Field of application**

The pump facilitates an operation with highest system efficiency via precise setting of the control mode for the system-specific application (e.g. radiator, underfloor heating, ceiling cooling).

**Heating**

- Radiator
- Underfloor heating
- Ceiling heating
- Fan heater
- Hydraulic shunt
- Heat exchanger

**Cooling**

- Ceiling cooling
- Underfloor cooling
- Air-Conditioning devices
- Hydraulic shunt
- Heat exchanger

**Heating and cooling combined**

- Automatic switchover

The following control modes are available depending on the selected application:

**Control modes**

- Constant speed (control mode)
- $\Delta p$ -c for constant differential pressure
- $\Delta p$ -v for variable differential pressure
- Dynamic Adapt plus for continuous (dynamic) adjustment of the delivery rate to the current requirement
- T-const. for constant temperature regulation
- $\Delta T$  for differential temperature control
- Constant Q for constant volume flow control
- Multi-Flow Adaptation: Total volume flow-determination through the feeder pump for the needs-based supply of secondary pumps in the heating circuit distributors
- User-defined PID controller

**Optional functions**

- Q-Limitmax. for limiting the maximum volume flows
- Q-Limitmin. for limiting the minimum volume flow
- No-Flow Stop (zero-flow-deactivation)
- Automatic setback operation
- Index circuit evaluator ( $\Delta p$ -c control with external actual value sensor)
- Variable pitch of  $\Delta p$ -v pump curve

**Manual settings**

- Selection of the field of application using the Setup Guide
- Setting the related operating parameters
- Nominal duty point: direct input of calculated duty point at  $\Delta p$ -v
- Status display
- Setting and resetting the energy meters (heating and cooling)
- Pump venting function
- Key lock for disabling the settings
- Function for resetting the factory settings or the saved restoration points (parameter sets)
- Parameterising the analogue inputs
- Parameterising the binary inputs
- Parameterising the relay outputs
- Dual pump function (for 2 single pumps, which should be operated as double pump)

**Automatic functions**

- Power adjustment according to requirements for energy-efficient operation depending on the operating mode
- Setback operation
- Deactivation at nil flow (No-Flow Stop)
- Soft start
- Automatic troubleshooting routines (e.g. deblocking function)
- Switchover heating/cooling mode
- Full motor protection with integrated trip electronics

**External control inputs and their functions****2 x analogue inputs:**

- Signal types: 0 – 10 V, 2 – 10 V, 0 – 20 mA, 4 – 20 mA, PT1000
- Applications: Remote adjustment of the setpoints in every control mode (except Multi-Flow Adaptation), sensor inputs for temperature, differential pressure or free sensor in user-defined PID-operating mode
- 2 x digital inputs:
  - For potential-free control outputs or switch
- Parametrizable functions:
  - Ext. Off
  - Ext. Min
  - Ext. Max
  - MANUAL (BMS-OFF)
  - Key lock
  - Switchover heating/cooling mode

Wilco Net for double pump management of 2 single pumps, communication of several pumps with each other and pump-remote adjustment via gateway

### Signal and display functions

- Display status operation display:
  - Setpoint
  - Actual delivery head
  - Actual volume flow
  - Power consumption
  - Electric consumption
  - Temperatures
- Status display LED: Faultless operation (green LED), pump communication (blue LED)
- Display status of display fault (display red):
  - Error codes and error description in full text
  - Remedial measures
- Display status of display warning (display yellow):
  - Warning codes and description of the warning in full text
  - Remedial measures
- Display status process indicator (display blue):
  - Pump venting
  - Update procedure
- Display BMS communication (display blue):
  - Summary of the active BMS parameters (baud rate, address,...)
- Collective fault signal SSM (potential-free changeover contact)
- Collective run signal SBM (potential-free normally open contact)

### Data exchange

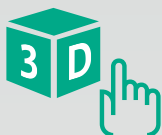
- Bluetooth interface for wireless data exchange and remote operation of the pump using a smartphone or tablet.
- Serial digital interface Modbus RTU for connecting building automation (BA) via RS485 bus system (possible with Wilo-CIF module Modbus RTU).
- Serial digital interface BACnet MS/TP for connecting building automation (BA) via RS485 bus system (possible with Wilo-CIF module BACnet MS/TP).

### Dual pump management (double pump or 2 x single pumps)

- Main/standby operation (automatic fault-actuated switchover/time-sensitive pump alteration)
- Parallel operation (efficiency-optimised peak load cut-in and out)

### Equipment

- For flange-end pumps: Flange versions
  - Standard version for DN 32 to DN 65 pumps: PN 6/10 combination flange (PN 16 flange according to EN 1092-2) for PN 6 and PN 16 counter flanges
  - Standard version for DN 80/DN 100 pumps: PN 6 flange (designed for PN 16 according to EN 1092-2) for PN 6 counter flange
  - Special version for DN 32 to DN 100 pumps: PN 16 flange (according to EN 1092-2) for PN 16 counter flange
- Various integrated communication interfaces and optionally usable CIF-module plug-in position
- 5 cable inlets for connecting the communication interfaces
- Bluetooth interface
- High resolution graphic display with Green Button and 2 additional buttons
- User-friendly terminal room
- Integrated temperature sensor
- Thermal insulation as standard for heating applications
- Quick electrical connection with optimised Wilo-Connector for the power supply



## Wilo-Stratos

Glandless circulation pump with threaded connection or flange connection, EC motor with automatic power adjustment.

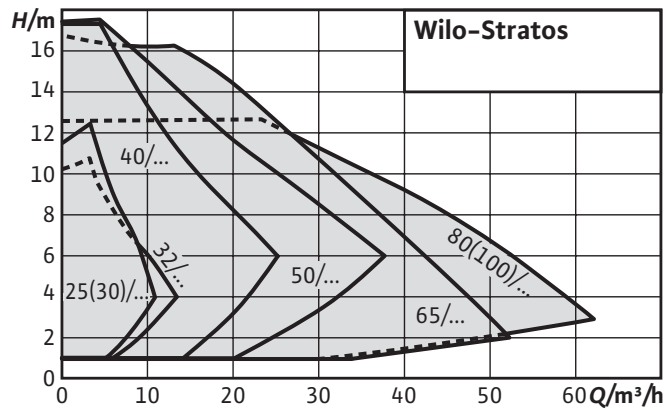
- Energy savings through greater system efficiency with the Q-Limit function (volume flow limiter)
- Improved Energy Efficiency Index (EEI)  $\leq 0.20$  for all single pumps.
- Optimised display for better readability and operation
- Space-saving installation due to compact design and location-dependent LC display
- Modular concept for connection of all conventional bus systems (e.g. Modbus, BACnet, CAN, LON and PLR)
- Tried and tested quality and reliability

in application



Stratos Cut model





### Design

Glandless circulation pump with threaded connection or flange connection, EC motor with automatic power adjustment.

### Application

Hot-water heating systems of all kinds, air-conditioning systems, closed cooling circuits, industrial circulation systems.

### Type key

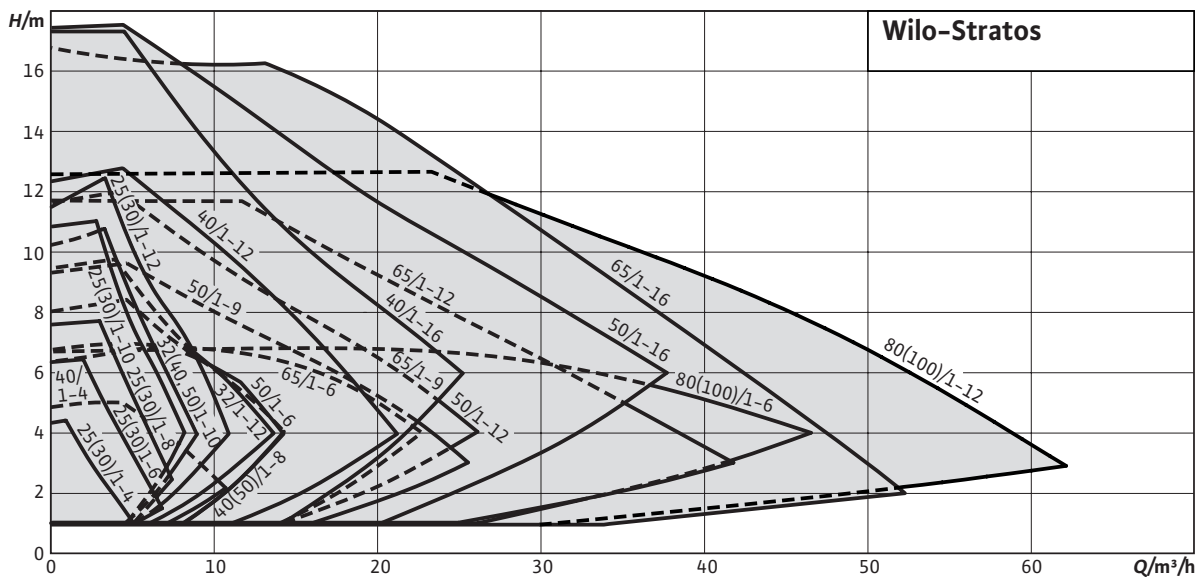
Example: **Wilo-Stratos 30/1-12**  
**Stratos** High-efficiency pump (screw-end or flange-end pump), electronically controlled  
**30/** Nominal connection diameter  
**1-12** Nominal delivery head range [m]

| Technical data                                                                          |                   |
|-----------------------------------------------------------------------------------------|-------------------|
| <b>Approved fluids (other fluids on request)</b>                                        |                   |
| Heating water (in accordance with VDI 2035)                                             | •                 |
| Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked) | •                 |
| <b>Permitted field of application</b>                                                   |                   |
| Temperature range at max. ambient temperature +40 °C                                    | -10...+110 °C     |
| <b>Electrical connection</b>                                                            |                   |
| Mains connection                                                                        | 1~230 V, 50/60 Hz |
| <b>Motor/electronics</b>                                                                |                   |
| Energy efficiency index (EEI)                                                           | ≤ 0.20            |
| Motor protection                                                                        | integrated        |

• = appropriate, - = not appropriate

| Technical data                |                                                        |
|-------------------------------|--------------------------------------------------------|
| Electromagnetic compatibility | EN 61800-3                                             |
| Emitted interference          | EN 61800-3; 2004+A1;2012 / residential area (C1)       |
| Interference resistance       | EN 61800-3; 2004+A1;2012 / industrial environment (C2) |
| Speed control                 | Frequency converter                                    |
| Protection class              | IP X4D                                                 |
| Insulation class              | F                                                      |

• = appropriate, - = not appropriate



**Equipment/function**

**Operating modes**

- Manual control mode (n=constant)
- Δp-c for constant differential pressure
- Δp-v for variable differential pressure
- Δp-T for temperature-controlled differential pressure (programmable via IR-Stick, IR-Monitor, Modbus, BACnet, LON or CAN)
- Q limit for limiting the maximum volume flow (setting only via IR-stick)

**Manual functions**

- Setting the operating mode
- Differential pressure setpoint setting
- Setting automatic setback operation
- Setting the pump ON/OFF
- Setting the speed (manual control mode)

**Automatic functions**

- Infinitely variable power adjustment according to the operating mode
- Automatic setback operation
- Deblocking function
- Soft start
- Full motor protection with integrated trip electronics

**External control functions**

- "Overriding Off" control input (possible with Stratos IF-Modules)
- "Overriding Min" control input (possible with Stratos IF-Modules)
- "Analogue In 0 - 10 V" control input (remote speed adjustment) (possible with Stratos IF-Modules)
- "Analogue In 0 - 10 V" control input (remote setpoint adjustment) (possible with Stratos IF-Modules)

**Signal and display functions**

- Collective fault signal (potential-free NC contact)
- Individual run signal (potential-free NO contact) (possible with Stratos IF-Modules)
- Fault signal light
- LCD display for indication of pump data and fault codes

**Data exchange**

- Infrared interface for wireless data exchange with IR-Stick/IR-Monitor
- Modbus RTU serial digital interface for connection to building automation BA via RS485 BUS system (possible with Stratos IF-Modules)
- BACnet serial digital interface MS/TP Slave for connection to building automation BA via RS485 BUS system (possible with Stratos IF-Modules)
- CAN serial digital interface for connection to building automation BA via CAN BUS system (possible with Stratos IF-Modules)
- LON serial digital interface for connection to a LON-Works network (possible with Stratos IF-Modules)
- PLR serial digital interface for connection to BA via Wilo interface converter or company-specific coupling modules (possible with Stratos IF-Modules)

**Dual pump management (double pump or 2 x single pumps)**

- Main/standby operation (automatic fault-actuated switchover/time-dependent pump cycling): various combinations with Stratos IF-Modules (accessories) possible
- Parallel operation (efficiency-optimised peak load activation and deactivation): various combinations with Stratos IF-Modules (accessories) possible



### Equipment

- Wrench attachment point at pump body (for threaded pipe union pumps with  $P_2 < 100 \text{ W}$ )
- For flange-end pumps: Flange versions
  - Standard version for DN 32 to DN 65 pumps: PN 6/10 combination flange (PN 16 flange according to EN 1092-2) for PN 6 and PN 16 counter flanges
  - Standard version for DN 80/DN 100 pumps: PN 6 flange (designed for PN 16 according to EN 1092-2) for PN 6 counter flange
  - Special version for DN 32 to DN 100 pumps: PN 16 flange (according to EN 1092-2) for PN 16 counter flange
- Plug-in position for optional extension with Wilo-IF-Modules
- Thermal insulation as standard for heating applications

### Scope of delivery

- Pump
- Including thermal insulation
- Including seals for threaded connection
- Incl. washers for flange screws (for nominal connection diameters DN 32 - DN 65)
- Including installation and operating instructions

### Options

- Special versions for operating pressure PN 16

### Accessories

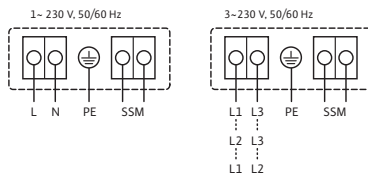
- Screwed connections for threaded connection
- Counter flanges for flange connection
- Adapter fittings
- IR-Stick
- IR Monitor
- Stratos IF-Module: Modbus, BACnet, CAN, LON, PLR, DP, Ext. Off, Ext. Min., SBM, Ext. Off/SBM

### Note

TÜV SÜD certificate can be viewed at: [www.wilo.com/legal](http://www.wilo.com/legal)

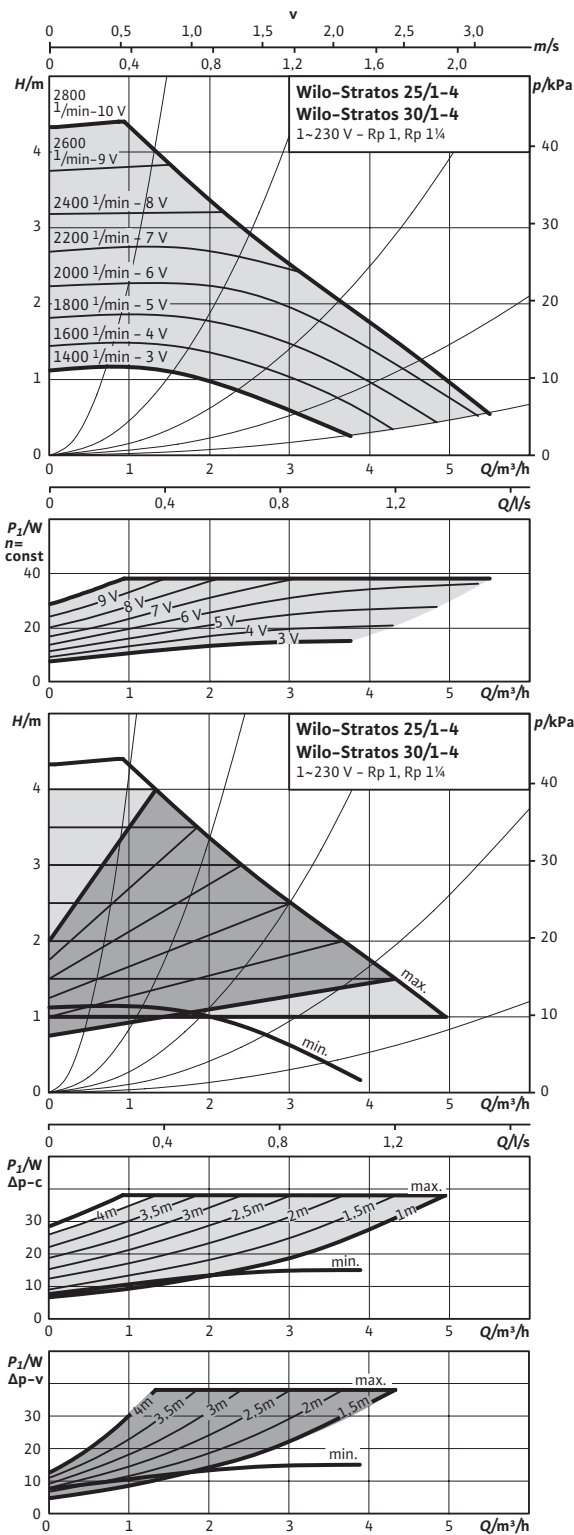
### Terminal diagram

Standard: 1~230 V, 50/60 Hz  
Option: 3~230 V, 50/60 Hz

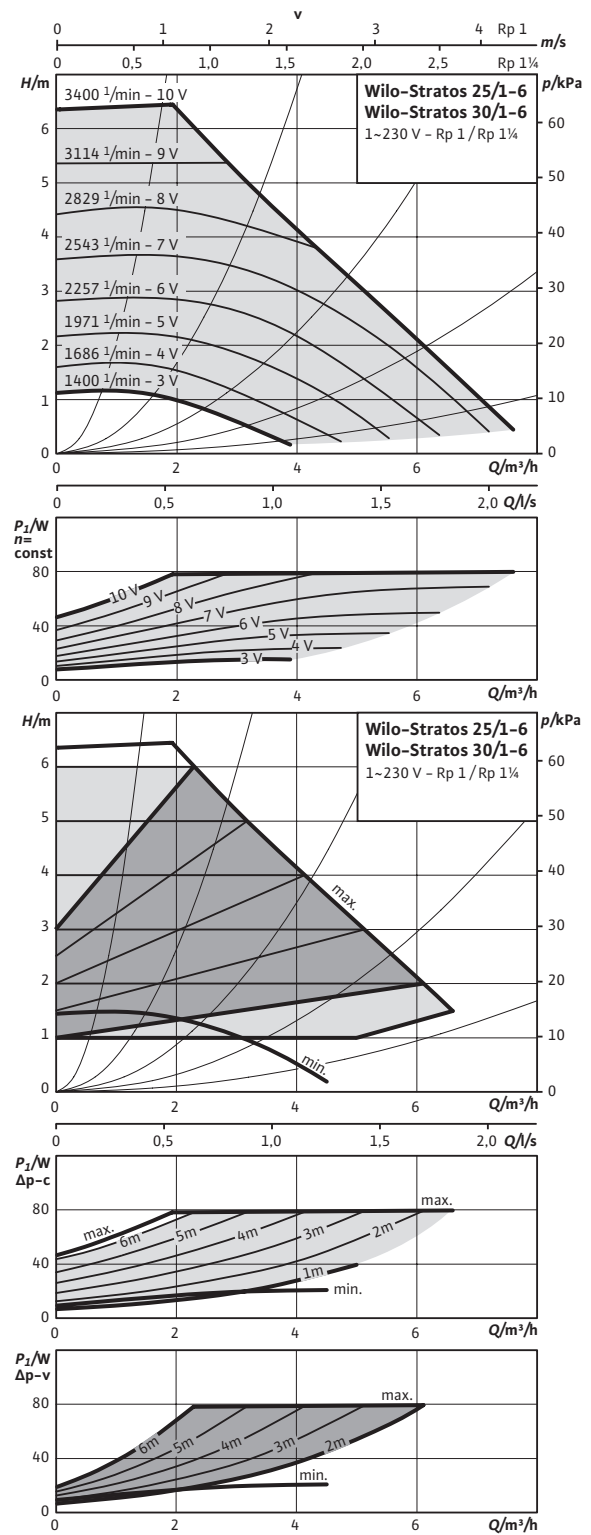


SSM: Collective fault signal  
(NC contact in accordance with VDI 3814, load capacity 1 A, 250 V ~)  
For function see chapter "Consulting guide"

Pump curves

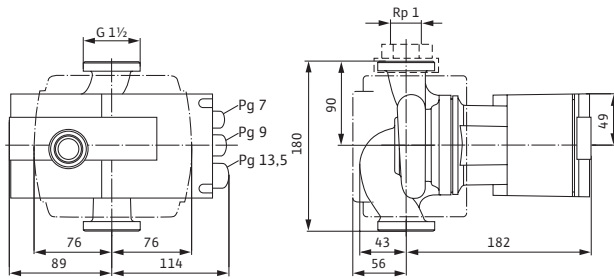


Pump curves



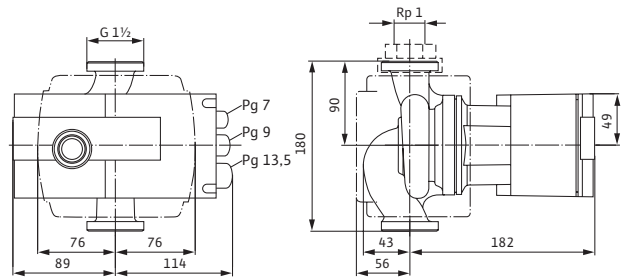
Dimension drawing

Stratos 25/1-4



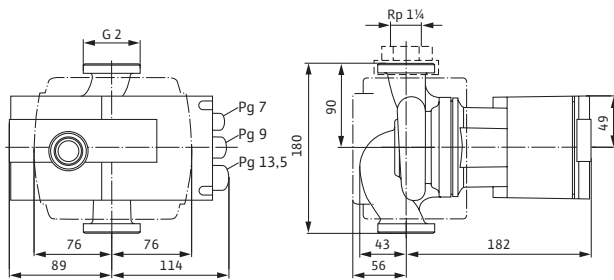
Dimension drawing

Stratos 25/1-6



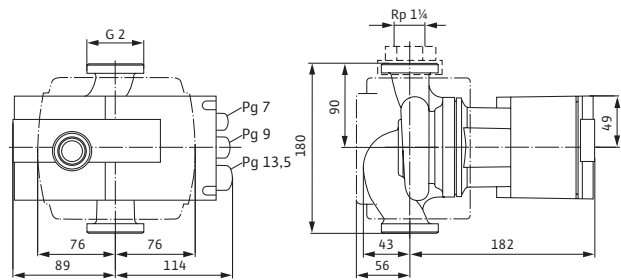
Dimension drawing

Stratos 30/1-4



Dimension drawing

Stratos 30/1-6



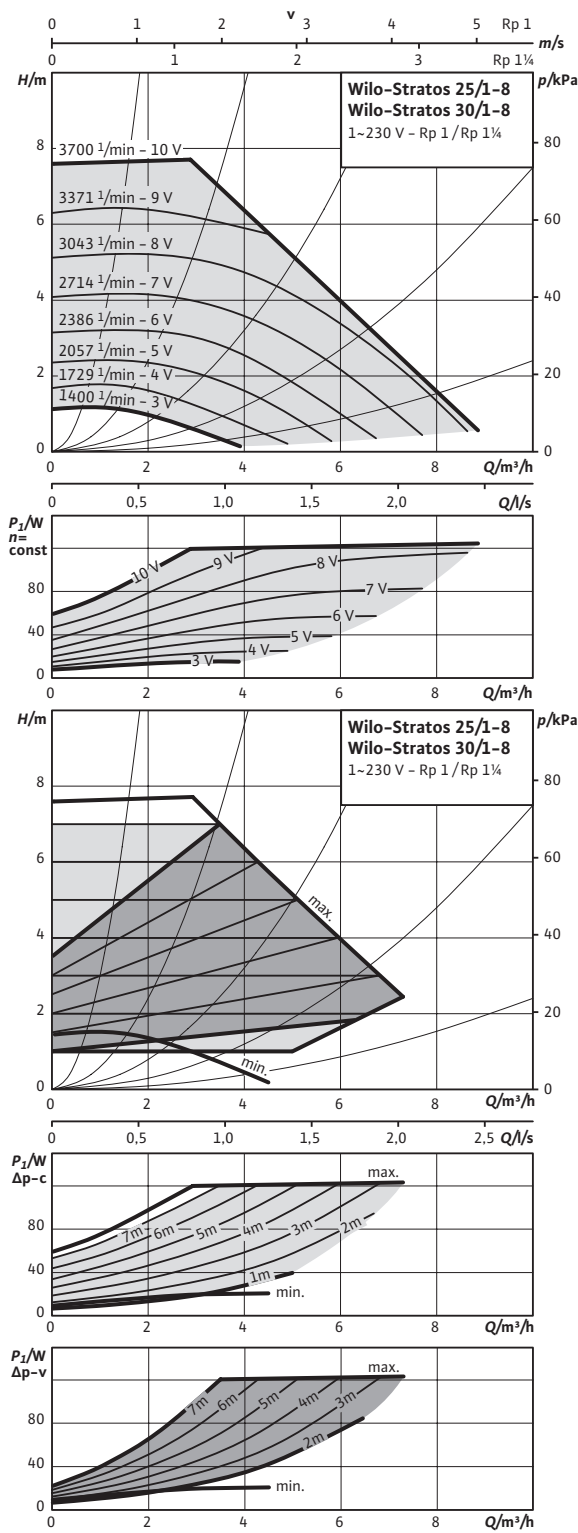
Technical data

| Designation                              | Stratos 25/1-4    |         | Stratos 25/1-6  |         | Stratos 30/1-4  |         | Stratos 30/1-6  |         |
|------------------------------------------|-------------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|
| Art no.                                  | 2104225           | 2110661 | 2090447         | 2065097 | 2104226         | 2131799 | 2090449         | 2069760 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |                 |         |                 |         |                 |         |
| Threaded pipe union                      | Rp 1              |         |                 |         | Rp 1 1/4        |         |                 |         |
| Rated pressure                           | PN 10             | PN 16   | PN 10           | PN 16   | PN 10           | PN 16   | PN 10           | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |                 |         |                 |         |                 |         |
| Speed <i>n</i>                           | 1400 – 2800 rpm   |         | 1400 – 3400 rpm |         | 1400 – 2800 rpm |         | 1400 – 3400 rpm |         |
| Rated power <i>P</i> <sub>2</sub>        | 30 W              |         | 65 W            |         | 30 W            |         | 65 W            |         |
| Power consumption <i>P</i> <sub>1</sub>  | 9 – 38 W          |         | 9 – 80 W        |         | 9 – 38 W        |         | 9 – 80 W        |         |
| Current consumption <i>I</i>             | 0.13 – 0.35 A     |         | 0.13 – 0.70 A   |         | 0.13 – 0.35 A   |         | 0.13 – 0.70 A   |         |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m     |         |                 |         |                 |         |                 |         |
| Weight approx. <i>m</i>                  | 4.1 kg            |         |                 |         |                 |         |                 |         |

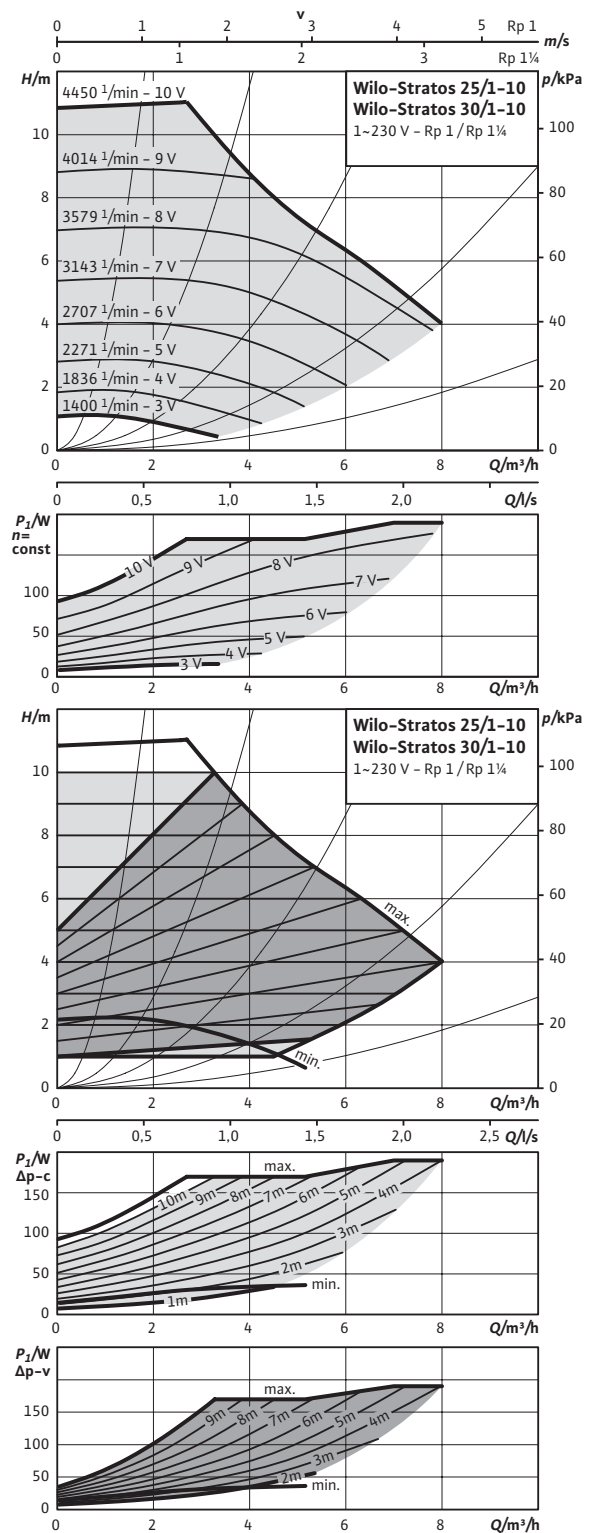
Materials

|              |                               |
|--------------|-------------------------------|
| Pump housing | Grey cast iron (EN-GJL-200)   |
| Impeller     | Plastic (PPE – 30% GF)        |
| Pump shaft   | Stainless steel (X39CrMo17-1) |
| Bearing      | Carbon, metal impregnated     |

Pump curves

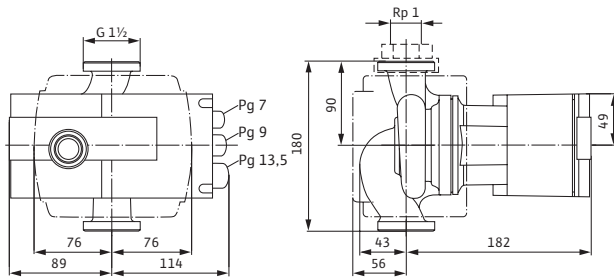


Pump curves



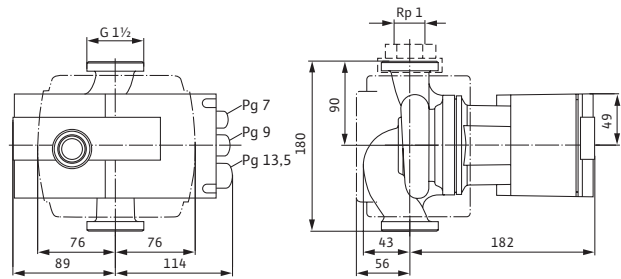
Dimension drawing

Stratos 25/1-8



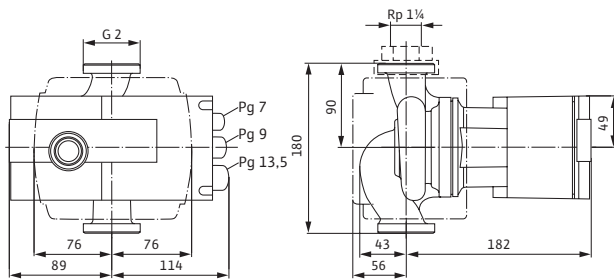
Dimension drawing

Stratos 25/1-10



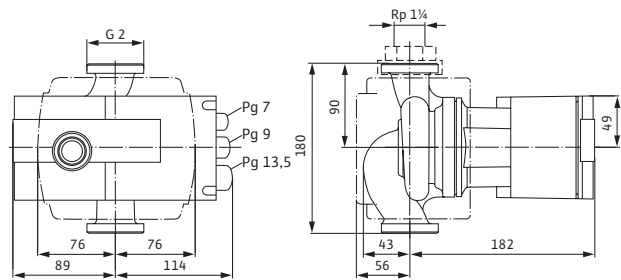
Dimension drawing

Stratos 30/1-8



Dimension drawing

Stratos 30/1-10



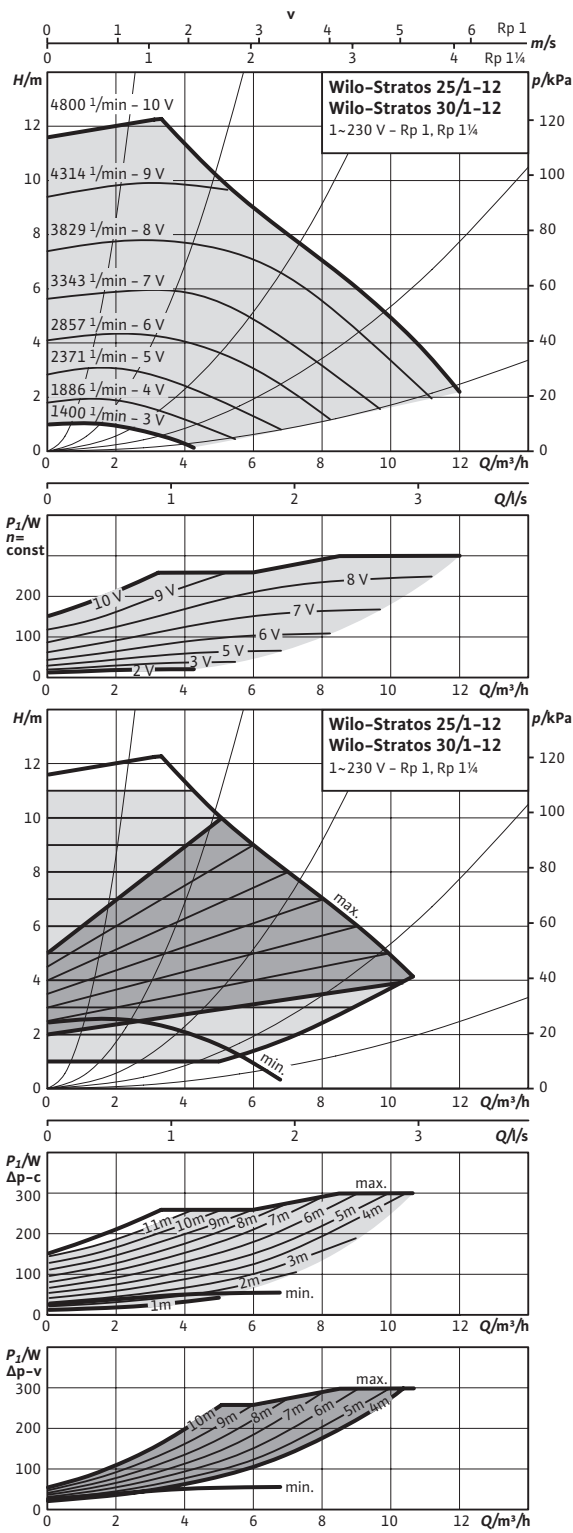
Technical data

| Designation                              | Stratos 25/1-8    |         | Stratos 25/1-10 |         | Stratos 30/1-8  |         | Stratos 30/1-10 |         |
|------------------------------------------|-------------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|
| Art no.                                  | 2090448           | 2063363 | 2103615         | 2111506 | 2090450         | 2069759 | 2103616         | 2117648 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |                 |         |                 |         |                 |         |
| Threaded pipe union                      | Rp 1              |         |                 |         | Rp 1 1/4        |         |                 |         |
| Rated pressure                           | PN 10             | PN 16   | PN 10           | PN 16   | PN 10           | PN 16   | PN 10           | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |                 |         |                 |         |                 |         |
| Speed <i>n</i>                           | 1400 - 3700 rpm   |         | 1400 - 4450 rpm |         | 1400 - 3700 rpm |         | 1400 - 4450 rpm |         |
| Rated power <i>P</i> <sub>2</sub>        | 100 W             |         | 140 W           |         | 100 W           |         | 140 W           |         |
| Power consumption <i>P</i> <sub>1</sub>  | 9 - 125 W         |         | 9 - 190 W       |         | 9 - 125 W       |         | 9 - 190 W       |         |
| Current consumption <i>I</i>             | 0.13 - 1.10 A     |         | 0.13 - 1.30 A   |         | 0.13 - 1.10 A   |         | 0.13 - 1.30 A   |         |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m     |         |                 |         |                 |         |                 |         |
| Weight approx. <i>m</i>                  | 4.1 kg            |         |                 |         | 4.2 kg          |         |                 |         |

Materials

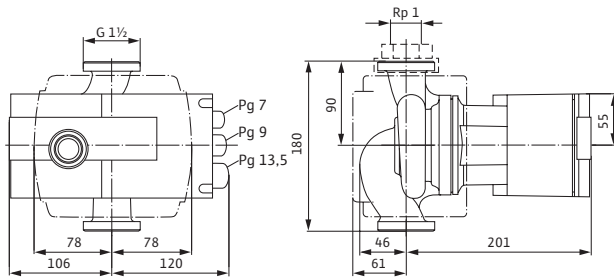
|              |                               |
|--------------|-------------------------------|
| Pump housing | Grey cast iron (EN-GJL-200)   |
| Impeller     | Plastic (PPE - 30% GF)        |
| Pump shaft   | Stainless steel (X39CrMo17-1) |
| Bearing      | Carbon, metal impregnated     |

Pump curves



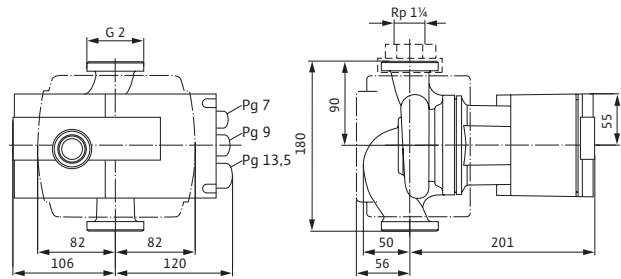
Dimension drawing

Stratos 25/1-12



Dimension drawing

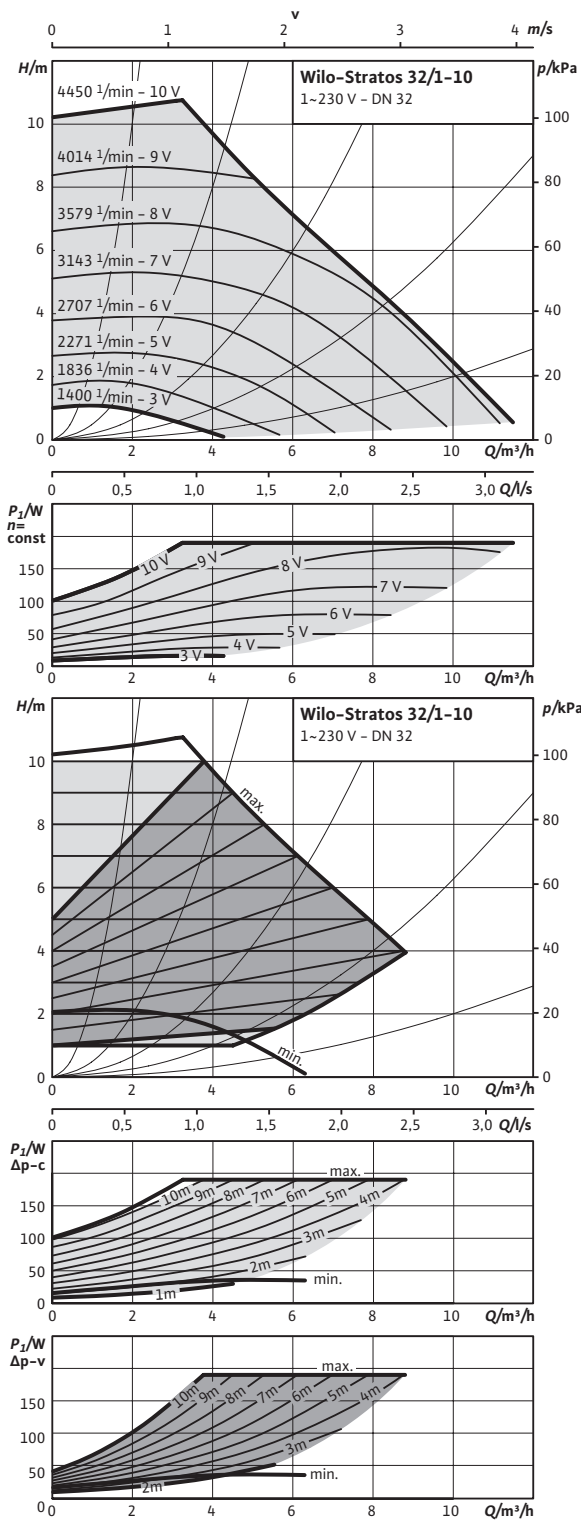
Stratos 30/1-12



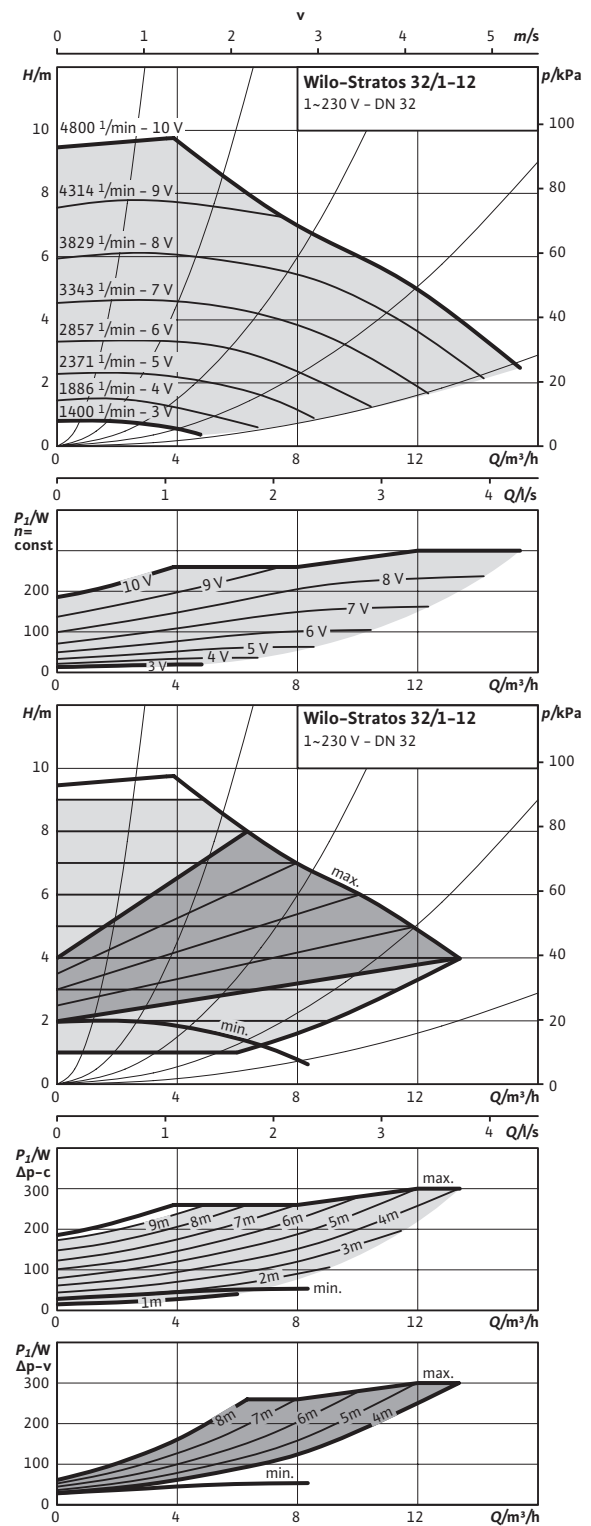
Technical data

| Designation                              | Stratos 25/1-12               |         | Stratos 30/1-12 |         |
|------------------------------------------|-------------------------------|---------|-----------------|---------|
|                                          | Art no.                       | 2104941 | 2163188         | 2090451 |
| Energy efficiency index (EEI)            | ≤ 0.20                        |         |                 |         |
| Threaded pipe union                      | Rp 1                          |         | Rp 1 1/4        |         |
| Rated pressure                           | PN 10                         | PN 16   | PN 10           | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz             |         |                 |         |
| Speed <i>n</i>                           | 1400 - 4800 rpm               |         |                 |         |
| Rated power <i>P</i> <sub>2</sub>        | 200 W                         |         |                 |         |
| Power consumption <i>P</i> <sub>3</sub>  | 12 - 300 W                    |         |                 |         |
| Current consumption <i>I</i>             | 0.22 - 1.32 A                 |         |                 |         |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m                 |         |                 |         |
| Weight approx. <i>m</i>                  | 5.4 kg                        |         | 5.5 kg          |         |
| <b>Materials</b>                         |                               |         |                 |         |
| Pump housing                             | Grey cast iron (EN-GJL-200)   |         |                 |         |
| Impeller                                 | Plastic (PPE - 30% GF)        |         |                 |         |
| Pump shaft                               | Stainless steel (X39CrMo17-1) |         |                 |         |
| Bearing                                  | Carbon, metal impregnated     |         |                 |         |

Pump curves



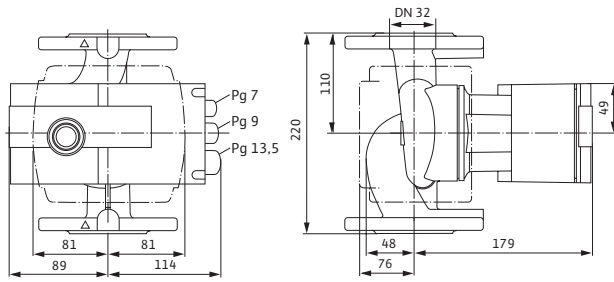
Pump curves





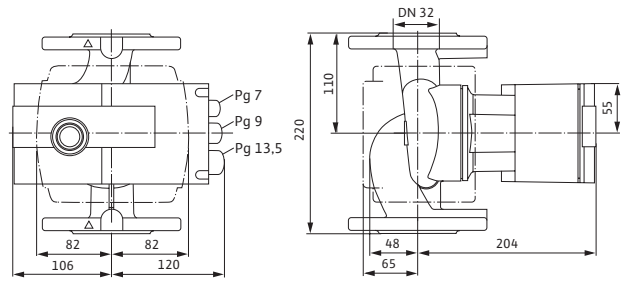
Dimension drawing

Stratos 32/1-10



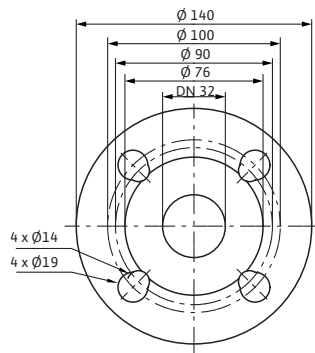
Dimension drawing

Stratos 32/1-12



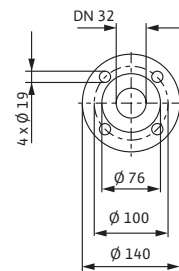
Dimension drawing, flange

DN32, PN6/10



Dimension drawing, flange

DN32, PN16



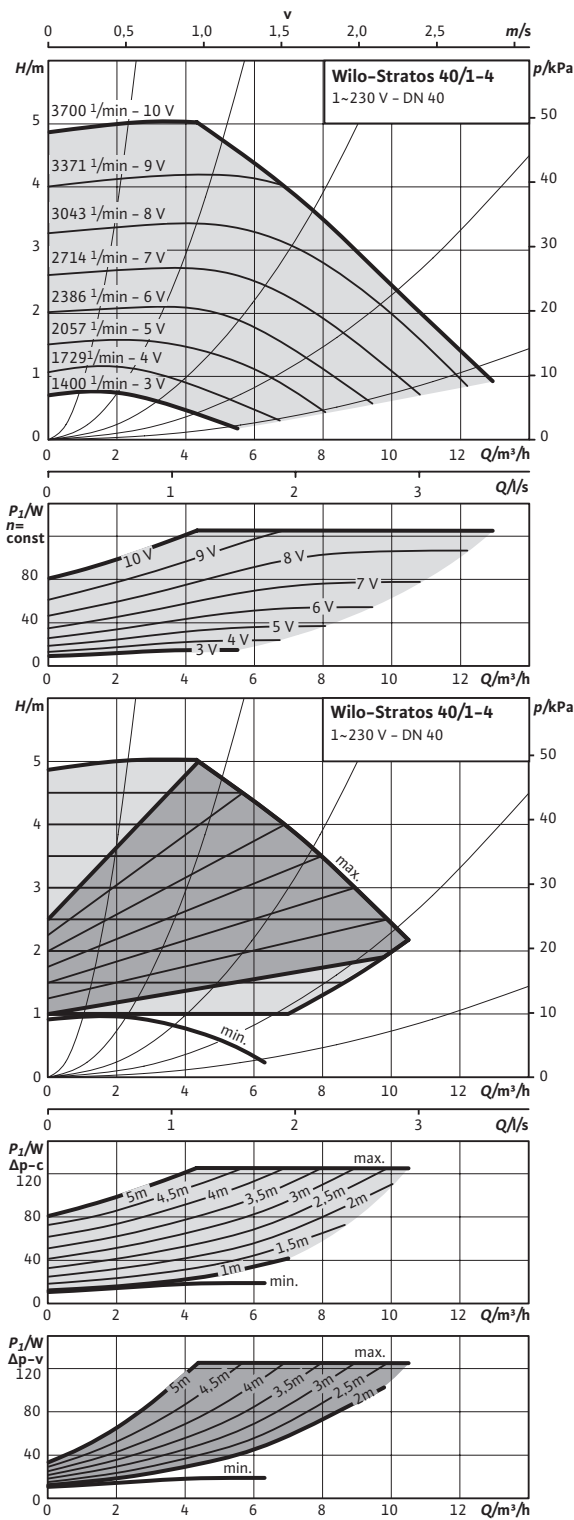
Technical data

| Designation                              | Stratos 32/1-10   |         | Stratos 32/1-12 |         |
|------------------------------------------|-------------------|---------|-----------------|---------|
|                                          | Art no.           | 2103617 | 2110124         | 2090452 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |                 |         |
| Nominal flange diameter                  | DN 32             |         |                 |         |
| Rated pressure                           | PN 6/10           | PN 16   | PN 6/10         | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |                 |         |
| Speed <i>n</i>                           | 1400 - 4450 rpm   |         | 1400 - 4800 rpm |         |
| Rated power <i>P</i> <sub>2</sub>        | 140 W             |         | 200 W           |         |
| Power consumption <i>P</i> <sub>1</sub>  | 9 - 190 W         |         | 12 - 310 W      |         |
| Current consumption <i>I</i>             | 0.13 - 1.30 A     |         | 0.22 - 1.37 A   |         |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m     |         |                 |         |
| Weight approx. <i>m</i>                  | 7.6 kg            | 7.8 kg  | 9 kg            |         |

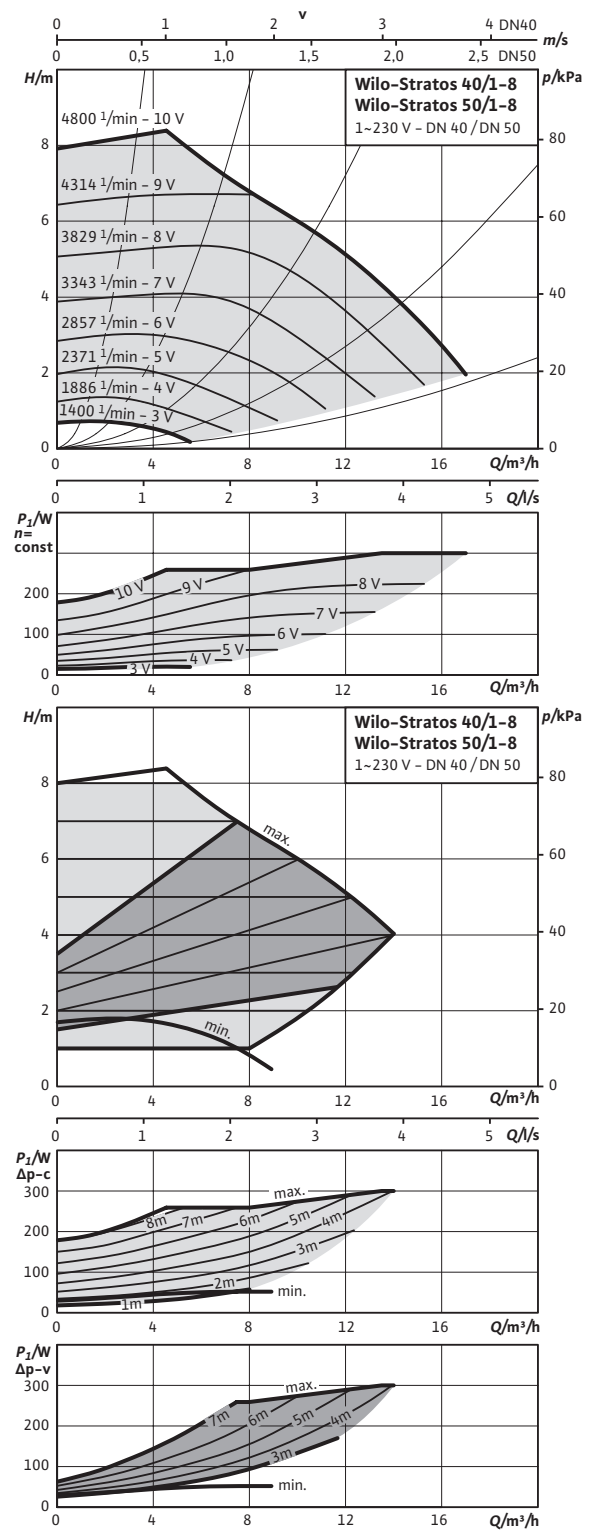
Materials

|              |                               |  |                        |  |
|--------------|-------------------------------|--|------------------------|--|
| Pump housing | Grey cast iron (EN-GJL-250)   |  |                        |  |
| Impeller     | Plastic (PPE - 30% GF)        |  | Plastic (PPS - 40% GF) |  |
| Pump shaft   | Stainless steel (X39CrMo17-1) |  |                        |  |
| Bearing      | Carbon, metal impregnated     |  |                        |  |

Pump curves

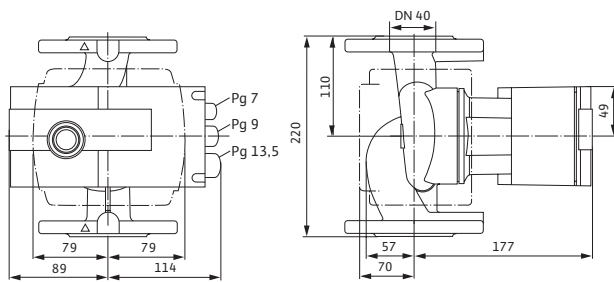


Pump curves



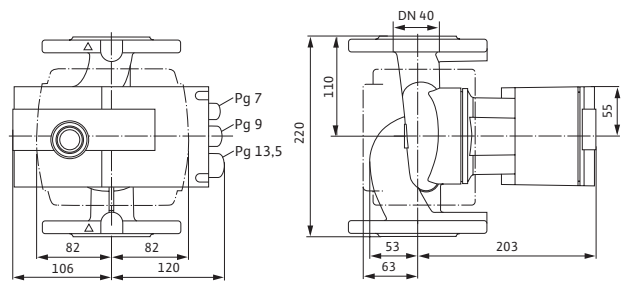
Dimension drawing

Stratos 40/1-4



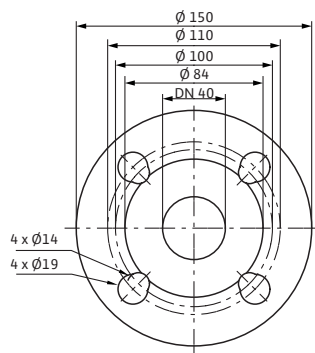
Dimension drawing

Stratos 40/1-8



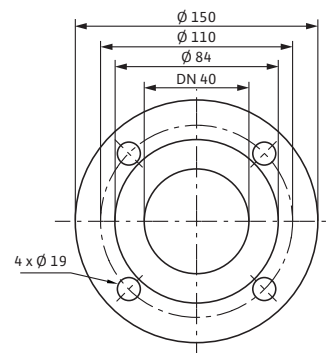
Dimension drawing, flange

DN40, PN6/10



Dimension drawing, flange

DN40, PN16



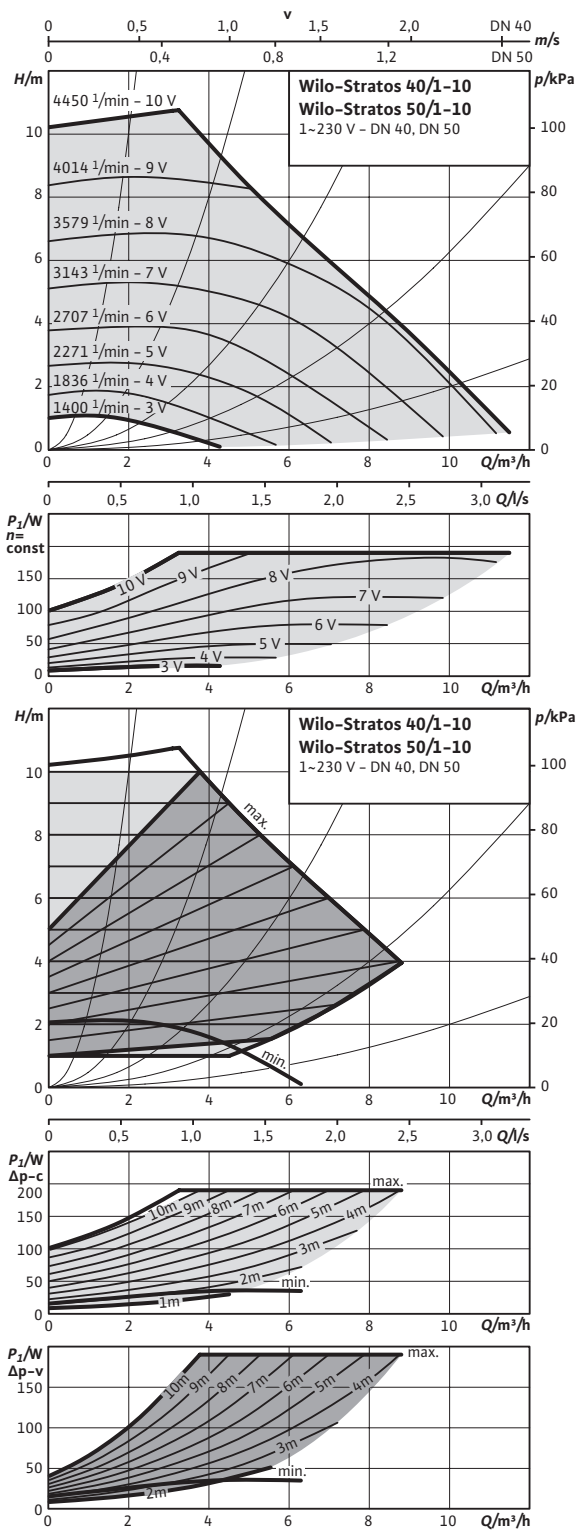
Technical data

| Designation                              | Stratos 40/1-4    |         | Stratos 40/1-8  |         |
|------------------------------------------|-------------------|---------|-----------------|---------|
| Art no.                                  | 2090453           | 2069142 | 2090454         | 2068604 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |                 |         |
| Nominal flange diameter                  | DN 40             |         |                 |         |
| Rated pressure                           | PN 6/10           | PN 16   | PN 6/10         | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |                 |         |
| Speed <i>n</i>                           | 1400 - 3700 rpm   |         | 1400 - 4800 rpm |         |
| Rated power $P_2$                        | 100 W             |         | 200 W           |         |
| Power consumption $P_1$                  | 9 - 125 W         |         | 12 - 300 W      |         |
| Current consumption <i>I</i>             | 0.13 - 1.10 A     |         | 0.22 - 1.32 A   |         |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m     |         |                 |         |
| Weight approx. <i>m</i>                  | 8.3 kg            |         | 9.5 kg          |         |

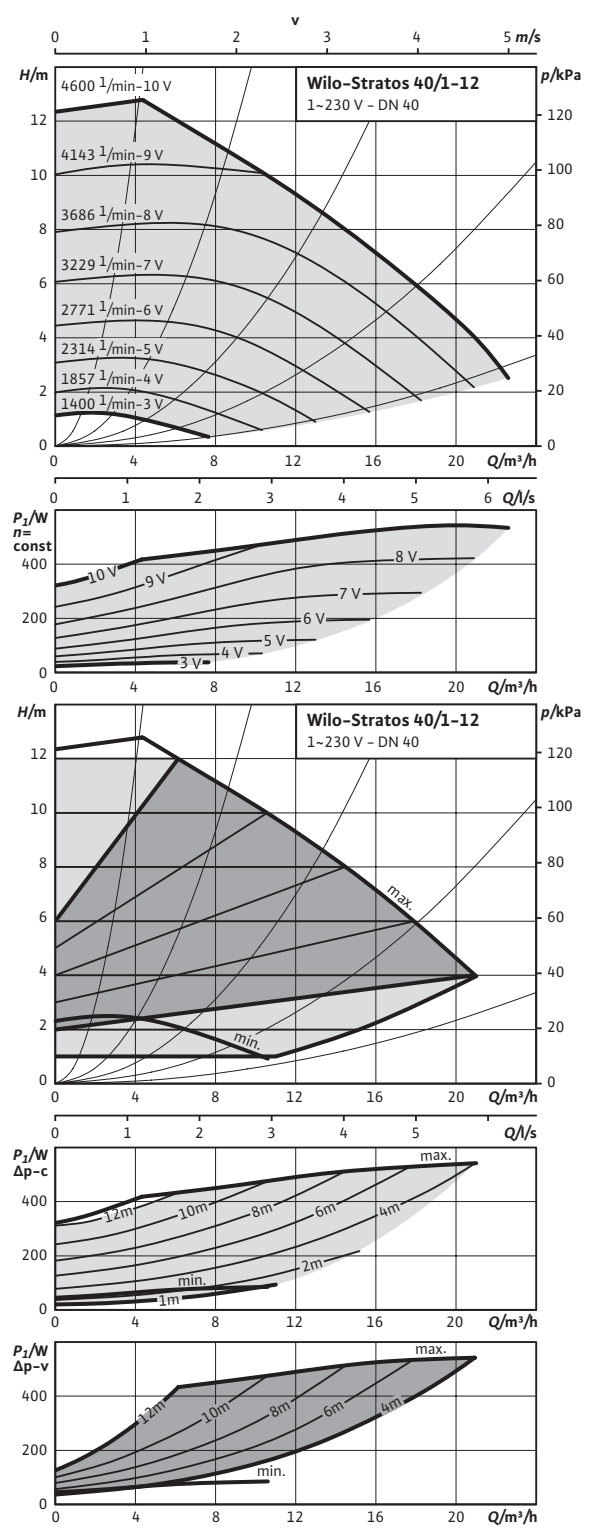
Materials

|              |                               |
|--------------|-------------------------------|
| Pump housing | Grey cast iron (EN-GJL-250)   |
| Impeller     | Plastic (PPS - 40% GF)        |
| Pump shaft   | Stainless steel (X39CrMo17-1) |
| Bearing      | Carbon, metal impregnated     |

Pump curves

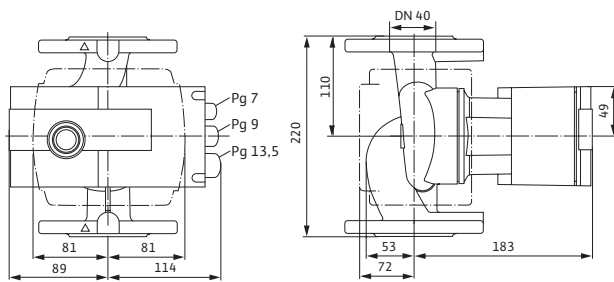


Pump curves



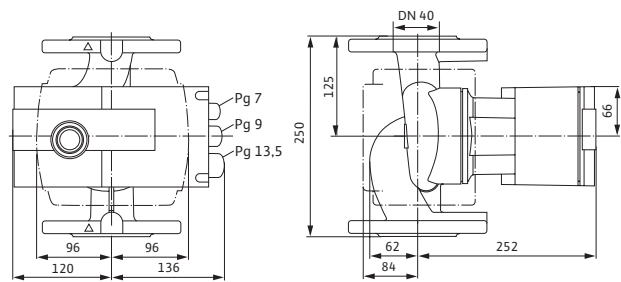
Dimension drawing

Stratos 40/1-10



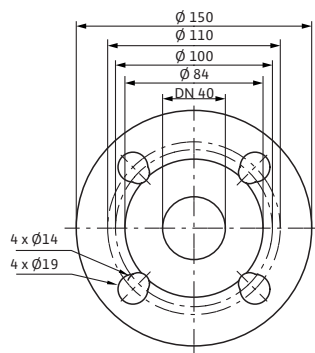
Dimension drawing

Stratos 40/1-12



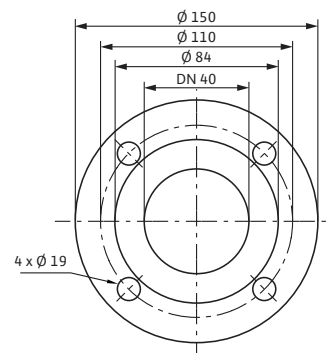
Dimension drawing, flange

DN40, PN6/10



Dimension drawing, flange

DN40, PN16



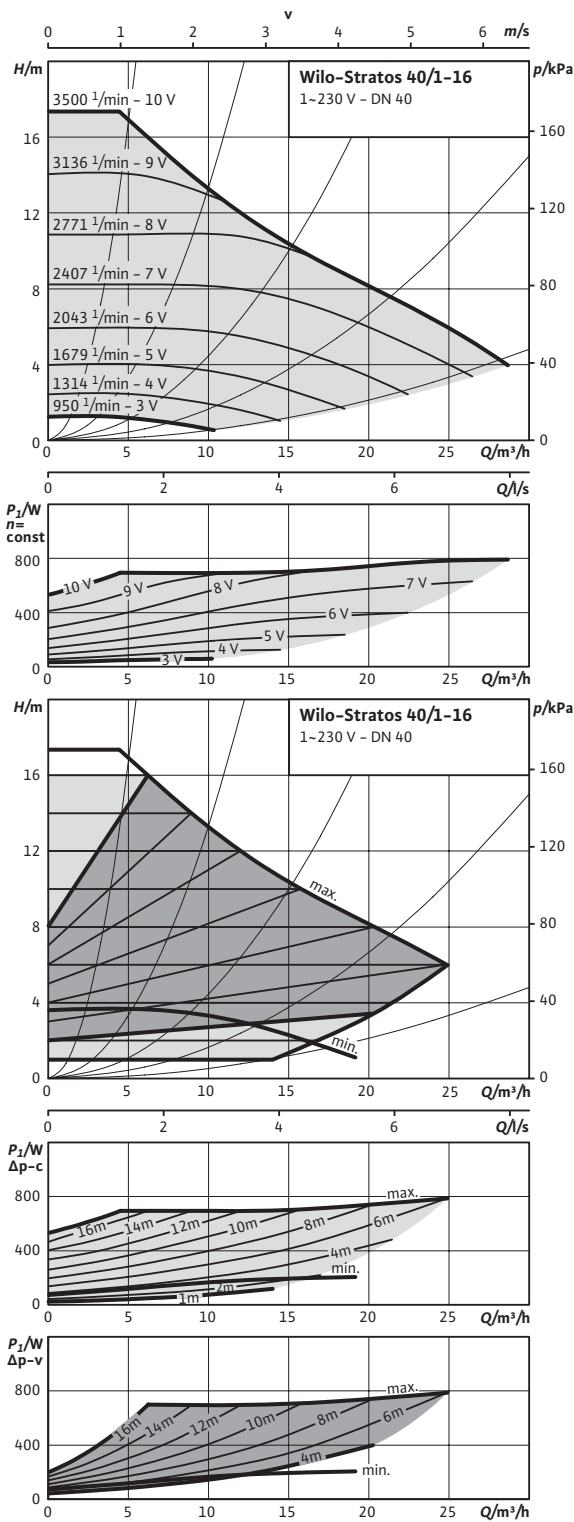
Technical data

| Designation                              | Stratos 40/1-10   |         | Stratos 40/1-12 |         |
|------------------------------------------|-------------------|---------|-----------------|---------|
| Art no.                                  | 2103618           | 2113776 | 2090455         | 2063362 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |                 |         |
| Nominal flange diameter                  | DN 40             |         |                 |         |
| Rated pressure                           | PN 6/10           | PN 16   | PN 6/10         | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |                 |         |
| Speed <i>n</i>                           | 1400 - 4450 rpm   |         | 1400 - 4600 rpm |         |
| Rated power <i>P</i> <sub>2</sub>        | 140 W             |         | 450 W           |         |
| Power consumption <i>P</i> <sub>1</sub>  | 9 - 190 W         |         | 25 - 550 W      |         |
| Current consumption <i>I</i>             | 0.13 - 1.30 A     |         | 0.20 - 2.40 A   |         |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m     |         | 5 / 12 / 18 m   |         |
| Weight approx. <i>m</i>                  | 7.8 kg            |         | 14 kg           |         |

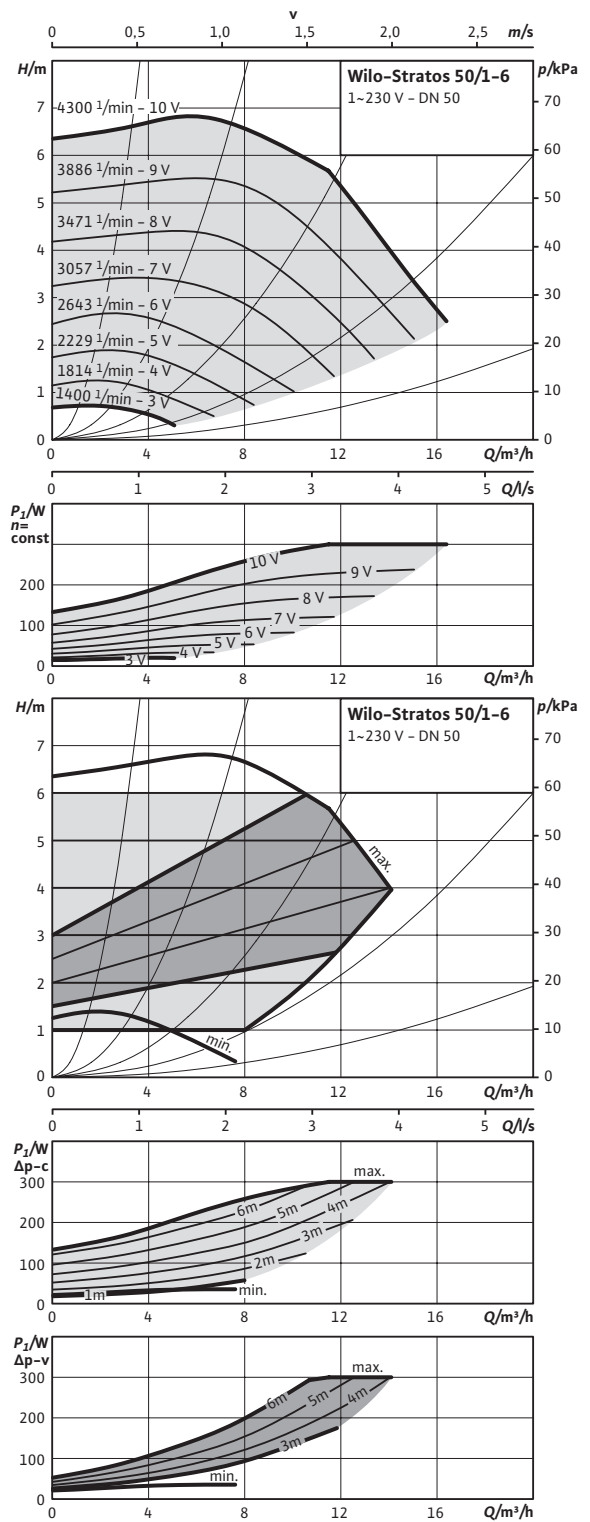
Materials

|              |                               |                                   |
|--------------|-------------------------------|-----------------------------------|
| Pump housing | Grey cast iron (EN-GJL-250)   |                                   |
| Impeller     | Plastic (PPE - 30% GF)        | Plastic (PPS - 40% GF)            |
| Pump shaft   | Stainless steel (X39CrMo17-1) | Stainless steel (X30Cr13/X46Cr13) |
| Bearing      | Carbon, metal impregnated     |                                   |

Pump curves

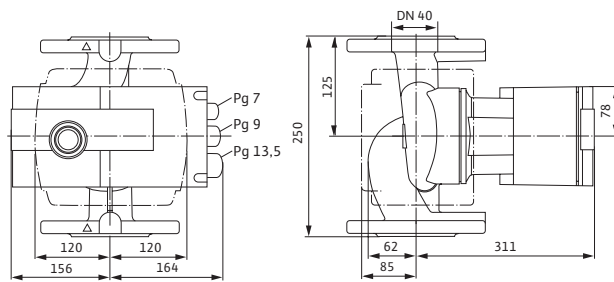


Pump curves



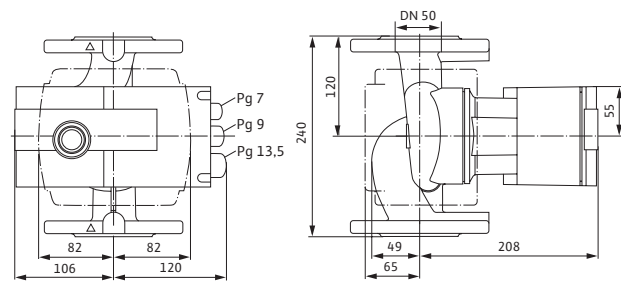
## Dimension drawing

Stratos 40/1-16



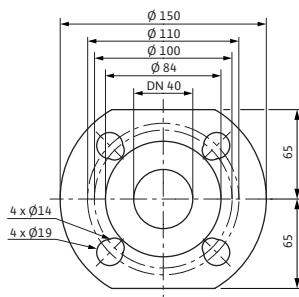
## Dimension drawing

Stratos 50/1-6



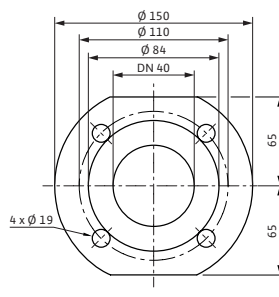
## Dimension drawing, flange

DN40, PN6/10



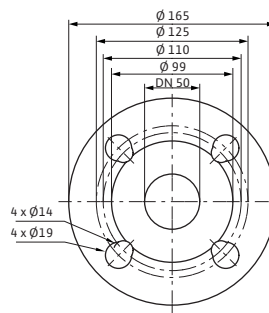
## Dimension drawing

DN40, PN16



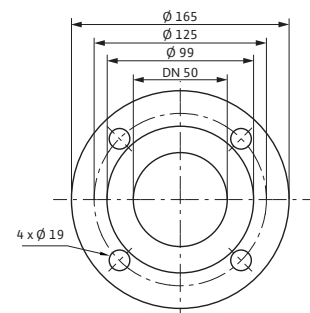
## Dimension drawing, flange

DN50, PN6/10



## Dimension drawing, flange

DN50, PN16



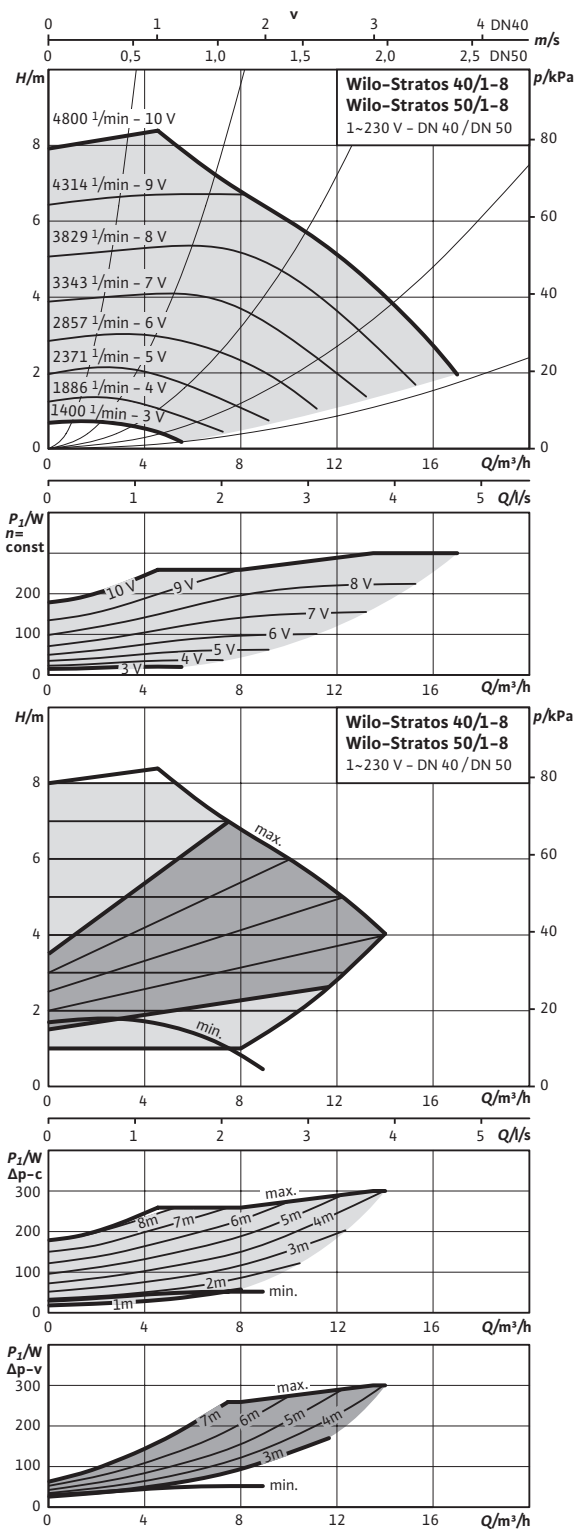
## Technical data

| Designation                              | Stratos 40/1-16   |         | Stratos 50/1-6  |         |
|------------------------------------------|-------------------|---------|-----------------|---------|
| Art no.                                  | 2150588           | 2149602 | 2146340         | 2149603 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |                 |         |
| Nominal flange diameter                  | DN 40             |         | DN 50           |         |
| Rated pressure                           | PN 6/10           | PN 16   | PN 6/10         | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |                 |         |
| Speed $n$                                | 950 - 3500 rpm    |         | 1400 - 4800 rpm |         |
| Rated power $P_2$                        | 650 W             |         | 200 W           |         |
| Power consumption $P_1$                  | 35 - 800 W        |         | 12 - 310 W      |         |
| Current consumption $I$                  | 0.30 - 3.50 A     |         | 0.22 - 1.37 A   |         |
| Minimum suction head at 50 / 95 / 110 °C | 7 / 15 / 23 m     |         | 3 / 10 / 16 m   |         |
| Weight approx. $m$                       | 23.5 kg           |         | 10.6 kg         |         |

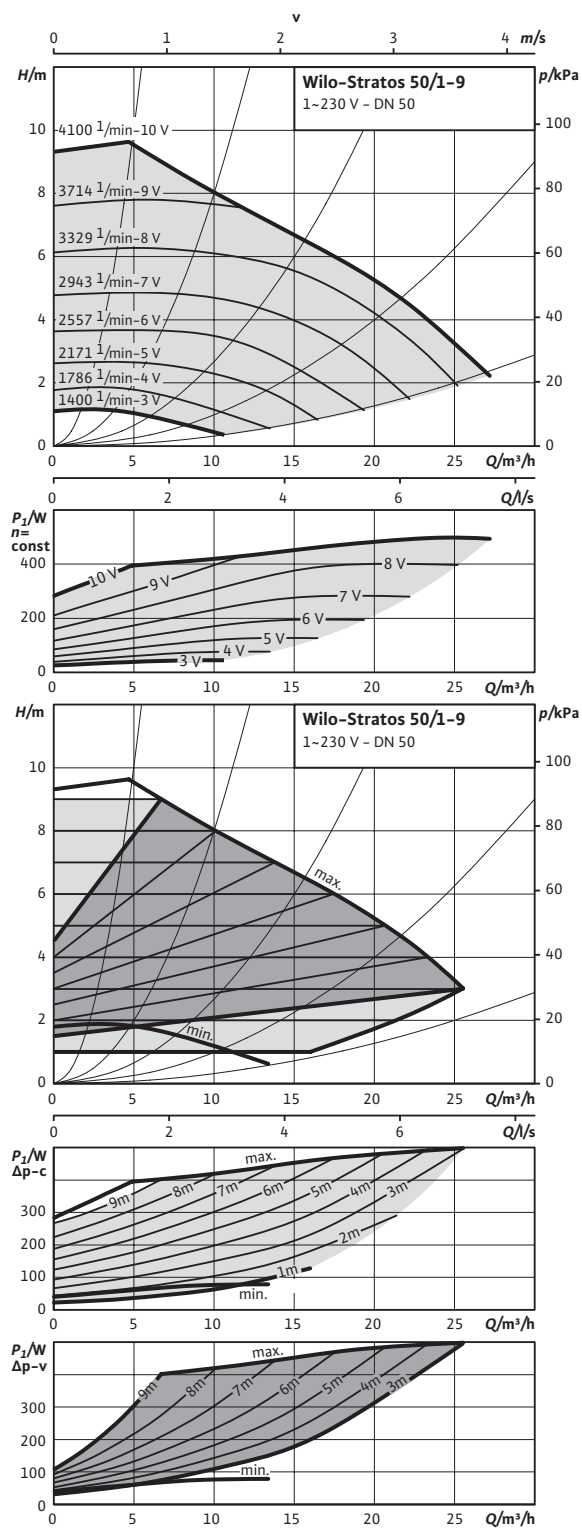
## Materials

|              |                                   |  |                               |  |
|--------------|-----------------------------------|--|-------------------------------|--|
| Pump housing | Grey cast iron (EN-GJL-250)       |  |                               |  |
| Impeller     | Plastic (PPE - 30% GF)            |  | Plastic (PPS - 40% GF)        |  |
| Pump shaft   | Stainless steel (X30Cr13/X46Cr13) |  | Stainless steel (X39CrMo17-1) |  |
| Bearing      | Carbon, metal impregnated         |  |                               |  |

Pump curves



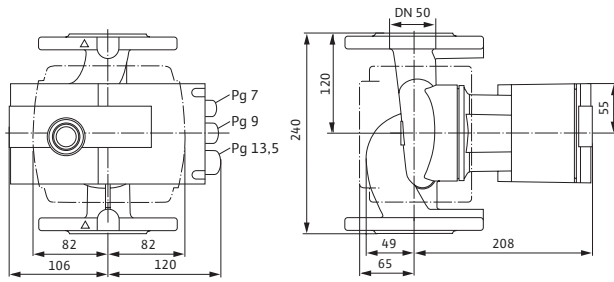
Pump curves





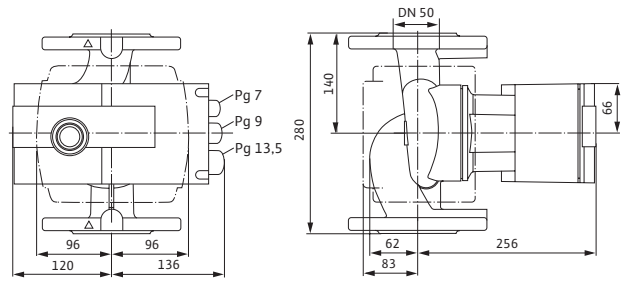
Dimension drawing

Stratos 50/1-8



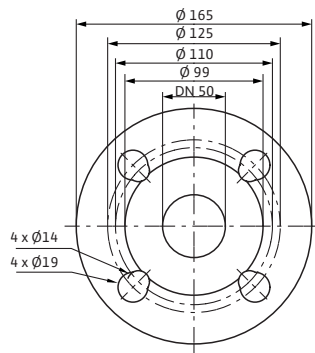
Dimension drawing

Stratos 50/1-9



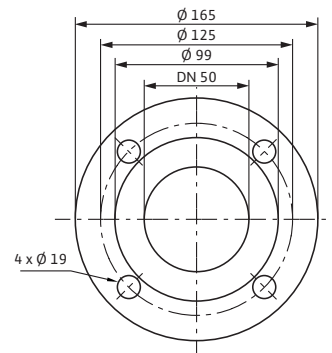
Dimension drawing, flange

DN50, PN6/10



Dimension drawing, flange

DN50, PN16



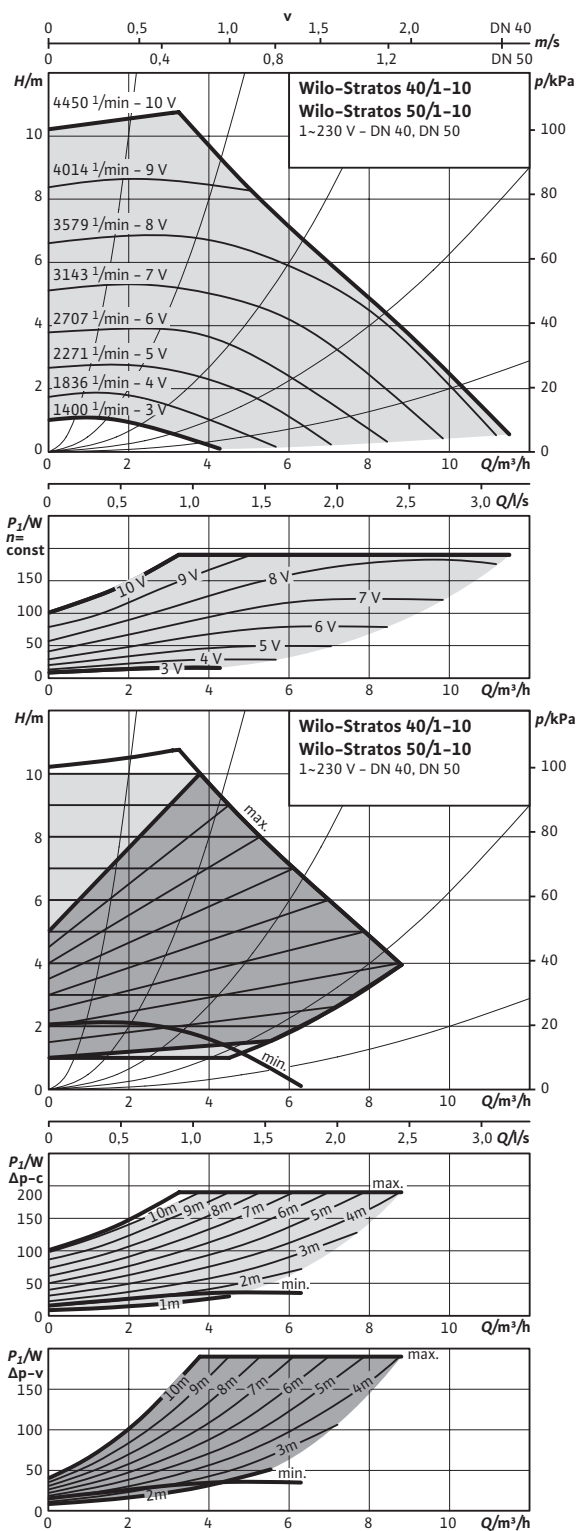
Technical data

| Designation                              | Stratos 50/1-8    |         | Stratos 50/1-9  |               |
|------------------------------------------|-------------------|---------|-----------------|---------------|
| Art no.                                  | 2090456           | 2069740 | 2090457         | 2069363       |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |                 |               |
| Nominal flange diameter                  | DN 50             |         |                 |               |
| Rated pressure                           | PN 6/10           | PN 16   | PN 6/10         | PN 16         |
| Mains connection                         | 1~230 V, 50/60 Hz |         |                 |               |
| Speed <i>n</i>                           | 1400 - 4800 rpm   |         | 1400 - 4100 rpm |               |
| Rated power $P_2$                        | 200 W             |         | 400 W           | 350 W         |
| Power consumption $P_1$                  | 12 - 300 W        |         | 25 - 490 W      | 25 - 430 W    |
| Current consumption <i>I</i>             | 0.22 - 1.32 A     |         | 0.20 - 2.15 A   | 0.20 - 1.88 A |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m     |         | 5 / 12 / 18 m   |               |
| Weight approx. <i>m</i>                  | 10.6 kg           |         | 15.5 kg         |               |

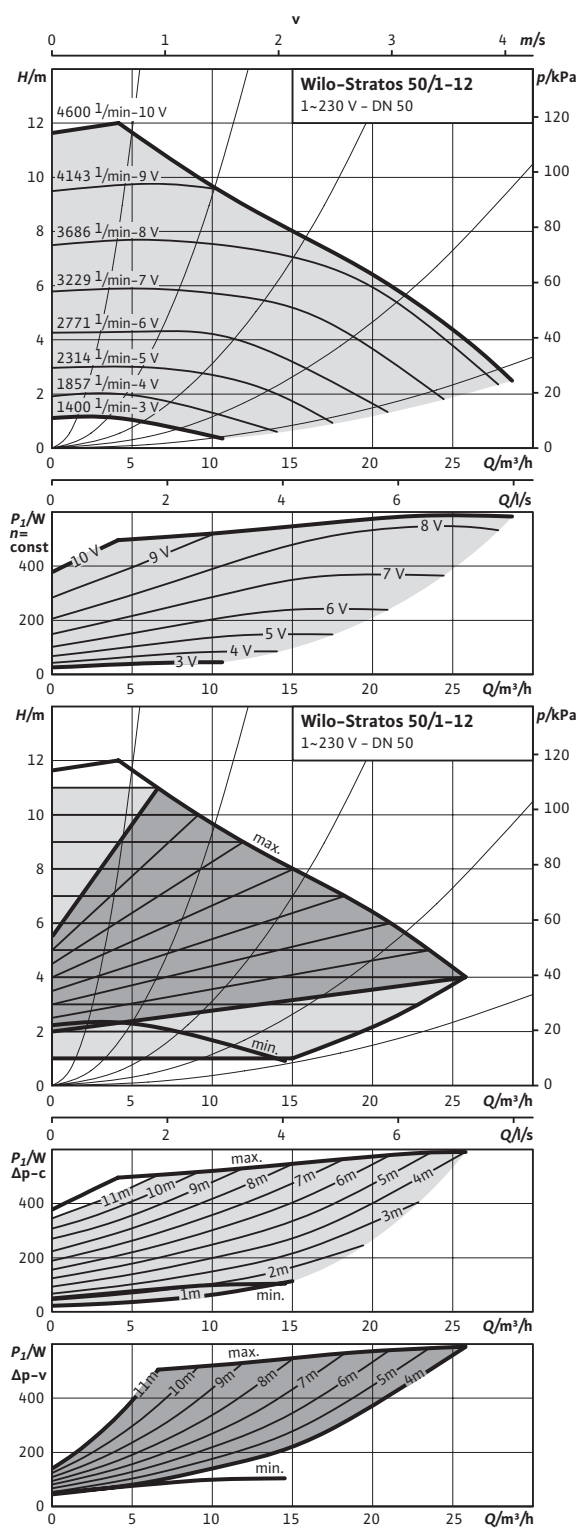
Materials

|              |                               |  |                                   |  |
|--------------|-------------------------------|--|-----------------------------------|--|
| Pump housing | Grey cast iron (EN-GJL-250)   |  |                                   |  |
| Impeller     | Plastic (PPS - 40% GF)        |  |                                   |  |
| Pump shaft   | Stainless steel (X39CrMo17-1) |  | Stainless steel (X30Cr13/X46Cr13) |  |
| Bearing      | Carbon, metal impregnated     |  |                                   |  |

Pump curves

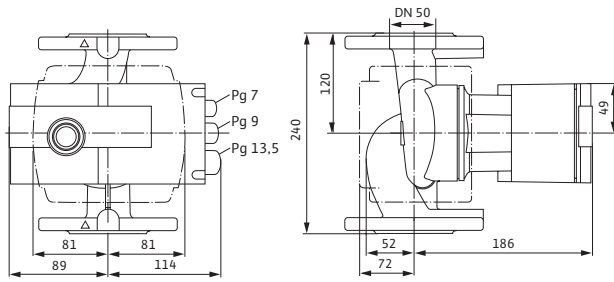


Pump curves



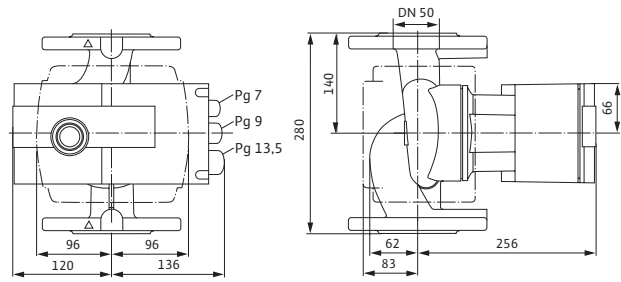
Dimension drawing

Stratos 50/1-10



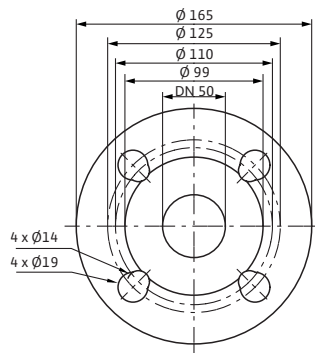
Dimension drawing

Stratos 50/1-12



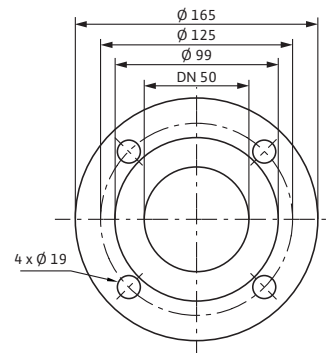
Dimension drawing, flange

DN50, PN6/10



Dimension drawing, flange

DN50, PN16



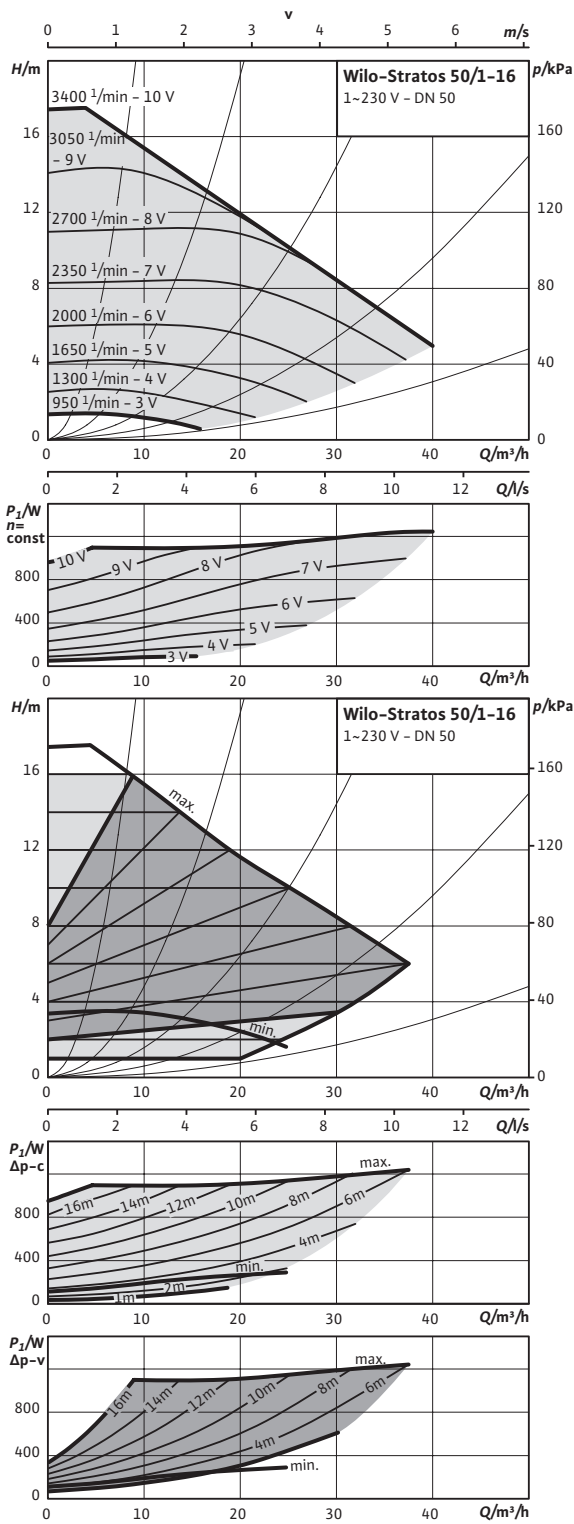
Technical data

| Designation                              | Stratos 50/1-10   |         | Stratos 50/1-12 |         |
|------------------------------------------|-------------------|---------|-----------------|---------|
| Art no.                                  | 2103619           | 2120729 | 2090458         | 2063361 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |                 |         |
| Nominal flange diameter                  | DN 50             |         |                 |         |
| Rated pressure                           | PN 6/10           | PN 16   | PN 6/10         | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |                 |         |
| Speed <i>n</i>                           | 1400 - 4450 rpm   |         | 1400 - 4600 rpm |         |
| Rated power <i>P</i> <sub>2</sub>        | 140 W             |         | 500 W           |         |
| Power consumption <i>P</i> <sub>1</sub>  | 9 - 190 W         |         | 25 - 590 W      |         |
| Current consumption <i>I</i>             | 0.13 - 1.30 A     |         | 0.20 - 2.60 A   |         |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m     |         | 5 / 12 / 18 m   |         |
| Weight approx. <i>m</i>                  | 8.4 kg            |         | 15.9 kg         |         |

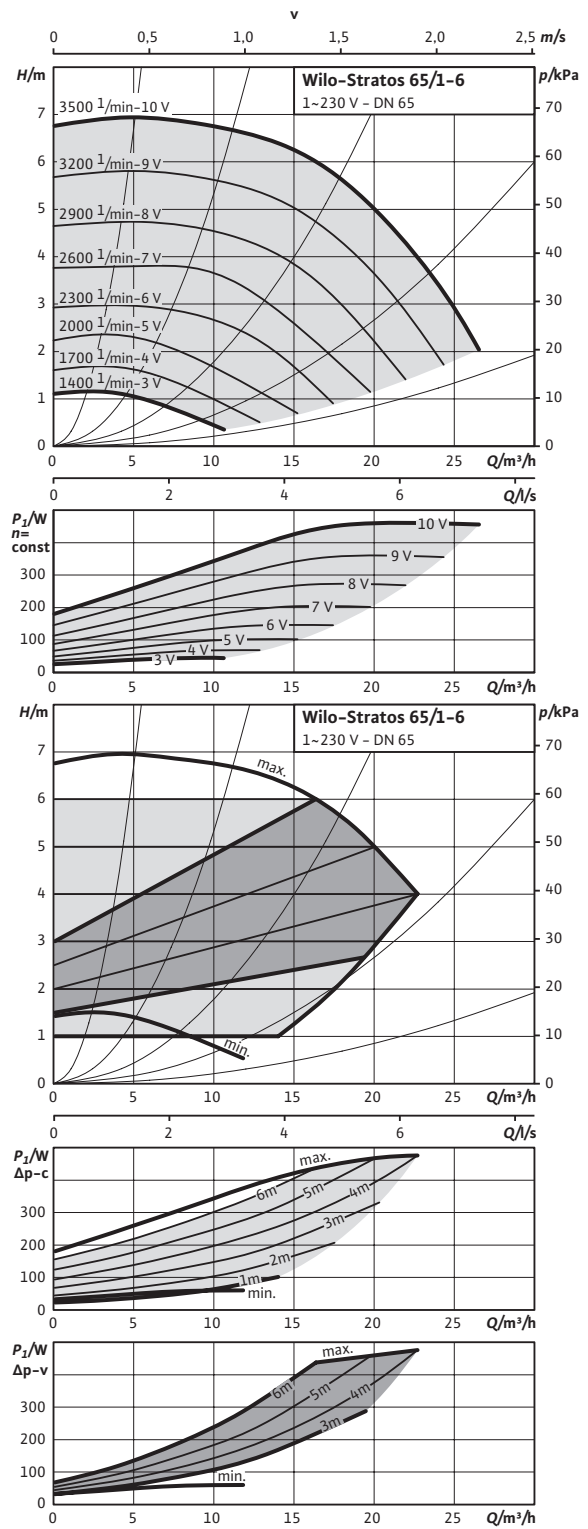
Materials

|              |                               |  |                                   |  |
|--------------|-------------------------------|--|-----------------------------------|--|
| Pump housing | Grey cast iron (EN-GJL-250)   |  |                                   |  |
| Impeller     | Plastic (PPE - 30% GF)        |  | Plastic (PPS - 40% GF)            |  |
| Pump shaft   | Stainless steel (X39CrMo17-1) |  | Stainless steel (X30Cr13/X46Cr13) |  |
| Bearing      | Carbon, metal impregnated     |  |                                   |  |

Pump curves

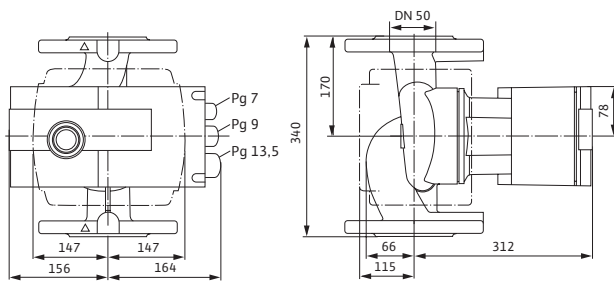


Pump curves



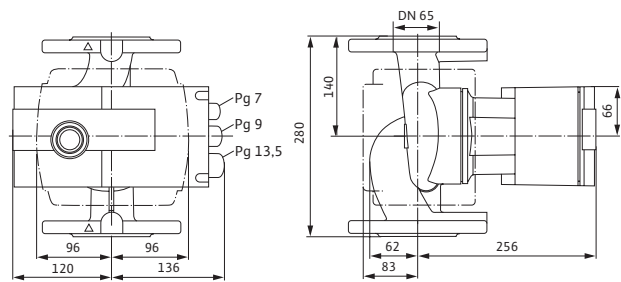
Dimension drawing

Stratos 50/1-16



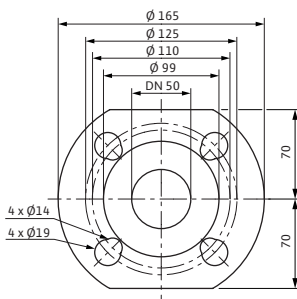
Dimension drawing

Stratos 65/1-6



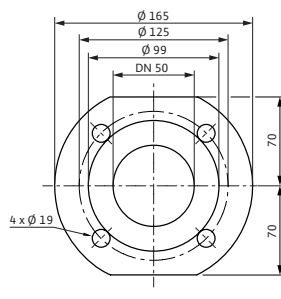
Dimension drawing, flange

DN50, PN6/10



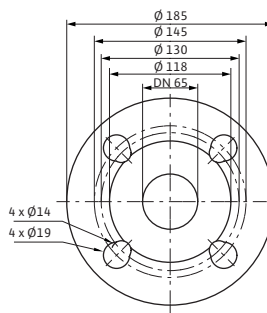
Dimension drawing

DN50, PN16



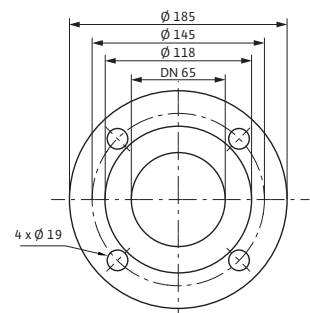
Dimension drawing, flange

DN65, PN6/10



Dimension drawing, flange

DN65, PN16



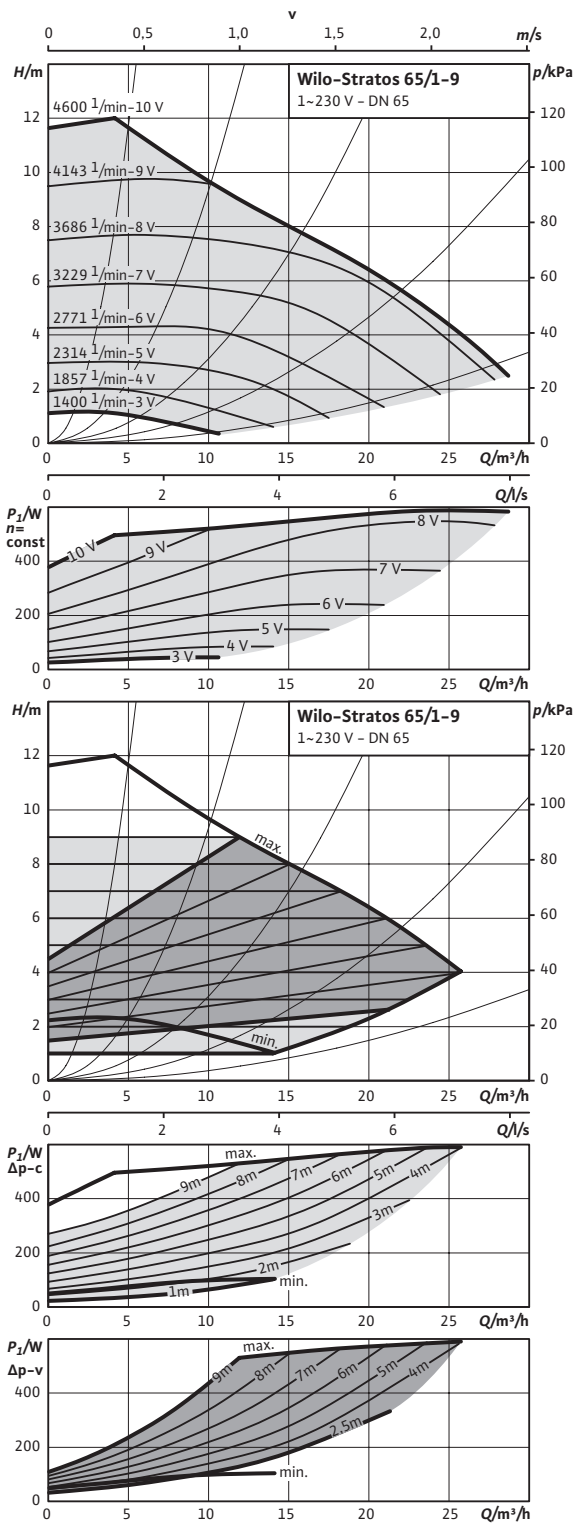
Technical data

| Designation                              | Stratos 50/1-16   |         | Stratos 65/1-6  |         |
|------------------------------------------|-------------------|---------|-----------------|---------|
| Art no.                                  | 2150590           | 2149847 | 2146341         | 2163187 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |                 |         |
| Nominal flange diameter                  | DN 50             |         | DN 65           |         |
| Rated pressure                           | PN 6/10           | PN 16   | PN 6/10         | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |                 |         |
| Speed <i>n</i>                           | 950 - 3400 rpm    |         | 1400 - 3500 rpm |         |
| Rated power <i>P</i> <sub>2</sub>        | 1050 W            |         | 400 W           |         |
| Power consumption <i>P</i> <sub>1</sub>  | 40 - 1250 W       |         | 25 - 490 W      |         |
| Current consumption <i>I</i>             | 0.30 - 5.50 A     |         | 0.20 - 2.15 A   |         |
| Minimum suction head at 50 / 95 / 110 °C | 7 / 15 / 23 m     |         | 5 / 12 / 18 m   |         |
| Weight approx. <i>m</i>                  | 26.5 kg           |         | 15.9 kg         | 15.8 kg |

Materials

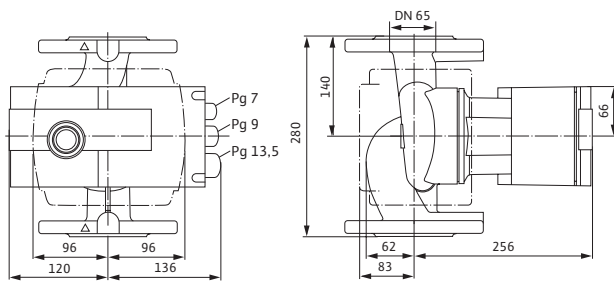
|              |                                   |  |                        |  |
|--------------|-----------------------------------|--|------------------------|--|
| Pump housing | Grey cast iron (EN-GJL-250)       |  |                        |  |
| Impeller     | Plastic (PPE - 30% GF)            |  | Plastic (PPS - 40% GF) |  |
| Pump shaft   | Stainless steel (X30Cr13/X46Cr13) |  |                        |  |
| Bearing      | Carbon, metal impregnated         |  |                        |  |

Pump curves



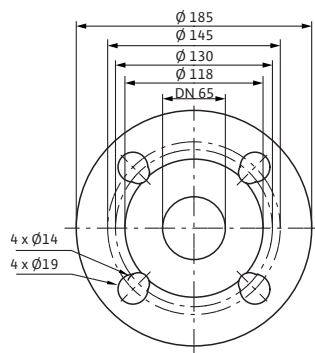
Dimension drawing

Stratos 65/1-9



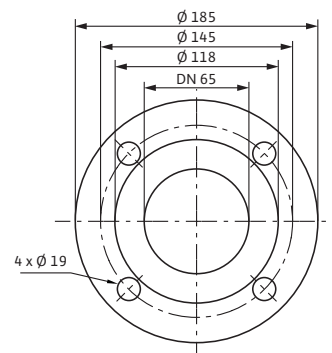
Dimension drawing, flange

DN65, PN6/10



Dimension drawing, flange

DN65, PN16



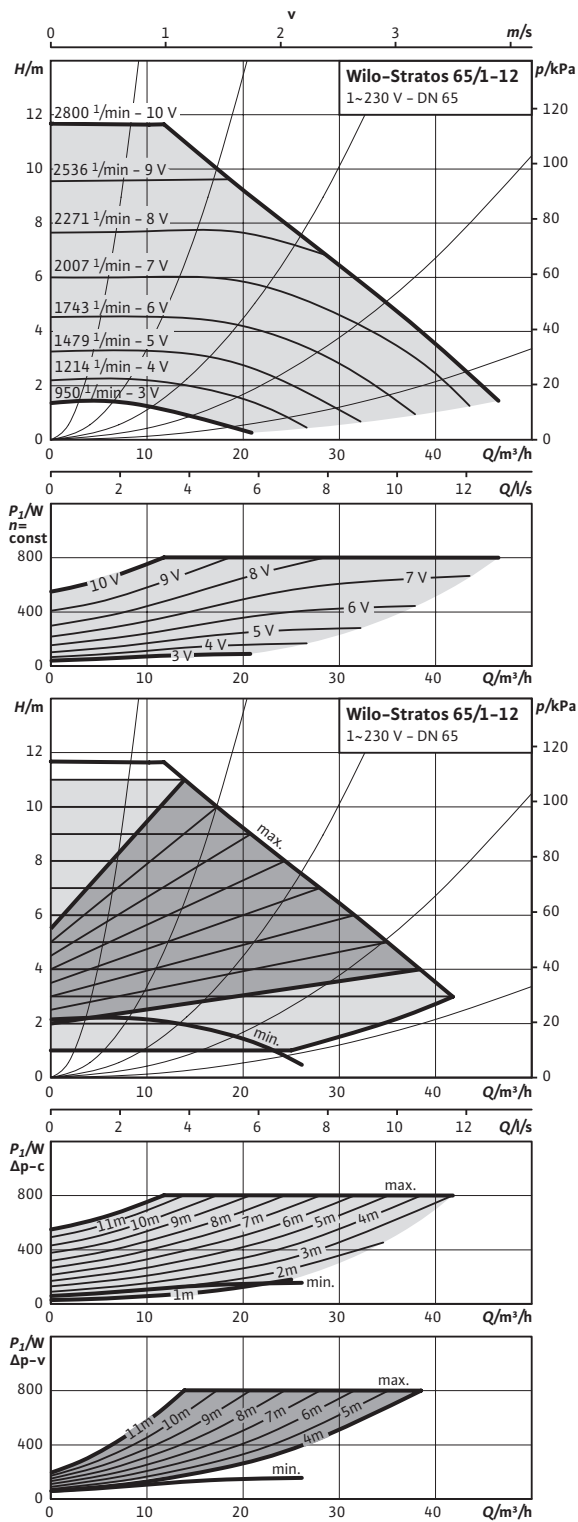
Technical data

| Designation                              | Stratos 65/1-9    |         |
|------------------------------------------|-------------------|---------|
| Art no.                                  | 2090459           | 2069362 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |
| Nominal flange diameter                  | DN 65             |         |
| Rated pressure                           | PN 6/10           | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |
| Speed <i>n</i>                           | 1400 - 4600 rpm   |         |
| Rated power $P_2$                        | 500 W             |         |
| Power consumption $P_1$                  | 25 - 590 W        |         |
| Current consumption <i>I</i>             | 0.20 - 2.60 A     |         |
| Minimum suction head at 50 / 95 / 110 °C | 5 / 12 / 18 m     |         |
| Weight approx. <i>m</i>                  | 18 kg             |         |

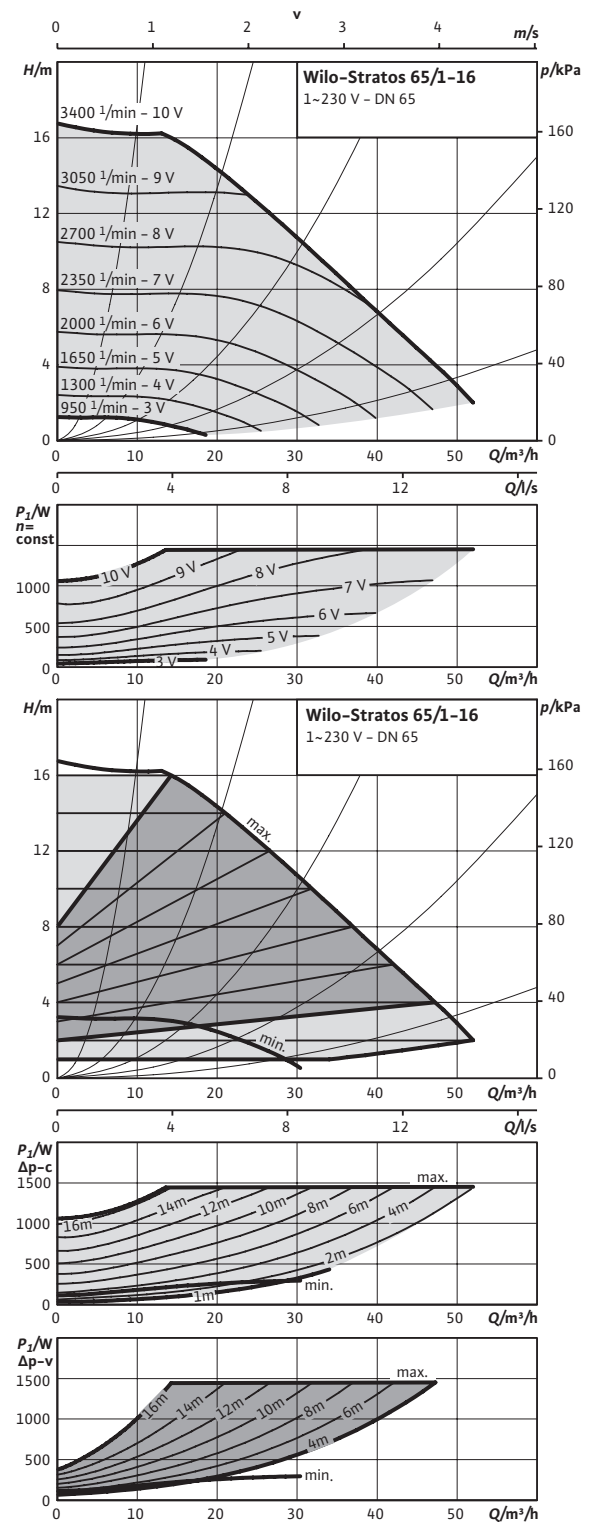
Materials

|              |                                   |
|--------------|-----------------------------------|
| Pump housing | Grey cast iron (EN-GJL-250)       |
| Impeller     | Plastic (PPS - 40% GF)            |
| Pump shaft   | Stainless steel (X30Cr13/X46Cr13) |
| Bearing      | Carbon, metal impregnated         |

Pump curves



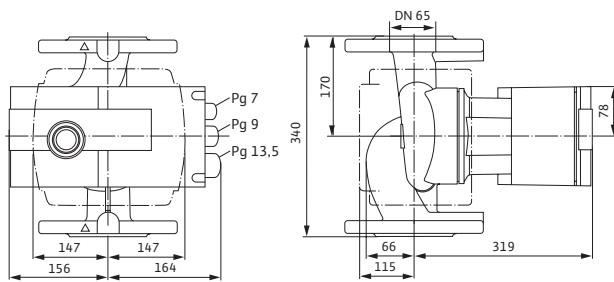
Pump curves





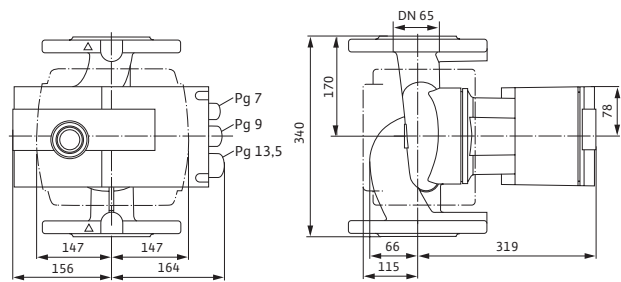
Dimension drawing

Stratos 65/1-12



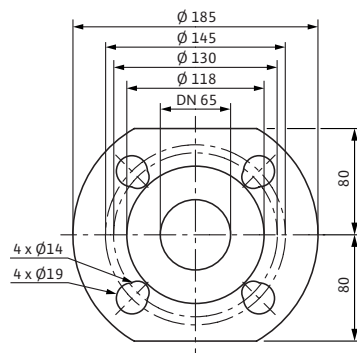
Dimension drawing

Stratos 65/1-16



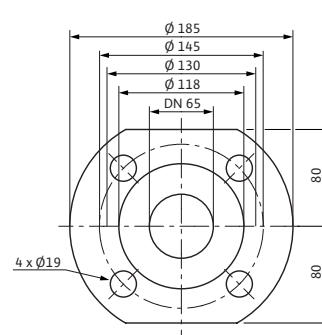
Dimension drawing, flange

DN65, PN6/10



Dimension drawing

DN65, PN16



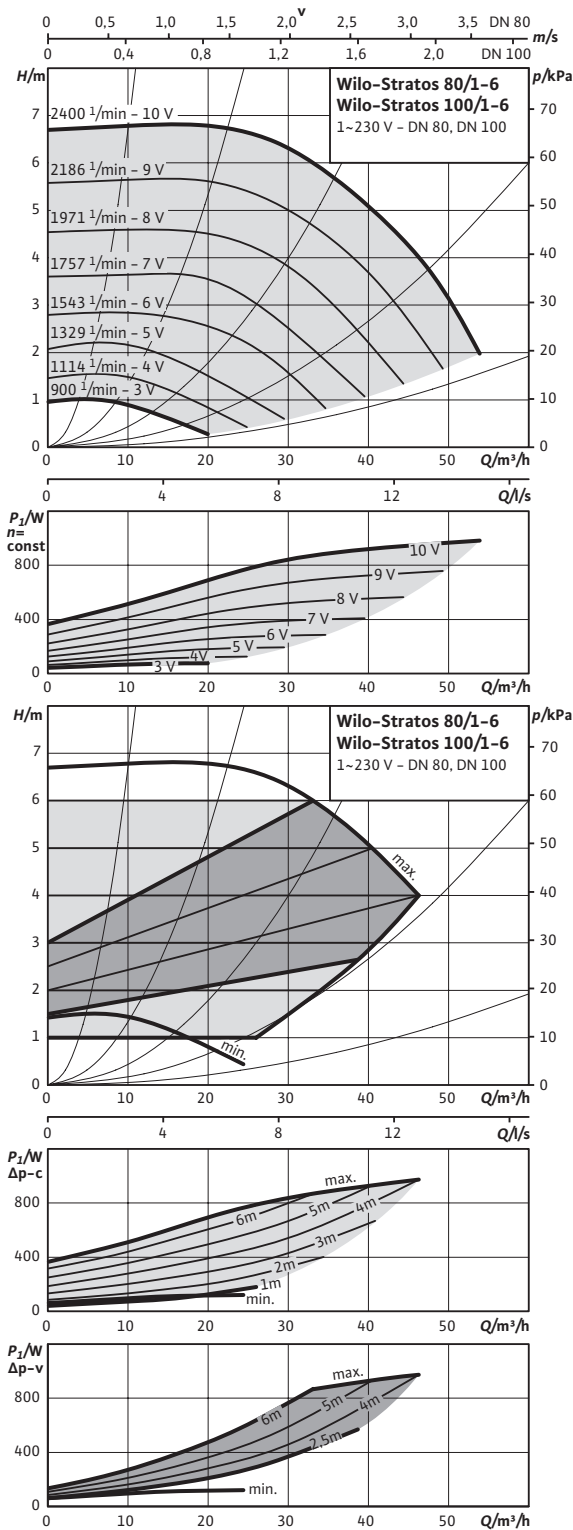
Technical data

| Designation                              | Stratos 65/1-12   |                | Stratos 65/1-16 |         |
|------------------------------------------|-------------------|----------------|-----------------|---------|
| Art no.                                  | 2163267           | 2069739        | 2150591         | 2152309 |
| Energy efficiency index (EEI)            | ≤ 0.20            |                |                 |         |
| Nominal flange diameter                  | DN 65             |                |                 |         |
| Rated pressure                           | PN 6/10           | PN 16          | PN 6/10         | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |                |                 |         |
| Speed <i>n</i>                           | 950 - 2800 rpm    | 950 - 3300 rpm | 950 - 3400 rpm  |         |
| Rated power <i>P</i> <sub>2</sub>        | 650 W             |                | 1200 W          |         |
| Power consumption <i>P</i> <sub>1</sub>  | 38 - 800 W        |                | 40 - 1450 W     |         |
| Current consumption <i>I</i>             | 0.30 - 3.50 A     |                | 0.30 - 6.40 A   |         |
| Minimum suction head at 50 / 95 / 110 °C | 7 / 15 / 23 m     |                |                 |         |
| Weight approx. <i>m</i>                  | 27.2 kg           |                | 29 kg           |         |

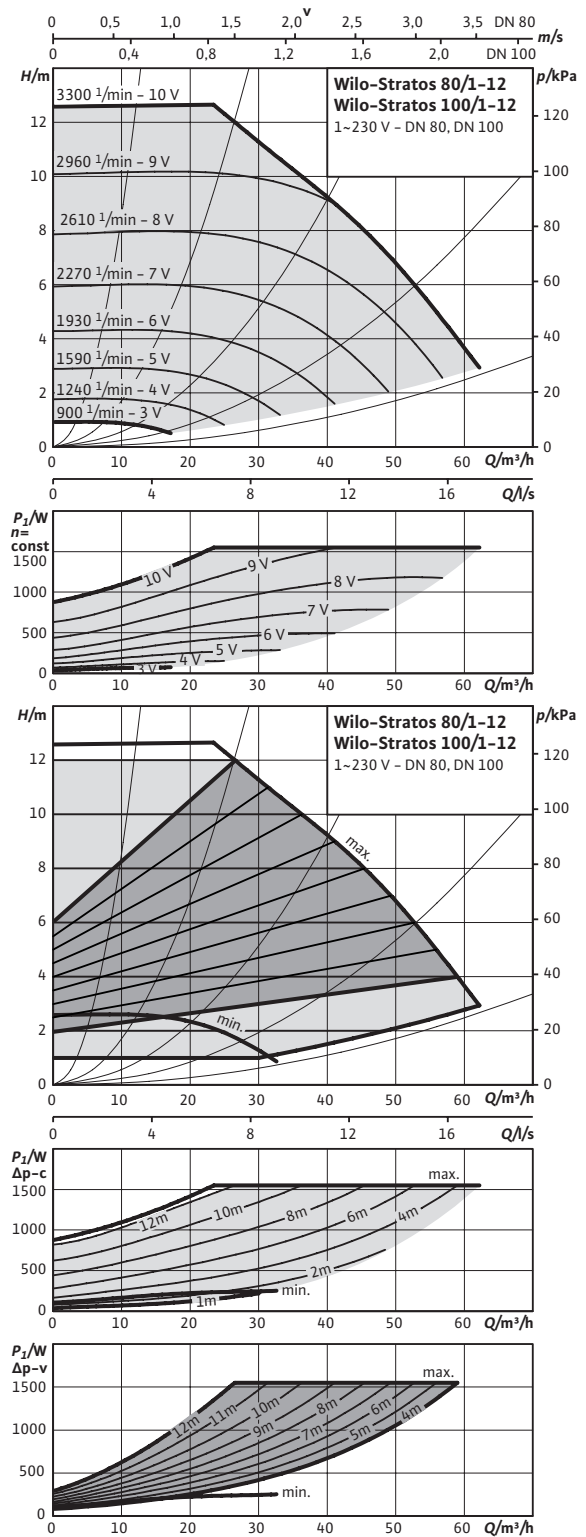
Materials

|              |                                   |                       |                        |  |
|--------------|-----------------------------------|-----------------------|------------------------|--|
| Pump housing | Grey cast iron (EN-GJL-250)       |                       |                        |  |
| Impeller     | Plastic (PPE - 30% GF)            | Plastic (PP - 50% GF) | Plastic (PPE - 30% GF) |  |
| Pump shaft   | Stainless steel (X30Cr13/X46Cr13) |                       |                        |  |
| Bearing      | Carbon, metal impregnated         |                       |                        |  |

Pump curves

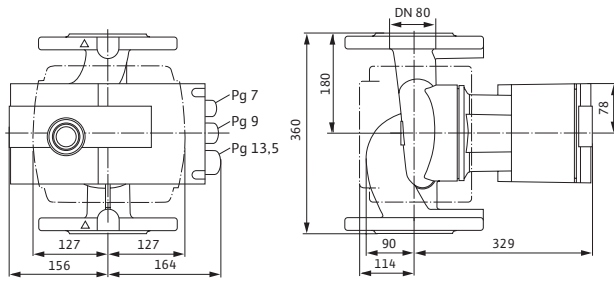


Pump curves



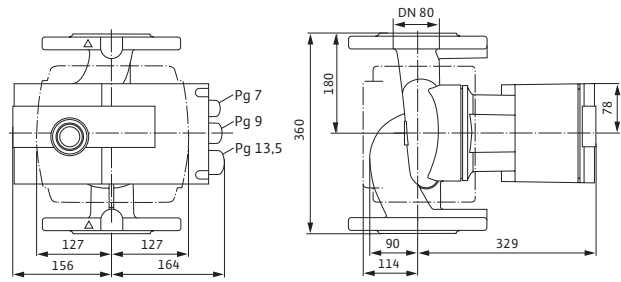
Dimension drawing

Stratos 80/1-6



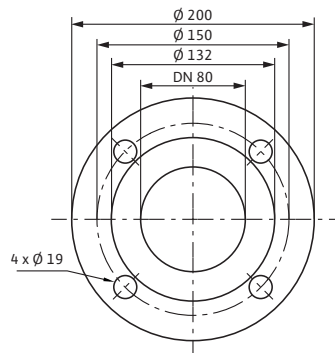
Dimension drawing

Stratos 80/1-12



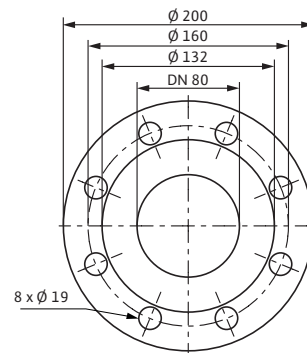
Dimension drawing, flange

DN80, PN6



Dimension drawing, flange

DN80, PN10/16



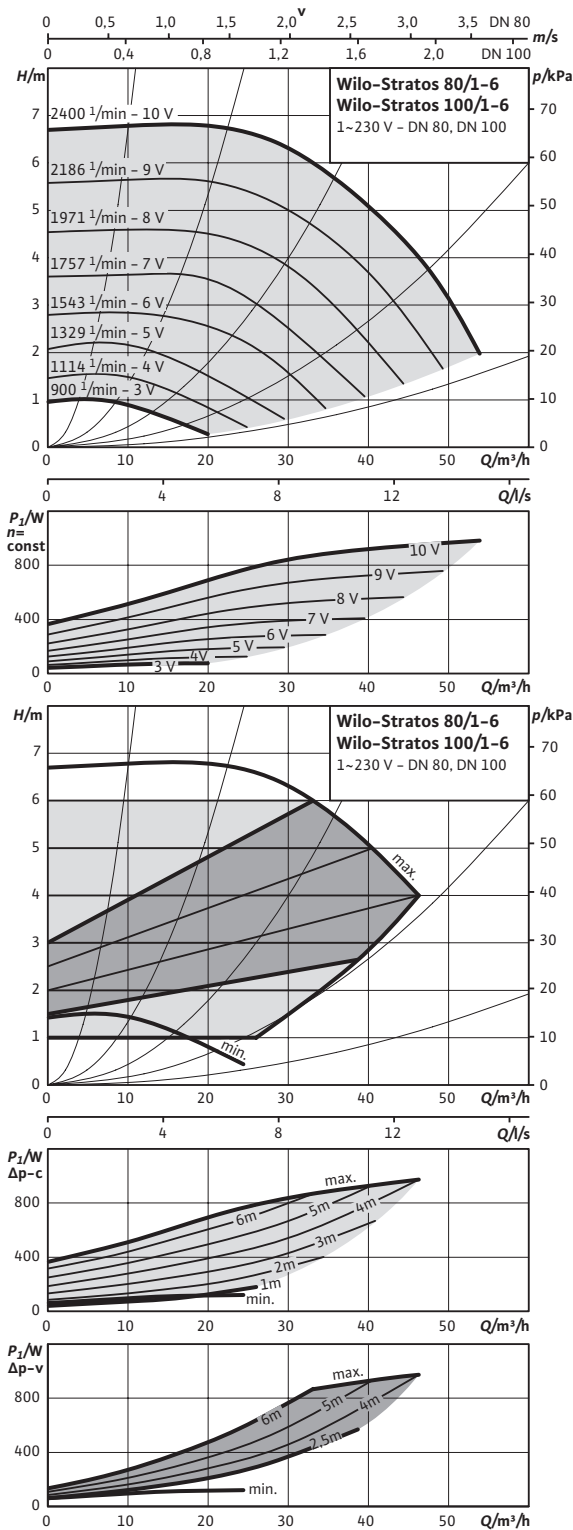
Technical data

| Designation                              | Stratos 80/1-6    |         |         | Stratos 80/1-12 |         |         |
|------------------------------------------|-------------------|---------|---------|-----------------|---------|---------|
| Art no.                                  | 2146342           | 2146343 | 2149431 | 2150592         | 2150593 | 2063364 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |         |                 |         |         |
| Nominal flange diameter                  | DN 80             |         |         |                 |         |         |
| Rated pressure                           | PN 6              | PN 10   | PN 16   | PN 6            | PN 10   | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |         |                 |         |         |
| Speed <i>n</i>                           | 900 – 2400 rpm    |         |         | 900 – 3300 rpm  |         |         |
| Rated power $P_2$                        | 850 W             |         |         | 1300 W          |         |         |
| Power consumption $P_1$                  | 40 – 990 W        |         |         | 40 – 1550 W     |         |         |
| Current consumption <i>I</i>             | 0.30 – 4.40 A     |         |         | 0.30 – 6.80 A   |         |         |
| Minimum suction head at 50 / 95 / 110 °C | 7 / 15 / 23 m     |         |         |                 |         |         |
| Weight approx. <i>m</i>                  | 31 kg             |         |         |                 |         |         |

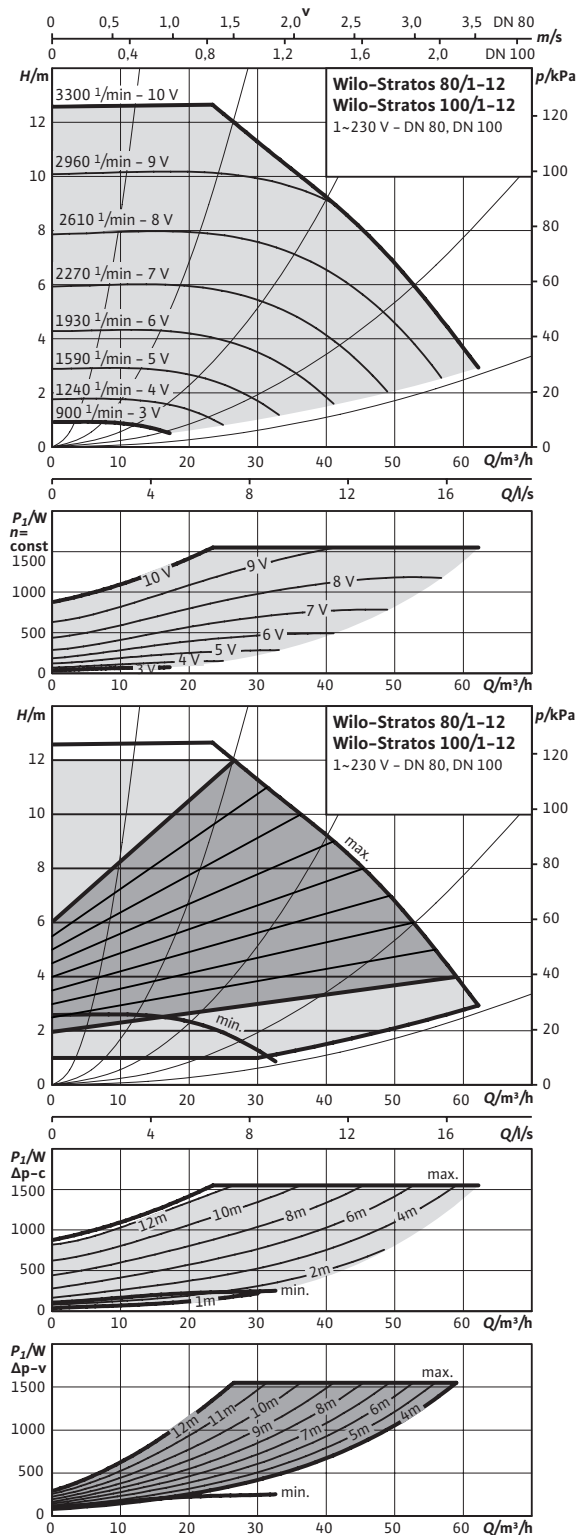
Materials

|              |                                   |
|--------------|-----------------------------------|
| Pump housing | Grey cast iron (EN-GJL-250)       |
| Impeller     | Plastic (PP – 50% GF)             |
| Pump shaft   | Stainless steel (X30Cr13/X46Cr13) |
| Bearing      | Carbon, metal impregnated         |

Pump curves

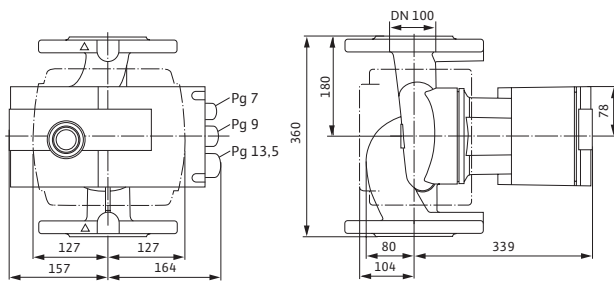


Pump curves



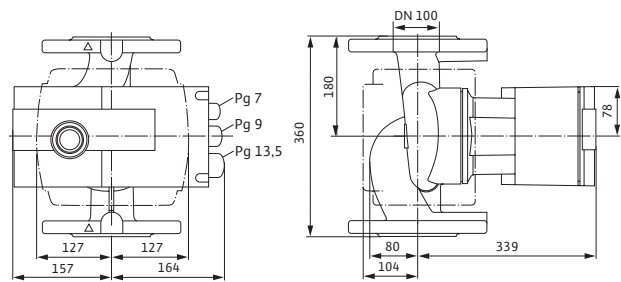
## Dimension drawing

Stratos 100/1-6



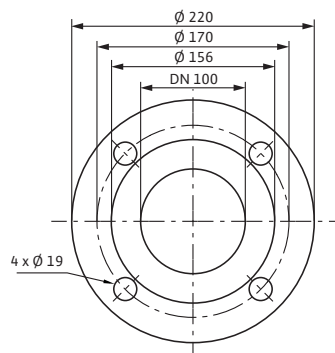
## Dimension drawing

Stratos 100/1-12



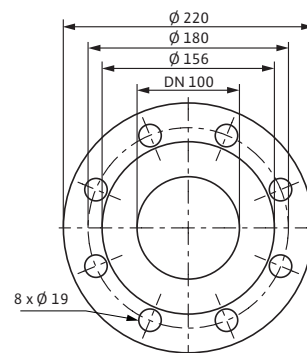
## Dimension drawing, flange

DN100, PN6



## Dimension drawing, flange

DN100, PN10/16



## Technical data

| Designation                              | Stratos 100/1-6   |         |         | Stratos 100/1-12 |         |         |
|------------------------------------------|-------------------|---------|---------|------------------|---------|---------|
|                                          | Art no.           | 2146344 | 2146345 | 2149432          | 2150594 | 2150595 |
| Energy efficiency index (EEI)            | ≤ 0.20            |         |         |                  |         |         |
| Nominal flange diameter                  | DN 100            |         |         |                  |         |         |
| Rated pressure                           | PN 6              | PN 10   | PN 16   | PN 6             | PN 10   | PN 16   |
| Mains connection                         | 1~230 V, 50/60 Hz |         |         |                  |         |         |
| Speed $n$                                | 900 - 2400 rpm    |         |         | 900 - 3300 rpm   |         |         |
| Rated power $P_2$                        | 850 W             |         |         | 1300 W           |         |         |
| Power consumption $P_1$                  | 40 - 990 W        |         |         | 40 - 1550 W      |         |         |
| Current consumption $I$                  | 0.30 - 4.40 A     |         |         | 0.30 - 6.80 A    |         |         |
| Minimum suction head at 50 / 95 / 110 °C | 7 / 15 / 23 m     |         |         |                  |         |         |
| Weight approx. $m$                       | 34 kg             |         |         |                  |         |         |

## Materials

|              |                                   |
|--------------|-----------------------------------|
| Pump housing | Grey cast iron (EN-GJL-250)       |
| Impeller     | Plastic (PP - 50% GF)             |
| Pump shaft   | Stainless steel (X30Cr13/X46Cr13) |
| Bearing      | Carbon, metal impregnated         |

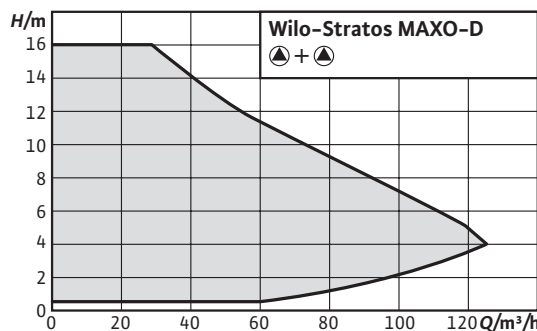


**Wilo-Stratos MAXO-D**



Smart glandless double circulator with flange connection, EC motor with integrated electronic power adjustment.

- Intuitive operation by application-guided settings with the setup guide plus the combination of a new display and operating button using the Green Button Technology.
- Highest energy efficiency through the interaction of optimised and innovative energy saving functions (e.g. No-Flow Stop).
- Optimum system efficiency due to new, innovative, intelligent control functions like e.g. Dynamic Adapt plus, Multi-Flow Adaptation, T-const. and  $\Delta T$ -const.
- Latest communication interfaces (e.g. Bluetooth) for connection to mobile devices and direct pump linkage via Wilo Net for multi-pump control.
- Highest electrical installation comfort through clearly arranged and large terminal room as well as optimised Wilo-Connector.



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

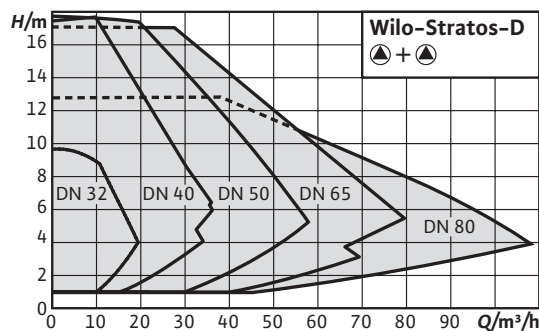


**Wilo-Stratos-D**



Glandless double circulation pump with flange connection, EC motor with automatic power adjustment

- Energy savings through greater system efficiency with the Q-Limit function (volume flow limiter)
- Improved Energy Efficiency Index (EEI)  $\leq 0.23$  for all double pumps.
- Optimised display for better readability and operation
- Space-saving installation due to compact design and location-dependent LC display
- Modular concept for connection of all conventional bus systems (e.g. Modbus, BACnet, CAN, LON and PLR)
- Dual pump management via retrofittable IF-Modules:
- Tried and tested quality and reliability



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

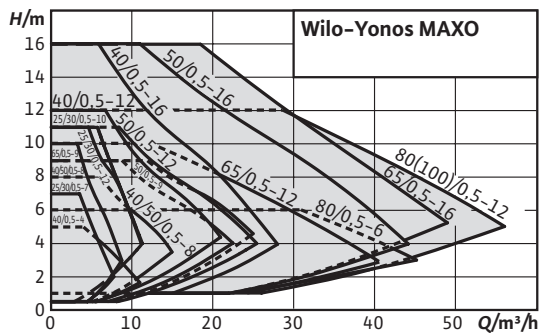


### Wilo-Yonos MAXO



Glandless circulation pump with threaded connection or flange connection, EC motor with automatic power adjustment.

- LED display provides complete transparency of set delivery head, speed stage or possible errors
- Simple adjustment over three speed stages when replacing an uncontrolled standard pump
- Easier electrical connection using the Wilo plug
- System availability ensured via collective fault signal
- Compact design and proven ease of use



### Select 4 online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

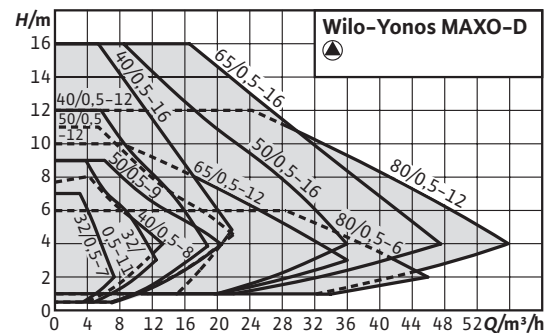


### Wilo-Yonos MAXO-D



Glandless circulation pump with flange connection, EC motor with automatic power adjustment

- LED display provides complete transparency of set delivery head, speed stage or possible errors
- Simple adjustment over three speed stages when replacing an uncontrolled standard pump
- Easier electrical connection using the Wilo plug
- System availability ensured via collective fault signal
- Compact design and proven ease of use



### Select 4 online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)



## Wilo-Stratos GIGA

High-efficiency inline pump with EC motor and electronic duty adaptation in glanded construction. Version as single-stage low-pressure centrifugal pump with flange connection and mechanical shaft seal.

- Innovative high-efficiency pump for highest overall efficiency based on a new Wilo glanded design
- High-efficiency EC motor (energy efficiency class IE5 acc. to IEC 60034-30-2)
- Highly efficient hydraulics, optimally adapted to the EC motor technology, with optimised efficiency, minimum efficiency index (MEI)  $\geq 0.7$
- Control range is up to three times higher than that of conventional electronically controlled pumps
- Optional interfaces for bus communication using plug-in IF-Modules



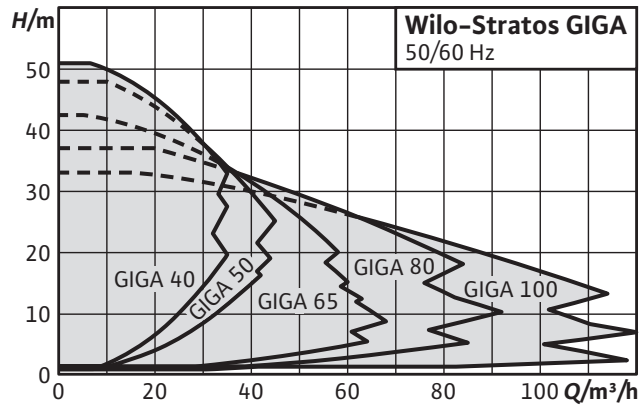
Easy-to-read display with Green Button Technology



Interface-Module







Series modification



Heating, air-conditioning, cooling

### Design

High-efficiency inline pump with EC motor and electronic duty adaptation in glanded construction. Version as single-stage low-pressure centrifugal pump with flange connection and mechanical shaft seal.

### Application

Pumping of heating water (acc. to VDI 2035), cold water and water/glycol mixtures without abrasive substances in heating, cold water and cooling systems.

### Type key

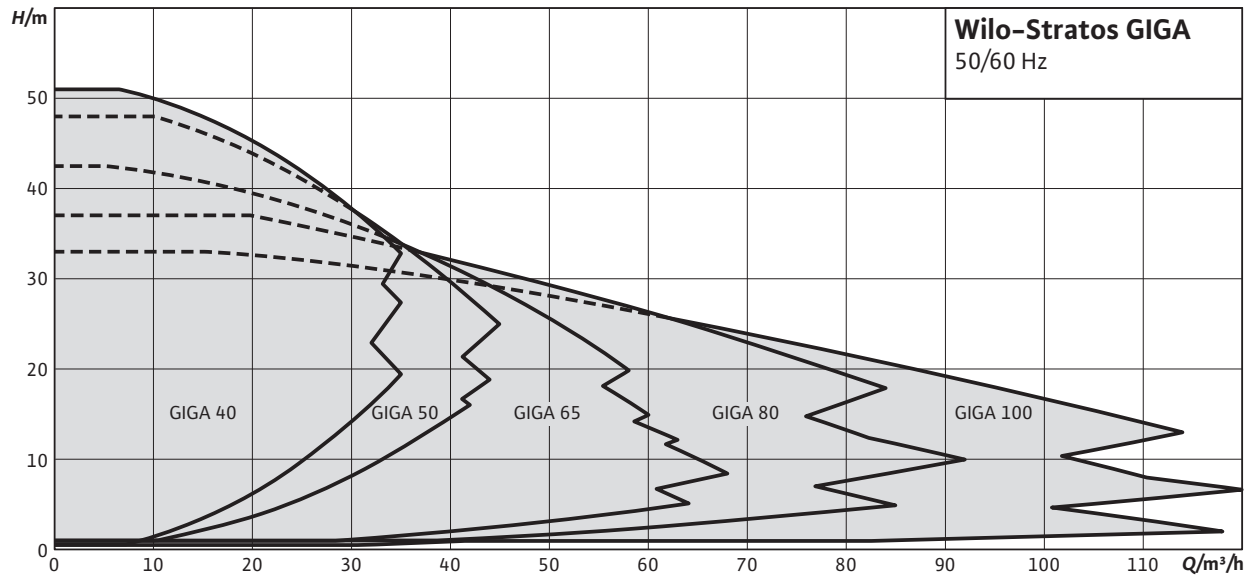
|                |                                                  |
|----------------|--------------------------------------------------|
| <b>Example</b> | <b>Wilo-Stratos GIGA 40/1-51/4.5</b>             |
| <b>Stratos</b> | High-efficiency pump                             |
| <b>GIGA</b>    | Inline single pump                               |
| <b>40</b>      | Nominal flange diameter DN                       |
| <b>1-51</b>    | Nominal delivery head range in [m]               |
| <b>4.5</b>     | Orientation value of the rated power $P_2$ in kW |
| <b>-R1</b>     | Version without differential pressure sensor     |

| Technical data                                                               |                                                                                                   |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Minimum Efficiency Index (MEI)                                               | ≥ 0.7                                                                                             |
| Approved fluids (other fluids on request)                                    |                                                                                                   |
| Heating water (in accordance with VDI 2035)                                  | •                                                                                                 |
| Water-glycol mixtures (for 20-40 vol.% glycol and fluid temperature ≤ 40 °C) | •                                                                                                 |
| Cooling and cold water                                                       | •                                                                                                 |
| Heat transfer oil                                                            | Special version at additional charge                                                              |
| Permitted field of application                                               |                                                                                                   |
| Temperature range at max. ambient temperature +40 °C                         | -20...+140 °C (depending on the fluid)                                                            |
| Rated pressure PN                                                            | 16 bar (up to +120 °C)<br>13 bar (up to +140 °C)                                                  |
| Electrical connection                                                        |                                                                                                   |
| Mains connection                                                             | 3~480 V ±10%, 50/60 Hz / 3~440 V ±10%, 50/60 Hz / 3~400 V ±10%, 50/60 Hz / 3~380 V ±10%, 50/60 Hz |

• = appropriate, - = not appropriate

| Technical data                   |            |
|----------------------------------|------------|
| Motor/electronics                |            |
| Integrated full motor protection | •          |
| Protection class                 | IP 55      |
| Insulation class                 | F          |
| Emitted interference             | EN 61800-3 |
| Interference resistance          | EN 61800-3 |
| Materials                        |            |
| Pump housing                     | EN-GJL-250 |
| Lantern                          | EN-GJL-250 |
| Impeller                         | PPS-GF40   |
| Pump shaft                       | 1.4122     |
| Mechanical seal                  | AQ1EGG     |
| Other mechanical seals           | On request |

• = appropriate, - = not appropriate



**Equipment/function**

**Operating modes**

- $\Delta p$ -c for constant differential pressure
- $\Delta p$ -v for variable differential pressure
- PID control
- Control mode (n=constant)

**Manual operation level**

- Green button and display

**Manual functions**

- Differential pressure setpoint setting
- Setting the speed (manual control mode)
- Setting the operating mode
- Setting the pump ON/OFF
- Configuration of all operating parameters
- Error acknowledgement

**External control functions**

- "Overriding Off" control input
- "External pump cycling" control input (effective only in double pump operation mode)
- Analogue input 0–10 V, 0–20 mA for manual control mode (DDC) and remote setpoint adjustment
- Analogue input 2–10 V, 4–20 mA for manual control mode (DDC) and remote setpoint adjustment
- Analogue input 0–10 V for actual value signal from pressure sensor
- Analogue input 2–10 V, 0–20 mA, 4–20 mA for actual value signal from pressure sensor

**Signal and display functions**

- Collective fault signal SSM
- Collective run signal SBM

**Data exchange**

- Infrared interface for wireless data exchange with IR-Monitor/IR-Stick
- Plug-in position for Wilo IF-Modules (Modbus, BACnet, CAN, PLR, LON) for connection to building automation

**Safety functions**

- Full motor protection with integrated trip electronics
- Access disable

**Dual pump management(2 x single pumps)**

- Main/standby operation (automatic fault-actuated switchover)
- Pump cycling main/standby operation after 24 hours
- Parallel operation
- Parallel operation (efficiency-optimised peak-load activation and deactivation)

**Scope of delivery**

- Pump
- Installation and operating instructions

**Options**

- Variant ...-R1 without differential pressure sensor
- ...-S1 variant with special mechanical seal (at additional charge)

**Accessories**

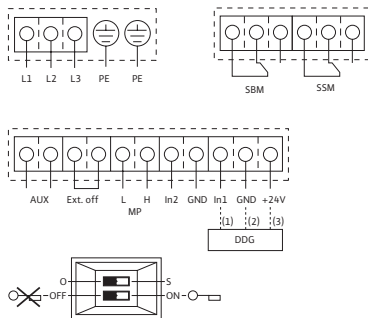
- 3 Mounting brackets with fixation material for installation on a base
- Installation aid for mechanical seal
- IR-Monitor
- IR-Stick
- IF-Module PLR for connecting to PLR/interface converter

- IF-Module LON for connection to the LONWORKS network
- IF-Module BACnet
- IF-Module Modbus
- CAN IF-Module
- VR-HVAC control system
- Control system CCE-HVAC
- Control system SCE-HVAC
- Differential pressure sensor (DDG)

**General notes – ErP (ecological design-) directive**

- The benchmark for most efficient water pumps is  $MEI \geq 0.70$
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
- Information on benchmark efficiency is available at [www.europump.org/efficiencycharts](http://www.europump.org/efficiencycharts)
- Pumps with power consumption  $> 150$  kW or a volume flow  $Q_{BEP} < 6$  m<sup>3</sup>/h are not subject to the Ecodesign Directive for water pumps. Therefore, no MEI value is shown.

