












Catalogue Building Services September 2015

OEM High Efficiency Circulation Pumps

Glandless Pumps and Accessories



Programme overview and fields of applications

Pump type	Main field of application						Page
							
Yonos PARA 	✓	✓	✓	✓	–	✓	27 171 185
Yonos PARA-Z 	–	–	–	–	✓	–	209
Yonos PARA High Flow 	✓	✓	✓	✓	–	✓	27
Stratos PARA 	✓	✓	✓	✓	–	✓	27 171 185
Stratos PARA-Z 	–	–	–	–	✓	–	209

Key:

- ✓ Applicable
- Not applicable

Fields of application:



Heating



Floor heating



Solar thermal



Geothermal



Secondary hot water



Cooling

General notes **4**

Planning guide **8**

Heating and cooling **27**

New!

- Wilo-Yonos PARA
- Wilo-Yonos PARA RSTG
- Wilo-Yonos PARA High Flow
- Wilo-Stratos PARA

Solar thermal energy systems **171**

- Wilo-Yonos PARA ST
- Wilo-Yonos PARA RSTG (see "Heating and cooling")
- Wilo-Yonos PARA High Flow (see "Heating and cooling")
- Wilo-Stratos PARA

Geothermal energy systems **185**

- Wilo-Yonos PARA GT
- Wilo-Yonos PARA RSTG (see "Heating and cooling")
- Wilo-Yonos PARA High Flow (see "Heating and cooling")
- Wilo-Stratos PARA

Sanitary hot water circulation **209**

- Wilo-Yonos PARA-Z
- Wilo-Stratos PARA-Z

Accessories **227**

- Wilo thermal insulation shells
- Wilo cooling shell

Heating and cooling

Solar thermal energy systems

Geothermal energy systems

Sanitary hot water circulation

Accessories

General notes

Abbreviations and Introduction

Abbreviation	Meaning
1~	1-phase current
Δp	Differential pressure
$\Delta p-c$	Control mode for constant differential pressure
$\Delta p-v$	Control mode for variable differential pressure
EM	Single-phase motor, 1~
EnEV	German Energy Conservation Legislation
ErP	It applies to energy-related products. ErP Directive 2009/125/EC establishing a framework for the setting of environmentally-responsible requirements for energy-driven products. Formerly the Ecodesign Directive (EuP Directive 2005/32/EC).
ECM technology	Electronically commutated motor with new wet rotor encapsulation, newly developed glandless drive concept for high-efficiency pumps
°dH	Degree of German water hardness; replaced by the SI unit mmol/l; conversion 1 °dH = 0.1783 mmol/l
H, Hman	Delivery head
Cataphoretic coating	Cataphoretic coating (electrophoretically deposited paint, EDP): paintwork with high adhesive strength for long-lasting corrosion protection
P ₁	Power consumption (power supplied from the network)
PN	Pressure class in bar (e.g. PN10 = suitable up to 10 bar)
PWM	Pulse-width modulation. PWM signal for external activation of functions
iPWM	intelligent (bidirectional/ two ways communication) Pulse-width modulation. PWM signal for external activation of functions and returned signal flow
Q (=V̇)	Volume flow
SBM	Run signal or collective run signal
SSM	Fault signal or collective fault signal
Control input, 0 - 10 V	Analogue input for external control
TrinkwV 2001	German Drinking Water Ordinance of 2001 (valid from 01.01.2003)
VDI 2035	VDI guideline for preventing damage in hot-water heating installations
WRAS	Water Regulations Advisory Scheme (portable water approval for Great Britain and Northern Ireland)

Introduction

As the first high-efficiency pump in the world, the Wilo-Stratos defined energy efficiency class A for stand-alone circulators, thereby setting a new standard. Wilo extended this product technology towards new pump ranges especially for requirements of the OEM industry. The product ranges Wilo-Yonos PARA, Wilo-Yonos PARA High Flow and Stratos PARA are the new generations of high-efficiency pumps especially designed in line with the demands of OEM industry regarding hydraulic performance, scope of functionality, space restrictions and costs. The scope of all pump ranges is precisely tailored to meet the individual requirements of the market and customers and have the following advantages:

- Concentrating on the essentials
- Maximum efficiency thanks to ECM technology
- Up to 80% energy savings compared with uncontrolled circulators
- Meet all the new requirements of the ErP directive (2009/125/EC)
- For heating, solar, geothermal energy systems and cooling
- Intelligent design
- Optimal performance in the smallest space
- High starting torque for reliable starting
- Prevention of flow noise
- Quick and safe installation thanks to a standard delivery with cable or plug for an easy electrical connection
- Simple operation and convenient setting of the pump via external control signals or the Red Button technology
- Cast iron pump housing with cataphoretic (KTL) coating for the prevention of corrosion from condensation formation
- Large range of composite housings for heating applications

Energy-related Products (ErP) Directive (2009/125/EC Directive)

Following the Kyoto Protocol from Dec 1997, the European Commission has set up measures to achieve a 20% reduction on both energy consumption and CO₂-emission until 2020, based on the data from 1990. One of these measures is the ErP Directive. Conformity with the derived EU regulations will be governed through mandatory CE Marking.

In Nov 2009 the original “Eco-design Directive” of Energy using Products (EuP, 2005/32/EC Directive) has been modified and became the Energy related Product (ErP, 2009/125/EC) Directive. It now covers also measures on products as windows.

The earlier defined Commission Regulation (EC) No 641/2009 amended by (EU) No 622/2012 on circulators with a rated power output between 1 W and 2500 W stays unchanged and is based on these Directives.

It will come into effect in two main steps:

Since **1 January 2013**, glandless **stand-alone circulators**, with the exception of those specifically designed for primary circuits of thermal solar systems and of heat pumps, shall have an energy efficiency index (EEI) of not more than 0.27.

Since **1 August 2015**, stand-alone circulators and **circulators integrated in products** have to meet an energy efficiency index (EEI)* of not more than 0.23. Products means an appliance that generates and/or transfers heat.

Examples can be

- Hydronic heating and secondary cooling circuits
- Boilers
- Heat pumps
- Combined heat and power stations
- Solar thermal systems
- District heating house stations
- Assembly kits for radiator or under floor heating systems
- Secondary hydronic cooling distribution and heat recovery circuits
- DHW system boiler

From **1 January 2020**, as well all replacement circulators for identical circulators integrated in products before August 2015 shall have an energy efficiency index (EEI) of not more than 0.23

After these dates Wilo is not allowed any more to bring circulators not fulfilling these EEI values into the European market.

The prEN 16297-1 ... -3 describes how to measure the EEI. The measurement procedure for integrated circulators takes into account various integrated functions available in the many customized hydraulic solutions.

Circulators NOT affected by new legislation ‘Drinking water circulators’, except with regard to information requirements of Annex I, point 2(4). ‘Drinking water circulator’ means a circulator specifically designed to be used in the recirculation of drinking water as defined in Council Directive 98/83/EC.



Electronic performance control

Heating pumps are, due to their high annual operating hours, among the largest power-consuming appliances in buildings.

After the compressor in heat pumps and in other systems of heating applications, the circulation pump is the biggest consumer of electrical power and is therefore the major efficiency factor for the entire application.

Automatic pump performance control helps drastically to reduce power consumption in heating pumps. Compared to standard pumps, high-efficiency pumps can even save up to 80% electricity costs.

All operating states, in particular in the partial load range that is typical for heating systems, can be optimised hydraulically by means of automatic pump performance control.

A further significant effect connected with the prevention of a rise in pump pressure is the avoidance of flow noise in thermostatic valves.

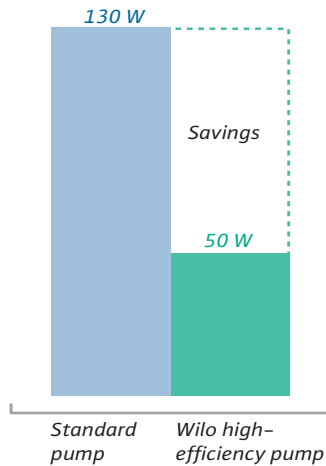
* The energy Efficiency Index (EEI) is a specific parameter to qualify the performance of circulators in terms of efficiency. The EEI takes the capacity of the circulator into account to adapt its operative condition with a maintained high efficiency level.

General notes

High-efficiency pumps

High-efficiency pumps

The efficiency of the hydraulics and the motor determine the pump's overall efficiency. Both components were doubled with the Wilo-Stratos pump compared to the glandless pumps previously used in building services, thus resulting in a considerable improvement. The applied ECM technology drastically reduces the annual power consumption, which again results in considerable savings compared to conventional pumps.



ECM technology

The new ECM technology is the basis for the outstanding efficiency of the Wilo-OEM series Yonos PARA and Stratos PARA. It includes:

EC motor

EC motor stands for electronically commutated motor. Its basis is a synchronous motor with permanent magnet rotor. The rotating stator's magnetic field is generated by electronic commutation, meaning that the stator windings are activated specifically for the interaction of the electrical and magnetic poles.

This has the following benefits:

- The magnetic field required in the rotor does not need to be generated with any losses.
- Especially in the partial load range (up to 98% of the operating time), the difference in efficiency is even greater than it already is in the full load range compared to an asynchronous motor.
- Higher speeds are possible compared to an asynchronous motor. This results in the reduction of the size and weight of the pump with similar hydraulics.

Wet rotor encapsulation

The rotor of the glandless pump motor runs in the fluid. This fluid lubricates the bearings and cools the motor. The current-carrying stator is separated from the fluid by a can, referred to as wet rotor encapsulation. This wet rotor encapsulation has a direct effect on the efficiency

- due to the size of the necessary gap between stator and rotor,
 - and due to the magnetic resistance of the selected can material.
- The improvement in terms of efficiency of the Wilo-Stratos/Yonos pump here is the result of:
- Reduction of the air gap and
 - Application of an innovative can material with smaller losses to the magnetic flux between stator and rotor.

Motor protection

The standard integrated protection device reliably protects the Wilo-Yonos PARA and Wilo-Stratos PARA, in all settings, against excess temperature, low/excess voltage, excess current, blocking as well as dry running.

This has the following advantage:

No external motor protection switch is required. The connecting instructions of the local electricity supply companies are to be observed.

Minimum inlet pressure for the prevention of cavitation

To prevent cavitation (vapour bubble formation within the pump), it is necessary to maintain a sufficiently high over pressure (suction head) at the pump suction port in relation to the vapour pressure of the fluid being pumped.

The minimum suction heads are listed in the respective tables for all glandless pumps.

For higher altitudes than 300 m above sea level:

add 0,1 m head/100 m height increase.

These minimum heads must be respectively increased when handling fluids of higher temperatures or lower densities, higher resistances at the circulator suction side and in regions of lower atmospheric pressures.

Pump curves

All pump curves included in the catalogue apply to the pumping of water (kinematic viscosity = 1 mm²/s). If fluids of different density and/or viscosity are pumped (e.g. water-glycol mixtures), the hydraulic values of the pump and the pipe system will deviate. It is recommended that the data is only measured after a minimum of 24h running-in.

Minimum volume flow

Larger pumps require a minimum flow rate to ensure trouble-free operation. Operating against a closed slide valve, volume flow $Q = 0 \text{ m}^3/\text{h}$, can lead to overheating inside the pump.

Standards/directives

- CE marking (all Wilo pumps)
- Certification according to:
 - ISO 9001,
 - ISO 14001

Quality and safety mark



For pump types:

Wilo-Yonos PARA
Wilo-Yonos PARA High Flow
Wilo-Stratos PARA

Notes on installation and operation

Installation

Installation inside a building

Glandless pumps must be installed in dry, well-ventilated, frost-free rooms.

Installation outside a building (outdoor installation)

The glandless pumps of the following series are suitable for outdoor installation:

- Wilo-Yonos PARA / Yonos PARA High Flow
- Wilo-Stratos PARA

The following conditions must be complied with:

- Installation of the pump in a sump (e.g. light sump, ring sump) with cover or in a cabinet/housing for protection against the weather
- Avoidance of direct sunlight on the pump
- Protection of the pump against rain. Dripping water from above is allowed as long as the pump is installed in an appropriate installation position.
- In order to ensure that waste heat is dissipated, the motor and the electronics must be ventilated at all times.
- Fluid and ambient temperatures may not exceed or fall below the admissible values.

Condensation water

All standard pumps for cold water applications down to $-10\text{ }^{\circ}\text{C}$ are fully condensation-proof. The grey cast iron pump housing of the following series

- Wilo-Yonos PARA / Yonos PARA High Flow
- Wilo-Stratos PARA

is equipped with a special coating (cataphoretic coating) for a subsequent surface finishing.

The benefits of this coating are:

- Optimum corrosion protection against condensation formation on the pump housings in cold water installations
- Very high scratch and impact resistance

Intermittent operation

The series

- Wilo-Yonos PARA / Yonos PARA High Flow
- Wilo-Stratos PARA

can also be used for intermittent (ON/OFF) operation.

The maximum admissible number of switchings during the life time of the pump is 300000 times (80000 operating hours) at a minimum time period of 5 s between two switchings.

Connections

Screw-end pumps

Screw-end pumps are equipped with connecting threads in accordance with DIN EN ISO 228, Part 1. Seals are on request in the scope of delivery.

Wilo recommends the use of flat gaskets type EPDM 70 shores for cast iron, bronze or composite pump housings.

Electrical connection

- All Wilo pumps are made for a voltage of 230 V (tolerance $+10\%/ -15\%$).
- It is not recommended to use WILO high efficiency pumps in combination with a Triac control for ON/OFF switching. Relay control should be used here.
- All Wilo pumps made after 1 January 1995 have been labelled with the CE marking in accordance with relevant EU Directives.

- When pumps are used in systems with fluid temperatures above $90\text{ }^{\circ}\text{C}$, a suitably heat-resistant connecting pipe must be used.

Life time, wear and tear

The pumps and their components for OEM applications described hereafter are designed for 80000 operating hours.

Pumps or parts of pumps are subject to wear in accordance with state-of-the-art technology (DIN 31051/DIN-EN 13306). This wear may vary depending on operating parameters (temperature, pressure, speed, water conditions) and the installation/usage situation and may result in the malfunction or failure at different times of the aforementioned products/components, including their electrical/electronic circuitry.

Wearing parts are all components subject to rotary or dynamic stress, including electronic components under tension, in particular:

- Seals (including mechanical seals), seal rings
- Bearings and shafts
- Impellers and pump components
- Relays
- Electronic circuits, semiconductor components, etc.

We do not accept any liability for faults or defects arising from natural wear and tear.

Pump replacement

No spare parts are available for OEM pumps.

In the event of damage, the complete pump needs to be replaced.

Safety information

Faults of electronic devices due to electromagnetic fields

Electromagnetic fields are created during the operation of pumps with frequency converter. Interference of electronic devices may be the result. The result may be a device malfunction, which can result in damage to the health or even death, e.g. of persons carrying implanted active or passive medical devices.

Therefore, during operation the presence of any persons e.g. with cardiac pacemakers in the vicinity of the unit/pump should be prohibited. With magnetic or electronic data media, the loss of data is possible.

WARNING! Danger due to strong magnetic field!

Inside the machine there is always a strong magnetic field that can cause injury and damage to property in the event of incorrect dismantling.

- It is only permitted to have the rotor removed from the motor housing by qualified personnel! There is a crushing hazard! When pulling the rotor out of the motor, it may be suddenly pulled back into its initial position by the strong magnetic field. If the unit consisting of impeller, bearing shield and rotor is pulled out of the motor, persons with medical aids, such as cardiac pacemakers, insulin pumps, hearing aids, implants or similar are at risk. Death, severe injury and damage to property may be the result. For such persons, a professional medical assessment is always necessary. Electronic devices may be impaired functionally or damaged by the strong magnetic field of the rotor. If the rotor is outside the motor, magnetic objects may be attracted very suddenly. That can result in injury and damage to property.

In assembled condition, the rotor's magnetic field is guided in the motor's iron core. There is therefore no harmful magnetic field outside the machine.

Wilo – General Terms of Delivery and Service

The latest version of our General Terms of Delivery and Service can be found on the Internet at www.wilo.com/en/legal

Wilo-Yonos PARA



The Wilo-Yonos PARA is the latest high-efficiency pump series which is specially designed in order to fulfill the special demands of the OEM industry. The Wilo-Yonos PARA sets the standard for energy-saving solutions required for integrated hydraulic systems. Equipped with a self controlled Red button or externally PWM control, the Wilo-Yonos PARA is the perfect choice for a one-to-one replacement of most existing electronic pumps. This series is available in various cast iron and composite pump housings and is thus highly versatile. At the leading edge of technology, the Wilo-Yonos PARA provides best-in-class performances: it has a three times higher starting torque than most comparable heating pumps and fulfils highest mechanical, electrical and hydraulic requirements.

Special features/product benefits

- "Best in class" High Efficiency pump of the market due to ECM technology
- Up to 80% electricity savings compared to previous uncontrolled range of heating pumps
- Self controlled pump (Red button) or externally controlled (PWM signal)
- Unique LED user interface gives information about the pump functioning
- High starting torque for reliable start-up
- Hot water heating systems of all kinds, in the temperature range of 0 °C to +95 °C (110 °C for ST version)
- Designed for easy integration due to compact design
- Inrush current peak less than 3A
- Self protecting modes of electronic motor
- Preventing flow noises
- Stand-by consumption less than 1 W
- Functions adapted specially to the demands of the OEM market
- Standard delivery with power cable and signal cable
- Cathodically coated (KTL) cast iron pump housing to prevent corrosion when condensation occurs, or OEM composite pump housing

Heating application

In nearly all circulation systems, correctly sized controlled glandless pumps ensure adequate heat supply at all times at significantly reduced energy costs, while at the same time preventing noise generation.

Sanitary hot water application (Wilo-Yonos PARA-Z)

Pumps which are utilised in sanitary hot water circulation systems are subject to specific requirements that are fulfilled by the Wilo-Yonos PARA-Z series:

- Fluids are potable water and water for food companies according to TrinkwV 2001. Possible deposits of lime were considered in the design so that a total carbonate hardness of 20°d at a max. fluid temperature of +80 °C is permitted.
- All plastic parts that come into contact with the pumped liquid comply with KTW recommendations.

Electronic performance control

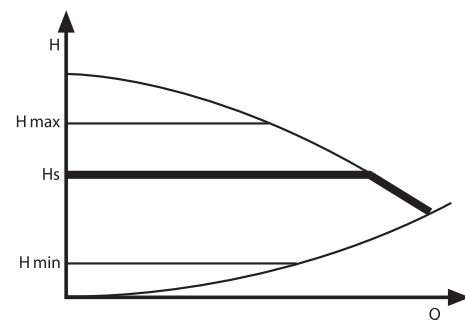
Self controlled model with Red button (Type RKA/RKC)

- RKA: Red Knob for $\Delta p-v$ Air venting and $\Delta p-c$
- RKC: Red Knob for $\Delta p-v$ and Constant speed

Available control modes

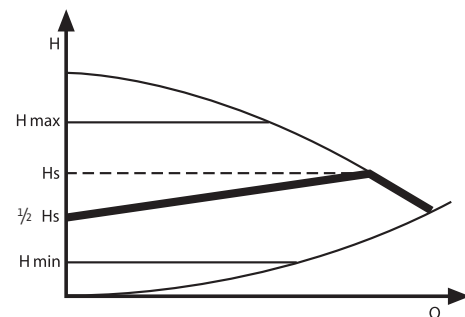
Control mode $\Delta p-c$:

In the $\Delta p-c$ control mode, the electronic module keeps the differential pressure generated by the pump constant at the set differential pressure setpoint H_s over the permissible volume flow range.



Control mode $\Delta p-v$:

In the $\Delta p-v$ control mode, the electronic module changes the differential pressure setpoint to be maintained by the pump in linear fashion between H_s and $\frac{1}{2} H_s$. The differential pressure setpoint value H varies with the volume flow Q .



Venting routine

The integrated venting routine supports a bleeding of the overall heating system. After a manual setting, the routine runs for 10 minutes alternating at low and high speed of the pump. At the end of the process, the pump switches automatically to a pre-set speed. After that, the desired control mode can be set at the red button.

Constant speed I, II, III

In this operating mode the pump is not self regulating its speed. The pump is operating constantly with a fixed speed in pre-set position.

Manual control panel

Control button

The control mode and the differential pressure setpoint at $\Delta p-c$ for constant differential pressure, $\Delta p-v$ for variable differential pressure and pre-setting the constant speed can be set easily and safely, di-

Wilo-Yonos PARA

rectly at the pump. Depending on customer wishes, a pre-setting of the control mode/setpoint can be done at the factory.

RKA type



RKA

- Local setting of the constant differential pressure set-point at $\Delta p-c$ on the right side
- Local setting of the variable differential pressure set-point at $\Delta p-v$ on the left side
- Medium position for activating the venting function

RKC type

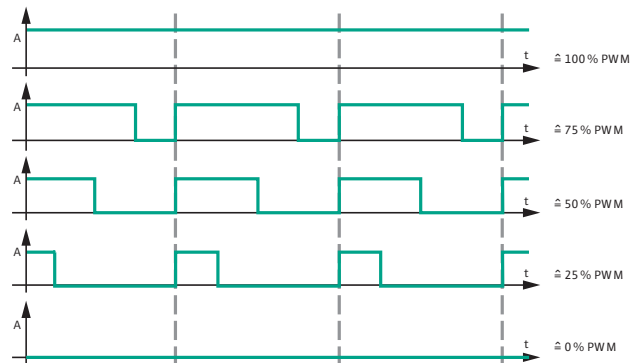
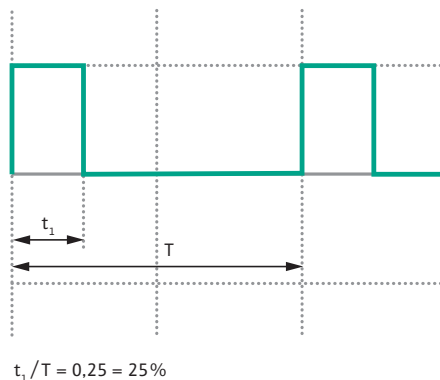


RKC

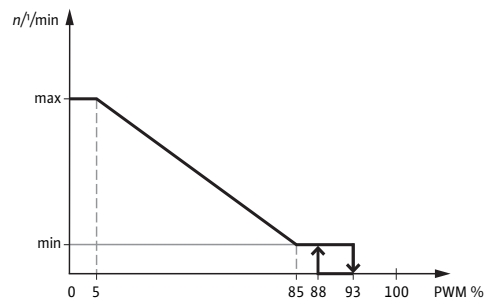
- Local setting of the variable differential pressure set-point at $\Delta p-v$ on the left side
- A fixed constant speed is set on the right side. In this operating mode the pump is not self regulating its speed.
- Medium position for minimum speed

External control via a PWM signal

The actual/setpoint level assessment required for control is referred to a remote controller. The remote controller sends a PWM signal as an actuating variable to the Wilo-Yonos PARA. The PWM signal generator gives a periodic order of pulses to the pump (the duty cycle), according to DIN IEC 60469-1. The actuating variable is determined by the ratio between pulse duration and the pulse period. The duty cycle is defined as a ratio without dimension, with a value of 0 ... 1 or 0 ... 100 %. This is explained in the following with ideal pulses which form a rectangular wave.



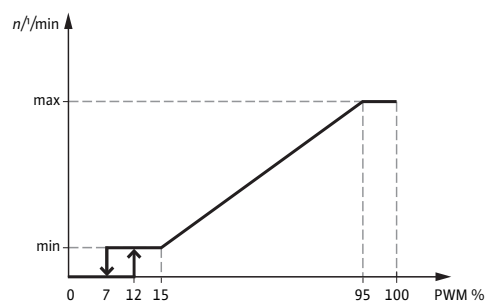
PWM signal logic 1 (heating):



PWM input signal [%]

- < 5 Pump runs at maximum speed
- 5-85 Pump speed decreases linearly from maximum to minimum
- 85-93 Pump runs at minimum speed (operation)
- 85-88 Pump runs at minimum speed (start-up)
- 93-100 Pump stops (Standby)

PWM signal logic 2 (solar):



PWM input signal [%]

- < 7 Pump stops (Standby)
- 7-15 Pump runs at minimum speed (operation)
- 12-15 Pump runs at minimum speed (start-up)
- 15-95 Pump speed increases linearly from minimum to maximum
- > 95 Pump runs at maximum speed

Signal frequency: 100 Hz-5000 Hz (1000 Hz nominal)
 Signal amplitude: Minimum 3.6 V at 3 mA
 up to 24 V for 7.5 mA absorbed by the pump interface
 Signal polarity: none

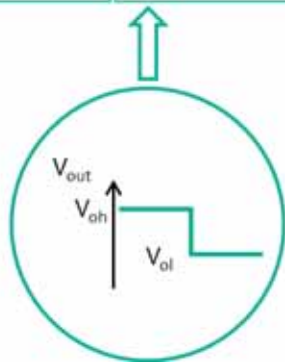
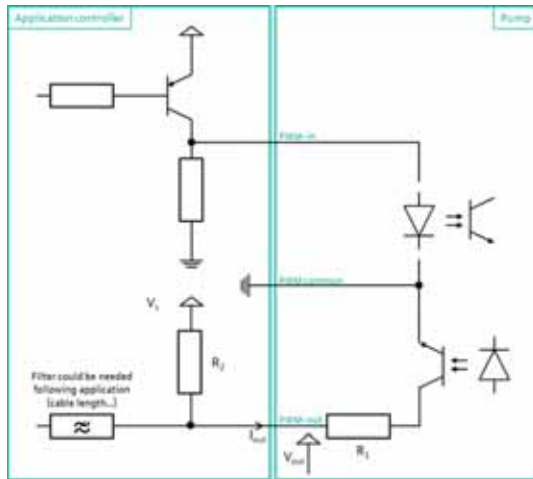
Planning guide

Wilo-Yonos PARA

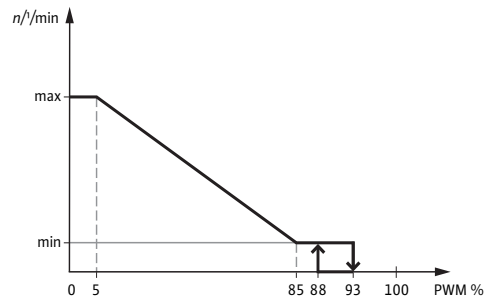
iPWM interface



iPWM stands for intelligent (bidirectional/two ways communication) Pulse-width modulation. PWM signal for external activation of functions and returned signal flow



iPWM signal logic 1 (heating) (%):



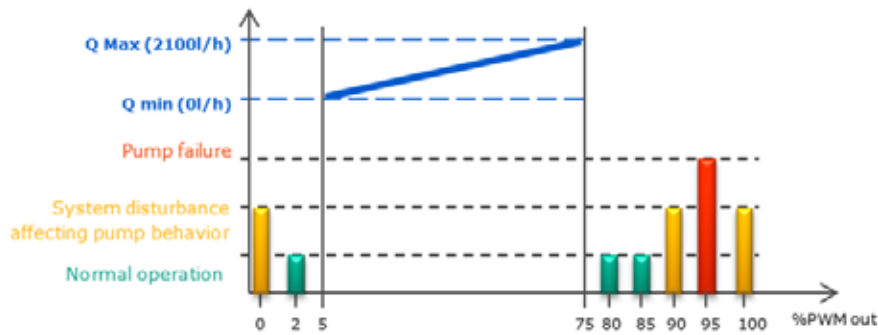
PWM input signal [%]

- < 5 Pump runs at maximum speed
- 5-85 Pump speed decreases linearly from maximum to minimum
- 85-93 Pump runs at minimum speed (operation)
- 85-88 Pump runs at minimum speed (start-up)
- 93-100 Pump stops (Standby)

PWM-in	
Signal frequency:	100 Hz-5000 Hz (1000 Hz nominal)
Signal amplitude:	Minimum 3.6V at 3 mA Up to 24V for 7.5 mA absorbed by the pump interface
PWM-out	
Vs	$3V \leq V_s \leq 24V$
R2	$(V_s - 0,2) / I_{out} - R1$
R2C C=filter capacitor	$\leq \frac{1}{1000 \times \ln(0.3) \times 75}$ for rise time impact < 0.1%
Signal frequency:	75Hz +/- 2Hz
R1	470W +/-5%
Vol =Vout low	<1V for Iout<1mA

Wilo-Yonos PARA

iPWM signal logic 1 (heating) [%]:



% PWM-out	Status	Potential causes
0	Pump output iPWM interface damaged	iPWM interface in short circuit
2	Stand-by, pump is ready to run	/
5-75	Pump is running normally, flow information is supplied	/
80	Abnormal running mode Pump is running but not at optimal performance	- Undervoltage 160/170-194V - Self thermal protecting mode
85	Abnormal function mode Pump has stopped but is still functional	- Undervoltage <160/170V - Overvoltage - Unexpected external flow
90	Abnormal function mode Pump has stopped but is still functional	- Failure on another component than pump - Debris in the installation - Bad temperature setup
95	The pump has stopped due to permanent failure	- Pump blocked - Electronic module out of order
100	Problem of iPWM connection	iPWM interface in open circuit

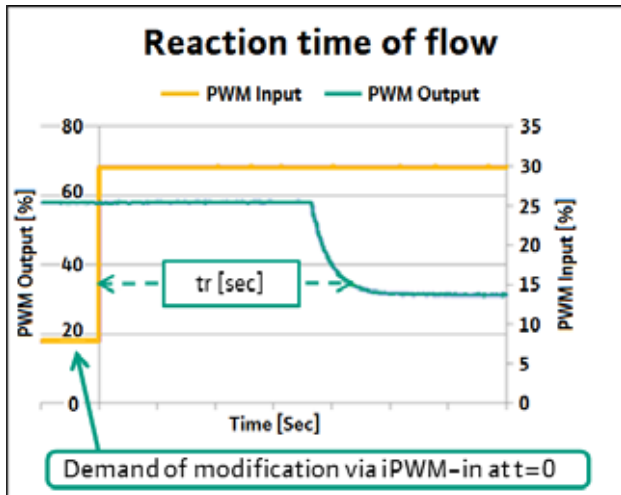
iPWM-out accuracy

Heating circuit	Accuracy on measurement (valid for rotation speed > 2000 RPM)	Resolution on iPWM output (additional to accuracy)
for $Q \leq 1400\text{L/h}$	+/- 140 L/h*	10 L/h
for $Q > 1400\text{L/h}$	+/- 20%*	10 L/h

* the accuracy is depending on the pump housing and the medium. A temperature correction factor is available on demand.

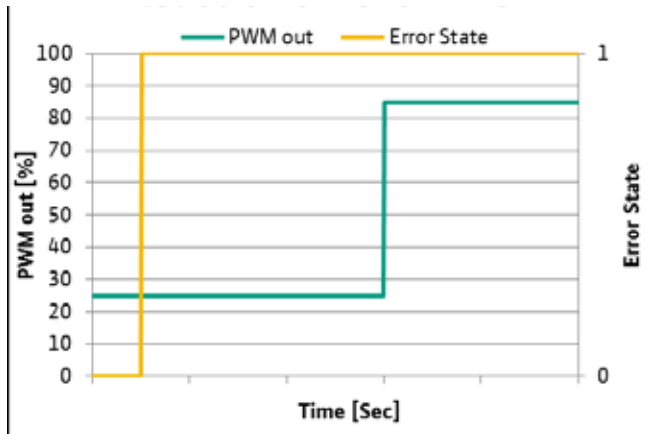
Wilo-Yonos PARA

iPWM-out reaction time



Failure	ouReaction time 'tr' [sec]
Undervoltage	<2
Blocked rotor	<5
Flow adjustment (90% of targeted flow)	<5

If the controller adjusts iPWM-in with a higher frequency than the "reaction time", the flow adjustment sent by iPWM-out may not be updated. However the rotation speed will change according to the demand.



Electrical connection

To ensure a safe and easy electrical connection, the Wilo-Yonos PARA pumps are equipped with an integrated Molex 3-way connector and depending on the available functions, with a control cable.

Mains connection

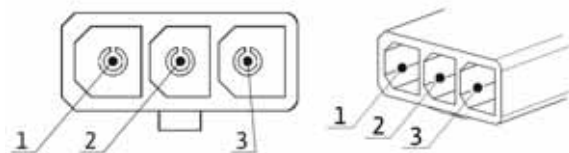
For mains power supply 1~230 V/50 Hz

Yonos PARA with integrated Molex 3-way connector

PWM version



Red Knob version



- 1) L1, 1~230 V/50 Hz
- 2) Neutral N
- 3) Earth conductor

The mating plug to the OEM-plug can be ordered with one of the following suppliers. (Wilo does not assume any liability for the products supplied by these manufacturers):

LTE (www.lte.it)

FACON (www.facon.it)

Cables Standard

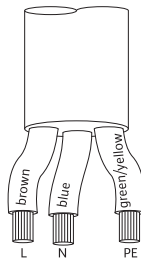
Overmoulded cable with brass end splices

Wilo-Yonos PARA

Available mains cables

Standard	1 m, 3-core cable with end splices
Optional	0.5 m, 3-core cable with end splices 1.5 m, 3-core cable with end splices 2.0 m, 3-core cable with end splices according to customer specifications

black/brown: L1, 1~230V/50Hz
blue: Neutral N
yellow/green: Earth conductor

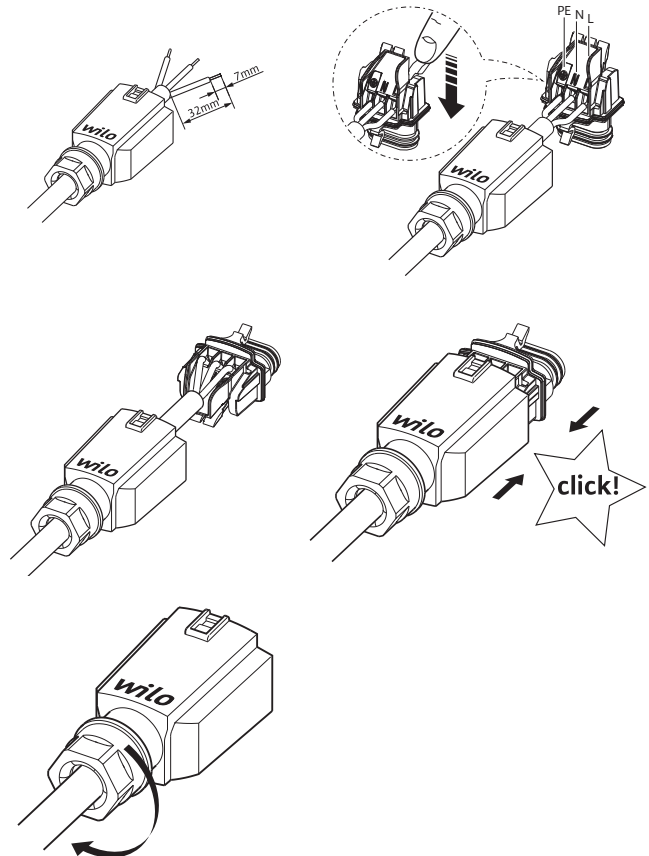


Optional: short cables with specific connector

- Volex cable, IEC 60320-C6 (cable length ca. 300 mm)
- 3 way / Molex cable (cable length ca. 200 mm)
- WS8 cable + WS8 connector (cable length ca. 200 mm)

Optional: Wilo Connector

No tools are required to connect the mains cable to the Wilo-Connector:

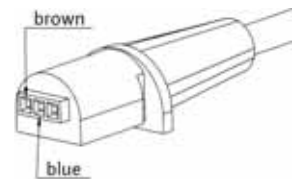


PWM Control cables 2-core cable



For connecting the analogue PWM interface
PWM signal cables supplied without a connector have dual polarity.

Core + (brown)
Core - (blue)



Planning guide

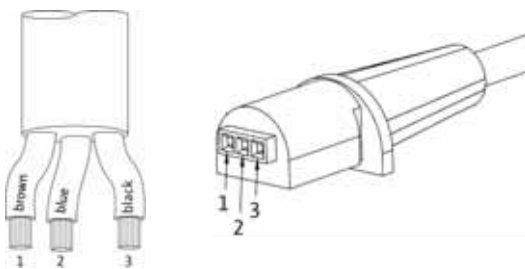
Wilo-Yonos PARA

Available control cables

Standard	1 m, 2-core cable with end splices
Optional	0.5 m, 2-core cable with end splices 1.5 m, 2-core cable with end splices 2.0 m, 2-core cable with end splices according to customer specifications

3-core cable

For connecting the analogue iPWM interface
PWM signal cables supplied without a connector have dual polarity.



Core no. 1 (brown)	PWM input (from controller)
Core no. 2 (blue or grey)	PWM common
Core no. 3 (black)	PWM output (from the pump)

Available control cables

Standard	1 m, 3-core cable with end splices
Optional	0.5 m, 3-core cable with end splices 1.5 m, 3-core cable with end splices 2.0 m, 3-core cable with end splices according to customer specifications

The mating plug to the OEM-plug can be ordered with one of the following suppliers. (Wilo does not assume any liability for the products supplied by these manufacturers):

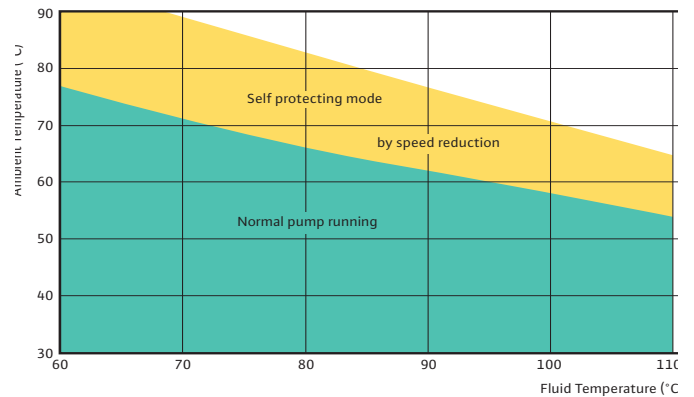
LTE (www.lte.it)
FACON (www.facon.it)

Note:

To ensure interference resistance, the total length of the PWM control cable must not exceed 3 m.

Permissible temperature range

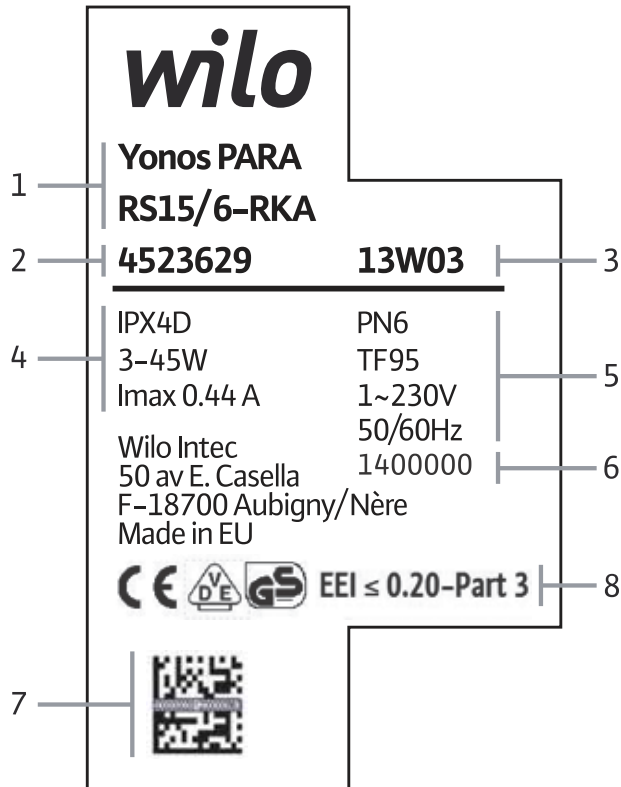
The Wilo-Yonos PARA range is equipped with a self protecting mode: In the event of too high temperature, outside the permissible temperature range, the electronics reduces automatically the power consumption until normal operating conditions return.



Example: at a fluid temperature of 90 °C and at an ambient temperature of 62 °C, the delivery head can decrease by 0.5 m depending on the pressure losses of the system.

Wilo-Yonos PARA

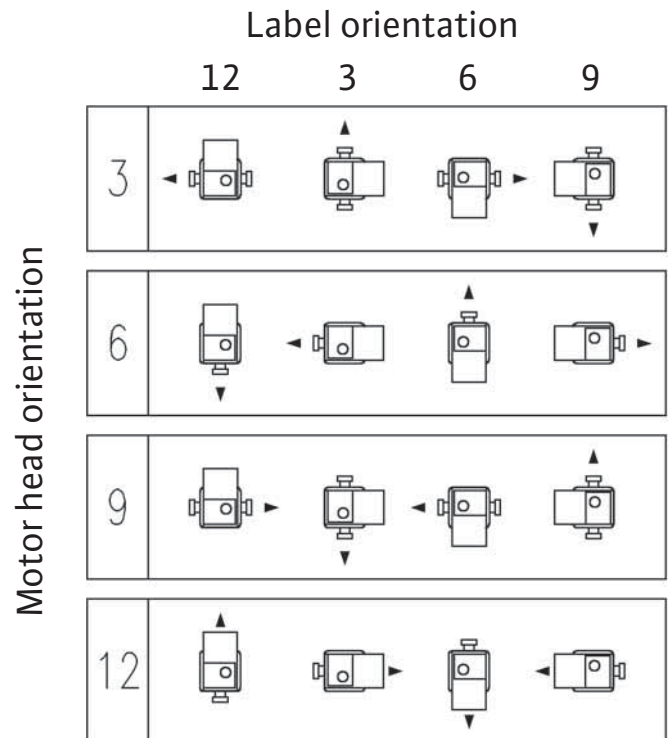
Designation, name plate of the Wilo-Yonos PARA series



- 1 Pump type
- 2 Article number
- 3 Production date (year/week)
- 4 Protection class IP/Power consumption/Electricity
- 5 Operating pressure/max. Fluidtemperature/Voltage/Frequency
- 6 Wilo Label number
- 7 Code and serial number
- 8 Energy efficiency index (EEI)
The benchmark of the most efficient circulator is EEI ≤ 0.20, part 3

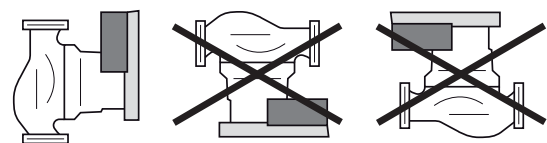
Permitted installation positions

Wilo-Yonos PARA



3, 6, 9 and 12 o'clock are the electronic module positions for the indicated direction of flow at the pump housing.

Impermissible installation positions



Horizontal position

Max deviation in both directions: 7° degree

Transport and interim storage

Immediately after receiving check the product for damage in transit.

Transport conditions

The device must not be exposed to temperatures outside the range of -40 °C up to +85 °C. The transport conditions must be applied max. three months.

Storage conditions

The device must not be exposed to temperatures outside the range 0 °C up to +40 °C. The storage time can be up to two years. The remaining water, in case of customer production tests, cannot lead to frost damages.

Wilo-Yonos PARA High Flow



The Wilo-Yonos PARA High Flow is the latest Wilo high-efficiency pump series in glandless construction which can be used both for

- Hot-water heating systems of all kinds
- Closed cooling circuits
- Circulation in solar thermal and geothermal systems in all OEM applications and it offers the following advantages:

Field of application

The series Wilo-Yonos PARA High Flow is used as high-efficiency pump in circulation systems for heating, ventilation and air-conditioning applications in commercial and residential buildings:

- Large residential buildings
- Apartment buildings
- Residential complexes
- Hospitals
- Schools
- Administrative office buildings
- Real estate developments

Product advantages and USP (unique selling propositions)

- Automatic adjustment of pump output to continuously varying load conditions of the hydraulic system
- Prevention of flow noise
- Use in heating and air-conditioning applications from -20°C to $+110^{\circ}\text{C}$ medium temperature.
- Maximum efficiency thanks to ECM technology
- LED display for the indication of nominal delivery head and fault codes
- Control range from 0.5m set delivery head
- Preselectable control modes for optimum load adjustment $\Delta p\text{-c}$ (differential pressure constant), $\Delta p\text{-v}$ (differential pressure variable)
- Preselectable constant speed mode (3 predefined fixed speed curves)
- Quick and convenient electrical connection with Wilo-Connector
- Collective fault signal on all types for assuring system availability
- Simple installation due to PN 6/PN 10 combination flanges (with DN 40 to DN 65)
- Pump housing with cathaphoretic coating for preventing corrosion due to condensation formation
- Safety and comfort during installation and operation
- Integrated motor protection
- Variable installation positions

Heating application

In nearly all circulation systems, correctly sized controlled glandless pumps ensure adequate heat supply at all times at significantly reduced energy costs, while at the same time preventing noise generation.

Thermal insulation for heating

In order to prevent heating loss through the pump housing, the single pumps of the series Wilo-Yonos PARA High Flow are available with a thermal insulation shell as accessory.

The PP material used, foamed polypropylene, has the following properties:

- Environmental compatibility: easy to recycle
- Thermal resistance: up to 120°C
- Flammability: Class B2 in accordance with DIN 4102 (normal flammability)

Normally flammable materials are permitted for use in heated rooms in Germany in accordance with fire prevention regulations as long as a minimum clearance of 20 cm is maintained between them and the fireplace.

Air-conditioning/cooling application

The restriction for conventional variable speed pumps in terms of the dependency of the fluid temperature on the ambient temperature does not apply to the Wilo-Yonos PARA High Flow pump. Condensation forms on cold surfaces if the fluid temperature is lower than the ambient temperature. The Wilo-Yonos PARA High Flow pump can also be used in such cases. It is designed in such a way that damage to electrical parts caused by condensation water is avoided.

Isolation for air-conditioning/cooling

If the pump housing is given diffusion-proof insulation onsite, the insulation may not cover the drain labyrinth between pump housing and motor. That ensures that any condensate having possibly accumulated in the motor can drain off freely through the condensate drain openings in the motor housing.

Corrosion-proof pump design

Corrosion-proof designs are required for e.g. cooling ceilings or ceiling heating panels. For these applications, the pump housing is coated.

ECM technology

EC stands for electronically commutated motor. Its basis is a synchronous motor with permanent magnet rotor. The rotating stator's magnetic field is generated by electronic commutation, meaning that the stator windings are activated specifically for the interaction of the electrical and magnetic poles.

Wet rotor encapsulation

The rotor of the glandless pump motor runs in the fluid. This fluid lubricates the bearings and cools the motor. The current-carrying stator is separated from the fluid by a can, referred to as wet rotor encapsulation.

- due to the size of the necessary gap between stator and rotor, and due to the magnetic resistance of the selected can material.

The improvement in terms of efficiency of the Wilo-Yonos PARA High Flow pump here is the result of:

- Reduction of the air gap and
- Application of an innovative can material with smaller losses to the magnetic flux between stator and rotor.

Automatic power control

The volume flow pumped through a circulation pump depends on the thermal output/cooling output requirement of the system being supplied.

This requirement varies according to:

- Climatic changes
- User behaviour
- External heat influence
- Influence of hydraulic control devices, etc.

Wilo-Yonos PARA High Flow

The circulation pump designed for maximum load conditions is adapted to the relevant system operating status by means of a continuous comparison of the setpoint and the actual value. This automatic control constantly adapts the pump output and thus also the power consumption to the actual demand.

Automatic venting

The rotor space is ventilated automatically by the filter and flow channel system.

This has the following benefits:

- The automatic ventilation of the rotor space is accelerated, thus reducing both dryrunning times and ventilation noise.
- Damage to the radial bearings or to the can is reduced by the filtering feature.

Motor protection

The standard integrated protection device reliably protects the pump, in all settings,

against excess temperature, excess current and blocking. This has the following advantage:

- No external motor protection switch is required.

If, in the case of replacement, there is a motor protection switch in the electrical installation that cannot be bridged, then it is to be set to the maximum current specified on the name plate.

Features of the user interface (HMI)

- LED 7 segments display for the indication of the delivery head and error messages
- Red button
- Simple selection of the operating mode $\Delta p-v$, $\Delta p-c$
- Output of a collective fault signal
- Fault signal light
- Standard plug for all sizes

Signal and display functions

- Collective fault signal (potential-free contact) for the connection of building automation
- Fault signal light (a red light in the case of an interference)

Manual operation level

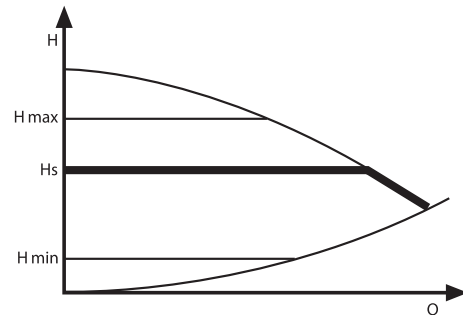
Operating button

The Wilo-Yonos PARA High Flow pump is operated by means of the proven red-button technology (one button operation). The important basic functions can be set easily and safely, directly at the pump.

Control modes

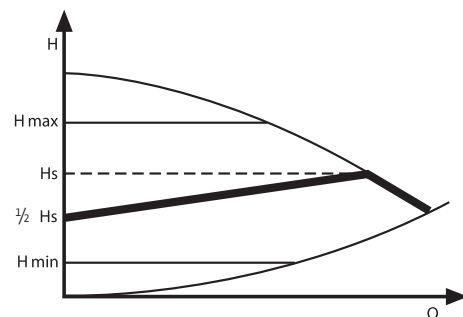
Control mode $\Delta p-c$:

In the $\Delta p-c$ control mode, the electronic module keeps the differential pressure generated by the pump constant at the set differential pressure setpoint H_s over the permissible volume flow range.



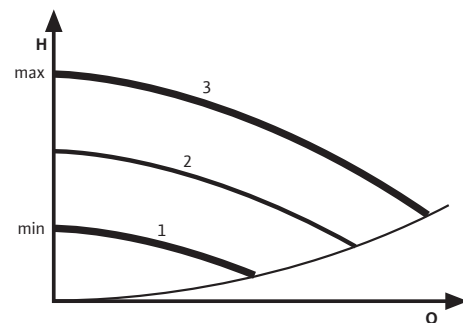
Control mode $\Delta p-v$:

In the $\Delta p-v$ control mode, the electronic module changes the differential pressure setpoint to be maintained by the pump in linear fashion between H_s and $\frac{1}{2} H_s$. The differential pressure setpoint value H varies with the volume flow Q .



Control mode n-constant (constant speed)

In the constant speed mode the pump is set on one of the predefined fixed speeds (C1, C2, C3)



Collective fault signal SSM

A collective fault signal is available as potential-free contact, designed as NC contact in accordance with VDI 3814.

Contact load:

- Permitted minimum: 12 V DC, 10 mA
- Permitted maximum: 250 V AC, 1 A

The contact is closed under the following conditions:

- The pump is without current
- There is no fault

Wilo-Yonos PARA High Flow

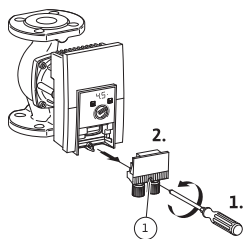
- Total failure of the control module
The contact is open under the following conditions:
The pump is powered and there is one of the following faults
- Blocking-current proof, motor
- Excess temperature control module
- Excess current
- Blocking of pump
- Faulty contact between motor/control module
- Mains undervoltage
- Mains overvoltage

Electrical connection

The control module of the Wilo-Yonos PARA High Flow is freely accessible.
The Wilo plug is used for the electrical connection. It is possible to remove the plug from the module and open it. Like this the electrical connection is very easy.

All high-efficiency pumps of the Wilo-Yonos PARA High Flow series can be connected to the following voltages and frequencies:

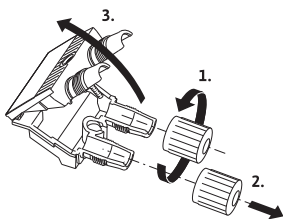
- 1~230V, 50/60Hz, tolerance in accordance with DIN IEC 60038 ± 10%
- 3~230V, 50/60Hz, tolerance in accordance with DIN IEC 60038 ± 10%



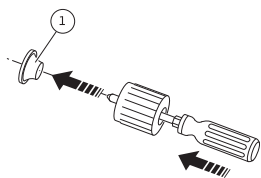
For the electrical connection, the plug must be disconnected from the control module.

Loosen the fastening screw of the plug using a Torx or slotted screwdriver. The plug moves itself out of its holding position.

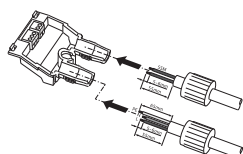
Carefully pull out the plug.



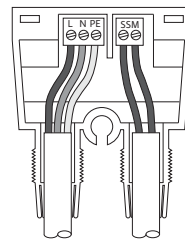
Screw off both threaded cable connections and carefully remove the top part of the plug.



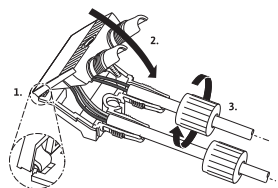
Screw off both threaded cable connections and carefully remove the top part of the plug.



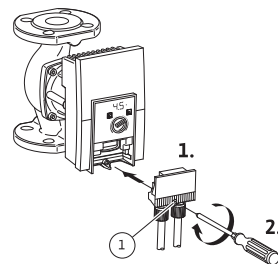
Prepare a cable (provided on-site) for the mains and SSM connection.



Establish the mains and, if applicable, SSM connection according to the terminal designations and place the cable in the bottom section of the plug.



Engage the top section of the plug, hinge bars first, into the hinge openings of the bottom section and fold shut. Screw on threaded cable connections.



Place the plug at the plug-in position of the control module and screw on using a Torx or slotted screwdriver. The plug is joined in its end position as it is screwed into place.

Operation on residual-current devices (RCD)

The operation of the Wilo-Yonos PARA High Flow series on residual-current devices in accordance with DIN EN 61008-1 is permitted without any impairment of the operation of the residual-current device (DIN VDE 0160).

Suitable RCD circuit-breakers are indicated by



or

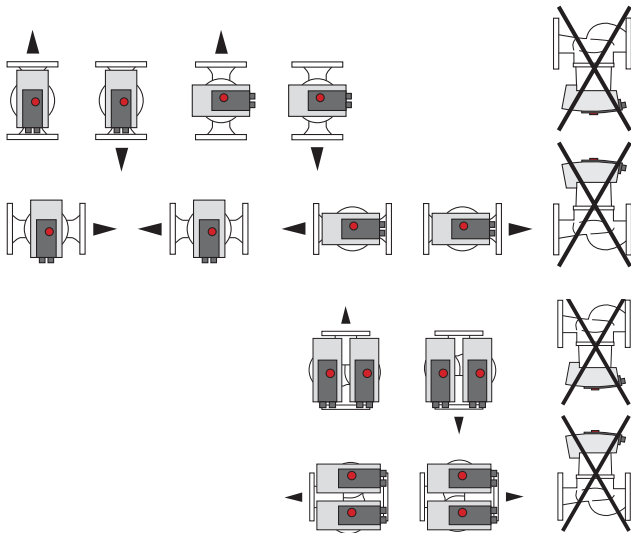


Wilo-Yonos PARA High Flow

Available cable versions

Standard: pump is delivered without mains and control cable

Permitted install positions



Designation, name plate of the Wilo-Yonos PARA series

Type key

Wilo-Yonos PARA High Flow 25/7	
High-efficiency pump	Product family
Yonos PARA High Flow	Series
25	Nominal flange diameter DN
0.5-7	Rated delivery head range in [m]
0,5	lowest selectable delivery head in [m]
7	maximum delivery head in m at Q = 0 m ³ /h

Transport and interim storage

Immediately after receiving check the product for damage in transit.

Transport conditions

The device must not be exposed to temperatures outside the range of -40 °C up to +85 °C. The transport conditions must be applied max. three months.

Storage conditions

The device must not be exposed to temperatures outside the range 0 °C up to +40 °C. The storage time can be up to two years. The remaining water, in case of customer production tests, cannot lead to frost damages.

Wilo-Stratos PARA



The Wilo-Stratos PARA is a Wilo high-efficiency pump series in glandless construction which can be used both for

- Hot-water heating systems of all kinds
- Closed cooling circuits
- Industrial circulation systems
- Circulation in solar thermal and geothermal systems
- Secondary hot water circulation systems of all kinds (Stratos PARA-Z) in all OEM applications and it offers the following advantages:

Special features/product benefits

- Maximum efficiency thanks to ECM technology
- Up to 80% electricity savings compared to old uncontrolled heating pumps
- High starting torque for reliable start-up
- Can be used in hot water heating systems of all kinds, geothermal and solar thermal systems, closed cooling circuits, industrial circulation systems in the temperature range of -10 °C to $+95\text{ °C}$ ($+110\text{ °C}$)
- Prevention of flow noise
- Reliability and comfort during installation and operation
- Functions adapted specially to the demands of the OEM market and space-saving design.
- Optimum performance also in tight installation situations.
- Delivery as standard with a cable for an easy electrical connection
- Convenient setting of the pump via external control signals or the Red-Button technology
- Cathodically coated (KTL) cast iron pump housing to prevent corrosion when condensation occurs

Heating application

The Wilo-Stratos PARA pumps are specially designed for the use in higher ambient temperatures which may occur in OEM systems in heating applications due their space-reduced construction.

Thermal insulation for heating

To avoid heat losses via the pump housing, the single pump series Wilo-Stratos PARA / Stratos PARA-Z come optionally with a thermal insulation shell. The PP material used, foamed polypropylene, has the following properties:

- Environmental compatibility: easily recyclable
- Thermal resistance: up to 120 °C
- Transmission coefficient: 0.04 W/mK according to DIN 52612
- Flammability: Class B2 according to DIN 4102 (normally flammable) Normally flammable materials are permitted for use in heated rooms in Germany in accordance with fire prevention regulations as long as a minimum clearance of 20 cm is maintained between them and the fireplace.

Cooling application

Condensation takes place on cold surfaces if the fluid temperature is lower than the ambient air temperature. The Wilo-Stratos PARA can also be used in such conditions. They are constructed in a way that damage to electrical parts caused by condensation water is prevented.

Thermal insulation for cooling

If the Wilo-Stratos PARA pumps are used at low temperatures in geothermal or cooling applications, the insulation must not cover the drain labyrinth between the pump housing/motor. Only then can any condensate having possibly accumulated in the motor drain off freely through the condensate drain openings in the motor housing.

The diffusion-proof Wilo-Cooling-Shell insulation available as accessory for the Wilo-Stratos PARA series for the purpose of insulating pump housings in cold water applications ensures this automatically due to its specific design.

Wilo-Cooling-Shell:

- Water vapour diffusion resistance > 7000
- Normally flammable, according to DIN 4102-B2
- Part 1 quality-monitored as per DIN 18200

Corrosion-proof pump design

Corrosion-proof designs are required for e.g. radiant cooling or heating ceiling panels. For these applications, the pump housing is coated. As an alternative, the Wilo-Stratos PARA-Z with its corrosion-resistant pump housing made of red brass can be utilised as the highest-quality version available.