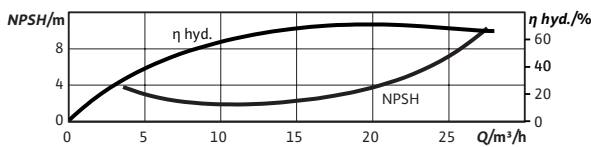
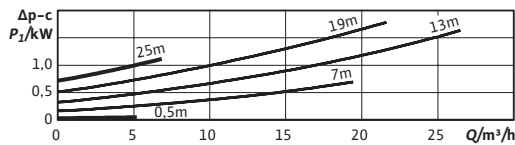
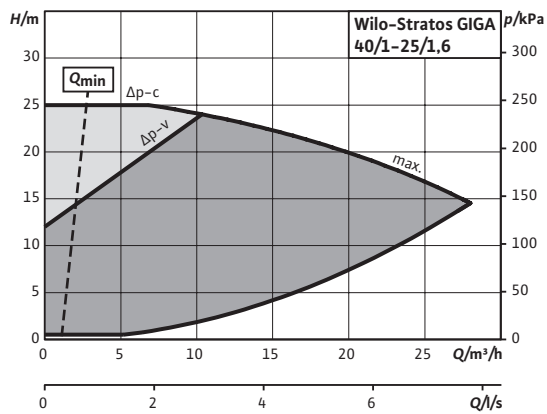
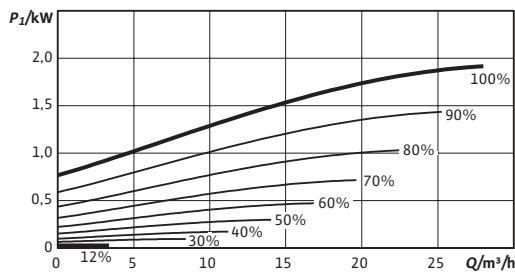
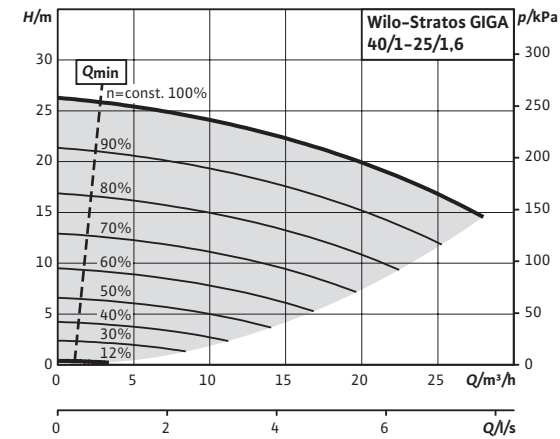
**Terminal diagram**



- L1, L2, L3:** Mains connection: 3~380 V – 3~480 V ( $\pm 10$  %), 50/60 Hz
- PE:** Protective conductor connection
- DDG:** Connection for differential pressure sensor
- In1 (1):** Actual value input 0 – 10 V/0 – 20 mA; 2 – 10 V/4 – 20 mA
- GND (2):** Ground connection for In1 and In2
- + 24 V (3):** DC voltage output for an external consumer/sensor. Max load 60 mA
- In2:** Setpoint input 0 – 10 V/0 – 20 mA; 2 – 10 V/4 – 20 mA
- MP:** Multi-pump, interface for dual pump management
- Ext. off:** “Overriding Off” control input  
The pump can be switched on or off via an external, potential-free contact (24 V DC/10 mA).
- SBM:\*** Potential-free collective run signal (changeover contact according to VDI 3814)
- SSM:\*** Potential-free collective fault signal (changeover contact according to VDI 3814)
- AUX:** External pump cycling (only with double pump operation). Pump cycling can be performed using an external, potential-free contact (24 V DC/10 mA)
- DIP switch:** 1: Switchover between operation (O) and service mode (S)  
2: Activate/deactivate the menu for access disable
- Optional:** IF-Module for connection to building automation
- \* Load capacity of contacts for SBM and SSM:  
min.: 12 V DC/10 mA  
max.: 250 V AC/1 A

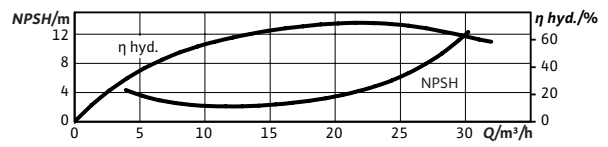
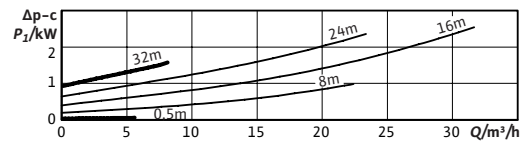
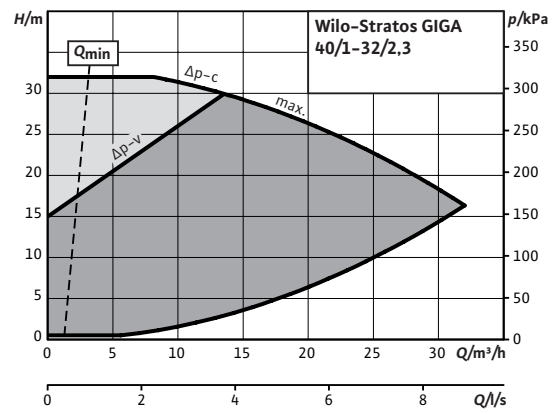
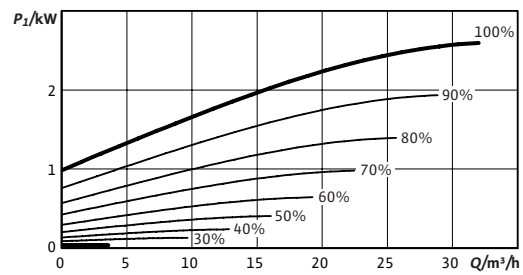
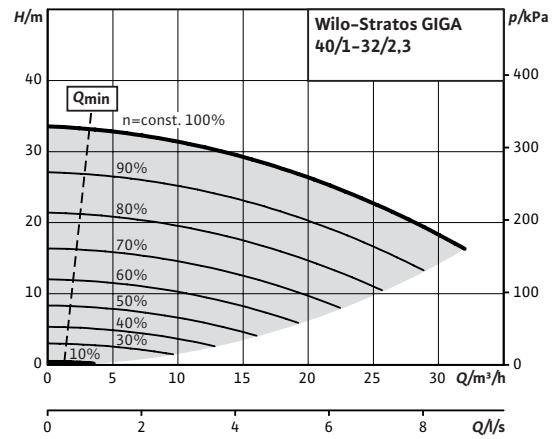
Pump curves

Stratos GIGA 40/1-25/1,6



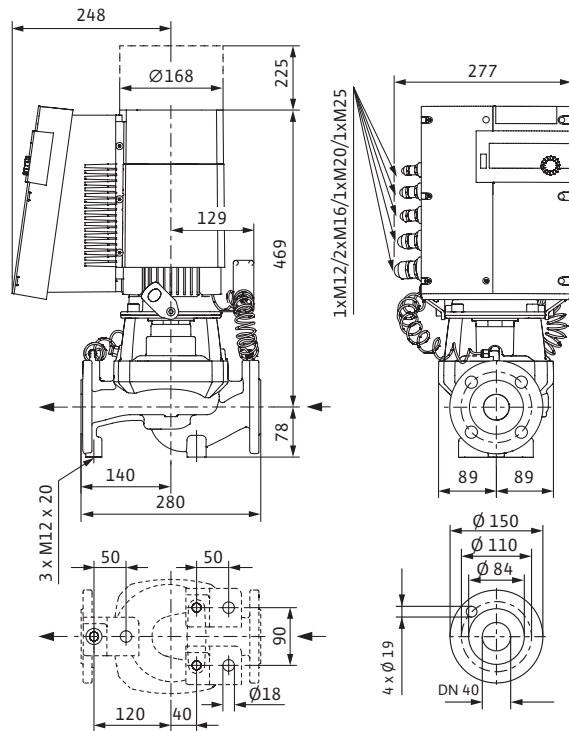
Pump curves

Stratos GIGA 40/1-32/2,3



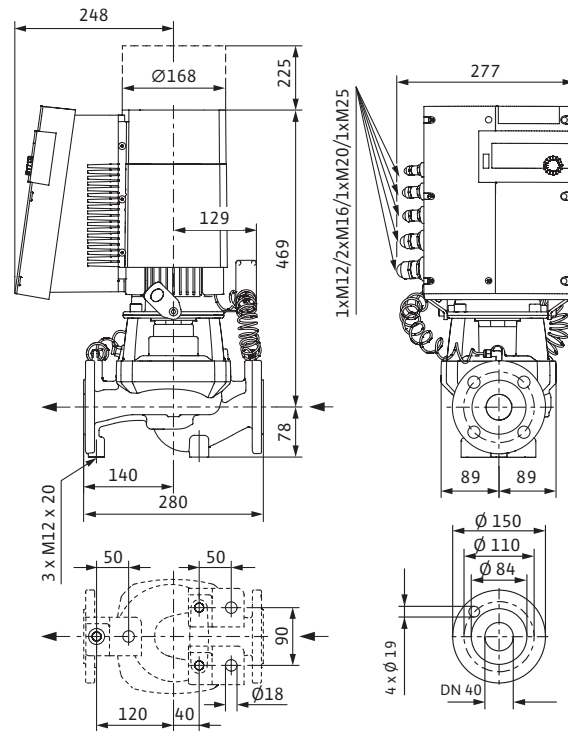
## Dimension drawing

Stratos GIGA 40/1-25/1,6



## Dimension drawing

Stratos GIGA 40/1-32/2,3



## Technical data (type-specific)

| Type                    | 40/1-25/1,6 | 40/1-25/1,6-R1 | 40/1-32/2,3 | 40/1-32/2,3-R1 |
|-------------------------|-------------|----------------|-------------|----------------|
| Art no.                 | 2117130     | 2117158        | 2117129     | 2117157        |
| Weight approx. <i>m</i> | 41 kg       | 41 kg          | 41 kg       | 41 kg          |

## Pipe connections

|                                  |       |
|----------------------------------|-------|
| Flanges (according to EN 1092-2) | PN 16 |
| Nominal flange diameter          | DN 40 |

## Motor data

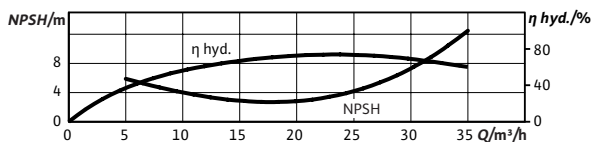
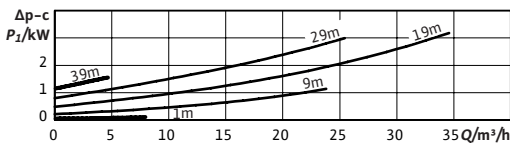
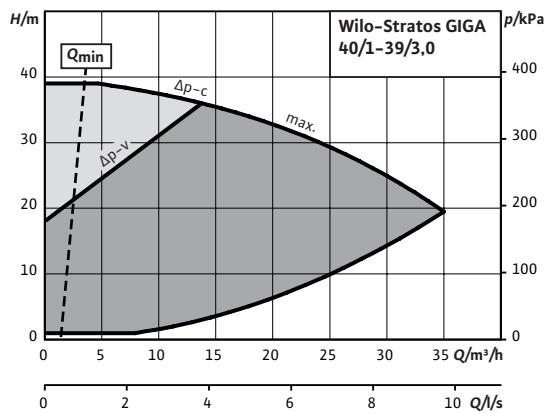
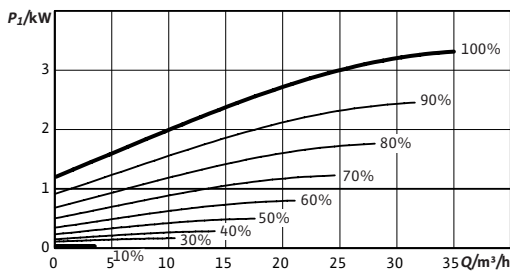
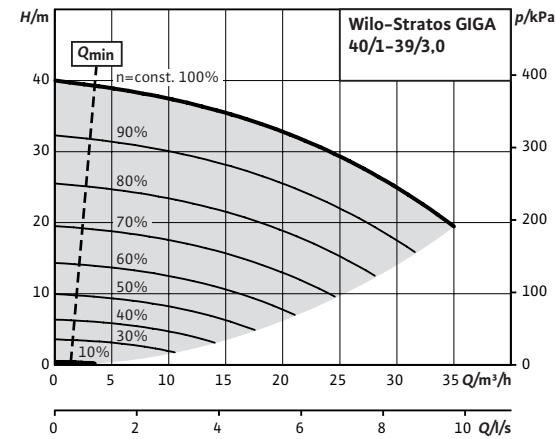
|                                       |                                |                |                |                |
|---------------------------------------|--------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 4000 rpm                 | 500 - 4000 rpm | 500 - 4500 rpm | 500 - 4500 rpm |
| Rated power $P_2$                     | 1.6 kW                         | 1.6 kW         | 2.3 kW         | 2.3 kW         |
| Maximum power consumption $P_1$       | 1.9 kW                         | 1.9 kW         | 2.6 kW         | 2.6 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 3.6 A                          | 3.6 A          | 4.7 A          | 4.7 A          |

## Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1EGG     |
| Other mechanical seals     | On request |

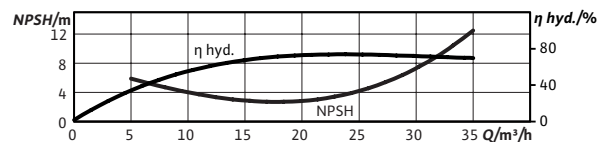
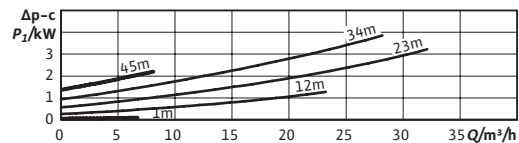
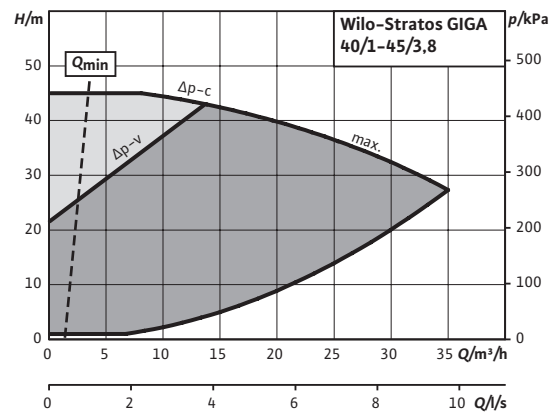
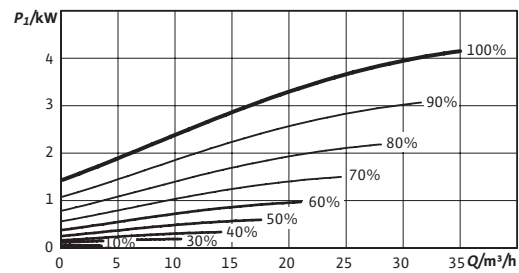
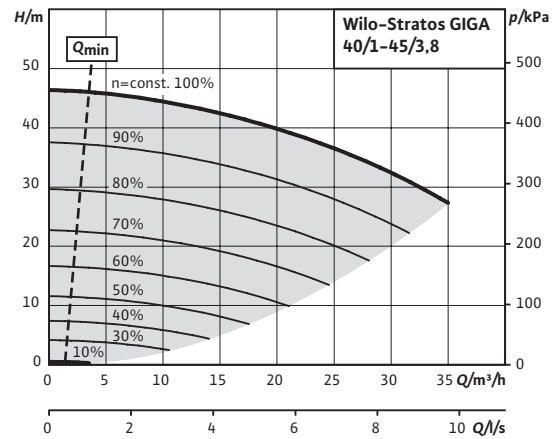
Pump curves

Stratos GIGA 40/1-39/3,0



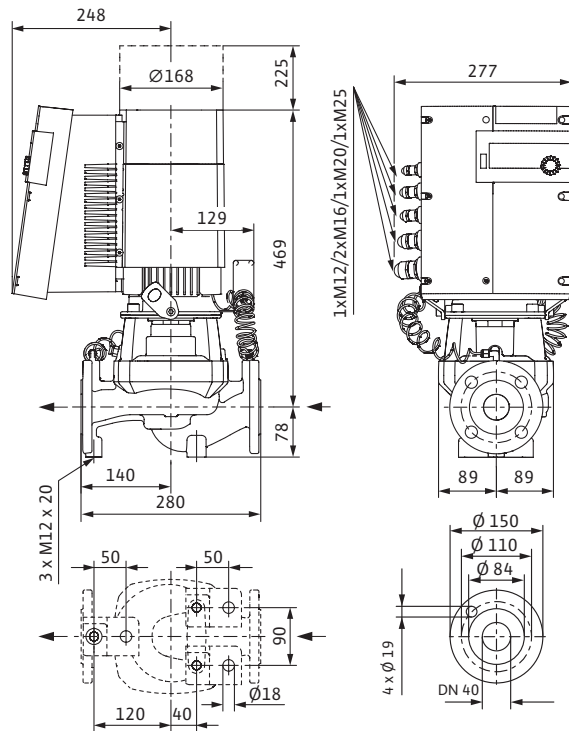
Pump curves

Stratos GIGA 40/1-45/3,8



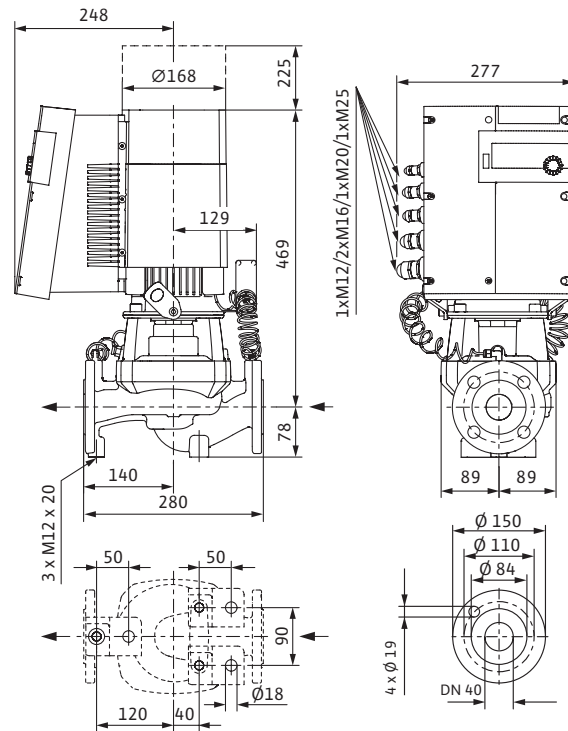
## Dimension drawing

Stratos GIGA 40/1-39/3,0



## Dimension drawing

Stratos GIGA 40/1-45/3,8

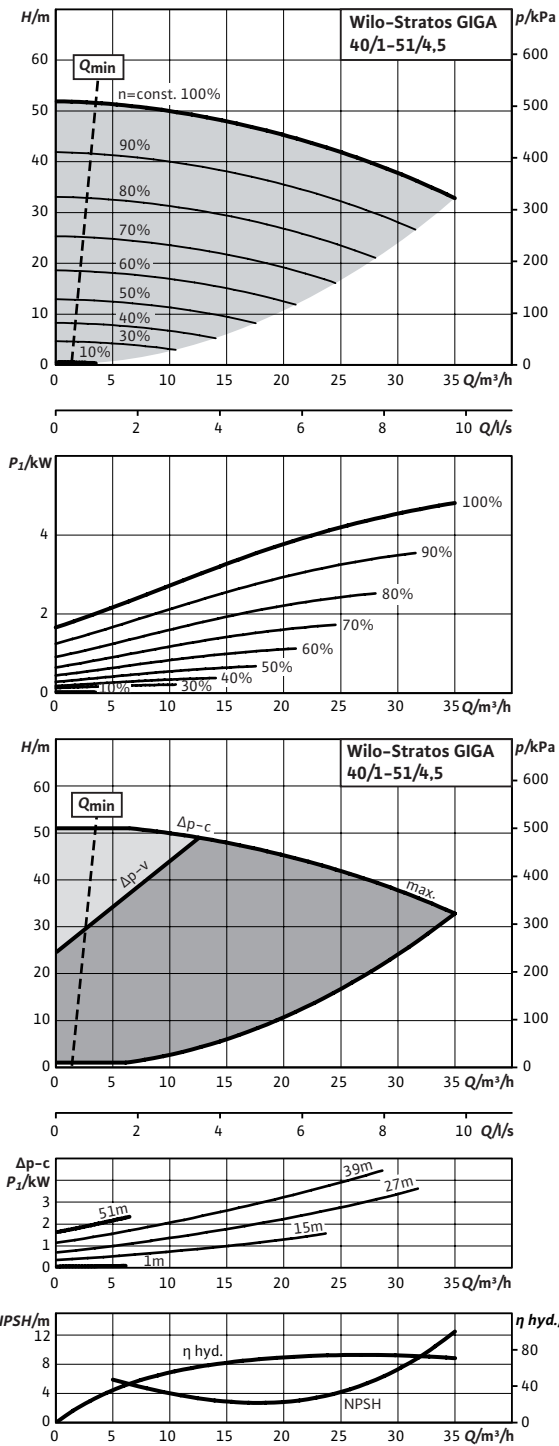


## Technical data (type-specific)

| Type                                  | 40/1-39/3,0                  | 40/1-39/3,0-R1 | 40/1-45/3,8    | 40/1-45/3,8-R1 |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Art no.                               | 2117128                      | 2117156        | 2117127        | 2117155        |
| Weight approx. <i>m</i>               | 41 kg                        | 41 kg          | 41 kg          | 41 kg          |
| <b>Pipe connections</b>               |                              |                |                |                |
| Flanges (according to EN 1092-2)      |                              |                |                | PN 16          |
| Nominal flange diameter               |                              |                |                | DN 40          |
| <b>Motor data</b>                     |                              |                |                |                |
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 4900 rpm               | 500 - 4900 rpm | 500 - 4850 rpm | 500 - 4850 rpm |
| Rated power $P_2$                     | 3 kW                         | 3 kW           | 3.8 kW         | 3.8 kW         |
| Maximum power consumption $P_1$       | 3.3 kW                       | 3.3 kW         | 4.1 kW         | 4.1 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 5.6 A                        | 5.6 A          | 6.6 A          | 6.6 A          |
| <b>Materials</b>                      |                              |                |                |                |
| Pump housing                          |                              |                |                | EN-GJL-250     |
| Lantern                               |                              |                |                | EN-GJL-250     |
| Impeller                              |                              |                |                | PPS-GF40       |
| Impeller (special version)            |                              |                |                | -              |
| Pump shaft                            |                              |                |                | 1.4122         |
| Mechanical seal                       |                              |                |                | AQ1EGG         |
| Other mechanical seals                |                              |                |                | On request     |

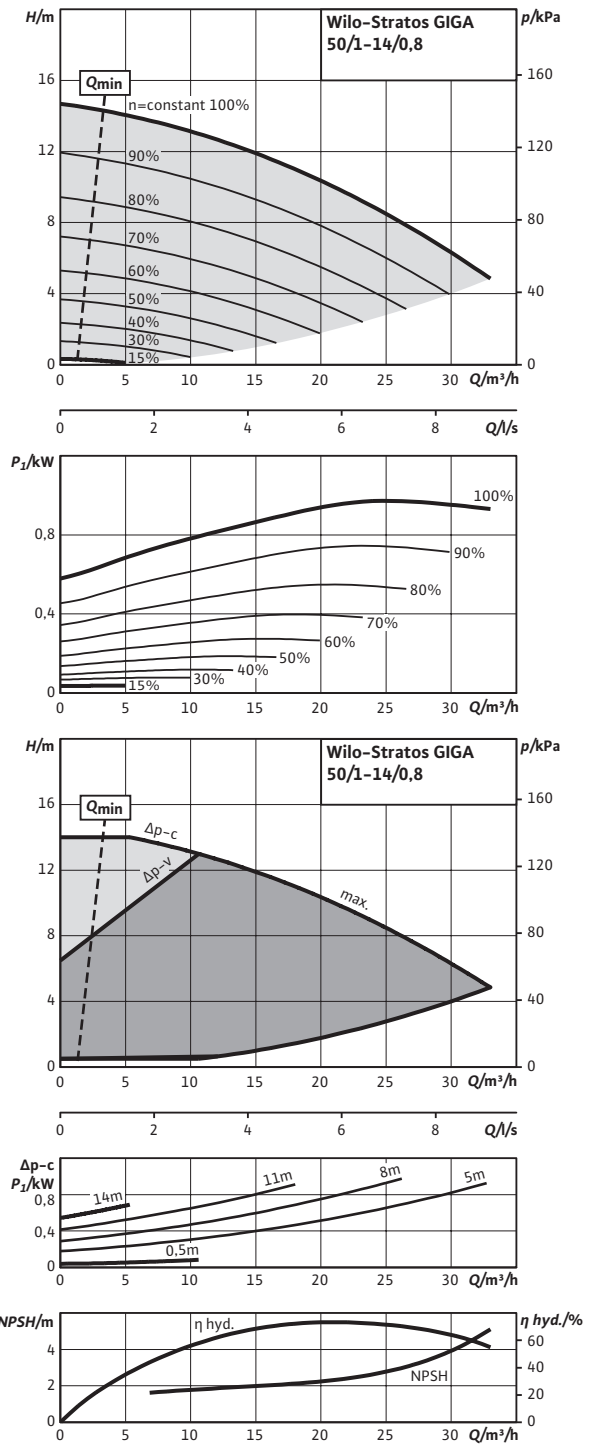
Pump curves

Stratos GIGA 40/1-51/4,5



Pump curves

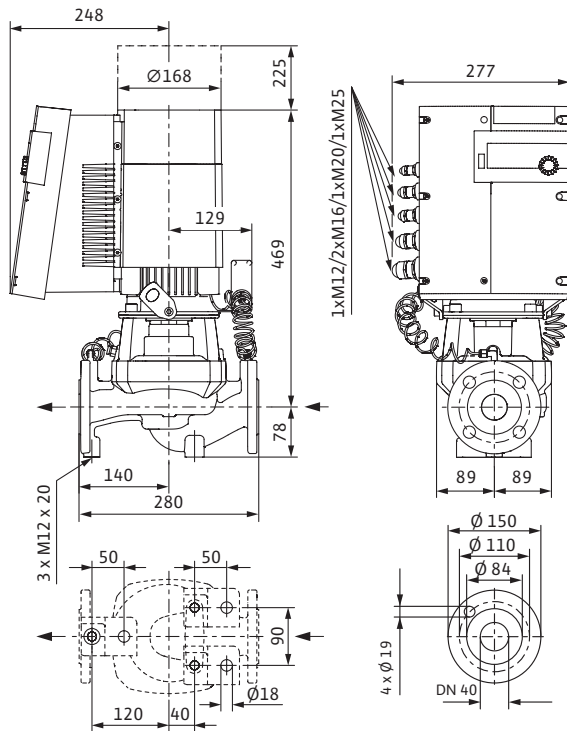
Stratos GIGA 50/1-14/0,8





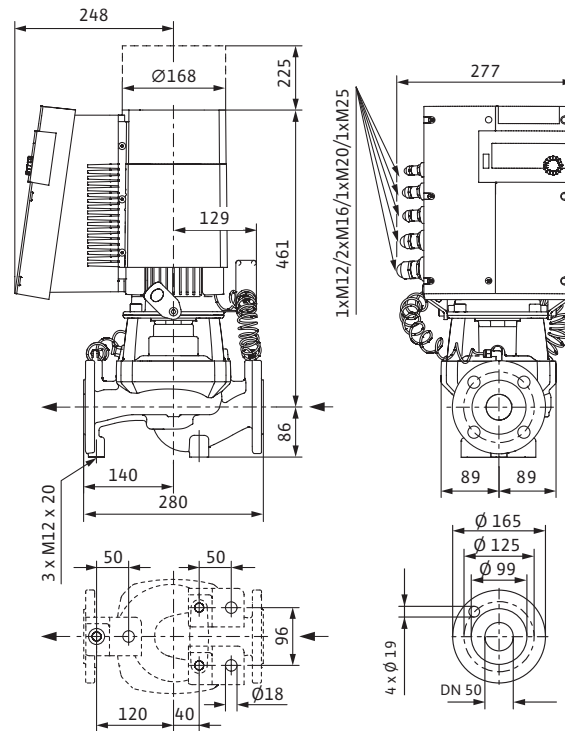
## Dimension drawing

Stratos GIGA 40/1-51/4,5



## Dimension drawing

Stratos GIGA 50/1-14/0,8



## Technical data (type-specific)

| Type                    | 40/1-51/4,5 | 40/1-51/4,5-R1 | 50/1-14/0,8 | 50/1-14/0,8-R1 |
|-------------------------|-------------|----------------|-------------|----------------|
| Art no.                 | 2117126     | 2117154        | 2117134     | 2117162        |
| Weight approx. <i>m</i> | 41 kg       | 41 kg          | 42 kg       | 42 kg          |

## Pipe connections

|                                  |       |  |       |  |
|----------------------------------|-------|--|-------|--|
| Flanges (according to EN 1092-2) | PN 16 |  |       |  |
| Nominal flange diameter          | DN 40 |  | DN 50 |  |

## Motor data

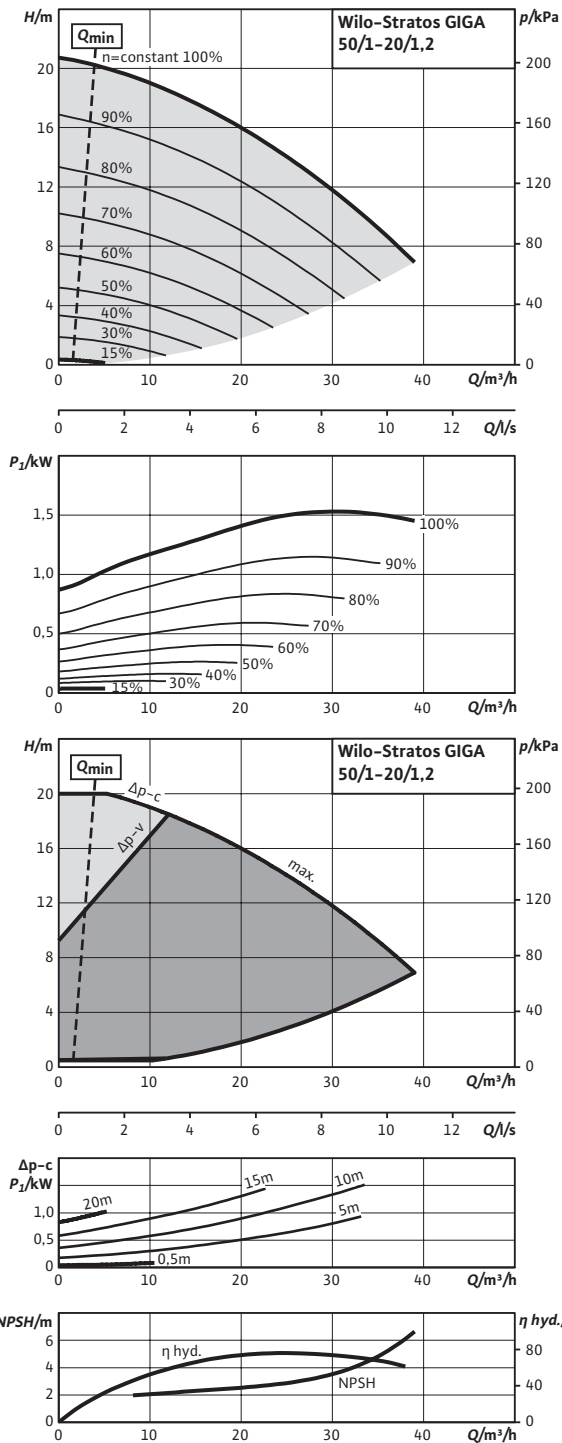
|                                       |                              |                |                |                |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 5130 rpm               | 500 - 5130 rpm | 500 - 3300 rpm | 500 - 3300 rpm |
| Rated power $P_2$                     | 4.5 kW                       | 4.5 kW         | 0.8 kW         | 0.8 kW         |
| Maximum power consumption $P_1$       | 4.8 kW                       | 4.8 kW         | 1 kW           | 1 kW           |
| Rated current (approx.) $I_N$ 3~400 V | 7.7 A                        | 7.7 A          | 1.6 A          | 1.6 A          |

## Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1IEGG    |
| Other mechanical seals     | On request |

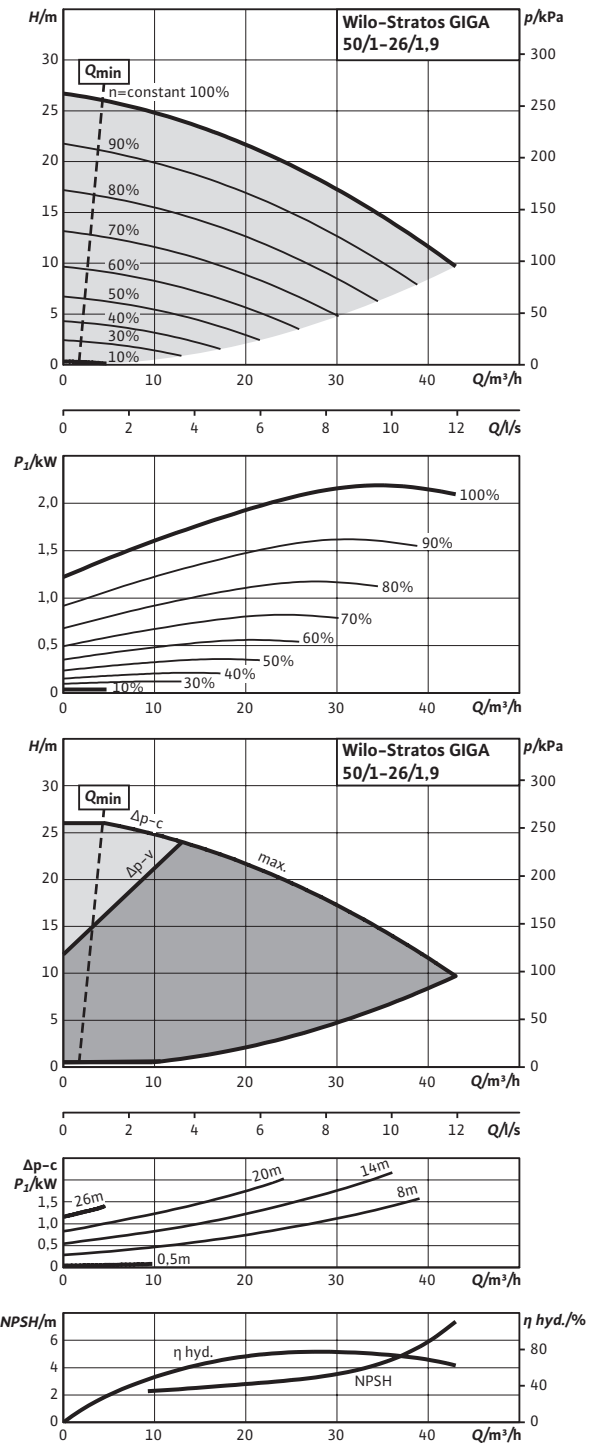
Pump curves

Stratos GIGA 50/1-20/1,2



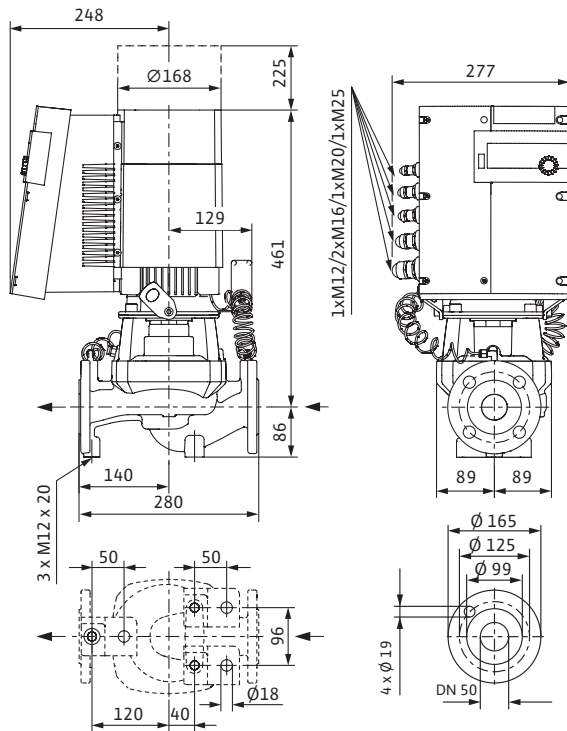
Pump curves

Stratos GIGA 50/1-26/1,9



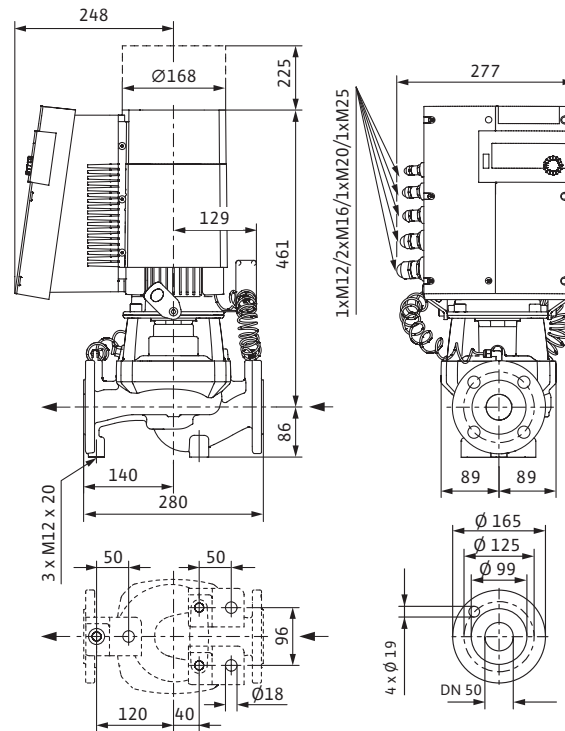
## Dimension drawing

Stratos GIGA 50/1-20/1,2



## Dimension drawing

Stratos GIGA 50/1-26/1,9

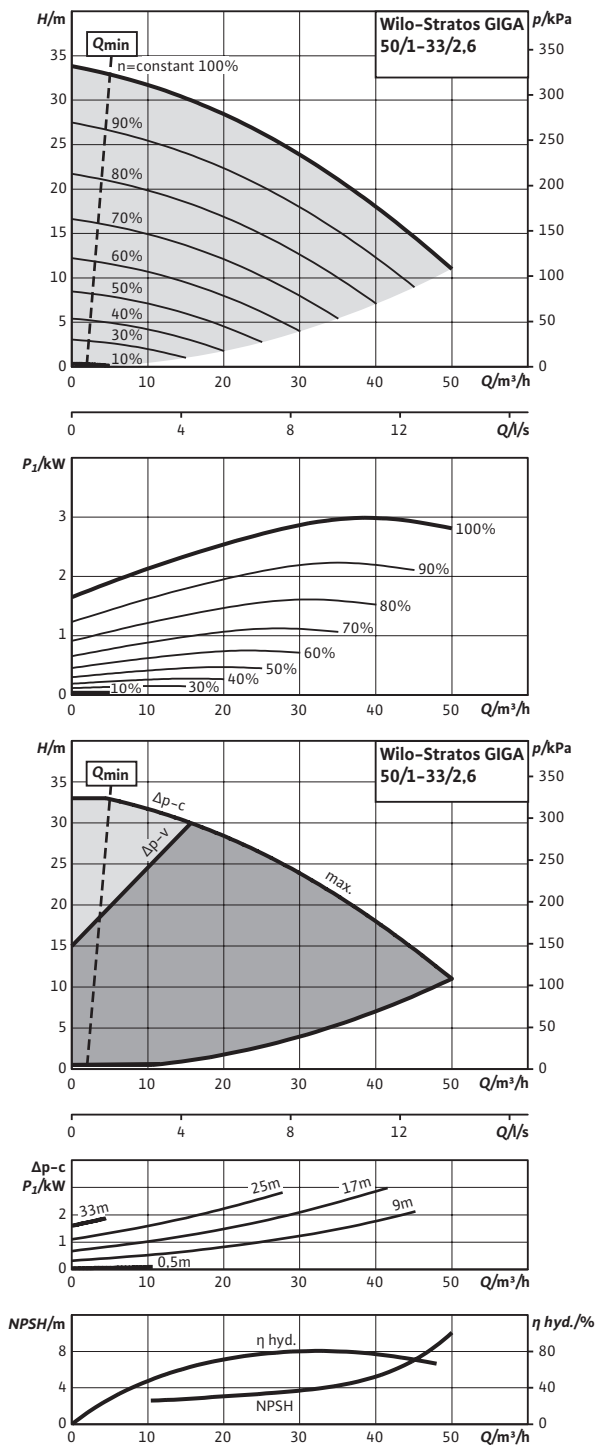


## Technical data (type-specific)

| Type                                  | 50/1-20/1,2                    | 50/1-20/1,2-R1 | 50/1-26/1,9    | 50/1-26/1,9-R1 |
|---------------------------------------|--------------------------------|----------------|----------------|----------------|
| Art no.                               | 2117133                        | 2117161        | 2117132        | 2117160        |
| Weight approx. <i>m</i>               | 42 kg                          | 42 kg          | 42 kg          | 42 kg          |
| <b>Pipe connections</b>               |                                |                |                |                |
| Flanges (according to EN 1092-2)      |                                |                |                | PN 16          |
| Nominal flange diameter               |                                |                |                | DN 50          |
| <b>Motor data</b>                     |                                |                |                |                |
| Mains connection                      | 3~380/400/440/480V V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 3920 rpm                 | 500 - 3920 rpm | 500 - 4450 rpm | 500 - 4450 rpm |
| Rated power $P_2$                     | 1.2 kW                         | 1.2 kW         | 1.9 kW         | 1.9 kW         |
| Maximum power consumption $P_1$       | 1.5 kW                         | 1.5 kW         | 2.1 kW         | 2.1 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 2.4 A                          | 2.4 A          | 3.3 A          | 3.3 A          |
| <b>Materials</b>                      |                                |                |                |                |
| Pump housing                          |                                |                |                | EN-GJL-250     |
| Lantern                               |                                |                |                | EN-GJL-250     |
| Impeller                              |                                |                |                | PPS-GF40       |
| Impeller (special version)            |                                |                |                | -              |
| Pump shaft                            |                                |                |                | 1.4122         |
| Mechanical seal                       |                                |                |                | AQ1IEGG        |
| Other mechanical seals                |                                |                |                | On request     |

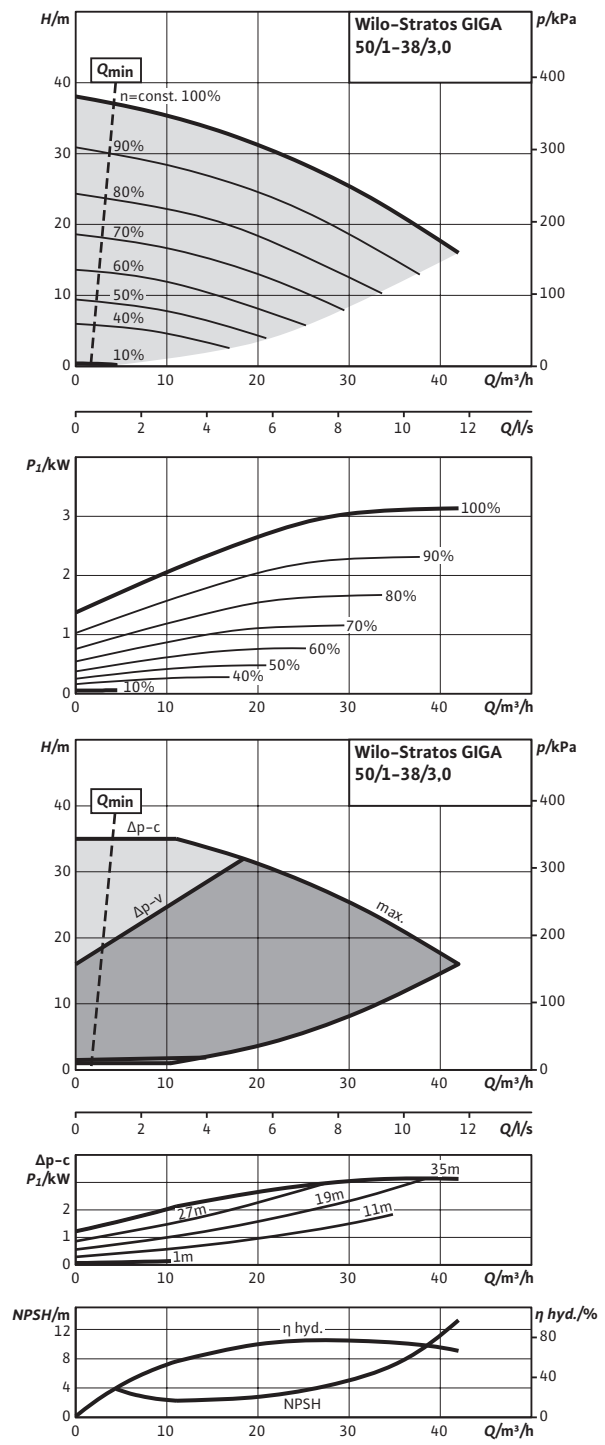
Pump curves

Stratos GIGA 50/1-33/2,6



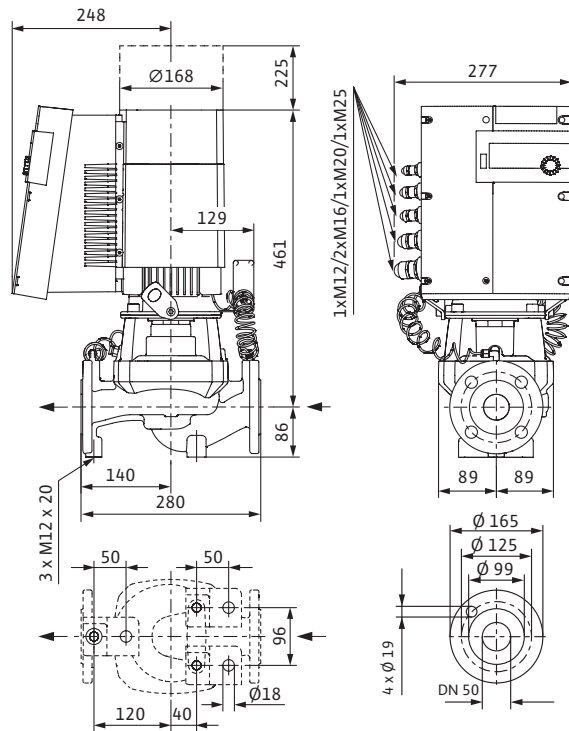
Pump curves

Stratos GIGA 50/1-38/3,0



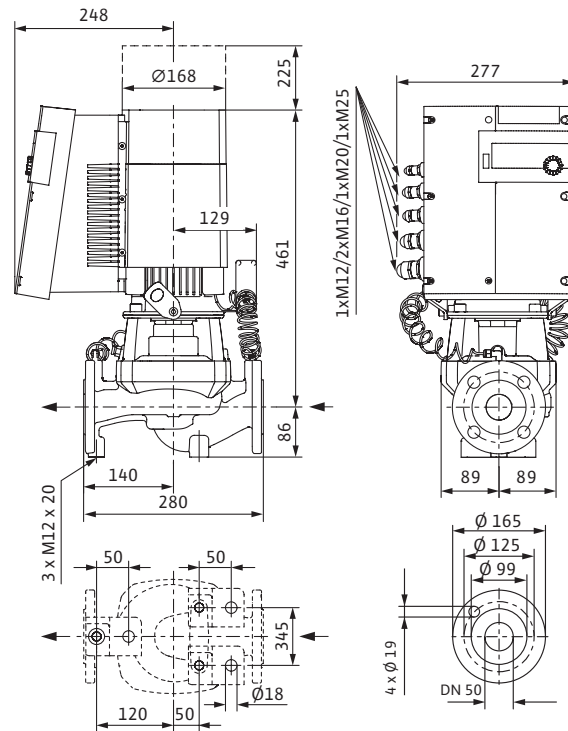
## Dimension drawing

Stratos GIGA 50/1-33/2,6



## Dimension drawing

Stratos GIGA 50/1-38/3,0



## Technical data (type-specific)

| Type                    | 50/1-33/2,6 | 50/1-33/2,6-R1 | 50/1-38/3,0 | 50/1-38/3,0-R1 |
|-------------------------|-------------|----------------|-------------|----------------|
| Art no.                 | 2117131     | 2117159        | 2170121     | 2170177        |
| Weight approx. <i>m</i> | 42 kg       | 42 kg          | 42 kg       | 42 kg          |

## Pipe connections

|                                  |       |
|----------------------------------|-------|
| Flanges (according to EN 1092-2) | PN 16 |
| Nominal flange diameter          | DN 50 |

## Motor data

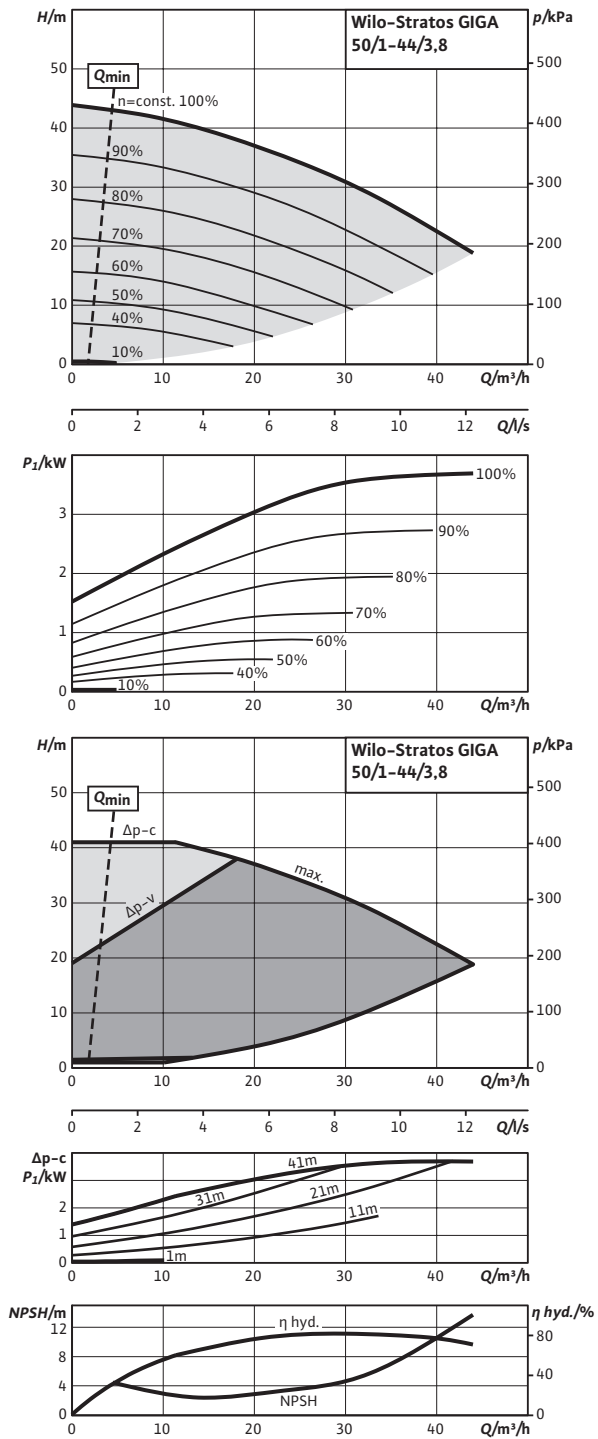
|                                       |                              |                |                |                |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 5000 rpm               | 500 - 5000 rpm | 500 - 4500 rpm | 500 - 4500 rpm |
| Rated power $P_2$                     | 2.6 kW                       | 2.6 kW         | 2.8 kW         | 2.8 kW         |
| Maximum power consumption $P_1$       | 3 kW                         | 3 kW           | 3.1 kW         | 3.1 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 5.4 A                        | 5.4 A          | 5.7 A          | 5.7 A          |

## Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1IEGG    |
| Other mechanical seals     | On request |

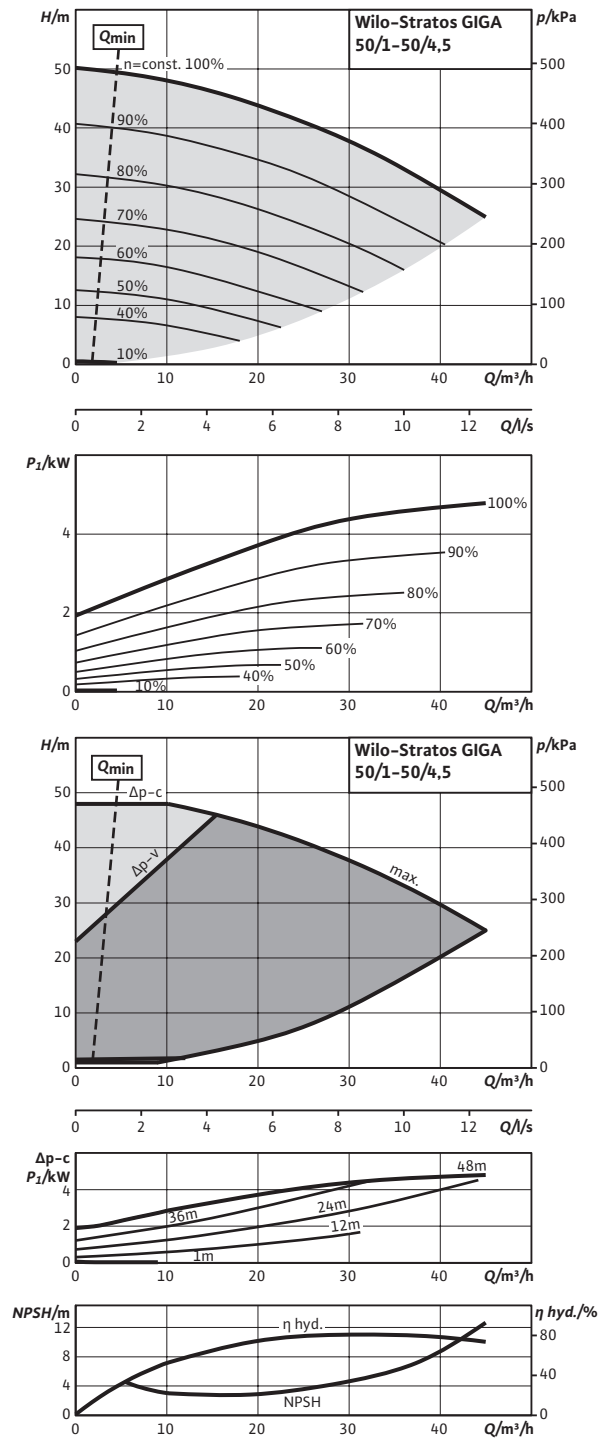
Pump curves

Stratos GIGA 50/1-44/3,8



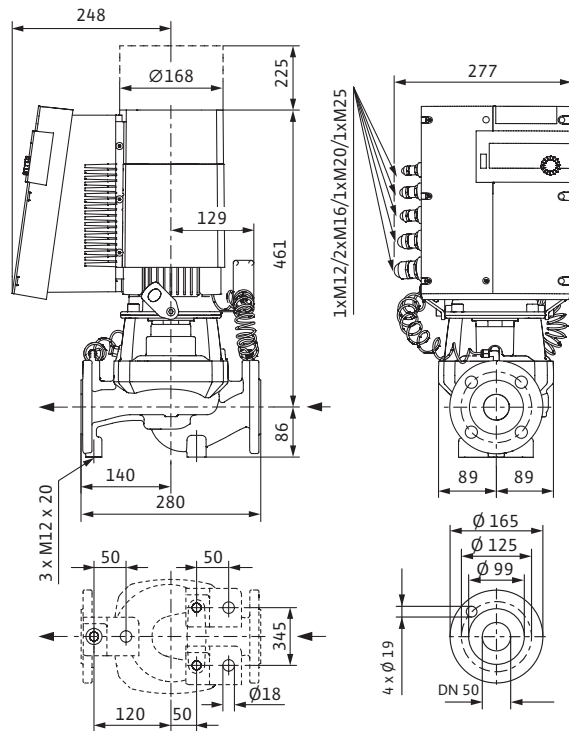
Pump curves

Stratos GIGA 50/1-50/4,5



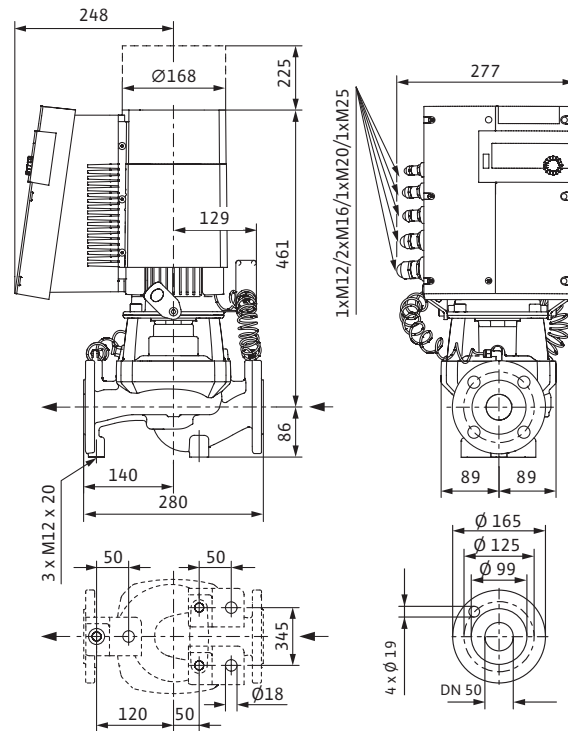
## Dimension drawing

Stratos GIGA 50/1-44/3,8



## Dimension drawing

Stratos GIGA 50/1-50/4,5



## Technical data (type-specific)

| Type                    | 50/1-44/3,8 | 50/1-44/3,8-R1 | 50/1-50/4,5 | 50/1-50/4,5-R1 |
|-------------------------|-------------|----------------|-------------|----------------|
| Art no.                 | 2170120     | 2170176        | 2170119     | 2170175        |
| Weight approx. <i>m</i> | 42 kg       | 42 kg          | 42 kg       | 42 kg          |

## Pipe connections

|                                  |       |
|----------------------------------|-------|
| Flanges (according to EN 1092-2) | PN 16 |
| Nominal flange diameter          | DN 50 |

## Motor data

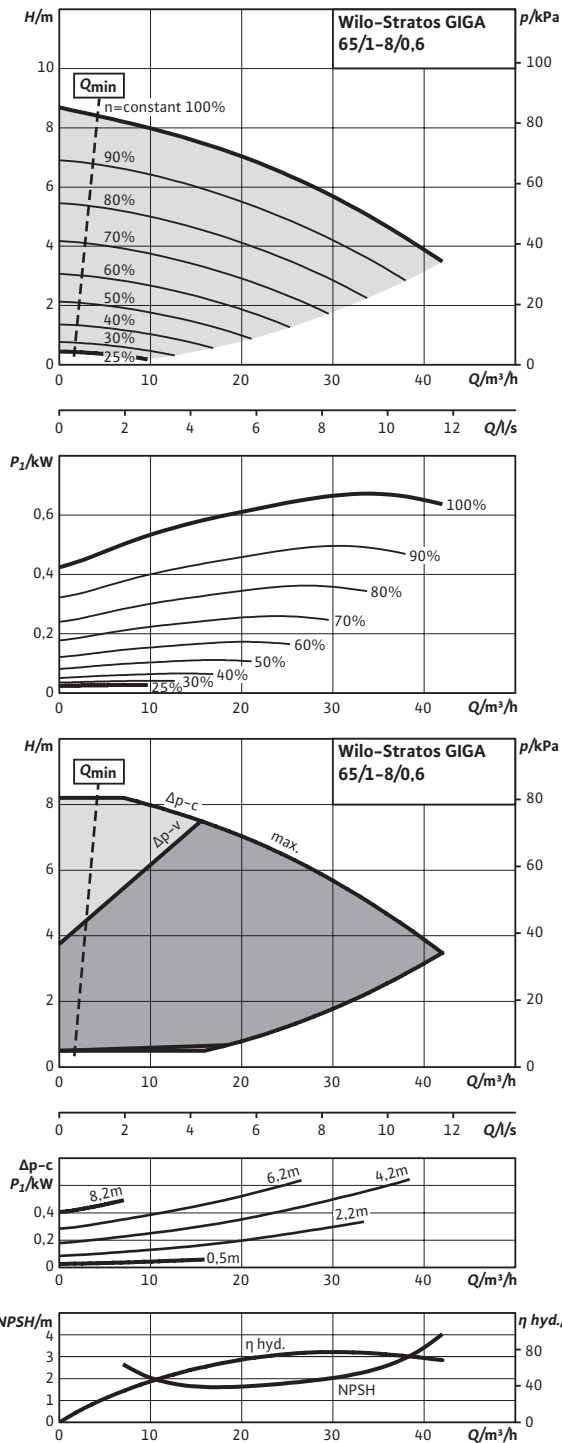
|                                       |                                |                |                |                |
|---------------------------------------|--------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 4850 rpm                 | 500 - 4850 rpm | 500 - 5110 rpm | 500 - 5110 rpm |
| Rated power $P_2$                     | 3.2 kW                         | 3.2 kW         | 4.2 kW         | 4.2 kW         |
| Maximum power consumption $P_1$       | 3.7 kW                         | 3.7 kW         | 4.8 kW         | 4.8 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 6.5 A                          | 6.5 A          | 7.9 A          | 7.9 A          |

## Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1IEGG    |
| Other mechanical seals     | On request |

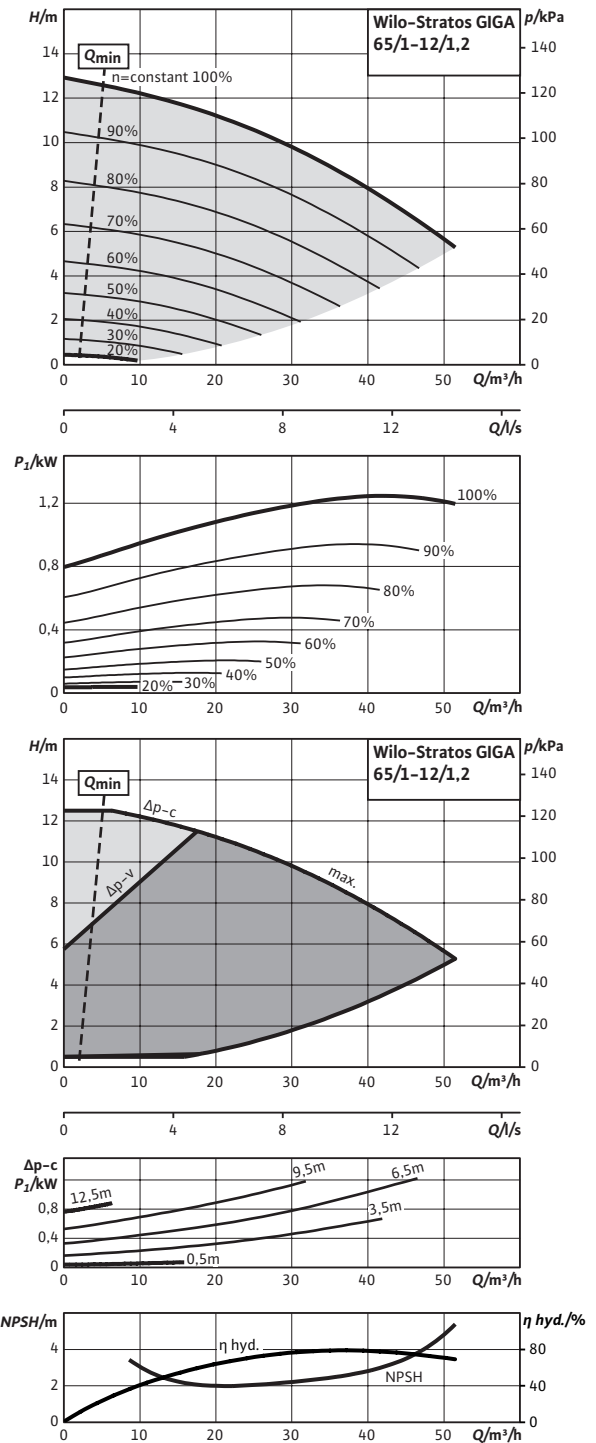
Pump curves

Stratos GIGA 65/1-8/0,6



Pump curves

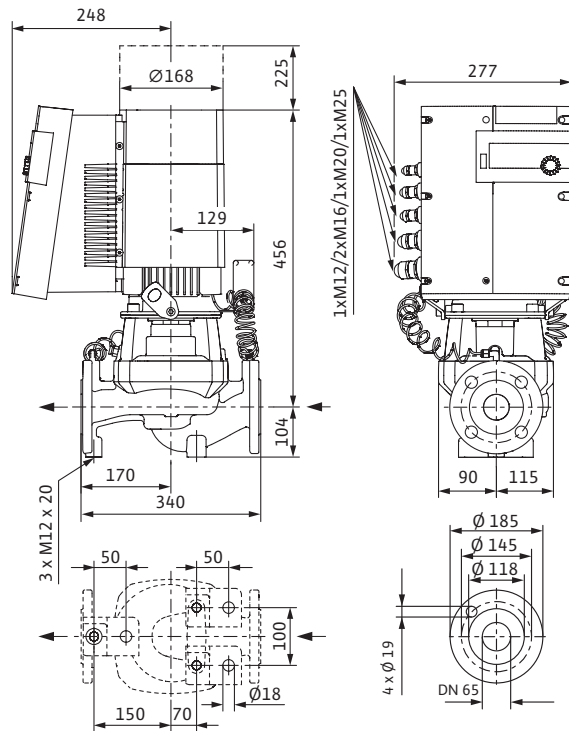
Stratos GIGA 65/1-12/1,2





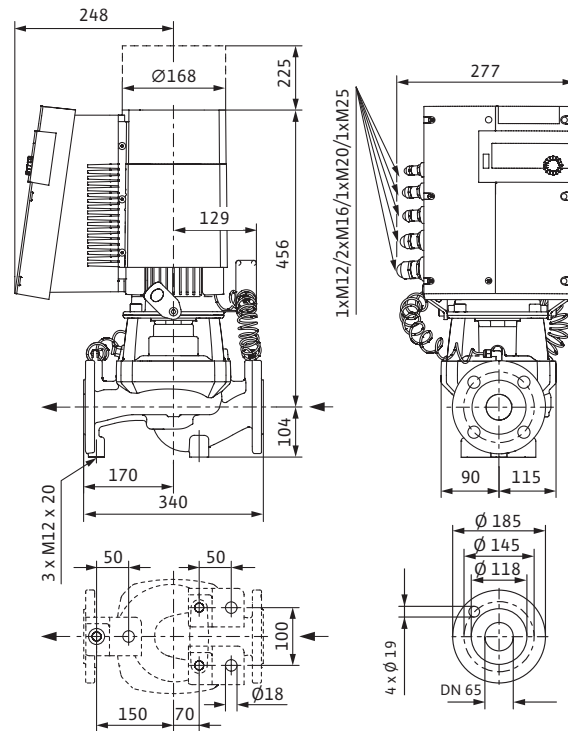
## Dimension drawing

Stratos GIGA 65/1-8/0,6



## Dimension drawing

Stratos GIGA 65/1-12/1,2



## Technical data (type-specific)

| Type                    | 65/1-8/0,6 | 65/1-8/0,6-R1 | 65/1-12/1,2 | 65/1-12/1,2-R1 |
|-------------------------|------------|---------------|-------------|----------------|
| Art no.                 | 2117140    | 2117168       | 2117139     | 2117167        |
| Weight approx. <i>m</i> | 46 kg      | 46 kg         | 46 kg       | 46 kg          |

## Pipe connections

|                                  |       |
|----------------------------------|-------|
| Flanges (according to EN 1092-2) | PN 16 |
| Nominal flange diameter          | DN 65 |

## Motor data

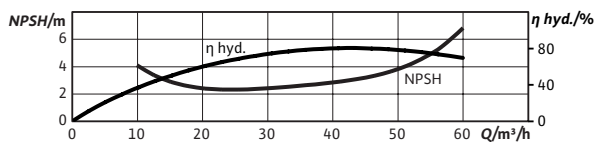
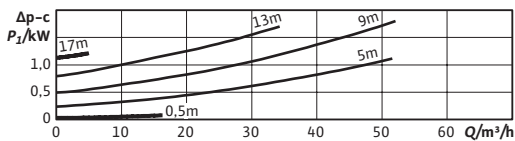
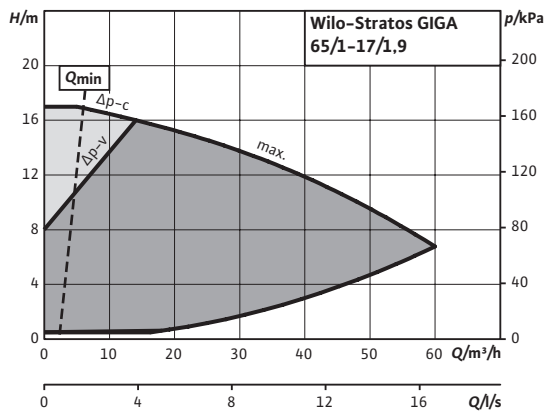
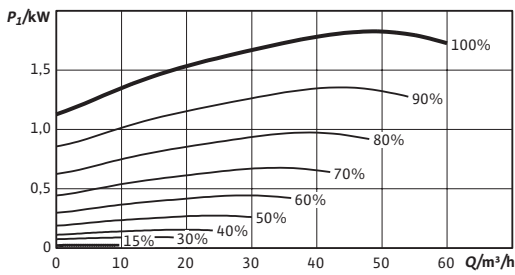
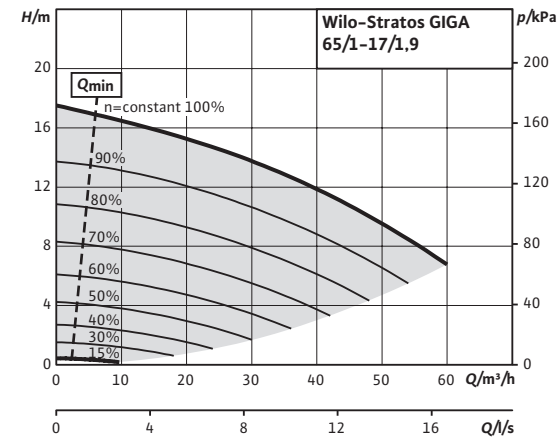
|                                       |                              |                |                |                |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 2180 rpm               | 500 - 2180 rpm | 500 - 2680 rpm | 500 - 2680 rpm |
| Rated power $P_2$                     | 0.6 kW                       | 0.6 kW         | 1.2 kW         | 1.2 kW         |
| Maximum power consumption $P_1$       | 0.7 kW                       | 0.7 kW         | 1.3 kW         | 1.3 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 1.3 A                        | 1.3 A          | 2.1 A          | 2.1 A          |

## Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1IEGG    |
| Other mechanical seals     | On request |

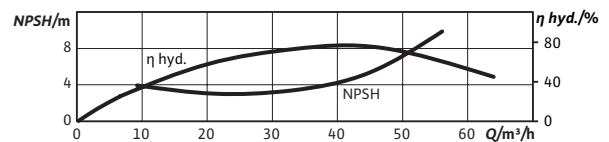
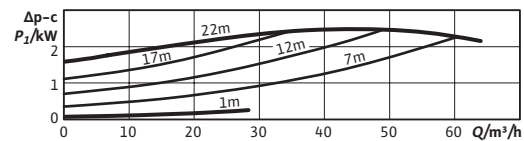
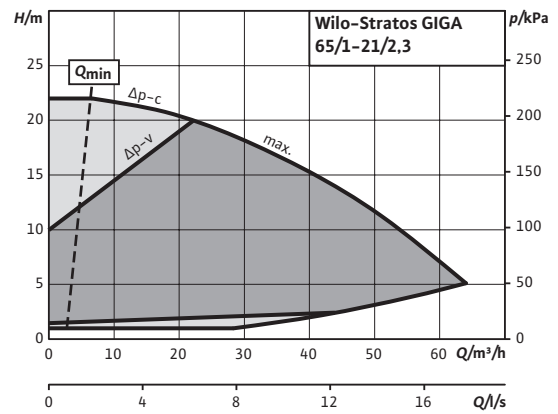
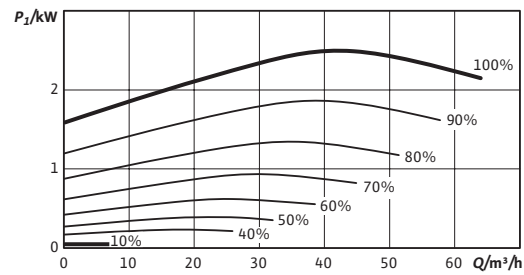
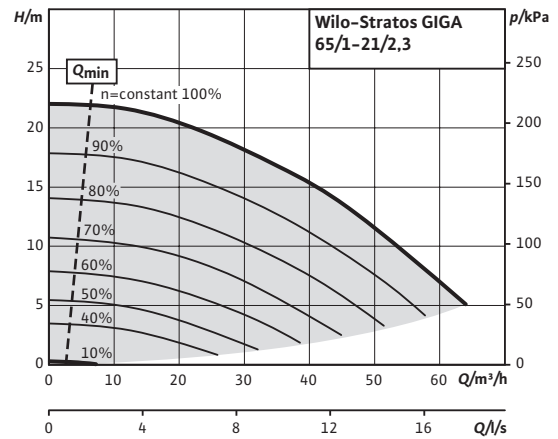
Pump curves

Stratos GIGA 65/1-17/1,9



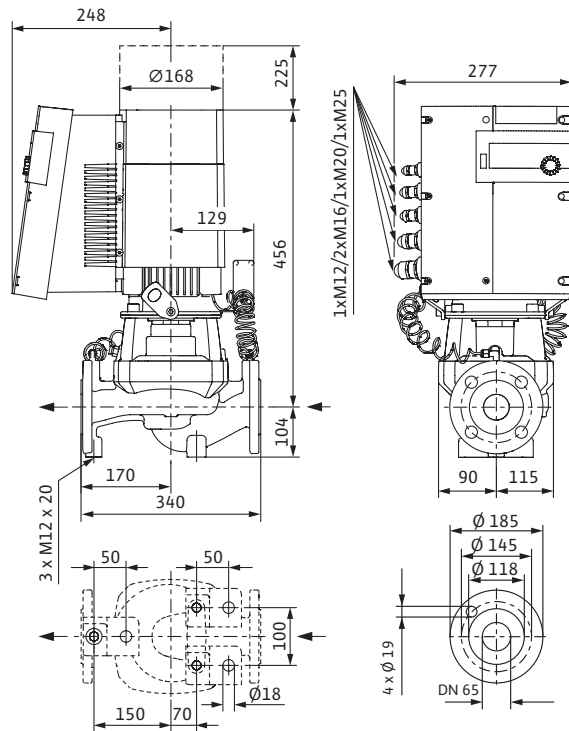
Pump curves

Stratos GIGA 65/1-21/2,3



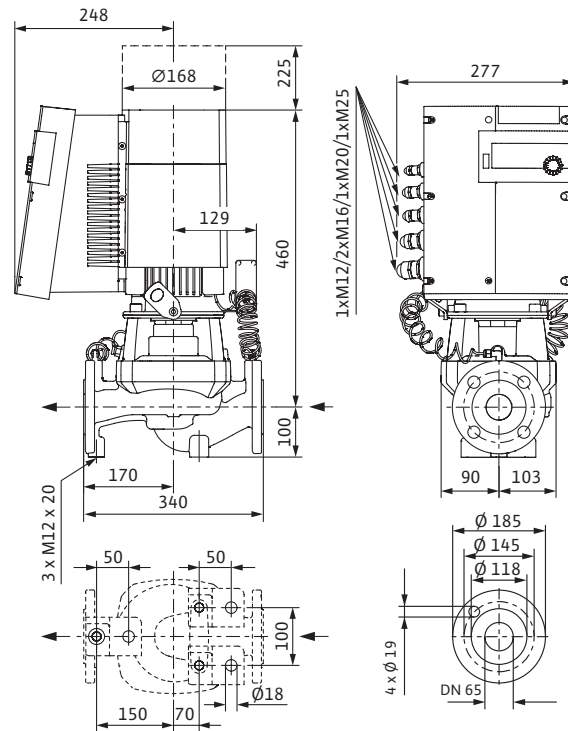
## Dimension drawing

Stratos GIGA 65/1-17/1,9



## Dimension drawing

Stratos GIGA 65/1-21/2,3



## Technical data (type-specific)

| Type                    | 65/1-17/1,9 | 65/1-17/1,9-R1 | 65/1-21/2,3 | 65/1-21/2,3-R1 |
|-------------------------|-------------|----------------|-------------|----------------|
| Art no.                 | 2117138     | 2117166        | 2170126     | 2170182        |
| Weight approx. <i>m</i> | 46 kg       | 46 kg          | 45 kg       | 45 kg          |

## Pipe connections

|                                  |       |
|----------------------------------|-------|
| Flanges (according to EN 1092-2) | PN 16 |
| Nominal flange diameter          | DN 65 |

## Motor data

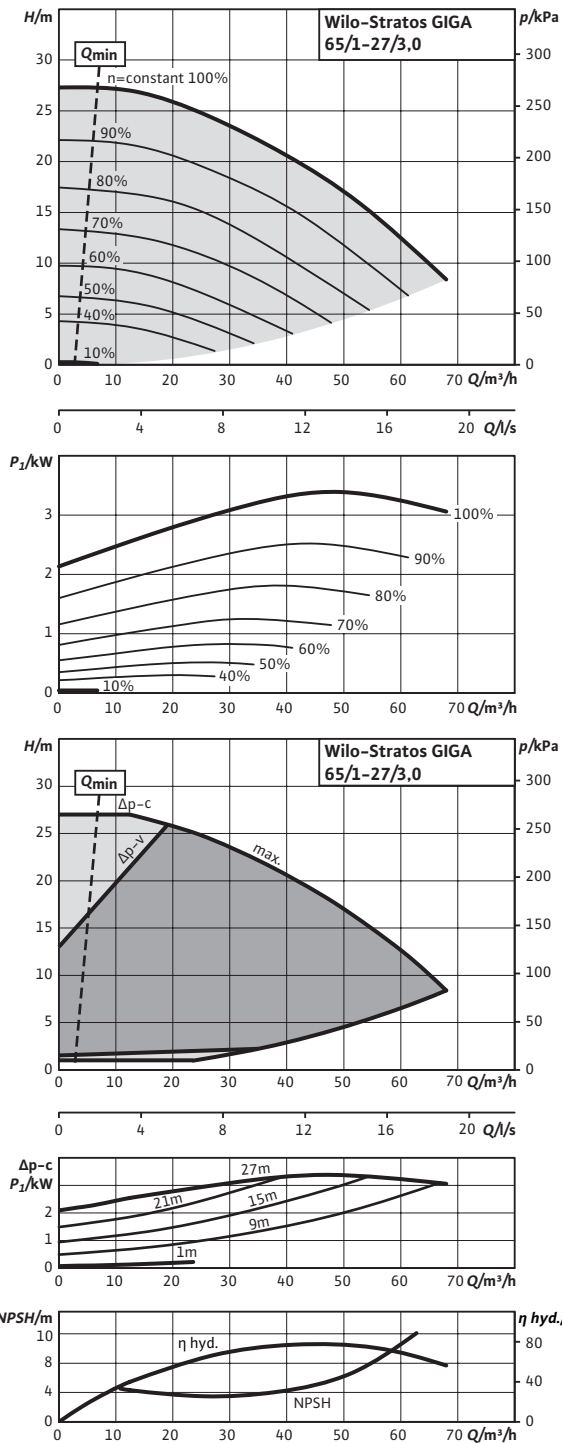
|                                       |                              |                |                |                |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 3100 rpm               | 500 - 3100 rpm | 500 - 4200 rpm | 500 - 4200 rpm |
| Rated power $P_2$                     | 1.9 kW                       | 1.9 kW         | 2.3 kW         | 2.3 kW         |
| Maximum power consumption $P_1$       | 1.9 kW                       | 1.9 kW         | 2.6 kW         | 2.6 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 2.9 A                        | 2.9 A          | 4.7 A          | 4.7 A          |

## Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1EGG     |
| Other mechanical seals     | On request |

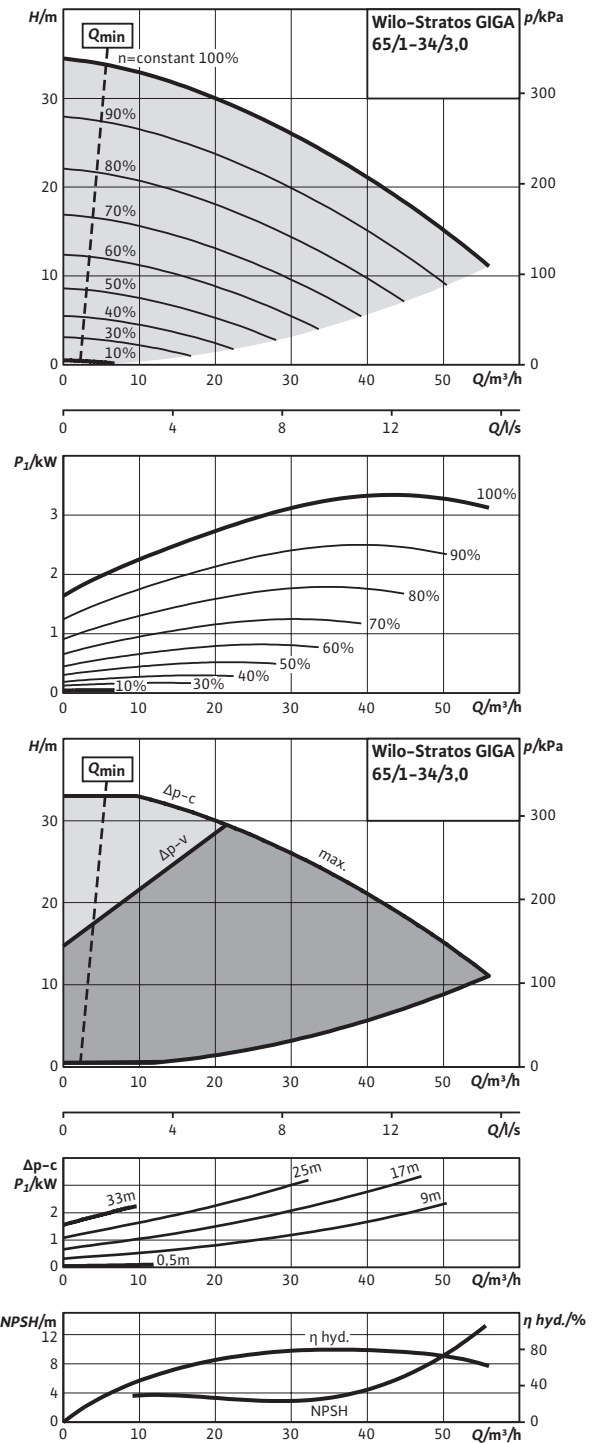
Pump curves

Stratos GIGA 65/1-27/3,0



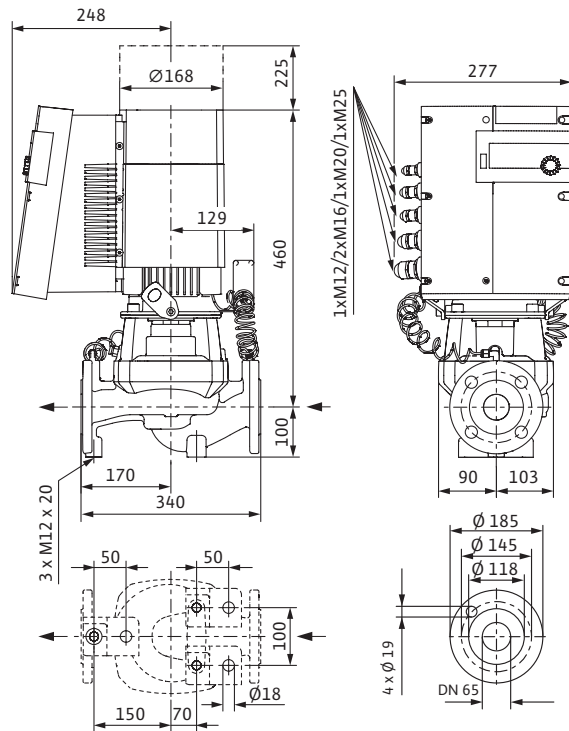
Pump curves

Stratos GIGA 65/1-34/3,0



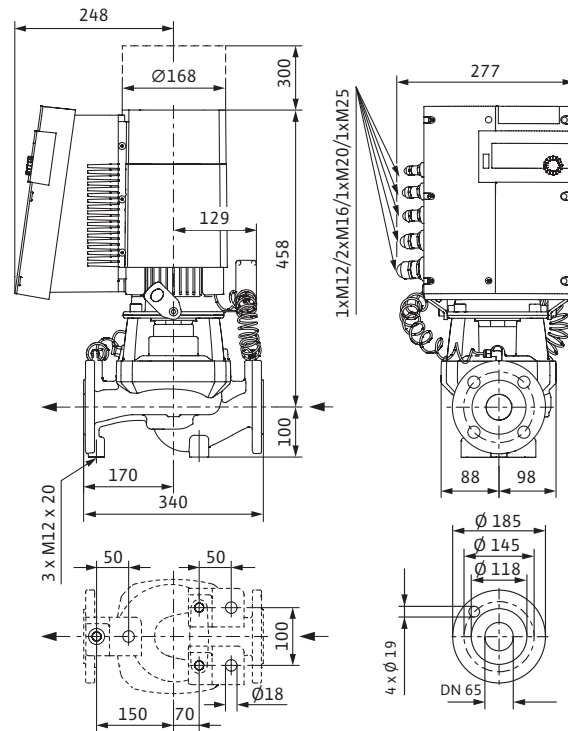
## Dimension drawing

Stratos GIGA 65/1-27/3,0



## Dimension drawing

Stratos GIGA 65/1-34/3,0



## Technical data (type-specific)

| Type                    | 65/1-27/3,0 | 65/1-27/3,0-R1 | 65/1-34/3,0 | 65/1-34/3,0-R1 |
|-------------------------|-------------|----------------|-------------|----------------|
| Art no.                 | 2170125     | 2170181        | 2117145     | 2117173        |
| Weight approx. <i>m</i> | 45 kg       | 45 kg          | 45 kg       | 45 kg          |

## Pipe connections

|                                  |       |
|----------------------------------|-------|
| Flanges (according to EN 1092-2) | PN 16 |
| Nominal flange diameter          | DN 65 |

## Motor data

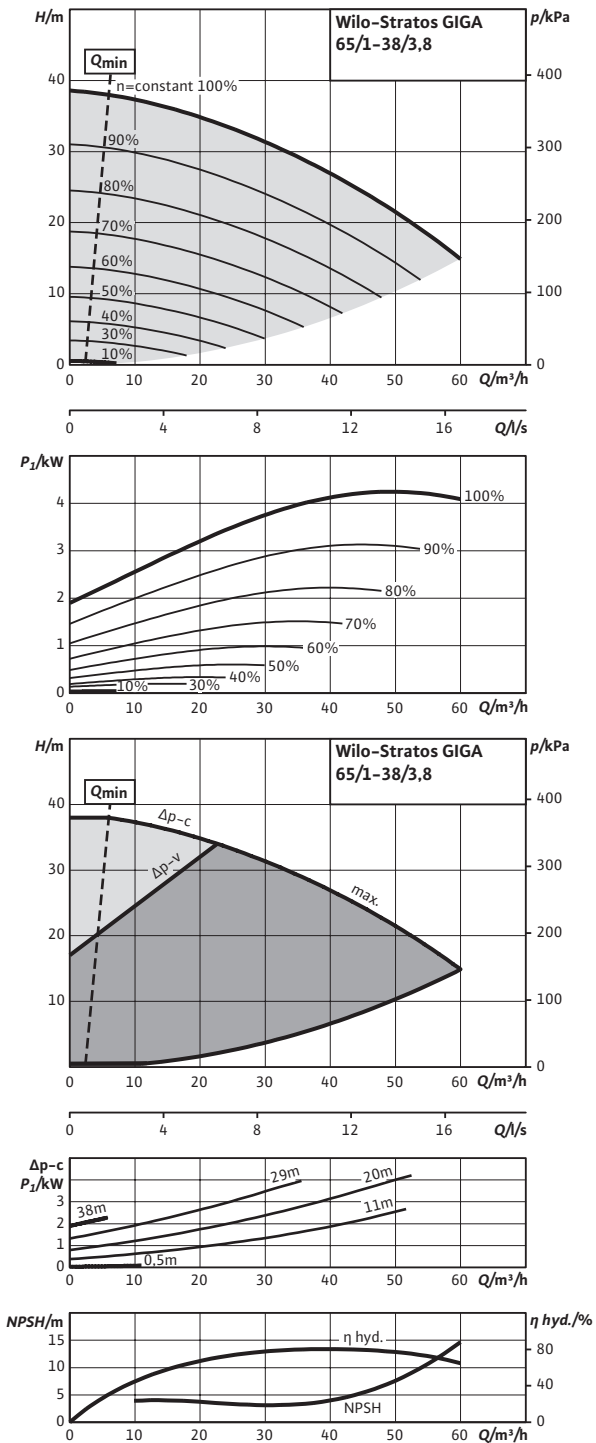
|                                       |                              |                |                |                |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 4700 rpm               | 500 - 4700 rpm | 500 - 4500 rpm | 500 - 4500 rpm |
| Rated power $P_2$                     | 3 kW                         | 3 kW           | 3 kW           | 3 kW           |
| Maximum power consumption $P_1$       | 3.5 kW                       | 3.5 kW         | 3.4 kW         | 3.4 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 6.4 A                        | 6.4 A          | 6.3 A          | 6.3 A          |

## Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1IEGG    |
| Other mechanical seals     | On request |

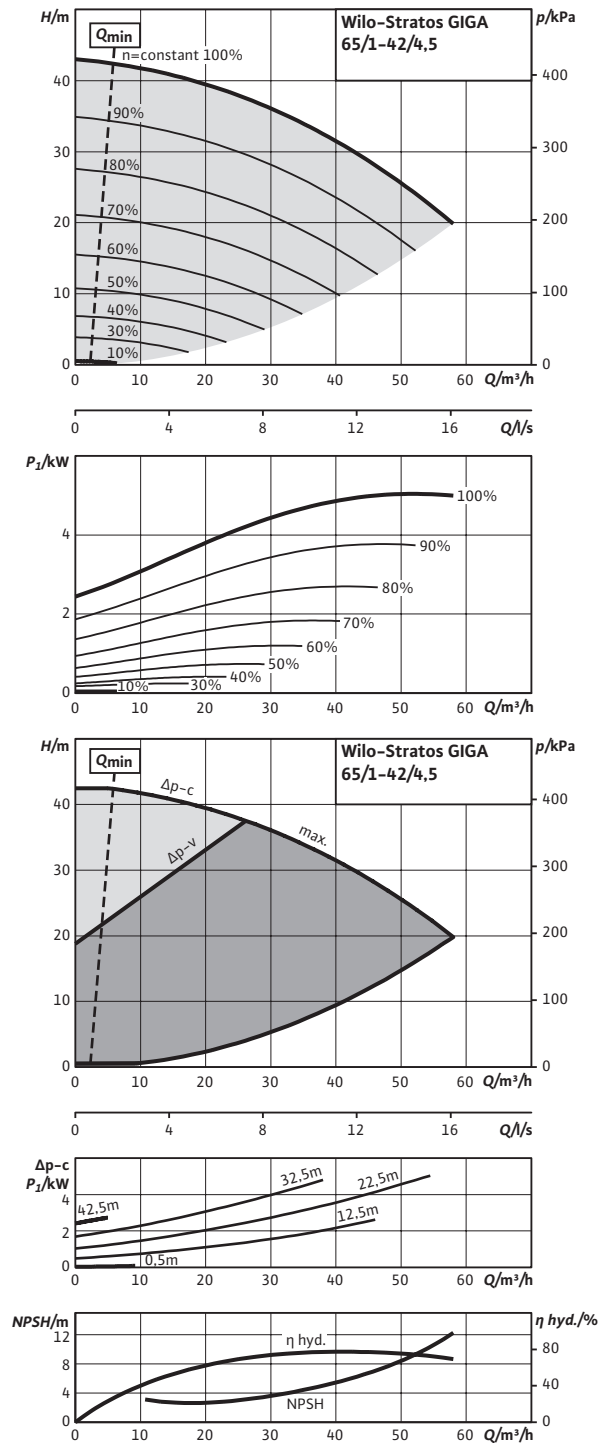
Pump curves

Stratos GIGA 65/1-38/3,8



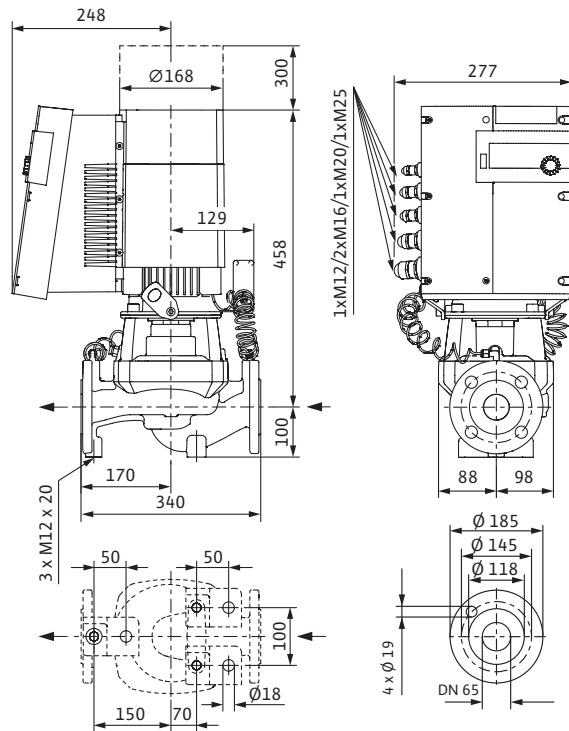
Pump curves

Stratos GIGA 65/1-42/4,5



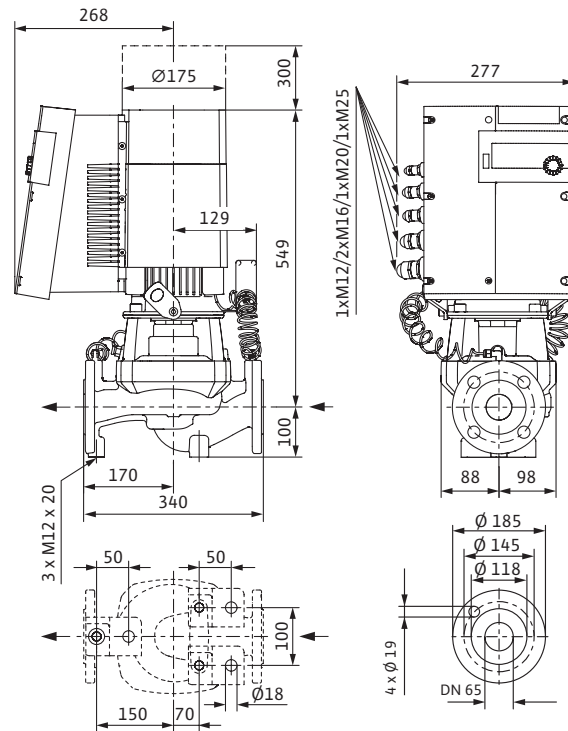
## Dimension drawing

Stratos GIGA 65/1-38/3,8



## Dimension drawing

Stratos GIGA 65/1-45/4,5



## Technical data (type-specific)

| Type                    | 65/1-38/3,8 | 65/1-38/3,8-R1 | 65/1-42/4,5 | 65/1-42/4,5-R1 |
|-------------------------|-------------|----------------|-------------|----------------|
| Art no.                 | 2117144     | 2117172        | 2117143     | 2117171        |
| Weight approx. <i>m</i> | 45 kg       | 45 kg          | 55 kg       | 55 kg          |

## Pipe connections

|                                  |       |
|----------------------------------|-------|
| Flanges (according to EN 1092-2) | PN 16 |
| Nominal flange diameter          | DN 65 |

## Motor data

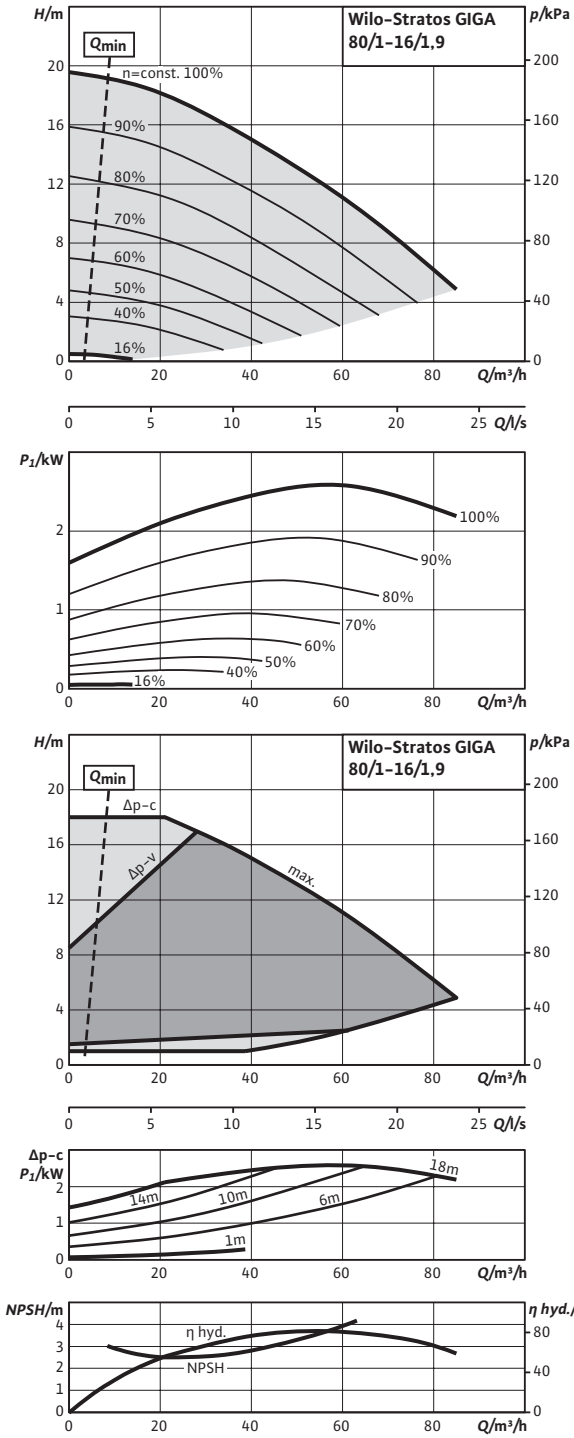
|                                       |                              |                |                |                |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 4500 rpm               | 500 - 4500 rpm | 500 - 4800 rpm | 500 - 4800 rpm |
| Rated power $P_2$                     | 3.8 kW                       | 3.8 kW         | 4.5 kW         | 4.5 kW         |
| Maximum power consumption $P_1$       | 4.3 kW                       | 4.3 kW         | 5.1 kW         | 5.1 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 7.4 A                        | 7.4 A          | 8.6 A          | 8.6 A          |

## Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1EGG     |
| Other mechanical seals     | On request |

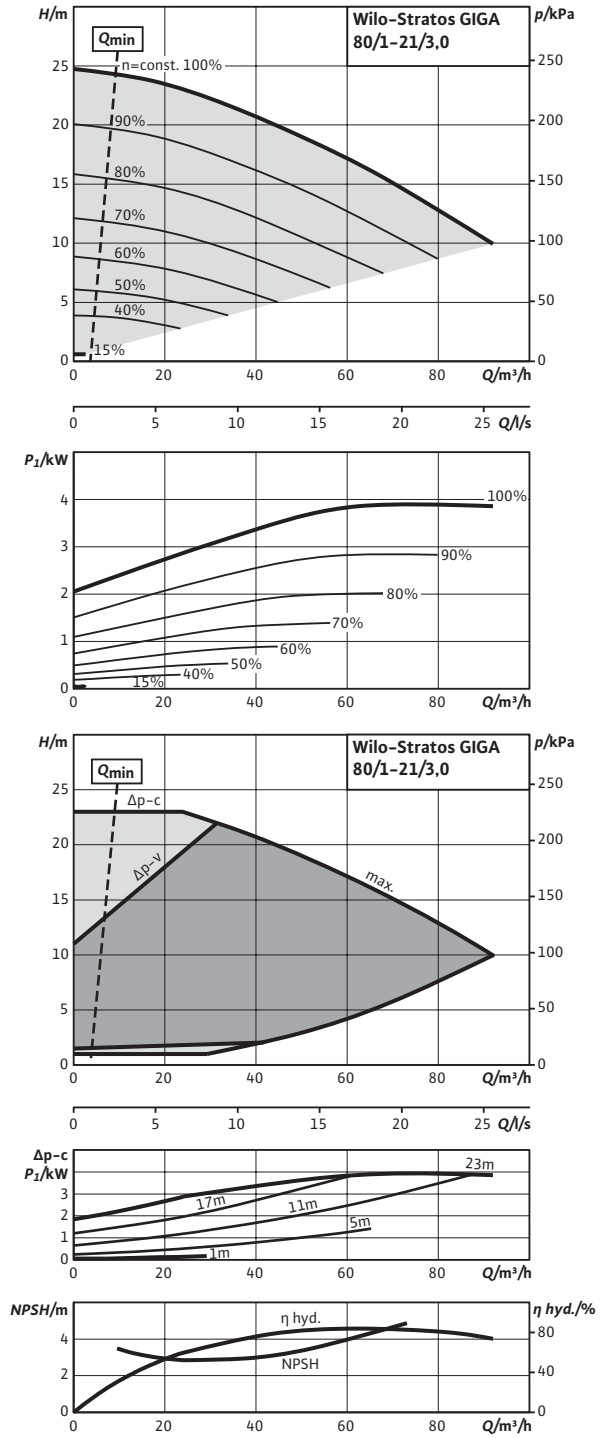
Pump curves

Stratos GIGA 80/1-16/1,9



Pump curves

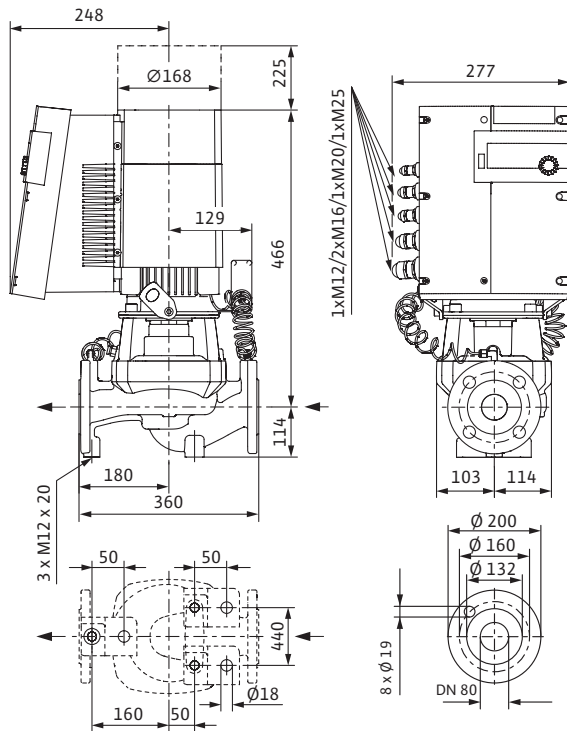
Stratos GIGA 80/1-21/3,0





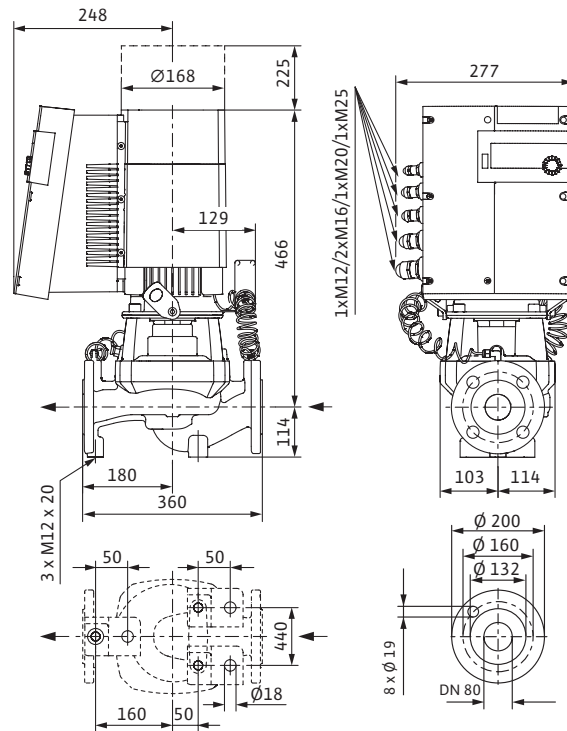
Dimension drawing

Stratos GIGA 80/1-16/1,9



Dimension drawing

Stratos GIGA 80/1-21/3,0



Technical data (type-specific)

| Type                    | 80/1-16/1,9 | 80/1-16/1,9-R1 | 80/1-21/3,0 | 80/1-21/3,0-R1 |
|-------------------------|-------------|----------------|-------------|----------------|
| Art no.                 | 2170131     | 2170187        | 2170130     | 2170186        |
| Weight approx. <i>m</i> | 49 kg       | 49 kg          | 49 kg       | 49 kg          |

Pipe connections

|                                  |       |
|----------------------------------|-------|
| Flanges (according to EN 1092-2) | PN 16 |
| Nominal flange diameter          | DN 80 |

Motor data

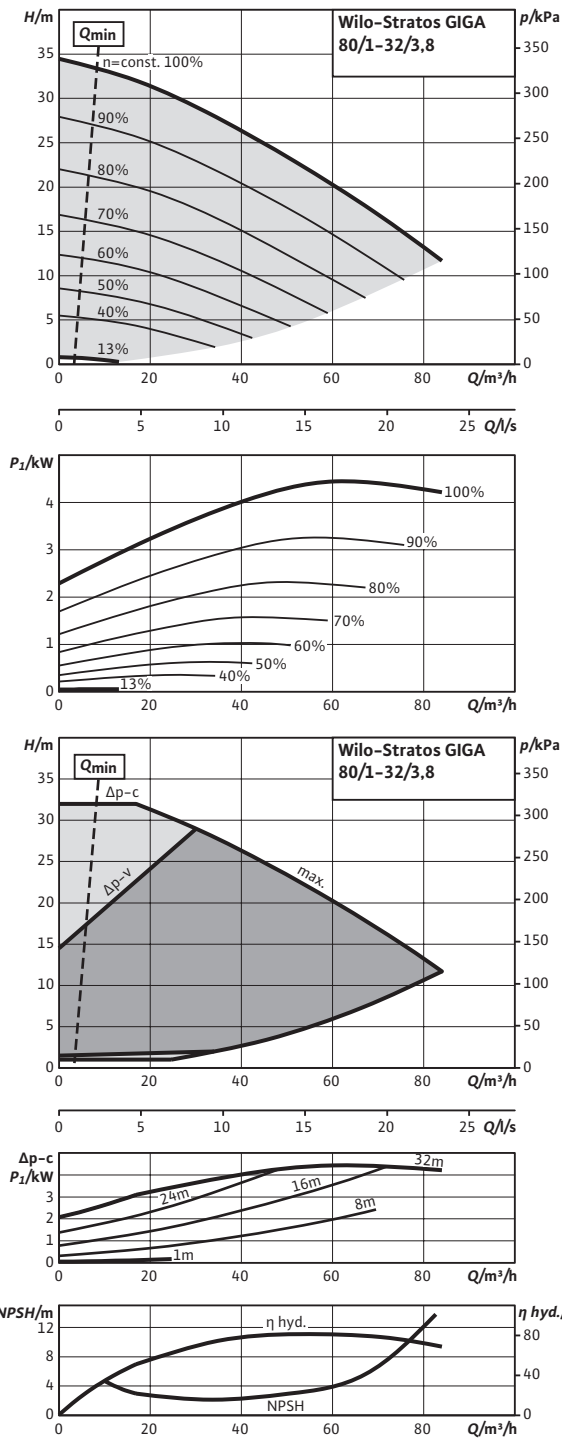
|                                       |                              |                |                |                |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 2850 rpm               | 500 - 2850 rpm | 500 - 2950 rpm | 500 - 2950 rpm |
| Rated power $P_2$                     | 2.3 kW                       | 2.3 kW         | 3.5 kW         | 3.5 kW         |
| Maximum power consumption $P_1$       | 2.6 kW                       | 2.6 kW         | 4 kW           | 4 kW           |
| Rated current (approx.) $I_N$ 3~400 V | 4.7 A                        | 4.7 A          | 6.8 A          | 6.8 A          |

Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1EGG     |
| Other mechanical seals     | On request |

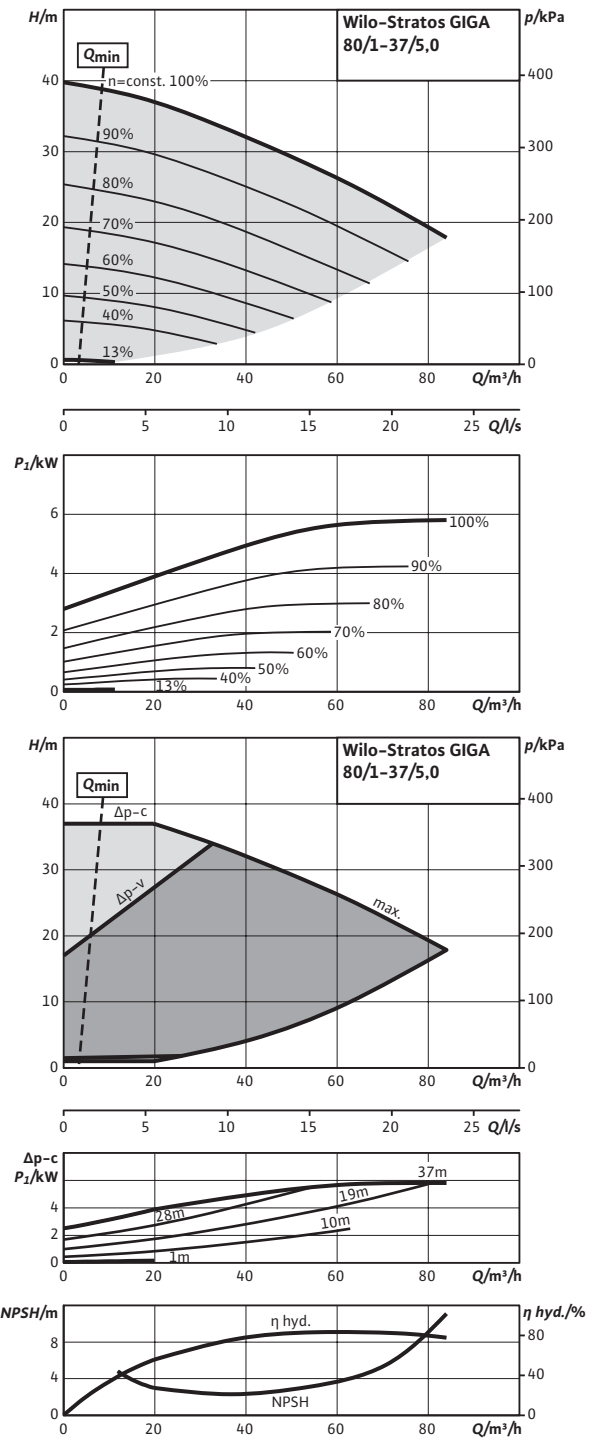
Pump curves

Stratos GIGA 80/1-32/3,8



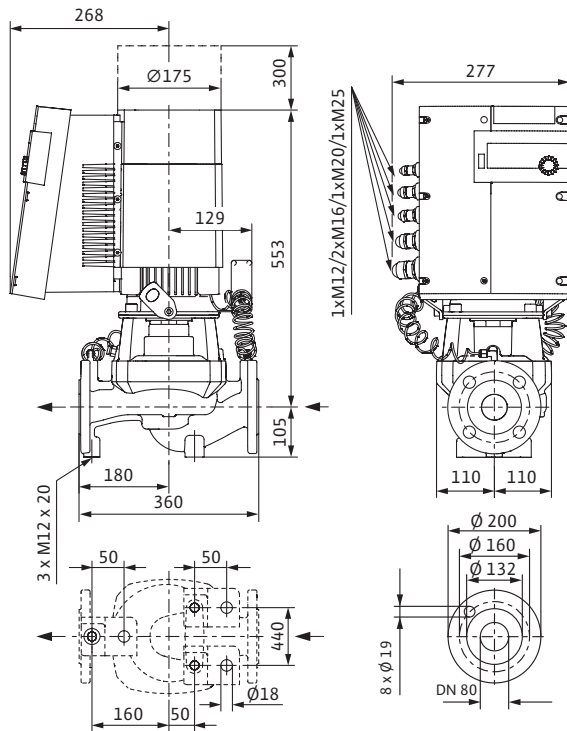
Pump curves

Stratos GIGA 80/1-37/5,0



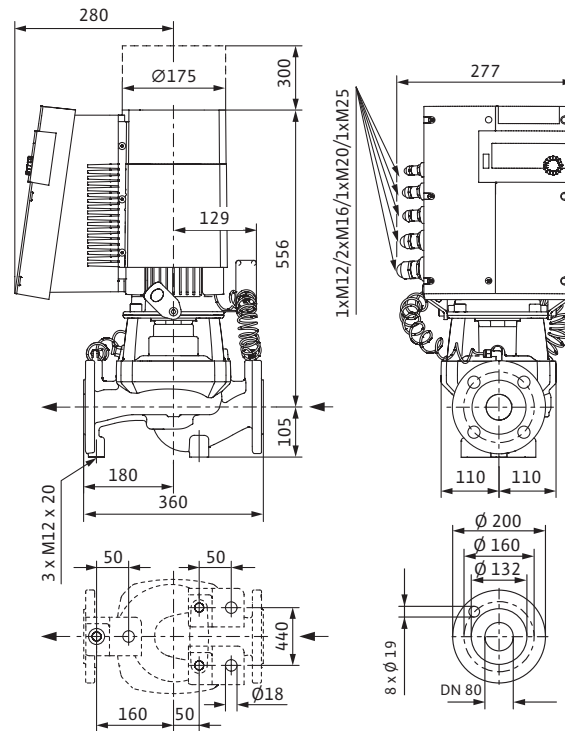
Dimension drawing

Stratos GIGA 80/1-32/3,8



Dimension drawing

Stratos GIGA 80/1-37/5,0



Technical data (type-specific)

| Type                    | 80/1-32/3,8 | 80/1-32/3,8-R1 | 80/1-37/5,0 | 80/1-37/5,0-R1 |
|-------------------------|-------------|----------------|-------------|----------------|
| Art no.                 | 2170133     | 2170189        | 2170132     | 2170188        |
| Weight approx. <i>m</i> | 61 kg       | 61 kg          | 66 kg       | 66 kg          |

Pipe connections

|                                  |       |
|----------------------------------|-------|
| Flanges (according to EN 1092-2) | PN 16 |
| Nominal flange diameter          | DN 80 |

Motor data

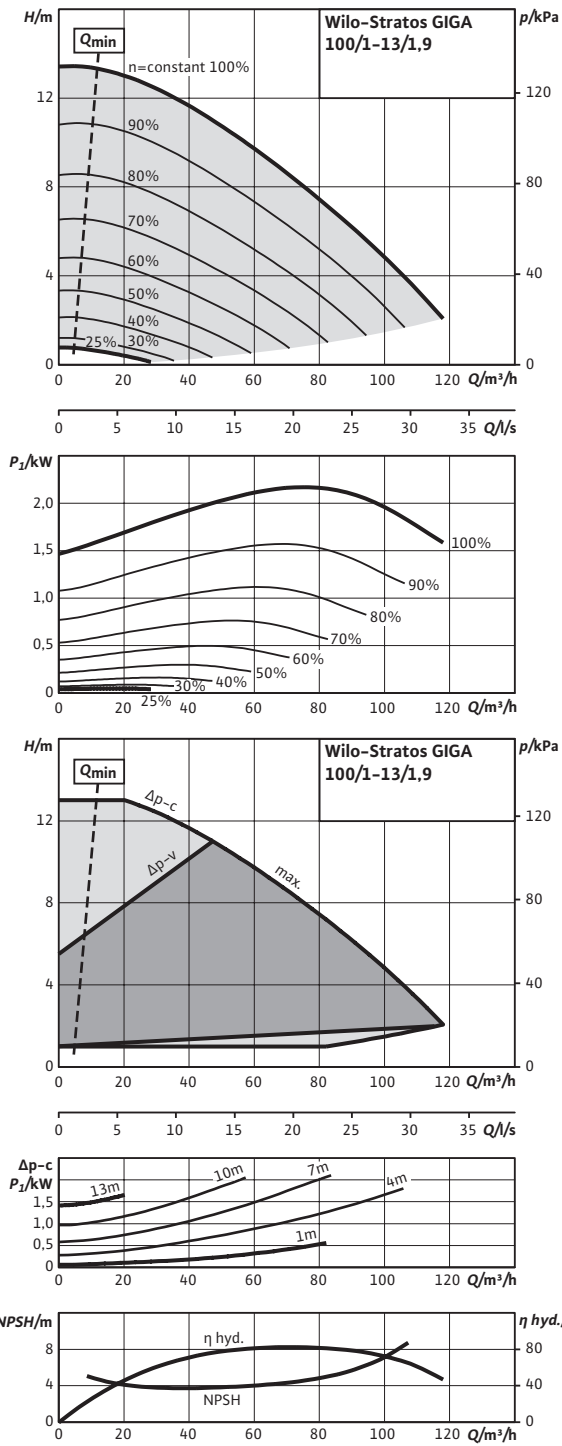
|                                       |                                |                |                |                |
|---------------------------------------|--------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 3700 rpm                 | 500 - 3700 rpm | 500 - 3750 rpm | 500 - 3750 rpm |
| Rated power $P_2$                     | 4.1 kW                         | 4.1 kW         | 5.3 kW         | 5.3 kW         |
| Maximum power consumption $P_1$       | 4.5 kW                         | 4.5 kW         | 5.8 kW         | 5.8 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 7.9 A                          | 7.9 A          | 9.6 A          | 9.6 A          |

Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1IEGG    |
| Other mechanical seals     | On request |

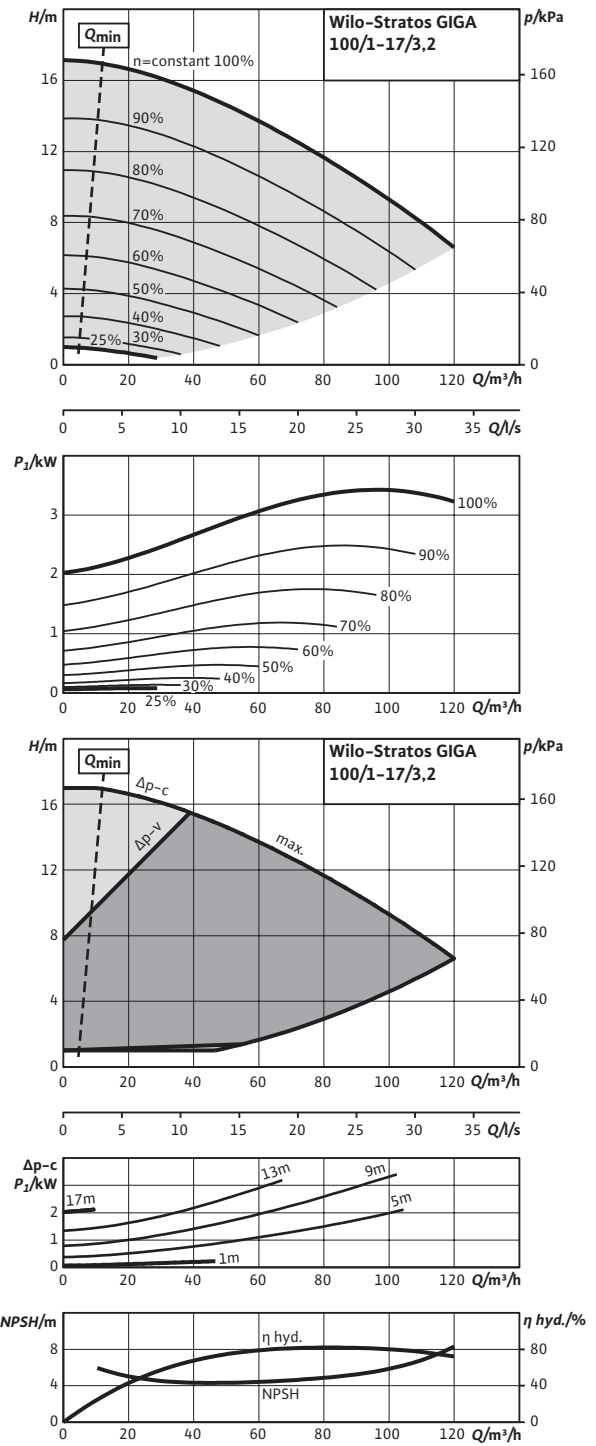
Pump curves

Stratos GIGA 100/1-13/1,9



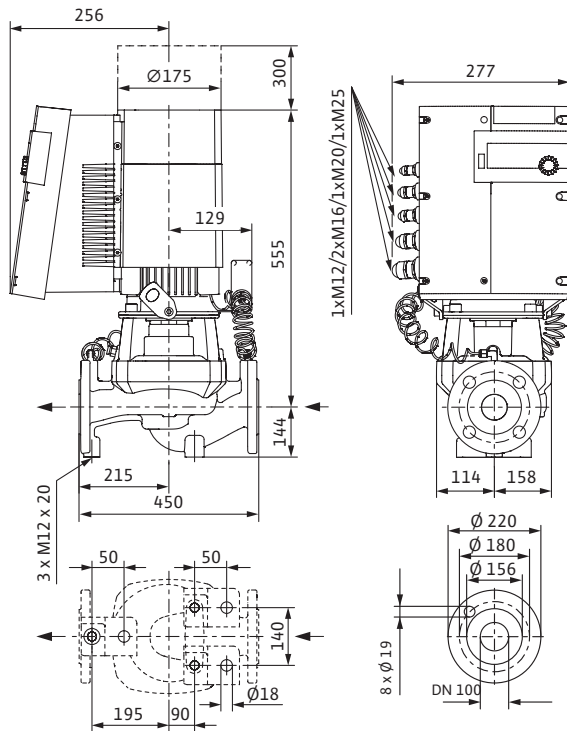
Pump curves

Stratos GIGA 100/1-17/3,2



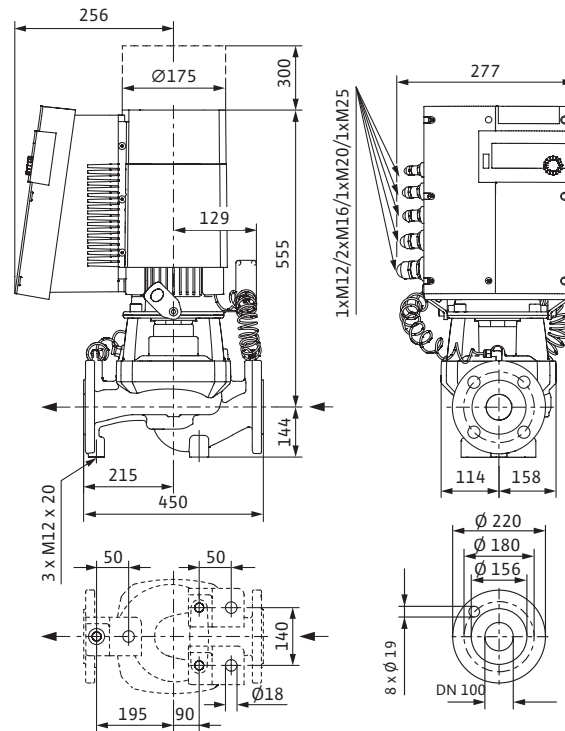
Dimension drawing

Stratos GIGA 100/1-13/1,9



Dimension drawing

Stratos GIGA 100/1-17/3,2



Technical data (type-specific)

| Type                    | 100/1-13/1,9 | 100/1-13/1,9-R1 | 100/1-17/3,2 | 100/1-17/3,2-R1 |
|-------------------------|--------------|-----------------|--------------|-----------------|
| Art no.                 | 2117151      | 2117179         | 2117150      | 2117178         |
| Weight approx. <i>m</i> | 67 kg        | 67 kg           | 67 kg        | 67 kg           |

Pipe connections

|                                  |        |
|----------------------------------|--------|
| Flanges (according to EN 1092-2) | PN 16  |
| Nominal flange diameter          | DN 100 |

Motor data

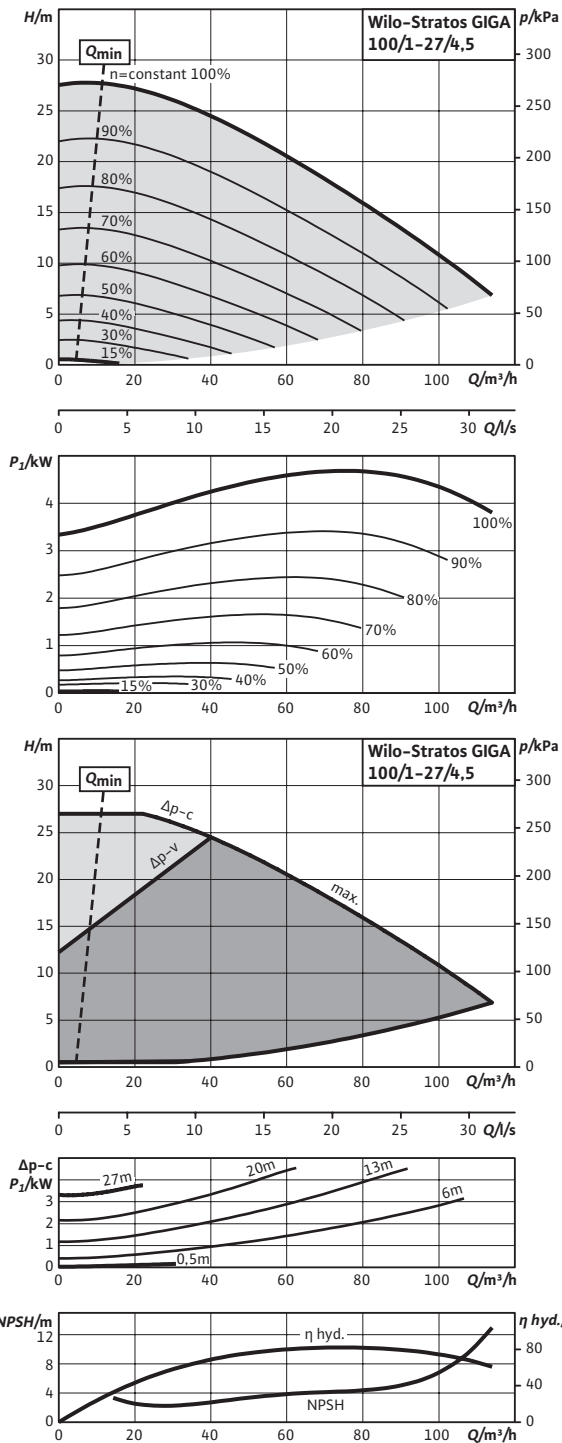
|                                       |                              |                |                |                |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 2100 rpm               | 500 - 2100 rpm | 500 - 2160 rpm | 500 - 2160 rpm |
| Rated power $P_2$                     | 1.9 kW                       | 1.9 kW         | 3.2 kW         | 3.2 kW         |
| Maximum power consumption $P_1$       | 2.2 kW                       | 2.2 kW         | 3.4 kW         | 3.4 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 4.2 A                        | 4.2 A          | 6.3 A          | 6.3 A          |

Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1EGG     |
| Other mechanical seals     | On request |

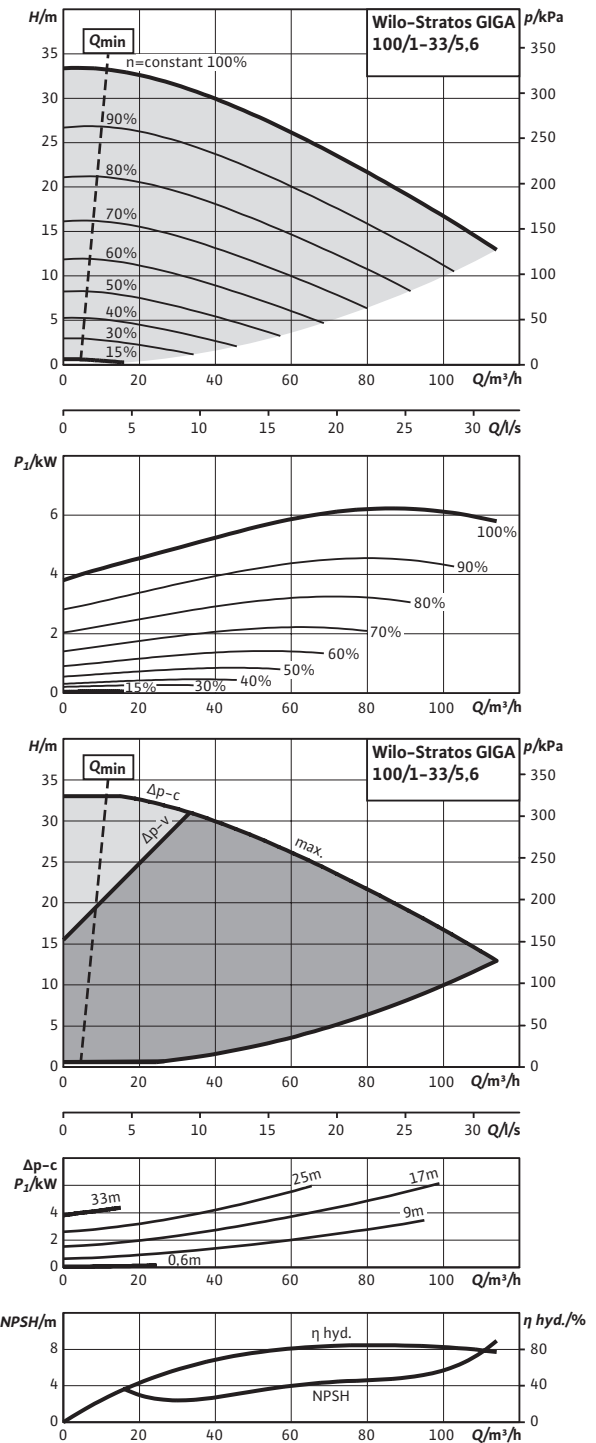
Pump curves

Stratos GIGA 100/1-27/4,5



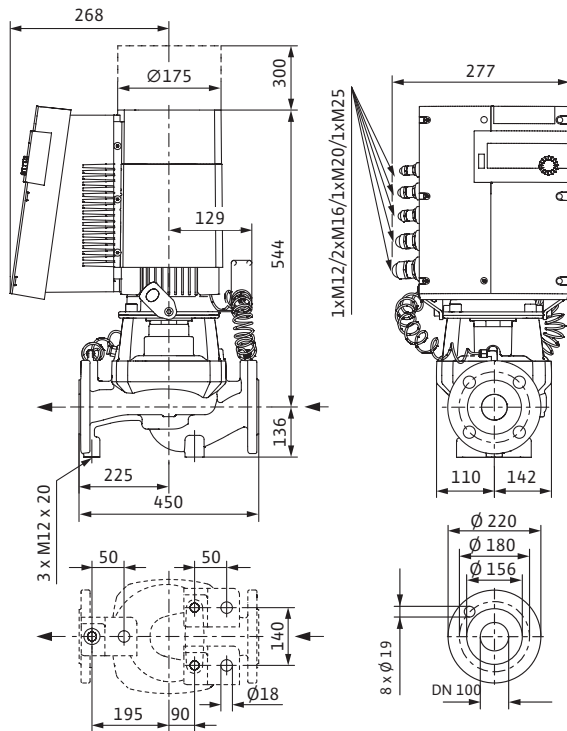
Pump curves

Stratos GIGA 100/1-33/5,6



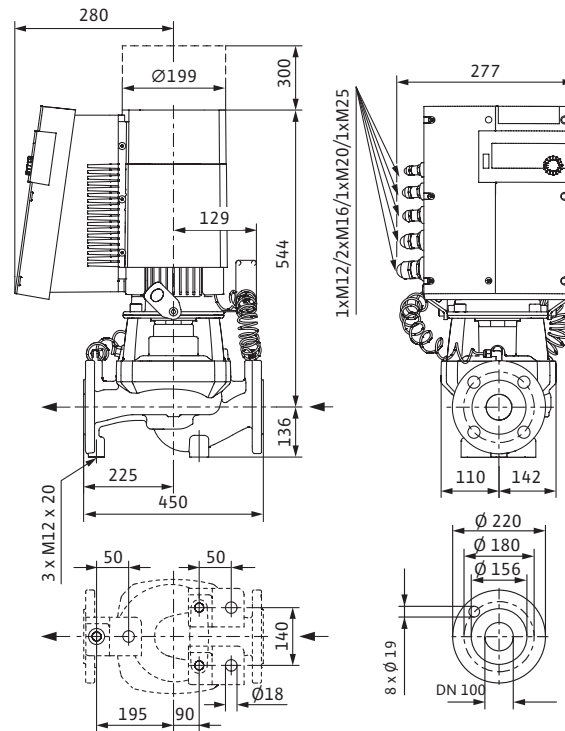
Dimension drawing

Stratos GIGA 100/1-27/4,5



Dimension drawing

Stratos GIGA 100/1-33/5,6



Technical data (type-specific)

| Type                    | 100/1-27/4,5 | 100/1-27/4,5-R1 | 100/1-33/5,6 | 100/1-33/5,6-R1 |
|-------------------------|--------------|-----------------|--------------|-----------------|
| Art no.                 | 2117153      | 2117181         | 2117152      | 2117180         |
| Weight approx. <i>m</i> | 69 kg        | 69 kg           | 74 kg        | 74 kg           |

Pipe connections

|                                  |        |
|----------------------------------|--------|
| Flanges (according to EN 1092-2) | PN 16  |
| Nominal flange diameter          | DN 100 |

Motor data

|                                       |                              |                |                |                |
|---------------------------------------|------------------------------|----------------|----------------|----------------|
| Mains connection                      | 3~380/400/440/480V, 50/60 Hz |                |                |                |
| Speed <i>n</i>                        | 500 - 3600 rpm               | 500 - 3600 rpm | 500 - 3700 rpm | 500 - 3700 rpm |
| Rated power $P_2$                     | 4.5 kW                       | 4.5 kW         | 5.6 kW         | 5.6 kW         |
| Maximum power consumption $P_1$       | 4.8 kW                       | 4.8 kW         | 6.3 kW         | 6.3 kW         |
| Rated current (approx.) $I_N$ 3~400 V | 8.2 A                        | 8.2 A          | 10.4 A         | 10.4 A         |

Materials

|                            |            |
|----------------------------|------------|
| Pump housing               | EN-GJL-250 |
| Lantern                    | EN-GJL-250 |
| Impeller                   | PPS-GF40   |
| Impeller (special version) | -          |
| Pump shaft                 | 1.4122     |
| Mechanical seal            | AQ1EGG     |
| Other mechanical seals     | On request |



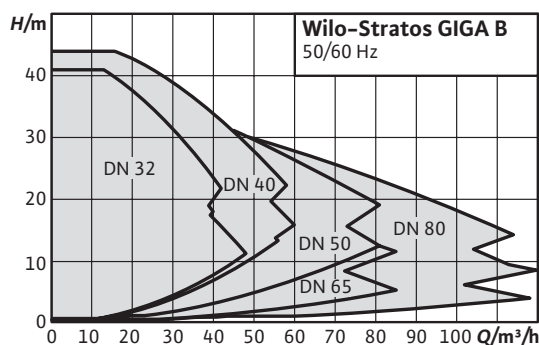
IE5

**Wilo-Stratos GIGA B**



High-efficiency monobloc pump with EC motor and electronic power adjustment in glanded pump design. Version as single-stage low-pressure centrifugal pump with flange connection and mechanical shaft seal.

- Innovative high-efficiency pump for maximum overall efficiency with principal dimensions in accordance with EN 733
- High-efficiency EC motor with efficiency class IE5 according to IEC 60034-30-2
- High-efficiency hydraulics, optimally adapted to the EC motor technology, with optimised efficiency, minimum efficiency index (MEI) ≥ 0.7
- Control range is up to three times higher than that of conventional electronically controlled pumps
- Optional interfaces for bus communication using plug-in IF-Modules



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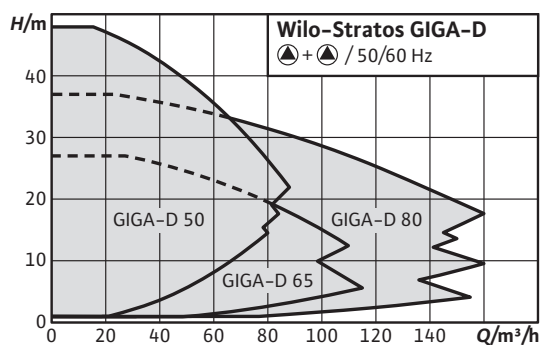
IE5

**Wilo-Stratos GIGA-D**



High-efficiency in-line double pump with EC motor and electronic power adjustment in glanded pump construction. Version as single-stage low-pressure centrifugal pump with flange connection and mechanical seal.

- Innovative, high efficiency double pump for highest overall efficiency based on a new Wilo glanded pump design for efficiency-optimised control during parallel operation
- High-efficiency EC motor (energy efficiency class IE5 acc. to IEC 60034-30-2)
- High-efficiency hydraulics, optimally adapted to the EC motor technology, with optimised efficiency, minimum efficiency index (MEI) ≥ 0.7
- Highest operational safety through reserve pump
- Optional interfaces for bus communication using plug-in IF-Modules

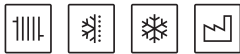


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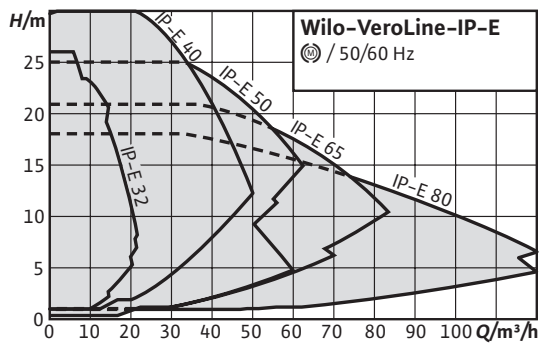


### Wilo-VeroLine-IP-E



Electronically controlled glanded single pump in in-line design with flange connection and automatic power adjustment

- Energy savings due to integrated electronic control
- Optional interfaces for bus communication using plug-in IF-Modules
- Simple operation with Green Button Technology and display
- Integrated dual pump management
- Integrated full motor protection (PTC thermistor sensor) with trip electronics

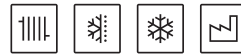


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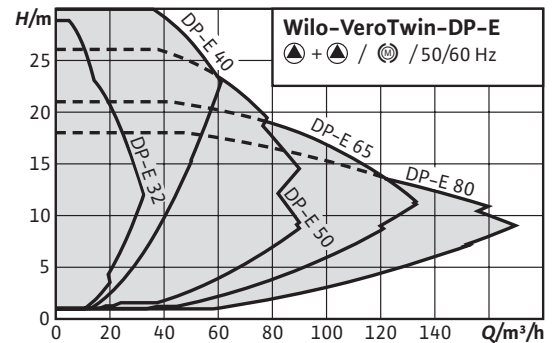


### Wilo-VeroTwin-DP-E



Electronically controlled glanded double pump in in-line design with flange connection and automatic power adjustment

- Energy savings due to integrated electronic control
- Optional interfaces for bus communication using plug-in IF-Modules
- Simple operation with Green Button Technology and display
- Integrated dual pump management
- Integrated full motor protection (PTC thermistor sensor) with trip electronics

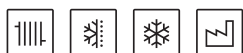


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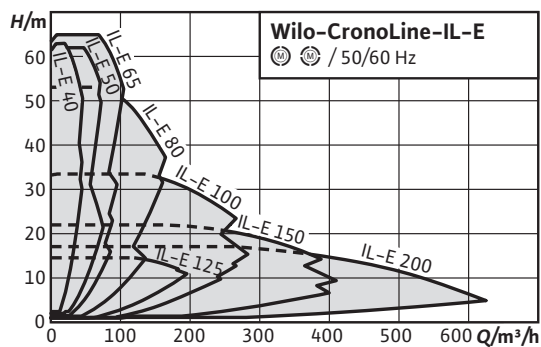


**Wilo-CronoLine-IL-E**



Electronically controlled glanded double pump in in-line design with flange connection and automatic power adjustment

- Energy savings due to integrated electronic control
- Optional interfaces for bus communication using plug-in IF-Modules
- Simple operation with Green Button Technology and display
- Integrated dual pump management
- Integrated full motor protection (PTC thermistor sensor) with trip electronics



**Select 4 online**

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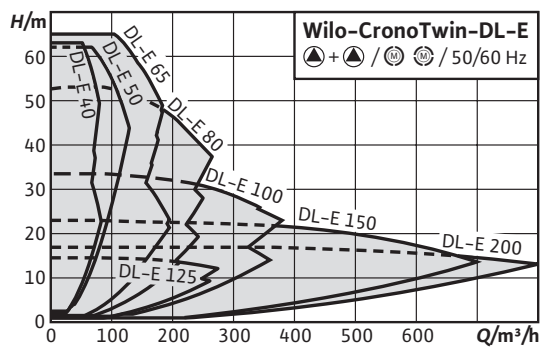


**Wilo-CronoTwin-DL-E**



Electronically controlled glanded double pump in in-line design with flange connection and automatic power adjustment

- Energy savings due to integrated electronic control
- Simple operation with Green Button Technology and display
- Various operating modes: main/standby operation and parallel operation
- Configurable fault response tailored to HVAC applications
- Integrated full motor protection (PTC thermistor sensor) with trip electronics

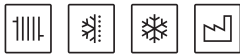


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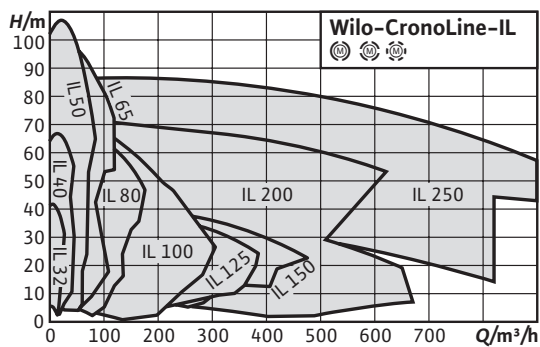


### Wilo-CronoLine-IL



Glanded pump in in-line design with flange connection

- Reduced life cycle costs thanks to optimized efficiency
- Standard condensate drainage holes in the motor housings
- Can be used flexibly in air-conditioning and cooling systems, with application benefits due to direct draining of condensate via optimised lantern design (patented)
- High standard of corrosion protection thanks to cathaphoretic coating
- High worldwide availability of standard motors (according to Wilo specifications) and standard mechanical seals

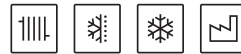


### Select 4online

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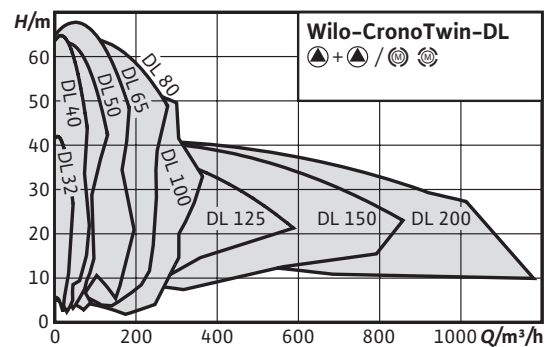


### Wilo-CronoTwin-DL



Glanded double pump in in-line design with flange connection

- Reduced life cycle costs through optimised efficiency
- Can be used flexibly in air-conditioning and cooling systems, with application benefits due to direct draining of condensate via optimised lantern design (patented)
- High standard of corrosion protection thanks to cathaphoretic coating
- Main/standby mode or peak-load operation (by means of external auxiliary device)



### Select 4online

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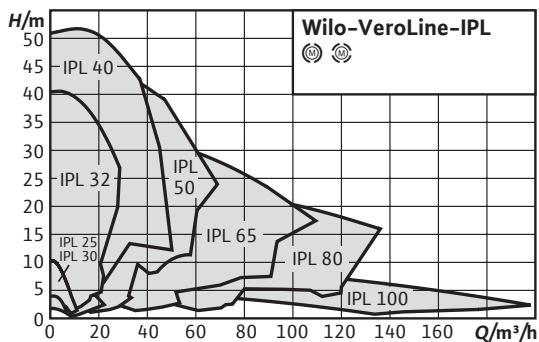


**Wilo-VeroLine-IPL**



Glanded pump in in-line design with screwed connection or flange connection

- High standard of corrosion protection thanks to cathophoretic coating
- Standard condensate drainage holes in the motor housings and lanterns
- Series design: motor with one-piece shaft
- Version N: Standard motor V1 with stainless steel plug shaft
- Bidirectional, force-flushed mechanical seal



**Select 4 online**

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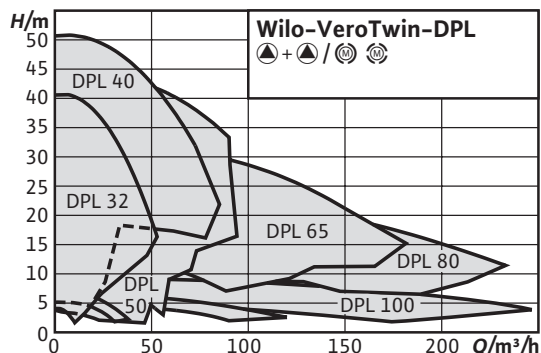


**Wilo-VeroTwin-DPL**



Glanded double pump in in-line design with flange connection

- Reduction of space required and installation costs due to double pump design
- Main/standby mode or peak-load operation (by means of external auxiliary device)
- High standard of corrosion protection thanks to cathophoretic coating
- Series design: motor with one-piece shaft
- Version N: standard motor B5 or V1 with stainless steel plug shaft



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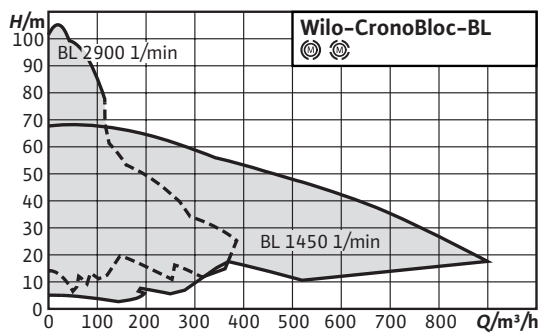


### Wilo-CronoBloc-BL



Glanded pump in block design with flange connection

- Reduced life cycle costs thanks to optimized efficiency
- High corrosion protection through cathaphoretic coating of the cast iron components
- Standard condensate drainage holes in the motor housings
- High worldwide obtainability of standard motors (according to Wilo specifications) and mechanical seals
- Meets user requirements due to performance and main dimensions in accordance with EN 733 (DIN for norm pumps)

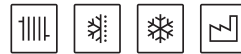


Select 4 online

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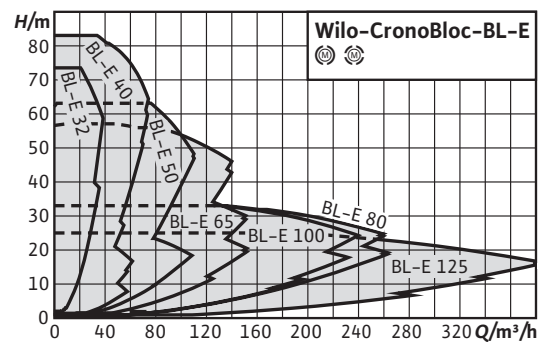


### Wilo-CronoBloc-BL-E



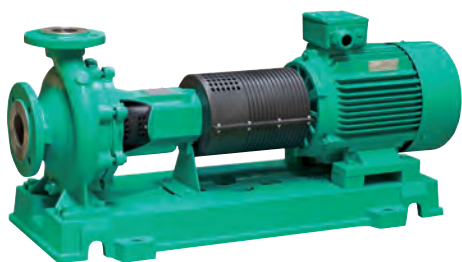
Electronically controlled glanded single pump in monobloc design with flange connection and automatic power adjustment.