Sanitary hot water application

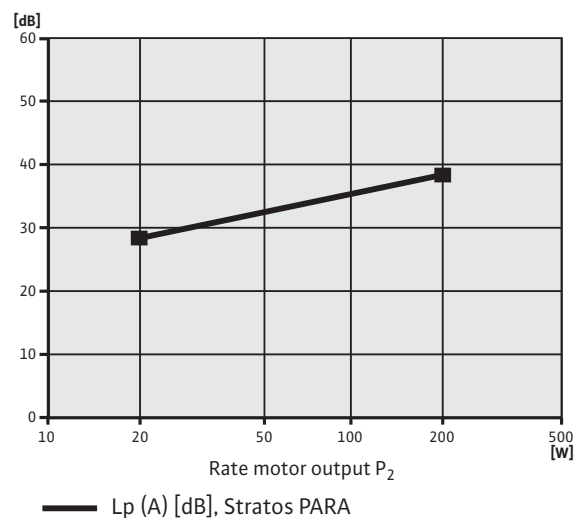
(Wilo-Stratos PARA-Z)

Pumps which are utilised in sanitary hot water circulation systems are subject to specific requirements that are fulfilled by the Wilo-Stratos PARA-Z series:

- Fluids are potable water and water for food companies according to TrinkwV 2001. Possible deposits of lime were considered in the design so that a total carbonate hardness of 20 °d at a max. fluid temperature of $+80\text{ °C}$ is permitted.
- All plastic parts that come into contact with the pumped liquid comply with KTW recommendations.

Sound pressure level

Glandless pumps are low-noise due to their design. Their air-borne noise values with measuring-surface sound pressure level $L_p(A)$ [dB] depend on the motor power output, and are determined under normal operating conditions.



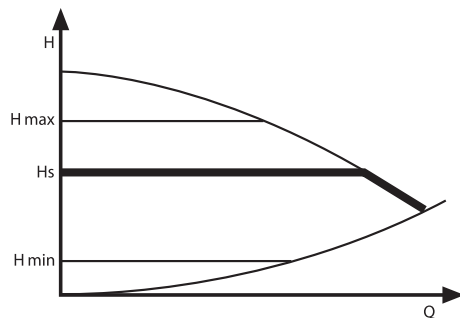
Wilo-Stratos PARA

Electronic performance control

Available control modes

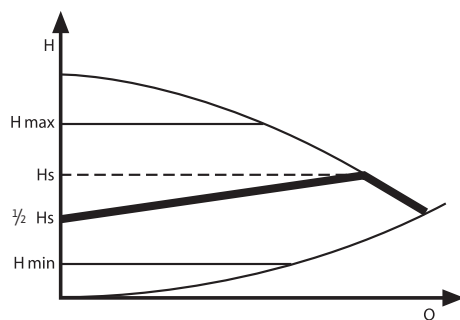
Control mode Δp -c:

In the Δp -c control mode, the electronic module keeps the differential pressure generated by the pump constant at the set differential pressure setpoint H_s over the permissible volume flow range.



Control mode Δp -v:

In the Δp -v control mode, the electronic module changes the differential pressure setpoint to be maintained by the pump in linear fashion between H_s and $\frac{1}{2} H_s$. The differential pressure setpoint value H varies with the volume flow Q .



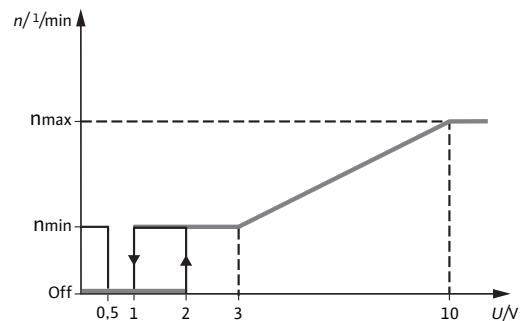
External control functions: ext. in

Control input "0-10 V" (Analogue In)

The actual/setpoint level assessment required for control is referred to a remote controller. The remote controller sends an analogue signal (0 - 10 V) as an actuating variable to the Wilo-Stratos PARA.

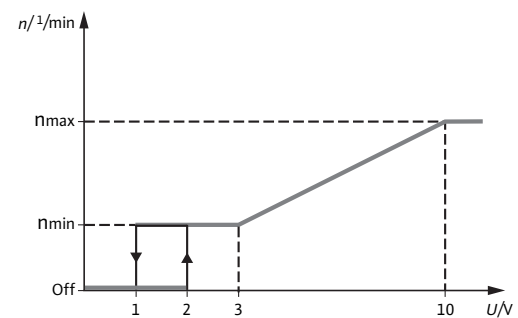
- Electric strength 24V DC
- Input resistance of voltage input >100kOhm

Analogue In 0-10V with cable break detection



- 0.5 V < U < 1 V: Pump stops
- 1 V < U < 3 V: Pump runs at minimum speed (operation)
- 2 V < U < 3 V: Pump runs at minimum speed (start-up)
- 3 V < U < 10 V: Speed varies between n_{min} and n_{max} (linear)
- U < 0.5 V: Cable break detection, the pump runs at minimum speed (emergency operation)

Analogue In 0-10V without cable break detection



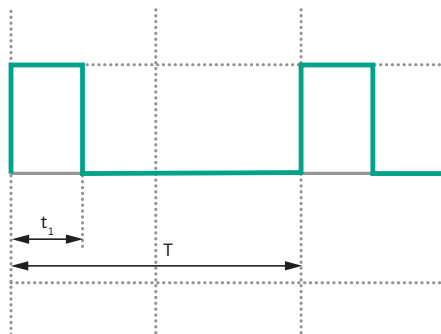
- U < 1 V: Pump stops
- 1 V < U < 3 V: Pump runs at minimum speed (operation)
- 2 V < U < 3 V: Pump runs at minimum speed (start-up)
- 3 V < U < 10 V: Speed varies between n_{min} and n_{max} (linear)

Wilo-Stratos PARA

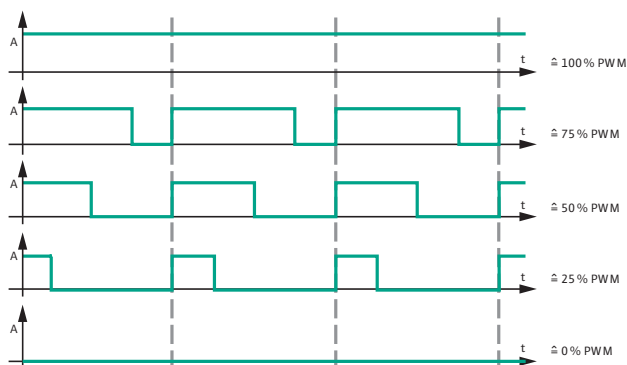
External control via a PWM signal

The actual/setpoint level assessment required for control is referred to a remote controller. The remote controller sends a PWM signal as an actuating variable to the Wilo-Stratos PARA.

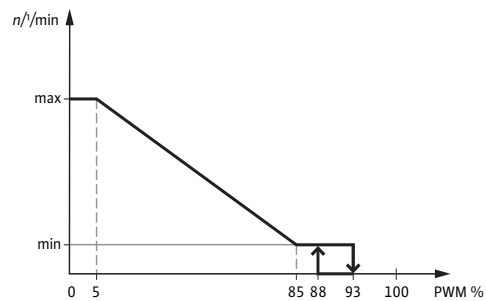
The PWM signal generator gives a periodic order of pulses to the pump (the duty cycle), according to DIN IEC 60469-1. The actuating variable is determined by the ratio between pulse duration and the pulse period. The duty cycle is defined as a ratio without dimension, with a value of 0 ... 1 or 0 ... 100 %. This is explained in the following with ideal pulses which form a rectangular wave.



$$t_1 / T = 0,25 = 25\%$$



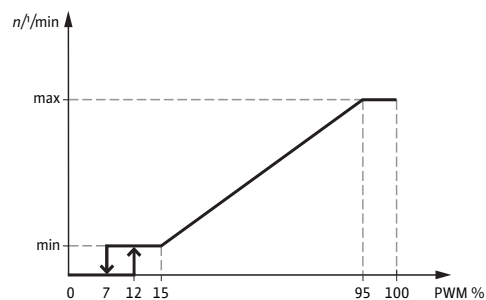
PWM signal logic 1 (heating):



PWM input signal [%]

- < 5 Pump runs at maximum speed
- 5–85 Pump speed decreases linearly from maximum to minimum
- 85–93 Pump runs at minimum speed (operation)
- 85–88 Pump runs at minimum speed (start-up)
- 93–100 Pump stops (Standby)

PWM signal logic 2 (solar):



PWM input signal [%]

- 0–7 Pump stops (Standby)
- 7–15 Pump runs at minimum speed (operation)
- 12–15 Pump runs at minimum speed (start-up)
- 15–95 Pump speed increases linearly from minimum to maximum
- > 95 Pump runs at maximum speed

Signal frequency: 100 Hz–5000 Hz (1000 Hz nominal)

Signal amplitude: 5V–15V (min. power 5mA)

Signal polarity: none

Wilo-Stratos PARA

Manual control panel

Control button

The control mode and the differential pressure setpoint at $\Delta p-c$ for constant differential pressure and at $\Delta p-v$ for variable differential pressure can be set with the control button. The important basic functions can be set easily and safely, directly at the pump. Depending on customer wishes, a pre-setting of the control mode/setpoint can be done at the factory.



Local setting of the constant differential pressure setpoint at $\Delta p-c$ at the pump



Local setting of the variable differential pressure setpoint at $\Delta p-v$ at the pump



Power adjustment with a remote controller via 0-10 V or PWM signal

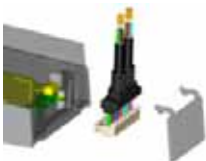
Electrical connection

To ensure a safe and easy electrical connection, the Wilo-Stratos PARA pumps are equipped with a mains cable or, depending on the available functions, with a mains and control cable as standard.



The cable is inseparable connected to the Stratos PARA pumps with a Wilo plug for Stratos PARA/-Z... 1-8; 1-11; 1-12.

Directly fixed at the electronic board of the Wilo-Stratos PARA.../1-7; 1-11.5:

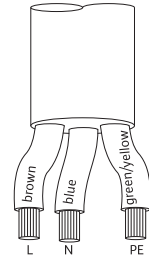


Mains connection

3-core cable

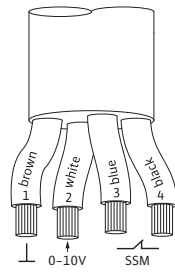
For mains power supply 1~230 V/50 Hz

black/brown: L1, 1~230 V/50 Hz
blue: Neutral N
yellow/green: Earth conductor



Control cables

Control via analogue signal 0...10 V (2-core cable or 4-core cable)

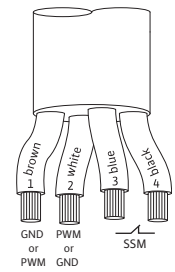
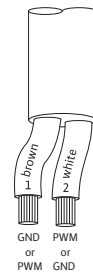


Core no. 1 (brown): GND (signal ground)
Core no. 2 (white): 0-10 V (signal)
Core no. 3 (blue): SSM (if available)
Core no. 4 (black): SSM (if available)

Note:

To ensure interference resistance, the total length of the 0-10 V control cable must not exceed 15 m.

Control via PWM (2-core cable or 4-core cable)



Core no. 1 (brown): PWM signal ground (GND) or PWM signal
Core no. 2 (white): PWM signal or PWM signal ground (GND)
Core no. 3 (blue): SSM (if available)
Core no. 4 (black): SSM (if available)

Note:

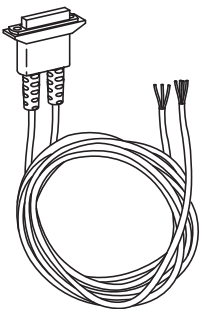
To ensure interference resistance, the total length of the PWM control cable must not exceed 3 m.

Wilo-Stratos PARA

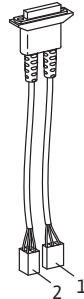
Available cable versions

Pump type		
	Stratos PARA /1-7 Stratos PARA /1-9 Stratos PARA /1-11,5	Stratos PARA /1-8 Stratos PARA /1-11 Stratos PARA /1-12 Stratos PARA Z /1-8 Stratos PARA Z /1-11 Stratos PARA Z /1-12
Mains cable		
Standard	- 1.5 m with end splices	- 1.5 m with end splices
Optional	- 2.2 m cable with end splices	- 2.2 m cable with end splices
	- 3.2 m cable with end splices	- 3.0 m cable with end splices
	- 0.1 m with Wilo OEM plug	- 0.1 m with Wilo OEM plug
	- According to customer specification	- According to customer specification
Mains and 2-core control cable		
Standard	- 1.5 m with end splices	- 1.5 m with end splices
Optional	- According to customer specification	- According to customer specification
Mains and 4-core control cable		
Standard	- 1.5 m with end splices	- 1.5 m with end splices
Optional	- 2.2 m cable with end splices	- 2.2 m cable with end splices
	- 3.2 m cable with end splices	- 3.2 m cable with end splices
	- 0.2 m with Wilo OEM-plug	- 0.2 m with Wilo OEM-plug
	- According to customer specification	- According to customer specification

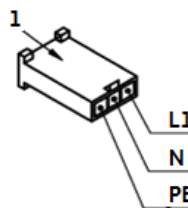
Standard mains and control cable with end splices



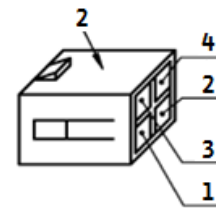
Mains and control cable with Wilo OEM plug



Pos. 1: Mains plug with female connector
Pos. 2: 4-pole control plug with pins



Assignment:
L1: brown
N: blue
PE: yellow/green



Assignment:
1: blue
2: white
3: black
4: brown

Collective fault signal, SSM

A collective fault signal is available as potential-free contact, designed as NC contact in accordance with VDI 3814.

Contact load:

- Permitted minimum: 12 V DC, 10 mA,
- Permitted maximum: 250 V AC, 1 A.

The contact is closed under the following conditions:

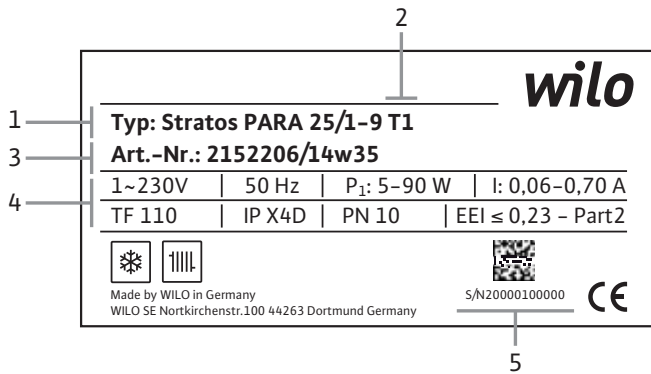
- The pump is without current
- There is no fault
- Total failure of the control module

The contact is open under the following conditions:

- The pump is powered and there is one of the following faults:
 - Excess motor temperature
 - Excess control module temperature
 - Excess current
 - Pump blockage
 - Short circuit and earth leakage
 - Faulty contact between motor/control module
 - Mains undervoltage
 - Mains overvoltage
 - Electronics faults

Wilo-Stratos PARA

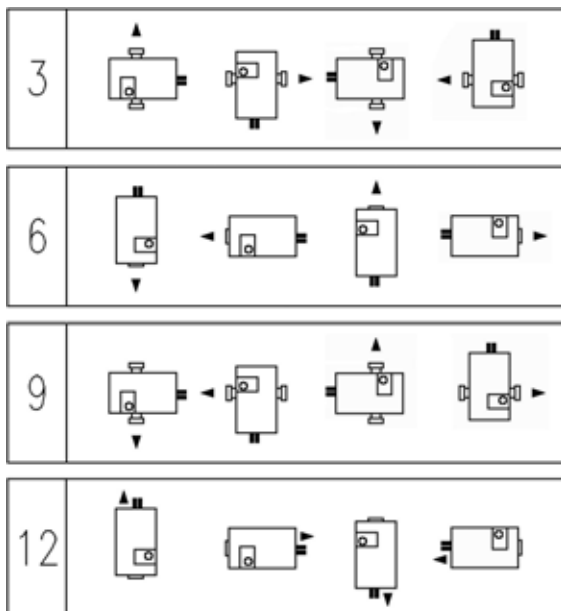
Designation, name plate of the Wilo-Stratos PARA/-Z series



- 1 Pump type
- 2 Type no. of equipment/functions combination
- 3 Article numbers/production date (year/week)
- 4 Voltage/frequency/power consumption/electricity/max. fluidtemperature/protection class IP/operating pressure PN/Energy efficiency index (EEI)
- 5 Code and serial number

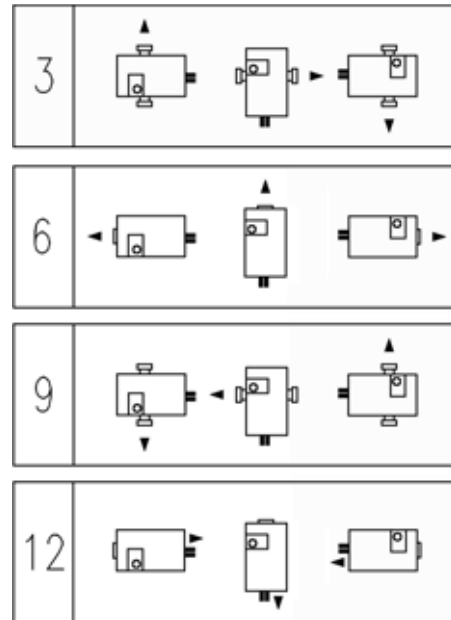
Permitted installation positions

Wilo-Stratos PARA 1-7/1-9/1-11,5



3, 6, 9 and 12 o'clock are the module positions for the indicated direction of flow at the pump housing.

Wilo-Stratos PARA/-Z 1-8/1-11/1-12



3, 6, 9 and 12 o'clock are the module positions for the indicated direction of flow at the pump housing.

Transport and interim storage

Immediately after receiving check the product for damage in transit.

Transport conditions

The device must not be exposed to temperatures outside the range of -40 °C up to +85 °C. The transport conditions must be applied max. three months.

Storage conditions

The device must not be exposed to temperatures outside the range 0 °C up to +40 °C. The storage time can be up to two years. The remaining water, in case of customer production tests, cannot lead to frost damages.

Planning guide

Possible combination of functions and equipment

Type of pump	Stratos PARA (P ₂ = 25-200 W)																		
Combination N° "T"	1	2	3	6	8	10	11	12	13	16	17	18	19	20	21	22	24	27	28
Operating modes																			
Control mode (n=constant)	•	•		•	•	•	•	•	•	•	•	•	•	√	√	√	√		√
Δp-c for constant differential pressure	•	•	•							•	•			√	√	√	√	√	√
Δp-v for variable differential pressure	•	•	•							•	•			√	√	√	√	√	√
External control functions																			
Control input "Analogue In 0 ... 10 V" with cable break function	•			•						•	•								
Control input "Analogue In 0 ... 10 V" without cable break function		•			•						•		•						
Control input PWM 1						•		•						√		√			√
Control input PWM 2							•		•						√		√		
Signal and display functions																			
Collective fault signal SSM (floating NC contact)	•	•		•	•			•	•							√	√		
Reaction of pump if red button set on Ext.In position																			
Pump turns with min speed	•		•	•						•		•							
Pump turns with max speed						•		•						√		√			√
Pump stops		•			•		•		•		•		•		√		√	√	
Equipment																			
Control element "Red button"	•	•	•							•	•			√	√	√	√	√	√
Power cable	•	•	•	•	•	•	•	•	•	•	•	•	•	√	√	√	√	√	√
4-wire cable for 0-10 V and SSM/SBM	•	•		•	•														
4-wire cable for PWM and SSM/SBM								•	•							√	√		
2-wire cable for PWM/0-10 V						•	•			•	•	•	•	√	√				

• = available for all Stratos PARA pump types

√ = available only for Wilo-Stratos PARA 1-8; 1-11; 1-12 (MS 23 & 33)



Heating and cooling

High-efficiency pumps

Series overview

Series: Wilo-Yonos PARA



> Application

Hot-water heating systems of all kinds, cooling applications.
Circulation in heating systems in the medium temperature range of -10 °C to +95 °C with short peaks of 110 °C

> Special features/product advantages

- Red Knob technology or PWM controlled
- iPWM controlled
- Unique LED user interface
- Self-protecting modes
- Designed for optimised integration
- Self controlled pump (Red Knob) or externally controlled (PWM signal)

> Additional information

Page

• Yonos PARA RS 15/6, 25/6, 30/6 Red Knob	34
• Yonos PARA RSB 15/6 Red Knob ...	38
• Yonos PARA RS 15/6, 20/6, 25/6 Red Knob KU	41
• Yonos PARA KSL 15/6 Red Knob ...	44
• Yonos PARA RSL 15/6 Red Knob KU ...	48
• Yonos PARA MSL 12/6 Red Knob ...	51
• Yonos PARA NFSL 12/6 Red Knob ..	55
• Yonos PARA HU 15/6 Red Knob	58
• Yonos PARA HU 25/6 Red Knob	62
• Yonos PARA BSL 12/6 Red Knob ...	66
• Yonos PARA HPS 25/6 Red Knob ...	70
• Yonos PARA TWP 12/6 Red Knob ...	73
• Yonos PARA RS 15/7.0, 25/7.0, 30/7.0 Red Knob/PWM1	76
• Yonos PARA RSB 15/7.0 PWM1	77
• Yonos PARA RS 15/7.0, 20/7.0, 25/7.0 Red Knob, PWM1 KU	83
• Yonos PARA KSL 15/7.0 PWM1	86
• Yonos PARA RSL 15/7.0 PWM1 KU ..	93
• Yonos PARA MSL 12/7.0 PWM1	93
• Yonos PARA NFSL 12/7.0 PWM1 ...	97
• Yonos PARA HU 15/7.0 PWM1	100
• Yonos PARA HU 25/7.0 PWM1	104
• Yonos PARA BSL 12/7.0 PWM1	108
• Yonos PARA HPS 25/7.0 PWM1	112
• Yonos PARA TWP 12/7.0 PWM1	115
• Yonos PARA RS 15/7.5, 25/7.5, 30/7.5 Red Knob/PWM1	119
• Yonos PARA RS 15/7.5, 25/7.5 Red Knob/PWM1 KU	122
• Yonos PARA KSL 15/7.5 Red Knob/PWM1	125
• Yonos PARA RSL 15/7.5 Red Knob/PWM1 KU	129
• Yonos PARA MSL 12/7.5 Red Knob/PWM1	132
• Yonos PARA NFSL 12/7.5 Red Knob/PWM1	136
• Yonos PARA HU 15/7.5 Red Knob/PWM1	139
• Yonos PARA HU 25/7.5 Red Knob/PWM1	143
• Yonos PARA HPS 25/7.5 Red Knob/PWM1	147

Series overview

Series: Wilo-Yonos PARA RSTG

New!



> Application

Hot-water heating systems of all kinds, cooling, solar and geothermal applications. Circulation in heating systems in the medium temperature range of -20 °C to +110 °C

> Special features/product advantages

- One product for all applications
- Red Knob technology or PWM controlled
- Unique LED user interface
- Self-protecting modes
- Designed for optimised integration
- Self controlled pump (Red Knob)

> Additional information

	Page
• Yonos PARA RSTG 15/7.5, 25/7.5, 30/7.5	150



Series: Wilo-Yonos PARA High Flow

New!



> Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems. Circulation in heating systems in the medium temperature range of -20 °C to +110 °C

> Special features/product advantages

- THE AC replacement solution
- LED display for the indication of set delivery head and error messages
- Simple adjustment when replacing an uncontrolled standard pump
- Quick and convenient electrical connection with Wilo plug
- System availability ensured via collective fault signal
- Pump housing with cataphoretic coating for the prevention of corrosion

> Additional information

	Page
• Yonos PARA HF 25/7, 30/7	153
• Yonos PARA HF 25/10, 30/10.....	155
• Yonos PARA HF 25/12, 30/12.....	157



Series: Wilo-Stratos PARA



> Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

> Special features/product advantages

- Application in the medium temperature range of -10 °C to +110 °C
- Electronic performance control via external control signals 0-10V or PWM
- Convenient setting of the operation mode via Red Button technology
- Manual differential-pressure setpoint setting with the operating mode $\Delta p-c$ and $\Delta p-v$.
- Standard delivery with cable for an easy electrical connection

> Additional information

	Page
• Stratos PARA 25/1-8, 30/1-8.....	159
• Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9.....	162
• Stratos PARA 25/1-11, 30/1-11 ...	165
• Stratos PARA 25/1-12, 30/1-12 ...	168

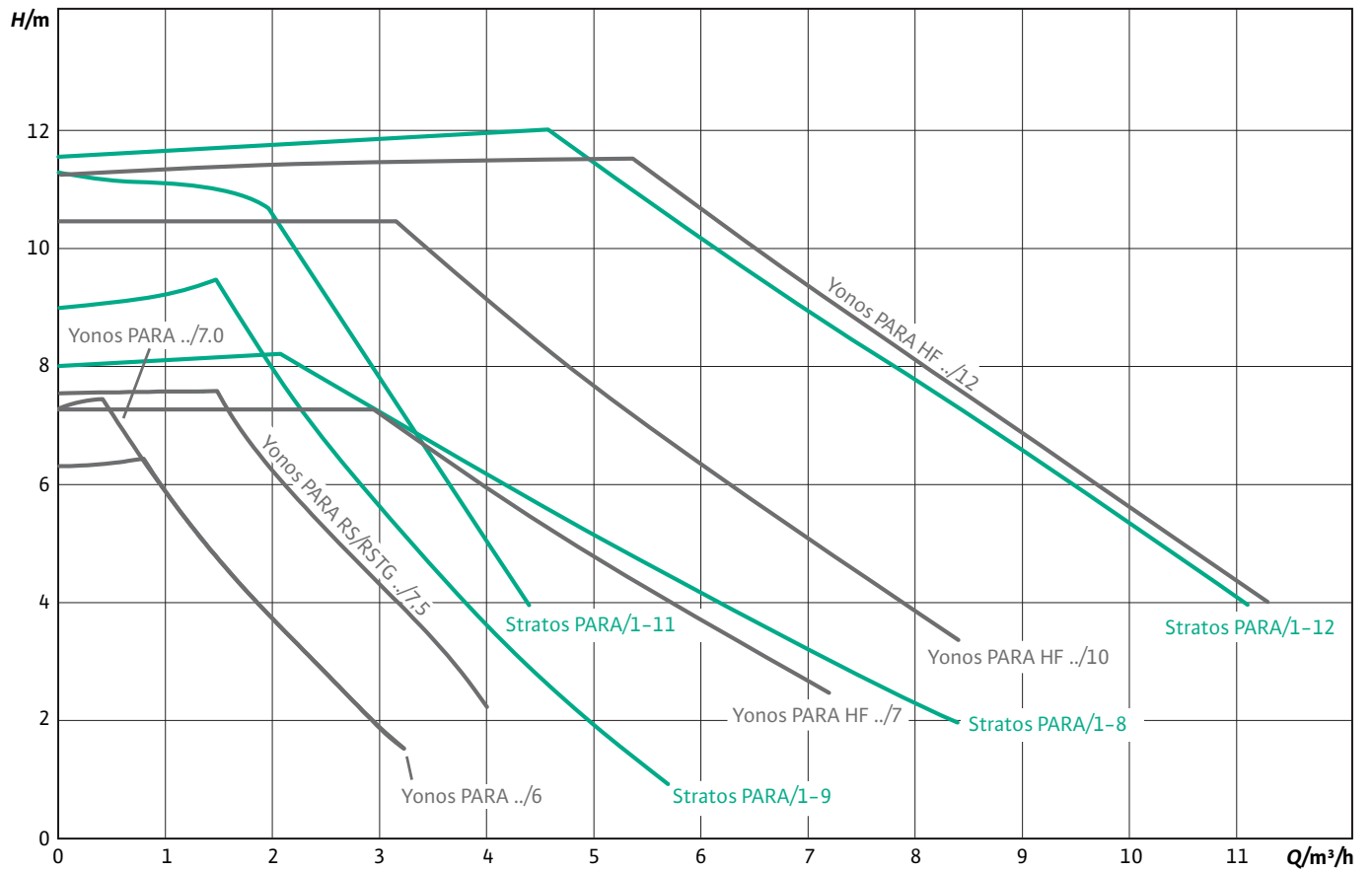


Heating and cooling

High-efficiency pumps

Series overview

Hydraulic operational areas



All curves conform with EN 16297

Equipment/function

	Wilo-Yonos PARA...			
	15/6 RKA/RKC 25/6 RKA/RKC 30/6 RKA/RKC	15/7.0 RKA/RKC 25/7.0 RKA/RKC 30/7.0 RKA/RKC	15/7.5 RKA/RKC 25/7.5 RKA/RKC 30/7.5 RKA/RKC	15/7.0 (7.5) PWM1 25/7.0 (7.5) PWM1 30/7.0 (7.5) PWM1
Operating modes				
Manual control mode (n=constant)	• (RKC)	• (RKC)	• (RKC)	• via PWM
Δp -c for constant differential pressure	• (RKA); ($H_{min.} = 0,5$ m, $H_{max.} = 6$ m)	• (RKA); ($H_{min.} = 0,5$ m, $H_{max.} = 7$ m)	• (RKA); ($H_{min.} = 0,5$ m, $H_{max.} = 7.5$ m)	–
Δp -v for variable differential pressure	• ($H_{min.} = 0,5$ m, $H_{max.} = 6$ m)	• ($H_{min.} = 0,5$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 0,5$ m, $H_{max.} = 7.5$ m)	–
Manual functions				
Operating mode setting	•	•	•	–
Differential-pressure setpoint setting	•	•	•	•
Automatic functions				
Infinitely variable power adjustment depending on the operating mode	•	•	•	•
Deblocking function	•	•	•	•
Soft start	•	•	•	•
Full motor protection with integrated trip electronics	–	–	–	–
Venting routine	• (RKA)	• (RKA)	• (RKA)	–
External control functions				
Control input "Analogue In 0 ... 10 V" with cable break function (remote speed adjustment)	–	–	–	–
Control input "Analogue In 0 ... 10 V" without cable break function (remote setpoint adjustment)	–	–	–	–
Control input PWM	–	–	–	•
Signal and display functions				
Collective fault signal (potential-free NC contact)	–	–	–	–
Equipment/scope of delivery				
Red button	•	•	•	–
Version without red button (=external control)	–	–	–	•
Wrench attachment point on pump body	–	–	–	–
Including power cable	on request	•	•	•
Including power plug	on request	on request	on request	–
Including control cable	–	–	–	on request
Including seals for threaded connection	on request	on request	on request	on request
Including installation and operating instructions	on request	on request	on request	on request
Including thermal insulation	on request	on request	on request	on request
Incl. Cooling-Shell for cooling	–	–	–	–
Individual packaging	on request	on request	on request	on request
Collective packaging	•	•	•	•

• = available, – = not available

* see table "Possible combinations of functions and equipment"

Heating and cooling

High-efficiency pumps

Equipment/function				
	Yonos PARA RSTG	Yonos PARA High Flow		
	15/7.5 25/7.5 30/7.5	25/7 30/7	25/10 30/10	25/12 30/12
Operating modes				
Manual control mode (n=constant)	• RKC/PWM	•	•	•
Δp -c for constant differential pressure	-	• ($H_{min.} = 0.5$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 10$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 12$ m)
Δp -v for variable differential pressure	• ($H_{min.} = 0.5$ m, $H_{max.} = 7.5$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 10$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 12$ m)
Manual functions				
Operating mode setting	•	•	•	•
Differential-pressure setpoint setting	•	•	•	•
Automatic functions				
Infinitely variable power adjustment depending on the operating mode	•	•	•	•
Deblocking function	•	•	•	•
Soft start	•	•	•	•
Full motor protection with integrated trip electronics	-	•	•	•
Venting routine	•	-	-	-
External control functions				
Control input "Analogue In 0 ... 10 V" with cable break function (remote speed adjustment)	-	-	-	-
Control input "Analogue In 0 ... 10 V" without cable break function (remote setpoint adjustment)	-	-	-	-
Control input PWM	•	-	-	-
Signal and display functions				
Collective fault signal (potential-free NC contact)	-	•	•	•
Equipment/scope of delivery				
Red button	•	•	•	•
Version without red button (=external control)	-	-	-	-
Wrench attachment point on pump body	-	•	•	•
Including power cable	on request	on request	on request	on request
Including power plug	on request	on request	on request	on request
Including control cable	-	-	-	-
Including seals for threaded connection	on request	on request	on request	on request
Including installation and operating instructions	on request	on request	on request	on request
Including thermal insulation	on request	on request	on request	on request
Incl. Cooling-Shell for cooling	-	-	-	-
Individual packaging	•	•	•	•
Collective packaging	•	•	•	•

• = available, - = not available

* see table "Possible combinations of functions and equipment"

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Equipment/function				
	Wilo-Stratos PARA...			
	25/1-8 30/1-8	15/1-9 20/1-9 25/1-9 30/1-9	25/1-11 30/1-11	25/1-12 30/1-12
Operating modes				
Manual control mode (n=constant)	• via Analog In 0-10 V or PWM	• via Analog In 0-10 V or PWM	• via Analog In 0-10 V or PWM	• via Analog In 0-10 V or PWM
Δp -c for constant differential pressure	• ($H_{min.} = 1$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 1$ m, $H_{max.} = 9$ m)	• ($H_{min.} = 2$ m, $H_{max.} = 10$ m)	• ($H_{min.} = 2$ m, $H_{max.} = 11$ m)
Δp -v for variable differential pressure	• ($H_{min.} = 2$ m, $H_{max.} = 8$ m)	• ($H_{min.} = 2$ m, $H_{max.} = 9$ m)	• ($H_{min.} = 4$ m, $H_{max.} = 11$ m)	• ($H_{min.} = 4$ m, $H_{max.} = 12$ m)
Manual functions				
Operating mode setting	•	•	•	•
Differential-pressure setpoint setting	•	•	•	•
Automatic functions				
Infinitely variable power adjustment depending on the operating mode	•	•	•	•
Deblocking function	•	•	•	•
Soft start	•	•	•	•
Full motor protection with integrated trip electronics	•	•	•	•
Venting routine	–	–	–	–
External control functions				
Control input "Analogue In 0 ... 10 V" with cable break function (remote speed adjustment)	on request*	on request*	on request*	on request*
Control input "Analogue In 0 ... 10 V" without cable break function (remote setpoint adjustment)	on request*	on request*	on request*	on request*
Control input PWM	on request*	on request*	on request*	on request*
Signal and display functions				
Collective fault signal (potential-free NC contact)	•	•	•	•
Equipment/scope of delivery				
Red button	•	•	•	•
Version without red button (=external control)	•	•	•	•
Wrench attachment point on pump body	•	•	•	•
Including power cable	•	•	•	•
Including power plug	–	–	–	–
Including control cable	on request	on request	on request	on request
Including seals for threaded connection	on request	on request	on request	on request
Including installation and operating instructions	on request	on request	on request	on request
Including thermal insulation	on request	on request	on request	on request
Incl. Cooling-Shell for cooling	on request	on request	on request	on request
Individual packaging	•	•	•	•
Collective packaging	on request 108 pumps/box	on request 196 pumps/box	on request 108 pumps/box	on request 72 pumps/box

• = available, – = not available

* see table "Possible combinations of functions and equipment"

Heating and cooling

High-efficiency pumps

Series description Wilo-Yonos PARA .../6



Design

Glandless circulation pump with a cast iron pump housing and threaded connection or with specific composite pump housing. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology or remote control via external PWM signal. Equipped with LED user interface.

Application

Hot-water heating systems of all kinds, cooling applications

Type key

- Example: **Yonos PARA RS 15/6 RKA C 130 12**
- Yonos** Electronically controlled high-efficiency pump
 - PARA** pump range adapted to requirements of the OEM market
 - RS** Heating inline cast iron pump housing
 - RS** Standard cast iron pump housing
 - RSB** Cast iron axial pump housing
 - RS KU** Composite inline pump housing
 - KSL** Composite OEM pump housing
 - RSL KU** Composite inline pump housing with venting
 - MSL** Composite OEM pump housing
 - NFSL** Composite OEM pump housing
 - HU15** Hydraulic unit
 - HU25** Hydraulic unit
 - BSL** Composite OEM pump housing anticlockwise rotation
 - HPS** Composite OEM pump housing
 - TWP** Composite three way OEM pump housing
 - 15/** Nominal diameter:
 - 12** threading 3/4"
 - 15** threading 1"
 - 20** threading 1 1/4"
 - 25** threading 1 1/2"
 - 30** threading 2"
 - 6** Nominal delivery head range [m]
 - RKA** The pump is controlled by Red Knob technology:
 - RKA** = $\Delta p-v / \Delta p-c$
 - or
 - RKC** = $\Delta p-v / \text{constant speed I, II, III}$
 - or
 - PWM1** = the pump is controlled by an external system via PWM1 or iPWM1 signal

- C** Integrated Molex 3-way connector
- 130** Pump housing length: 110 mm, 130 mm or 180 mm
- 12** Electronic box orientation

Technical data

Approved fluids (other fluids on request)	
Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•
Power	
Energy efficiency index (EEI)	≤ 0.20
Max. delivery head	6.2 m
Max. volume flow	3.3 m ³ /h
Permitted field of application	
Temperature range at max. ambient temperature	of 58°C = 0 to 100°C of 62°C = 0 to 90°C of 66°C = 0 to 80°C of 71°C = 0 to 70°C
Maximum static pressure	6 bar
Electrical connection	
Mains connection	1~230 V, 50/60 Hz
Motor/electronics	
Electromagnetic compatibility	EN 61800-3
Emitted interference	EN 61000-6-3 EN 61000-6-4
Interference resistance	EN 61000-6-2 EN 61000-6-1
Speed control	Frequency converter
Protection class	IP X4D
Insulation class	F
Minimum suction head at suction port for avoiding cavitation at water pumping temperature	
Minimum suction head at 50 / 95°C	0.5 / 4.5 m

• = available, - = not available

Dimensions, motor data Wilo-Yonos PARA RS 15/6, 25/6, 30/6 Red Knob

Front view



Rear view

Overall length 110 mm



Rear view

Overall length 130 mm



Rear view

Overall length 180 mm



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	—
	rpm	W	A	—
RS .../6 RKA/RKC	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

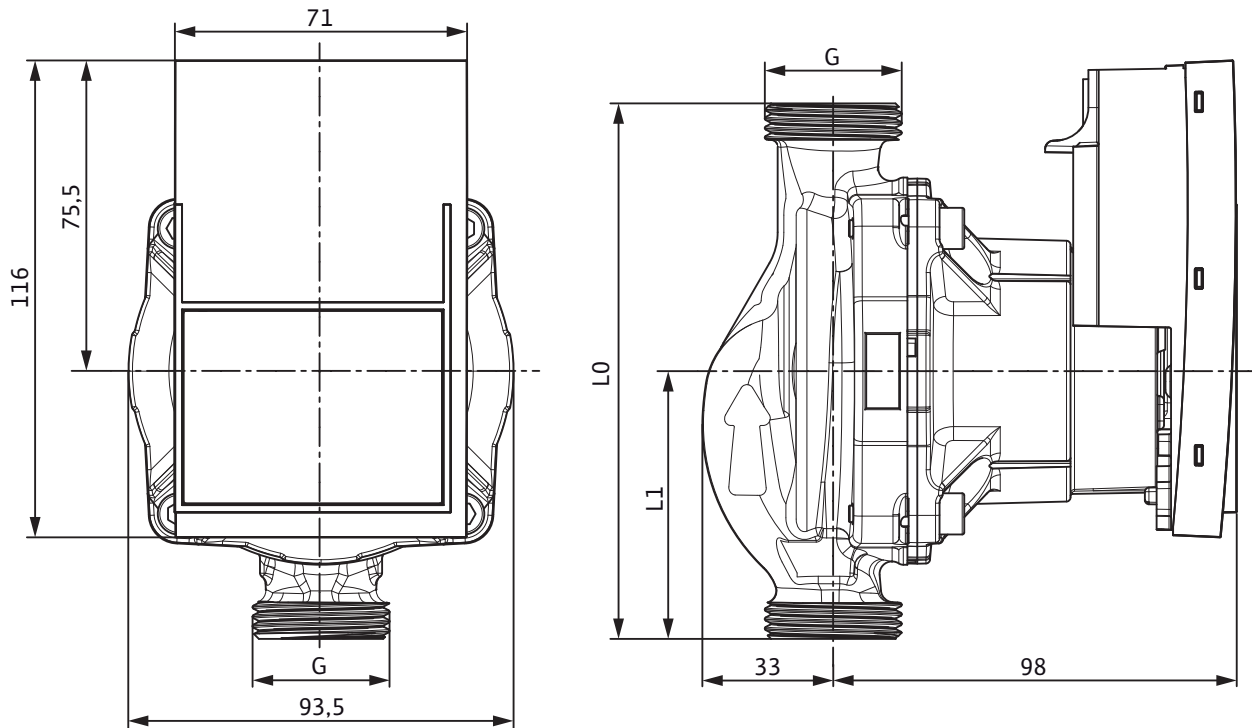
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RS .../6 RKA/RKC	Cast iron with cataphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RS 15/6, 25/6, 30/6 Red Knob

Dimension drawing



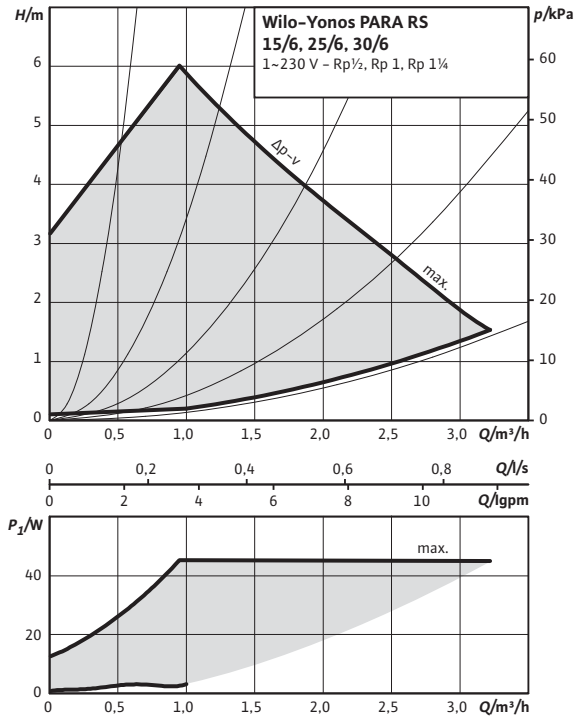
Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
		–	l_0	$L1$	m
		–		mm	kg
RS 15/6 RKA/RKC	Rp ½	G 1	110	55	1.6
RS 15/6 RKA/RKC	Rp ½	G 1	130	65	1.7
RS 25/6 RKA/RKC	Rp 1	G 1½	130	65	1.8
RS 25/6 RKA/RKC	Rp 1	G 1½	180	90	1.9
RS 30/6 RKA/RKC	Rp 1¼	G 2	180	90	2.1

Pump curves Wilo-Yonos PARA RS 15/6, 25/6, 30/6 Red Knob

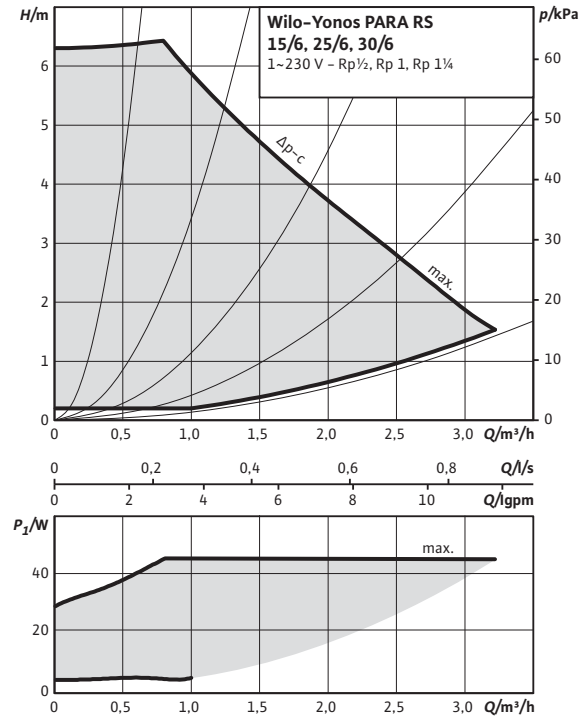
Wilo-Yonos PARA RS 15/6, 25/6, 30/6

Δp-v (variable)



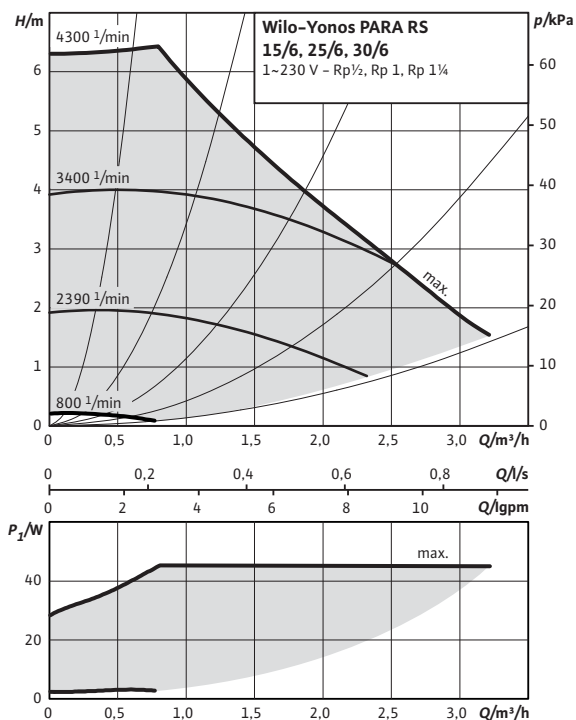
Wilo-Yonos PARA RS 15/6, 25/6, 30/6

Δp-c (constant)



Wilo-Yonos PARA RS 15/6, 25/6, 30/6

Constant speed I, II, III



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RSB 15/6 Red Knob

Front view



Rear view



Motor data

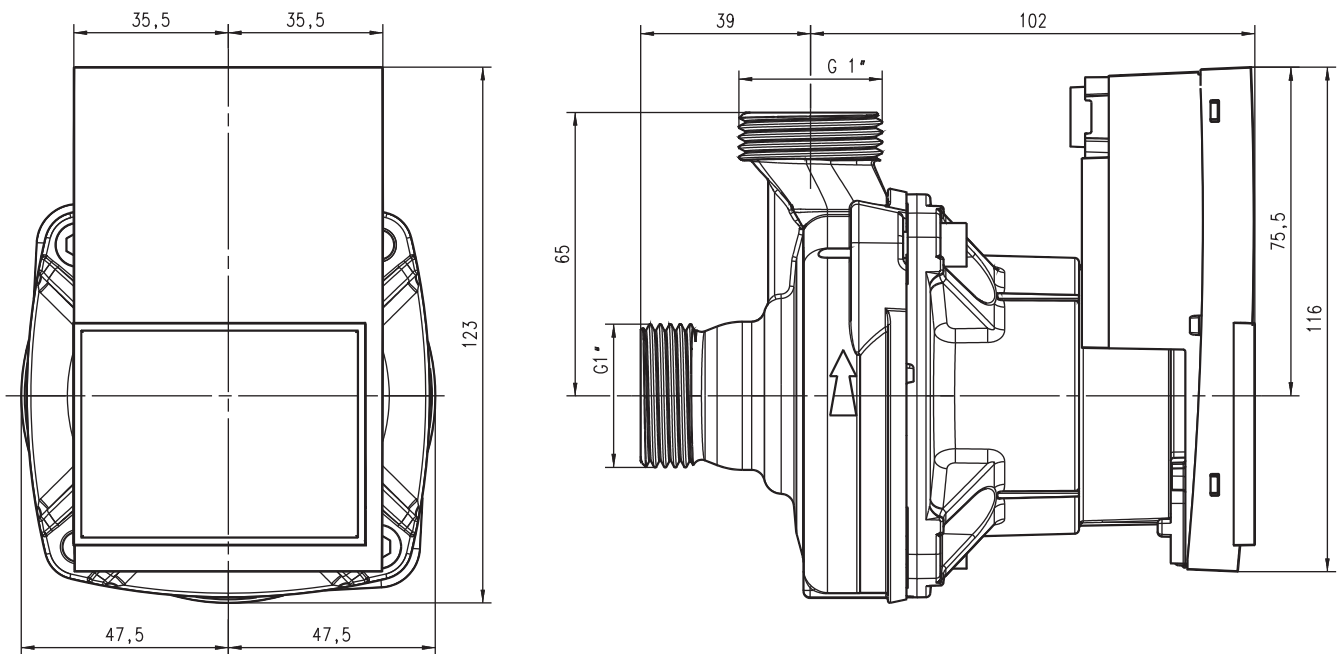
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
RSB 15/6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RSB 15/6 RKC	Cast iron with cathaphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA RSB 15/6 Red Knob

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		-	<i>m</i>
		-	kg
RSB 15/6 RKC	Rp 1/2	G 1	1.5

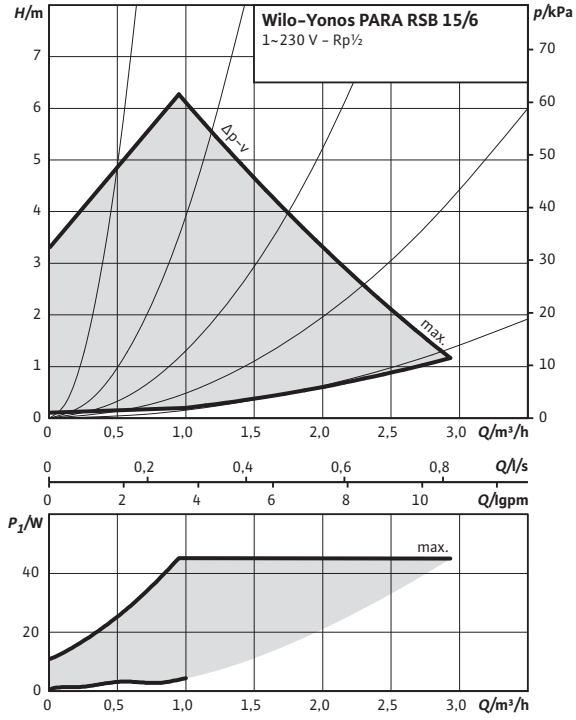
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA RSB 15/6 Red Knob

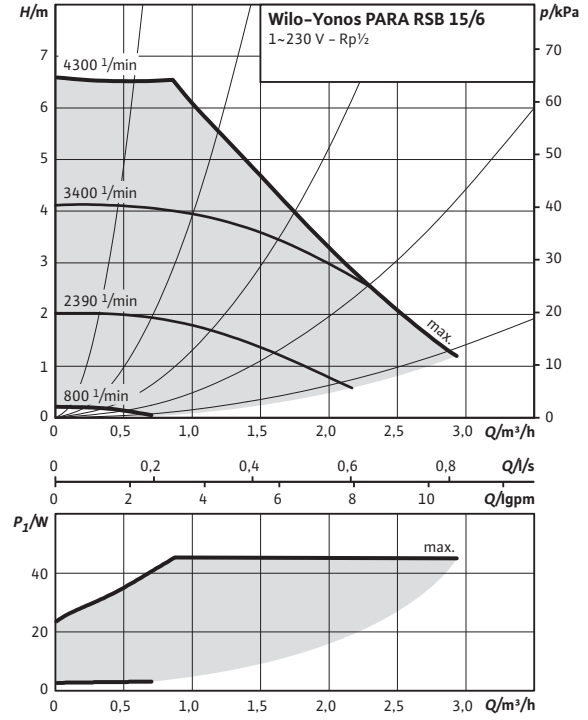
Wilo-Yonos PARA RSB 15/6

$\Delta p-v$ (variable)



Wilo-Yonos PARA RSB 15/6

Constant speed I, II, III



Dimensions, motor data Wilo-Yonos PARA RS 15/6, 20/6, 25/6 Red Knob KU

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
RS .../6 RKA/RKC KU	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

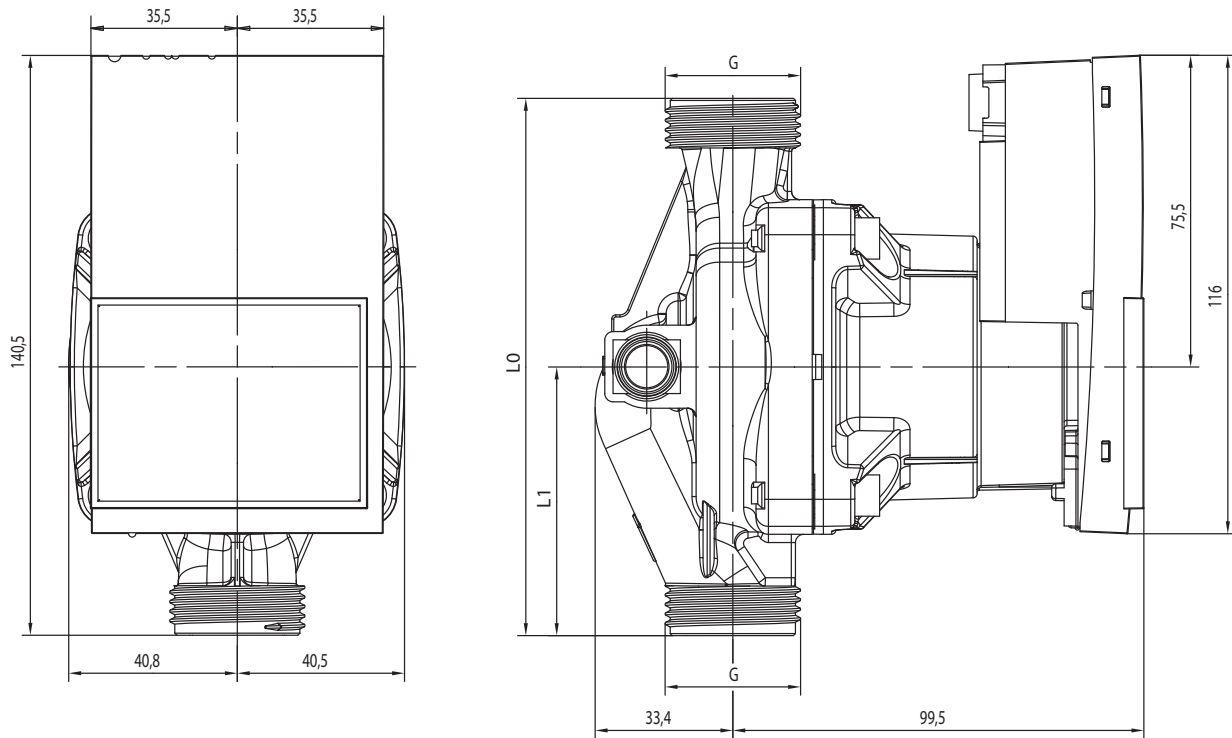
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RS .../6 RKA/RKC KU	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RS 15/6, 20/6, 25/6 Red Knob KU

Dimension drawing



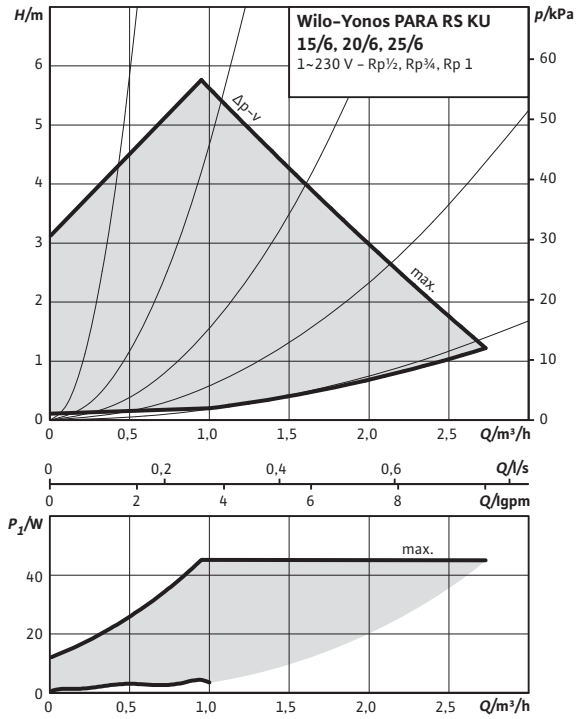
Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
		—	l_0	$L1$	m
		—		mm	kg
RS 15/6 RKC/RKA KU	Rp 1/2	G 1	130	65	1
RS 20/6 RKC/RKA KU	Rp 3/4	G 1 1/4	130	65	1
RS 25/6 RKC/RKA KU	Rp 1	G 1 1/2	130	65	1.1

Pump curves Wilo-Yonos PARA RS 15/6, 20/6, 25/6 Red Knob KU

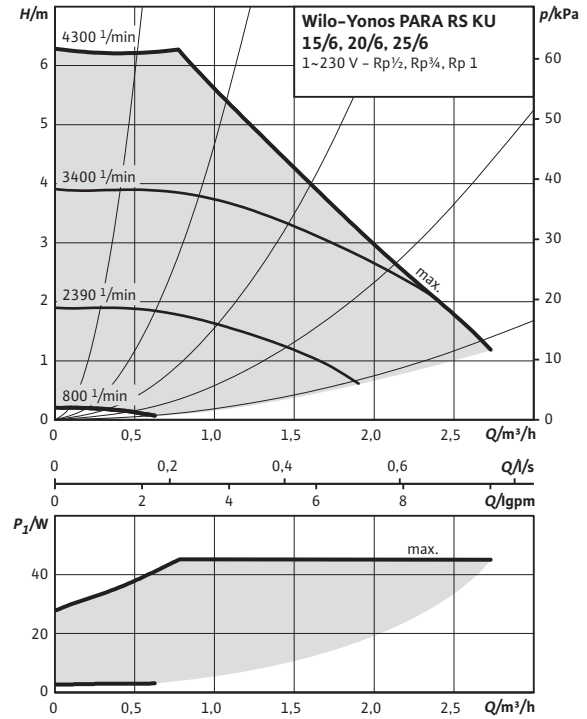
Wilo-Yonos PARA RS KU 15/6, 20/6, 25/6

$\Delta p-v$ (variable)