- Energy savings due to integrated electronic control
- Optional interfaces for bus communication using plug-in IF-Modules
- Simple operation due to tried-and-tested Green Button Technology and display
- Integrated full motor protection (PTC thermistor sensor) with trip electronics
- Meets user requirements due to performance and main dimensions in accordance with EN 733 (DIN for norm pumps)

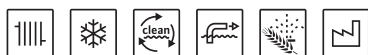


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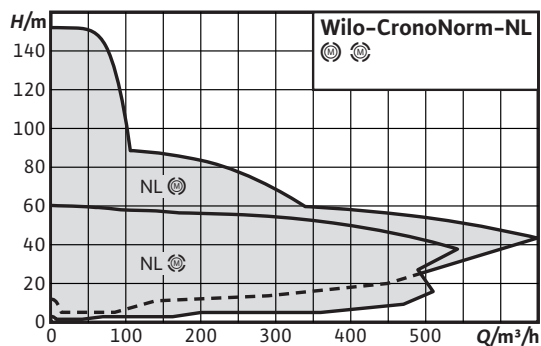


**Wilo-CronoNorm-NL**



Single-stage, low-pressure centrifugal pump with axial suction, mounted on a baseplate.

- Reduced life-cycle costs through optimised efficiency levels
- Bidirectional, force-flushed mechanical seal
- Low NPSH values, best cavitation properties
- Shaft coupling with or without spacer coupling



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

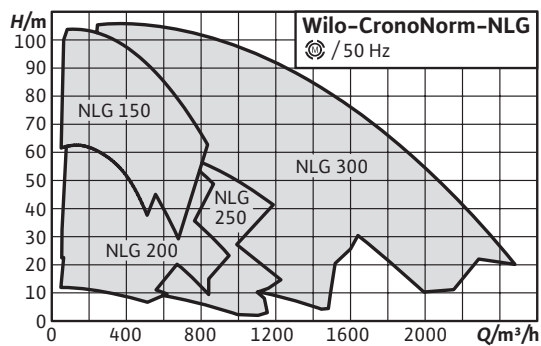


**Wilo-CronoNorm-NLG**



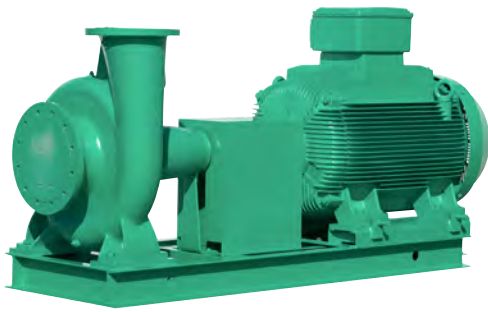
Single-stage, low-pressure centrifugal pump with axial suction, mounted on a baseplate.

- Reduced life cycle costs thanks to optimized efficiency
- Bidirectional, force-flushed mechanical seal
- Interchangeable casing wear rings
- Permanently lubricated, generously dimensioned roller bearings
- Low NPSH, best cavitation properties



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

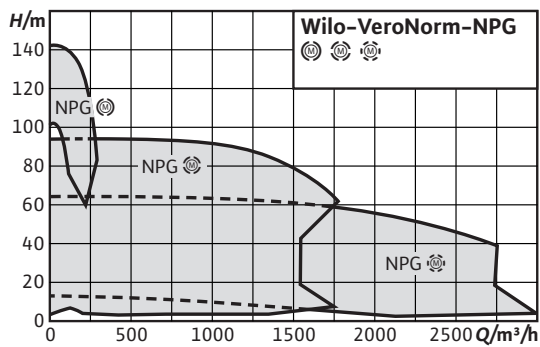


### Wilo-VeroNorm NPG



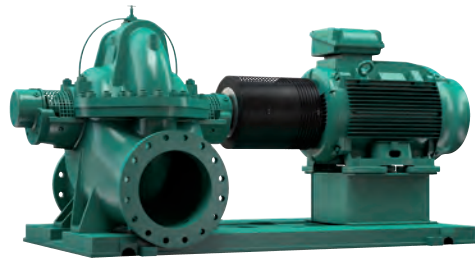
Single-stage low-pressure centrifugal pump mounted on the baseplate

- Suitable for temperatures up to 140°C
- Back-pull-out version
- Extension of the DIN EN 733 product range



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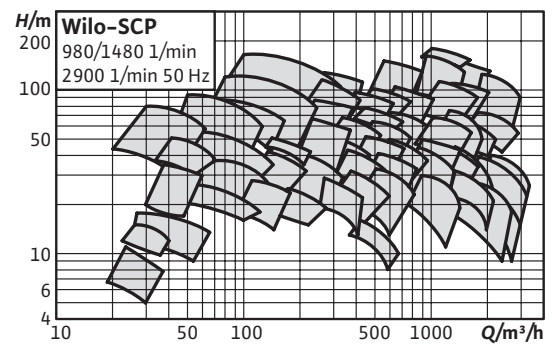


### Wilo-SCP



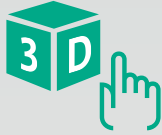
Axially split case pump mounted on a baseplate

- Efficient hydraulics for high flow rates up to 17,000 m³/h
- Low NPSH thanks to double suction impeller
- High process reliability and easy maintenance without removing the pressure or suction lines
- Decreased noise level and reduced vibrations
- Options: energy efficient IE3-/IE4 motors, drinking water approval (KTW, ACS), innovative Ceram CT coating



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## Wilo-Plavis 013-C

Automatic condensate lifting unit

- Easy installation thanks to plug and pump systems with adaptable inlet and reversible tank
- Quick and easy maintenance thanks to removable slider and integrated check valve
- Higher operating safety thanks to integrated visible alarm
- Energy saving through low power consumption
- Perfect integration in the customers' environment thanks to compact modern design combined with quiet operation (<40 dB(A))

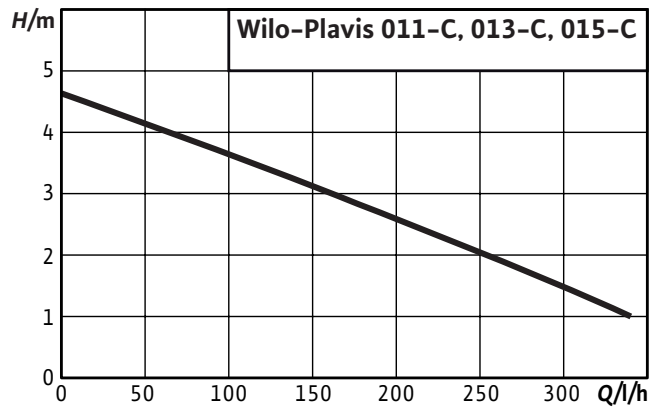


Plavis 011-C



Plavis 015-C





### Design

Automatic condensate lifting unit

### Application

- Condensing boiler technology (with oil-fired boilers, the lifting unit must be installed downstream of a neutralisation system)
- Air-conditioning and cooling systems (e.g. refrigerators and evaporators)

### Type key

Example: **Wilo-Plavis 013-C/GB**  
**Plavis** Wastewater lifting unit  
**01** Number of series in the Plavis series  
**3** Standard program  
 (1 = entry, 5 = premium)  
**C** Condensate application  
**/GB** [...] = EC plug  
 GB = UK plug

### Equipment/function

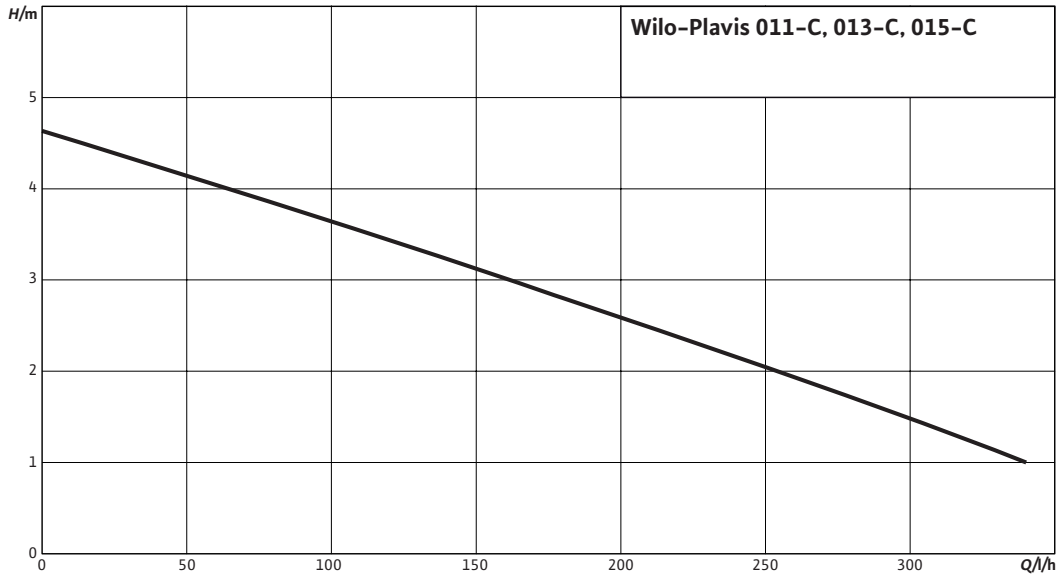
- Pressure hose (5 m, Ø 8)
- Alarm cable (1.5 m)
- Electric connecting cable with plug (1.5 m, versions available with UK plug)
- Adjustable rubber guide, Ø 2 to Ø 32
- Detachable slide valve for maintenance

### Scope of delivery

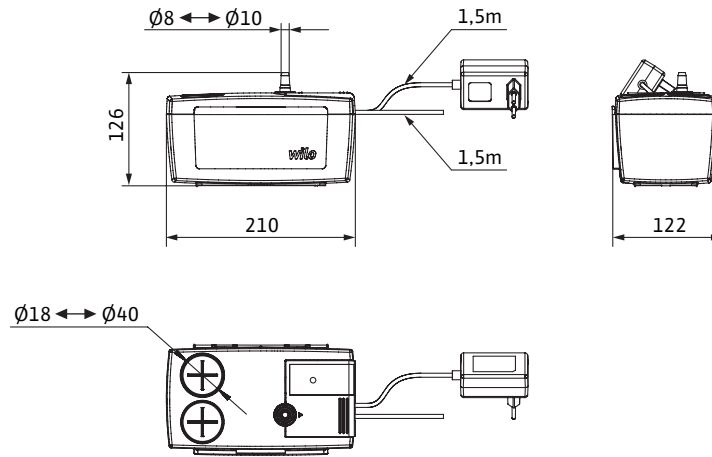
- Condensate lifting unit with level sensor
- Tank, cover and slide valve
- 1.5 m long electric cable
- Hose on the pressure side (Ø 8 mm, 5 m)
- adjustable rubber guide Ø 2/32 (2x)
- Screws (Ø 4) and anchors (2x) for wall fixation
- Installation and operating instructions

| Technical data              |                       |
|-----------------------------|-----------------------|
| Type                        | 013-C                 |
| Mains connection            | 1-100-240 V, 50/60 Hz |
| Gross volume V              | 1.1 l                 |
| Switching volume V          | 0.4 l                 |
| Operating mode per pump     | S3-60%                |
| Power consumption $P_{1.1}$ | 20 W                  |
| Rated current $I_N$         | 0.2 A                 |

| Technical data             |               |
|----------------------------|---------------|
| Type                       | 013-C         |
| Protection class           | X4            |
| Insulation class           | B             |
| Length of connecting cable | 1.5 m         |
| Weight approx. m           | 0.75 kg       |
| Fluid temperature T        | +5 ... +60 °C |
| pH-value                   | 2.5           |



Dimension drawing



Mechanical accessories

| Type                       | Description                 | Art no. |
|----------------------------|-----------------------------|---------|
| Plastic pressure hose 25 m | Made of PVC, inside Ø 10 mm | 2046592 |



### Wilco-Plavis 011-C



Automatic condensate lifting unit

- Easy installation thanks to adaptable inlet
- Energy saving through low power consumption
- Perfect integration in the customers' environment thanks to compact modern design combined with quiet operation (<40 dB(A))



### Wilco-Plavis 015-C



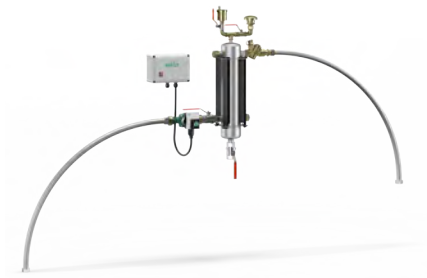
Automatic condensate lifting unit

- Easy installation thanks to plug and pump systems with adaptable inlet and rotatable cover
- Quick and easy maintenance thanks to removable service cap and integrated non-return valve
- Neutralization capacity thanks to integrated separating wall
- Higher operating safety thanks to integrated visible and acoustic alarm
- Energy saving through low power consumption
- Perfect integration in the customers' environment thanks to compact modern design combined with quiet operation (<40 dB(A))

Heating, air-conditioning,  
cooling

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### Wilo-SiClean

Compact particle separator delivered as kit and easy to install. Kit consisting of mechanical and hydraulic components: Circulation pump, particle separator, drain valve, automatic volume flow limiter, ventilation unit, switchbox for monitoring the circulation pump. For wall fixation or floor installation (type-dependent). Suction connection and pressure connection, as well as the mains connection are performed onsite. Manual emptying of the system.

- Removal of magnetic and non-magnetic particles from the medium and venting of micro bubbles
- High cleaning efficiency due to physical effects (gravity, filtration, magnetic effects, pressure reduction effect)
- Easy to use due to ease of installation, maintenance, and simplified settings
- Corrosion-resistant thanks to stainless steel particle separator



### Wilo-SiClean Comfort

Fully-automatic, compact particle separator, provided as "Plug & Play" version, easy to install. System consisting of mechanical and hydraulic components: Pump, separator including particle collection chamber, automatic flushing device, venting unit, SC switchgear for controlling the pump and the flushing device. The system is placed at the installation location and fixed to the floor. Suction connection and pressure connection, as well as the mains connection are performed onsite. The system is drained automatically based on the switchgear parameters.

- High efficiency via combination of physical effects: centrifugal forces, magnetophoresis and vortex effect
- Easy to handle thanks to fully automated operation
- Rapid and easy installation via "plug & play" design
- Very convenient thanks to fully automated and adjustable disposal of collected particles in the desludging tank
- Highly functional thanks to removal of all magnetic and non-magnetic particles, free air and micro-bubbles in the fluid, as well as support for the degasification process.

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### Wilo-Safe



Complete system/basic device for hydraulic separation of underfloor heating

- System separation with corrosion-resistant materials, ready-mounted and pressure-checked
- Integrated Yonos PICO high-efficiency pumps, strong-starting and energy-saving
- Extremely easy to install due to flat-sealing screw connections
- Flexible application due to right-hand and left-hand installation
- Insulation shell serves as transport protection, an installation aid and heat insulation

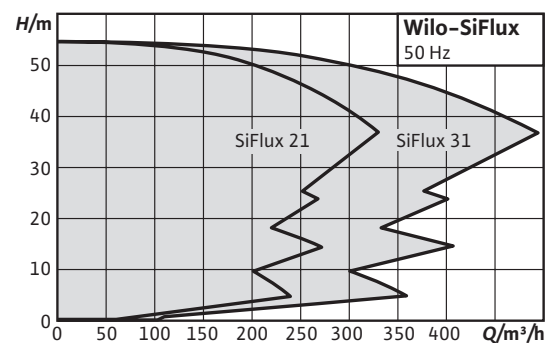


### Wilo-SiFlux



High-efficiency, fully automatic, ready for connection multi-pump system for the implementation of larger volume flows in heating, cold water and cooling systems. 3 to 4 parallel-switched, electronically controlled inline pumps in glanded design of the series Veroline-IP-E or CronoLine-IL-E. One pump in each case as standby pump. Including Smart Controller SCe.

- Rapid, easy installation with pre-installed system. Troubleshooting minimised as a result.
- Energy-saving: Operation in partial load range in accordance with current demand.
- Reliable system thanks to intermatched components.
- Compact design, good accessibility of all components.
- Everything from a single source. Less need for clarification at time of procurement.



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## Wilo-Stratos PICO-Z

Glandless circulation pump with screwed connection, blocking-current proof EC motor and integrated electronic power control.

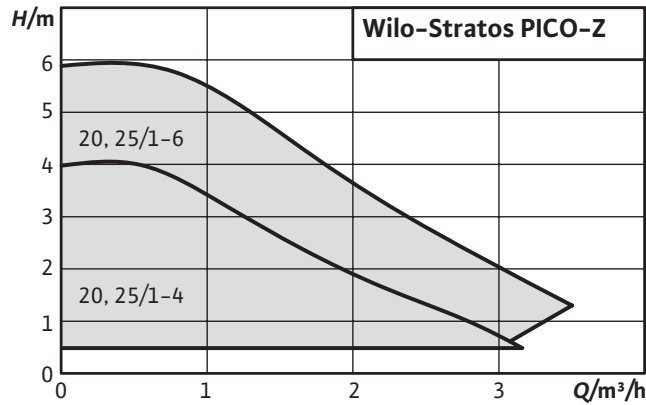
- Manual and temperature-controlled mode for optimum operation
- Identification of the thermal disinfection of the domestic hot water tank
- Display of the current consumption in Watts and the cumulative kilowatt hours or of the current flow and the temperature
- Stainless steel pump housing protects against bacteria and corrosion
- Wilo-Connector

with Wilo-Connector



stainless steel  
pump housing





### Design

Glandless circulation pump with screwed connection, blocking-current proof EC motor and integrated electronic power control.

### Application

Drinking water circulation systems in the industry and building services.

### Type key

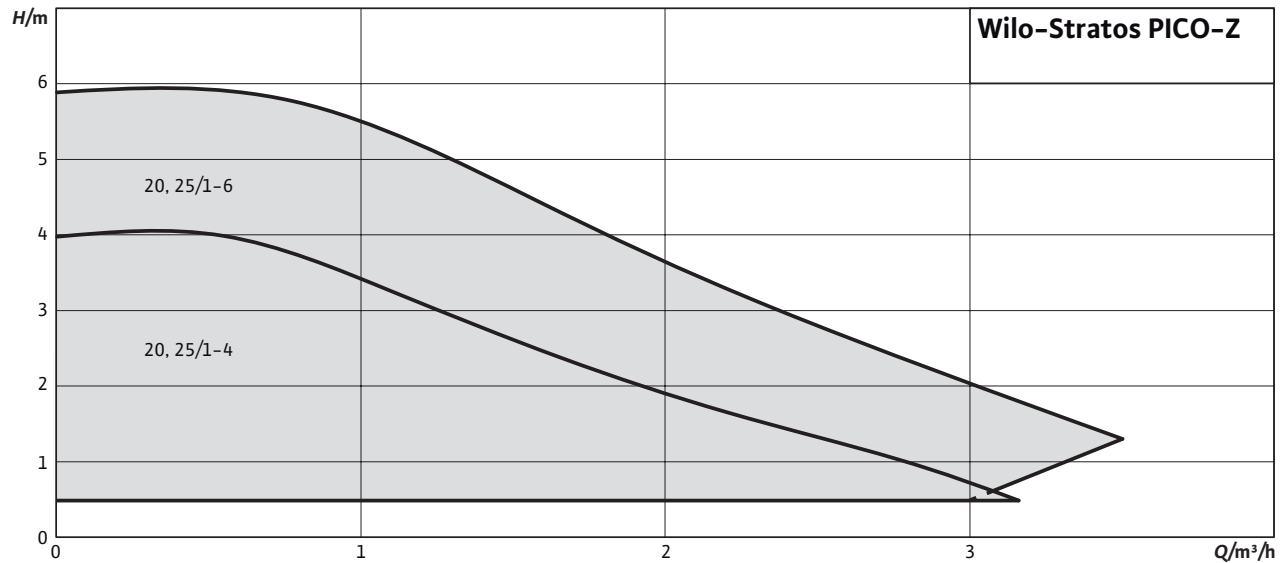
Example: **Wilo-Stratos PICO-Z 20/1-4**  
**Stratos PICO** High-efficiency pump (screw-end pump), electronically controlled  
**Z/** domestic hot water circulation  
**20/** Nominal connection diameter  
**1-4** Nominal delivery head range [m]

| Technical data                                                                                                                       |                      |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>Approved fluids (other fluids on request)</b>                                                                                     |                      |
| Drinking water and water for food-processing companies in accordance with TrinkwV 2001 (drinking water ordinance)                    | •                    |
| <b>Permitted field of application</b>                                                                                                |                      |
| Temperature range for applications in domestic hot water circulation systems at maximum ambient temperature of +40 °C                | +2 °C ... +70 °C     |
| Temperature range for applications in domestic hot water circulation systems at ambient temperature of +40 °C in short-time duty 4 h | +75 °C               |
| Max. permitted total hardness in domestic hot water circulation systems                                                              | 3.57 mmol/l (20 °dH) |
| Standard version for operating pressure $p_{max}$                                                                                    | 10 bar               |

• = appropriate, - = not appropriate

| Technical data                |                                       |
|-------------------------------|---------------------------------------|
| <b>Electrical connection</b>  |                                       |
| Mains connection              | 1~230 V, 50/60 Hz                     |
| <b>Motor/electronics</b>      |                                       |
| Motor protection              | Not required (blocking-current proof) |
| Electromagnetic compatibility | EN 61800-3                            |
| Emitted interference          | EN 61000-6-3                          |
| Interference resistance       | EN 61000-6-2                          |
| Speed control                 | Frequency converter                   |
| Protection class              | IP X4D                                |
| Insulation class              | F                                     |

• = appropriate, - = not appropriate



### Equipment/function

#### Operating modes

- $\Delta p$ -c for constant differential pressure
- Temperature-controlled mode

#### Manual functions

- Setting the operating mode
- Setting of pump output (delivery head)
- Setting the minimum temperature
- Setting of the minimum flow
- Reset function for resetting the electricity meter
- Reset function for resetting to factory settings
- "Hold" function (key lock) for disabling the settings

#### Automatic functions

- Infinitely variable power adjustment according to the operating mode
- Temperature control for maintaining a constant return temperature in the domestic hot water circulation system
- Thermal disinfection routine (detecting and supporting the thermal disinfection of the domestic hot water storage tank)
- Automatic deblocking function

#### Signal and display functions

- Display of the current power consumption in W
- Display of the cumulative kilowatt hours in kWh
- Display of effective flow in m³/h
- Display of the current temperature in °C
- Indication of fault signals (error codes)

#### Equipment

- Wrench attachment point on pump body
- Quick electrical connection with Wilo-Connector
- Blocking-current proof motor
- Particle filter
- Thermal insulation as standard

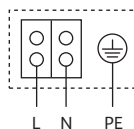
#### Scope of delivery

- Pump
- Thermal insulation
- Wilo-Connector
- Gaskets
- Installation and operating instructions

#### Accessories

- Screwed connections
- Adapter fittings
- Wilo-Connector with 2 m connection cable and shock-proof plug
- Angle plug with 2 m connection cable

#### Terminal diagram

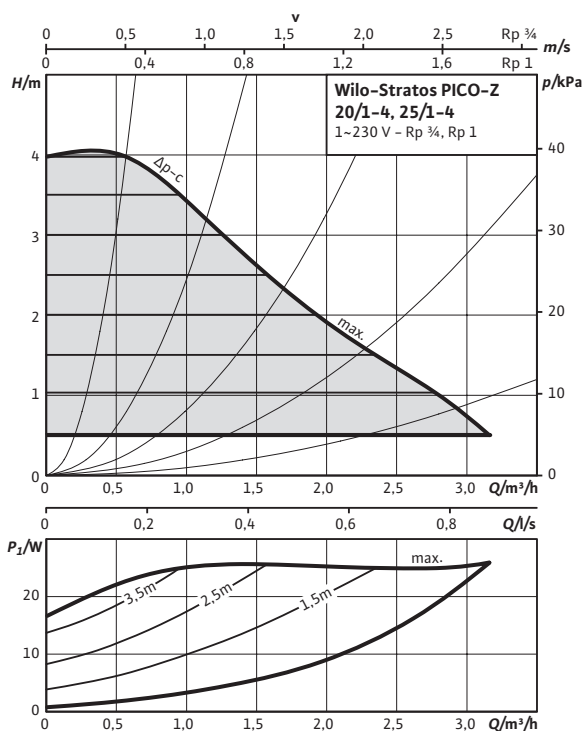


Blocking current-proof motor

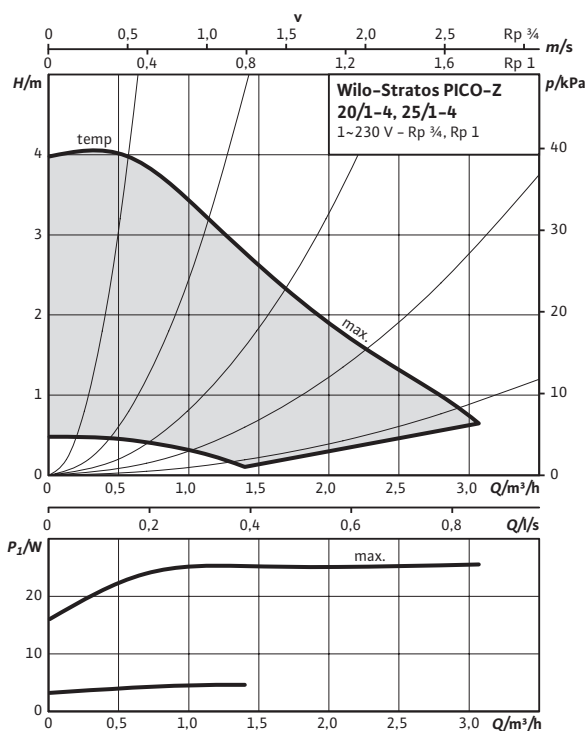
Single-phase motor (EM) 2-pole - 1~230 V, 50 Hz



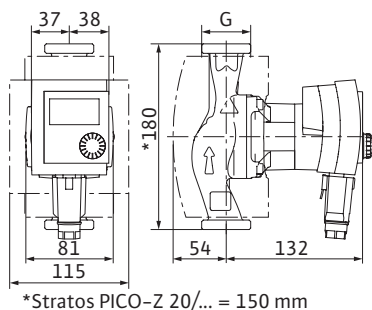
Pump curves



Pump curves



Dimension drawing



Technical data

|                                          |                   |
|------------------------------------------|-------------------|
| Rated pressure                           | PN 10             |
| Mains connection                         | 1~230 V, 50/60 Hz |
| Speed <i>n</i>                           | 1200 - 3500 rpm   |
| Power consumption $P_1$                  | 3 - 25 W          |
| Current consumption <i>I</i>             | max. 0.33 A       |
| Minimum suction head at 50 / 95 / 110 °C | 0.5 / 3 / 10 m    |

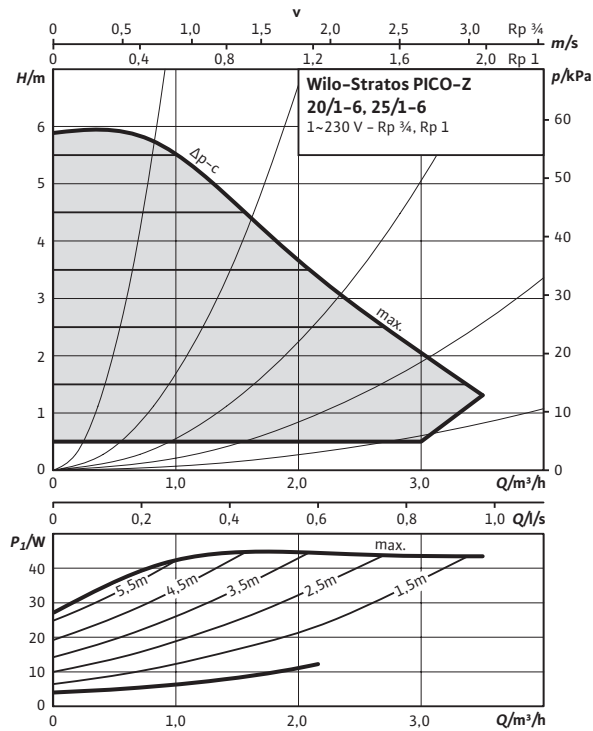
Materials

|              |                                          |
|--------------|------------------------------------------|
| Pump housing | Stainless steel                          |
| Impeller     | Plastic (PPE/PS - 30% GF)                |
| Pump shaft   | Stainless steel                          |
| Bearing      | Carbon, synthetic resin im-<br>pregnated |

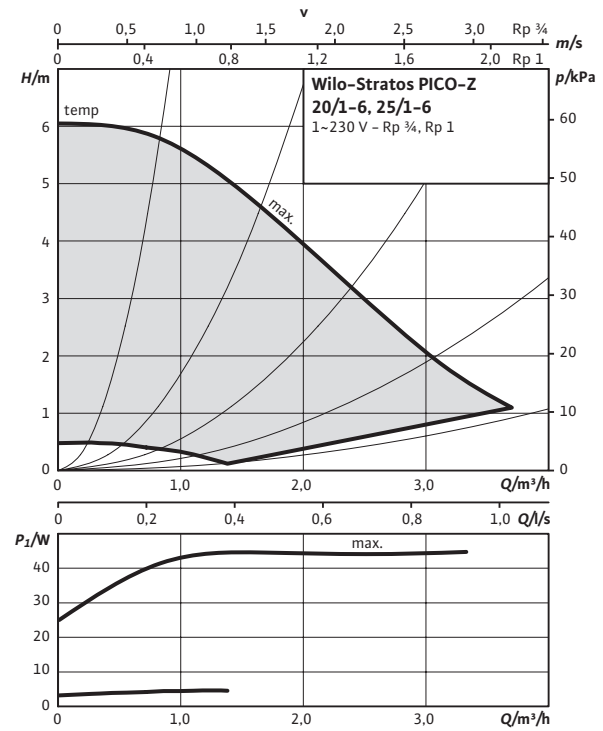
Information for order placements

| Wilo-Stratos PICO-Z... | Threaded pipe union | Thread | Overall length | Weight approx. | Art no. |
|------------------------|---------------------|--------|----------------|----------------|---------|
|                        |                     |        | <i>L</i><br>mm | <i>m</i><br>kg |         |
| Stratos PICO-Z 20/1-4  | R ¾                 | G 1¼   | 150            | 1.8            | 4184690 |
| Stratos PICO-Z 25/1-4  | R 1                 | G 1½   | 180            | 1.9            | 4184692 |

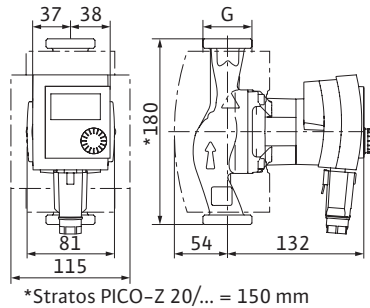
Pump curves



Pump curves



Dimension drawing



Technical data

|                                          |                   |
|------------------------------------------|-------------------|
| Rated pressure                           | PN 10             |
| Mains connection                         | 1~230 V, 50/60 Hz |
| Speed <i>n</i>                           | 1200 - 4200 rpm   |
| Power consumption $P_1$                  | 3 - 45 W          |
| Current consumption <i>I</i>             | max. 0.49 A       |
| Minimum suction head at 50 / 95 / 110 °C | 0.5 / 3 / 10 m    |

Materials

|              |                                     |
|--------------|-------------------------------------|
| Pump housing | Stainless steel                     |
| Impeller     | Plastic (PPE/PS - 30% GF)           |
| Pump shaft   | Stainless steel                     |
| Bearing      | Carbon, synthetic resin impregnated |

Information for order placements

| Wilo-Stratos PICO-Z... | Threaded pipe union | Thread | Overall length | Weight approx. | Art no. |
|------------------------|---------------------|--------|----------------|----------------|---------|
|                        |                     |        | <i>L</i><br>mm | <i>m</i><br>kg |         |
| Stratos PICO-Z 20/1-6  | R ¾                 | G 1¼   | 150            | 1.8            | 4184691 |
| Stratos PICO-Z 25/1-6  | R 1                 | G 1½   | 180            | 1.9            | 4184693 |

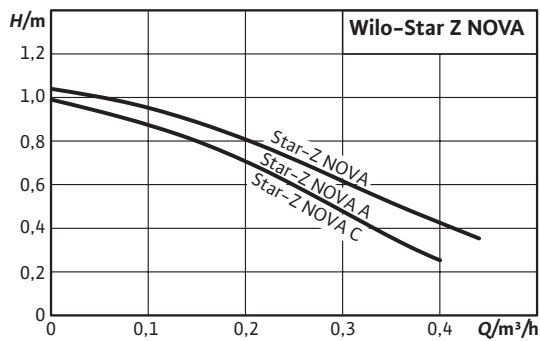


### Wilo-Star-Z NOVA



Glandless circulation pump with screwed connection and blocking-current proof synchronous motor

- Low power consumption of just 3 to 5 W thanks to synchronous motor
- Extended field of application for hard water: up to 3.57mmol/l (20 °dH)
- Quick, toolless electrical connection thanks to the Wilo-Connector
- Reliable protection from bacteria and corrosion due to the use of high-quality materials for a longer service life
- Flexible service motor: fast replacement of all common pump types



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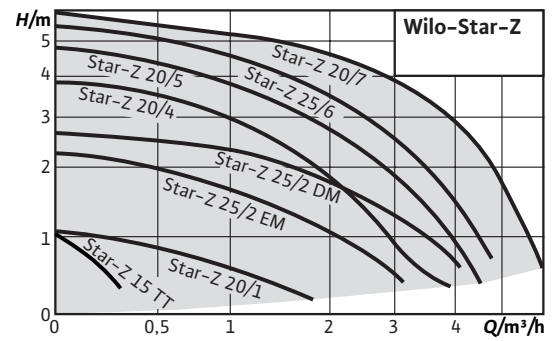


### Wilo-Star-Z



Glandless circulation pump with threaded connection

- AC pumps with electrical quick connection
- All plastic parts that come into contact with the fluid fulfil KTW recommendations
- Thermal insulation as standard for Star-Z 15 TT.
- Star-Z 15 TT with integrated timer and thermostat, LC display with symbolic language, Green Button Technology and automatic detection of the thermal disinfection of the warm domestic hot water tank, as well as ball shut-off valve on the suction side and non-return valve on the pressure side.



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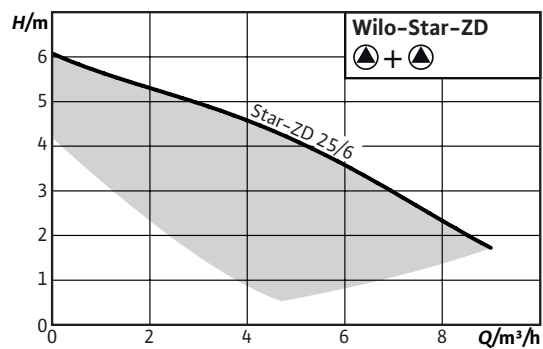


### Wilo-Star-ZD



Glandless circulation double pump with threaded connection; preselectable speed stages for power adjustment

- Double pump for single or parallel operation
- Suitable for every installation position with horizontal shaft; terminal box in 3-6-9-12 o'clock position
- Internal bypass circulation, which prevents Legionella growth in the standby unit
- Increased reliability in individual operation due to the constant availability of a standby unit ready for operation



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# NETWORKED SOLUTIONS FOR AN OPTIMAL INDOOR CLIMATE.

PUMPS AND SYSTEMS FOR HEATING, AIR-CONDITIONING,  
COOLING AND DOMESTIC HOT WATER.

Heating, air-conditioning,  
cooling

Photo: DFM/Hannappel.

Courtesy of DFB-Stiftung Deutsches Fußballmuseum gGmbH.



## Wilo-Stratos MAXO-Z

Smart glandless pump circulator with screwed connection or flange connection, EC motor with integrated electronic power adjustment

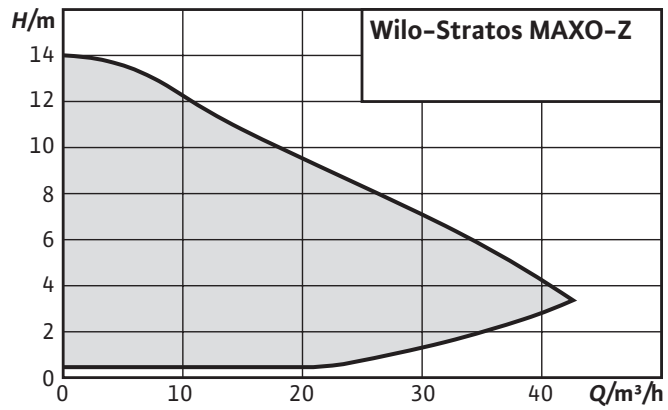
- Intuitive operation by application-guided settings with the setup guide combined with a new display and operating button with the Green Button Technology.
- Maximum drinking water hygiene and energy efficiency by the new, innovative and intelligent control function T-const.
- Optimum hygiene support thanks to thermal disinfection.
- Latest communication interfaces (e.g. Bluetooth) for connecting to mobile devices and direct pump networking for multiple pump control via Wilo Net.
- Maximum electrical installation comfort by the clearly arranged and spacious terminal room and the optimised Wilo-Connector.



screw end pump



new display



Heating, air-conditioning, cooling

**Design**

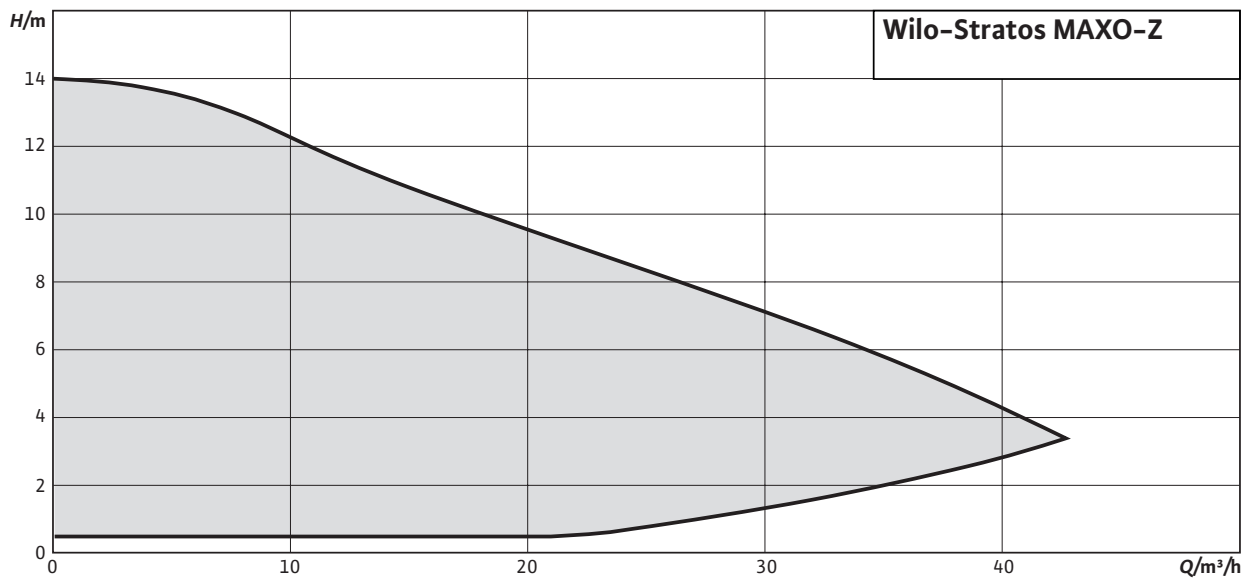
Smart glandless pump circulator with screwed connection or flange connection, EC motor with integrated electronic power adjustment

**Application**

Domestic hot water circulation systems of all kinds, hot-water heating systems of all kinds, air-conditioning, closed cooling circuits, industrial circulation systems

**Type key**

Example: **Wilo-Stratos MAXO-Z 40/0.5-8**  
**Stratos MAXO** High-efficiency pump (screw-end or flange-end pump), electronically controlled  
**Z** Single pump for domestic hot water circulation  
**40/** Nominal connection diameter  
**0.5-8** Nominal delivery head range [m]



### Equipment/function

Field of application

The pump facilitates an operation with highest system efficiency via precise setting of the control mode for the system-specific application (e.g. radiator, underfloor heating, ceiling cooling).

### Heating

Radiator

- Underfloor heating
- Ceiling heating
- Fan heater
- Hydraulic shunt
- Heat exchanger

### Cooling

- Ceiling cooling
- Underfloor cooling
- Air-Conditioning devices
- Hydraulic shunt
- Heat exchanger

### Heating and cooling combined

- Automatic switchover

The following control modes are available depending on the selected application:

### Control modes

- Constant speed (control mode)
- $\Delta p$ -c for constant differential pressure
- $\Delta p$ -v for variable differential pressure
- Dynamic Adapt plus for continuous (dynamic) adjustment of the delivery rate to the current requirement
- T-const. for constant temperature regulation
- $\Delta T$  for differential temperature control
- Constant Q for constant volume flow control
- Multi-Flow Adaptation: Total volume flow-determination through the feeder pump for the needs-based supply of secondary pumps in the heating circuit distributors
- User-defined PID controller

### Optional functions

- Q-Limitmax. for limiting the maximum volume flows
- Q-Limitmin. for limiting the minimum volume flow
- No-Flow Stop (zero-flow-deactivation)
- Automatic setback operation
- Index circuit evaluator ( $\Delta p$ -c control with external actual value sensor)
- Thermal disinfection detection
- Variable pitch of  $\Delta p$ -v pump curve

### Manual settings

- Selection of the field of application using the Setup Guide
- Setting the related operating parameters
- Nominal duty point: direct input of calculated duty point at  $\Delta p$ -v
- Status display
- Setting and resetting the energy meters (heating and cooling)
- Pump venting function
- Key lock for disabling the settings
- Function for resetting the factory settings or the saved restoration points (parameter sets)
- Parameterising the analogue inputs
- Parameterising the binary inputs
- Parameterising the relay outputs

### Automatic functions

- Power adjustment according to requirements for energy-efficient operation depending on the operating mode
- Setback operation
- Deactivation at nil flow (No-Flow Stop)
- Soft start
- Automatic troubleshooting routines (e.g. deblocking function)
- Switchover heating/cooling mode
- Full motor protection with integrated trip electronics

### External control inputs and their functions

#### 2 x analogue inputs:

- Signal types: 0 – 10 V, 2 – 10 V, 0 – 20 mA, 4 – 20 mA, PT1000
  - Applications: Remote adjustment of the setpoints in every control mode (except Multi-Flow Adaptation), sensor inputs for temperature, differential pressure or free sensor in user-defined PID-operating mode
- #### 2 x digital inputs:
- For potential-free control outputs or switch
  - Parametrizable functions:
    - Ext. Off
    - Ext. Min
    - Ext. Max
    - MANUAL (BMS-OFF)
    - Key lock
    - Switchover heating/cooling mode

Wilco Net for double pump management of 2 single pumps, communication of several pumps with each other and pump-remote adjustment via gateway



### Signal and display functions

- Display status operation display:
  - Setpoint
  - Actual delivery head
  - Actual volume flow
  - Power consumption
  - Electric consumption
  - Temperatures
- Status display LED: Faultless operation (green LED), pump communication (blue LED)
- Display status of display fault (display red):
- Error codes and error description in full text
- Remedial measures
- Display status of display warning (display yellow):
  - Warning codes and description of the warning in full text
  - Remedial measures
- Display status process indicator display (display blue):
  - Pump venting
  - Update procedure
- Display BMS communication (display blue):
  - Summary of the active BMS parameters (baud rate, address,...)
- Collective fault signal SSM (potential-free changeover contact)
- Collective run signal SBM (potential-free normally open contact)

### Data exchange

- Bluetooth interface for wireless data exchange and remote operation of the pump using a smartphone or tablet.
- Serial digital interface Modbus RTU for connecting building automation (BA) via RS485 bus system (possible with Wilo-CIF module Modbus RTU).
- Serial digital interface BACnet MS/TP for connecting building automation (BA) via RS485 bus system (possible with Wilo-CIF module BACnet MS/TP).

### Equipment

- For flange-end pumps: Flange versions
  - Standard version for DN 32 to DN 65 pumps: PN 6/10 combination flange (PN 16 flange according to EN 1092-2) for PN 6 and PN 16 counter flanges
  - Standard version for DN 80/DN 100 pumps: PN 6 flange (designed for PN 16 according to EN 1092-2) for PN 6 counter flange
  - Special version for DN 32 to DN 100 pumps: PN 16 flange (according to EN 1092-2) for PN 16 counter flange
- Various integrated communication interfaces and optionally usable CIF-module plug-in position
- 5 cable inlets for connecting the communication interfaces
- Bluetooth interface
- High resolution graphic display with Green Button and 2 additional buttons
- User-friendly terminal room
- Integrated temperature sensor
- Thermal insulation as standard for heating applications
- Quick electrical connection with optimised Wilo-Connector for the power supply



## Wilo-Stratos-Z

Glandless circulating pump with screwed connection or flange connection, EC motor and automatic power adjustment.

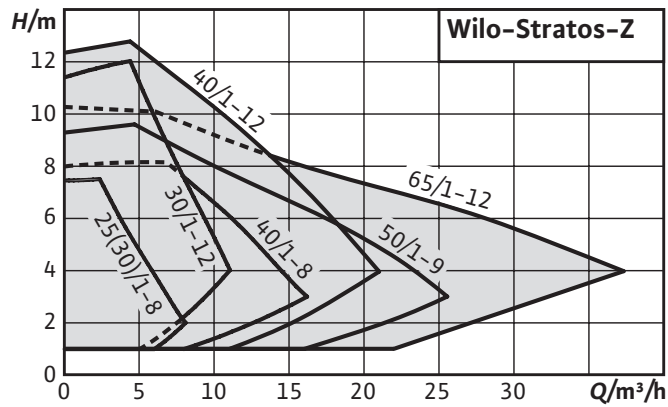
- Energy savings through greater system efficiency with the Q-Limit function (volume flow limiter)
- Optimised display for better readability and operation
- Space-saving installation due to compact design and location-dependent LC display
- Modular concept for connection of all conventional bus systems (e.g. Modbus, BACnet, CAN, LON and PLR)
- Corrosion-resistant pump housing in red brass for systems where oxygen entry is possible
- Tried and tested quality and reliability

flange end pump



with red-button technology





### Design

Glandless circulating pump with screwed connection or flange connection, EC motor and automatic power adjustment.

### Application

Domestic hot water circulation systems of all kinds, hot-water heating systems of all kinds, air-conditioning, closed cooling circuits, industrial circulation systems

### Type key

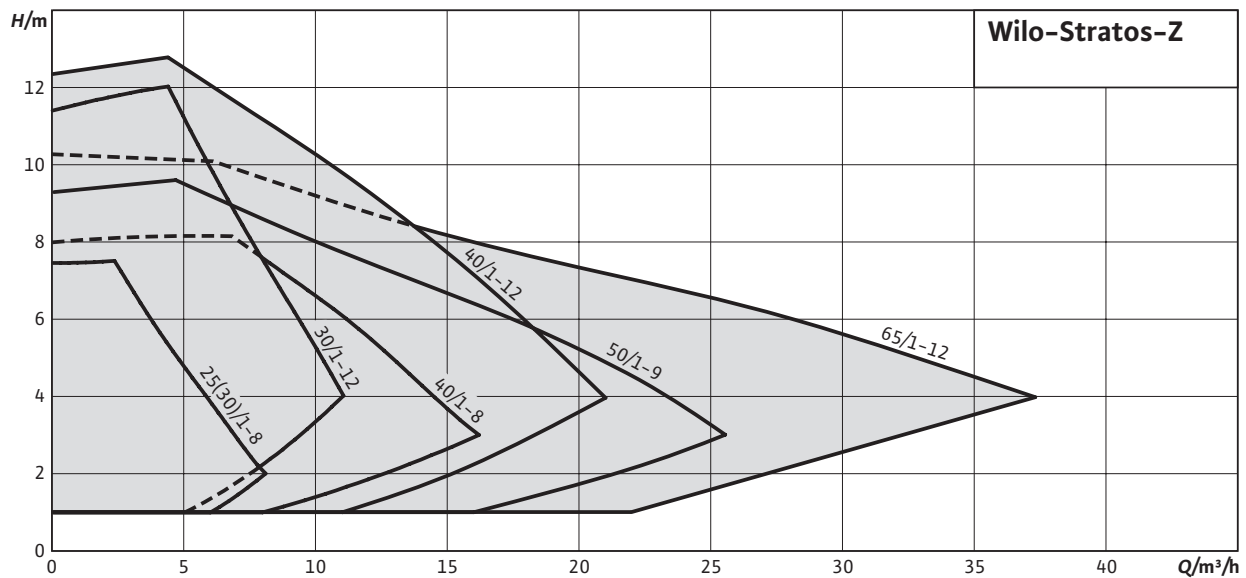
Example: **Wilo-Stratos-Z 40/1-8**  
**Stratos** High-efficiency pump (screw-end or flange-end pump), electronically controlled  
**Z** Single pump for domestic hot water circulation  
**40/** Nominal connection diameter  
**1-8** Nominal delivery head range [m]

| Technical data                                                                                                       |                                                   |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| <b>Approved fluids (other fluids on request)</b>                                                                     |                                                   |
| Heating water (in accordance with VDI 2035)                                                                          | •                                                 |
| Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)                              | •                                                 |
| Drinking water and water for food-processing companies in accordance with TrinkwV 2001 (drinking water ordinance)    | • (with the exception of pumps in grey cast iron) |
| <b>Permitted field of application</b>                                                                                |                                                   |
| Temperature range for applications in HVAC systems at max. ambient temperature of +40 °C                             | -10...+110°C                                      |
| Temperature range for applications in domestic hot water circulation systems at maximum ambient temperature of +40°C | 0°C...+80°C                                       |
| Max. permitted total hardness in domestic hot water circulation systems                                              | 3.57 mmol/l (20 °dH)                              |
| <b>Electrical connection</b>                                                                                         |                                                   |
| Mains connection                                                                                                     | 1~230 V, 50/60 Hz                                 |
| <b>Motor/electronics</b>                                                                                             |                                                   |
| Energy efficiency index (EEI)                                                                                        | ≤ 0.20                                            |
| Motor protection                                                                                                     | integrated                                        |

• = appropriate, - = not appropriate

| Technical data          |                                                                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emitted interference    | EN 61800-3; 2004+A1;2012 /residential area (C1)                                                                                                      |
| Interference resistance | EN 61800-3; 2004+A1;2012 /industrial environment (C2)                                                                                                |
| Speed control           | Frequency converter                                                                                                                                  |
| Protection class        | IP X4D                                                                                                                                               |
| Insulation class        | F                                                                                                                                                    |
| <b>Materials</b>        |                                                                                                                                                      |
| Pump housing            | Red brass (CC 499K) according to DIN 50930-6 in accordance with Drinking Water Ordinance / Grey cast iron (EN-GJL-250) / Grey cast iron (EN-GJL-200) |
| Impeller                | Plastic (PPS - 40% GF)                                                                                                                               |
| Pump shaft              | Stainless steel (X39Cr-Mo17-1)                                                                                                                       |
| Bearing                 | Carbon, synthetic resin impregnated                                                                                                                  |

• = appropriate, - = not appropriate



### Equipment/function

#### Operating modes

- Manual control mode (n=constant)
- $\Delta p$ -c for constant differential pressure
- $\Delta p$ -v for variable differential pressure
- $\Delta p$ -T for temperature-controlled differential pressure (programmable via IR-Stick, IR-Monitor, Modbus, BACnet, LON or CAN)
- Q limit for limiting the maximum volume flow (setting only via IR-stick)

#### Manual functions

- Setting the operating mode
- Differential pressure setpoint setting
- Setting automatic setback operation
- Setting the pump ON/OFF
- Setting the speed (manual control mode)

#### Automatic functions

- Infinitely variable power adjustment according to the operating mode
- Automatic setback operation
- Deblocking function
- Soft start
- Full motor protection with integrated trip electronics

#### External control functions

- "Overriding Off" control input (possible with Stratos IF-Modules)
- "Overriding Min" control input (possible with Stratos IF-Modules)
- "Analogue In 0 - 10 V" control input (remote speed adjustment) (possible with Stratos IF-Modules)
- "Analogue In 0 - 10 V" control input (remote setpoint adjustment) (possible with Stratos IF-Modules)

#### Signal and display functions

- Collective fault signal (potential-free NC contact)
- Individual run signal (potential-free NO contact) (possible with Stratos IF-Modules)
- Fault signal light
- LCD display for indication of pump data and fault codes

#### Data exchange

- Infrared interface for wireless data exchange with IR-Stick/IR-Monitor
- Modbus RTU serial digital interface for connection to building automation BA via RS485 BUS system (possible with Stratos IF-Modules)
- BACnet serial digital interface MS/TP slave for connection to building automation BA via RS485 BUS system (possible with Stratos IF-Modules)
- CAN serial digital interface for connection to building automation BA via CAN BUS system (possible with Stratos IF-Modules)
- LON serial digital interface for connection to a LON-Works network (possible with Stratos IF-Modules)
- PLR serial digital interface for connection to BA via Wilo interface converter or company-specific coupling modules (possible with Stratos IF-Modules)

#### Dual pump management (double pump or 2 x single pumps)

- Main/standby operation (automatic fault-actuated switchover/time-dependent pump cycling): various combinations with Stratos IF-Modules (accessories) possible
- Parallel operation (efficiency-optimised peak load activation and deactivation): various combinations with Stratos IF-Modules (accessories) possible

### Equipment

- Wrench attachment point on pump body (for threaded pipe union pumps with  $P_2 \leq 100$  W)
- For flange-end pumps: Flange versions
  - Standard version for DN 40 to DN 65 pumps: PN 6/10 combination flange (PN 16 flange according to EN 1092-2) for PN 6 and PN 16 counter flanges,
  - Special version for DN 40 to DN 65 pumps: PN 16 flange (according to EN 1092-2) for PN 16 counter flange,
- Plug-in position for optional extension with Wilo-IF-Modules
- Thermal insulation as standard

### Scope of delivery

- Pump
- Including thermal insulation
- Including seals for threaded connection (loose)
- Including washers for flange screws (for nominal connection diameters DN 40 - DN 65)
- Including installation and operating instructions

### Options

- Special versions for operating pressure PN 16

### Special versions

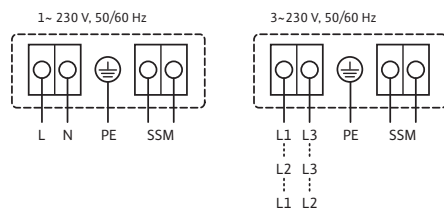
Observe local information and instructions for the drinking water directive!

### Accessories

- Screwed connection for threaded connection
- Adapter fittings
- IR-Stick
- IR-Monitor
- Stratos IF-Modules: Modbus, BACnet, CAN, PLR, LON, DP, Ext. Off, Ext. Min., SBM, Ext. Off/SBM

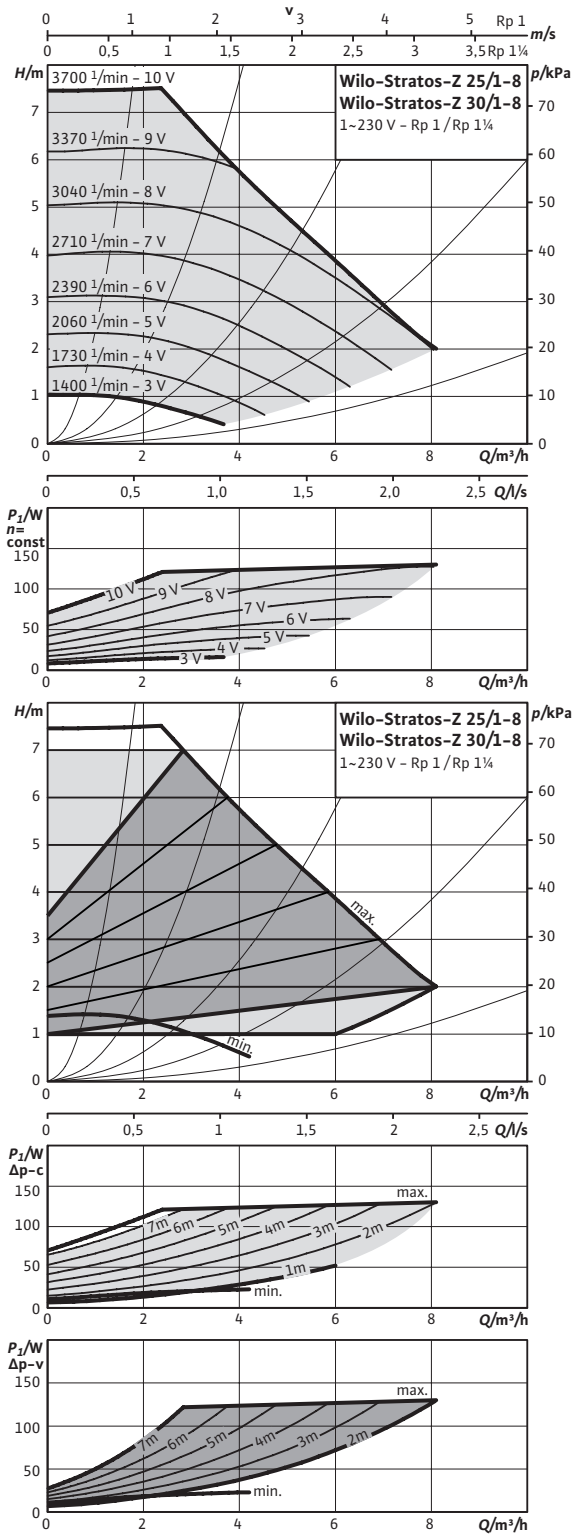
#### Terminal diagram

Standard: 1~230 V, 50/60 Hz  
Option: 3~230 V, 50/60 Hz

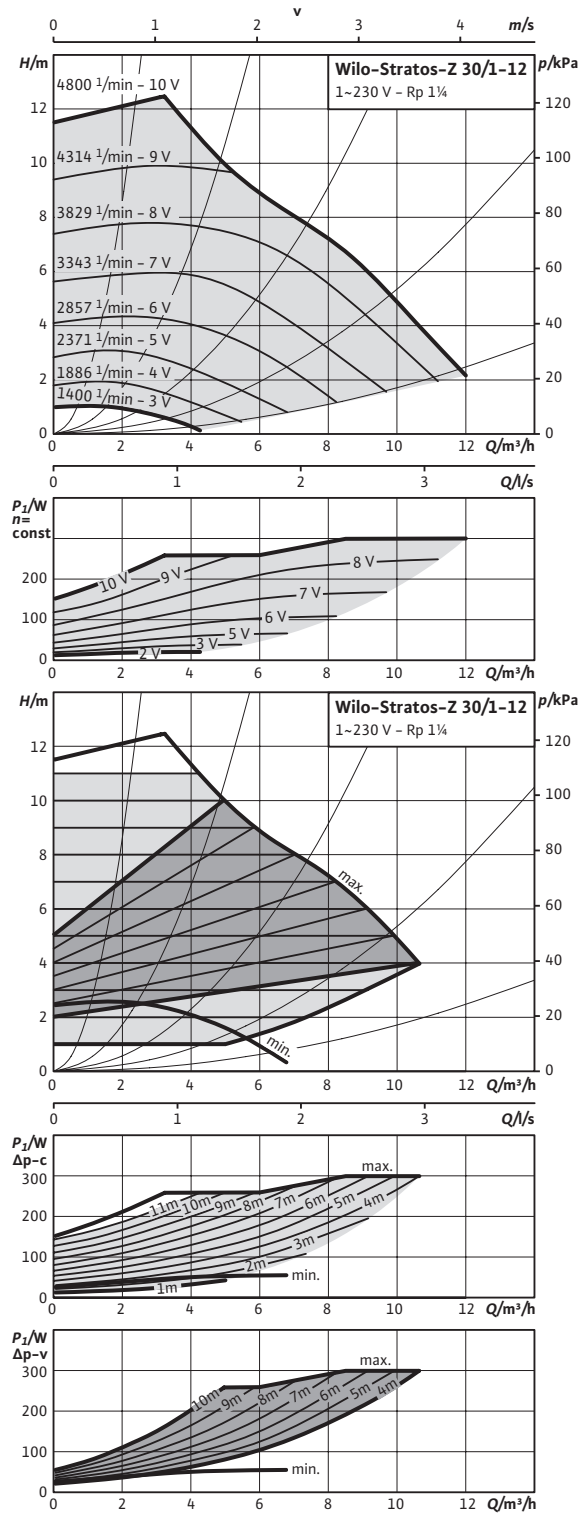


SSM: Collective fault signal  
(NC contact in accordance with VDI 3814, load capacity 1 A, 250 V ~)

Pump curves

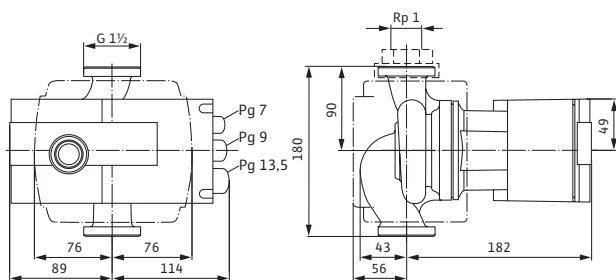


Pump curves



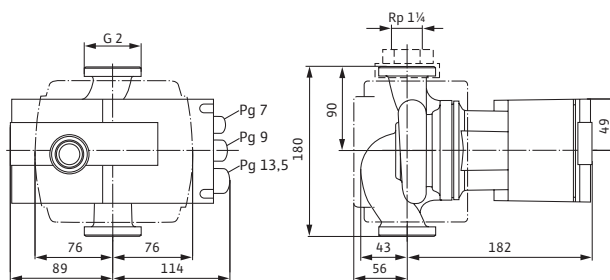
Dimension drawing

Stratos-Z 25/1-8



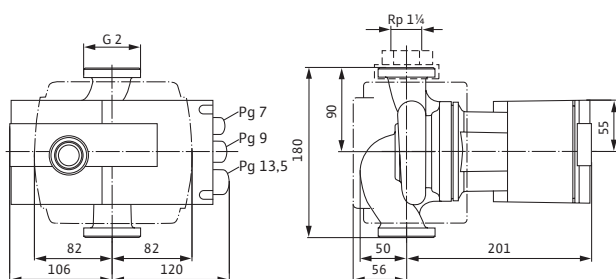
Dimension drawing

Stratos-Z 30/1-8



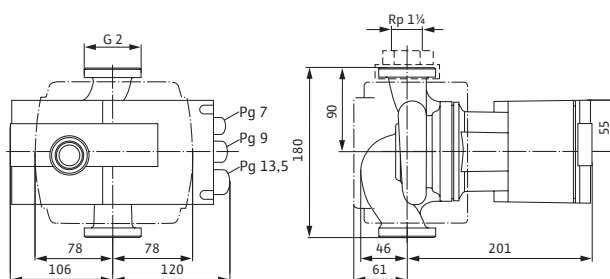
Dimension drawing

Stratos-Z 30/1-12



Dimension drawing

Stratos-Z 30/1-12 GG



Technical data

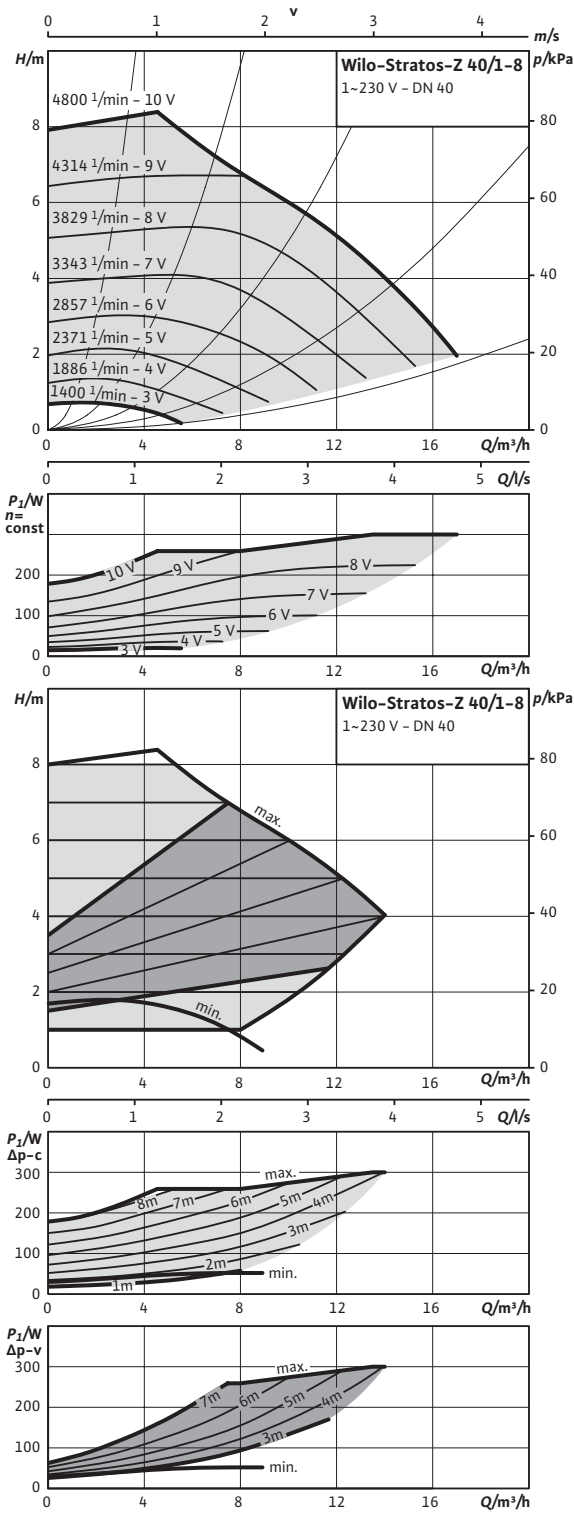
| Designation                              | Stratos-Z 25/1-8  | Stratos-Z 30/1-8 | Stratos-Z 30/1-12 | Stratos-Z 30/1-12 GG |
|------------------------------------------|-------------------|------------------|-------------------|----------------------|
| Art no.                                  | 2090469           | 2090470          | 2090471           | 2090476              |
| Energy efficiency index (EEI)            | ≤ 0.20            |                  |                   |                      |
| Threaded pipe union                      | Rp 1              |                  |                   | Rp 1 1/4             |
| Rated pressure                           | PN 10             |                  |                   |                      |
| Mains connection                         | 1~230 V, 50/60 Hz |                  |                   |                      |
| Speed <i>n</i>                           | 1400 - 3700 rpm   |                  | 1400 - 4800 rpm   |                      |
| Rated power <i>P</i> <sub>2</sub>        | 100 W             |                  | 200 W             |                      |
| Power consumption <i>P</i> <sub>1</sub>  | 9 - 125 W         | 9 - 130 W        | 12 - 300 W        |                      |
| Current consumption <i>I</i>             | 0.13 - 1.10 A     | 0.13 - 1.20 A    | 0.22 - 1.32 A     |                      |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m     |                  |                   |                      |
| Weight approx. <i>m</i>                  | 4.5 kg            |                  | 6 kg              | 5.5 kg               |

Materials

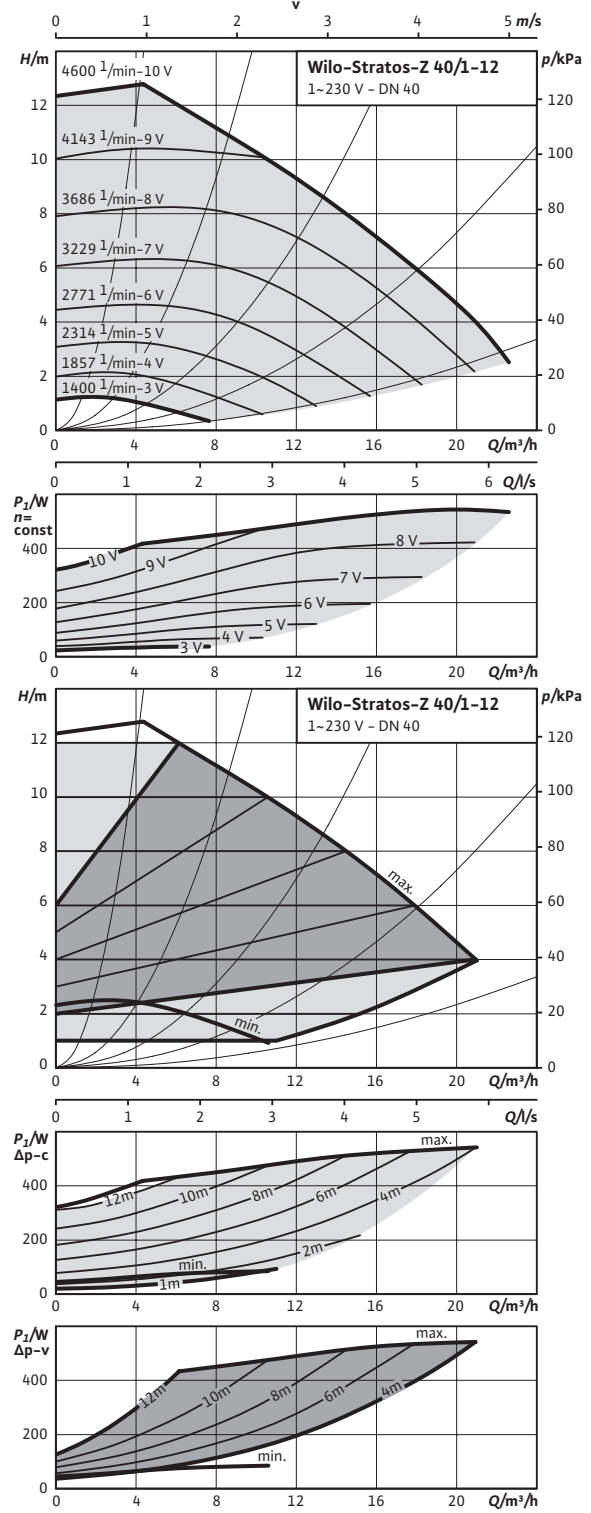
|              |                                                                                          |                             |
|--------------|------------------------------------------------------------------------------------------|-----------------------------|
| Pump housing | Red brass (CC 499K) according to DIN 50930-6 in accordance with Drinking Water Ordinance | Grey cast iron (EN-GJL-200) |
| Impeller     | Plastic (PPS - 40% GF)                                                                   |                             |
| Pump shaft   | Stainless steel (X39CrMo17-1)                                                            |                             |
| Bearing      | Carbon, synthetic resin impregnated                                                      |                             |

Heating, air-conditioning, cooling

Pump curves

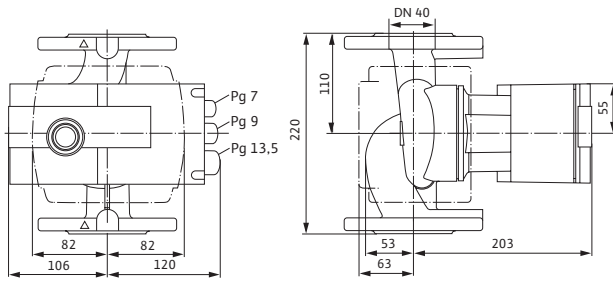


Pump curves

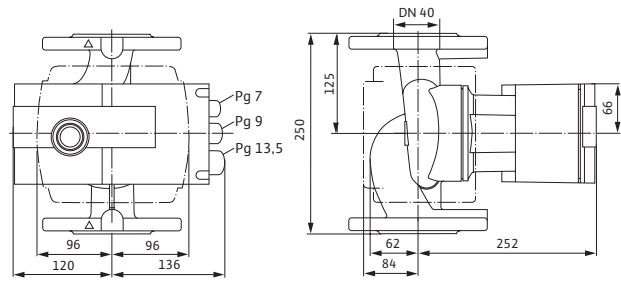




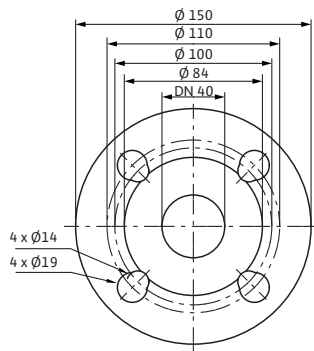
Dimension drawing  
Stratos-Z 40/1-8



Dimension drawing  
Stratos-Z 40/1-12



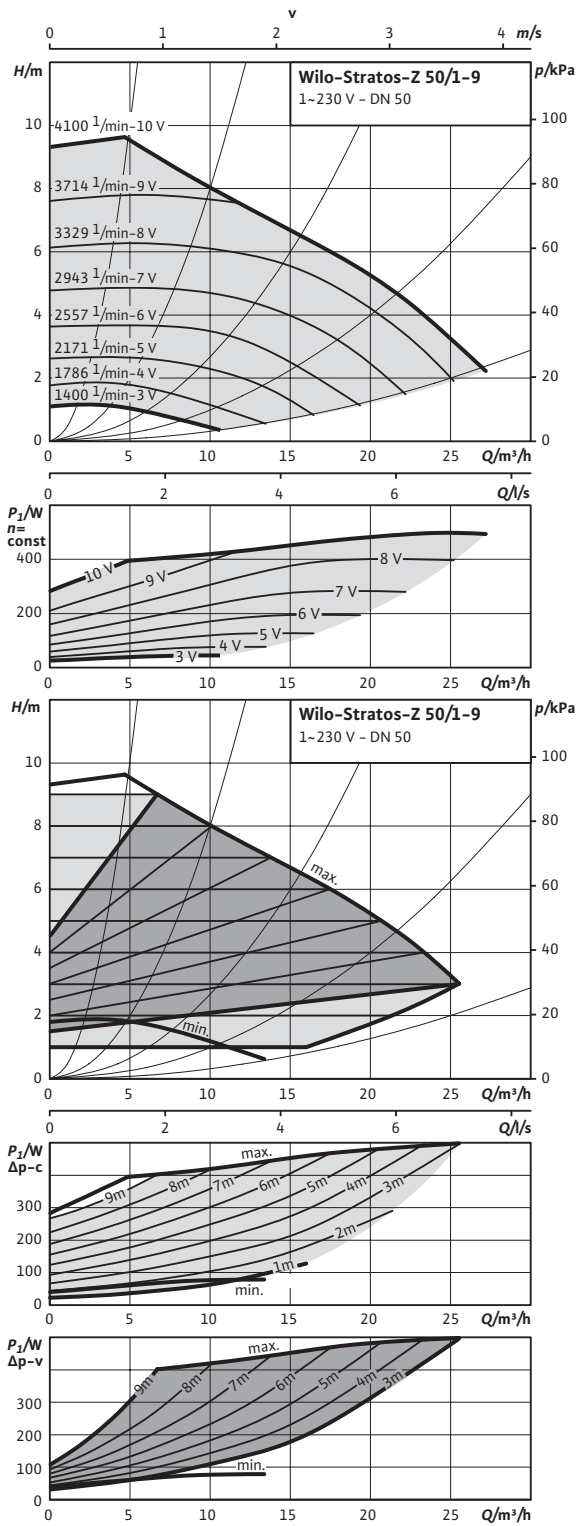
Dimension drawing, flange  
DN40, PN6/10



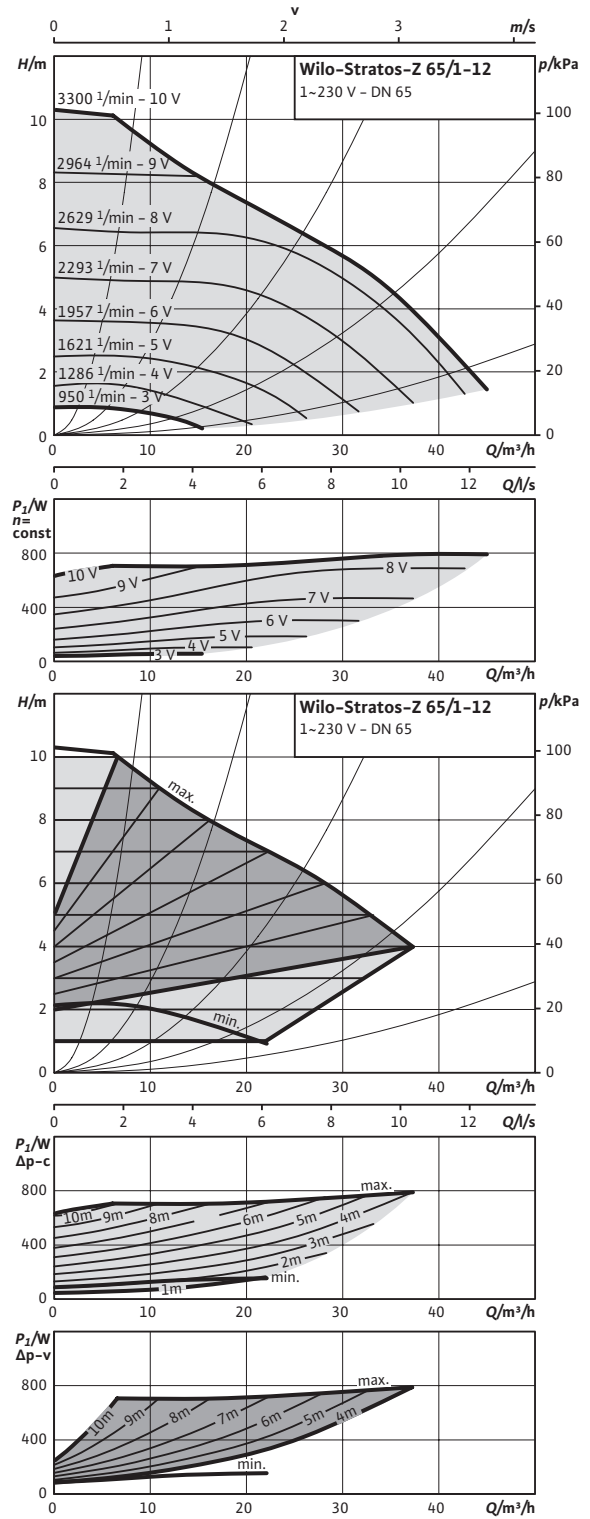
| Technical data                           |                   |                     |                   |
|------------------------------------------|-------------------|---------------------|-------------------|
| Designation                              | Stratos-Z 40/1-8  | Stratos-Z 40/1-8 GG | Stratos-Z 40/1-12 |
| Art no.                                  | 2090472           | 2090477             | 2090473           |
| Energy efficiency index (EEI)            | ≤ 0.20            |                     |                   |
| Nominal flange diameter                  | DN 40             |                     |                   |
| Rated pressure                           | PN 6/10           |                     |                   |
| Mains connection                         | 1~230 V, 50/60 Hz |                     |                   |
| Speed <i>n</i>                           | 1400 - 4800 rpm   |                     | 1400 - 4600 rpm   |
| Rated power $P_2$                        | 200 W             |                     | 450 W             |
| Power consumption $P_1$                  | 12 - 300 W        |                     | 25 - 550 W        |
| Current consumption <i>I</i>             | 0.22 - 1.32 A     |                     | 0.20 - 2.40 A     |
| Minimum suction head at 50 / 95 / 110 °C | 3 / 10 / 16 m     |                     | 5 / 12 / 18 m     |
| Weight approx. <i>m</i>                  | 11 kg             |                     | 16 kg             |

| Materials    |                                                                                          |                             |                                                                                          |
|--------------|------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------|
| Pump housing | Red brass (CC 499K) according to DIN 50930-6 in accordance with Drinking Water Ordinance | Grey cast iron (EN-GJL-250) | Red brass (CC 499K) according to DIN 50930-6 in accordance with Drinking Water Ordinance |
| Impeller     | Plastic (PPS - 40% GF)                                                                   |                             |                                                                                          |
| Pump shaft   | Stainless steel (X39CrMo17-1)                                                            |                             |                                                                                          |
| Bearing      | Carbon, synthetic resin impregnated                                                      |                             |                                                                                          |

Pump curves

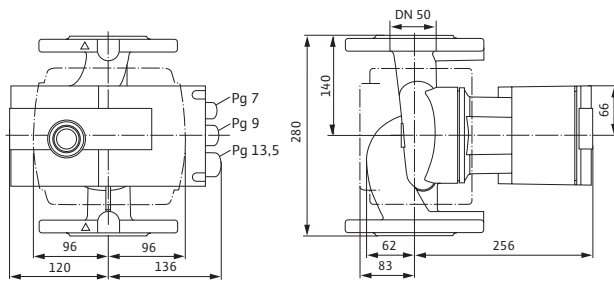


Pump curves



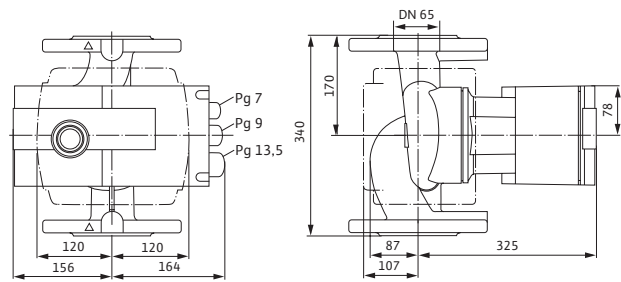
Dimension drawing

Stratos-Z 50/1-9



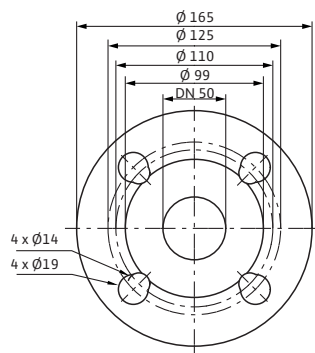
Dimension drawing

Stratos-Z 65/1-12



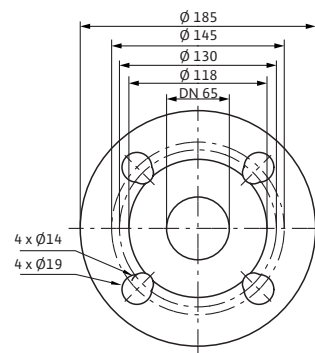
Dimension drawing, flange

DN50, PN6/10



Dimension drawing, flange

DN65, PN6/10



Technical data

| Designation                          | Stratos-Z 50/1-9 | Stratos-Z 65/1-12 |
|--------------------------------------|------------------|-------------------|
| Art no.                              | 2090474          | 2152257           |
| Energy efficiency index (EEI)        |                  | ≤ 0.20            |
| Nominal flange diameter              | DN 50            | DN 65             |
| Rated pressure                       |                  | PN 6/10           |
| Mains connection                     |                  | 1~230 V, 50/60 Hz |
| Speed <i>n</i>                       | 1400 - 4100 rpm  | 950 - 3300 rpm    |
| Rated power $P_2$                    | 400 W            | 650 W             |
| Power consumption $P_1$              | 25 - 490 W       | 38 - 800 W        |
| Current consumption <i>I</i>         | 0.20 - 2.15 A    | 0.30 - 3.50 A     |
| Minimum suction head at 50/95/110 °C | 5 / 12 / 18 m    | 7 / 15 / 23 m     |
| Weight approx. <i>m</i>              | 17 kg            | 31 kg             |

Materials

|              |                                                                                          |                        |
|--------------|------------------------------------------------------------------------------------------|------------------------|
| Pump housing | Red brass (CC 499K) according to DIN 50930-6 in accordance with Drinking Water Ordinance |                        |
| Impeller     | Plastic (PPS - 40% GF)                                                                   | Plastic (PPE - 30% GF) |
| Pump shaft   | Stainless steel (X39CrMo17-1)                                                            |                        |
| Bearing      | Carbon, synthetic resin impregnated                                                      |                        |

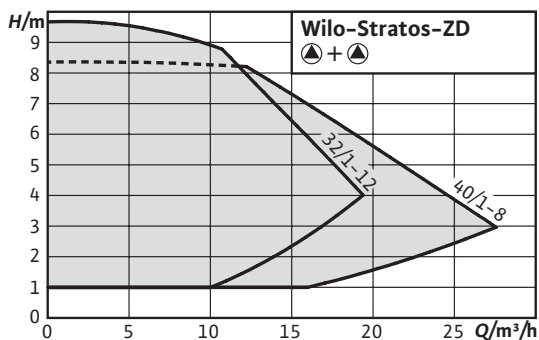


### Wilo-Stratos-ZD



Glandless circulation double pump with flange connection, EC motor and automatic power adjustment

- Energy savings through greater system efficiency with the Q-Limit function (volume flow limiter)
- Optimised display for better readability and operation
- Space-saving installation due to compact design and location-dependent LC display
- Modular concept for connection of all conventional bus systems (e.g. Modbus, BACnet, CAN, LON and PLR)
- Dual pump management via retrofittable IF-Modules:
- Tried and tested quality and reliability



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

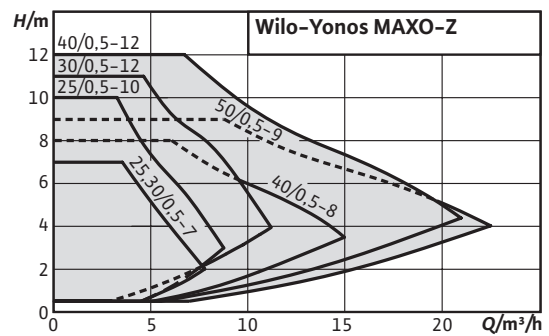


### Wilo-Yonos MAXO-Z



Glandless circulator with threaded connection or flange connection, EC motor with automatic power adjustment.

- Energy-saving due to high-efficiency hydraulics and synchronous motor
- Complete transparency of the delivery head, speed stage and possible faults thanks to its LED display
- Simple adjustment over three speed stages when replacing an uncontrolled standard pump
- Easier electrical connection thanks to the Wilo plug
- System availability ensured via collective fault signal
- Compact design and proven user-friendliness



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

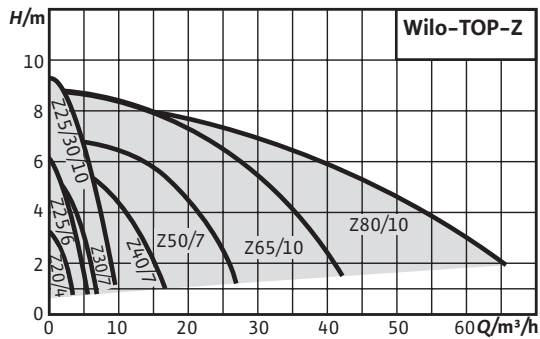


### Wilo-TOP-Z



Glandless pump circulator with screwed connection or flange connection. Pre-selectable speed stages for power adjustment

- Direction of rotation signal lamp for displaying the correct sense of rotation (only with 3~)
- With thermal insulation as standard



### Select 4 online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

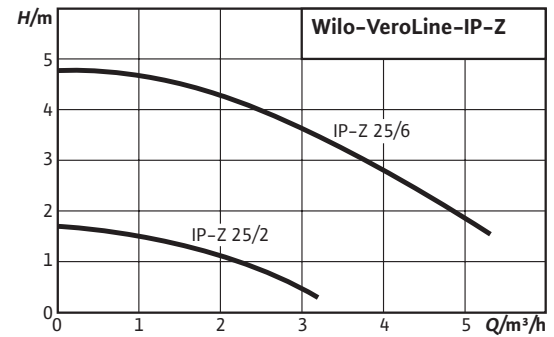


### Wilo-VeroLine-IP-Z



Glanded circulation pump in in-line design with threaded connection

- High resistance to corrosive fluids due to stainless steel housing and Noryl impeller
- Wide range of applications due to suitability for water hardness up to 5 mmol/l (28 °dH)
- All plastic parts that come into contact with the fluid fulfil KTW recommendations



### Select 4 online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

## Important standards, regulations and guidelines

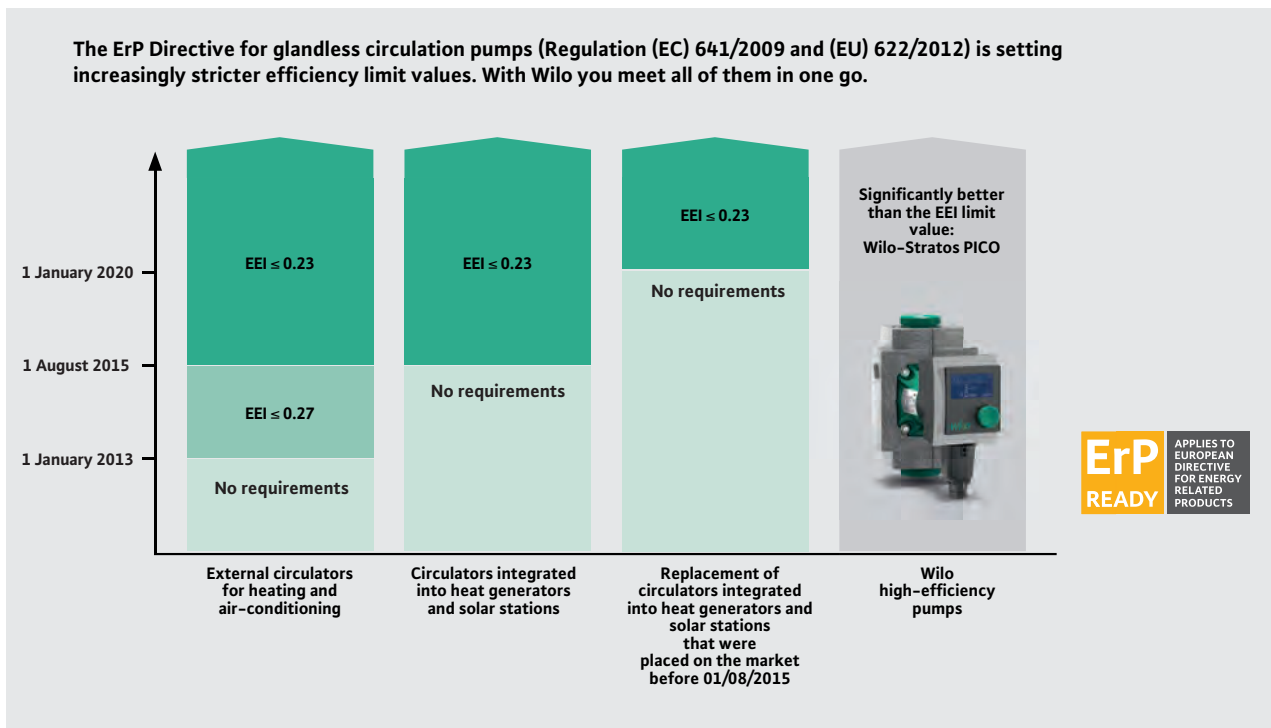
### What does the ErP Directive regulate?

ErP stands for “energy-related products”. This guideline, adopted by the European Union in 2009, is a framework directive for the environmentally compatible design of products.

In specific regulations it also relates to circulators in glandless design, electric motors of glanded pumps and the glanded pumps themselves:

### Glandless pumps

The efficiency of glandless pumps is indicated by means of the energy efficiency index (EEI). The Wilo product portfolio fully satisfies the requirements of the guideline. The respective EEI value of our pumps is indicated in the technical data tables.



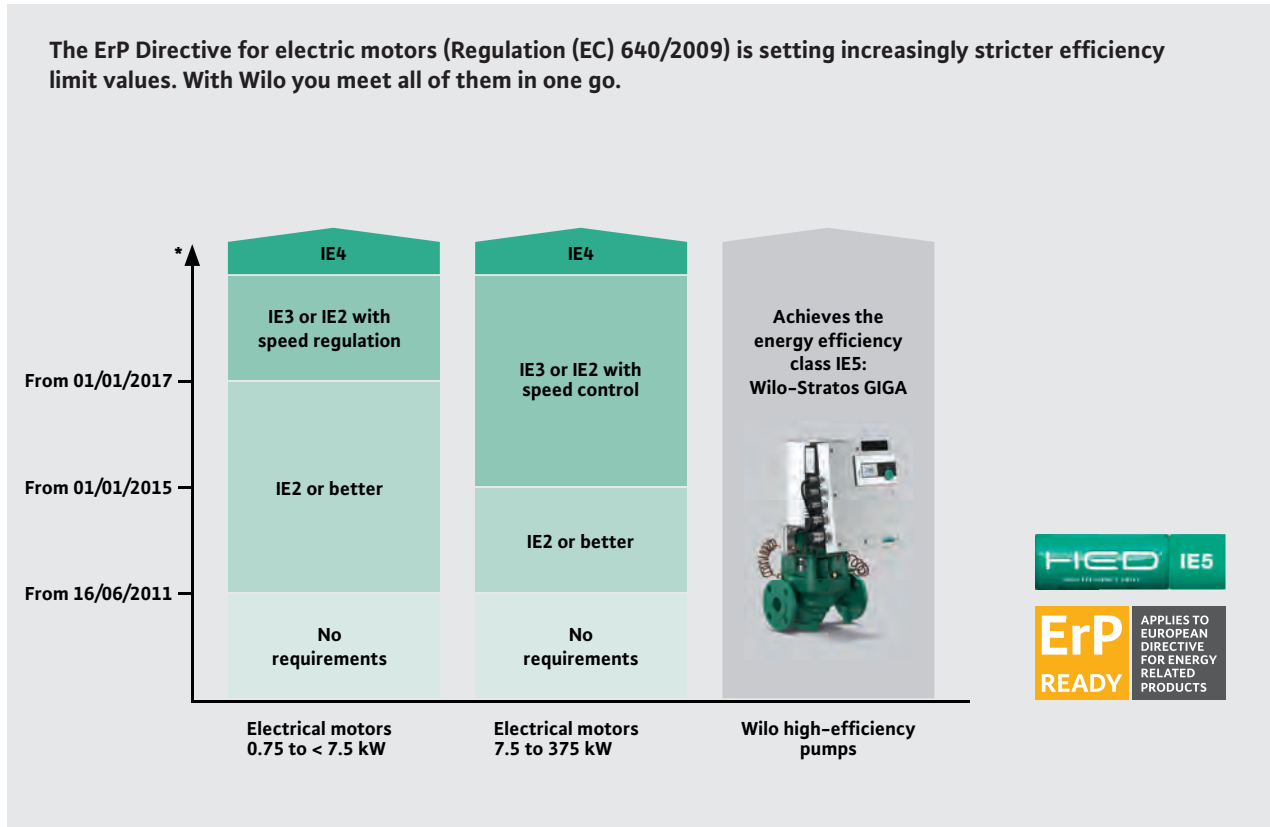
EEI = Energy Efficiency Index according to Regulations (EC) 641/2009 and (EU) 622/2012 of the EU Commission (is determined for different power consumptions within a load profile by comparing it to an average reference pump)

**Glanded pumps**

For glanded pumps the “International Efficiency” value (IE) specifies the efficiency class of electric motors. The Wilo product portfolio fully satisfies the requirements of the guideline. Wherever possible, Wilo goes even further, like for instance in the case of the Wilo-Stratos GIGA series,

whose high engine efficiency is based on a special drive concept.

The regulations also apply to pumps integrated into pressure-boosting systems. Here too Wilo satisfies the requirements and exceeds them once more with the Wilo-Helix EXCEL series.



\*Dates prescribed by EU regulation (EG) 640/2009, extended by (EU) 4/2014  
 IE2, IE3, IE4 = Motor efficiency classes according to IEC 60034-30-1  
 IE5 = Highest motor efficiency classes according to IEC TS 60034-30-2 (Ultra Premium Efficiency)

**What does the EnEV 2014 regulate?**

The 2014 energy-saving regulation prescribes various constructional standard requirements for efficient energy demand in buildings. The regulation is, among other things, intended to contribute to achieving a virtually climate-neutral building stock by 2050.

Among other things it regulates the following:

- As of the 1/2/2002 at a boiler output from 25 kW, heating pumps are to be equipped with switchgears for automatic power control or electronically controlled pumps are to be installed.
- In central heating systems with more than 25 kW rated power, during installation and replacement the circulators of the heating circuits must be equipped so that electric power consumption is automatically adapted to the operationally-determined pumping requirements in at least three stages, provided this does not raise any safety-specific concerns for the boilers.

- The circulators in hot water systems must be equipped with automatic switching on/off.
- When heat distribution or warm water pipes/valves are installed or replaced in a building, they must be reduced in accordance with the EnEV requirements.

**What does the German Drinking Water Ordinance (TrinkwV) 2001 regulate?**

The TrinkwV 2001 is the regulation which governs the quality of water for human consumption. It regulates, among other things, that only circulators with corrosion-resistant pump housings made of stainless steel or red brass (CC 499K) are to be utilised in domestic hot water circulation systems.

Heating, air-conditioning, cooling

### How do I read the Wilo pump curves and how do I optimally configure circulators?

#### Volume flow, delivery head, zero-delivery head, pump curve

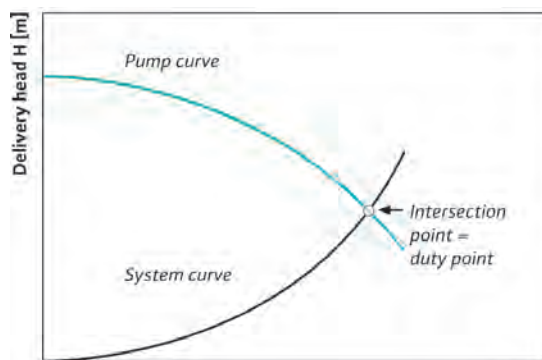
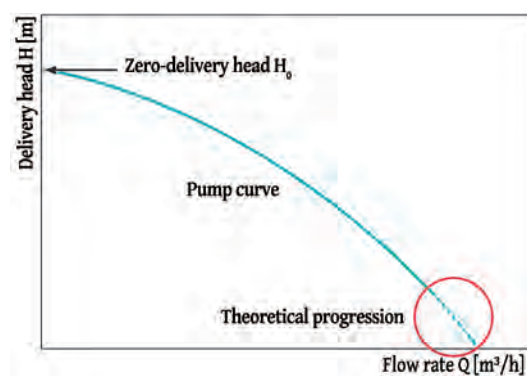
In each pump curve the volume flow (X axle) and the delivery head (Y axle) are shown. The delivery head is the pressure boosting in the pump. If the pump runs against a closed valve, this results in the maximum pump pressure. This is referred to as the “zero-delivery head”. If the valve is opened slowly, the fluid begins to flow. The original delivery pressure can no longer be maintained and the delivery head lowers. As a result the pump curve falls down to the right. For simplicity: large volume flow = small delivery head and small volume flow = large delivery head.

#### System curve, duty point, minimum flow rate

The system curve shows the pressure loss within the system, which results from pipe resistance. The duty point of the system is located where the pump curve and system curve intersect. An equilibrium is in effect at the duty point between the performance capacity of the pump and the power consumption of the pipe network. Pumps with a higher performance require a minimum flow rate to ensure trouble-free operation. If the volume flow is too low, then the pump interior overheats and the pump is damaged.

**TIP: An ideally dimensioned pump has its duty point in the region of maximum efficiency, which is displayed roughly between the second and final third in the pump curve diagram.**

### How do I read a pump curve?



#### Cavitation, NPSH value

Cavitation refers to the implosion of vapour bubbles which form in the pump on those parts where the pressure drops below the vapour pressure of the fluid. The vapour pressure of a liquid is the pressure at which the liquid starts to boil or vaporise. Effects of cavitation are for example fall of the delivery head, unsmooth running of the pump, noises and material damage in the pump’s interior.

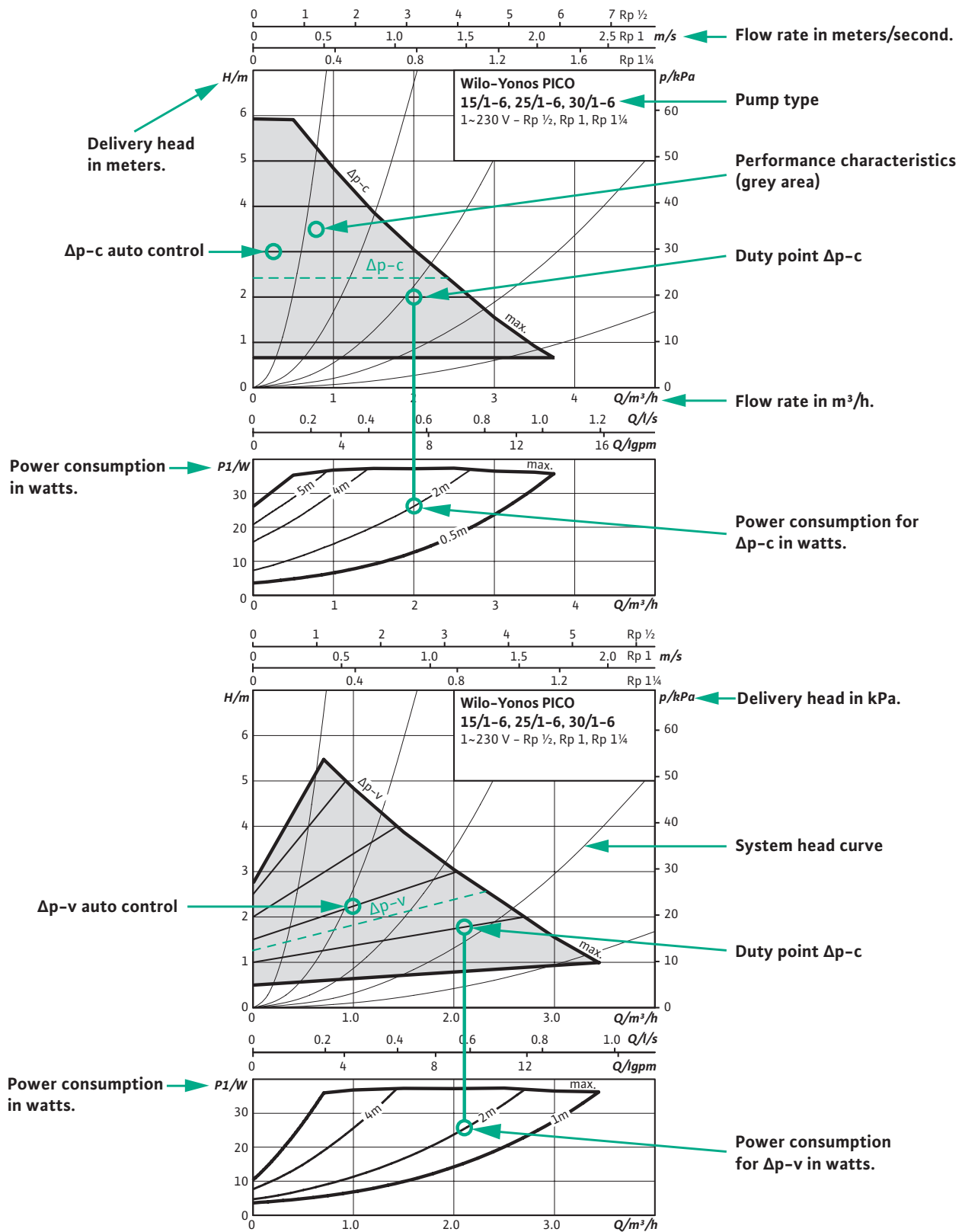
Cavitation can be avoided if there is a minimum pressure at the pump inlet (called “Net Positive Suction Head”). An important variable here is the so-called “NPSH value”. It specifies the minimum pressure at the pump inlet required by the pump design in order to run without cavitation, i.e. the additional pressure required to prevent evaporation of the fluid and maintain its liquid state.

The NPSH value is pump specific and is displayed in the diagram of the pump curve.

**TIP: The minimum inlet height is given for all glandless pumps in the data table.**

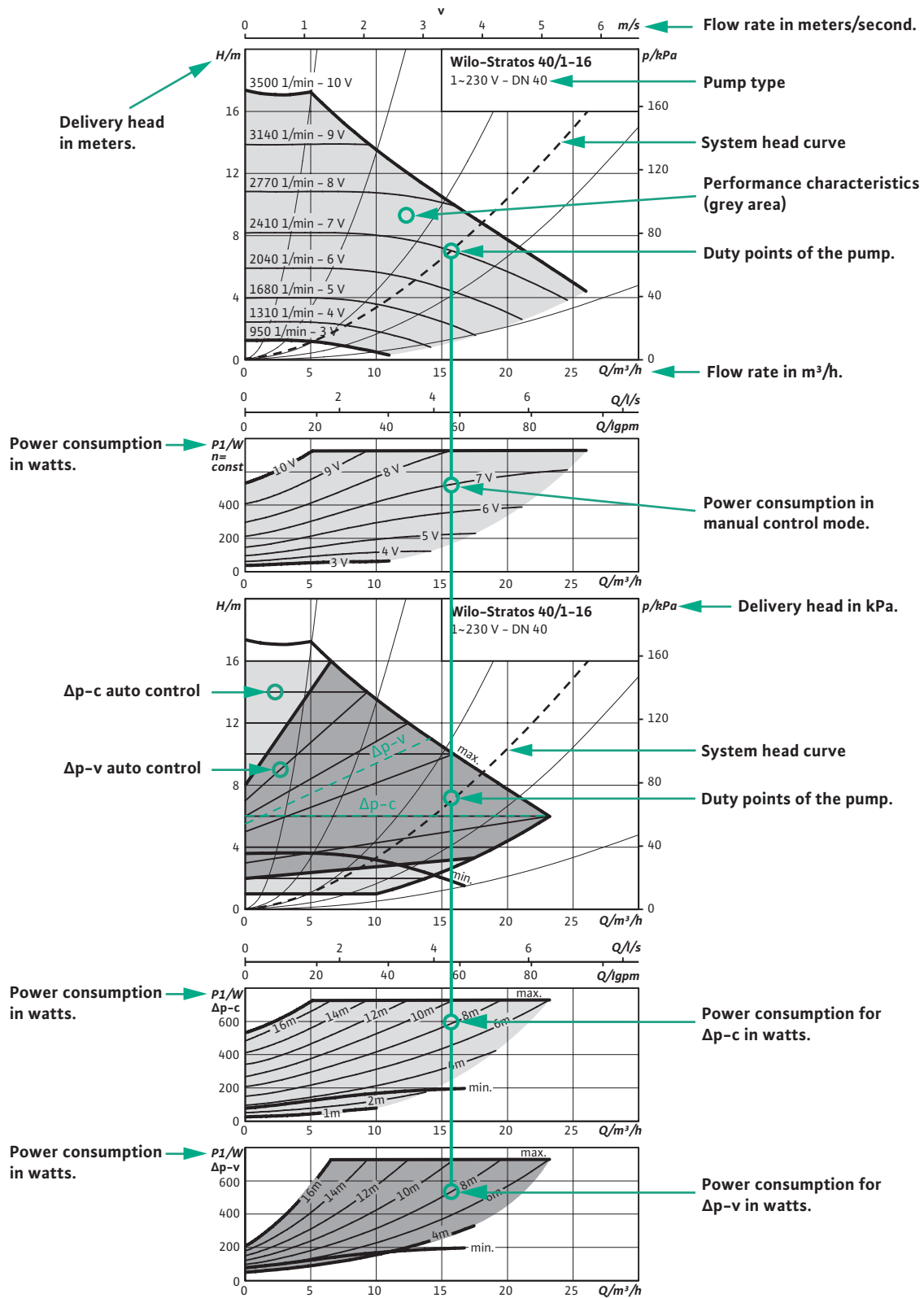


Pump curve graph – Glandless high-efficiency pumps  
 Wilo-Yonos PICO (example)



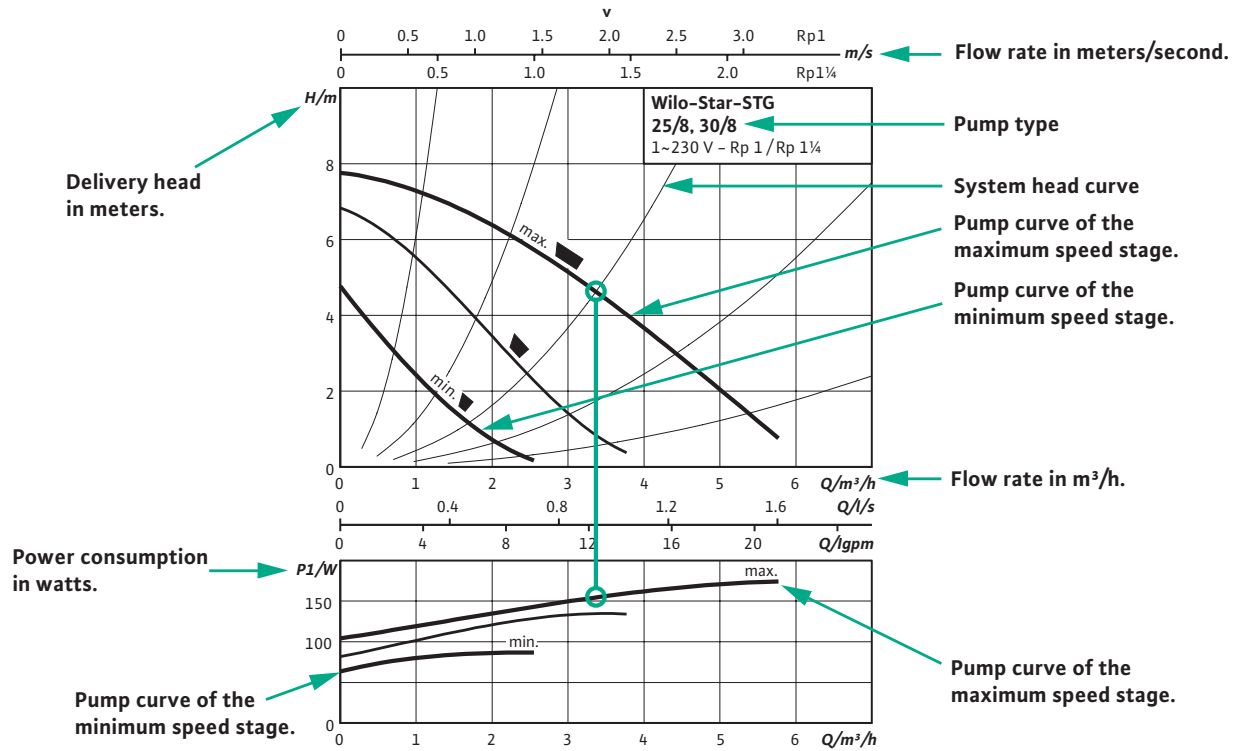
Heating, air-conditioning, cooling

Pump curve graph – Glandless high-efficiency pumps  
 Wilo-Stratos (example)



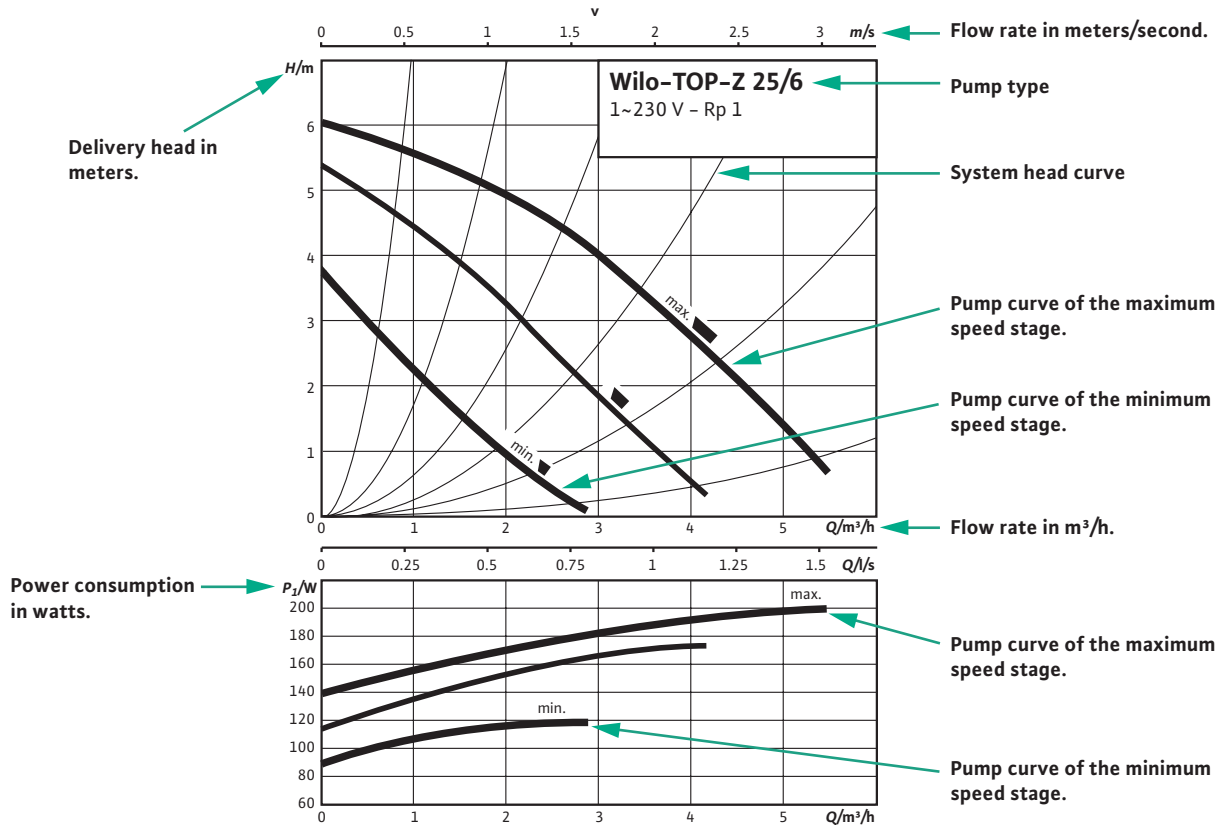
Pump curve graph – Glandless standard pumps

Wilo-Star-STG (example)



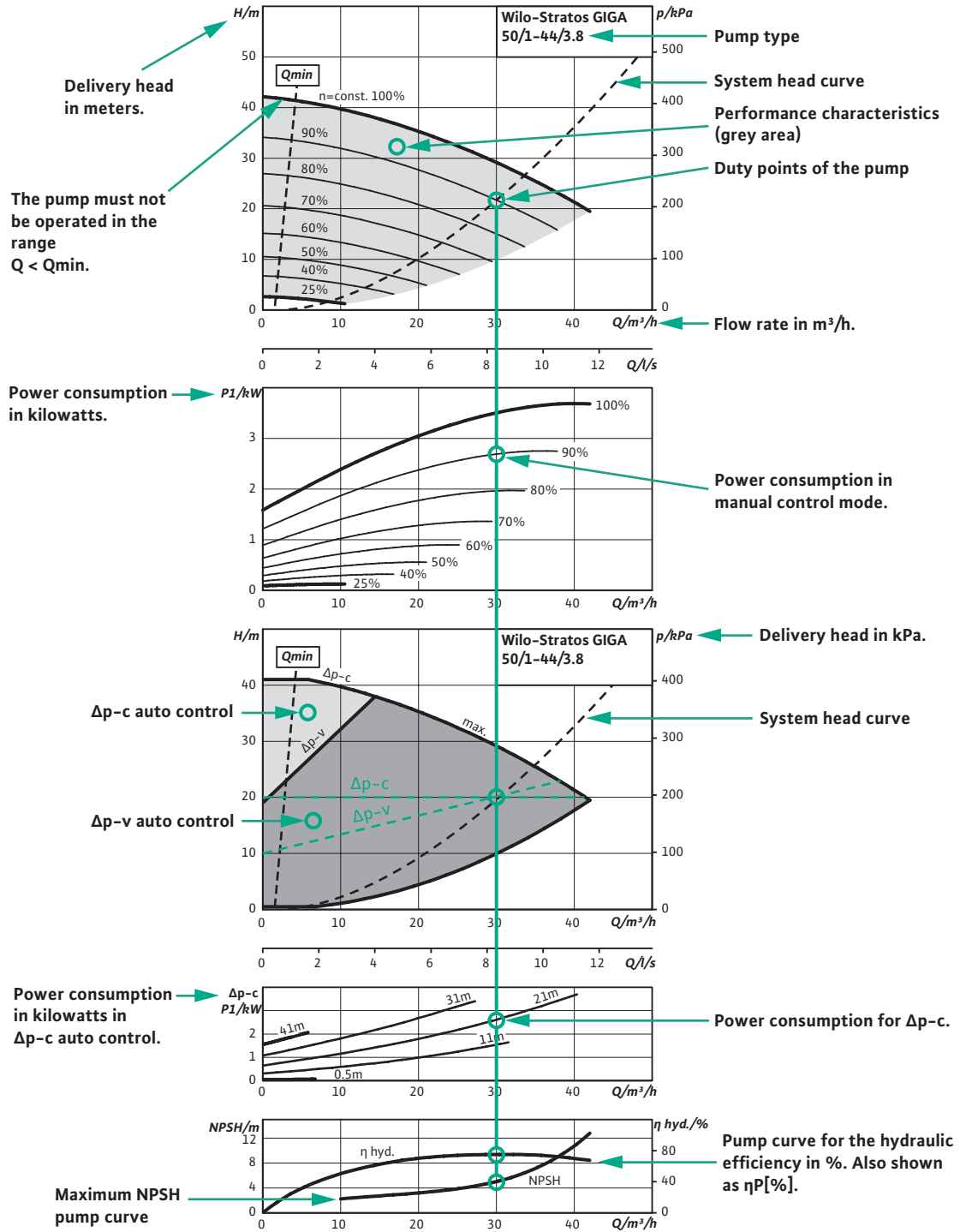
Pump curve graph – Glandless standard pumps

Wilo-TOP-Z (example)



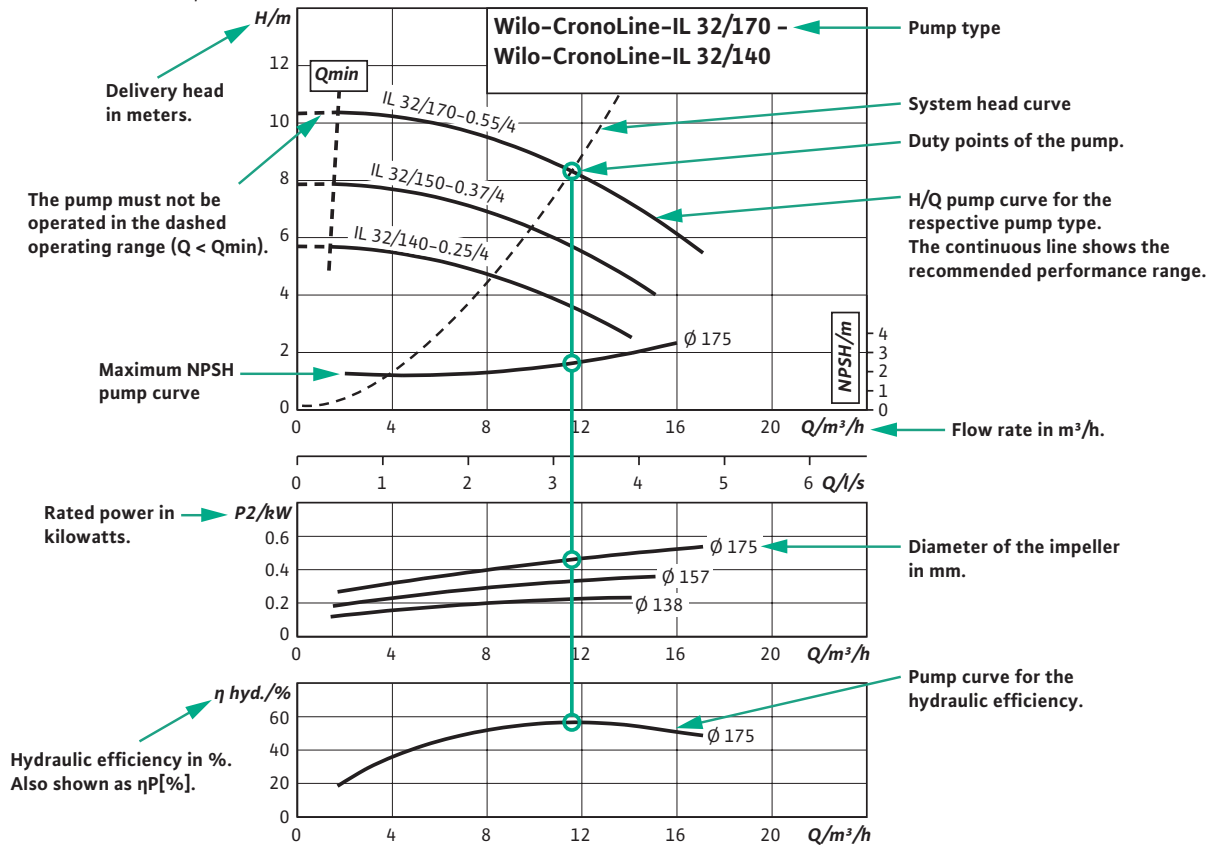
Pump curve graph – Glanded high-efficiency pumps – energy-saving pumps

Wilo-Stratos GIGA (example)



Pump curve graph – Glanded standard pumps

Wilo-CronoLine-IL (example)



**What must be observed during the configuration of domestic hot water circulators?**

Drinking water is the biggest topic of this decade. A uniform EU-wide drinking water directive has been in force since 2003. Particular requirements regarding the domestic hot water circulation must be complied with to exclude danger from pathogens, especially legionella.

In order to exclude human danger, the DVGW (German technical and association for gas and water) has drawn up worksheets (W551/552/553), which form a binding foundation for plant implementation and operation. This must be observed during the configuration.

The temperature of the fluid is of utmost importance in domestic hot water systems. Operating temperatures below 50° C are not permitted owing to the risk of legionella. The water at the outlet of the drinking water heater must constantly be kept to a temperature of ≥ 60 °C .

The water temperature in the system must not be more than 5 K lower than the water outlet temperature on the heater.

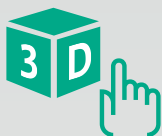
If pre-heat stages are available, the control of the heater must heat up the whole stored content 1 x daily to 60 °C. Circulators may be switched off for a maximum of 8 hours over a 24-hour period. This can be done through the control of the heater or by a time switch. The EnEV provides a device for the automatic switch on/off of circulators.

**TIP: Wilo recommends the installation of a gravity brake in order to prevent faulty circulation and gravity circulation in pumps that have been shut down.**





# WATER SUPPLY



## Wilo-RainSystem AF 400

Automatic rainwater utilisation system with run-down tank and 2 non-self-priming pumps

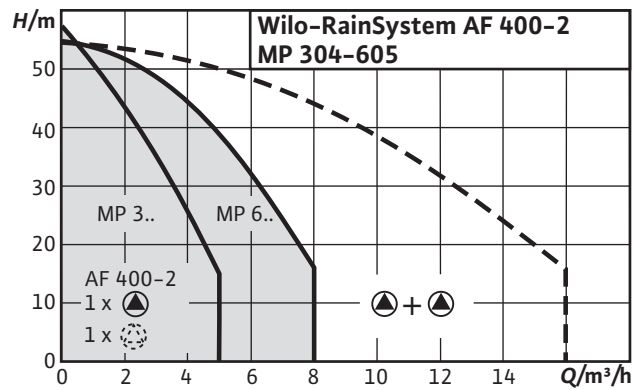
- Low-noise due to optimised overall flow and noise concept (multistage centrifugal pumps)
- Maximum operating reliability through the use of fully electronic RainControl Hybrid controller
- High economic efficiency due to needs-based fresh water replenishment
- Automatic control of the feeding pump
- System/level control in low-voltage range
- Tested according to requirements of RAL-GZ 994 quality standard



RainSystem AF 400







## Wilo-RainSystem AF 400



### Application

Commercial and industrial rainwater utilisation for conserving drinking water as a hybrid system in conjunction with rainwater storage tanks or vessels

- Connection-ready module with compact construction
- Completely connected, electrically and hydraulically, and mounted on vibration-insulated baseplate, comprising:
  - 2 non-self-priming, corrosion-free, low-noise Multi-Press series centrifugal pumps
  - R 1 1/2 joint tubing on the pressure side, including transmitter unit with 8-l diaphragm pressure vessel following the flow-through principle and shut-off device with draining, manometer 0–10 bar
  - Ball valve on suction and pressure sides and non-return valve
  - A large-volume hybrid tank with all connections, non-turbulent supply lines and overflow with siphon
  - RainControl Hybrid central switchgear with control electronics, 4–20 mA pressure transmitter and level control in the low-voltage range
  - Signals concerning operation and malfunctions
  - Steady system control by means of cyclical pump cycling and integrated test run on idle pumps
  - Automatic fault-actuated switchover and peak-load operation

- Automatic water exchange in the replenishment reservoir
- Permanent display of rainwater storage level, system pressure, operating status via LCD (optional)
- Including DVGW-certified R 1 solenoid valve for the drinking water replenishment

### Scope of delivery

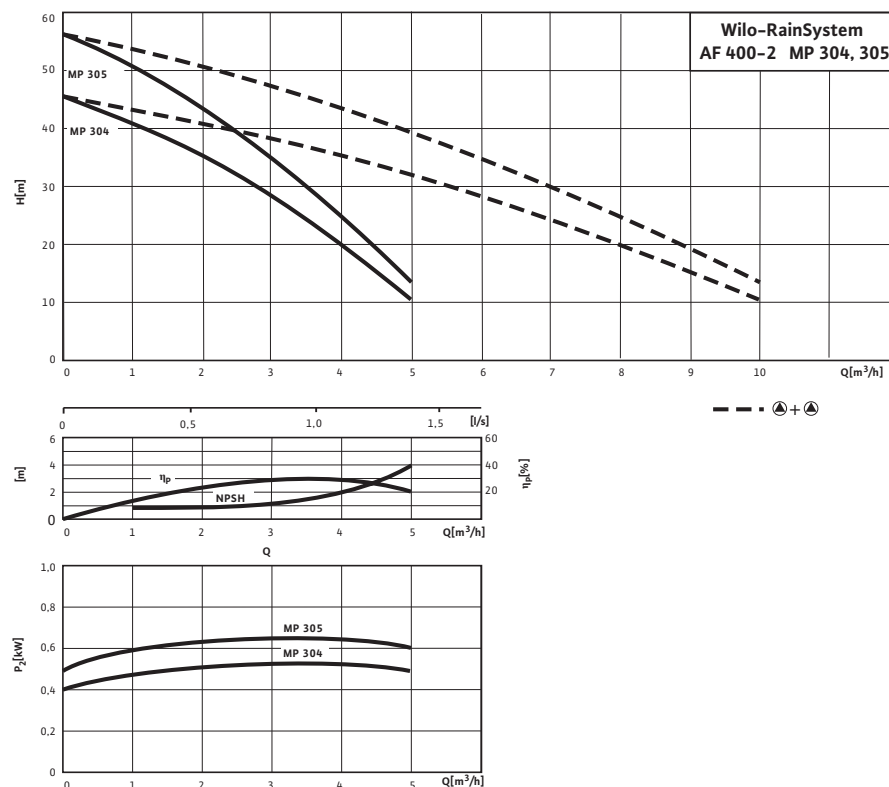
- Two noise-reduced, normal suctioning, multistage centrifugal pumps
- 400 l hybrid tank with all required connections, transmitter unit with 8 l diaphragm pressure vessel, central switchgear, RainControl-Hybrid with control electronics and level control device of Wilo-Drain TM or TS cistern pumps in three-phase version (optionally in single-phase version) to be ordered separately

| Technical data                                   |                                           |
|--------------------------------------------------|-------------------------------------------|
| <b>Approved fluids (other fluids on request)</b> |                                           |
| Pure water without settling sediment             | •                                         |
| Rainwater                                        | •                                         |
| <b>Output</b>                                    |                                           |
| Max. suction head                                | -                                         |
| Rated power $P_2$                                | 550                                       |
| Start-up pressure                                | variably adjustable starting from 1.0 bar |
| Switch-off pressure                              | variably adjustable starting from 1.0 bar |
| Fluid temperature $T$                            | +5...+35                                  |
| Max. ambient temperature $T$                     | 40                                        |
| Mains connection                                 | 3~400 V, 50 Hz                            |
| Replenishment reservoir V                        | 400                                       |
| Gross weight $m$                                 | 119                                       |
| <b>Motor/electronics</b>                         |                                           |
| Protection class                                 | IP 54                                     |
| Insulation class                                 | F                                         |

| Technical data                                             |                   |
|------------------------------------------------------------|-------------------|
| <b>Electrical connection</b>                               |                   |
| Mains connection                                           | 3~400 V, 50 Hz    |
| <b>Connections</b>                                         |                   |
| Pressure pipe/pressure side                                | Joint tubing R 1½ |
| Inlet connection                                           | -                 |
| Nominal diameter of pipe connections on suction side $R_p$ | 1½                |
| Inlet connection                                           | R 1½              |
| Connection overflow [DN]                                   | 100               |
| Expansion ports                                            | -                 |
| <b>Materials</b>                                           |                   |
| Pump housing                                               | 1.4301            |
| Impeller                                                   | Noryl             |
| Pump shaft                                                 | -                 |
| Mechanical seal                                            | Carbon/ceramic    |
| Stage chambers                                             | Noryl             |

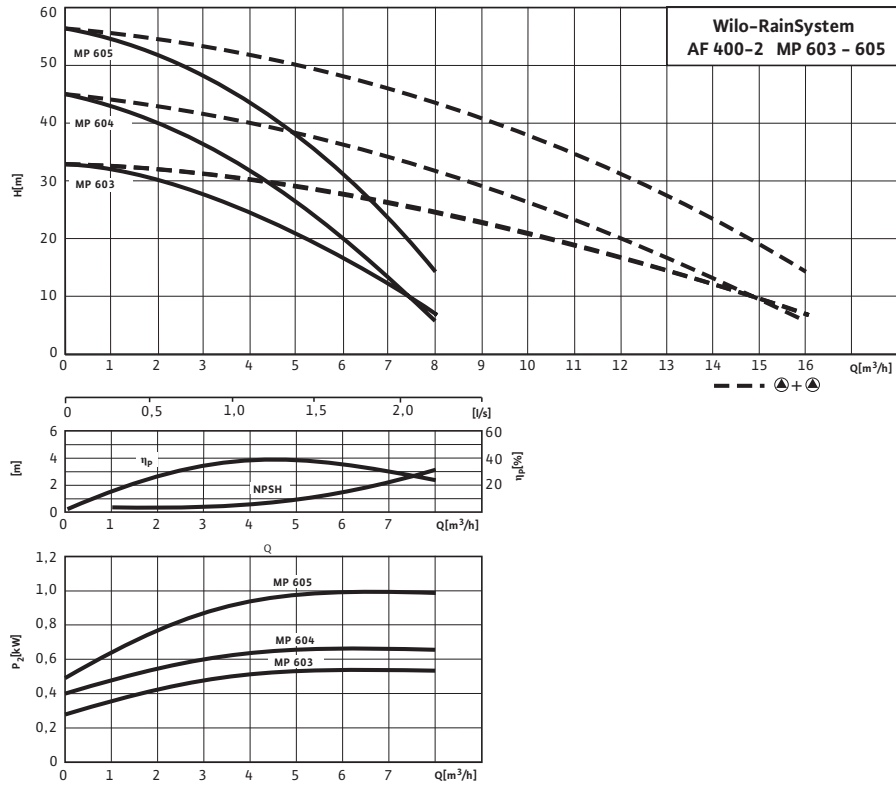
**Pump curves**

Wilco-RainSystem AF 400-2MP 304 - 305



Pump curves

Wilo-RainSystem AF 400-2MP 603 – 605

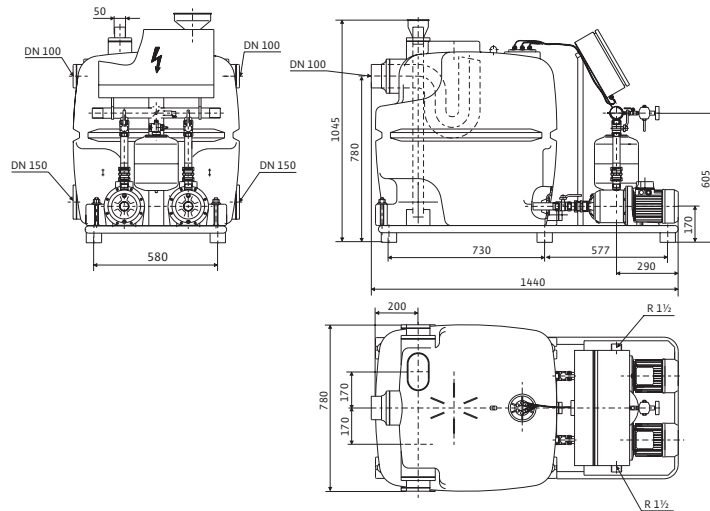


Motor data

| Type            | Mains connection | Rated power<br>$P_2$<br>kW | Number of stages | Rated current (approx.)<br>$I_N$ 3~400 V<br>A |
|-----------------|------------------|----------------------------|------------------|-----------------------------------------------|
| AF 400-2 MP 304 | 3~400 V, 50 Hz   | 0.55                       | 4                | 1.9                                           |
| AF 400-2 MP 305 | 3~400 V, 50 Hz   | 0.75                       | 5                | 2.1                                           |
| AF 400-2 MP 603 | 3~400 V, 50 Hz   | 0.55                       | 3                | 1.9                                           |
| AF 400-2 MP 604 | 3~400 V, 50 Hz   | 0.75                       | 4                | 2.1                                           |
| AF 400-2 MP 605 | 3~400 V, 50 Hz   | 1.10                       | 5                | 2.8                                           |

Dimension drawing

Wilo-RainSystem AF 400



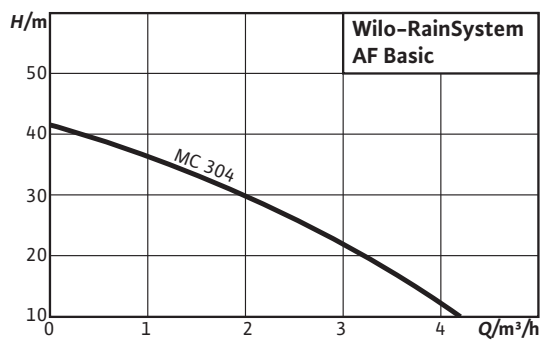


**Wilo-RainSystem AF Basic**



Ready-to-plug rainwater utilisation system

- Compact, ready-to-plug rainwater utilisation system according to DIN 1989 and EN 1717
- Low-noise through multi-stage centrifugal pump
- High economic efficiency due to needs-based fresh water replenishment
- Flow-optimised and noise-optimised replenishment reservoir
- All parts in contact with fluid are corrosion-free
- Optional connection of a back-up pump



**Select 4online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

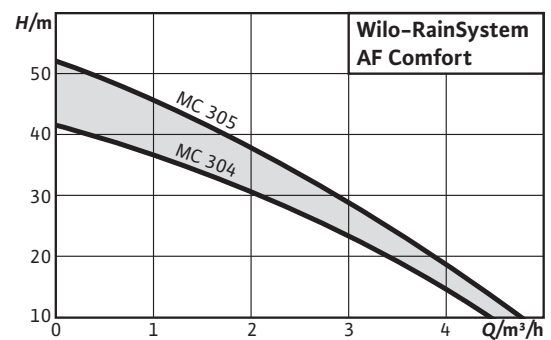


**Wilo-RainSystem AF Comfort**



Ready-to-plug rainwater utilisation system

- Compact, ready-to-plug rainwater utilisation system according to DIN 1989 and EN 1717
- Tested according to RAL-GZ 994 quality standard
- Low-noise, due to multi-stage centrifugal pump and complete encapsulation of the system
- Automatic support function for evacuation of the air from the suction line
- High economic efficiency due to fresh water replenishment according to requirements



**Select 4online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

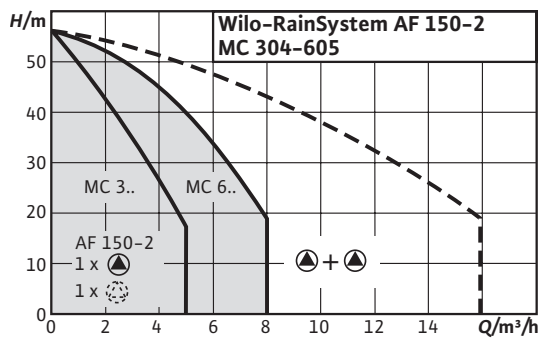


### Wilo-RainSystem AF 150



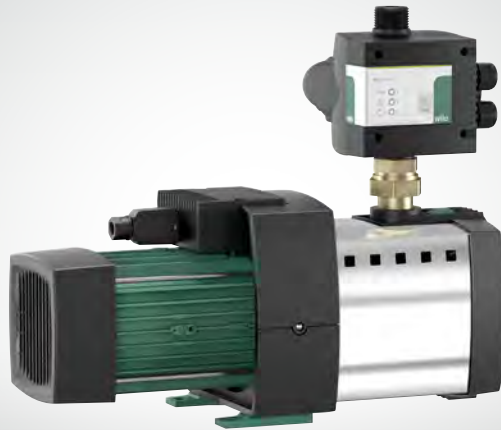
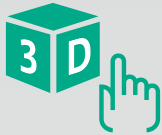
Automatic rainwater utilisation system with run-down tank and 2 self-priming pumps

- Low-noise due to multistage centrifugal pumps
- All parts in contact with the fluid are corrosion-free
- Maximum operational reliability due to fully electronic RainControl Professional controller
- High economic efficiency due to needs-based fresh water replenishment
- High reliability, due to flow- and noise-optimised replenishment reservoir



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Water supply



## Wilo-HiMulti 3 C

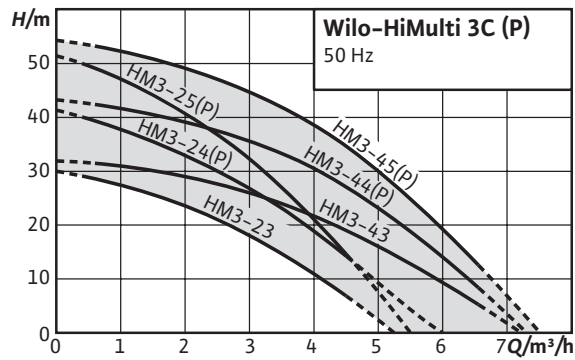
Water-supply system with automatic pump control system in non self-priming version (HiMulti 3 C) or self-priming version (HiMulti 3 C P)

- Simple: Plug & Pump system
- Efficient: Highly efficient hydraulics, low electricity consumption and very compact thanks to motor optimisation
- Automatically operating system and dry-running protection thanks to Wilo-HiControl 1
- Low-noise: Noise level between 56 dB(A) and 64 dB(A)
- 360° rotatable electronic pump control HiControl 1 for easy installation



HiControl 1





Successor of MultiCargo FMC and  
MultiPress FMP

## Wilo-HiMulti 3 C



### Type key

- Example: **HiMulti 3 C1-24 P**
- HiMulti** Multistage, horizontal centrifugal pump for domestic water supply (HI = Home Intelligence)
- 3** Product level (1 for starter level... 5 for premium level)
- C1** Version with automatic pump control system Wilo-HiControl 1
- 2** Nominal volume flow in m<sup>3</sup>/h
- 4** Number of impellers
- P** P = Self-priming version (no specification = non-self-priming version)

### Application

- Water supply (drinking water certification in accordance with ACS)
- Sprinkling
- Irrigation and spraying
- Rainwater utilisation

### Technical data

- Mains connection: 1~230 V, 50 Hz
- Perm. fluid temperature: 0 °C to +40 °C (+55 °C for 10 min)
- Perm. ambient temperature: -15 °C to +40 °C
- Permissible storage temperature: -30 °C to +60 °C
- Max. permissible operating pressure: 8 bar
- Max. permissible inlet pressure: 3 bar
- Start-up pressure: 1.5 bar
- Switch off volume flow: 95l/h
- Protection class: IP54
- Suction side connection: Rp1

- Connection on pressure side: Rp1
- Information about the automatic can be found in the documentation for Wilo-HiControl 1

### Equipment/function

- Directly flanged motor
- Connection cable with plug
- Thermal motor protection switch
- Automatic pump control
- Low-water cut-out switch

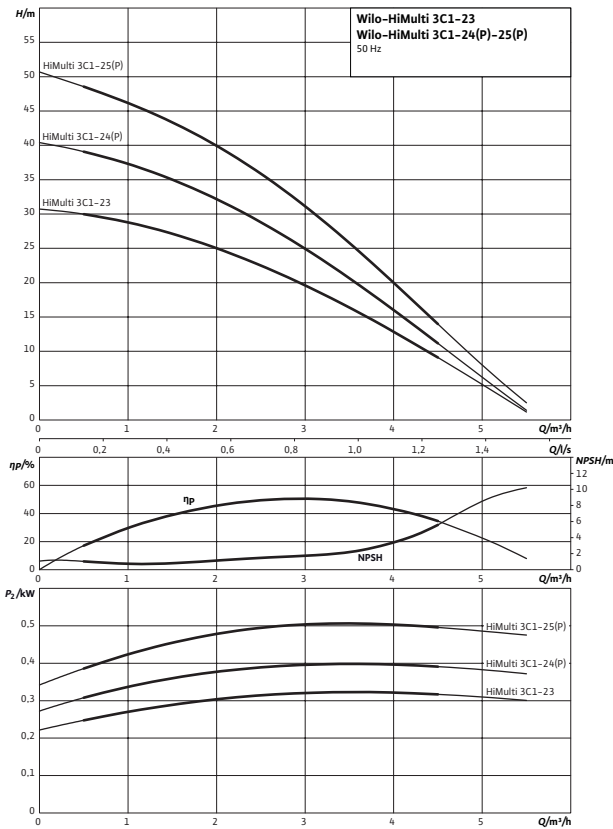
### Materials

- Pump housing in Grivory FH1V-4 FWA with drinking water certification in accordance with ACS, WRAS and KTW
- Impellers and stage casing made of Noryl 30% GF with drinking water certification in accordance with ACS, WRAS and KTW
- Pump cover and shaft made of stainless steel
- Mechanical seal made of ceramic/carbon
- Housing for the pressure monitoring made of Nylon PA6 with drinking water certification in accordance with ACS

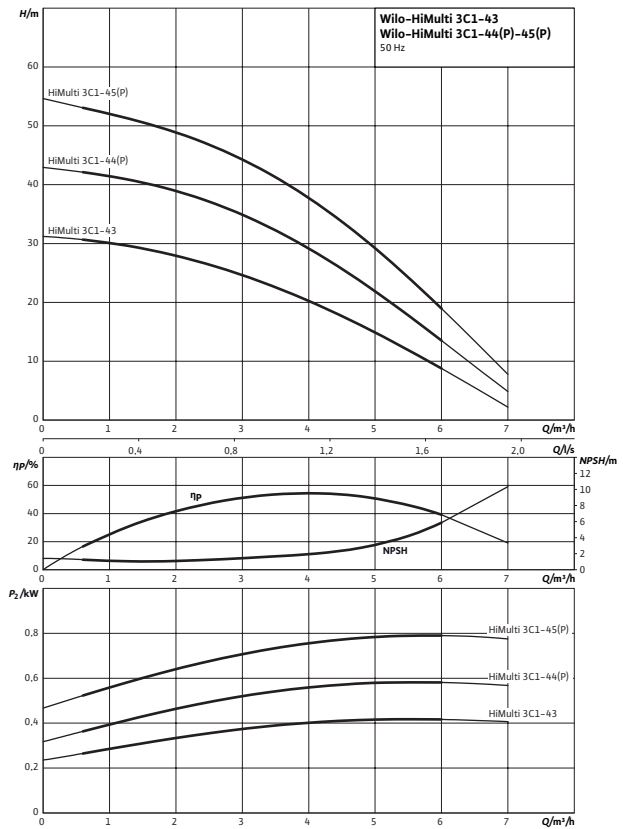
### Scope of delivery

- Pump
- Pump control Wilo-HiControl 1
- 1 piece plastic connector with seal for manual connection to the inlet pipe
- Wilo-Connector (electrical quick connector)
- Installation and operating instructions

Pump curves



Pump curves



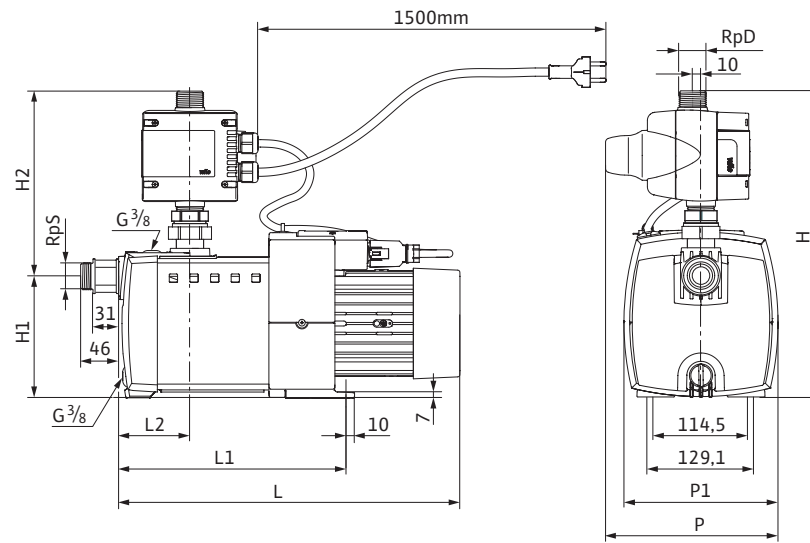
Motor data

| HiMulti 3 C 1-23 | Mains connection | Rated power | Power consumption |       | Nominal current |
|------------------|------------------|-------------|-------------------|-------|-----------------|
|                  |                  |             | $P_2$             | $P_1$ |                 |
|                  |                  |             | kW                |       | A               |
| 1-23             | 1~230 V, 50 Hz   | 0.4         |                   | 0.64  | 3               |
| 1-24             | 1~230 V, 50 Hz   | 0.4         |                   | 0.64  | 3               |
| 1-25             | 1~230 V, 50 Hz   | 0.5         |                   | 0.73  | 3.3             |
| 1-24 P           | 1~230 V, 50 Hz   | 0.4         |                   | 0.64  | 3               |
| 1-25 P           | 1~230 V, 50 Hz   | 0.5         |                   | 0.73  | 3.3             |
| 1-43             | 1~230 V, 50 Hz   | 0.4         |                   | 0.64  | 3               |
| 1-44             | 1~230 V, 50 Hz   | 0.6         |                   | 0.84  | 3.8             |
| 1-44 P           | 1~230 V, 50 Hz   | 0.6         |                   | 0.84  | 3.8             |
| 1-45             | 1~230 V, 50 Hz   | 0.8         |                   | 1.06  | 4.6             |
| 1-45 P           | 1~230 V, 50 Hz   | 0.8         |                   | 1.06  | 4.6             |

Motor efficiency based on 400 V, 50 Hz



## Dimension drawing



## Dimensions, weights

| HiMulti 3 C | Nominal diameters of pipe connections |              | Dimensions |     |     |       |    |     |     | Weight approx.<br>m kg |
|-------------|---------------------------------------|--------------|------------|-----|-----|-------|----|-----|-----|------------------------|
|             | pressure side                         | suction side | H          | H1  | L   | L1 mm | L2 | P   | P1  |                        |
|             | RPD                                   | RPS          |            |     |     |       |    |     |     |                        |
| 1-23        | G1                                    | G1           | 370        | 147 | 353 | 228   | 87 | 210 | 187 | 11.2                   |
| 1-24        | G1                                    | G1           | 370        | 147 | 377 | 252   | 87 | 210 | 187 | 12.8                   |
| 1-25        | G1                                    | G1           | 370        | 147 | 421 | 277   | 87 | 210 | 187 | 14.9                   |
| 1-24 P      | R 1                                   | Rp 1         | 370        | 147 | 377 | 252   | 87 | 210 | 187 | 12.8                   |
| 1-25 P      | R 1                                   | Rp 1         | 370        | 147 | 421 | 277   | 87 | 210 | 187 | 14.9                   |
| 1-43        | G1                                    | Rp 1         | 370        | 147 | 353 | 228   | 87 | 210 | 187 | 12.5                   |
| 1-44        | G1                                    | Rp 1         | 370        | 147 | 397 | 252   | 87 | 210 | 187 | 14.6                   |
| 1-44 P      | R 1                                   | Rp 1         | 370        | 147 | 397 | 252   | 87 | 210 | 187 | 14.6                   |
| 1-45        | G1                                    | Rp 1         | 370        | 147 | 415 | 277   | 87 | 210 | 187 | 16.5                   |
| 1-45 P      | R 1                                   | Rp 1         | 370        | 147 | 415 | 277   | 87 | 210 | 187 | 16.5                   |

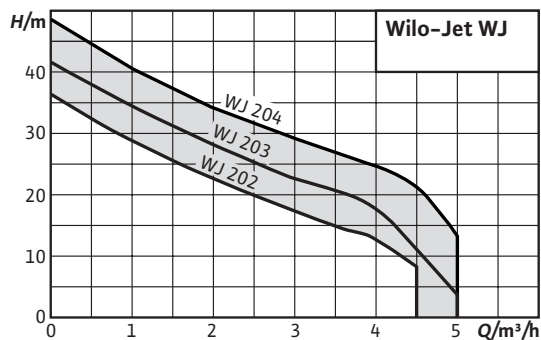


### Wilo-Jet WJ



Self-priming multistage centrifugal pumps

- User-friendly thanks to its light weight, compact size and practical carrying handle
- High supply guarantee due to hydraulic output, self-priming up to 8 m (also at a low flow rate)
- Robust stainless steel construction for durable operation, impeller, shaft and housing made of AISI 304
- IE3-IEC three-phase AC motor ( $\geq 0.75$  kW)



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All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

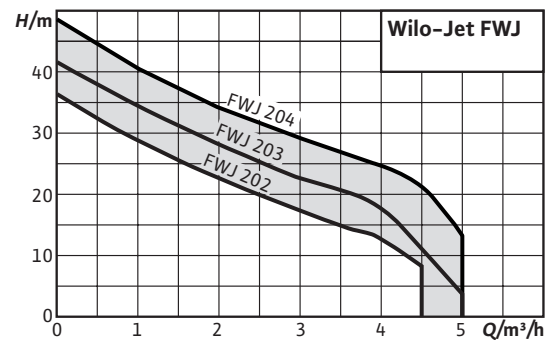


### Wilo-Jet FWJ



Self-priming water-supply units

- Ideal for use in outside areas (hobby, garden) thanks to durable construction; continuously good performance thanks to corrosion-free materials
- Completely preassembled system, simple installation and maintenance through Plug&Pump system and 360° rotatable display, which means that it can be read from any direction
- Electronic pump control
- High operational reliability thanks to dry-running protection



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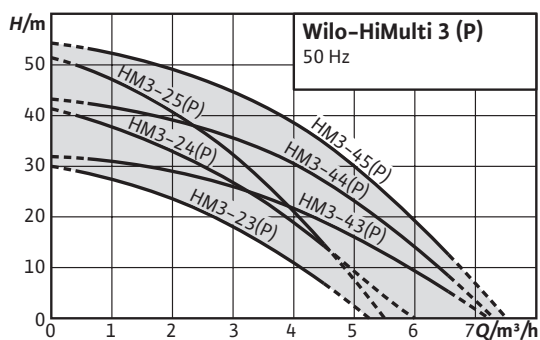


### Wilo-HiMulti 3



Multistage centrifugal pump in non-self-priming version (HiMulti 3) or self-priming version (HiMulti 3 P)

- Simple: Wilo-Connector (electrical quick-connector), on/off switch, filling and emptying devices, larger base fastening
- Efficient: Highly efficient hydraulics, low electricity consumption and very compact thanks to motor optimisation
- Economical: smaller motor for optimum fulfilment of requirements
- Low noise (noise level between 56 dB(A) and 64 dB(A))
- Version as domestic pump (pump for domestic water supply) with new pump design



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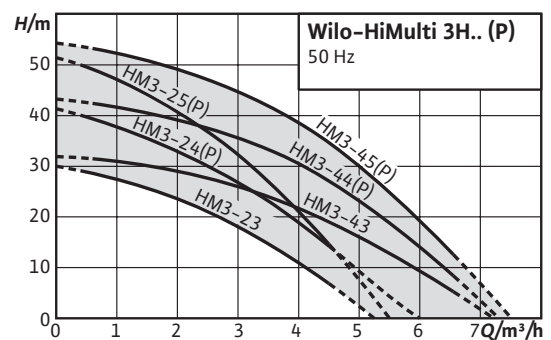


### Wilo-HiMulti 3 H



Water-supply system with diaphragm pressure vessel in non-self-priming version (HiMulti 3 H) or self-priming version (HiMulti 3 H P)

- Simple: Plug & Pump system
- Efficient: Highly efficient hydraulics, low electricity consumption and very compact thanks to motor optimisation
- Automatically functioning system, avoidance of fluid hammers thanks to pressure switching and diaphragm pressure vessel
- Low-noise: Noise level between 56 dB(A) and 64 dB(A)



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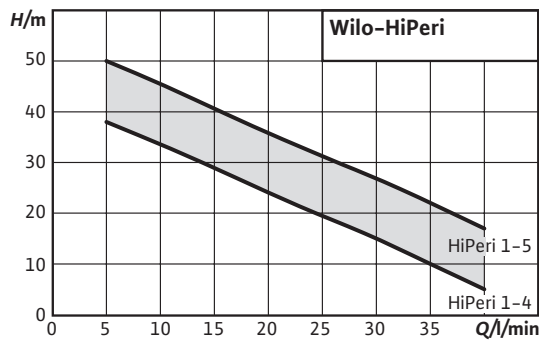


### Wilo-HiPeri



Non self-priming peripheral pump

- Easy handling due to its light weight, perfect for continuous operation
- Brass impeller for fluids up to 60 °C and ambient temperatures up to 40 °C
- Efficiently thanks to low power consumption with high maximum delivery head and high maximum volume flow
- Up to 8 m negative suction head
- Expandable with electronic control of pumps Wilo-HiControl 1



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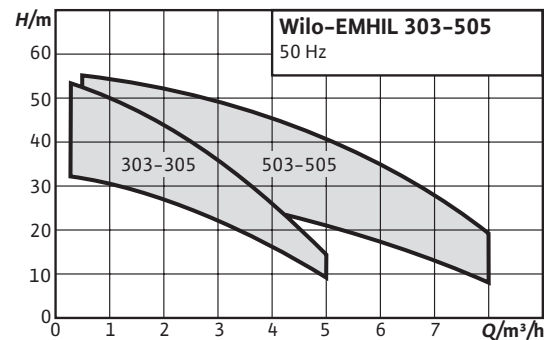


### Wilo-EMHIL



Non-self-priming water supply unit with frequency converter

- Heavy-duty multistage pump with stainless steel hydraulics
- Simple operation and adjustment via display with plain text display, status indicator, analysis function, adjustment of the control parameters (PID), freeze protection
- Plug & Pump, pre-assembled and fitted with connecting cable
- Meets the EMC standards for domestic use (EN 61000-6-2 and EN 61000-6-3)
- Float switch can be connected optionally



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All Informationen at [www.wilo-select.com](http://www.wilo-select.com)



### Wilo-Electronic control

Water-cooled frequency converter with built-in pressure and flow monitor

- Easy adjustment and operation
- Large display with simplified menu and navigation in addition to LED status indicator
- Meets the EMC standards for domestic use (EN 61000-6-2 and EN 61000-6-3)
- Comfort functions: PID (APP function), frost protection automatic system AIS, automatic restart after error ART
- Float switch can be connected optionally

**Select 4**online

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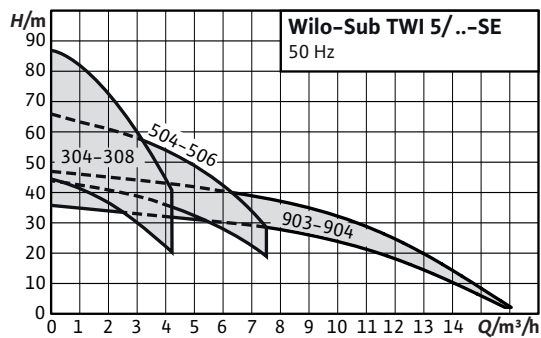


### Wilo-Sub TWI 5/TWI 5-SE



5" submersible pump in stainless steel, multistage

- Highly efficient thanks to optimised hydraulics
- TÜV-certified according to the KTW-guidelines
- Self-cooling motor (dry well installation out of the water is possible)
- Single-phase current version, pre-assembled with switchbox and motor protection for an easy installation
- Easy handling, maintenance and repair
- Corrosion-resistant and low-wearing



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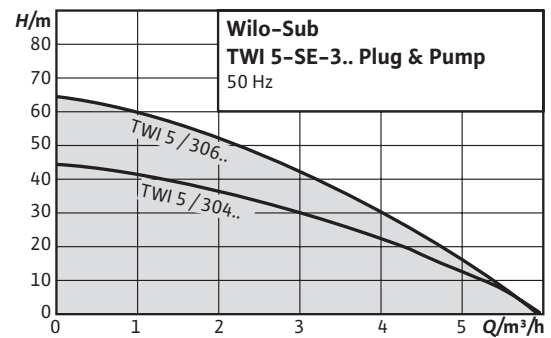


### Wilo-Sub TWI 5-SE Plug & Pump



Water-supply system with submersible pump, control and complete accessories

- Easy installation and commissioning thanks to ready-to-plug delivery including all accessories
- Thermal motor protection
- Pump (housing, stages, impellers) made entirely of stainless steel 1.4301 (AISI 304)
- The self-cooling motor also enables the provision outside the water



**Select 4 online**

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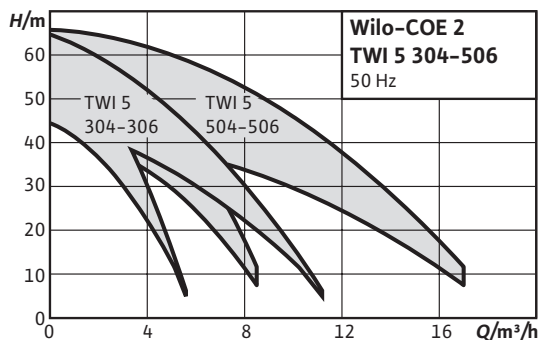


### Wilo-Economy COE-2 TWI 5



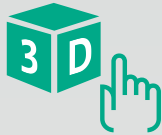
Pressure boosting system with two parallel submersible pumps (suitable for installation outside water), vertical, non-self-priming, made of stainless steel, water-cooled and low-noise. Mounted on a base frame, with complete pipework including all hydraulic components, central switchgear, pressure switch and all cabling.