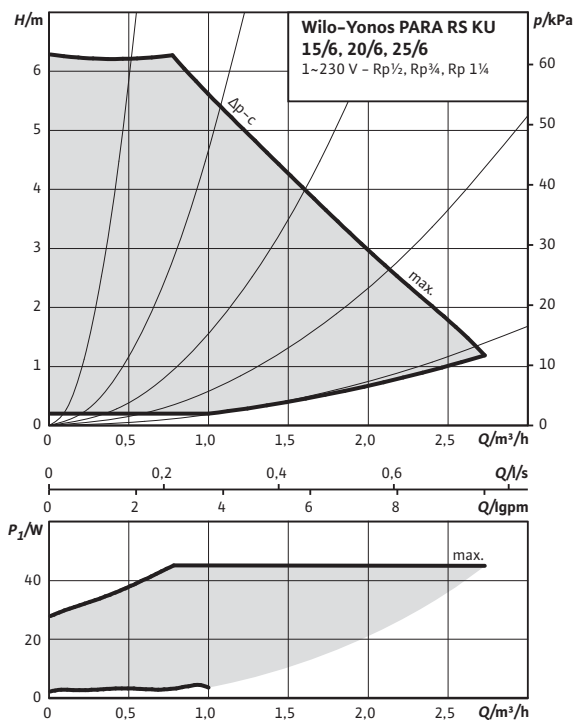
Wilo-Yonos PARA RS KU 15/6, 20/6, 25/6

Constant speed I, II, III



Wilo-Yonos PARA RS 15/6, 25/6, 30/6

$\Delta p-c$ (constant)



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA KSL 15/6 Red Knob

Front view



Rear view



Motor data

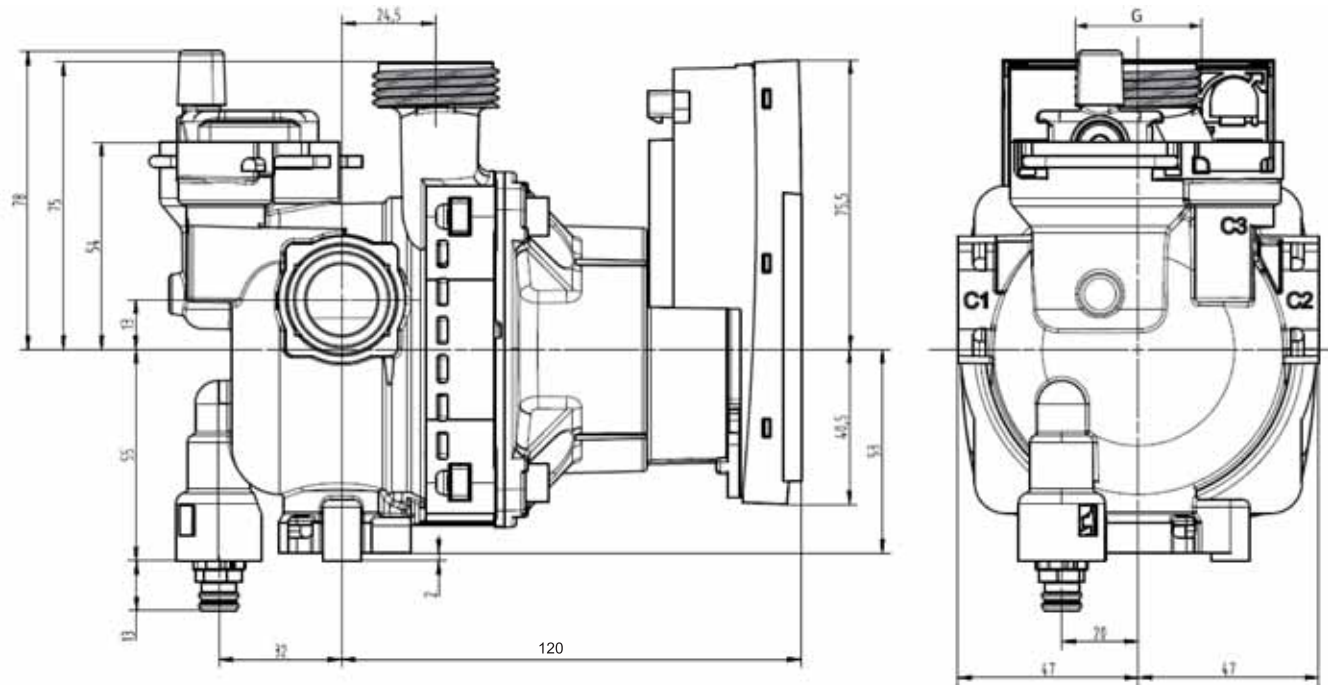
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
KSL 15/6 RKC	800 - 4300	3 - 45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
KSL 15/6 RKC	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA KSL 15/6 Red Knob

Dimension drawing



Dimensions, weights

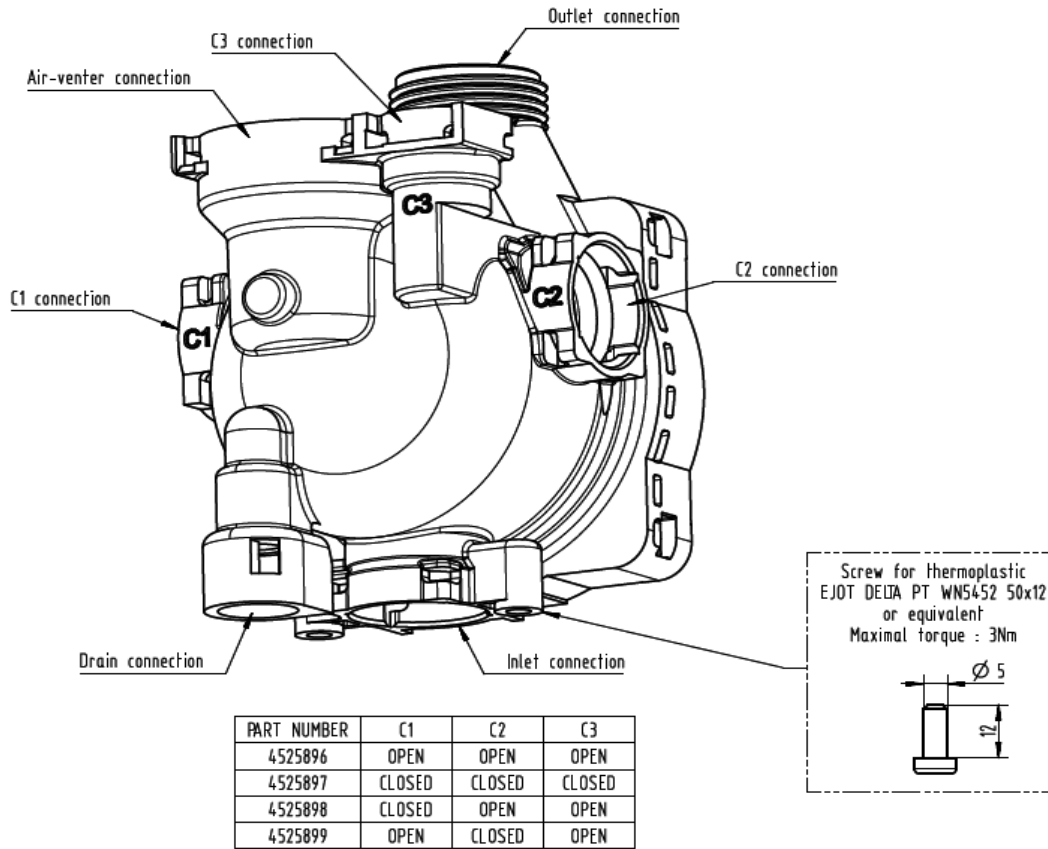
Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		–	<i>m</i>
		–	kg
KSL 15/6-RKC MFS	Rp ½	G 1	1.8

Heating and cooling

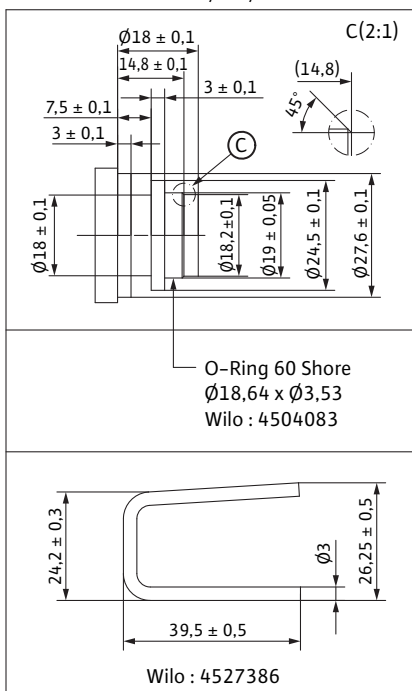
High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA KSL 15/6 Red Knob

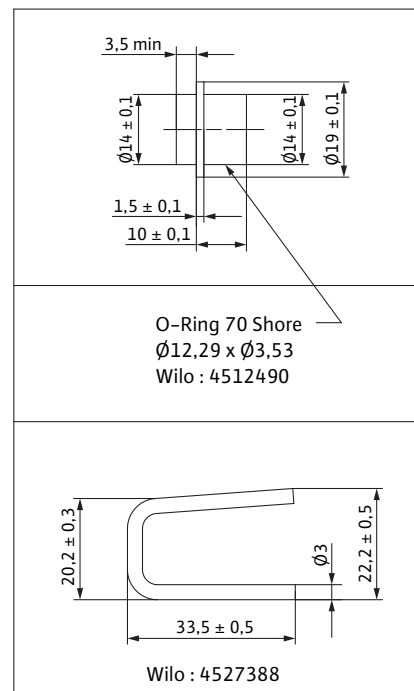
Connecion drawing



KSL - C1/C2/INLET



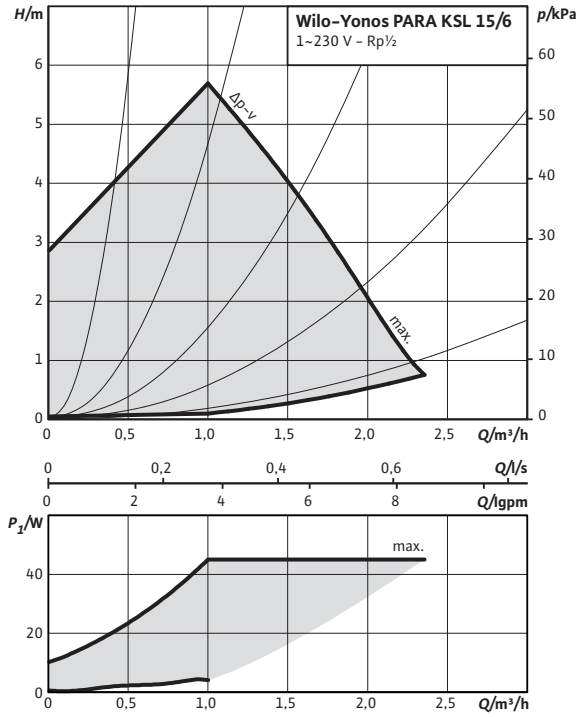
KSL - C3



Pump curves Wilo-Yonos PARA KSL 15/6 Red Knob

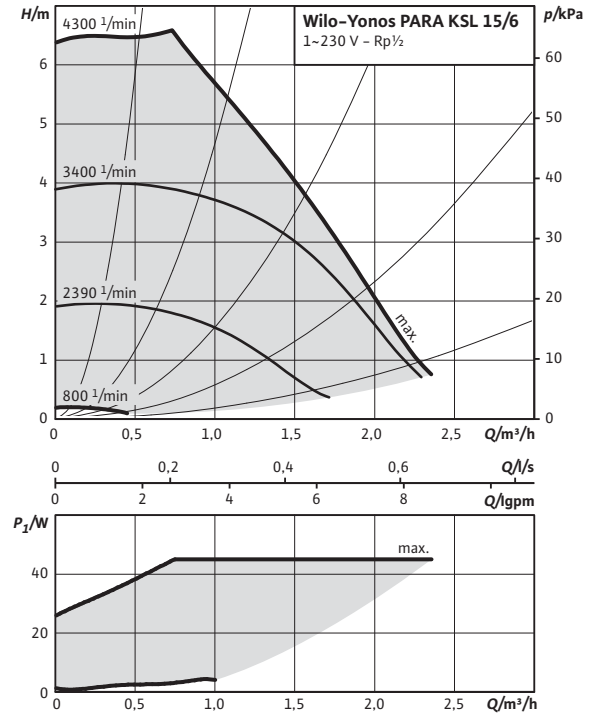
Wilo-Yonos PARA KSL 15/6

$\Delta p-v$ (variable)



Wilo-Yonos PARA KSL 15/6

Constant speed I, II, III



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RSL 15/6 Red Knob KU

Front view



Rear view



Motor data

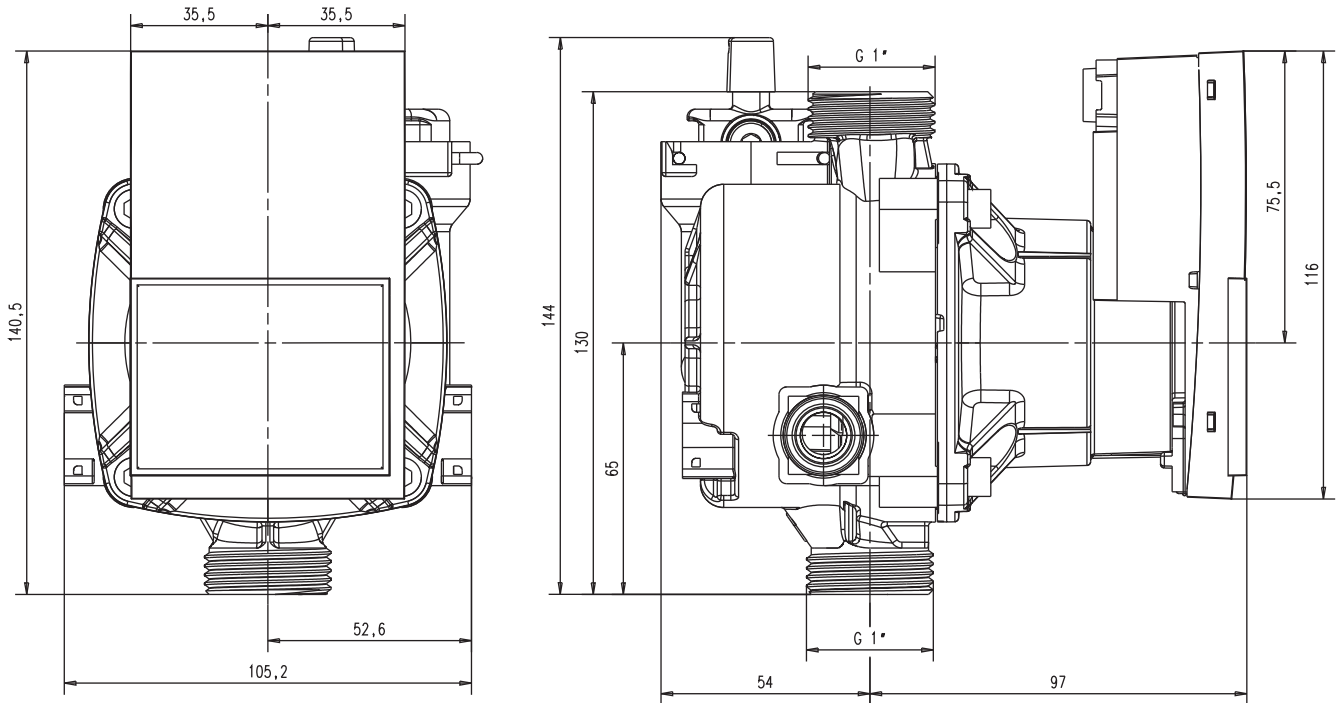
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
RSL 15/6 RKC KU	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

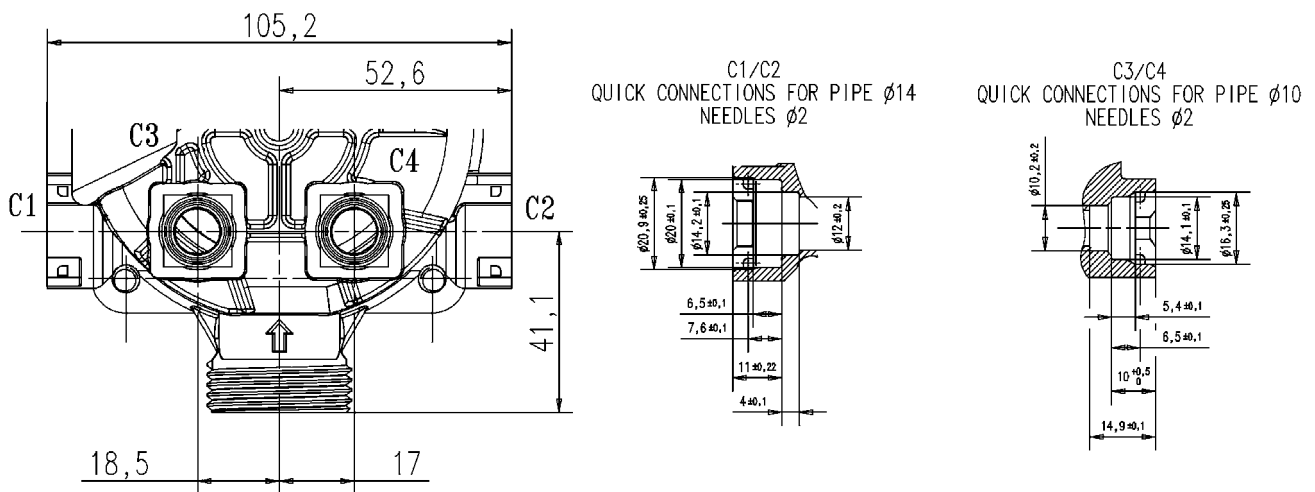
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RSL 15/6 RKC KU	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA RSL 15/6 Red Knob KU

Dimension drawing



Optional connections



Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		-	m
		-	kg
RSL KU 15/6 RKC	Rp 1/2	G 1	1.2

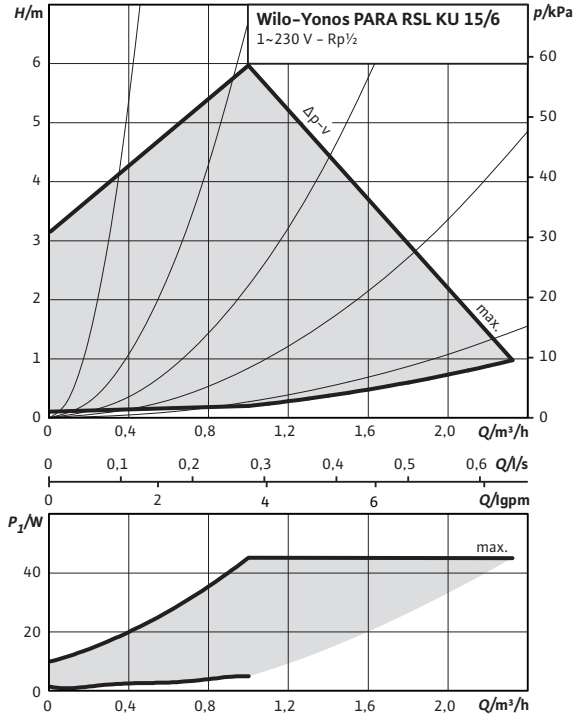
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA RSL 15/6 Red Knob KU

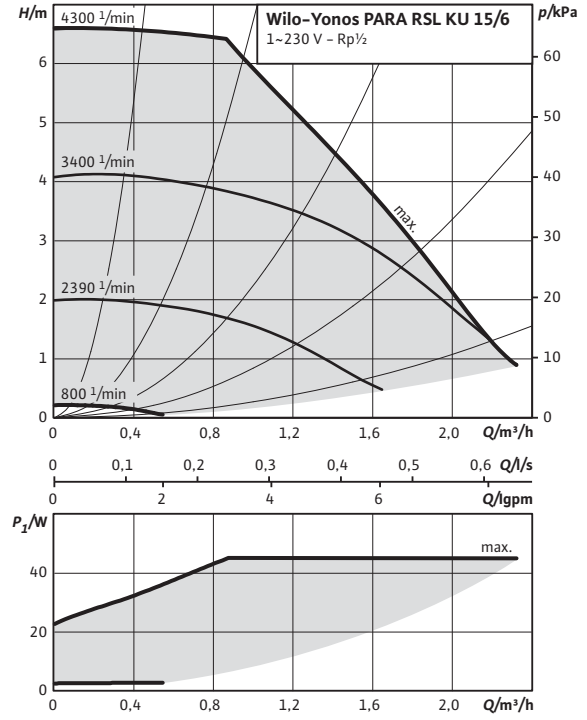
Wilo-Yonos PARA RSL 15/6 KU

$\Delta p-v$ (variable)



Wilo-Yonos PARA RSL 15/6 KU

Constant speed I, II, III



Dimensions, motor data Wilo-Yonos PARA MSL 12/6 Red Knob

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
MSL 12/6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

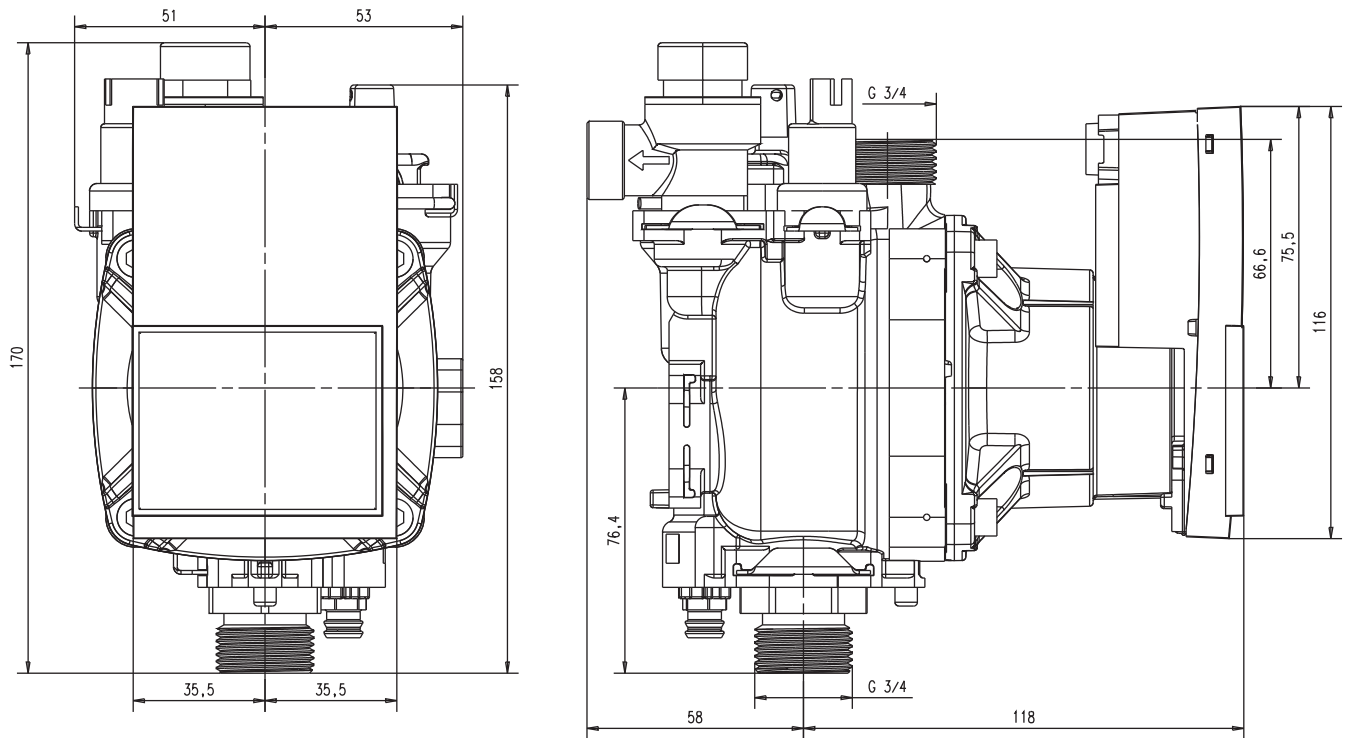
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
MSL 12/6 RKC	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA MSL 12/6 Red Knob

Dimension drawing

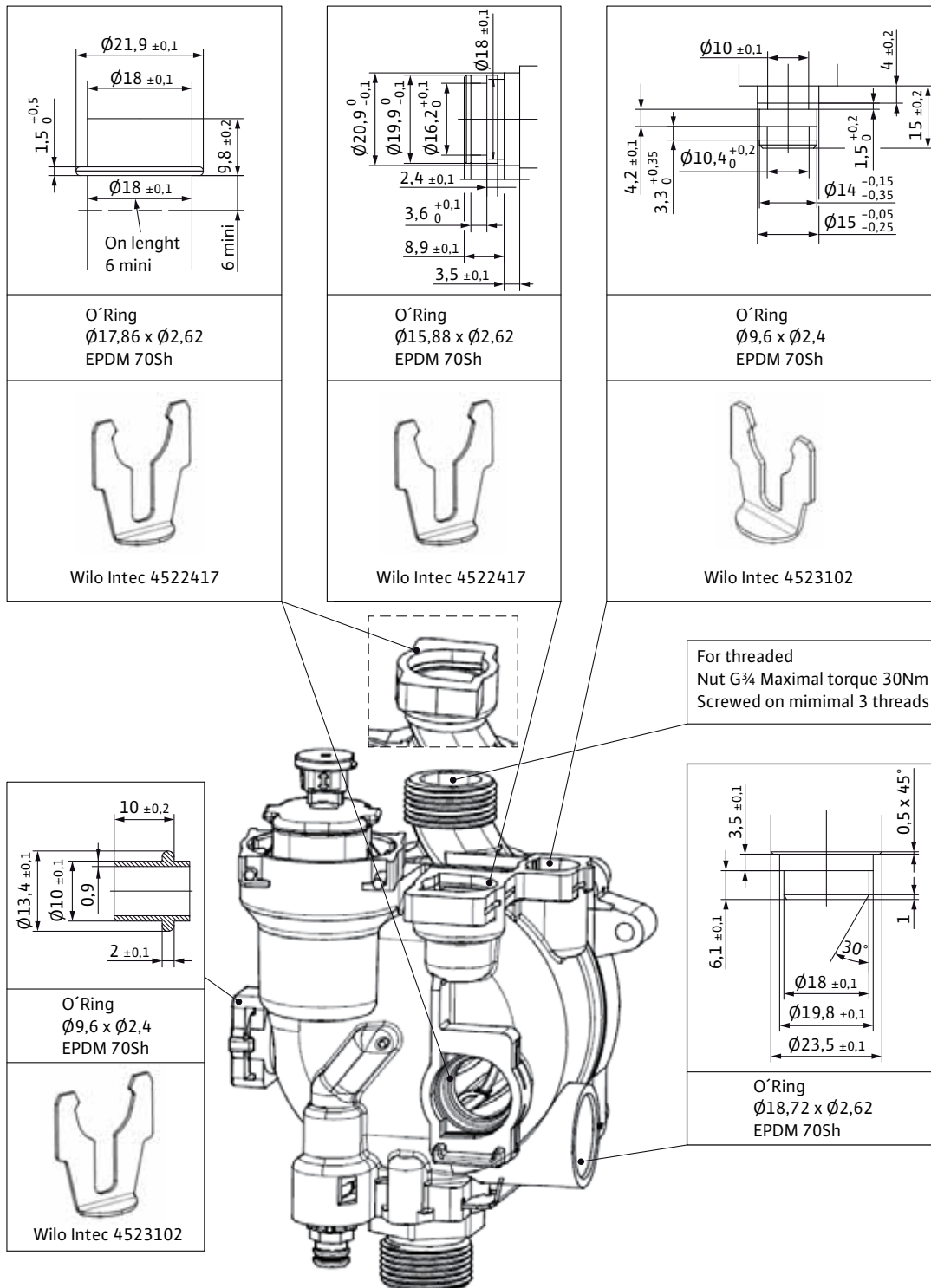


Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		—	<i>m</i>
		—	kg
MSL 12/6 RKC	Rp 1/2	G 3/4	1.5

Dimensions, motor data Wilo-Yonos PARA MSL 12/6 Red Knob

Dimension drawing



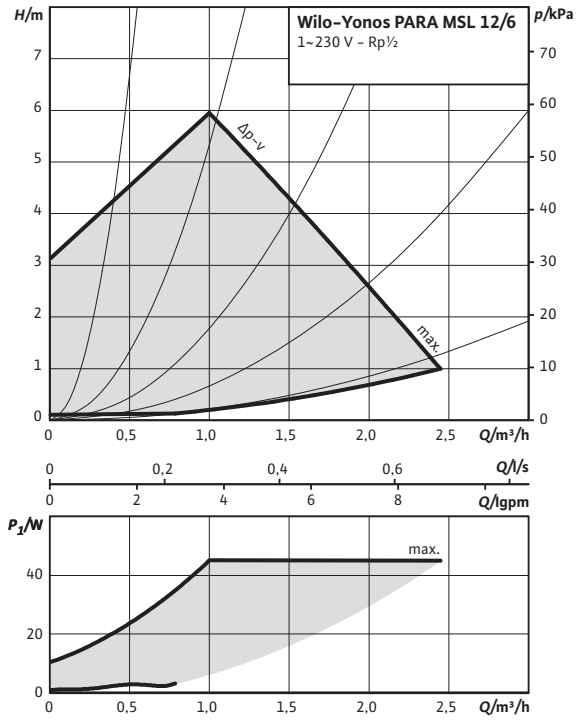
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA MSL 12/6 Red Knob

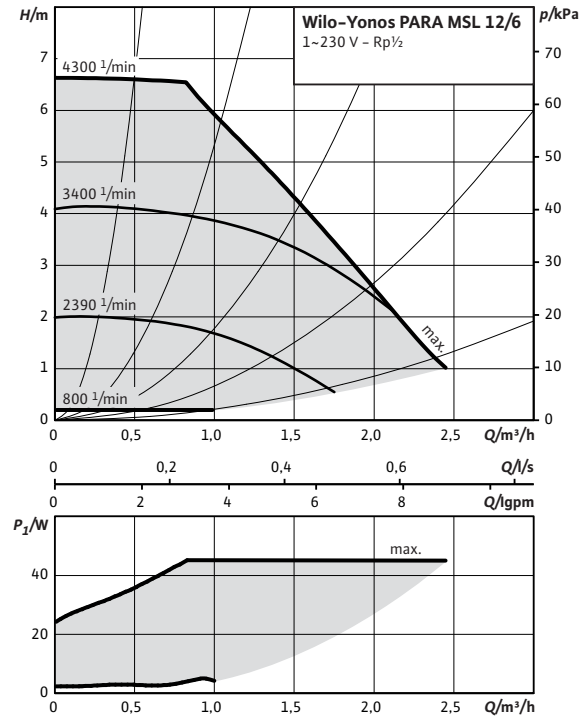
Wilo-Yonos PARA MSL 12/6

$\Delta p-v$ (variable)



Wilo-Yonos PARA MSL 12/6

Constant speed I, II, III



Dimensions, motor data Wilo-Yonos PARA NFSL 12/6 Red Knob

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
NFSL 12/6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

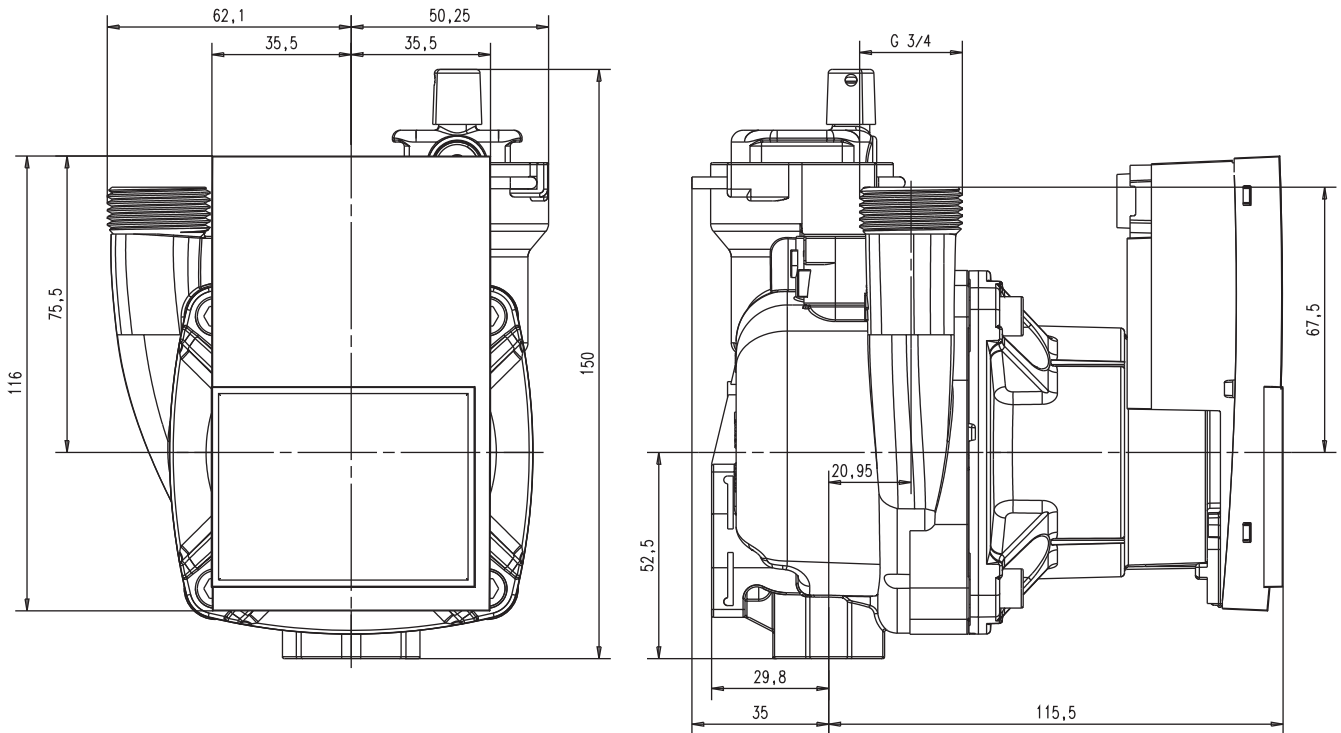
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
NFSL 12/6 RKC	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

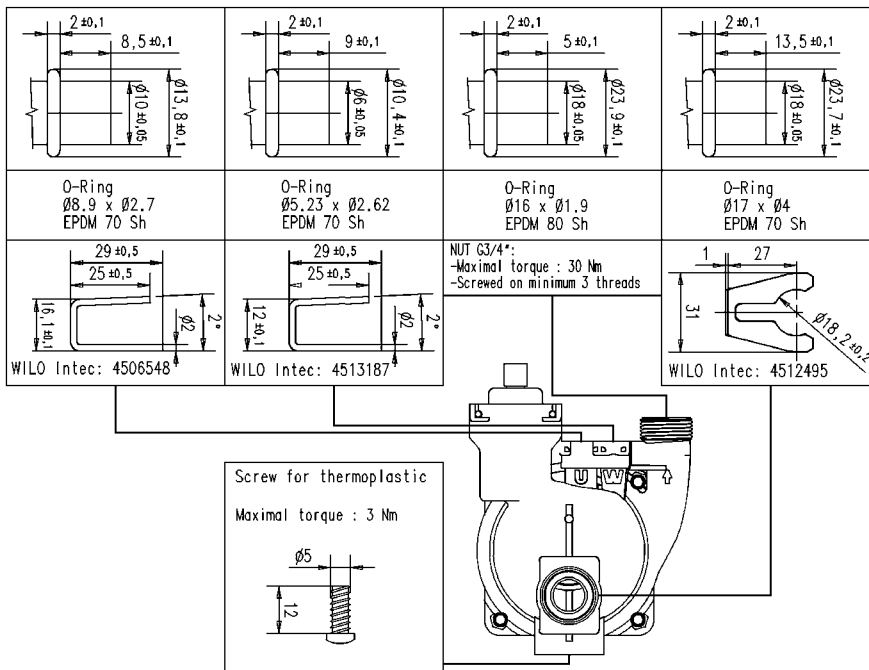
High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA NFSL 12/6 Red Knob

Dimension drawing



Dimension drawing for connections



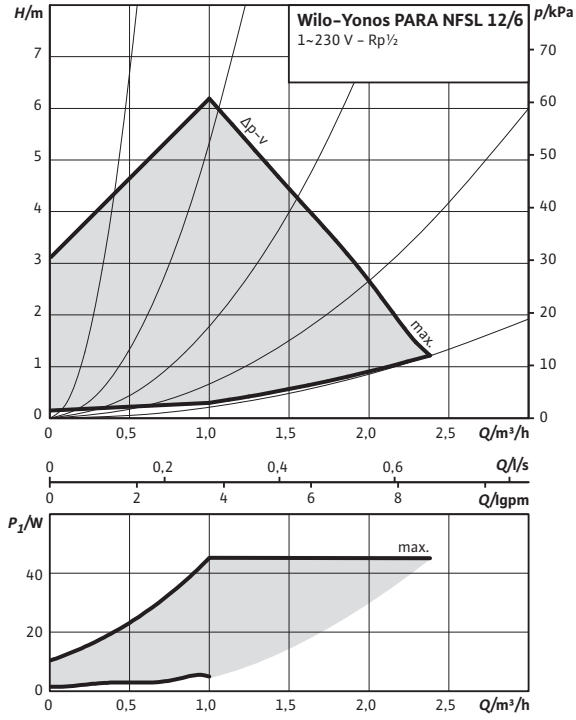
Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		-	m
		-	kg
NFSL 12/6 RKC	Rp 1/2	G 3/4	1.2

Pump curves Wilo-Yonos PARA NFSL 12/6 Red Knob

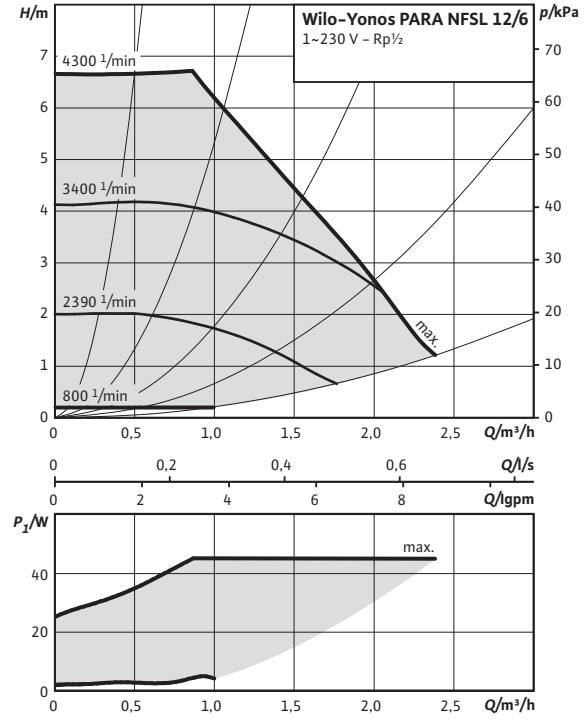
Wilo-Yonos PARA NFSL 12/6

$\Delta p-v$ (variable)



Wilo-Yonos PARA NFSL 12/6

Constant speed I, II, III



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HU 15/6 Red Knob

Front view



Rear view



Motor data

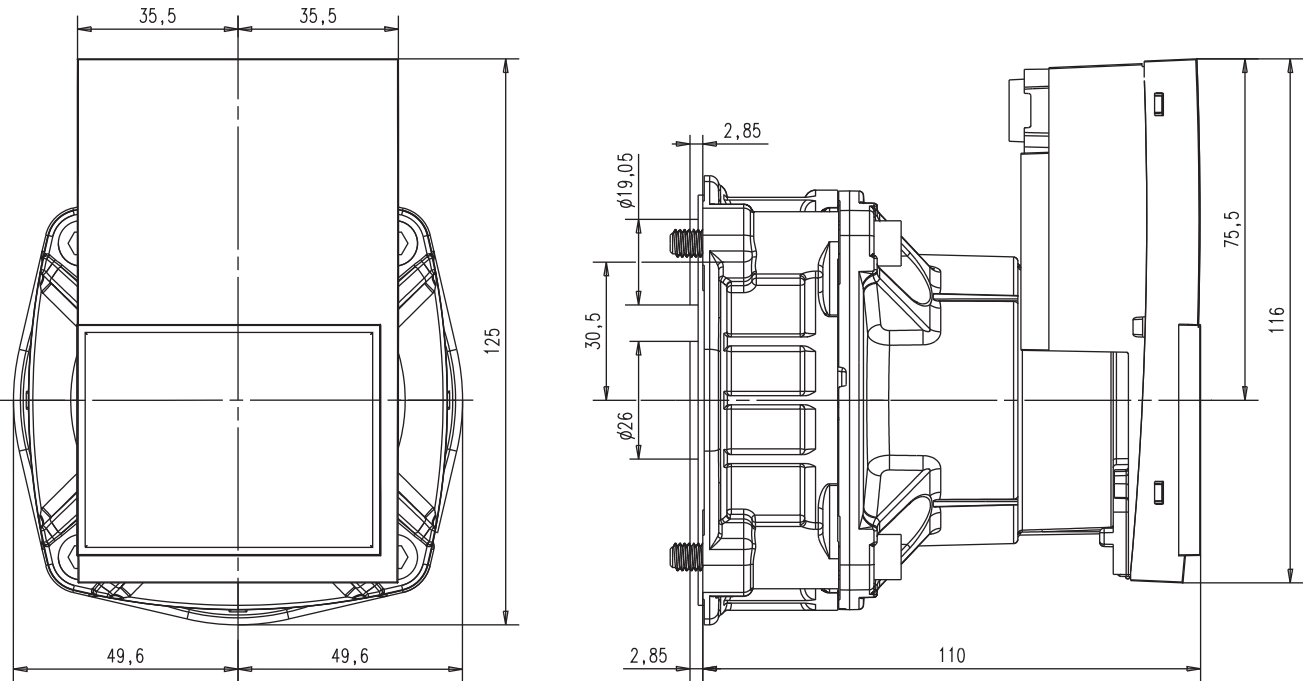
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
HU15 15/6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
HU15 15/6 RKC	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA HU 15/6 Red Knob

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA... Weight approx.

m

kg

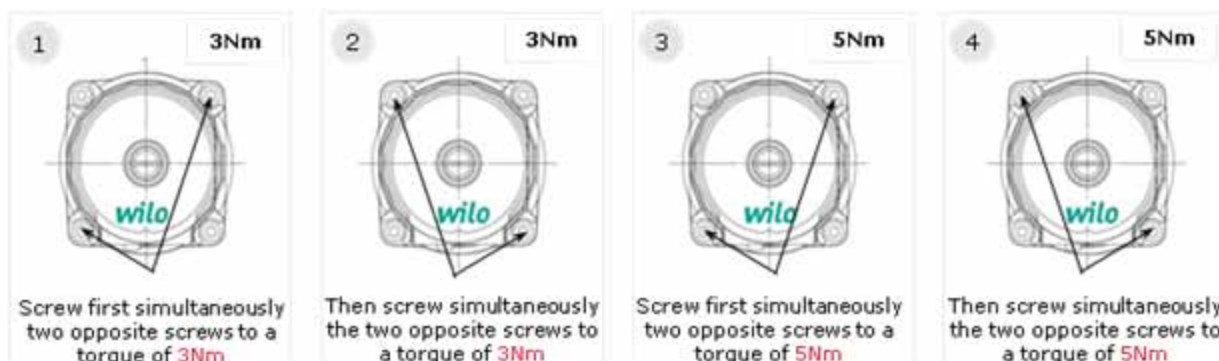
HU 15/6 RKC

1

Screwing instructions

Water tightness of the circulator is guaranteed if:

- all its parts are correctly assembled
- the 4 screws are screwed according to the following instruction:

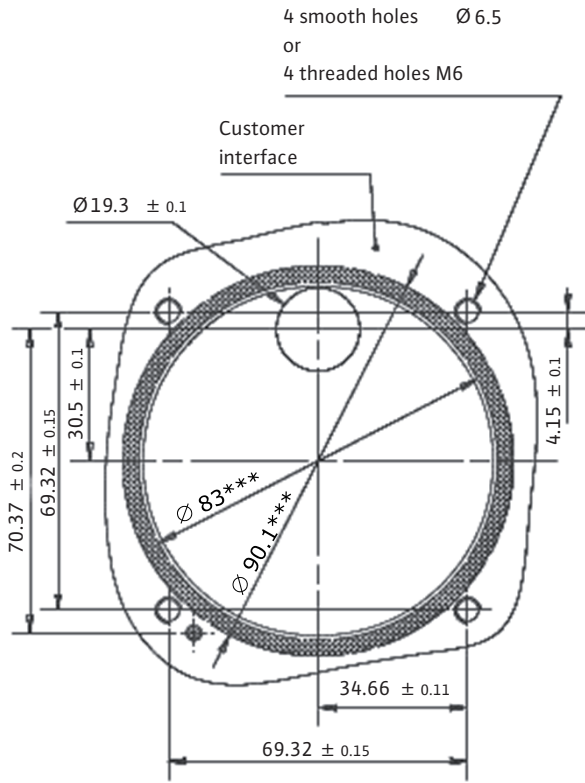


Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HU 15/6 Red Knob

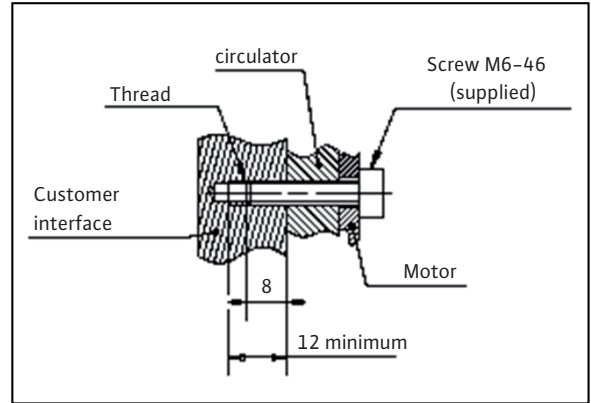
The HU15 Ku should only be used in this orientation with the pressure outlet at 12 o'clock.



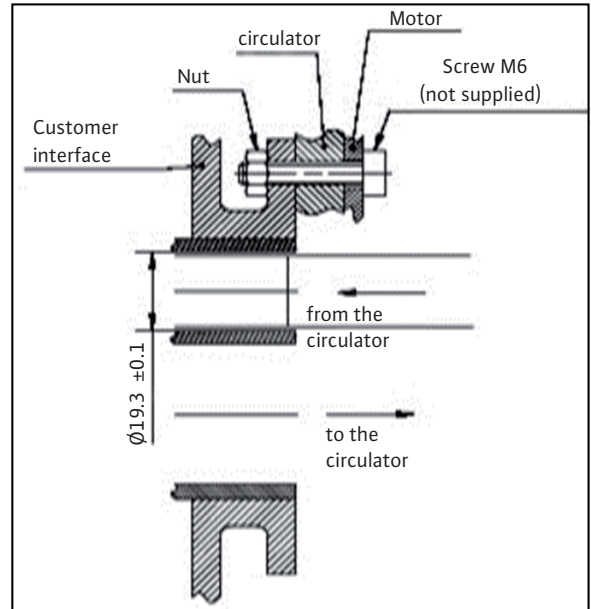
*** Zone with hatches
Referential B
Gasket compression surface



Zone without hatches
Beneath surface B



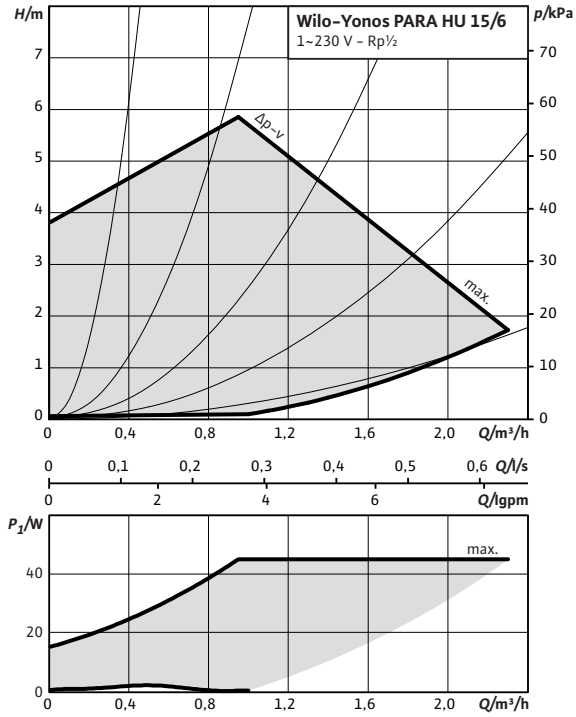
OR



Pump curves Wilo-Yonos PARA HU 15/6 Red Knob

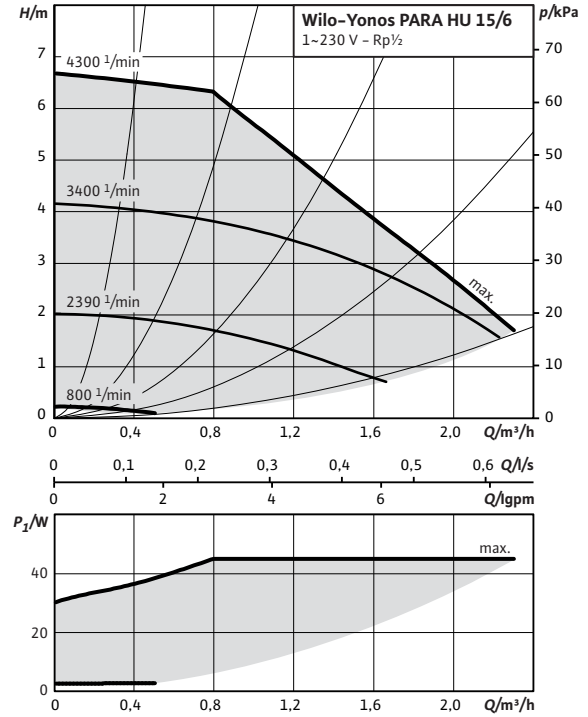
Wilo-Yonos PARA HU15 15/6

$\Delta p-v$ (variable)



Wilo-Yonos PARA HU15 15/6

Constant speed I, II, III



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HU 25/6 Red Knob

Front view



Rear view



Motor data

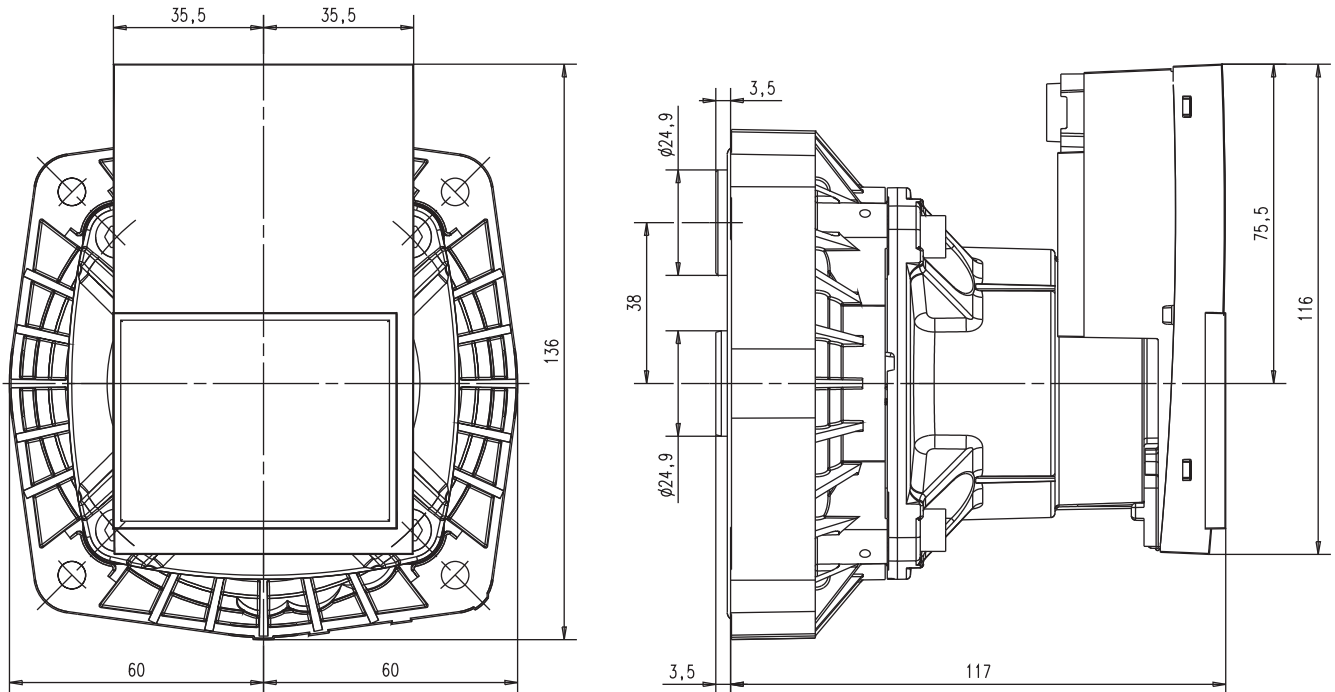
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
HU 25/6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
HU 25/6 RKC	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA HU 25/6 Red Knob

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA...	Weight approx.
	<i>m</i>
	kg
HU 25/6 RKC	1.2

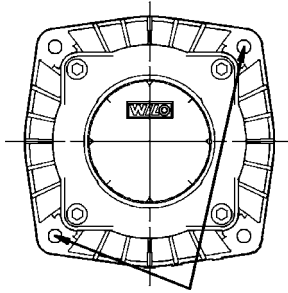
Heating and cooling

High-efficiency pumps

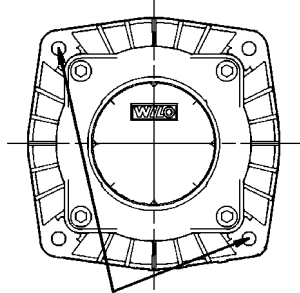
Dimensions, motor data Wilo-Yonos PARA HU 25/6 Red Knob

Water tightness of the circulator is guaranteed if:

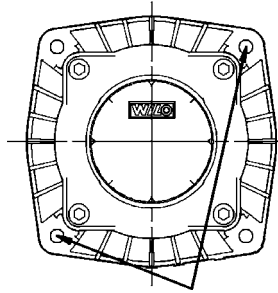
- all its parts are correctly assembled
- the 4 screws are screwed according to the following instruction:



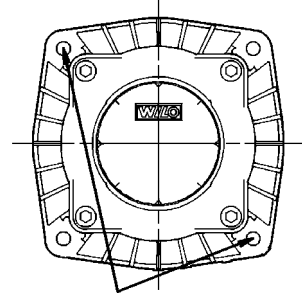
Screw first simultaneously two opposite screws to a torque of 3 Nm



Then screw simultaneously the two opposite screws to a torque of 3 Nm

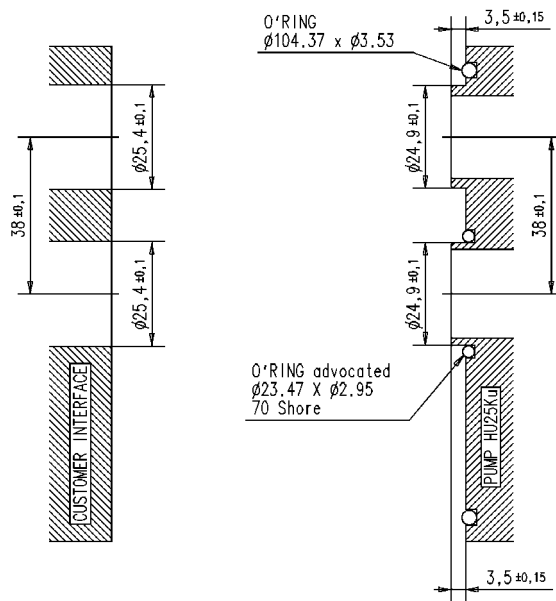
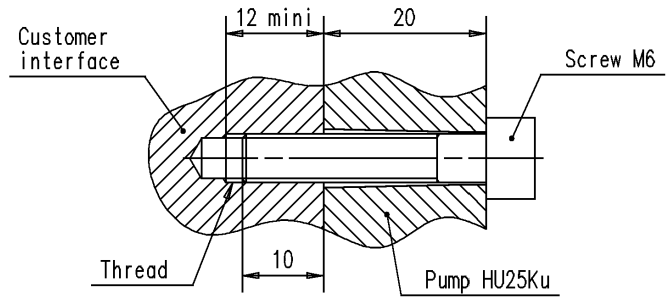
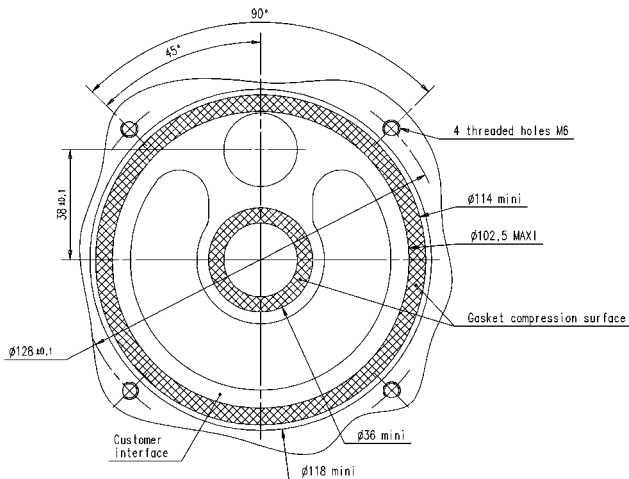


Screw first simultaneously two opposite screws to a torque of 5 Nm



Then screw simultaneously the two opposite screws to a torque of 5 Nm

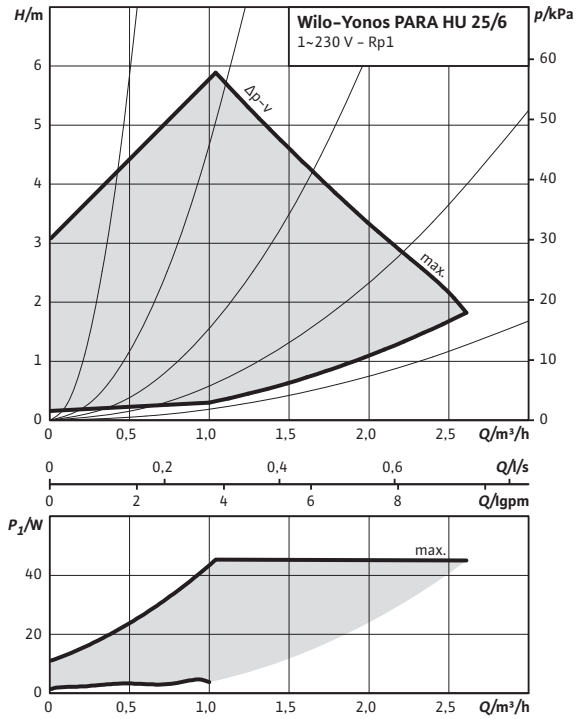
The HU25 Ku should only be used in this orientation with the pressure outlet at 12 o'clock.