- Pumps in the TWI 5 series with low noise due to the water-cooled motor, between 51 dB (A) and 61 dB (A)
- 2-pump pressure boosting system in compact design due to vertical pump layout
- Economical system, based on the basic functions of the BC switchgear
- Long service life due to the stainless steel construction of the pumps and the stainless steel piping



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)



## Wilo-Helix EXCEL

Non-self-priming, highly efficient fully stainless-steel high-pressure multistage centrifugal pump with EC motor in vertical design with integrated high-efficiency drive and in-line connections

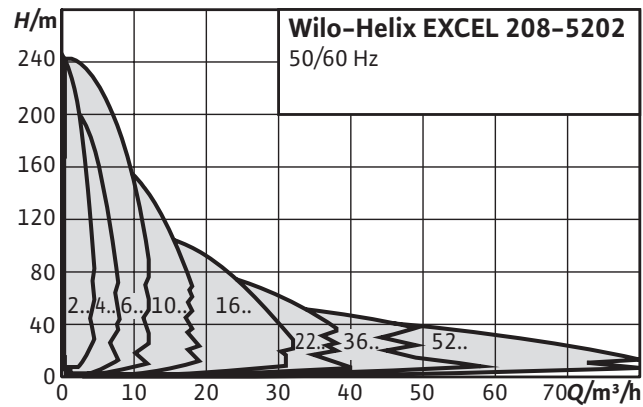
- High-efficiency EC motor (energy efficiency class IE5 acc. to IEC 60034-30-2)
- Integrated electronic control “High-Efficiency Drive”
- Simple operation thanks to tried-and-tested Green Button Technology and a clearly arranged display
- User-friendly “X-Seal” cartridge mechanical seal and spacer coupling (from 5.5 kW) for fast and easy maintenance
- Flexible integration into building automation
- Drinking water approval for all components that come in contact with the fluid (EPDM version)



Detail







Series modification



## Wilo-Helix EXCEL



### Type key

Example: **Helix EXCEL 22 02 - 2 / 16 / E / KS**

**Helix EXCEL** Vertical high-pressure multistage centrifugal pump in in-line design (electronically controlled)

|           |                                                                                                                                                           |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>22</b> | Flow rate in m <sup>3</sup> /h                                                                                                                            |
| <b>02</b> | Number of impellers                                                                                                                                       |
| <b>2</b>  | Pump material                                                                                                                                             |
|           | 1 = Pump housing 1.4301 (AISI 304)<br>Hydraulics 1.4307 (AISI 304L);<br>Baseplate EN-GJL 250, cataphoretic coated;<br>[only Helix EXCEL 16.. and smaller] |
|           | 2 = Pump housing 1.4404 (AISI 316L)<br>Hydraulics 1.4404 (AISI 316L)<br>Baseplate EN-GJL 250, cataphoretic coated                                         |
|           | 3 = Pump housing EN-GJL-250 (cataphoretic-coated) Hydraulics 1.4307 (AISI 304L);<br>[only Helix 22.. and larger]                                          |
| <b>16</b> | Maximum operating pressure in bar                                                                                                                         |
|           | 16 = 16 bar (PN 16 flange)<br>25 = 25 bar (PN 25 flange)                                                                                                  |
| <b>E</b>  | Gasket type                                                                                                                                               |
|           | E = EPDM<br>V = FKM                                                                                                                                       |
| <b>K</b>  | Cartridge mechanical seal                                                                                                                                 |
| <b>S</b>  | The coupling guard is on a line with suction and discharge ports of the pump                                                                              |

### Application

- Water supply and pressure boosting
- Industrial circulation systems
- Process water
- Cooling water circulation systems

- Fire extinguishing systems
- Washing systems
- Irrigation

### Technical data

- Electrical connection:
  - 3~ 50 Hz : 400V +/-10%
  - 3~ 60 Hz : 380V +/-10%
  - 3~ 60 Hz : 480V +/-10%
- Fluid temperature range:
  - Helix EXCEL 2 – 16 (EPDM): -30 to 120 °C
  - Helix EXCEL 2 – 16 for aggressive media (FKM): -15 to 90 °C
  - Helix EXCEL 22 – 36 (EPDM): -20 to 120 °C
  - Helix EXCEL 22 – 36 for aggressive media (FKM): -15 to 90 °C (-30 to 120 °C with EPDM gasket on request)
- Max. operating pressure: 16/25 bar
- Protection class: IP 55
- Max. ambient temperature: +40°C (extended temperature ranges on request)
- Available versions:
  - Helix EXCEL 2 – 16: PN 16 with oval flanges, PN 25 with round flanges according to ISO 2531 and ISO 7005
  - Helix EXCEL 22 – 36: PN 16 and PN 25 with round flanges according to ISO 2531 and ISO 7005

### Equipment/function

- Impellers, diffusors and stage housings made of corrosion-resistant material

### Materials

**Helix EXCEL 2, 4, 6, 10, 16:**  
Standard version

- Impellers, stage housings and diffusers of stainless steel 1.4307
- Pump housing of stainless steel 1.4301
- Baseplate and lantern in EN-GJL-250 (cataphoretic coated)
- Shaft of stainless steel 1.4301 or 1.4462 (depending on version)
- Sleeve under the mechanical seal 1.4404
- O-ring of EPDM (FKM gasket on request)
- Jacket pipe of stainless steel 1.4301

For aggressive media

- Impellers, stage housings and diffusers of stainless steel 1.4404
- Pump housing of stainless steel 1.4404
- Shaft of stainless steel 1.4404 or 1.4462 (depending on version)
- Sleeve under the mechanical shaft seal 1.4404
- O-ring of EPDM (FKM gasket on request)
- Jacket pipe of stainless steel 1.4404

**Helix EXCEL 22, 36, 52:**

Standard version

- Stage housings, impellers, diffusers of stainless steel 1.4307
- Pump housing of cataphoretic-coated grey cast iron EN-GJL 250, loose flanges of EN-GJS 400 for Helix EXCEL 36-52.
- Shaft of stainless steel 1.4057
- Sleeve under the mechanical seal 1.4404
- O-ring of EPDM (FKM gasket on request)
- Jacket pipe of stainless steel 1.4301

For aggressive media

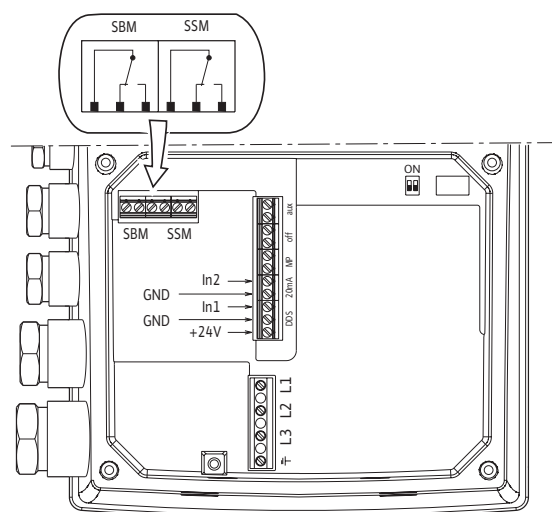
- Stage housings, impellers, diffusers of stainless steel 1.4404 with passivation for highest possible resistance to corrosion
- Pump housing: all parts which come in contact with the media are made of cast stainless steel 1.4409; loose flanges of cataphoretic-coated grey cast iron EN-GJL 250 for Helix EXCEL 22 / EN-GJS 400 for Helix EXCEL 36-52.
- Baseplate of stainless steel 1.4301
- Shaft of stainless steel 1.4404 or 1.4462 (depending on version)
- Sleeve under the mechanical shaft seal 1.4404
- O-ring of FKM (EPDM gasket on request)
- Pressure shroud of stainless steel 1.4404

**Scope of delivery**

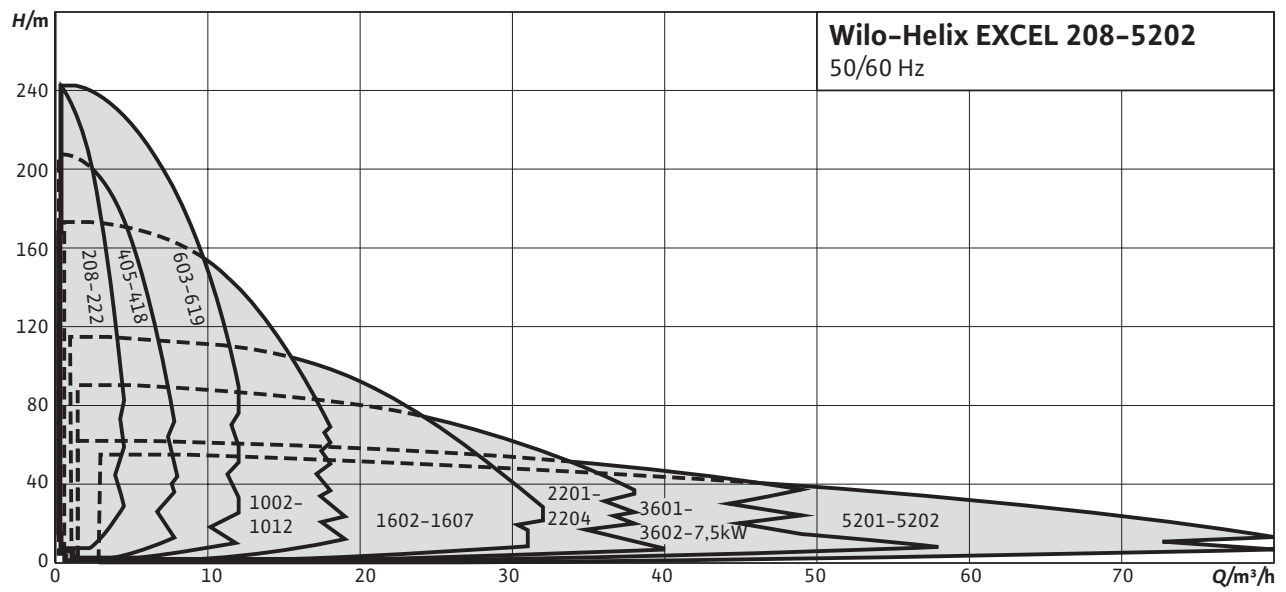
- Helix EXCEL high-pressure multistage centrifugal pump
- Installation and operating instructions
- Helix EXCEL 2 – 16 (version PN16 with oval flanges):  
Cast iron counter flanges with the corresponding screws, nuts and gaskets

**Terminal diagram**

3~400 V ≤7.5 kW

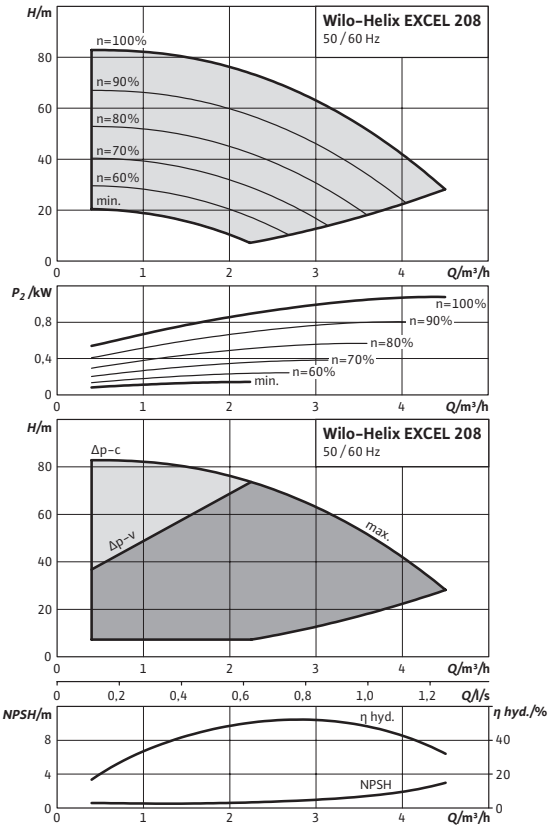


Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$



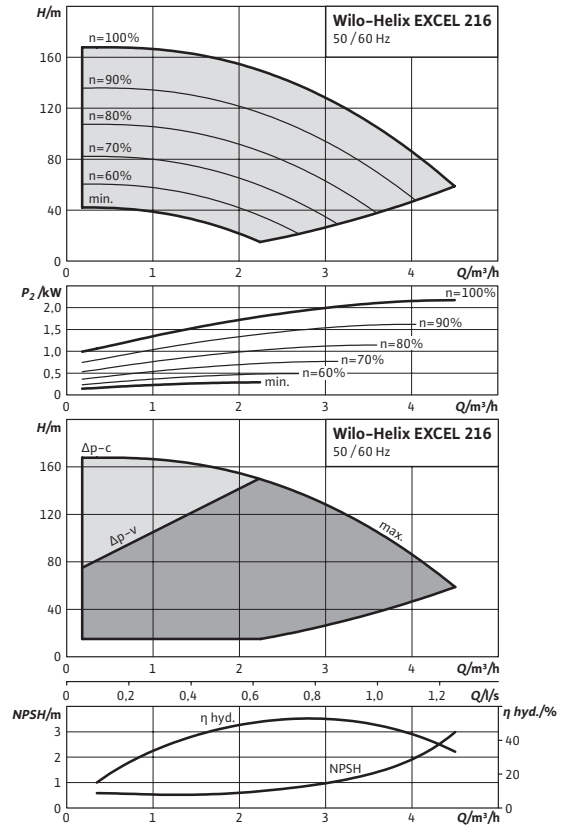
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 208



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 216

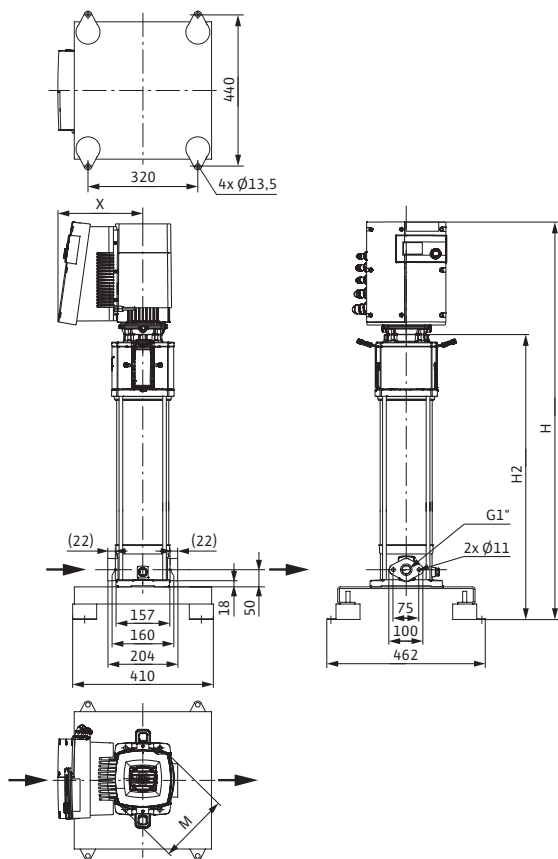


Motor data

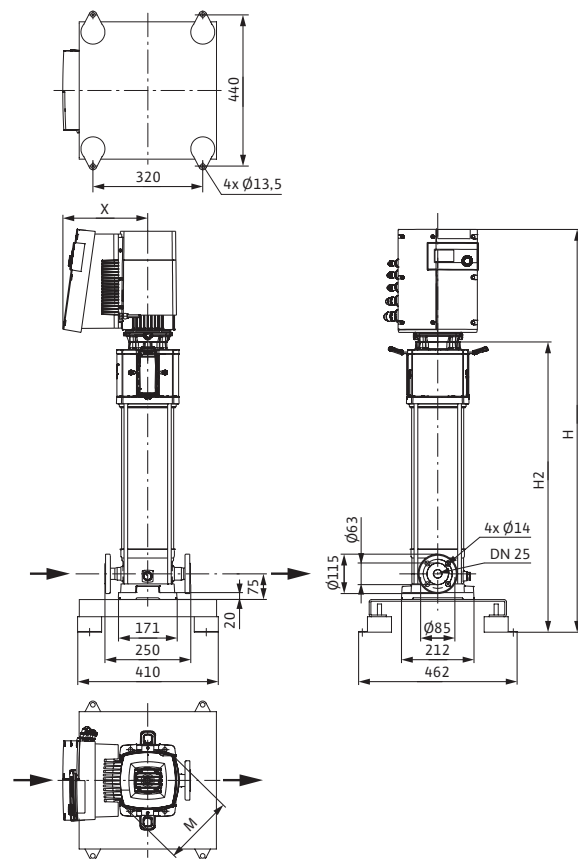
| Type            | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-----------------|-------------|--------------------------------|-----------------------|
|                 | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 208 | 1.10        | 1.88                           | 92.0                  |
| Helix EXCEL 216 | 2.20        | 4.8                            | 93.0                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 2, PN 16



Dimension drawing Helix EXCEL 2, PN 25

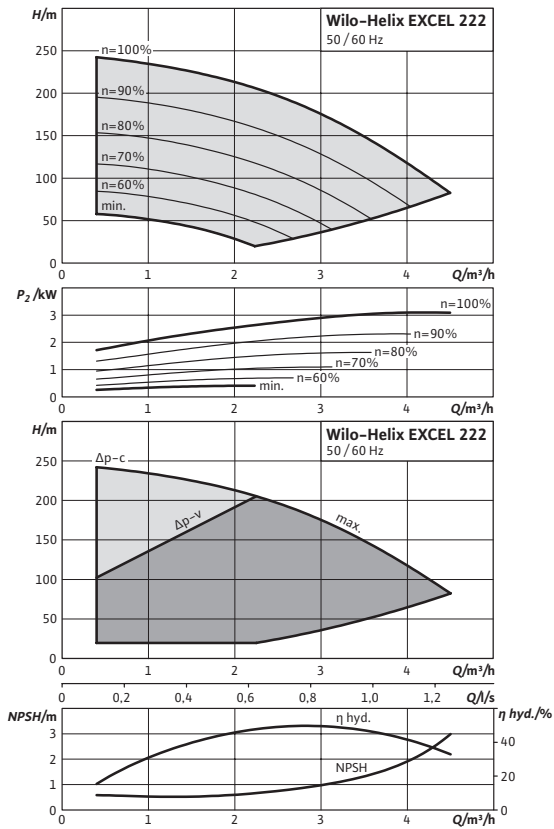


Dimensions, weights

| Type            | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                 |     | Weight approx.<br>$m$<br>kg |
|-----------------|------------------------------------------------|------------|------|-----------------|-----|-----------------------------|
|                 |                                                | $H$        | $H2$ | $\varnothing M$ | $X$ |                             |
|                 |                                                | mm         |      |                 |     |                             |
| Helix EXCEL 208 | 16                                             | 944        | 616  | 206             | 248 | 49.4                        |
| Helix EXCEL 208 | 25                                             | 965        | 637  | 206             | 248 | 52.4                        |
| Helix EXCEL 216 | 25                                             | 1175       | 847  | 206             | 248 | 58.5                        |

Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 222

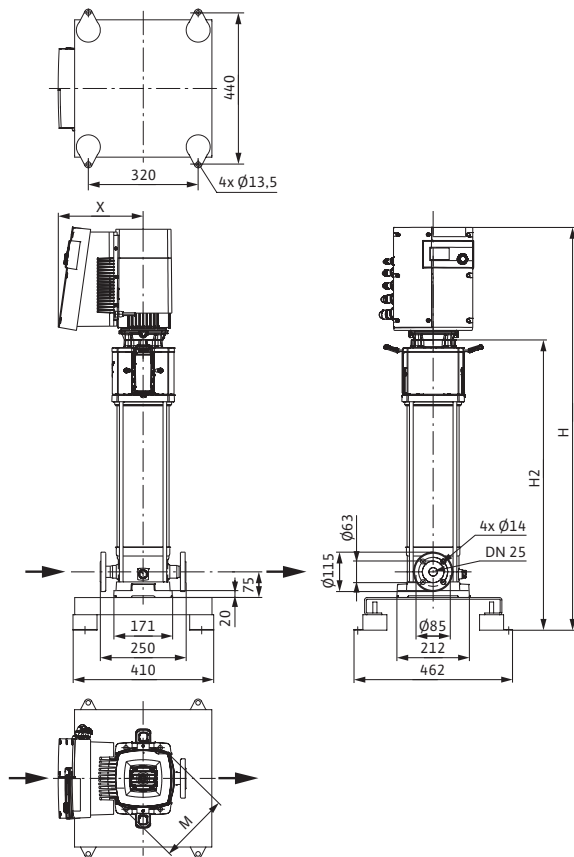


Motor data

| Type            | Rated power         | Nominal current 3~400 V, 50 Hz | Motor efficiency              |
|-----------------|---------------------|--------------------------------|-------------------------------|
| Helix EXCEL 222 | 3.20<br>$P_2$<br>kW | 6.4<br>$I_N$<br>A              | 93.0<br>$\eta_{m 100\%}$<br>% |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 2, PN 25

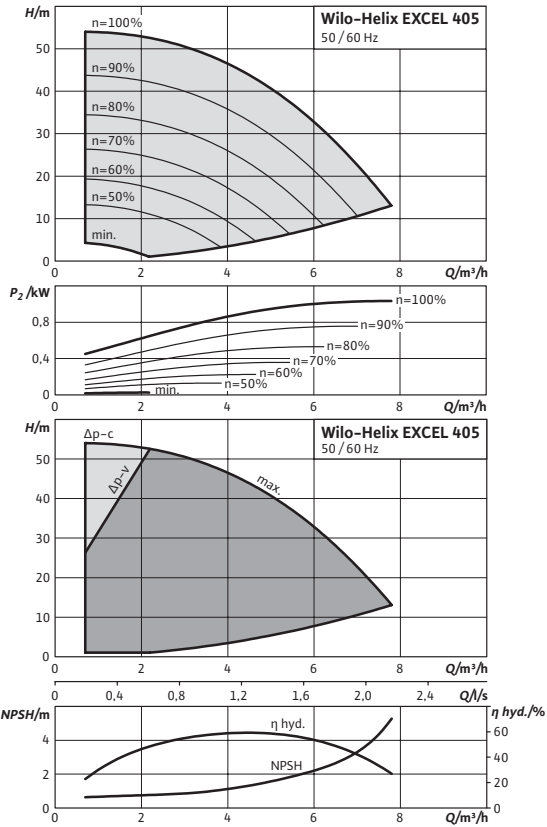


Dimensions, weights

| Type            | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|-----------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                 |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 222 | 25                                             | 1385       | 1057 | 206                   | 248 | 61.9                        |

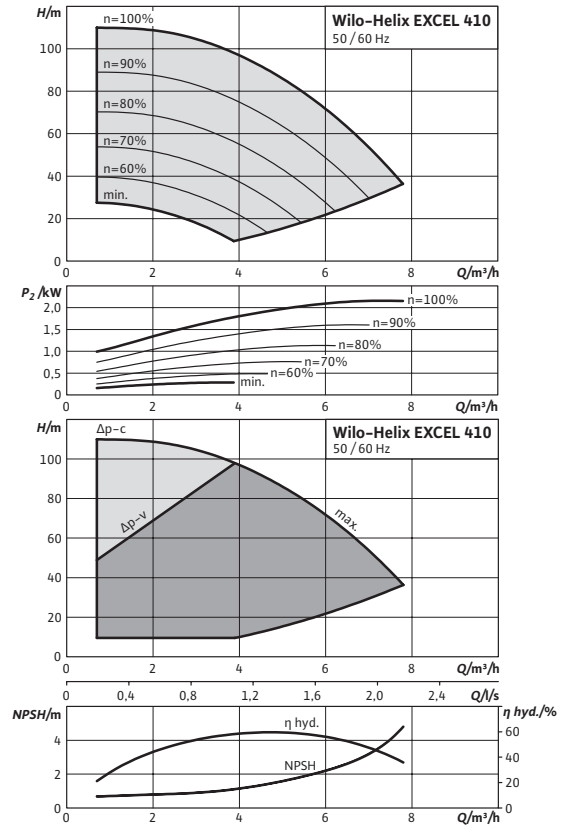
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 405



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 410



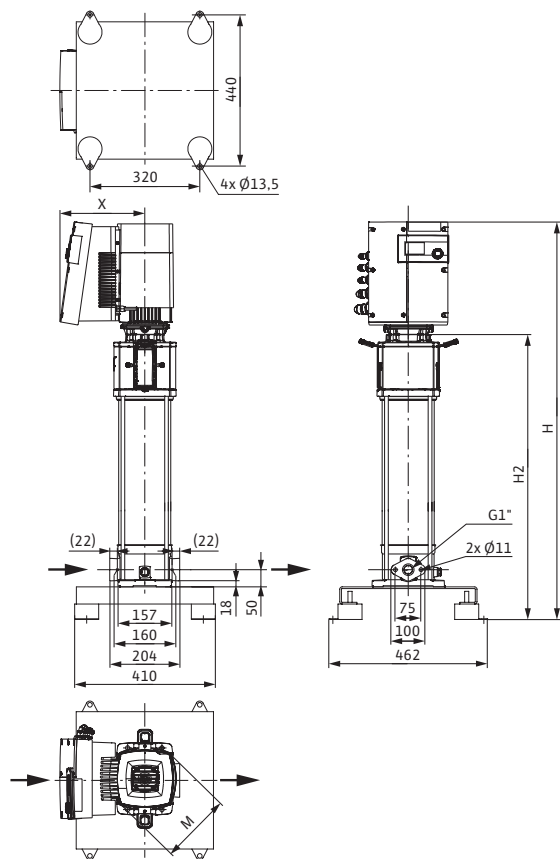
Motor data

| Type            | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-----------------|-------------|--------------------------------|-----------------------|
|                 | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 405 | 1.10        | 1.88                           | 92.0                  |
| Helix EXCEL 410 | 2.20        | 4.8                            | 93.0                  |

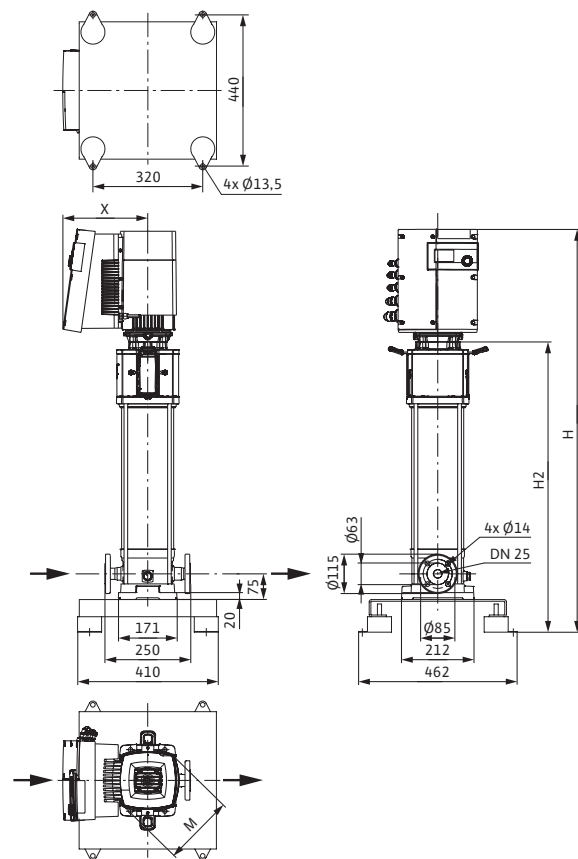
Motor efficiency based on 400 V, 50 Hz



Dimension drawing Helix EXCEL 4, PN 16



Dimension drawing Helix EXCEL 4, PN 25

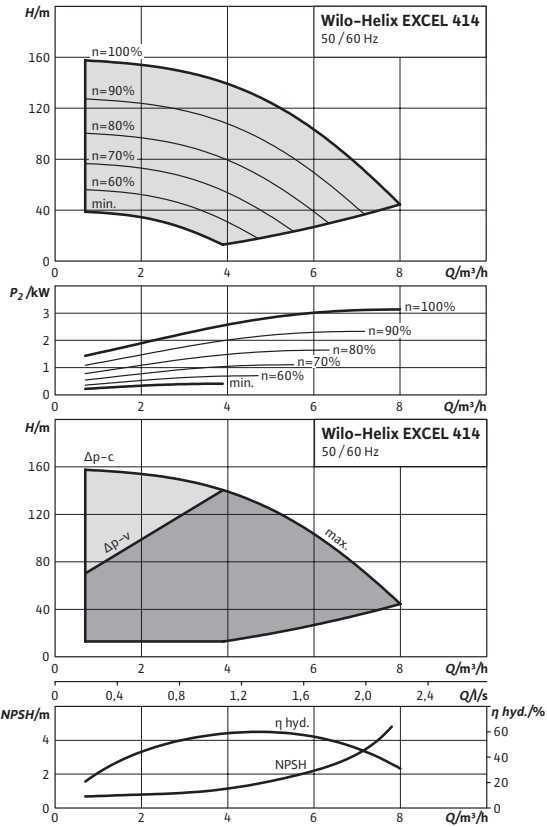


Dimensions, weights

| Type            | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                 |     | Weight approx.<br>$m$<br>kg |
|-----------------|------------------------------------------------|------------|------|-----------------|-----|-----------------------------|
|                 |                                                | $H$        | $H2$ | $\varnothing M$ | $X$ |                             |
|                 |                                                | mm         |      |                 |     |                             |
| Helix EXCEL 405 | 16                                             | 869        | 541  | 206             | 248 | 47.4                        |
| Helix EXCEL 405 | 25                                             | 894        | 566  | 206             | 248 | 49.4                        |
| Helix EXCEL 410 | 16                                             | 1004       | 676  | 206             | 248 | 52.5                        |
| Helix EXCEL 410 | 25                                             | 1029       | 701  | 206             | 248 | 55.5                        |

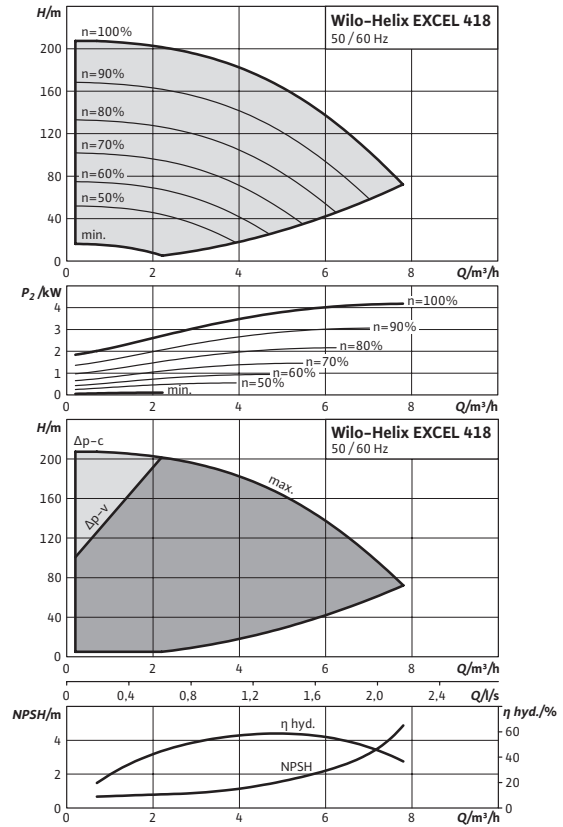
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 414



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 418

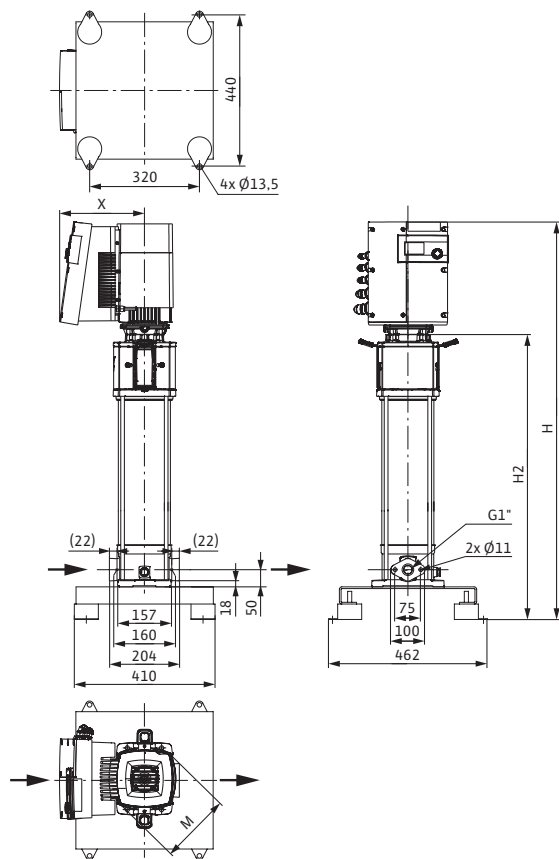


Motor data

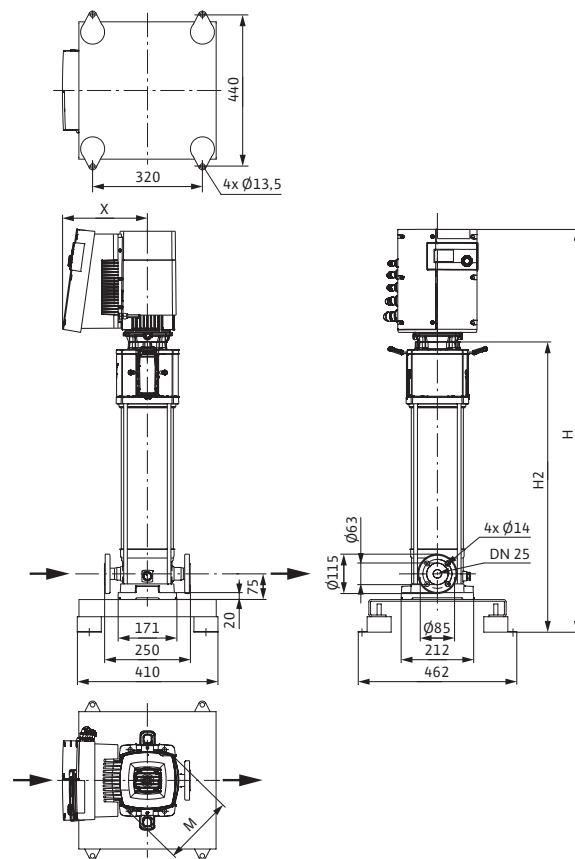
| Type            | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-----------------|-------------|--------------------------------|-----------------------|
|                 | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 414 | 3.20        | 6.4                            | 93.0                  |
| Helix EXCEL 418 | 4.20        | 7.2                            | 95.8                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 4, PN 16



Dimension drawing Helix EXCEL 4, PN 25

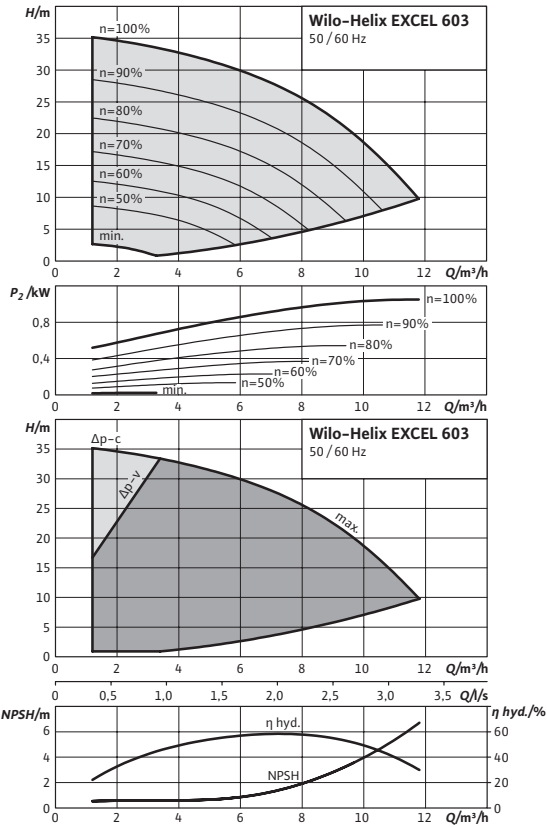


Dimensions, weights

| Type            | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>m<br>kg |
|-----------------|------------------------------------------------|------------|------|-----------------------|-----|---------------------------|
|                 |                                                | H          | H2   | $\varnothing M$<br>mm | X   |                           |
| Helix EXCEL 414 | 16                                             | 1104       | 776  | 206                   | 248 | 54.9                      |
| Helix EXCEL 414 | 25                                             | 1129       | 801  | 206                   | 248 | 56.9                      |
| Helix EXCEL 418 | 25                                             | 1441       | 1031 | 224                   | 256 | 71.0                      |

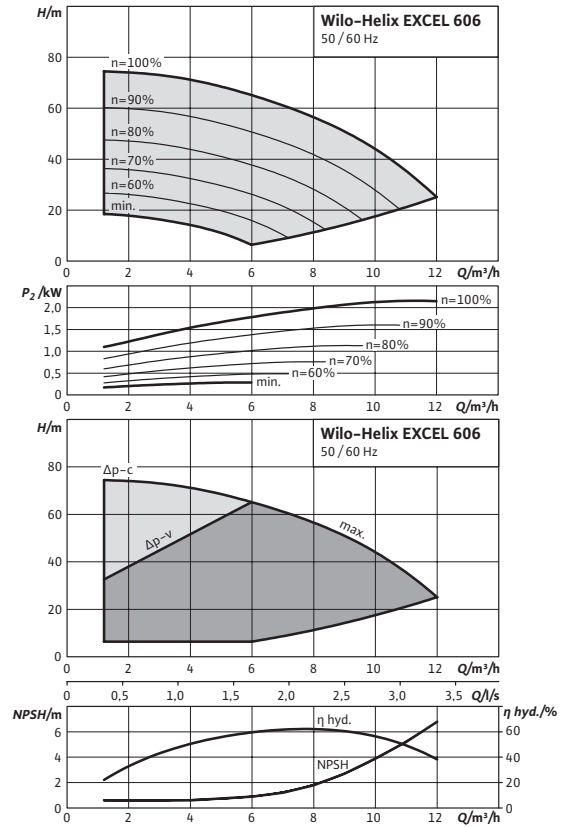
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 603



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 606

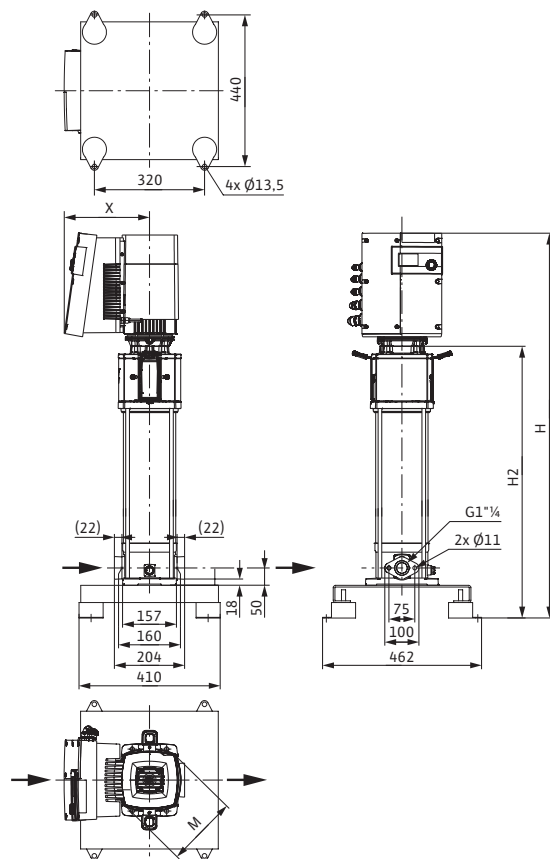


Motor data

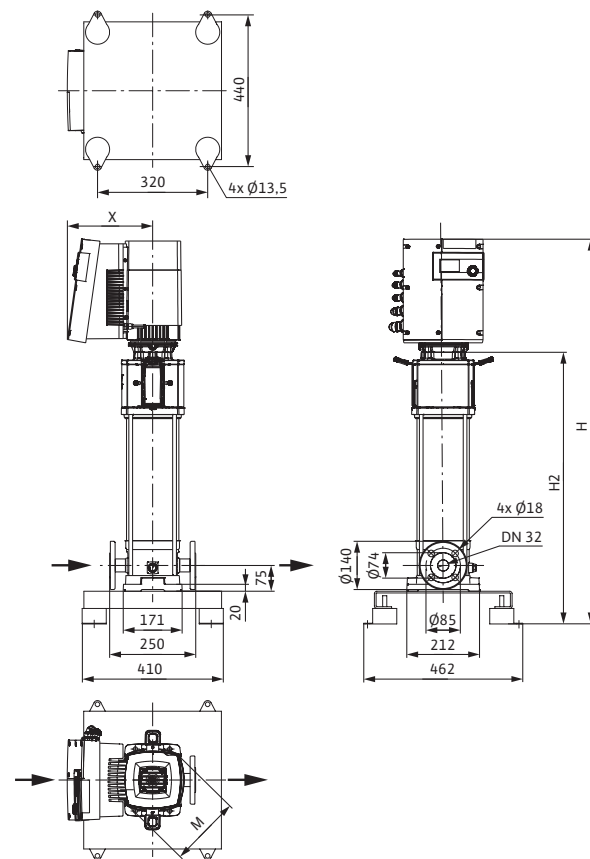
| Type            | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-----------------|-------------|--------------------------------|-----------------------|
|                 | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 603 | 1.10        | 1.88                           | 92.0                  |
| Helix EXCEL 606 | 2.20        | 4.8                            | 93.0                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 6, PN 16



Dimension drawing Helix EXCEL 6, PN 25

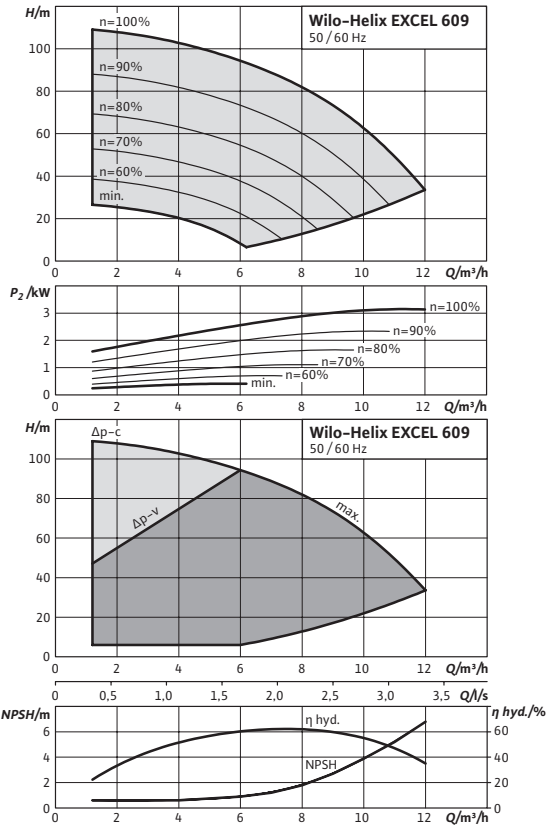


Dimensions, weights

| Type            | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                 |     | Weight approx.<br>$m$<br>kg |
|-----------------|------------------------------------------------|------------|------|-----------------|-----|-----------------------------|
|                 |                                                | $H$        | $H2$ | $\varnothing M$ | $X$ |                             |
| Helix EXCEL 603 | 16                                             | 857        | 529  | 206             | 248 | 47.4                        |
| Helix EXCEL 603 | 25                                             | 882        | 554  | 206             | 248 | 49.4                        |
| Helix EXCEL 606 | 16                                             | 969        | 641  | 206             | 248 | 52.5                        |
| Helix EXCEL 606 | 25                                             | 1004       | 676  | 206             | 248 | 53.5                        |

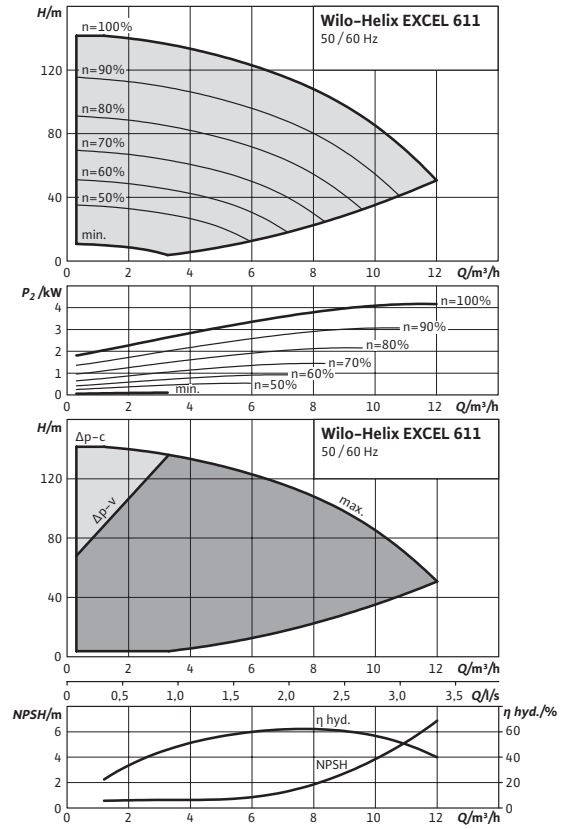
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 609



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 611

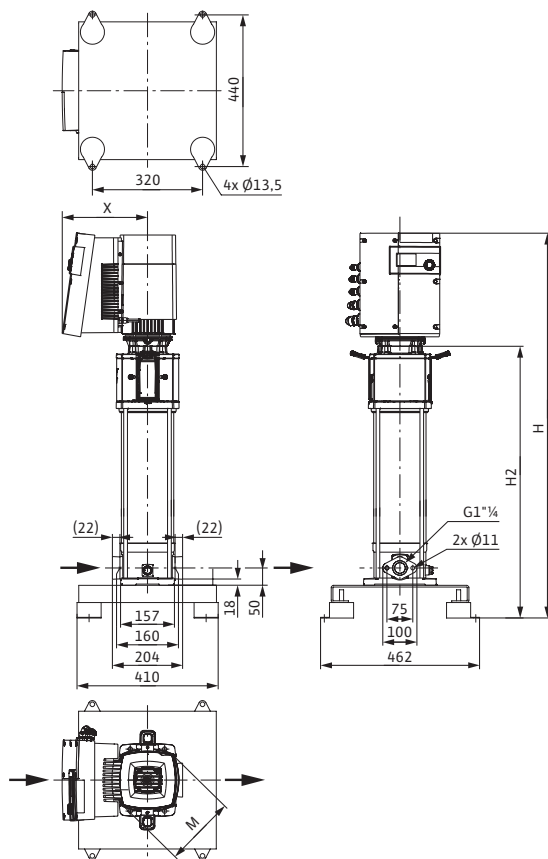


Motor data

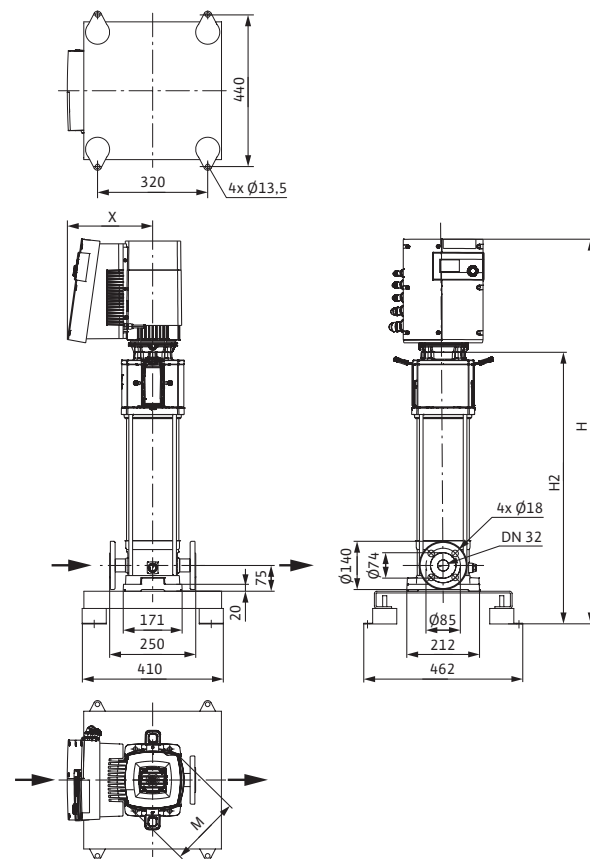
| Type            | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-----------------|-------------|--------------------------------|-----------------------|
|                 | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 609 | 3.20        | 6.4                            | 93.0                  |
| Helix EXCEL 611 | 4.20        | 7.2                            | 95.8                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 6, PN 16



Dimension drawing Helix EXCEL 6, PN 25

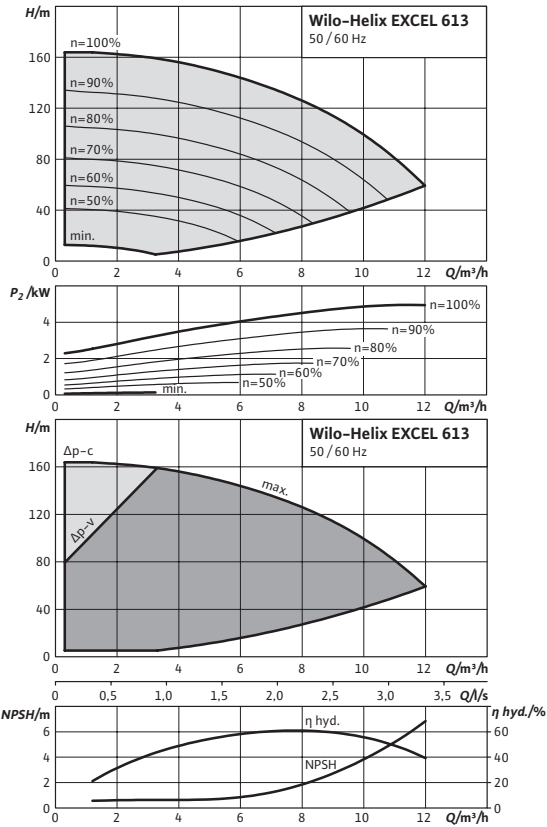


Dimensions, weights

| Type            | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                 |     | Weight approx.<br>$m$<br>kg |
|-----------------|------------------------------------------------|------------|------|-----------------|-----|-----------------------------|
|                 |                                                | $H$        | $H2$ | $\varnothing M$ | $X$ |                             |
|                 |                                                | mm         |      |                 |     |                             |
| Helix EXCEL 609 | 16                                             | 1092       | 764  | 206             | 248 | 54.9                        |
| Helix EXCEL 609 | 25                                             | 1117       | 789  | 206             | 248 | 56.9                        |
| Helix EXCEL 611 | 16                                             | 1406       | 996  | 224             | 256 | 70.0                        |
| Helix EXCEL 611 | 25                                             | 1441       | 1031 | 224             | 256 | 72.0                        |

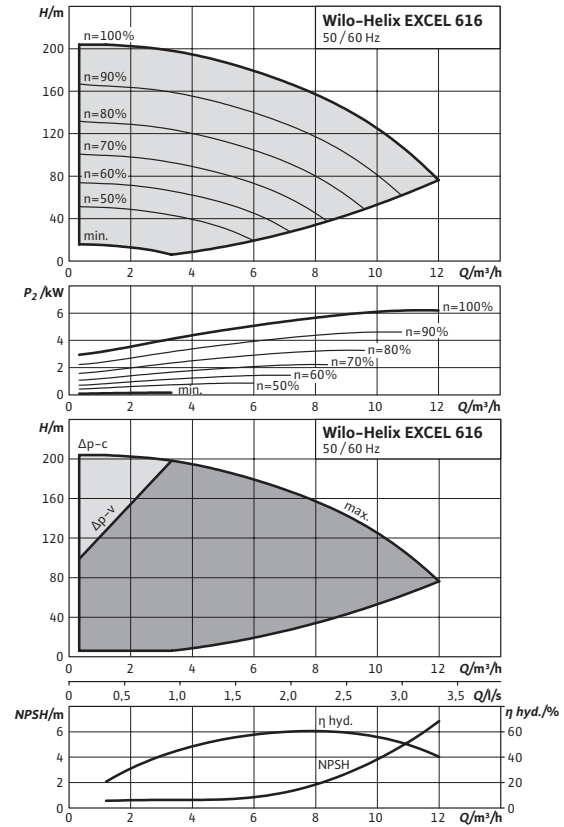
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 613



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 616



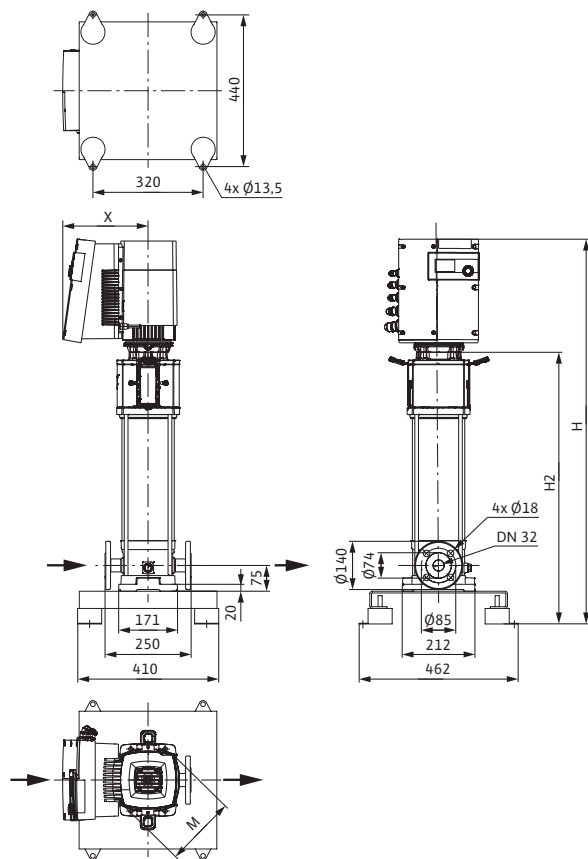
Motor data

| Type            | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-----------------|-------------|--------------------------------|-----------------------|
|                 | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 613 | 5.50        | 9.3                            | 95.8                  |
| Helix EXCEL 616 | 6.50        | 10.9                           | 96.5                  |

Motor efficiency based on 400 V, 50 Hz



Dimension drawing Helix EXCEL 6, PN 25

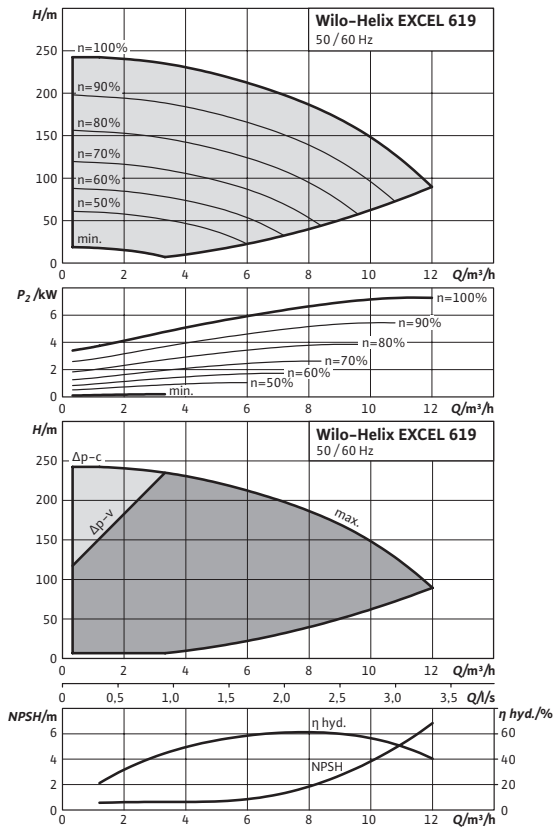


Dimensions, weights

| Type            | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|-----------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                 |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 613 | 25                                             | 1516       | 1106 | 224                   | 268 | 80.0                        |
| Helix EXCEL 616 | 25                                             | 1614       | 1181 | 250                   | 280 | 94.5                        |

Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

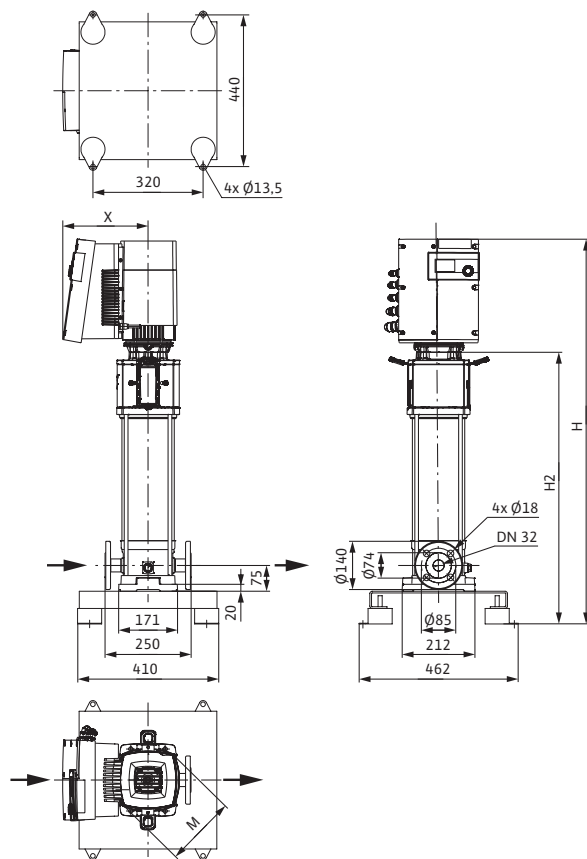
Wilo-Helix EXCEL 619



| Motor data      |             |                                |                       |
|-----------------|-------------|--------------------------------|-----------------------|
| Type            | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|                 | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 619 | 7.50        | 12.5                           | 96.4                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 6, PN 25

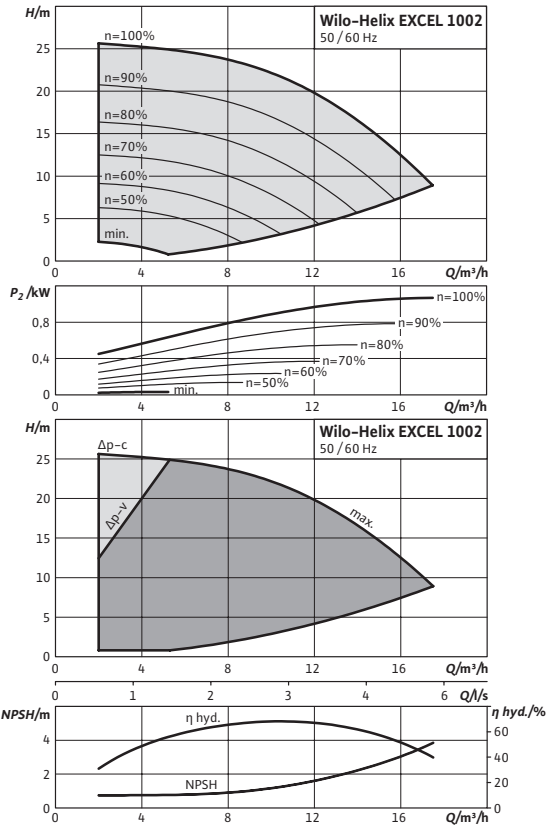


Dimensions, weights

| Type            | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|-----------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                 |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 619 | 25                                             | 1764       | 1331 | 250                   | 280 | 97.5                        |

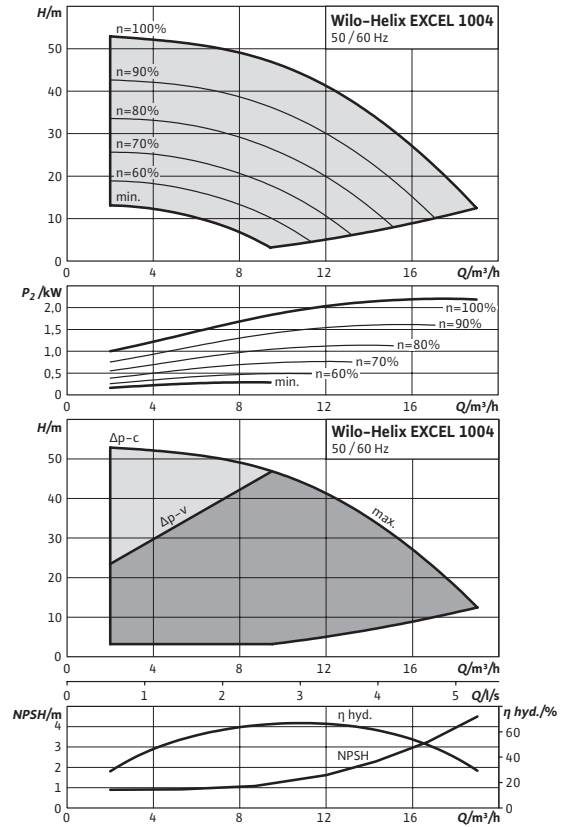
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilco-Helix EXCEL 1002



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilco-Helix EXCEL 1004

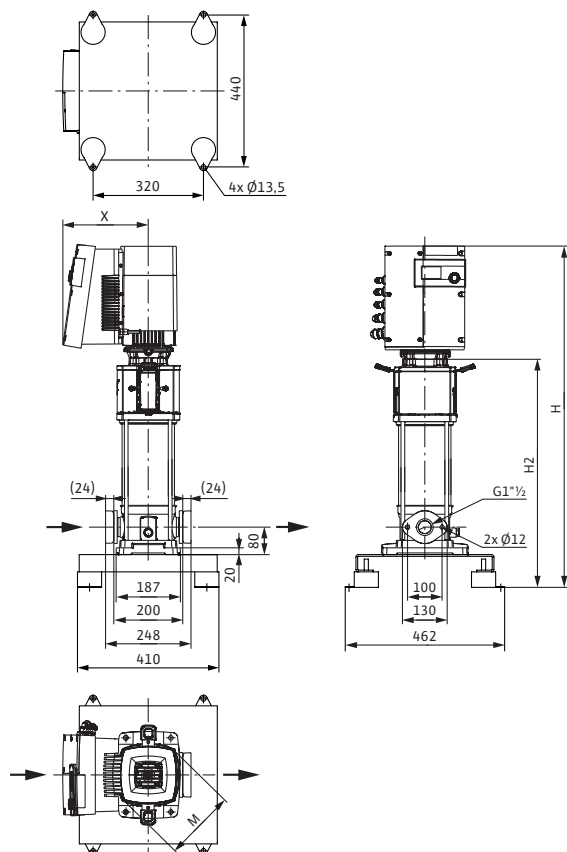


Motor data

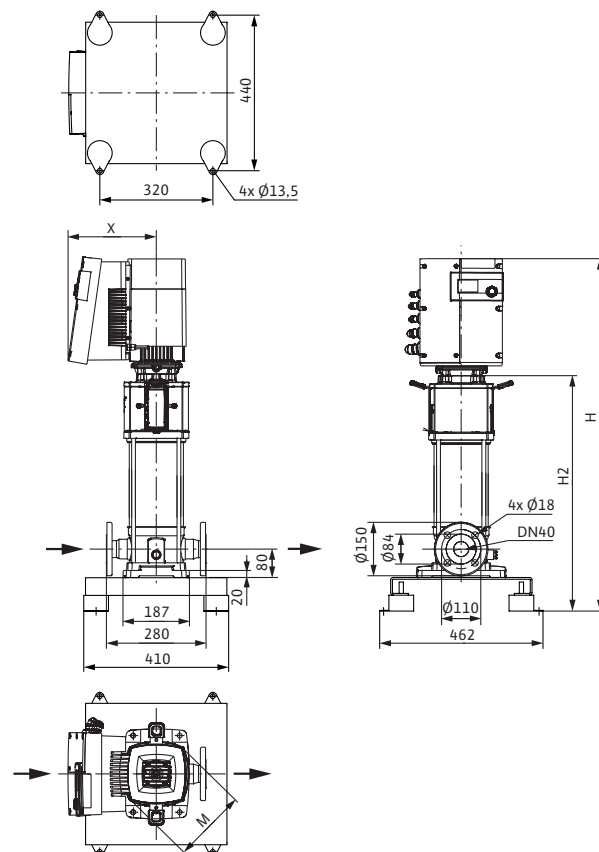
| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 1002 | 1.10        | 1.88                           | 92.0                  |
| Helix EXCEL 1004 | 2.20        | 4.8                            | 93.0                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 10, PN 16



Dimension drawing Helix EXCEL 10, PN 25

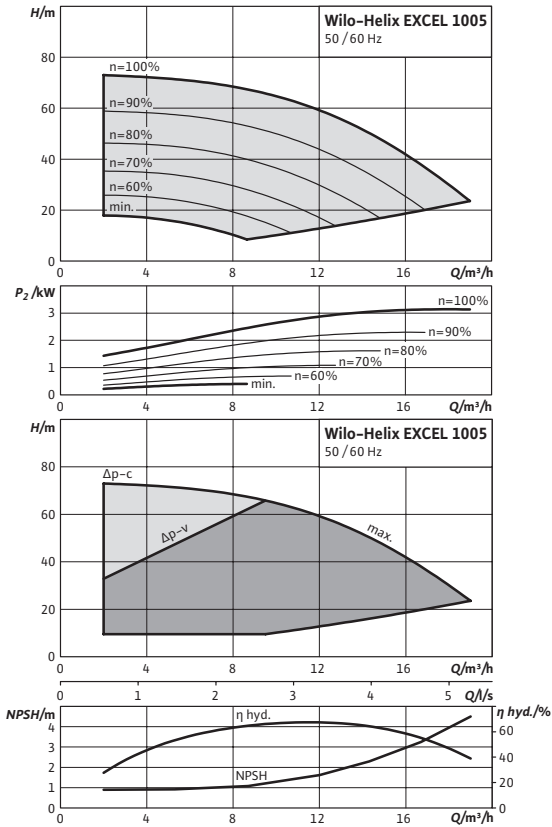


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                 |     | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|-----------------|-----|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\varnothing M$ | $X$ |                             |
| Helix EXCEL 1002 | 16                                             | 840        | 512  | 206             | 248 | 49.8                        |
| Helix EXCEL 1002 | 25                                             | 840        | 512  | 206             | 248 | 50.4                        |
| Helix EXCEL 1004 | 16                                             | 925        | 597  | 206             | 248 | 53.9                        |
| Helix EXCEL 1004 | 25                                             | 925        | 597  | 206             | 248 | 53.9                        |

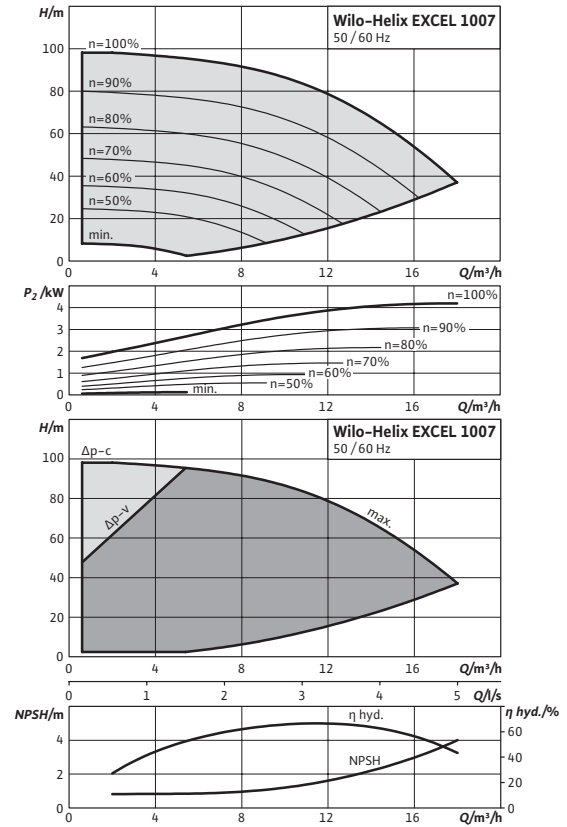
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 1005



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 1007

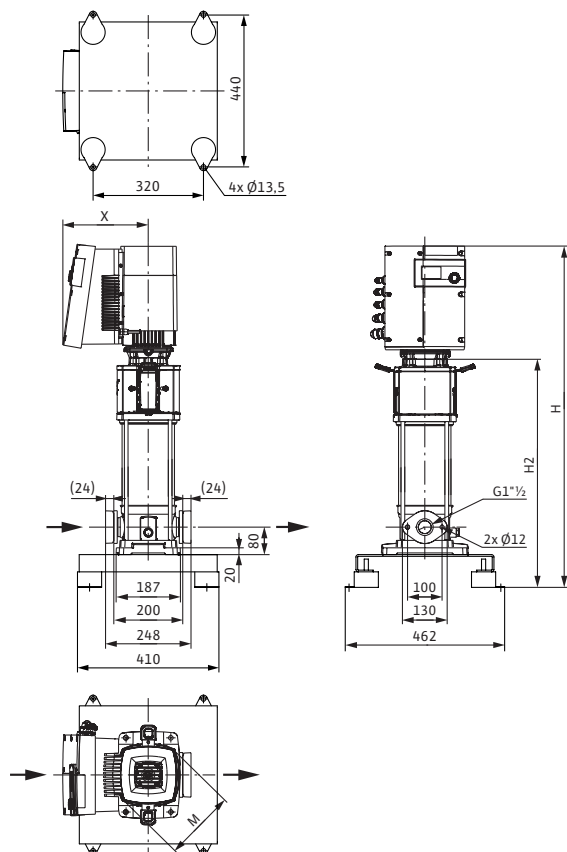


Motor data

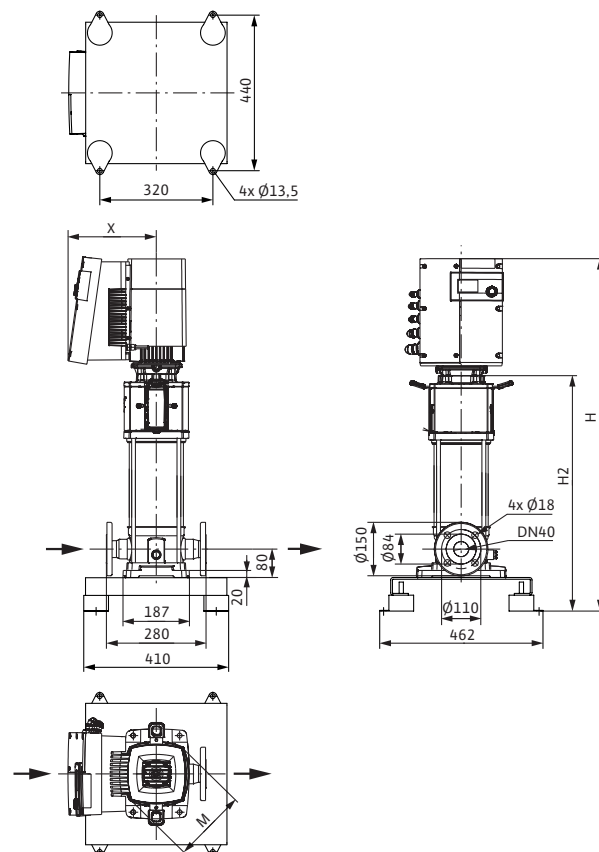
| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 1005 | 3.20        | 6.4                            | 93.0                  |
| Helix EXCEL 1007 | 4.20        | 7.2                            | 95.8                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 10, PN 16



Dimension drawing Helix EXCEL 10, PN 25

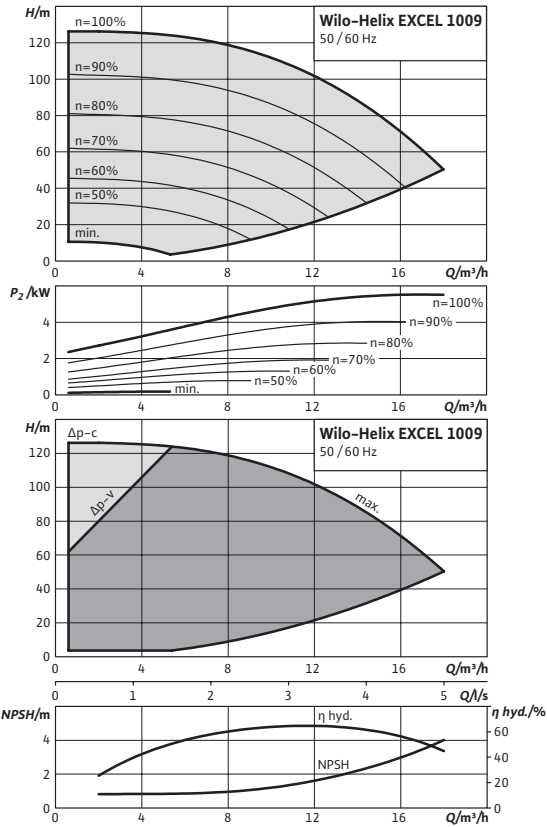


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                 |     | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|-----------------|-----|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\varnothing M$ | $X$ |                             |
| Helix EXCEL 1005 | 16                                             | 963        | 635  | 206             | 248 | 55.2                        |
| Helix EXCEL 1005 | 25                                             | 963        | 635  | 206             | 248 | 55.2                        |
| Helix EXCEL 1007 | 16                                             | 1250       | 840  | 224             | 256 | 70.0                        |
| Helix EXCEL 1007 | 25                                             | 1250       | 840  | 224             | 256 | 70.0                        |

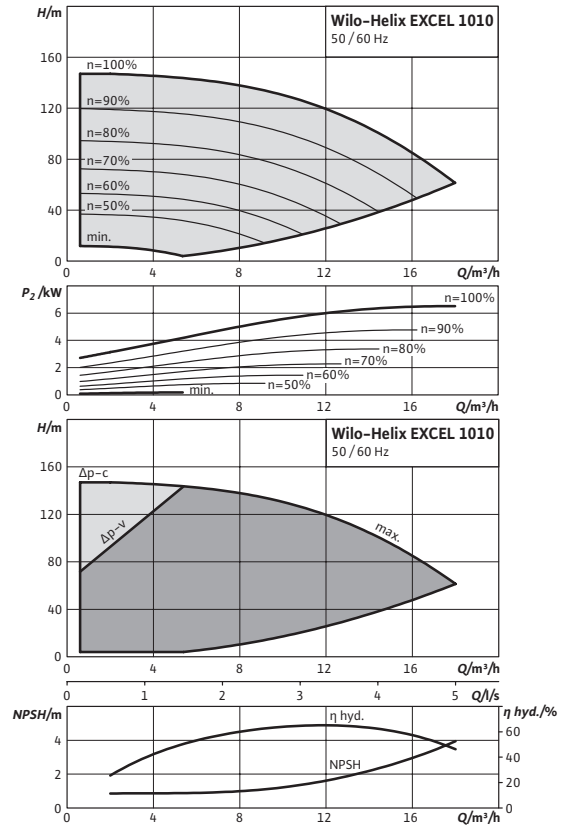
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilco-Helix EXCEL 1009



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilco-Helix EXCEL 1010



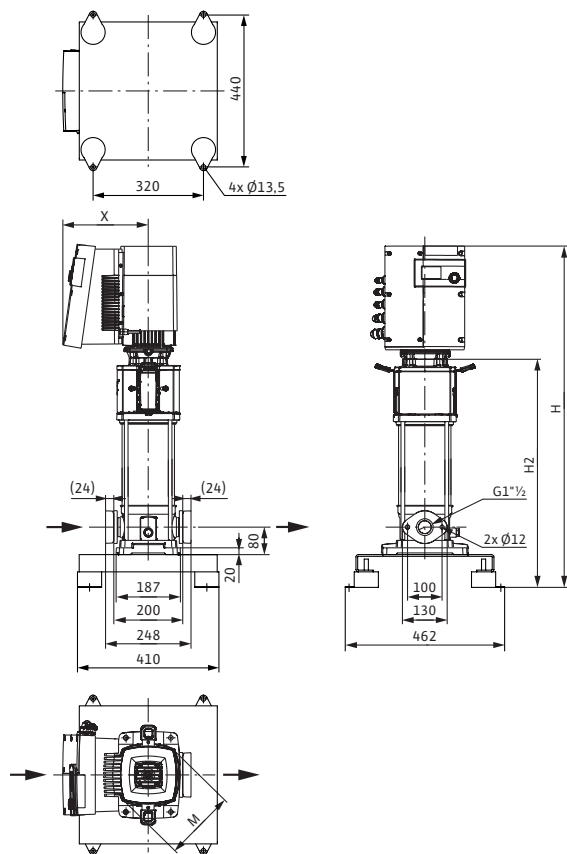
Motor data

| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 1009 | 5.50        | 9.3                            | 95.8                  |
| Helix EXCEL 1010 | 6.50        | 10.9                           | 96.5                  |

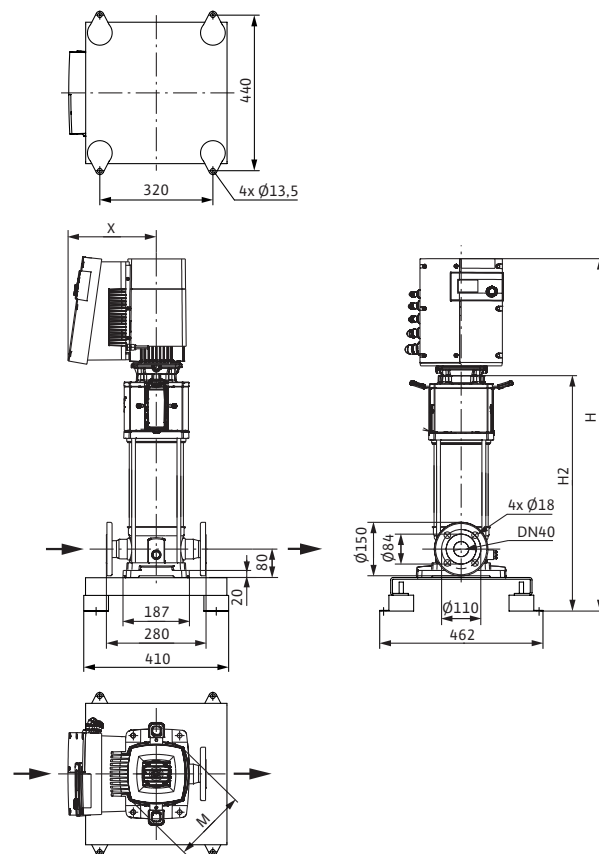
Motor efficiency based on 400 V, 50 Hz



Dimension drawing Helix EXCEL 10, PN 16



Dimension drawing Helix EXCEL 10, PN 25

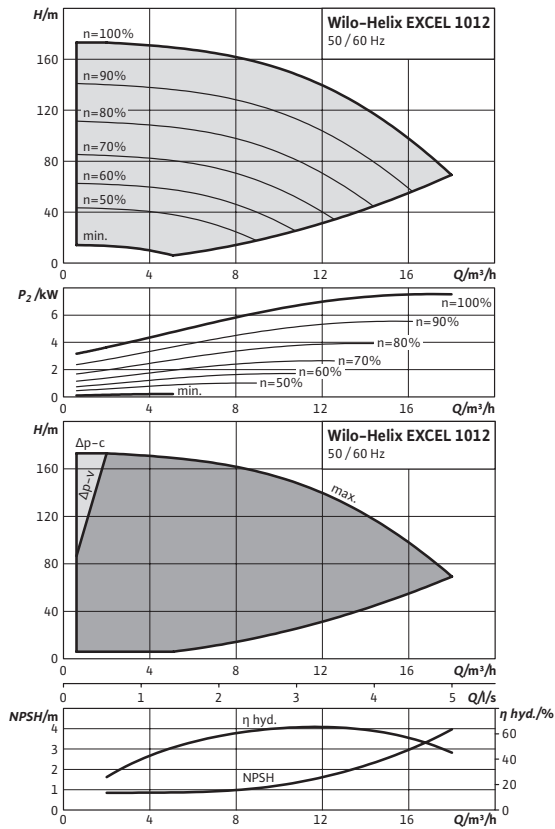


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |     |                |     | Weight approx.<br>m<br>kg |
|------------------|------------------------------------------------|------------|-----|----------------|-----|---------------------------|
|                  |                                                | H          | H2  | $\phi M$<br>mm | X   |                           |
| Helix EXCEL 1009 | 16                                             | 1325       | 915 | 224            | 268 | 78.0                      |
| Helix EXCEL 1009 | 25                                             | 1325       | 915 | 224            | 268 | 86.0                      |
| Helix EXCEL 1010 | 16                                             | 1385       | 952 | 250            | 280 | 91.4                      |
| Helix EXCEL 1010 | 25                                             | 1385       | 952 | 250            | 280 | 91.9                      |

Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

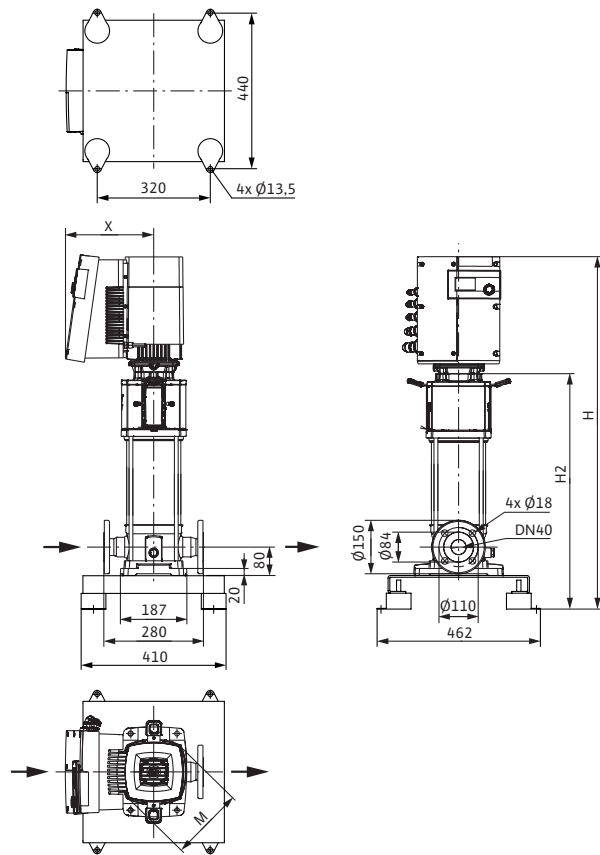
Wilo-Helix EXCEL 1012



| Motor data       |             |                                |                       |
|------------------|-------------|--------------------------------|-----------------------|
| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m,100\%}$<br>% |
| Helix EXCEL 1012 | 7.50        | 12.5                           | 96.4                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 10, PN 25

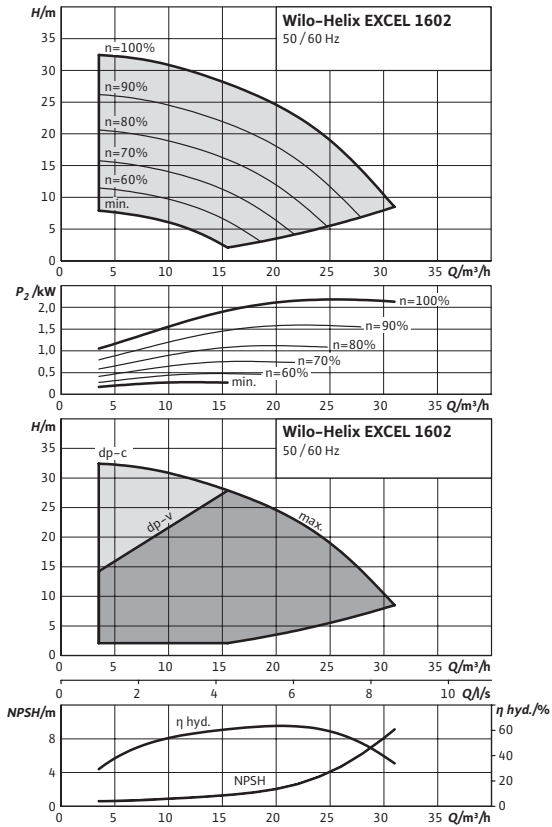


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 1012 | 25                                             | 1460       | 1027 | 250                   | 280 | 93.7                        |

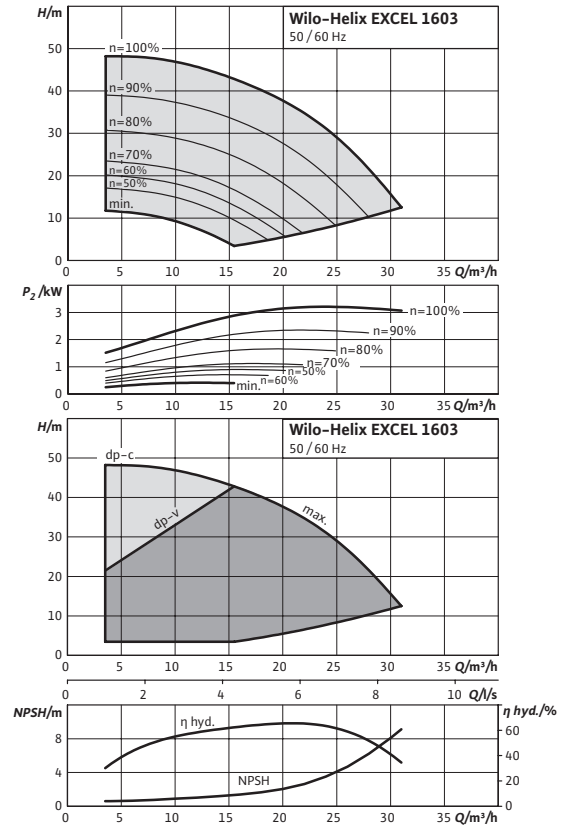
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 1602



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 1603

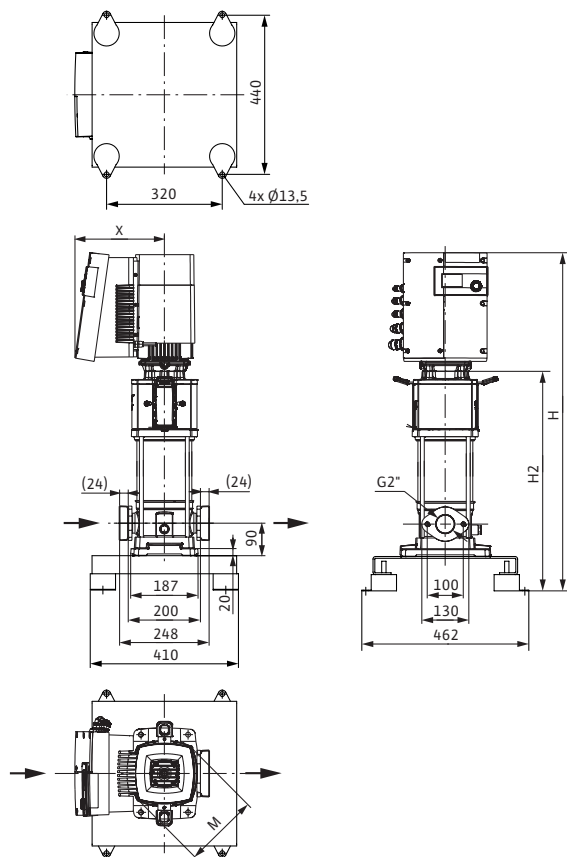


Motor data

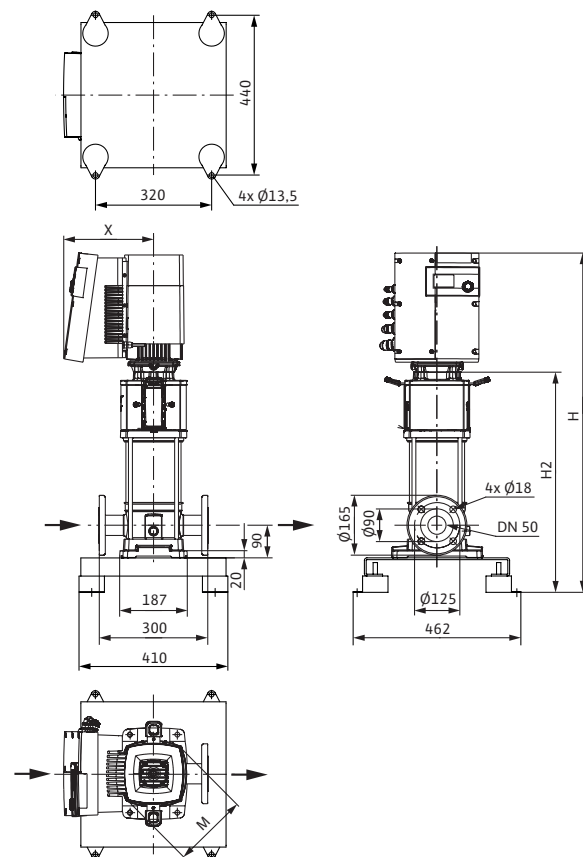
| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 1602 | 2.20        | 4.8                            | 93.0                  |
| Helix EXCEL 1603 | 3.20        | 6.4                            | 93.0                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 16, PN 16



Dimension drawing Helix EXCEL 16, PN 25

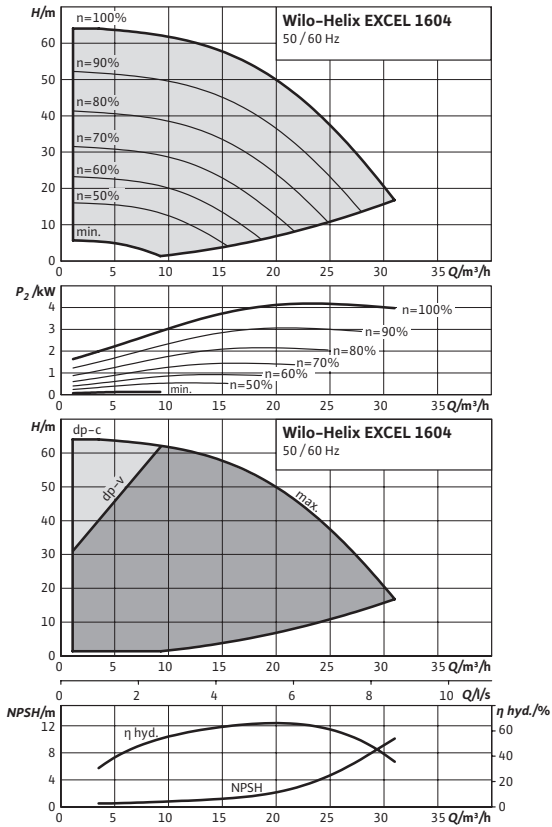


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |          |     | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|----------|-----|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\phi M$ | $X$ |                             |
|                  |                                                | mm         |      |          |     |                             |
| Helix EXCEL 1602 | 16                                             | 885        | 557  | 206      | 248 | 55.5                        |
| Helix EXCEL 1602 | 25                                             | 885        | 557  | 206      | 248 | 55.5                        |
| Helix EXCEL 1603 | 16                                             | 935        | 607  | 206      | 248 | 56.9                        |
| Helix EXCEL 1603 | 25                                             | 935        | 607  | 206      | 248 | 56.9                        |

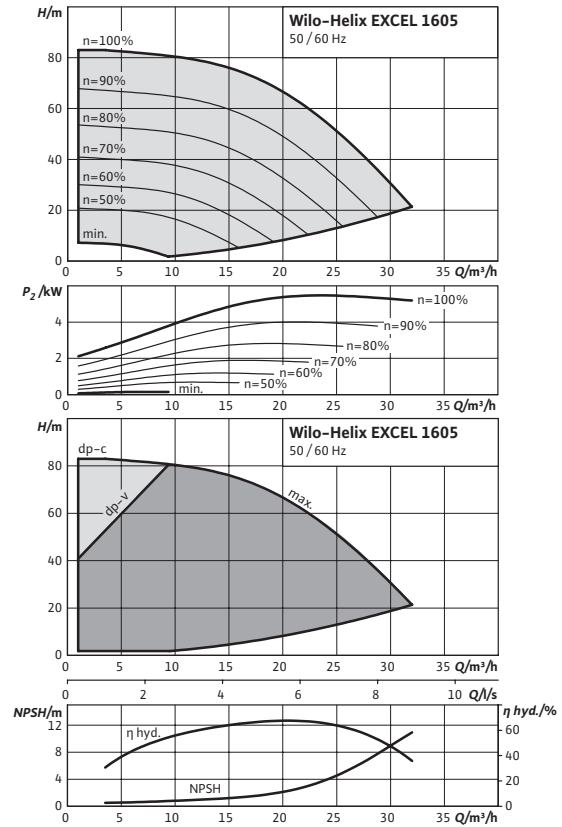
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 1604



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 1605

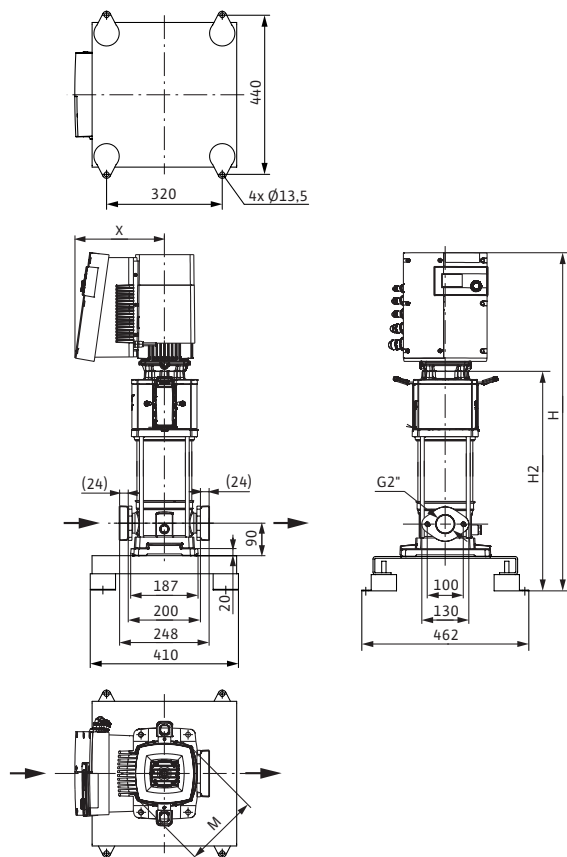


Motor data

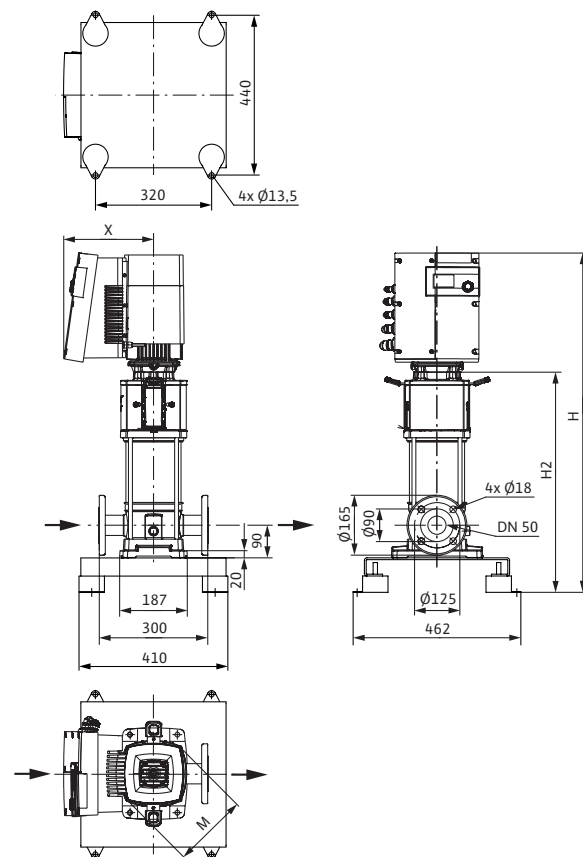
| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 1604 | 4.20        | 7.2                            | 95.8                  |
| Helix EXCEL 1605 | 5.50        | 9.3                            | 95.8                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 16, PN 16



Dimension drawing Helix EXCEL 16, PN 25

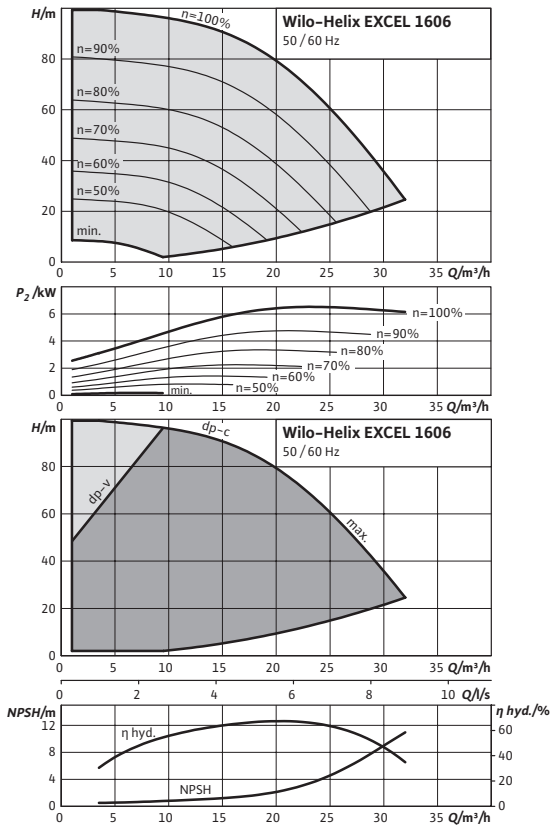


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |          |     | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|----------|-----|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\phi M$ | $X$ |                             |
|                  |                                                | mm         |      |          |     |                             |
| Helix EXCEL 1604 | 16                                             | 1197       | 787  | 224      | 256 | 70.0                        |
| Helix EXCEL 1604 | 25                                             | 1197       | 787  | 224      | 256 | 70.0                        |
| Helix EXCEL 1605 | 16                                             | 1247       | 837  | 224      | 268 | 77.0                        |
| Helix EXCEL 1605 | 25                                             | 1247       | 837  | 224      | 268 | 84.0                        |

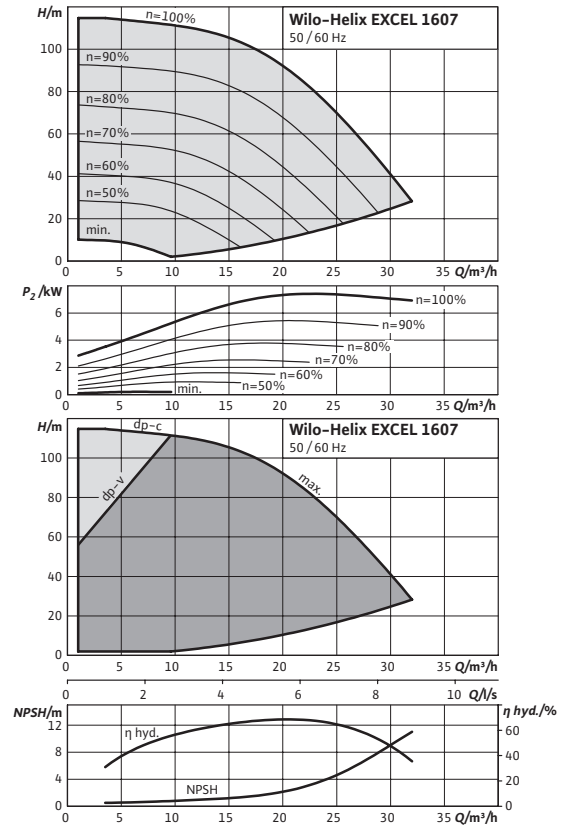
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 1606



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 1607



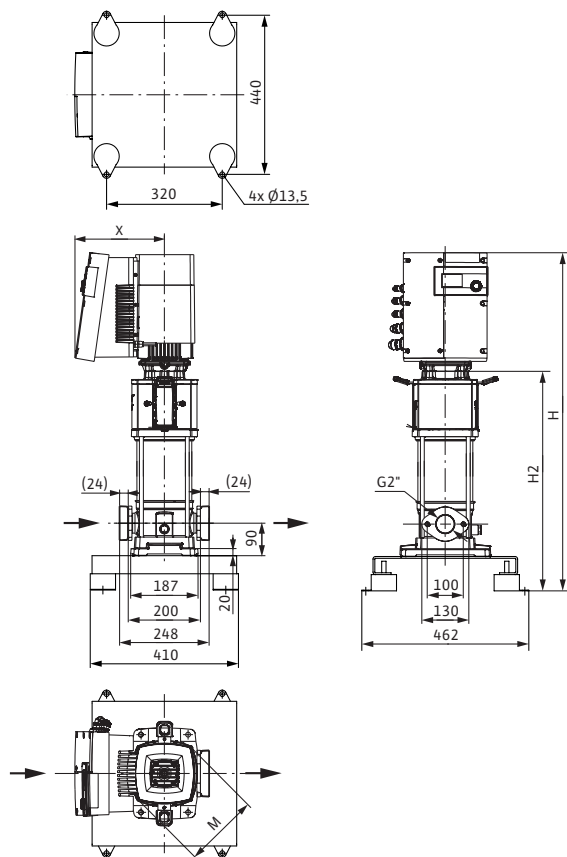
Motor data

| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 1606 | 6.50        | 10.9                           | 96.5                  |
| Helix EXCEL 1607 | 7.50        | 12.5                           | 96.4                  |

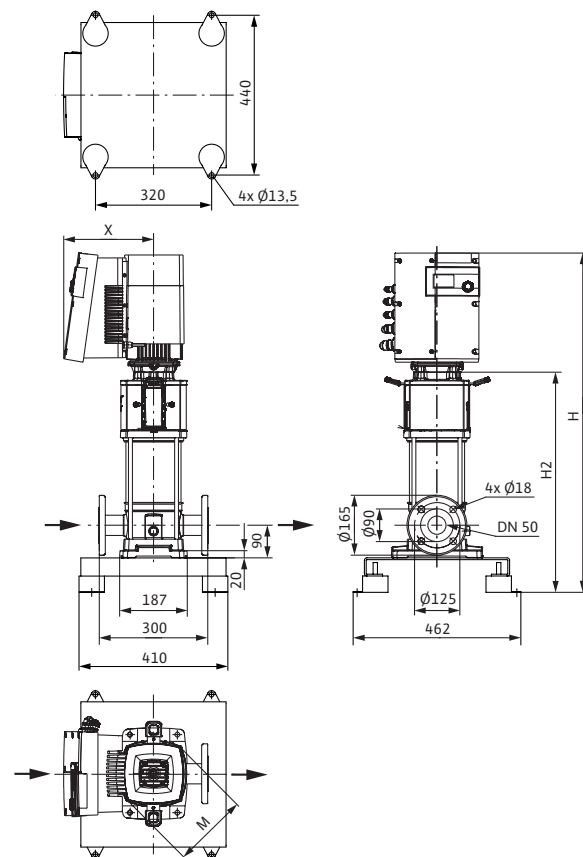
Motor efficiency based on 400 V, 50 Hz



Dimension drawing Helix EXCEL 16, PN 16



Dimension drawing Helix EXCEL 16, PN 25

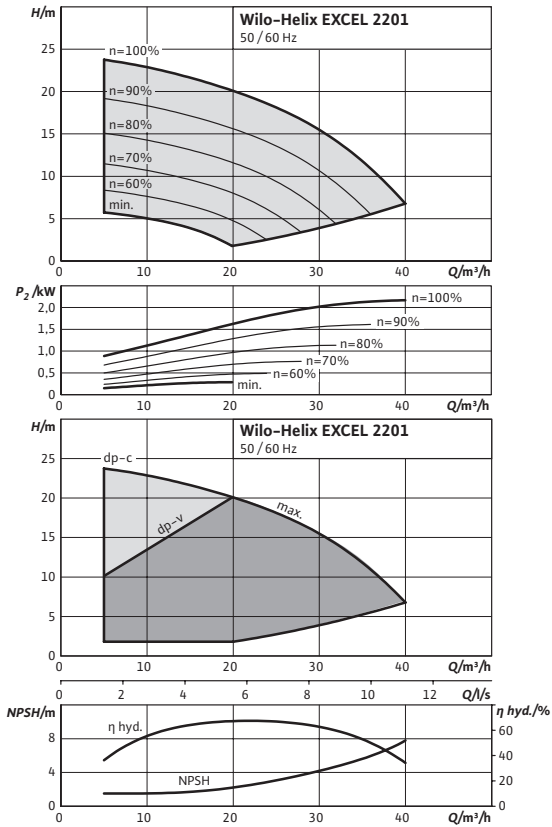


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 1606 | 16                                             | 1320       | 887  | 250                   | 280 | 91.5                        |
| Helix EXCEL 1606 | 25                                             | 1320       | 887  | 250                   | 280 | 91.5                        |
| Helix EXCEL 1607 | 16                                             | 1370       | 937  | 250                   | 280 | 92.5                        |
| Helix EXCEL 1607 | 25                                             | 1370       | 937  | 250                   | 280 | 92.5                        |

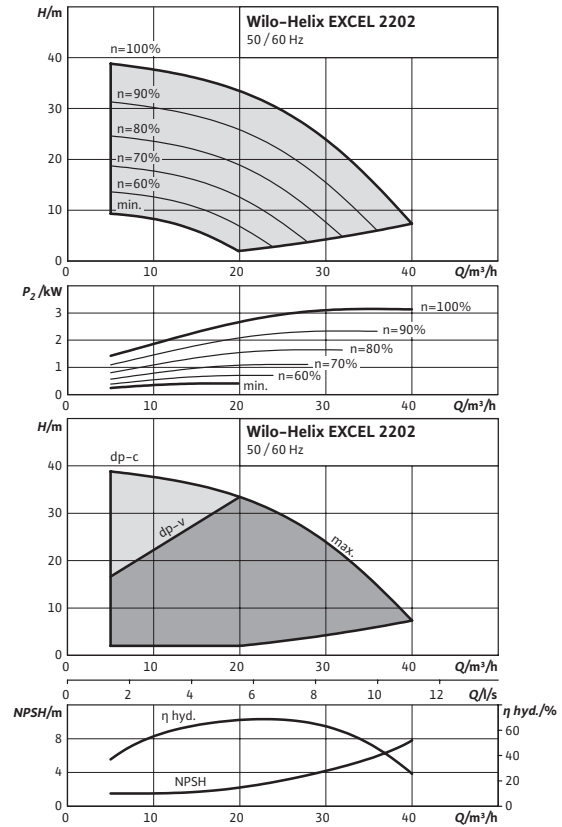
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 2201



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 2202

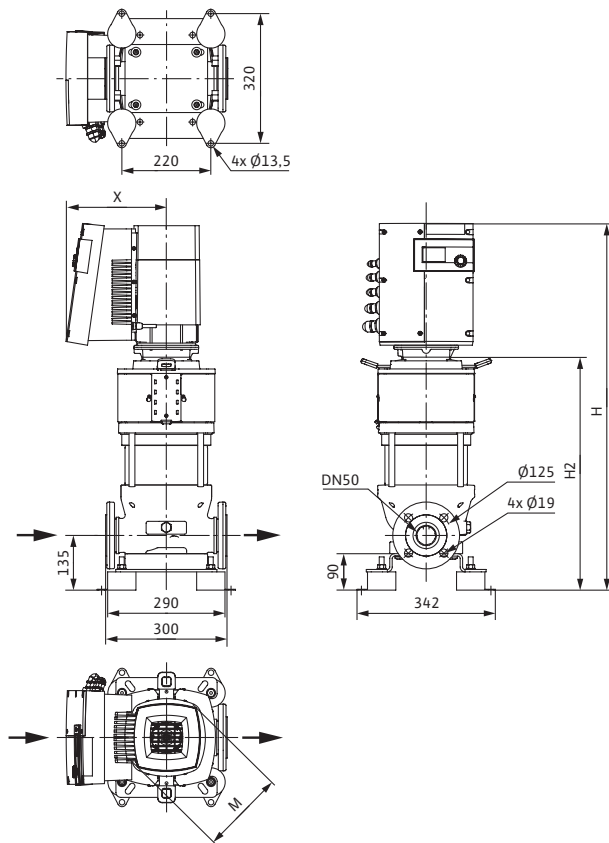


Motor data

| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 2201 | 2.20        | 4.8                            | 93.0                  |
| Helix EXCEL 2202 | 3.20        | 6.4                            | 93.0                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 22

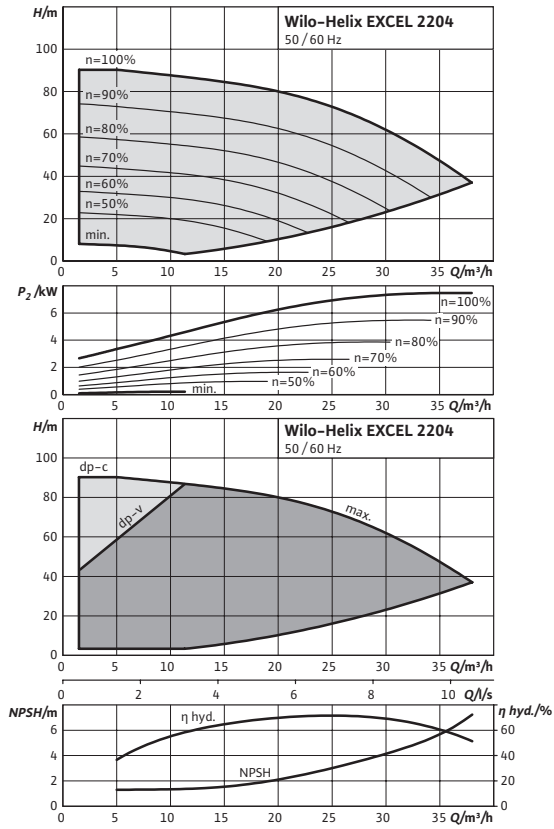


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 2201 | 16                                             | 913        | 586  | 206                   | 248 | 67.5                        |
| Helix EXCEL 2202 | 16                                             | 913        | 585  | 206                   | 248 | 77.1                        |

Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 2204

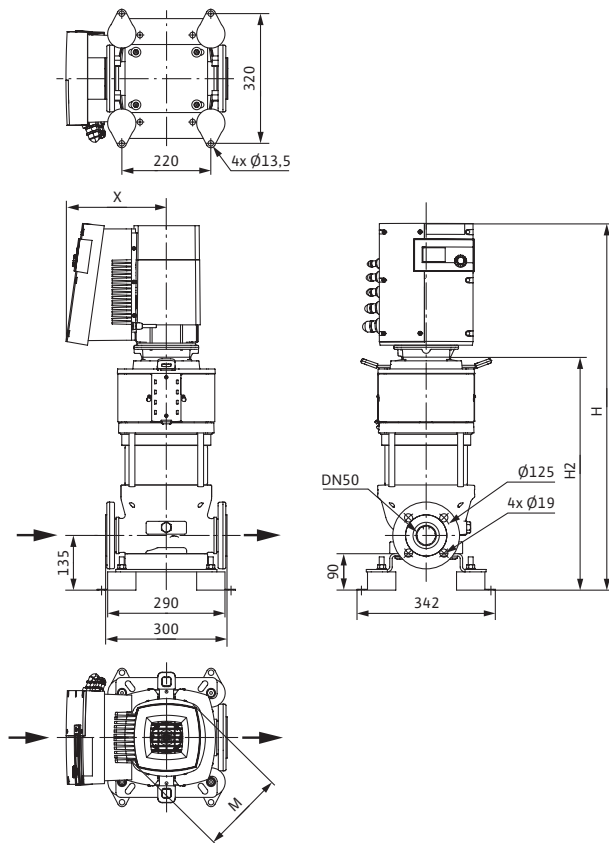


Motor data

| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m,100\%}$<br>% |
| Helix EXCEL 2204 | 7.50        | 12.5                           | 96.4                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 22

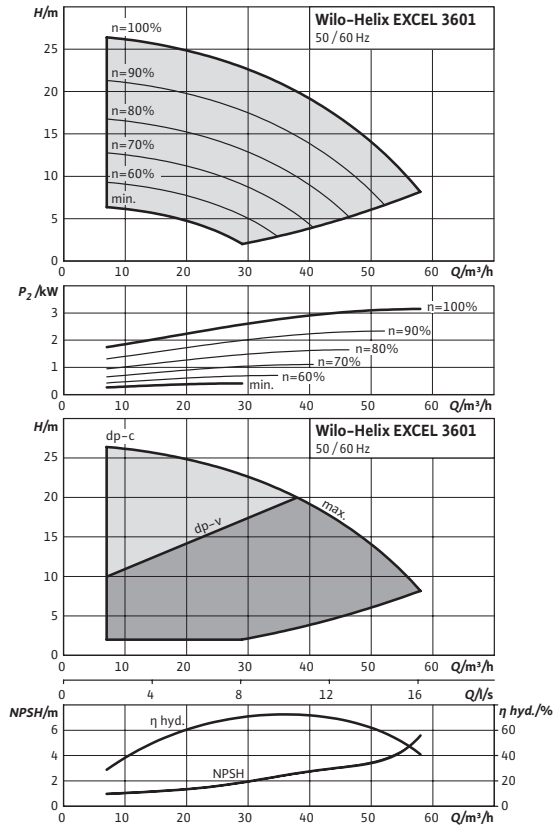


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 2204 | 16                                             | 1245       | 812  | 250                   | 280 | 103.5                       |
| Helix EXCEL 2204 | 25                                             | 1245       | 812  | 250                   | 280 | 103.5                       |

Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 3601

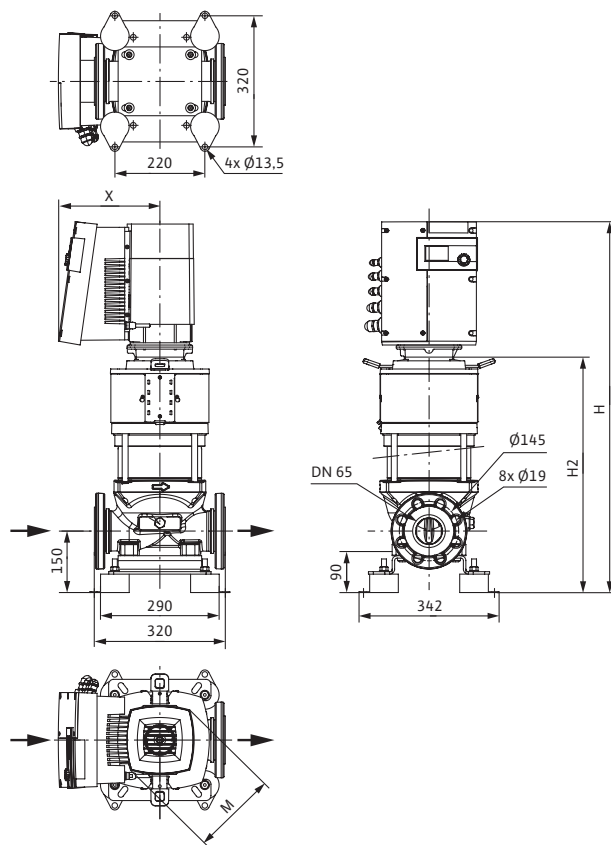


Motor data

| Type             | Rated power                        | Nominal current 3~400 V, 50 Hz   | Motor efficiency                       |
|------------------|------------------------------------|----------------------------------|----------------------------------------|
| Helix EXCEL 3601 | 3.20<br><i>P<sub>2</sub></i><br>kW | 6.4<br><i>I<sub>N</sub></i><br>A | 93.0<br><i>η<sub>m 100%</sub></i><br>% |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 36

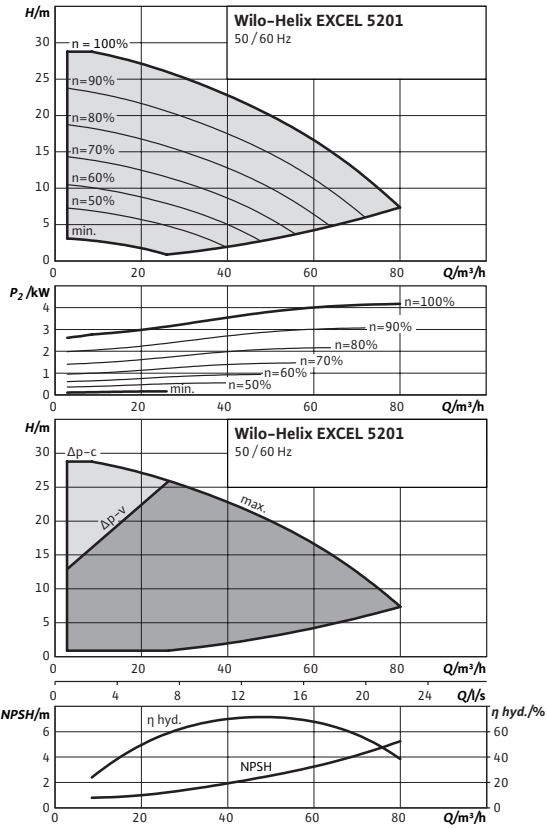


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     |      | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|-----------------------|-----|------|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |      |                             |
| Helix EXCEL 3601 | 16                                             | 895        | 567  | 206                   | 248 | 75.9 |                             |

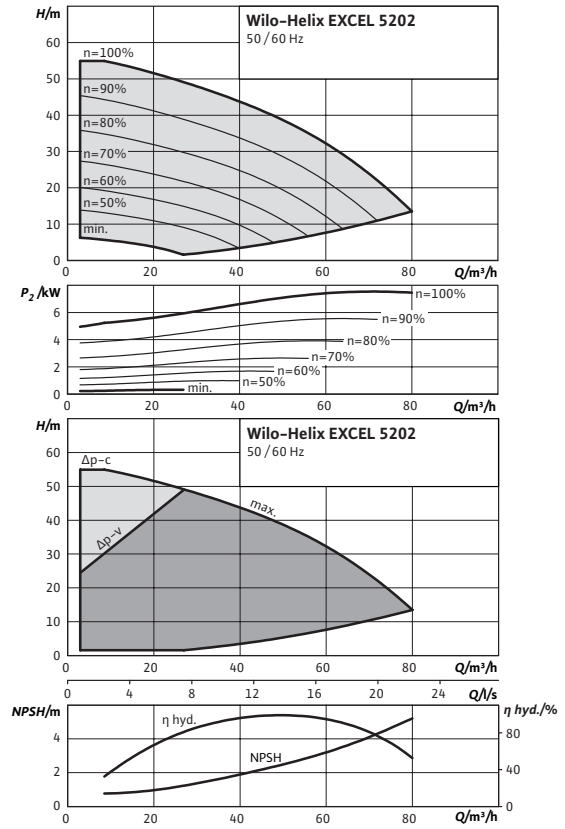
Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 5201



Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 5202



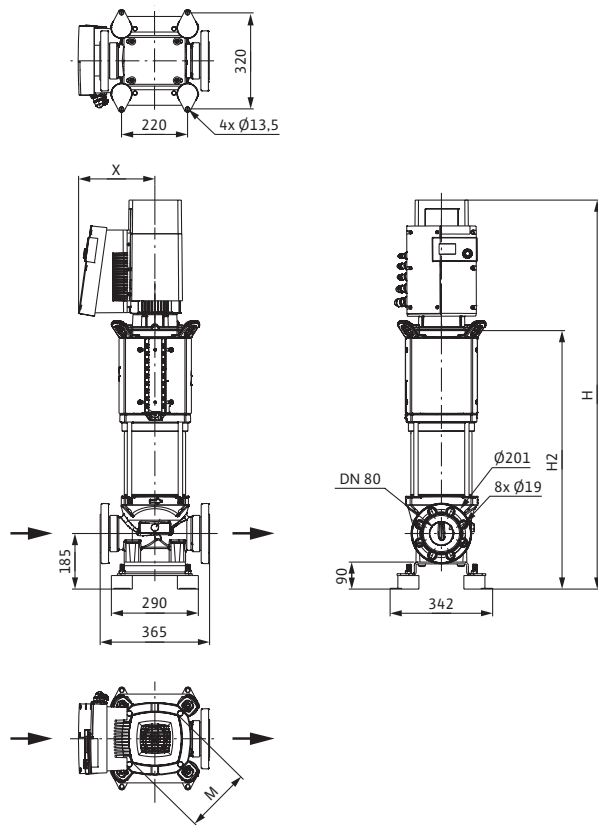
Motor data

| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 5201 | 4.20        | 7.2                            | 95.8                  |
| Helix EXCEL 5202 | 7.50        | 12.5                           | 96.4                  |

Motor efficiency based on 400 V, 50 Hz



Dimension drawing Helix EXCEL 52

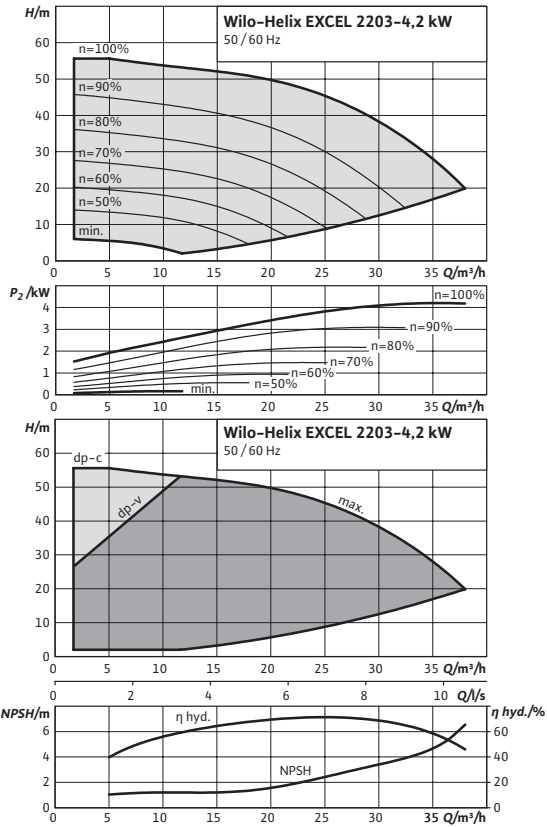


Dimensions, weights

| Type             | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|------------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                  |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 5201 | 16                                             | 1142       | 732  | 224                   | 256 | 102.0                       |
| Helix EXCEL 5202 | 16                                             | 1261       | 828  | 250                   | 280 | 129.0                       |

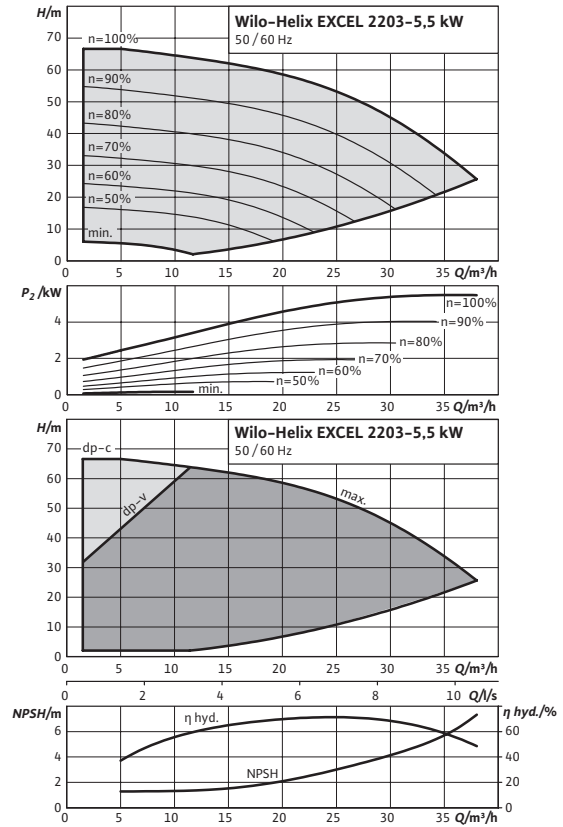
Pump curves Minimum Efficiency Index (MEI): ≥ 0.7

Wilo-Helix EXCEL 2203-4.2 kW



Pump curves Minimum Efficiency Index (MEI): ≥ 0.7

Wilo-Helix EXCEL 2203-5.5 kW

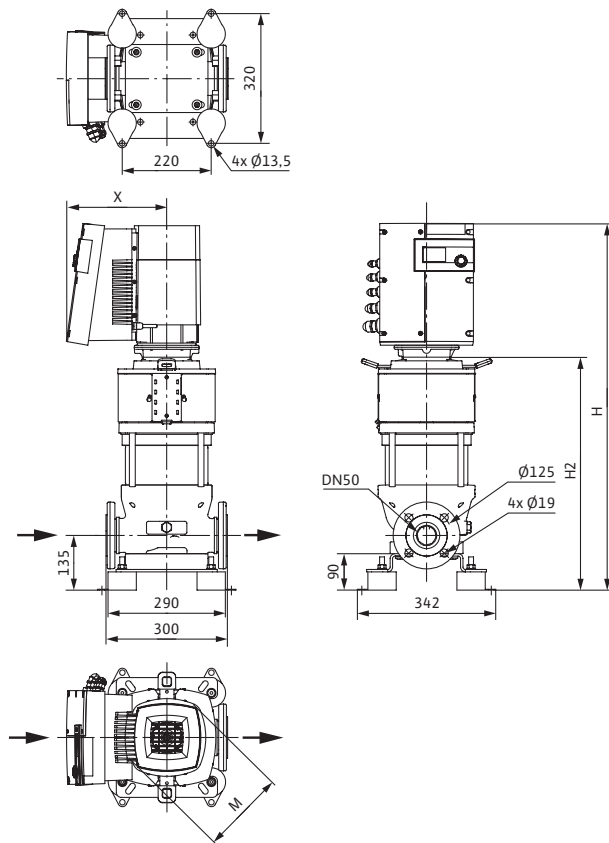


Motor data

| Type                 | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|----------------------|-------------|--------------------------------|-----------------------|
|                      | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 2203     | 4.20        | 7.2                            | 95.8                  |
| Helix EXCEL 2203-5.5 | 5.50        | 9.3                            | 95.8                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 22

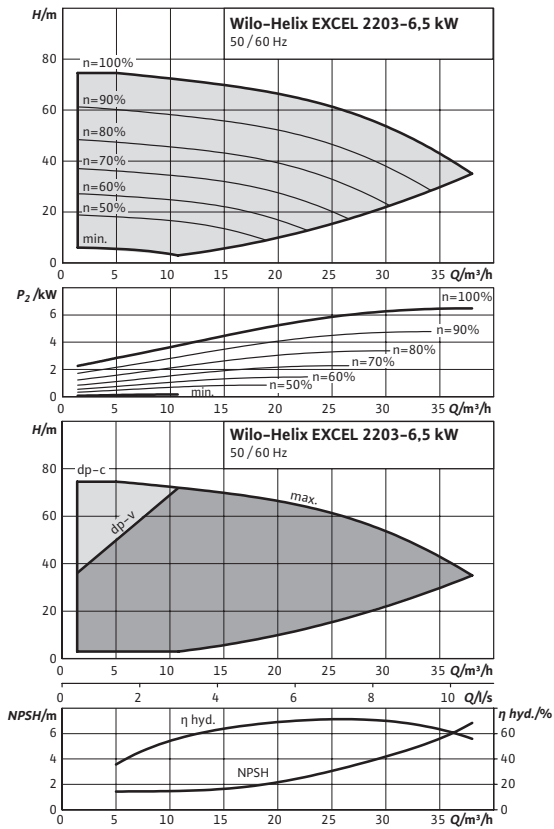


Dimensions, weights

| Type                 | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|----------------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                      |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 2203     | 16                                             | 1172       | 762  | 224                   | 256 | 83.0                        |
| Helix EXCEL 2203-5.5 | 25                                             | 1172       | 762  | 224                   | 268 | 96.0                        |

Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 2203-6.5 kW

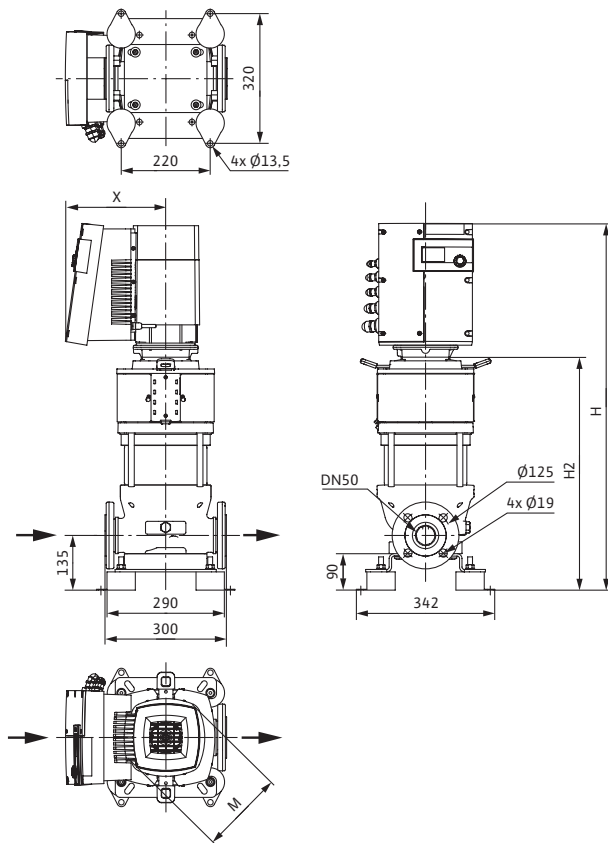


Motor data

| Type             | Rated power         | Nominal current 3~400 V, 50 Hz | Motor efficiency              |
|------------------|---------------------|--------------------------------|-------------------------------|
| Helix EXCEL 2203 | 6.50<br>$P_2$<br>kW | 10.9<br>$I_N$<br>A             | 96.5<br>$\eta_{m 100\%}$<br>% |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 22

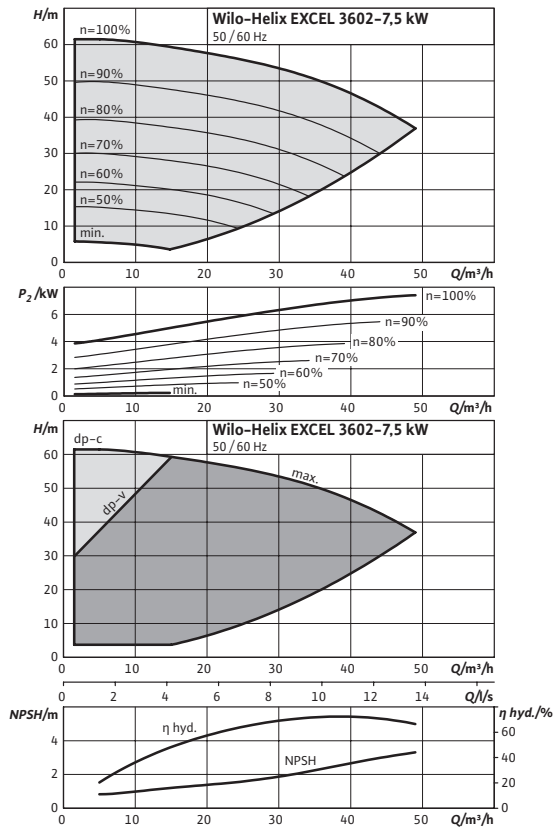


Dimensions, weights

| Type                 | Maximum operating pressure | Dimensions |      |                 |     | Weight approx. |
|----------------------|----------------------------|------------|------|-----------------|-----|----------------|
|                      |                            | $H$        | $H2$ | $\varnothing M$ | $X$ |                |
|                      | $p_{max}$<br>bar           |            |      | mm              |     | $m$<br>kg      |
| Helix EXCEL 2203     | 16                         | 1195       | 762  | 250             | 280 | 99.5           |
| Helix EXCEL 2203-6.5 | 25                         | 1195       | 762  | 250             | 280 | 99.5           |

Pump curves Minimum Efficiency Index (MEI):  $\geq 0.7$

Wilo-Helix EXCEL 3602-7.5 kW

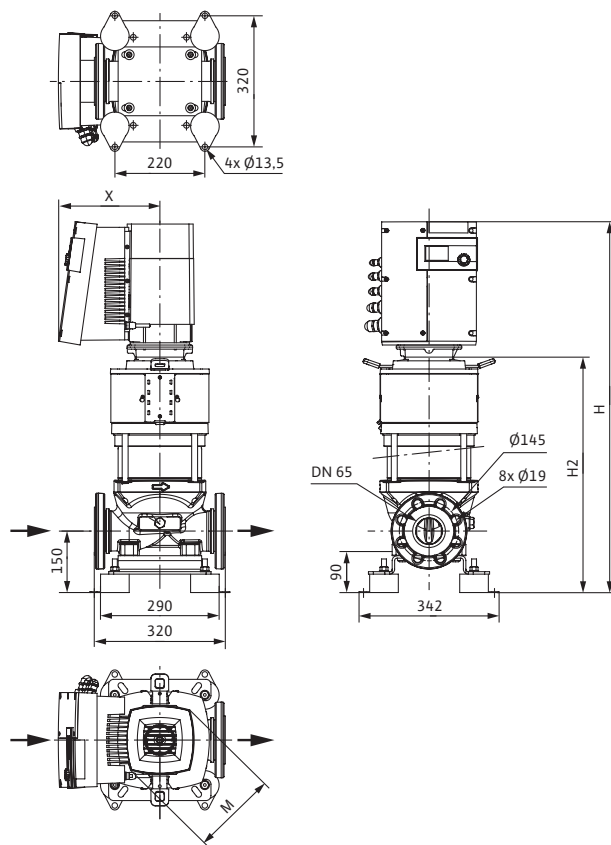


Motor data

| Type             | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|------------------|-------------|--------------------------------|-----------------------|
|                  | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 3602 | 7.50        | 12.5                           | 96.4                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing Helix EXCEL 36



Dimensions, weights

| Type                 | Maximum operating pressure<br>$p_{max}$<br>bar | Dimensions |      |                       |     | Weight approx.<br>$m$<br>kg |
|----------------------|------------------------------------------------|------------|------|-----------------------|-----|-----------------------------|
|                      |                                                | $H$        | $H2$ | $\varnothing M$<br>mm | $X$ |                             |
| Helix EXCEL 3602     | 16                                             | 1193       | 760  | 250                   | 280 | 114.5                       |
| Helix EXCEL 3602-7.5 | 25                                             | 1193       | 760  | 250                   | 280 | 117.5                       |

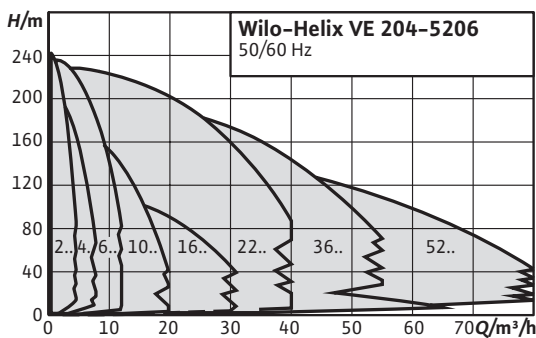


### Wilo-Helix VE



Electronically controlled, non-self-priming high-pressure multistage centrifugal pump in vertical design, with in-line connections

- Multistage, speed-configurable stainless steel high-efficiency pump with 2D/3D hydraulics and standard motor
- Optimised design for easy operation, transportation and installation with handles, lantern-adjustment and controllable free flanges
- User-friendly display with Green Button Technology and full text menu
- IF plug-in module for quick communication with the BMS
- Quick maintenance due to innovative cartridge mechanical seal and spacers
- Lower life cycle costs due to new Helix design



**Select 4 online**  
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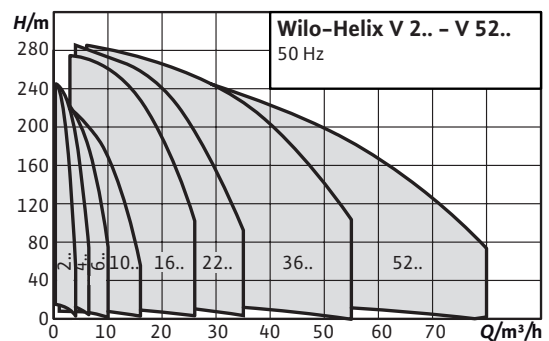


### Wilo-Helix V



Non-self-priming, high-efficiency multistage high-pressure centrifugal pump in vertical design with in-line connections

- Efficiency-optimised, laser-welded 2D/3D hydraulics, flow and degassing optimised
- Corrosion-resistant impellers, guide vane apparatuses and stage housings
- Flow and NPSH-optimised pump housing
- Maintenance-friendly design with particularly robust coupling guard
- Drinking water approval for pumps with parts that come in contact with the fluid made of stainless steel (EPDM version)



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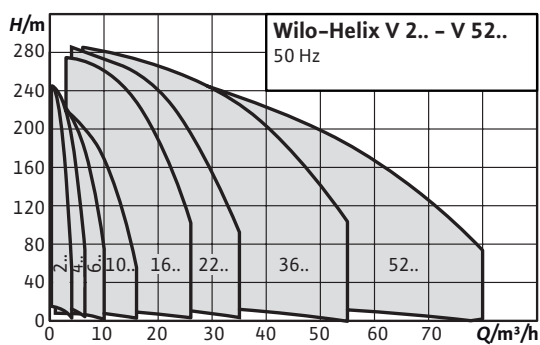
### Wilo-Helix X-Care



Non self-priming, highly efficient high-pressure multistage centrifugal pump in vertical design with in-line connections with "X-Care" additional module (sensor system for monitoring the pump with building automation connection option)

Helix pumps with an X-Care module combine the advantages of the Helix V series with those of constant monitoring of the pump parameters.