Pump curves Wilo-Yonos PARA HU 25/6 Red Knob

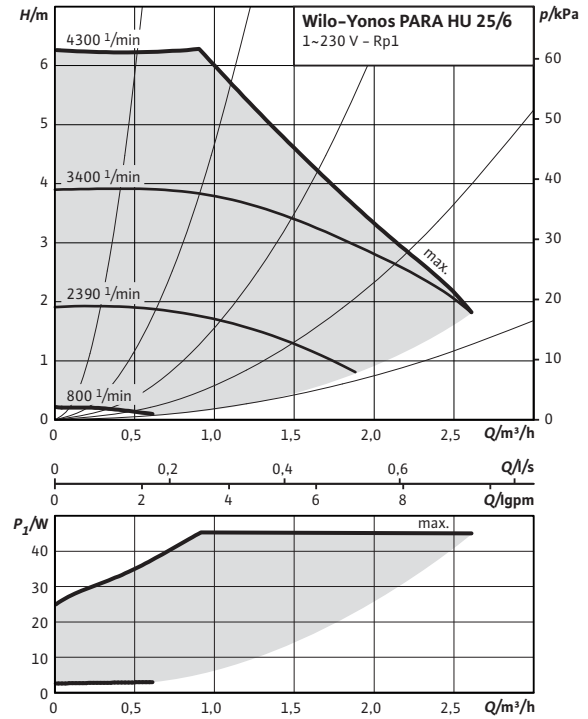
Wilo-Yonos PARA HU25 25/6

$\Delta p-v$ (variable)



Wilo-Yonos PARA HU25 25/6

Constant speed I, II, III



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA BSL 12/6 Red Knob

Front view



Rear view



Motor data

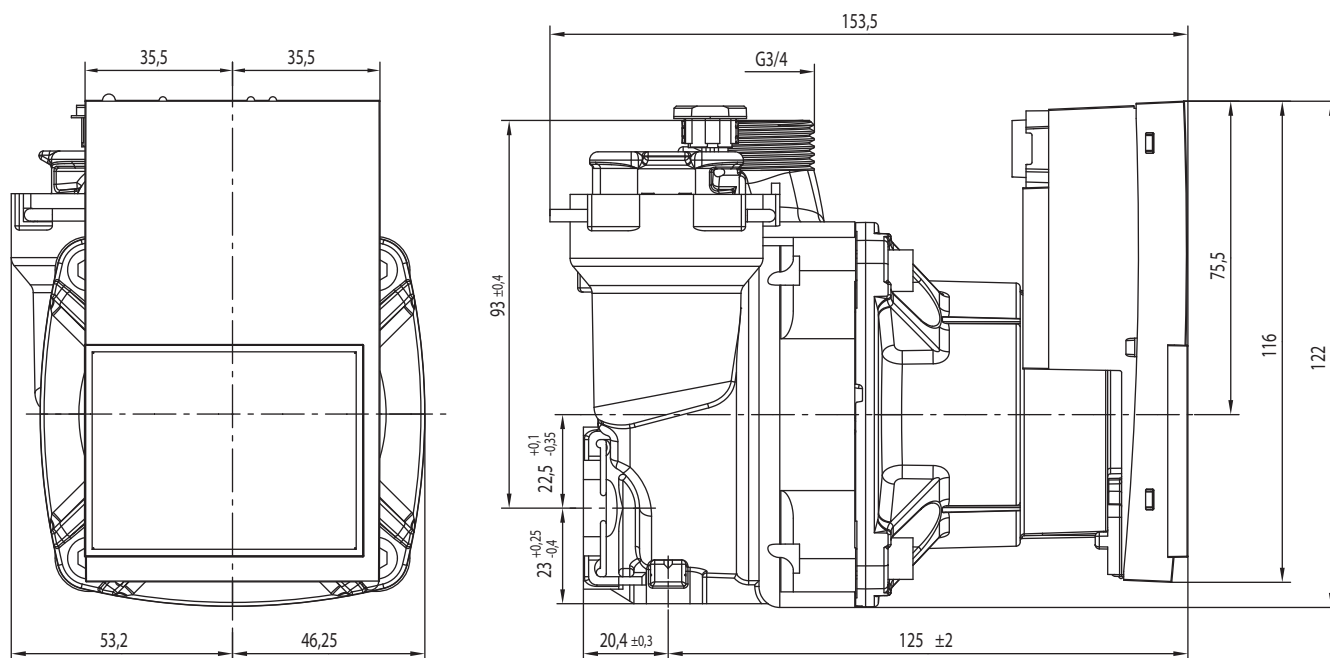
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
BSL 12/6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
BSL 12/6 RKC	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA BSL 12/6 Red Knob

Dimension drawing



Dimensions, weights

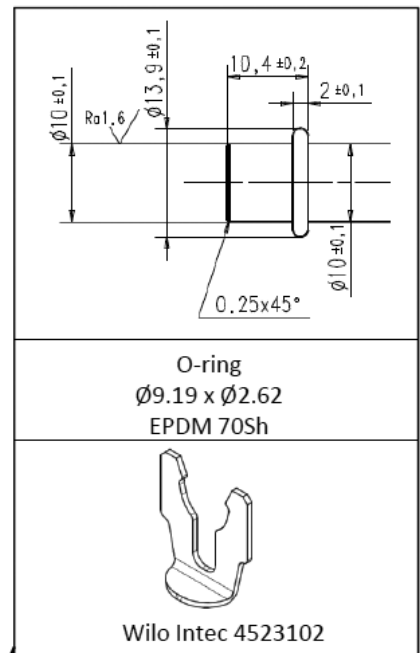
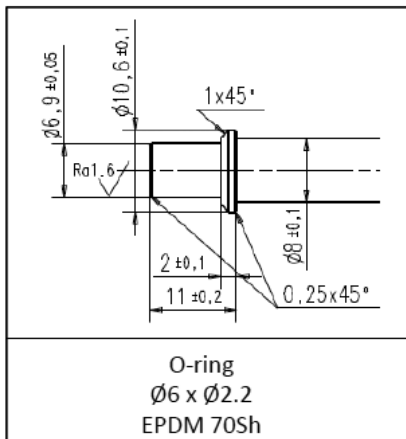
Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		—	<i>m</i>
		—	kg
BSL 12/6 RKC	Rp 1/2	G 3/4	1.2

Heating and cooling

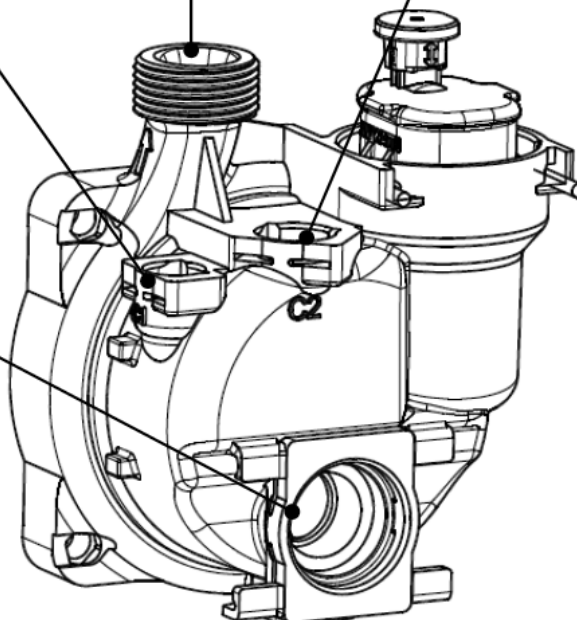
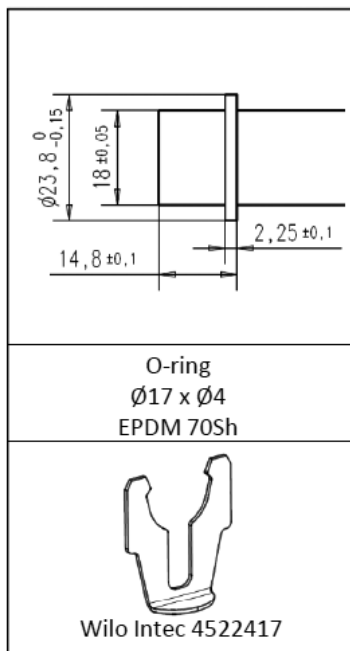
High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA BSL 12/6 Red Knob

Dimension drawing



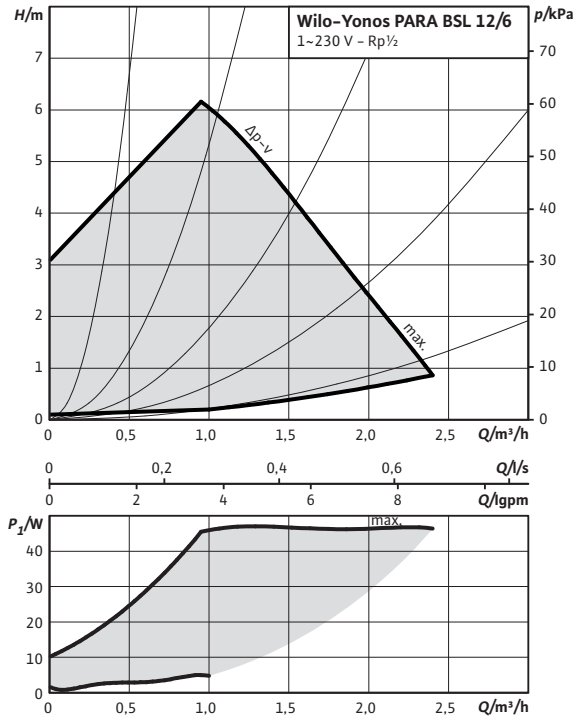
For threaded
 Nut G3/4" Maximal torque 25Nm
 Screwed on minimal 4 threads



Pump curves Wilo-Yonos PARA BSL 12/6 Red Knob

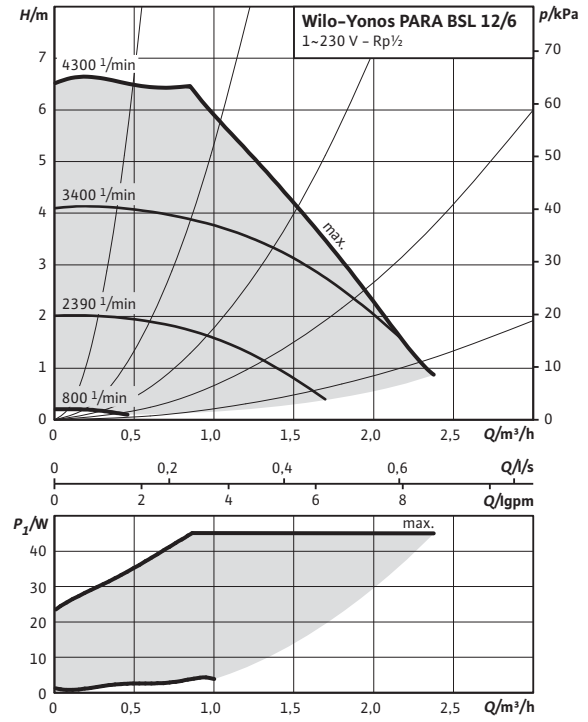
Wilo-Yonos PARA BSL 15/6

$\Delta p-v$ (variable)



Wilo-Yonos PARA BSL 15/6

Constant speed I, II, III



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HPS 25/6 Red Knob

Front view



Rear view



Motor data

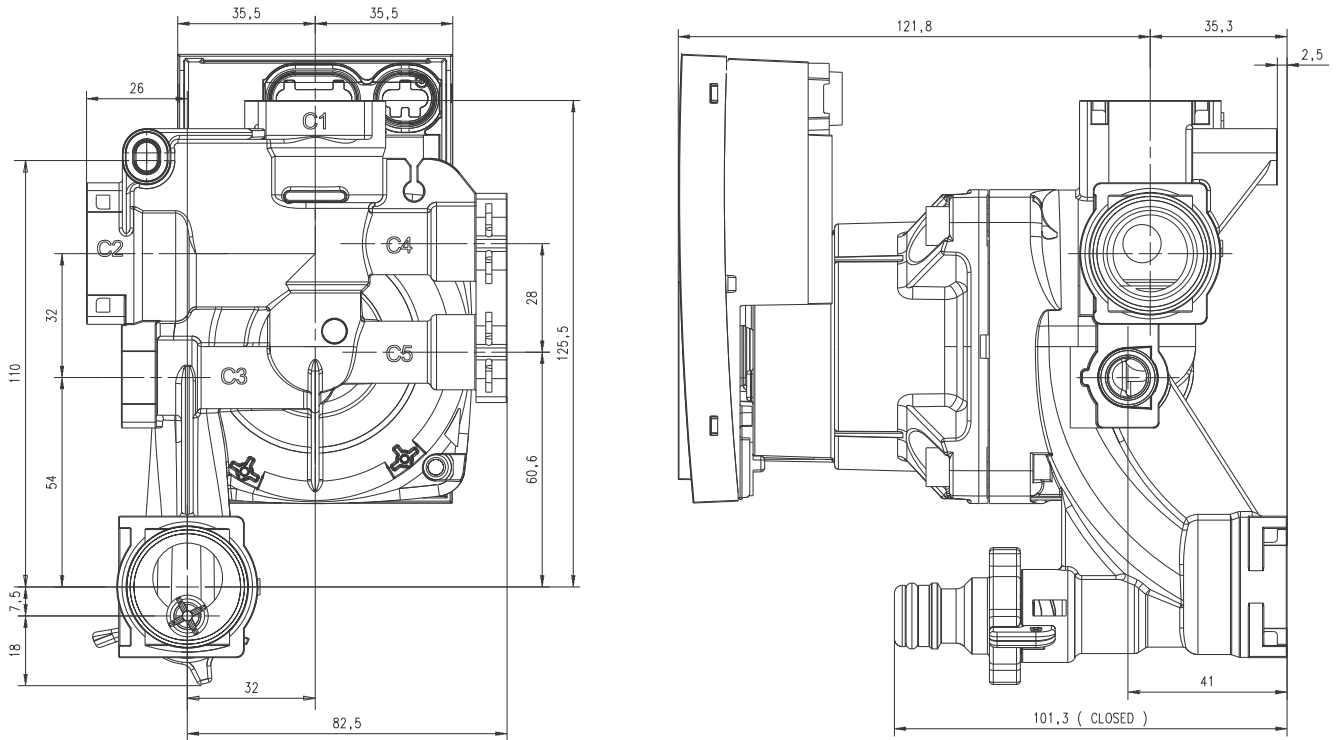
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	<i>n</i>	<i>P₁</i>	<i>I</i>	–
	rpm	W	A	–
HPS 25/6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
HPS 25/6 RKC	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA HPS 25/6 Red Knob

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA... Weight approx.

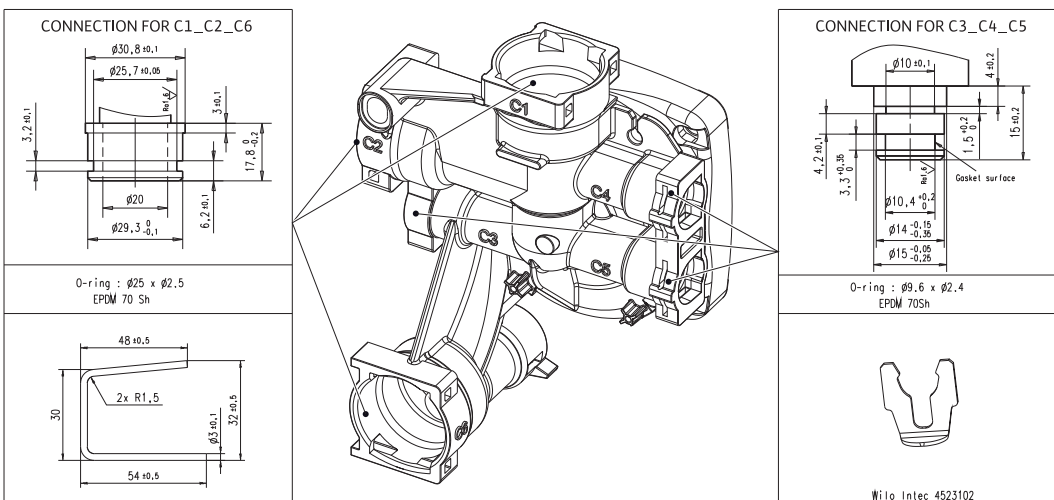
m

kg

HPS 25/6 RKC

1.8

Dimension drawing



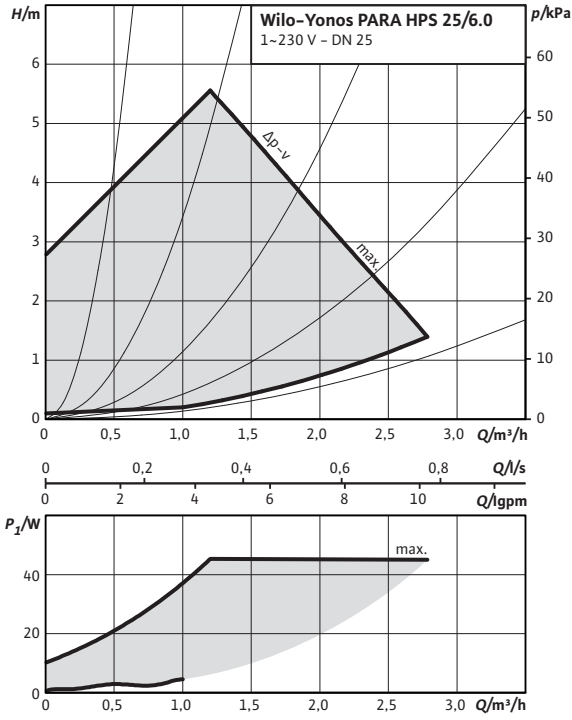
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA HPS 25/6 Red Knob

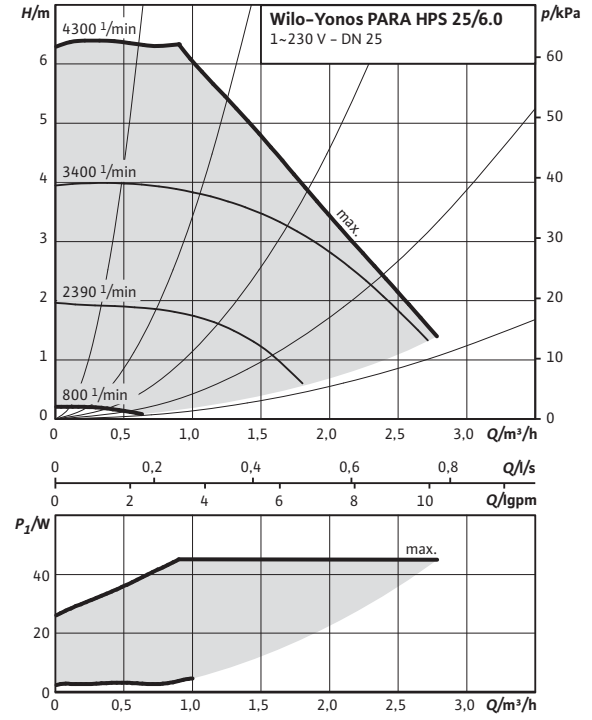
Wilo-Yonos PARA HPS 25/6

$\Delta p-v$ (variable)



Wilo-Yonos PARA HPS 25/6

Constant speed I, II, III



Dimensions, motor data Wilo-Yonos PARA TWP/6 Red Knob

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
TWP/6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated

Materials

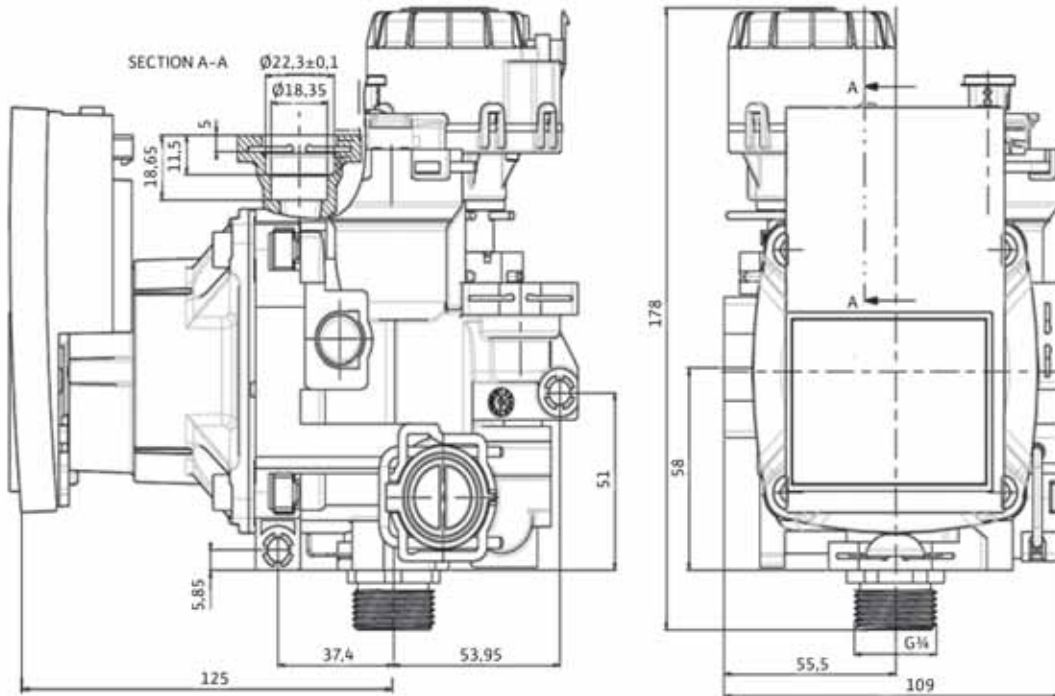
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
TWP/6 RKC	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA TWP/6 Red Knob

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA...

Weight approx.

m

kg

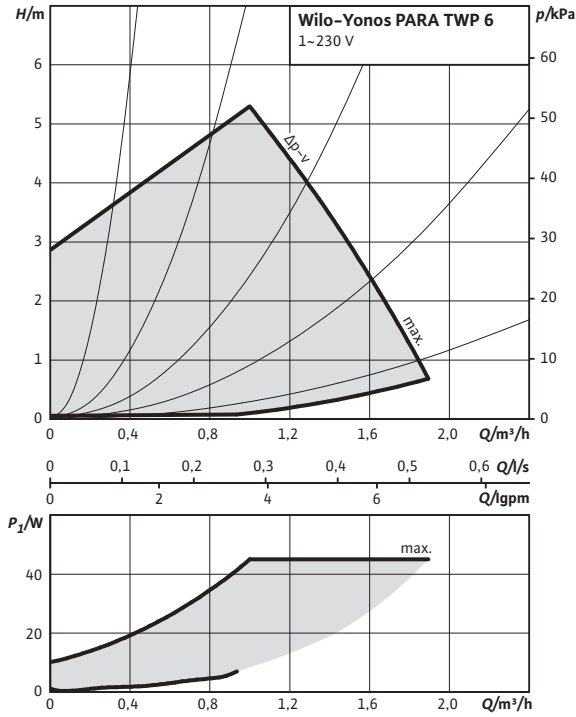
TWP/6 RKC

1.8

Pump curves Wilo-Yonos PARA TWP/6 Red Knob

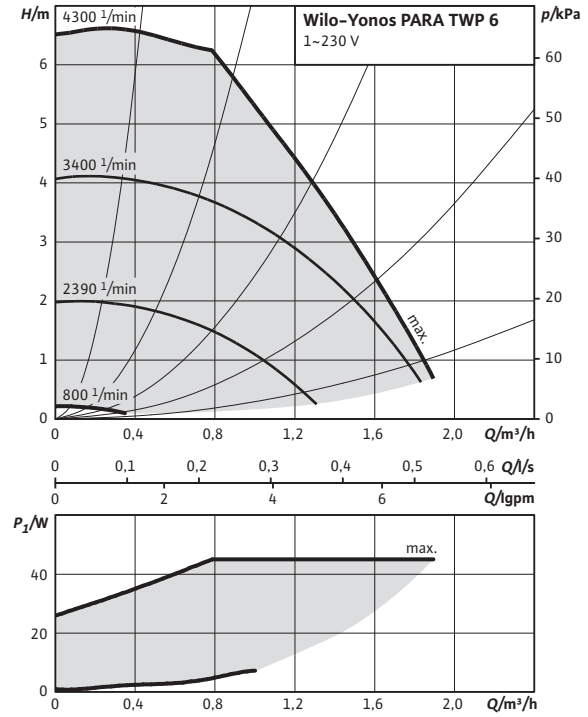
Wilo-Yonos PARA TWP 15/6

$\Delta p-v$ (variable)



Wilo-Yonos PARA TWP 15/6

Constant speed I, II, III



Heating and cooling

High-efficiency pumps

Series description Wilo-Yonos PARA .../7.0



Design

Glandless circulation pump with a cast iron pump housing and threaded connection or with specific composite pump housing. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology or remote control via external PWM signal. Equipped with LED user interface.

Application

Hot-water heating systems of all kinds, cooling applications

Type key

Example: **Yonos PARA RS 15/7.0 RKA C 130 12**

- Yonos** Electronically controlled high-efficiency pump
- PARA** pump range adapted to requirements of the OEM market
- RS** Heating inline cast iron pump housing
 - RS** Standard cast iron pump housing
 - RSB** Cast iron axial pump housing
 - RS KU** Composite inline pump housing
 - KSL** Composite OEM pump housing
 - RSL KU** Composite inline pump housing with venting
 - MSL** Composite OEM pump housing
 - NFSL** Composite OEM pump housing
 - HU15** Hydraulic unit
 - HU25** Hydraulic unit
 - BSL** Composite OEM pump housing anticlockwise rotation
 - HPS** Composite OEM pump housing
 - TWP** Composite three way OEM pump housing
- 15/** Nominal diameter:
 - 12** threading ¾"
 - 15** threading 1"
 - 20** threading 1 ¼"
 - 25** threading 1 ½"
 - 30** threading 2"
- 7.0** Nominal delivery head range [m]
- RKA** The pump is controlled by Red Knob technology:
 - RKA** = $\Delta p-v / \Delta p-c$
 - or
 - RKC** = $\Delta p-v / \text{constant speed I, II, III}$
 - or
 - PWM1** = the pump is controlled by an external system via PWM1 or iPWM1 signal

- C** Integrated Molex 3-way connector
- 130** Pump housing length: 110 mm, 130 mm or 180 mm
- 12** Electronic box orientation

Technical data

Approved fluids (other fluids on request)	
Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•
Power	
Energy efficiency index (EEI)	≤ 0.20
Max. delivery head	7.2 m
Max. volume flow	3.3 m ³ /h
Permitted field of application	
Temperature range at max. ambient temperature	of 58°C = 0 to 100°C of 62°C = 0 to 90°C of 66°C = 0 to 80°C of 71°C = 0 to 70°C
Maximum static pressure	6 bar
Electrical connection	
Mains connection	1~230 V, 50/60 Hz
Motor/electronics	
Electromagnetic compatibility	EN 61800-3
Emitted interference	EN 61000-6-3 EN 61000-6-4
Interference resistance	EN 61000-6-2 EN 61000-6-1
Speed control	Frequency converter
Protection class	IP X4D
Insulation class	F
Minimum suction head at suction port for avoiding cavitation at water pumping temperature	
Minimum suction head at 50 / 95°C	0.5 / 4.5 m

• = available, - = not available

Dimensions, motor data Wilo-Yonos PARA RS .../7.0 Red Knob/PWM1

Front view



Rear view

Overall length 110 mm



Rear view

Overall length 130 mm



Rear view

Overall length 180 mm



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	—
	rpm	W	A	—
RS .../7.0 RKA/RKC/PWM	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

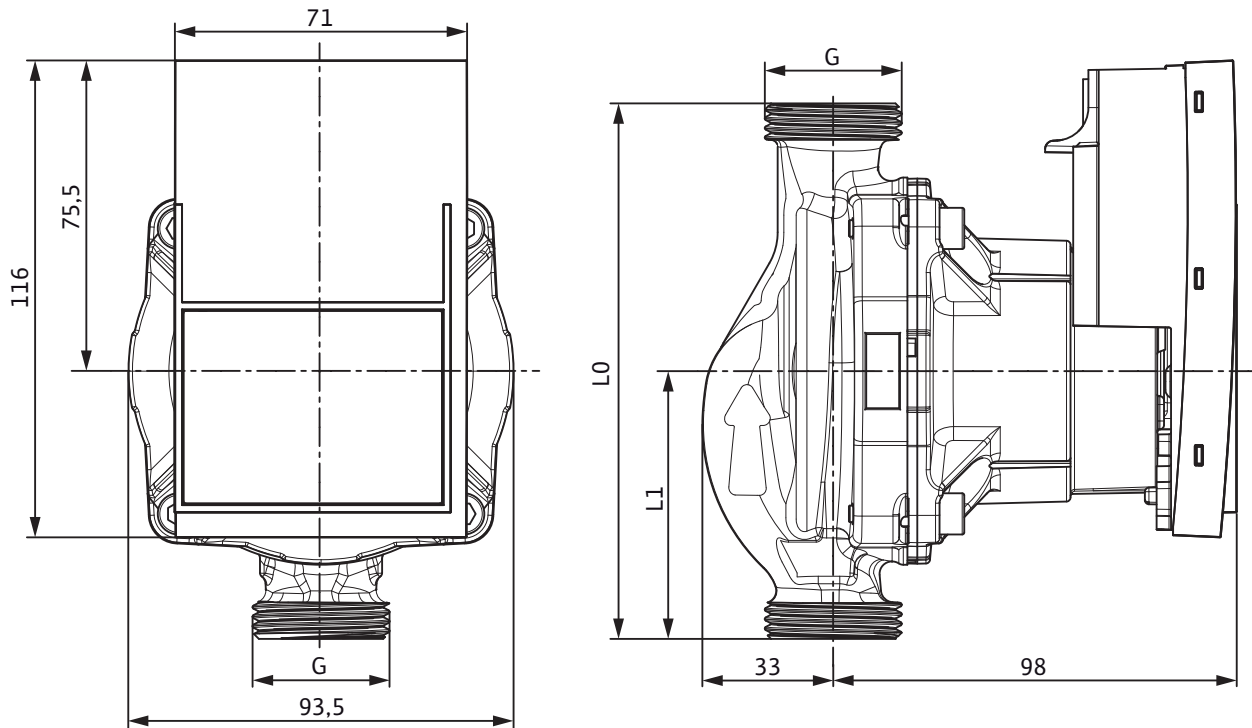
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RS .../7.0 RKA/RKC/PWM	Cast iron with cataphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RS .../7.0 Red Knob/PWM1

Dimension drawing



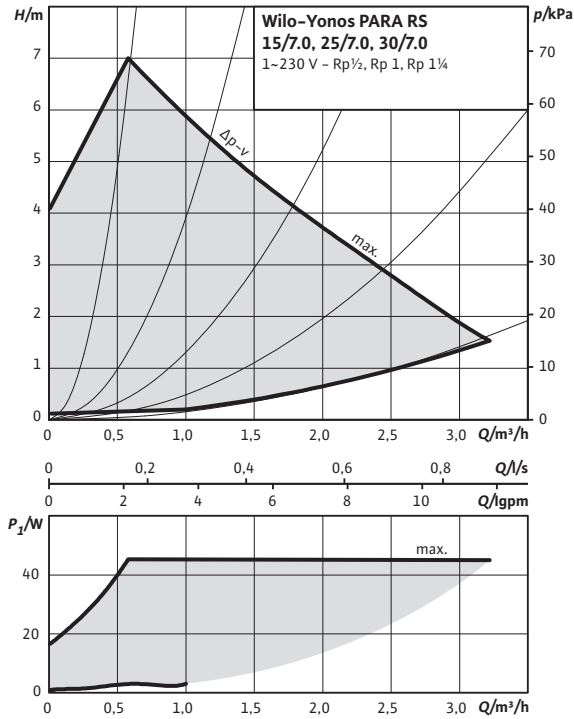
Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
		–	l_0	$L1$	m
		–		mm	kg
RS 15/7.0 RKA/RKC/PWM	Rp 1/2	G 1	110	55	1.6
RS 15/7.0 RKA/RKC/PWM	Rp 1/2	G 1	130	65	1.7
RS 25/7.0 RKA/RKC/PWM	Rp 1	G 1 1/2	130	65	1.8
RS 25/7.0 RKA/RKC/PWM	Rp 1	G 1 1/2	180	90	1.9
RS 30/7.0 RKA/RKC/PWM	Rp 1 1/4	G 2	180	90	2.1

Pump curves Wilo-Yonos PARA RS .../7.0 Red Knob/PWM1

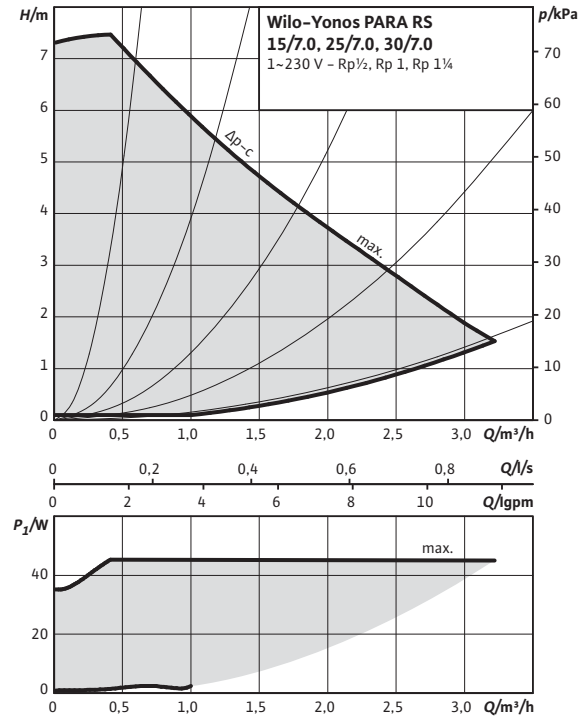
Wilo-Yonos PARA RS 15/7.0, 25/7.0, 30/7.0

$\Delta p-v$ (variable)



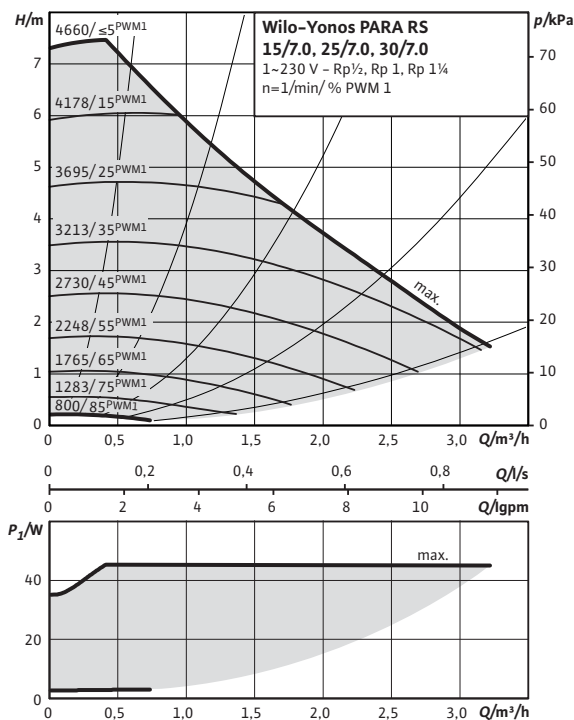
Wilo-Yonos PARA RS 15/7.0, 25/7.0, 30/7.0

$\Delta p-c$ (constant)



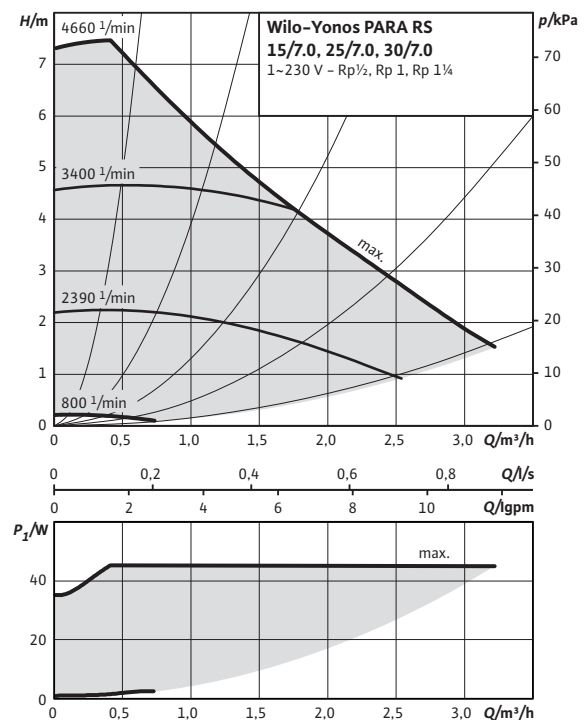
Wilo-Yonos PARA RS 15/7.0, 25/7.0, 30/7.0

External control via PWM 1



Wilo-Yonos PARA RS 15/7.0, 25/7.0, 30/7.0

Constant speed I, II, III



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RSB 15/7.0 PWM1

Front view



Rear view



Motor data

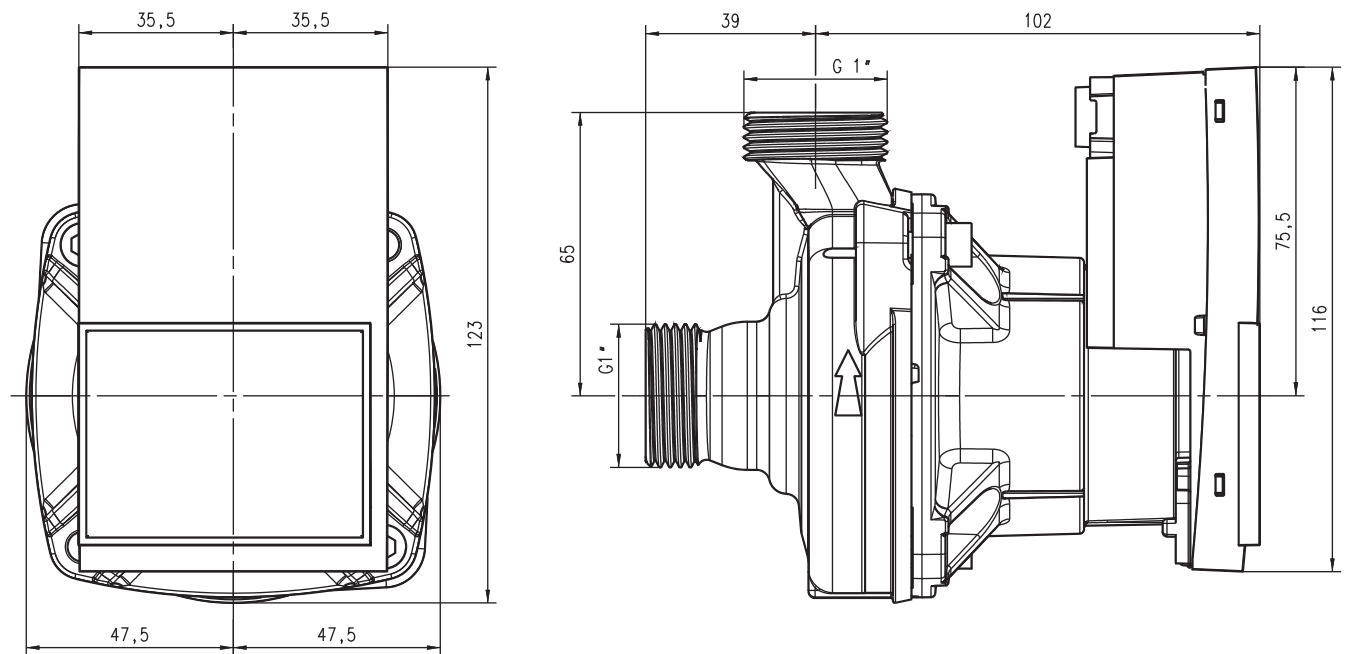
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
RSB 15/7.0 PWM	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RSB 15/7.0 PWM	Cast iron with cathaphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA RSB 15/7.0 PWM1

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		—	<i>m</i>
		—	kg
RSB 15/7.0 PWM	Rp ½	G 1	1.5

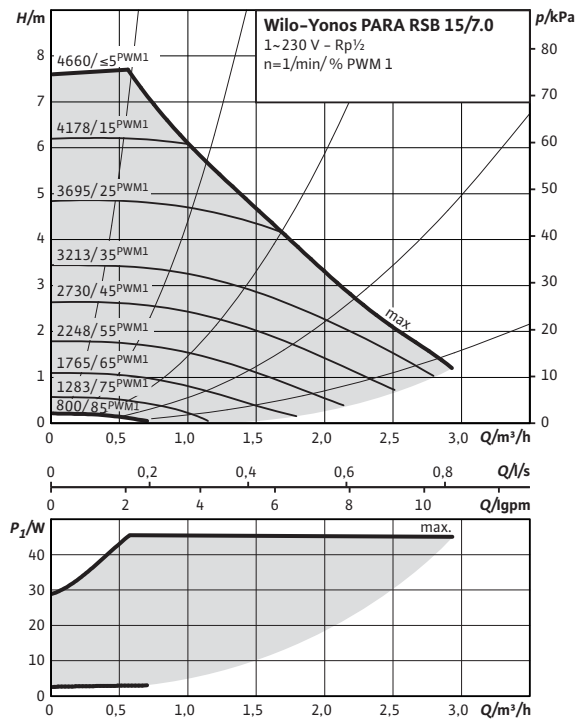
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA RSB 15/7.0 PWM1

Wilo-Yonos PARA RSB 15/7.0

External control via PWM 1



Dimensions, motor data Wilo-Yonos PARA RS 15(20, 25)/7.0, RedKnob/PWM1 KU

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
RS .../7.0 PWM KU	800 - 4660	3-45	0.03 - 0.44	integrated
RS .../7.0 RKA/RKC KU	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

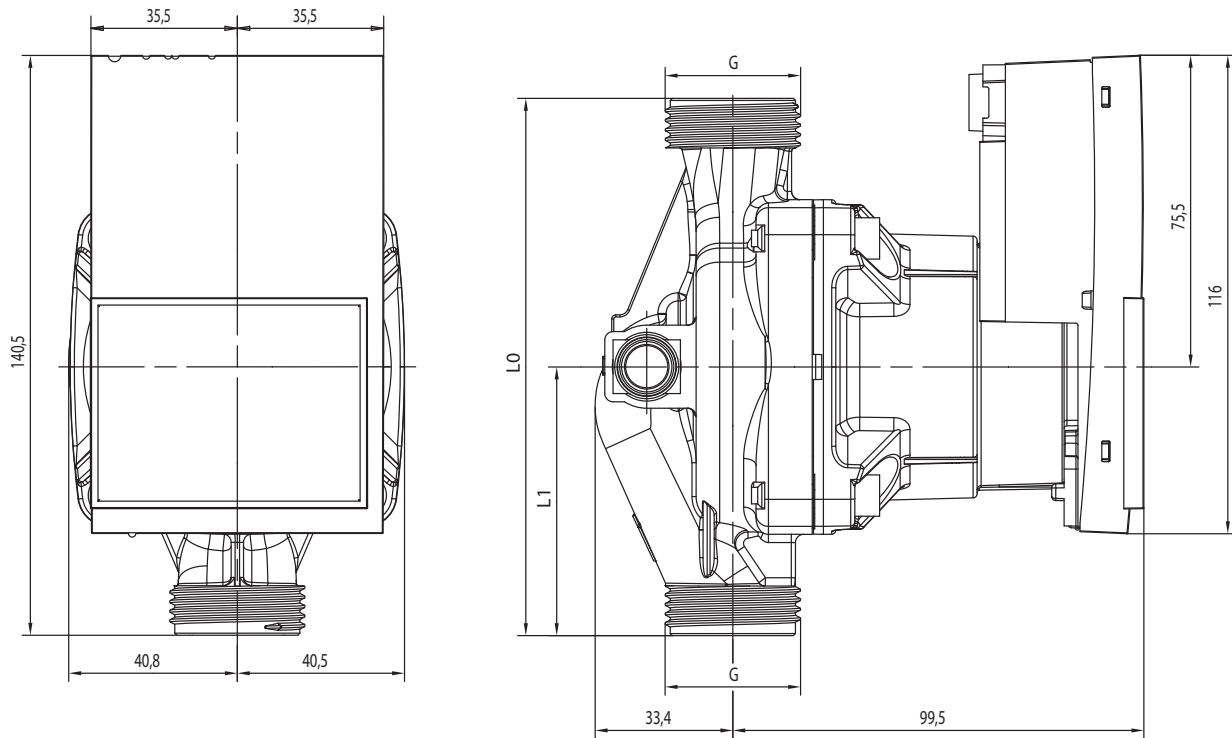
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RS .../7.0 PWM KU	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated
RS .../7.0 RKA/RKC KU	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RS 15(20, 25)/7.0, RedKnob/PWM1 KU

Dimension drawing



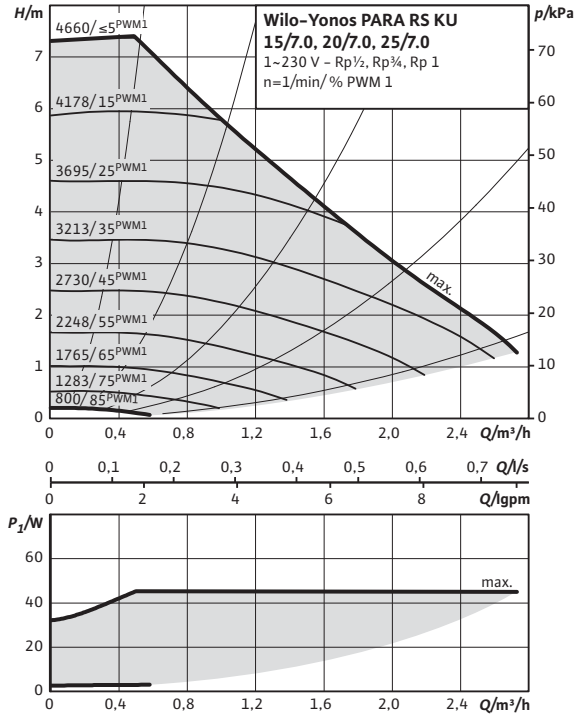
Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	—		l_0	L_1	m
	—			mm	kg
RS 15/7.0 RKA/RKC KU	Rp 1/2	G 1	130	65	1
RS 20/7.0 RKA/RKC KU	Rp 3/4	G 1 1/4	130	65	1
RS 25/7.0 RKA/RKC KU	Rp 1	G 1 1/2	130	65	1.1
RS 15/7.0 PWM KU	Rp 1/2	G 1	130	65	1
RS KU 20/7.0 PWM	Rp 3/4	G 1 1/4	130	65	1
RS KU 25/7.0 PWM	Rp 1	G 1 1/2	130	65	1.1

Pump curves Wilo-Yonos PARA RS 15(20, 25)/7.0, RedKnob/PWM1 KU

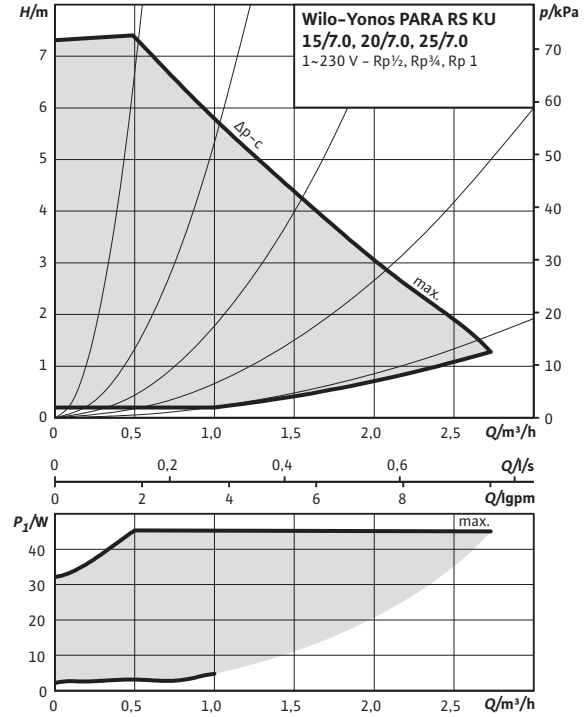
Wilo-Yonos PARA RS 15/7.0, 20/7.0, 25/7.0 KU

External control via PWM 1



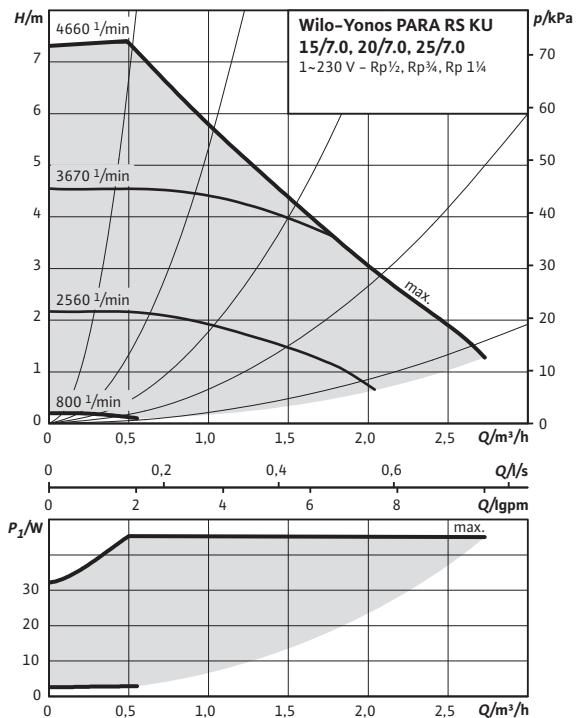
Wilo-Yonos PARA RS 15/7.0, 20/7.0, 25/7.0 KU

$\Delta p-c$ (constant)



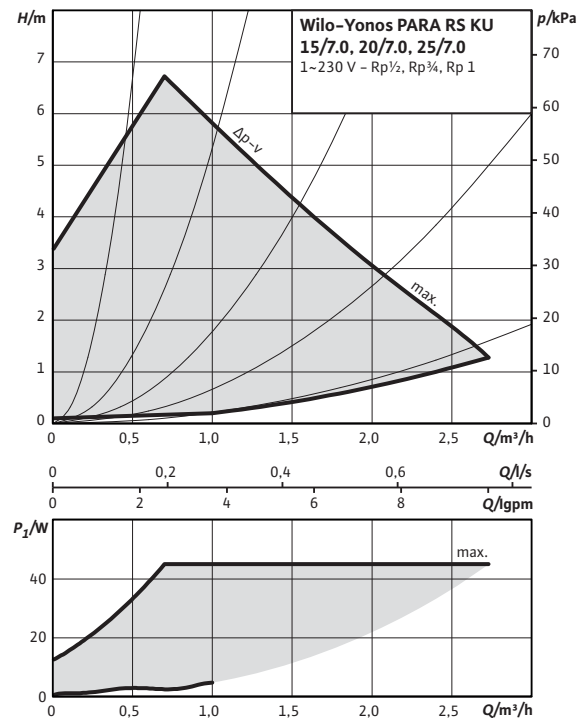
Wilo-Yonos PARA RS 15/7.0, 20/7.0, 25/7.0 KU

Constant speed I,II,III



Wilo-Yonos PARA RS 15/7.0, 20/7.0, 25/7.0 KU

$\Delta p-v$ (variable)



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA KSL 15/7.0 PWM1



Motor data

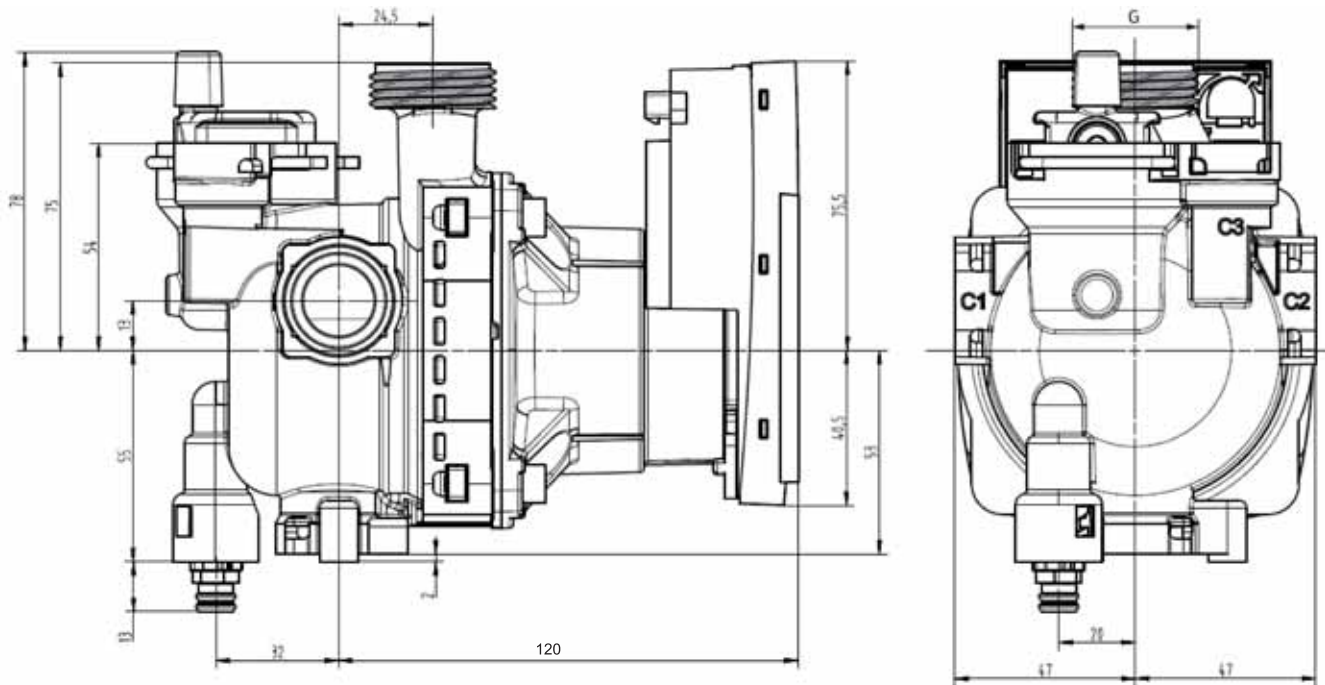
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
KSL 15/7.0 PWM1	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
KSL 15/7.0 PWM1	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA KSL 15/7.0 PWM1

Dimension drawing



Dimensions, weights

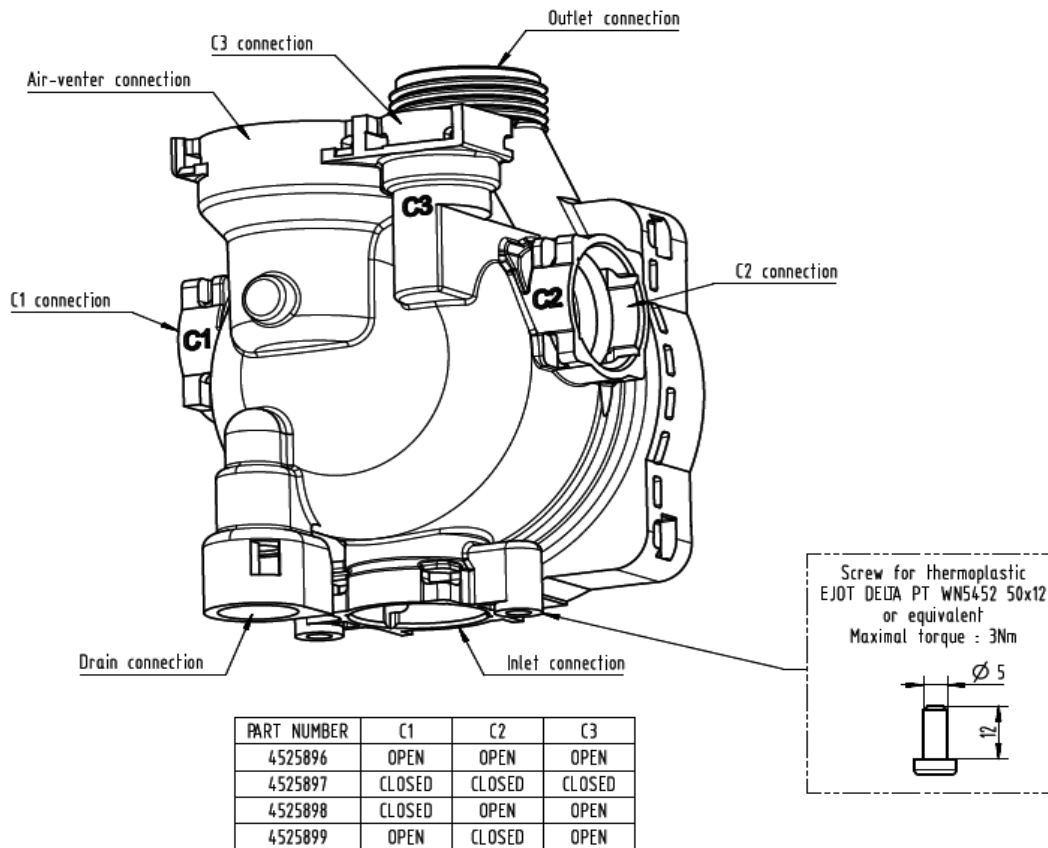
Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		–	<i>m</i>
		–	kg
KSL15/7.0 PWM1	Rp ½	G 1	1.2

Heating and cooling

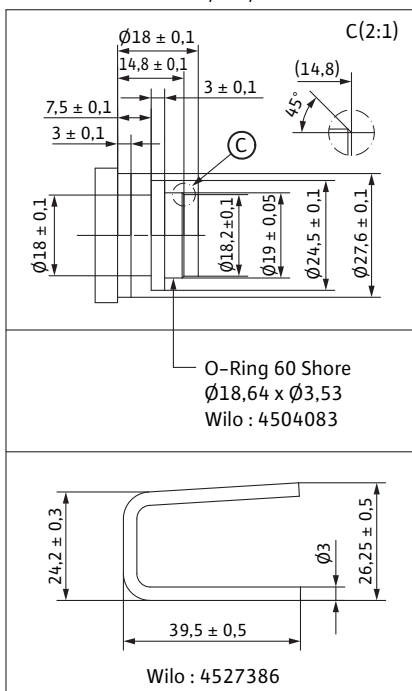
High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA KSL 15/7.0 PWM1

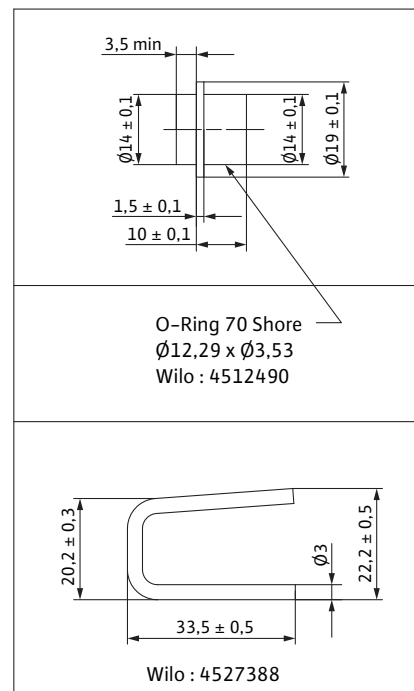
Connecion drawing



KSL - C1/C2/INLET



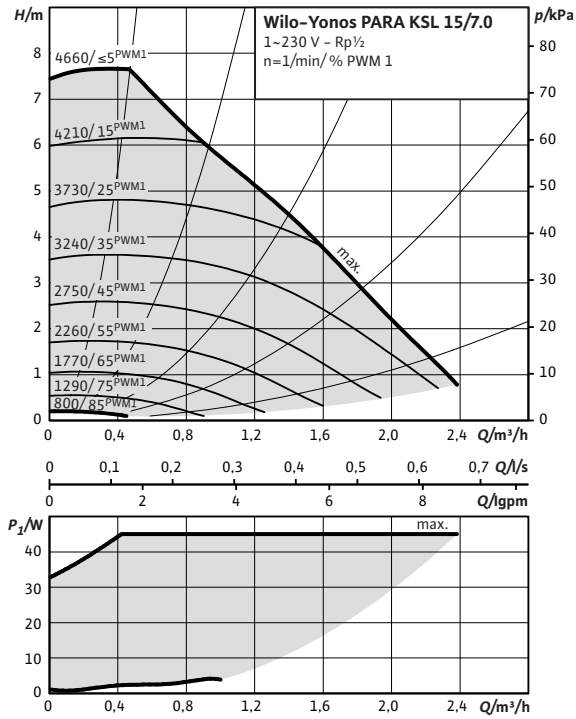
KSL - C3



Pump curves Wilo-Yonos PARA KSL 15/7.0 PWM1

Wilo-Yonos PARA 15/7.0

External control via PWM 1



Heating and cooling

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RSL 15/7.0 PWM1 KU

Front view



Rear view



Motor data

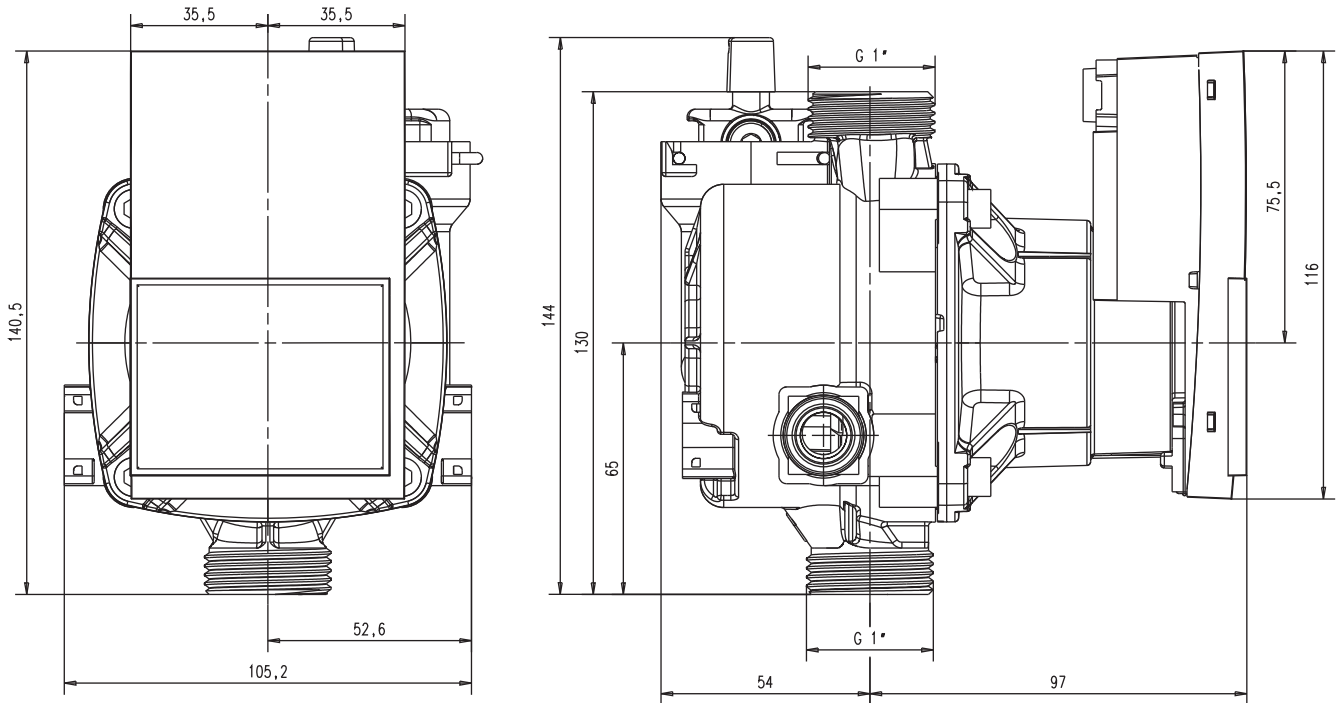
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	<i>n</i>	<i>P₁</i>	<i>I</i>	–
	rpm	W	A	–
RSL 15/7.0 PWM KU	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

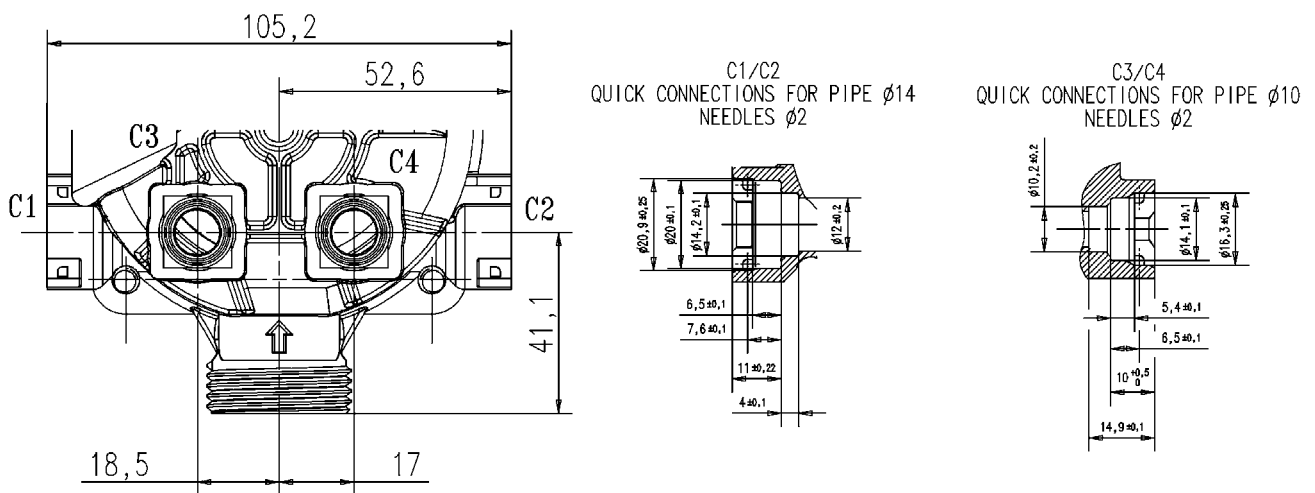
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RSL 15/7.0 PWM KU	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA RSL 15/7.0 PWM1 KU

Dimension drawing



Optional connections



Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		-	m
		-	kg
RSL 15/7.0 PWM KU	Rp 1/2	G 1	1.2

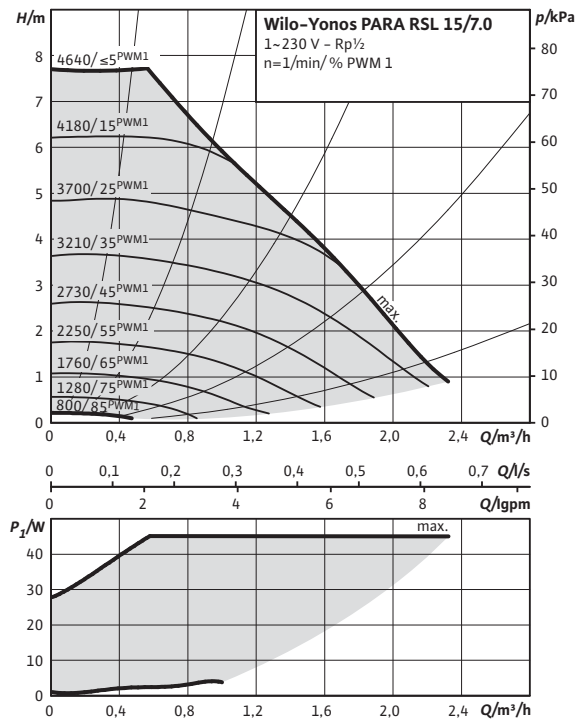
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA RSL 15/7.0 PWM1 KU

Wilo-Yonos PARA RSL 15/7.0

External control via PWM 1



Dimensions, motor data Wilo-Yonos PARA MSL 12/7.0 PWM1

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
MSL 12/7.0 PWM	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

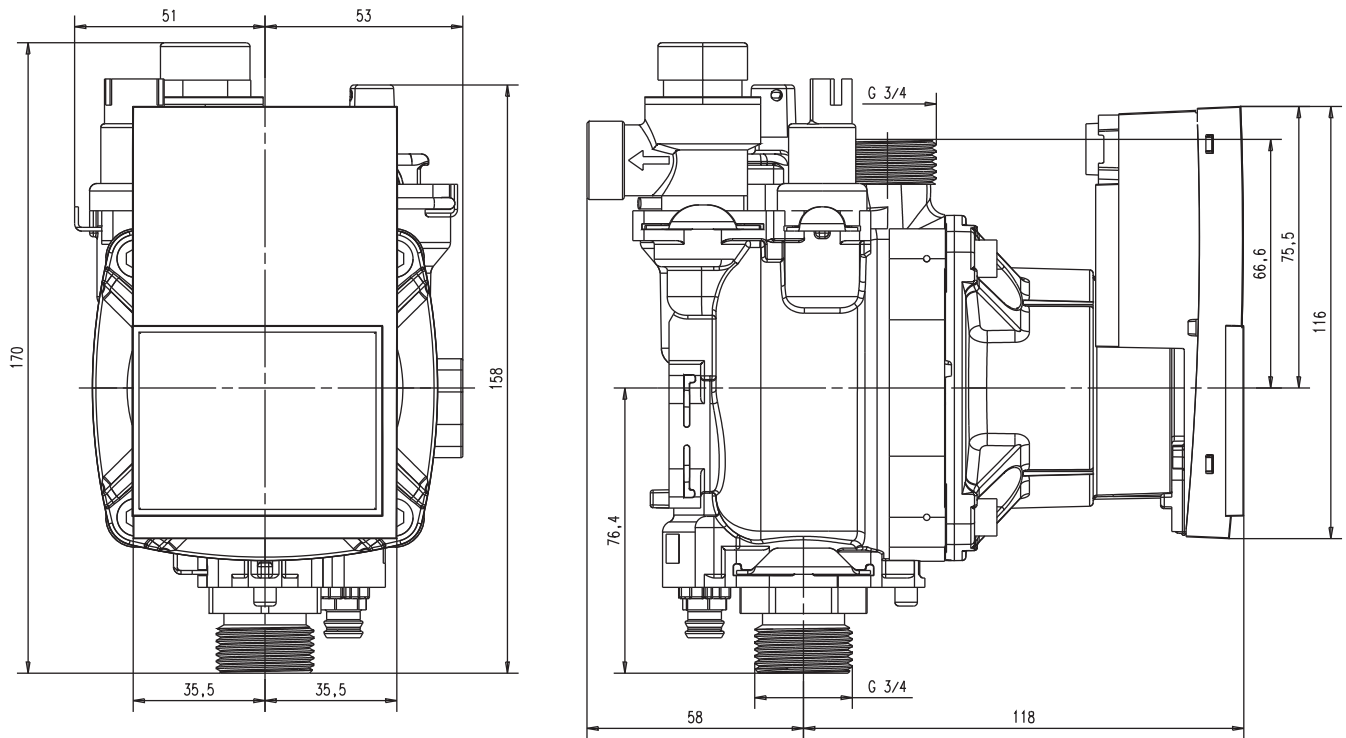
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
MSL 12/7.0 PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA MSL 12/7.0 PWM1

Dimension drawing

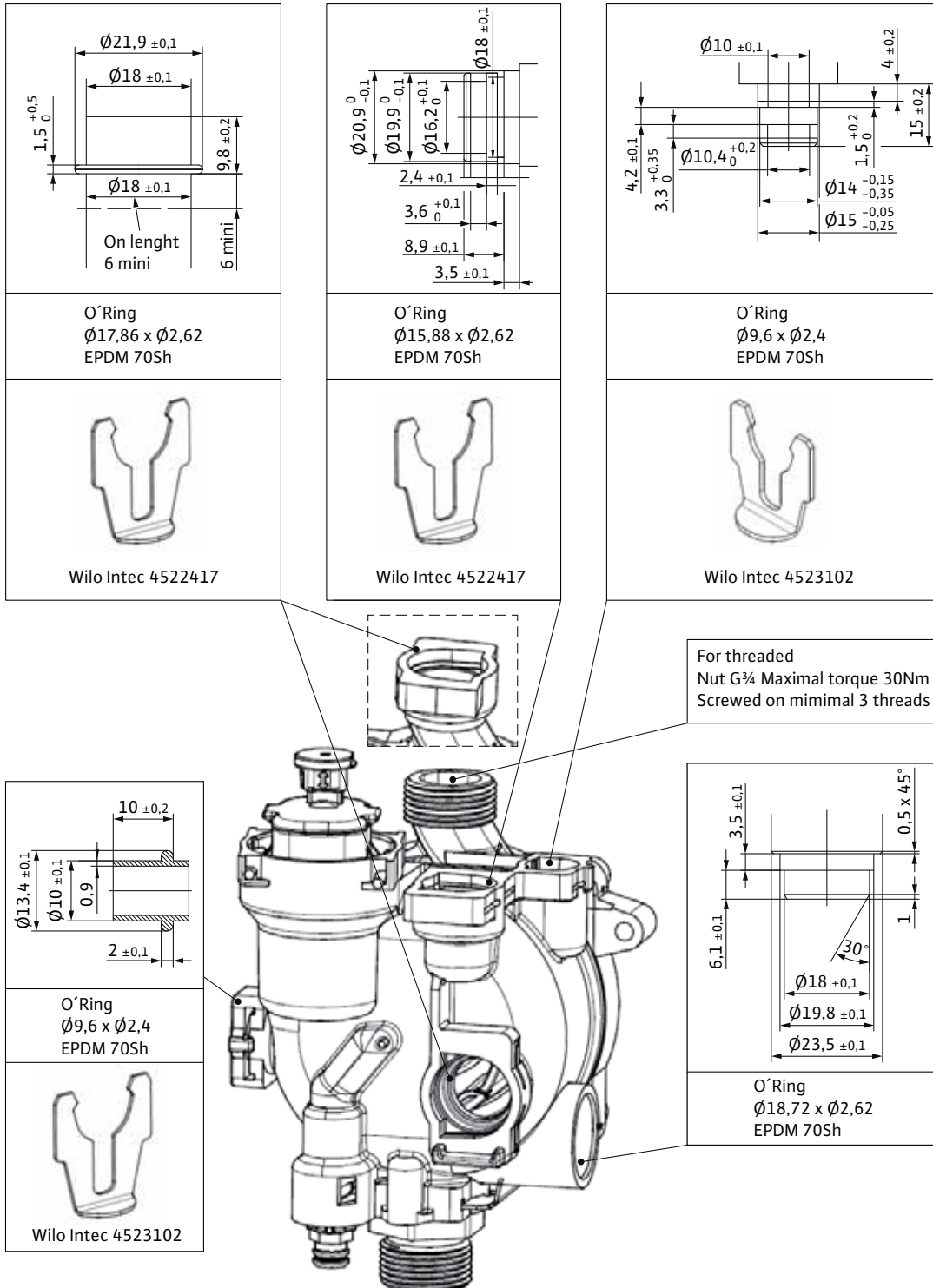


Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		—	<i>m</i>
		—	kg
MSL 12/7.0 PWM	Rp 1/2	G 3/4	1.5

Dimensions, motor data Wilo-Yonos PARA MSL 12/7.0 PWM1

Dimension drawing



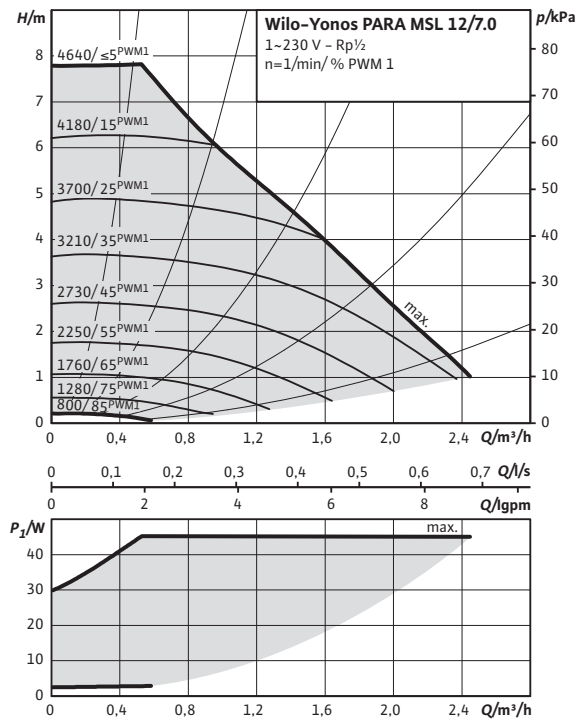
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA MSL 12/7.0 PWM1

Wilo-Yonos PARA MSL 12/7.0

External control via PWM 1



Dimensions, motor data Wilo-Yonos PARA NFSL 12/7.0 PWM1

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
NFSL 12/7.0 PWM	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

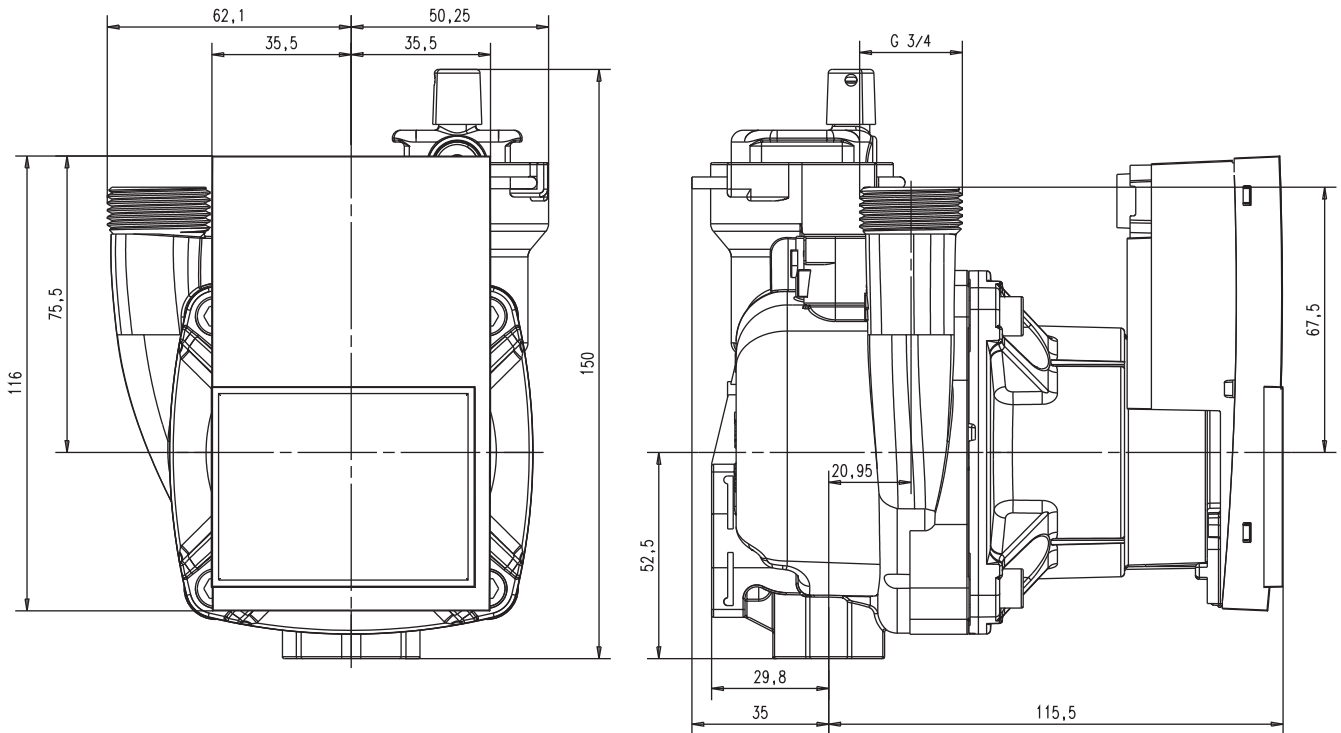
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
NFSL 12/7.0 PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

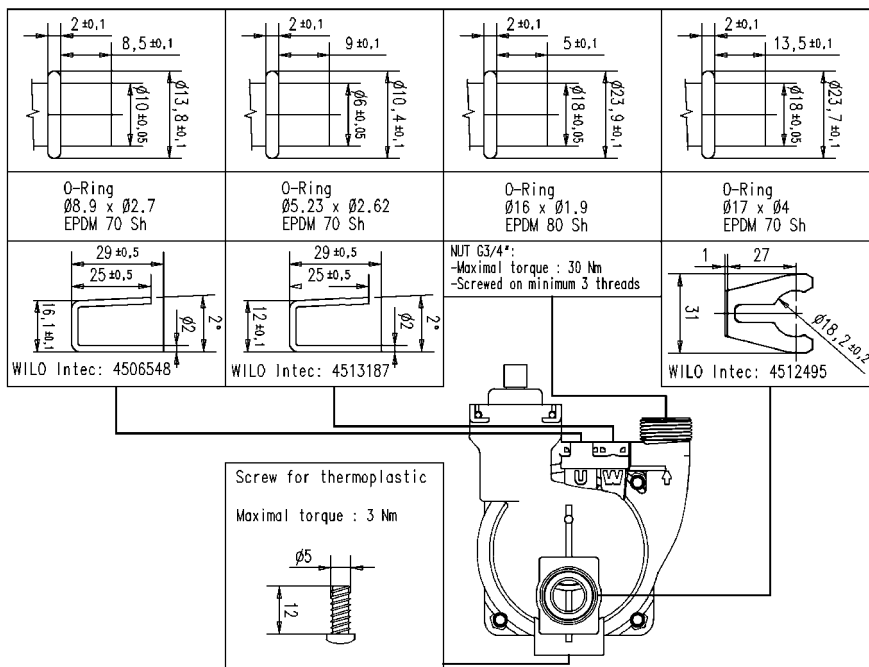
High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA NFSL 12/7.0 PWM1

Dimension drawing



Dimension drawing for connections



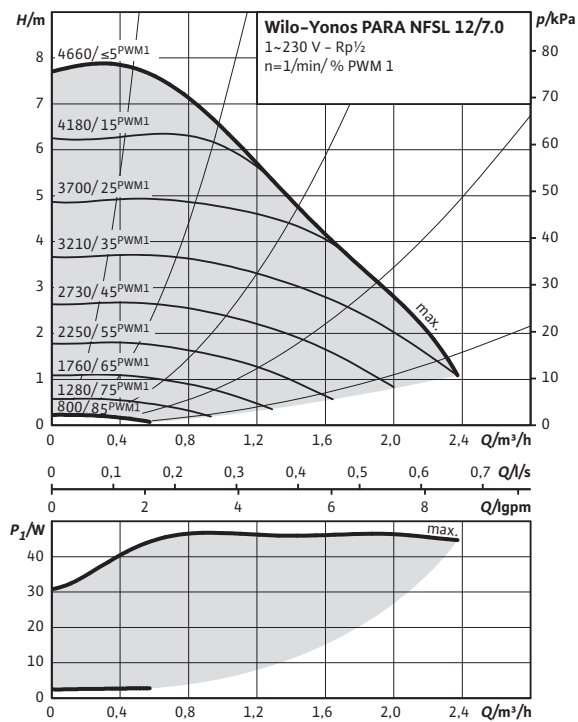
Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		-	m
		-	kg
NFSL 12/7.0 PWM	Rp 1/2	G 3/4	1.2

Pump curves Wilo-Yonos PARA NFSL 12/7.0 PWM1

Wilo-Yonos PARA NFSL 12/7.0

External control via PWM 1



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HU 15/7.0 PWM1

Front view



Rear view



Motor data

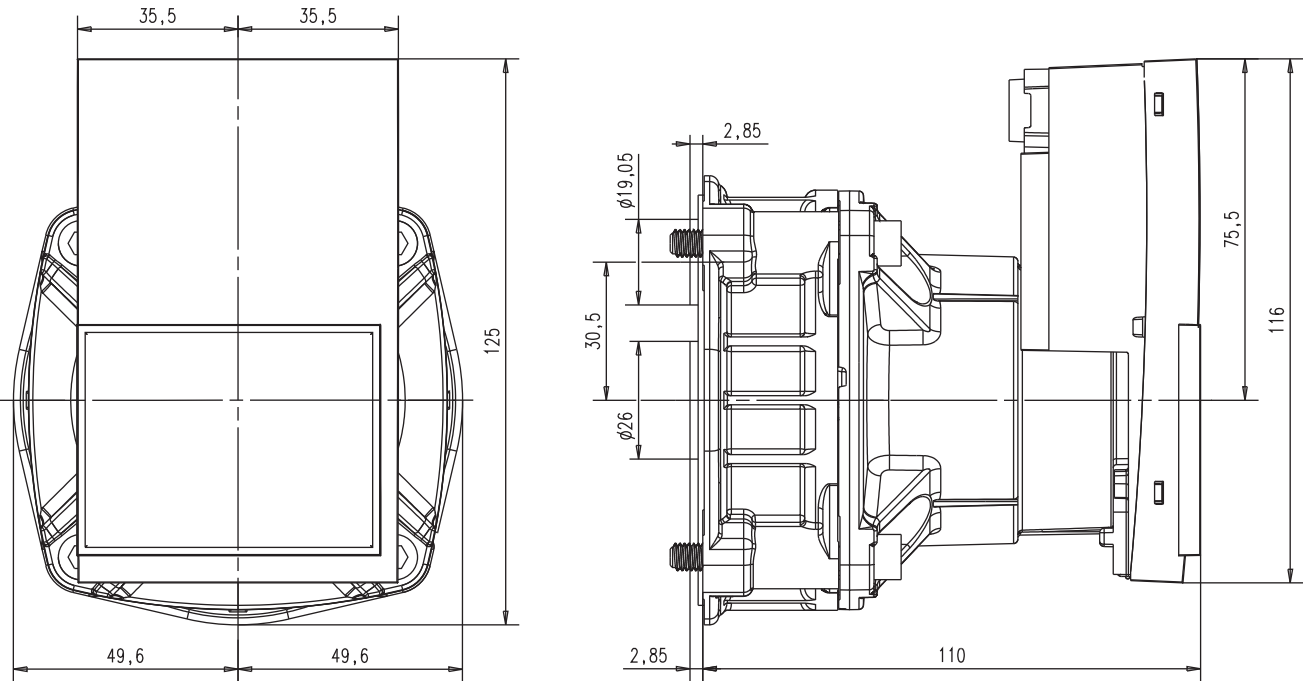
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
HU 15/7.0 PWM	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
HU 15/7.0 PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA HU 15/7.0 PWM1

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA... Weight approx.

m

kg

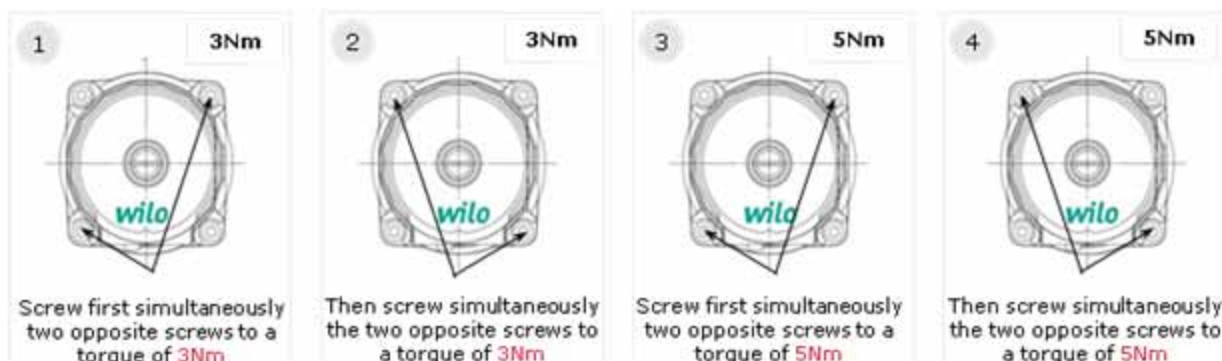
HU 15/7.0 PWM

1

Screwing instructions

Water tightness of the circulator is guaranteed if:

- all its parts are correctly assembled
- the 4 screws are screwed according to the following instruction:

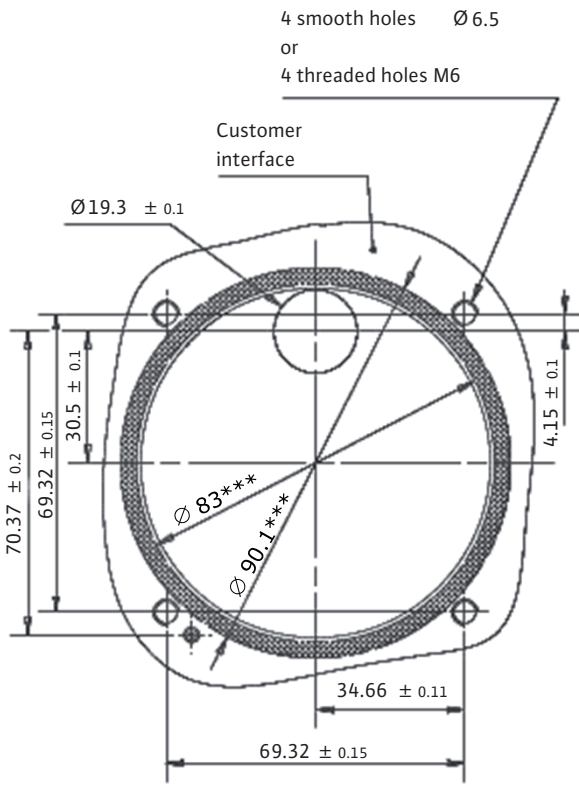


Heating and cooling

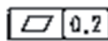
High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HU 15/7.0 PWM1

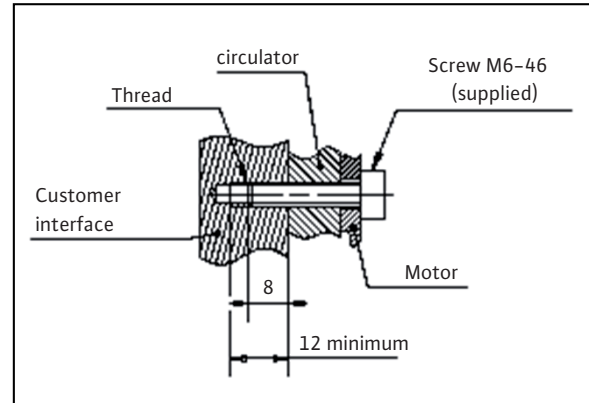
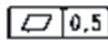
The HU15 Ku should only be used in this orientation with the pressure outlet at 12 o'clock.



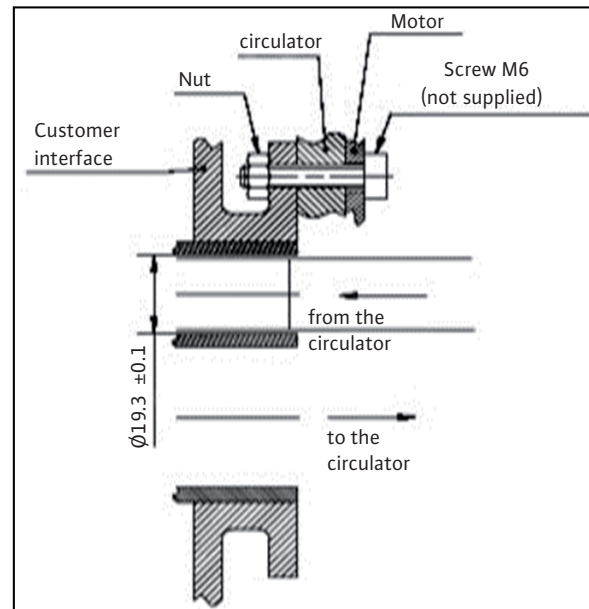
*** Zone with hatches
Referential B
Gasket compression surface



Zone without hatches
Beneath surface B



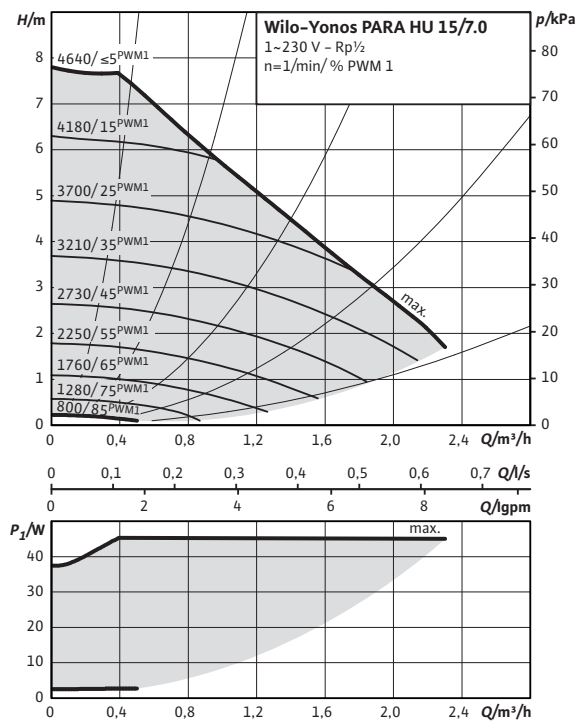
OR



Pump curves Wilo-Yonos PARA HU 15/7.0 PWM1

Wilo-Yonos PARA HU 15/7.0

External control via PWM 1



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HU 25/7.0 PWM1

Front view



Rear view



Motor data

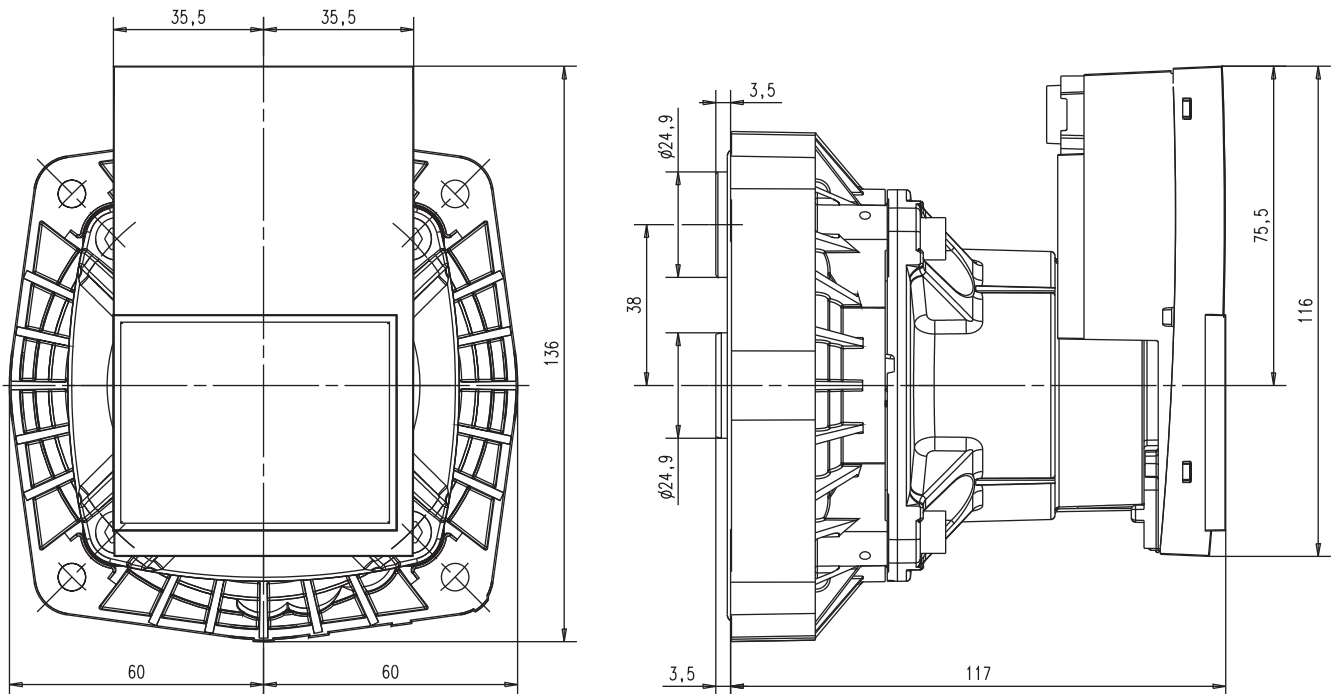
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
HU 25/7.0 PWM	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
HU 25/7.0 PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA HU 25/7.0 PWM1

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA...	Weight approx.
	<i>m</i>
	kg
HU 25/7.0 PWM	1.2

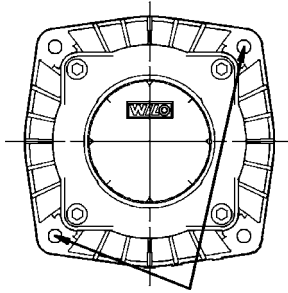
Heating and cooling

High-efficiency pumps

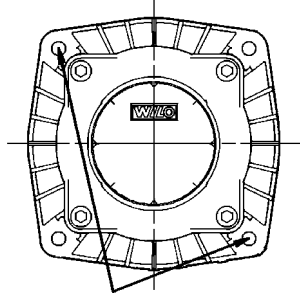
Dimensions, motor data Wilo-Yonos PARA HU 25/7.0 PWM1

Water tightness of the circulator is guaranteed if:

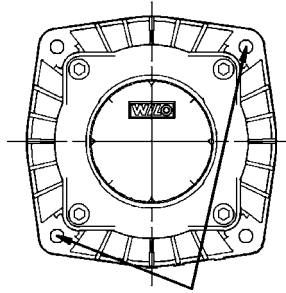
- all its parts are correctly assembled
- the 4 screws are screwed according to the following instruction:



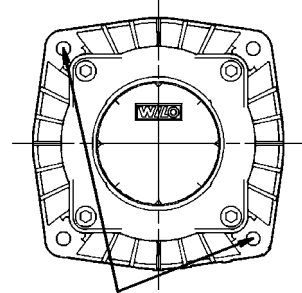
Screw first simultaneously two opposite screws to a torque of 3 Nm



Then screw simultaneously the two opposite screws to a torque of 3 Nm

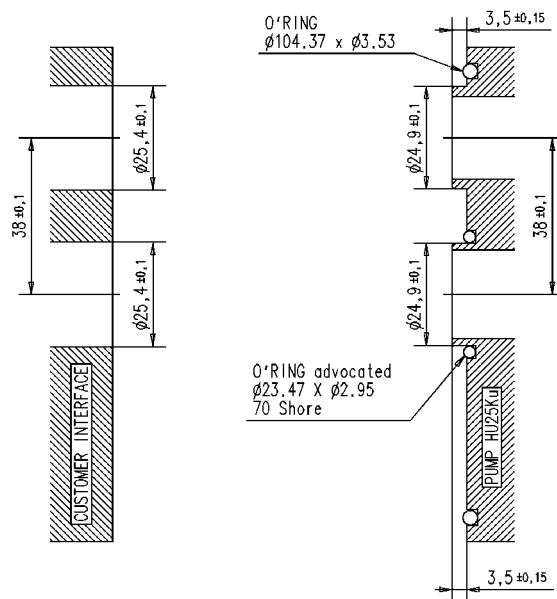
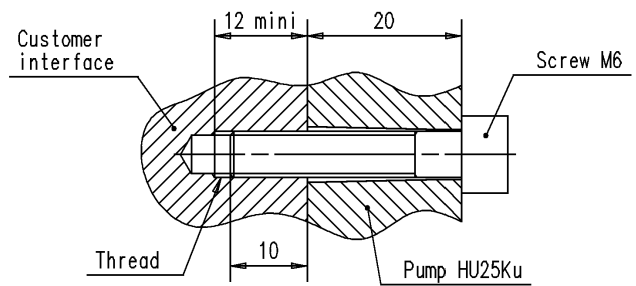
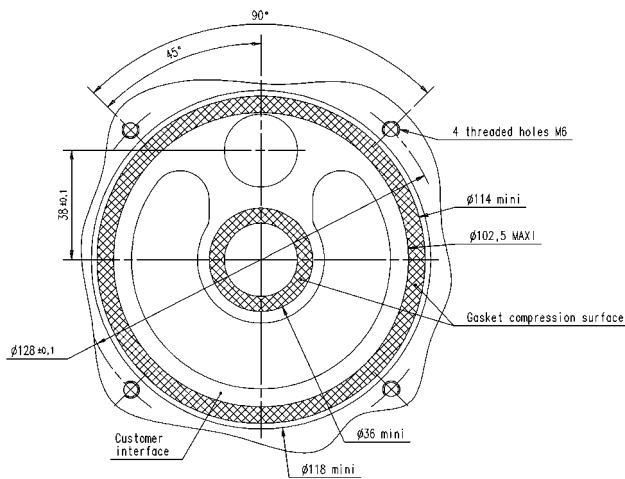


Screw first simultaneously two opposite screws to a torque of 5 Nm



Then screw simultaneously the two opposite screws to a torque of 5 Nm

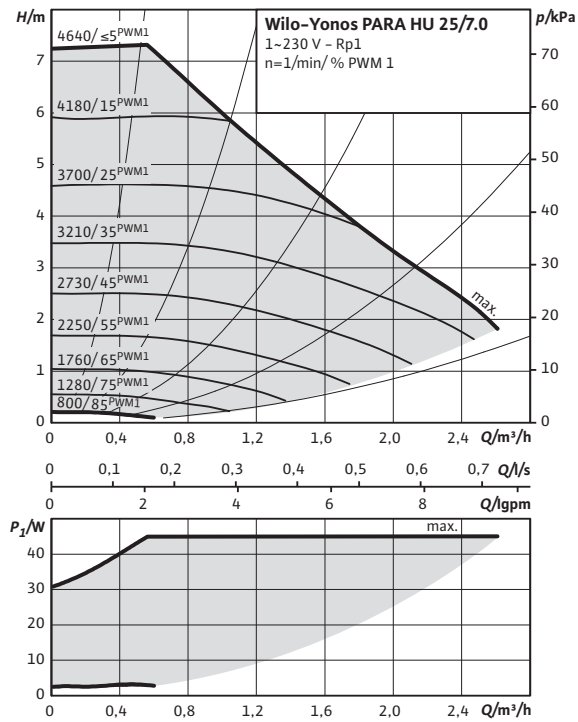
The HU25 Ku should only be used in this orientation with the pressure outlet at 12 o'clock.



Pump curves Wilo-Yonos PARA HU 25/7.0 PWM1

Wilo-Yonos PARA HU 25/7.0

External control via PWM 1



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA BSL 12/7.0 PWM1

Front view



Rear view



Motor data

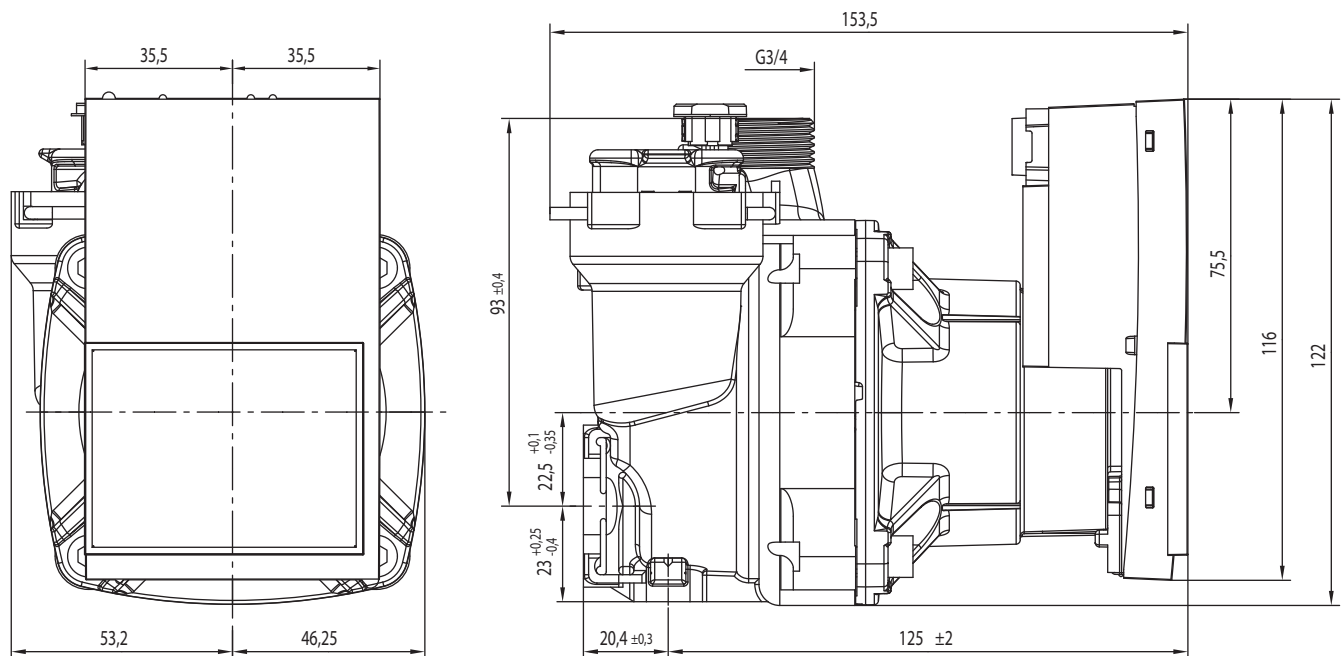
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
BSL 12/7.0 PWM	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
BSL 12/7.0 PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA BSL 12/7.0 PWM1

Dimension drawing



Dimensions, weights

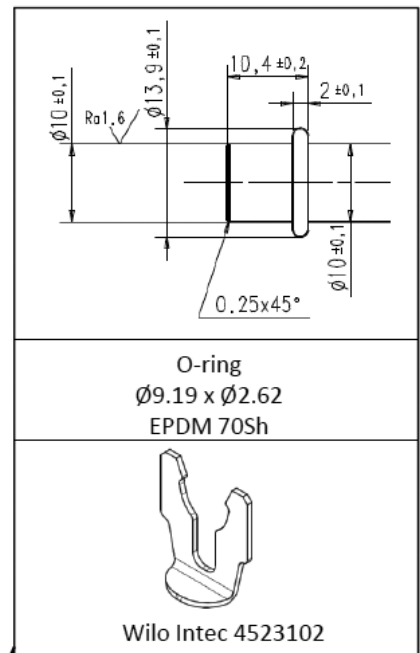
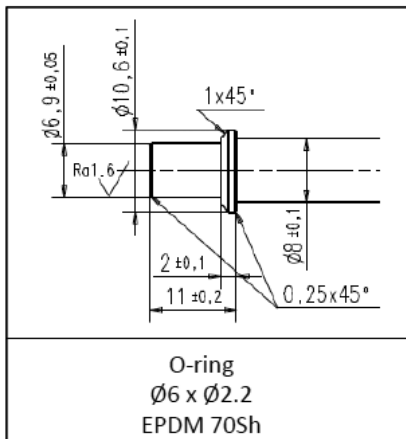
Wilo-Yonos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	—	—	l_0	$L1$	m
				mm	kg
BSL 12/7.0 PWM	Rp 1/2	G 3/4	116	45.5	1.2

Heating and cooling

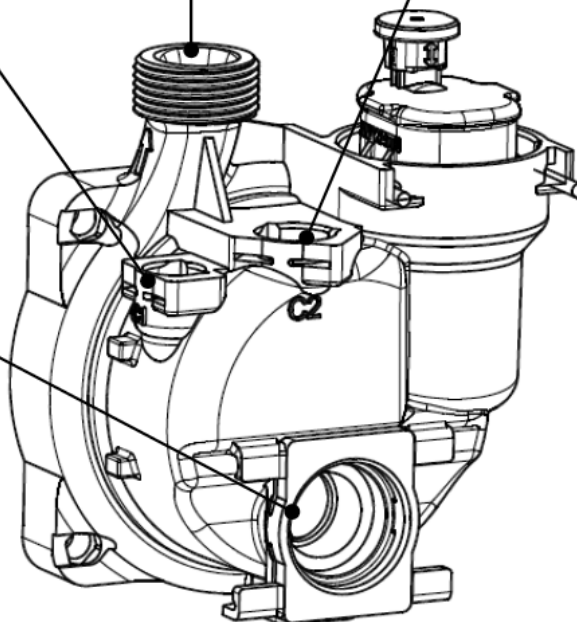
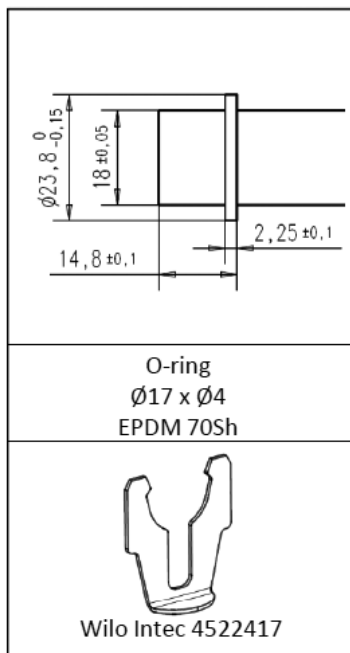
High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA BSL 12/7.0 PWM1

Dimension drawing



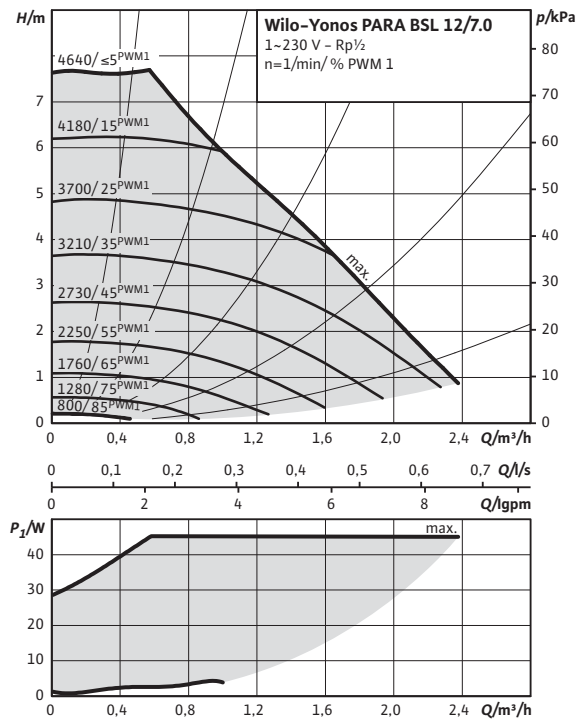
For threaded
 Nut G3/4" Maximal torque 25Nm
 Screwed on minimal 4 threads



Pump curves Wilo-Yonos PARA BSL 12/7.0 PWM1

Wilo-Yonos PARA BSL 12/7.0

External control via PWM 1



Heating and cooling

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HPS 25/7.0 PWM1

Front view



Rear view



Motor data

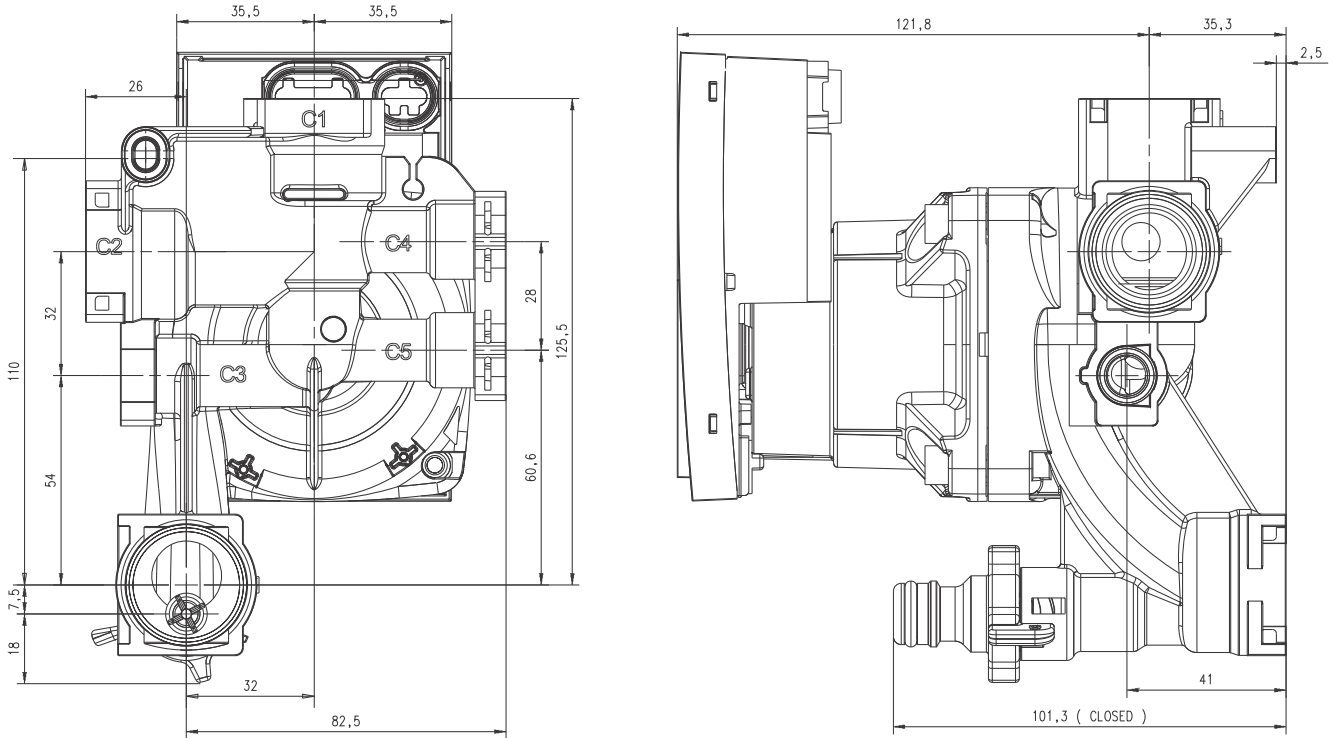
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	<i>n</i>	<i>P₁</i>	<i>I</i>	–
	rpm	W	A	–
HPS 25/7.0 PWM1	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
HPS 25/7.0 PWM1	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA HPS 25/7.0 PWM1

Dimension drawing



Dimensions, weights

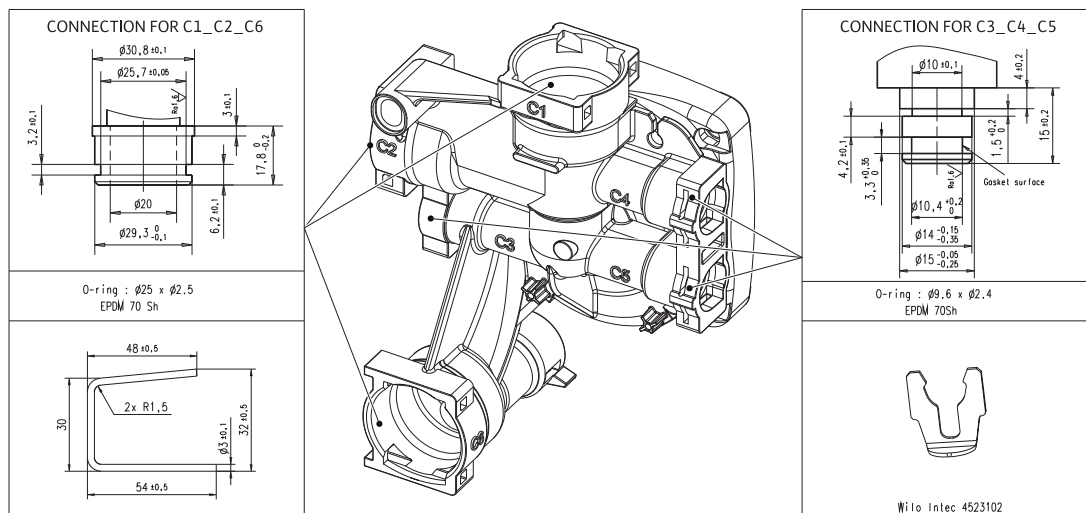
Wilo-Yonos PARA... **Weight approx.**

m

kg

HPS 25/7.0 PWM1 **1.8**

Dimension drawing



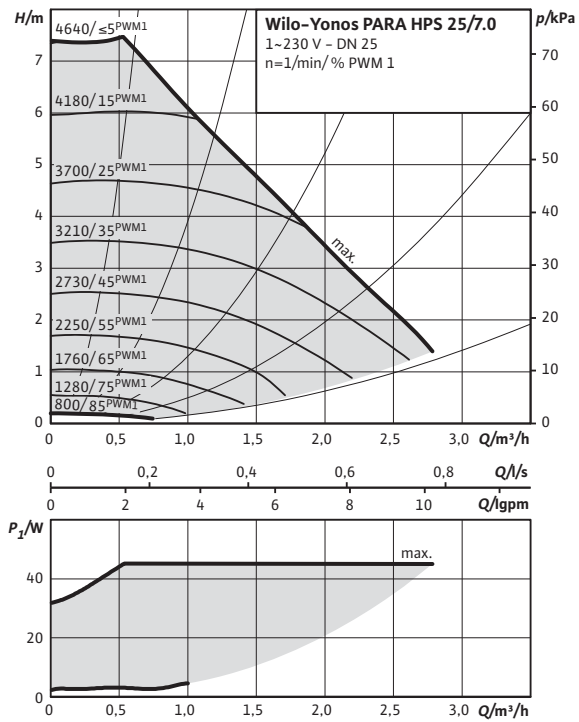
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA HPS 25/7.0 PWM1

Wilo-Yonos PARA HPS 25/7.0

External control via PWM 1



Dimensions, motor data Wilo-Yonos PARA TWP/7.0 PWM1

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
TWP/7.0 PWM1	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

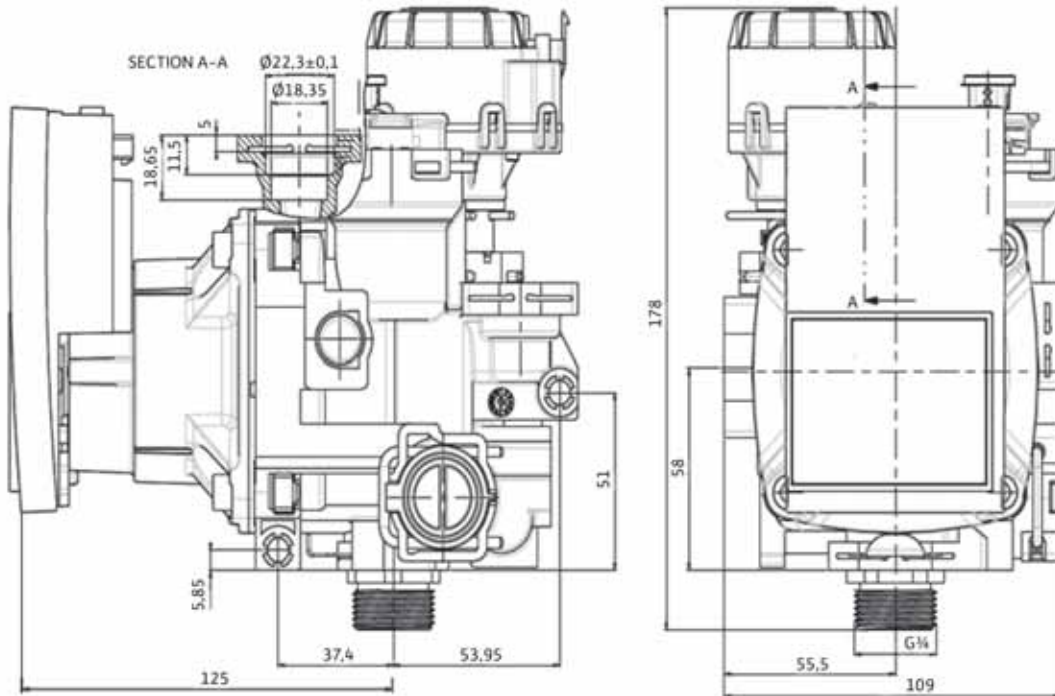
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
TWP/7.0 PWM1	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA TWP/7.0 PWM1

Dimension drawing



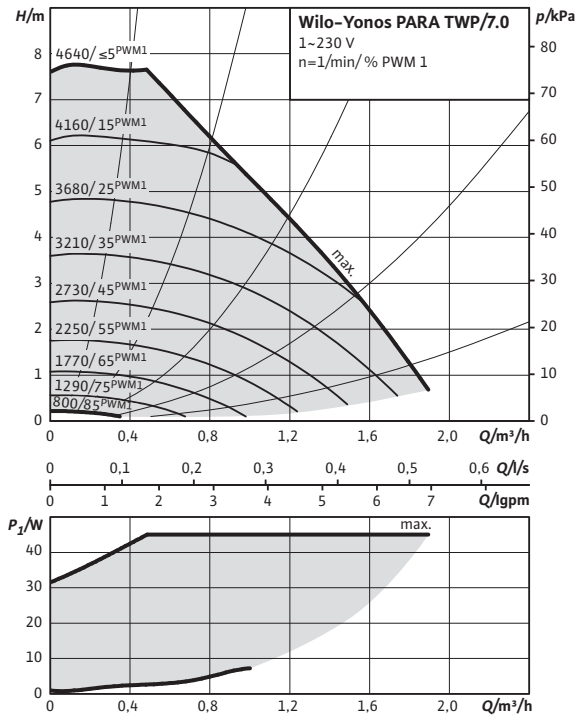
Dimensions, weights

Wilo-Yonos PARA...	Weight approx.
	<i>m</i>
	kg
TWP/7.0 PWM1	1.8

Pump curves Wilo-Yonos PARA TWP/7.0 PWM1

Wilo-Yonos PARA TWP/7.0

External control via PWM 1



Heating and cooling

High-efficiency pumps

Series description Wilo-Yonos PARA .../7.5



Design

Glandless circulation pump with a cast iron pump housing and threaded connection or with specific composite pump housing. EC motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology or remote control via external PWM signal. Equipped with LED user interface.