- Integrated dry-running protection
- Integrated pump monitoring (rotation speed, sense of rotation, operating pressure, operating temperature, elapsed time indicator, Start/Stop counter, overpressure protection)
- LED display
- Interfaces (IR, CAN)



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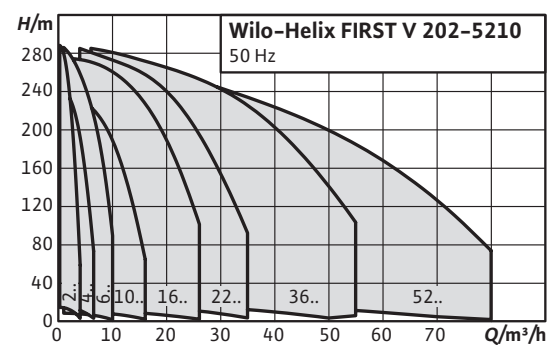


### Wilo-Helix FIRST V



Non-self-priming, high-efficiency multistage high-pressure centrifugal pump in vertical design with in-line connections

- Efficiency-optimised, laser-welded, optimised 2D/3D hydraulics
- Corrosion-resistant impellers, guide vane apparatuses and stage housings
- Flow and degassing-optimised hydraulic parts
- Reinforced pump housing, flow and NPSH optimised
- Space-saving and easy maintenance thanks to compact design
- Particularly sturdy coupling guard



**Select 4online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

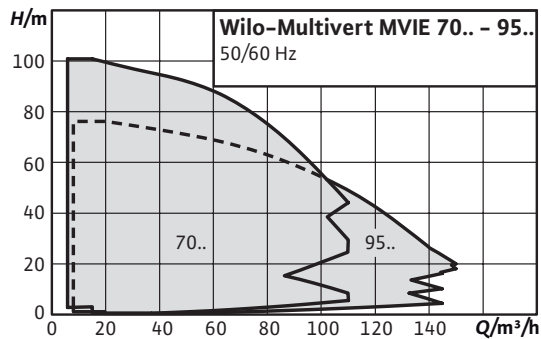


### Wilo-Multivert MVIE



Non-self-priming multistage pump with integrated frequency converter

- Easy commissioning
- Integrated frequency converter with large control range
- Full motor protection
- Hydraulics in stainless steel
- Drinking water approval for all components that come in contact with the fluid (EPDM version)



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

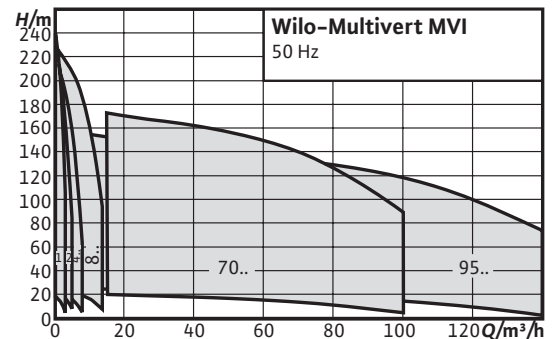


### Wilo-Multivert MVI



Non-self-priming multistage pump

- Corrosion-resistant impellers, diffusers and stage housings
- Drinking water approval for all components that come in contact with the fluid (EPDM version)



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

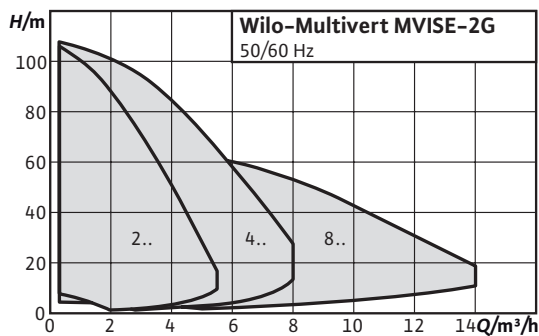


### Wilo-Multivert MWISE



Non-self-priming multistage pump with glandless pump motor and integrated frequency converter

- Glandless pump technology
- Virtually noiseless operation (up to 20 dB [A] quieter than conventional pumps)
- Space-saving, compact design
- Virtually maintenance free thanks to a design which does not feature any mechanical seals
- Drinking water approval for all components that come in contact with the fluid (EPDM version)



Select 4 online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

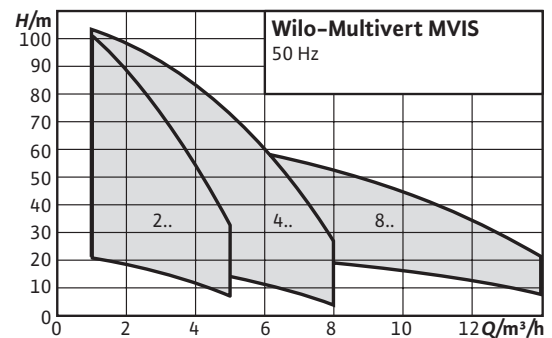


### Wilo-Multivert MVIS



Non-self-priming multistage pump with glandless pump motor

- Glandless pump technology
- Virtually noiseless operation (up to 20 dB [A] quieter than conventional pumps)
- Space-saving, compact design
- Virtually maintenance free thanks to a design which does not feature any mechanical seals
- Drinking water approval for all components that come in contact with the fluid (EPDM version)



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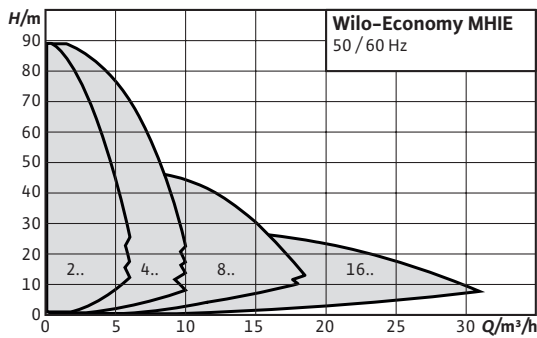


**Wilometer MHI**



Non-self-priming multistage pump with integrated frequency converter

- Easy operation and compact design
- All parts in contact with fluid are made of stainless steel
- IEC three-phase motor (level IE2) with integrated frequency converter (frequency converter for 3~motors have optional interfaces for bus communication using plug-in IF-Modules)
- Full motor protection
- Drinking water approval (ACS, KTW, WRAS) for all components in contact with the fluid (EPDM version)



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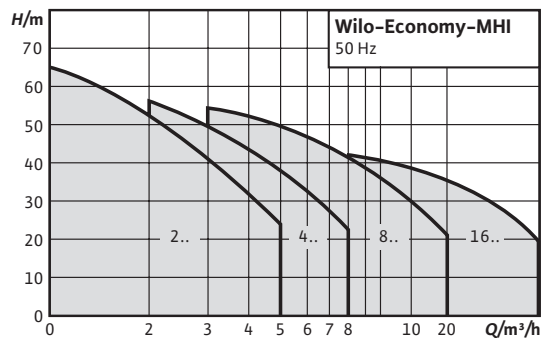


**Wilometer MHI**



Non-self-priming multistage pump

- IE3 IEC three-phase AC motor ( $\geq 0.75$  kW)
- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316L)
- Space-saving, compact design
- Drinking water approval (ACS, KTW, WRAS) for all components in contact with the fluid (EPDM version)



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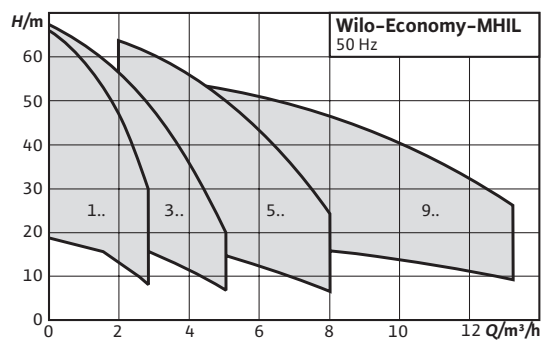


### Wilco-Economy MHIL



Non-self-priming multistage pump

- IE3 IEC three-phase AC motor ( $\geq 0.75$  kW)
- Impellers and stage housing made of stainless steel
- Pump housing made of EN-GJL-250 cast iron, KTL coating
- Single-phase and three-phase versions available



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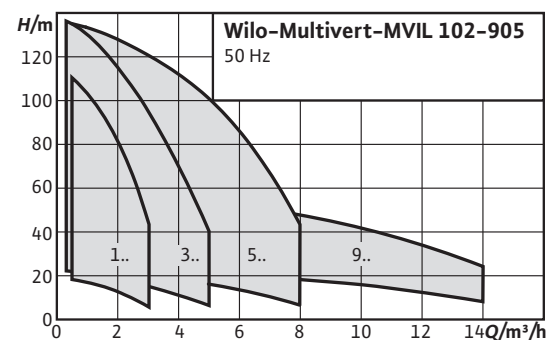


### Wilco-Multivert MVIL



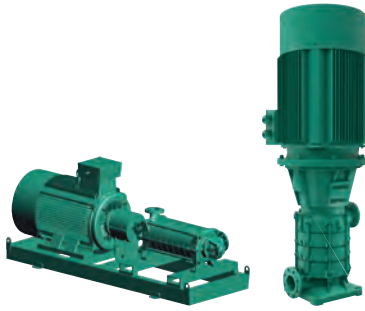
Non-self-priming multistage pump

- Space-saving, compact block design



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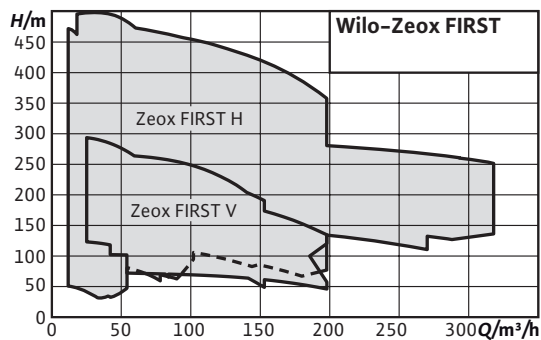


### Wilo-Zeox FIRST



Non self-priming, highly efficient high-pressure multistage centrifugal pump

- Extremely efficient hydraulics and highly-efficient IE3 motor with standard-mounted PTC sensor
- Pump set standard mounted with rigid coupling between motor and hydraulics and with mechanical seal
- Standard-mounted bypass flushing device guarantees a long service life for the mechanical seal
- Clever flange positioning and stuffing box gland upon request
- Bronze impellers upon request for high reliability



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## Redefining efficiency: up to 50% potential energy savings.

### Innovative technology for energy-efficient pressure boosting systems.

When the result is greater than the sum of the parts – that's typical Wilo. A high efficiency drive EC motor ensures maximum energy savings, exceeding energy efficiency class IE4. In combination with a highly-efficient pump hydraulic, it is a future-proof solution with maximum reliability and a long service life. **Wilo is going beyond pumps.**



### Wilo-SiBoost Smart Helix EXCEL

- Maximum energy savings – up to 50%
- Long life cycle and high reliability, thanks to rust-free stainless steel and integrated dry-running detection
- Easy operation using Green Button Technology and smart control
- BUS interface for intelligent inclusion in building management systems



## Wilo-SiBoost Smart 1 Helix VE

High-efficiency connection-ready water-supply unit (non self-priming) with one vertically arranged stainless steel high-pressure multi-stage centrifugal pump in glanded version of the Helix VE series.

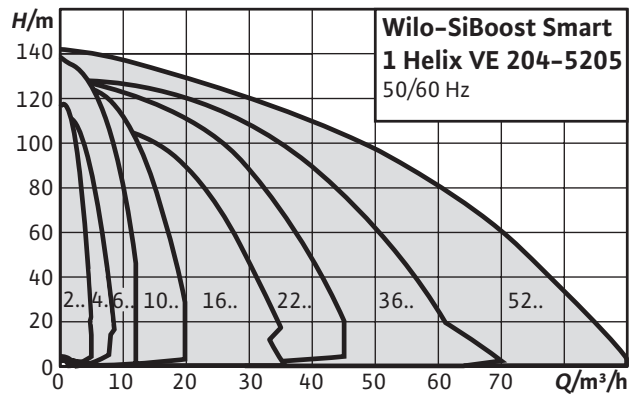
- Heavy-duty system with Helix VE series stainless-steel high-pressure multistage centrifugal pumps and air-cooled integrated frequency converter
- High-efficiency pump hydraulics
- Superproportionally large frequency converter control range from 25 Hz up to a maximum of 60 Hz (version dependent)
- Integrated full motor protection via PTC



Detail view







## Wilo-SiBoost Smart 1 Helix VE



### Type key

- Example: **Wilo-SiBoost-Smart 1Helix VE 1004**
- SiBoost** Compact pressure boosting system with integrated speed control
  - Smart** Number of pumps
  - 1** Number of pumps
  - Helix VE** Pump series
  - 10** Rated volume flow [m³/h] of the single pump
  - 04** Number of single pump stages

- Protection class: IP 54
- Fuse protection on mains side A, AC 3 according to motor power and EVU regulations
- Approved fluids (other fluids on request):
  - Drinking water and domestic hot water
  - Cooling water
  - Fire water
- Note on fluids: Approved fluids are generally waters which do not attack the materials used, neither chemically nor mechanically, and do not contain any abrasive or long-fibre constituents.

### Application

- Fully automatic water supply in inlet mode, either from the public water supply network or from a tank
- Pumping of drinking water, process water, cooling water, fire water (apart from fire-extinguishing systems in accordance with DIN 14462 and with the approval of the local fire safety authorities) or other types of industrial water that do not attack the materials either chemically or mechanically and do not contain abrasive or long-fibre constituents.

### Technical data

- Mains connection 3~400 V ± 10%, 50 Hz; 3~380/440 V ± 10 %, 60 Hz
- Max. fluid temperature +50 °C (+70 °C optional)
- Ambient temperature max. 40 °C
- Operating pressure 16 bar (25 bar optional)
- Inlet pressure 10 bar
- Nominal connection diameters on discharge side R 1¼" – R 1½"
- Nominal connection diameters on inlet side Rp 1¼" – Rp 2"
- Speed range 1500–3770 rpm

### Equipment/function

- 1 pump of the Helix VE 2 to Helix VE 52 series, with IE4-equivalent standard motor and infinitely variable auto control with integrated frequency converter
- Base frame made of galvanised steel, with height-adjustable vibration absorbers for insulation against structure-borne noise
- Parts that come in contact with the fluid are corrosion-resistant
  - Stainless steel 1.4301
- Shut-off valve, pressure side
- Non-return valve, pressure side
- Diaphragm pressure vessel 8 l, PN16, pressure side
- Pressure gauge, pressure side
- Optional low-water cut-out switchgear and pressure gauge, suction side

### Materials

- Helix VE 2 to Helix VE 16
- Impellers, guide vanes, stage housing made of stainless steel 1.4307
- Pump housing of stainless steel 1.4301
- Shaft of stainless steel 1.4057

- 1.4404 shaft protection sleeve
- O-Ring gaskets made of EPDM (FKM gasket on request)
- Pipework made of 1.4301 stainless steel

Helix VE 22 to Helix VE 52

- Impellers, guide vanes, stage housing made of stainless steel 1.4307
- Pump housing made of cathodically coated EN-GJL 250 grey cast iron
- Shaft of stainless steel 1.4057
- 1.4404 shaft protection sleeve
- O-Ring gaskets made of EPDM (FKM gasket on request)
- Pipework made of 1.4301 stainless steel

### Description/design

- Base frame: galvanised steel, with height-adjustable vibration absorbers for comprehensive insulation against structure-borne noise
- Pipework: Complete pipework made of stainless steel, suitable for the connection of all conventional piping materials; the pipework is dimensioned according to the overall hydraulic performance of the pressure boosting system
- Pumps: 1 pump of the series Helix VE 2 to Helix VE 52 is used. The air-cooled frequency converters mounted on the pump motor enable infinitely variable control between 25 Hz and a maximum of 60 Hz for all pumps of this series. All parts that come in contact with the fluid are made of stainless steel for the Helix VE 2 to Helix VE 16 series or of stainless steel/grey cast iron with cathodetic coating for the Helix VE 22 to Helix VE 52 series; other versions on request. KTW/WRAS/ACS approval for all parts that come in contact with the fluid
- Valves: The pump is fitted on the suction and pressure side with a standard shut-off device with DVGW approval mark and on the pressure side with a DVGW/ KTW-approved non-return valve.

- Diaphragm pressure vessel: 8 l/PN 16 arranged on the discharge side with a diaphragm made of butyl rubber, with DVGW/KTW approval, completely safe in accordance with food safety laws; for testing and inspection purposes, with a shut-off ball cock with drain and throughflow fitting with DVGW/KTW approval in accordance with DIN 4807
- Pressure sensor: 4 to 20 mA, arranged on the discharge side, for control of the frequency converter

### Options

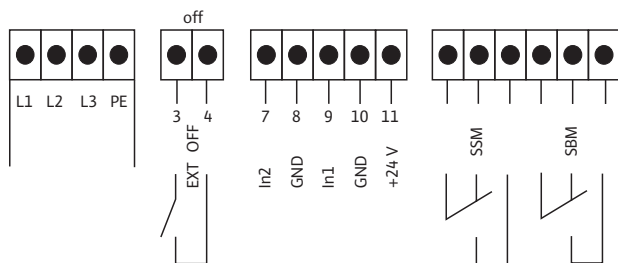
Other mains connections on request

### Scope of delivery

- Factory-mounted, connection-ready pressure boosting system checked for functionality and impermeability
- Packaging
- Installation and operating instructions

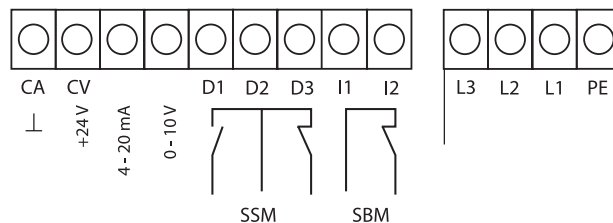
#### Terminal diagram

3~400 V



#### Terminal diagram

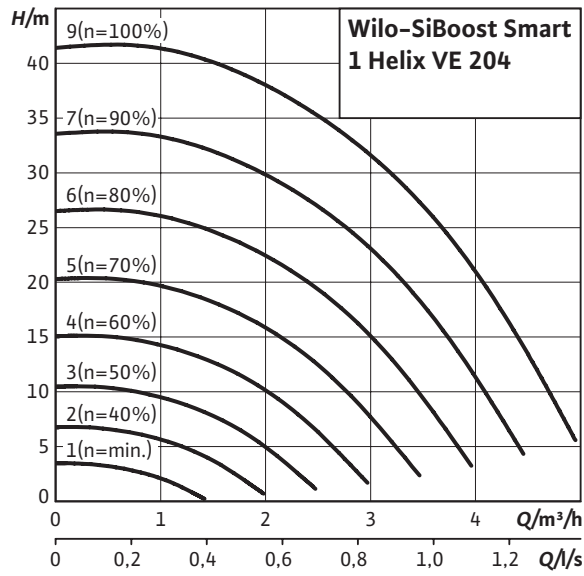
3~400 V; 5.5-7.5 kW



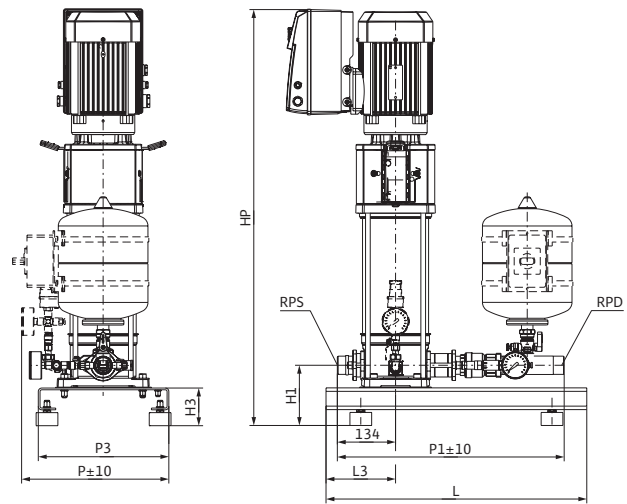
Optional main switch, optional pressure switch kit for low-water cut-out (switches pump via ext. I/O)

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power | Nominal current<br>3~400 V, 50 Hz | Motor efficiency |                      |                  |
|-----------------------|-------------|-----------------------------------|------------------|----------------------|------------------|
|                       |             |                                   | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 204</b>   | 0.6<br>kW   | 1.5<br>A                          | 80.0             | 80.0                 | 80.0             |

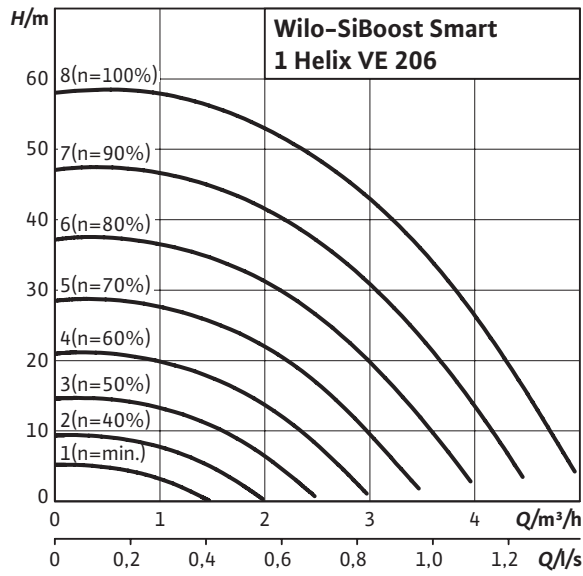
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

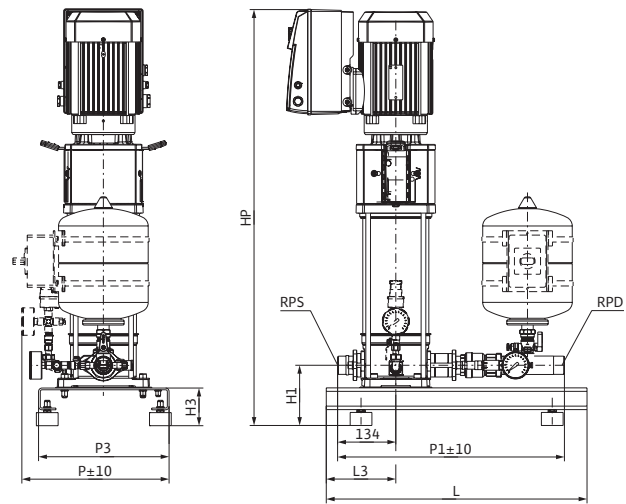
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |     |     |     |         |     |     |    | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|-----|-----|-----|---------|-----|-----|----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1  | H3  | HP  | L<br>mm | L3  | P   | P1 |                        |
| <b>1 Helix VE 204</b> | Rp 1¼                                                     | R 1¼                                                       | 735        | 140 | 90 | 735 | 600 | 160 | 340     | 470 | 300 | 50 |                        |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 206</b>   | 0.8                        | 2.1                                             | 82.5             | 82.5                 | 82.5             |

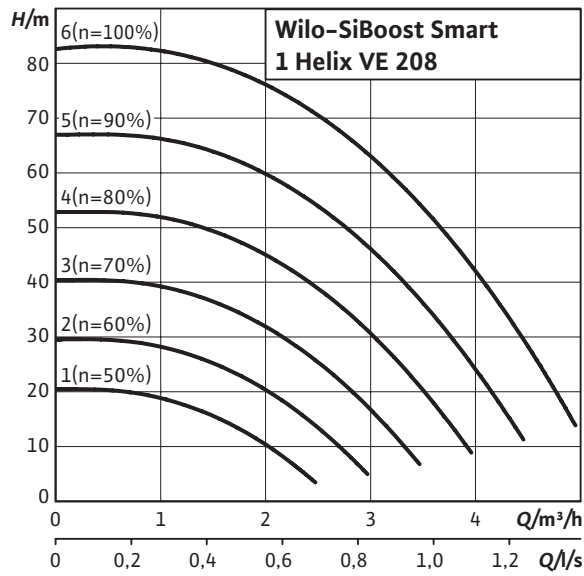
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

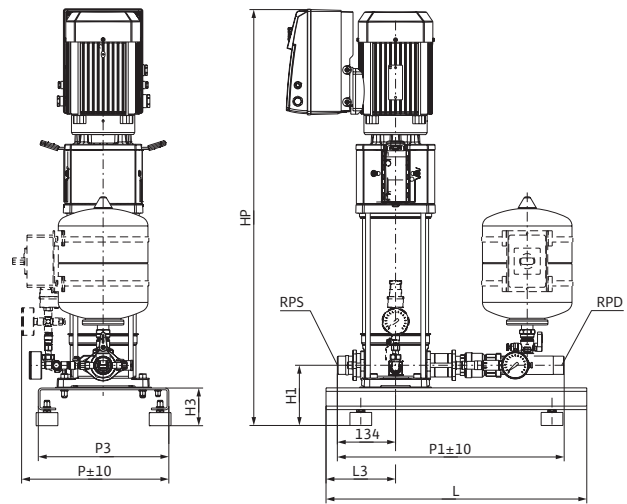
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections |                      | Dimensions |     |    |     |     |     |     |     |     | Weight approx.<br>m kg |
|-----------------------|-------------------------------------------|----------------------|------------|-----|----|-----|-----|-----|-----|-----|-----|------------------------|
|                       | suction side<br>RPS                       | pressure side<br>RPD | H          | H1  | H3 | HP  | L   | L3  | P   | P1  | P3  |                        |
| <b>1Helix VE 206</b>  | Rp 1½                                     | R 1½                 | 805        | 140 | 90 | 805 | 600 | 160 | 340 | 470 | 300 | 52                     |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 208</b>   | 1.1                        | 3                                               | 83.3             | 85.2                 | 85.5             |

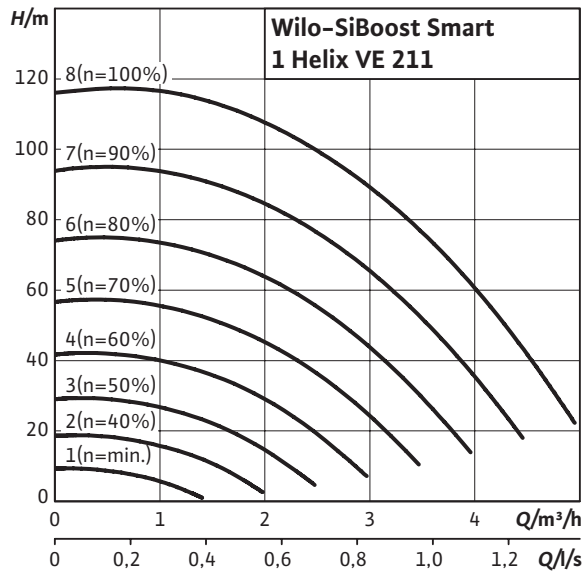
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

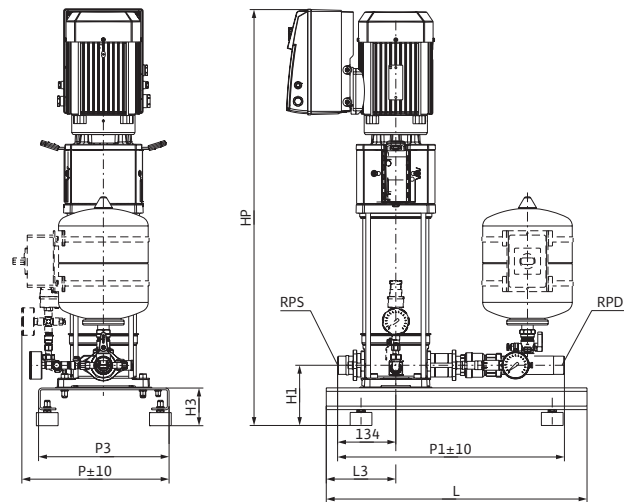
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |     |     |     |         |     |     | Weight approx.<br>m<br>kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|-----|-----|-----|---------|-----|-----|---------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1  | H3  | HP  | L<br>mm | L3  | P   |                           |
| <b>1 Helix VE 208</b> | Rp 1¼                                                     | R 1¼                                                       | 851        | 140 | 90 | 851 | 600 | 160 | 340     | 470 | 300 | 53                        |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 211</b>   | 1.5                        | 3.8                                             | 85.7             | 86.5                 | 86.5             |

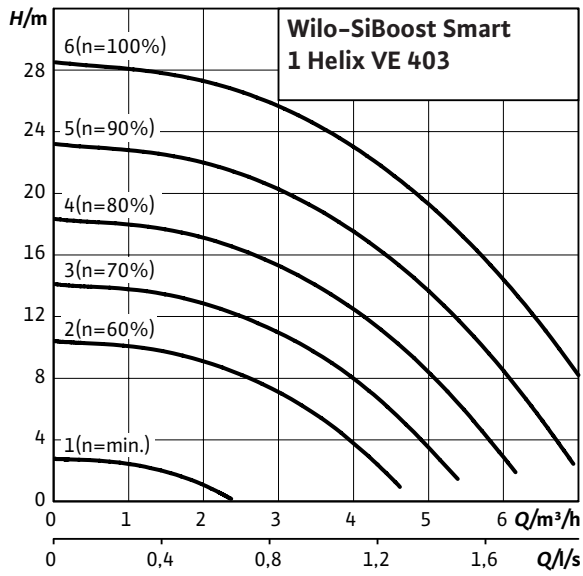
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

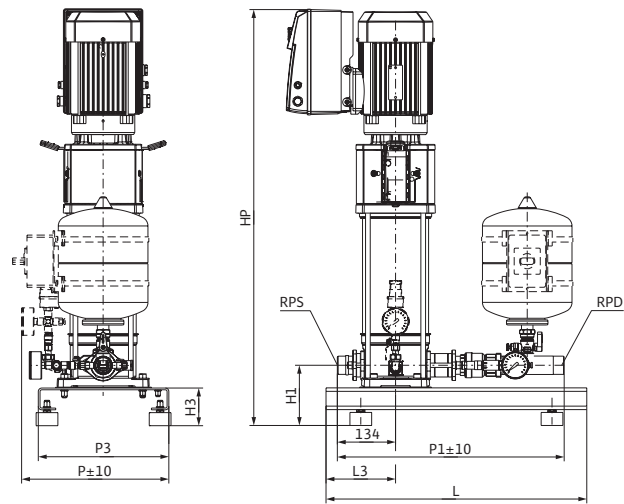
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |     |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|-----|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1  | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1Helix VE 211</b>  | Rp 1¼                                                     | R 1¼                                                       | 975        | 140 | 90 | 975 | 600 | 160 | 340     | 470 | 300 | 64                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 403



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 403</b>   | 0.6                        | 1.5                                             | 80.0             | 80.0                 | 80.0             |

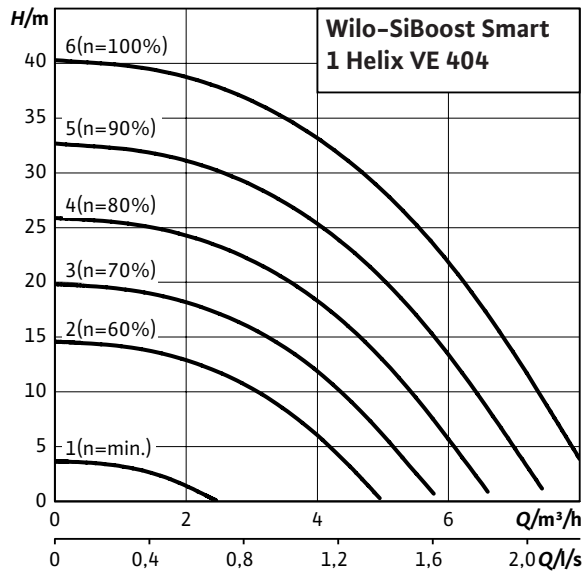
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

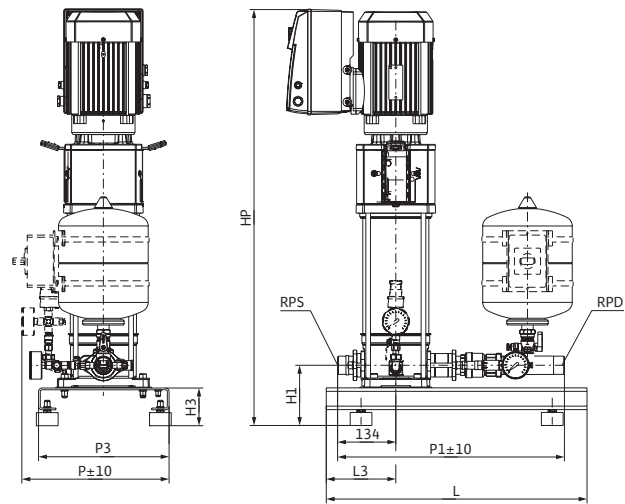
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br><i>RPS</i> | Nominal diameters of pipe connections on the pressure side<br><i>RPD</i> | Dimensions |           |           |           |                |           |          |           |           | Weight approx.<br><i>m</i><br>kg |
|-----------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------|------------|-----------|-----------|-----------|----------------|-----------|----------|-----------|-----------|----------------------------------|
|                       |                                                                         |                                                                          | <i>H</i>   | <i>H1</i> | <i>H3</i> | <i>HP</i> | <i>L</i><br>mm | <i>L3</i> | <i>P</i> | <i>P1</i> | <i>P3</i> |                                  |
| <b>1Helix VE 403</b>  | Rp 1½                                                                   | R 1½                                                                     | 710        | 140       | 90        | 710       | 600            | 160       | 340      | 470       | 300       | 49                               |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 404



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 404</b>   | 0.8                        | 2.1                                             | 82.5             | 82.5                 | 82.5             |

Motor efficiency based on 400 V, 50 Hz

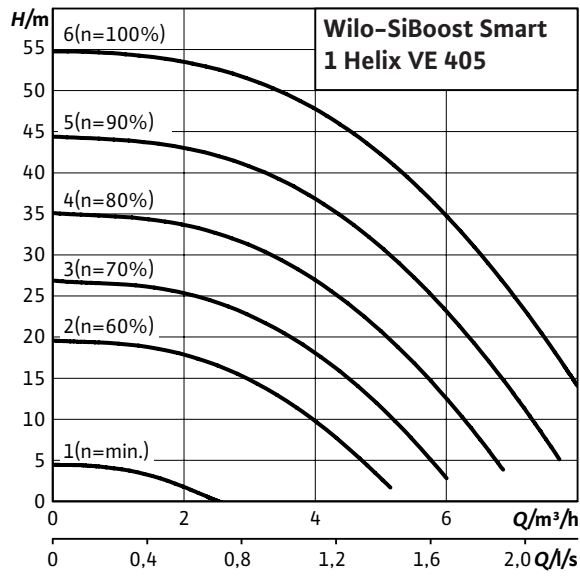
Dimensions, weights

| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |     |     |     |         |     |     | Weight approx.<br>$m$<br>kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|-----|-----|-----|---------|-----|-----|-----------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1  | H3  | HP  | L<br>mm | L3  | P   |                             |
| <b>1Helix VE 404</b>  | Rp 1¼                                                     | R 1¼                                                       | 755        | 140 | 90 | 755 | 600 | 160 | 340     | 470 | 300 | 52                          |

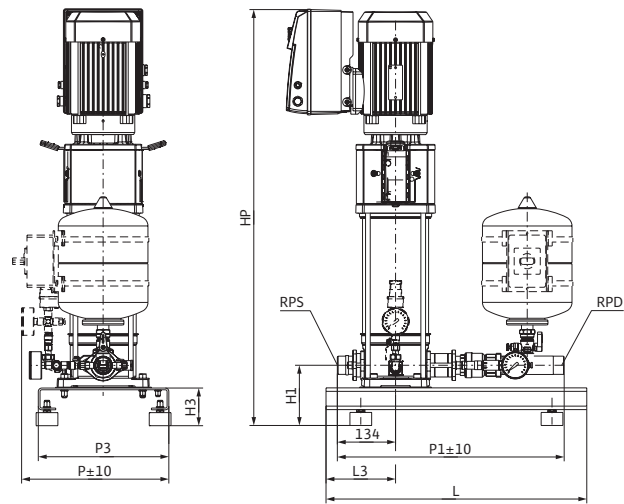


Pump curves

Wilo-SiBoost Smart 1 Helix VE 405



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power | Nominal current<br>3~400 V, 50 Hz | Motor efficiency |                      |                  |
|-----------------------|-------------|-----------------------------------|------------------|----------------------|------------------|
|                       |             |                                   | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 405</b>   | 1.1<br>kW   | 3<br>A                            | 83.3             | 85.2                 | 85.5             |

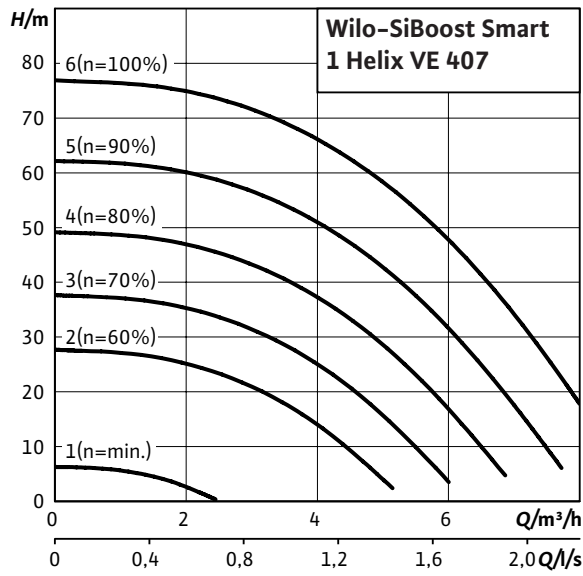
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

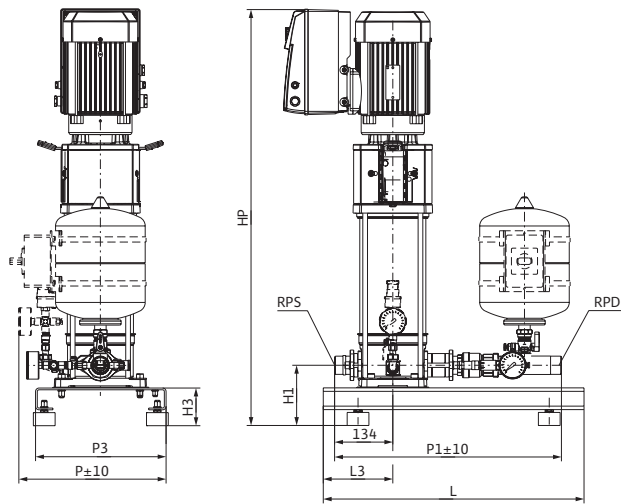
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |     |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|-----|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1  | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1Helix VE 405</b>  | Rp 1½                                                     | R 1½                                                       | 776        | 140 | 90 | 776 | 600 | 160 | 340     | 470 | 300 | 52                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 407



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 407</b>   | 1.5                        | 3.8                                             | 85.7             | 86.5                 | 86.5             |

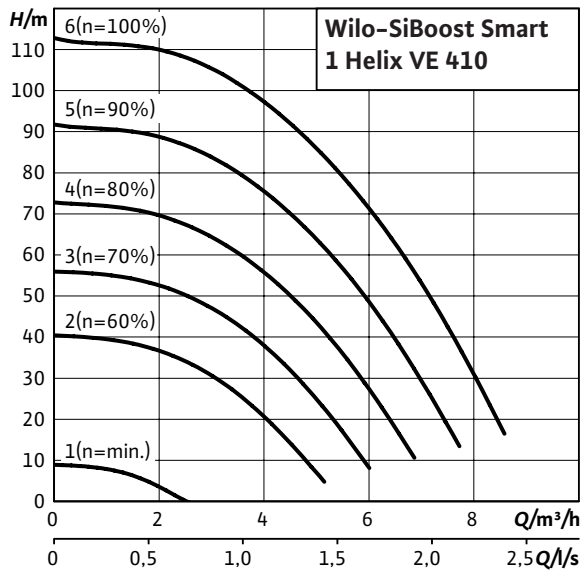
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

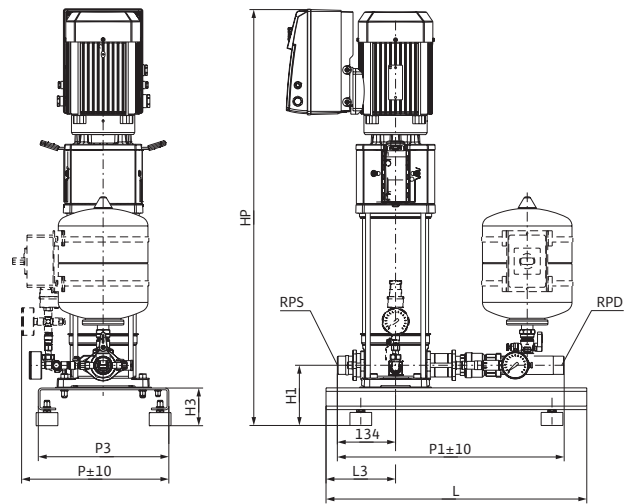
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |     |     |     |         |     |     | Weight approx.<br>m<br>kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|-----|-----|-----|---------|-----|-----|---------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1  | H3  | HP  | L<br>mm | L3  | P   |                           |
| <b>1Helix VE 407</b>  | Rp 1¼                                                     | R 1¼                                                       | 875        | 140 | 90 | 875 | 600 | 160 | 340     | 470 | 300 | 62                        |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 410



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power | Nominal current<br>3~400 V, 50 Hz | Motor efficiency |                      |                  |
|-----------------------|-------------|-----------------------------------|------------------|----------------------|------------------|
|                       |             |                                   | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 410</b>   | 2.2<br>kW   | 5.9<br>A                          | 88.5             | 88.5                 | 88.5             |

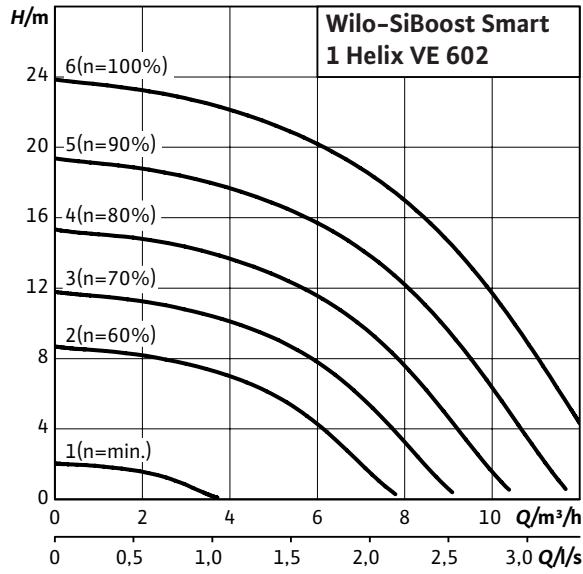
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

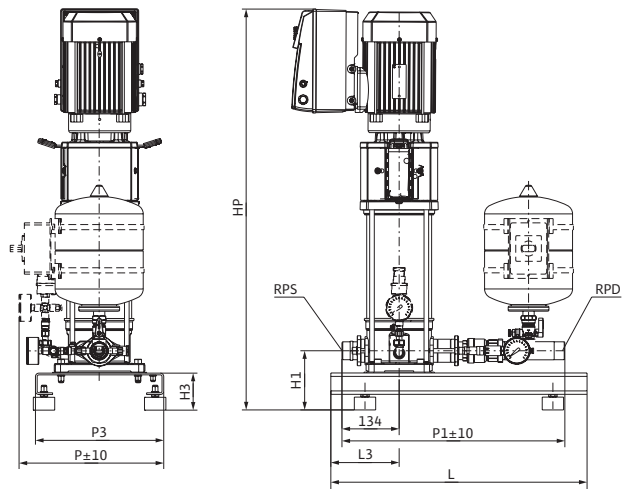
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |     |     |     |      |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|-----|-----|-----|------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1  | H3  | HP  | L mm | L3  | P   |                        |
| <b>1Helix VE 410</b>  | Rp 1¼                                                     | R 1¼                                                       | 955        | 140 | 90 | 955 | 600 | 160 | 340  | 470 | 300 | 64                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 602



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 602</b>   | 0.8                        | 2.1                                             | 82.5             | 82.5                 | 82.5             |

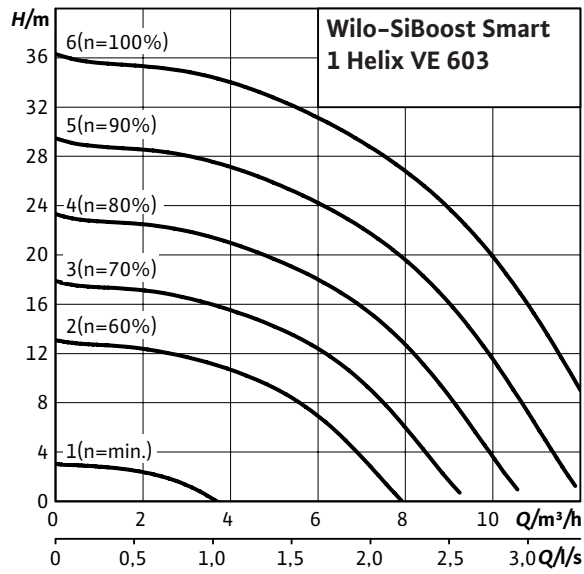
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

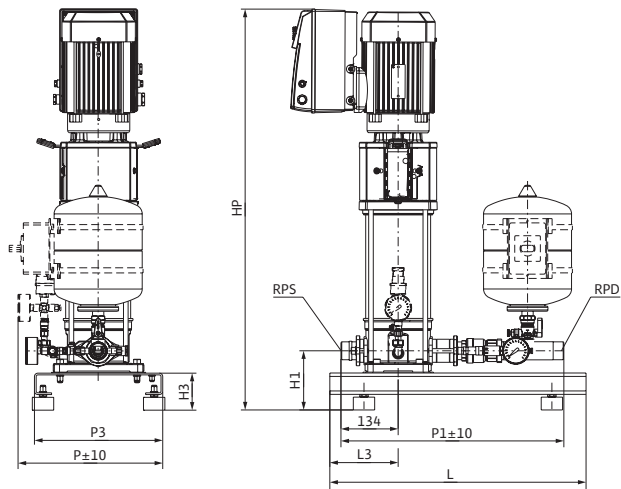
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |    |     |         |     |     |     |     | Weight approx.<br>m kg |
|-----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|----|-----|---------|-----|-----|-----|-----|------------------------|
|                       |                                                                  |                                                                   | H          | H1  | H3 | HP  | L<br>mm | L3  | P   | P1  | P3  |                        |
| <b>1 Helix VE 602</b> | Rp 1¼                                                            | R 1¼                                                              | 730        | 140 | 90 | 730 | 600     | 160 | 340 | 470 | 300 | 52                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 603



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 603</b>   | 1.1                        | 3                                               | 83.3             | 85.2                 | 85.5             |

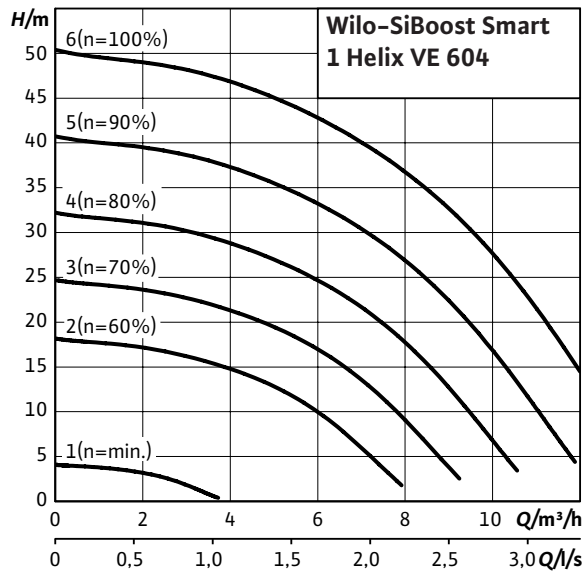
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

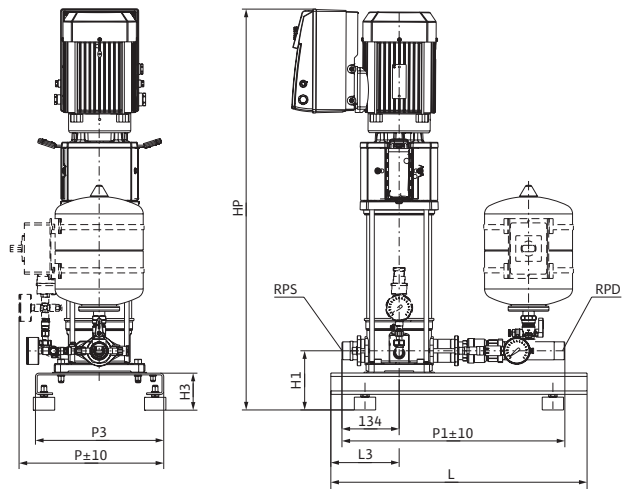
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br><i>RPS</i> | Nominal diameters of pipe connections on the pressure side<br><i>RPD</i> | Dimensions |           |           |           |                |           |          |           |           | Weight approx.<br><i>m</i><br>kg |
|-----------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------|------------|-----------|-----------|-----------|----------------|-----------|----------|-----------|-----------|----------------------------------|
|                       |                                                                         |                                                                          | <i>H</i>   | <i>H1</i> | <i>H3</i> | <i>HP</i> | <i>L</i><br>mm | <i>L3</i> | <i>P</i> | <i>P1</i> | <i>P3</i> |                                  |
| <b>1Helix VE 603</b>  | Rp 1¼                                                                   | R 1¼                                                                     | 764        | 140       | 90        | 764       | 600            | 160       | 340      | 470       | 300       | 53                               |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 604



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 604</b>   | 1.5                        | 3.8                                             | 85.7             | 86.5                 | 86.5             |

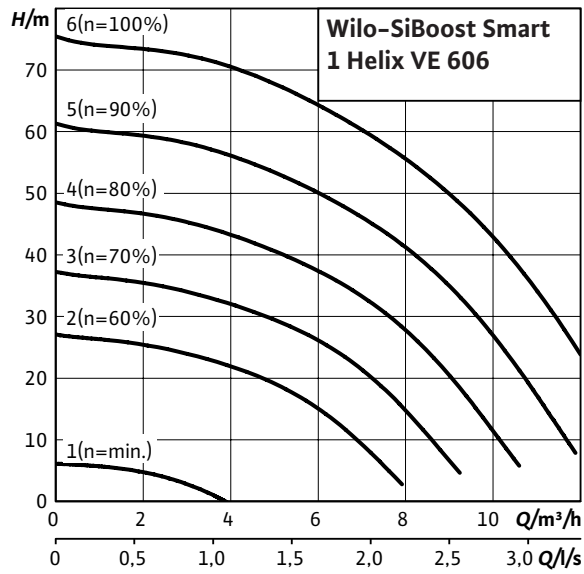
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

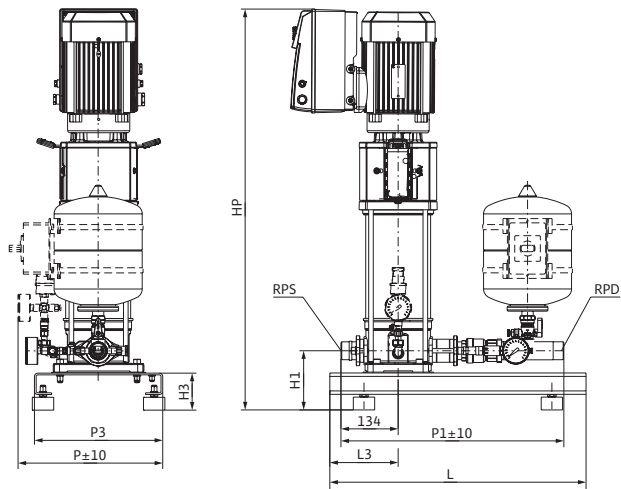
| Wilo-SiBoost Smart... | Nominal diam-eters of the pipe connections on suction side<br>RPS | Nominal diam-eters of pipe connections on the pres-sure side<br>RPD | Dimensions |     |    |     |         |     |     |     |     | Weight approx.<br>m kg |
|-----------------------|-------------------------------------------------------------------|---------------------------------------------------------------------|------------|-----|----|-----|---------|-----|-----|-----|-----|------------------------|
|                       |                                                                   |                                                                     | H          | H1  | H3 | HP  | L<br>mm | L3  | P   | P1  | P3  |                        |
| <b>1Helix VE 604</b>  | Rp 1¼                                                             | R 1¼                                                                | 840        | 140 | 90 | 840 | 600     | 160 | 340 | 470 | 300 | 63                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 606



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 606</b>   | 2.2                        | 5.9                                             | 88.5             | 88.5                 | 88.5             |

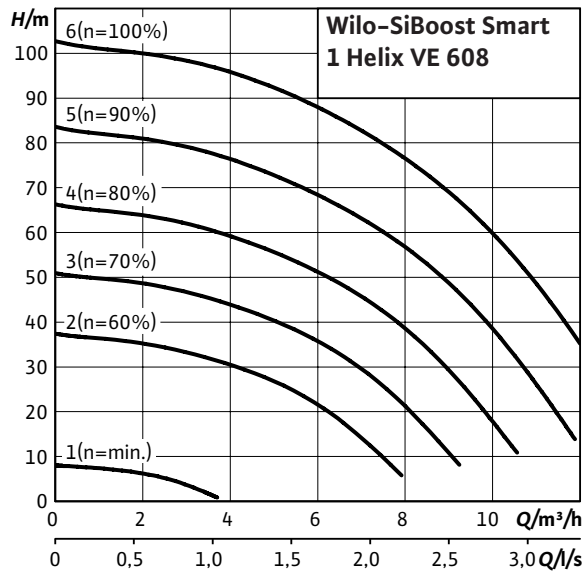
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

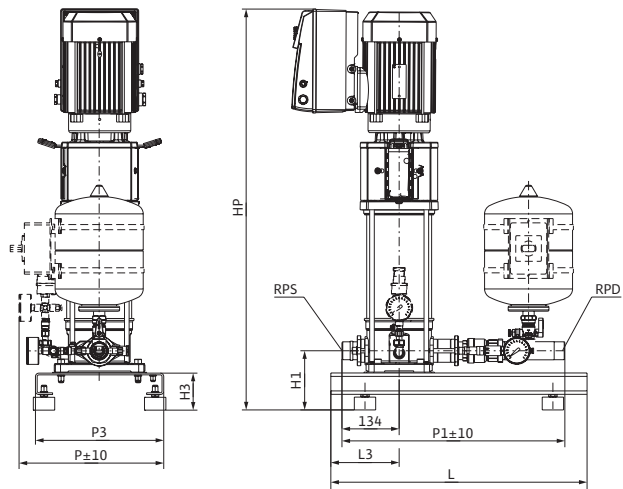
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br><i>RPS</i> | Nominal diameters of pipe connections on the pressure side<br><i>RPD</i> | Dimensions |           |           |           |                |           |          |           |           | Weight approx.<br><i>m</i><br>kg |
|-----------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------|------------|-----------|-----------|-----------|----------------|-----------|----------|-----------|-----------|----------------------------------|
|                       |                                                                         |                                                                          | <i>H</i>   | <i>H1</i> | <i>H3</i> | <i>HP</i> | <i>L</i><br>mm | <i>L3</i> | <i>P</i> | <i>P1</i> | <i>P3</i> |                                  |
| <b>1Helix VE 606</b>  | Rp 1¼                                                                   | R 1¼                                                                     | 930        | 140       | 90        | 930       | 600            | 160       | 340      | 470       | 300       | 65                               |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 608



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 608</b>   | 3                          | 7.3                                             | 89.0             | 89.5                 | 89.5             |

Motor efficiency based on 400 V, 50 Hz

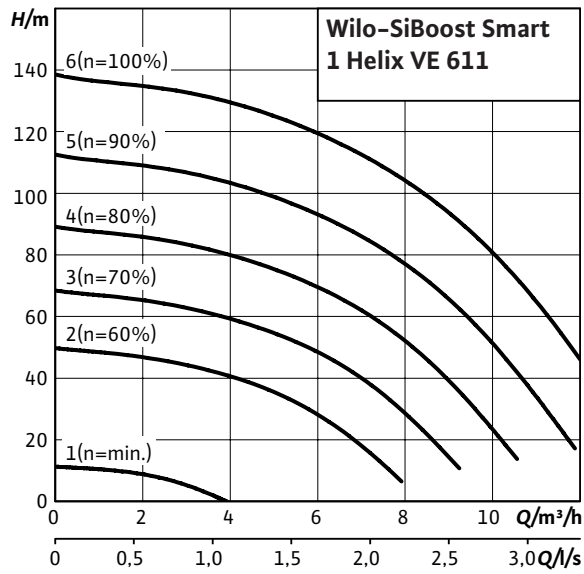
Dimensions, weights

| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |    |      |         |     |     |     |     | Weight approx.<br>m<br>kg |
|-----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|----|------|---------|-----|-----|-----|-----|---------------------------|
|                       |                                                                  |                                                                   | H          | H1  | H3 | HP   | L<br>mm | L3  | P   | P1  | P3  |                           |
| <b>1Helix VE 608</b>  | Rp 1¼                                                            | R 1¼                                                              | 1038       | 140 | 90 | 1038 | 600     | 160 | 340 | 470 | 300 | 88                        |

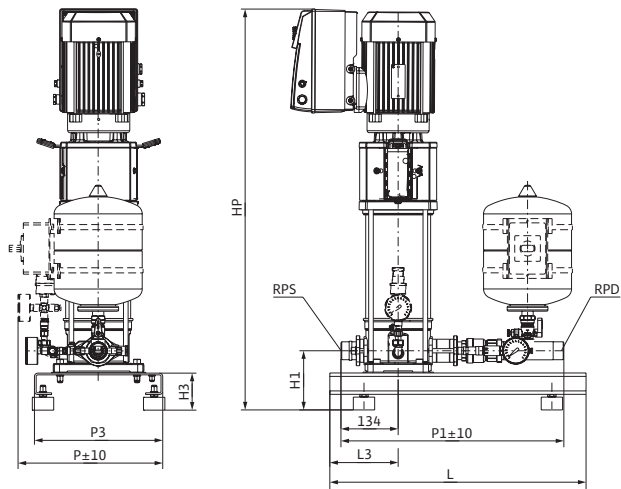


Pump curves

Wilo-SiBoost Smart 1 Helix VE 611



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 611</b>   | 4                          | 9.1                                             | 89.0             | 89.5                 | 89.5             |

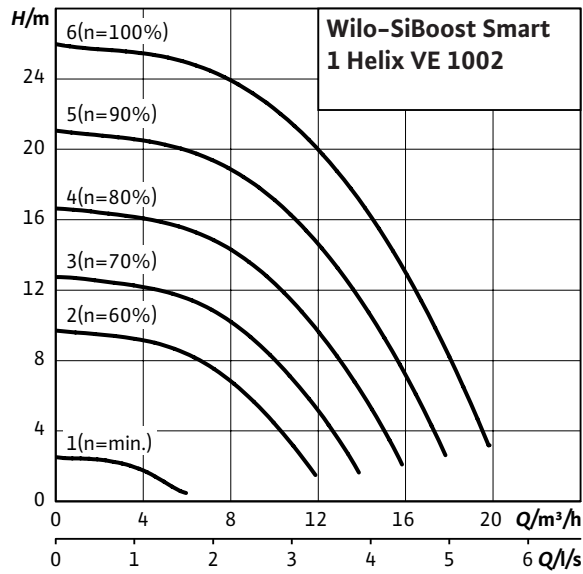
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

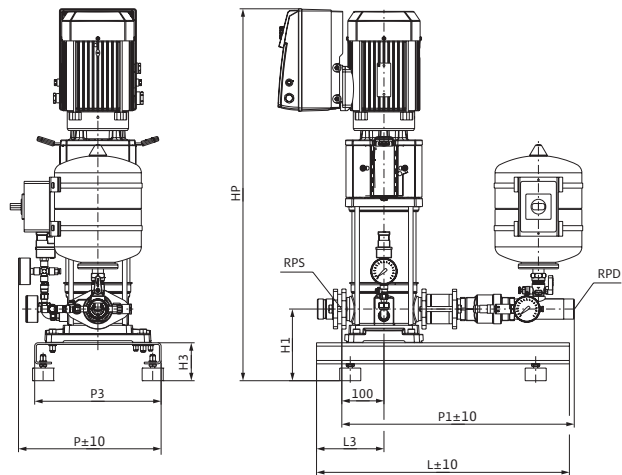
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |    |      |         |     |     |     |     | Weight approx.<br>m<br>kg |
|-----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|----|------|---------|-----|-----|-----|-----|---------------------------|
|                       |                                                                  |                                                                   | H          | H1  | H3 | HP   | L<br>mm | L3  | P   | P1  | P3  |                           |
| <b>1Helix VE 611</b>  | Rp 1½                                                            | R 1½                                                              | 1215       | 140 | 90 | 1215 | 600     | 160 | 340 | 470 | 300 | 91                        |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1002



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 1002</b>  | 1.1                        | 3                                               | 83.3             | 85.2                 | 85.5             |

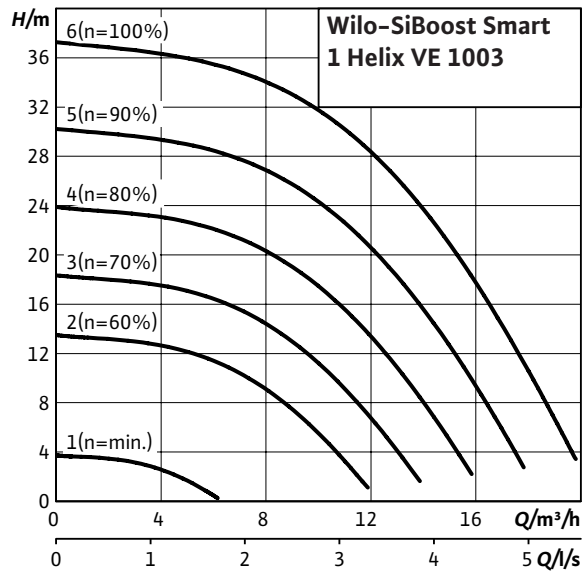
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

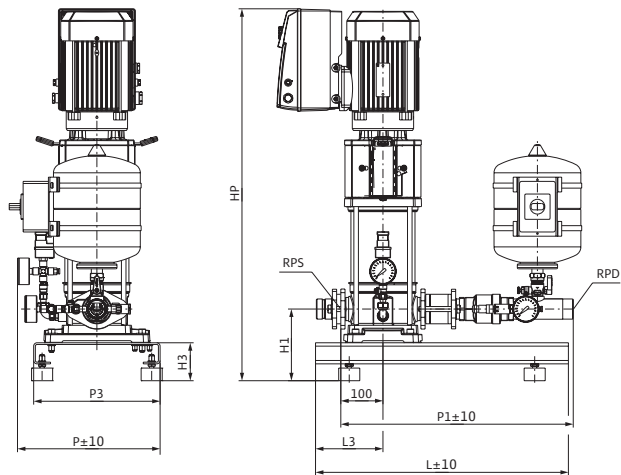
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |    |     |         |     |     |     |     | Weight approx.<br>m<br>kg |
|-----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|----|-----|---------|-----|-----|-----|-----|---------------------------|
|                       |                                                                  |                                                                   | H          | H1  | H3 | HP  | L<br>mm | L3  | P   | P1  | P3  |                           |
| <b>1Helix VE 1002</b> | Rp 1½                                                            | R 1½                                                              | 747        | 170 | 90 | 747 | 600     | 160 | 340 | 556 | 300 | 58                        |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1003



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 1003</b>  | 1.5                        | 3.8                                             | 85.7             | 86.5                 | 86.5             |

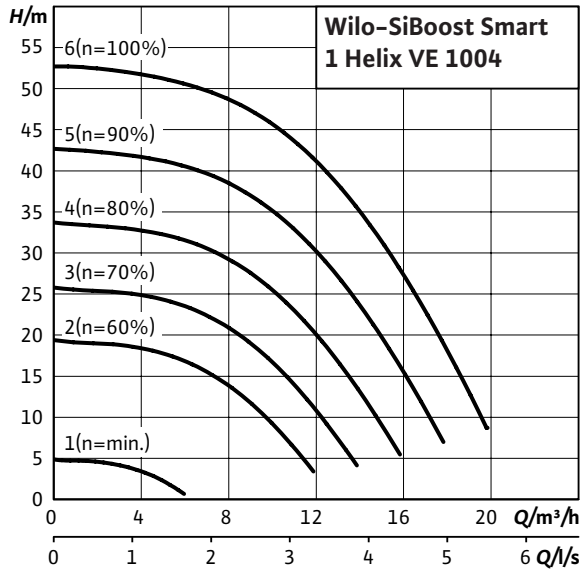
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

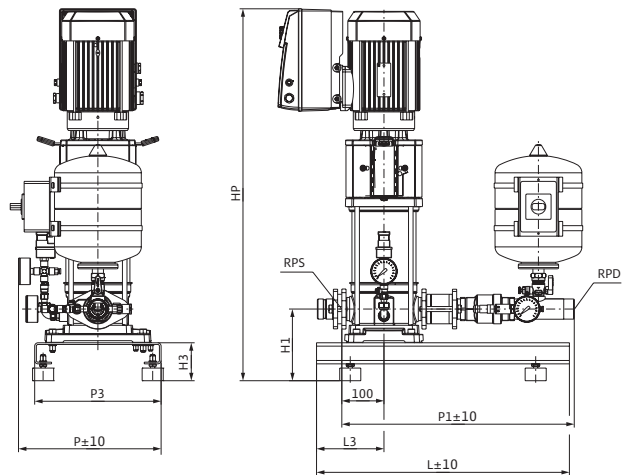
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |    |     |         |     |     |     |     | Weight approx.<br>m kg |
|-----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|----|-----|---------|-----|-----|-----|-----|------------------------|
|                       |                                                                  |                                                                   | H          | H1  | H3 | HP  | L<br>mm | L3  | P   | P1  | P3  |                        |
| <b>1Helix VE 1003</b> | Rp 1½                                                            | R 1½                                                              | 834        | 170 | 90 | 834 | 600     | 160 | 340 | 556 | 300 | 67                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1004



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 1004</b>  | 2.2                        | 5.9                                             | 88.5             | 88.5                 | 88.5             |

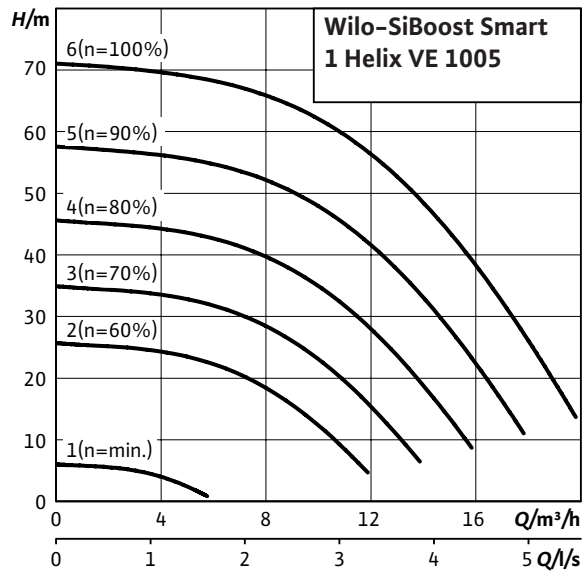
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

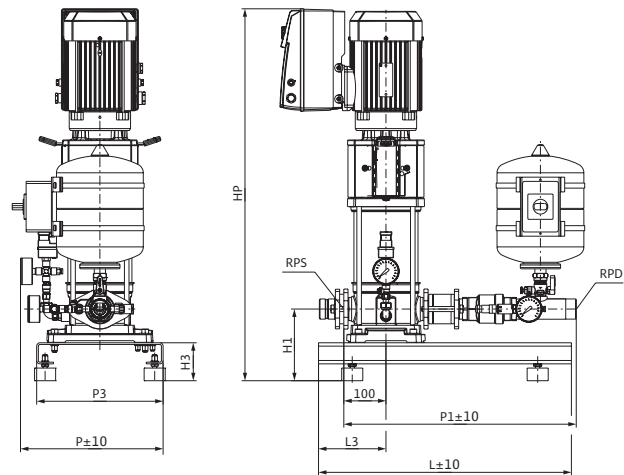
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |     |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|-----|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1  | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1Helix VE 1004</b> | Rp 1½                                                     | R 1½                                                       | 876        | 170 | 90 | 846 | 600 | 160 | 340     | 556 | 300 | 68                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1005



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 1005</b>  | 3                          | 7.3                                             | 89.0             | 89.5                 | 89.5             |

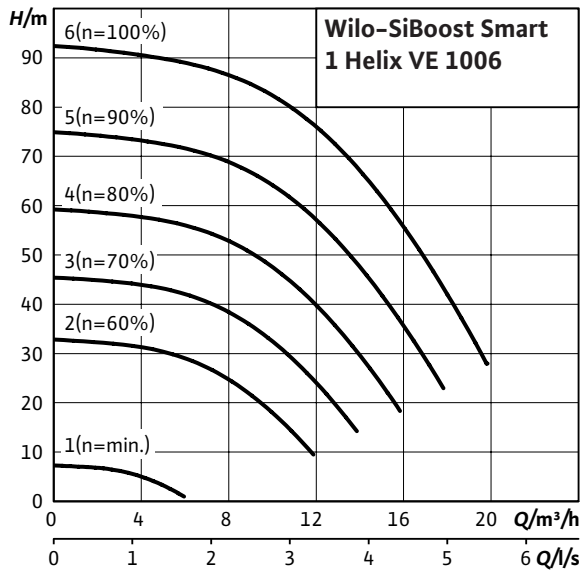
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

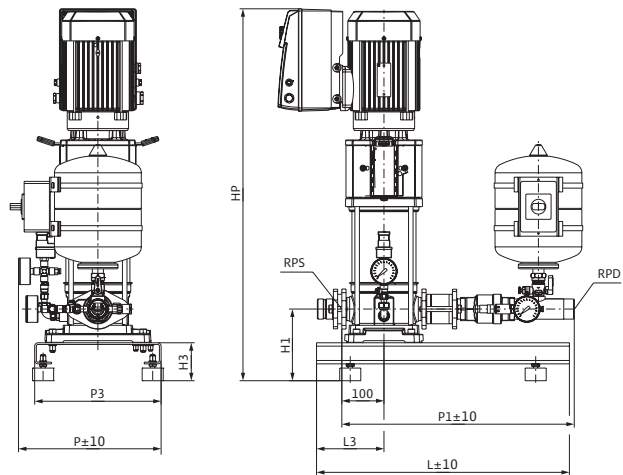
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |     |     |     |         |     |     | Weight approx.<br>m<br>kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|-----|-----|-----|---------|-----|-----|---------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1  | H3  | HP  | L<br>mm | L3  | P   |                           |
| <b>1Helix VE 1005</b> | Rp 1½                                                     | R 1½                                                       | 957        | 170 | 90 | 957 | 600 | 160 | 340     | 556 | 300 | 90                        |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1006



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 1006</b>  | 4                          | 9.1                                             | 89.0             | 89.5                 | 89.5             |

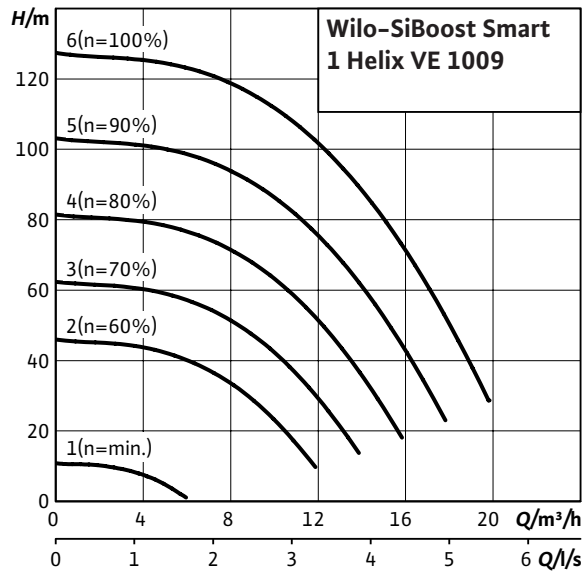
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

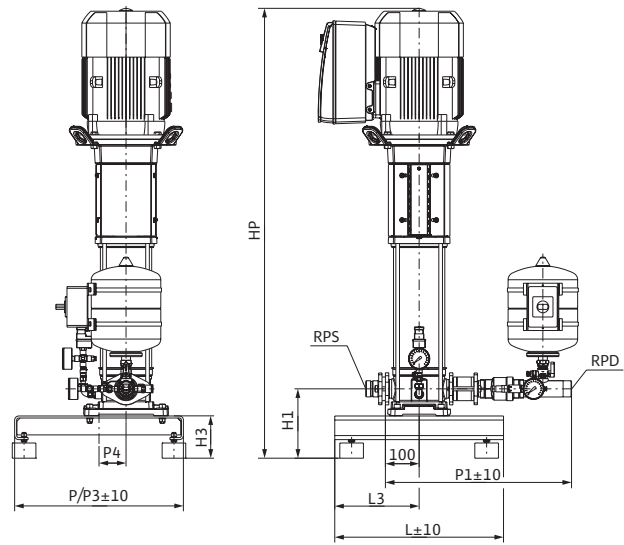
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |    |      |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|----|------|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H  | H1   | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1Helix VE 1006</b> | Rp 1½                                                     | R 1½                                                       | 1011       | 170 | 90 | 1011 | 600 | 160 | 340     | 556 | 300 | 91                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1009



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power        | Nominal current<br>3~400 V, 50 Hz | Motor efficiency |                      |                  |
|-----------------------|--------------------|-----------------------------------|------------------|----------------------|------------------|
|                       |                    |                                   | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| Helix VE 1009         | $P_2$<br>kW<br>5.5 | $I_N$<br>A<br>11.3                | 89.3             | 90.2                 | 90.2             |

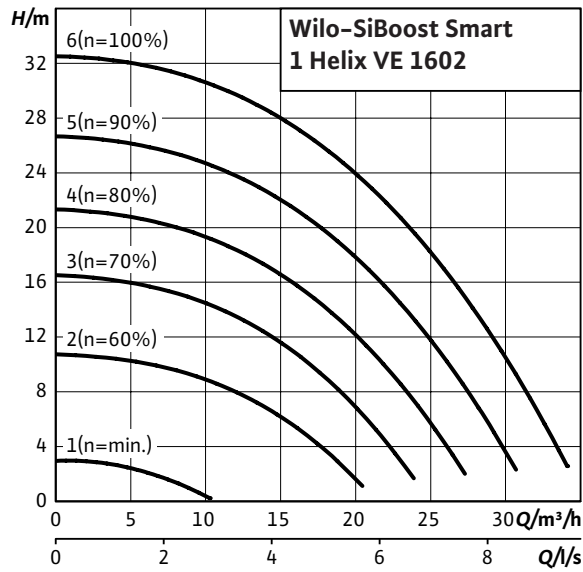
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

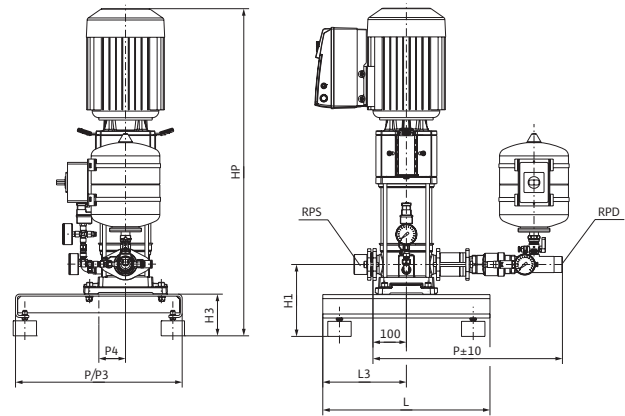
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP  | L<br>mm | L3  | P   |                        |
| 1 Helix VE 1009       | Rp 1½                                                     | R 1½                                                       | 1331       | 205 | 125 | 1331 | 500 | 250 | 500     | 556 | 500 | 131                    |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1602



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 1602</b>  | 2.2                        | 5.9                                             | 88.5             | 88.5                 | 88.5             |

Motor efficiency based on 400 V, 50 Hz

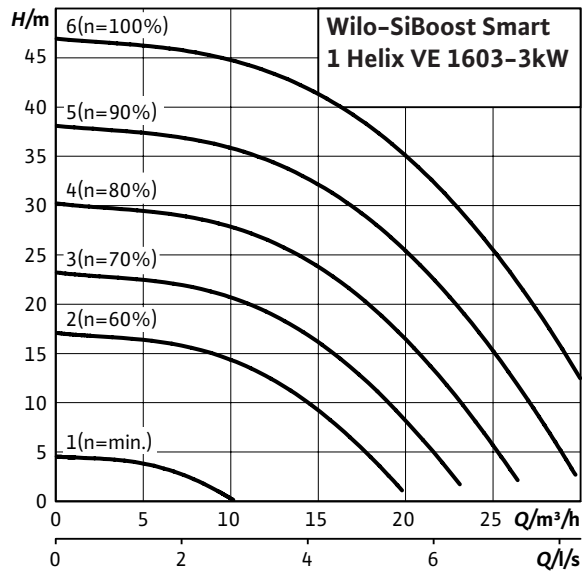
Dimensions, weights

| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |     |     |         |     |     |     |     | Weight approx.<br>m kg |
|-----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|-----|-----|---------|-----|-----|-----|-----|------------------------|
|                       |                                                                  |                                                                   | H          | H1  | H3  | HP  | L<br>mm | L3  | P   | P1  | P3  |                        |
| <b>1Helix VE 1602</b> | Rp 2                                                             | R 1½                                                              | 871        | 215 | 125 | 871 | 500     | 250 | 500 | 567 | 500 | 75                     |

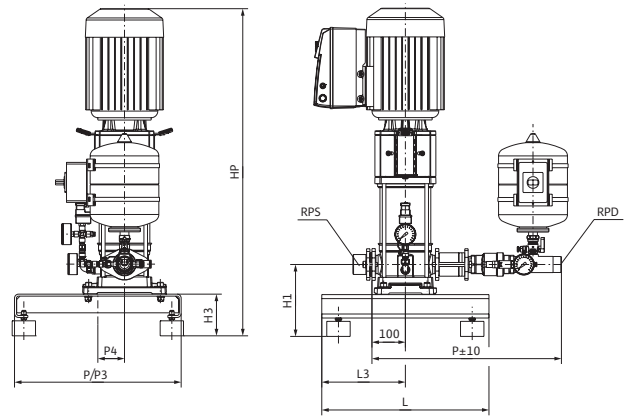


Pump curves

Wilo-SiBoost Smart 1 Helix VE 1603-3kW



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power      | Nominal current<br>3~400 V, 50 Hz | Motor efficiency |                      |                  |
|-----------------------|------------------|-----------------------------------|------------------|----------------------|------------------|
|                       |                  |                                   | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| Helix VE 1603/3kW     | $P_2$<br>kW<br>3 | $I_N$<br>A<br>7.3                 | 89.0             | 89.5                 | 89.5             |

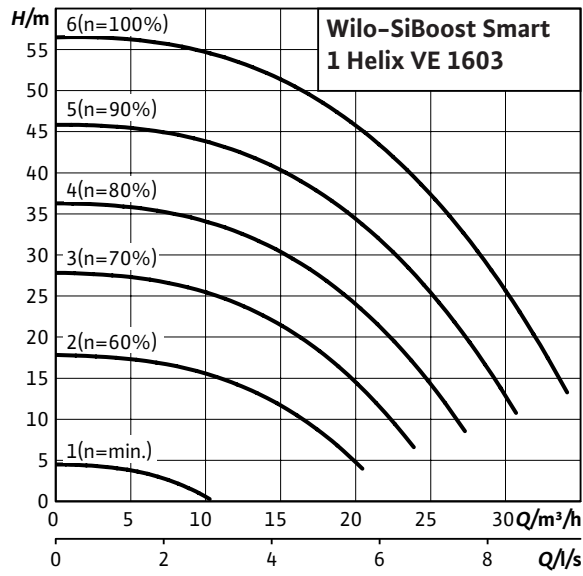
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

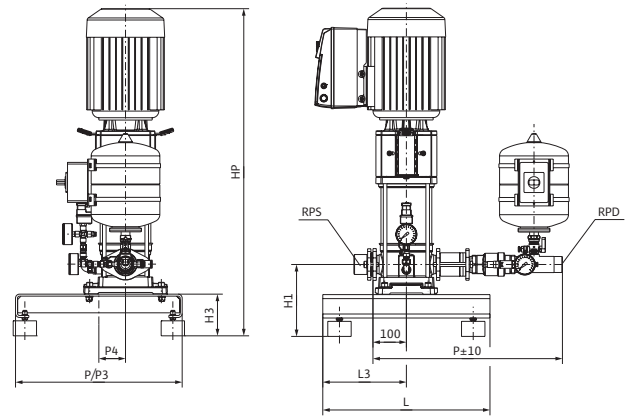
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |     |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|-----|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H   | H1  | H3  | HP  | L<br>mm | L3  | P   |                        |
| 1 Helix VE 1603/3kW   | Rp 2                                                      | R 1½                                                       | 946        | 215 | 125 | 946 | 500 | 250 | 500     | 567 | 500 | 99                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1603



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 1603</b>  | 4                          | 9.1                                             | 89.0             | 89.5                 | 89.5             |

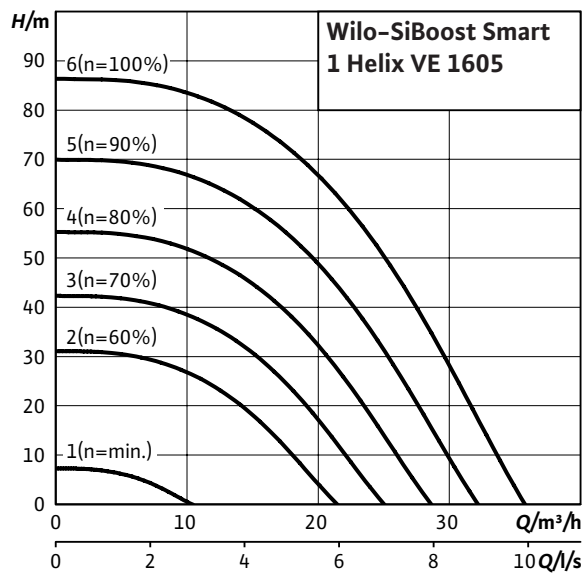
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

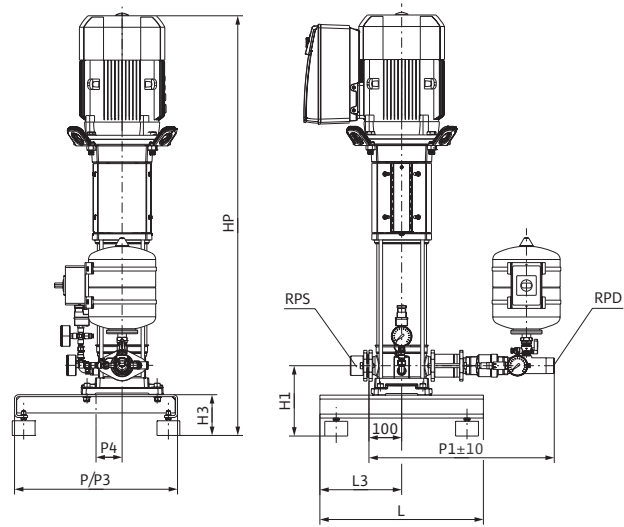
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |     |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|-----|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H   | H1  | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1Helix VE 1603</b> | Rp 2                                                      | R 1½                                                       | 981        | 215 | 125 | 981 | 500 | 250 | 500     | 567 | 500 | 83                     |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1605



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 1605</b>  | 5.5                        | 11.3                                            | 89.3             | 90.2                 | 90.2             |

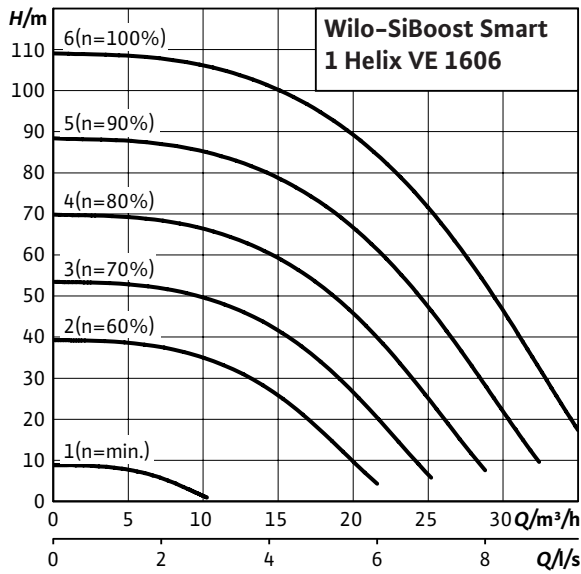
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

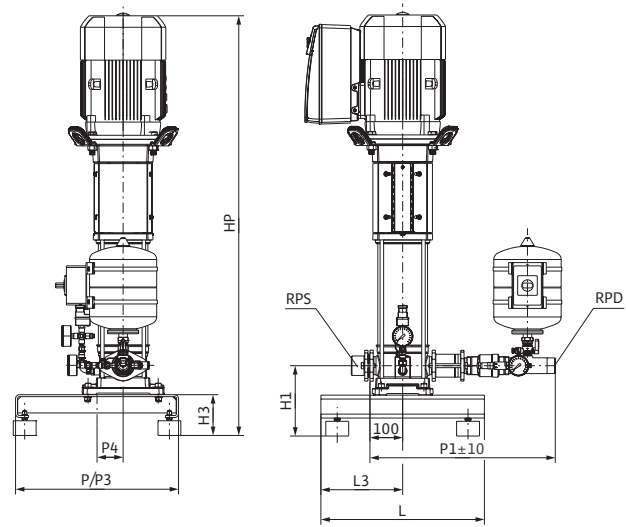
| Wilo-SiBoost Smart...  | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |     |         |     |     | Weight approx.<br>m kg |
|------------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|-----|---------|-----|-----|------------------------|
|                        |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1 Helix VE 1605</b> | Rp 2                                                      | R 1½                                                       | 1244       | 215 | 125 | 1244 | 500 | 250 | 500     | 567 | 500 | 127                    |

Pump curves

Wilo-SiBoost Smart 1 Helix VE 1606



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 1606</b>  | 7.5                        | 13.8                                            | 91.1             | 91.7                 | 91.7             |

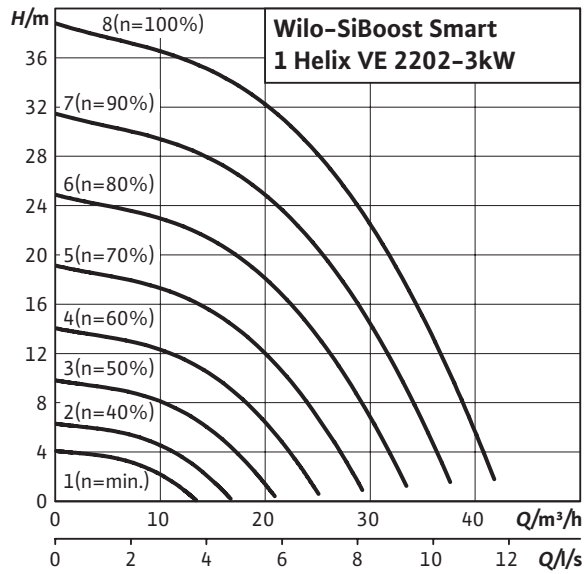
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

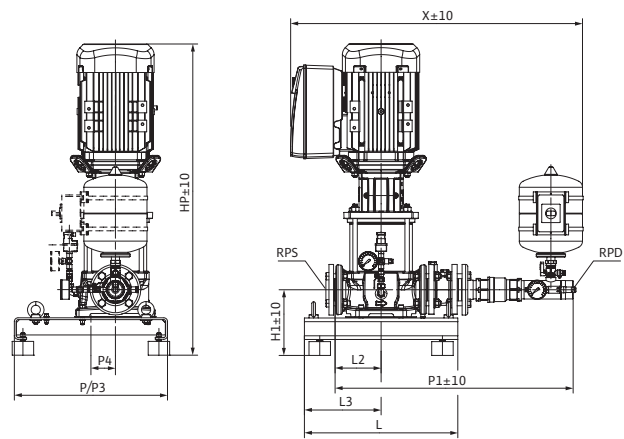
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1Helix VE 1606</b> | Rp 2                                                      | R 1½                                                       | 1294       | 215 | 125 | 1294 | 500 | 250 | 500     | 567 | 500 | 132                    |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart...  | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|------------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                        |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 2202-3</b> | 3                          | 7.3                                             | 89.0             | 89.5                 | 89.5             |

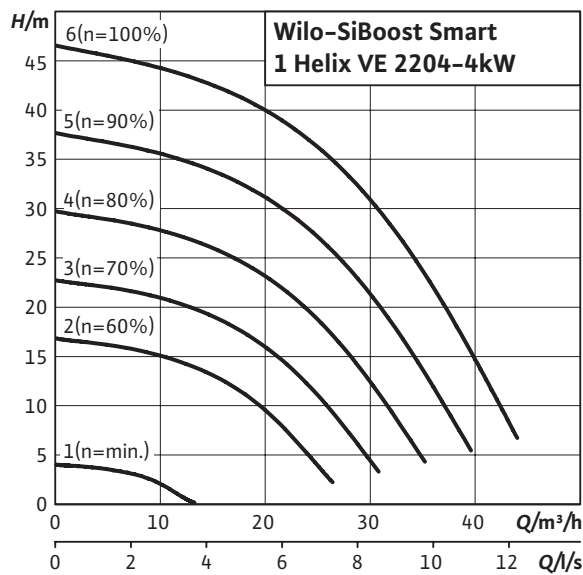
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

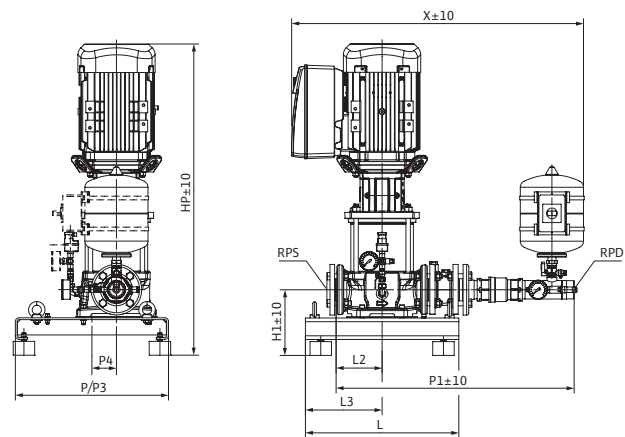
| Wilo-SiBoost Smart...   | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |     |     |     |     |     |     |     | Weight approx.<br>m kg |
|-------------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|------------------------|
|                         |                                                                  |                                                                   | H          | H1  | H3  | HP  | L   | L3  | P   | P1  | P3  |                        |
| <b>1Helix VE 2202-3</b> | Rp 2                                                             | R 2                                                               | 875        | 215 | 125 | 875 | 500 | 250 | 500 | 795 | 500 | 129                    |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| Helix VE 2202-4       | 4                          | 9.1                                             | 89.0             | 89.5                 | 89.5             |

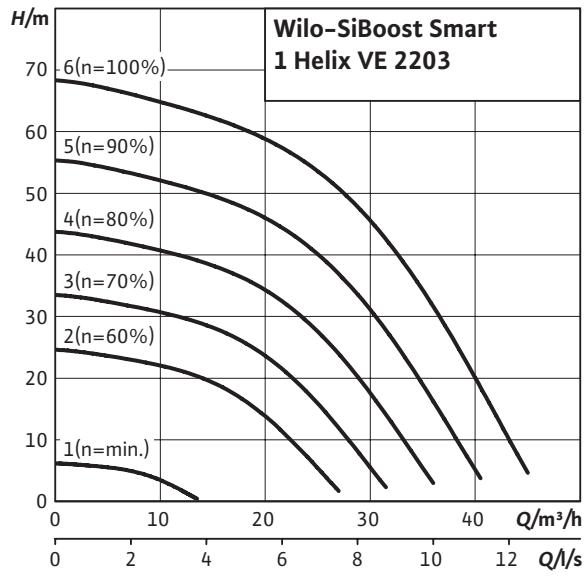
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

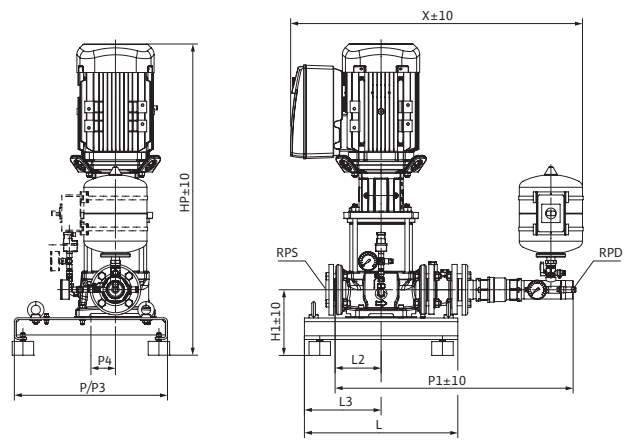
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |     |     |     |     |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H   | H1  | H3  | HP  | L   | L3  | P   |                        |
| 1Helix VE 2202-4      | Rp 2                                                      | R 2                                                        | 892        | 215 | 125 | 892 | 500 | 250 | 500 | 795 | 500 | 129                    |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 2203</b>  | 5.5                        | 11.3                                            | 89.2             | 90.2                 | 90.2             |

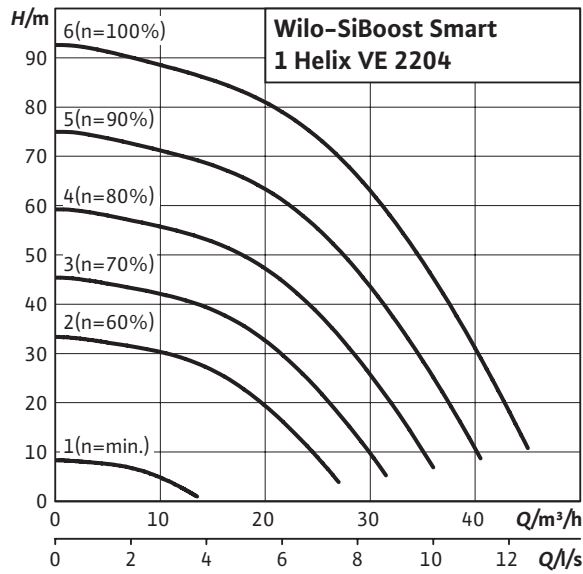
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

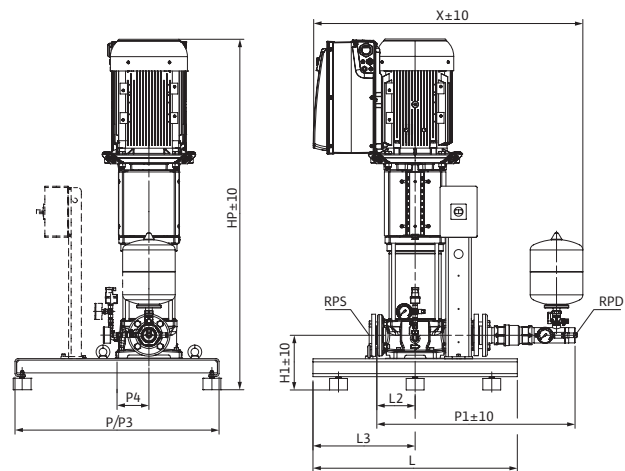
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |     |      |     |     |     |     |     | Weight approx.<br>m kg |
|-----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|-----|------|-----|-----|-----|-----|-----|------------------------|
|                       |                                                                  |                                                                   | H          | H1  | H3  | HP   | L   | L3  | P   | P1  | P3  |                        |
| <b>1Helix VE 2203</b> | Rp 2                                                             | R 2                                                               | 1008       | 215 | 125 | 1008 | 500 | 250 | 500 | 795 | 500 | 148                    |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 2204</b>  | 7.5                        | 13.8                                            | 91.1             | 91.7                 | 91.7             |

Motor efficiency based on 400 V, 50 Hz

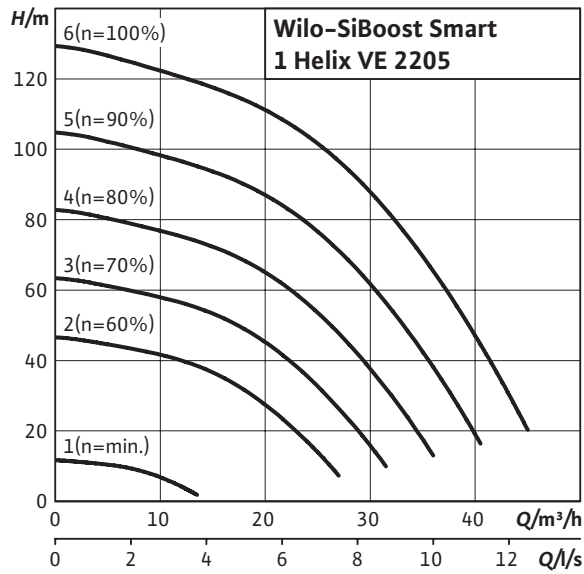
Dimensions, weights

| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |     |      |     |     |     |     |     | Weight approx.<br>m kg |
|-----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|-----|------|-----|-----|-----|-----|-----|------------------------|
|                       |                                                                  |                                                                   | H          | H1  | H3  | HP   | L   | L3  | P   | P1  | P3  |                        |
| <b>1Helix VE 2204</b> | Rp 2                                                             | R 2                                                               | 1058       | 215 | 125 | 1058 | 500 | 250 | 500 | 795 | 500 | 154                    |

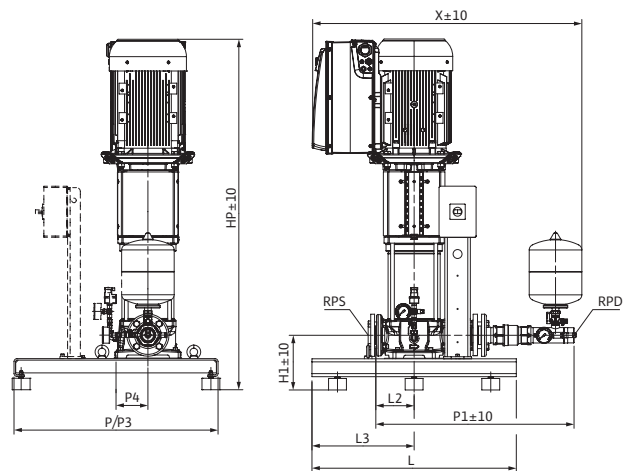


Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power | Nominal current<br>3~400 V, 50 Hz | Motor efficiency |                      |                  |
|-----------------------|-------------|-----------------------------------|------------------|----------------------|------------------|
|                       |             |                                   | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 2205</b>  | 11<br>kW    | 20<br>A                           | 88.8             | 90.2                 | 90.5             |

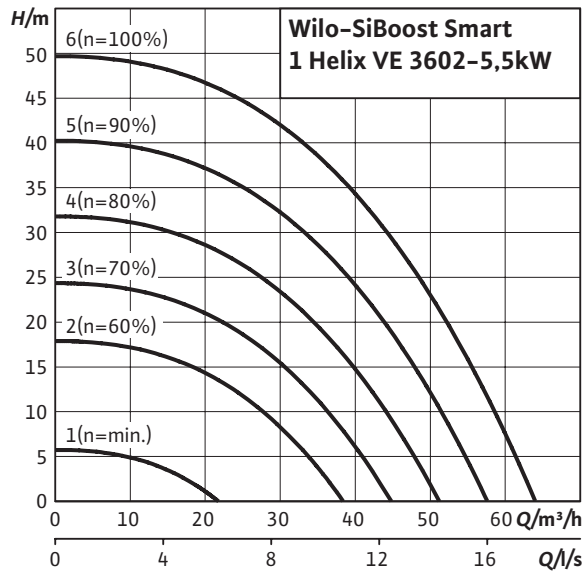
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

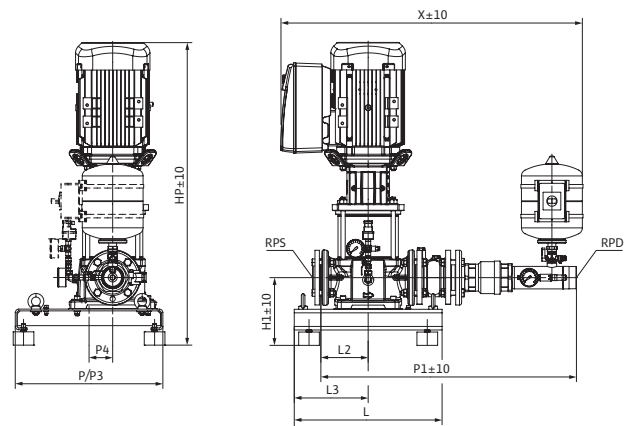
| Wilo-SiBoost Smart...  | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |     |         |     |     | Weight approx.<br>m<br>kg |
|------------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|-----|---------|-----|-----|---------------------------|
|                        |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP  | L<br>mm | L3  | P   |                           |
| <b>1 Helix VE 2205</b> | Rp 2                                                      | R 2                                                        | 1373       | 215 | 125 | 1373 | 800 | 400 | 800     | 795 | 800 | 287                       |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| Helix VE 3602-5,5     | 5.5                        | 11.3                                            | 89.5             | 90.9                 | 90.9             |

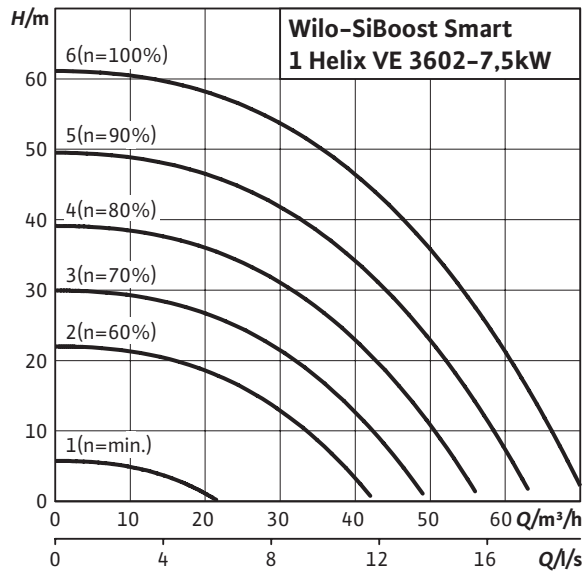
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

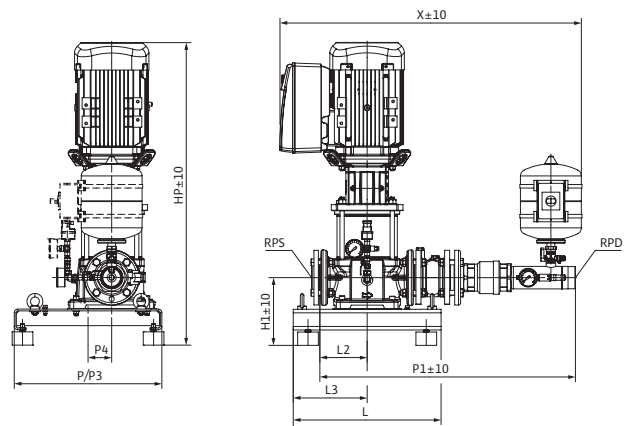
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP  | L<br>mm | L3  | P   |                        |
| 1 Helix VE 3602-5,5   | Rp 2½                                                     | R 2½                                                       | 1220       | 230 | 125 | 1220 | 500 | 250 | 500     | 865 | 500 | 159                    |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart...    | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|--------------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                          |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 3602-7,5</b> | 7.5                        | 13.8                                            | 91.1             | 91.7                 | 91.7             |

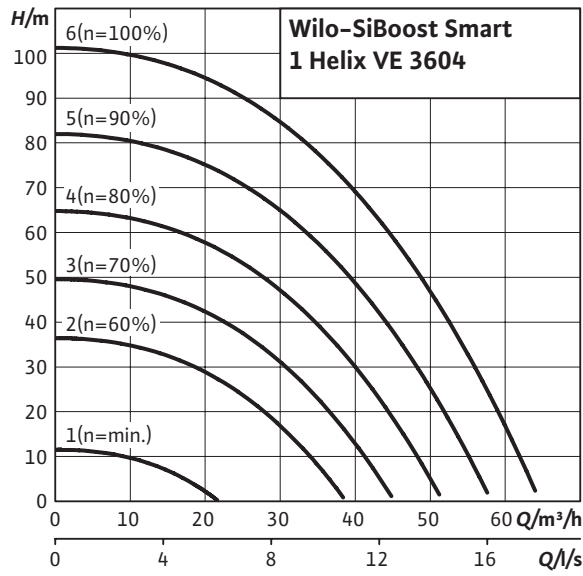
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

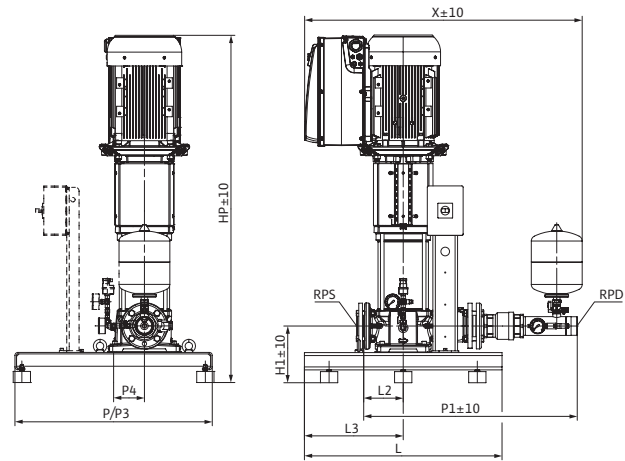
| Wilo-SiBoost Smart...     | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |     |      |     |     |     |     |     | Weight approx.<br>m kg |
|---------------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|-----|------|-----|-----|-----|-----|-----|------------------------|
|                           |                                                                  |                                                                   | H          | H1  | H3  | HP   | L   | L3  | P   | P1  | P3  |                        |
| <b>1Helix VE 3602-7,5</b> | Rp 2½                                                            | R 2½                                                              | 1220       | 230 | 125 | 1220 | 500 | 250 | 500 | 865 | 500 | 163                    |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 3604</b>  | 11                         | 20                                              | 88.8             | 90.2                 | 90.5             |

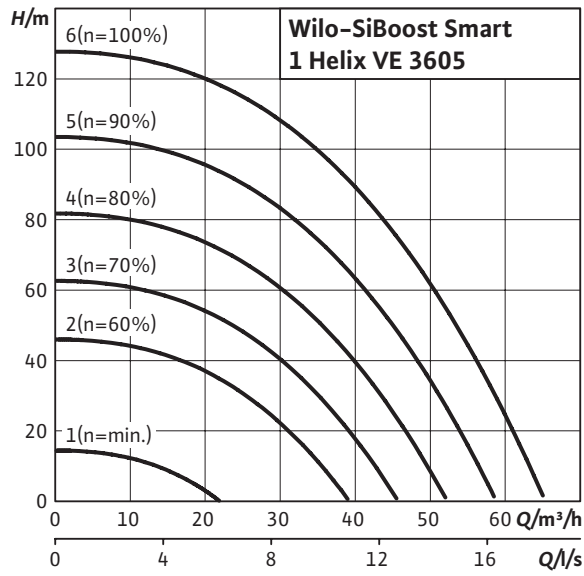
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

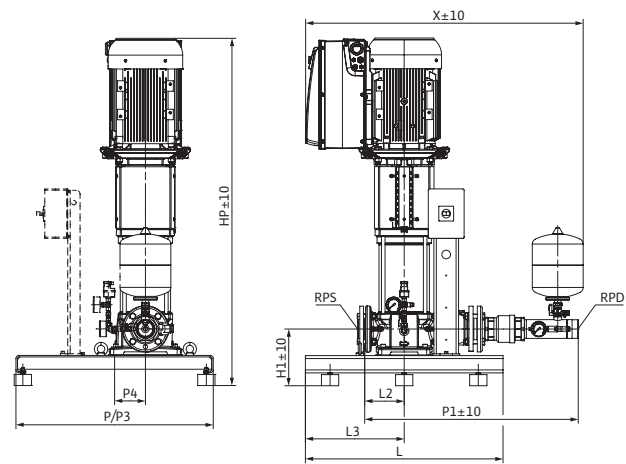
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1Helix VE 3604</b> | Rp 2½                                                     | R 2½                                                       | 1453       | 230 | 125 | 1453 | 800 | 400 | 800     | 865 | 800 | 321                    |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 3605</b>  | 15                         | 27.1                                            | 87.0             | 89.7                 | 90.6             |

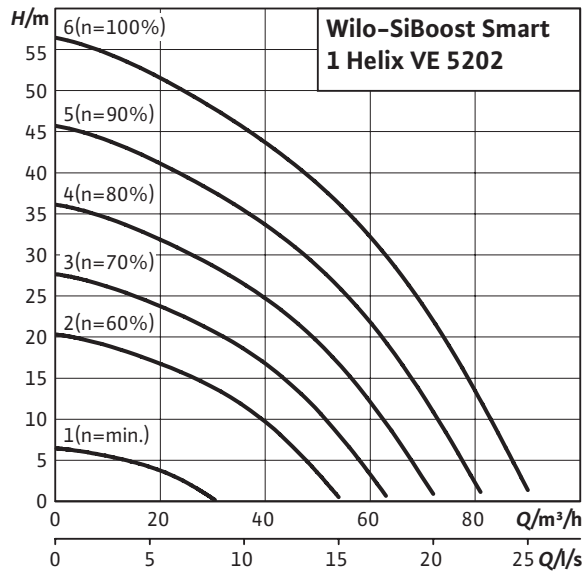
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

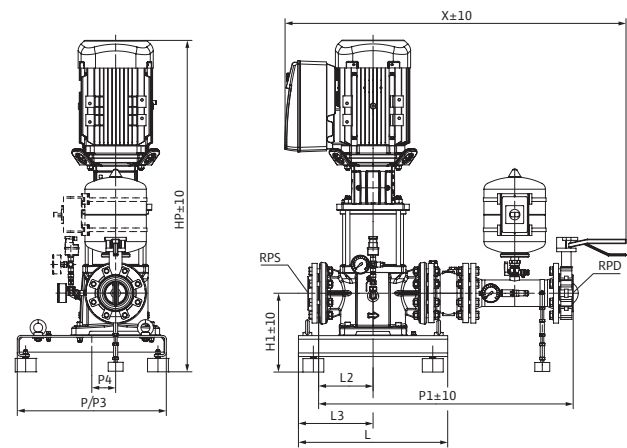
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br>RPS | Nominal diameters of pipe connections on the pressure side<br>RPD | Dimensions |     |     |      |     |     |     |     |     | Weight approx.<br>m kg |
|-----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|------------|-----|-----|------|-----|-----|-----|-----|-----|------------------------|
|                       |                                                                  |                                                                   | H          | H1  | H3  | HP   | L   | L3  | P   | P1  | P3  |                        |
| <b>1Helix VE 3605</b> | Rp 2½                                                            | R 2½                                                              | 1531       | 230 | 125 | 1531 | 800 | 400 | 800 | 865 | 800 | 326                    |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 5202</b>  | 7.5                        | 13.8                                            | 90.6             | 91.6                 | 91.7             |

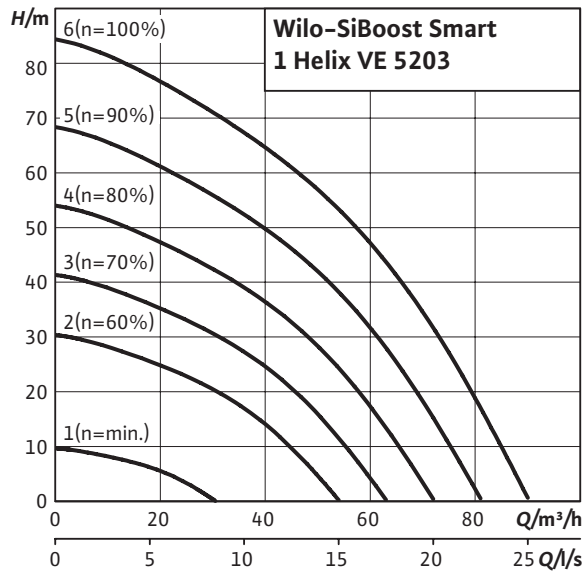
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

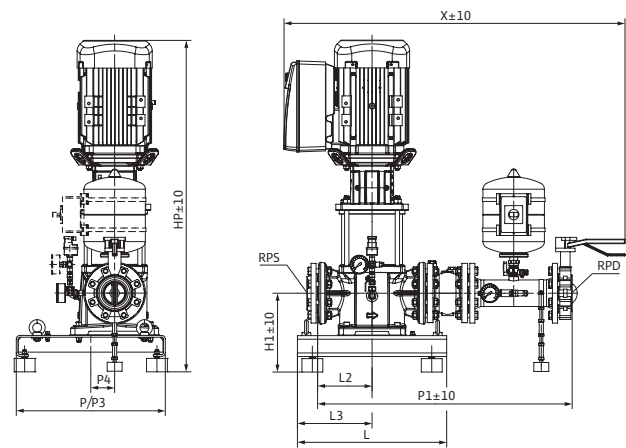
| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1Helix VE 5202</b> | Rp 3                                                      | DN 80                                                      | 1108       | 265 | 125 | 1108 | 500 | 250 | 500     | 855 | 500 | 190                    |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 5203</b>  | 11                         | 20                                              | 88.8             | 90.2                 | 90.5             |

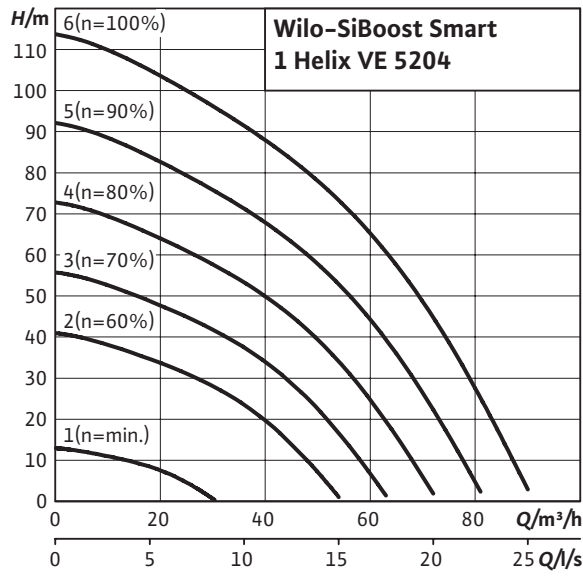
Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

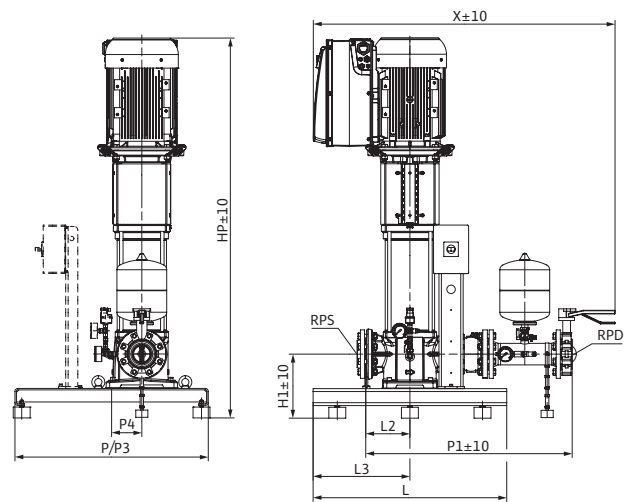
| Wilo-SiBoost Smart...  | Nominal diameters of the pipe connections on suction side<br><i>RPS</i> | Nominal diameters of pipe connections on the pressure side<br><i>RPD</i> | Dimensions |           |           |           |          |           |          |           |           | Weight approx.<br><i>m</i><br>kg |
|------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------|------------|-----------|-----------|-----------|----------|-----------|----------|-----------|-----------|----------------------------------|
|                        |                                                                         |                                                                          | <i>H</i>   | <i>H1</i> | <i>H3</i> | <i>HP</i> | <i>L</i> | <i>L3</i> | <i>P</i> | <i>P1</i> | <i>P3</i> |                                  |
| <b>1 Helix VE 5203</b> | Rp 3                                                                    | DN 80                                                                    | 1473       | 265       | 125       | 1473      | 800      | 400       | 800      | 855       | 800       | 340                              |

Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 5204</b>  | 15                         | 27.1                                            | 87.0             | 89.7                 | 90.6             |

Motor efficiency based on 400 V, 50 Hz

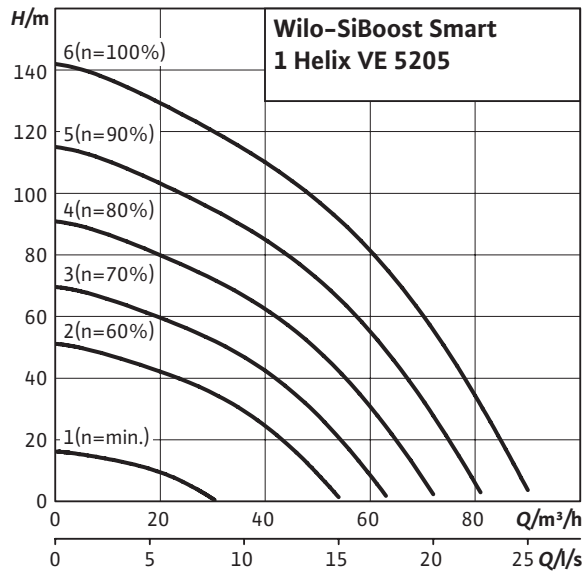
Dimensions, weights

| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |     |         |     |     | Weight approx.<br>m kg |
|-----------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|-----|---------|-----|-----|------------------------|
|                       |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP  | L<br>mm | L3  | P   |                        |
| <b>1Helix VE 5204</b> | Rp 3                                                      | DN 80                                                      | 1573       | 265 | 125 | 1573 | 800 | 400 | 800     | 855 | 800 | 355                    |

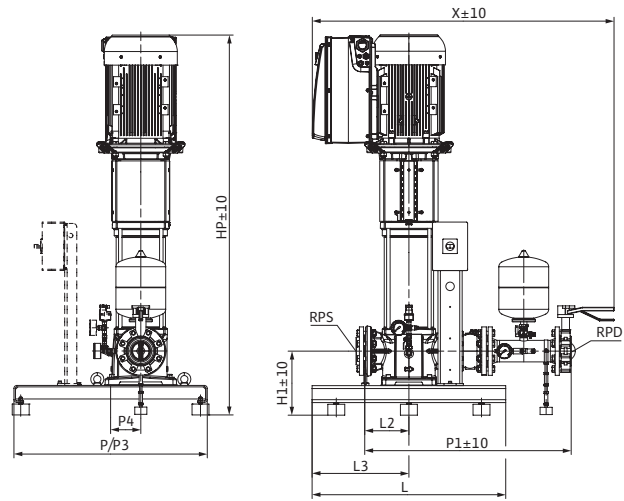


Pump curves

Wilo-SiBoost Smart



Dimension drawing



Motor data for each pump

| Wilo-SiBoost Smart... | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-----------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                       |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| <b>Helix VE 5205</b>  | 18.5                       | 33.1                                            | 89.4             | 90.6                 | 91.1             |

Motor efficiency based on 400 V, 50 Hz

Dimensions, weights

| Wilo-SiBoost Smart... | Nominal diameters of the pipe connections on suction side<br><i>RPS</i> | Nominal diameters of pipe connections on the pressure side<br><i>RPD</i> | Dimensions |           |           |           |          |           |          |           |           | Weight approx.<br><i>m</i><br>kg |
|-----------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------|------------|-----------|-----------|-----------|----------|-----------|----------|-----------|-----------|----------------------------------|
|                       |                                                                         |                                                                          | <i>H</i>   | <i>H1</i> | <i>H3</i> | <i>HP</i> | <i>L</i> | <i>L3</i> | <i>P</i> | <i>P1</i> | <i>P3</i> |                                  |
| <b>1Helix VE 5205</b> | Rp 3                                                                    | DN 80                                                                    | 1673       | 265       | 125       | 1673      | 800      | 400       | 800      | 855       | 800       | 372                              |

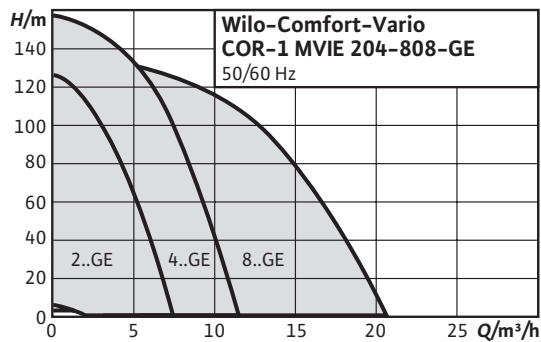


**Wilo-Comfort-Vario COR-1 MVIE...-GE**



Water-supply unit with a non-self-priming high-pressure multistage centrifugal pump and integrated speed control

- Sturdy system due to MVIE series stainless-steel high-pressure centrifugal pumps with air-cooled integrated frequency converter
- Frequency converter with superproportionally large control range
- Integrated full motor protection via PTC
- Integrated dry-running detection with automatic cut-out in event of low water via performance characteristics of the motor control electronics



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

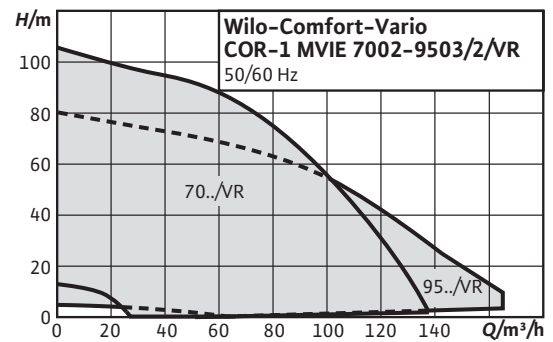


**Wilo-Comfort-Vario COR-1 MVIE.../VR**



Water-supply unit with a non-self-priming high-pressure multistage centrifugal pump with integrated frequency converter and Vario controller VR for motors from 7.5 kW

- Sturdy system due to MVIE series stainless-steel high-pressure centrifugal pumps with air-cooled integrated frequency converter
- Frequency converter with superproportionally large control range
- Integrated full motor protection via PTC
- Integrated dry-running detection with automatic cut-out in event of low water via performance characteristics of the motor control electronics



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

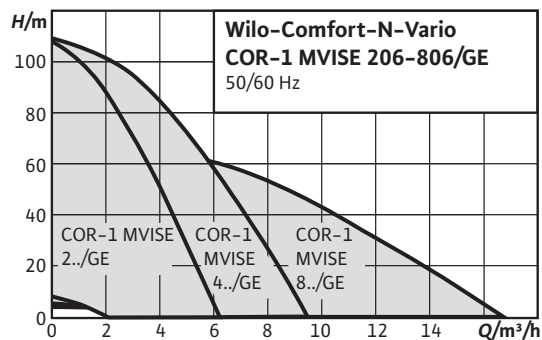


### Wilo-Comfort-N-Vario COR-1 MWISE...-GE



Water-supply units with a non-self-priming glandless high-pressure multistage centrifugal pump and integrated speed control

- Virtually noiseless system due to glandless stainless steel high-pressure multistage centrifugal pumps with integrated frequency converter
- Up to 20 dB[A] quieter than conventional systems with comparable hydraulic output
- Easily adjustable and operationally reliable due to the MWISE pump series used with integrated dry-running detection and automatic cut-out in event of low water



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

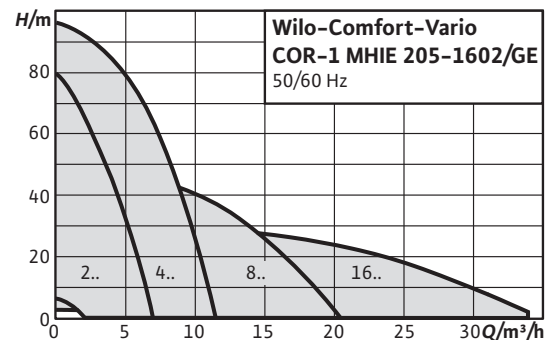


### Wilo-Comfort-Vario COR-1 MHIE...-GE



Water-supply unit with a non-self-priming high-pressure multistage centrifugal pump and integrated speed control

- Sturdy system due to MHIE series stainless steel high-pressure multistage centrifugal pumps with air-cooled integrated frequency converter
- Frequency converter with superproportionally large control range
- Integrated full motor protection via PTC
- Integrated dry-running detection with automatic cut-out in event of low water via performance characteristics of the motor control electronics



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

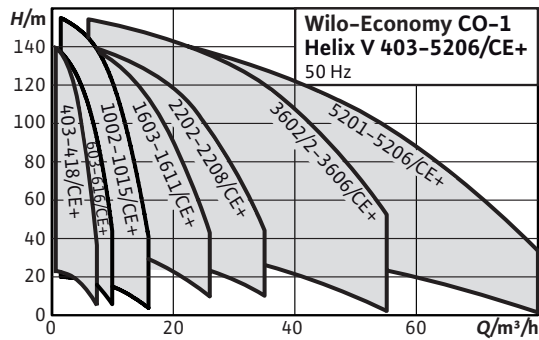


**Wilo-Economy CO-1 Helix V.../CE+**



High-efficiency, connection-ready water-supply unit. With multistage, vertical stainless steel high-pressure multistage centrifugal pump in glanded version, incl. Economy controller CE+.

- Heavy-duty system due to stainless steel high-pressure multi-stage centrifugal pumps of the Helix V series
- High-efficiency pump hydraulics
- Easily adjustable and operationally reliable due to the CE+ switchgear used



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

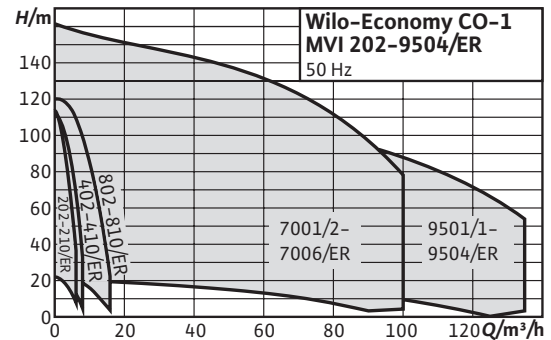


**Wilo-Economy CO-1 MVI.../ER**



Water-supply unit with a non-self-priming high-pressure multistage centrifugal pump

- Sturdy system due to stainless steel high-pressure multistage centrifugal pumps of the MVI series
- Wide hydraulic range through the use of all pumps in the MVI series
- Easily adjustable and operationally reliable due to the ER-1 control unit used



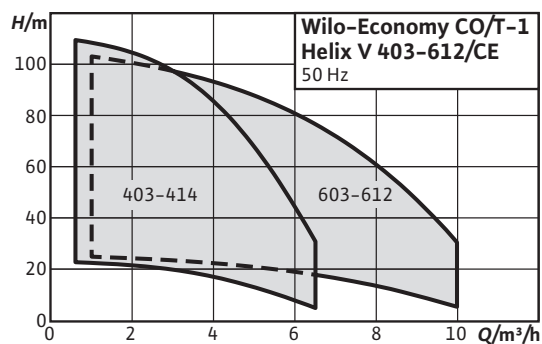
**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)



### Wilo-Economy CO/T-1 Helix V

Water-supply unit with system separation and a non-self-priming high-pressure multistage centrifugal pump

- Compact system, ready for connection, for all applications that require system separation
- Heavy-duty system due to stainless steel high-pressure multistage centrifugal pumps of the Helix V series
- Easily adjustable and operationally reliable due to the CE+ control device used



Select 4 online

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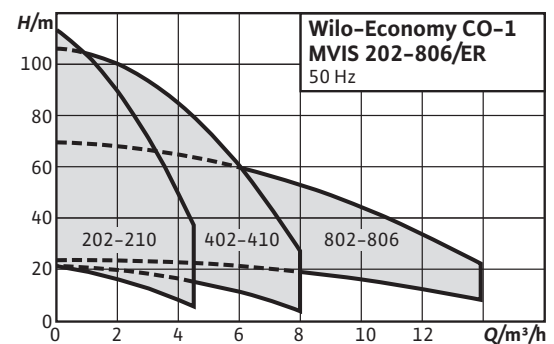


### Wilo-Economy CO-1 MVIS.../ER



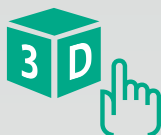
Water-supply unit with a glandless, non-self-priming high-pressure multistage centrifugal pump

- Virtually noiseless system due to a glandless stainless-steel high-pressure multistage centrifugal pump
- Up to 20 dB[A] quieter than conventional systems with comparable hydraulic output
- Operationally reliable due to combination of MVIS pump series with ER-1 switchgear



Select 4 online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

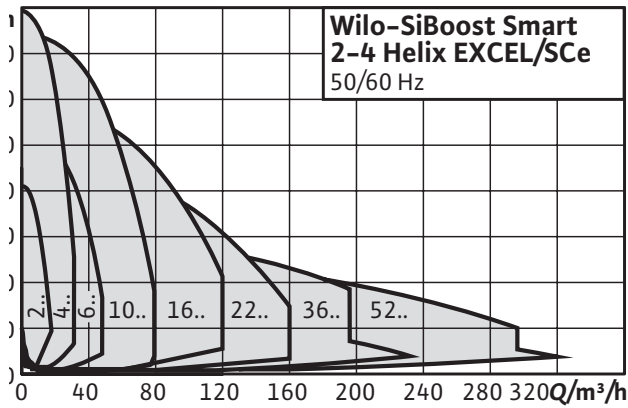


## Wilo-SiBoost Smart Helix EXCEL

Highly efficient water-supply unit (non self-priming) ready for connection with 2 to 4 vertically arranged Helix EXCEL stainless steel high-pressure centrifugal pumps switched in parallel; each pump is equipped with an integrated air-cooled, high-efficiency frequency converter and an EC motor, including Smart Controller SCe. Valves and sensors are protected for safe and reliable installation

- Sturdy system with Helix EXCEL stainless steel high-pressure circulation pumps with integrated frequency converter from 25 Hz to a maximum 60 Hz
- High-efficiency EC motor (energy efficiency class IE5 acc. to IEC 60034-30-2)
- Pressure-loss optimised with highly-efficient pump hydraulics
- Integrated dry-running detection with automatic deactivation via the motor control electronics
- Maximum degree of control using the SCe control device with LC display, simple navigation and configuration using rotary knob





Series modification



## Wilo-SiBoost Smart Helix EXCEL



### Type key

|                    |                                                          |
|--------------------|----------------------------------------------------------|
| Example:           | <b>Wilo-SiBoost-Smart 3 Helix EXCEL 1005</b>             |
| <b>SiBoost</b>     | System for pressure boosting in the commercial area      |
| <b>Smart</b>       | Control device, Smart Controller SCe                     |
| <b>3</b>           | Number of single pumps                                   |
| <b>Helix EXCEL</b> | Pump series                                              |
| <b>10</b>          | Rated volume flow [m <sup>3</sup> /h] of the single pump |
| <b>05</b>          | Number of single pump stages                             |

### Application

- Fully automatic water supply and pressure boosting in residential, commercial and public buildings, hotels, hospitals, department stores and for industrial systems.
- Pumping of drinking water, process water, cooling water, fire water (apart from fire-extinguishing systems in accordance with DIN 14462 and with the approval of the local fire safety authorities) or other types of industrial water that do not attack the materials either chemically or mechanically and do not contain abrasive or long-fibre constituents.

### Technical data

- Mains connection 3~400 V ± 10%, 50 Hz; 3~380 V ± 10 %, 60 Hz
- Max. fluid temperature +50 °C (+70 °C optional)
- Max. ambient temperature 40 °C
- Operating pressure 16 bar (25 bar optional)
- Inlet pressure 10 bar
- Nominal connection diameters on discharge side R 1½" - DN 200

- Nominal connection diameters on intake side R 1½" - DN 200
- Speed range 1500-3770 rpm
- Protection class: IP 54 (SCe control device)
- Fuse protection on mains side A, AC 3 according to motor power and EVU regulations
- Approved fluids (other fluids on request):
  - Drinking water and hot water
  - Cooling water
  - Fire water
- Note on fluids: Approved fluids are generally waters which do not attack the materials used, neither chemically nor mechanically, and do not contain any abrasive or long-fibre constituents. System in accordance with DIN 1988 (EN 806)

### Equipment/function

- 2-4 pumps per system of the Helix EXCEL 4 to Helix EXCEL 52 series, with high-efficiency EC motor and variable speed control via integrated frequency converter on each pump
- Automatic pump control via Smart Controller SCe
- Parts that come in contact with the fluid are corrosion-resistant
- Base frame made of galvanised steel, with height-adjustable vibration absorbers for insulation against structure-borne noise
- Shut-off valve on the suction and pressure sides of each pump
- Non-return valve on the pressure side of each pump
- Diaphragm pressure vessel 8 l, PN16, pressure side
- Pressure sensor, pressure side
- Pressure gauge, pressure side
- Removable cover for protection of system components (not for Helix EXCEL 52 series)

- Optional low-water cut-out switchgear with pressure gauge, suction side

### Materials

Helix EXCEL 4 to Helix EXCEL 16

- Impellers, guide vanes, stage housing made of stainless steel 1.4307
- Pump housing of stainless steel 1.4301
- Shaft of stainless steel 1.4057
- 1.4404 shaft protection sleeve
- O-Ring gaskets made of EPDM (FKM gasket on request)
- Piping made of 1.4301 stainless steel
- Removable covers made of plastic

Helix EXCEL 22 to Helix EXCEL 52

- Impellers, guide vanes, stage housing made of stainless steel 1.4307
- Pump housing of stainless steel 1.4308
- Shaft of stainless steel 1.4057
- 1.4404 shaft protection sleeve
- O-Ring gaskets made of EPDM (FKM gasket on request)
- Piping made of 1.4301 stainless steel
- Removable covers made of plastic (not for Helix EXCEL 52)

### Description/design

- Base frame: galvanised steel, with height-adjustable vibration absorbers for comprehensive insulation against structure-borne noise as well as an integrated lifting device; other versions on request
- Pipework: complete pipework made of stainless steel, suitable for the connection of all conventional piping materials; the pipework is dimensioned according to the overall hydraulic performance of the pressure boosting system
- Pumps: 2 to 4 pumps parallel-switched of the Helix EXCEL 4 to Helix EXCEL 52 series. The air-cooled frequency converters mounted on the pump motor enable infinitely variable control between 25 Hz and a maximum of 60 Hz for all pumps of this series. All pump parts which come into contact with the fluid are made of stainless steel; other versions on request. KTW/WRAS/ACS approval for all parts that come in contact with the fluid
- Valves: Each pump is fitted on the suction and pressure side with a standard shut-off valve with DVGW approval mark and on the pressure side with a DVGW/KTW-approved non-return valve.

- Diaphragm pressure vessel: 8 l/PN16 arranged on the discharge side with a diaphragm made of butyl rubber, with DVGW/KTW approval, completely safe in accordance with food safety laws; for testing and inspection purposes, with a shut-off ball cock with drain and throughflow fitting with DVGW/KTW approval in accordance with DIN 4807
- Pressure sensor: 4 to 20 mA, located on the discharge side for controlling the central Smart Controller SC
- Pressure indication: Pressure gauge (ø 63 mm) arranged on the discharge side; additional digital indication of the discharge pressure in the alphanumeric LC display of the Smart Controller SC
- Switchgear/controller: The system is equipped with a Smart Controller SC as standard
- Removable covers on the suction side and pressure side: the design of the system guarantees optimal protection of the regulating components and sensors against wire breakage and prevents early wear

### Options

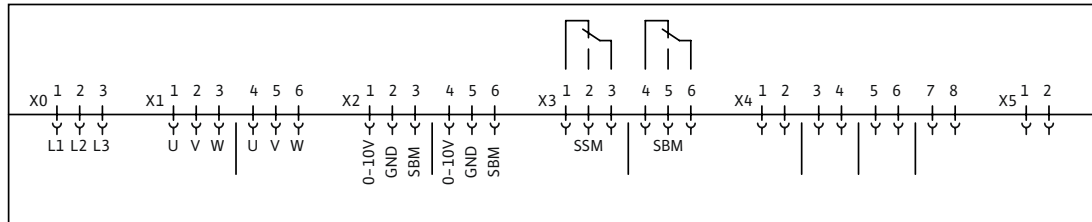
Other mains connections on request

### Scope of delivery

- Factory-mounted, connection-ready pressure boosting system checked for functionality and impermeability
- Packaging
- Installation and operating instructions



Terminal diagram  
Smart Controller SCe

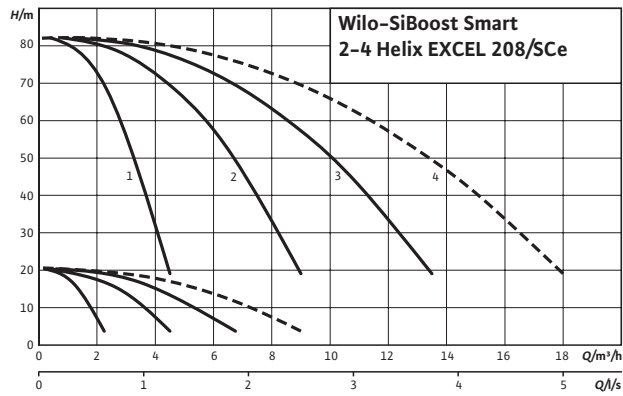


- x0: Mains connection
- x1: Power supply, pumps 1-3, pump 1; 4-6, pump 2
- x2: Pump control 1-3, pump 1; 4-6, pump 2; etc.
- x3: Potential-free contacts (signals) 1-3, SSM (collective fault signal); 4-6, SBM (collective run signal)
- x4: Connections for sensor 1, sensor (In); 2, sensor (+) 3-4, external On/Off; 5-6, TLS (dry-running protection); 7-8, setpoint 2
- x5: Analogue outputs 1-2, actual pressure (0...10 V)



Pump curves

Wilo-SiBoost Smart

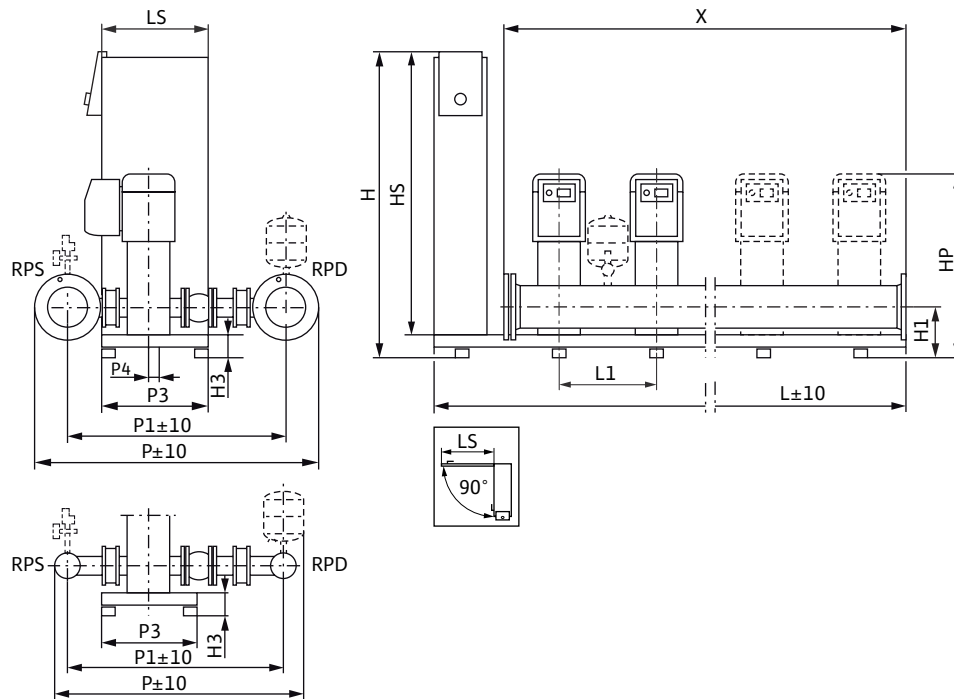


Motor data for each pump

| Wilo-SiBoost Smart 2... | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-------------------------|-------------|--------------------------------|-----------------------|
|                         | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 208         | 1.10        | 1.88                           | 92.0                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing



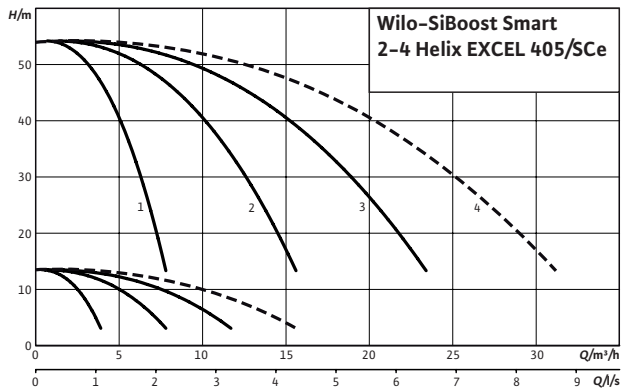
System examples. Accessories are displayed (order separately): Optional kit WMS for low-water cut-out switchgear installation surface: flat and horizontal installation location: dry, well-ventilated and frost-proof A working area of 1 m around the system is recommended in order to facilitate the maintenance process.

Dimensions, weights

| Wilo-SiBoost Smart<br>2-4... | Nominal diam-<br>eters of pipe<br>connections<br>on the suction<br>side/pressure<br>side | Dimensions |     |    |     |     |      |     |     |     |     |     |    |      | Weight<br>ap-<br>prox.<br><br>m<br>kg |
|------------------------------|------------------------------------------------------------------------------------------|------------|-----|----|-----|-----|------|-----|-----|-----|-----|-----|----|------|---------------------------------------|
|                              |                                                                                          | H          | H1  | H3 | HP  | HS  | L    | L1  | LS  | P   | P1  | P3  | P4 | X    |                                       |
| 2Helix EXCEL 208             | R 1½                                                                                     | 1055       | 140 | 90 | 939 | 950 | 850  | 300 | 400 | 885 | 611 | 420 | 30 | 600  | 173                                   |
| 3Helix EXCEL 208             | R 2                                                                                      | 1055       | 140 | 90 | 939 | 950 | 1150 | 300 | 400 | 885 | 623 | 420 | 30 | 900  | 236                                   |
| 4Helix EXCEL 208             | R 2½                                                                                     | 1055       | 140 | 90 | 939 | 950 | 1450 | 300 | 400 | 885 | 637 | 420 | 30 | 1200 | 299                                   |

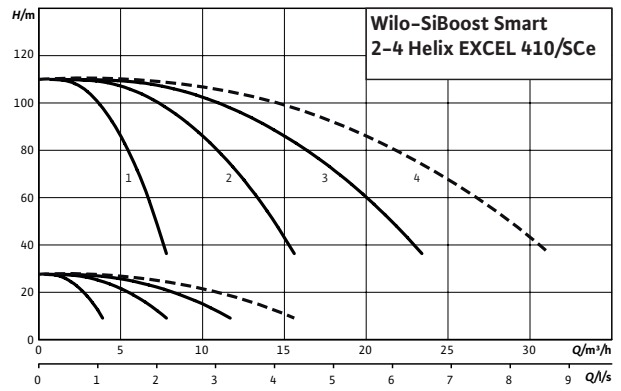
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 405



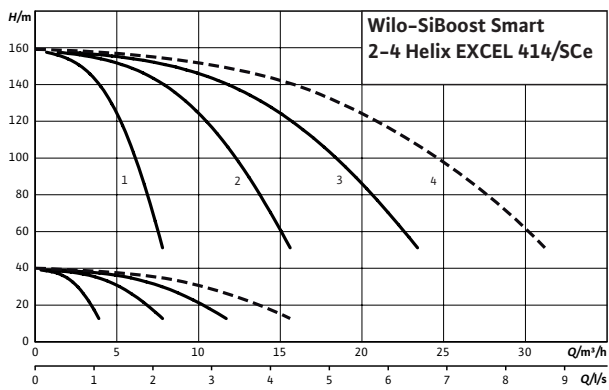
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 410



Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 414

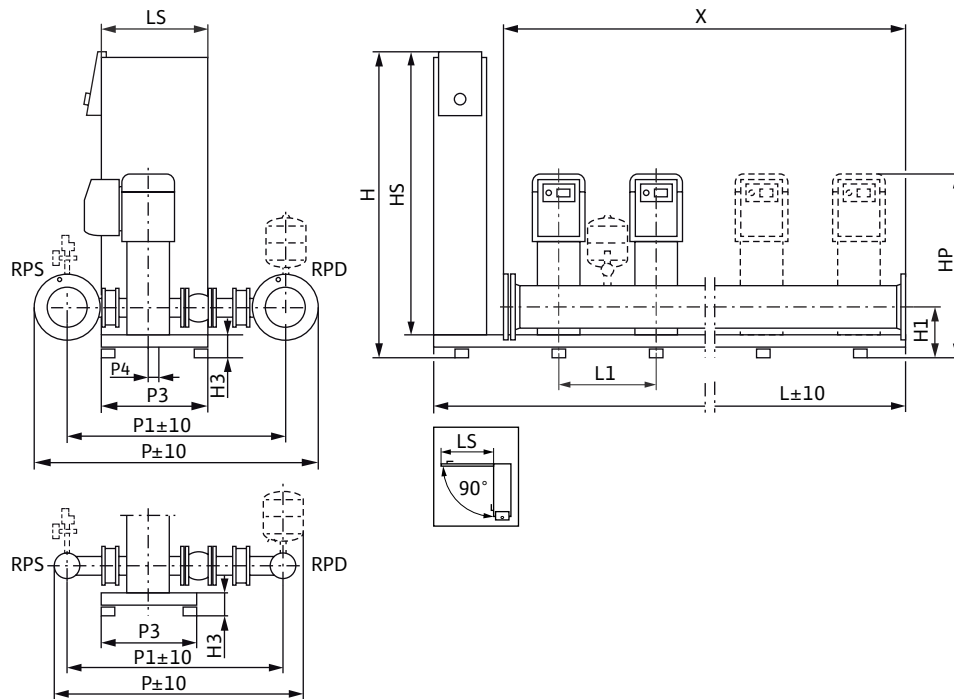


Motor data for each pump

| Wilo-SiBoost Smart 2... | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-------------------------|-------------|--------------------------------|-----------------------|
|                         | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m,100\%}$<br>% |
| Helix EXCEL 405         | 1.10        | 1.88                           | 92.0                  |
| Helix EXCEL 410         | 2.20        | 4.8                            | 93.0                  |
| Helix EXCEL 414         | 3.20        | 6.4                            | 93.0                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing



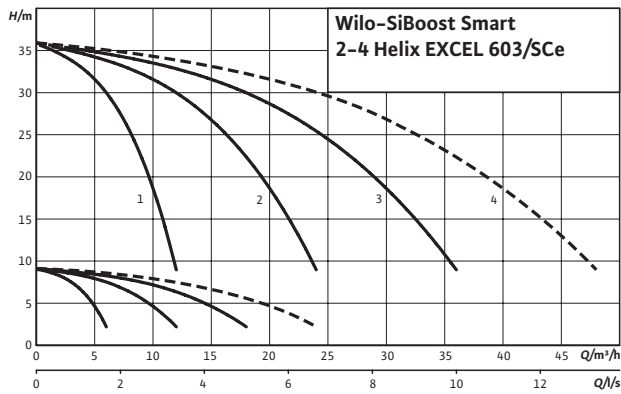
System examples. Accessories are displayed (order separately): Optional kit WMS for low-water cut-out switchgear installation surface: flat and horizontal installation location: dry, well-ventilated and frost-proof A working area of 1 m around the system is recommended in order to facilitate the maintenance process.

Dimensions, weights

| Model            | Nominal diam-<br>eters of pipe<br>connections<br>on the suction<br>side/pressure<br>side | Dimensions |     |    |      |     |      |          |     |     |     |     |    |      | Weight<br>ap-<br>prox.<br>m<br>kg |
|------------------|------------------------------------------------------------------------------------------|------------|-----|----|------|-----|------|----------|-----|-----|-----|-----|----|------|-----------------------------------|
|                  |                                                                                          | H          | H1  | H3 | HP   | HS  | L    | L1<br>mm | LS  | P   | P1  | P3  | P4 | X    |                                   |
| 2Helix EXCEL 405 | R 1½                                                                                     | 1055       | 140 | 90 | 864  | 950 | 850  | 300      | 400 | 885 | 611 | 420 | 30 | 600  | 162                               |
| 2Helix EXCEL 410 | R 1½                                                                                     | 1055       | 140 | 90 | 999  | 950 | 850  | 300      | 400 | 885 | 611 | 420 | 30 | 600  | 179                               |
| 2Helix EXCEL 414 | R 1½                                                                                     | 1055       | 140 | 90 | 1099 | 950 | 850  | 300      | 400 | 885 | 611 | 420 | 30 | 600  | 189                               |
| 3Helix EXCEL 405 | R 2                                                                                      | 1055       | 140 | 90 | 864  | 950 | 1150 | 300      | 400 | 885 | 623 | 420 | 30 | 900  | 179                               |
| 3Helix EXCEL 410 | R 2                                                                                      | 1055       | 140 | 90 | 999  | 950 | 1150 | 300      | 400 | 885 | 623 | 420 | 30 | 900  | 245                               |
| 3Helix EXCEL 414 | R 2                                                                                      | 1055       | 140 | 90 | 1099 | 950 | 1150 | 300      | 400 | 885 | 623 | 420 | 30 | 900  | 260                               |
| 4Helix EXCEL 405 | R 2½                                                                                     | 1055       | 140 | 90 | 864  | 950 | 1450 | 300      | 400 | 885 | 637 | 420 | 30 | 1200 | 189                               |
| 4Helix EXCEL 410 | R 2½                                                                                     | 1055       | 140 | 90 | 999  | 950 | 1450 | 300      | 400 | 885 | 637 | 420 | 30 | 1200 | 311                               |
| 4Helix EXCEL 414 | R 2½                                                                                     | 1055       | 140 | 90 | 1099 | 950 | 1450 | 300      | 400 | 885 | 637 | 420 | 30 | 1200 | 331                               |

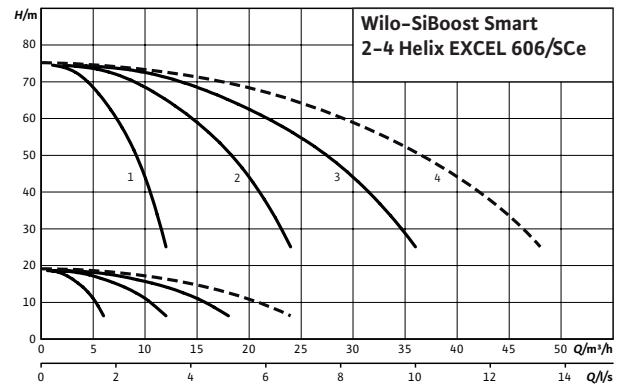
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 603



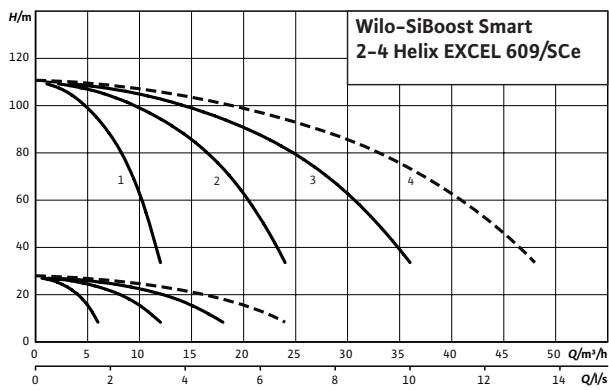
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 606



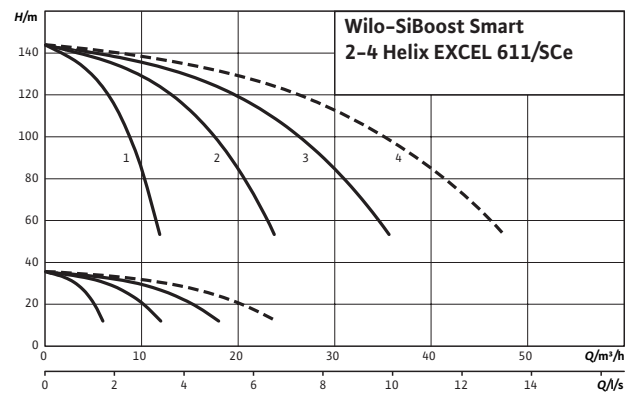
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 609



Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 611

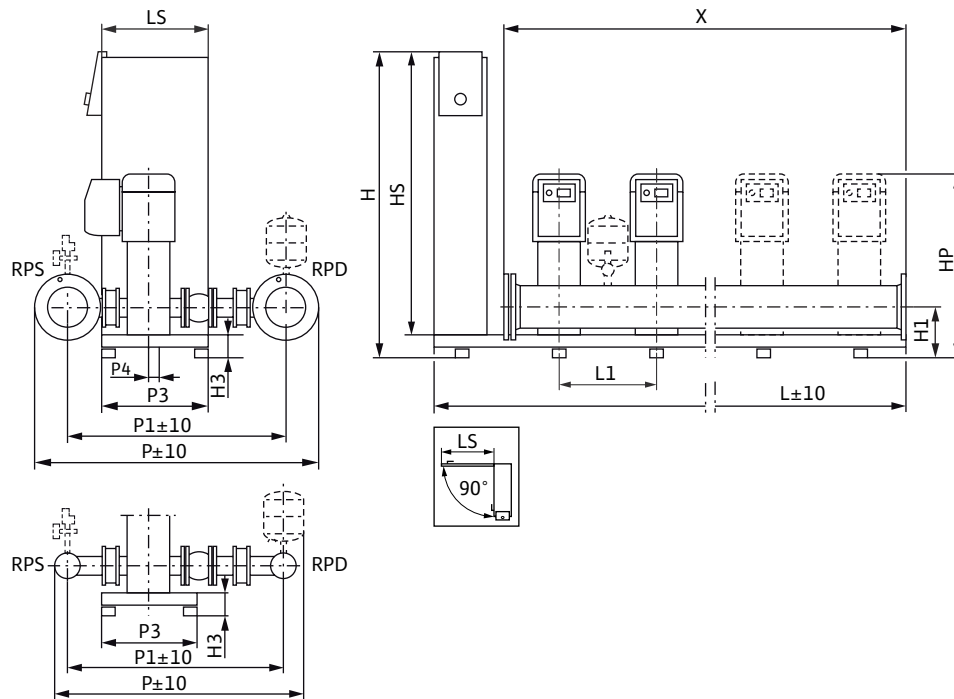


Motor data for each pump

| Wilo-SiBoost Smart 2... | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-------------------------|-------------|--------------------------------|-----------------------|
|                         | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m,100\%}$<br>% |
| Helix EXCEL 603         | 1.10        | 1.88                           | 92.0                  |
| Helix EXCEL 606         | 2.20        | 4.8                            | 93.0                  |
| Helix EXCEL 609         | 3.20        | 6.4                            | 93.0                  |
| Helix EXCEL 611         | 4.20        | 7.2                            | 95.8                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing



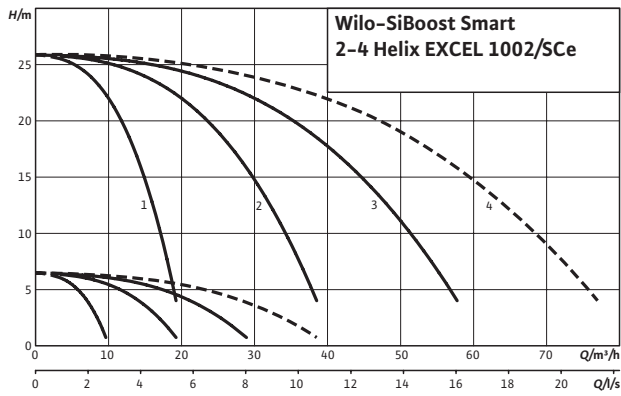
System examples. Accessories are displayed (order separately): Optional kit WMS for low-water cut-out switchgear installation surface: flat and horizontal installation location: dry, well-ventilated and frost-proof A working area of 1 m around the system is recommended in order to facilitate the maintenance process.