Application

Hot-water heating systems of all kinds, cooling applications

Type key

Example: **Yonos PARA RS 15/7.5 RKA C 130 12**

- Yonos** Electronically controlled high-efficiency pump
- PARA** pump range adapted to requirements of the OEM market
- RS** Heating inline cast iron pump housing
 - RS** Standard cast iron pump housing
 - RSTG** Hybrid pump with cast iron pump housing - for all application RS, ST & GT
 - RS KU** Composite inline pump housing
 - KSL** Composite OEM pump housing
 - RSL KU** Composite inline pump housing with venting
 - MSL** Composite OEM pump housing
 - NFSL** Composite OEM pump housing
 - HU15** Hydraulic unit
 - HU25** Hydraulic unit
 - HPS** Composite OEM pump housing

15/ Nominal diameter:

- 12** threading ¾"
- 15** threading 1"
- 20** threading 1¼"
- 25** threading 1 ½"
- 30** threading 2"

7.5 Nominal delivery head range [m]

RKA The pump is controlled by Red Knob technology:

RKA = $\Delta p-v / \Delta p-c$

or

RKC = $\Delta p-v / \text{constant speed I, II, III}$

or

PWM1 = the pump is controlled by an external system via PWM1 signal

or

PWM2 = the pump is controlled by an external system via PWM2 signal

- C** Integrated Molex 3-way connector
- 130** Pump housing length: 110 mm, 130 mm or 180 mm
- 12** Electronic box orientation

Technical data	
Approved fluids (other fluids on request)	
Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•
Power	
Energy efficiency index (EEI)	≤ 0.21
Max. delivery head	7.6 m
Max. volume flow	4.0 m ³ /h
Permitted field of application	
Temperature range at max. ambient temperature	of 58°C = 0 to 100°C of 62°C = 0 to 90°C of 66°C = 0 to 80°C of 71°C = 0 to 70°C
Maximum static pressure	6 bar (10 bar for RSTG)
Electrical connection	
Mains connection	1~230 V, 50/60 Hz
Motor/electronics	
Electromagnetic compatibility	EN 61800-3
Emitted interference	EN 61000-6-3 EN 61000-6-4
Interference resistance	EN 61000-6-2 EN 61000-6-1
Speed control	Frequency converter
Protection class	IP X4D
Insulation class	F
Minimum suction head at suction port for avoiding cavitation at water pumping temperature	
Minimum suction head at 50 / 95 °C	0.5 / 4.5 m

• = available, - = not available

Dimensions, motor data Wilo-Yonos PARA RS ...7.5 Red Knob/PWM1

Front view



Rear view

Overall length 110 mm



Rear view

Overall length 130 mm



Rear view

Overall length 180 mm



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	—
	rpm	W	A	—
RS .../7.5 RKA/RKC/PWM	800 - 4770	4-75	0.04 - 0.66	integrated

Materials

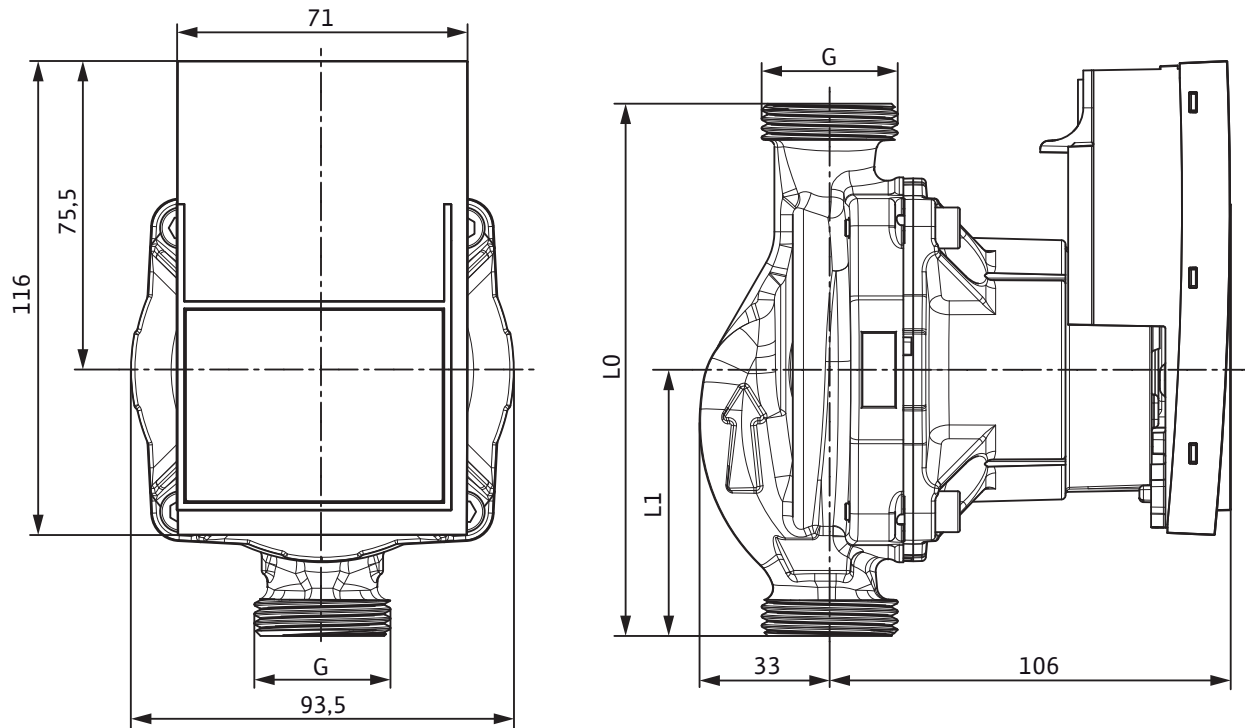
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RS .../7.5 RKA/RKC/PWM	Cast iron with cataphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RS ...7.5 Red Knob/PWM1

Dimension drawing



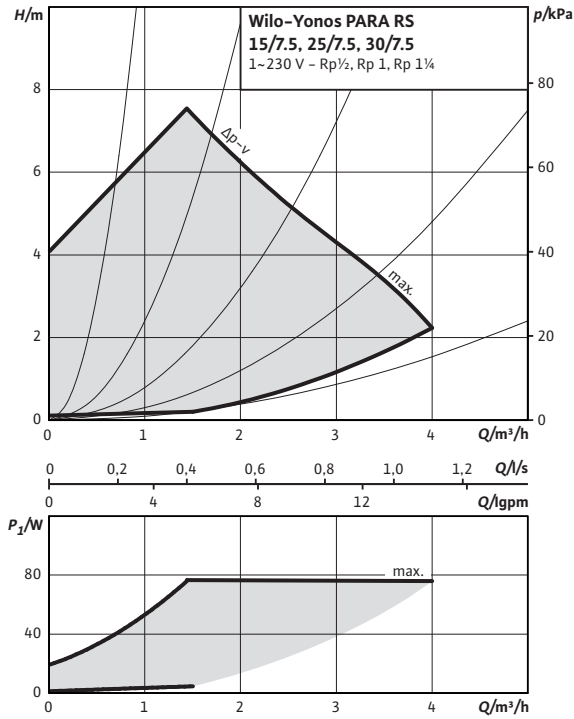
Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
			l_0	$L1$	m
			mm		kg
RS 15/7.5 RKA/RKC/PWM	Rp ½	G 1	110	65	1.7
RS 15/7.5 RKA/RKC/PWM	Rp ½	G 1	130	65	1.8
RS 25/7.5 RKA/RKC/PWM	Rp 1	G 1½	130	65	1.9
RS 25/7.5 RKA/RKC/PWM	Rp 1	G 1½	180	90	2.1
RS 30/7.5 RKA/RKC/PWM	Rp 1¼	G 2	180	90	2.2

Pump curves Wilo-Yonos PARA RS ...7.5 Red Knob/PWM1

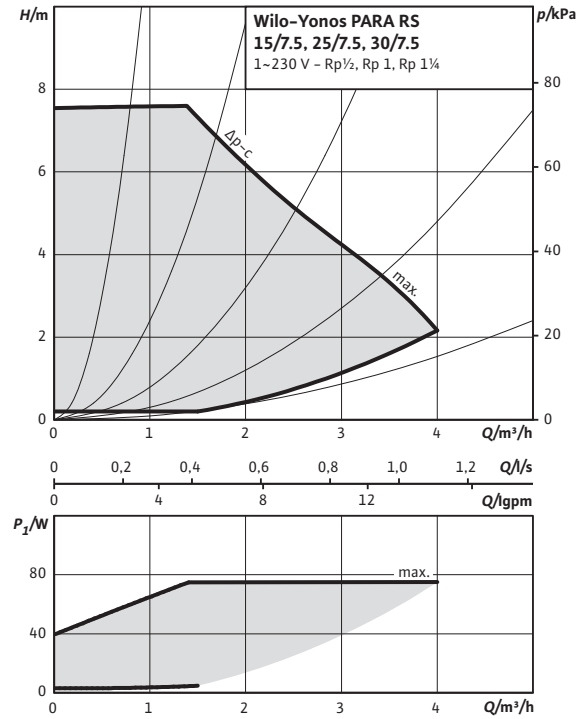
Wilo-Yonos PARA RS 15/7.5, 25/7.5, 30/7.5

$\Delta p-v$ (variable)



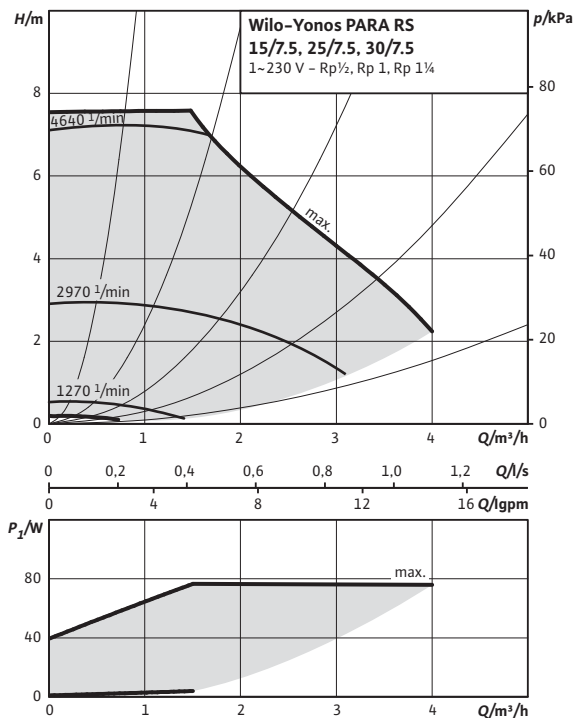
Wilo-Yonos PARA RS 15/7.5, 25/7.5, 30/7.5

$\Delta p-c$ (constant)



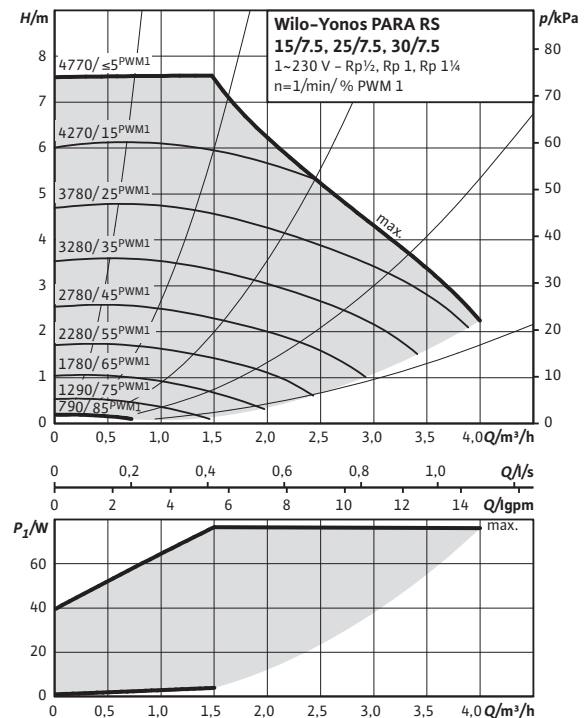
Wilo-Yonos PARA RS 15/7.5, 25/7.5, 30/7.5

Constant speed I,II,III



Wilo-Yonos PARA RS 15/7.5, 25/7.5, 30/7.5

External control via PWM 1



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RS 15/7.5, 20/7.5, 25/7.5 KU

Front view



Rear view



Motor data

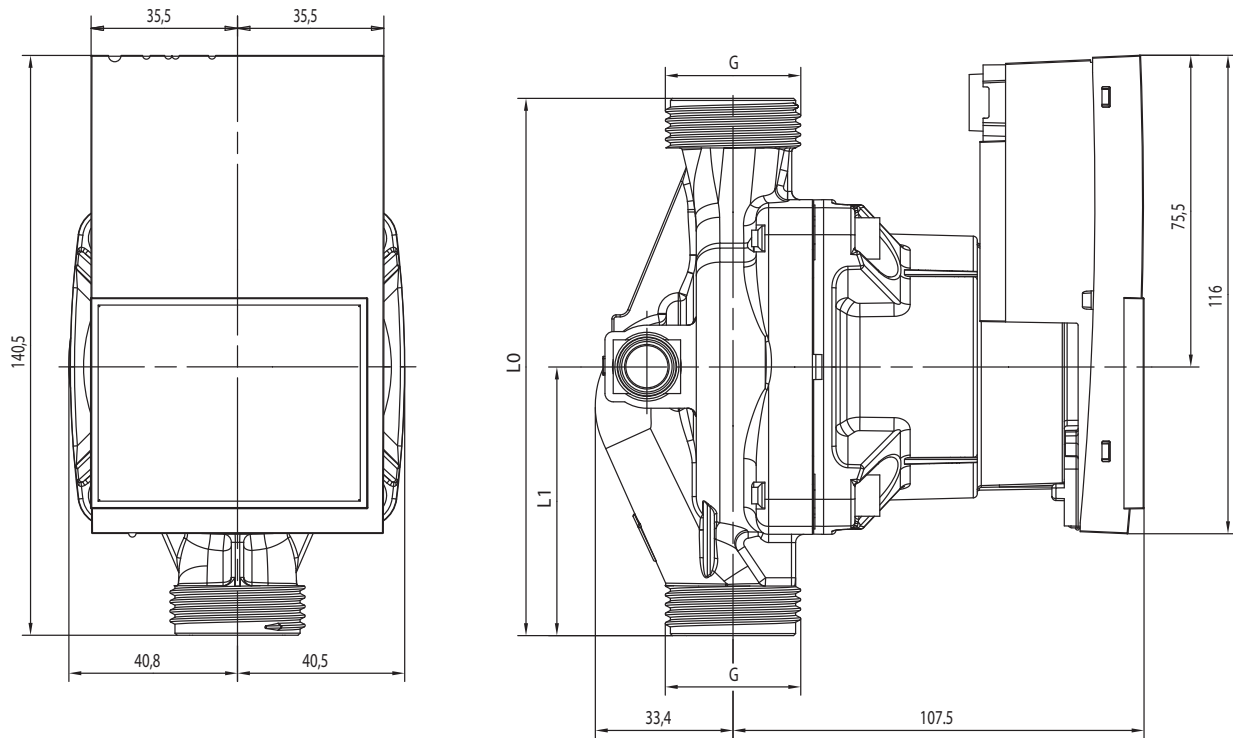
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
RS .../7.5 RKA/RKC/PWM KU	800 - 4770	4-75	0.04 - 0.66	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RS .../7.5 RKA/RKC/PWM KU	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA RS 15/7.5, 20/7.5, 25/7.5 KU

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	—		l_0	$L1$	m
	—			mm	kg
RS KU 15/7.5 RKA/RKC/PWM KU	Rp ½	G 1	130	65	1.2
RS KU 20/7.5 RKA/RKC/PWM KU	Rp ¾	G 1¼	130	65	1.2
RS KU 25/7.5 RKA/RKC/PWM KU	Rp 1	G 1½	130	65	1.2

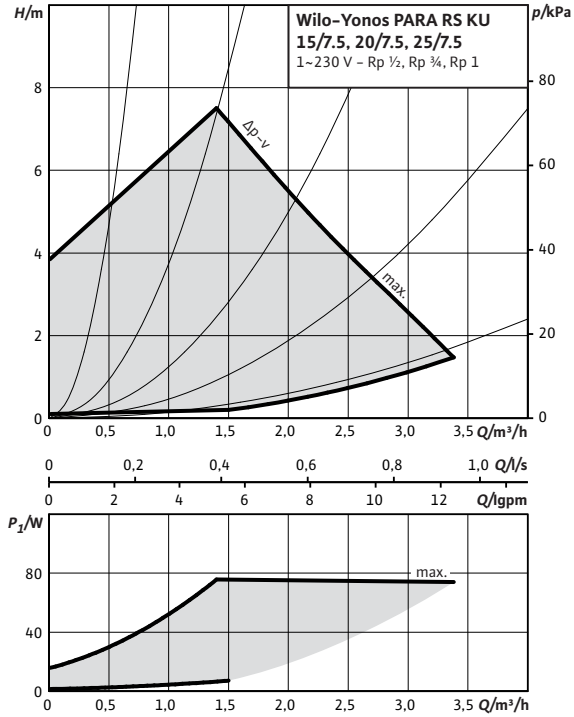
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA RS 15/7.5, 20/7.5, 25/7.5 KU

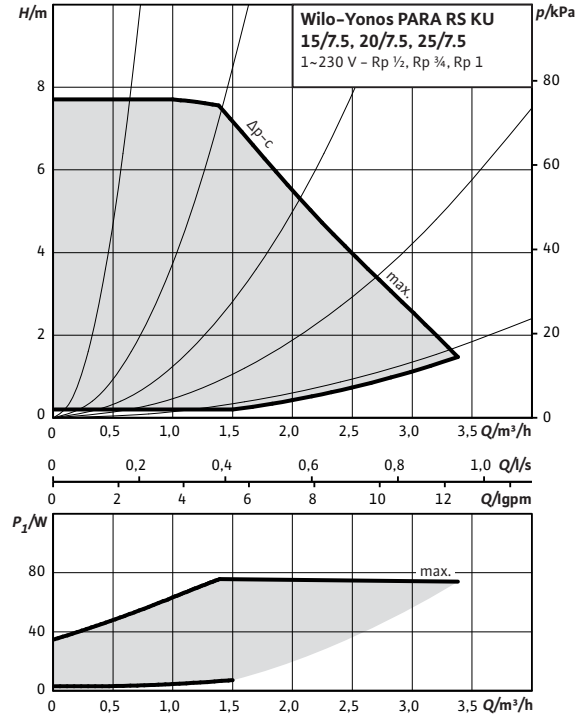
Wilo-Yonos PARA RS 15/7.5, 20/7.5, 25/7.5 KU

$\Delta p-v$ (variable)



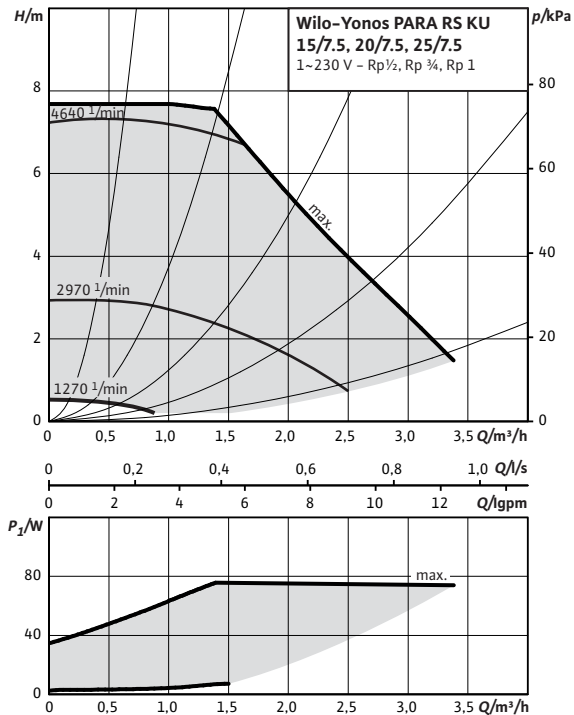
Wilo-Yonos PARA RS 15/7.5, 20/7.5, 25/7.5 KU

$\Delta p-c$ (constant)



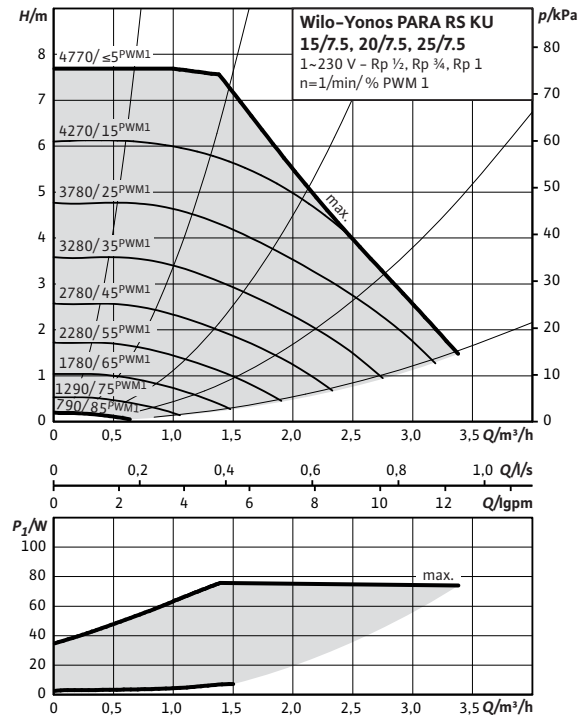
Wilo-Yonos PARA RS 15/7.5, 20/7.5, 25/7.5 KU

Constant speed I,II,III



Wilo-Yonos PARA RS 15/7.5, 20/7.5, 25/7.5 KU

External control via PWM 1



Dimensions, motor data Wilo-Yonos PARA KSL 15/7.5 Red Knob/PWM1



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
KSL 15/7.5 Red Knob	800 - 4770	4-75	0.04 - 0.60	integrated

Materials

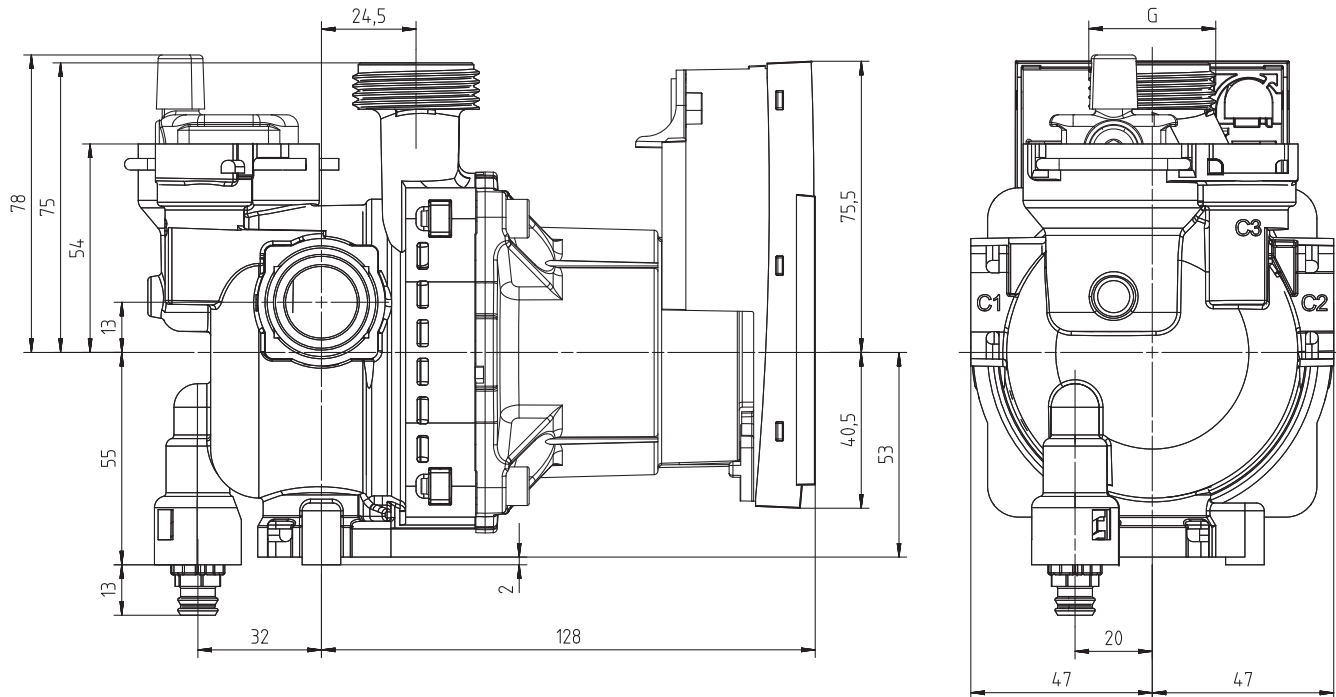
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
KSL 15/7.5 Red Knob	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA KSL 15/7.5 Red Knob/PWM1

Dimension drawing

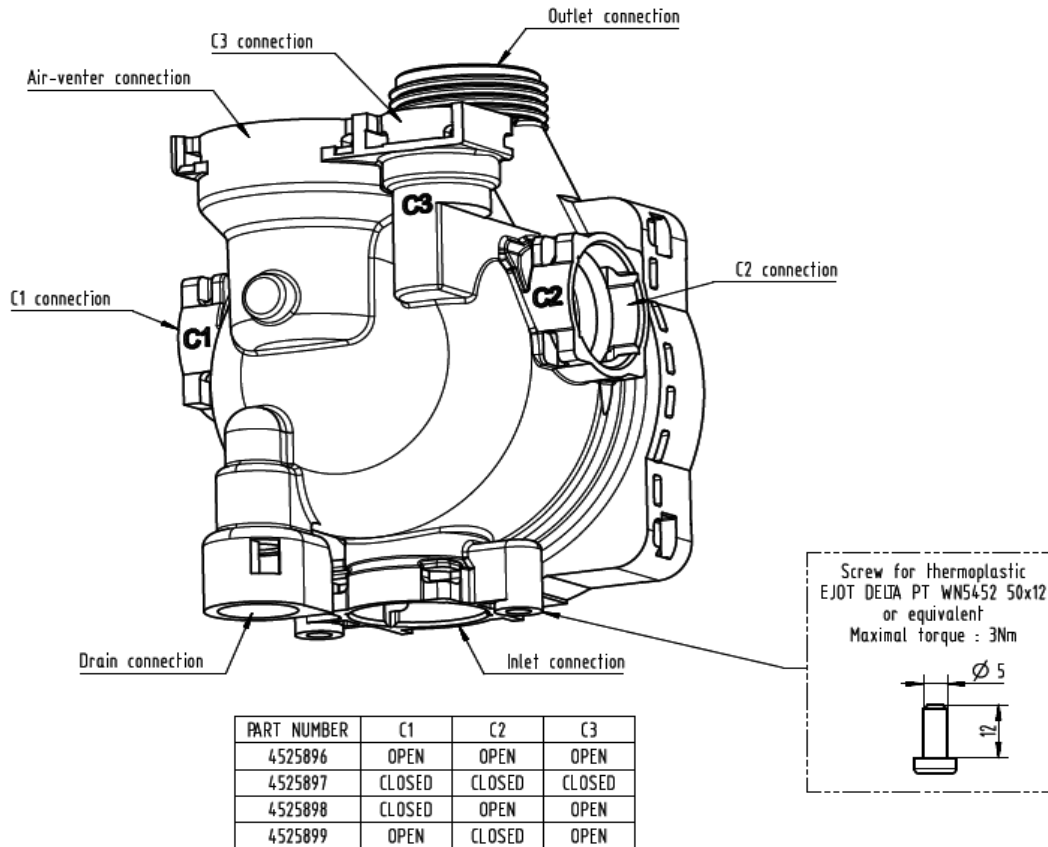


Dimensions, weights

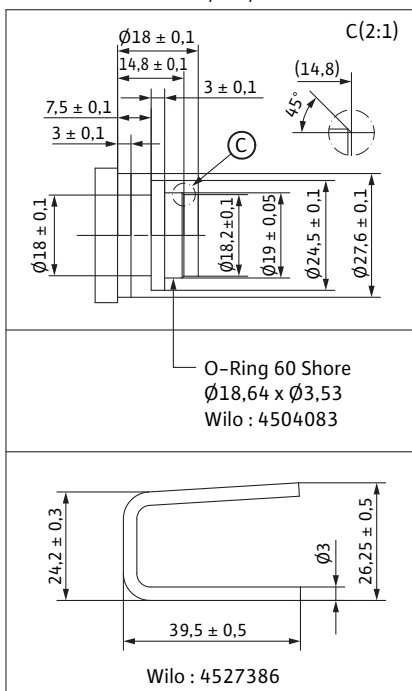
Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		-	<i>m</i>
		-	kg
KSL 15/7.5 Red Knob	Rp 1/2	G1	1.2

Dimensions, motor data Wilo-Yonos PARA KSL 15/7.5 Red Knob/PWM1

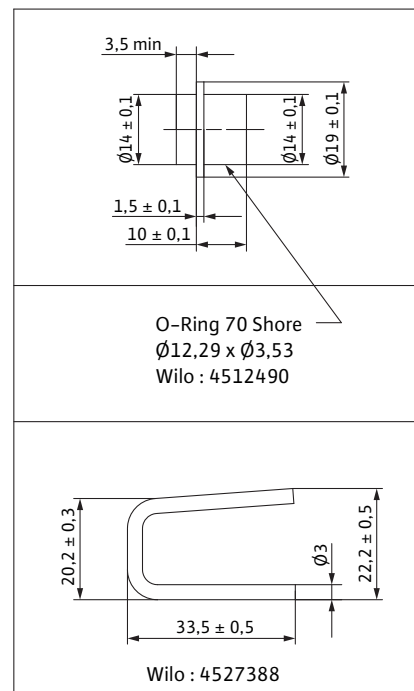
Connecion drawing



KSL - C1 / C2 / INLET



KSL - C3



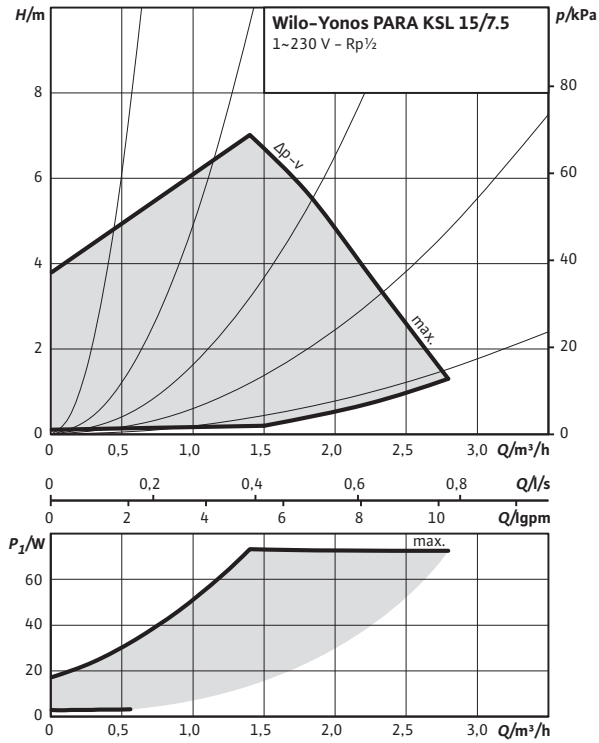
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA KSL 15/7.5 Red Knob/PWM1

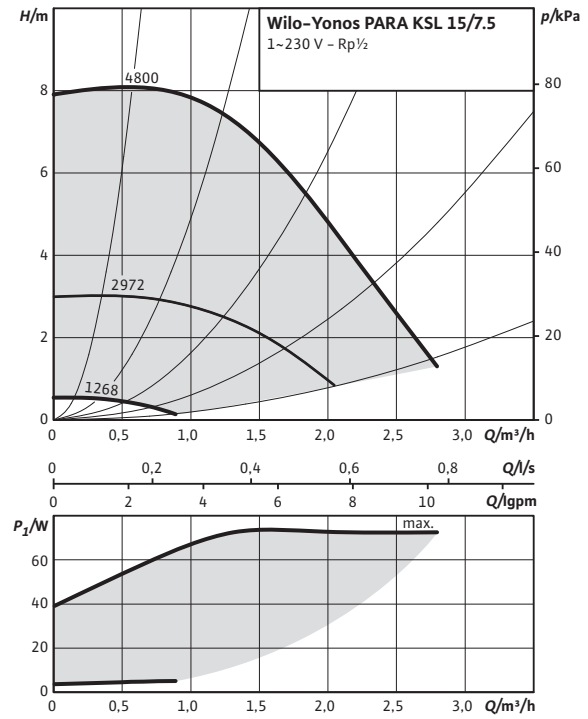
Wilo-Yonos PARA KSL 15/7.5

Δp-v (variable)



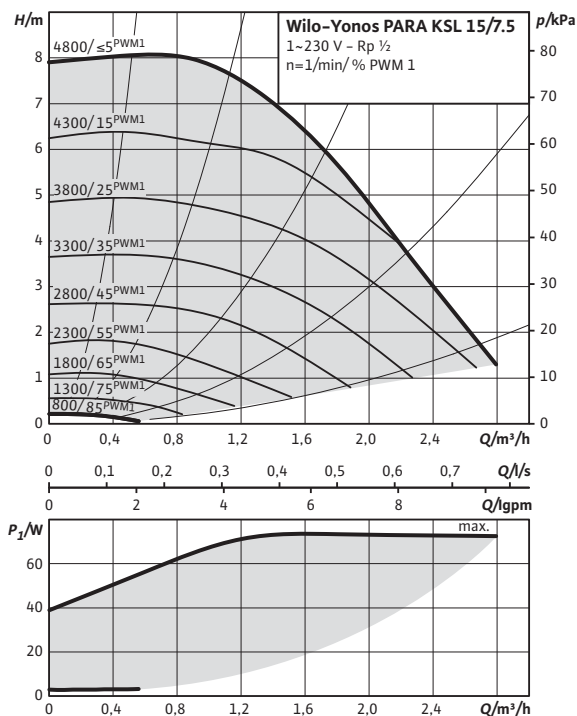
Wilo-Yonos PARA KSL 15/7.5

Constant speed I,II,III



Wilo-Yonos PARA KSL 15/7.5

External control via PWM 1



Dimensions, motor data Wilo-Yonos PARA RSL 15/7.5 Red Knob/PWM1 KU

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
RSL 15/7.5 RKC/PWM	800 - 4770	4-75	0.04 - 0.60	integrated

Materials

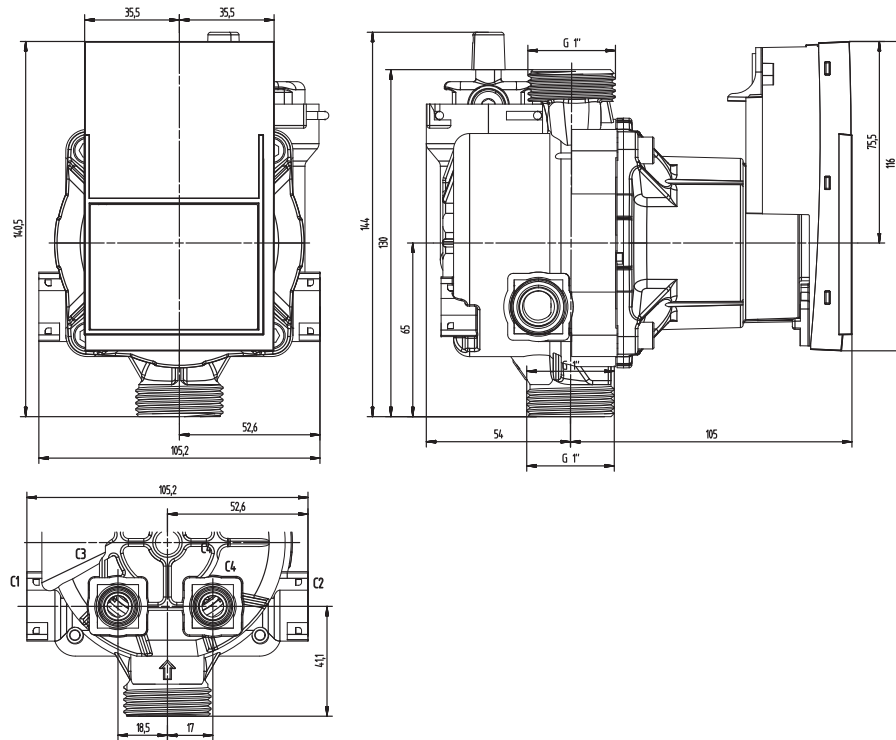
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RSL 15/7.5 RKC/PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RSL 15/7.5 Red Knob/PWM1 KU

Dimension drawing



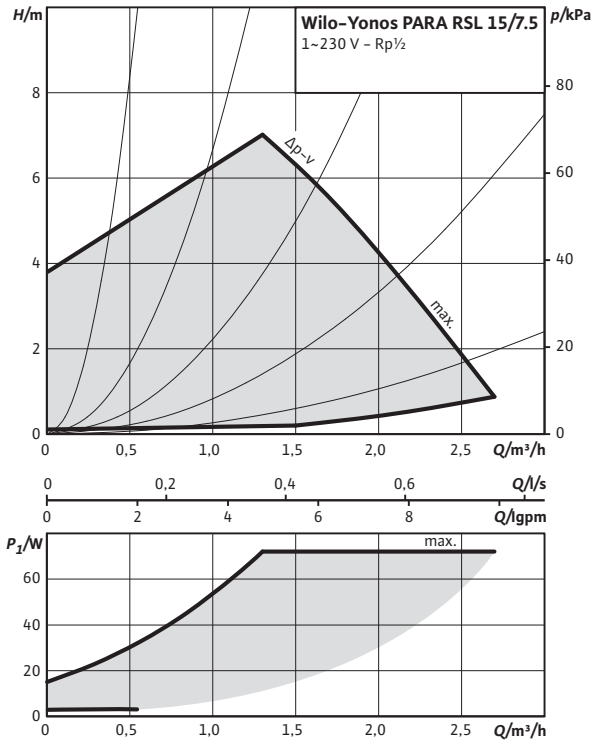
Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		—	<i>m</i>
		—	kg
RSL 15/7.5 RKC/PWM	Rp 1/2	G 1	1.9

Pump curves Wilo-Yonos PARA RSL 15/7.5 Red Knob/PWM1 KU

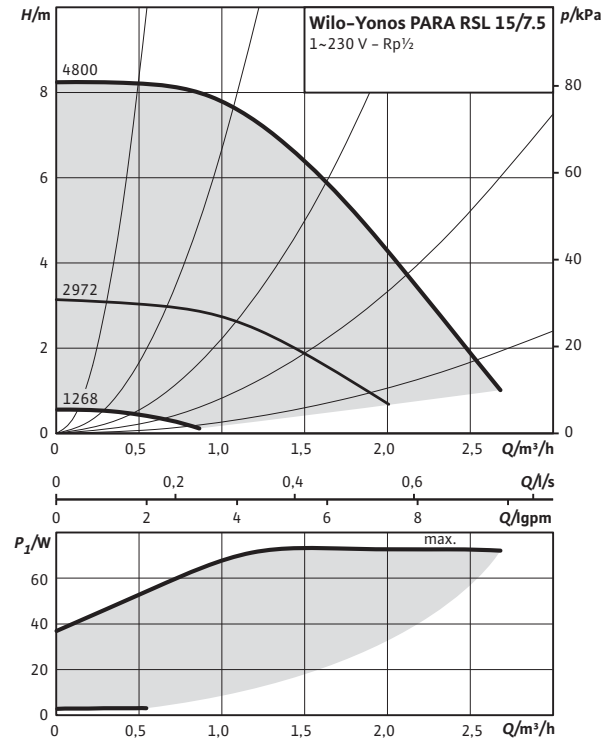
Wilo-Yonos PARA RSL 15/7.5

$\Delta p-v$ (variable)



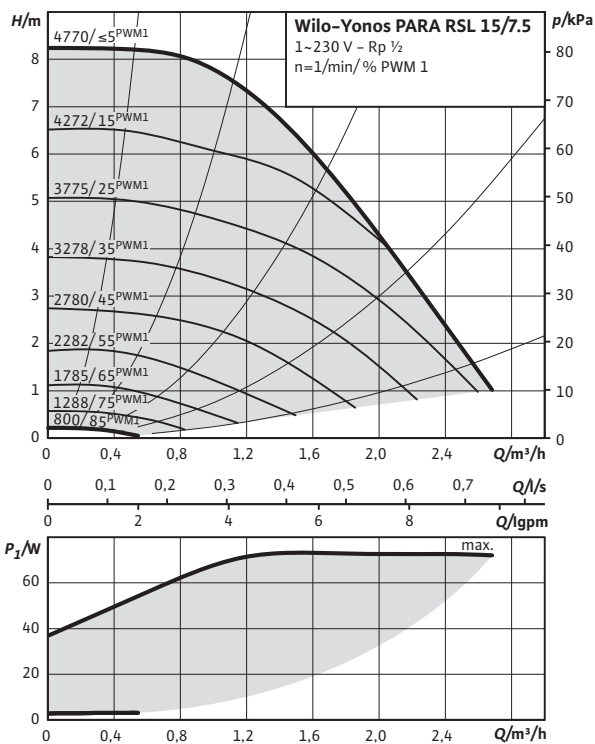
Wilo-Yonos PARA RSL 15/7.5

Constant speed I,II,III



Wilo-Yonos PARA RSL 15/7.5

External control via PWM 1



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA MSL 12/7.5 Red Knob/PWM1

Front view



Rear view



Motor data

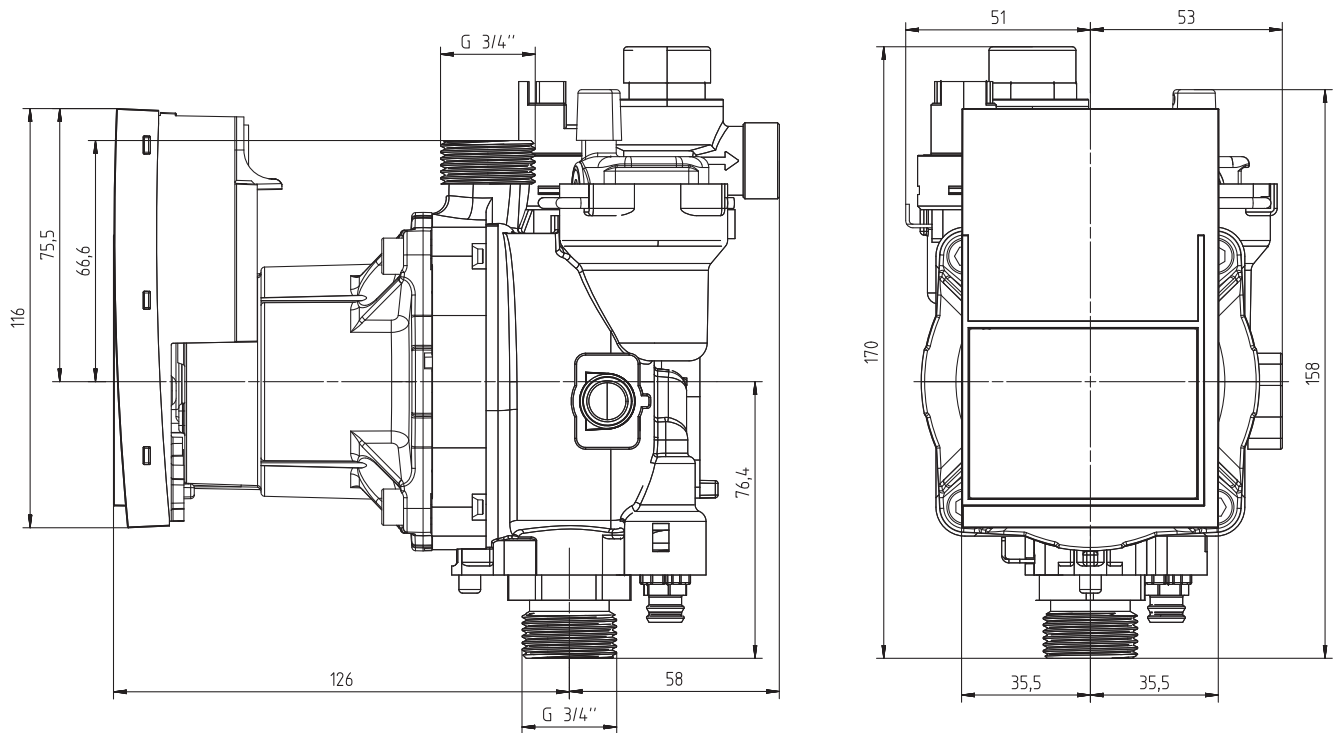
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
MSL 12/7.5 RKC/PWM	800 - 4770	4-75	0.04 - 0.60	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
MSL 12/7.5 RKC/PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA MSL 12/7.5 Red Knob/PWM1

Dimension drawing



Dimensions, weights

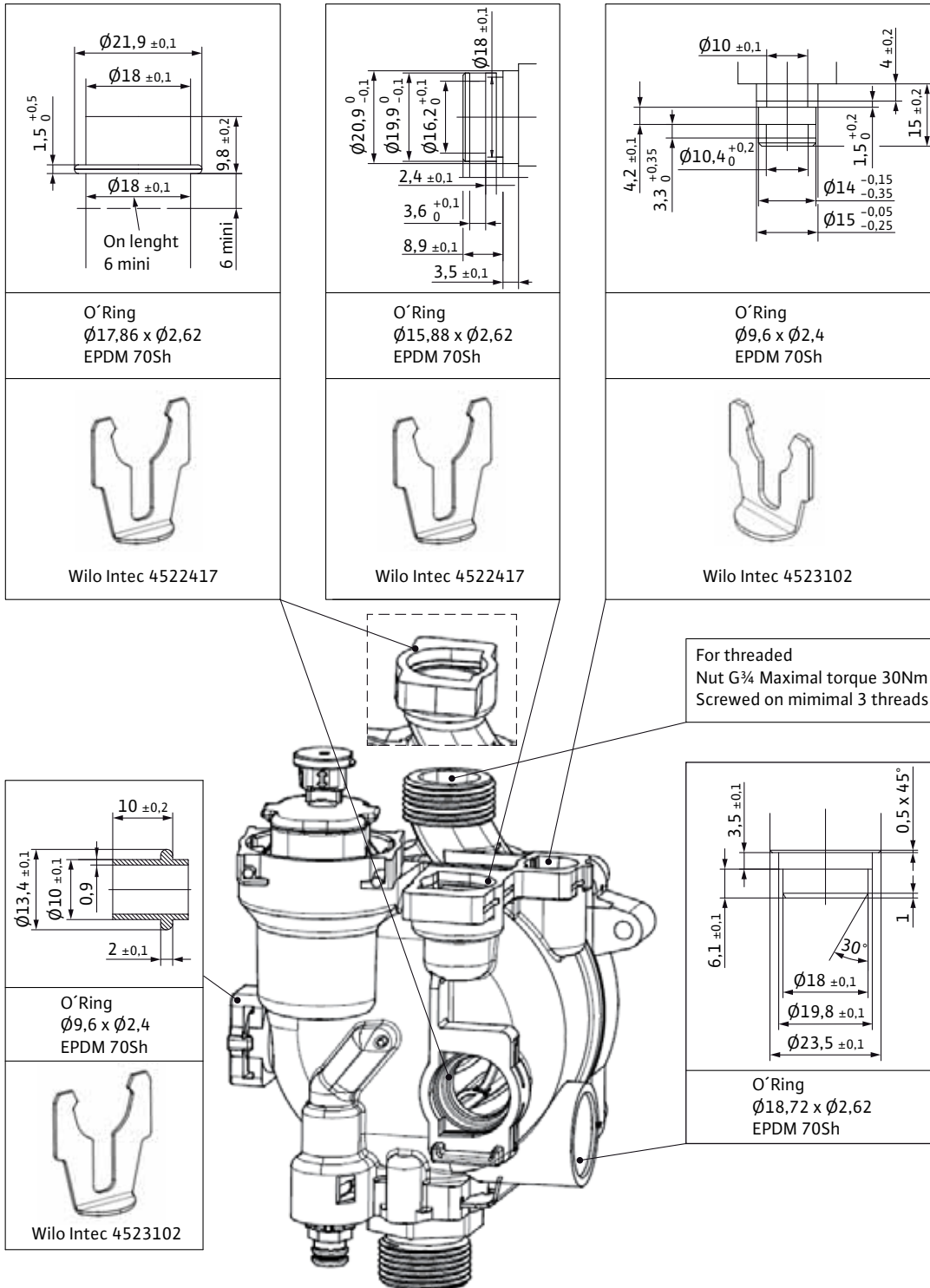
Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		–	<i>m</i>
		–	kg
MSL 12/7.5 RKC/PWM	Rp 1/2	G 3/4	1.3

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA MSL 12/7.5 Red Knob/PWM1

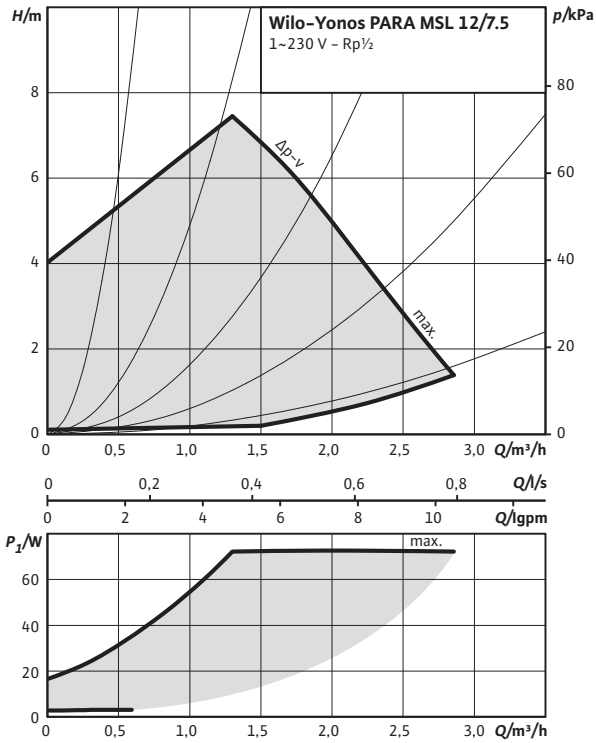
Dimension drawing



Pump curves Wilo-Yonos PARA MSL 12/7.5 Red Knob/PWM1

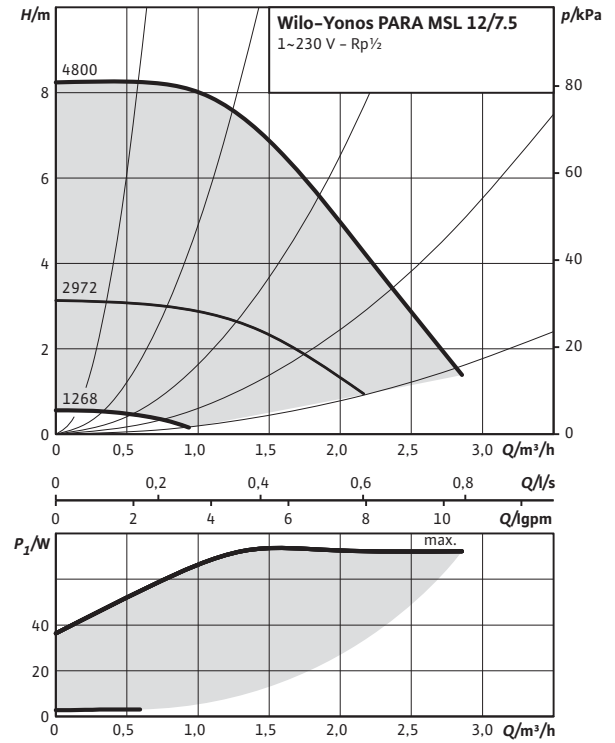
Wilo-Yonos PARA MSL 15/7.5

$\Delta p-v$ (variable)



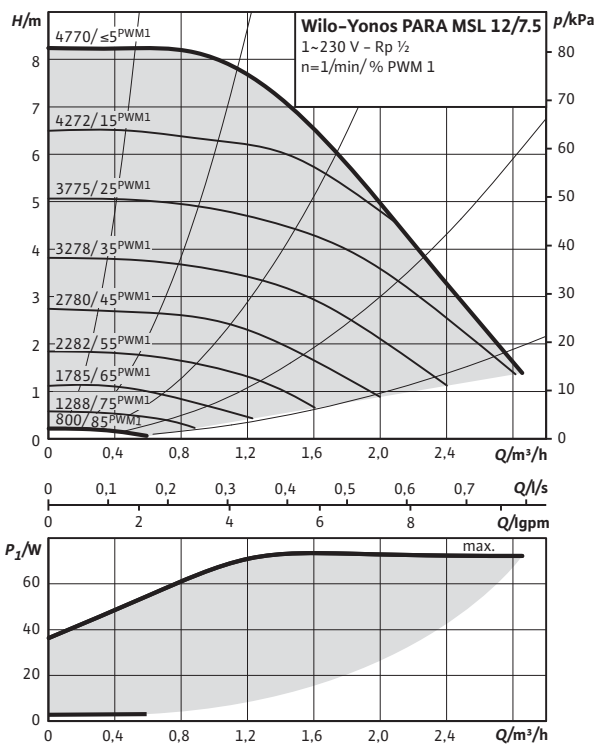
Wilo-Yonos PARA MSL 15/7.5

Constant speed I,II,III



Wilo-Yonos PARA MSL 15/7.5

External control via PWM 1



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA NFSL 12/7.5 Red Knob/PWM1

Front view



Rear view



Motor data

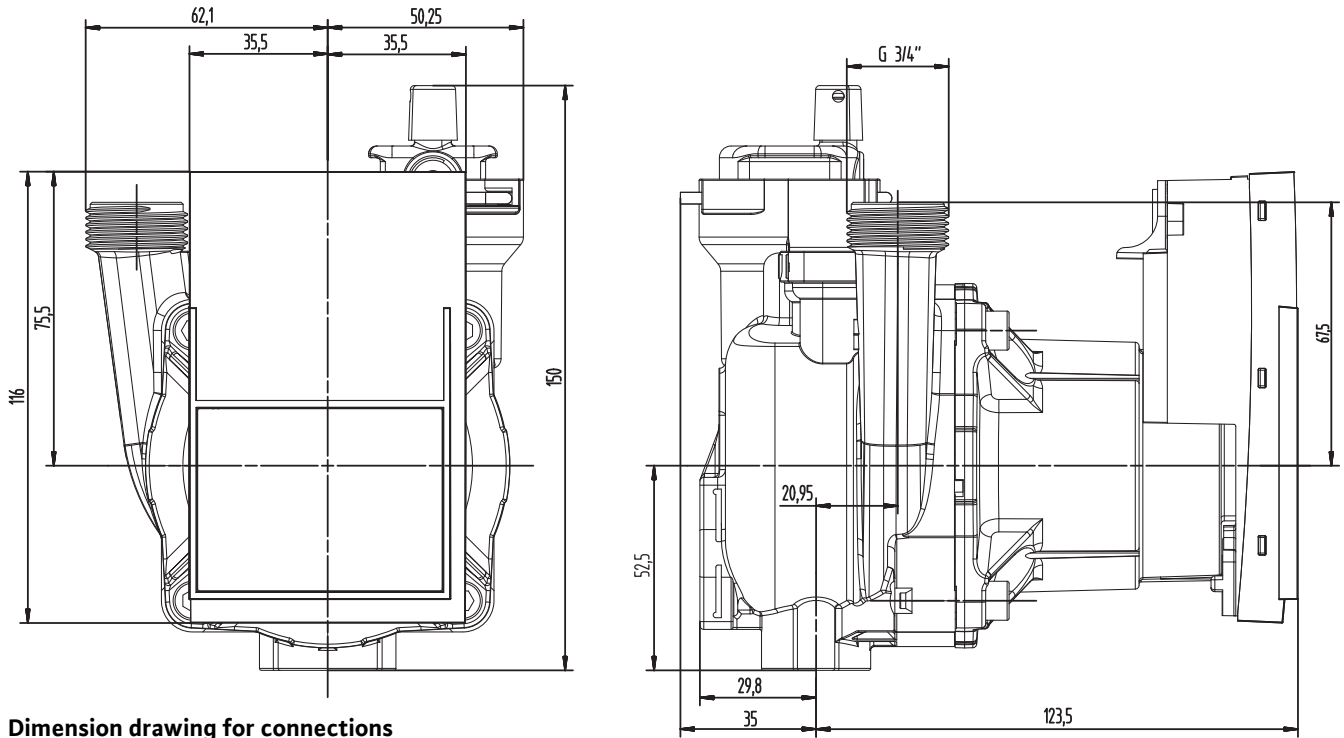
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
NFSL 12/7.5 RKC/PWM	800 - 4770	4-75	0.04 - 0.60	integrated

Materials

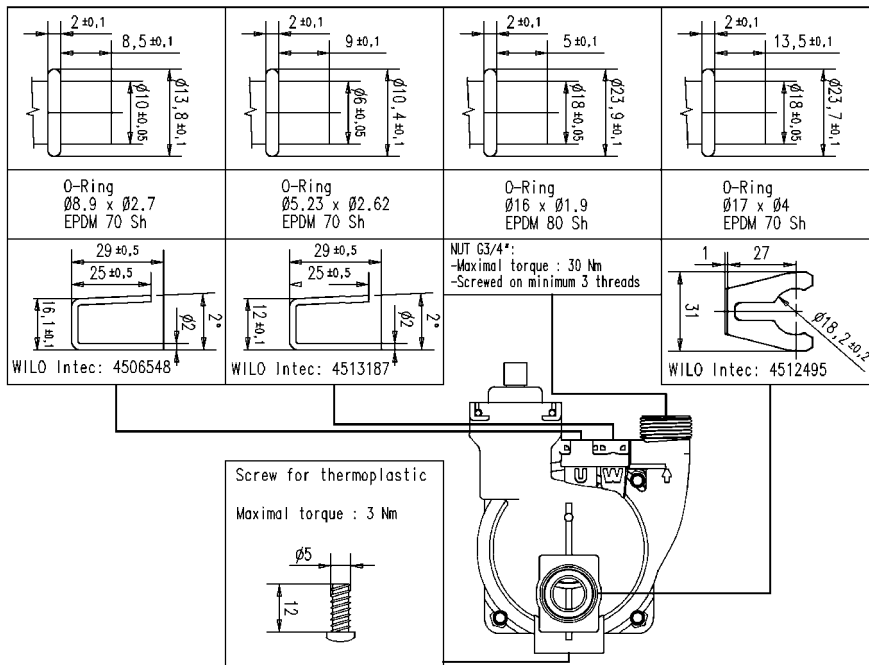
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
NFSL 12/7.5 RKC/PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA NFSL 12/7.5 Red Knob/PWM1

Dimension drawing



Dimension drawing for connections



Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Weight approx.
		-	m
		-	kg
NFSL 12/7.5 RKC/PWM	Rp ½	Rp ½	1.2

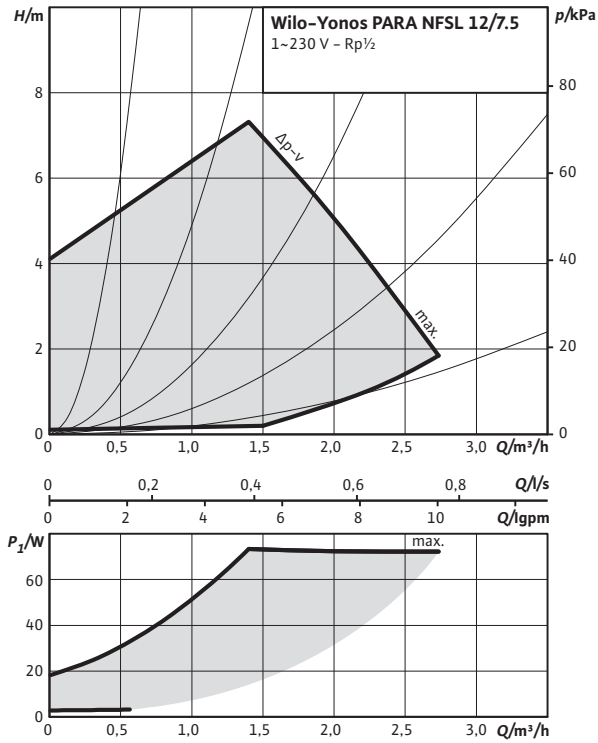
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA NFSL 12/7.5 Red Knob/PWM1

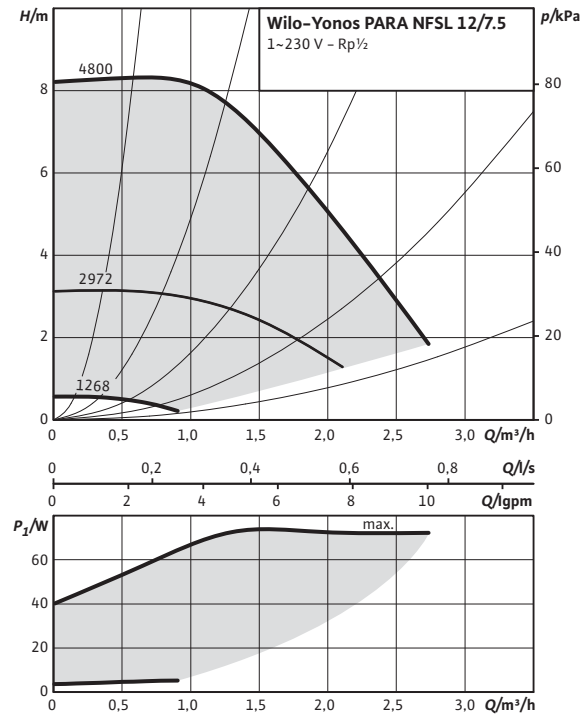
Wilo-Yonos PARA NFSL 12/7.5

$\Delta p-v$ (variable)



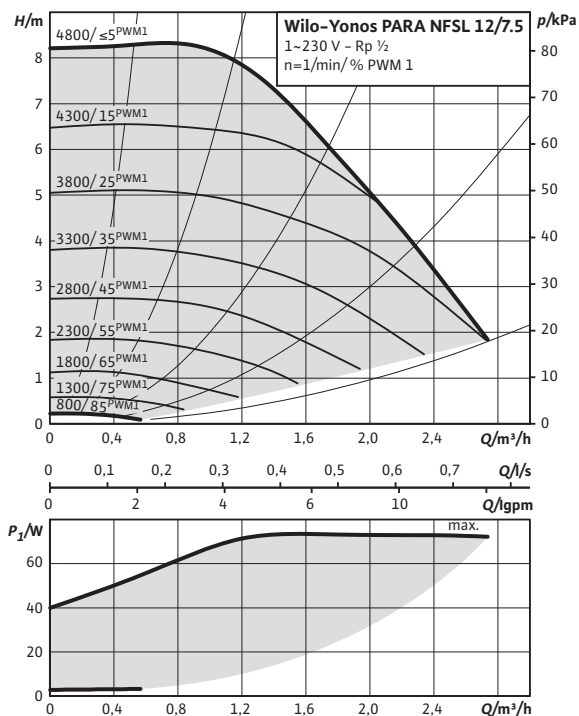
Wilo-Yonos PARA NFSL 12/7.5

Constant speed I,II,III



Wilo-Yonos PARA NFSL 12/7.5

External control via PWM 1



Dimensions, motor data Wilo-Yonos PARA HU 15/7.5 Red Knob/PWM1

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
HU 15/7.5 RKC/PWM	800 - 4770	4-75	0.04 - 0.60	integrated

Materials

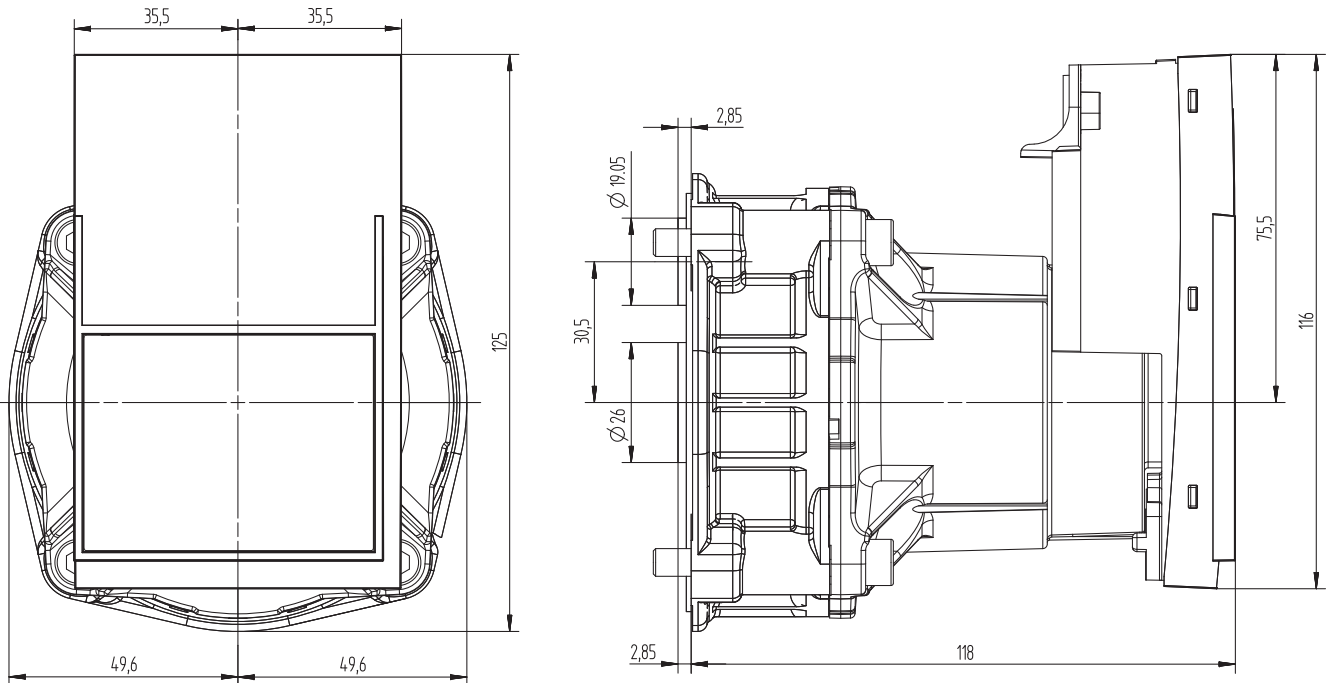
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
HU 15/7.5 RKC/PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HU 15/7.5 Red Knob/PWM1

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA... Weight approx.

m

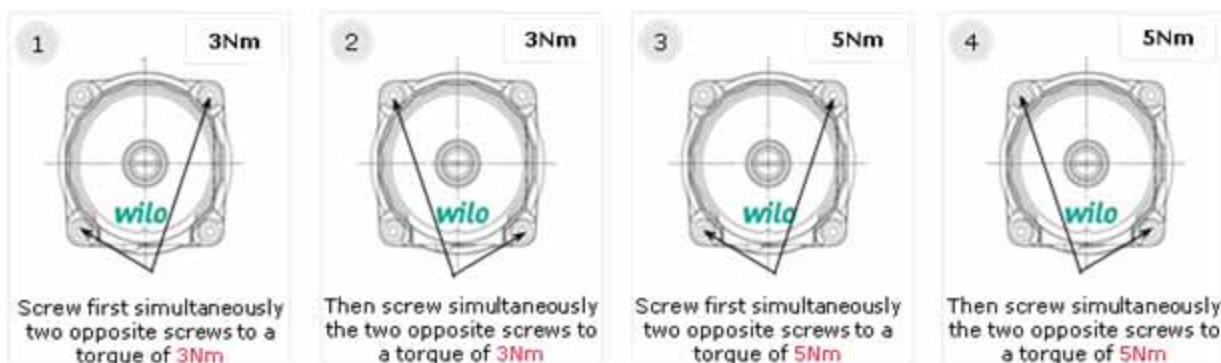
kg

HU 15/7.5 RKC/PWM 1

Screwing instructions

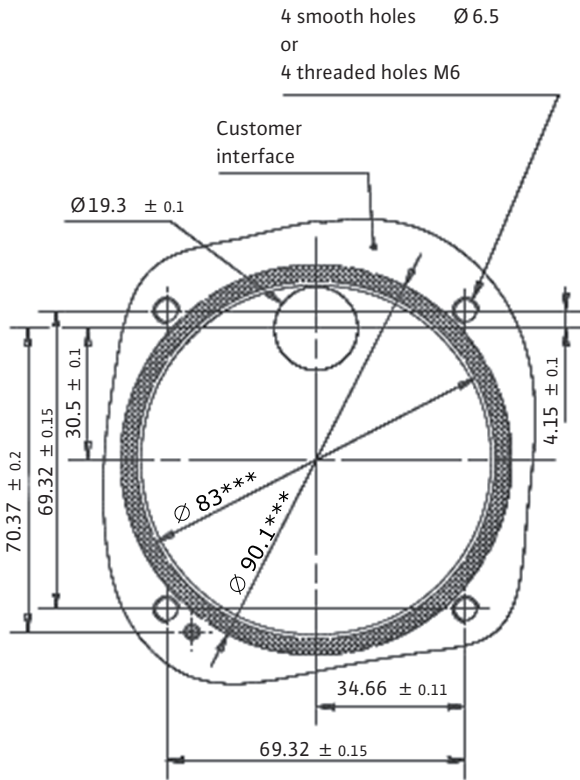
Water tightness of the circulator is guaranteed if:

- all its parts are correctly assembled
- the 4 screws are screwed according to the following instruction:

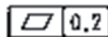


Dimensions, motor data Wilo-Yonos PARA HU 15/7.5 Red Knob/PWM1

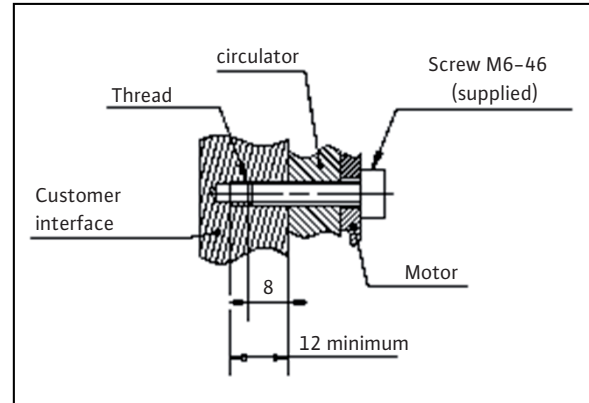
The HU15 Ku should only be used in this orientation with the pressure outlet at 12 o'clock.



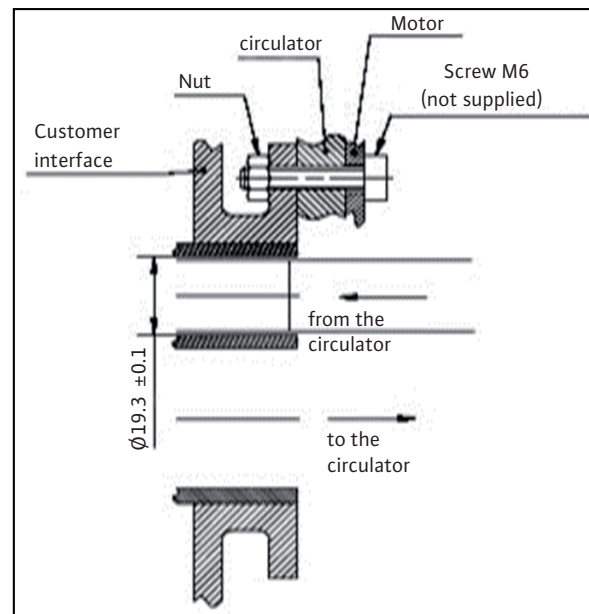
*** Zone with hatches
Referential B
Gasket compression surface



Zone without hatches
Beneath surface B



OR



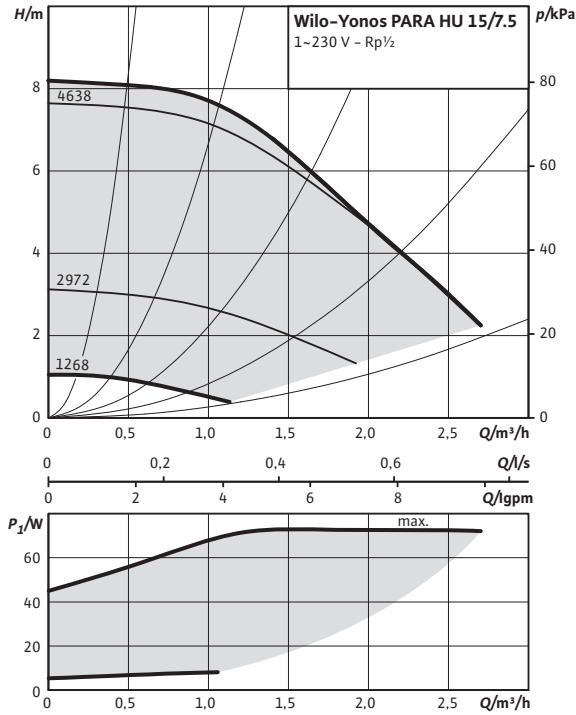
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA HU 15/7.5 Red Knob/PWM1

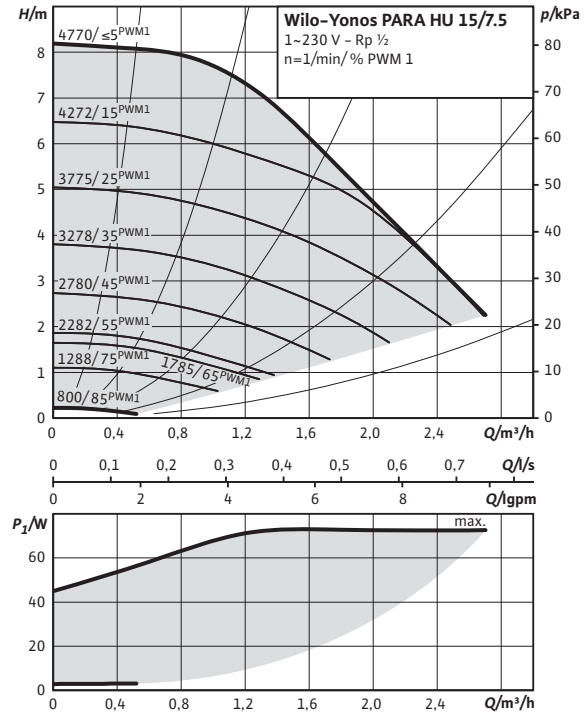
Wilo-Yonos PARA HU 15/7.5

Constant speed I,II,III



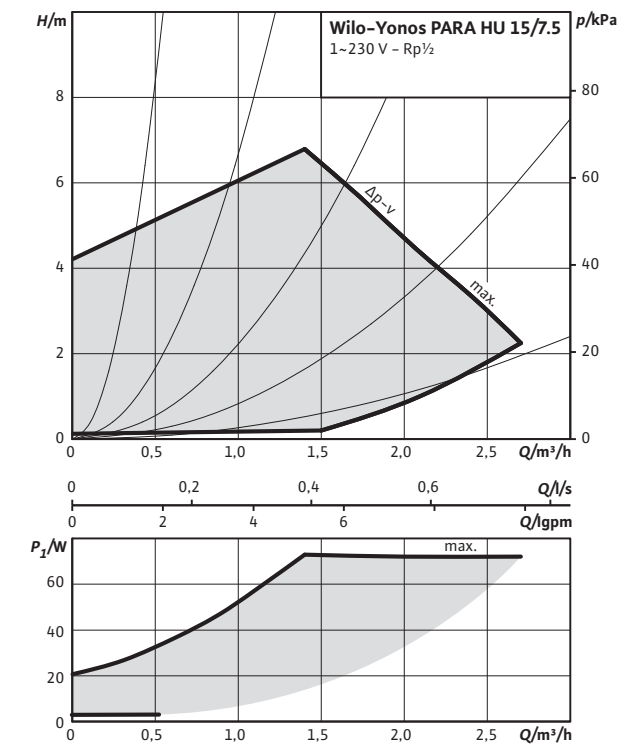
Wilo-Yonos PARA HU 15/7.5

External control via PWM 1



Wilo-Yonos PARA HU 15/7.5

Δp-v (variable)



Dimensions, motor data Wilo-Yonos PARA HU 25/7.5 Red Knob/PWM1

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
HU 25/7.5 RKC/PWM	800 - 4770	4-75	0.04-0.66	integrated

Materials

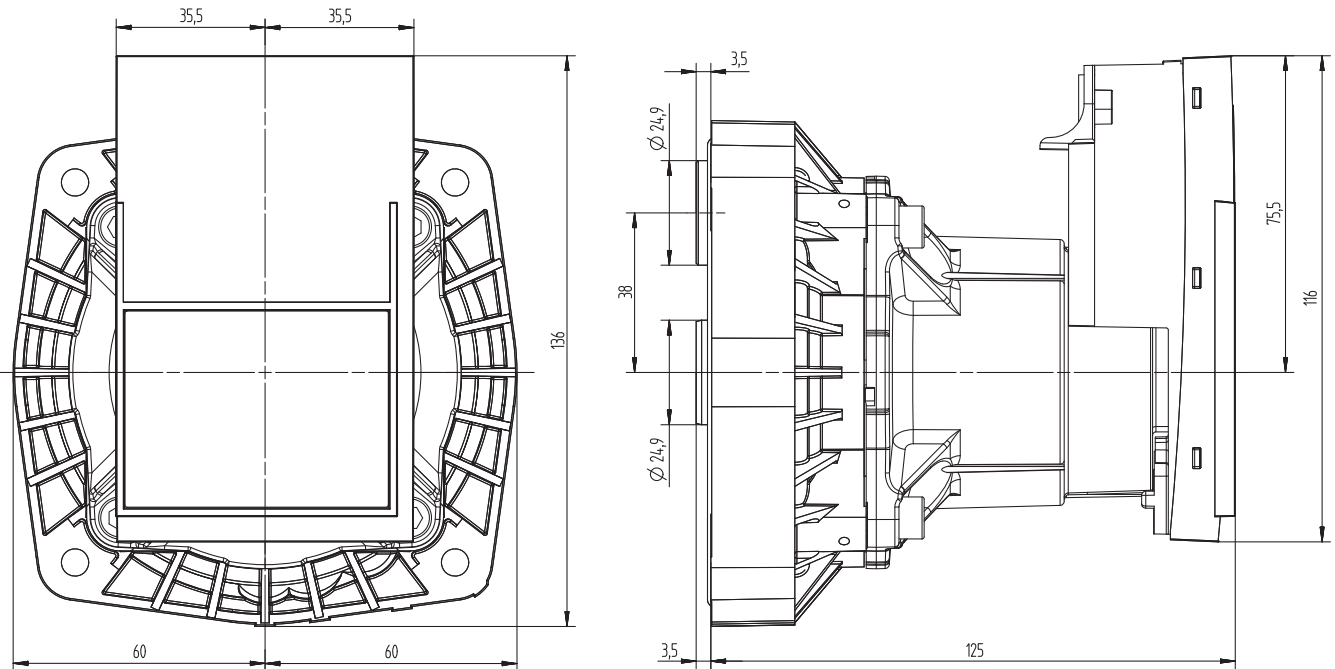
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
HU 25/7.5 RKC/PWM	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HU 25/7.5 Red Knob/PWM1

Dimension drawing

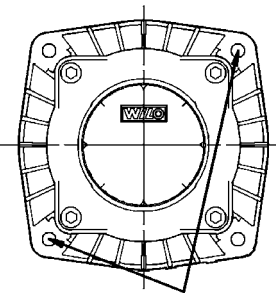


Dimensions, weights

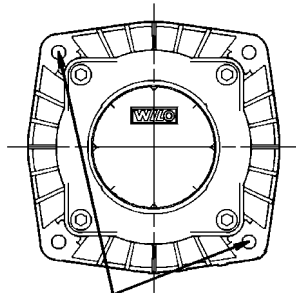
Wilo-Yonos PARA...	Weight approx.
	<i>m</i>
	kg
HU 25/7.5 RKC/PWM	1.2

Water tightness of the circulator is guaranteed if:

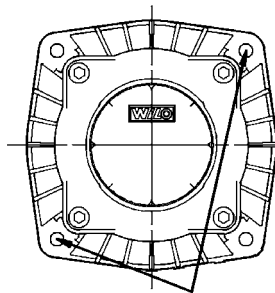
- all its parts are correctly assembled
- the 4 screws are screwed according to the following instruction:



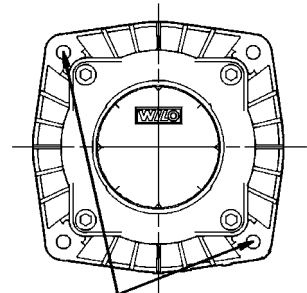
Screw first simultaneously two opposite screws to a torque of 3 Nm



Then screw simultaneously the two opposite screws to a torque of 3 Nm



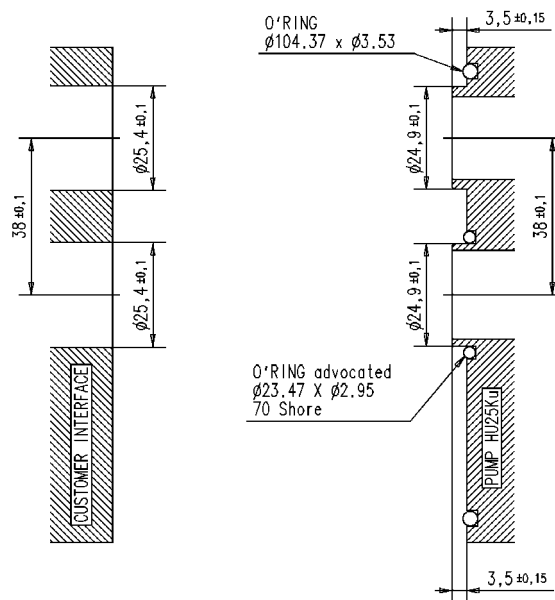
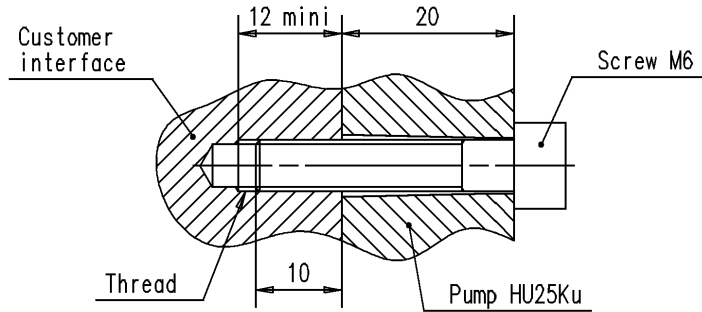
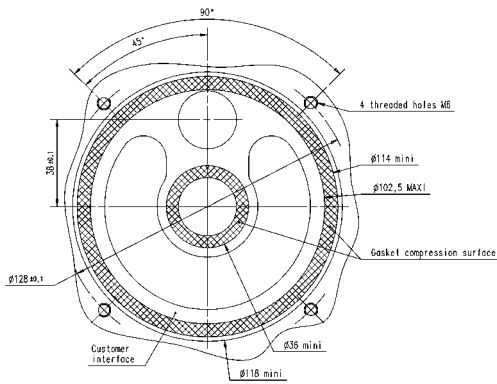
Screw first simultaneously two opposite screws to a torque of 5 Nm



Then screw simultaneously the two opposite screws to a torque of 5 Nm

The HU25 Ku should only be used in this orientation with the pressure outlet at 12 o'clock.

Dimensions, motor data Wilo-Yonos PARA HU 25/7.5 Red Knob/PWM1



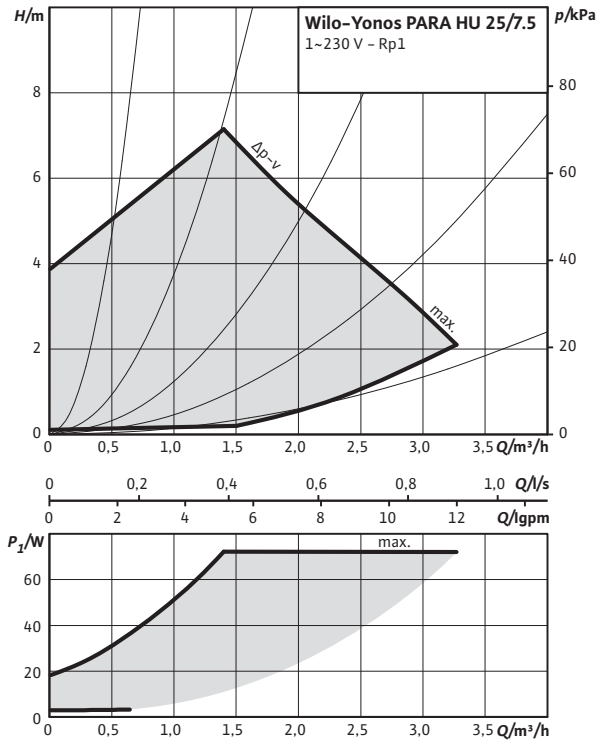
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA HU 25/7.5 Red Knob/PWM1

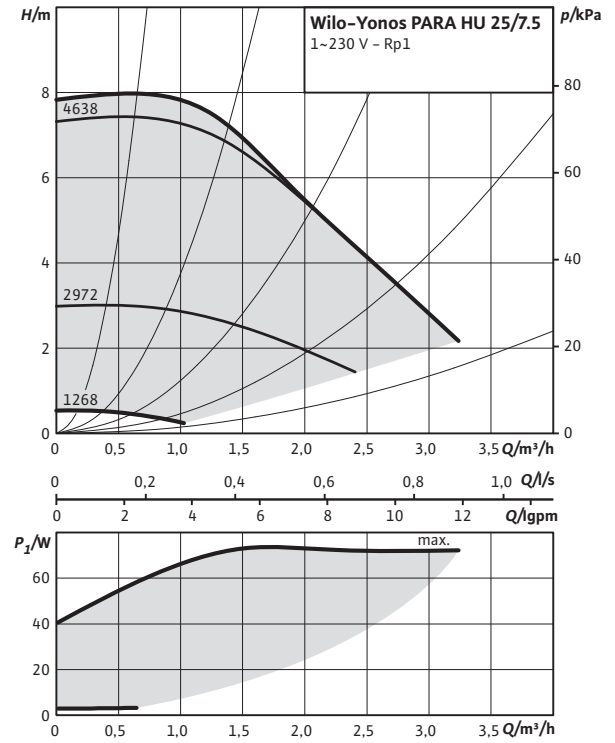
Wilo-Yonos PARA HU 25/7.5

$\Delta p-v$ (variable)



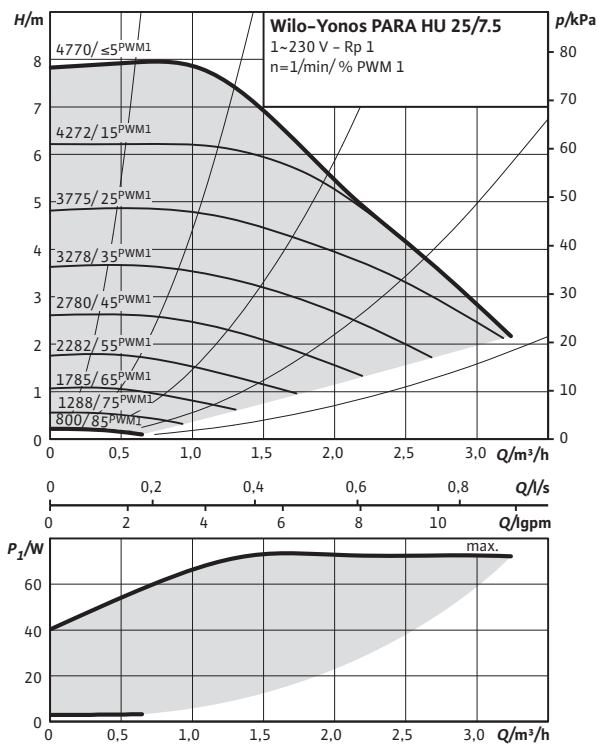
Wilo-Yonos PARA HU 25/7.5

Constant speed I,II,III



Wilo-Yonos PARA HU 25/7.5

External control via PWM 1



Dimensions, motor data Wilo-Yonos PARA HPS 25/7.5 Red Knob/PWM1

Front view



Rear view



Motor data

Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
HPS 25/7.5 RKC/PWM1	800 - 4770	4-75	0.04 - 0.66	integrated

Materials

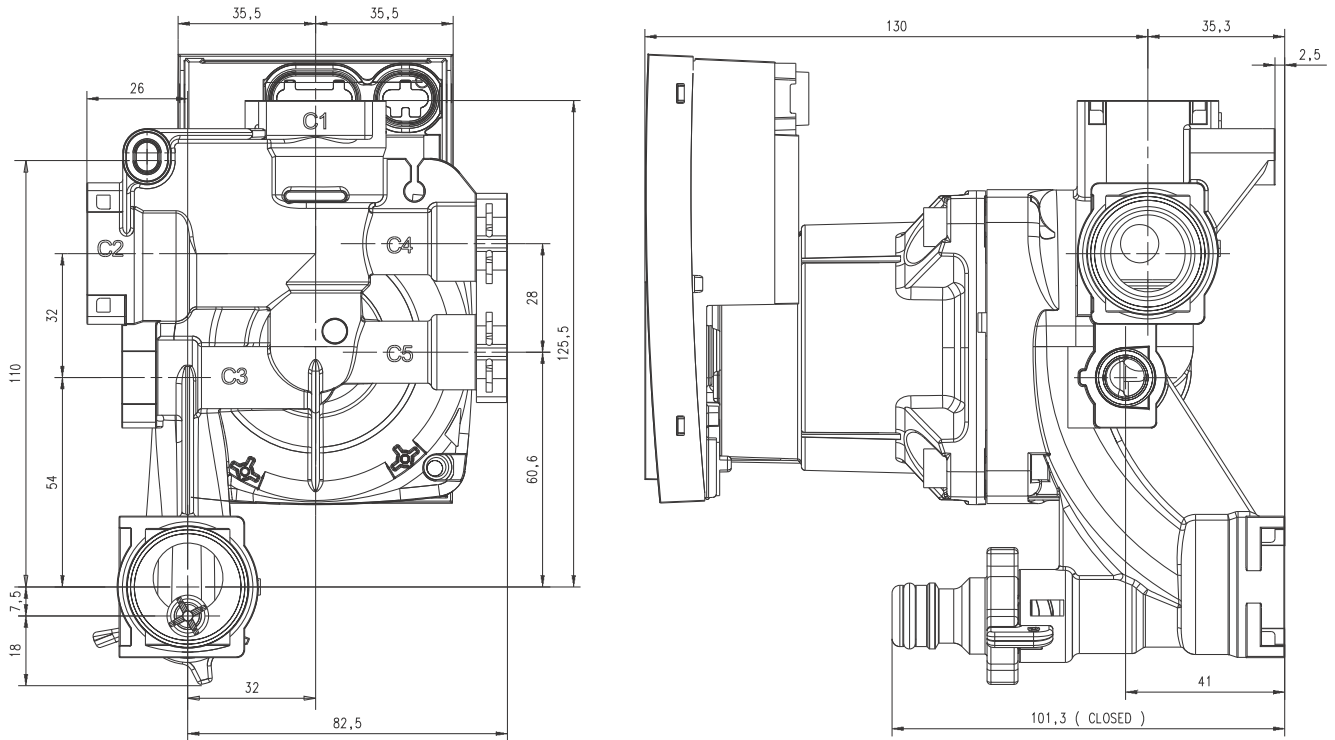
Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
HPS 25/7.5 RKC/PWM1	PA6.6 composite with GF 30%	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA HPS 25/7.5 Red Knob/PWM1

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA... Weight approx.

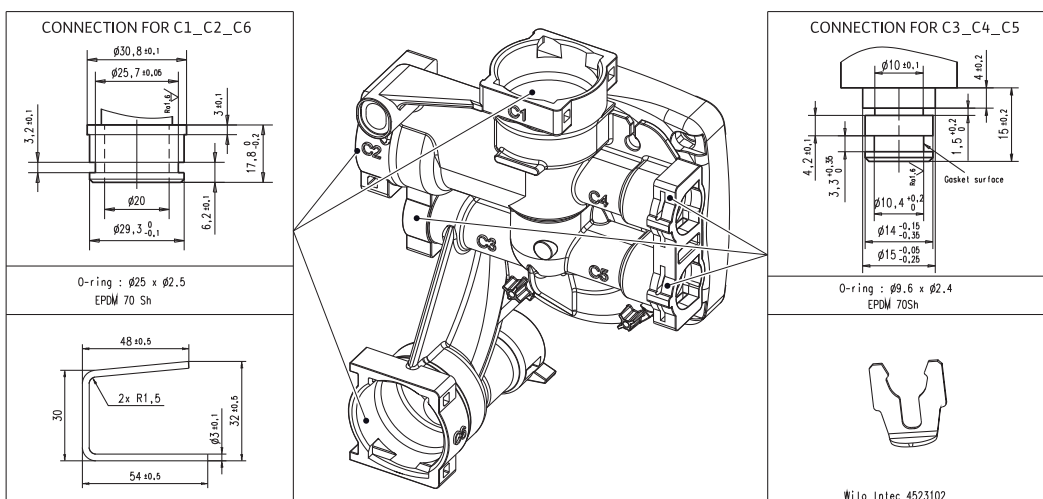
m

kg

HPS 25/7.5 RKC 1.8

HPS 25/7.5 PWM1 1.8

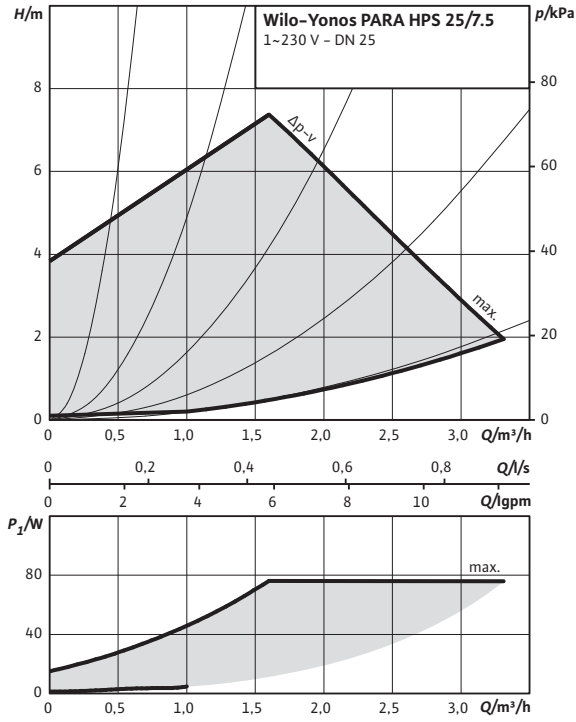
Dimension drawing



Pump curves Wilo-Yonos PARA HPS 25/7.5 Red Knob/PWM1

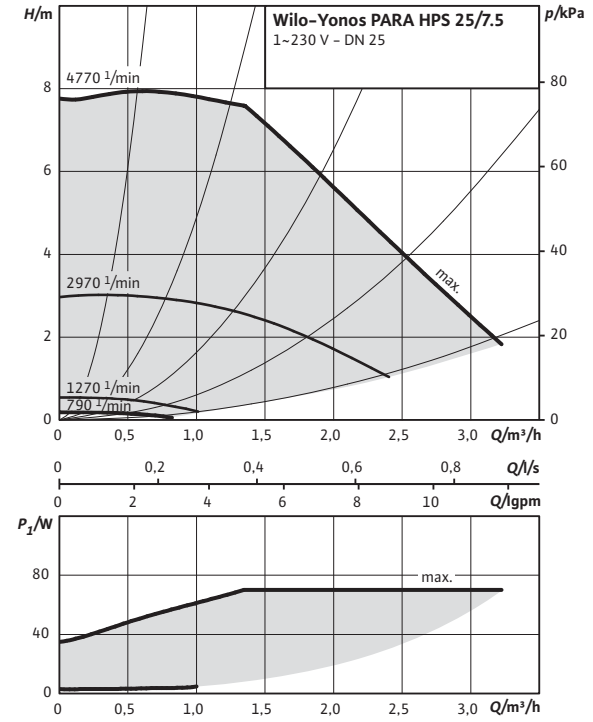
Wilo-Yonos PARA HPS 25/7.5

$\Delta p-v$ (variable)



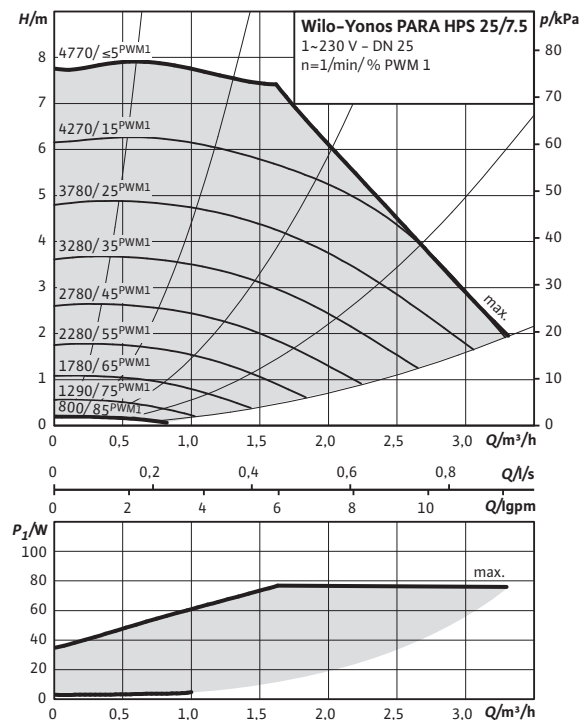
Wilo-Yonos PARA HPS 25/7.5

Constant speed I,II,III



Wilo-Yonos PARA HPS 25/7.5

External control via PWM 1



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA RSTG .../7.5

Front view



Rear view



Motor data

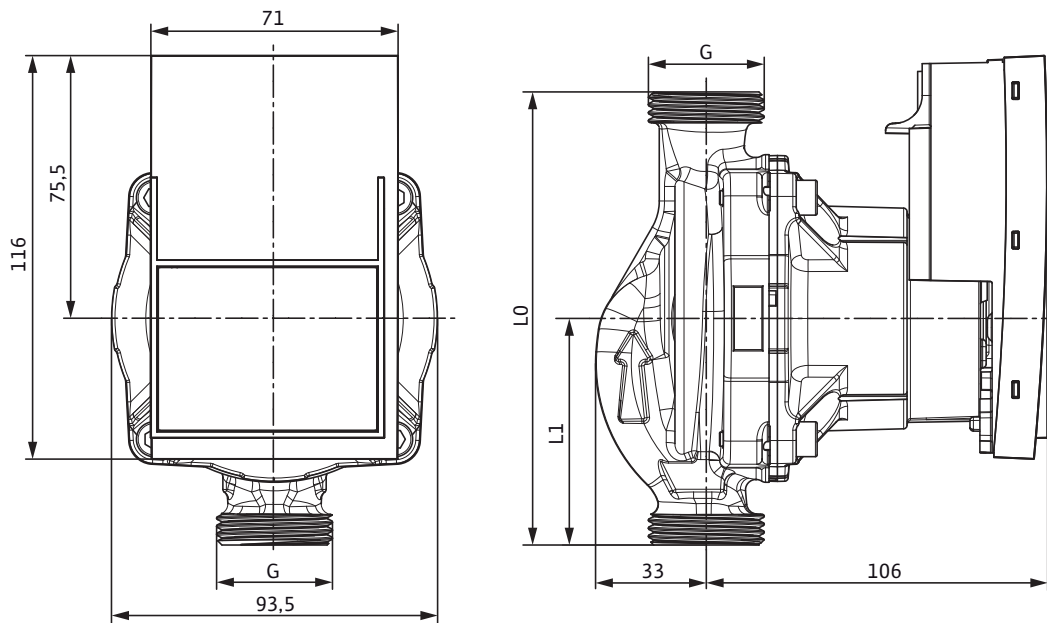
Wilo-Yonos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
RSTG .../7.5	800 - 4770	4-7.5	0.04-0.66	integrated

Materials

Wilo-Yonos PARA...	Pump housing	Impeller	Pump shaft	Bearing
RSTG .../7.5	Cast iron with cathaphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimensions, motor data Wilo-Yonos PARA RSTG ../7.5

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
		—	l_0	$L1$	m
		—	mm		kg
RSTG 15/7.5	Rp 1/2	G 1	130	65	1.8
RSTG 25/7.5	Rp 1	G 1 1/2	130	65	1.8
RSTG 25/7.5	Rp 1	G 1 1/2	180	90	1.8
RSTG 30/7.5	Rp 1 1/4	G 2	180	90	1.8

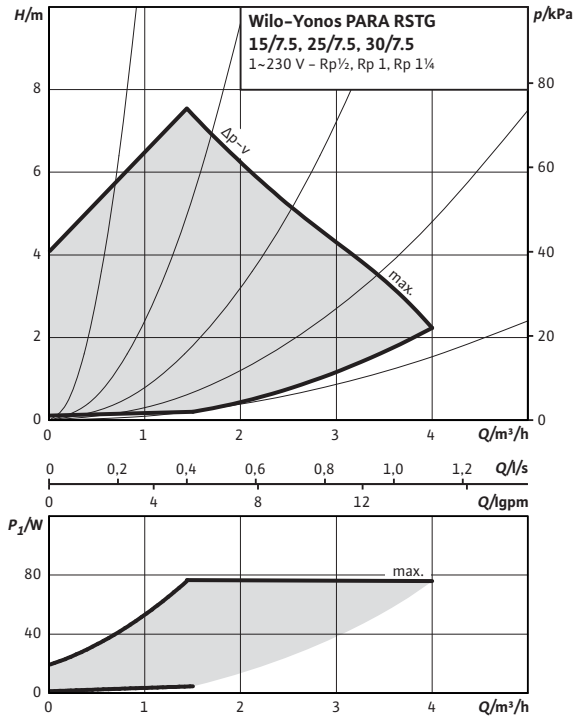
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Yonos PARA RSTG .../7.5

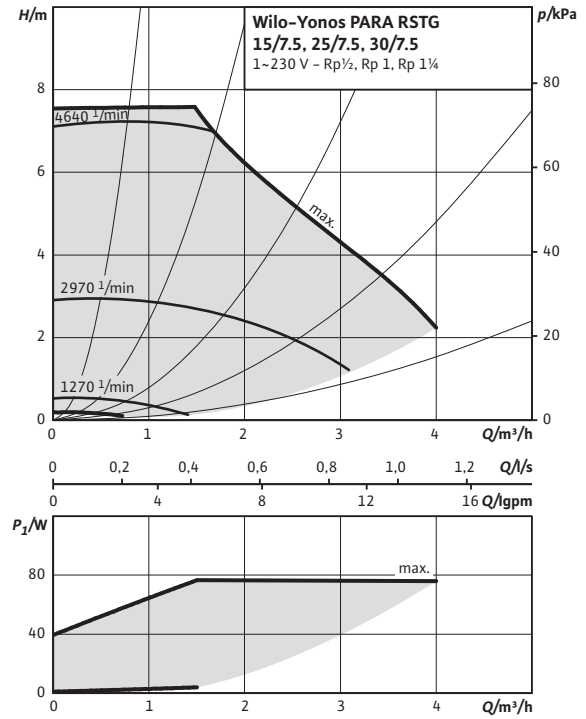
Wilo- RSTG 15/7.5, 25/7.5, 30/7.5

Δp-v (variable)



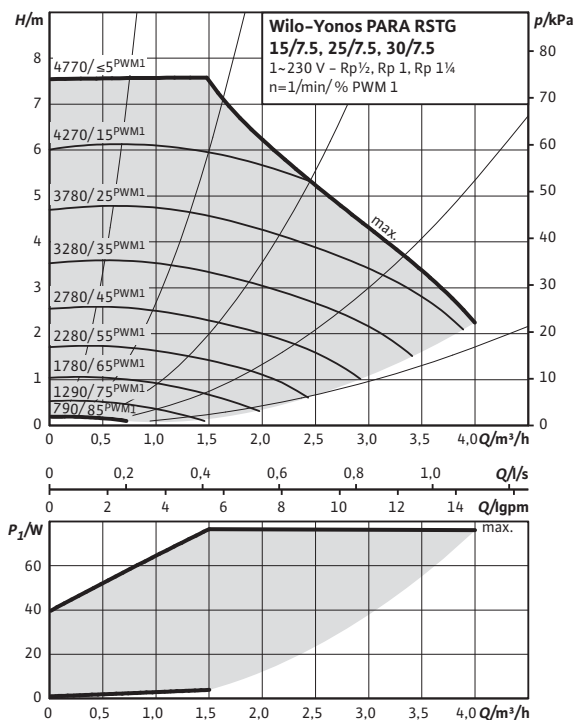
Wilo- RSTG 15/7.5, 25/7.5, 30/7.5

Constant speed I, II, III



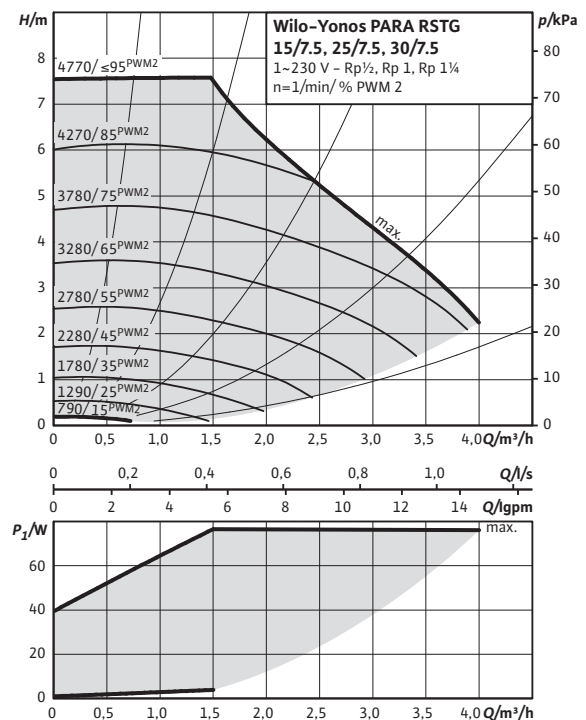
Wilo- RSTG 15/7.5, 25/7.5, 30/7.5

External control via PWM 1



Wilo- RSTG 15/7.5, 25/7.5, 30/7.5

External control via PWM 2



Series description Wilo-Yonos PARA High Flow 25/7, 30/7



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

Type key

Example: **Wilo-Yonos PARA HF 25/7**
Yonos Electronically controlled high-efficiency pump
PARA pump range adapted to requirements of the OEM market
HF High Flow
25/ Nominal diameter:
25 threading 1 1/2"
30 threading 2"
7 Nominal delivery head range [m]

Equipment

- THE AC replacement solution
- Control mode Δp -c (constant), Δp -v (variable) and constant speed
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v and n-constant via operating button
- Collective fault signal (potential-free NC contact)
- Fault signal light
- LED segment display for displaying the delivery head and fault codes
- Display of the configured constant speed stage (C1, C2 or C3)
- Also available with flange housing, contact your Wilo partner for inquiries

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	7 m
Max. volume flow	7.0 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	-20 to 110°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
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Motor/electronics

EC Machinery directive	2006/42/EG conform
Electromagnetic compatibility	2004/108/EC
Emitted interference	EN 61000-6-3
Interference resistance	EN 61000-6-2
Speed control	Frequency converter
Protection class	IP X4D
Insulation class	F

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

Minimum suction head at 50 / 95 / 110 °C	0.5 / 3 / 10 m
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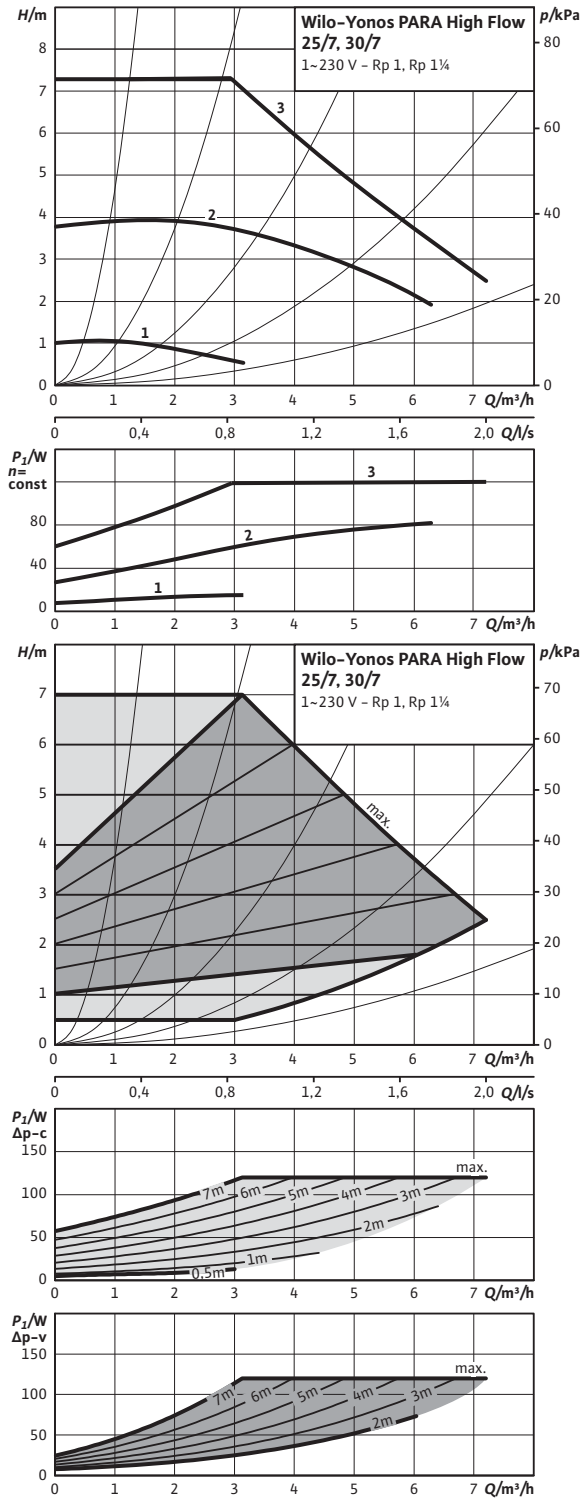
• = available, - = not available

Heating, air-conditioning, cooling

High-efficiency pumps

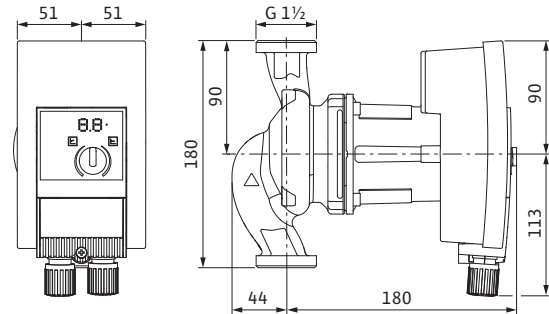
Wilo-Yonos PARA High Flow 25/7, 30/7

Pump curves



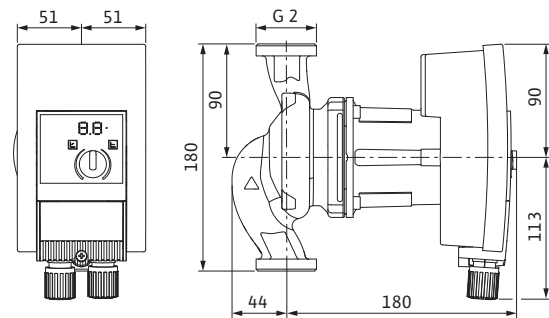
Dimension drawing

Dimension drawing



Dimension drawing

Dimension drawing



Technical data

Designation	Yonos PARA HF 30/7	Yonos PARA HF 25/7
Rated pressure	PN 10	
Threaded pipe union	Rp 1½	Rp 1
Speed n	1000 - 3700 rpm	
Rated power P_2	90 W	
Power consumption P_1	5 - 120 W	
Current consumption I	0.08 - 1 A	
Weight approx. m	4.6 kg	4.5 kg

Materials

Pump housing	Grey cast iron (EN-GJL-200)
Impeller	Plastic (PPE - 30% GF)
Pump shaft	Stainless steel (X30CR13)
Bearing	Carbon, metal impregnated