Dimensions, weights

| Wilo-SiBoost Smart<br>2-4... | Nominal diam-<br>eters of pipe<br>connections<br>on the suction<br>side/pressure<br>side | Dimensions |     |    |      |     |      |          |     |     |     |     |    |      | Weight<br>ap-<br>prox.<br><br>m<br>kg |
|------------------------------|------------------------------------------------------------------------------------------|------------|-----|----|------|-----|------|----------|-----|-----|-----|-----|----|------|---------------------------------------|
|                              |                                                                                          | H          | H1  | H3 | HP   | HS  | L    | L1<br>mm | LS  | P   | P1  | P3  | P4 | X    |                                       |
| 2Helix EXCEL 603             | R 2                                                                                      | 1055       | 140 | 90 | 852  | 950 | 850  | 300      | 400 | 885 | 623 | 420 | 30 | 600  | 163                                   |
| 2Helix EXCEL 606             | R 2                                                                                      | 1055       | 140 | 90 | 964  | 950 | 850  | 300      | 400 | 885 | 623 | 420 | 30 | 600  | 180                                   |
| 2Helix EXCEL 609             | R 2                                                                                      | 1055       | 140 | 90 | 1087 | 950 | 850  | 300      | 400 | 885 | 623 | 420 | 30 | 600  | 192                                   |
| 2Helix EXCEL 611             | R 2                                                                                      | 1055       | 140 | 90 | 1281 | 950 | 850  | 300      | 400 | 885 | 623 | 420 | 30 | 600  | 196                                   |
| 3Helix EXCEL 603             | R 2½                                                                                     | 1055       | 140 | 90 | 852  | 950 | 1150 | 300      | 400 | 885 | 637 | 420 | 30 | 900  | 221                                   |
| 3Helix EXCEL 606             | R 2½                                                                                     | 1055       | 140 | 90 | 964  | 950 | 1150 | 300      | 400 | 885 | 637 | 420 | 30 | 900  | 246                                   |
| 3Helix EXCEL 609             | R 2½                                                                                     | 1055       | 140 | 90 | 1087 | 950 | 1150 | 300      | 400 | 885 | 637 | 420 | 30 | 900  | 264                                   |
| 3Helix EXCEL 611             | R 2½                                                                                     | 1055       | 140 | 90 | 1281 | 950 | 1150 | 300      | 400 | 885 | 637 | 420 | 30 | 900  | 270                                   |
| 4Helix EXCEL 603             | R 2½                                                                                     | 1055       | 140 | 90 | 852  | 950 | 1450 | 300      | 400 | 885 | 637 | 420 | 30 | 1200 | 278                                   |
| 4Helix EXCEL 606             | R 2½                                                                                     | 1055       | 140 | 90 | 964  | 950 | 1450 | 300      | 400 | 885 | 637 | 420 | 30 | 1200 | 311                                   |
| 4Helix EXCEL 609             | R 2½                                                                                     | 1055       | 140 | 90 | 1087 | 950 | 1450 | 300      | 400 | 885 | 637 | 420 | 30 | 1200 | 335                                   |
| 4Helix EXCEL 611             | R 2½                                                                                     | 1055       | 140 | 90 | 1281 | 950 | 1450 | 300      | 400 | 885 | 637 | 420 | 30 | 1200 | 343                                   |

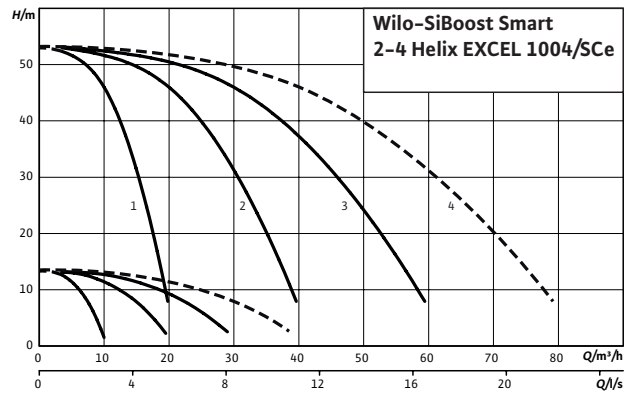
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1002



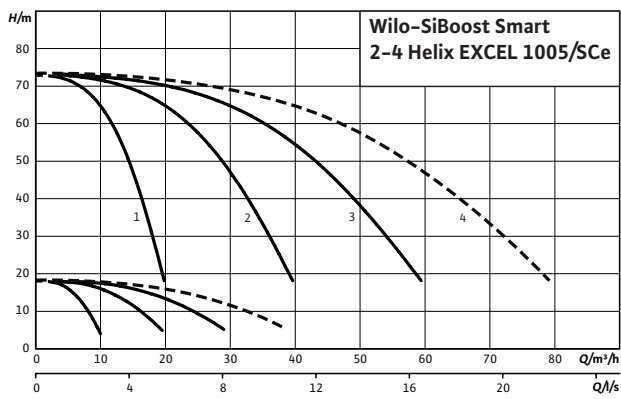
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1004



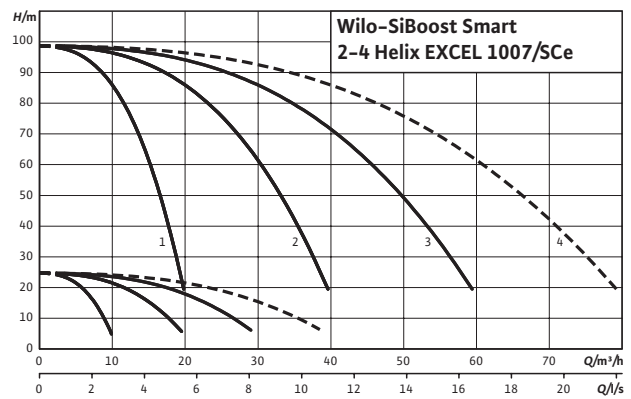
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1005



Pump curves

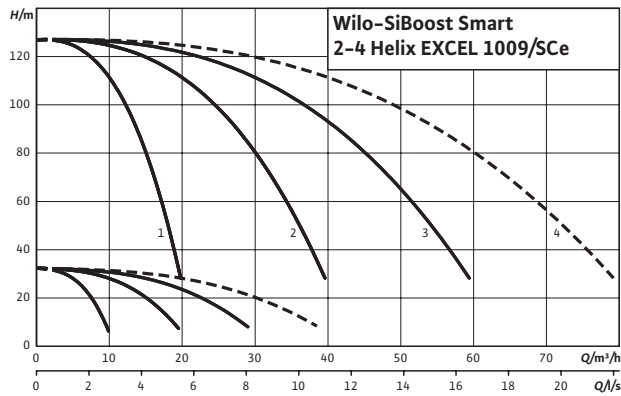
Wilo-SiBoost Smart 2-4 Helix EXCEL 1007





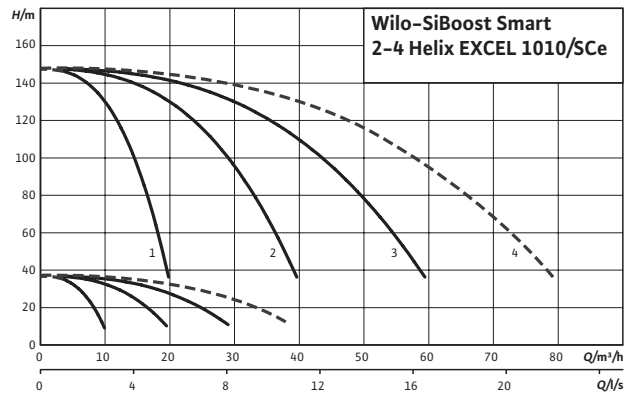
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1009



Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1010

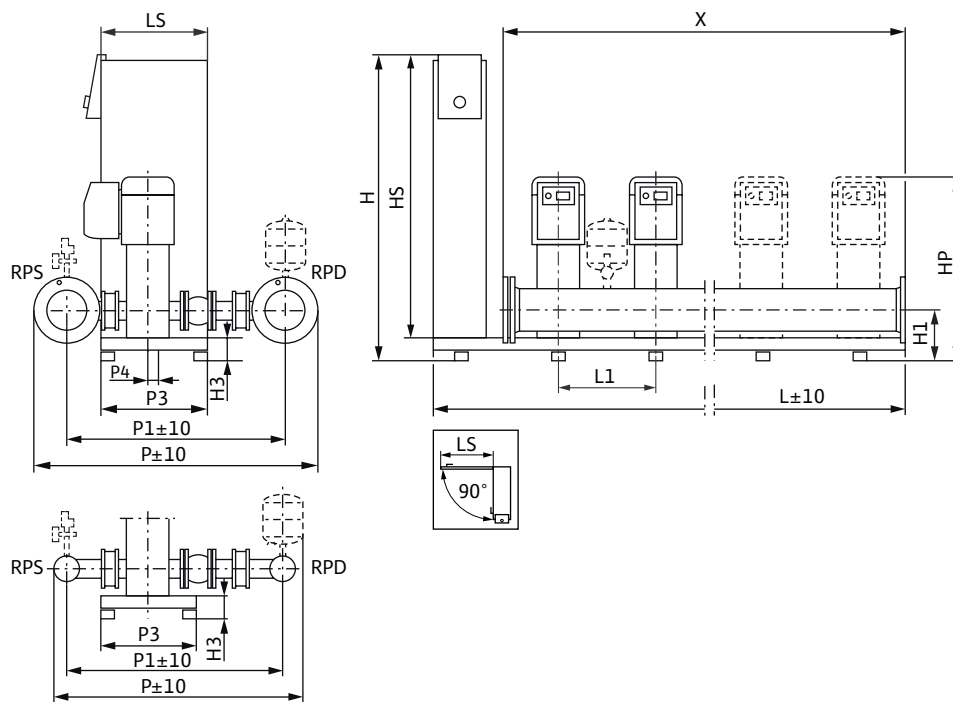


Motor data for each pump

| Wilo-SiBoost Smart 2... | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-------------------------|-------------|--------------------------------|-----------------------|
|                         | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 1002        | 1.10        | 1.88                           | 92.0                  |
| Helix EXCEL 1004        | 2.20        | 4.8                            | 93.0                  |
| Helix EXCEL 1005        | 3.20        | 6.4                            | 93.0                  |
| Helix EXCEL 1007        | 4.20        | 7.2                            | 95.8                  |
| Helix EXCEL 1009        | 5.50        | 9.3                            | 95.8                  |
| Helix EXCEL 1010        | 6.50        | 10.9                           | 96.5                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing



System examples. Accessories are displayed (order separately): Optional kit WMS for low-water cut-out switchgear installation surface: flat and horizontal installation location: dry, well-ventilated and frost-proof A working area of 1 m around the system is recommended in order to facilitate the maintenance process.

Dimensions, weights

Wilo-SiBoost Smart  
2-4...

Nominal diameters of pipe connections on the suction side/pressure side

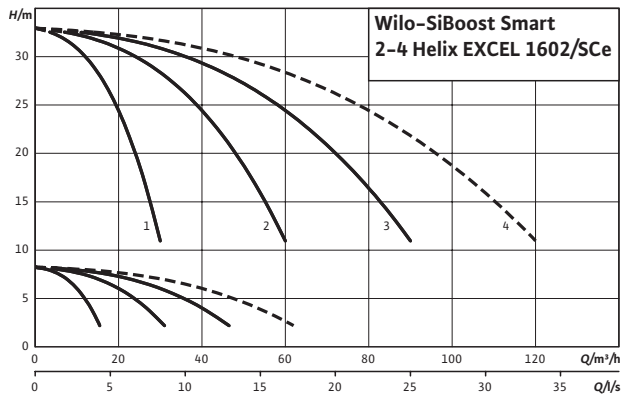
Dimensions

Weight approx.

|                   |      | H    | H1  | H3 | HP   | HS  | L    | L1<br>mm | LS  | P   | P1  | P3  | P4 | X    | m<br>kg |
|-------------------|------|------|-----|----|------|-----|------|----------|-----|-----|-----|-----|----|------|---------|
| 2Helix EXCEL 1002 | R 2½ | 1055 | 170 | 90 | 835  | 950 | 850  | 300      | 400 | 885 | 704 | 420 | 30 | 600  | 173     |
| 2Helix EXCEL 1004 | R 2½ | 1055 | 170 | 90 | 920  | 950 | 850  | 300      | 400 | 885 | 704 | 420 | 30 | 600  | 175     |
| 2Helix EXCEL 1005 | R 2½ | 1055 | 170 | 90 | 958  | 950 | 850  | 300      | 400 | 885 | 704 | 420 | 30 | 600  | 180     |
| 2Helix EXCEL 1007 | R 2½ | 1055 | 170 | 90 | 1125 | 950 | 850  | 300      | 400 | 885 | 704 | 420 | 30 | 600  | 202     |
| 2Helix EXCEL 1009 | R 2½ | 1055 | 170 | 90 | 1320 | 950 | 850  | 300      | 400 | 885 | 704 | 420 | 30 | 600  | 219     |
| 2Helix EXCEL 1010 | R 2½ | 1055 | 170 | 90 | 1380 | 950 | 850  | 300      | 400 | 885 | 704 | 420 | 30 | 600  | 261     |
| 3Helix EXCEL 1002 | R 2½ | 1055 | 170 | 90 | 835  | 950 | 1150 | 300      | 400 | 885 | 704 | 420 | 30 | 900  | 234     |
| 3Helix EXCEL 1004 | R 2½ | 1055 | 170 | 90 | 920  | 950 | 1150 | 300      | 400 | 885 | 704 | 420 | 30 | 900  | 238     |
| 3Helix EXCEL 1005 | R 2½ | 1055 | 170 | 90 | 958  | 950 | 1150 | 300      | 400 | 885 | 704 | 420 | 30 | 900  | 245     |
| 3Helix EXCEL 1007 | R 2½ | 1055 | 170 | 90 | 1125 | 950 | 1150 | 300      | 400 | 885 | 704 | 420 | 30 | 900  | 277     |
| 3Helix EXCEL 1009 | R 2½ | 1055 | 170 | 90 | 1320 | 950 | 1150 | 300      | 400 | 885 | 704 | 420 | 30 | 900  | 303     |
| 3Helix EXCEL 1010 | R 2½ | 1055 | 170 | 90 | 1380 | 950 | 1150 | 300      | 400 | 885 | 704 | 420 | 30 | 900  | 366     |
| 4Helix EXCEL 1002 | R 3  | 1055 | 170 | 90 | 835  | 950 | 1450 | 300      | 400 | 885 | 717 | 420 | 30 | 1200 | 245     |
| 4Helix EXCEL 1004 | R 3  | 1055 | 170 | 90 | 920  | 950 | 1450 | 300      | 400 | 885 | 717 | 420 | 30 | 1200 | 299     |
| 4Helix EXCEL 1005 | R 3  | 1055 | 170 | 90 | 958  | 950 | 1450 | 300      | 400 | 885 | 717 | 420 | 30 | 1200 | 309     |
| 4Helix EXCEL 1007 | R 3  | 1055 | 170 | 90 | 1125 | 950 | 1450 | 300      | 400 | 885 | 717 | 420 | 30 | 1200 | 352     |
| 4Helix EXCEL 1009 | R 3  | 1055 | 170 | 90 | 1320 | 950 | 1450 | 300      | 400 | 885 | 717 | 420 | 30 | 1200 | 386     |
| 4Helix EXCEL 1010 | R 3  | 1055 | 170 | 90 | 1380 | 950 | 1450 | 300      | 400 | 885 | 717 | 420 | 30 | 1200 | 470     |

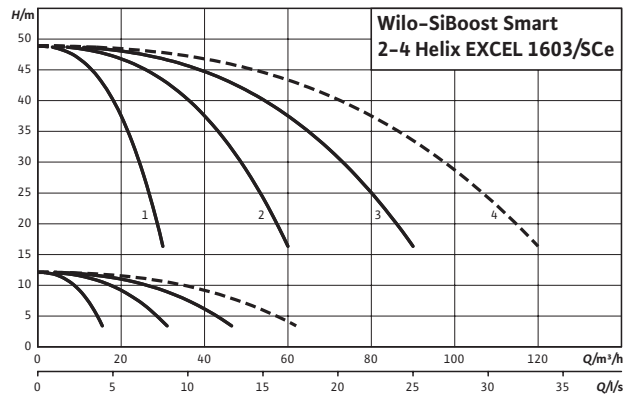
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1602



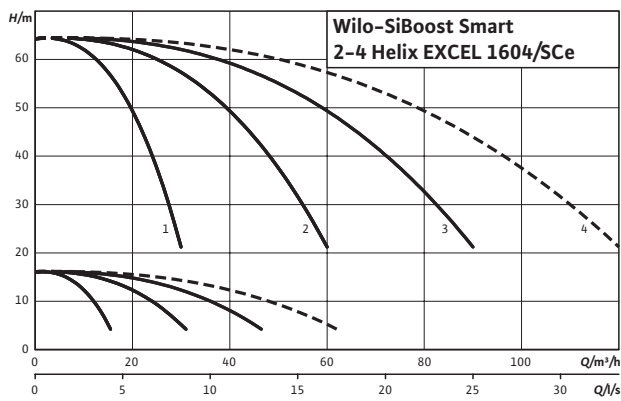
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1603



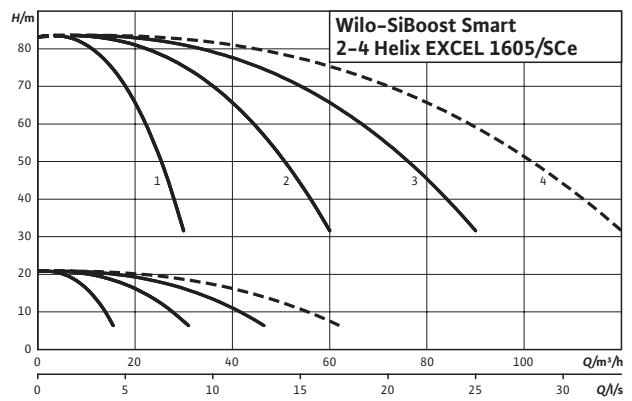
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1604



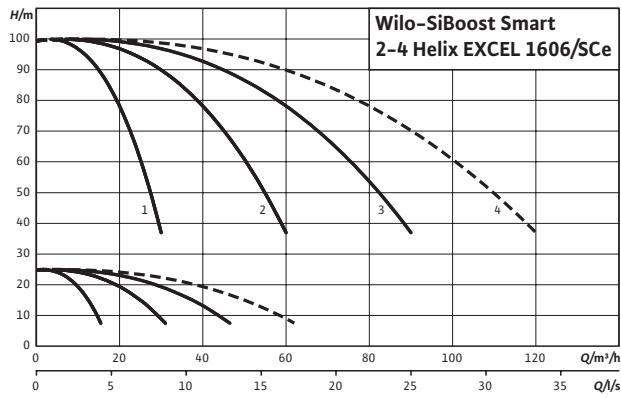
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1605



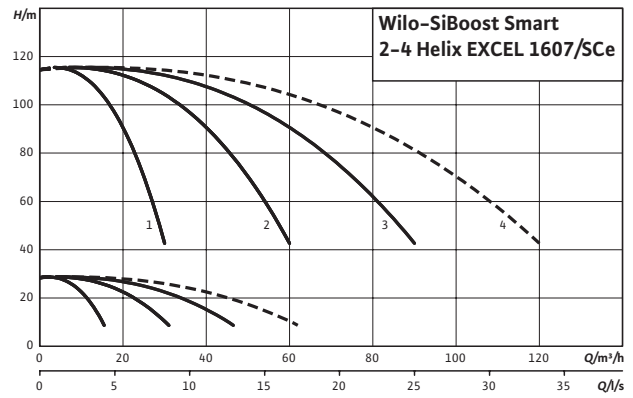
Pump curves

Wilo-SiBoost Smart 2-4 Helix EXCEL 1606



Pump curves

Wilo-SiBoost Smart

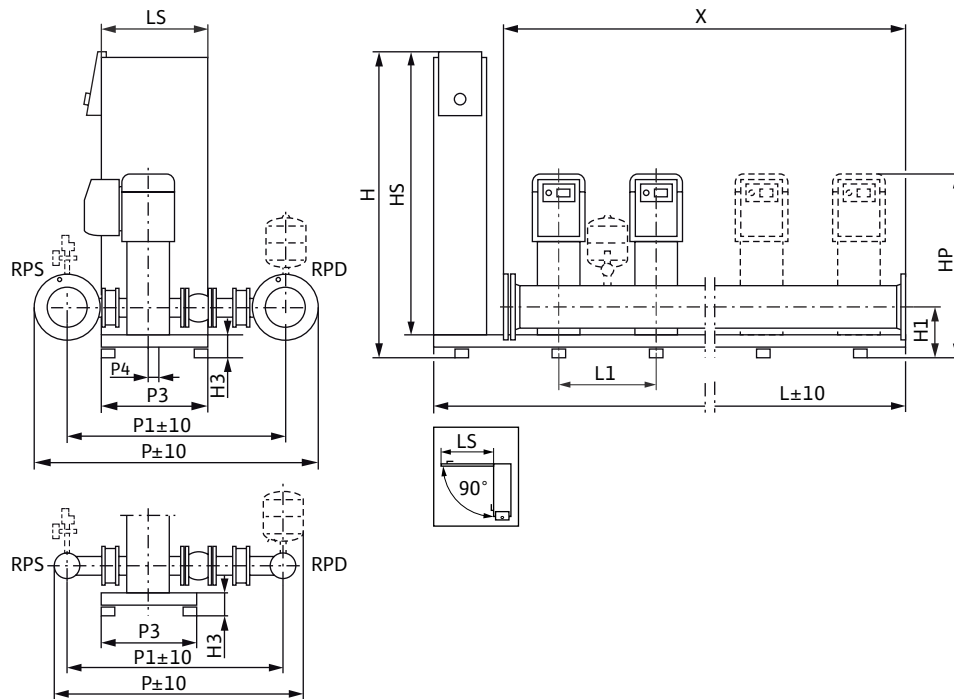


Motor data for each pump

| Wilo-SiBoost Smart 2... | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-------------------------|-------------|--------------------------------|-----------------------|
|                         | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 1602        | 2.20        | 4.8                            | 93.0                  |
| Helix EXCEL 1603        | 3.20        | 6.4                            | 93.0                  |
| Helix EXCEL 1604        | 4.20        | 7.2                            | 95.8                  |
| Helix EXCEL 1605        | 5.50        | 9.3                            | 95.8                  |
| Helix EXCEL 1606        | 6.50        | 10.9                           | 96.5                  |
| Helix EXCEL 1607        | 7.50        | 12.5                           | 96.4                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing



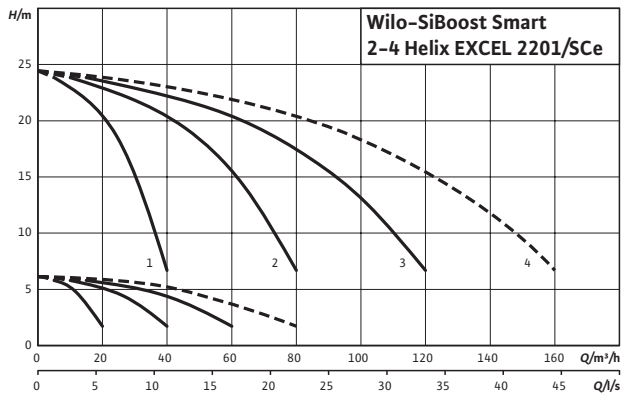
System examples. Accessories are displayed (order separately): Optional kit WMS for low-water cut-out switchgear installation surface: flat and horizontal installation location: dry, well-ventilated and frost-proof A working area of 1 m around the system is recommended in order to facilitate the maintenance process.

Dimensions, weights

| Wilco-SiBoost Smart<br>2-4... | Nominal diam-<br>eters of pipe<br>connections<br>on the suction<br>side/pressure<br>side | Dimensions |     |    |      |     |      |          |     |     |     |     |    |      | Weight<br>ap-<br>prox.<br><br>m<br>kg |
|-------------------------------|------------------------------------------------------------------------------------------|------------|-----|----|------|-----|------|----------|-----|-----|-----|-----|----|------|---------------------------------------|
|                               |                                                                                          | H          | H1  | H3 | HP   | HS  | L    | L1<br>mm | LS  | P   | P1  | P3  | P4 | X    |                                       |
| 2Helix EXCEL 1602             | R 3                                                                                      | 1055       | 185 | 90 | 880  | 950 | 850  | 300      | 400 | 885 | 735 | 420 | 30 | 600  | 186                                   |
| 2Helix EXCEL 1603             | R 3                                                                                      | 1055       | 185 | 90 | 930  | 950 | 850  | 300      | 400 | 885 | 735 | 420 | 30 | 600  | 189                                   |
| 2Helix EXCEL 1604             | R 3                                                                                      | 1055       | 185 | 90 | 1192 | 950 | 850  | 300      | 400 | 885 | 735 | 420 | 30 | 600  | 205                                   |
| 2Helix EXCEL 1605             | R 3                                                                                      | 1055       | 185 | 90 | 1242 | 950 | 850  | 300      | 400 | 885 | 735 | 420 | 30 | 600  | 222                                   |
| 2Helix EXCEL 1606             | R 3                                                                                      | 1055       | 185 | 90 | 1315 | 950 | 850  | 300      | 400 | 885 | 735 | 420 | 30 | 600  | 252                                   |
| 2Helix EXCEL 1607             | R 3                                                                                      | 1055       | 185 | 90 | 1365 | 950 | 850  | 300      | 400 | 885 | 735 | 420 | 30 | 600  | 254                                   |
| 3Helix EXCEL 1602             | DN 100                                                                                   | 1055       | 185 | 90 | 880  | 950 | 1150 | 300      | 400 | 986 | 766 | 420 | 30 | 1000 | 272                                   |
| 3Helix EXCEL 1603             | DN 100                                                                                   | 1055       | 185 | 90 | 930  | 950 | 1150 | 300      | 400 | 986 | 766 | 420 | 30 | 1000 | 277                                   |
| 3Helix EXCEL 1604             | DN 100                                                                                   | 1055       | 185 | 90 | 1192 | 950 | 1150 | 300      | 400 | 986 | 766 | 420 | 30 | 1000 | 316                                   |
| 3Helix EXCEL 1605             | DN 100                                                                                   | 1055       | 185 | 90 | 1242 | 950 | 1150 | 300      | 400 | 986 | 766 | 420 | 30 | 1000 | 340                                   |
| 3Helix EXCEL 1606             | DN 100                                                                                   | 1055       | 185 | 90 | 1315 | 950 | 1150 | 300      | 400 | 986 | 766 | 420 | 30 | 1000 | 385                                   |
| 3Helix EXCEL 1607             | DN 100                                                                                   | 1055       | 185 | 90 | 1365 | 950 | 1150 | 300      | 400 | 986 | 766 | 420 | 30 | 1000 | 388                                   |
| 4Helix EXCEL 1602             | DN 100                                                                                   | 1055       | 185 | 90 | 880  | 950 | 1450 | 300      | 400 | 986 | 766 | 420 | 30 | 1300 | 304                                   |
| 4Helix EXCEL 1603             | DN 100                                                                                   | 1055       | 185 | 90 | 930  | 950 | 1450 | 300      | 400 | 986 | 766 | 420 | 30 | 1300 | 346                                   |
| 4Helix EXCEL 1604             | DN 100                                                                                   | 1055       | 185 | 90 | 1192 | 950 | 1450 | 300      | 400 | 986 | 766 | 420 | 30 | 1300 | 398                                   |
| 4Helix EXCEL 1605             | DN 100                                                                                   | 1055       | 185 | 90 | 1242 | 950 | 1450 | 300      | 400 | 986 | 766 | 420 | 30 | 1300 | 430                                   |
| 4Helix EXCEL 1606             | DN 100                                                                                   | 1055       | 185 | 90 | 1315 | 950 | 1450 | 300      | 400 | 986 | 766 | 420 | 30 | 1300 | 490                                   |
| 4Helix EXCEL 1607             | DN 100                                                                                   | 1055       | 185 | 90 | 1365 | 950 | 1450 | 300      | 400 | 986 | 766 | 420 | 30 | 1300 | 494                                   |

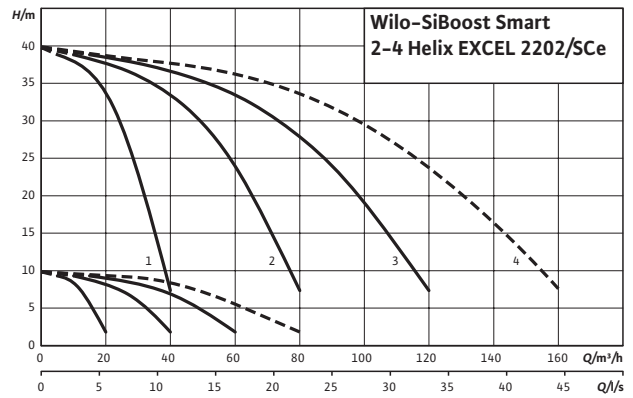
Pump curves

Wilo-SiBoost Smart



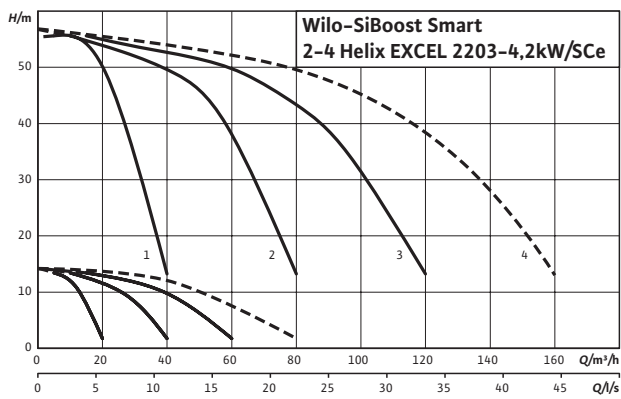
Pump curves

Wilo-SiBoost Smart



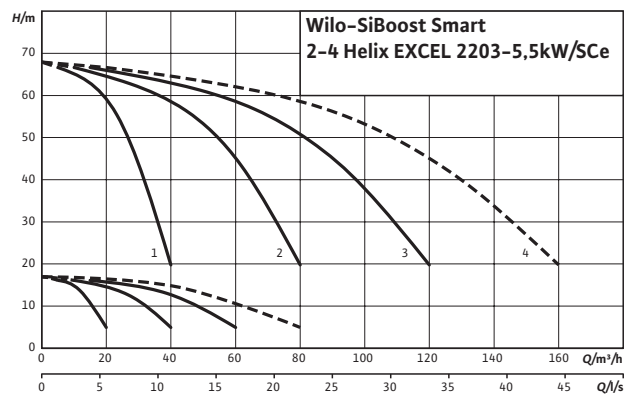
Pump curves

Wilo-SiBoost Smart



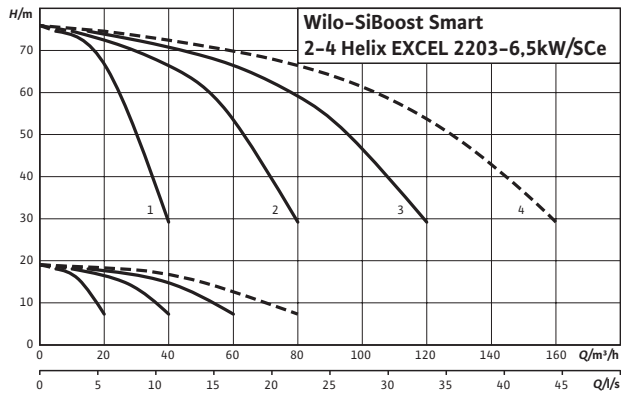
Pump curves

Wilo-SiBoost Smart



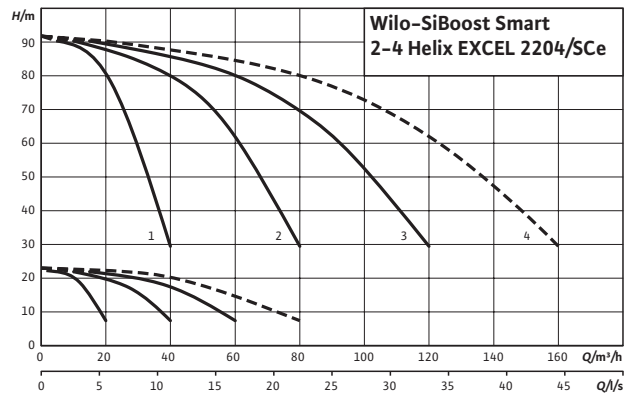
Pump curves

Wilo-SiBoost Smart



Pump curves

Wilo-SiBoost Smart

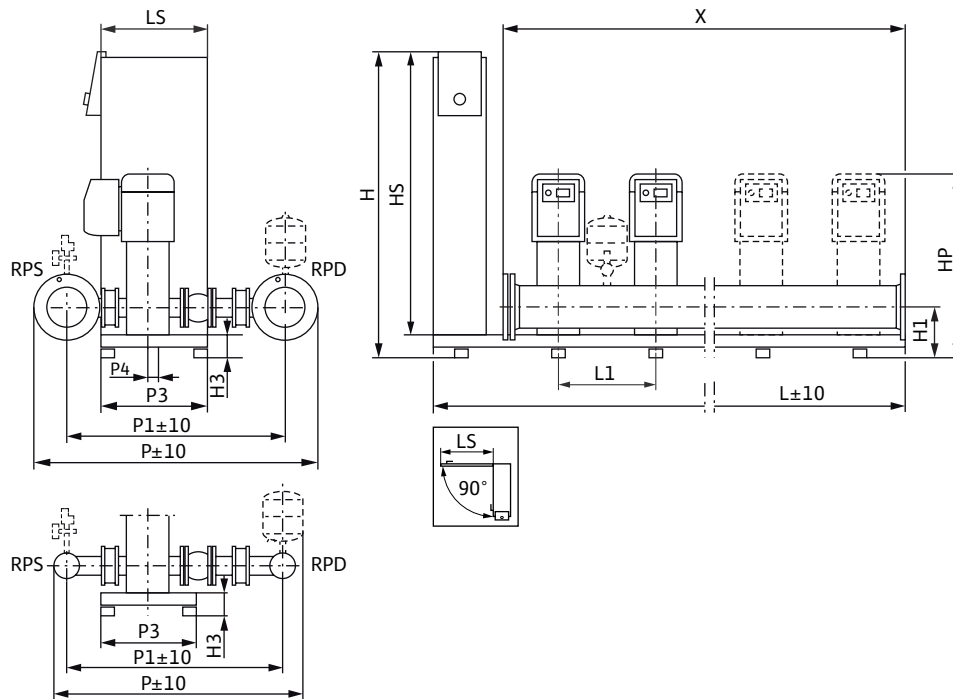


Motor data for each pump

| Wilo-SiBoost Smart 2... | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-------------------------|-------------|--------------------------------|-----------------------|
|                         | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m 100\%}$<br>% |
| Helix EXCEL 2201        | 2.20        | 4.8                            | 93.0                  |
| Helix EXCEL 2202        | 3.20        | 6.4                            | 93.0                  |
| Helix EXCEL 2203-4.2    | 4.20        | 7.2                            | 95.8                  |
| Helix EXCEL 2203-5.5    | 5.50        | 9.3                            | 95.8                  |
| Helix EXCEL 2203-6.5    | 6.50        | 10.9                           | 96.5                  |
| Helix EXCEL 2204        | 7.50        | 12.5                           | 96.4                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing



System examples. Accessories are displayed (order separately): Optional kit WMS for low-water cut-out switchgear installation surface: flat and horizontal installation location: dry, well-ventilated and frost-proof A working area of 1 m around the system is recommended in order to facilitate the maintenance process.

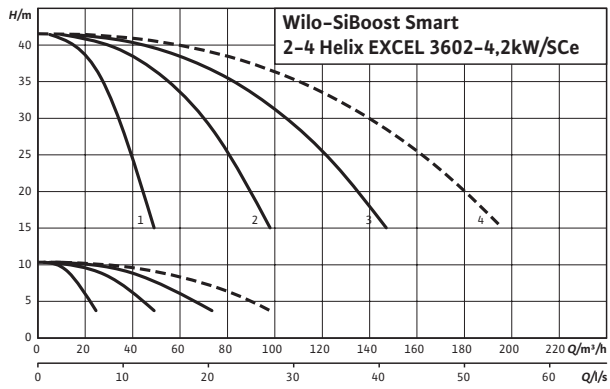
Dimensions, weights

| Wilo-SiBoost Smart<br>2-4... | Nominal diameters of pipe connections on the suction side/pressure side | Dimensions |     |     |      |     |      |     |     |      |      |     |    |      | Weight approx.<br>m<br>kg |
|------------------------------|-------------------------------------------------------------------------|------------|-----|-----|------|-----|------|-----|-----|------|------|-----|----|------|---------------------------|
|                              |                                                                         | H          | H1  | H3  | HP   | HS  | L    | L1  | LS  | P    | P1   | P3  | P4 | X    |                           |
| 2Helix EXCEL 2201            | R 3                                                                     | 1070       | 195 | 105 | 920  | 950 | 850  | 300 | 400 | 1295 | 966  | 420 | 30 | 600  | 224                       |
| 2Helix EXCEL 2202            | R 3                                                                     | 1070       | 195 | 105 | 920  | 950 | 850  | 300 | 400 | 1295 | 966  | 420 | 30 | 600  | 236                       |
| 2Helix EXCEL 2203-4.2        | R 3                                                                     | 1070       | 195 | 105 | 1183 | 950 | 850  | 300 | 400 | 1295 | 966  | 420 | 30 | 600  | 266                       |
| 2Helix EXCEL 2203-5.5        | R 3                                                                     | 1070       | 195 | 105 | 1183 | 950 | 850  | 300 | 400 | 1295 | 966  | 420 | 30 | 600  | 278                       |
| 2Helix EXCEL 2203-6.5        | R 3                                                                     | 1070       | 195 | 105 | 1202 | 950 | 850  | 300 | 400 | 1295 | 966  | 420 | 30 | 600  | 302                       |
| 2Helix EXCEL 2204            | R 3                                                                     | 1070       | 195 | 105 | 1252 | 950 | 850  | 300 | 400 | 1295 | 966  | 420 | 30 | 600  | 308                       |
| 3Helix EXCEL 2201            | DN 100                                                                  | 1070       | 195 | 105 | 920  | 950 | 1150 | 300 | 400 | 1345 | 990  | 420 | 30 | 1100 | 324                       |
| 3Helix EXCEL 2202            | DN 100                                                                  | 1070       | 195 | 105 | 920  | 950 | 1150 | 300 | 400 | 1345 | 990  | 420 | 30 | 1100 | 342                       |
| 3Helix EXCEL 2203-4.2        | DN 100                                                                  | 1070       | 195 | 105 | 1183 | 950 | 1150 | 300 | 400 | 1345 | 990  | 420 | 30 | 1100 | 387                       |
| 3Helix EXCEL 2203-5.5        | DN 100                                                                  | 1070       | 195 | 105 | 1183 | 950 | 1150 | 300 | 400 | 1345 | 990  | 420 | 30 | 1100 | 405                       |
| 3Helix EXCEL 2203-6.5        | DN 100                                                                  | 1070       | 195 | 105 | 1202 | 950 | 1150 | 300 | 400 | 1345 | 990  | 420 | 30 | 1100 | 441                       |
| 3Helix EXCEL 2204            | DN 100                                                                  | 1070       | 195 | 105 | 1252 | 950 | 1150 | 300 | 400 | 1345 | 990  | 420 | 30 | 1100 | 450                       |
| 4Helix EXCEL 2201            | DN 125                                                                  | 1070       | 195 | 105 | 920  | 950 | 1450 | 300 | 400 | 1395 | 1016 | 420 | 30 | 1400 | 429                       |
| 4Helix EXCEL 2202            | DN 125                                                                  | 1070       | 195 | 105 | 920  | 950 | 1450 | 300 | 400 | 1395 | 1016 | 420 | 30 | 1400 | 453                       |
| 4Helix EXCEL 2203-4.2        | DN 125                                                                  | 1070       | 195 | 105 | 1183 | 950 | 1450 | 300 | 400 | 1395 | 1016 | 420 | 30 | 1400 | 513                       |
| 4Helix EXCEL 2203-5.5        | DN 125                                                                  | 1070       | 195 | 105 | 1183 | 950 | 1450 | 300 | 400 | 1395 | 1016 | 420 | 30 | 1400 | 537                       |
| 4Helix EXCEL 2203-6.5        | DN 125                                                                  | 1070       | 195 | 105 | 1202 | 950 | 1450 | 300 | 400 | 1395 | 1016 | 420 | 30 | 1400 | 585                       |
| 4Helix EXCEL 2204            | DN 125                                                                  | 1070       | 195 | 105 | 1252 | 950 | 1450 | 300 | 400 | 1395 | 1016 | 420 | 30 | 1400 | 597                       |



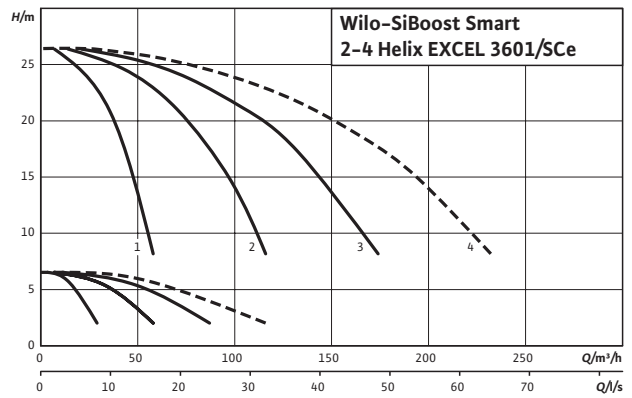
Pump curves

Wilo-SiBoost Smart



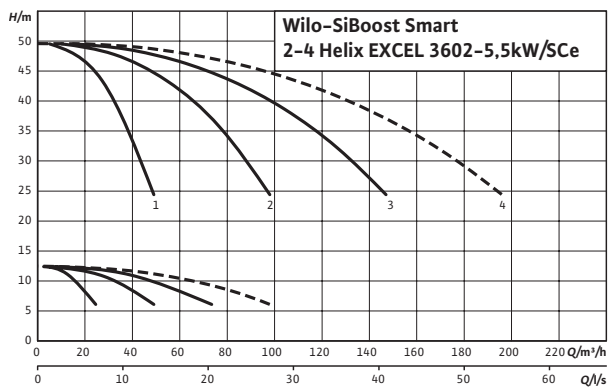
Pump curves

Wilo-SiBoost Smart



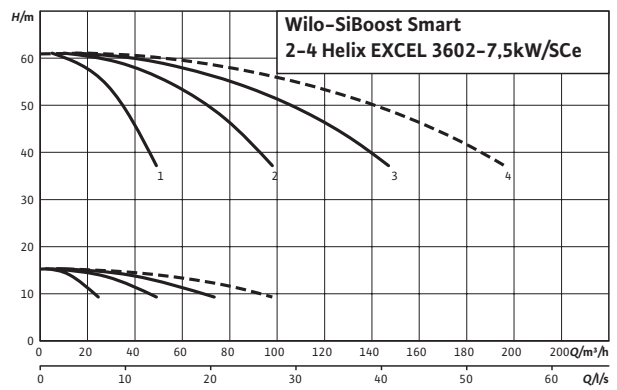
Pump curves

Wilo-SiBoost Smart



Pump curves

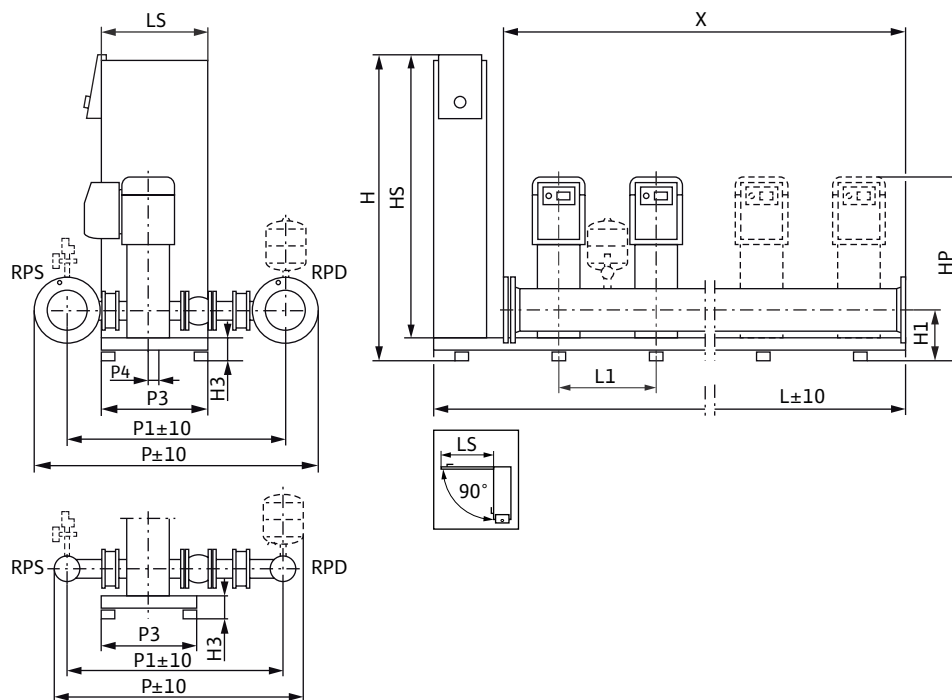
Wilo-SiBoost Smart



| Motor data for each pump |             |                                |                       |
|--------------------------|-------------|--------------------------------|-----------------------|
| Wilo-SiBoost Smart 2...  | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|                          | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m,100\%}$<br>% |
| Helix EXCEL 3602/2       | 4.20        | 7.2                            | 95.8                  |
| Helix EXCEL 3601         | 3.20        | 6.4                            | 93.0                  |
| Helix EXCEL 3602-5.5     | 5.50        | 9.3                            | 95.8                  |
| Helix EXCEL 3602-7.5     | 7.50        | 12.5                           | 96.4                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing



System examples. Accessories are displayed (order separately): Optional kit WMS for low-water cut-out switchgear installation surface: flat and horizontal installation location: dry, well-ventilated and frost-proof A working area of 1 m around the system is recommended in order to facilitate the maintenance process.

Dimensions, weights

Wilo-SiBoost Smart  
2-4...

Nominal diam-  
eters of pipe  
connections  
on the suction  
side/pressure  
side

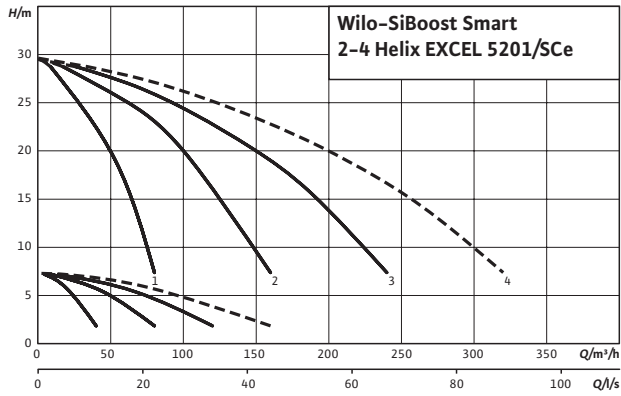
Dimensions

Weight  
ap-  
prox.

|                       |        | H    | H1  | H3  | HP   | HS  | L    | L1  | LS  | P    | P1   | P3  | P4 | X    | m<br>kg |
|-----------------------|--------|------|-----|-----|------|-----|------|-----|-----|------|------|-----|----|------|---------|
| 2Helix EXCEL 3602/2   | DN 100 | 1070 | 210 | 105 | 1234 | 950 | 850  | 300 | 400 | 1305 | 1031 | 420 | 30 | 800  | 317     |
| 2Helix EXCEL 3601     | DN 100 | 1070 | 210 | 105 | 889  | 950 | 850  | 300 | 400 | 1305 | 1031 | 420 | 30 | 800  | 279     |
| 2Helix EXCEL 3602-5.5 | DN 100 | 1070 | 210 | 105 | 1168 | 950 | 850  | 300 | 400 | 1305 | 1031 | 420 | 30 | 800  | 329     |
| 2Helix EXCEL 3602-7.5 | DN 100 | 1070 | 210 | 105 | 1187 | 950 | 850  | 300 | 400 | 1305 | 1031 | 420 | 30 | 800  | 361     |
| 3Helix EXCEL 3602/2   | DN 125 | 1070 | 210 | 105 | 1234 | 950 | 1150 | 300 | 400 | 1355 | 1057 | 420 | 30 | 1100 | 458     |
| 3Helix EXCEL 3601     | DN 125 | 1070 | 210 | 105 | 889  | 950 | 1150 | 300 | 400 | 1355 | 1057 | 420 | 30 | 1100 | 401     |
| 3Helix EXCEL 3602-5.5 | DN 125 | 1070 | 210 | 105 | 1168 | 950 | 1150 | 300 | 400 | 1355 | 1057 | 420 | 30 | 1100 | 476     |
| 3Helix EXCEL 3602-7.5 | DN 125 | 1070 | 210 | 105 | 1187 | 950 | 1150 | 300 | 400 | 1355 | 1057 | 420 | 30 | 1100 | 524     |
| 4Helix EXCEL 3602/2   | DN 150 | 1070 | 210 | 105 | 1234 | 950 | 1450 | 300 | 400 | 1415 | 1085 | 420 | 30 | 1400 | 600     |
| 4Helix EXCEL 3601     | DN 150 | 1070 | 210 | 105 | 889  | 950 | 1450 | 300 | 400 | 1415 | 1085 | 420 | 30 | 1400 | 524     |
| 4Helix EXCEL 3602-5.5 | DN 150 | 1070 | 210 | 105 | 1168 | 950 | 1450 | 300 | 400 | 1415 | 1085 | 420 | 30 | 1400 | 624     |
| 4Helix EXCEL 3602-7.5 | DN 150 | 1070 | 210 | 105 | 1187 | 950 | 1450 | 300 | 400 | 1415 | 1085 | 420 | 30 | 1400 | 688     |

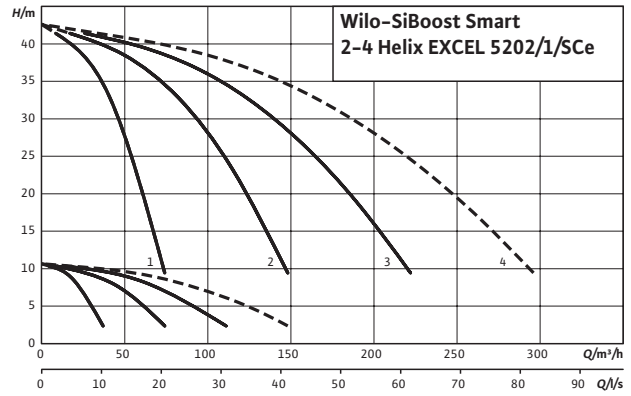
Pump curves

Wilo-SiBoost Smart



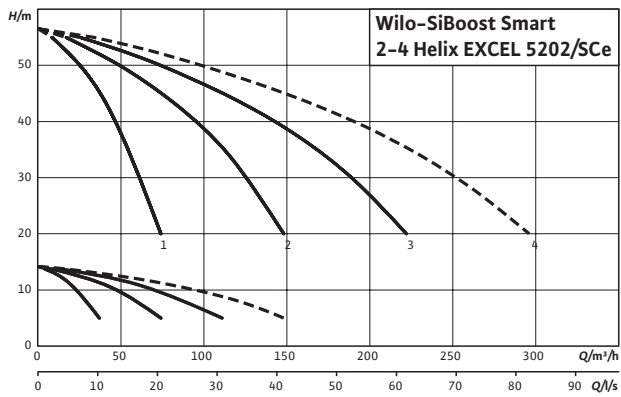
Pump curves

Wilo-SiBoost Smart



Pump curves

Wilo-SiBoost Smart

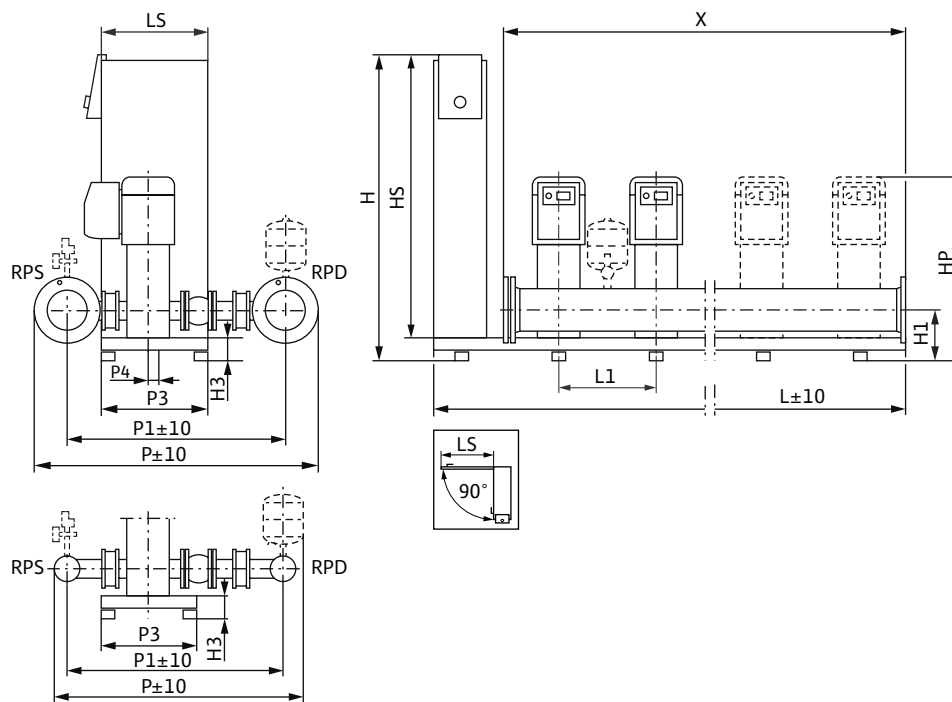


Motor data for each pump

| Wilo-SiBoost Smart 2... | Rated power | Nominal current 3~400 V, 50 Hz | Motor efficiency      |
|-------------------------|-------------|--------------------------------|-----------------------|
|                         | $P_2$<br>kW | $I_N$<br>A                     | $\eta_{m,100\%}$<br>% |
| Helix EXCEL 5201        | 4.20        | 7.2                            | 95.8                  |
| Helix EXCEL 5202/1      | 5.50        | 9.3                            | 95.8                  |
| Helix EXCEL 5202        | 7.50        | 12.5                           | 96.4                  |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing



System examples. Accessories are displayed (order separately): Optional kit WMS for low-water cut-out switchgear installation surface: flat and horizontal installation location: dry, well-ventilated and frost-proof A working area of 1 m around the system is recommended in order to facilitate the maintenance process.

Dimensions, weights

| Wilo-SiBoost Smart<br>2-4... | Nominal diam-<br>eters of pipe<br>connections<br>on the suction<br>side/pressure<br>side | Dimensions |     |     |      |     |      |     |     |      |      |     |    | Weight<br>ap-<br>prox.<br>m<br>kg |     |
|------------------------------|------------------------------------------------------------------------------------------|------------|-----|-----|------|-----|------|-----|-----|------|------|-----|----|-----------------------------------|-----|
|                              |                                                                                          | H          | H1  | H3  | HP   | HS  | L    | L1  | LS  | P    | P1   | P3  | P4 |                                   | X   |
| 2Helix EXCEL 5201            | DN 125                                                                                   | 1070       | 245 | 105 | 1135 | 950 | 1250 | 500 | 400 | 1286 | 1036 | 420 | 30 | 1000                              | 372 |
| 2Helix EXCEL 5202/1          | DN 125                                                                                   | 1070       | 245 | 105 | 1231 | 950 | 1250 | 500 | 400 | 1286 | 1036 | 420 | 30 | 1000                              | 384 |
| 2Helix EXCEL 5202            | DN 125                                                                                   | 1070       | 245 | 105 | 1254 | 950 | 1250 | 500 | 400 | 1286 | 1036 | 420 | 30 | 1000                              | 424 |
| 3Helix EXCEL 5201            | DN 150                                                                                   | 1070       | 245 | 105 | 1135 | 950 | 1750 | 500 | 400 | 1351 | 1066 | 420 | 30 | 1500                              | 539 |
| 3Helix EXCEL 5202/1          | DN 150                                                                                   | 1070       | 245 | 105 | 1231 | 950 | 1750 | 500 | 400 | 1351 | 1066 | 420 | 30 | 1500                              | 557 |
| 3Helix EXCEL 5202            | DN 150                                                                                   | 1070       | 245 | 105 | 1254 | 950 | 1750 | 500 | 400 | 1351 | 1066 | 420 | 30 | 1500                              | 617 |
| 4Helix EXCEL 5201            | DN 200                                                                                   | 1070       | 245 | 105 | 1135 | 950 | 2250 | 500 | 400 | 1456 | 1116 | 420 | 30 | 2000                              | 698 |
| 4Helix EXCEL 5202/1          | DN 200                                                                                   | 1070       | 245 | 105 | 1231 | 950 | 2250 | 500 | 400 | 1456 | 1116 | 420 | 30 | 2000                              | 722 |
| 4Helix EXCEL 5202            | DN 200                                                                                   | 1070       | 245 | 105 | 1254 | 950 | 2250 | 500 | 400 | 1456 | 1116 | 420 | 30 | 2000                              | 802 |

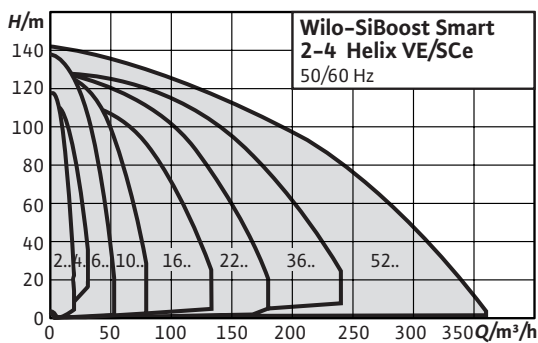


**Wilo-SiBoost Smart Helix VE**



Highly efficient water supply unit ready for connection (non self-priming). With 2 to 4 vertically arranged Helix VE series stainless steel high-pressure centrifugal pumps in glanded version switched in parallel; every pump is equipped with an integrated air-cooled frequency converter, incl. Smart Controller SCe

- Sturdy system with to Helix VE series stainless-steel high-pressure multistage centrifugal pumps with integrated frequency converter
- Over-proportionally wide control range from 25 Hz up to a maximum of 60 Hz
- Entire system is pressure-loss optimised
- Integrated dry-running detection with automatic deactivation via the motor control electronics
- Maximum degree of control using the SCe control device with LC display, simple navigation and configuration using rotary knob

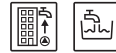


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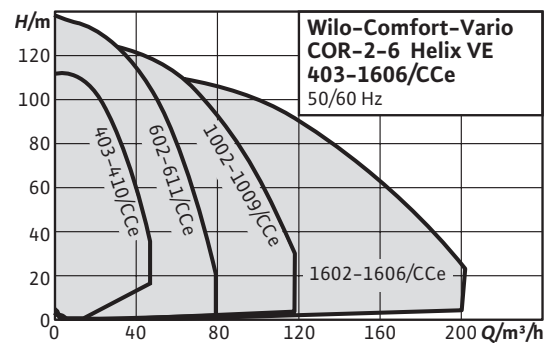


**Wilo-Comfort COR Helix VE.../CCe**



Highly efficient water-supply unit ready for connection (non self-priming). With 2 to 6 vertically arranged Helix VE series stainless steel high-pressure centrifugal pumps in glanded version switched in parallel; every pump is equipped with an integrated air-cooled frequency converter, including Comfort Controller CCe

- Sturdy system with Helix VE stainless steel high-pressure circulation pumps with integrated frequency converter that can be controlled from 25 Hz to 60 Hz
- High-efficiency pump hydraulics
- Entire system is pressure-loss optimised
- Integrated dry-running detection with automatic deactivation via the motor control electronics
- Maximum degree of control using the CCe control device with additional functions, micro-computer control and touch display



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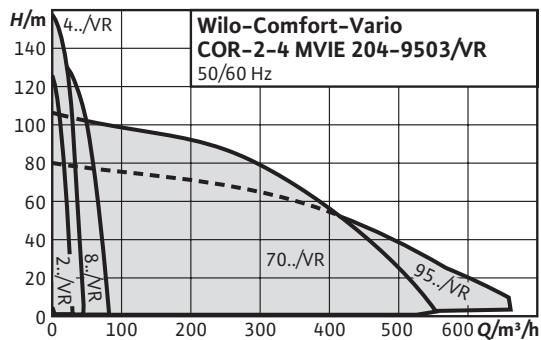


Wilo-Comfort-Vario COR MVIE.../VR



Pressure boosting system with 2 to 4 non-self-priming stainless steel high-pressure multistage centrifugal pumps switched in parallel with speed-controlled motors and Vario controller VR

- Sturdy system due to MVIE series stainless steel high-pressure multistage centrifugal pumps with air-cooled integrated frequency converters
- Superproportionally large control range
- Integrated dry-running detection with automatic cut-out in event of low water via performance characteristics of the motor control electronics

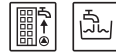


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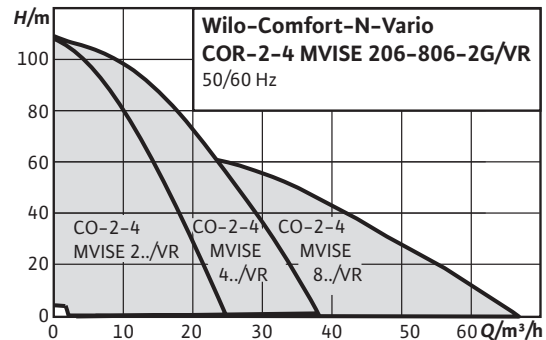


Wilo-Comfort-N-Vario COR MVISE.../VR



Pressure boosting system with 2 to 4 parallel-switched, non-self-priming stainless steel high-pressure multistage centrifugal pumps with speed-controlled glandless pump motors

- System is virtually noise-free due to 2-4 parallel-switched, glandless stainless steel high-pressure multi-stage centrifugal pumps with integrated, water-cooled frequency converter
- Up to 20 dB(A) quieter than conventional systems with comparable hydraulic output
- Control range of frequency converters from 20 to 50 Hz
- Operationally reliable through MVISE pumps with integrated dry-running detection and automatic deactivation



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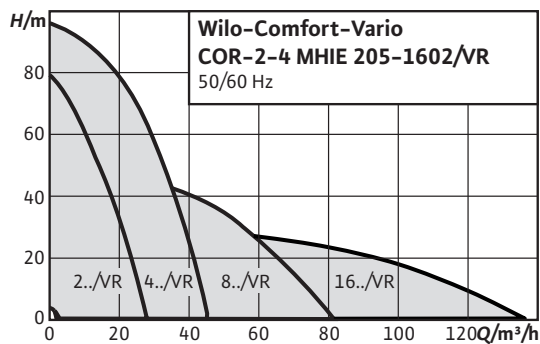


**Wilo-Comfort-Vario COR MHIE.../VR**



Pressure boosting system with 2 to 4 parallel-switched, non-self-priming stainless steel high-pressure multistage centrifugal pumps with speed-controlled motors

- Compact system with outstanding price/performance ratio due to MHIE series stainless steel high-pressure multistage centrifugal pumps with integrated air-cooled frequency converters
- Superproportionally large control range
- Integrated full motor protection with thermistor sensor (PTC)
- Integrated dry-running detection with automatic deactivation in the event of low water via the motor control electronics



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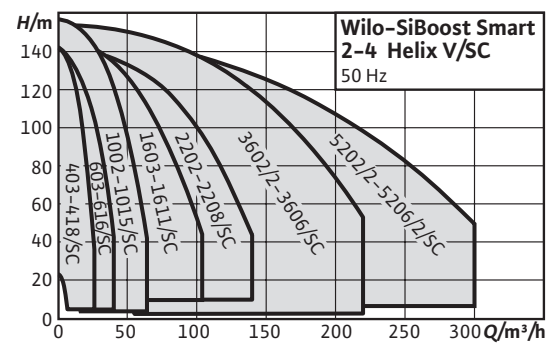


**Wilo-SiBoost Smart (FC) Helix V**



Highly efficient water-supply unit ready for connection (non self-priming). With 2 to 4 vertically arranged glanded stainless steel high-pressure multistage centrifugal pumps from the Helix V series connected in parallel, including Smart Controller SC (available with and without frequency converter FC).

- Heavy-duty system in accordance with DIN 1988 (EN 806)
- 2 to 4 vertical Helix V series stainless steel high-pressure multistage centrifugal pumps switched in parallel
- High-efficiency pump hydraulics
- Pressure-loss optimised entire system
- Control device SC, communication-capable for the monitoring of the system, LC display, simple navigation and adjustment via rotary knob without or with frequency converter for stepless control of the base-load pump



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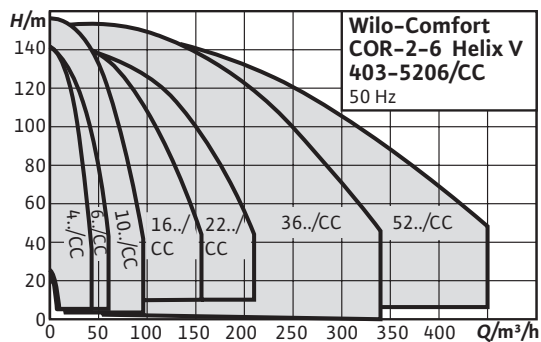


Wilo-Comfort CO-/COR-Helix V.../CC



Highly efficient, ready for connection water-supply unit (non self-priming) with 2 to 6 vertically arranged glanded stainless steel high-pressure multistage centrifugal pumps from the Helix V series switched in parallel, including Comfort Controller CC (available with and without frequency converter)

- Heavy-duty system in accordance with DIN 1988 (EN 806)
- High-efficiency pump hydraulics
- Pressure-loss optimised entire system
- 2 to 6 vertical Helix V series stainless steel high-pressure multistage centrifugal pumps switched in parallel
- Comfort CC control / regulation unit with extended functions, microcomputer and touchscreen, with or without frequency converter for infinitely variable control of the base-load pump



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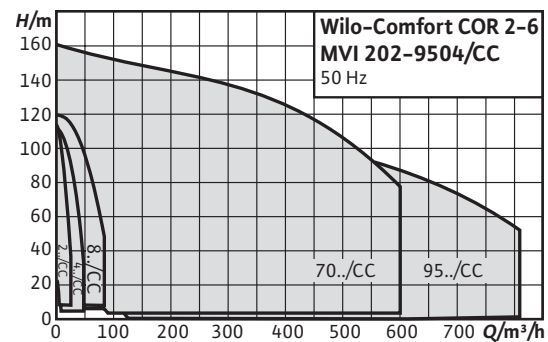


Wilo-Comfort CO-/COR-MVI.../CC



Pressure boosting system with 2 to 6 parallel-switched, non self-priming stainless steel high-pressure multistage centrifugal pumps

- Easy-to-operate system in accordance with DIN 1988
- 2-6 vertical stainless steel high-pressure centrifugal pumps, switched in parallel, of the MVI series
- Easy-to-use "CC" control device, with memory-programmable microcomputer control and completely graphics-capable touch display, menu-prompted input of operating parameters, available with frequency converter for infinitely variable control of the base-load pump with COR systems



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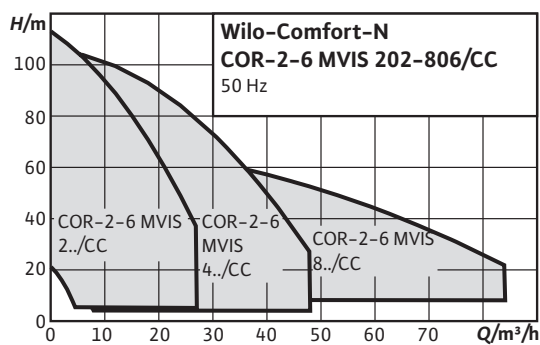


**Wilo-Comfort-N CO-/COR-MVIS.../CC**



Pressure boosting system with 2 to 6 parallel-switched, non-self-priming stainless steel high-pressure multistage centrifugal pumps with glandless pump motor

- Easy-to-use system in accordance with all requirements of DIN 1988
- 2 - 6 vertical MVIS series full stainless steel high-pressure multistage centrifugal pumps switched in parallel
- Virtually noiseless system thanks to glandless stainless steel high-pressure centrifugal pump of the MVIS series
- Up to 20 dB(A) quieter than conventional systems with comparable hydraulic output



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

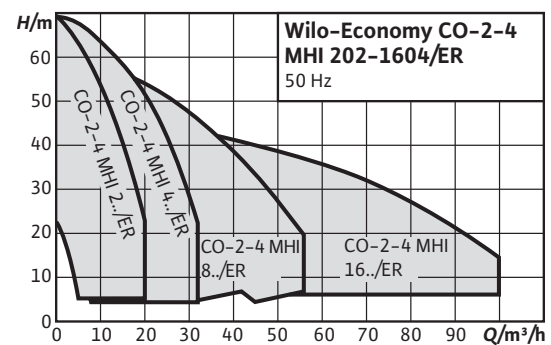


**Wilo-Economy CO-MHI.../ER**



Pressure boosting system with 2 to 4 parallel-switched, non-self-priming, horizontal high-pressure multistage centrifugal pumps made of stainless steel

- Compact system with outstanding price/performance ratio in compliance with the requirements of DIN 1988
- 2 - 4 horizontal MHI series full stainless steel high-pressure multistage centrifugal pumps switched in parallel
- Easily adjustable and operationally reliable thanks to integrated ER 2 to ER 4 switchgears



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)



## Redefining efficiency: up to 50% potential energy savings.

### Innovative technology for energy-efficient pressure boosting systems.

When the result is greater than the sum of the parts – that's typical Wilo. A high efficiency drive EC motor ensures maximum energy savings, exceeding energy efficiency class IE4. In combination with a highly-efficient pump hydraulic, it is a future-proof solution with maximum reliability and a long service life. **Wilo is going beyond pumps.**



### Wilo-SiBoost Smart (FC) Helix V

- Robust system with stainless steel high pressure centrifugal pumps,
- according to DIN 1988 (EN 806)
- High-efficiency pump hydraulics in combination with IE2 standard motors
- Pressure loss-optimized hydraulics along the full length
- 2-4 parallel-switched, vertical, high-pressure centrifugal pumps of the Helix V series
- Easy operation with red-button technology and smart control
- Available with and without frequency converter for infinitely variable control
- of the base-load pump



## Wilo-FLA-1

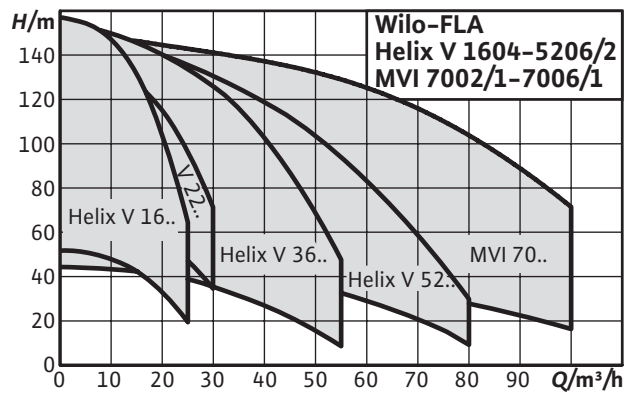
Pressure boosting system for fire extinguishing systems with indirect connection in accordance with DIN 14462. With a vertical stainless steel high-pressure multistage centrifugal pump in glanded version

- Sturdy system with one Helix FIRST V or MVI stainless steel high-pressure multistage centrifugal pump, in accordance with DIN 1988 and DIN 14462
- Absolute operational reliability for 2-pump systems with 100 % redundancy
- Easy adjustment and operational reliability due to the FLA control unit
- Pre-set throttle valve on the pressure side of the pump to protect the pump at low volume flows



FLA control unit





## Wilo-FLA-1



### Type key

|                |                                                     |
|----------------|-----------------------------------------------------|
| Example:       | <b>Wilo- FLA – 1 Helix V 2204 PN10</b>              |
| <b>FLA</b>     | Fire extinguishing system                           |
| <b>1</b>       | Number of pumps                                     |
| <b>Helix V</b> | Pump series                                         |
| <b>22</b>      | Rated volume flow [m³/h]                            |
| <b>04</b>      | Number of pump stages                               |
| <b>PN10</b>    | Pressure control up to 10 bar (pump type-dependent) |

### Application

Fully automatic water supply for fire extinguishing systems with wall hydrants of the type "F" in domestic, commercial and public buildings, hotels, hospitals, shopping centres and also offices and industrial buildings

### Technical data

- Mains connection 3~400 V, 50 Hz
- Max. fluid temperature 50 °C
- Operating pressure 10 or 16 bar
- Inlet pressure from break tank < 1 bar
- Nominal connection diameter on pressure side R 2" - DN 125
- Nominal connection diameter on suction side Rp 2" - DN 125
- Operating unit protection class IP 54

### Equipment/function

- A pump of the Helix FIRST V 16, 22, 36, 52 or MVI 70 series, equipped with IE2 motor
- Automatic pump control via FLA control unit

- Components that come in contact with the fluid are corrosion-resistant
- Base frame made of galvanised steel, with height-adjustable vibration absorbers for insulation against structure-borne noise
- Pipework made of 1.4301 stainless steel
- Gear-operated shut-off ball cock or annular shut-off valve on the suction and pressure side of the pump
- Non-return valve, pressure side
- Throttle valve made of stainless steel 1.4571 on the suction side of the pump
- Pressure switch, on the pressure side
- Pressure gauge, on the pressure side
- Diaphragm pressure vessel 8 l, PN 16, on the pressure side
- Accessories: Atmospherically ventilated break tank in accordance with DIN 14462 with free exhaust in accordance with EN 13077, type AB in accordance with DIN EN 1717

### Materials

- Impellers, diffusers, stage housing made of stainless steel 1.4307
- Pump housing made of EN-GJL-250, cathodically coated
- Shaft of stainless steel 1.4057
- 1.4404 shaft protection sleeve
- O-Ring gaskets made of EPDM (FKM gasket on request)
- Pipework made of 1.4301 stainless steel

**Description/design**

- Base frame: made of electrolytically galvanised steel and provided with height-adjustable vibration absorbers for comprehensive insulation against structure-borne noise; other versions on request
- Pipework: complete pipework made of stainless steel 1.4301, suitable for the connection of all conventional piping materials; the pipework is dimensioned according to the overall hydraulic performance of the FLA pressure boosting system
- Pumps: Helix FIRST V 16, 22, 36, 52 and MVI 70 series pump; all pump components in contact with fluid are made of stainless steel/EN-GJL-250, with cataphoretic coating. For more information about the pump, please refer to the catalogue section "High-pressure multistage centrifugal pumps"
- Valves: For each pump, the non-return valve has a 1.4571 needle-type throttle for returning the bypass volume flow to the break tank. All throttle valves and shut-off devices are sealed and protected against unauthorised adjustment. The pump is equipped with an automatic air vent valve on the top of the hydraulics.
- Diaphragm pressure vessel: 8 l/PN 16 arranged on the discharge side. For testing and inspection purposes, equipped with a special throughflow fitting that enables the diaphragm pressure vessel to be shut-off and drained
- Pressure switch: A pressure switch arranged on the discharge side, for activation of the central FLA controller

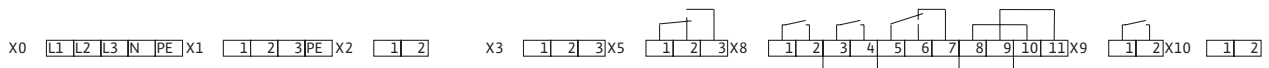
- Pressure indication: Pressure gauge (ø 63 mm) on the discharge side; additional digital display of operating pressure and setting parameters in the FLA controller
- Control device/controller: The system is equipped with a specific FLA controller as standard

**Scope of delivery**

- Factory-mounted, connection-ready pressure boosting system checked for functionality and impermeability
- Packaging
- Installation and operating instructions

**Terminal diagram**

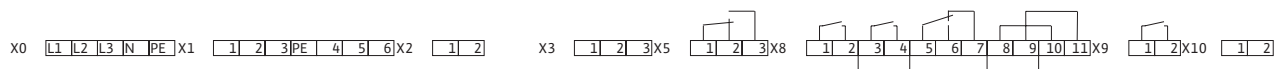
FLA system, direct starting



- X0: Mains connection
- X1: Pump connection
- X2: Pressure switch/limit switch loop
- X3: Protection against low water level 1, 2 float switches, level sensor; 1, 2, 3 level electrodes
- X5: potential-free contact 1, 2, 3 pump On (not in test run mode)
- X8: potential-free contact 1, 2 operational readiness; 3, 4 pump On; 5, 6, 7 collective fault signal; 8, 9 emergency spillway monitoring (float switch); 10, 11 emergency spillway monitoring (signal)
- X9: potential-free contact 1, 2 mains power supply monitoring
- X10: Service terminals (attention: 230 VAC at pump start)

## Terminal diagram

FLA system, Y-Δ starting



X0: Mains connection

X1: Pump connection

X2: Pressure switch/limit switch loop

X3: Protection against low water level 1, 2 float switches, level sensor; 1, 2, 3 level electrodes

X5: potential-free contact 1, 2, 3 pump On (not in test run mode)

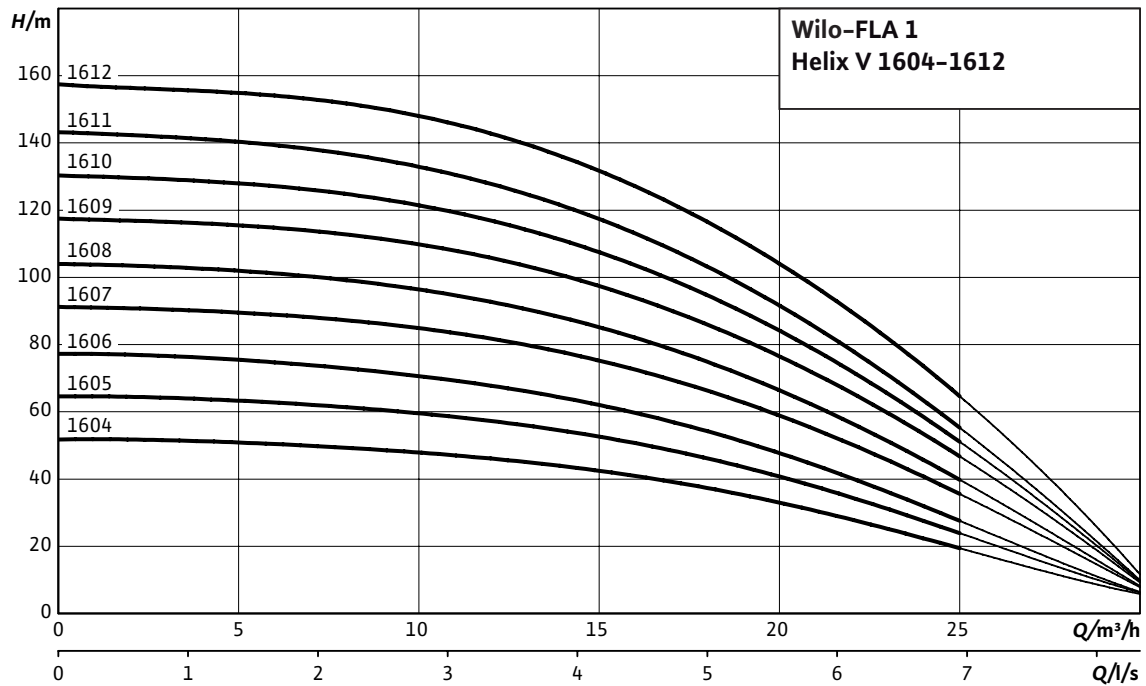
X8: potential-free contact 1, 2 operational readiness; 3, 4 pump On; 5, 6, 7 collective fault signal; 8, 9 emergency spillway monitoring (float switch); 10, 11 emergency spillway monitoring (signal)

X9: potential-free contact 1, 2 mains power supply monitoring

X10: Service terminals (attention: 230 VAC at pump start)

Pump curves

Wilo-FLA-1 Helix V 1604-1612



Motor data

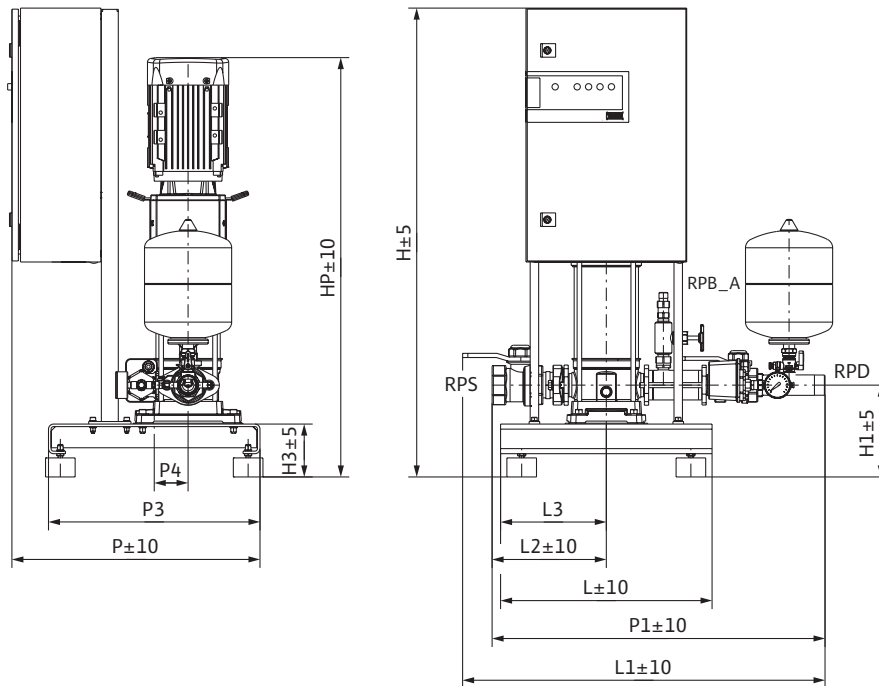
| FLA-1             | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                   |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| Helix V 1604 PN10 | 3                          | 5.5                                             | 85.6             | 87.0                 | 87.1             |
| Helix V 1605 PN10 | 4                          | 7.4                                             | 86.5             | 88.0                 | 88.1             |
| Helix V 1606 PN10 | 4                          | 7.4                                             | 86.5             | 88.0                 | 88.1             |
| Helix V 1607 PN10 | 5.5                        | 10.3                                            | 87.3             | 89.1                 | 89.2             |
| Helix V 1608 PN16 | 5.5                        | 10.3                                            | 87.3             | 89.1                 | 89.2             |
| Helix V 1609 PN16 | 7.5                        | 13.7                                            | 89.8             | 90.5                 | 90.1             |
| Helix V 1610 PN16 | 7.5                        | 13.7                                            | 89.8             | 90.5                 | 90.1             |
| Helix V 1611 PN16 | 7.5                        | 13.7                                            | 89.8             | 90.5                 | 90.1             |
| Helix V 1612 PN16 | 9                          | 15.6                                            | 88.9             | 90.5                 | 90.6             |

Motor efficiency based on 400 V, 50 Hz



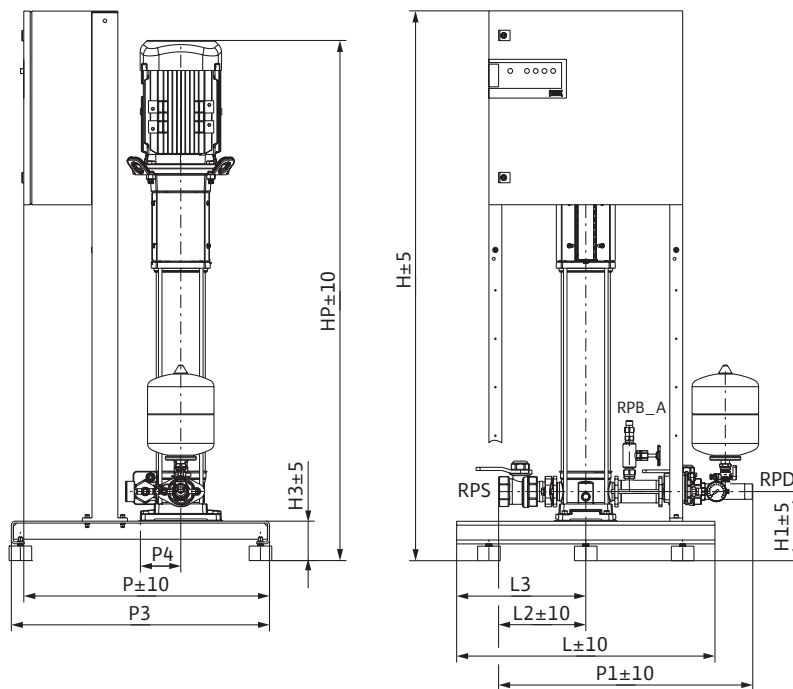
Dimension drawing

FLA-1 Helix V 1604 PN8 - 1606 PN8



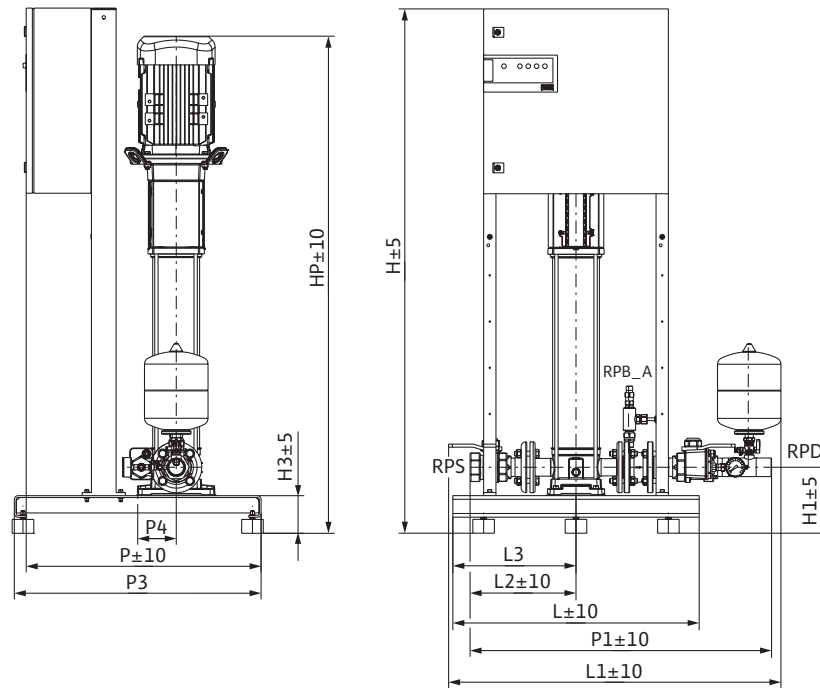
Dimension drawing

FLA-1 Helix V 1607 PN10 - 1611 PN16



Dimension drawing

FLA-1 Helix V 1612 PN16

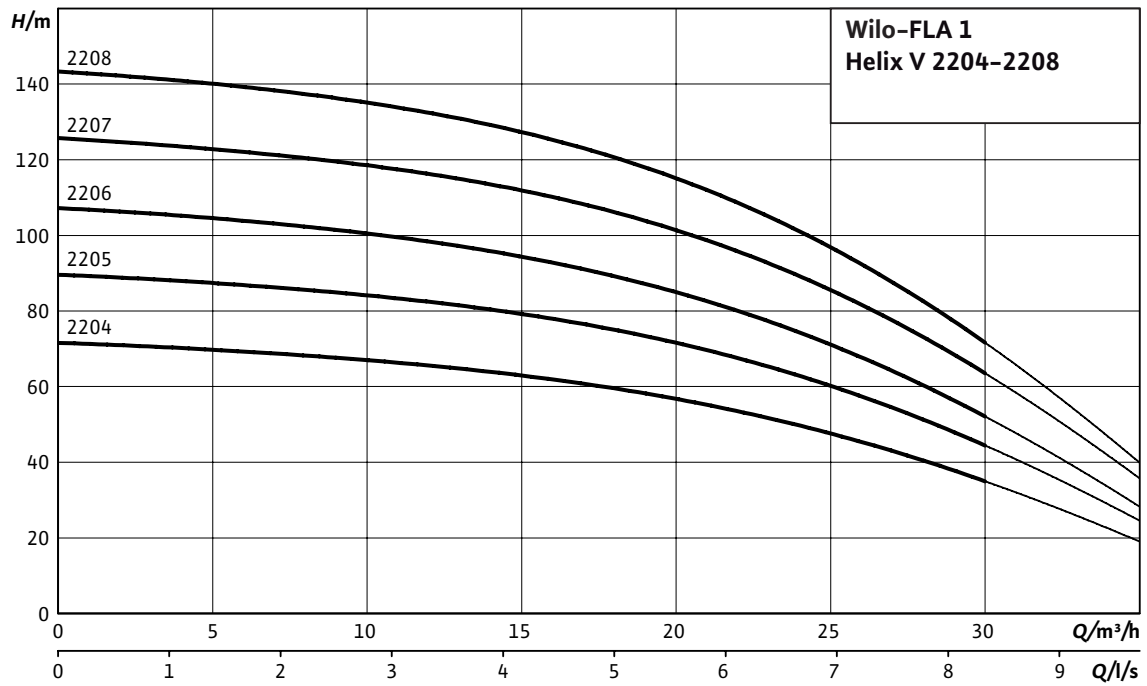


Dimensions, weights

| Wilo FLA-1...     | Nominal diameters of the pipe connections |                                          | Dimensions |     |     |      |     |      |     |     |     |     |     | Weight approx. |     |
|-------------------|-------------------------------------------|------------------------------------------|------------|-----|-----|------|-----|------|-----|-----|-----|-----|-----|----------------|-----|
|                   | of the pipe connections on suction side   | of pipe connections on the pressure side | H          | H1  | H3  | HP   | L   | L1   | L2  | L3  | P   | P1  | P3  |                | P4  |
|                   | RPS                                       | RPD                                      | mm         |     |     |      |     |      |     |     |     |     |     |                |     |
| Helix V 1604 PN10 | Rp 2                                      | R 1½                                     | 1105       | 215 | 125 | 989  | 500 | 862  | 270 | 250 | 585 | 787 | 500 | 80             | 115 |
| Helix V 1605 PN10 | Rp 2                                      | R 1½                                     | 1105       | 215 | 125 | 1085 | 500 | 862  | 270 | 250 | 585 | 787 | 500 | 80             | 129 |
| Helix V 1606 PN10 | Rp 2                                      | R 1½                                     | 1105       | 215 | 125 | 1135 | 500 | 862  | 270 | 250 | 585 | 787 | 500 | 80             | 131 |
| Helix V 1607 PN10 | Rp 2                                      | R 1½                                     | 1705       | 215 | 125 | 1327 | 800 | 862  | 270 | 400 | 760 | 787 | 800 | 125            | 171 |
| Helix V 1608 PN16 | Rp 2                                      | R 1½                                     | 1705       | 215 | 125 | 1377 | 800 | 862  | 270 | 400 | 760 | 787 | 800 | 125            | 173 |
| Helix V 1609 PN16 | Rp 2                                      | R 1½                                     | 1705       | 215 | 125 | 1462 | 800 | 862  | 270 | 400 | 760 | 787 | 800 | 125            | 187 |
| Helix V 1610 PN16 | Rp 2                                      | R 1½                                     | 1705       | 215 | 125 | 1612 | 800 | 862  | 270 | 400 | 760 | 787 | 800 | 125            | 190 |
| Helix V 1611 PN16 | Rp 2                                      | R 1½                                     | 1705       | 215 | 125 | 1612 | 800 | 862  | 270 | 400 | 760 | 787 | 800 | 125            | 191 |
| Helix V 1612 PN16 | Rp 2                                      | R 2                                      | 1705       | 215 | 125 | 1612 | 800 | 1067 | 340 | 400 | 760 | 962 | 800 | 125            | 204 |

Pump curves

Wilo-FLA-1 Helix V 2204-2208



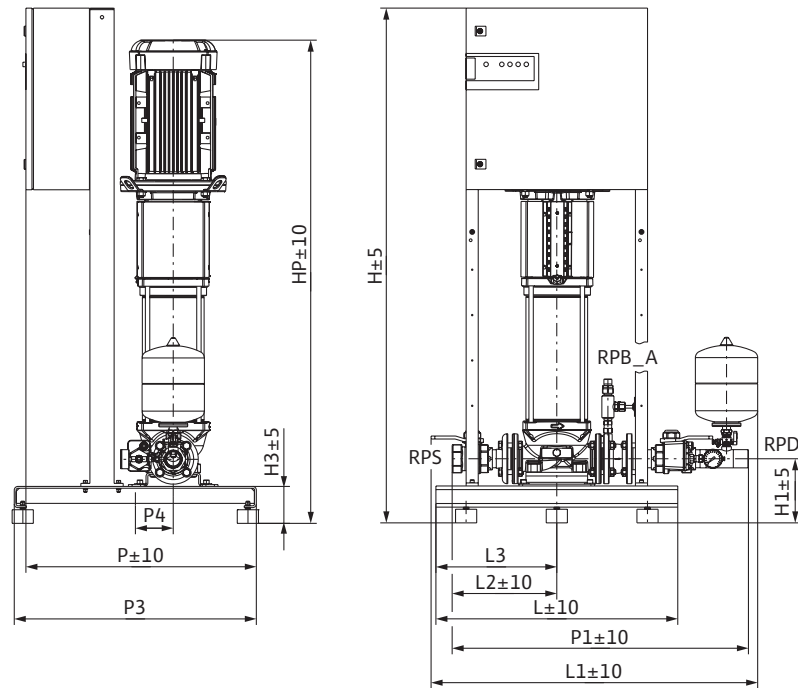
Motor data

| FLA-1             | Rated power<br>$P_2$<br>kW | Nominal current<br>3~400 V, 50 Hz<br>$I_N$<br>A | Motor efficiency |                      |                  |
|-------------------|----------------------------|-------------------------------------------------|------------------|----------------------|------------------|
|                   |                            |                                                 | $\eta_{m 50\%}$  | $\eta_{m 75\%}$<br>% | $\eta_{m 100\%}$ |
| Helix V 2204 PN10 | 5.5                        | 10.3                                            | 87.3             | 89.1                 | 89.2             |
| Helix V 2205 PN10 | 7.5                        | 13.7                                            | 89.8             | 90.5                 | 90.1             |
| Helix V 2206 PN16 | 7.5                        | 13.7                                            | 89.8             | 90.5                 | 90.1             |
| Helix V 2207 PN16 | 9                          | 15.6                                            | 88.9             | 90.5                 | 90.6             |
| Helix V 2208 PN16 | 11                         | 19                                              | 90.1             | 91.2                 | 91.2             |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing

FLA-1 Helix V 2204 PN8 – 2208 PN16

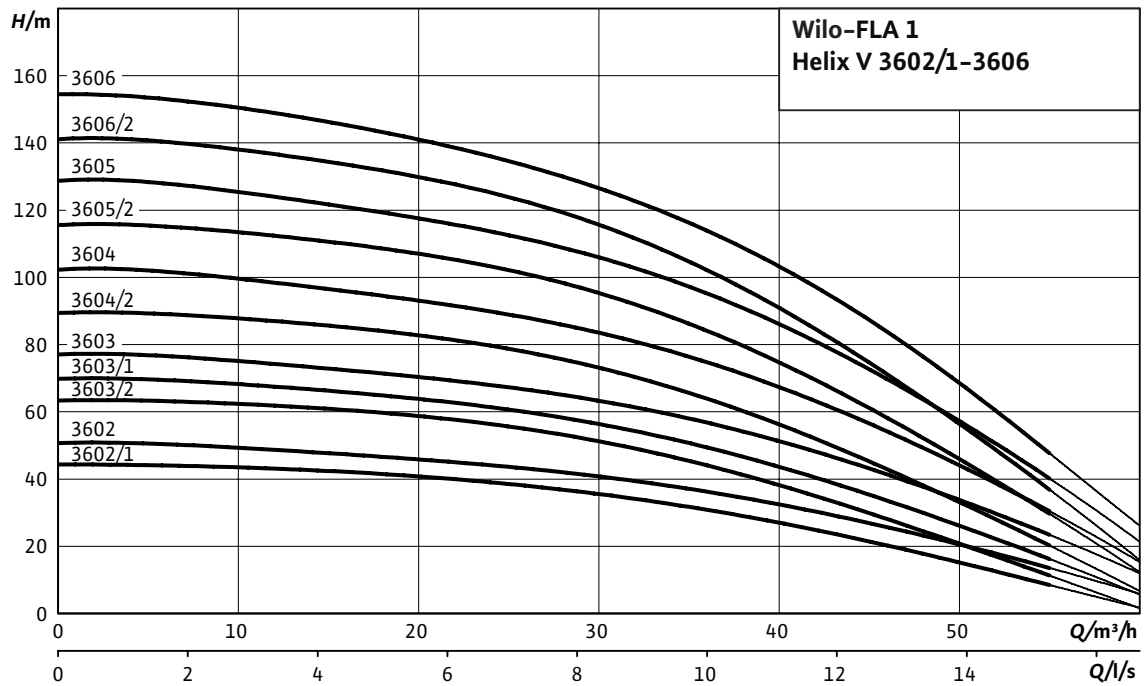


Dimensions, weights

| Wilo FLA-1...     | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |      |     |     |     |     |     |     | Weight approx. |    |    |      |
|-------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|------|-----|-----|-----|-----|-----|-----|----------------|----|----|------|
|                   |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP   | L   | L1  | L2  | L3  | P   | P1  |                | P3 | P4 | m kg |
|                   |                                                           |                                                            |            |     |     |      |     |      |     |     |     |     |     |     |                |    |    |      |
|                   |                                                           |                                                            | mm         |     |     |      |     |      |     |     |     |     |     |     |                |    |    |      |
| Helix V 2204 PN10 | Rp 2                                                      | R 2                                                        | 1705       | 215 | 125 | 1252 | 800 | 1067 | 340 | 400 | 760 | 962 | 800 | 125 | 200            |    |    |      |
| Helix V 2205 PN10 | Rp 2                                                      | R 2                                                        | 1705       | 215 | 125 | 1337 | 800 | 1067 | 340 | 400 | 760 | 962 | 800 | 125 | 210            |    |    |      |
| Helix V 2206 PN16 | Rp 2                                                      | R 2                                                        | 1705       | 215 | 125 | 1387 | 800 | 1067 | 340 | 400 | 760 | 962 | 800 | 125 | 215            |    |    |      |
| Helix V 2207 PN16 | Rp 2                                                      | R 2                                                        | 1705       | 215 | 125 | 1437 | 800 | 1067 | 340 | 400 | 760 | 962 | 800 | 125 | 214            |    |    |      |
| Helix V 2208 PN16 | Rp 2                                                      | R 2                                                        | 1705       | 215 | 125 | 1598 | 800 | 1067 | 340 | 400 | 760 | 962 | 800 | 125 | 254            |    |    |      |

Pump curves

Wilo-FLA-1 Helix V 3602/1-3606



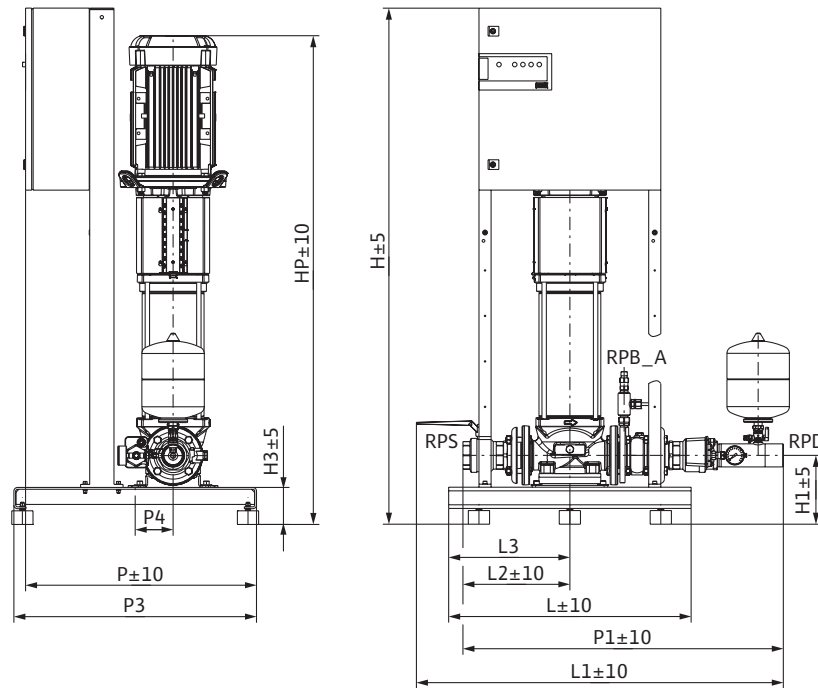
Motor data

| FLA-1               | Rated power | Nominal current<br>3~400 V, 50 Hz | Motor efficiency |            |                 |
|---------------------|-------------|-----------------------------------|------------------|------------|-----------------|
|                     |             |                                   | $P_2$<br>kW      | $I_N$<br>A | $\eta_{m 50\%}$ |
| Helix V 3602/1 PN10 | 5.5         | 10.3                              | 87.3             | 89.1       | 89.2            |
| Helix V 3602 PN10   | 5.5         | 10.3                              | 87.3             | 89.1       | 89.2            |
| Helix V 3603/2 PN10 | 7.5         | 13.7                              | 89.8             | 90.5       | 90.1            |
| Helix V 3603/1 PN10 | 7.5         | 13.7                              | 89.8             | 90.5       | 90.1            |
| Helix V 3603 PN10   | 9           | 15.6                              | 88.9             | 90.5       | 90.6            |
| Helix V 3604/2 PN10 | 11          | 19                                | 90.1             | 91.2       | 91.2            |
| Helix V 3604 PN16   | 11          | 19                                | 90.1             | 91.2       | 91.2            |
| Helix V 3605/2 PN16 | 15          | 25.2                              | 87.7             | 89.9       | 91.9            |
| Helix V 3605 PN16   | 15          | 25.2                              | 87.7             | 89.9       | 91.9            |
| Helix V 3606/2 PN16 | 15          | 25.2                              | 87.7             | 89.9       | 91.9            |
| Helix V 3606 PN16   | 18.5        | 31.4                              | 90.4             | 92.3       | 92.4            |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing

FLA-1 Helix V 3602/1 PN8 – 3606 PN16

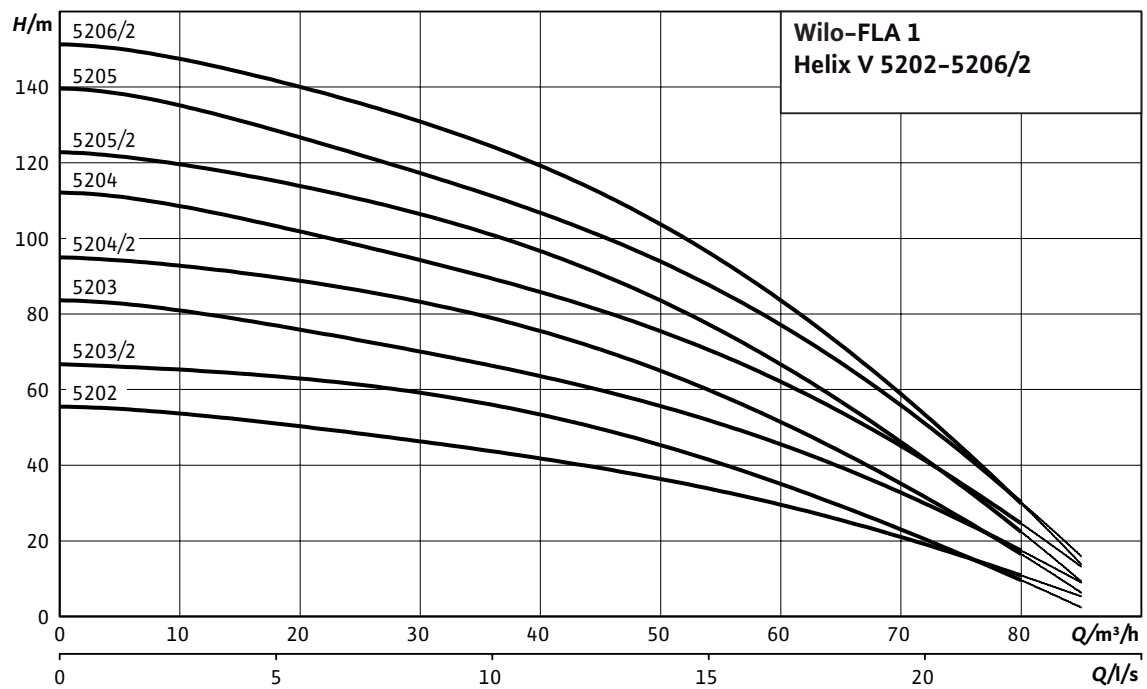


Dimensions, weights

| Wilo FLA-1...       | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |      |     |     |     |      |     |     | Weight approx.<br>m kg |    |    |  |
|---------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|------|-----|-----|-----|------|-----|-----|------------------------|----|----|--|
|                     |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP   | L   | L1  | L2  | L3   | P   | P1  |                        | P3 | P4 |  |
|                     |                                                           |                                                            |            |     |     |      |     |      |     |     |     |      |     |     |                        |    |    |  |
|                     |                                                           |                                                            | mm         |     |     |      |     |      |     |     |     |      |     |     |                        |    |    |  |
| Helix V 3602/1 PN10 | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1167 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 198                    |    |    |  |
| Helix V 3602 PN10   | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1167 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 198                    |    |    |  |
| Helix V 3603/2 PN10 | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1302 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 208                    |    |    |  |
| Helix V 3603/1 PN10 | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1302 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 208                    |    |    |  |
| Helix V 3603 PN10   | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1302 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 214                    |    |    |  |
| Helix V 3604/2 PN10 | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1479 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 250                    |    |    |  |
| Helix V 3604 PN16   | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1479 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 250                    |    |    |  |
| Helix V 3605/2 PN16 | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1546 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 266                    |    |    |  |
| Helix V 3605 PN16   | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1546 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 266                    |    |    |  |
| Helix V 3606/2 PN16 | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1613 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 270                    |    |    |  |
| Helix V 3606 PN16   | Rp 2½                                                     | R 2½                                                       | 1705       | 230 | 125 | 1613 | 800 | 1157 | 354 | 400 | 760 | 1057 | 800 | 125 | 281                    |    |    |  |

Pump curves

Wilo-FLA-1 Helix V 5202-5206/2



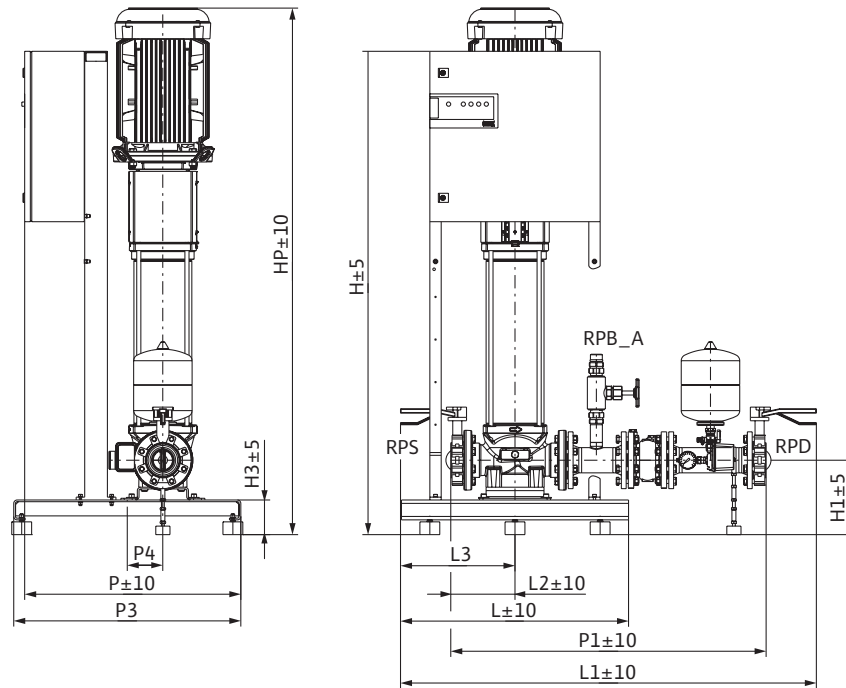
Motor data

| FLA-1               | Rated power | Nominal current<br>3~400 V, 50 Hz | Motor efficiency |            |                 |
|---------------------|-------------|-----------------------------------|------------------|------------|-----------------|
|                     |             |                                   | $P_2$<br>kW      | $I_N$<br>A | $\eta_{m 50\%}$ |
| Helix V 5202 PN10   | 7.5         | 13.7                              | 89.8             | 90.5       | 90.1            |
| Helix V 5203/2 PN10 | 11          | 19                                | 90.1             | 91.2       | 91.2            |
| Helix V 5203 PN10   | 11          | 19                                | 90.1             | 91.2       | 91.2            |
| Helix V 5204/2 PN10 | 15          | 25.2                              | 87.7             | 89.9       | 91.9            |
| Helix V 5204 PN16   | 15          | 25.2                              | 87.7             | 89.9       | 91.9            |
| Helix V 5205/2 PN16 | 18.5        | 31.4                              | 90.4             | 92.3       | 92.4            |
| Helix V 5205 PN16   | 18.5        | 31.4                              | 90.4             | 92.3       | 92.4            |
| Helix V 5206/2 PN16 | 22          | 38                                | 90.8             | 92.3       | 92.7            |

Motor efficiency based on 400 V, 50 Hz

Dimension drawing

FLA-1 Helix V 5202 PN8 - 5206/2 PN16



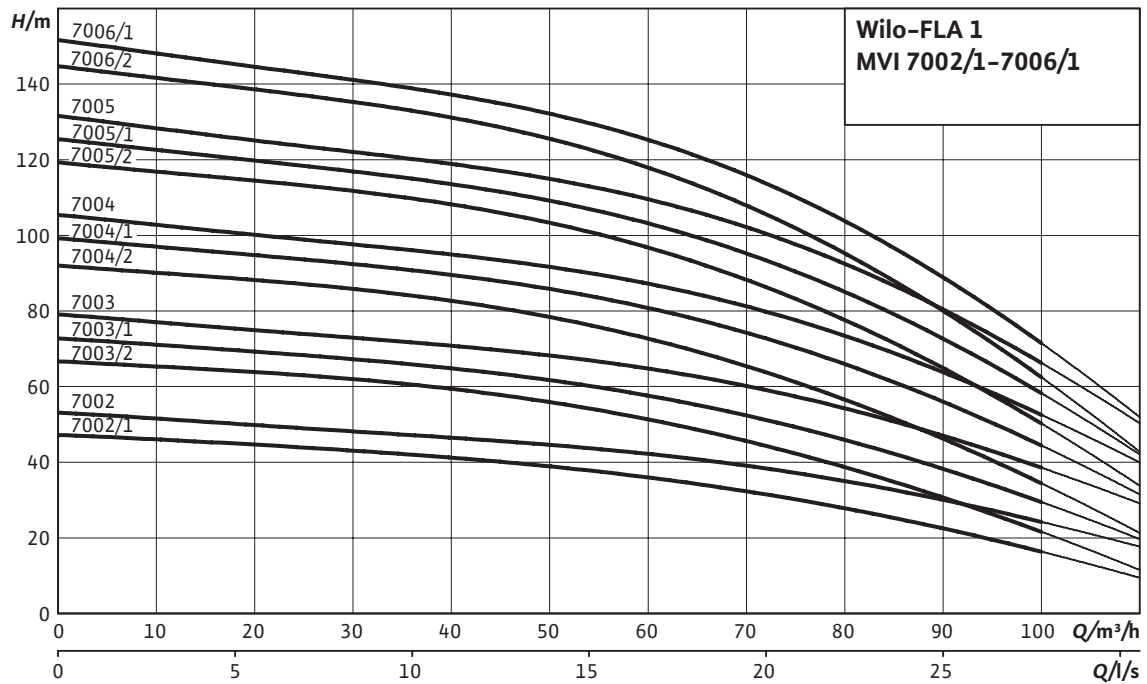
Dimensions, weights

| Wilo FLA-1...       | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |      |     |     |     |      |     |     | Weight approx. |    |    |      |
|---------------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|------|-----|-----|-----|------|-----|-----|----------------|----|----|------|
|                     |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP   | L   | L1  | L2  | L3   | P   | P1  |                | P3 | P4 | m kg |
|                     |                                                           |                                                            |            |     |     |      |     |      |     |     |     |      |     |     |                |    |    |      |
|                     |                                                           |                                                            | mm         |     |     |      |     |      |     |     |     |      |     |     |                |    |    |      |
| Helix V 5202 PN10   | DN 80                                                     | DN 80                                                      | 1705       | 265 | 125 | 1269 | 800 | 1472 | 231 | 400 | 760 | 1118 | 800 | 125 | 219            |    |    |      |
| Helix V 5203/2 PN10 | DN 80                                                     | DN 80                                                      | 1705       | 265 | 125 | 1514 | 800 | 1472 | 231 | 400 | 760 | 1118 | 800 | 125 | 258            |    |    |      |
| Helix V 5203 PN10   | DN 80                                                     | DN 80                                                      | 1705       | 265 | 125 | 1514 | 800 | 1472 | 231 | 400 | 760 | 1118 | 800 | 125 | 258            |    |    |      |
| Helix V 5204/2 PN10 | DN 80                                                     | DN 80                                                      | 1705       | 265 | 125 | 1614 | 800 | 1472 | 231 | 400 | 760 | 1118 | 800 | 125 | 276            |    |    |      |
| Helix V 5204 PN16   | DN 80                                                     | DN 80                                                      | 1705       | 265 | 125 | 1614 | 800 | 1472 | 231 | 400 | 760 | 1118 | 800 | 125 | 276            |    |    |      |
| Helix V 5205/2 PN16 | DN 80                                                     | DN 80                                                      | 1705       | 265 | 125 | 1714 | 800 | 1472 | 231 | 400 | 760 | 1118 | 800 | 125 | 318            |    |    |      |
| Helix V 5205 PN16   | DN 80                                                     | DN 80                                                      | 1705       | 265 | 125 | 1714 | 800 | 1472 | 231 | 400 | 760 | 1118 | 800 | 125 | 318            |    |    |      |
| Helix V 5206/2 PN16 | DN 80                                                     | DN 80                                                      | 1705       | 265 | 125 | 1857 | 800 | 1472 | 231 | 400 | 760 | 1118 | 800 | 125 | 346            |    |    |      |



Pump curves

Wilo-FLA-1 MVI 7002/1-7606/1



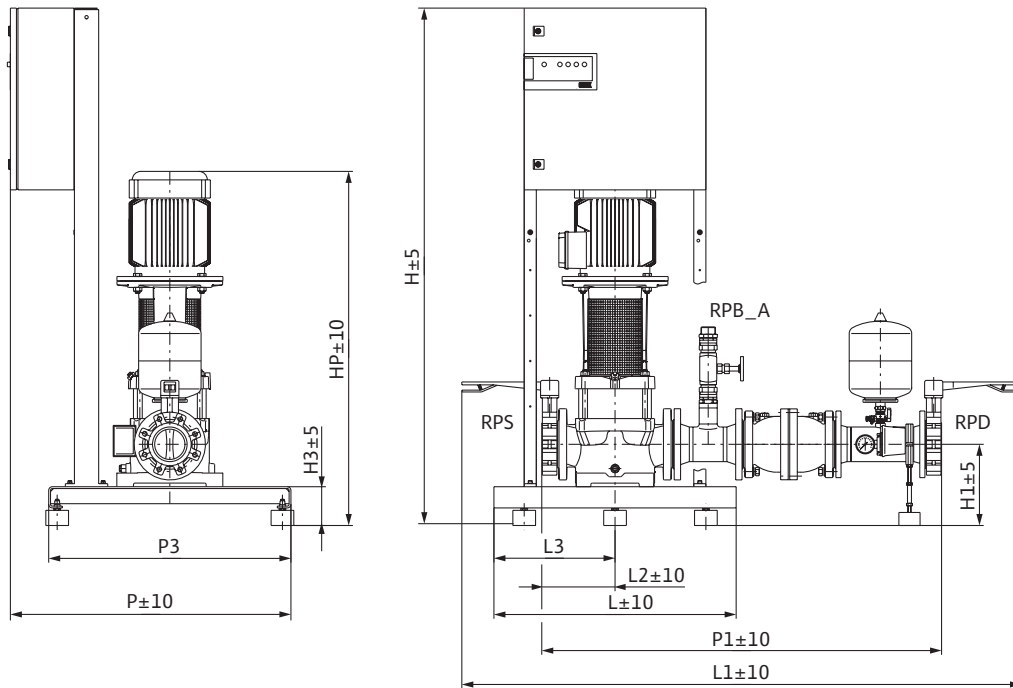
Motor data

| FLA-1           | Rated power | Nominal current<br>3~400 V, 50 Hz | Motor efficiency |            |                 |
|-----------------|-------------|-----------------------------------|------------------|------------|-----------------|
|                 |             |                                   | $P_2$<br>kW      | $I_N$<br>A | $\eta_{m 50\%}$ |
| MVI 7002/1 PN10 | 9           | 15.6                              | 88.9             | 90.5       | 90.6            |
| MVI 7002 PN10   | 11          | 19                                | 90.1             | 91.2       | 91.2            |
| MVI 7003/2 PN10 | 15          | 25.2                              | 87.7             | 89.9       | 91.9            |
| MVI 7003/1 PN10 | 15          | 25.2                              | 87.7             | 89.9       | 91.9            |
| MVI 7003 PN10   | 18.5        | 31.4                              | 90.4             | 92.3       | 92.4            |
| MVI 7004/2 PN10 | 18.5        | 31.4                              | 90.4             | 92.3       | 92.4            |
| MVI 7004/1 PN16 | 22          | 38                                | 90.8             | 92.3       | 92.7            |
| MVI 7004 PN16   | 22          | 38                                | 90.8             | 92.3       | 92.7            |
| MVI 7005/2 PN16 | 30          | 52.2                              | 93.3             | 93.7       | 93.3            |
| MVI 7005/1 PN16 | 30          | 52.2                              | 93.3             | 93.7       | 93.3            |
| MVI 7005 PN16   | 30          | 52.2                              | 93.3             | 93.7       | 93.3            |
| MVI 7006/2 PN16 | 30          | 52.2                              | 93.3             | 93.7       | 93.3            |
| MVI 7006/1 PN16 | 37          | 63.2                              | 93.3             | 93.7       | 93.7            |

Motor efficiency based on 400 V, 50 Hz

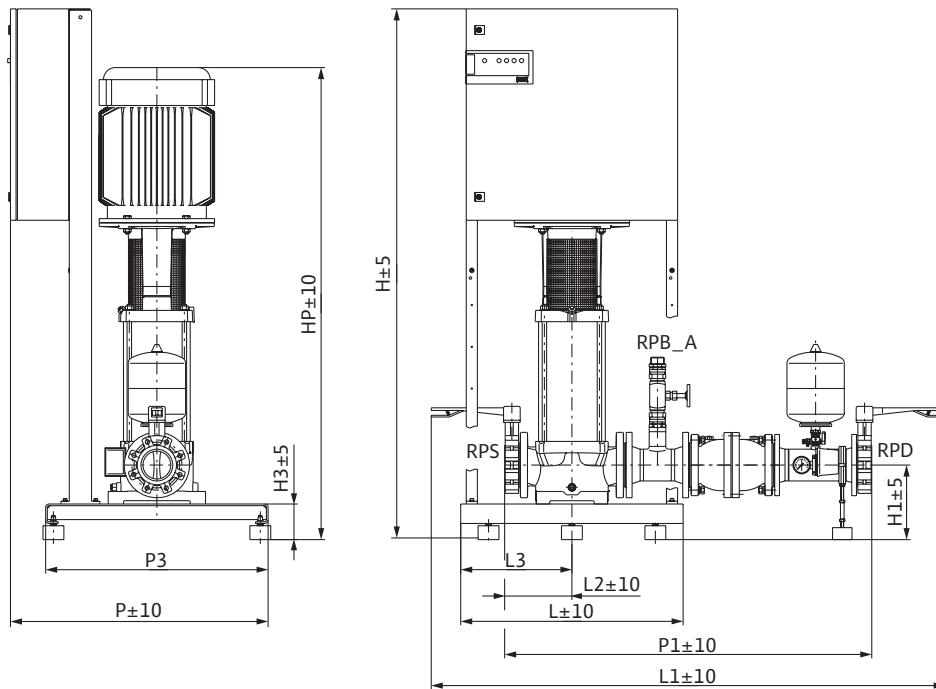
Dimension drawing

FLA-1 MVI 7002/1 PN8 – 7004 PN16



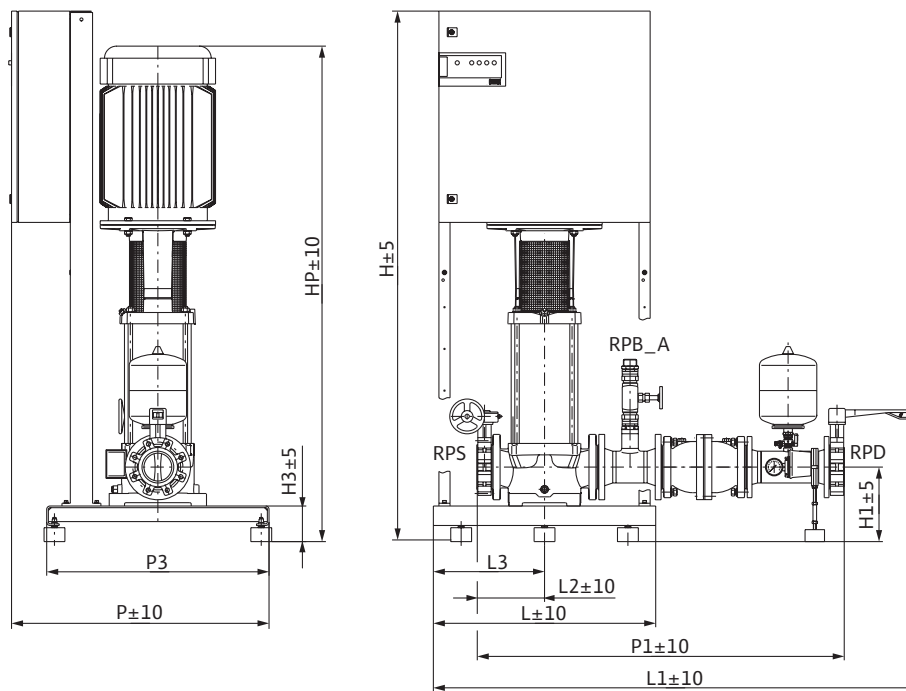
Dimension drawing

FLA-1 MVI 7005/2 PN16 – 7005 PN16



Dimension drawing

FLA-1 MVI 7006/2 PN16 – 7006/1 PN16



Dimensions, weights

| Wilo FLA-1...   | Nominal diameters of the pipe connections on suction side | Nominal diameters of pipe connections on the pressure side | Dimensions |     |     |      |     |      |     |     |     |      |     |    | Weight approx. |
|-----------------|-----------------------------------------------------------|------------------------------------------------------------|------------|-----|-----|------|-----|------|-----|-----|-----|------|-----|----|----------------|
|                 |                                                           |                                                            | RPS        | RPD | H   | H1   | H3  | HP   | L   | L1  | L2  | L3   | P   | P1 |                |
| MVI 7002/1 PN10 | DN 100                                                    | DN 100                                                     | 1705       | 270 | 130 | 1169 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 307            |
| MVI 7002 PN10   | DN 100                                                    | DN 100                                                     | 1705       | 270 | 130 | 1169 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 308            |
| MVI 7003/2 PN10 | DN 100                                                    | DN 100                                                     | 1705       | 270 | 130 | 1448 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 344            |
| MVI 7003/1 PN10 | DN 100                                                    | DN 100                                                     | 1705       | 270 | 130 | 1448 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 344            |
| MVI 7003 PN10   | DN 100                                                    | DN 100                                                     | 1705       | 270 | 130 | 1448 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 361            |
| MVI 7004/2 PN10 | DN 100                                                    | DN 100                                                     | 1705       | 270 | 130 | 1533 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 365            |
| MVI 7004/1 PN16 | DN 100                                                    | DN 100                                                     | 1705       | 270 | 130 | 1576 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 391            |
| MVI 7004 PN16   | DN 100                                                    | DN 100                                                     | 1705       | 270 | 130 | 1576 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 391            |
| MVI 7005/2 PN16 | DN 100                                                    | DN 100                                                     | 1905       | 270 | 130 | 1697 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 474            |
| MVI 7005/1 PN16 | DN 100                                                    | DN 100                                                     | 1905       | 270 | 130 | 1697 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 474            |
| MVI 7005 PN16   | DN 100                                                    | DN 100                                                     | 1905       | 270 | 130 | 1697 | 800 | 1852 | 244 | 400 | 925 | 1324 | 800 | -  | 474            |
| MVI 7006/2 PN16 | DN 100                                                    | DN 100                                                     | 1905       | 270 | 130 | 1782 | 800 | 1743 | 244 | 400 | 925 | 1324 | 800 | -  | 485            |
| MVI 7006/1 PN16 | DN 100                                                    | DN 100                                                     | 1905       | 270 | 130 | 1782 | 800 | 1743 | 244 | 400 | 925 | 1324 | 800 | -  | 515            |

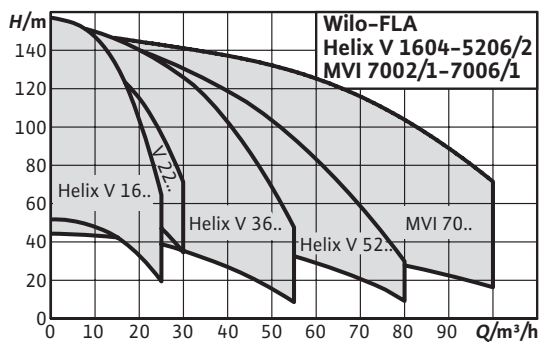


### Wilo-FLA-2



Pressure boosting system for fire extinguishing systems with indirect connection in accordance with DIN 14462. With 2 vertical stainless steel high-pressure multistage centrifugal pumps in glanded version

- Sturdy system with 2 Helix FIRST V or MVI stainless steel high-pressure multistage centrifugal pumps, in accordance with DIN 1988 and DIN 14462
- Absolute operational reliability for 2-pump systems with 100 % redundancy
- Easy adjustment and operational reliability due to the FLA control unit
- Pre-set throttle valve on the pressure side of the pump to protect the pump at low volume flows



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All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

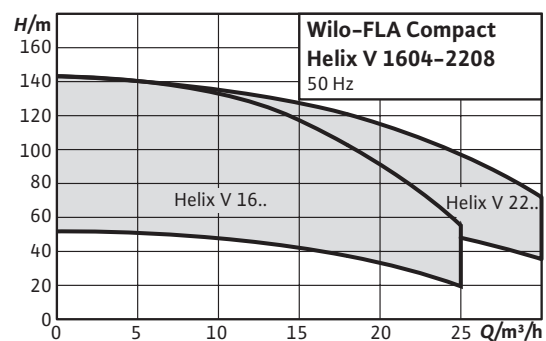


### Wilo-FLA Compact-1 Helix V



Pressure boosting system for fire fighting in accordance with DIN 14462 for indirect connection. With a vertical, stainless steel high-pressure multistage centrifugal pump in glanded version and break tank.

- Compact system with one Helix FIRST V series stainless steel high-pressure multistage centrifugal pump, in accordance with DIN 1988 and DIN 14462 (redundancy for 2-pump systems)
- Complete system which is supplied with a round tank (approved for drinking water) connected directly to the suction connection of the pump
- Hydraulic power within the series of up to 18 m³/h for 100 m delivery head
- Easily adjustable and operationally reliable due to the FLA operating unit (TÜV tested)
- Preconfigured bypass flow, for pump protection with low flow



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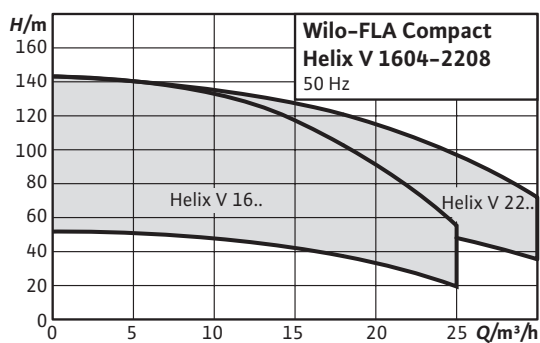


### Wilo-FLA Compact-2 Helix V



Pressure boosting system for fire fighting in accordance with DIN 14462 for indirect connection. With 2 vertical, stainless steel high-pressure multistage centrifugal pumps in glanded version and break tank.

- Compact system with 2 Helix FIRST V series stainless steel high-pressure multistage centrifugal pumps, in accordance with DIN 1988 and DIN 14462 (redundancy for 2-pump systems)
- Complete system which is supplied with a round tank (approved for drinking water) connected directly to the suction connection of the pump
- Hydraulic power within the series of up to 18 m<sup>3</sup>/h for 100 m delivery head
- Easily adjustable and operationally reliable due to the FLA operating unit (TÜV tested)
- Preconfigured bypass flow, for pump protection with low flow



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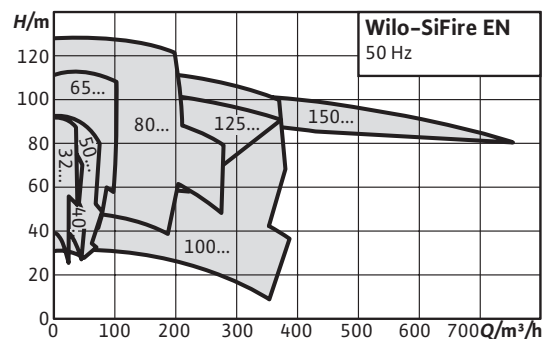
### Wilo-SiFire EN



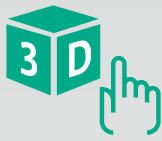
Pressure boosting systems for fire fighting according to EN 12845.

Consists of 1 or 2 pumps, depending on the module, with horizontal base plate – EN 733 – with spacer coupling, electric or diesel motor and a multistage, vertical electric jockey pump.

- Pressure-loss optimised system designed in accordance with the EN 12845 Standard with electrical or diesel drive, jockey pump for maintaining system pressure
- Flexible, modular and solid construction for safe transport and simple installation
- Bypass volume flow for the protection of the pump with spacer coupling for simple maintenance
- High-quality SC-Fire control prepared for BACnet and Modbus building management system integration
- Special base plate for minimal vibrations, cable laid in the construction in such a way as to ensure maximum reliability and service life



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All Informationen at [www.wilo-select.com](http://www.wilo-select.com)



TWU 3...-HS-ECP



TWU 3...-HS-I

## Wilo-Sub TWU 3 HS

Multistage, frequency controlled 3" submersible pump in tie strap version for vertical or horizontal installation

- Constant, adjustable pressure thanks to external frequency converter with integrated control (TWU 3 HS-ECP)
- Easy installation with no additional sensors provided by the customer for pressure control (TWU 3 HS-ECP)
- High output thanks to integrated frequency converters with fixed motor speed of 8,400 rpm (TWU 3 HS-I)
- Reduction of well bore expansion and installation costs due to narrower diameter and installation volume
- Comprehensive monitoring and protection functions for absolute operational reliability

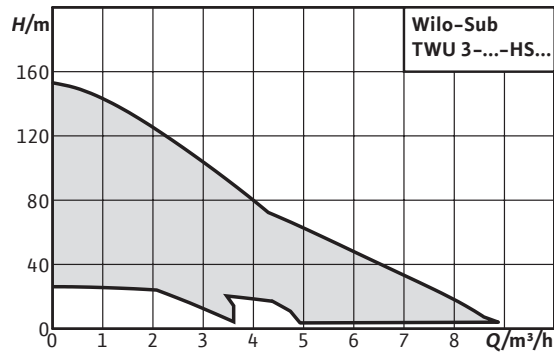


Inverter



Wilo-Sub TWU 3 HSI





## Wilo-Sub TWU 3 HS



### Type key

- e.g. **Wilo sub TWU 3-0305-HS-E-CP**
- TWU** Submersible pump
  - 3** Diameter of the hydraulic unit in inches ["]
  - 03** Nominal volume flow [m³/h]
  - 05** Number of hydraulic stages
  - HS** High-speed version
  - E** Frequency converter version  
E = external frequency converter  
I = external frequency converter
  - CP** Control function  
CP = constant pressure control  
without = fixed speed with up to 8400 rpm

- Max. immersion depth: 150 m
- Protection class: IP58
- Pressure connection: Rp 1/Rp 1¼

### Frequency converter for version "HS-E...":

- Mains connection: 1~230 V, 50/60 Hz
- Output: 3~230 V/max. 140 Hz/max. 2.2 kW
- Fluid temperature: 3 – 50 °C
- Max. pressure: 8 bar
- Protection class: IPX5
- Connection: G 1¼

### Application

- For private water supply from boreholes, wells and rain-water storage tanks
- For domestic water supply, sprinkling and irrigation
- For pumping water without long-fibre and abrasive constituents

### Equipment/function

- Multistage submersible-motor pump with radial impellers
- Integrated non-return valve
- Including frequency converter (HS-E...: external, HS-I...: built-in)
- Thermal motor protection built into the frequency converter

### Technical data

- Submersible pump:
- Supply voltage:  
HS-E...: 1~230 V, 50/60 Hz (connection to the AC mains supply by a frequency converter)  
HS-I...: 1~230 V, 50/60 Hz (direct connection to the AC mains supply)
  - Submerged operating mode: S1
  - Fluid temperature: 3 – 35 °C
  - Minimum flow rate at motor: 0.08 m/s
  - Max. sand content: 50 g/m³
  - Max. number of starts: 30/h

### Materials

- Hydraulic housing: Stainless steel 1.4301
- Impellers: Polycarbonate
- Hydraulics shaft: 1.4104 stainless steel
- Motor housing: Stainless steel 1.4301
- Motor shaft: 1.4305 stainless steel

### Description/design

Submersible pump for vertical or horizontal installation.

### Hydraulics

Multistage submersible pump with radial impellers with sectional construction. Integrated non-return valve. All parts in contact with the fluid are made of corrosion-free materials.

### Motor

Corrosion-free asynchronous motor for connection to the frequency converter supplied (HS-E...) or for direct connection to the mains power supply (HS-I...). Rewindable oil-filled motor with self-lubricating bearings, designed for high speeds up to 8400 rpm.

### Frequency converter

External frequency converter or frequency converter integrated within the motor, for operation of the pump at speeds up to 8400 rpm, including the following functions:

- Soft starter
- Undervoltage, overvoltage and short-circuit protection
- Thermal overload protection of the motor and the frequency converter

The version "HS-E..." with external frequency converter offers the following additional equipment features:

- Control function "CP": Constant pressure
- Avoidance of frequent switching (cycling) by leakage monitoring
- Dry-running protection with automatic reset
- Change of direction of rotation
- Setting for max. flow and set pressure
- Pressure is shown on the display
- Settings, operating statuses and error messages are shown by LEDs or on the display.

The frequency converter always must be installed outside the fluid where it will be protected against overflows!

### Control function "CP": Constant pressure

Operation with the frequency converter means the rotation speed of the unit is adapted to the current water requirements automatically. As a result, the submersible pump always delivers a constant pressure.

### Cooling

The motor is cooled by the fluid. The motor must always be operated in submerged state. The limit values for the max. fluid temperature and the minimum flow rate must not be exceeded.

In cases of vertical installation, a cooling jacket must be provided depending on the diameter of the bore. In cases of horizontal installation, a cooling jacket must always be provided.

The external frequency converter is also cooled by the fluid. For this the frequency converter must be installed directly in the piping outside the fluid (overflow-proof).

### Options

- Special cable lengths on request

### Scope of delivery

- Hydraulics + motor ready assembled
- Frequency converter
- 1.75 m connecting cable approved for drinking water (cross-section: 4x1.5 mm<sup>2</sup>)
- Installation and operating instructions

### Accessories

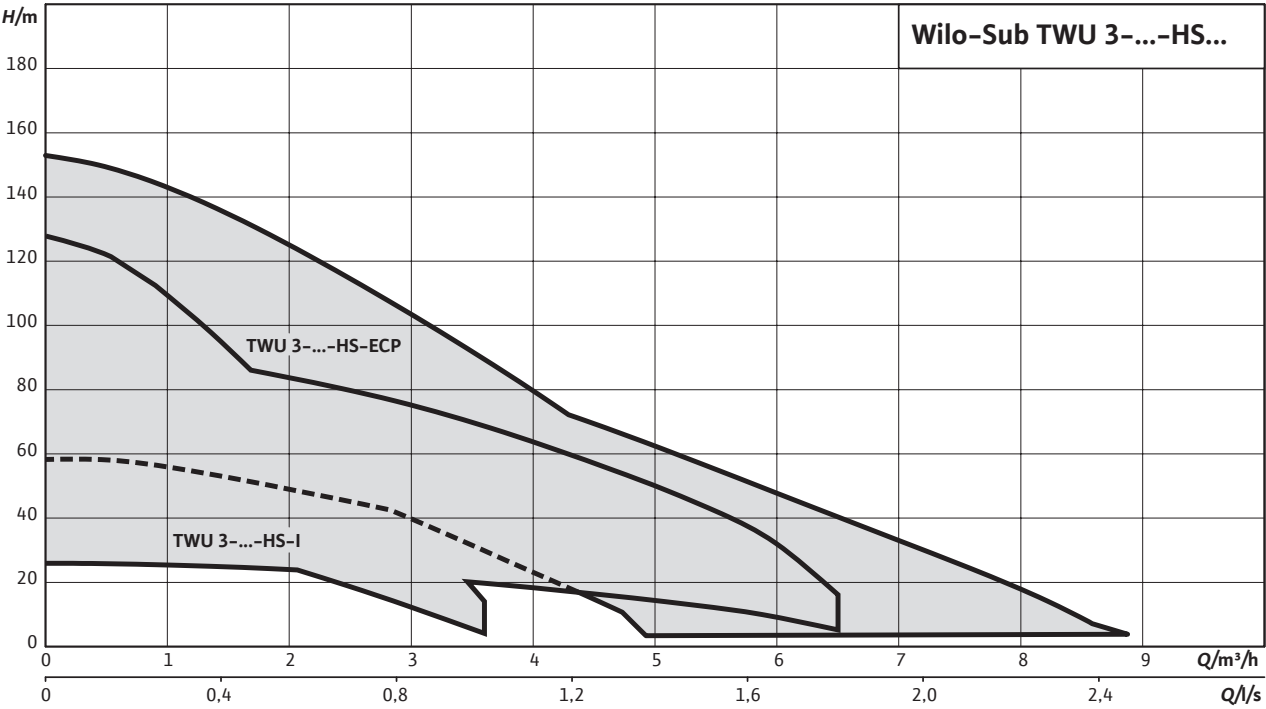
- Cooling jacket pipes
- Diaphragm pressure vessel
- Cable kits for potable and process water
- Float switch
- Switchgears
- Connection and installation material

### Configuration

- No suction mode is possible with these units!
- The unit must be fully immersed in water during operation.
- An adapter of Rp 1 to G 1¼ in required for installation of all types except TWU 3-05..HS-ECP-B. This must be provided on site!

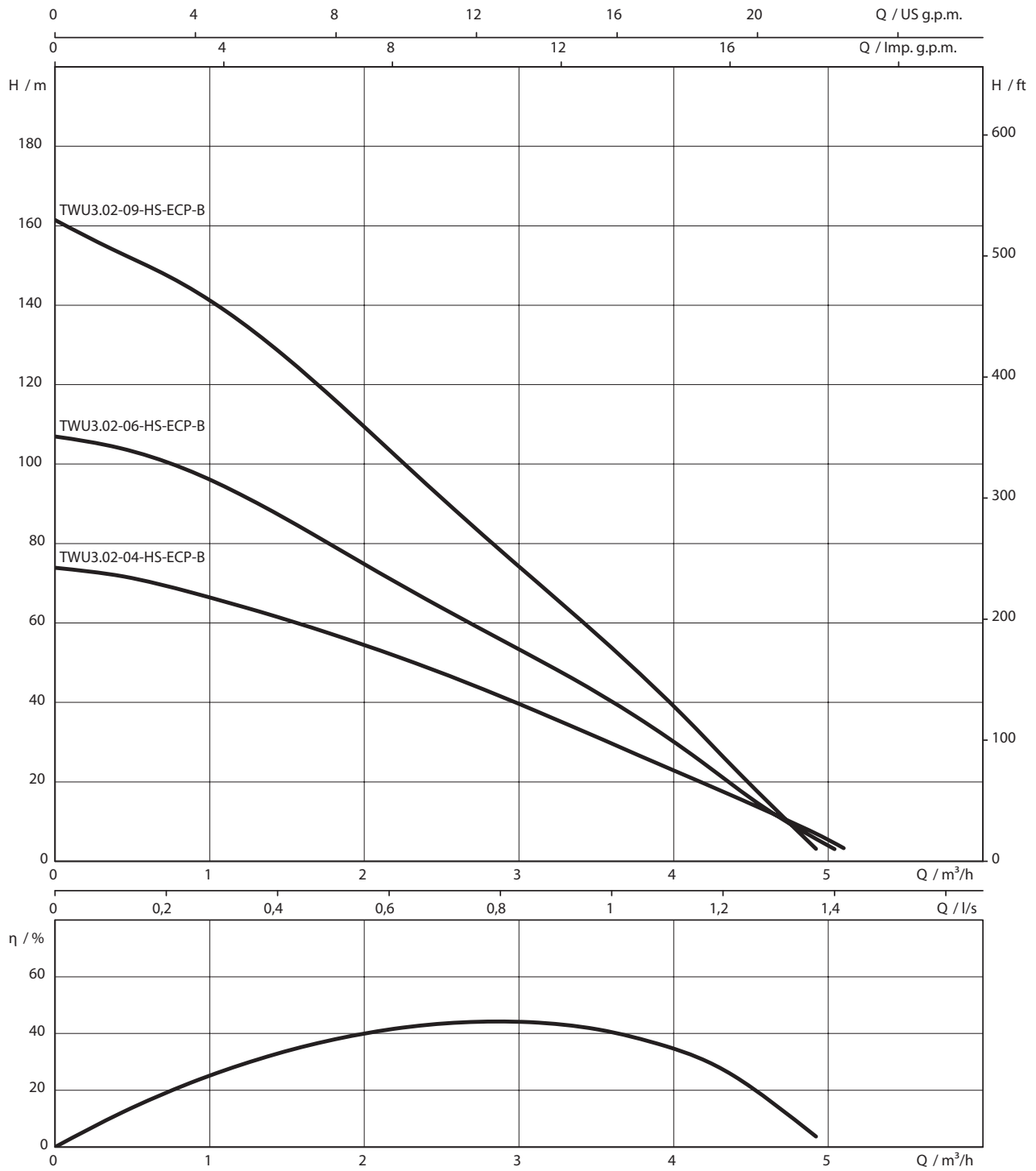


Duty chart



Water supply

Pump curves Wilo-Sub TWU 3-02...-HS-ECP-B



Motor data For pumps with external frequency converter

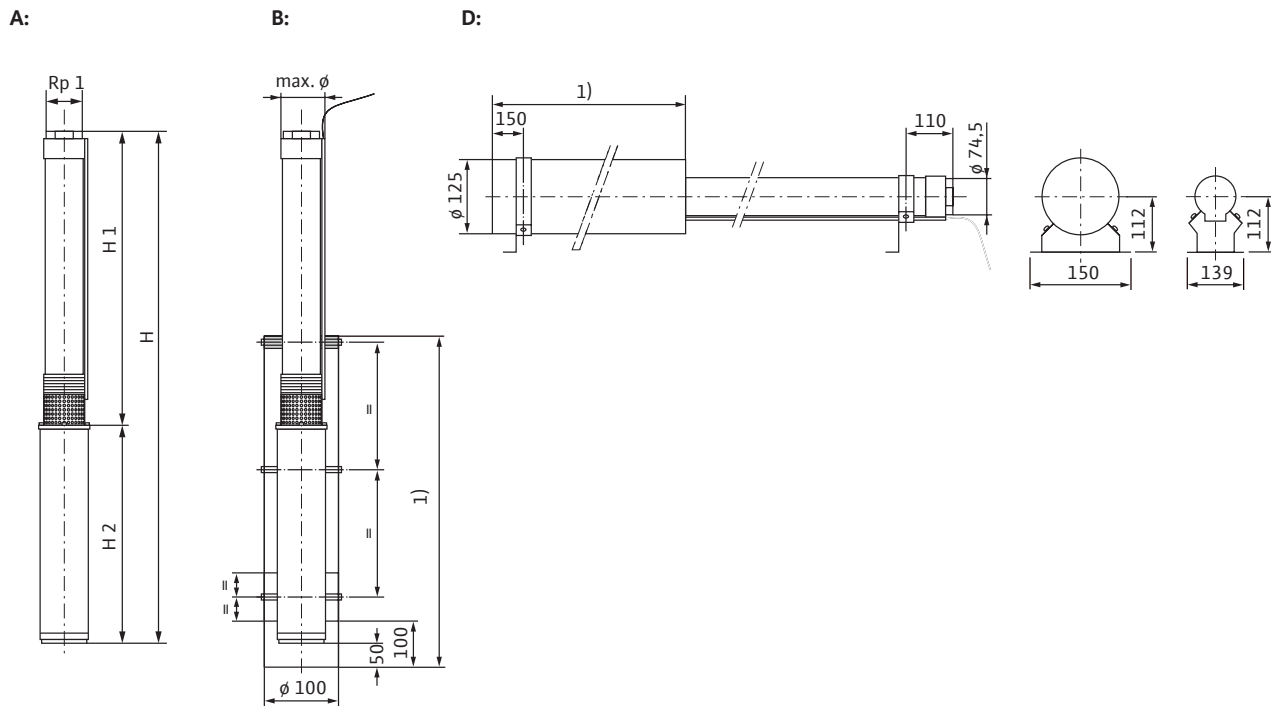
| Wilo-Sub...          | Motor diameter        | Mains connection  | Rated power | Rated current | Length of connecting cable | Cable cross-section |
|----------------------|-----------------------|-------------------|-------------|---------------|----------------------------|---------------------|
|                      | $\varnothing$<br>inch |                   | $P_2$<br>kW | $I_N$<br>A    | m                          | mm <sup>2</sup>     |
| TWU 3.02-04-HS-ECP-B | 3                     | 1~230 V, 50/60 Hz | 0.60        | 8.3           | 1.8                        | 4x1,5               |
| TWU 3.02-06-HS-ECP-B | 3                     | 1~230 V, 50/60 Hz | 0.90        | 10.4          | 1.8                        | 4x1,5               |
| TWU 3.02-09-HS-ECP-B | 3                     | 1~230 V, 50/60 Hz | 1.50        | 14.5          | 1.8                        | 4x1,5               |

Ordering information For pumps with external frequency converter

| Wilo-Sub...          | Mains connection  | Art no. | Art. no. for cooling jacket pipe |                                 |
|----------------------|-------------------|---------|----------------------------------|---------------------------------|
|                      |                   |         | for vertical installation (B)    | for horizontal installation (D) |
| TWU 3.02-04-HS-ECP-B | 1~230 V, 50/60 Hz | 6079396 | 4215618                          | 4215618 + 4092486               |
| TWU 3.02-06-HS-ECP-B | 1~230 V, 50/60 Hz | 6079397 | 4215618                          | 4215618 + 4092486               |
| TWU 3.02-09-HS-ECP-B | 1~230 V, 50/60 Hz | 6079398 | 4215618                          | 4215618 + 4092486               |

☞ = ready for delivery, L = supply availability, C = approx. 2 weeks, K = approx. 4 weeks, A = on request, ₴ = price on request

Dimension drawing



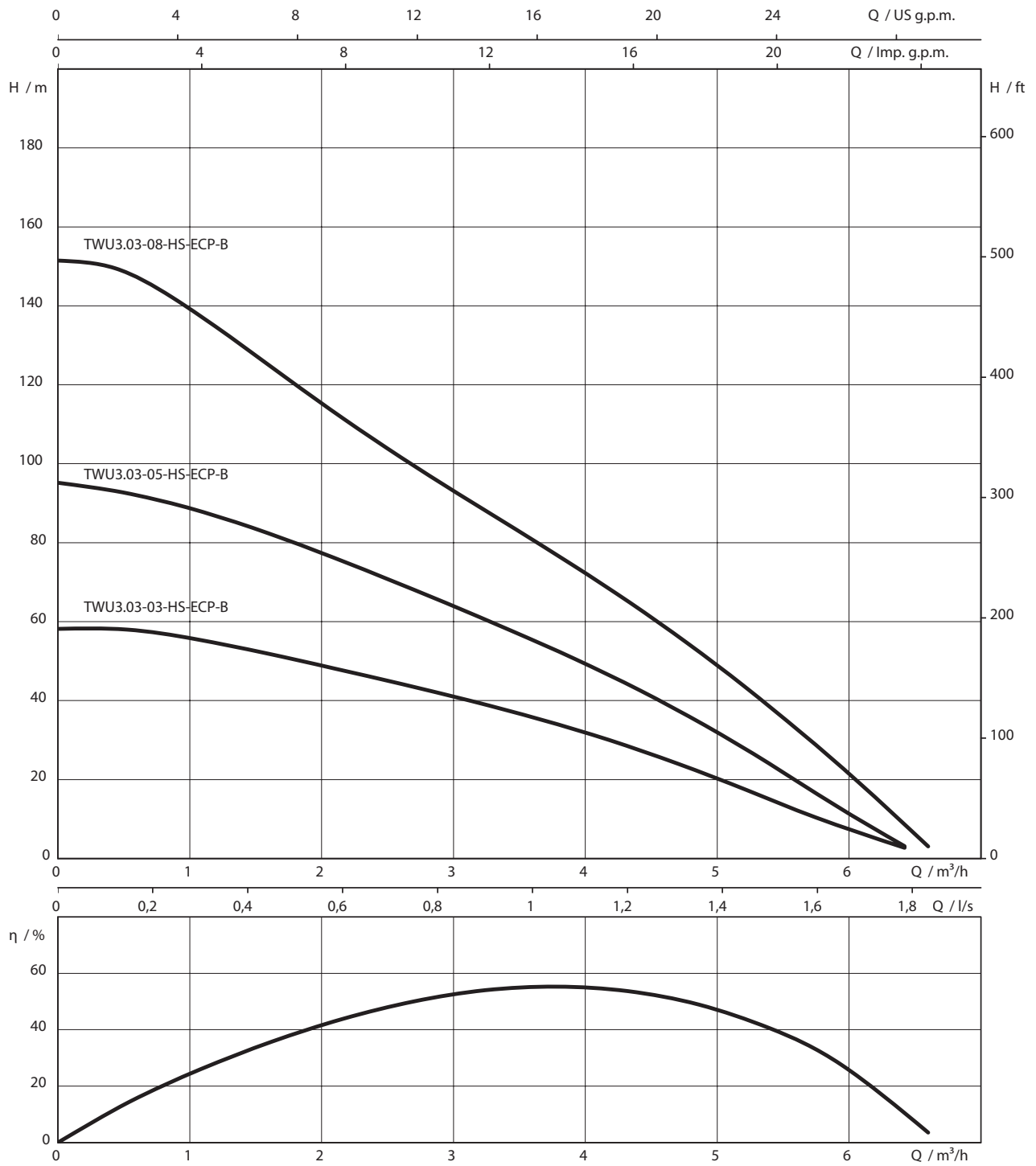
A = vertical, B = vertical with cooling jacket, D = horizontal with cooling jacket

Dimensions, weights

| Wilo-Sub...          | Mains connection  | Weight approx. | Pressure connection | Dimensions                  |     |     | Installation |         |
|----------------------|-------------------|----------------|---------------------|-----------------------------|-----|-----|--------------|---------|
|                      |                   |                |                     | $\varnothing$ <sup>3)</sup> | H   | H1  |              | H2      |
|                      |                   | m<br>kg        |                     |                             | mm  |     |              |         |
| TWU 3.02-04-HS-ECP-B | 1~230 V, 50/60 Hz | 4.5            | Rp 1                | 81                          | 473 | 256 | 217          | A, B, D |
| TWU 3.02-06-HS-ECP-B | 1~230 V, 50/60 Hz | 5.1            | Rp 1                | 81                          | 521 | 304 | 217          | A, B, D |
| TWU 3.02-09-HS-ECP-B | 1~230 V, 50/60 Hz | 5.5            | Rp 1                | 81                          | 597 | 380 | 217          | A, B, D |

<sup>1)</sup> On request, <sup>3)</sup> Max.  $\varnothing$  for power cable configuration in accordance with  $I_N$

Pump curves Wilo-Sub TWU 3-03..-HS-ECP-B



Motor data For pumps with external frequency converter

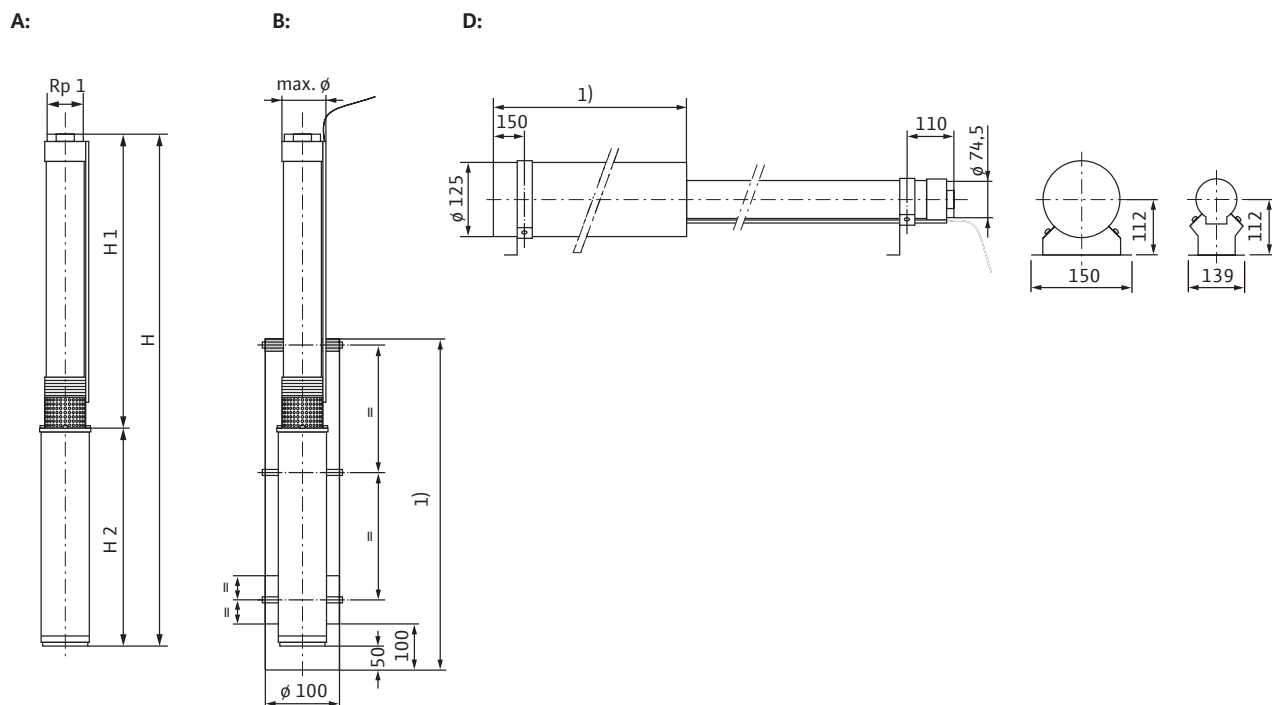
| Wilo-Sub...          | Motor diameter | Mains connection  | Rated power | Rated current | Length of connecting cable | Cable cross-section |
|----------------------|----------------|-------------------|-------------|---------------|----------------------------|---------------------|
|                      | ∅<br>inch      |                   | $P_2$<br>kW | $I_N$<br>A    | m                          | mm <sup>2</sup>     |
| TWU 3.03-03-HS-ECP-B | 3              | 1~230 V, 50/60 Hz | 0.60        | 8.3           | 1.8                        | 4x1,5               |
| TWU 3.03-05-HS-ECP-B | 3              | 1~230 V, 50/60 Hz | 0.90        | 10.4          | 1.8                        | 4x1,5               |
| TWU 3.03-08-HS-ECP-B | 3              | 1~230 V, 50/60 Hz | 1.50        | 14.5          | 1.8                        | 4x1,5               |

Ordering information For pumps with external frequency converter

| Wilo-Sub...          | Mains connection  | Art no. | Art. no. for cooling jacket pipe |                                 |
|----------------------|-------------------|---------|----------------------------------|---------------------------------|
|                      |                   |         | for vertical installation (B)    | for horizontal installation (D) |
| TWU 3.03-03-HS-ECP-B | 1~230 V, 50/60 Hz | 6079399 | 4215618                          | 4215618 + 4092486               |
| TWU 3.03-05-HS-ECP-B | 1~230 V, 50/60 Hz | 6079400 | 4215618                          | 4215618 + 4092486               |
| TWU 3.03-08-HS-ECP-B | 1~230 V, 50/60 Hz | 6079401 | 4215618                          | 4215618 + 4092486               |

☒ = ready for delivery, L = supply availability, C = approx. 2 weeks, K = approx. 4 weeks, A = on request, ₴ = price on request

Dimension drawing



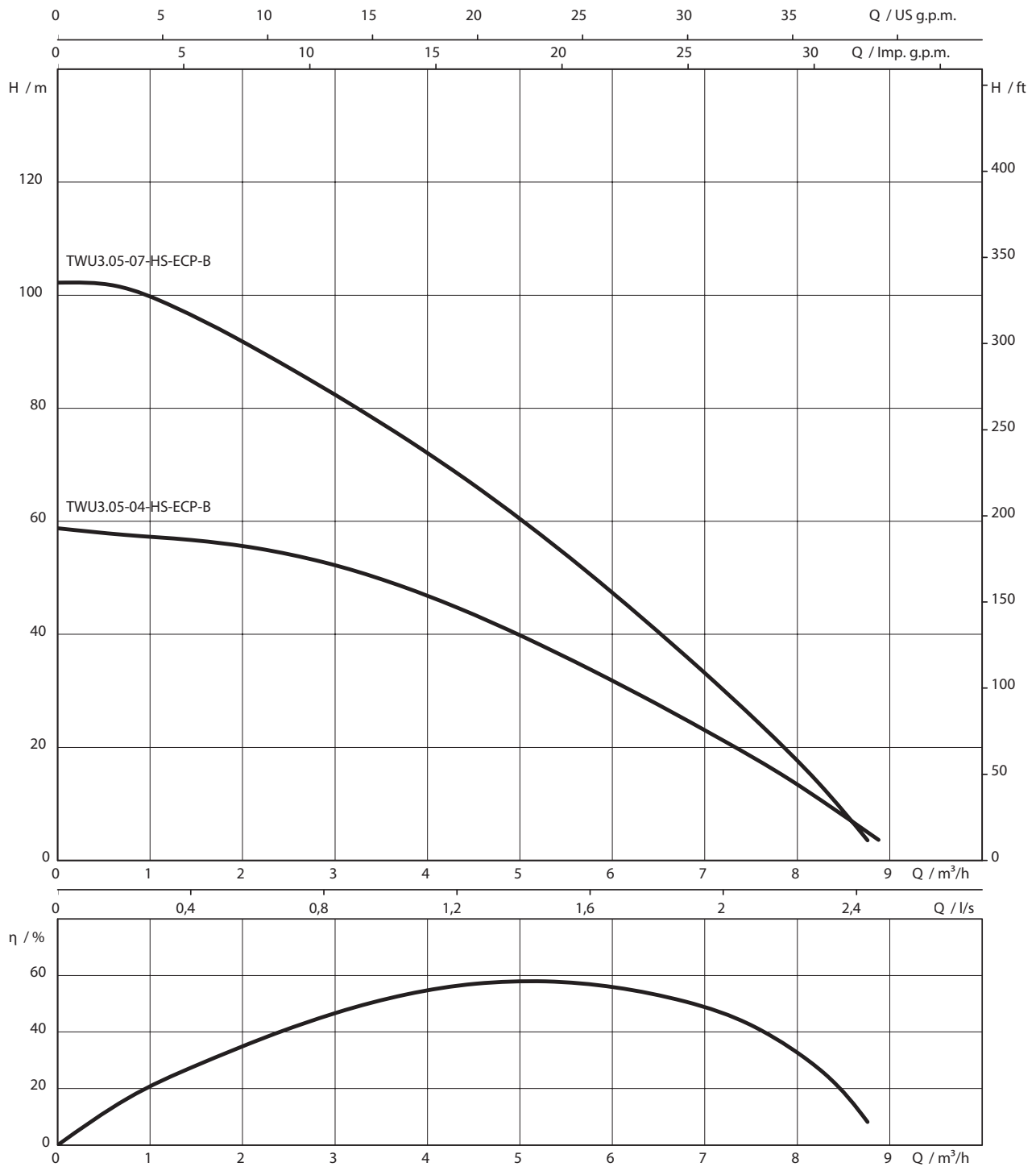
A = vertical, B = vertical with cooling jacket, D = horizontal with cooling jacket

Dimensions, weights

| Wilo-Sub...          | Mains connection  | Weight approx. | Pressure connection | Dimensions      |     |     | Installation |         |
|----------------------|-------------------|----------------|---------------------|-----------------|-----|-----|--------------|---------|
|                      |                   | m<br>kg        |                     | ∅ <sup>3)</sup> | H   | H1  | H2           |         |
|                      |                   |                |                     | mm              |     |     |              |         |
| TWU 3.03-03-HS-ECP-B | 1~230 V, 50/60 Hz | 4.4            | Rp 1                | 81              | 447 | 230 | 217          | A, B, D |
| TWU 3.03-05-HS-ECP-B | 1~230 V, 50/60 Hz | 5              | Rp 1                | 81              | 499 | 282 | 217          | A, B, D |
| TWU 3.03-08-HS-ECP-B | 1~230 V, 50/60 Hz | 5.4            | Rp 1                | 81              | 571 | 354 | 217          | A, B, D |

<sup>1)</sup> On request, <sup>3)</sup> Max. ∅ for power cable configuration in accordance with  $I_N$

Pump curves Wilo-Sub TWU 3-05..-HS-ECP-B



Motor data For pumps with external frequency converter

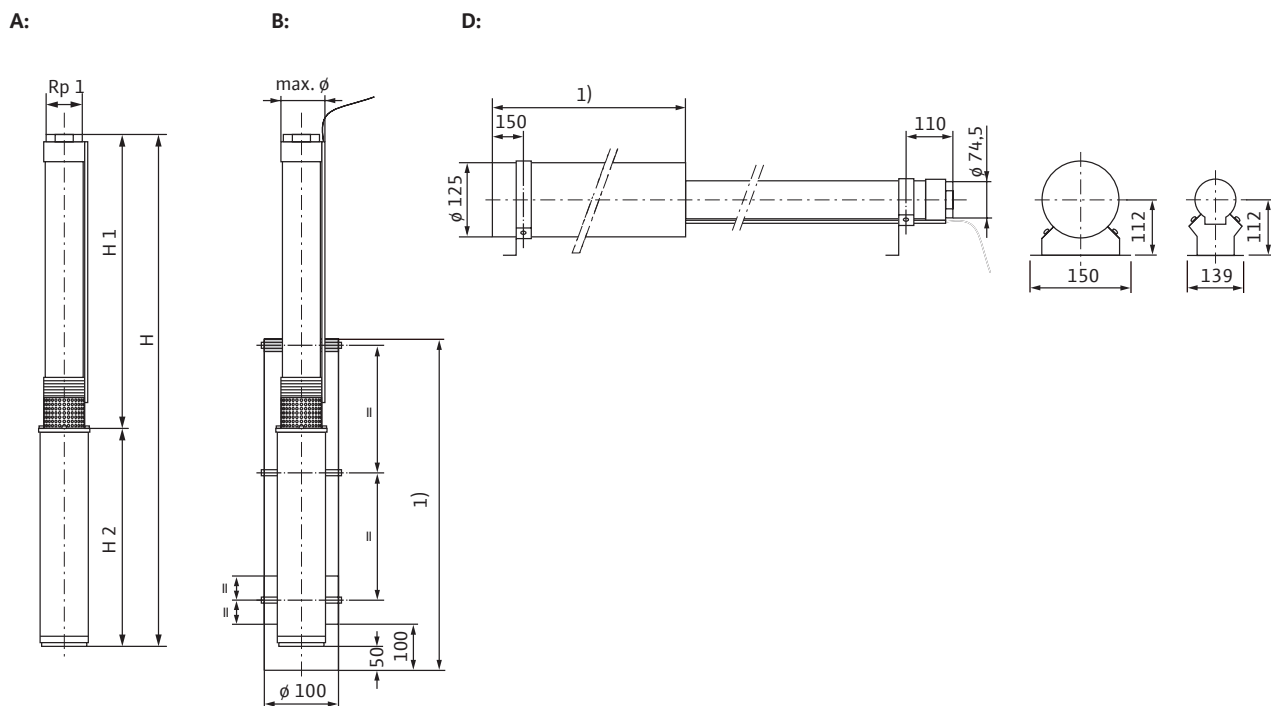
| Wilo-Sub...          | Motor diameter | Mains connection  | Rated power | Rated current | Length of connecting cable | Cable cross-section |
|----------------------|----------------|-------------------|-------------|---------------|----------------------------|---------------------|
|                      | ∅<br>inch      |                   | $P_2$<br>kW | $I_N$<br>A    | m                          | mm <sup>2</sup>     |
| TWU 3.05-04-HS-ECP-B | 3              | 1~230 V, 50/60 Hz | 0.90        | 10.4          | 1.8                        | 4x1,5               |
| TWU 3.05-07-HS-ECP-B | 3              | 1~230 V, 50/60 Hz | 1.50        | 14.5          | 1.8                        | 4x1,5               |

Ordering information For pumps with external frequency converter

| Wilo-Sub...          | Mains connection  | Art. no. | Art. no. for cooling jacket pipe |                                 |
|----------------------|-------------------|----------|----------------------------------|---------------------------------|
|                      |                   |          | for vertical installation (B)    | for horizontal installation (D) |
| TWU 3.05-04-HS-ECP-B | 1~230 V, 50/60 Hz | 6079402  | 4215618                          | 4215618 + 4092486               |
| TWU 3.05-07-HS-ECP-B | 1~230 V, 50/60 Hz | 6079403  | 4215618                          | 4215618 + 4092486               |

☒ = ready for delivery, L = supply availability, C = approx. 2 weeks, K = approx. 4 weeks, A = on request, ☒ = price on request

Dimension drawing



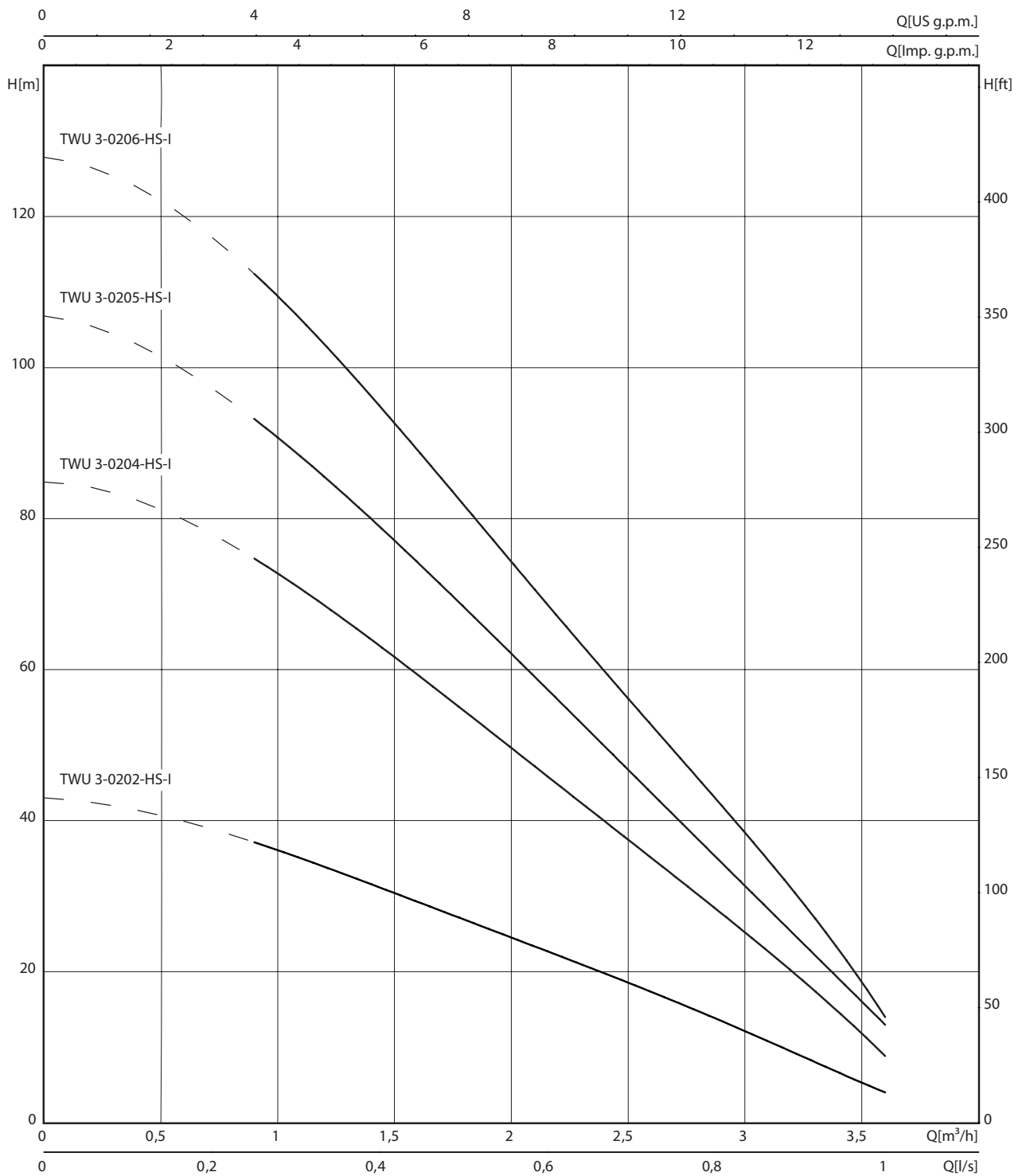
A = vertical, B = vertical with cooling jacket, D = horizontal with cooling jacket

Dimensions, weights

| Wilo-Sub...          | Mains connection  | Weight approx.<br>m<br>kg | Pressure connection | Dimensions      |     |                | Installation |
|----------------------|-------------------|---------------------------|---------------------|-----------------|-----|----------------|--------------|
|                      |                   |                           |                     | ∅ <sup>3)</sup> | H   | H1<br>H2<br>mm |              |
| TWU 3.05-04-HS-ECP-B | 1~230 V, 50/60 Hz | 5                         | Rp 1¼               | 81              | 395 | 178<br>217     | A, B, D      |
| TWU 3.05-07-HS-ECP-B | 1~230 V, 50/60 Hz | 5.4                       | Rp 1¼               | 81              | 587 | 370<br>217     | A, B, D      |

<sup>3)</sup> On request, <sup>3)</sup> Max. ∅ for power cable configuration in accordance with  $I_N$

Pump curves Wilo-Sub TWU 3-02...-HS..I





Motor data For pumps with integrated frequency converter

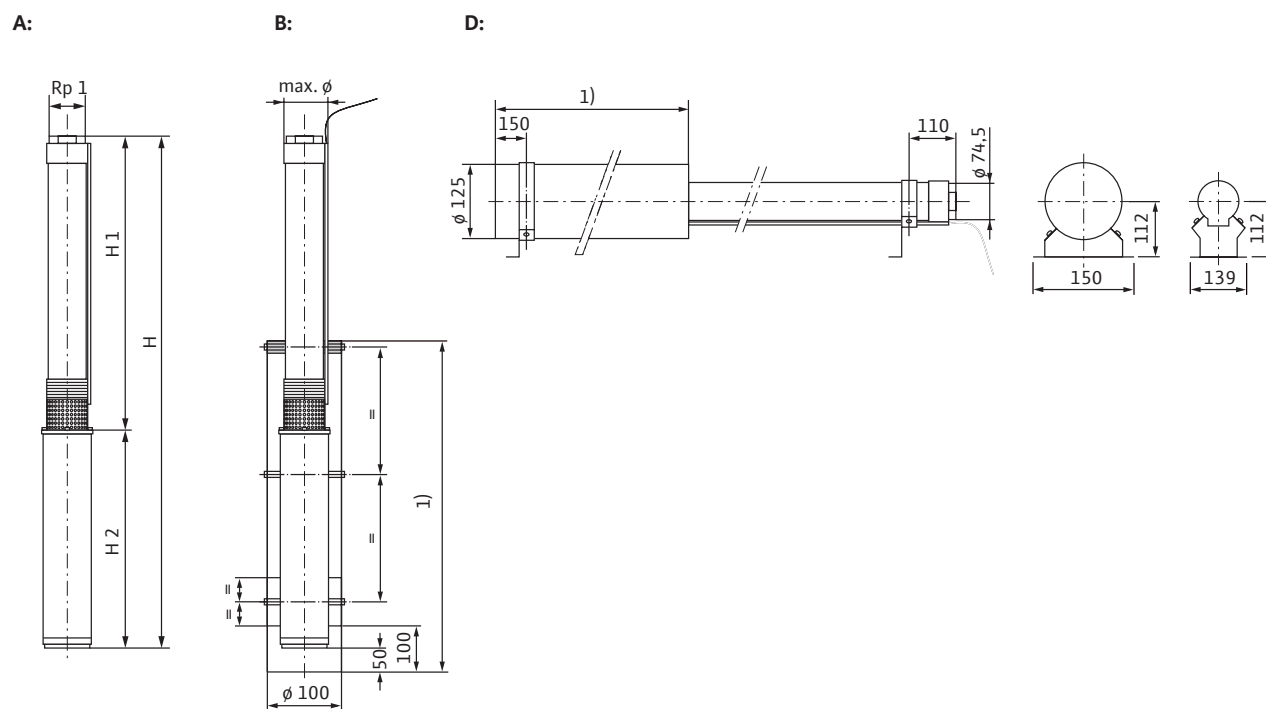
| Wilo-Sub...     | Motor diameter        | Mains connection  | Rated power | Rated current | Length of connecting cable | Cable cross-section |
|-----------------|-----------------------|-------------------|-------------|---------------|----------------------------|---------------------|
|                 | $\varnothing$<br>inch |                   | $P_2$<br>kW | $I_N$<br>A    | m                          | mm <sup>2</sup>     |
| TWU 3-0206-HS-I | 3                     | 1~230 V, 50/60 Hz | 1.50        | 12.5          | 1.8                        | 4x1,5               |
| TWU 3-0202-HS-I | 3                     | 1~230 V, 50/60 Hz | 0.60        | 9             | 1.8                        | 4x1,5               |
| TWU 3-0204-HS-I | 3                     | 1~230 V, 50/60 Hz | 0.90        | 12            | 1.8                        | 4x1,5               |
| TWU 3-0205-HS-I | 3                     | 1~230 V, 50/60 Hz | 0.90        | 12            | 1.8                        | 4x1,5               |

Ordering information For pumps with integrated frequency converter

| Wilo-Sub...     | Mains connection  | Art no. | Art. no. for cooling jacket pipe |                                 |
|-----------------|-------------------|---------|----------------------------------|---------------------------------|
|                 |                   |         | for vertical installation (B)    | for horizontal installation (D) |
| TWU 3-0206-HS-I | 1~230 V, 50/60 Hz | 6064279 | 4092485                          | 4092485 + 4092486               |
| TWU 3-0202-HS-I | 1~230 V, 50/60 Hz | 6064276 | 4092485                          | 4092485 + 4092486               |
| TWU 3-0204-HS-I | 1~230 V, 50/60 Hz | 6064277 | 4092485                          | 4092485 + 4092486               |
| TWU 3-0205-HS-I | 1~230 V, 50/60 Hz | 6064278 | 4092485                          | 4092485 + 4092486               |

☞ = ready for delivery, L = supply availability, C = approx. 2 weeks, K = approx. 4 weeks, A = on request, ₴ = price on request

Dimension drawing



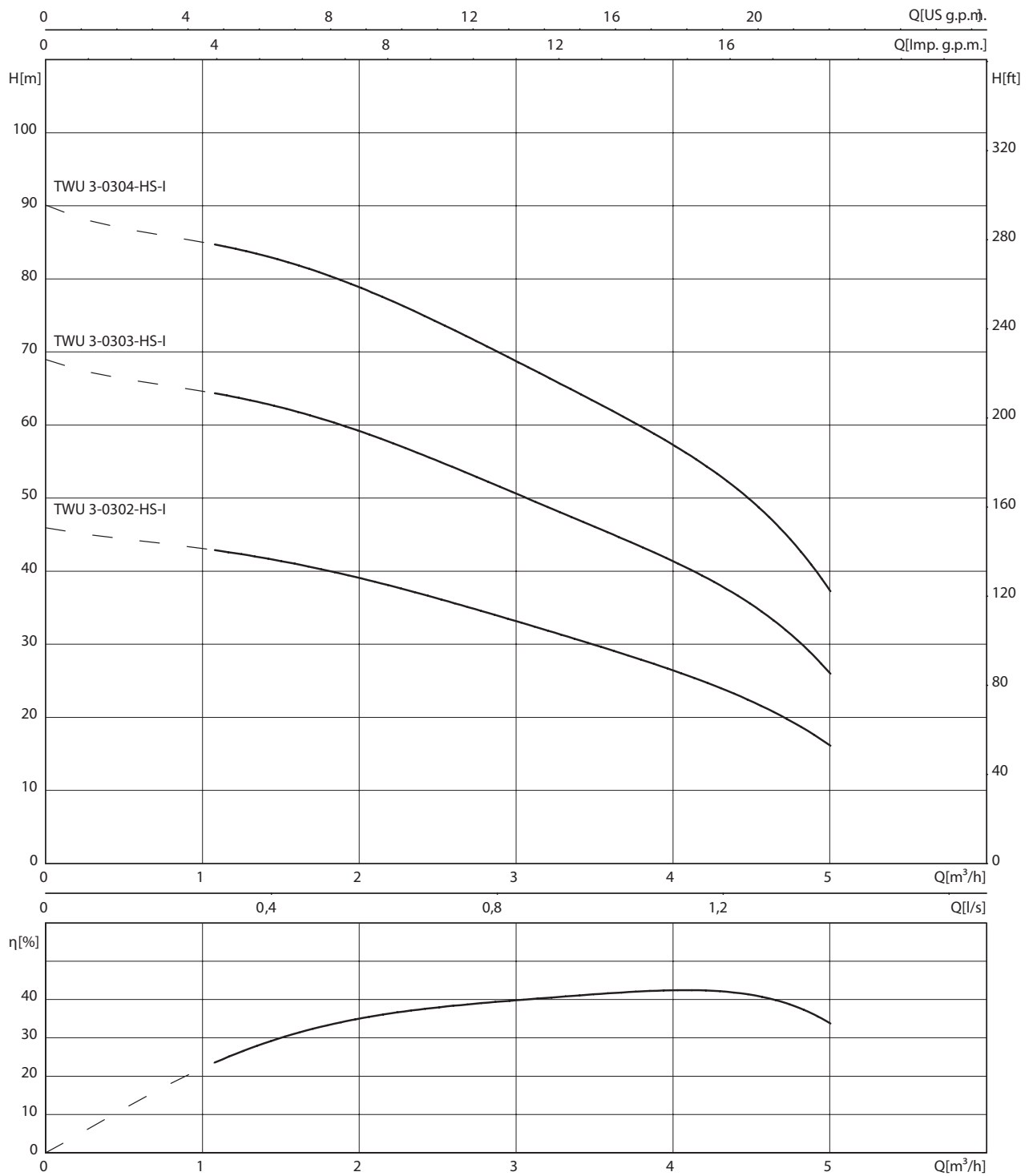
A = vertical, B = vertical with cooling jacket, D = horizontal with cooling jacket

Dimensions, weights

| Wilo-Sub...     | Mains connection  | Weight approx. | Pressure connection | Dimensions                  |      |     |     | Installation |
|-----------------|-------------------|----------------|---------------------|-----------------------------|------|-----|-----|--------------|
|                 |                   |                |                     | $\varnothing$ <sup>3)</sup> | H    | H1  | H2  |              |
|                 |                   | m<br>kg        |                     |                             | mm   |     |     |              |
| TWU 3-0206-HS-I | 1~230 V, 50/60 Hz | 11.8           | Rp 1                | 80                          | 1165 | 345 | 820 | A, B, D      |
| TWU 3-0202-HS-I | 1~230 V, 50/60 Hz | 8.8            | Rp 1                | 80                          | 1005 | 245 | 760 | A, B, D      |
| TWU 3-0204-HS-I | 1~230 V, 50/60 Hz | 10             | Rp 1                | 80                          | 1085 | 295 | 790 | A, B, D      |
| TWU 3-0205-HS-I | 1~230 V, 50/60 Hz | 10.2           | Rp 1                | 80                          | 1110 | 320 | 790 | A, B, D      |

<sup>1)</sup> On request, <sup>3)</sup> Max.  $\varnothing$  for power cable configuration in accordance with  $I_N$

Pump curves Wilo-Sub TWU 3-03..-HS..I



Motor data For pumps with integrated frequency converter

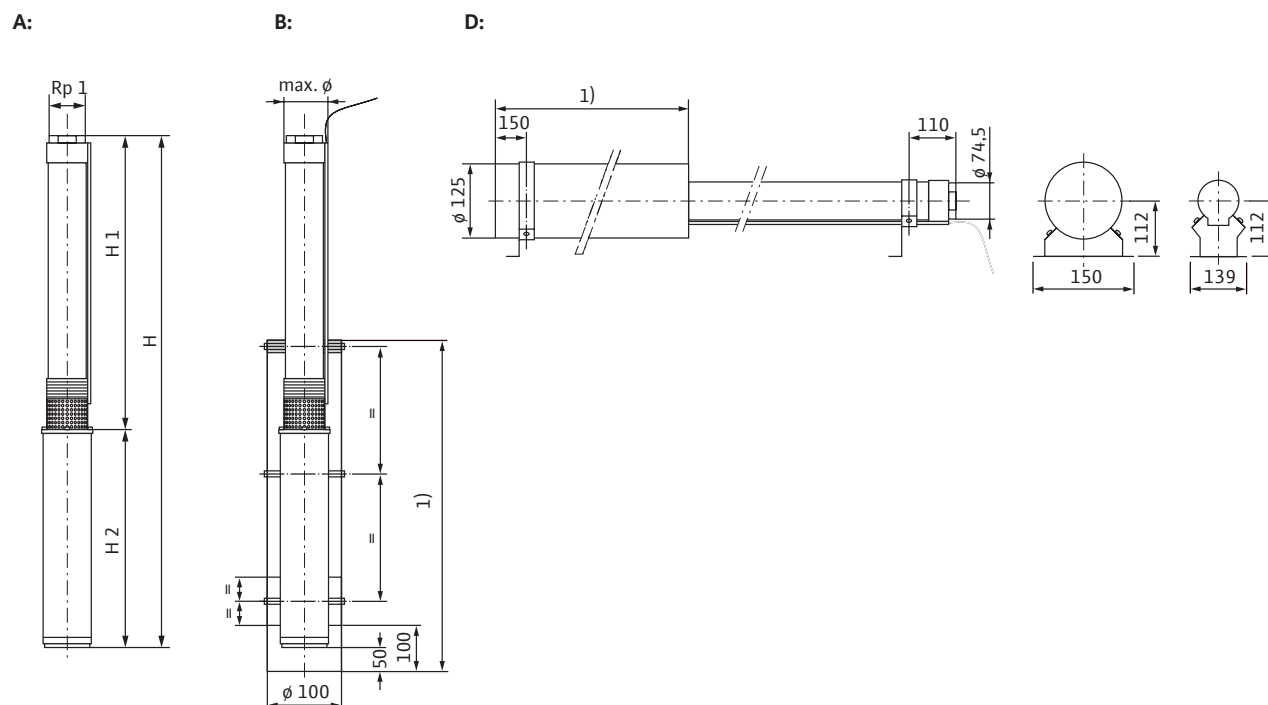
| Wilo-Sub...     | Motor diameter        | Mains connection  | Rated power | Rated current | Length of connecting cable | Cable cross-section |
|-----------------|-----------------------|-------------------|-------------|---------------|----------------------------|---------------------|
|                 | $\varnothing$<br>inch |                   | $P_2$<br>kW | $I_N$<br>A    | m                          | mm <sup>2</sup>     |
| TWU 3-0302-HS-I | 3                     | 1~230 V, 50/60 Hz | 0.60        | 9             | 1.8                        | 4x1,5               |
| TWU 3-0303-HS-I | 3                     | 1~230 V, 50/60 Hz | 0.90        | 12            | 1.8                        | 4x1,5               |
| TWU 3-0304-HS-I | 3                     | 1~230 V, 50/60 Hz | 1.50        | 12.5          | 1.8                        | 4x1,5               |

Ordering information For pumps with integrated frequency converter

| Wilo-Sub...     | Mains connection  | Art no. | Art. no. for cooling jacket pipe |                                 |
|-----------------|-------------------|---------|----------------------------------|---------------------------------|
|                 |                   |         | for vertical installation (B)    | for horizontal installation (D) |
| TWU 3-0302-HS-I | 1~230 V, 50/60 Hz | 6064280 | 4092485                          | 4092485 + 4092486               |
| TWU 3-0303-HS-I | 1~230 V, 50/60 Hz | 6064281 | 4092485                          | 4092485 + 4092486               |
| TWU 3-0304-HS-I | 1~230 V, 50/60 Hz | 6064282 | 4092485                          | 4092485 + 4092486               |

☒ = ready for delivery, L = supply availability, C = approx. 2 weeks, K = approx. 4 weeks, A = on request, ₴ = price on request

Dimension drawing



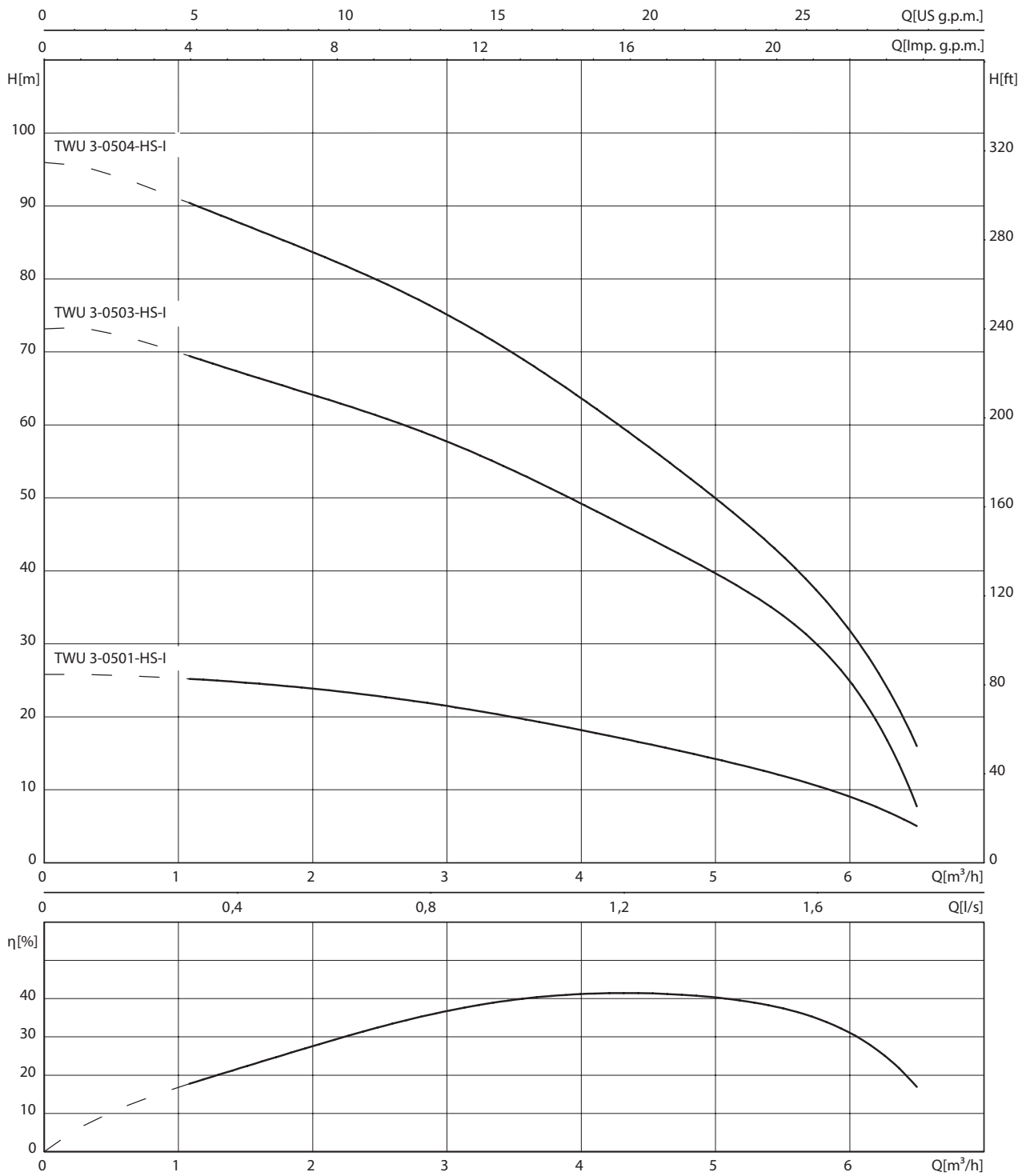
A = vertical, B = vertical with cooling jacket, D = horizontal with cooling jacket

Dimensions, weights

| Wilo-Sub...     | Mains connection  | Weight approx. | Pressure connection | Dimensions                  |      |     | Installation |         |
|-----------------|-------------------|----------------|---------------------|-----------------------------|------|-----|--------------|---------|
|                 |                   |                |                     | $\varnothing$ <sup>3)</sup> | H    | H1  |              | H2      |
|                 |                   | m<br>kg        |                     |                             | mm   |     |              |         |
| TWU 3-0302-HS-I | 1~230 V, 50/60 Hz | 8.8            | Rp 1                | 80                          | 1005 | 245 | 760          | A, B, D |
| TWU 3-0303-HS-I | 1~230 V, 50/60 Hz | 9.7            | Rp 1                | 80                          | 1060 | 270 | 790          | A, B, D |
| TWU 3-0304-HS-I | 1~230 V, 50/60 Hz | 11.4           | Rp 1                | 80                          | 1115 | 295 | 820          | A, B, D |

<sup>1)</sup> On request, <sup>3)</sup> Max.  $\varnothing$  for power cable configuration in accordance with  $I_N$

Pump curves Wilo-Sub TWU 3-05..-HS..I



Motor data For pumps with integrated frequency converter

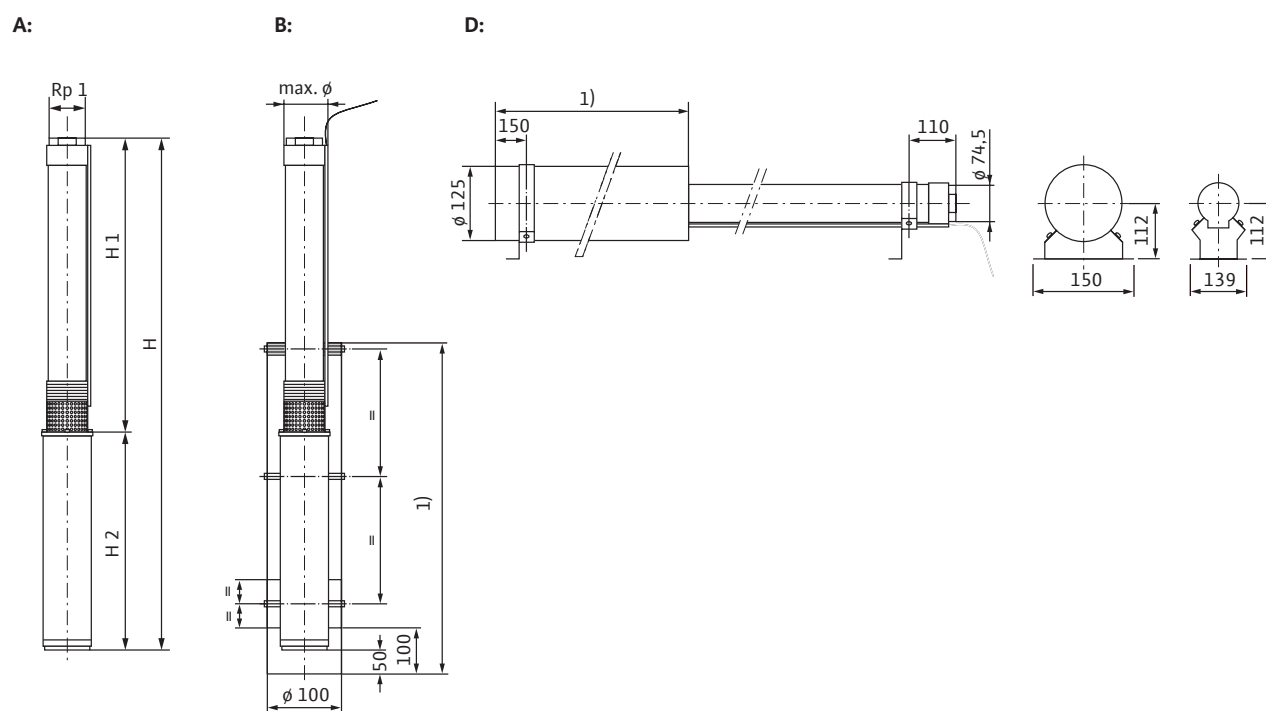
| Wilo-Sub...     | Motor diameter        | Mains connection  | Rated power | Rated current | Length of connecting cable | Cable cross-section |
|-----------------|-----------------------|-------------------|-------------|---------------|----------------------------|---------------------|
|                 | $\varnothing$<br>inch |                   | $P_2$<br>kW | $I_N$<br>A    | m                          | mm <sup>2</sup>     |
| TWU 3-0504-HS-I | 3                     | 1~230 V, 50/60 Hz | 1.50        | 12.5          | 1.8                        | 4x1,5               |
| TWU 3-0503-HS-I | 3                     | 1~230 V, 50/60 Hz | 0.90        | 12            | 1.8                        | 4x1,5               |
| TWU 3-0501-HS-I | 3                     | 1~230 V, 50/60 Hz | 0.60        | 9             | 1.8                        | 4x1,5               |

Ordering information For pumps with integrated frequency converter

| Wilo-Sub...     | Mains connection  | Art no. | Art. no. for cooling jacket pipe |                                 |
|-----------------|-------------------|---------|----------------------------------|---------------------------------|
|                 |                   |         | for vertical installation (B)    | for horizontal installation (D) |
| TWU 3-0504-HS-I | 1~230 V, 50/60 Hz | 6064285 | 4092485                          | 4092485 + 4092486               |
| TWU 3-0503-HS-I | 1~230 V, 50/60 Hz | 6064284 | 4092485                          | 4092485 + 4092486               |
| TWU 3-0501-HS-I | 1~230 V, 50/60 Hz | 6064283 | 4092485                          | 4092485 + 4092486               |

☞ = ready for delivery, L = supply availability, C = approx. 2 weeks, K = approx. 4 weeks, A = on request, ☛ = price on request

Dimension drawing



A = vertical, B = vertical with cooling jacket, D = horizontal with cooling jacket

Dimensions, weights

| Wilo-Sub...     | Mains connection  | Weight approx. | Pressure connection | Dimensions                  |      |     |     | Installation |
|-----------------|-------------------|----------------|---------------------|-----------------------------|------|-----|-----|--------------|
|                 |                   |                |                     | $\varnothing$ <sup>3)</sup> | H    | H1  | H2  |              |
|                 |                   | m<br>kg        |                     |                             |      | mm  |     |              |
| TWU 3-0504-HS-I | 1~230 V, 50/60 Hz | 11.4           | Rp 1                | 80                          | 1120 | 300 | 820 | A, B, D      |
| TWU 3-0503-HS-I | 1~230 V, 50/60 Hz | 9.7            | Rp 1                | 80                          | 1065 | 275 | 790 | A, B, D      |
| TWU 3-0501-HS-I | 1~230 V, 50/60 Hz | 8.5            | Rp 1                | 80                          | 985  | 225 | 760 | A, B, D      |

<sup>1)</sup> On request, <sup>3)</sup> Max.  $\varnothing$  for power cable configuration in accordance with  $I_N$

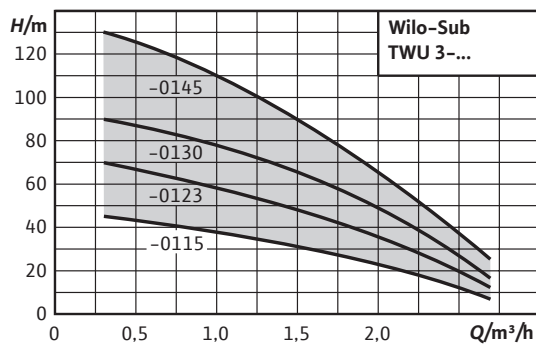


**Wilo-Sub TWU 3**



Multistage 3" submersible pump in tie strap version for vertical or horizontal installation

- Parts that come in contact with fluids are corrosion-free
- Integrated non-return valve
- Maintenance-friendly, rewindable motor



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

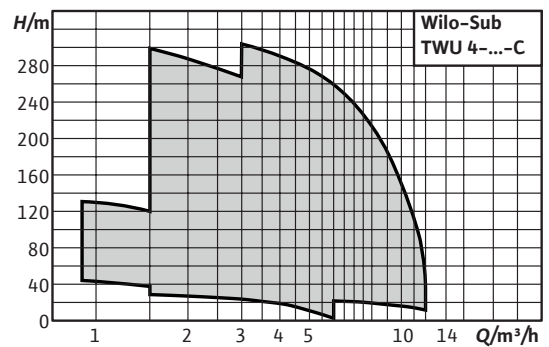


**Wilo-Sub TWU 4**



Multistage 4" submersible pump in tie strap version for vertical and horizontal installation

- Parts that come in contact with fluids are corrosion-free
- Integrated non-return valve
- Low-wearing due to floating impellers
- Maintenance-friendly motor



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

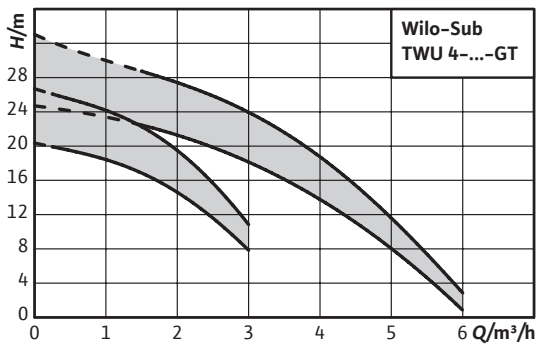


Wilo-Sub TWU 4-...-GT



Multistage 4" submersible pump in tie strap version for vertical and horizontal installation

- Low operating costs due to optimised hydraulics and efficient motors for targeted use in geothermal applications
- High annual performance factor (JAZ) through increased system effectiveness
- High operational reliability thanks to floating impellers and integrated non-return valve
- Easy installation via Quick Connect variant for quick and easy extension of the motor cable



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

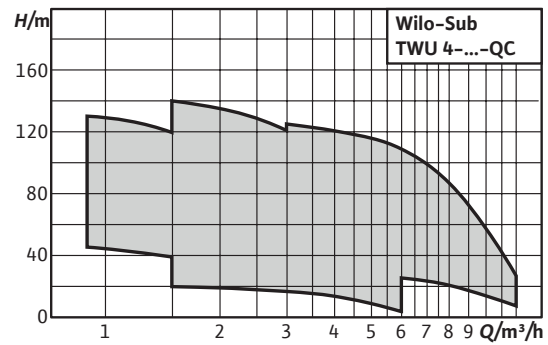


Wilo-Sub TWU 4-QC



Multistage 4" submersible pump in tie strap version for vertical and horizontal installation

- Parts that come in contact with fluids are corrosion-free
- Integrated non-return valve
- Low-wearing due to floating impellers
- Maintenance-friendly motor
- Quick and easy extension of motor cable, without dismantling the hydraulics



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

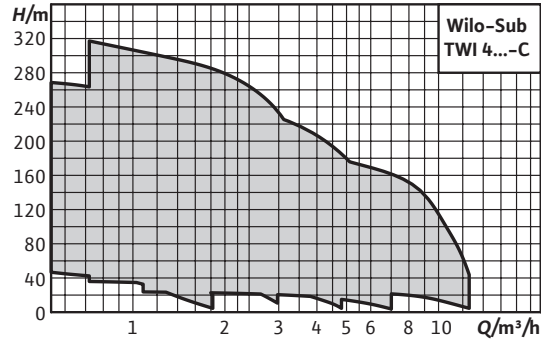


### Wilo-Sub TWI 4



Multistage 4" submersible pump in tie strap version for vertical or horizontal installation

- Long service life thanks to corrosion-resistant stainless steel, optionally in V4A quality
- ACS certified for drinking water applications
- A high degree of flexibility thanks to versions in the 4, 6, 8 and 10-inch area
- High range of performance from 1 to 250 m<sup>3</sup>/h



**Select 4**online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

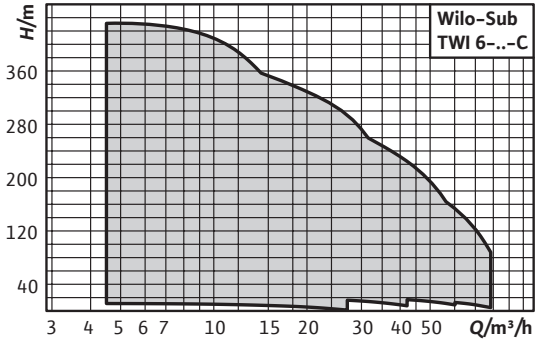


### Wilo-Sub TWI 6



Multistage 6" submersible pump in tie strap version for vertical or horizontal installation

- Long service life thanks to corrosion-resistant stainless steel, optionally in V4A quality
- ACS certified for domestic hot water applications
- A high degree of flexibility thanks to versions in the 4, 6, 8 and 10-inch area
- High range of performance from 1 to 250 m<sup>3</sup>/h



**Select 4**online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)



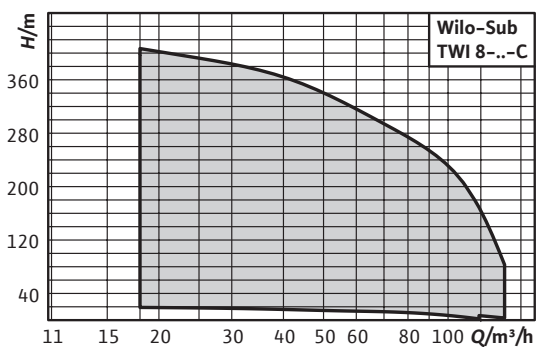


### Wilo-Sub TWI 8



Multistage 8" submersible pump in tie strap version for vertical or horizontal installation

- Long service life thanks to corrosion-resistant stainless steel, optionally in V4A quality
- ACS certified for domestic hot water applications
- A high degree of flexibility thanks to versions in the 4, 6, 8 and 10-inch area
- High range of performance from 1 to 250 m<sup>3</sup>/h



**Select 4online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

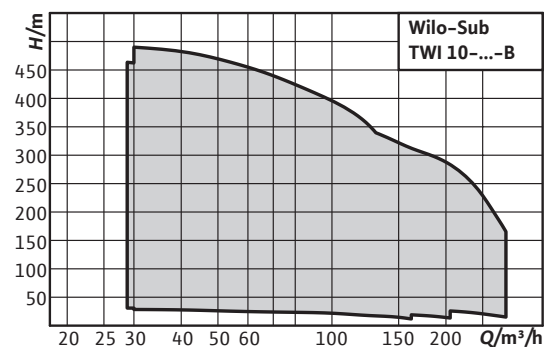


### Wilo-Sub TWI 10



Multistage 10" submersible pump in tie strap version for vertical or horizontal installation

- Optimised hydraulics with efficiency of up to 80 %.
- Long service life thanks to corrosion-resistant stainless steel, optionally in V4A quality
- ACS certified for domestic hot water applications
- High range of performance from 1 to 250 m<sup>3</sup>/h
- A high degree of flexibility thanks to versions in the 4, 6, 8 and 10-inch area



**Select 4online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

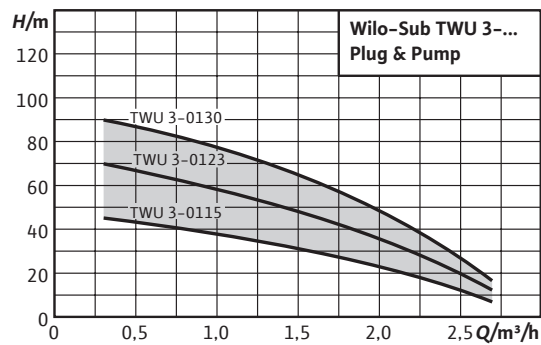


### Wilo-Sub TWU 3 Plug & Pump



Water-supply unit with submersible-motor pump, control and complete accessories.

- Easy installation due to preinstalled and pre-wired components
- Parts that come in contact with fluids are corrosion-free
- Integrated non-return valve



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

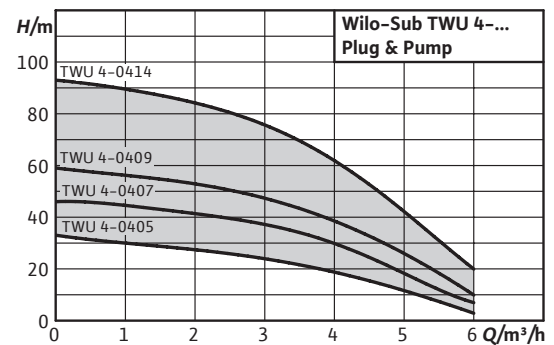


### Wilo-Sub TWU 4 Plug & Pump



Water-supply unit with submersible-motor pump, control and complete accessories.

- Easy installation due to preinstalled and pre-wired components
- Parts that come in contact with fluids are corrosion-free
- Integrated non-return valve
- Low-wearing due to floating impellers



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

**What is the difference between self-priming and non self-priming pumps and what do you have to consider?**

**Self-priming and non self-priming pumps**

A self-priming pump has a certain capacity to vent the inlet pipe, i.e. evacuate air. The pump may have to be filled several times during commissioning. The maximum negative suction head is theoretically 10.33 m and depends on the air pressure (1013 h Pa = normal) at a water temperature of 4 °C and 0 m above sea level. For technical reasons, a max. negative suction head  $H_s$  of just 7–8 m is achievable. This value not only comprises the height difference between the lowest possible water surface and the suction port of the pump, but also the resistance losses in connection pipes, pump and valves. When configuring the pump, it is necessary to consider that the negative suction head  $h_s$  must be incorporated into the delivery head to be configured with a negative sign.

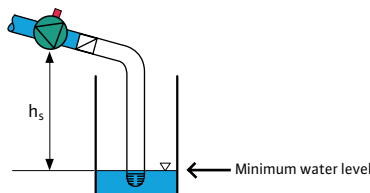
**A non self-priming pump** is unable to evacuate air from the inlet pipe. In non self-priming pumps, the pump and the inlet pipe must always be completely filled. If air gets into the pump because of leakages, e.g. at the stuffing box of the gate valve or because the foot valve does not close correctly in the inlet pipe, the pump and inlet pipe will have to be refilled.

**Instructions for laying the inlet pipe for self-priming pumps**

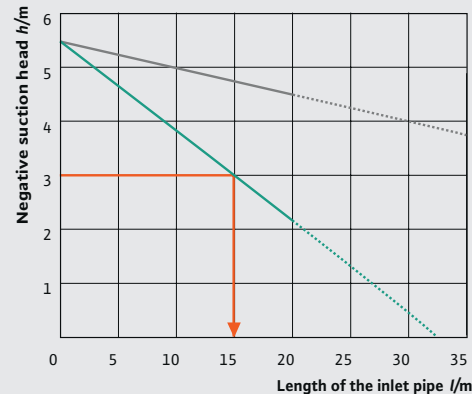
The inlet pipe must at least have the nominal diameter of the pump port, and if possible one nominal diameter step larger, and should be kept as short as possible. A long inlet pipe gives rise to increased friction resistance which severely restricts the negative suction head. The inlet pipe should always be routed sloping up to the pump, and if hose material is used as the inlet pipe then spiral suction hoses should be preferred (impermeability, strength). Leakages must be avoided at all costs; otherwise pump damage and malfunctions could occur in operation.

In suction mode, a foot valve is always to be recommended in order to prevent the pump and the inlet pipe from running dry. A foot valve with strainer also protects the pump and downstream systems against coarse impurities (leaves, wood, stones, insects, etc.). If a foot valve cannot be used, a non-return valve should be installed ahead of the pump (pump suction port) in suction mode.

Negative suction head of the pump  $h_s$



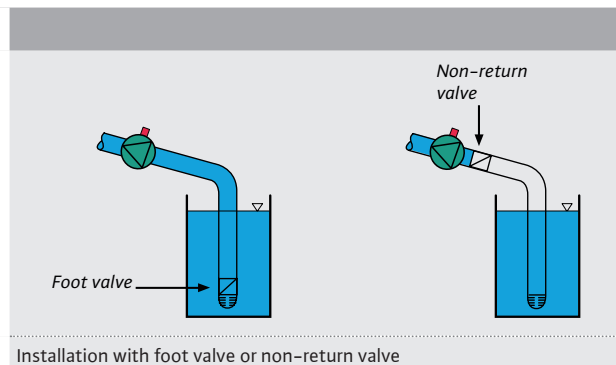
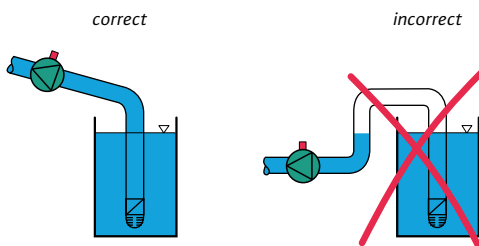
Inlet pipe and negative suction head of centrifugal pump



Inlet pipe: PE-HD, 1  
 Inlet pipe: PE-HD, 1 1/4  
 Volume flow: 3 m<sup>3</sup>/h

**Which technical implementing rules apply for rainwater utilisation systems?**

Laying the inlet pipe

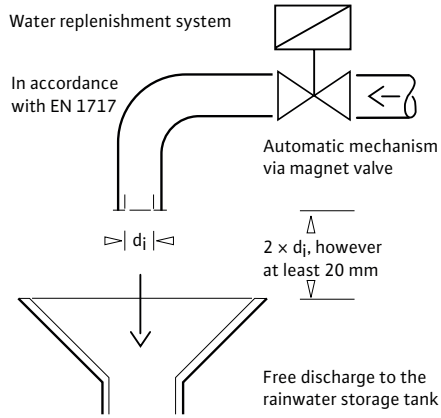


Installation with foot valve or non-return valve

Fresh water replenishment ensures the operability of the rainwater utilisation system when there is insufficient rain in dry periods. To protect the drinking water network, the fresh water replenishment must use a free outlet in accordance with EN 1717.

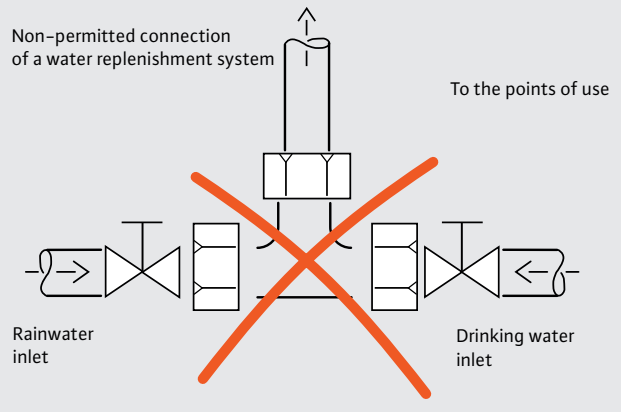
Thus preventing non-potable water from flowing back into the drinking water network. The possibility of flooding (e.g. backflow) must be excluded. Fresh water replenishment must be installed outside of the rainwater reservoir and the entry shaft. The flow of water must be visible at the overflow of the fresh water replenishment.

**correct**



The clearance distance between the drinking water supply line and the highest possible water level must be greater than or equal to the double inside diameter of the drinking water outlet, but at least 20 mm. Wilo recommendation: at least 30 mm.

**incorrect**



A direct connection of drinking water systems with non-drinking water systems is prohibited! Failure to comply with this rule may lead to decommissioning of the system, as well as claims for damages from the client and specialist tradesmen/women.

### 10 good reasons to use rainwater

1. Rainwater for a future worth living for. Protecting the environment is mandatory for keeping the world liveable for our children. With a rainwater utilisation system you are getting actively involved in the environment and by extension our children's future.
2. Environmental awareness in the spirit of the times. With a rainwater utilisation system you are showing that you can combine modern technology with ecological awareness. That is modern.
3. Rainwater utilisation can do a lot  
Thanks to modern technology, rainwater is utilised reliably and hygienically for garden irrigation, but also for use in toilets, washing machines and has many more applications where the use of valuable potable water would be a waste.
4. Rainwater utilisation is the most modern environmental technology  
German specialist companies for environmental technology in the rainwater utilisation sector have the best reputation in the world. Their sanitary and heating craftsmen have the know-how to integrate this technology competently into their building services.
5. Rainwater utilisation save money  
Up to 60 % potable water can be saved by rainwater utilisation – in many places there are also financial incentives. Even more important however is the preservation of the vital resource of water.
6. Rainwater utilisation:  
Rainwater utilisation will soon be as common as waste separation is today. It is an important prerequisite to get involved in rainwater utilisation now.
7. Rainwater utilisation in the home is safe  
Modern rainwater utilisation systems satisfy the stringent requirements of the German water regulations (which are some of the most stringent in the world) problem-free and assuredly.
8. With rainwater utilisation you are self-sufficient  
New technologies give us back a piece of our independence from the utility companies. Now make rainwater utilisation part of your own water supply.
9. Rainwater utilisation: Technology with future  
In recent years we have registered an above average increase in the installation of rainwater utilisation systems – this is proof of the future security of your investment.
10. Professional systems installed by professionals  
Modern rainwater utilisation systems are no “do-it-yourself” products, but are highly developed environmental technology. Opt for security and performance by having the installation carried out by a specialist from your sanitary and heating company.

### Consulting guide for pressure boosting systems for drinking water supply

Drinking water supply is provided for all participants and does not distinguish between existing or new installations. According to § 24, the provision of contaminated drinking water is equivalent to bodily injury caused by negligence. In the case of new installations or extensive alterations, fire extinguishing and drinking water systems must be disconnected in terms of supply.

#### Connection types

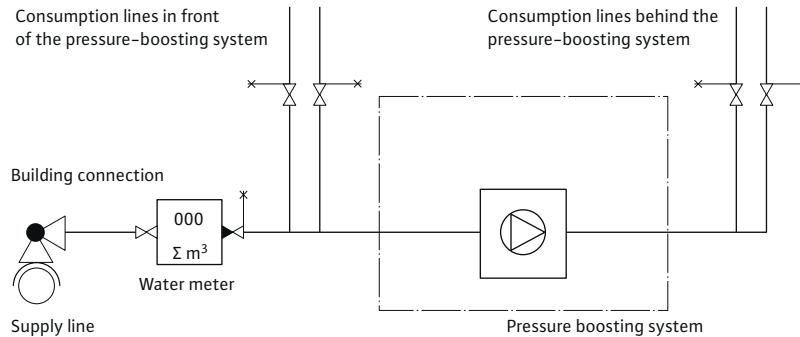
Pressure-boosting systems can be connected directly or indirectly. For hygienic reasons, an immediate connection is preferable to an indirect connection. Large diaphragm expansion tanks are no longer necessary from a technical point of view. The indirect connection is required:

- if the minimum supply pressure is < 100 kPa
- if the required residual pressure is not reached with maximum sampling
- to cover peak consumption that cannot be covered by the WVU

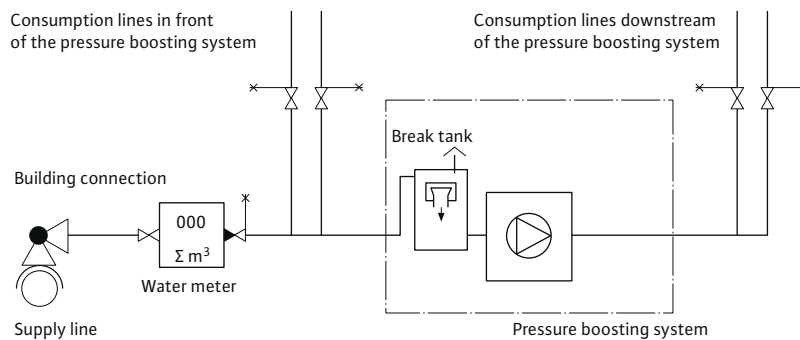


The connection type is determined in accordance with DIN 1988-500. Apart from the criteria provided, it is necessary to adapt the connection type with the respective WVU.

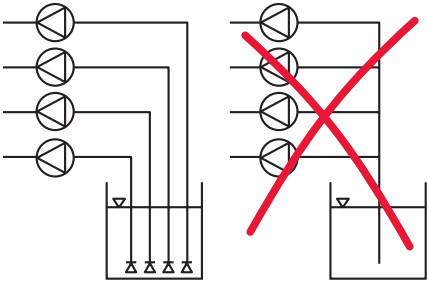
#### Direct connection (DIN 1988)



#### Indirect connection (DIN 1988)



**Pressure boosting system (DEA) in suction mode  
Representation of a pressure boosting system (DEA) with non self-priming pumps**

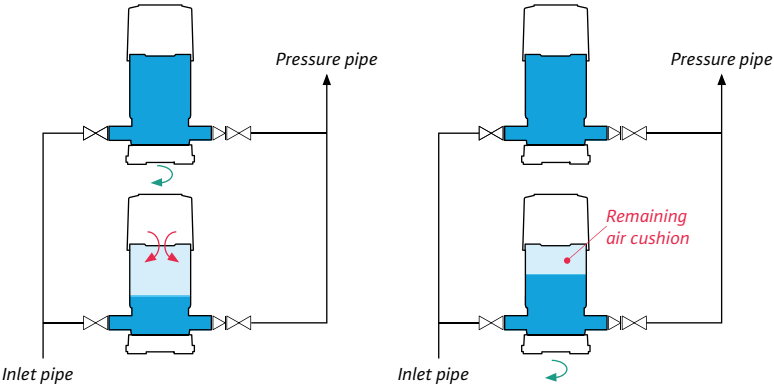


We recommend always providing a separate inlet pipe with a foot valve for each pump. In this case, the discharge side non-return valves (RV) are not needed. Systems with a collective inlet pipe are not recommended.

When operating non self-priming pumps in suction mode via a shared inlet pipe, it is possible that a running pump might lower the water level of the deactivated pump and suck air through the mechanical seal (GRD) into the pump at the same time. When changing the pump, the remaining air cushion can cause a dry run of the mechanical seal and significantly reduce the pump delivery head performance.

**Attention! Never with one inlet pipe! Always provide a separate inlet pipe for each pump.**

**Representation of the problem of a pressure boosting system (DEA) in suction mode with a shared inlet pipe**



**In multi-pump systems, a separate inlet pipe is required for each pump.**



### **How are Wilo submersible pumps built?**

Submersible pumps are centrifugal pumps which form a compact unit together with the motor. They pump clean or slightly contaminated water, require no maintenance and are distinguished by their high efficiency and long service life. The hydraulic component, single-stage or multistage in single-stream sectional construction, has radial or semi-axial impellers, depending on the required output. The housing has replaceable casing wear rings in the sealing gap area of the impellers. Shielded, fluid-lubricated friction bearings are used as plain bearings for the blades. Pressure connection optionally with non-return valve or pressure port with threaded or flange connection.

Single-phase current or three-phase current squirrel-cage motors with watertight insulated windings are used as submersible motors. The motor filling is drinking water or a Wilo-specific factory filling (antifreeze-protected). This is used for cooling the winding and for lubricating the friction of the plain bearings. Volume compensation while heating and cooling is achieved by means of a relief diaphragm in the lower part of the motor. The hydraulic axial thrust of the pump and the rotor weight are absorbed by the axial friction bearings. The motor is sealed against the fluid with a mechanical seal (SiC bearing surfaces) and/or with rotary shaft seals at the shaft outlet. The power supply cable connection with the motor is direct and pressure-tight.

### **Which standards are Wilo submersible pumps subject to?**

#### **DIN EN ISO 9001**

The Wilo quality system ensures that the quality standards are complied with in all operational areas in accordance with DIN EN ISO 9001:2000

#### **CE conformity**

Satisfaction of the safety-related requirements of the EC Machinery Directive for pumps and pump units; documentation of this matter is provided by the CE mark shown on every pump

#### **KTW approval**

KTW approval has been granted for the unproblematic use of plastic components, power supply cables and coatings in drinking water

#### **ISO 9906**

International standard for the inspection of pumps

#### **DIN EN 60034 (VDE)**

European standard for all electric motors

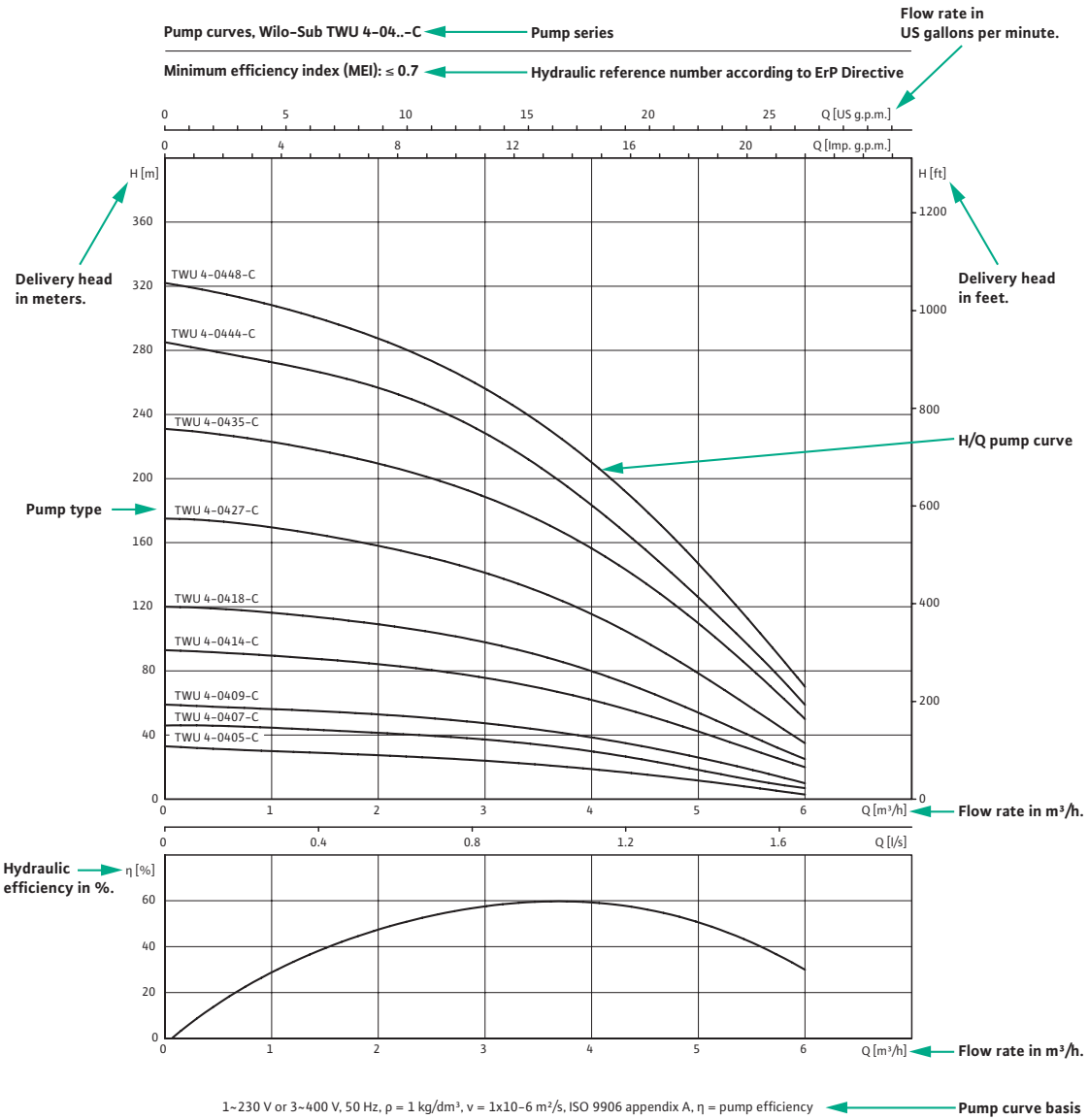
#### **VdS certificate**

The certificate documents the high quality and reliability of products specially made for fire protection



Pump curve graph

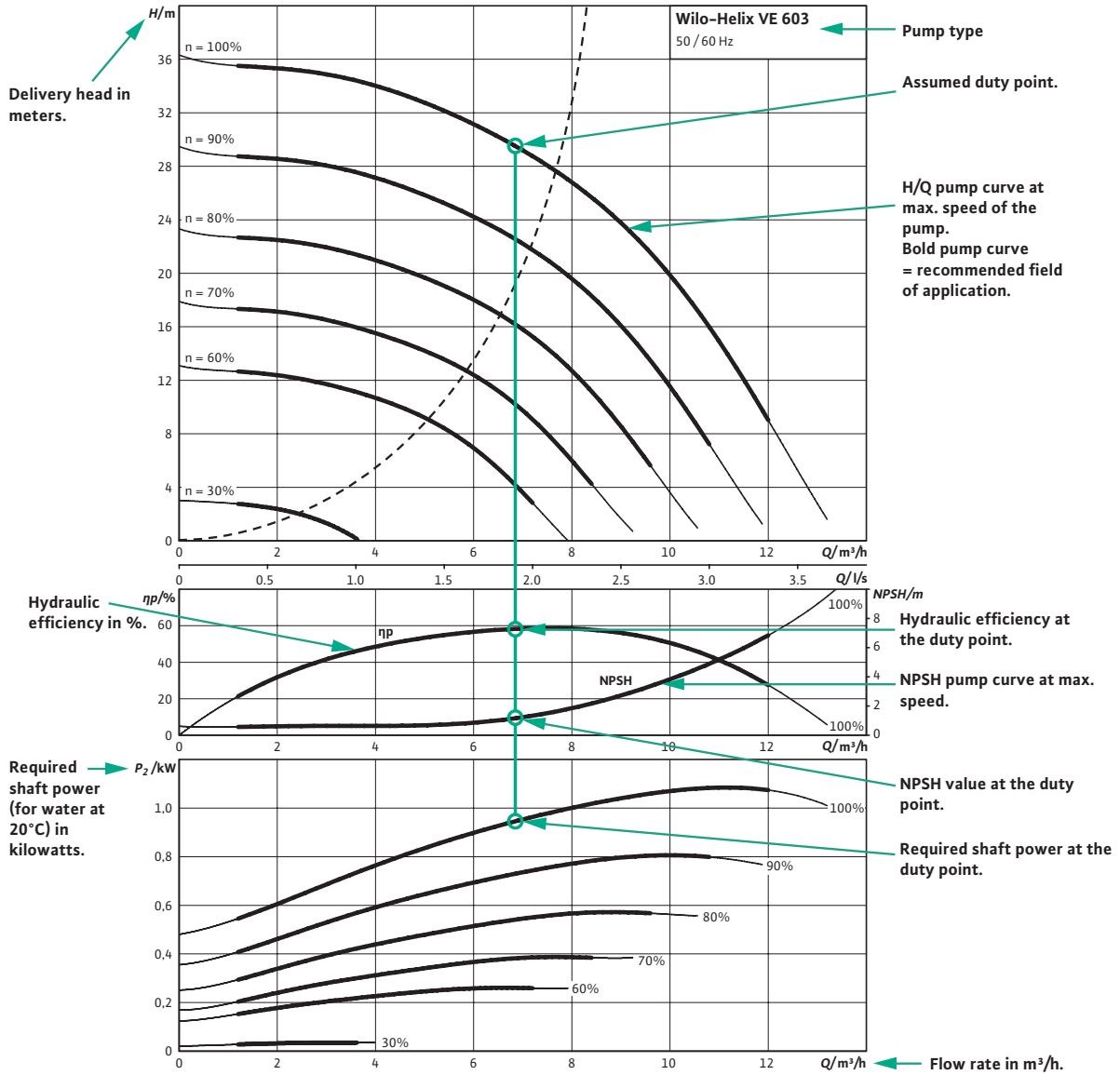
Wilo-Sub TWU 4 (example)



Water supply

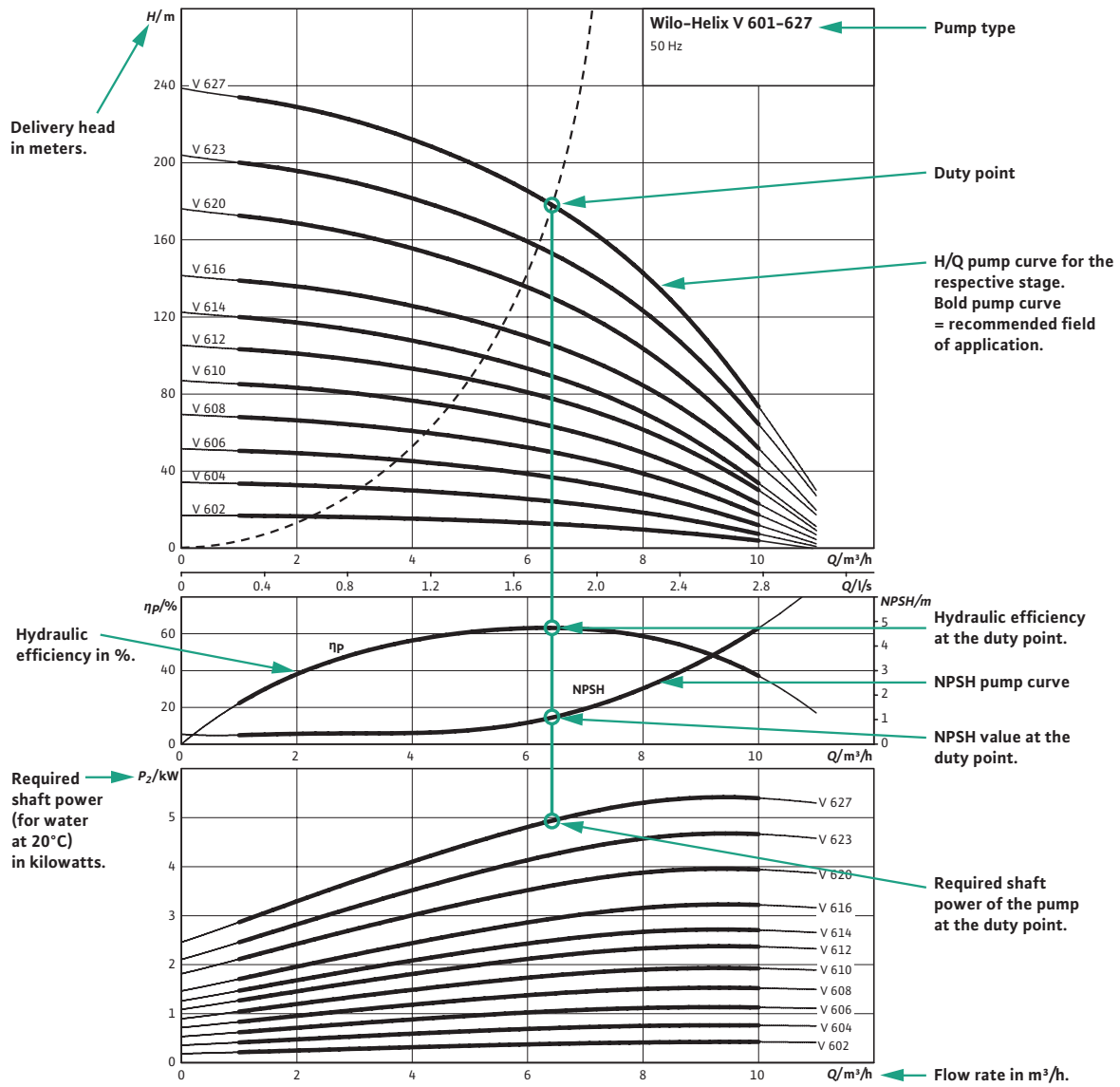
Pump curve graph

Wilo-Helix VE (example)



Pump curve graph

Wilo-Helix V (example)



Water supply





# DRAINAGE AND SEWAGE

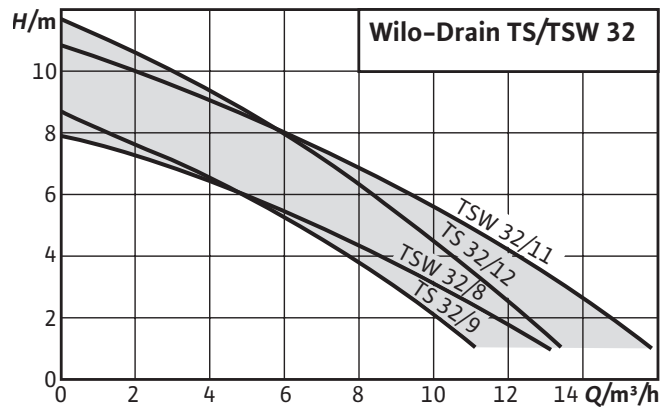


## Wilo-Drain TS/TSW 32

Submersible drainage pump

- Sturdy, impact-resistant stainless steel housing – perfect for mobile application
- Turbulator twister (TSW): constantly clean pump chamber and no generation of fluid-related odours
- Quick installation due to Plug & Pump (pump ready for connection)
- Sheath current cooling and motor temperature monitoring
- High-quality motor seal with additional dirt deflector
- Detachable connection cable and float switch





### Design

Submersible drainage pump

### Type key

Example: **Wilo-Drain TS 32/9 A**  
**TS** T = submersible pump  
 S = wastewater  
**32** Nominal diameter of pressure connection  
**/9** Max. delivery head [m]  
**A** With float switch

Example: **Wilo-Drain TSW 32/11 A**  
**TS** T = submersible pump  
 S = wastewater  
**W** W = with turbulator  
**32** Nominal diameter of pressure connection  
**/11** Max. delivery head [m]  
**A** With float switch

### Application

Pumping of  
 → Pre-cleaned sewage without faeces and long-fibre components  
 → Wastewater

### Technical data

→ Mains connection 1~230 V, 50 Hz  
 → Protection class IP 68  
 → Max. immersion depth 7 m  
 → Fluid temperature 3 – 35 °C, for short periods up to 3 min. max. 90 °C  
 → Cable length 10 m  
 → Free ball passage 10 mm  
 → Rp 1¼ pressure port, hose connection Ø 32 mm, R1

### Equipment/function

→ Ready-to-plug  
 → Motor monitoring via temperature  
 → Sheath current cooling  
 → Connecting cable

### Materials

→ Pump housing: 1.4301 (AISI 304)  
 → Impeller: SPL  
 → Shaft: 1.4401 (AISI 316)  
 → Shaft seal: NBR on motor side, carbon/ceramic on pump side  
 → Motor housing: 1.4301 (AISI 304)

### Description/design

Submersible pump for stationary and portable wet-well installation in fully automatic mode with attached float switch.

### Hydraulics

The pumps of the TS 32-series are equipped with a multi-channel impeller and have a free ball passage of 10 mm. The pressure connection is a vertical threaded connection. The Wilo-Drain TSW 32 twister function also ensures continuous turbulence in the suction area of the pump, preventing the sinking and settling of settling sediments. This results in a clean pump sump and reduces the build-up of odours. The Twister function can be disabled.

### Motor

Submersible motor in single-phase version with sheath current cooling (cooling by the pumped fluid between pump and motor housing) and built-in thermal overload protection with automatic reactivation.

**Seal**

The seal is created on the fluid side with a mechanical seal, on the motor side with a rotary shaft seal. The mechanical seal is also equipped with a dirt deflector. A sealing chamber with a white-oil filling is located between the gaskets.

**Cable**

The pump is equipped with a 10 m connection cable with shockproof plug and an attached float switch.

**Scope of delivery**

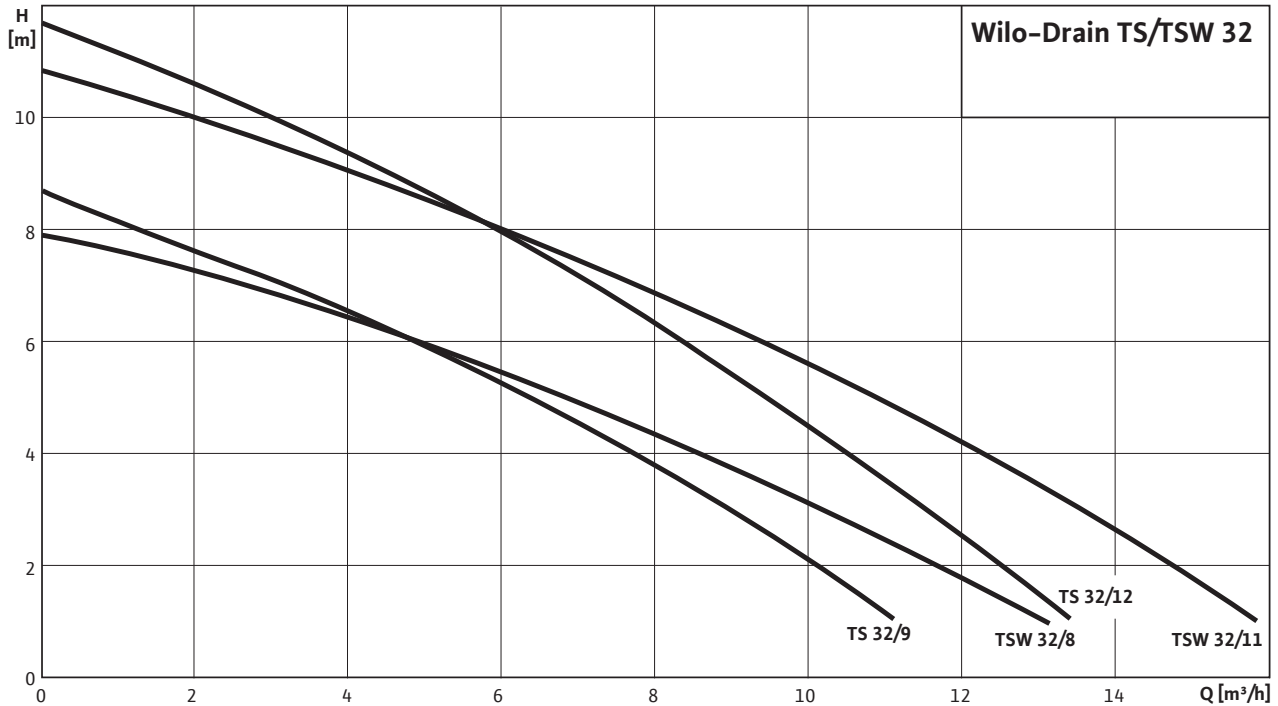
Pump ready for connection with cable, plug and attached float switch, supplied non-return valve and hose connector (Ø 32 mm, R1), installation and operating instructions.

**Configuration**

For outdoor installation, a residual-current device with a trigger current of 30 mA according to EN 60335-2.41 must be provided onsite!

**Pump curves Wilo-Drain TS/TSW 32 - 50 Hz - 2900 rpm**

Vortex impeller - Free ball passage: 10 mm



Pump curves in accordance with ISO 9906, Appendix A.

**Information for order placements**

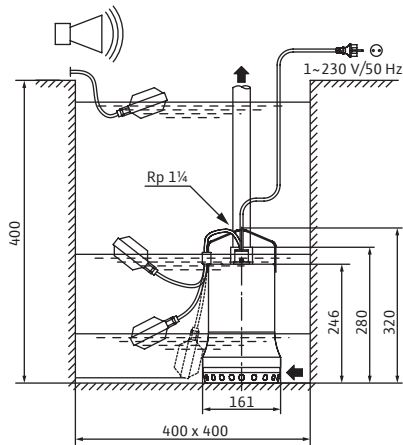
| Wilo-Drain... | Mains connection | Art No. |
|---------------|------------------|---------|
| TS 32/9-A     | 1~230 V, 50 Hz   | 6043943 |
| TS 32/12-A    | 1~230 V, 50 Hz   | 6043945 |
| TSW 32/8-A    | 1~230 V, 50 Hz   | 6045167 |
| TSW 32/11-A   | 1~230 V, 50 Hz   | 6045166 |



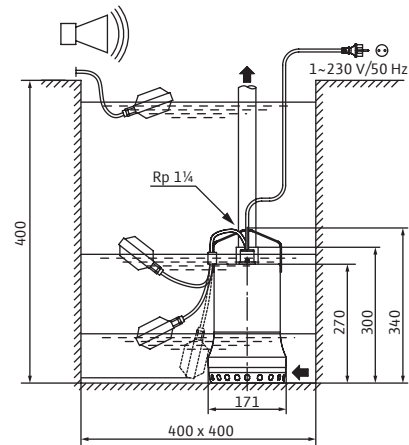
| Technical data                                            |                  |                  |                  |                  |
|-----------------------------------------------------------|------------------|------------------|------------------|------------------|
| Pump type                                                 | TS 32/9-A        | TS 32/12-A       | TSW 32/8-A       | TSW 32/11-A      |
| <b>Motor data</b>                                         |                  |                  |                  |                  |
| Mains connection                                          | 1~230 V, 50 Hz   | 1~230 V, 50 Hz   | 1~230 V, 50 Hz   | 1~230 V, 50 Hz   |
| Rated current $I_N$                                       | 2.2 A            | 3.4 A            | 2.2 A            | 3.6 A            |
| Rated power $P_2$                                         | 0.3 kW           | 0.6 kW           | 0.3 kW           | 0.6 kW           |
| Power consumption $P_1$                                   | 0.5 kW           | 0.8 kW           | 0.5 kW           | 0.9 kW           |
| Activation type                                           | Direct           | Direct           | Direct           | Direct           |
| Rated speed $n$                                           | 2900 rpm         | 2900 rpm         | 2900 rpm         | 2900 rpm         |
| Insulation class                                          | B                | B                | B                | B                |
| Max. switching frequency                                  | 50               | 50               | 50               | 50               |
| <b>Cable</b>                                              |                  |                  |                  |                  |
| Length of connecting cable                                | 10 m             | 10 m             | 10 m             | 10 m             |
| Cable type                                                | H07RN-F          | H07RN-F          | H07RN-F          | H07RN-F          |
| Cable cross-section                                       | 3G1              | 3G1              | 3G1              | 3G1              |
| Type of connecting cable                                  | Detachable       | Detachable       | Detachable       | Detachable       |
| Mains plug                                                | Shock-proof      | Shock-proof      | Shock-proof      | Shock-proof      |
| <b>Unit</b>                                               |                  |                  |                  |                  |
| Pressure connection                                       | Rp 1½            | Rp 1½            | Rp 1½            | Rp 1½            |
| Free ball passage                                         | 10 mm            | 10 mm            | 10 mm            | 10 mm            |
| Operating mode (immersed)                                 | S1               | S1               | S1               | S1               |
| Operating mode (non-immersed)                             | S3-25%           | S3-25%           | S3-25%           | S3-25%           |
| Max. immersion depth                                      | 7.00 m           | 7.00 m           | 7.00 m           | 7.00 m           |
| Protection class                                          | IP 68            | IP 68            | IP 68            | IP 68            |
| Fluid temperature $T$                                     | +3 ... +35 °C    | +3 ... +35 °C    | +3 ... +35 °C    | +3 ... +35 °C    |
| Max. fluid temperature, for short periods up to 3 min $T$ | 90 °C            | 90 °C            | 90 °C            | 90 °C            |
| Weight approx. $m$                                        | 7 kg             | 7.8 kg           | 7 kg             | 7.8 kg           |
| <b>Equipment/function</b>                                 |                  |                  |                  |                  |
| Float switch                                              | •                | •                | •                | •                |
| Motor protection                                          | WSK              | WSK              | WSK              | WSK              |
| Explosion protection                                      | -                | -                | -                | -                |
| <b>Materials</b>                                          |                  |                  |                  |                  |
| Static seal                                               | NBR              | NBR              | NBR              | NBR              |
| Impeller                                                  | PLC              | PLC              | PLC              | PLC              |
| Sealing on motor side                                     | NBR              | NBR              | NBR              | NBR              |
| Mechanical seal                                           | Carbon/ceramic   | Carbon/ceramic   | Carbon/ceramic   | Carbon/ceramic   |
| Motor housing                                             | 1.4301           | 1.4301           | 1.4301           | 1.4301           |
| Pump housing                                              | 1.4301 [AISI304] | 1.4301 [AISI304] | 1.4301 [AISI304] | 1.4301 [AISI304] |

$P_1$  refers to the maximum power consumption. All of the data applies to 1~230 V, 50 Hz and a density of 1 kg/dm<sup>3</sup>.

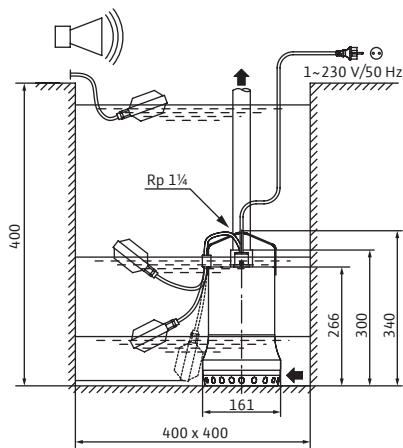
Dimension drawing Wilo-Drain TS 32/9-A



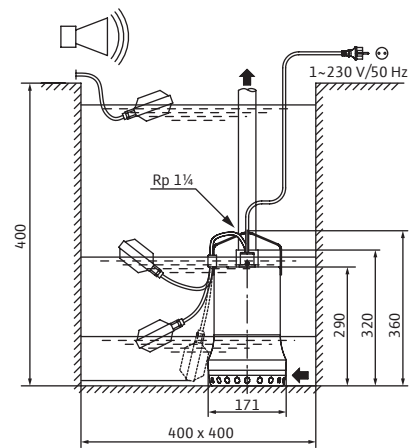
Dimension drawing Wilo-Drain TS 32/12-A



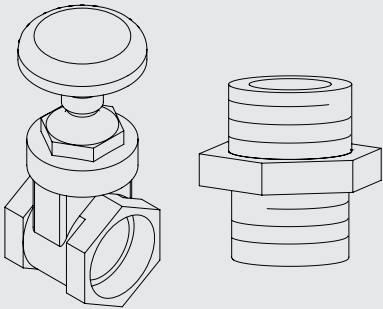
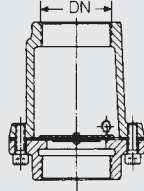
Dimension drawing Wilo-Drain TSW 32/8-A



Dimension drawing Wilo-Drain TSW 32/11-A



Mechanical accessories

| Type                          | Image                                                                             | Description                                                                                                                                                                                                                        | Art no.          |
|-------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <p>Gate valve set Rp 1¼</p>   |  | <p>Made of red brass, comprising a coupling sleeve slider with female thread Rp 1¼ PN 16 RG, and double nipple with male thread 1¼, for mounting the gate valve directly behind the non-return valve on pressure outlet DN 32.</p> | <p>2528652</p>   |
| <p>Non-return valve Rp 1¼</p> |  | <p>Made of plastic, with draining screw, rated pressure PN 4 bar, female thread Rp 1¼ for DN 32 connection</p>                                                                                                                     | <p>501533696</p> |



**Wilo-Drain LP**



Self-priming drainage pump with standard motor for dry well installation

- High operational safety
- Simple handling
- Easy operation



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

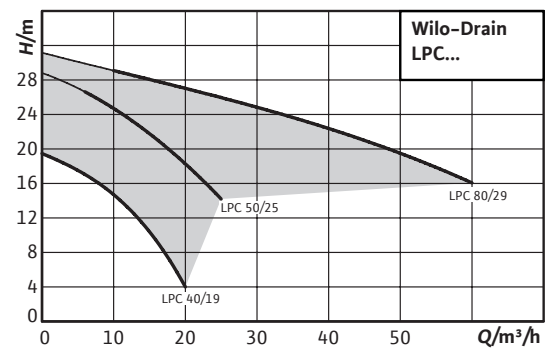


**Wilo-Drain LPC**



Self-priming drainage pump with standard motor for dry well installation

- Long service life
- Heavy-duty design
- Easy operation
- Easy maintenance
- Flexible application



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All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

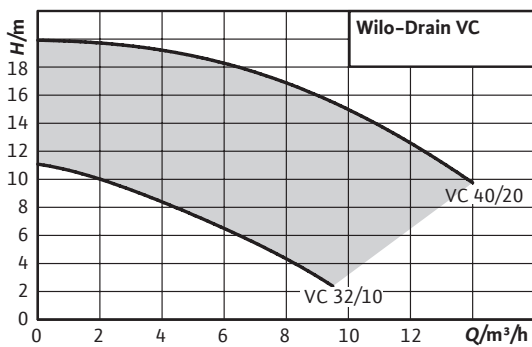


Wilo-Drain VC



Non-submersible pedestal pump with standard motor

- For fluid temperatures up to 95 °C
- Long service life
- Easy operation due to the attached float switch
- Long standstill times possible
- Built-in motor protection by thermal relay



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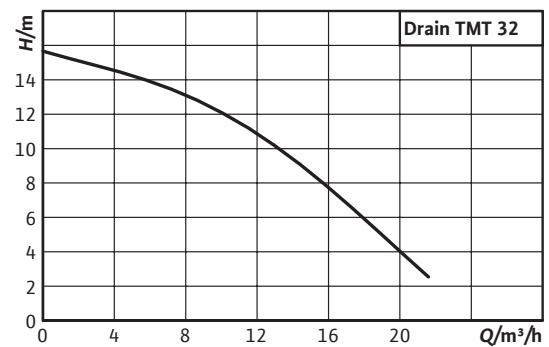


Wilo-Drain TMT/TMC



Submersible drainage pump

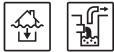
- For fluid temperatures up to 95 °C
- Cable inlet (cast)
- Motor temperature monitoring



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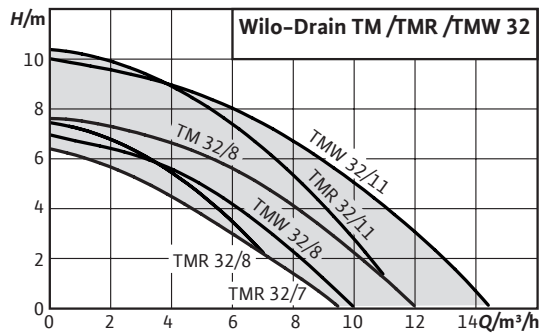


Wilo-Drain TM/TMW/TMR 32



Submersible drainage pump

- Minimum residual water level of 2 mm (only TMR version)
- Ergonomic handle, low weight, user-friendly due to ready-to-plug version (Plug & Pump)
- Operational reliability due to integrated sheath current cooling, mechanical seal with sealing chamber and stainless steel-encapsulated motor
- Cable length 4 to 10 m, depending on type
- Fluid temperature: max. 90 °C



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All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

Wilo-Drain TS 40

Wilo-Drain TS 50-65

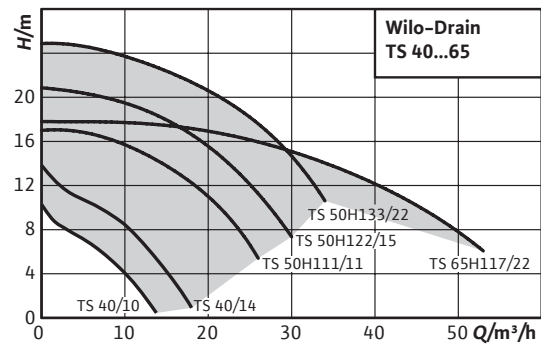


Wilo-Drain TS 40-65



Submersible drainage pump

- Low weight
- Wide performance range
- Oil barrier chamber
- Attached float switch and plug (A-model) enable easy operation



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All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

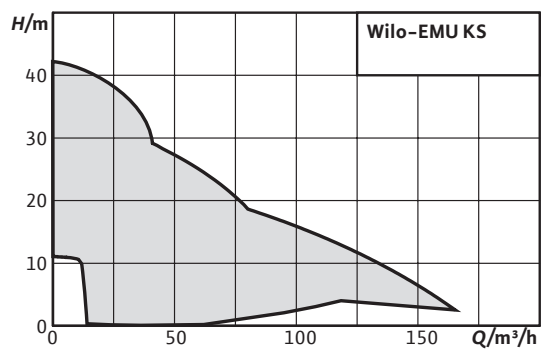


### Wilo-EMU KS



Submersible drainage pump

- Long service life
- Heavy-duty design
- Slurping operation possible
- Suitable for continuous duty (S1)
- Ready-to-plug



**Select 4**online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)



## Wilo-Rexa CUT

Submersible sewage pump with macerator for intermittent duty and continuous duty, for stationary and portable wet well installation.

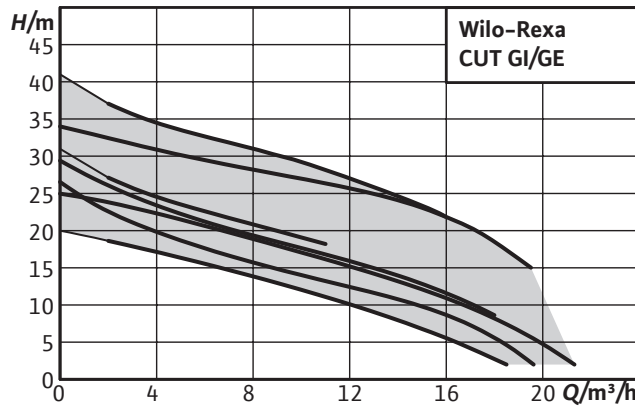
- High reliability through ATEX approval and longitudinally watertight cable inlet (CUT GE...)
- High operational reliability through spherically-formed macerator with pulling cut
- Long service life through a high-quality motor seal with two independent mechanical seals and optional pencil electrode for sealing chamber control



combined with  
Wilo-Port 800







Series extension



**Design**

Submersible sewage pump with macerator for intermittent duty and continuous duty, for stationary and portable wet well installation.

**Type key**

Example: **Wilo-Rexa CUT GE03.26/P-T15-2-540X/P**

- Rexa** Submersible sewage pump with retrodynamic hydraulics
- CUT** Series with macerator
- GE** Hydraulics version:  
GI = interior macerator  
GE = external macerator
- 03** Nominal diameter pressure connection:  
03 = DN 32  
04 = DN 40
- 26** Zero-delivery head in m
- P** Motor version:  
S = stainless steel motor housing  
P = cast iron housing
- T** Mains connection version:  
M = 1~  
T = 3~
- 15** Value/10 = motor power  $P_2$  in kW
- 2** Number of poles
- 5** Frequency (5 = 50 Hz, 6 = 60 Hz)
- 40** Code for rated voltage
- X** Ex-rated  
Without supplement = without Ex-rated  
X = with Ex-rated
- P** Additional electrical equipment:  
without addition = with bare cable end  
P = with plug

**Application**

- Pumping of
  - Sewage containing faeces
  - Pre-cleaned sewage without faeces and long-fibre components
  - Wastewater

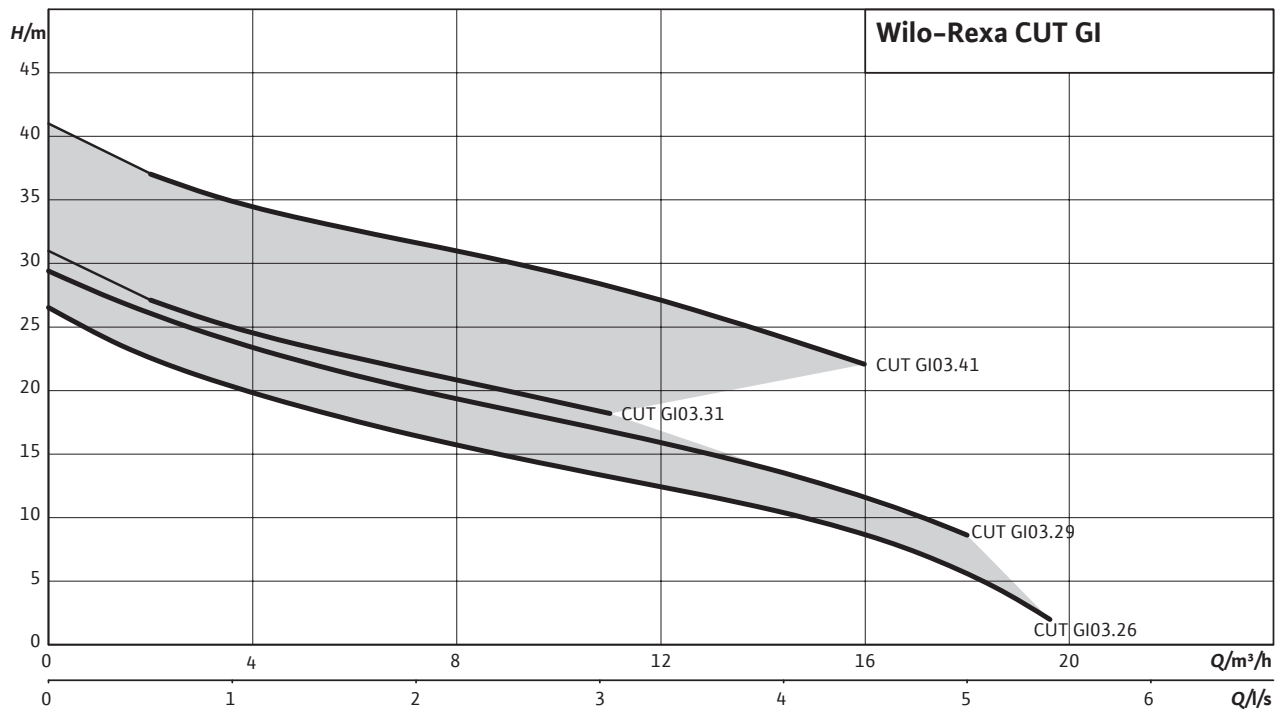
**Technical data**

- Mains connection: 1~230 V, 50 Hz or 3~400 V, 50 Hz
- Immersed operating mode: S1
- Non-immersed operating mode: S2-15 min/S2-30 min; S3 10%/S3 25% (motor-dependent)
- Protection class: IP 68
- Insulation class: F
- Fluid temperature: 3...40 °C, max. 60 °C for 3 min
- Max. immersion depth: 20 m
- Cable length: 10 m

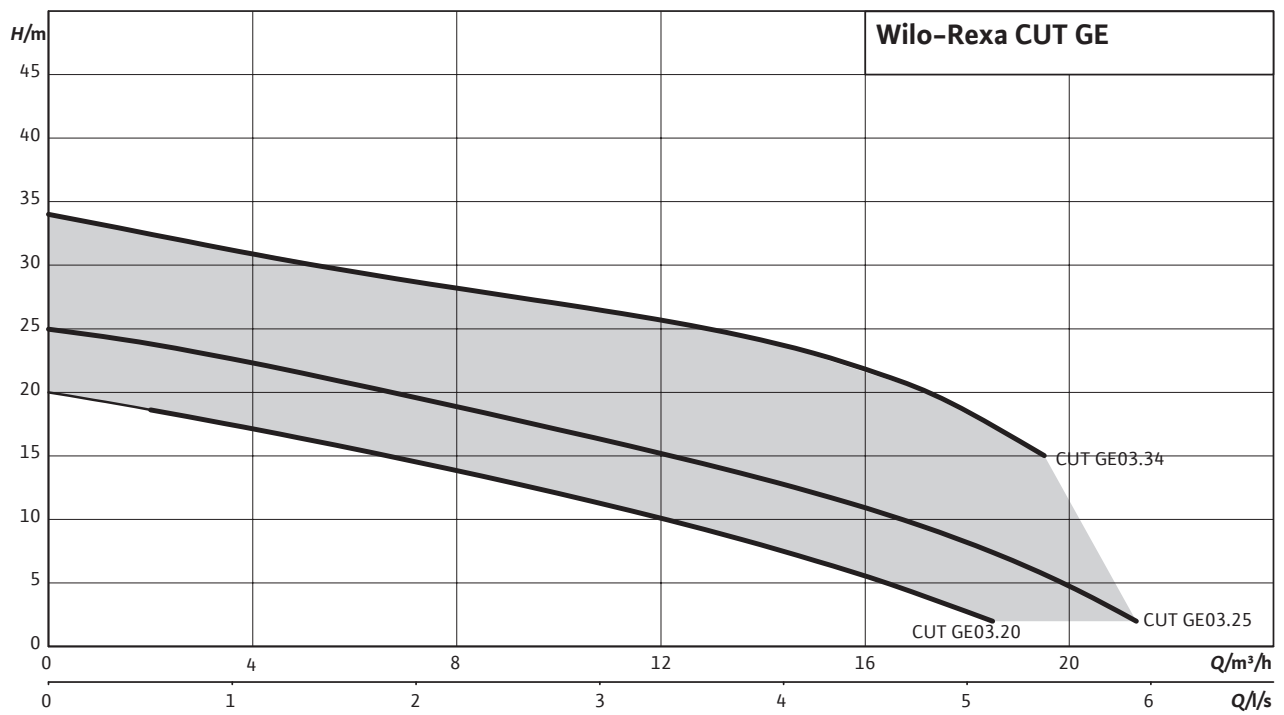
**Equipment/function**

- Macerator with internal or external blade and pulling cut
- Winding temperature monitoring with bimetallic strip
- ATEX approval (with motor version "P")

Duty chart Wilo-Rexa CUT GI...

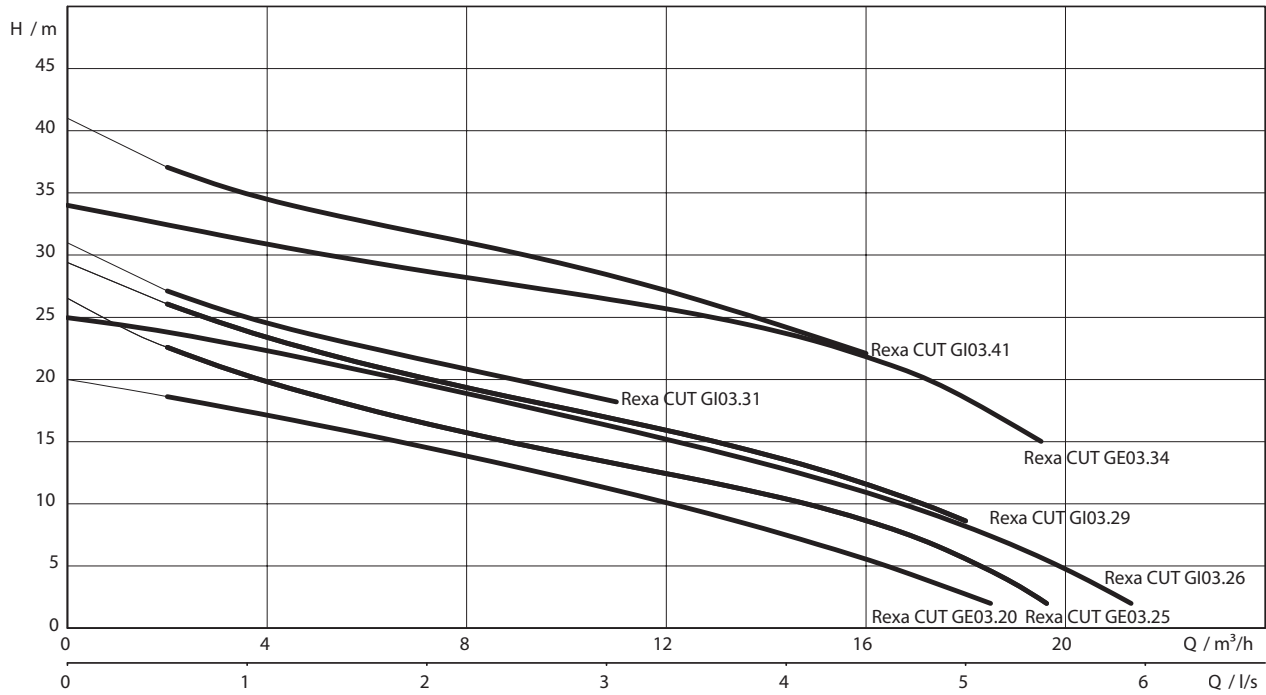


Duty chart Wilo-Rexa CUT GE...



Pump curves Wilo-Rexa CUT - 50 Hz - No. of poles: 2

Single-channel impeller with macerator



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

| Wilo-Rexa CUT             | Mains connection | Explosion protection | Art No. |
|---------------------------|------------------|----------------------|---------|
| CUT GE03.20/P-T15-2-540X  | 3~400 V, 50 Hz   | ⊕                    | 6075981 |
| CUT GE03.25/P-T25-2-540X  | 3~400 V, 50 Hz   | ⊕                    | 6069866 |
| CUT GE03.34/P-T39-2-540X  | 3~400 V, 50 Hz   | ⊕                    | 6069867 |
| CUT GI03.26/S-M15-2-523/P | 1~230 V, 50 Hz   | -                    | 6081534 |
| CUT GI03.26/S-T15-2-540   | 3~400 V, 50 Hz   | -                    | 6069868 |
| CUT GI03.29/S-M15-2-523/P | 1~230 V, 50 Hz   | -                    | 6081535 |
| CUT GI03.29/S-T15-2-540   | 3~400 V, 50 Hz   | -                    | 6075983 |
| CUT GI03.31/S-M15-2-523/P | 1~230 V, 50 Hz   | -                    | 6081536 |
| CUT GI03.31/S-T15-2-540   | 3~400 V, 50 Hz   | -                    | 6080483 |
| CUT GI03.41/S-T25-2-540   | 3~400 V, 50 Hz   | -                    | 6080486 |

| Technical data                  |                          |                          |                          |                           |                         |
|---------------------------------|--------------------------|--------------------------|--------------------------|---------------------------|-------------------------|
| Pump type                       | CUT GE03.20/P-T15-2-540X | CUT GE03.25/P-T25-2-540X | CUT GE03.34/P-T39-2-540X | CUT GI03.26/S-M15-2-523/P | CUT GI03.26/S-T15-2-540 |
| Mains connection                | 3~400 V, 50 Hz           | 3~400 V, 50 Hz           | 3~400 V, 50 Hz           | 1~230 V, 50 Hz            | 3~400 V, 50 Hz          |
| <b>Unit</b>                     |                          |                          |                          |                           |                         |
| Pressure connection             | DN 32/40, Rp 1¼          | DN 32/40, Rp 1¼          | DN 32/40, Rp 1¼          | DN 32/40, Rp 1¼           | DN 32/40, Rp 1¼         |
| Max. volume flow $Q_{max}$      | 18.5 m³/h                | 21.5 m³/h                | 19.5 m³/h                | 19.5 m³/h                 | 19.5 m³/h               |
| Max. delivery head $H_{max}$    | 20.00 m                  | 25.00 m                  | 34.00 m                  | 26.50 m                   | 26.50 m                 |
| Operating mode (immersed)       | S1                       | S1                       | S1                       | S1                        | S1                      |
| Operating mode (non-immersed)   | S2-30 min / S3-25%       | S2-30 min / S3-25%       | S2-30 min / S3-25%       | S2-15 min / S3-10%        | S2-15 min / S3-10%      |
| Max. immersion depth            | 20 m                     | 20 m                     | 20 m                     | 20 m                      | 20 m                    |
| Protection class                | IP 68                    | IP 68                    | IP 68                    | IP 68                     | IP 68                   |
| Fluid temperature $T$           | +3 ... +40 °C            | +3 ... +40 °C            | +3 ... +40 °C            | +3 ... +40 °C             | +3 ... +40 °C           |
| Weight approx. $m$              | 43.7 kg                  | 48 kg                    | 58.9 kg                  | 32.3 kg                   | 32.7 kg                 |
| <b>Motor data</b>               |                          |                          |                          |                           |                         |
| Rated current $I_N$             | 3.6 A                    | 5.5 A                    | 8.5 A                    | 9.3 A                     | 3.6 A                   |
| Starting current                | -                        | 31 A                     | 66 A                     | -                         | -                       |
| Rated power $P_2$               | 1.5 kW                   | 2.5 kW                   | 3.9 kW                   | 1.5 kW                    | 1.5 kW                  |
| Power consumption $P_1$         | 2.1 kW                   | 3.2 kW                   | 4.8 kW                   | 2.1 kW                    | 2.1 kW                  |
| Activation type                 | Direct                   | Direct                   | Direct                   | Direct                    | Direct                  |
| Rated speed $n$                 | 2850 rpm                 | 2848 rpm                 | 2879 rpm                 | 2852 rpm                  | 2850 rpm                |
| Insulation class                | F                        | F                        | F                        | F                         | F                       |
| Recommended switching frequency | 20 1/h                   | 20 1/h                   | 20 1/h                   | -                         | -                       |
| Max. switching frequency        | 50 1/h                   | 50 1/h                   | 50 1/h                   | 30 1/h                    | 30 1/h                  |
| Permitted voltage tolerance     | ±10                      | ±10                      | ±10                      | ±10                       | ±10                     |
| <b>Cable</b>                    |                          |                          |                          |                           |                         |
| Length of connecting cable      | 10 m                     | 10 m                     | 10 m                     | 10 m                      | 10 m                    |
| Cable type                      | H07RN-F                  | H07RN-F                  | H07RN-F                  | H07RN-F                   | H07RN-F                 |
| Cable cross-section             | 7G1,5                    | 7G1,5                    | 7G1,5                    | 3G1                       | 6G1                     |
| Type of connecting cable        | Detachable               | Detachable               | Detachable               | Detachable                | Detachable              |
| Mains plug                      | -                        | -                        | -                        | •                         | -                       |
| <b>Equipment/function</b>       |                          |                          |                          |                           |                         |
| Float switch                    | -                        | -                        | -                        | -                         | -                       |
| Motor protection                | Bimetall                 | Bimetall                 | Bimetall                 | Bimetall                  | Bimetall                |
| Explosion protection            | ATEX                     | ATEX                     | ATEX                     | -                         | -                       |
| <b>Materials</b>                |                          |                          |                          |                           |                         |
| Static seal                     | NBR                      | NBR                      | NBR                      | NBR                       | NBR                     |
| Impeller                        | EN-GJL-250               | EN-GJL-250               | EN-GJL-250               | EN-GJL-250                | EN-GJL-250              |
| Sealing on motor side           | Carbon/steatite          | Carbon/steatite          | Carbon/steatite          | Carbon/steatite           | Carbon/steatite         |
| Mechanical seal                 | SiC/SiC                  | SiC/SiC                  | SiC/SiC                  | SiC/SiC                   | SiC/SiC                 |
| Motor housing                   | EN-GJL-250               | EN-GJL-250               | EN-GJL-250               | 1.4301                    | 1.4301                  |
| Pump housing                    | EN-GJL-250               | EN-GJL-250               | EN-GJL-250               | EN-GJL-250                | EN-GJL-250              |
| Pump shaft                      | 1.4021 [AISI420]         | 1.4021 [AISI420]         | 1.4021 [AISI420]         | 1.4021 [AISI420]          | 1.4021 [AISI420]        |

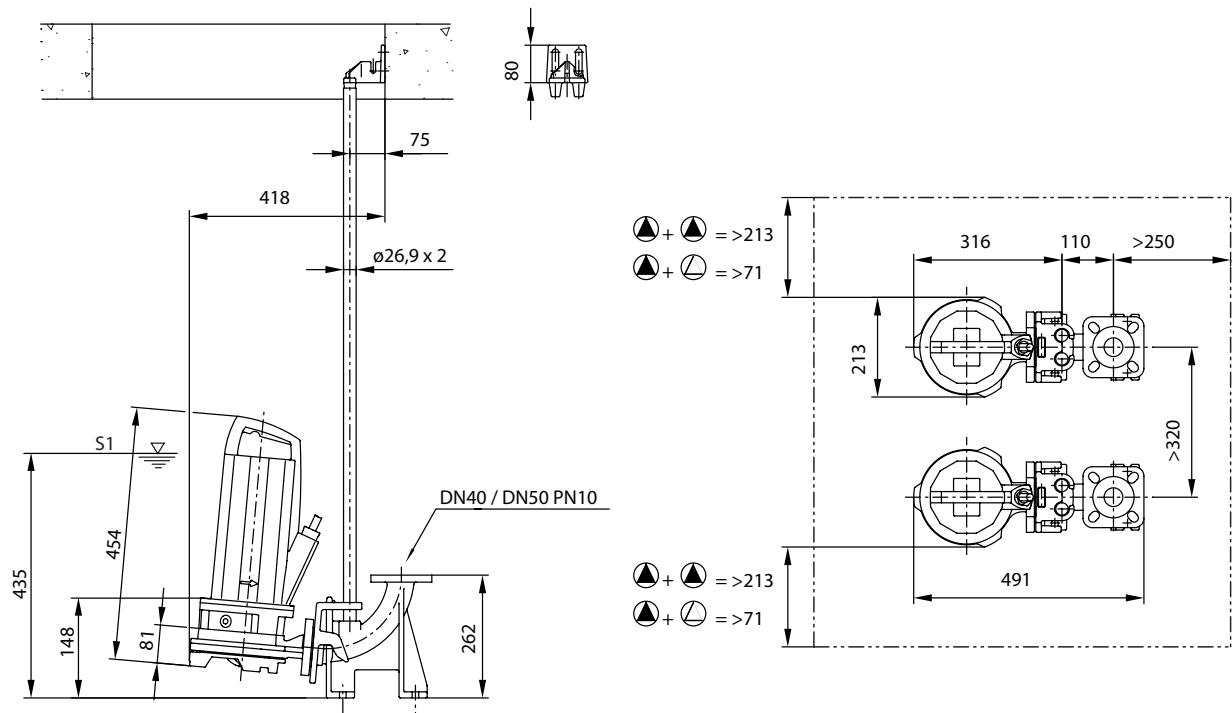
• = available, - = not available; o = optional

| Technical data                  |                               |                             |                               |                             |                             |
|---------------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|-----------------------------|
| Pump type                       | CUT GI03.29/S-<br>M15-2-523/P | CUT GI03.29/S-<br>T15-2-540 | CUT GI03.31/S-<br>M15-2-523/P | CUT GI03.31/S-<br>T15-2-540 | CUT GI03.41/S-<br>T25-2-540 |
| Mains connection                | 1~230 V, 50 Hz                | 3~400 V, 50 Hz              | 1~230 V, 50 Hz                | 3~400 V, 50 Hz              | 3~400 V, 50 Hz              |
| <b>Unit</b>                     |                               |                             |                               |                             |                             |
| Pressure connection             | DN 32/40, Rp 1¼               | DN 32/40, Rp 1¼             | DN 32/40, Rp 1¼               | DN 32/40, Rp 1¼             | DN 32/40, Rp 1¼             |
| Max. volume flow $Q_{max}$      | 18 m³/h                       | 18 m³/h                     | 11 m³/h                       | 11 m³/h                     | 16 m³/h                     |
| Max. delivery head $H_{max}$    | 29.50 m                       | 29.50 m                     | 31.00 m                       | 31.00 m                     | 41.00 m                     |
| Operating mode (immersed)       | S1                            | S1                          | S1                            | S1                          | S1                          |
| Operating mode (non-immersed)   | S2-15 min / S3-10%            | S2-15 min / S3-10%          | S2-15 min / S3-10%            | S2-15 min / S3-10%          | S2-15 min / S3-10%          |
| Max. immersion depth            | 20 m                          | 20 m                        | 20 m                          | 20 m                        | 20 m                        |
| Protection class                | IP 68                         | IP 68                       | IP 68                         | IP 68                       | IP 68                       |
| Fluid temperature $T$           | +3 ... +40 °C                 | +3 ... +40 °C               | +3 ... +40 °C                 | +3 ... +40 °C               | +3 ... +40 °C               |
| Weight approx. $m$              | 32.5 kg                       | 32.9 kg                     | 31.8 kg                       | 32.2 kg                     | 36.3 kg                     |
| <b>Motor data</b>               |                               |                             |                               |                             |                             |
| Rated current $I_N$             | 9.3 A                         | 3.6 A                       | 9.3 A                         | 3.6 A                       | 5.5 A                       |
| Starting current                | -                             | -                           | -                             | -                           | -                           |
| Rated power $P_2$               | 1.5 kW                        | 1.5 kW                      | 1.5 kW                        | 1.5 kW                      | 2.5 kW                      |
| Power consumption $P_1$         | 2.1 kW                        | 2.1 kW                      | 2.1 kW                        | 2.1 kW                      | 3.2 kW                      |
| Activation type                 | Direct                        | Direct                      | Direct                        | Direct                      | Direct                      |
| Rated speed $n$                 | 2852 rpm                      | 2850 rpm                    | 2852 rpm                      | 2850 rpm                    | 2848 rpm                    |
| Insulation class                | F                             | F                           | F                             | F                           | F                           |
| Recommended switching frequency | -                             | -                           | -                             | -                           | -                           |
| Max. switching frequency        | 30 1/h                        | 30 1/h                      | 30 1/h                        | 30 1/h                      | 30 1/h                      |
| Permitted voltage tolerance     | ±10                           | ±10                         | ±10                           | ±10                         | ±10                         |
| <b>Cable</b>                    |                               |                             |                               |                             |                             |
| Length of connecting cable      | 10 m                          | 10 m                        | 10 m                          | 10 m                        | 10 m                        |
| Cable type                      | H07RN-F                       | H07RN-F                     | H07RN-F                       | H07RN-F                     | H07RN-F                     |
| Cable cross-section             | 3G1                           | 6G1                         | 3G1                           | 6G1                         | 6G1                         |
| Type of connecting cable        | Detachable                    | Detachable                  | Detachable                    | Detachable                  | Detachable                  |
| Mains plug                      | •                             | -                           | •                             | -                           | -                           |
| <b>Equipment/function</b>       |                               |                             |                               |                             |                             |
| Float switch                    | -                             | -                           | -                             | -                           | -                           |
| Motor protection                | Bimetall                      | Bimetall                    | Bimetall                      | Bimetall                    | Bimetall                    |
| Explosion protection            | -                             | -                           | -                             | -                           | -                           |
| <b>Materials</b>                |                               |                             |                               |                             |                             |
| Static seal                     | NBR                           | NBR                         | NBR                           | NBR                         | NBR                         |
| Impeller                        | EN-GJL-250                    | EN-GJL-250                  | EN-GJL-250                    | EN-GJL-250                  | EN-GJL-250                  |
| Sealing on motor side           | Carbon/steatite               | Carbon/steatite             | Carbon/steatite               | Carbon/steatite             | Carbon/steatite             |
| Mechanical seal                 | SiC/SiC                       | SiC/SiC                     | SiC/SiC                       | SiC/SiC                     | SiC/SiC                     |
| Motor housing                   | 1.4301                        | 1.4301                      | 1.4301                        | 1.4301                      | 1.4301                      |
| Pump housing                    | EN-GJL-250                    | EN-GJL-250                  | EN-GJL-250                    | EN-GJL-250                  | EN-GJL-250                  |
| Pump shaft                      | 1.4021 [AISI420]              | 1.4021 [AISI420]            | 1.4021 [AISI420]              | 1.4021 [AISI420]            | 1.4021 [AISI420]            |

• = available, - = not available; o = optional

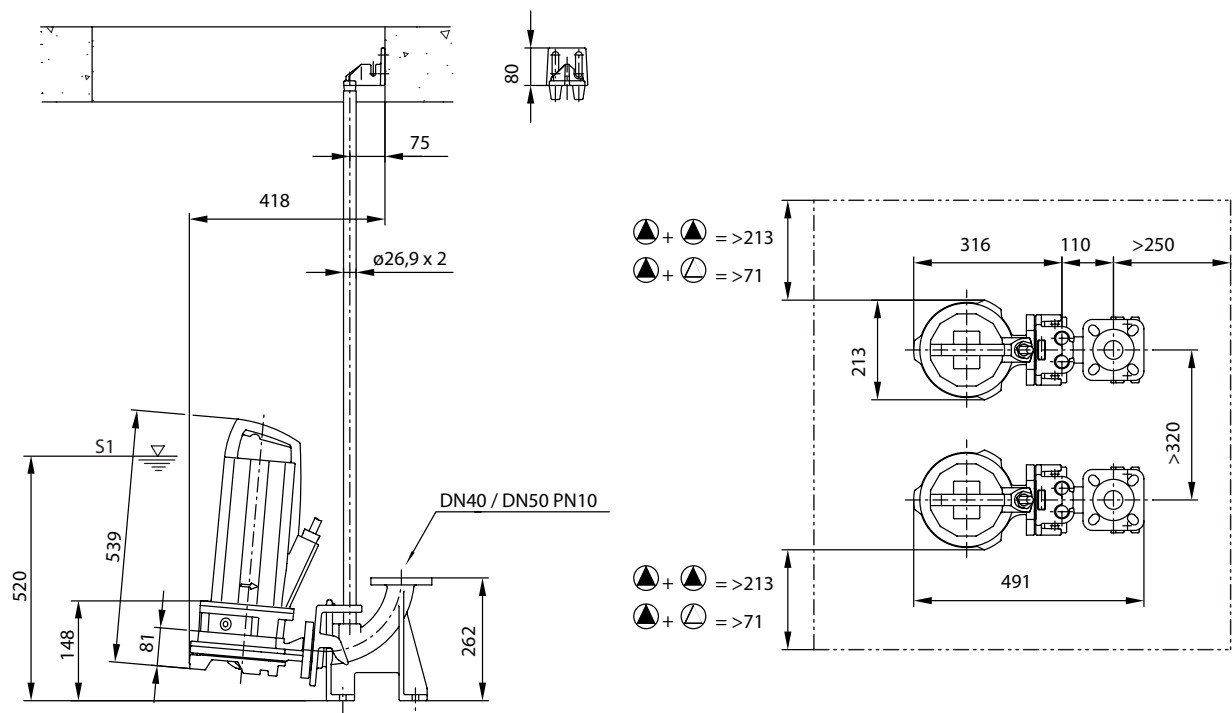
Dimension drawing

Wilo-Rexa CUT GE03.20.. - Stationary wet well installation



Dimension drawing

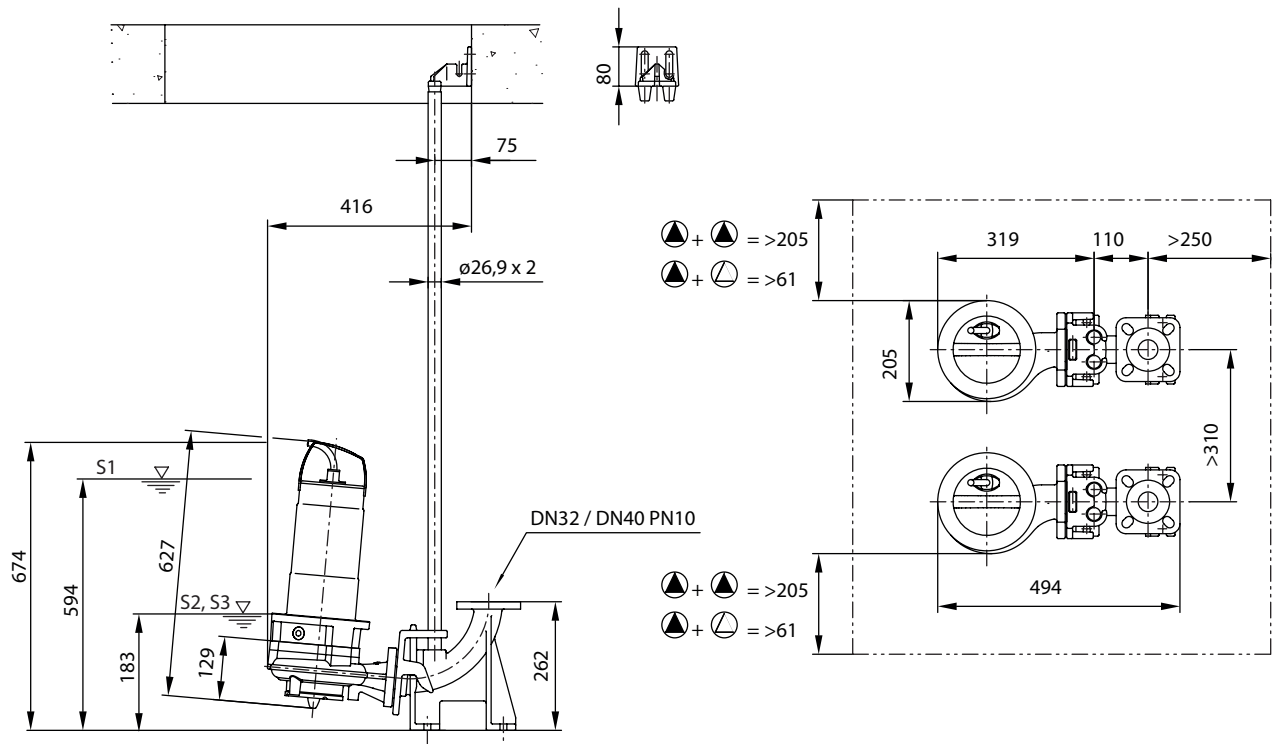
Wilo-Rexa CUT GE03.25.. - Stationary wet well installation





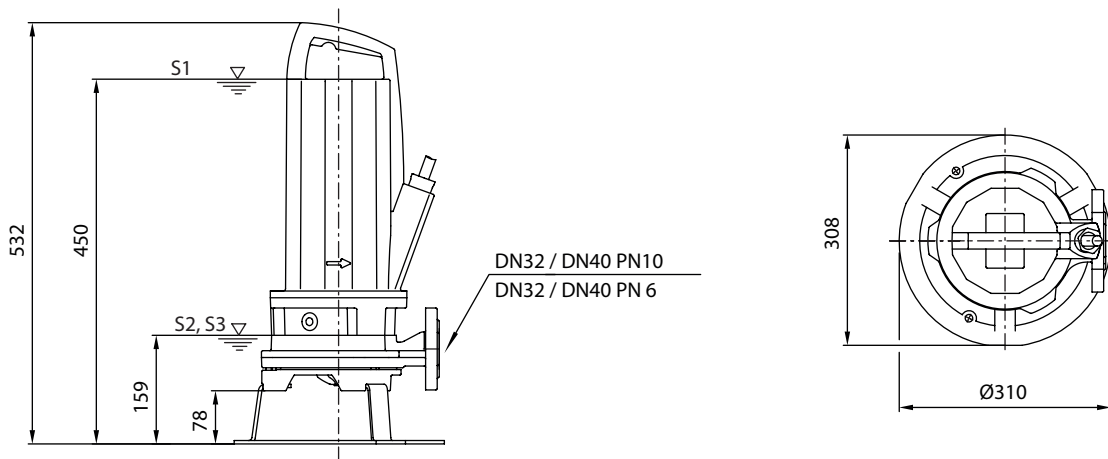
Dimension drawing

Wilo-Rexa CUT GI03.41.. - Stationary wet well installation



Dimension drawing

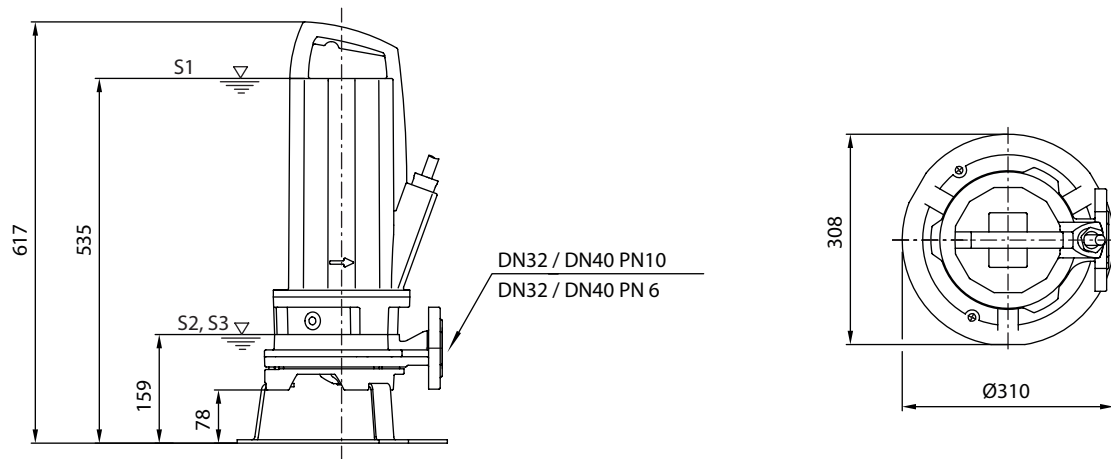
Wilo-Rexa CUT GE03.20.. - portable wet well installation





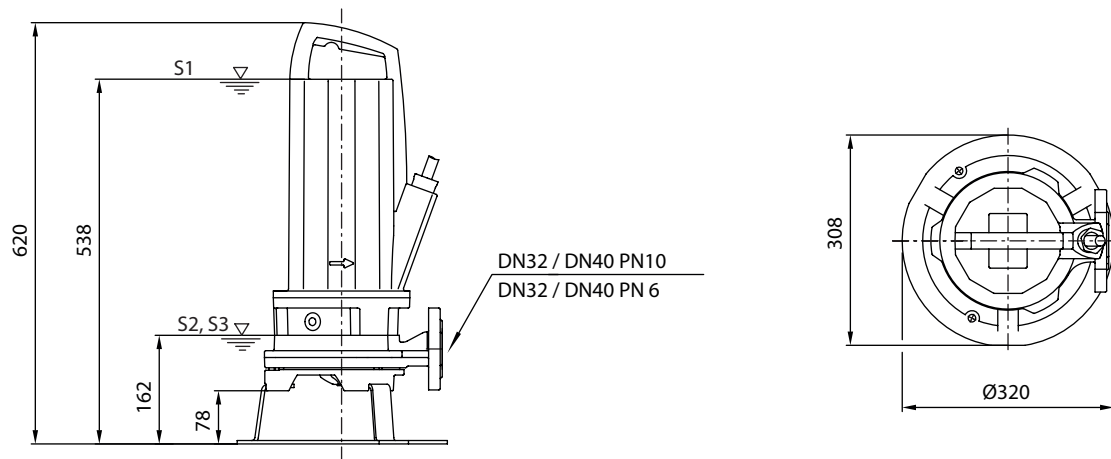
Dimension drawing

Wilo-Rexa CUT GE03.25.. - portable wet well installation



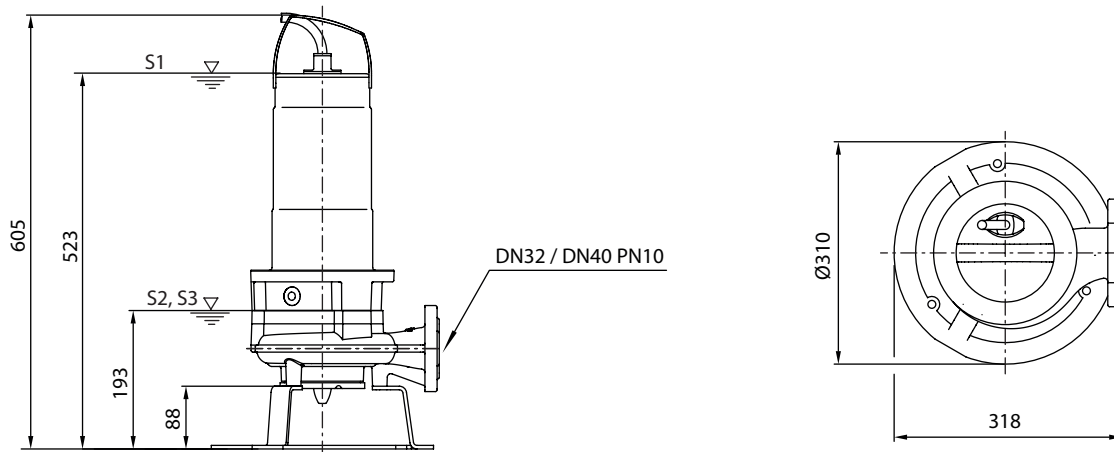
Dimension drawing

Wilo-Rexa CUT GE03.34.. - portable wet well installation



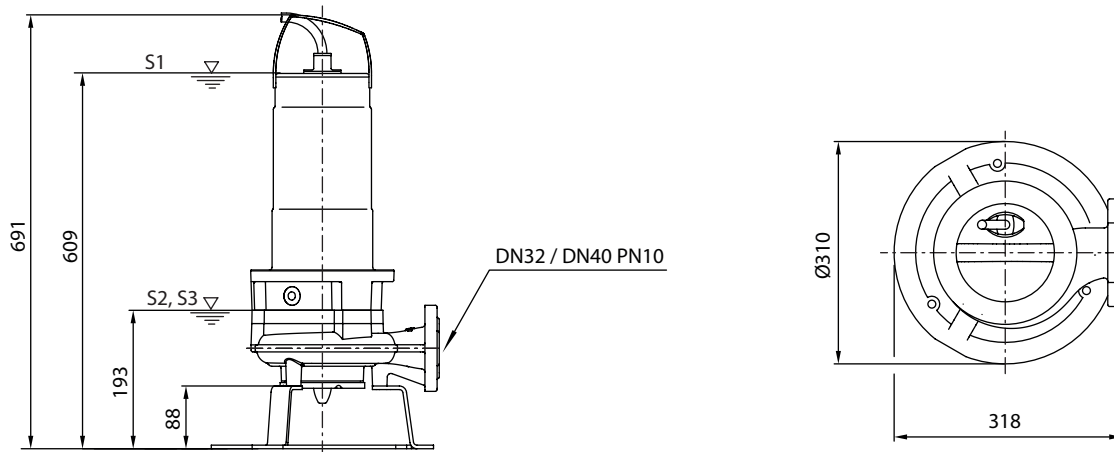
Dimension drawing

Wilo-Rexa CUT GI03.26../GI03.29.. - portable wet well installation

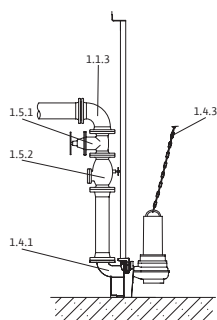


Dimension drawing

Wilo-Rexa CUT GI03.41.. - portable wet well installation



## Installation drawing Stationary wet well installation



- 1.1.3 90° pipe bend
- 1.4.1 Suspension unit
- 1.4.3 Chain
- 1.5.1 Shut-off valve
- 1.5.2 Non-return valve

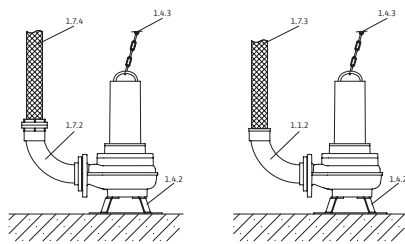
## Accessories for stationary wet well installation DN 40

| Type                                             | Item number | Description                                                                                                                                                                                                               | Art no. |
|--------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Suspension unit DN 40/50                         | 1.4.1       | Made of EN-GJL-250, painted, with free passage in DN 40, foot elbow including pump holder, profile joint, installation and floor fixation accessories and double-pipe guide pipe bracket (26.9x2 mm) without guide pipes. | 2057179 |
| Ball non-return valve Rp 1½                      | 1.5.2       | made of EN-GJL-250, with female thread                                                                                                                                                                                    | 4027330 |
| Gate valve Rp 1½                                 | 1.5.1       | made of red brass, with female thread                                                                                                                                                                                     | 2525187 |
| Chain set PCS-CE, galvanized steel, 400 kg, 5 m  | 1.4.3       | As chain sling with 2 shackles in galvanized steel. Bearing capacity: 400 kg                                                                                                                                              | 6063140 |
| Chain set PCS-CE, galvanized steel, 400 kg, 10 m | 1.4.3       |                                                                                                                                                                                                                           | 6063142 |
| Chain set PCS-CE, stainless steel, 400 kg, 5 m   | 1.4.3       | As chain sling with 2 shackles in 1.4401 stainless steel. Bearing capacity: 400 kg                                                                                                                                        | 6063136 |
| Chain set PCS-CE, stainless steel, 400 kg, 10 m  | 1.4.3       |                                                                                                                                                                                                                           | 6063138 |
| Mounting accessories DN 40/50/65, PN 10          | 1.4.12      | For one flange connection, with screws, nuts and flat gasket                                                                                                                                                              | 6076963 |

## Accessories for stationary wet well installation DN 50

| Type                                             | Item number | Description                                                                                                                                                                                                               | Art no. |
|--------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Non-return valve DN 50                           | 1.5.2       | made of EN-GJL-250, according to DIN EN 12050-4, including 1 set mounting accessories                                                                                                                                     | 2017166 |
| Suspension unit DN 40/50                         | 1.4.1       | Made of EN-GJL-250, painted, with free passage in DN 40, foot elbow including pump holder, profile joint, installation and floor fixation accessories and double-pipe guide pipe bracket (26.9x2 mm) without guide pipes. | 2057179 |
| Gate valve DN 50                                 | 1.5.1       | made of EN-GJL-250, including 1 set mounting accessories                                                                                                                                                                  | 2017160 |
| 90° pipe elbow DN 50                             | 1.1.3       | Made of EN-GJS-400-15, with 2 flanges, including 1 set of mounting accessories                                                                                                                                            | 2018053 |
| Chain set PCS-CE, galvanized steel, 400 kg, 5 m  | 1.4.3       | As chain sling with 2 shackles in galvanized steel. Bearing capacity: 400 kg                                                                                                                                              | 6063140 |
| Chain set PCS-CE, galvanized steel, 400 kg, 10 m | 1.4.3       |                                                                                                                                                                                                                           | 6063142 |
| Chain set PCS-CE, stainless steel, 400 kg, 5 m   | 1.4.3       | As chain sling with 2 shackles in 1.4401 stainless steel. Bearing capacity: 400 kg                                                                                                                                        | 6063136 |
| Chain set PCS-CE, stainless steel, 400 kg, 10 m  | 1.4.3       |                                                                                                                                                                                                                           | 6063138 |
| Y-piece DN 50                                    | 1.1.5       | Made of steel, galvanized, flange PN 10/16 according to DIN 2501 with 2 sets of mounting accessories                                                                                                                      | 2019042 |
| Mounting accessories DN 40/50/65, PN 10          | 1.4.12      | For one flange connection, with screws, nuts and flat gasket                                                                                                                                                              | 6076963 |

Installation drawing Portable wet well installation



- 1.1.2 90° pipe bend with hose connection
- 1.4.2 Pump foot
- 1.4.3 Chain
- 1.7.3 Pressure hose
- 1.7.4 Pressure hose with Storz coupling
- 1.7.5 90° pipe bend with Storz coupling

Accessories for portable wet well installation

| Type                                             | Item number | Description                                                                                                                             | Art no. |
|--------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------|
| Floor supporting foot DN 40                      | 1.4.2       | Made of steel (S235JR), powder-coated, including fixation material                                                                      | 6069669 |
| 90° pipe elbow G 1¼                              | 1.1.1       | Made of EN-GJMw-400-5, with female/male thread G 1¼ / R 1¼                                                                              | 2057400 |
| 90° pipe elbow DN 40/G 1½                        | 1.1.2       | made of EN-GJMw-400-5, with threaded flange G 1½ / R 1½ and flange connection on the pump side, including 1 set of mounting accessories | 2057401 |
| Chain set PCS-CE, galvanised steel, 400 kg, 5 m  | 1.4.3       | As chain sling with 2 shackles in galvanised steel. Bearing capacity: 400 kg                                                            | 6063140 |
| Chain set PCS-CE, galvanised steel, 400 kg, 10 m | 1.4.3       |                                                                                                                                         | 6063142 |
| Chain set PCS-CE, stainless steel, 400 kg, 5 m   | 1.4.3       | As chain sling with 2 shackles in 1.4401 stainless steel. Bearing capacity: 400 kg                                                      | 6063136 |
| Chain set PCS-CE, stainless steel, 400 kg, 10 m  | 1.4.3       |                                                                                                                                         | 6063138 |
| Synthetic pressure hose 3 m, Ø 42 mm             | 1.7.3       | Inside Ø 42 mm, PN 6, including hose clip                                                                                               | 2027641 |
| Synthetic pressure hose 5 m, Ø 42 mm             | 1.7.3       |                                                                                                                                         | 2027642 |
| Synthetic pressure hose 15 m, Ø 42 mm            | 1.7.3       |                                                                                                                                         | 2027643 |
| Synthetic pressure hose 10 m, Ø 52 mm            | 1.7.3       | Inside Ø 52 mm, PN 8, including hose clip                                                                                               | 2017192 |

Electrical accessories – level control with dynamic pressure system

Level measurement via an open dynamic pressure system with the option of a separate immersion bell for the high water level.

| Type                                   | Description                                                                                                                                                                                                                                                                                                   | Art no.   |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| EC-L-1x12A-DOL-MT34-WM-EMS-IPS         | Microcontroller-controlled switchgear with LC display, symbol-based menu navigation and integrated pressure transducer for level-dependent control of a submersible pump by means of float switches, level sensor or immersion bell. WITHOUT main switch, mains isolator must be provided by the customer!    | 2543212   |
| EC-L-2x12A-DOL-MT34-WM-EMS-IPS         | Microcontroller-controlled switchgear with LC display, symbol-based menu navigation and integrated pressure transducer for level-dependent control of two submersible pumps by means of float switches, level sensor or immersion bell. WITHOUT main switch, mains isolator must be provided by the customer! | 2543222   |
| Dynamic pressure bell with 10 m hose   | Pneumatic signal transmitter for fluids containing faeces with a max. temperature of 60°C. The signal transmitter is open in the direction of the fluid and has to be vented after each pumping-out (OFF according to time).                                                                                  | 2516976   |
| Bubbling-through system                | Small compressor for a permanent or periodic ventilation of the dynamic pressure bell (OFF according to water level) Incl. non-return valve, 3 m hose and T-connector                                                                                                                                         | 2516977   |
| Flashing light                         | Optical alarm signal for connection to a switchgear. Suitable for outside installation.                                                                                                                                                                                                                       | 2510429   |
| Signal horn                            | Acoustic alarm signal (88 dB(A)) for connection to a switchgear. Suitable for outside installation.                                                                                                                                                                                                           | 501459398 |
| NiMh rechargeable battery, 9 V/200 mAh | Rechargeable battery to be installed in the switchgears Wilo-control MS-L and EC-L for a mains-independent alarm                                                                                                                                                                                              | 2522850   |

You can find more accessories at the end in the chapter Electric accessories!

Attention: Switchgears are not protected against explosions and can be used only outside potentially explosive areas. If pumps are used within potentially explosive areas, onsite measures are required.

**Electrical accessories – level control with float switch**

Level measurement using several float switches for the different water levels, including high water alarm signal.

| Type                               | Description                                                                                                                                | Art no.   |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| MS-L-1x4kW-DOL                     | Microprocessor-controlled switchgear for level-dependent control of one submersible motor pump with float switch.                          | 2539741   |
| MS-L-2x4kW-DOL                     | Microprocessor-controlled switchgear for level-dependent control of two submersible motor pumps with float switch.                         | 2539745   |
| Float switch MS1 with 10 m cable   | Signal transmitters for aggressive fluids and fluids containing faeces up to the max. temperature of 80 °C. Switching: up "ON"/down "OFF". | 2004593   |
| Ex-rated cut-off relay (2-circuit) | Ex cut-off relay for the connection of 2 float switches for level control in explosive atmospheres.                                        | 2513059   |
| Ex-rated cut-off relay (3-circuit) | Ex cut-off relay for the connection of 3 float switches for level control in explosive atmospheres.                                        | 2510698   |
| Ex-rated cut-off relay (4-circuit) | Ex cut-off relay for the connection of 4 float switches for level control in explosive atmospheres.                                        | 2510699   |
| Ex-rated cut-off relay (5-circuit) | Ex cut-off relay for the connection of 5 float switches for level control in explosive atmospheres.                                        | 2510674   |
| Flashing light                     | Optical alarm signal for connection to a switchgear. Suitable for outside installation.                                                    | 2510429   |
| Signal horn                        | Acoustic alarm signal (88 dB(A)) for connection to a switchgear. Suitable for outside installation.                                        | 501459398 |

You can find more accessories at the end in the chapter **Electric accessories!**

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**Electrical accessories – level control with level sensor**

Level measurement using a level sensor with various measurement ranges, including high-water alarm and dry-running protection.

| Type                                    | Description                                                                                                                                                                                                                                                | Art no.                                                                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| EC-L-1x12A-DOL-MT34-WM-EMS              | Microcontroller-controlled switchgear with LC display and symbol-based menu navigation for level-dependent control of a submersible pump by means of float switches or level sensor. WITHOUT main switch, mains isolator must be provided by the customer! | 2543211                                                                                 |
| EC-L-2x12A-DOL-MT34-WM-EMS              | Microcontroller-controlled switchgear with LC display and symbol-based menu navigation for level-dependent control of submersible pumps by means of float switches or level sensor. WITHOUT main switch, mains isolator must be provided by the customer!  | 2543221                                                                                 |
| Level sensor 0-1 mWS, with 50 m cable   | Signal transmitter with ATEX approval for fluids containing faeces with a max. temperature of 60°C. Output signal: 4...20 mA                                                                                                                               | 2519926                                                                                 |
| Level sensor 0-1 mWS, with 30 m cable   |                                                                                                                                                                                                                                                            | 2519925                                                                                 |
| Level sensor 0-1 mWS, with 10 m cable   |                                                                                                                                                                                                                                                            | 2519924                                                                                 |
| Level sensor 0-2.5 mWS with 10 m cable  |                                                                                                                                                                                                                                                            | 2519921                                                                                 |
| Level sensor 0-2.5 mWS, with 30 m cable |                                                                                                                                                                                                                                                            | 2519922                                                                                 |
| Level sensor 0-2.5 mWS, with 50 m cable |                                                                                                                                                                                                                                                            | 2519923                                                                                 |
| Flashing light                          |                                                                                                                                                                                                                                                            | Optical alarm signal for connection to a switchgear. Suitable for outside installation. |
| Signal horn                             | Acoustic alarm signal (88 dBA) for connection to a switchgear. Suitable for outside installation.                                                                                                                                                          | 501459398                                                                               |
| Cable clamp                             | For the fixation of a signal transmitter in the sump. The terminal is fixed with a hook to the sump, the cable of the signal transmitter is connected and fixed by the weight of the signal transmitter.                                                   | 2519927                                                                                 |
| Zener barrier                           | Breakdown barrier (Zener barrier) for the connection of one level sensor in an explosive atmosphere.                                                                                                                                                       | 2541372                                                                                 |
| NiMH rechargeable battery, 9 V/200 mAh  | Rechargeable battery to be installed in the switchgears Wilo-control MS-L and EC-L for a mains-independent alarm                                                                                                                                           | 2522850                                                                                 |

You can find more accessories at the end in the chapter **Electric accessories!**

Attention: Switchgears are not protected against explosions and can be used only outside potentially explosive areas. If pumps are used within potentially explosive areas, onsite measures are required.

**Electrical accessories – mains-independent alarm signal**

Alarm signal for detection of flooding in rooms and buildings. The alarm signal is acoustic, optical or wireless. In addition, other consumers can be controlled directly.

| Type                                      | Description                                                                                                                                 | Art no.   |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>DrainAlarm GSM</b>                     | Network-independent alarm switchgear with optical, acoustic and wireless (per GSM) alarm signal and with a connection for one float switch. | 2542911   |
| <b>DrainAlarm 2</b>                       | Network-independent alarm switchgear with optical and acoustic alarm signal and with a connection for one float switch.                     | 2545133   |
| <b>Float switch MS1 with 10 m cable</b>   | Signal transmitters for aggressive fluids and fluids containing faeces up to the max. temperature of 80 °C. Switching: up "ON"/down "OFF".  | 2004593   |
| <b>Ex-rated cut-off relay (2-circuit)</b> | Ex cut-off relay for the connection of 2 float switches for level control in explosive atmospheres.                                         | 2513059   |
| <b>Flashing light</b>                     | Optical alarm signal for connection to a switchgear. Suitable for outside installation.                                                     | 2510429   |
| <b>Signal horn</b>                        | Acoustic alarm signal (88 dB(A)) for connection to a switchgear. Suitable for outside installation.                                         | 501459398 |

**You can find more accessories at the end in the chapter Electric accessories!**

Attention: Switchgears are not protected against explosions and can be used only outside potentially explosive areas. If pumps are used within potentially explosive areas, onsite measures are required.

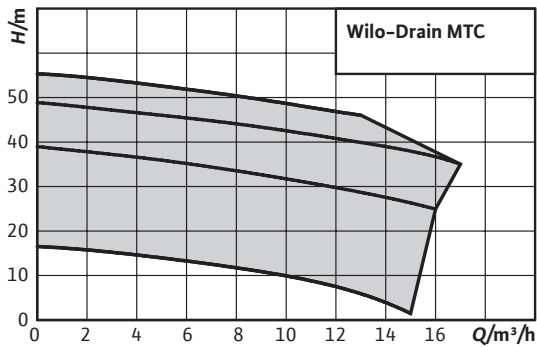


### Wilo-Drain MTC



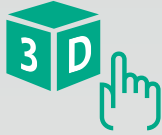
Submersible sewage pump with external macerator for continuous duty for stationary and portable wet well installation.

- Heavy-duty version made of cast iron
- External macerator
- Sealing with mechanical seal on fluid side
- Oil barrier chamber
- Longitudinally watertight cable inlet



**Select 4** online

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

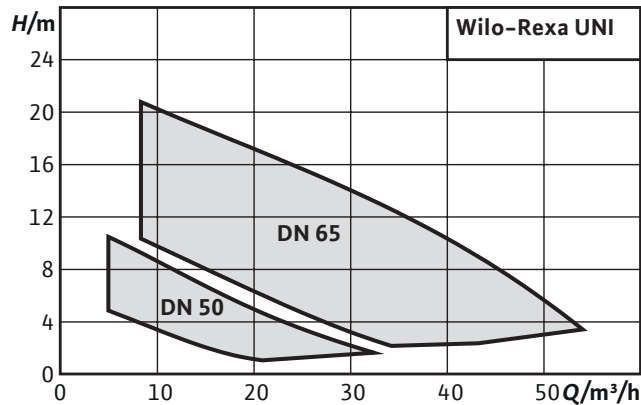


## Wilo-Rexa UNI

Submersible sewage pump for intermittent operation for stationary and portable wet well installation

- Excellent reliability due to corrosion-free hydraulics for universal application and various fluids
- Easy installation thanks to its light weight, integrated capacitor at the single-phase motor and flange with integrated fixation
- Optimum efficiency and operational safety thanks to its vortex hydraulics and smooth surfaces
- Easy maintenance due to direct access to the sealing chamber and pump housing
- Long maintenance interval thanks to its double seal and a high volume sealing chamber





### Design

Submersible sewage pump for intermittent operation for stationary and portable wet well installation

### Type key

Example: **Wilo-Rexa UNI V05/M05-540/P**

|             |                                                                                                                               |
|-------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Rexa</b> | Submersible sewage pump with retrodynamic hydraulics                                                                          |
| <b>UNI</b>  | Series with copolymer hydraulics                                                                                              |
| <b>V</b>    | Vortex impeller                                                                                                               |
| <b>05</b>   | Nominal diameter pressure connection:<br>05 = DN 50<br>06 = DN 50/65                                                          |
| <b>T</b>    | Mains connection version:<br>M = 1~<br>T = 3~                                                                                 |
| <b>05</b>   | Value/10 = motor power $P_2$ in kW                                                                                            |
| <b>5</b>    | Frequency (5 = 50 Hz, 6 = 60 Hz)                                                                                              |
| <b>40</b>   | Code for rated voltage                                                                                                        |
| <b>P</b>    | Additional electrical equipment:<br>without addition = with bare cable end<br>P = with plug<br>A = with float switch and plug |

### Application

Pumping of

- Sewage containing faeces in accordance with EN 12050-1
- Wastewater

### Technical data

- Mains connection: 1~230 V, 50 Hz or 3~400 V, 50 Hz
- Submerged operating mode: S1

- Non-immersed operating mode: S2-15 min; S3 10 %
- Protection class: IP68
- Insulation class: F
- Fluid temperature: 3 - 40°C, max. 60°C for 3 min
- Free passage: 44 mm
- Cable length: 10 m

### Equipment/function

- Winding temperature monitoring with bimetallic strip

### Materials

- Motor housing: 1.4301
- Hydraulic housing: PP-GF30 (copolymer)
- Impeller: PP-GF30 (copolymer)
- Static gaskets: NBR
- Sealing on pump side: SiC/SiC
- Sealing on motor side: NBR (V05), C/MgSiO<sub>4</sub> (V06)
- Shaft end: Stainless steel 1.4401

### Description/design

Submersible sewage pump as submersible monobloc unit for stationary and portable wet well installation.

### Hydraulics

The outlet on the pressure side is designed as a horizontal flange connection. The maximum possible dry matter is 8 %. Vortex impellers are used as the impeller shape. A pump support foot is integrated into the hydraulics housing.

### Motor

The motors available are surface-cooled motors in single-phase version (with built-in operating capacitor) and three-phase version for the direct starting. The waste heat is given off directly to the surrounding fluid via the motor housing. These motors can be operated immersed in continuous duty (S1) and non-immersed in short-time duty (S2) or intermittent periodic duty (S3).

Furthermore the motors are equipped with thermal motor monitoring. This protects the motor windings against overheating. For units with single-phase AC motors this is built-in and switches automatically. I.e. if the motor is switched off due to overheating and then cools down it is automatically switched on again. Bimetallic strips are used for this as standard.

The connection cable has a length of 10 m as standard and is available in following versions:

- With bare cable ends
- With plug
- With float switch and plug

### Seal

There is a sealing chamber between the motor and hydraulics. This is filled with medicinal white oil. The seal on the fluid side is provided by a mechanical shaft seal.

### Scope of delivery

- Submersible sewage pump with 10 m cable
- Operating and maintenance manual

### Commissioning

#### Operation in wet well installation with non-immersed motor:

The motor can be run non-immersed. The operating times are defined here by the "Operating mode for non-immersed operation". This information must be strictly observed!

- Short-time duty S2: The maximum operating time is 15 minutes (S2-15minutes).
- Intermittent periodic duty S3: By default, the maximum operating time is 1 minute in S3 operation (S3 10 %). If the motor is completely immersed for 1 minute before a re-start and the necessary cooling of the motor has thus taken place, the maximum running time in S3 operation can be 2.5 minutes (S3 25 %)!  
→ The maximum ambient and fluid temperature is 40 °C.

#### Dry-running protection system:

The hydraulics housing must always be immersed. In the case of fluctuating fluid levels, the system should shut down automatically once the minimum water submersion is reached. Please refer to the dimension drawings for this.

#### Horizontal installation:

Horizontal installation is **not** possible!

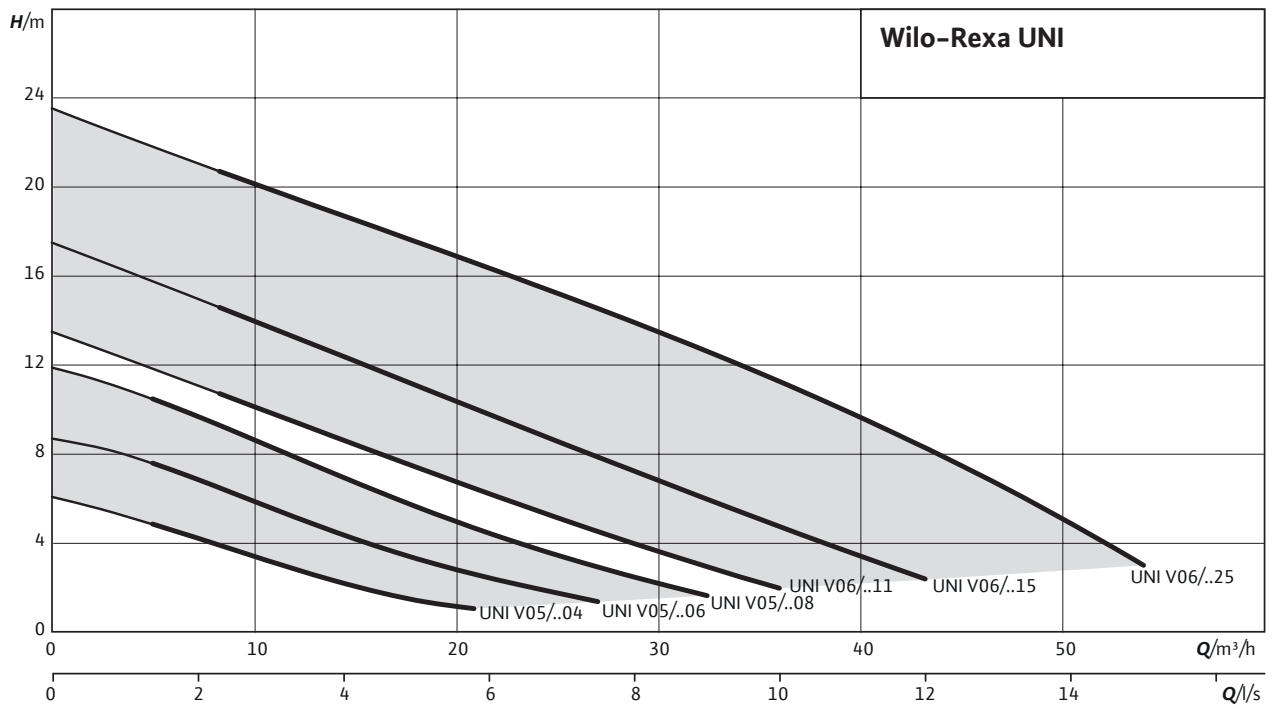
#### Dry well installation:

Dry well installation is **not** possible.

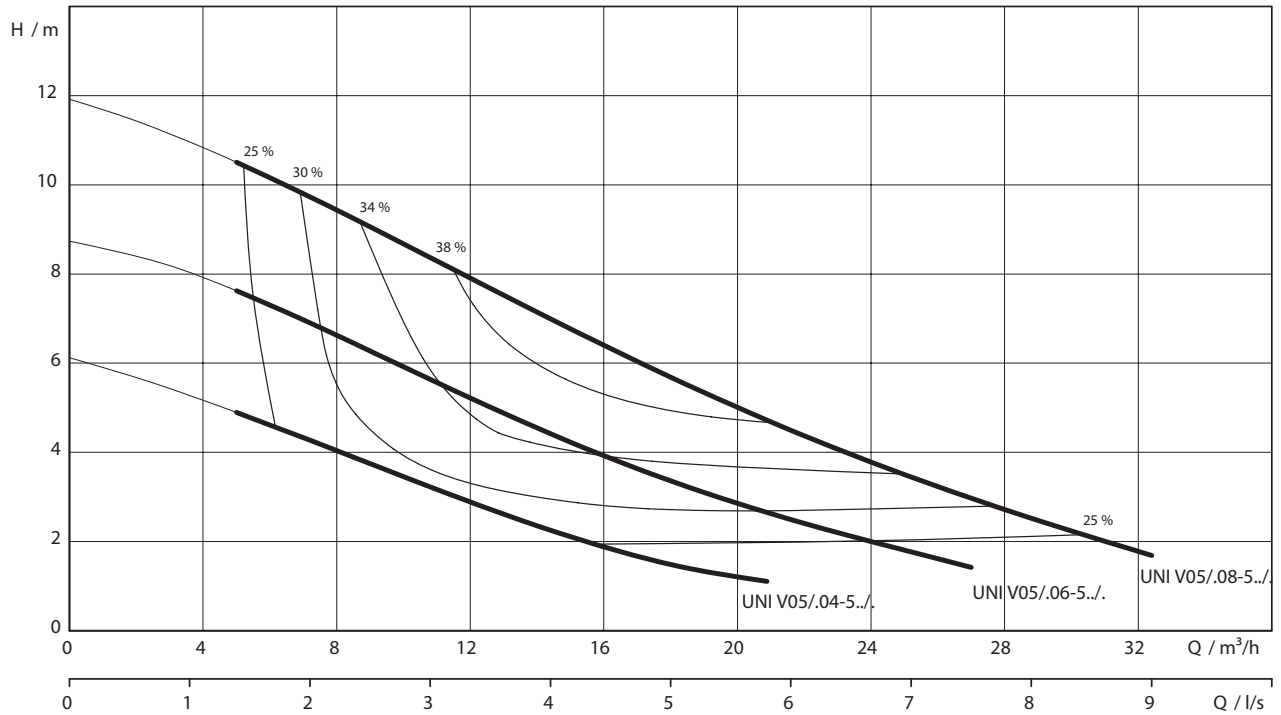
#### Accessories

- Suspension unit
- Chains
- Switchgear, relays and plugs
- Fixation sets with anchor bolts

Pump curves



Pump curves Wilo-Rexa UNI V05.. – 50 Hz – No. of poles: 2  
Vortex impeller – Free ball passage: 44 mm



Pump curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

| Pump type         | Rated power | Float switch | Mains plug | Weight approx. | Art no.<br>1~230 V, 50<br>Hz | Art no.<br>3~400 V, 50 Hz |
|-------------------|-------------|--------------|------------|----------------|------------------------------|---------------------------|
|                   | $P_2$<br>kW |              |            | $m$<br>kg      |                              |                           |
| UNI V05/M04-523/P | 0.4         | –            | •          | 13.2           | 6082113                      | –                         |
| UNI V05/M04-523/A | 0.4         | •            | •          | 13.4           | 6082114                      | –                         |
| UNI V05/T04-540   | 0.4         | –            | –          | 13             | –                            | 6082115                   |
| UNI V05/T04-540/A | 0.4         | •            | •          | 15.3           | –                            | 6082116                   |
| UNI V05/M06-523/P | 0.6         | –            | •          | 13.2           | 6082117                      | –                         |
| UNI V05/M06-523/A | 0.6         | •            | •          | 13.4           | 6082118                      | –                         |
| UNI V05/T06-540   | 0.6         | –            | –          | 13.8           | –                            | 6082119                   |
| UNI V05/T06-540/A | 0.6         | •            | •          | 16.1           | –                            | 6082120                   |
| UNI V05/M08-523/P | 0.8         | –            | •          | 13.8           | 6082121                      | –                         |
| UNI V05/M08-523/A | 0.8         | •            | •          | 14             | 6082122                      | –                         |
| UNI V05/T08-540   | 0.8         | –            | –          | 14.4           | –                            | 6082123                   |
| UNI V05/T08-540/A | 0.8         | •            | •          | 16.7           | –                            | 6082124                   |

• = available, – = not available; o = optional

| Technical data                |                        |                        |                        |                        |                      |                      |
|-------------------------------|------------------------|------------------------|------------------------|------------------------|----------------------|----------------------|
| Pump type                     | UNI V05/M04-523/P      | UNI V05/M04-523/A      | UNI V05/T04-540        | UNI V05/T04-540/A      | UNI V05/M06-523/P    | UNI V05/M06-523/A    |
| Mains connection              | 1~230 V, 50 Hz         | 1~230 V, 50 Hz         | 3~400 V, 50 Hz         | 3~400 V, 50 Hz         | 1~230 V, 50 Hz       | 1~230 V, 50 Hz       |
| <b>Unit</b>                   |                        |                        |                        |                        |                      |                      |
| Pressure connection           | DN 50                  | DN 50                  | DN 50                  | DN 50                  | DN 50                | DN 50                |
| Free ball passage             | 44 mm                  | 44 mm                  | 44 mm                  | 44 mm                  | 44 mm                | 44 mm                |
| Max. volume flow $Q_{max}$    | 20.9 m <sup>3</sup> /h | 20.9 m <sup>3</sup> /h | 20.9 m <sup>3</sup> /h | 20.9 m <sup>3</sup> /h | 27 m <sup>3</sup> /h | 27 m <sup>3</sup> /h |
| Max. delivery head $H_{max}$  | 6.1 m                  | 6.1 m                  | 6.1 m                  | 6.1 m                  | 8.7 m                | 8.7 m                |
| Operating mode (immersed)     | S1                     | S1                     | S1                     | S1                     | S1                   | S1                   |
| Operating mode (non-immersed) | S2-15 min / S3-10%     | S2-15 min / S3-10%     | S2-15 min / S3-10%     | S2-15 min / S3-10%     | S2-15 min / S3-10%   | S2-15 min / S3-10%   |
| Max. immersion depth          | 7 m                    | 7 m                    | 7 m                    | 7 m                    | 7 m                  | 7 m                  |
| Protection class              | IP 68                  | IP 68                  | IP 68                  | IP 68                  | IP 68                | IP 68                |
| Fluid temperature $T$         | +3 ... +40 °C          | +3 ... +40 °C          | +3 ... +40 °C          | +3 ... +40 °C          | +3 ... +40 °C        | +3 ... +40 °C        |
| <b>Motor data</b>             |                        |                        |                        |                        |                      |                      |
| Rated current $I_N$           | 3.2 A                  | 3.2 A                  | 1.0 A                  | 1.0 A                  | 3.8 A                | 3.8 A                |
| Starting current              | -                      | -                      | -                      | -                      | -                    | -                    |
| Rated power $P_2$             | 0.4 kW                 | 0.4 kW                 | 0.4 kW                 | 0.4 kW                 | 0.6 kW               | 0.6 kW               |
| Power consumption $P_1$       | 0.6 kW                 | 0.6 kW                 | 0.6 kW                 | 0.6 kW                 | 0.8 kW               | 0.8 kW               |
| Activation type               | Direct                 | Direct                 | Direct                 | Direct                 | Direct               | Direct               |
| Rated speed $n$               | 2914 rpm               | 2914 rpm               | 2803 rpm               | 2803 rpm               | 2870 rpm             | 2870 rpm             |
| Insulation class              | F                      | F                      | F                      | F                      | F                    | F                    |
| Max. switching frequency      | 30 1/h                 | 30 1/h                 | 30 1/h                 | 30 1/h                 | 30 1/h               | 30 1/h               |
| Permitted voltage tolerance   | ±10 %                  | ±10 %                  | ±10 %                  | ±10 %                  | ±10 %                | ±10 %                |
| <b>Cable</b>                  |                        |                        |                        |                        |                      |                      |
| Length of connecting cable    | 10 m                   | 10 m                   | 10 m                   | 10 m                   | 10 m                 | 10 m                 |
| Cable type                    | H07RN-F                | H07RN-F                | H07RN-F                | H07RN-F                | H07RN-F              | H07RN-F              |
| Cable cross-section           | 3G1                    | 3G1                    | 6G1                    | 6G1                    | 3G1                  | 3G1                  |
| Type of connecting cable      | Detachable             | Detachable             | Detachable             | Detachable             | Detachable           | Detachable           |
| <b>Equipment/function</b>     |                        |                        |                        |                        |                      |                      |
| Motor protection              | Bimetall               | Bimetall               | Bimetall               | Bimetall               | Bimetall             | Bimetall             |
| Explosion protection          | -                      | -                      | -                      | -                      | -                    | -                    |
| <b>Materials</b>              |                        |                        |                        |                        |                      |                      |
| Static seal                   | NBR                    | NBR                    | NBR                    | NBR                    | NBR                  | NBR                  |
| Impeller                      | PP-GF30                | PP-GF30                | PP-GF30                | PP-GF30                | PP-GF30              | PP-GF30              |
| Sealing on motor side         | Carbon/steatite        | Carbon/steatite        | Carbon/steatite        | Carbon/steatite        | Carbon/steatite      | Carbon/steatite      |
| Mechanical seal               | SiC/SiC                | SiC/SiC                | SiC/SiC                | SiC/SiC                | SiC/SiC              | SiC/SiC              |
| Motor housing                 | 1.4301                 | 1.4301                 | 1.4301                 | 1.4301                 | 1.4301               | 1.4301               |
| Pump housing                  | PP-GF30                | PP-GF30                | PP-GF30                | PP-GF30                | PP-GF30              | PP-GF30              |
| Pump shaft                    | 1.4401 [AISI316]       | 1.4401 [AISI316]       | 1.4401 [AISI316]       | 1.4401 [AISI316]       | 1.4401 [AISI316]     | 1.4401 [AISI316]     |

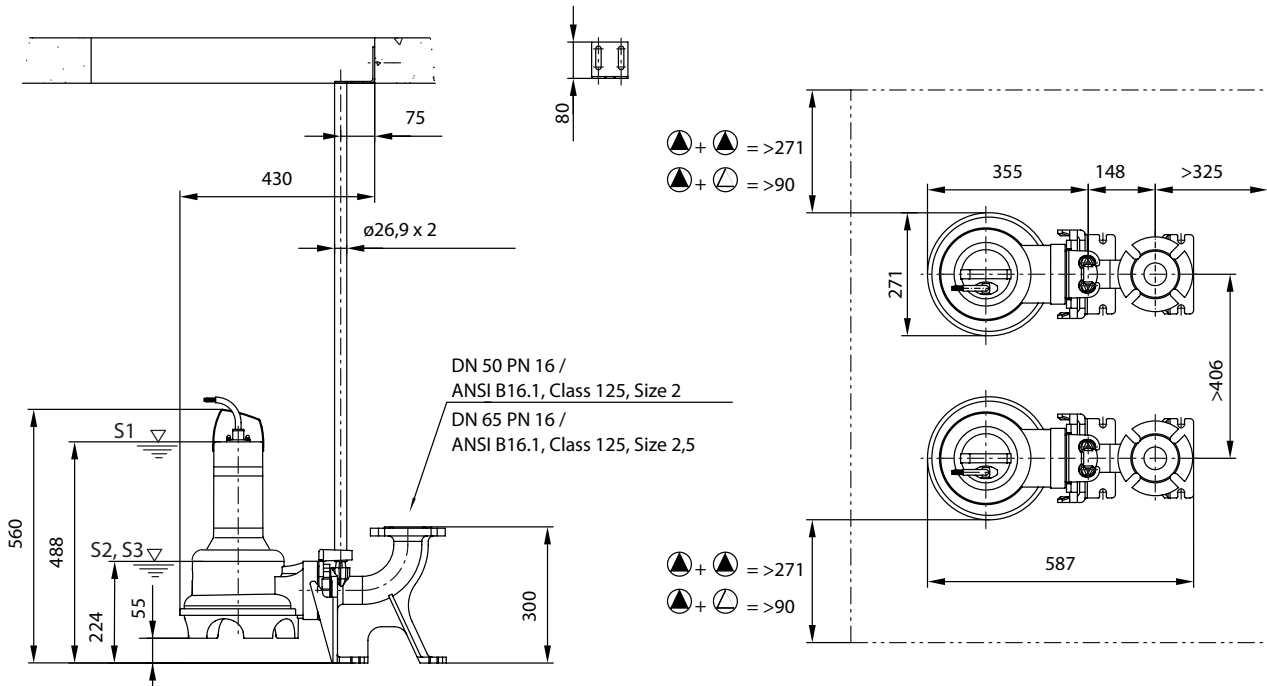
• = available, - = not available; o = optional

| Technical data                |                      |                      |                        |                        |                        |                        |
|-------------------------------|----------------------|----------------------|------------------------|------------------------|------------------------|------------------------|
| Pump type                     | UNI V05/T06-540      | UNI V05/T06-540/A    | UNI V05/M08-523/P      | UNI V05/M08-523/A      | UNI V05/T08-540        | UNI V05/T08-540/A      |
| Mains connection              | 3~400 V, 50 Hz       | 3~400 V, 50 Hz       | 1~230 V, 50 Hz         | 1~230 V, 50 Hz         | 3~400 V, 50 Hz         | 3~400 V, 50 Hz         |
| <b>Unit</b>                   |                      |                      |                        |                        |                        |                        |
| Pressure connection           | DN 50                | DN 50                | DN 50                  | DN 50                  | DN 50                  | DN 50                  |
| Free ball passage             | 44 mm                | 44 mm                | 44 mm                  | 44 mm                  | 44 mm                  | 44 mm                  |
| Max. volume flow $Q_{max}$    | 27 m <sup>3</sup> /h | 27 m <sup>3</sup> /h | 32.4 m <sup>3</sup> /h | 32.4 m <sup>3</sup> /h | 32.4 m <sup>3</sup> /h | 32.4 m <sup>3</sup> /h |
| Max. delivery head $H_{max}$  | 8.7 m                | 8.7 m                | 11.9 m                 | 11.9 m                 | 11.9 m                 | 11.9 m                 |
| Operating mode (immersed)     | S1                   | S1                   | S1                     | S1                     | S1                     | S1                     |
| Operating mode (non-immersed) | S2-15 min / S3-10%   | S2-15 min / S3-10%   | S2-15 min / S3-10%     | S2-15 min / S3-10%     | S2-15 min / S3-10%     | S2-15 min / S3-10%     |
| Max. immersion depth          | 7 m                  | 7 m                  | 7 m                    | 7 m                    | 7 m                    | 7 m                    |
| Protection class              | IP 68                | IP 68                | IP 68                  | IP 68                  | IP 68                  | IP 68                  |
| Fluid temperature $T$         | +3 ... +40 °C        | +3 ... +40 °C        | +3 ... +40 °C          | +3 ... +40 °C          | +3 ... +40 °C          | +3 ... +40 °C          |
| <b>Motor data</b>             |                      |                      |                        |                        |                        |                        |
| Rated current $I_N$           | 1.4 A                | 1.4 A                | 4.8 A                  | 4.8 A                  | 1.8 A                  | 1.8 A                  |
| Starting current              | -                    | -                    | -                      | -                      | -                      | -                      |
| Rated power $P_2$             | 0.6 kW               | 0.6 kW               | 0.8 kW                 | 0.8 kW                 | 0.8 kW                 | 0.8 kW                 |
| Power consumption $P_1$       | 0.8 kW               | 0.8 kW               | 1 kW                   | 1 kW                   | 1.1 kW                 | 1.1 kW                 |
| Activation type               | Direct               | Direct               | Direct                 | Direct                 | Direct                 | Direct                 |
| Rated speed $n$               | 2798 rpm             | 2798 rpm             | 2812 rpm               | 2812 rpm               | 2797 rpm               | 2797 rpm               |
| Insulation class              | F                    | F                    | F                      | F                      | F                      | F                      |
| Max. switching frequency      | 30 1/h               | 30 1/h               | 30 1/h                 | 30 1/h                 | 30 1/h                 | 30 1/h                 |
| Permitted voltage tolerance   | ±10 %                | ±10 %                | ±10 %                  | ±10 %                  | ±10 %                  | ±10 %                  |
| <b>Cable</b>                  |                      |                      |                        |                        |                        |                        |
| Length of connecting cable    | 10 m                 | 10 m                 | 10 m                   | 10 m                   | 10 m                   | 10 m                   |
| Cable type                    | H07RN-F              | H07RN-F              | H07RN-F                | H07RN-F                | H07RN-F                | H07RN-F                |
| Cable cross-section           | 6G1                  | 6G1                  | 3G1                    | 3G1                    | 6G1                    | 6G1                    |
| Type of connecting cable      | Detachable           | Detachable           | Detachable             | Detachable             | Detachable             | Detachable             |
| <b>Equipment/function</b>     |                      |                      |                        |                        |                        |                        |
| Motor protection              | Bimetall             | Bimetall             | Bimetall               | Bimetall               | Bimetall               | Bimetall               |
| Explosion protection          | -                    | -                    | -                      | -                      | -                      | -                      |
| <b>Materials</b>              |                      |                      |                        |                        |                        |                        |
| Static seal                   | NBR                  | NBR                  | NBR                    | NBR                    | NBR                    | NBR                    |
| Impeller                      | PP-GF30              | PP-GF30              | PP-GF30                | PP-GF30                | PP-GF30                | PP-GF30                |
| Sealing on motor side         | Carbon/steatite      | Carbon/steatite      | Carbon/steatite        | Carbon/steatite        | Carbon/steatite        | Carbon/steatite        |
| Mechanical seal               | SiC/SiC              | SiC/SiC              | SiC/SiC                | SiC/SiC                | SiC/SiC                | SiC/SiC                |
| Motor housing                 | 1.4301               | 1.4301               | 1.4301                 | 1.4301                 | 1.4301                 | 1.4301                 |
| Pump housing                  | PP-GF30              | PP-GF30              | PP-GF30                | PP-GF30                | PP-GF30                | PP-GF30                |
| Pump shaft                    | 1.4401 [AISI316]     | 1.4401 [AISI316]     | 1.4401 [AISI316]       | 1.4401 [AISI316]       | 1.4401 [AISI316]       | 1.4401 [AISI316]       |

\* = available, - = not available; o = optional

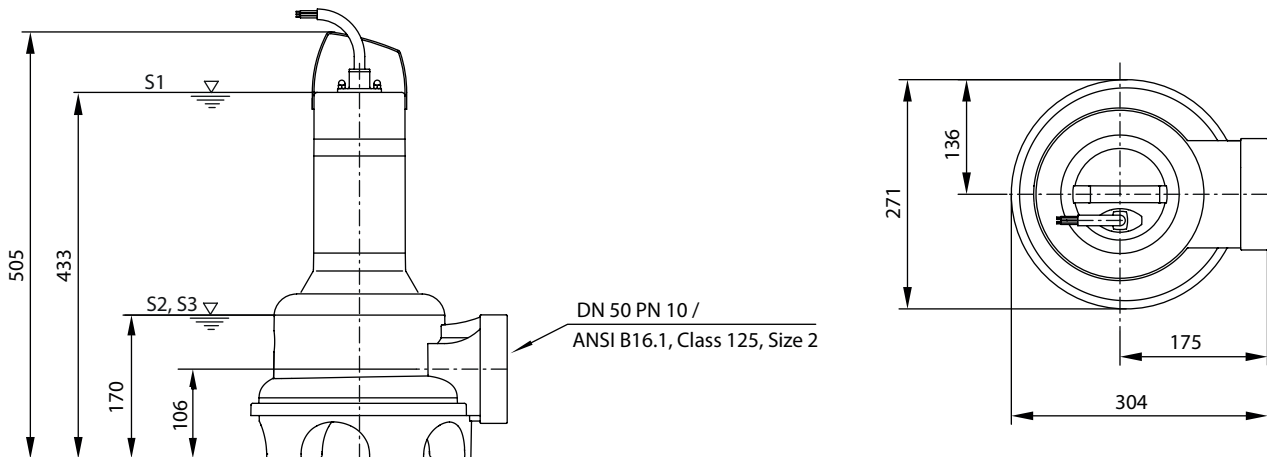
Dimension drawing

Wilo-Rexa UNI V05.. - Stationary wet well installation



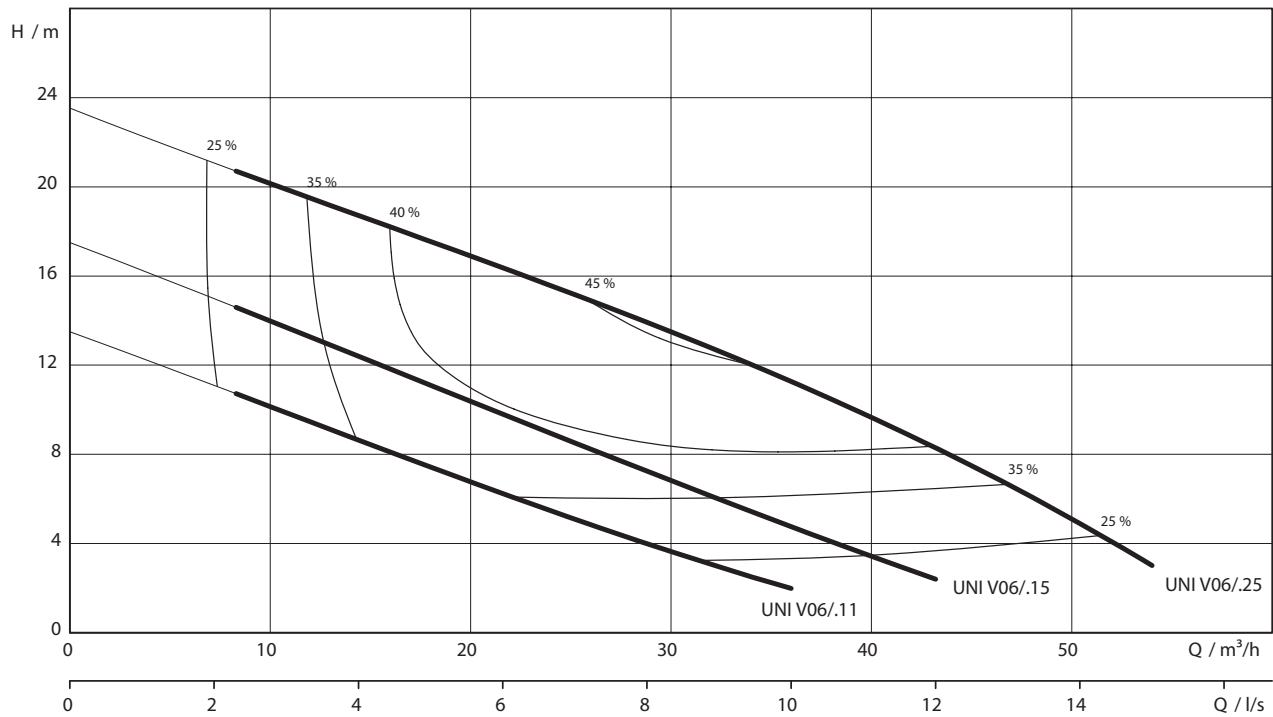
Dimension drawing

Wilo-Rexa UNI V05.. - portable wet well installation



Pump curves Wilo-Rexa UNI V06.. – 50 Hz – No. of poles: 2

Vortex impeller – Free ball passage: 44 mm



Pump curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

| Pump type         | Rated power | Float switch | Mains plug | Weight approx. | Art no.<br>1~230 V, 50<br>Hz | Art no.<br>3~400 V, 50 Hz |
|-------------------|-------------|--------------|------------|----------------|------------------------------|---------------------------|
|                   | $P_2$<br>kW |              |            | $m$<br>kg      |                              |                           |
| UNI V06/M11-523/P | 1.1         | –            | •          | 18.9           | 6082137                      | –                         |
| UNI V06/M11-523/A | 1.1         | •            | •          | 19.1           | 6082138                      | –                         |
| UNI V06/T11-540   | 1.1         | –            | –          | 19.2           | –                            | 6082139                   |
| UNI V06/T11-540/A | 1.1         | •            | •          | 21.5           | –                            | 6082140                   |
| UNI V06/M15-523/P | 1.5         | –            | •          | 18.9           | 6082141                      | –                         |
| UNI V06/M15-523/A | 1.5         | •            | •          | 19.1           | 6082142                      | –                         |
| UNI V06/T15-540   | 1.5         | –            | –          | 19.2           | –                            | 6082143                   |
| UNI V06/T15-540/A | 1.5         | •            | •          | 21.5           | –                            | 6082144                   |
| UNI V06/T25-540   | 2.5         | –            | –          | 23.8           | –                            | 6082145                   |
| UNI V06/T25-540/A | 2.5         | •            | •          | 26.1           | –                            | 6082146                   |

• = available, – = not available; o = optional



| Technical data                |                      |                      |                      |                      |                        |
|-------------------------------|----------------------|----------------------|----------------------|----------------------|------------------------|
| Pump type                     | UNI V06/M11-523/P    | UNI V06/M11-523/A    | UNI V06/T11-540      | UNI V06/T11-540/A    | UNI V06/M15-523/P      |
| Mains connection              | 1~230 V, 50 Hz       | 1~230 V, 50 Hz       | 3~400 V, 50 Hz       | 3~400 V, 50 Hz       | 1~230 V, 50 Hz         |
| <b>Unit</b>                   |                      |                      |                      |                      |                        |
| Pressure connection           | DN 65                | DN 65                | DN 65                | DN 65                | DN 65                  |
| Free ball passage             | 44 mm                | 44 mm                | 44 mm                | 44 mm                | 44 mm                  |
| Max. volume flow $Q_{max}$    | 36 m <sup>3</sup> /h | 36 m <sup>3</sup> /h | 36 m <sup>3</sup> /h | 36 m <sup>3</sup> /h | 43.2 m <sup>3</sup> /h |
| Max. delivery head $H_{max}$  | 13.5 m               | 13.5 m               | 13.5 m               | 13.5 m               | 17.5 m                 |
| Operating mode (immersed)     | S1                   | S1                   | S1                   | S1                   | S1                     |
| Operating mode (non-immersed) | S2-15 min /S3-10%    | S2-15 min /S3-10%    | S2-15 min /S3-10%    | S2-15 min /S3-10%    | S2-15 min /S3-10%      |
| Max. immersion depth          | 7 m                  | 7 m                  | 7 m                  | 7 m                  | 7 m                    |
| Protection class              | IP 68                | IP 68                | IP 68                | IP 68                | IP 68                  |
| Fluid temperature $T$         | +3 ... +40 °C        | +3 ... +40 °C        | +3 ... +40 °C        | +3 ... +40 °C        | +3 ... +40 °C          |
| <b>Motor data</b>             |                      |                      |                      |                      |                        |
| Rated current $I_n$           | 7.2 A                | 7.2 A                | 2.9 A                | 2.9 A                | 9.3 A                  |
| Starting current              | -                    | -                    | -                    | -                    | -                      |
| Rated power $P_2$             | 1.1 kW               | 1.1 kW               | 1.1 kW               | 1.1 kW               | 1.5 kW                 |
| Power consumption $P_1$       | 1.6 kW               | 1.6 kW               | 1.5 kW               | 1.5 kW               | 2.1 kW                 |
| Activation type               | Direct               | Direct               | Direct               | Direct               | Direct                 |
| Rated speed $n$               | 2899 rpm             | 2899 rpm             | 2893 rpm             | 2893 rpm             | 2852 rpm               |
| Insulation class              | F                    | F                    | F                    | F                    | F                      |
| Max. switching frequency      | 30 1/h               | 30 1/h               | 30 1/h               | 30 1/h               | 30 1/h                 |
| Permitted voltage tolerance   | ±10 %                | ±10 %                | ±10 %                | ±10 %                | ±10 %                  |
| <b>Cable</b>                  |                      |                      |                      |                      |                        |
| Length of connecting cable    | 10 m                 | 10 m                 | 10 m                 | 10 m                 | 10 m                   |
| Cable type                    | H07RN-F              | H07RN-F              | H07RN-F              | H07RN-F              | H07RN-F                |
| Cable cross-section           | 3G1                  | 3G1                  | 6G1                  | 6G1                  | 3G1                    |
| Type of connecting cable      | Detachable           | Detachable           | Detachable           | Detachable           | Detachable             |
| <b>Equipment/function</b>     |                      |                      |                      |                      |                        |
| Motor protection              | Bimetall             | Bimetall             | Bimetall             | Bimetall             | Bimetall               |
| Explosion protection          | -                    | -                    | -                    | -                    | -                      |
| <b>Materials</b>              |                      |                      |                      |                      |                        |
| Static seal                   | NBR                  | NBR                  | NBR                  | NBR                  | NBR                    |
| Impeller                      | PP-GF30              | PP-GF30              | PP-GF30              | PP-GF30              | PP-GF30                |
| Sealing on motor side         | Carbon/steatite      | Carbon/steatite      | Carbon/steatite      | Carbon/steatite      | Carbon/steatite        |
| Mechanical seal               | SiC/SiC              | SiC/SiC              | SiC/SiC              | SiC/SiC              | SiC/SiC                |
| Motor housing                 | 1.4301               | 1.4301               | 1.4301               | 1.4301               | 1.4301                 |
| Pump housing                  | PP-GF30              | PP-GF30              | PP-GF30              | PP-GF30              | PP-GF30                |
| Pump shaft                    | 1.4401 [AISI316]     | 1.4401 [AISI316]     | 1.4401 [AISI316]     | 1.4401 [AISI316]     | 1.4401 [AISI316]       |

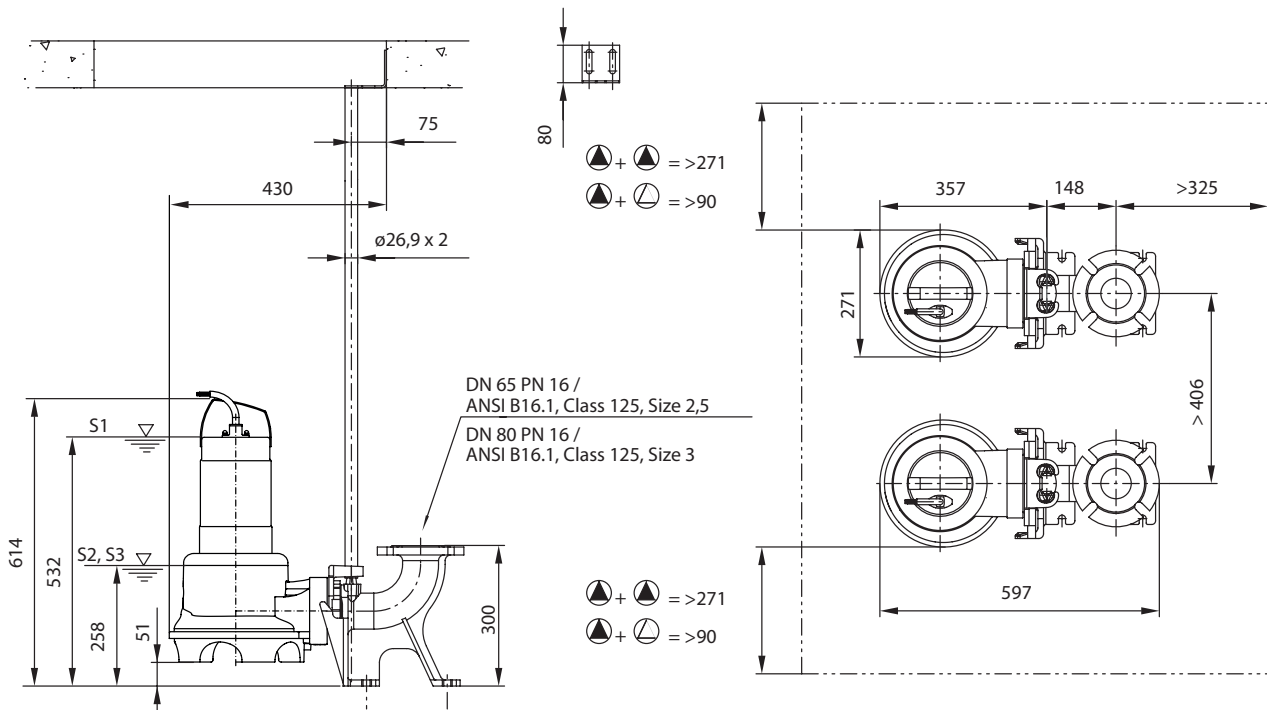
• = available, - = not available; o = optional

| Technical data                |                        |                        |                        |                      |                      |
|-------------------------------|------------------------|------------------------|------------------------|----------------------|----------------------|
| Pump type                     | UNI V06/M15-523/A      | UNI V06/T15-540        | UNI V06/T15-540/A      | UNI V06/T25-540      | UNI V06/T25-540/A    |
| Mains connection              | 1~230 V, 50 Hz         | 3~400 V, 50 Hz         | 3~400 V, 50 Hz         | 3~400 V, 50 Hz       | 3~400 V, 50 Hz       |
| <b>Unit</b>                   |                        |                        |                        |                      |                      |
| Pressure connection           | DN 65                  | DN 65                  | DN 65                  | DN 65                | DN 65                |
| Free ball passage             | 44 mm                  | 44 mm                  | 44 mm                  | 44 mm                | 44 mm                |
| Max. volume flow $Q_{max}$    | 43.2 m <sup>3</sup> /h | 43.2 m <sup>3</sup> /h | 43.2 m <sup>3</sup> /h | 54 m <sup>3</sup> /h | 54 m <sup>3</sup> /h |
| Max. delivery head $H_{max}$  | 17.5 m                 | 17.5 m                 | 17.5 m                 | 23.5 m               | 23.5 m               |
| Operating mode (immersed)     | S1                     | S1                     | S1                     | S1                   | S1                   |
| Operating mode (non-immersed) | S2-15 min / S3-10%     | S2-15 min / S3-10%     | S2-15 min / S3-10%     | S2-15 min / S3-10%   | S2-15 min / S3-10%   |
| Max. immersion depth          | 7 m                    | 7 m                    | 7 m                    | 7 m                  | 7 m                  |
| Protection class              | IP 68                  | IP 68                  | IP 68                  | IP 68                | IP 68                |
| Fluid temperature $T$         | +3 ... +40 °C          | +3 ... +40 °C          | +3 ... +40 °C          | +3 ... +40 °C        | +3 ... +40 °C        |
| <b>Motor data</b>             |                        |                        |                        |                      |                      |
| Rated current $I_N$           | 9.3 A                  | 3.6 A                  | 3.6 A                  | 5.5 A                | 5.5 A                |
| Starting current              | -                      | -                      | -                      | -                    | -                    |
| Rated power $P_2$             | 1.5 kW                 | 1.5 kW                 | 1.5 kW                 | 2.5 kW               | 2.5 kW               |
| Power consumption $P_1$       | 2.1 kW                 | 2.1 kW                 | 2.1 kW                 | 3.2 kW               | 3.2 kW               |
| Activation type               | Direct                 | Direct                 | Direct                 | Direct               | Direct               |
| Rated speed $n$               | 2852 rpm               | 2850 rpm               | 2850 rpm               | 2848 rpm             | 2848 rpm             |
| Insulation class              | F                      | F                      | F                      | F                    | F                    |
| Max. switching frequency      | 30 1/h                 | 30 1/h                 | 30 1/h                 | 30 1/h               | 30 1/h               |
| Permitted voltage tolerance   | ±10 %                  | ±10 %                  | ±10 %                  | ±10 %                | ±10 %                |
| <b>Cable</b>                  |                        |                        |                        |                      |                      |
| Length of connecting cable    | 10 m                   | 10 m                   | 10 m                   | 10 m                 | 10 m                 |
| Cable type                    | H07RN-F                | H07RN-F                | H07RN-F                | H07RN-F              | H07RN-F              |
| Cable cross-section           | 3G1                    | 6G1                    | 6G1                    | 6G1                  | 6G1                  |
| Type of connecting cable      | Detachable             | Detachable             | Detachable             | Detachable           | Detachable           |
| <b>Equipment/function</b>     |                        |                        |                        |                      |                      |
| Motor protection              | Bimetall               | Bimetall               | Bimetall               | Bimetall             | Bimetall             |
| Explosion protection          | -                      | -                      | -                      | -                    | -                    |
| <b>Materials</b>              |                        |                        |                        |                      |                      |
| Static seal                   | NBR                    | NBR                    | NBR                    | NBR                  | NBR                  |
| Impeller                      | PP-GF30                | PP-GF30                | PP-GF30                | PP-GF30              | PP-GF30              |
| Sealing on motor side         | Carbon/steatite        | Carbon/steatite        | Carbon/steatite        | Carbon/steatite      | Carbon/steatite      |
| Mechanical seal               | SiC/SiC                | SiC/SiC                | SiC/SiC                | SiC/SiC              | SiC/SiC              |
| Motor housing                 | 1.4301                 | 1.4301                 | 1.4301                 | 1.4301               | 1.4301               |
| Pump housing                  | PP-GF30                | PP-GF30                | PP-GF30                | PP-GF30              | PP-GF30              |
| Pump shaft                    | 1.4401 [AISI316]       | 1.4401 [AISI316]       | 1.4401 [AISI316]       | 1.4401 [AISI316]     | 1.4401 [AISI316]     |

• = available, - = not available; o = optional

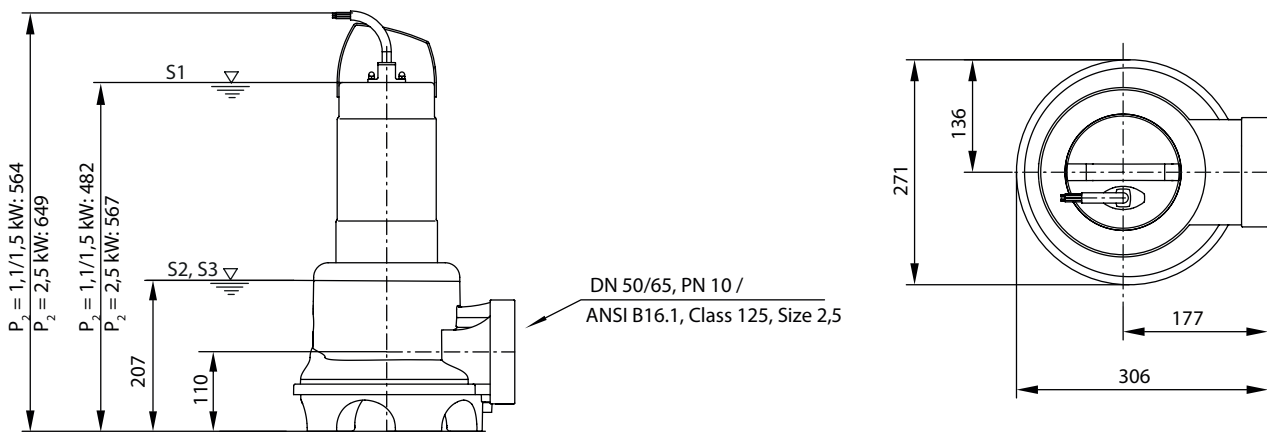
Dimension drawing

Wilo-Rexa UNI V06.. - Stationary wet well installation

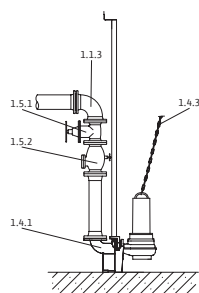


Dimension drawing

Wilo-Rexa UNI V06.. - portable wet well installation



Installation drawing Stationary wet well installation



- 1.1.3 90° pipe bend
- 1.4.1 Suspension unit
- 1.4.3 Chain
- 1.5.1 Shut-off valve
- 1.5.2 Non-return valve

Accessories for stationary wet well installation DN 50

| Type                                               | Item number | Description                                                                                                                                                                                                                                                                                                                    | Art no. |
|----------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Suspension unit DN50/2RK                           | 1.4.1       | For 2-pipe guide of EN-GJL-250, cathophoretic-coated, with free passage in DN 50, coupling base with 90° pipe elbow, including coupling connection, guide pipe bracket of stainless steel for pump chamber fixation, profile joint and mounting accessories; two guide pipes (26.9 x 2 mm) are to be provided by the customer! | 6070146 |
| Guide pipe bracket DN 50 for GG pipe               | 1.4.1       | for 2-pipe guide, of stainless steel, for pipe attachment on a cast-iron pipe, including mounting accessories                                                                                                                                                                                                                  | 6066851 |
| Guide pipe bracket DN 50 for ST pipe               | 1.4.1       | for 2-pipe guide, of stainless steel, for pipe attachment on a steel pipe, including mounting accessories                                                                                                                                                                                                                      | 6061084 |
| Bracket for guide pipe extension DN 50 for GG pipe | 1.4.1       | for 2-pipe guide, of stainless steel, for pipe attachment on a cast-iron pipe, including mounting accessories                                                                                                                                                                                                                  | 6066852 |
| Bracket for guide pipe extension DN 50 for ST pipe | 1.4.1       | for 2-pipe guide, of stainless steel, for pipe attachment on a steel pipe, including mounting accessories                                                                                                                                                                                                                      | 6066846 |
| Non-return valve DN 50                             | 1.5.2       | made of EN-GJL-250, according to DIN EN 12050-4, including 1 set mounting accessories                                                                                                                                                                                                                                          | 2017166 |
| Gate valve DN 50                                   | 1.5.1       | made of EN-GJL-250, including 1 set mounting accessories                                                                                                                                                                                                                                                                       | 2017160 |
| Chain set PCS-CE, galvanised steel, 400 kg, 5 m    | 1.4.3       | As chain sling with 2 shackles in galvanised steel. Bearing capacity: 400 kg                                                                                                                                                                                                                                                   | 6063140 |
| Chain set PCS-CE, galvanised steel, 400 kg, 10 m   | 1.4.3       |                                                                                                                                                                                                                                                                                                                                | 6063142 |
| Chain set PCS-CE, stainless steel, 400 kg, 5 m     | 1.4.3       | As chain sling with 2 shackles in 1.4401 stainless steel. Bearing capacity: 400 kg                                                                                                                                                                                                                                             | 6063136 |
| Chain set PCS-CE, stainless steel, 400 kg, 10 m    | 1.4.3       |                                                                                                                                                                                                                                                                                                                                | 6063138 |
| Y-piece DN 50                                      | 1.1.5       | Made of steel, galvanized, flange PN 10/16 according to DIN 2501 with 2 sets of mounting accessories                                                                                                                                                                                                                           | 2019042 |
| Mounting accessories DN 40/50/65, PN 10            | 1.4.12      | For one flange connection, with screws, nuts and flat gasket                                                                                                                                                                                                                                                                   | 6076963 |

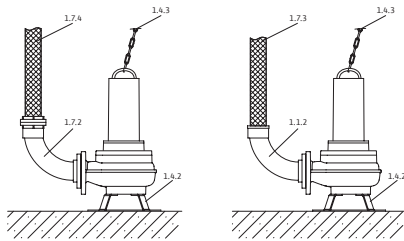
Accessories for stationary wet well installation DN 65

| Type                                               | Item number | Description                                                                                                                                                                                                                                                                                                                    | Art no. |
|----------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Suspension unit DN65/2RK                           | 1.4.1       | For 2-pipe guide of EN-GJL-250, cathophoretic-coated, with free passage in DN 65, coupling base with 90° pipe elbow, including coupling connection, guide pipe bracket of stainless steel for pump chamber fixation, profile joint and mounting accessories; two guide pipes (26.9 x 2 mm) are to be provided by the customer! | 6070150 |
| Guide pipe bracket DN 65 for GG pipe               | 1.4.1       | for 2-pipe guide, of stainless steel, for pipe attachment on a cast-iron pipe, including mounting accessories                                                                                                                                                                                                                  | 6066847 |
| Guide pipe bracket DN 65 for ST pipe               | 1.4.1       | for 2-pipe guide, of stainless steel, for pipe attachment on a steel pipe, including mounting accessories                                                                                                                                                                                                                      | 6066848 |
| Bracket for guide pipe extension DN 65 for GG pipe | 1.4.1       | for 2-pipe guide, of stainless steel, for pipe attachment on a cast-iron pipe, including mounting accessories                                                                                                                                                                                                                  | 6066849 |
| Bracket for guide pipe extension DN 65 for ST pipe | 1.4.1       | for 2-pipe guide, of stainless steel, for pipe attachment on a steel pipe, including mounting accessories                                                                                                                                                                                                                      | 6066850 |
| Non-return valve DN 65                             | 1.5.2       | made of EN-GJL-250, according to DIN EN 12050-4, including 1 set mounting accessories                                                                                                                                                                                                                                          | 2017167 |
| Gate valve DN 65                                   | 1.5.1       | made of EN-GJL-250, including 1 set mounting accessories                                                                                                                                                                                                                                                                       | 2017161 |
| 90° pipe elbow DN 65                               | 1.1.3       | Made of EN-GJS-400-15, with 2 flanges, including 1 set of mounting accessories                                                                                                                                                                                                                                                 | 2017183 |
| Chain set PCS-CE, galvanised steel, 400 kg, 5 m    | 1.4.3       | As chain sling with 2 shackles in galvanised steel. Bearing capacity: 400 kg                                                                                                                                                                                                                                                   | 6063140 |
| Chain set PCS-CE, galvanised steel, 400 kg, 10 m   | 1.4.3       |                                                                                                                                                                                                                                                                                                                                | 6063142 |

Accessories for stationary wet well installation DN 65

| Type                                            | Item number | Description                                                                                          | Art no. |
|-------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------|---------|
| Chain set PCS-CE, stainless steel, 400 kg, 5 m  | 1.4.3       | As chain sling with 2 shackles in 1.4401 stainless steel. Bearing capacity: 400 kg                   | 6063136 |
| Chain set PCS-CE, stainless steel, 400 kg, 10 m | 1.4.3       |                                                                                                      | 6063138 |
| Y-piece DN 65                                   | 1.1.5       | Made of steel, galvanized, flange PN 10/16 according to DIN 2501 with 2 sets of mounting accessories | 2017178 |
| Mounting accessories DN 40/50/65, PN 10         | 1.4.12      | For one flange connection, with screws, nuts and flat gasket                                         | 6076963 |

Installation drawing Portable wet well installation



- 1.1.2 90° pipe bend with hose connection
- 1.4.2 Pump foot
- 1.4.3 Chain
- 1.7.3 Pressure hose
- 1.7.4 Pressure hose with Storz coupling
- 1.7.5 90° pipe bend with Storz coupling

Accessories for portable wet well installation DN 50

| Type                                             | Item number | Description                                                                                                                                     | Art no. |
|--------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 90° pipe elbow DN 50/60 mm                       | 1.1.2       | Made of PVC, with hose connector Ø 60 mm, flange on pump side, including 1 set of mounting accessories                                          | 4027344 |
| Synthetic pressure hose 3 m, Ø 60 mm             | 1.7.3       | Inside Ø 60 mm, PN 6, including hose clip                                                                                                       | 2027644 |
| Synthetic pressure hose 5 m, Ø 60 mm             | 1.7.3       |                                                                                                                                                 | 2027645 |
| Synthetic pressure hose 10 m, Ø 60 mm            | 1.7.3       |                                                                                                                                                 | 2018106 |
| Synthetic pressure hose 15 m, Ø 60 mm            | 1.7.3       |                                                                                                                                                 | 2027646 |
| Fixed coupling set Storz C/ DN 50                | 1.7.2       | with 90° pipe elbow and flange connection; pipe elbow made of EN-GJL-250, Storz coupling made of aluminium, incl. 1 set of mounting accessories | 6031671 |
| Synthetic fibre pressure hose 5 m, with Storz C  | 1.7.4       | Inside Ø 52 mm, including coupling, 12/40 bar                                                                                                   | 6003651 |
| Synthetic fibre pressure hose 10 m, with Storz C | 1.7.4       |                                                                                                                                                 | 6003650 |
| Synthetic fibre pressure hose 20 m, with Storz C | 1.7.4       |                                                                                                                                                 | 6003649 |
| Chain set PCS-CE, galvanized steel, 400 kg, 5 m  | 1.4.3       | As chain sling with 2 shackles in galvanized steel. Bearing capacity: 400 kg                                                                    | 6063140 |
| Chain set PCS-CE, galvanized steel, 400 kg, 10 m | 1.4.3       |                                                                                                                                                 | 6063142 |
| Chain set PCS-CE, stainless steel, 400 kg, 5 m   | 1.4.3       | As chain sling with 2 shackles in 1.4401 stainless steel. Bearing capacity: 400 kg                                                              | 6063136 |
| Chain set PCS-CE, stainless steel, 400 kg, 10 m  | 1.4.3       |                                                                                                                                                 | 6063138 |

Accessories for portable wet well installation DN 65

| Type                                  | Item number | Description                                                                                                   | Art no. |
|---------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------|---------|
| 90° pipe elbow DN 65/70 mm            | 1.1.2       | Made of EN-GJL-250, with hose connector Ø 70 mm, flange on pump side, including 1 set of mounting accessories | 4027346 |
| Synthetic pressure hose 10 m, Ø 70 mm | 1.7.3       | Inside Ø 70 mm, PN 8, including hose clip                                                                     | 2014151 |
| Threaded flange DN 65 on Rp 2½        | 1.1.7       | made of galvanized steel, DN 65 with Rp 2½ female thread, incl. 1 set of mounting accessories                 | 4015204 |

| Accessories for portable wet well installation DN 65 |             |                                                                                    |         |
|------------------------------------------------------|-------------|------------------------------------------------------------------------------------|---------|
| Type                                                 | Item number | Description                                                                        | Art no. |
| 90° pipe elbow G 2½                                  | 1.1.1       | Made of steel, galvanized with female/male thread G 2½ / R 2½                      | 4015212 |
| Fixed coupling Storz C/G 2½                          | 1.7.5       | made of aluminium, Storz C connection, with male thread                            | 2015234 |
| Synthetic fibre pressure hose 5 m, with Storz C      | 1.7.4       | Inside Ø 52 mm, including coupling, 12/40 bar                                      | 6003651 |
| Synthetic fibre pressure hose 10 m, with Storz C     | 1.7.4       |                                                                                    | 6003650 |
| Synthetic fibre pressure hose 20 m, with Storz C     | 1.7.4       |                                                                                    | 6003649 |
| Chain set PCS-CE, galvanized steel, 400 kg, 5 m      | 1.4.3       | As chain sling with 2 shackles in galvanised steel. Bearing capacity: 400 kg       | 6063140 |
| Chain set PCS-CE, galvanized steel, 400 kg, 10 m     | 1.4.3       |                                                                                    | 6063142 |
| Chain set PCS-CE, stainless steel, 400 kg, 5 m       | 1.4.3       | As chain sling with 2 shackles in 1.4401 stainless steel. Bearing capacity: 400 kg | 6063136 |
| Chain set PCS-CE, stainless steel, 400 kg, 10 m      | 1.4.3       |                                                                                    | 6063138 |

| Electrical accessories – level control with dynamic pressure system                                                          |                                                                                                                                                                                                                                                                                                               |           |  |
|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--|
| Level measurement via an open dynamic pressure system with the option of a separate immersion bell for the high water level. |                                                                                                                                                                                                                                                                                                               |           |  |
| Type                                                                                                                         | Description                                                                                                                                                                                                                                                                                                   | Art no.   |  |
| EC-L-1x12A-DOL-MT34-WM-EMS-IPS                                                                                               | Microcontroller-controlled switchgear with LC display, symbol-based menu navigation and integrated pressure transducer for level-dependent control of a submersible pump by means of float switches, level sensor or immersion bell. WITHOUT main switch, mains isolator must be provided by the customer!    | 2543212   |  |
| EC-L-2x12A-DOL-MT34-WM-EMS-IPS                                                                                               | Microcontroller-controlled switchgear with LC display, symbol-based menu navigation and integrated pressure transducer for level-dependent control of two submersible pumps by means of float switches, level sensor or immersion bell. WITHOUT main switch, mains isolator must be provided by the customer! | 2543222   |  |
| Dynamic pressure bell with 10 m hose                                                                                         | Pneumatic signal transmitter for fluids containing faeces with a max. temperature of 60°C. The signal transmitter is open in the direction of the fluid and has to be vented after each pumping-out (OFF according to time).                                                                                  | 2516976   |  |
| Bubbling-through system                                                                                                      | Small compressor for a permanent or periodic ventilation of the dynamic pressure bell (OFF according to water level) Incl. non-return valve, 3 m hose and T-connector                                                                                                                                         | 2516977   |  |
| Flashing light                                                                                                               | Optical alarm signal for connection to a switchgear. Suitable for outside installation.                                                                                                                                                                                                                       | 2510429   |  |
| Signal horn                                                                                                                  | Acoustic alarm signal (88 dB(A)) for connection to a switchgear. Suitable for outside installation.                                                                                                                                                                                                           | 501459398 |  |
| NiMH rechargeable battery, 9 V/200 mAh                                                                                       | Rechargeable battery to be installed in the switchgears Wilo-control MS-L and EC-L for a mains-independent alarm                                                                                                                                                                                              | 2522850   |  |

You can find more accessories at the end in the chapter Electric accessories!

Attention: Switchgears are not protected against explosions and can be used only outside potentially explosive areas. If pumps are used within potentially explosive areas, onsite measures are required.

| Electrical accessories – level control with float switch                                                          |                                                                                                                                |           |  |
|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------|--|
| Level measurement using several float switches for the different water levels, including high water alarm signal. |                                                                                                                                |           |  |
| Type                                                                                                              | Description                                                                                                                    | Art no.   |  |
| MS-L-1x4kW-DOL                                                                                                    | Microprocessor-controlled switchgear for level-dependent control of one submersible motor pump with float switch.              | 2539741   |  |
| MS-L-2x4kW-DOL                                                                                                    | Microprocessor-controlled switchgear for level-dependent control of two submersible motor pumps with float switch.             | 2539745   |  |
| Float switches WA65 with 5 m cable                                                                                | Signal transmitters for contaminated fluids without faeces with a maximum temperature of 60 °C. Switching: up "ON"/down "OFF". | 503211390 |  |
| Float switches WA65 with 10 m cable                                                                               |                                                                                                                                | 503211893 |  |
| Float switches WA65 with 20 m cable                                                                               |                                                                                                                                | 2004431   |  |
| Float switches WA65 with 30 m cable                                                                               |                                                                                                                                | 2004432   |  |
| Flashing light                                                                                                    | Optical alarm signal for connection to a switchgear. Suitable for outside installation.                                        | 2510429   |  |

You can find more accessories at the end in the chapter Electric accessories!

Attention: Switchgears are not protected against explosions and can be used only outside potentially explosive areas. If pumps are used within potentially explosive areas, onsite measures are required.

Electrical accessories – level control with float switch

Level measurement using several float switches for the different water levels, including high water alarm signal.

| Type                                   | Description                                                                                                      | Art no.   |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|
| Signal horn                            | Acoustic alarm signal (88 dBA) for connection to a switchgear. Suitable for outside installation.                | 501459398 |
| NiMH rechargeable battery, 9 V/200 mAh | Rechargeable battery to be installed in the switchgears Wilo-control MS-L and EC-L for a mains-independent alarm | 2522850   |

You can find more accessories at the end in the chapter Electric accessories!

Attention: Switchgears are not protected against explosions and can be used only outside potentially explosive areas. If pumps are used within potentially explosive areas, onsite measures are required.

Electrical accessories – mains-independent alarm signal

Alarm signal for detection of flooding in rooms and buildings. The alarm signal is acoustic, optical or wireless. In addition, other consumers can be controlled directly.

| Type                                | Description                                                                                                                                 | Art no.                                                                                 |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| DrainAlarm 2                        | Network-independent alarm switchgear with optical and acoustic alarm signal and with a connection for one float switch.                     | 2545133                                                                                 |
| DrainAlarm GSM                      | Network-independent alarm switchgear with optical, acoustic and wireless (per GSM) alarm signal and with a connection for one float switch. | 2542911                                                                                 |
| Float switches WA65 with 5 m cable  | Signal transmitters for contaminated fluids without faeces with a maximum temperature of 60 °C. Switching: up "ON"/down "OFF".              | 503211390                                                                               |
| Float switches WA65 with 10 m cable |                                                                                                                                             | 503211893                                                                               |
| Float switches WA65 with 20 m cable |                                                                                                                                             | 2004431                                                                                 |
| Float switches WA65 with 30 m cable |                                                                                                                                             | 2004432                                                                                 |
| Flashing light                      |                                                                                                                                             | Optical alarm signal for connection to a switchgear. Suitable for outside installation. |
| Signal horn                         | Acoustic alarm signal (88 dB(A)) for connection to a switchgear. Suitable for outside installation.                                         | 501459398                                                                               |

You can find more accessories at the end in the chapter Electric accessories!

Attention: Switchgears are not protected against explosions and can be used only outside potentially explosive areas. If pumps are used within potentially explosive areas, onsite measures are required.

Electrical accessories – level control with level sensor

Level measurement using a level sensor with various measurement ranges, including high water alarm and dry-running protection. The breakdown barrier and the Ex cut-off relays are not required except for the connection of signal transmitters in potentially explosive areas! These can also be dispensed with when the SC-L...-Ex switchgear is used!

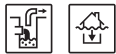
| Type                                    | Description                                                                                                                                                                                                                                                | Art no.                                                                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| EC-L-1x12A-DOL-MT34-WM-EMS              | Microcontroller-controlled switchgear with LC display and symbol-based menu navigation for level-dependent control of a submersible pump by means of float switches or level sensor. WITHOUT main switch, mains isolator must be provided by the customer! | 2543211                                                                                 |
| EC-L-2x12A-DOL-MT34-WM-EMS              | Microcontroller-controlled switchgear with LC display and symbol-based menu navigation for level-dependent control of submersible pumps by means of float switches or level sensor. WITHOUT main switch, mains isolator must be provided by the customer!  | 2543221                                                                                 |
| Level sensor 0-1 mWS, with 10 m cable   | Signal transmitter with ATEX approval for fluids containing faeces with a max. temperature of 60°C. Output signal: 4...20 mA                                                                                                                               | 2519924                                                                                 |
| Level sensor 0-1 mWS, with 30 m cable   |                                                                                                                                                                                                                                                            | 2519925                                                                                 |
| Level sensor 0-1 mWS, with 50 m cable   |                                                                                                                                                                                                                                                            | 2519926                                                                                 |
| Level sensor 0-2.5 mWS with 10 m cable  |                                                                                                                                                                                                                                                            | 2519921                                                                                 |
| Level sensor 0-2.5 mWS, with 30 m cable |                                                                                                                                                                                                                                                            | 2519922                                                                                 |
| Level sensor 0-2.5 mWS, with 50 m cable |                                                                                                                                                                                                                                                            | 2519923                                                                                 |
| Flashing light                          |                                                                                                                                                                                                                                                            | Optical alarm signal for connection to a switchgear. Suitable for outside installation. |
| Signal horn                             | Acoustic alarm signal (88 dB(A)) for connection to a switchgear. Suitable for outside installation.                                                                                                                                                        | 501459398                                                                               |
| Cable clamp                             | For the fixation of a signal transmitter in the sump. The terminal is fixed with a hook to the sump, the cable of the signal transmitter is connected and fixed by the weight of the signal transmitter.                                                   | 2519927                                                                                 |
| NiMH rechargeable battery, 9 V/200 mAh  | Rechargeable battery to be installed in the switchgears Wilo-control MS-L and EC-L for a mains-independent alarm                                                                                                                                           | 2522850                                                                                 |

You can find more accessories at the end in the chapter Electric accessories!

Attention: Switchgears are not protected against explosions and can be used only outside potentially explosive areas. If pumps are used within potentially explosive areas, onsite measures are required.

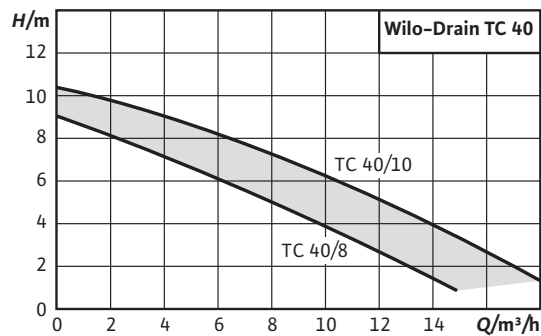


**Wilo-Drain TC 40**



Submersible sewage pump for intermittent operation for stationary and portable wet well installation.

- Easy operation due to the attached float switch
- Integrated pump base for easy installation
- Impeller made of plastic
- Low weight



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

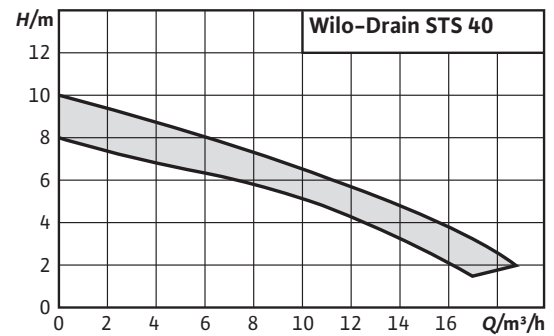


**Wilo-Drain STS 40**



Submersible sewage pump for intermittent operation for stationary and portable wet well installation.

- Attached float switch (A-model) enables easy operation
- Integrated pump base for easy installation
- Impeller made of stainless steel
- Low weight



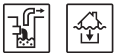
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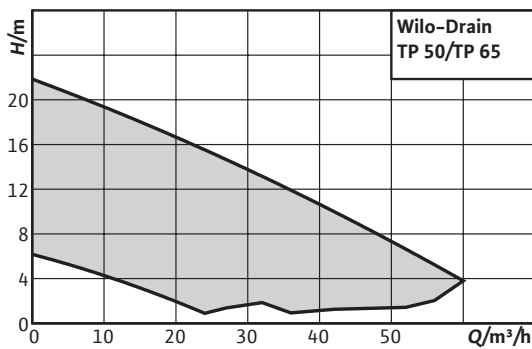


### Wilo-Drain TP 50/TP 65



Submersible sewage pump for continuous duty for stationary and portable wet well installation.

- Stainless steel motor housing made of 1.4301
- Attached float switch (A-model) enables easy operation
- Low weight



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All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

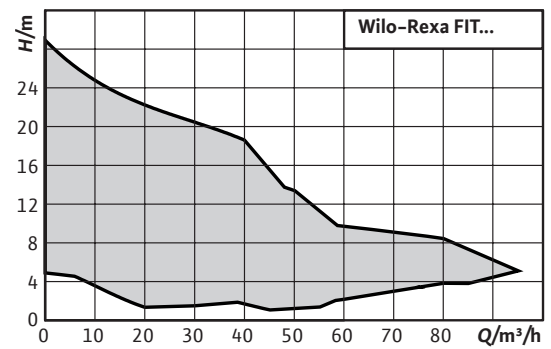


### Wilo-Rexa FIT



Submersible sewage pump for intermittent operation for stationary and portable wet well installation, as well as for the stationary dry well installation.

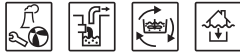
- Ready to plug in and use
- Attached float switch (A-model) enables easy operation
- Safe vortex hydraulics with large, free ball passage to prevent clogging during operation
- Sealing chamber with optional external monitoring
- Low weight



**Select 4 online**  
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

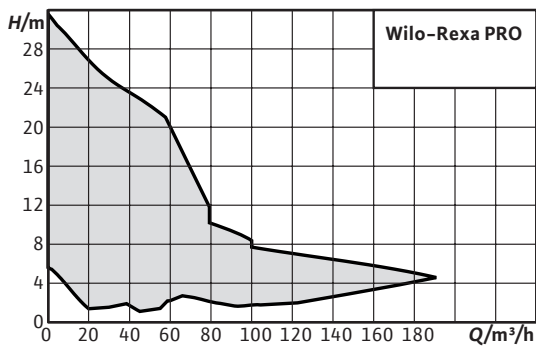


### Wilo-Rexa PRO



Submersible sewage pump for continuous duty for stationary and portable wet well installation, as well as for stationary dry well installation.

- Highly effective. Thanks to efficiency-optimized single-channel impellers
- Safe to operate due to low-clogging vortex impellers
- Verified safety: Ex-rated in accordance with ATEX as standard
- Energy-efficient IE3 motor technology available as an option



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

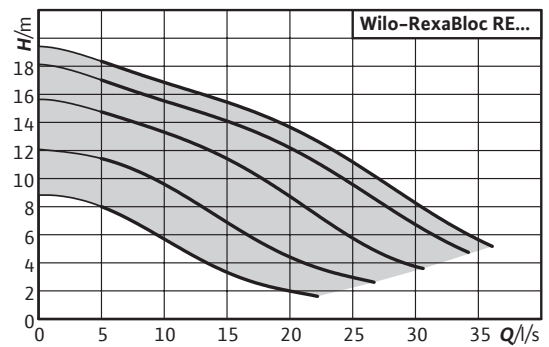


### Wilo-RexaBloc RE



Sewage pump in block design with standard motor for stationary dry well installation.

- High operational reliability due to shut bearing bracket design with oil-filled sealing chamber and additional leakage chamber.
- Optionally with two mechanical seals for increased operational reliability.
- Equipped with IE3 motors as standard. Optionally available with IE4 premium motors.
- Simple maintenance due to “back pullout” design. This means the motor and the impeller can be removed without needing to remove the hydraulics from the piping.



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

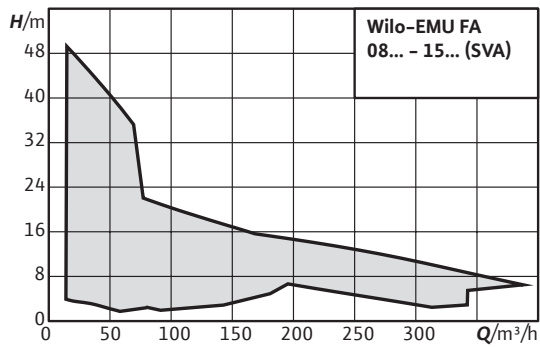


**Wilo-EMU FA (standard variant)**



Submersible sewage pump without cooling system for continuous duty for stationary and portable wet well installation.

- Operationally reliable thanks to vortex hydraulics and single-channel hydraulic systems with large, free ball passage
- Process reliability thanks to optional monitoring for the sealing chamber



**Select 4online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

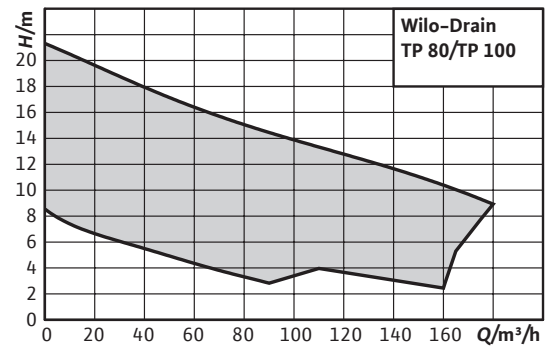


**Wilo-Drain TP 80/TP 100**



Submersible sewage pump for continuous duty for stationary and portable wet well installation, as well as stationary dry well installation.

- Self-cooling motor for use in wet and dry set-ups
- Corrosion-resistant stainless steel motor housing made of 1.4404
- Patented clogging-free hydraulics
- Longitudinally watertight cable inlet
- Low weight



**Select 4online**

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## Wilo-HiDrainlift 3

Small sewage lifting unit with macerator

- Very compact construction for installation in a wet area or under the shower tray (HiDrainlift 3-24)
- Low-noise operation and installed active carbon filter for high user comfort
- Reliable capacity and low electricity consumption for efficient wastewater disposal
- Simple installation with flexible connection options
- Systems ready for connection (HiDrainlift 3-35 and HiDrainlift 3-37)

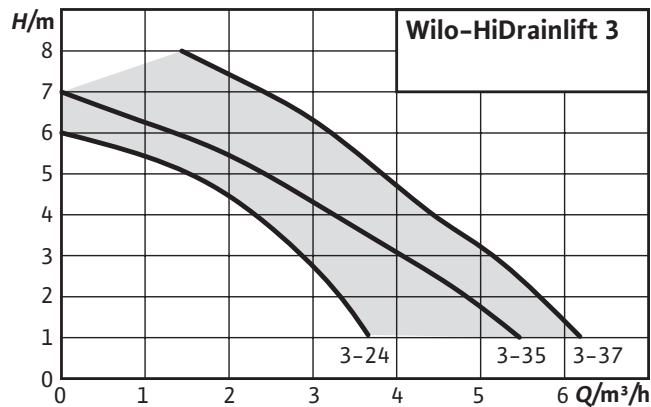


Systems ready for connection



Simple installation with flexible connection options





Successor of DrainLift  
TMP



### Design

Small sewage lifting unit for floor-mounted installation

- Fixation material
- Active carbon filter

### Type key

Example: **HiDrainlift 3-35**  
**HiDrainlift** Product family:  
 Wastewater lifting unit  
**3** Product level  
 3 = Standard  
**3** Number of inlet connections  
**5** Rated delivery head in m

### Materials

- Pump housing: PPGF30
- Motor housing: PPGF30
- Gasket: EPDM
- Tank material: PP

### Application

Pumping of pre-cleaned sewage without faeces (according to DIN EN 12050-2) that cannot be piped to the sewer system through the use of natural falls.

### Description/design

Ready-for-connection, automatically-switching wastewater lifting unit with built-in non-return valve and 2-3 inlet connecting pieces (depending on model). Odour-free exhaust ventilation into the installation room is implemented by means of an integrated active carbon filter.

### Technical data

- Mains connection 1~230 V, 50 Hz
- Mains connection cable 1.5 m, with shock-proof plug
- Fluid temperature max. 35 °C (up to 60/75 °C in short-time duty for 5 minutes, depending on the model)
- Pressure connection DN 32
- Inlet connection DN 40
- Protection class IP 44
- Gross tank volume 3.9 l / 16 l / 15.5 l
- Switching volume 1.7 l / 2 l / 2 l

### Scope of delivery

- Ready for connection wastewater lifting unit with macerator, active carbon filter and integrated non-return valves
- Installation and operating instructions
- Connection set for inlet and pressure pipes

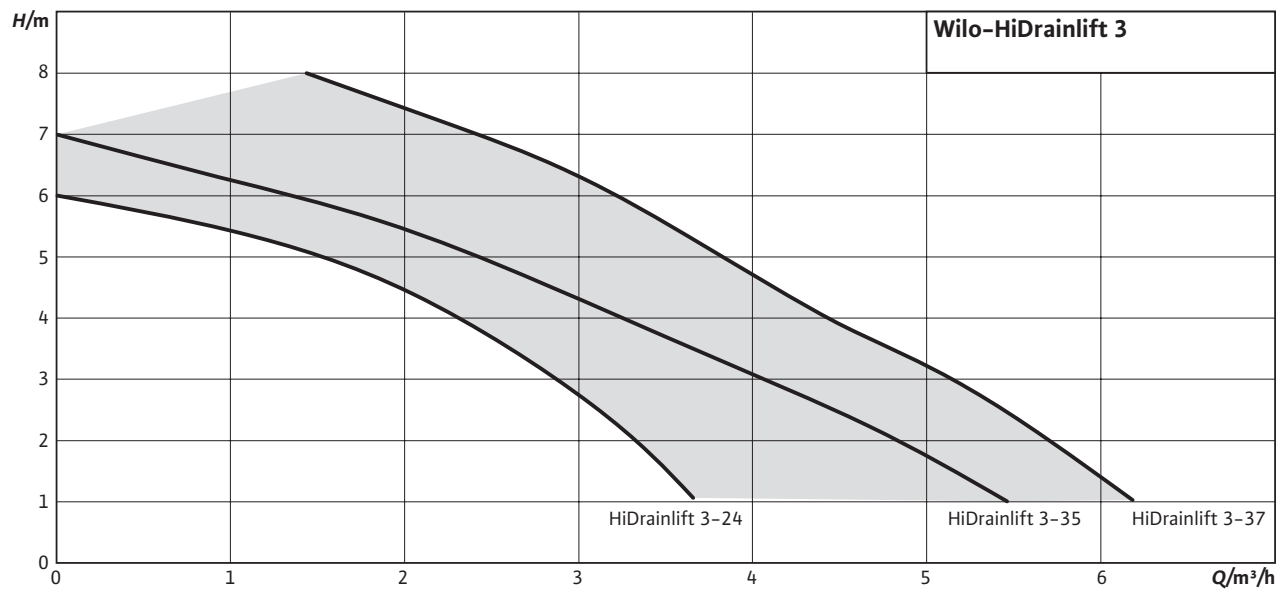
### Equipment/function

- Ready-to-plug
- Thermal motor protection
- Level checking via a pneumatic pressure transducer
- Integrated non-return valve

### Note

Changed dimensions to previous model

Pump curves





## Clever, practical solutions for less time-consuming work steps.

### Efficient reliability for automatic wastewater disposal.

Thanks to the ready-to-plug technology, the Wilo-HiDrainlift installation is now easier and faster. Three connections provide unparalleled flexibility, so everything always fits. The result: Reliable and efficient disposal with low energy consumption.

### Wilo is going beyond pumps.

#### Wilo-HiDrainlift 3-35

- Compact design for easy installation in a wet cell or under the shower tray
- Low-noise and odourless operation for high user comfort
- Reliable wastewater disposal with low electricity consumption
- Easy installation with flexible hydraulic connection options
- “Ready-to-plug” – ready for fast commissioning





## Wilo-HiSewlift 3

Small sewage lifting unit with macerator

- HiSewlift 3-135 in particularly narrow version (less than 149 mm width) for a simple front-wall installation
- Low-noise operation and installed active carbon filter for high user comfort
- Reliable capacity and low electricity consumption for efficient sewage disposal
- Simple installation with flexible connection options
- Ready for connection

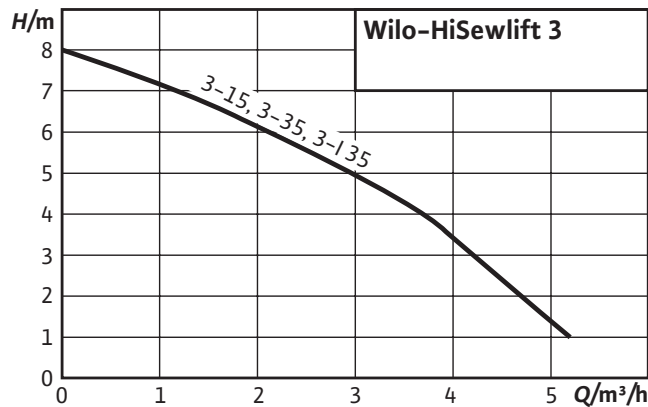
...for a simple front-wall installation



...flexible connection options







Successor of DrainLift  
KH



### Design

Small sewage lifting unit with macerator

### Type key

|                  |                                          |
|------------------|------------------------------------------|
| Example:         | <b>HiSewlift 3-35</b>                    |
| <b>HiSewlift</b> | Product family:                          |
|                  | Sewage lifting unit                      |
| <b>3</b>         | Product level                            |
|                  | 3 = Standard                             |
| <b>I</b>         | Front-wall installation:                 |
|                  | I = can be installed behind a front wall |
| <b>3</b>         | Number of inlet connections              |
|                  | (in addition to the toilet connection)   |
| <b>5</b>         | Rated delivery head in m                 |

### Application

Pumping of sewage containing faeces (according to DIN EN 12050-1) that cannot be piped to the sewer system through the use of natural falls.

### Technical data

- Mains connection 1~230 V, 50 Hz
- Mains connection cable 1.5 m, with shock-proof plug
- Fluid temperature max. 35 °C
- Pressure connection DN 32
- Inlet connection DN 40
- Protection class IP 44
- Gross tank volume 14.4 l / 17.4 l / 17.4 l
- Switching volume 1 l

### Equipment/function

- Ready-to-plug
- Thermal motor protection
- Level checking via a pneumatic pressure transducer
- Integrated non-return valve
- Fixation material
- Active carbon filter

### Materials

- Pump housing: PPGF30
- Motor housing: PPGF30
- Gasket: EPDM
- Tank material: PP

### Description/design

Automatically operating small lifting unit with macerator, built-in non-return valve, active carbon filter, flexible pressure port and connection options for one toilet, as well as two or three additional drainage fixtures (depending on the model). Odour-free exhaust ventilation into the installation room is implemented by means of an integrated active carbon filter.

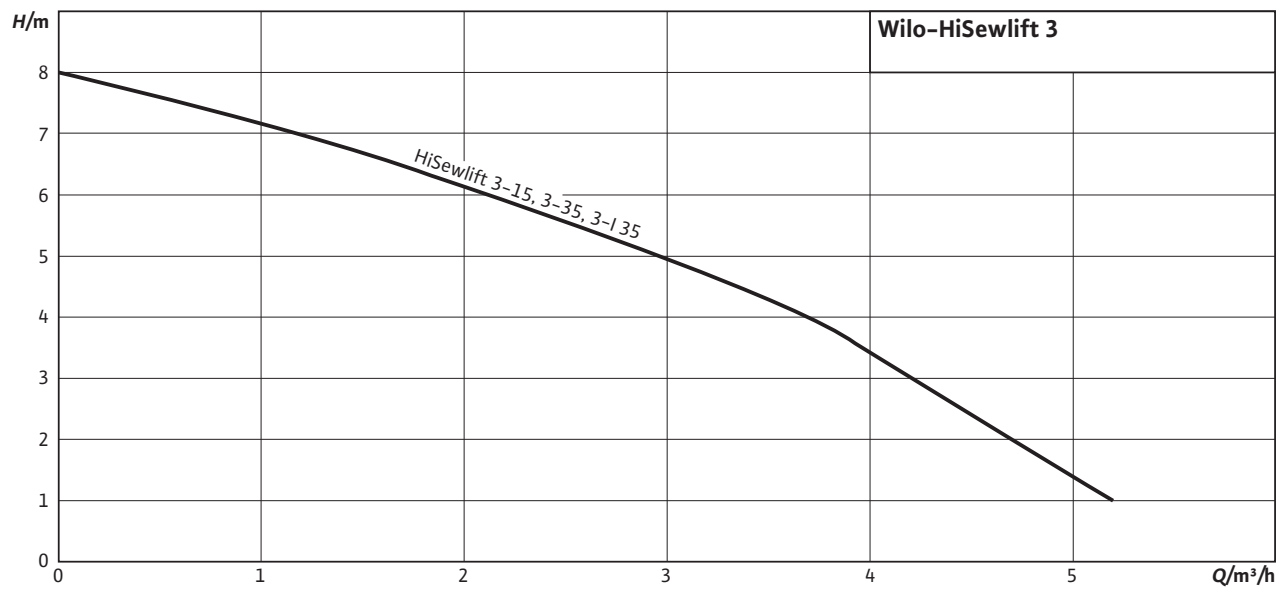
### Scope of delivery

- Ready for connection sewage lifting unit with macerator, active carbon filter and integrated non-return valves
- Installation and operating instructions
- Connection set for inlet and pressure pipes

### Note

Changed dimensions to previous model

Pump curves



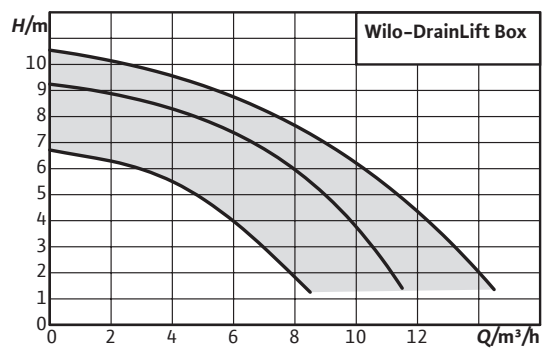


### Wilo-DrainLift Box



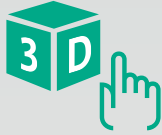
Small drainage lifting unit for concealed floor installation

- Easy to install due to integrated pump and non-return valve
- The large tank volume ensures a low number of switching operations
- Easy maintenance
- Stainless steel tile frame with trap
- With extra connection for a second tank



**Select 4** online

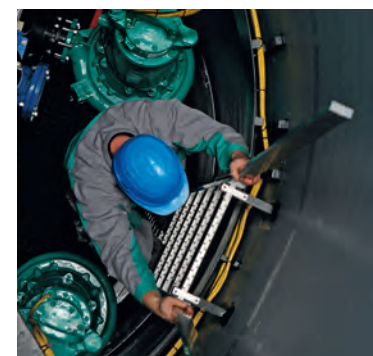
All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

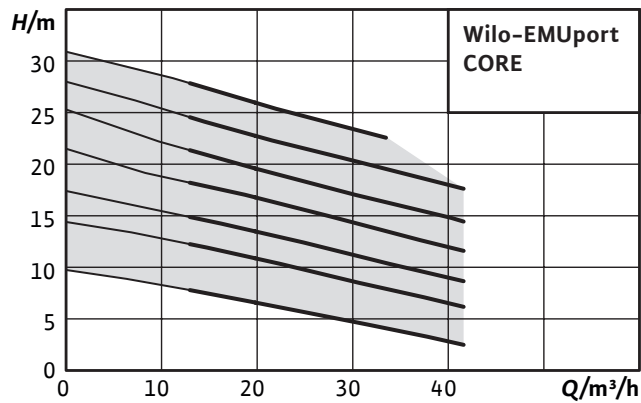


## Wilo-EMUport CORE

Standard sewage lifting unit with solids separation system in accordance with DIN EN 12050-1 for installation in a building or in a pump chamber for outdoor installation.

- Maximum operational safety with separation of solids from the sewage: Large solids do not have to pass through the pump - no clogging
- Cost-effective thanks to retrofit system for simple renovation of old pumping stations
- Durable and corrosion-free due to the use of PE and PUR material
- Easy maintenance thanks to hygienic dry well installation and easy access from outside
- Future-proof even with increasing solid content in sewage
- Flexible installation in buildings or in chambers from 1,500mm diameter
- Energy savings due to efficient submersible sewage pumps with IE3 motors





### Design

Standard sewage lifting unit with solids separation system in accordance with DIN EN 12050-1 for installation in a building or in a pump chamber for outdoor installation.

### Type key

Example: **Wilo-EMUport CORE 20.2-10A**

|             |                                                         |
|-------------|---------------------------------------------------------|
| <b>CORE</b> | Standardised solids separation system                   |
| <b>20</b>   | Max. peak supply in m <sup>3</sup> /h                   |
| <b>2</b>    | Number of installed pumps                               |
| <b>10</b>   | Max. delivery head in m                                 |
| <b>A</b>    | Version:<br>A = Standard version<br>B = Comfort version |

### Application

Pumping of untreated sewage that cannot be returned to the sewer system using natural falls, and for the draining of objects that are below the backflow level (according to DIN EN 12056/DIN 1986-100).

### Technical data

- Max. continuous supply: 15 m<sup>3</sup>/h
- Max. peak supply for 4 h: 20 m<sup>3</sup>/h
- Tank volume: 440 l
- Useable tank volume: 295 l
- Max. delivery head: 31 m
- Suction head: 750 mm
- Inlet connection: DN 200
- Pressure connection: DN 80
- Mains connection: 3~400 V, 50 Hz

### Equipment/function

- Sewage lifting unit with solids separation system
- Two solids separation reservoirs that can be shut off individually
- Two dry-well installed submersible sewage pumps for alternating mode
- Pumps in protection class IP68 and motor efficiency in accordance with IE3
- Level entry with level probe

### Materials

- Collection reservoir: PE
- Solids separation reservoir: PE
- Supply box: PUR
- Pipework: PE
- Pumps: Cast iron
- Gate valve: Cast iron
- Pressure connection:
  - Variant A: PE with T-merge
  - Variant A: Stainless steel with Y-merge

### Description/design

Fully submersible sewage lifting unit ready for connection with solids separation. All-in-one gastight and watertight collection reservoir without constructive welded joints, as well as two separately-lockable solids separation reservoirs. The collection reservoir has rounded edges, the tank bottom is bevelled, the deepest point is located directly below the pump. This prevents deposits and the drying of solids at critical points. With pre-filtering in the solids separation reservoirs, the solids are filtered from the fluid and only pre-filtered sewage is directed to the collection reservoir. Pumping is performed by two high-performance submersible sewage pumps in dry well installation. The pumps are designed as a redundant double-pump system and run in alternating operation. The level is controlled by a level probe 0... 2.5 mWS.

Version "B" is also equipped with automatic back-flushing to the collection reservoir to enhance the cleaning effect. The corresponding switchgear of the SC-L series is available as an accessory.

### Options

- Switchgear that has been designed specifically for the solids separation system "SC-L...FTS"
- Inductive flow rate measuring instrument
- Intake and pressure release adapters

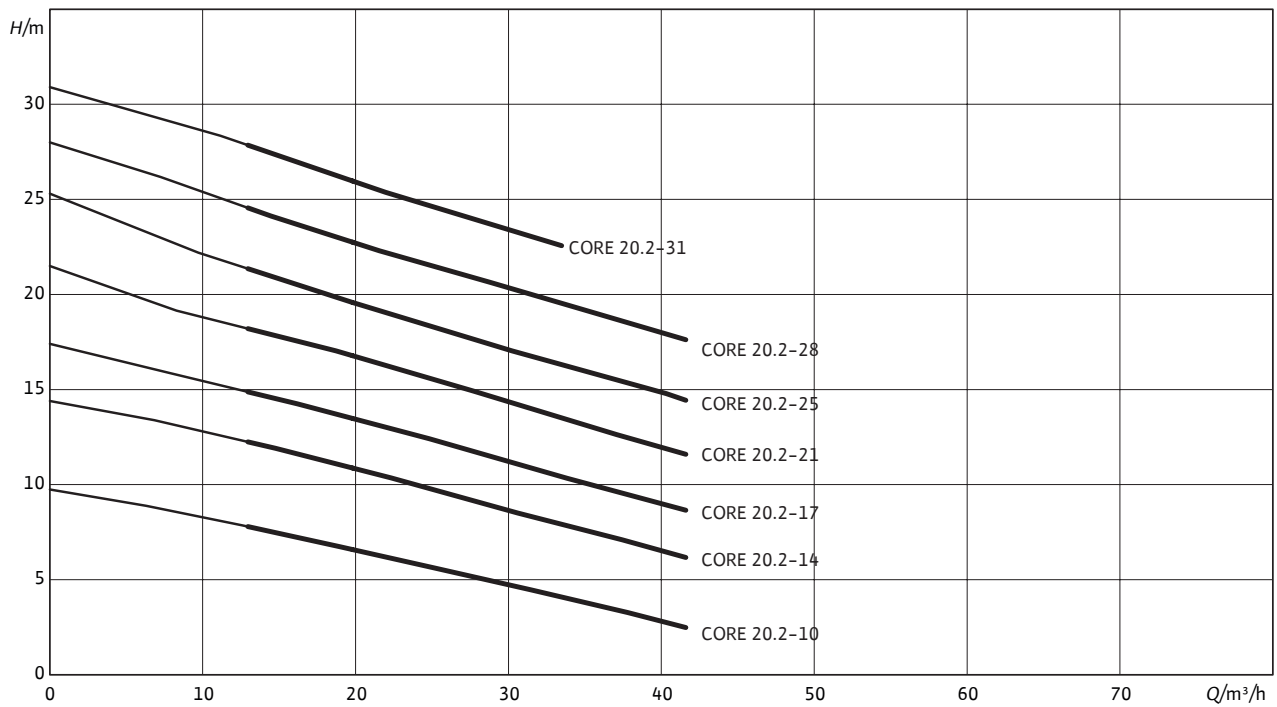
### Scope of delivery

Installation-ready sewage lifting unit is completely pre-assembled including Y-piece, level sensor and pump for a pressure connection DN 80.

### Configuration

- The installation must be configured for the maximum amount of sewage occurring, including a possible additional peak flow. The pumps must be configured for a minimum flow velocity of 0.7 m/s – max. 2.3 m/s in the discharge pipeline (e.g. min. 18.55 m<sup>3</sup>/h for a DN 100 pipe).
- The appropriate switchgears of the SC-lift series are optionally available.
- The manometric delivery head is calculated as the maximum geodesic head + pipeline friction losses + pumping station losses.
- Sewage containing mineral oils or explosive admixtures must be guided through oil precipitators and/or petrol precipitators; those containing fatty substances must go through grease traps and those with sand through grit chambers.

Pump curves Wilo-EMUport CORE 20.2



According to EN 12056-4, 6.1, flow rate (in the pressure pipe) must be kept between 0.7 and 2.3 m/s. The stated  $Q_{min}$  values apply to the inner diameter of a standard walled steel pipe.

Information for order placements

| Wilo-EMUport... | Mains connection | Art No. |
|-----------------|------------------|---------|
| CORE 20.2-10A   | 3~400 V, 50 Hz   | 6078606 |
| CORE 20.2-14A   | 3~400 V, 50 Hz   | 6078607 |
| CORE 20.2-17A   | 3~400 V, 50 Hz   | 6078608 |
| CORE 20.2-21A   | 3~400 V, 50 Hz   | 6078609 |
| CORE 20.2-25A   | 3~400 V, 50 Hz   | 6078610 |
| CORE 20.2-28A   | 3~400 V, 50 Hz   | 6078611 |
| CORE 20.2-31A   | 3~400 V, 50 Hz   | 6078612 |
| CORE 20.2-10B   | 3~400 V, 50 Hz   | 6078590 |
| CORE 20.2-14B   | 3~400 V, 50 Hz   | 6078591 |
| CORE 20.2-17B   | 3~400 V, 50 Hz   | 6078592 |
| CORE 20.2-21B   | 3~400 V, 50 Hz   | 6078593 |
| CORE 20.2-25B   | 3~400 V, 50 Hz   | 6078594 |
| CORE 20.2-28B   | 3~400 V, 50 Hz   | 6078595 |
| CORE 20.2-31B   | 3~400 V, 50 Hz   | 6078596 |

| Technical data                                        |                    |                    |                    |
|-------------------------------------------------------|--------------------|--------------------|--------------------|
| Pump type                                             | CORE 20.2-10B      | CORE 20.2-14B      | CORE 20.2-17B      |
| Mains connection                                      | 3~400 V, 50 Hz     | 3~400 V, 50 Hz     | 3~400 V, 50 Hz     |
| <b>Motor data</b>                                     |                    |                    |                    |
| Power consumption $P_1$                               | 2x 3.1 kW          | 2x 3.1 kW          | 2x 3.1 kW          |
| Rated current $I_N$                                   | 5.7 A              | 5.7 A              | 5.7 A              |
| Rated speed $n$                                       | 2908 rpm           | 2908 rpm           | 2908 rpm           |
| Activation type                                       | Direct             | Direct             | Direct             |
| Insulation class                                      | F                  | F                  | F                  |
| Protection class                                      | IP 68              | IP 68              | IP 68              |
| Max. switching frequency per pump                     | 50 1/h             | 50 1/h             | 50 1/h             |
| <b>Cable</b>                                          |                    |                    |                    |
| Cable length from system to switch-gear/plug          | -                  | -                  | -                  |
| Mains plug                                            | -                  | -                  | -                  |
| Type of connecting cable                              | Non-detachable     | Non-detachable     | Non-detachable     |
| <b>Permitted field of application</b>                 |                    |                    |                    |
| Operating mode per pump                               | S1                 | S1                 | S1                 |
| Max. permissible pressure in the pressure pipe $p$    | 6 bar              | 6 bar              | 6 bar              |
| Fluid temperature $T$                                 | +3 ... +40 °C      | +3 ... +40 °C      | +3 ... +40 °C      |
| Max. fluid temperature, for short periods up to 3 min | -                  | -                  | -                  |
| Max. ambient temperature $T$                          | 40 °C              | 40 °C              | 40 °C              |
| <b>Connections</b>                                    |                    |                    |                    |
| Pressure connection                                   | DN 80              | DN 80              | DN 80              |
| Inlet connection                                      | DN 200             | DN 200             | DN 200             |
| Venting                                               | DN 70              | DN 70              | DN 70              |
| <b>Dimensions/weights</b>                             |                    |                    |                    |
| Gross volume $V$                                      | 440 l              | 440 l              | 440 l              |
| Max. switching volume $V$                             | 295 l              | 295 l              | 295 l              |
| Min. level OFF                                        | -                  | -                  | -                  |
| Min. level ON                                         | -                  | -                  | -                  |
| Dimensions <i>Width x height x depth</i>              | 1410 x 1350 x 1390 | 1410 x 1350 x 1390 | 1410 x 1350 x 1390 |
| Diagonal dimension                                    | 1500 mm            | 1500 mm            | 1500 mm            |
| Weight approx. $m$                                    | 321 kg             | 339 kg             | 339 kg             |
| <b>Materials</b>                                      |                    |                    |                    |
| Motor housing                                         | EN-GJL-250         | EN-GJL-250         | EN-GJL-250         |
| Pump shaft                                            | 1.4301 [AISI304]   | 1.4301 [AISI304]   | 1.4301 [AISI304]   |
| Mechanical seal                                       | SiC/SiC            | SiC/SiC            | SiC/SiC            |
| Pump housing                                          | EN-GJL-250         | EN-GJL-250         | EN-GJL-250         |
| Impeller                                              | EN-GJL-250         | EN-GJL-250         | EN-GJL-250         |
| Tank material                                         | PE-LD              | PE-LD              | PE-LD              |

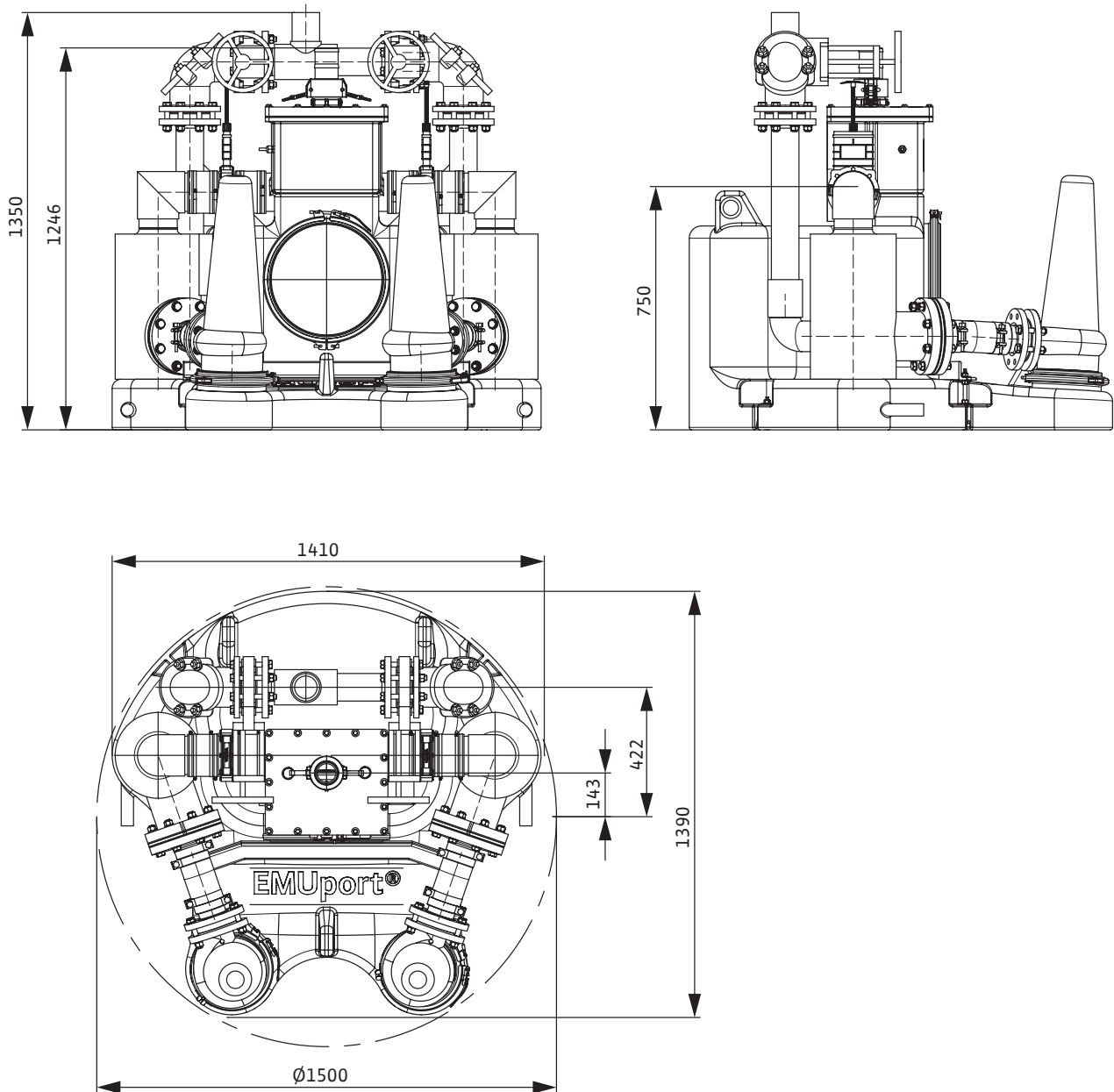
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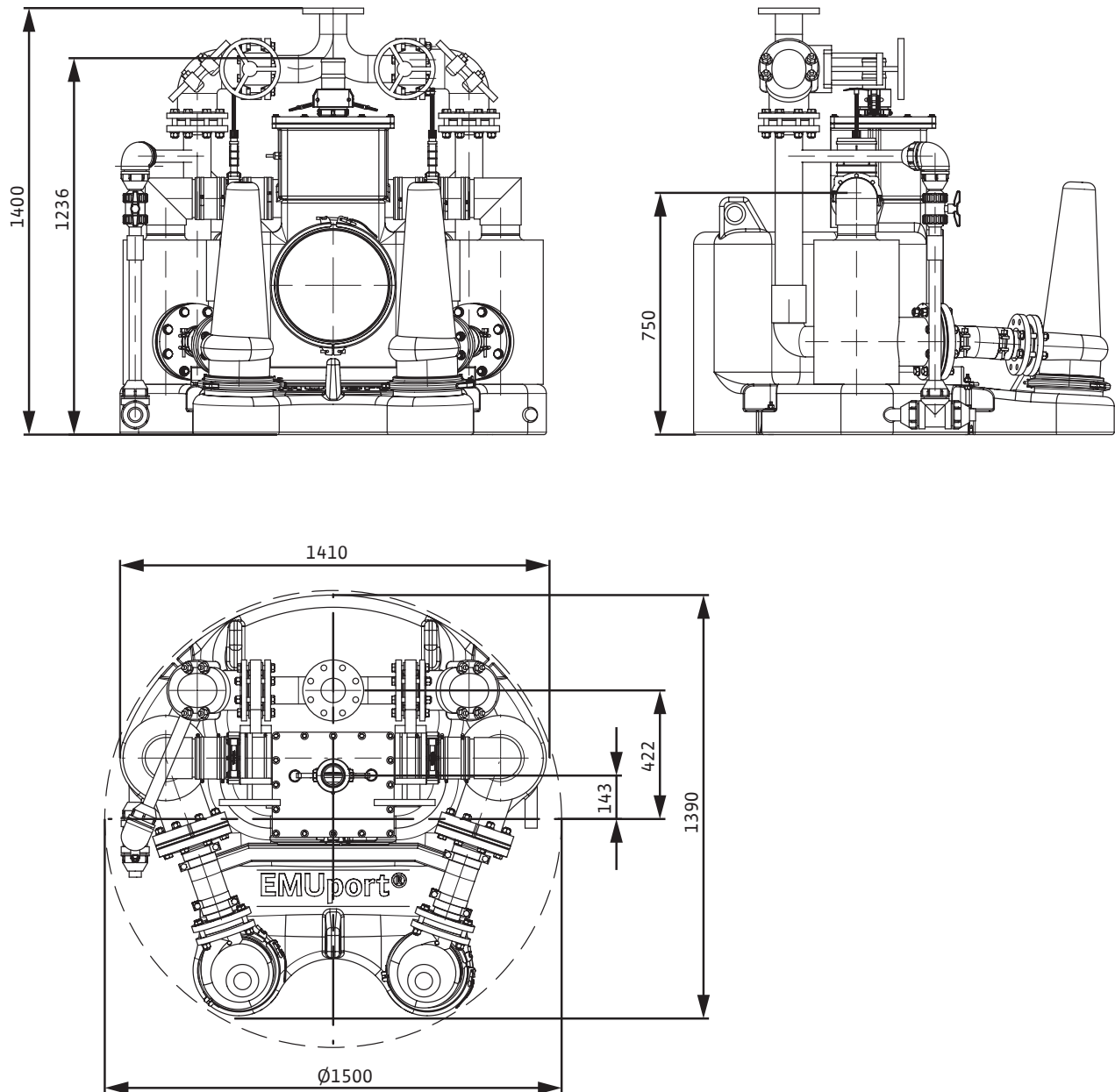
| Technical data                                        |                    |                    |                    |                    |
|-------------------------------------------------------|--------------------|--------------------|--------------------|--------------------|
| Pump type                                             | CORE 20.2-21B      | CORE 20.2-25B      | CORE 20.2-28B      | CORE 20.2-31B      |
| Mains connection                                      | 3~400 V, 50 Hz     | 3~400 V, 50 Hz     | 3~400 V, 50 Hz     | 3~400 V, 50 Hz     |
| <b>Motor data</b>                                     |                    |                    |                    |                    |
| Power consumption $P_1$                               | 2x 3.1 kW          | 2x 4.3 kW          | 2x 4.3 kW          | 2x 4.3 kW          |
| Rated current $I_N$                                   | 5.7 A              | 7.3 A              | 7.3 A              | 7.3 A              |
| Rated speed $n$                                       | 2908 rpm           | 2868 rpm           | 2868 rpm           | 2868 rpm           |
| Activation type                                       | Direct             | Direct             | Direct             | Direct             |
| Insulation class                                      | F                  | F                  | F                  | F                  |
| Protection class                                      | IP 68              | IP 68              | IP 68              | IP 68              |
| Max. switching frequency per pump                     | 50 1/h             | 50 1/h             | 50 1/h             | 50 1/h             |
| <b>Cable</b>                                          |                    |                    |                    |                    |
| Cable length from system to switch-gear/plug          | -                  | -                  | -                  | -                  |
| Mains plug                                            | -                  | -                  | -                  | -                  |
| Type of connecting cable                              | Non-detachable     | Non-detachable     | Non-detachable     | Non-detachable     |
| <b>Permitted field of application</b>                 |                    |                    |                    |                    |
| Operating mode per pump                               | S1                 | S3-50%             | S3-50%             | S3-50%             |
| Max. permissible pressure in the pressure pipe $p$    | 6 bar              | 6 bar              | 6 bar              | 6 bar              |
| Fluid temperature $T$                                 | +3 ... +40 °C      | +3 ... +40 °C      | +3 ... +40 °C      | +3 ... +40 °C      |
| Max. fluid temperature, for short periods up to 3 min | -                  | -                  | -                  | -                  |
| Max. ambient temperature $T$                          | 40 °C              | 40 °C              | 40 °C              | 40 °C              |
| <b>Connections</b>                                    |                    |                    |                    |                    |
| Pressure connection                                   | DN 80              | DN 80              | DN 80              | DN 80              |
| Inlet connection                                      | DN 200             | DN 200             | DN 200             | DN 200             |
| Venting                                               | DN 70              | DN 70              | DN 70              | DN 70              |
| <b>Dimensions/weights</b>                             |                    |                    |                    |                    |
| Gross volume $V$                                      | 440 l              | 440 l              | 440 l              | 440 l              |
| Max. switching volume $V$                             | 295 l              | 295 l              | 295 l              | 295 l              |
| Min. level OFF                                        | -                  | -                  | -                  | -                  |
| Min. level ON                                         | -                  | -                  | -                  | -                  |
| Dimensions <i>Width x height x depth</i>              | 1410 x 1350 x 1390 | 1410 x 1350 x 1390 | 1410 x 1350 x 1390 | 1410 x 1350 x 1390 |
| Diagonal dimension                                    | 1500 mm            | 1500 mm            | 1500 mm            | 1500 mm            |
| Weight approx. $m$                                    | 339 kg             | 339 kg             | 339 kg             | 339 kg             |
| <b>Materials</b>                                      |                    |                    |                    |                    |
| Motor housing                                         | EN-GJL-250         | EN-GJL-250         | EN-GJL-250         | EN-GJL-250         |
| Pump shaft                                            | 1.4301 [AISI304]   | 1.4301 [AISI304]   | 1.4301 [AISI304]   | 1.4301 [AISI304]   |
| Mechanical seal                                       | SiC/SiC            | SiC/SiC            | SiC/SiC            | SiC/SiC            |
| Pump housing                                          | EN-GJL-250         | EN-GJL-250         | EN-GJL-250         | EN-GJL-250         |
| Impeller                                              | EN-GJL-250         | EN-GJL-250         | EN-GJL-250         | EN-GJL-250         |
| Tank material                                         | PE-LD              | PE-LD              | PE-LD              | PE-LD              |

• = available, - = not available

Dimension drawing Wilo-EMUport CORE 20.2/...A



Dimension drawing Wilo-EMUport CORE 20.2/...B



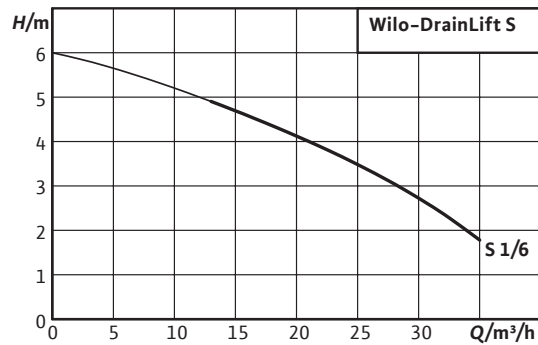


### Wilo-DrainLift S



Compact sewage lifting unit as single pump system

- Space-saving installation
- Easy to install thanks to an integrated non-return valve (type "RV")
- Flexible due to free selection of inlets
- Reduced residual water volume



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

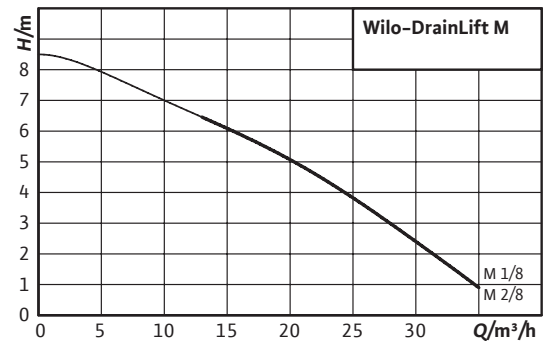


### Wilo-DrainLift M



Sewage lifting unit as single pump system or double-pump system

- Space-saving installation
- Easy-to-install thanks to low weight and large scope of delivery
- Flexible due to free selection of inlets
- Operationally reliable with integrated thermic motor protection and mains-independent alarm



**Select 4 online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

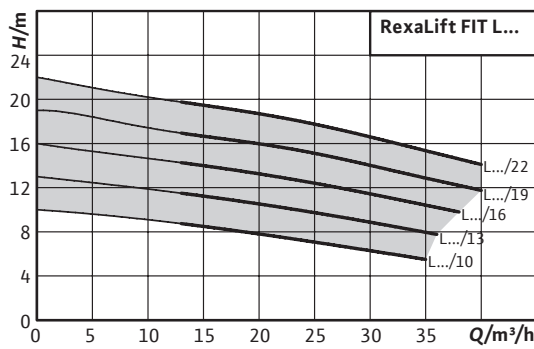


**Wilo-RexaLift FIT L**



Sewage lifting unit as single pump system or double-pump system

- Low system weight for easy installation
- Integrated non-return valve
- Flexible due to free selection of inlets
- Operationally reliable with integrated thermic motor protection and mains-independent alarm for SSM and flooding



**Select 4online**

All Informationen at [www.wilo-select.com](http://www.wilo-select.com)

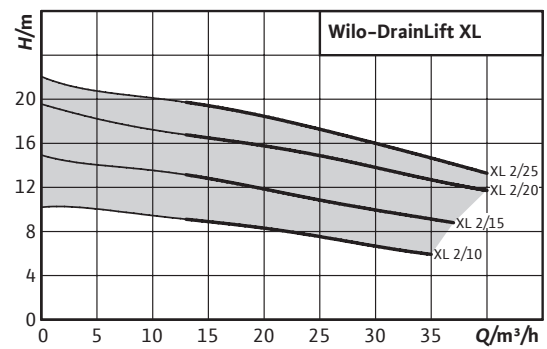


**Wilo-DrainLift XL**



Sewage lifting unit as double-pump system

- Flexible thanks to a height-adjustable and swivel-capable inlet connection
- Easy to use thanks to built-in switchgear
- Integrated non-return valve
- Operational reliability via high switching volumes and reliable level recording
- Suitable for continuous duty (S1) with the use of self-cooling motors



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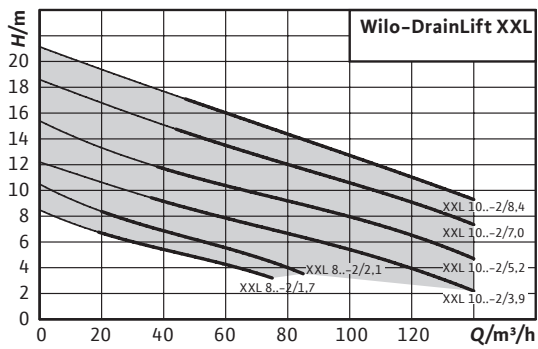


### Wilo-DrainLift XXL



Sewage lifting unit as double-pump system with two separate, dry-mounted pumps

- Flexible use through the use of one or two tanks
- Optimal tank drainage due to deep extraction by suction
- Operational reliability via high performance range and reliable level recording
- Suitable for continuous duty (S1) with the use of self-cooling motors



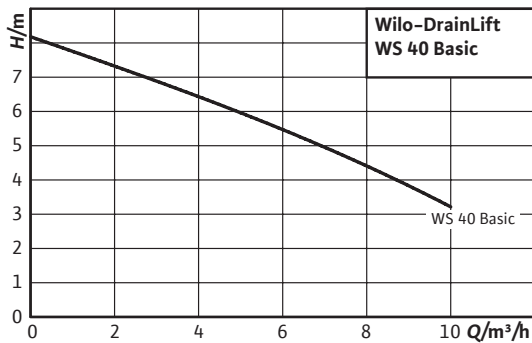


**Wilo-DrainLift WS 40 Basic**



Pump chamber made of plastic with integrated pump as concealed pumping station or floor-mounted lifting unit

- Pressure-tight sump for subterranean and aboveground installation
- Flexible due to free selection of inlets
- Large tank volume
- Including pipework, level control, switchgear and pump



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**Wilo-DrainLift WS 40-50**



Pump chamber made of plastic as concealed pumping station or floor-mounted lifting unit

- Pressure-tight sump for subterranean and aboveground installation
- Flexible due to free selection of inlets
- Large tank volume
- Surface coupling made of corrosion-resistant PUR

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**Wilo-Port 600**



Plastic pump chamber for insertion into the ground

- Can be driven over – even by heavy-duty vehicles – thanks to pump covers that are directly mountable on the chamber
- Flexible adaptability during the installation phase due to a variable pump chamber extension up to 2.75 m
- Maximum operational reliability and protection against leakage via the one-piece chamber body up to 2.25 m
- Long service life thanks to the use of corrosion-free materials
- Simple maintenance with easily accessible valves thanks to the surface coupling
- Easy installation thanks to the light polyethylene chamber body and integrated inlet connecting pieces
- Anti-buoyant chamber body without additional weights via circumferential chamber ribs

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**Wilo-Port 800**



Plastic pump chamber for insertion into the ground

- Can be driven over – even by heavy-duty vehicles – thanks to pump covers that are directly mountable on the chamber
- Flexible adaptability during the installation phase due to a variable pump chamber extension up to 2.75 m
- Maximum operational reliability and protection against leakage via the one-piece chamber body up to 2.25 m
- Long service life thanks to the use of corrosion-free materials
- Simple maintenance with easily accessible valves thanks to the surface coupling
- Easy installation thanks to the light polyethylene chamber body and integrated inlet connecting pieces
- Anti-buoyant chamber body without additional weights via circumferential chamber ribs

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### Wilo-DrainLift WS 1100



Plastic pump chamber for insertion into the ground

- Deposit-free collecting space
- High stability due to hemispherical shape of the bottom of the pump chamber
- Four inlets can be selected onsite
- Stainless steel pipes in V4A

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### Which aspects are to be observed during application in the building services?

Both the sewage generated in a building or on a piece of land and the rainwater which accumulates on courtyard and roof surfaces should be pumped to the sewer system with the aid of pumping stations and lifting units, insofar as they do not flow naturally downhill into the local sewage network. There are different ways to dispose of this sewage, depending on the respective fluids to be pumped. Wilo submersible pumps and sewage lifting units are designed especially to meet these different requirements and comply with currently valid EN standards. Dimensioning must be carried out in accordance with DIN EN 12050/12056 – Drainage stations for buildings and sites. A distinction is made here between sewage emerging from discharge points above the local backflow level, which must be guided to the public sewer system by taking advantage of natural declines, and sewage from discharge points whose water levels in the anti-siphon trap lie below the local backflow level. The backflow level is defined in bylaws. The upper street edge is usually taken as a rough guide value. Sewage (rainwater and wastewater) that accumulates below the backflow level must be conveyed to the public sewer system via automatically operating lifting units – Wilo sewage lifting units or Wilo submersible pumps.

The following details, among others, are to be observed for system dimensioning and design in accordance with DIN 1986-100, EN 12050 and EN 12056:

- Lifting units are to be designed in terms of performance in such a way that a minimum flow velocity of  $\geq 0.7$  m/s is guaranteed for the prescribed nominal diameters of the pressure pipe.  
Prescribed minimum nominal diameters:  
Sewage lifting unit for sewage containing faeces without comminution unit: DN 80  
Sewage lifting unit for sewage containing faeces with comminution unit: DN 32  
Sewage lifting unit for sewage free of faeces: DN 32  
Sewage lifting unit for limited use for sewage containing faeces without comminution unit: DN 25  
Sewage lifting unit for limited use for sewage containing faeces without comminution unit: DN 20
- The pressure pipe of a lifting unit must be equipped with a non-return valve and installed with its invert above the backflow level (backflow loop). The pressure pipe may not be connected to wastewater downpipes.
- Wastewater gate valves (supply and pressure sides) are to be installed in accordance with DIN 1986-100, EN 12050/EN 12056.
- Ventilation lines for lifting units are to be guided to heights above the roof level; the minimum nominal pipe diameter is DN 70 for sewage lifting units.

- Inlet pipes are to be installed with sufficient slope (a minimum of 1:50).
- It is practical to install pipes flexibly through masonry.
- An automatic standby pump is to be provided if the sewage drain pipe does not allow for interruptions.
- Switchboxes and signalling systems are to be installed at a dry, easily accessible position. The signalling system is to be mounted at an observable position.
- Lifting units must be serviced regularly. At least:  
1x per year in single-family homes  
Every six months in apartment buildings  
Every three months for systems in commercial buildings
- The installation area is to be provided with sufficient ventilation and lighting. A working space of at least 600 mm is to be provided above and next to all operating elements and all parts requiring maintenance. The lifting unit must be provided with anti-buoyant mounting.
- Sewage containing mineral oils or explosive admixtures must be guided through oil precipitators and/or petrol precipitators; those containing fatty substances must go through grease traps and those with sand through grit chambers. Acidic sewage must be neutralised. Pumps are generally to be made with Ex-protection.

### What installation types are there in sewage technology?

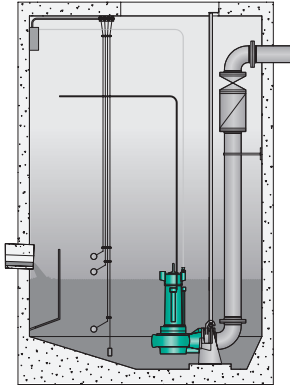
Very different types of installations are used in submersible motor systems in municipal applications. The type of installation depends mainly on the application purpose and the investment volume.

Basically, there are three different main installation types:

- Wet well installation, stationary
- Wet well installation, portable
- Dry well installation, stationary

The pipe chamber installations are also required. The type of installation depends mainly on the requirements of the consultant and the operator. Different viewpoints have arisen, which are each justified in terms of the individual field of application.

### Wet well installation or stationary tank installation



With wet well installation, the pump is installed in the fluid to be pumped. The motor is cooled by the circulating sewage. The advantage of this type of installation is low investment costs compared to the more sophisticated pumping station designs for dry-installed sewage pumps. In such a case, a construction above ground or an intermediate base in the pump chamber for the pumps is not required. In greater depths, an intermediate ceiling is necessary.

The pump is fastened by means of a suspension unit with lowering mechanism. That allows the pump to be “pulled” at all times, e.g. for maintenance work.

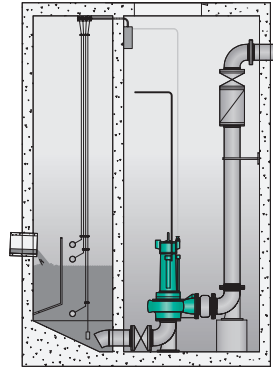
The coupling base and the elbow are usually cast in one piece. The guide consists of two pipes, thus preventing any twisting. The Wilo coupling connection is made in such a way that a lip prevents the seal ring from falling out.

The pressure pipe made of a galvanised steel pipe, or ideally of a stainless steel pipe, is fitted directly on the suspension unit via flanges and leads out of the pump chamber. The pump chamber can be made at low costs from ready-made concrete pump chambers equipped with elastomer seals in accordance with EN 1917 (national addition: DIN 4034 T1). However, one-piece PEHD pump chambers without joints are a better solution, since these prevent any infiltration of external water.

As shown on the diagram alongside, this installation type gives the operator the option of special pump chamber geometries adjusted to individual requirements, the use of additional flushing valves or the installation of vortex impellers with special mixer head technology.

The disadvantage of a wet well installation is the lack of ease of maintenance. In addition, with a wet-installed submersible sewage pump, the water level can only be lowered to a certain level, since optimum cooling of the motor is only possible in submerged condition.

### Stationary dry well installation



The dry well installation variant, in particular the dry-installed submersible pump, provides a number of advantages compared to dry-installed pumps, and also compared to wet-installed submersible pumps.

#### Installation principle of a dry-installed submersible pump

The main difference from a wet-installed submersible pump is the design of the motor. It is a fully encapsulated motor with internal closed-circuit cooling. A distinction is made between an open cooling system and a closed cooling system. With an open cooling system, the fluid to be pumped is used as the coolant. With a closed system (single-chamber or two-chamber system), cooling is performed by an external fluid, such as water-glycol or medical white oil, in a closed circuit.

Another main difference from the wet-installed submersible pump is that the dry-installed submersible pump is not installed in the fluid to be pumped. In terms of the technical construction, an intermediate base is required directly in the pumping station. The major advantages are the combination. On the one hand, this submersible pump offers all the benefits of a dry-installed pump and, on the other hand, all the benefits of a submersible pump, such as being overflow-proof.

As already mentioned, the pump is installed in a separate pump room. The pump is fastened to the inlet pipe unspectacularly via a pipe elbow.

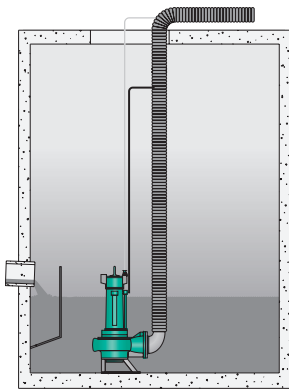
#### Advantages compared to dry-installed pumps (no submersible pumps)

- Overflow-proof and thus more operational reliability
- Low-maintenance carbide mechanical seals or seal cartridges
- No couplings or V-belts, thus fewer wearing parts and less maintenance required
- Explosion protection possible at all times
- Clean and hygienic working conditions
- Easy maintenance

### Portable installation

With this type of installation, the motor is cooled in the same way as for stationary wet well installation. However, the pump is not fastened firmly in the pump sump by means of a suspension unit. The pump can thus be installed in any pump chamber via a base component on the pump housing. With the right couplings, hoses of appropriate length can be installed on the pressure port. When selecting the pump, hydraulic conditions, such as volume flow and delivery head as well as the pump's NPSH, must also be taken into account.

Portable pumps are frequently used as emergency drainage or residual drainage pumps for municipal applications.



### What impeller shapes and properties are there?

To ensure the fluid can be pumped reliably, the correct impeller must be used for the corresponding fluid. Each impeller shape has its advantages and disadvantages here. The following impeller shapes are currently used in our hydraulics:

- Single-vane impeller (single-channel impeller)
- Multi-vane impeller with 2, 3 or 4 channels (multi-channel impeller)
- Vortex impeller
- SOLID impeller
- Propeller impeller (axial impeller)

Single-channel and multi-channel impellers and the SOLID impellers are available in a closed and half open design. It should be noted here that the efficiency of the half open design is generally lower than that of the closed design.

In addition to the shape of the impeller the level of process reliability is also dependent on the nominal diameter of the hydraulics. Vortex impellers tend to be used for small nominal diameters (DN 50...150). Multi-channel impellers, on the other hand, tend to be used for large nominal diameters (DN 200...600).

Furthermore, there are hydraulics which are also equipped with a cutting device or a mechanical stirring apparatus. The additional cutting device breaks up the admixtures in the fluid, thereby facilitating the pumping process. The cutting device is installed internally or externally depending on the hydraulics selected, and it is combined with a half open single-channel impeller or a half open multi-channel impeller.

When using the additional mechanical stirring apparatus, the suction area is continuously stirred up. This prevents settlement of the solid material and the resulting encrustation. Due to the narrowly limited flow zone of the mixer head only the suction area of the pump is affected. The mechanical stirring apparatus is mostly used in combination with a vortex impeller.

When using the hydraulics, the following points must be observed:

- The fluid can exhibit a max. dry matter content (DM) of 8 %.
- The fluid must flow independently of the hydraulics.
- The friction losses in the discharge pipeline and the specific weight of the fluid must be taken into account in the calculations.
- The motor power is to be designed with an adequate reserve for the current operating conditions.

**Vortex impeller**

Recommended nominal diameters: DN 50 to DN 150

**Properties:**

- Very low-clogging, as it is insensitive to fluids containing fibres and textiles
- Very smooth operation
- High wear resistance
- Lower efficiency
- Suitable for pumping gaseous fluids
- Sludge pumping

**Fields of application:**

- Untreated sewage
- Activated sludge
- Raw and digested sludge
- Mixed water
- Fluids with problematic constituents and wearing constituents

**Single-vane impeller (single-channel impeller)**

Design: closed and half open

Recommended nominal diameters: DN 50 to DN 250

**Properties:**

- Low-clogging
- Smooth operation
- Wear-resistant
- Steep pump curve
- Good efficiency
- Sludge pumping

**Fields of application:**

- Untreated sewage
- Circulation and heating sludge
- Mixed water
- Raw and digested sludge
- Activated sludge

**Double-vane impeller (multi-channel impeller)**

Design: closed

Recommended nominal diameters: DN 150 to DN 400

**Properties:**

- Low-clogging (depending on nominal diameter and fluid)
- Very smooth operation
- Wear-resistant
- Steep pump curve
- Good efficiency
- Sludge pumping

**Fields of application:**

- Rake-cleaned sewage
- Mechanically treated sewage
- Industrial wastewater
- Landfill water
- Activated sludge
- Industrial sewage

**Three and four-vane impeller (multi-channel impeller)**

Design: closed

Recommended nominal diameters: DN 200 to DN 600

**Properties:**

- Low-clogging (depending on nominal diameter and fluid)
- Very smooth operation
- Steep pump curve
- Very good efficiency

**Fields of application:**

- Rake-cleaned sewage
- Mechanically treated sewage
- Industrial wastewater
- Landfill water
- Activated sludge
- Industrial sewage

### SOLID impeller



Design: closed and half open

Recommended nominal diameters:

- Closed design: DN 150 to DN 400
- Half open design: DN 80 to DN 150

**Properties:**

- Closed design
  - Very low-clogging (depending on nominal diameter and flow rate)
  - Very smooth operation
  - Wear-resistant
  - Good efficiency
  - Pumping of gaseous fluids
  - Sludge pumping
- Half open design
  - Hardly any clogging
  - Lower efficiency than the closed design
  - Pumping of gaseous fluids
  - Sludge pumping

**Fields of application:**

- Untreated sewage
- Industrial wastewater
- Landfill water
- Activated sludge
- Industrial sewage

### Propeller impeller (axial impeller)



Possible pipe diameters: 340 mm, 500 mm and 760 mm

**Properties:**

- Very smooth operation
- Very steep pump curve
- Very good efficiency

**Fields of application:**

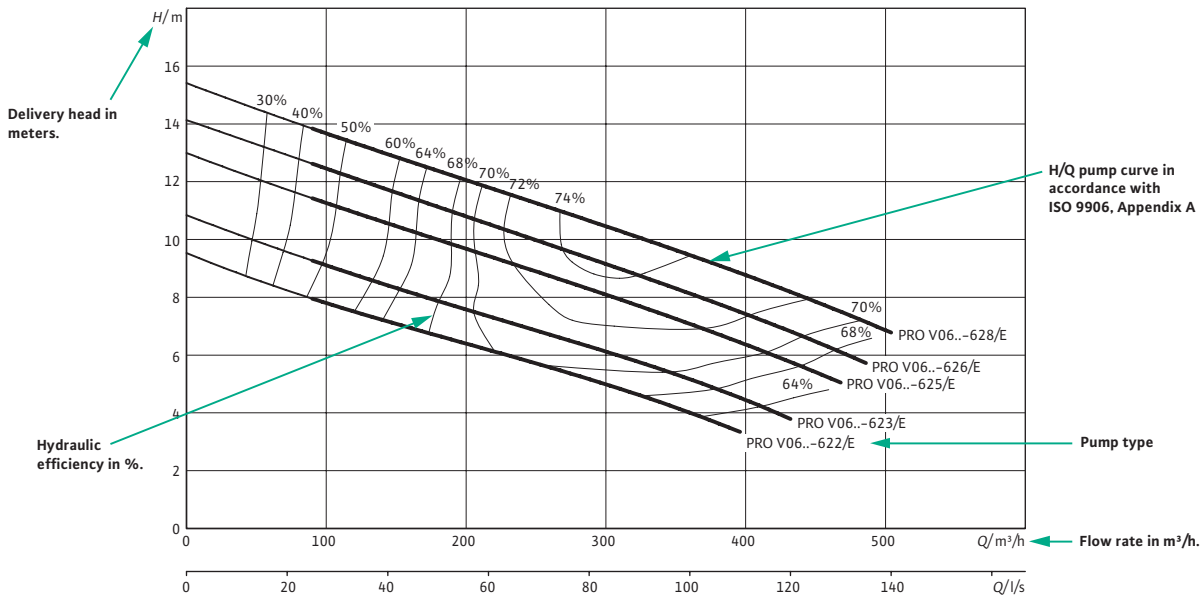
- Fluids with small amounts of dirt
- Rainwater
- Return activated sludge
- Circulation of activated sludge
- Water drawing units, etc.

Pump curve graph

Wilo-Rexa PRO (example)

Pump curves, Wilo-Rexa PRO V06... - 50 Hz - 1435 rpm ← Series, rated frequency, speed

Vortex impeller - free ball passage: 65 mm ← Impeller shape, free ball passage



## OUR TOOLS AND TRAINING: COMPREHENSIVE AND PRACTICE-ORIENTATED.

We are there for you worldwide, 365 days a year. With over 2,500 technicians, our teams assist you in over 60 countries – not just to meet your needs and requirements but to exceed them whenever possible. A phone call is all it takes and we'll initiate all the necessary steps – quickly, professionally and in direct coordination with you. Our service pledge holds for the entire life cycle of your Wilo products. Because you can always rely on Wilo.

### DESIGN AND SELECTION

We want you to find the perfect solution for your requirements. That's why we provide personal consulting before your purchase to help you find the best and most economical product solution.

#### Our services at a glance:

- On-site support
- Wilo-Select pump design software
- Installation drawings
- Convenient integration of our product data into the BIM model for optimal consulting support
- Efficiency checks to determine the economic efficiency of existing pumps and suitable replacement pumps





## SERVICE

Wilo has a long tradition of collaborating with installers and plant engineers. Service is an essential component of this partnership. We collaborate to develop a service concept tailored to your individual needs – with our expertise and personal consulting, we make sure that the operation of your systems is as energy-efficient, reliable and economical as possible. All the while, our competent Wilo service technicians are ready to assist you with fast, reliable and on-time support.

### Our services at a glance:

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- Commissioning
- Customised, reliable maintenance concepts
- Optimisation and replacement
- Fast spare parts solutions
- Service packages

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We want you to be able to use innovative technologies and products from Wilo optimally and integrate them perfectly into your working process. With this goal in mind, we offer expert-led seminars designed for the specific needs and applications of your industry. Expand your knowledge and put our expertise to work for you. Our seminars also give you the opportunity to exchange ideas with industry colleagues. We also develop company seminars for your particular requirements.

### Our services at a glance:

- Practically orientated product and system seminars
- Instructors with long-term practical experience
- Ideal space for meeting colleagues and exchanging ideas
- Dialogue-based training concepts for active learning
- Wilo-Brain qualification
- System consulting





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