Series description Wilo-Yonos PARA High Flow 25/10, 30/10



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

Type key

Example: **Wilo-Yonos PARA HF 25/10**

Yonos Electronically controlled high-efficiency pump

PARA pump range adapted to requirements of the OEM market

HF High Flow

25/ Nominal diameter:

25 threading 1 1/2"

30 threading 2"

10 Nominal delivery head range [m]

Equipment

- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v and n-constant via operating button
- Collective fault signal (potential-free NC contact)
- Fault signal light
- LED segment display for displaying the delivery head and fault codes
- Display of the configured constant speed stage (C1, C2 or C3)
- Also available with flange housing, contact your Wilo partner for inquiries

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035) •

Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked) •

Power

Energy efficiency index (EEI) ≤ 0.23

Max. delivery head 10 m

Max. volume flow 8.5 m³/h

Permitted field of application

Temperature range at max. ambient temperature -20 to 110°C

Maximum static pressure 10 bar

Electrical connection

Mains connection 1~230 V, 50/60 Hz

Motor/electronics

EC Machinery directive 2006/42/EG conform

Electromagnetic compatibility 2004/108/EC

Emitted interference EN 61000-6-3

Interference resistance EN 61000-6-2

Speed control Frequency converter

Protection class IP X4D

Insulation class F

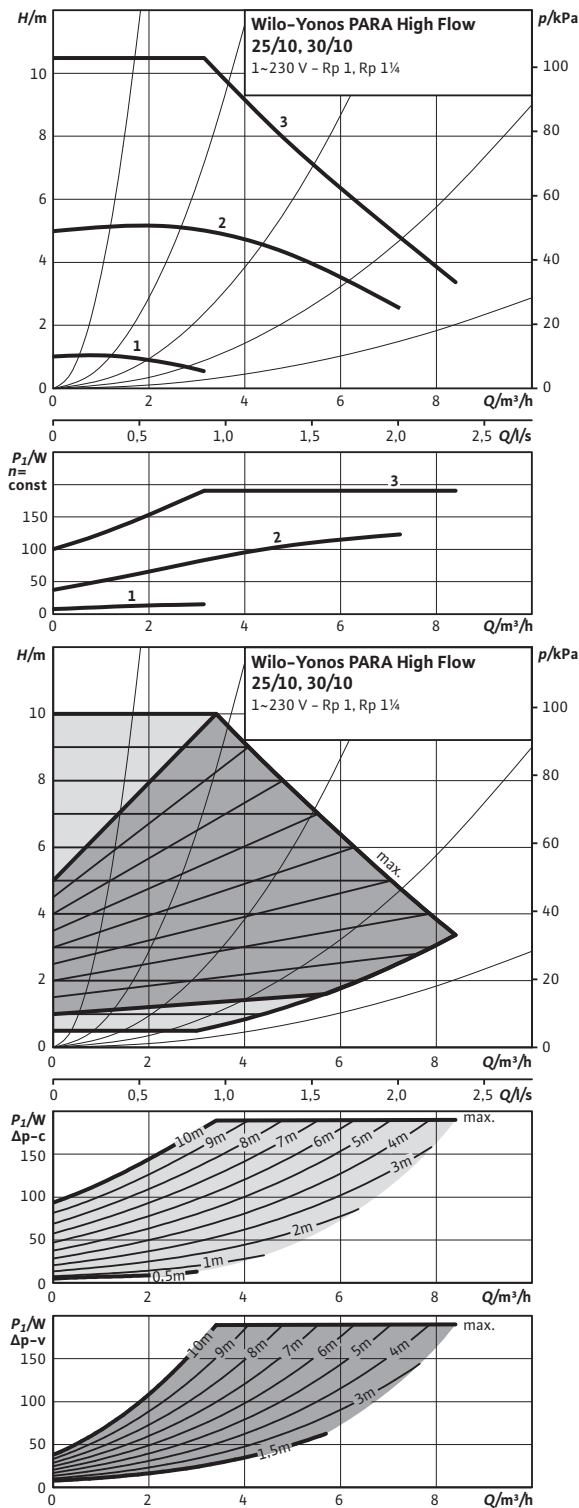
Minimum suction head at suction port for avoiding cavitation at water pumping temperature

Minimum suction head at 50 / 95 / 110 °C 0.5 / 3 / 10 m

• = available, - = not available

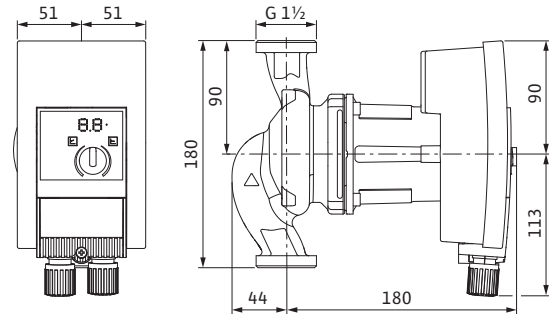
Wilo-Yonos PARA High Flow 25/10, 30/10

Pump curves



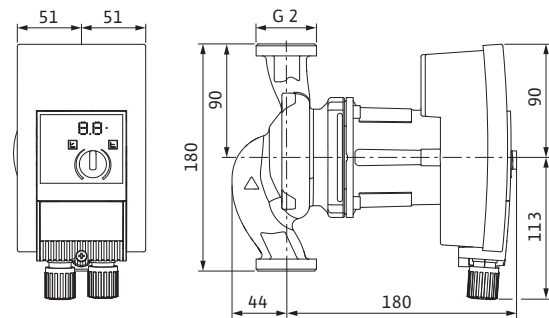
Dimension drawing

Dimension drawing



Dimension drawing

Dimension drawing



Technical data

Designation	Yonos PARA HF 25/10	Yonos PARA HF 30/10
Rated pressure	PN 10	
Threaded pipe union	Rp 1	Rp 1¼
Speed n	1000 - 4400 rpm	
Rated power P_2	140 W	
Power consumption P_1	5 - 190 W	
Current consumption I	0.08 - 1.3 A	
Weight approx. m	4.5 kg	4.6 kg

Materials

Pump housing	Grey cast iron (EN-GJL-200)
Impeller	Plastic (PPE - 30% GF)
Pump shaft	Stainless steel (X30CR13)
Bearing	Carbon, metal impregnated

Series description Wilo-Yonos PARA High Flow 25/12, 30/12



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

Type key

Example: **Wilo-Yonos PARA HF 25/12**
Yonos Electronically controlled high-efficiency pump
PARA pump range adapted to requirements of the OEM market
HF High Flow
25/ Nominal diameter:
 25 threading 1 1/2"
 30 threading 2"
12 Nominal delivery head range [m]

Equipment

- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v and n=constant via operating button
- Collective fault signal (potential-free NC contact)
- Fault signal light
- LED segment display for displaying the delivery head and fault codes
- Display of the configured speed stage (C1, C2 or C3)
- Also available with flange housing, contact your Wilo partner for inquiries

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	11 m
Max. volume flow	11.0 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 110°C = -20 to 110°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
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Motor/electronics

EC Machinery directive	2006/42/EG conform
Electromagnetic compatibility	2004/108/EC
Emitted interference	EN 61000-6-3
Interference resistance	EN 61000-6-2
Speed control	Frequency converter
Protection class	IP X4D
Insulation class	F

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

Minimum suction head at 50 / 95 / 110 °C	0.5 / 3 / 10 m
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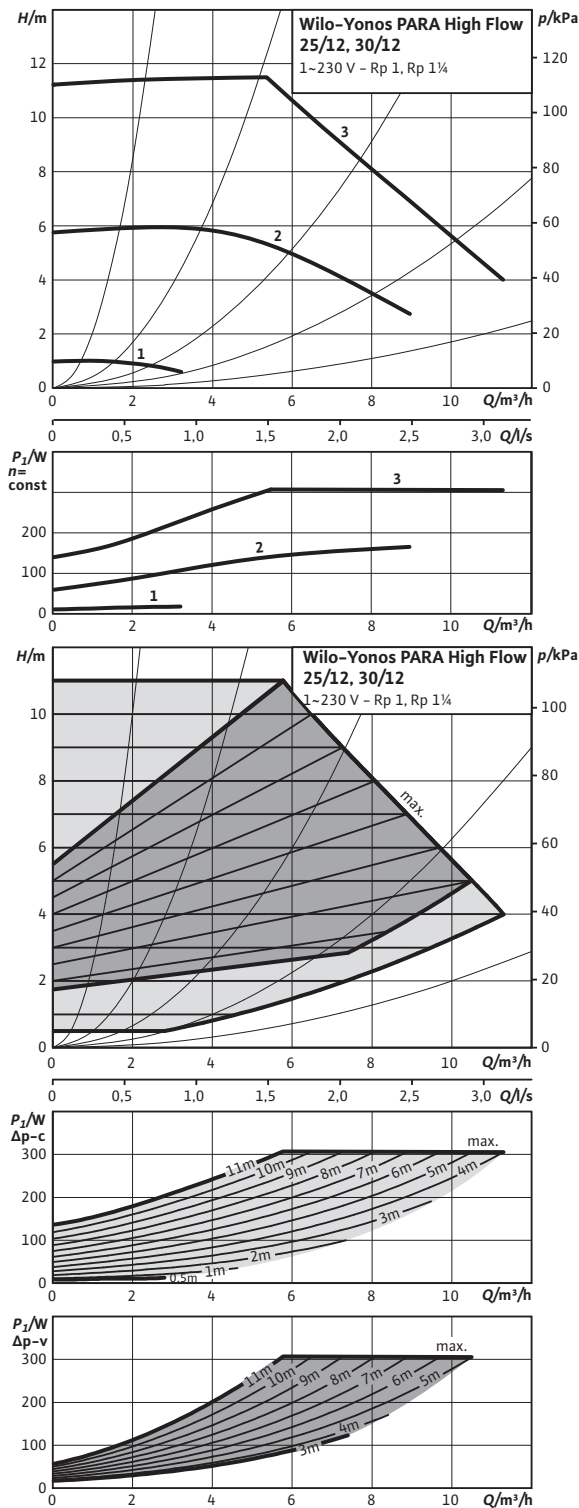
• = available, - = not available

Heating, air-conditioning, cooling

High-efficiency pumps

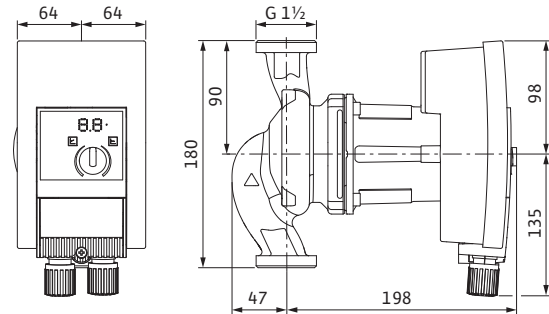
Wilo-Yonos PARA High Flow 25/12, 30/12

Pump curves



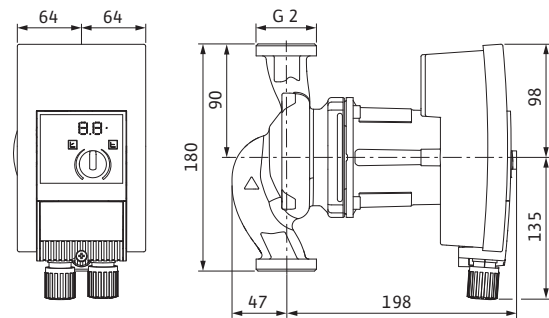
Dimension drawing

Dimension drawing



Dimension drawing

Dimension drawing



Technical data

Designation	Yonos PARA HF 25/12	Yonos PARA HF 30/12
Rated pressure	PN 10	
Threaded pipe union	Rp 1	Rp 1¼
Speed n	1000 - 4800 rpm	
Rated power P_2	200 W	
Power consumption P_1	10 - 305 W	
Current consumption I	0.15 - 1.33 A	
Weight approx. m	5.3 kg	5.4 kg

Materials

Pump housing	Grey cast iron (EN-GJL-200)
Impeller	Plastic (PPE - 30% GF)
Pump shaft	Stainless steel (X30CR13)
Bearing	Carbon, metal impregnated

Series description Wilo-Stratos PARA 25/1-8, 30/1-8



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology and delivered with power cable.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

Type key

Example:	Wilo-Stratos PARA 25/1-8 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
25/	Nominal connection diameter
1-8	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v via operating button
- Special version without operating button
- All possible combinations of functions and equipment are available
- Version with cable according to customer specification
- Version with short overall length of 130 mm (DN 25 only)
- Delivery in collective packaging (108 pumps/packaging)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	8 m
Max. volume flow	8.0 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 110°C of 40°C = -10 to 90°C of 45°C = -10 to 80°C of 50°C = -10 to 70°C of 55°C = -10 to 60°C of 60°C = -10 to 50°C of 65°C = -10 to 40°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
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Motor/electronics

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

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

Minimum suction head at 50 / 95 / 110 °C	3 / 10 / 16 m
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• = available, - = not available

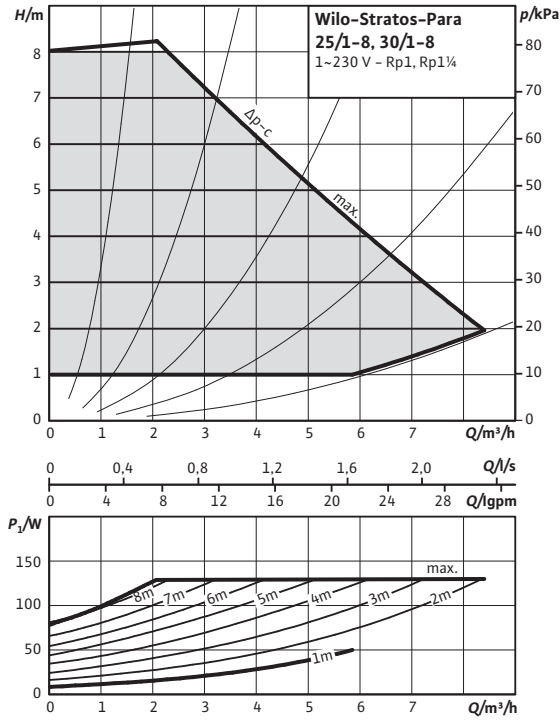
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Stratos PARA 25/1-8, 30/1-8

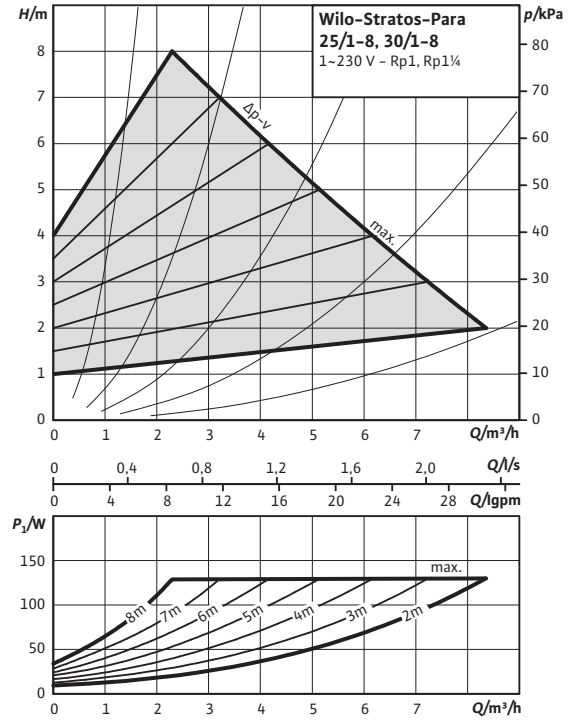
Wilo-Stratos PARA 25/1-8, 30/1-8

Δp -c (constant)



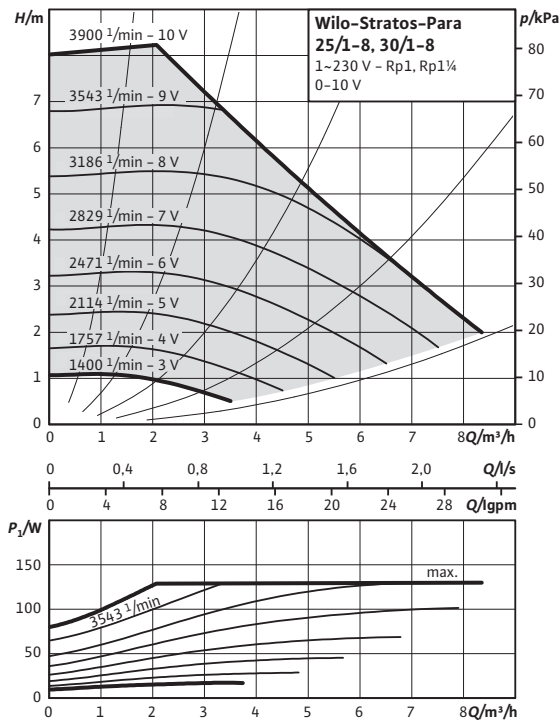
Wilo-Stratos PARA 25/1-8, 30/1-8

Δp -v (variable)



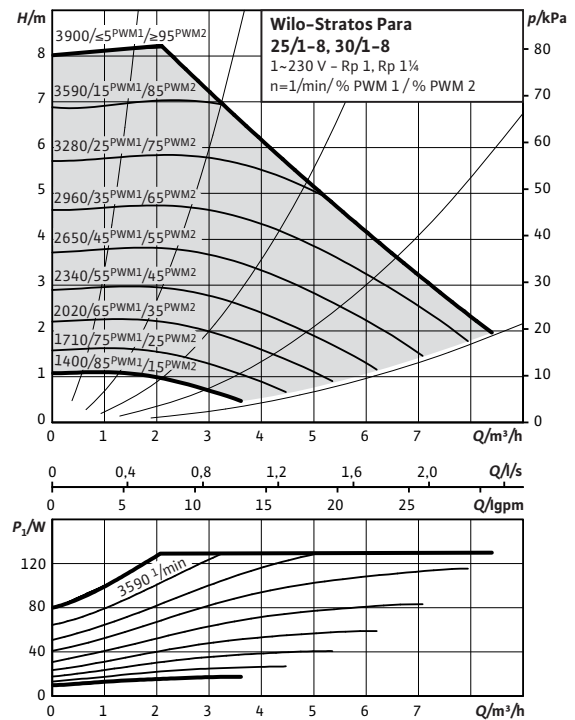
Wilo-Stratos PARA 25/1-8, 30/1-8

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA 25/1-8, 30/1-8

External control via PWM



Dimensions, motor data Wilo-Stratos PARA 25/1-8, 30/1-8

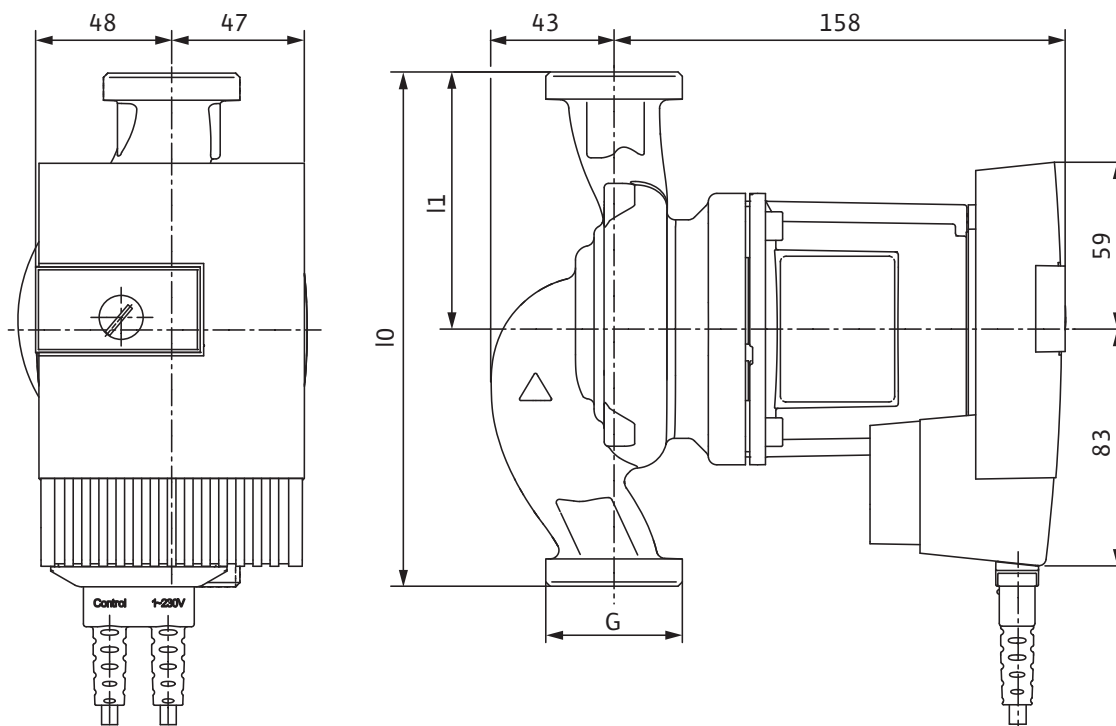
Motor data

Wilo-Stratos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-8	1400 - 3900	8-130	0.07 - 0.95	integrated

Materials

Wilo-Stratos PARA...	Pump housing	Impeller	Pump shaft	Bearing
.../1-8	Grey cast iron (EN-GJL-200)	Plastic (PPS - 40% GF)	Stainless steel (X46Cr13)	Carbon, metal impregnated

Dimension drawing



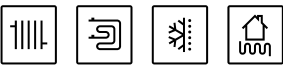
Dimensions, weights

Wilo-Stratos PARA...	Threaded pipe union	Thread	Overall length	Dimension	Weight approx.
	–		l_0	l_1	m
	–				kg
25/1-8	Rp 1	G 1½	130	65	4.7
25/1-8	Rp 1	G 1½	180	90	4.7
30/1-8	Rp 1¼	G 2	180	90	4.7

Heating and cooling

High-efficiency pumps

Series description Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology and delivered with power cable.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in geothermal systems.

Type key

Example:	Wilo-Stratos PARA 25/1-9 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
25/	Nominal connection diameter
1-9	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v via operating button
- Special version without operating button
- Further combinations of functions and equipment are available: T1-T3, T6, T8, T10-T13, T16-T19, T27
- Version with cable according to customer specification
- Version with short overall length of 130 mm
- Delivery in collective packaging (196 pumps/package)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories
- Version for application at 110 °C, 10 bar (ambient temperature max. 40 °C) on request

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	9
Max. volume flow	5.0 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 95°C of 40°C = -10 to 95°C of 45°C = -10 to 95°C of 50°C = -10 to 90°C of 55°C = -10 to 80°C of 60°C = -10 to 70°C of 65°C = -10 to 60°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
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Motor/electronics

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

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

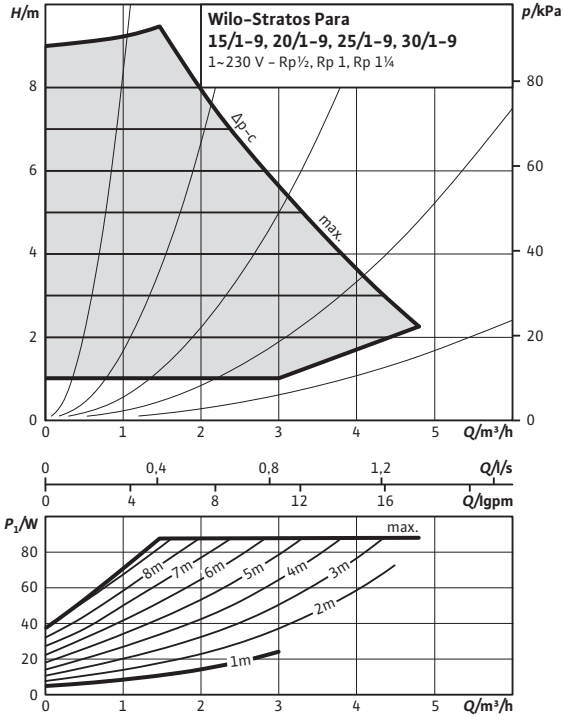
Minimum suction head at 50 / 95 °C	0.5 / 4.5
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• = available, - = not available

Pump curves Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

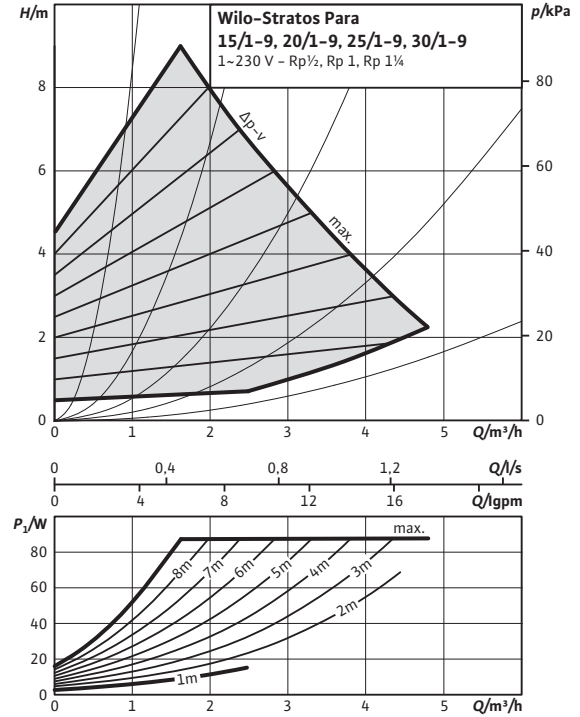
Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

Δp -c (constant)



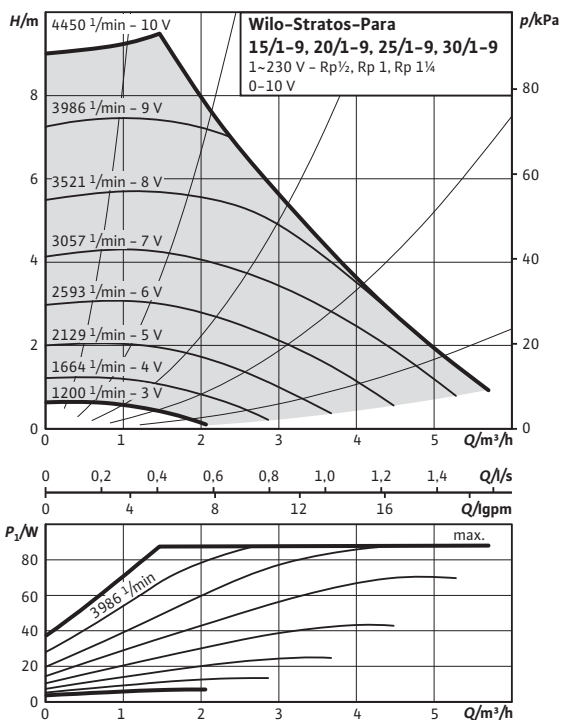
Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

Δp -v (variable)



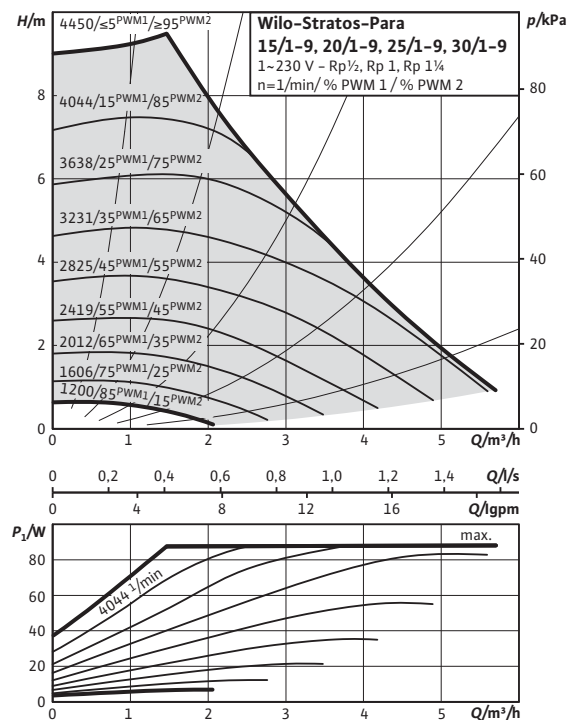
Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

External control via PWM



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

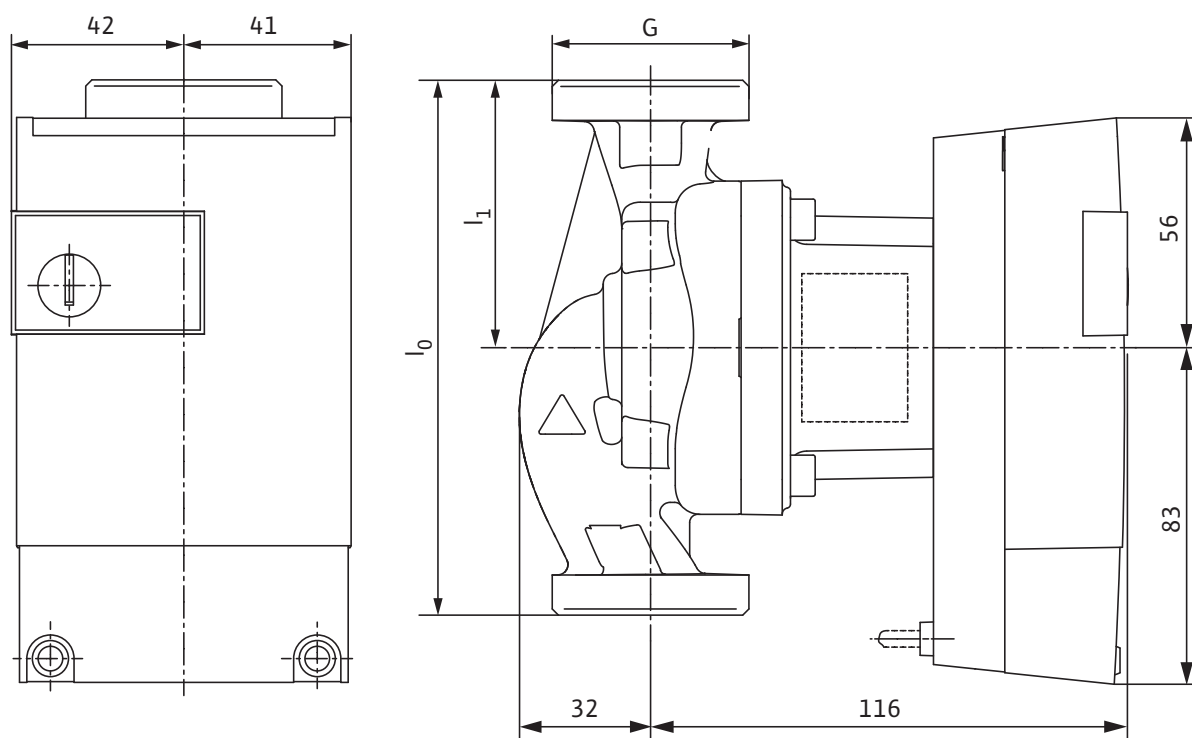
Motor data

Wilo-Stratos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-9	1200 - 4500	3.5-90	0.05 - 0.70	integrated

Materials

Wilo-Stratos PARA...	Pump housing	Impeller	Pump shaft	Bearing
.../1-9	Grey cast iron (EN-GJL-200)	Plastic (PPO – 30% GF)	Stainless steel (X30CR13)	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Stratos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–		l_0	l_1	m
	–			mm	kg
15/1-9	Rp 1/2	G 1	130	65	2.5
20/1-9	Rp 3/4	G 1 1/4	130	65	2.5
25/1-9	Rp 1	G 1 1/2	180	90	2.5
25/1-9	Rp 1	G 1 1/2	130	65	2.5
30/1-9	Rp 1 1/4	G 2	180	90	2.5
30/1-9	Rp 1 1/4	G 2	130	65	2.5

Series description Wilo-Stratos PARA 25/1-11, 30/1-11



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology and delivered with power cable.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

Type key

Example:	Wilo-Stratos PARA 25/1-11 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
25/	Nominal connection diameter
1-11	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v via operating button
- Special version without operating button
- All possible combinations of functions and equipment are available
- Version with cable according to customer specification
- Version with short overall length of 130 mm
- Delivery in collective packaging (108 pumps/package)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	11 m
Max. volume flow	4.5 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 110°C of 40°C = -10 to 90°C of 45°C = -10 to 80°C of 50°C = -10 to 70°C of 55°C = -10 to 60°C of 60°C = -10 to 50°C of 65°C = -10 to 40°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
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Motor/electronics

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

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

Minimum suction head at 50 / 95 / 110 °C	3 / 10 / 16 m
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• = available, - = not available

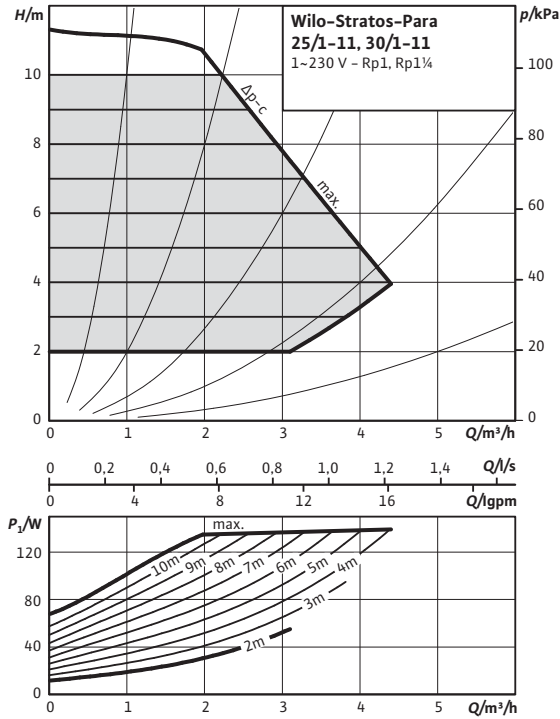
Heating and cooling

High-efficiency pumps

Pump curves Wilo-Stratos PARA 25/1-11, 30/1-11

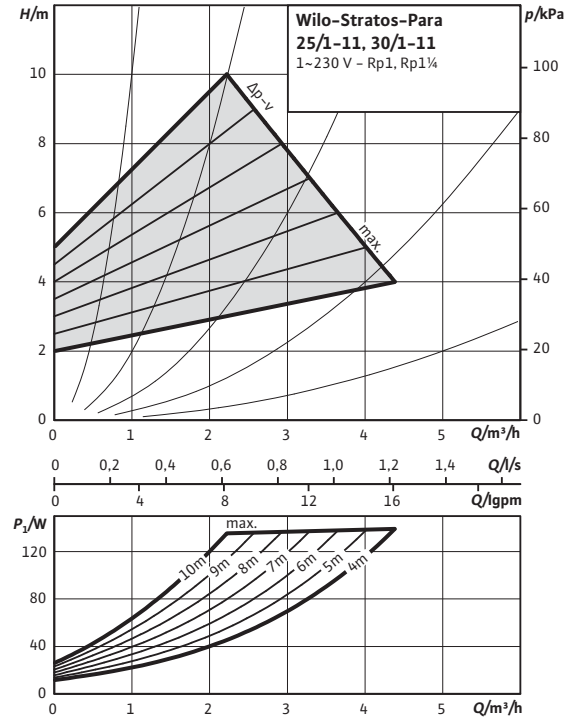
Wilo-Stratos PARA 25/1-11, 30/1-11

Δp-c (constant)



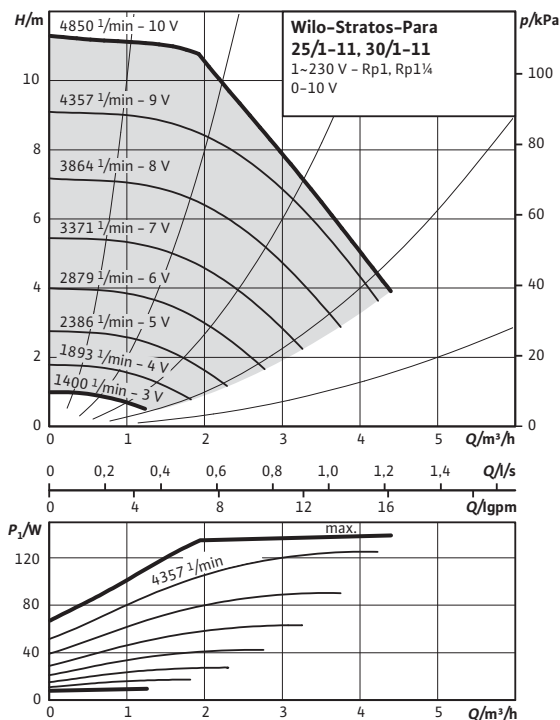
Wilo-Stratos PARA 25/1-11, 30/1-11

Δp-v (variable)



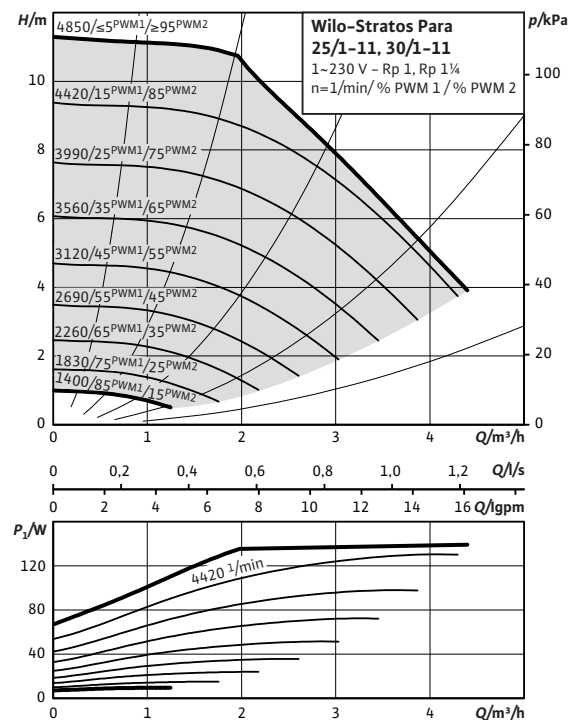
Wilo-Stratos PARA 25/1-11, 30/1-11

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA 25/1-11, 30/1-11

External control via PWM



Dimensions, motor data Wilo-Stratos PARA 25/1-11, 30/1-11

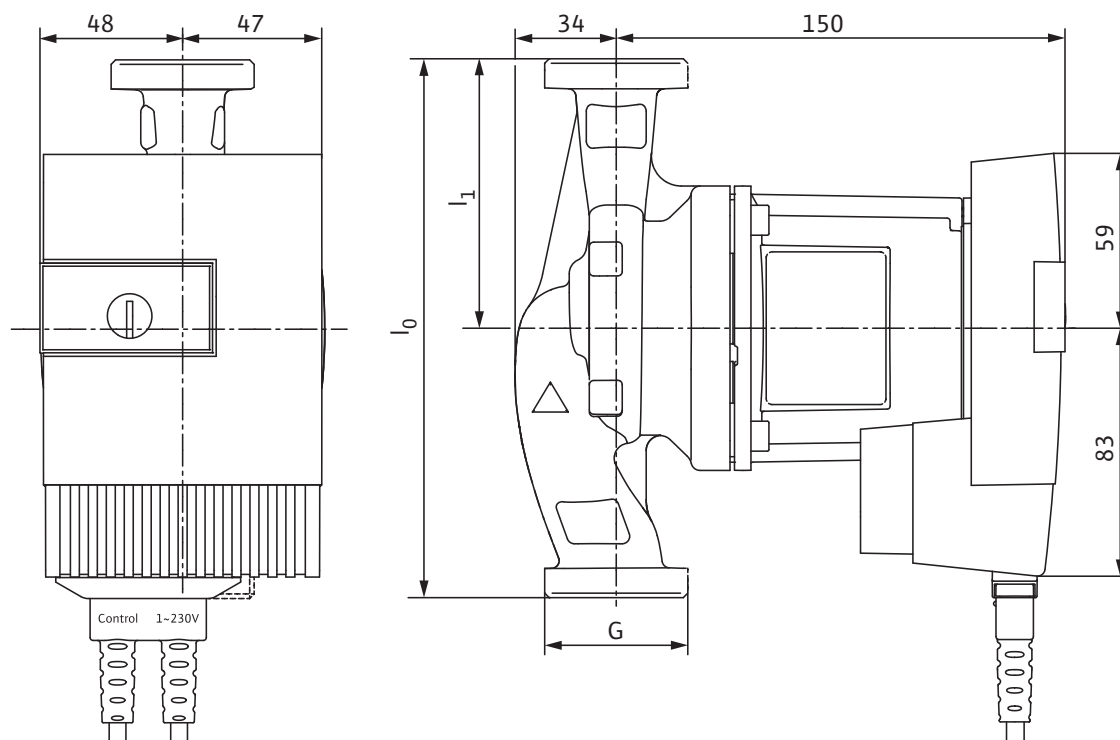
Motor data

Wilo-Stratos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-11	1400 - 4850	8-140	0.07 - 1.05	integrated

Materials

Wilo-Stratos PARA...	Pump housing	Impeller	Pump shaft	Bearing
.../1-11	Grey cast iron (EN-GJL-200)	Plastic (PPE - 30% GF)	Stainless steel (X46Cr13)	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Stratos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–		l_0	$L1$	m
				mm	kg
25/1-11	Rp 1	G 1½	180	90	4.3
25/1-11	Rp 1	G 1½	130	65	4.3
30/1-11	Rp 1¼	G 2	180	90	4.3

Heating and cooling

High-efficiency pumps

Series description Wilo-Stratos PARA 25/1-12, 30/1-12



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology and delivered with power cable.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

Type key

Example:	Wilo-Stratos PARA 25/1-12 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
25/	Nominal connection diameter
1-12	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v via operating button
- Special version without operating button
- All possible combinations of functions and equipment are available
- Version with cable according to customer specification
- Delivery in collective packaging (72 pumps/package)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	12 m
Max. volume flow	10.0 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 110°C of 40°C = -10 to 90°C of 45°C = -10 to 80°C of 50°C = -10 to 65°C of 55°C = -10 to 50°C of 60°C = -10 to 35°C of 65°C = -10 to 20°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
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Motor/electronics

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

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

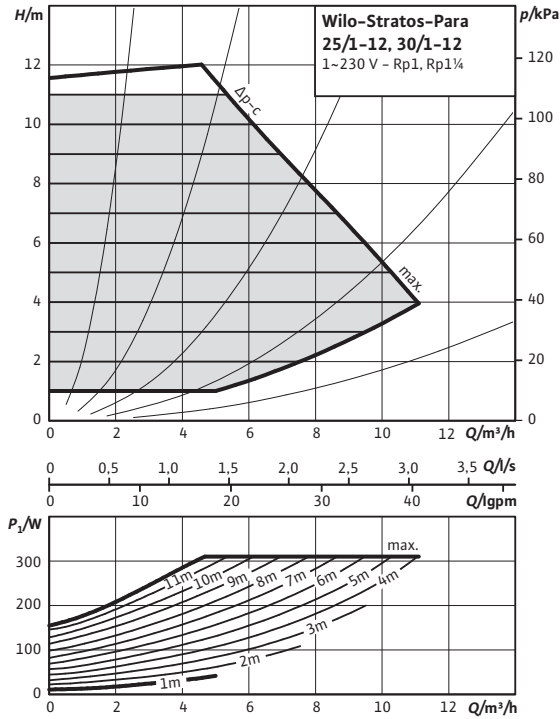
Minimum suction head at 50 / 95 / 110 °C	3 / 10 / 16 m
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• = available, - = not available

Pump curves Wilo-Stratos PARA 25/1-12, 30/1-12

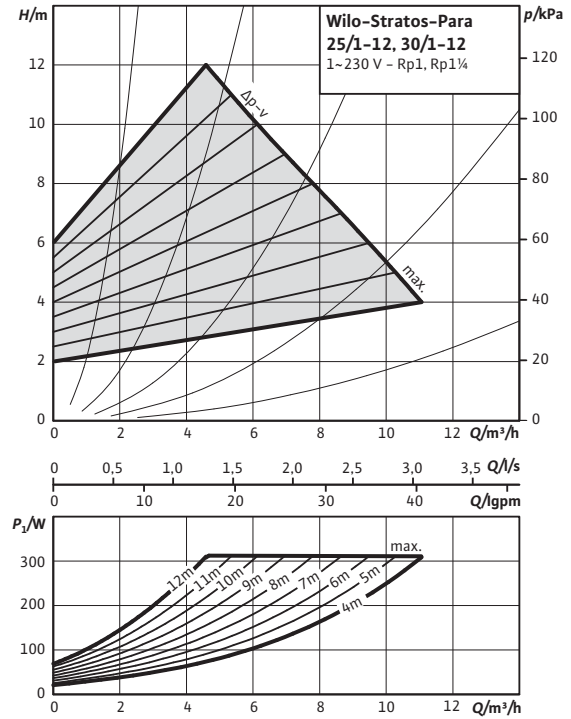
Wilo-Stratos PARA 25/1-12, 30/1-12

Δp-c (constant)



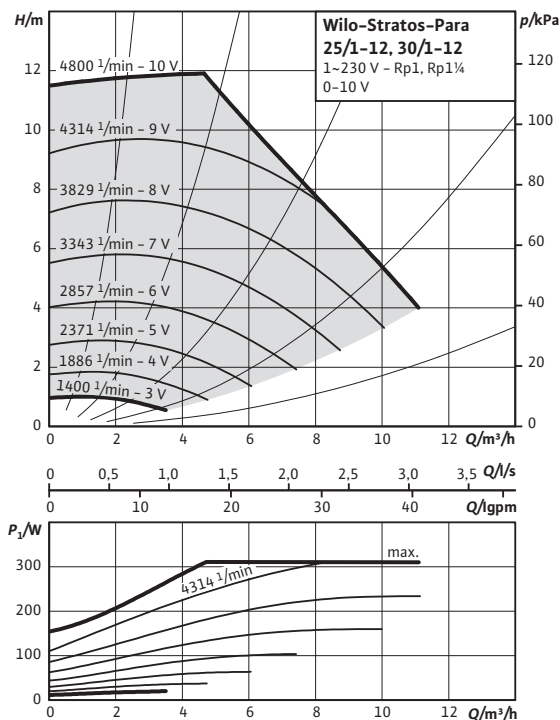
Wilo-Stratos PARA 25/1-12, 30/1-12

Δp-v (variable)



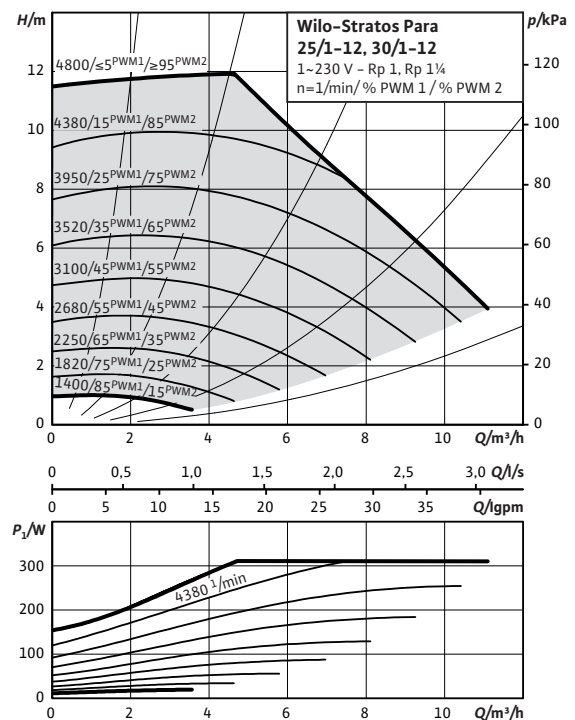
Wilo-Stratos PARA 25/1-12, 30/1-12

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA 25/1-12, 30/1-12

External control via PWM



Heating and cooling

High-efficiency pumps

Dimensions, motor data Wilo-Stratos PARA 25/1-12, 30/1-12

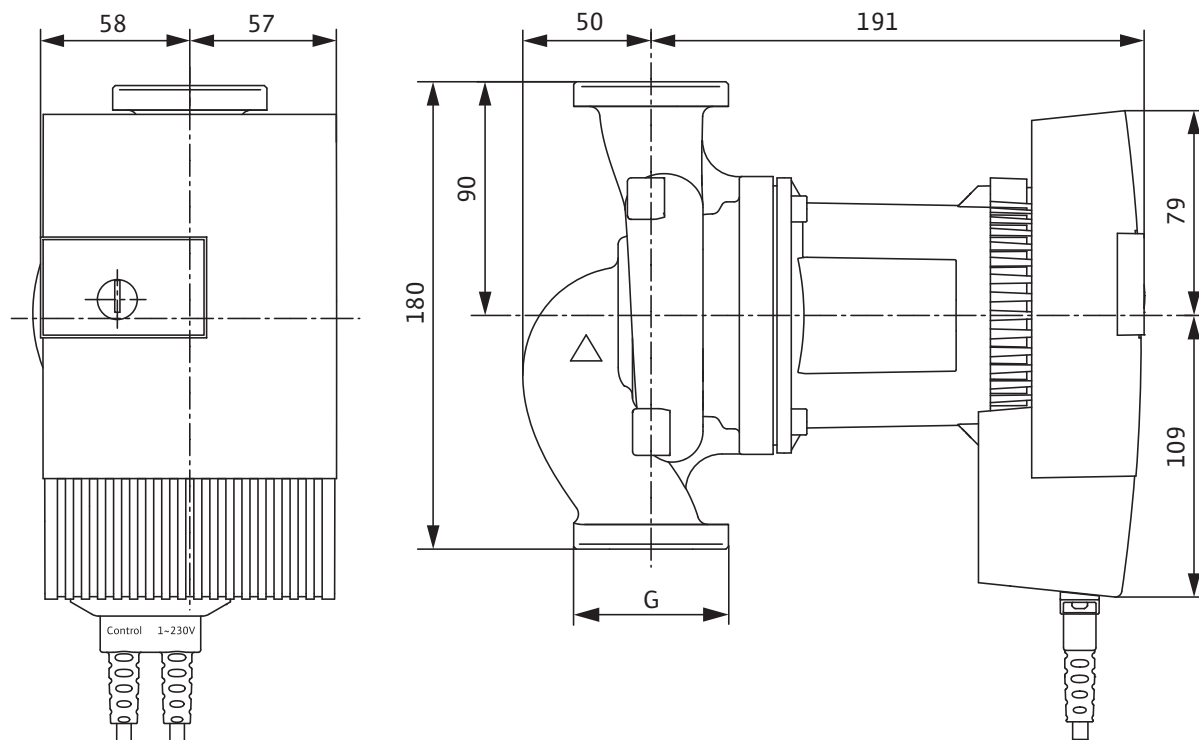
Motor data

Wilo-Stratos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-12	1400 - 4800	16-310	0.16 - 1.37	integrated

Materials

Wilo-Stratos PARA...	Pump housing	Impeller	Pump shaft	Bearing
.../1-12	Grey cast iron (EN-GJL-200)	Plastic (PPS - 40% GF)	Stainless steel (X46Cr13)	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Stratos PARA...	Threaded pipe union	Thread	Weight approx.
	–	–	m
	–	–	kg
25/1-12	Rp 1	G 1½	6.2
30/1-12	Rp 1¼	G 2	6.2



Solar thermal energy systems

High-efficiency pumps

Series overview

Series: Wilo-Yonos PARA ST



> Application

Circulation in solar thermal systems in the medium temperature range of $-10\text{ }^{\circ}\text{C}$ to $+110\text{ }^{\circ}\text{C}$ with short peaks of $140\text{ }^{\circ}\text{C}$.

> Special features/product advantages

- Red Knob technology or PWM controlled
- Unique LED user interface
- Self-protecting modes
- Designed for optimised integration
- Self controlled pump (Red Knob) or externally controlled (PWM signal)

> Additional information

- Yonos PARA ST 15/6, 25/6, 30/6 Red Knob 176
- Yonos PARA ST 15/7.0, 20/7.0, 25/7.0, 30/7.0 PWM2 176
- Yonos PARA ST 15/7.5, 25/7.5, 30/7.5 Red Knob, PWM2 179
- Yonos PARA ST 15/7.5, 25/7.5, 30/7.5 Red Knob, PWM2 179
- Yonos PARA ST 15/13 PWM2 182

Page



Series: Wilo-Yonos PARA RSTG

New!



> Application

Hot-water heating systems of all kinds, cooling, solar and geothermal applications. Circulation in heating systems in the medium temperature range of $-20\text{ }^{\circ}\text{C}$ to $+110\text{ }^{\circ}\text{C}$

> Special features/product advantages

- One product for all applications
- Red Knob technology or PWM controlled
- Unique LED user interface
- Self-protecting modes
- Designed for optimised integration
- Self controlled pump (Red Knob)

> Additional information

- Yonos PARA RSTG 15/7.5, 25/7.5, 30/7.5 150

Page



Series: Wilo-Yonos PARA High Flow

New!



> Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems. Circulation in heating systems in the medium temperature range of $-20\text{ }^{\circ}\text{C}$ to $+110\text{ }^{\circ}\text{C}$

> Special features/product advantages

- THE AC replacement solution
- LED display for the indication of set delivery head and error messages
- Simple adjustment when replacing an uncontrolled standard pump
- Quick and convenient electrical connection with Wilo plug
- System availability ensured via collective fault signal
- Pump housing with cataphoretic coating for the prevention of corrosion

> Additional information

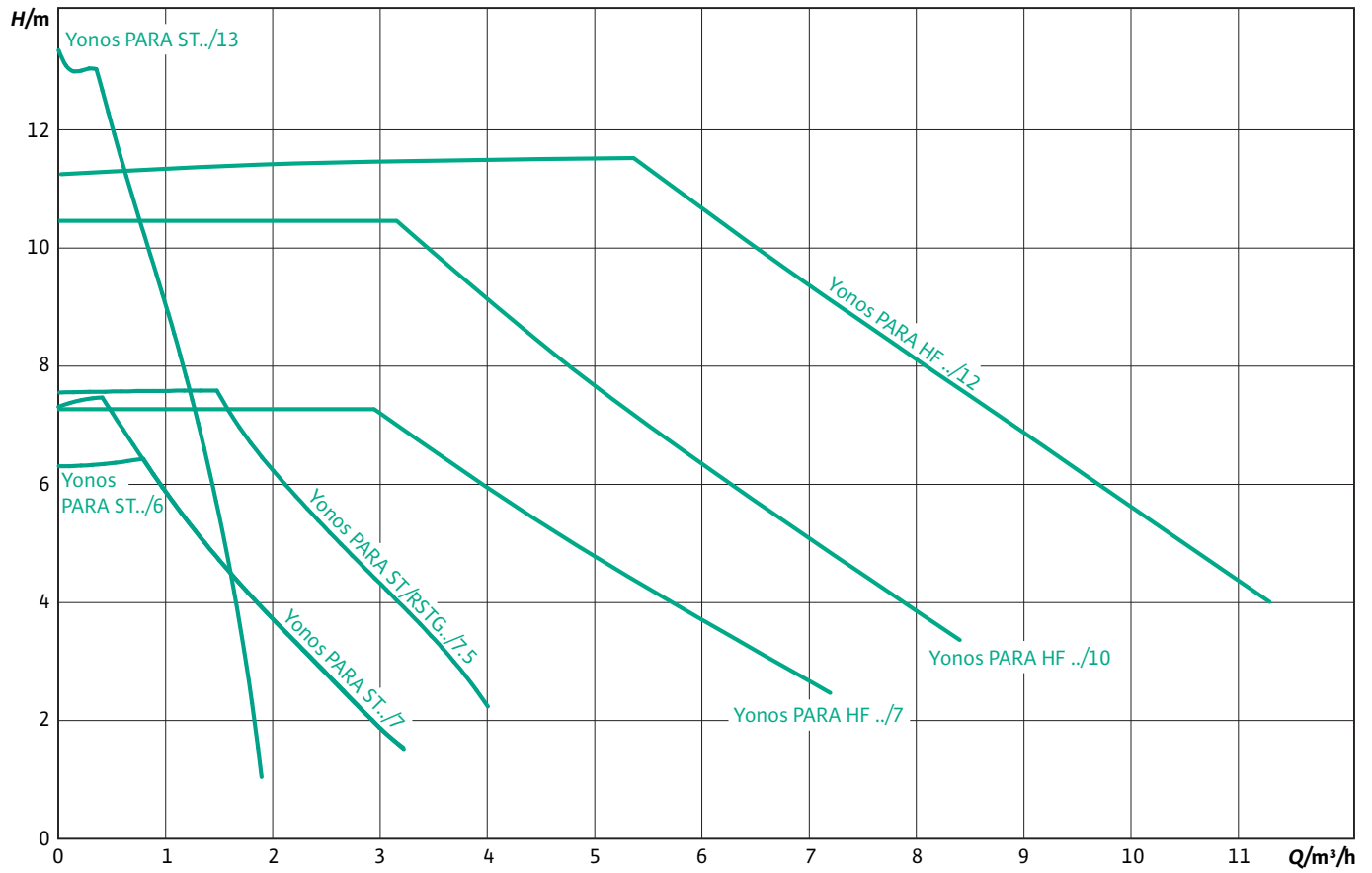
- Yonos PARA HF 25/7, 30/7 153
- Yonos PARA HF 25/10, 30/10 155
- Yonos PARA HF 25/12, 30/12 157

Page



Series overview

Hydraulic operational overview



All curves conform with EN 16297

Solar thermal energy systems

High-efficiency pumps

Equipment/function

	Wilo-Yonos PARA ST...		
	15/6 RKC 25/6 RKC 30/6 RKC	15/7.5 RKC 25/7.5 RKC 30/7.5 RKC	15/7.0(7.5, 13) PWM2 25/7.0(7.5) PWM2 30/7.0(7.5) PWM2
Operating modes			
Manual control mode (n=constant)	(RKC)	(RKC)	via PWM
Δp -c for constant differential pressure	–	–	–
Δp -v for variable differential pressure	• (H _{min.} = 0,5 m, H _{max.} = 6 m)	• (H _{min.} = 0,5 m, H _{max.} = 7.5 m)	–
Manual functions			
Operating mode setting	•	–	–
Differential-pressure setpoint setting	•	•	•
Automatic functions			
Infinitely variable power adjustment depending on the operating mode	•	•	•
Deblocking function	•	•	•
Soft start	•	•	•
Full motor protection with integrated trip electronics	–	–	–
Venting routine	–	–	–
External control functions			
Control input "Analogue In 0 ... 10 V" with cable break function (remote speed adjustment)	–	–	–
Control input "Analogue In 0 ... 10 V" without cable break function (remote setpoint adjustment)	–	–	–
Control input PWM	–	–	•
Signal and display functions			
Collective fault signal (potential-free NC contact)	–	–	–
Equipment/scope of delivery			
Red button	•	•	–
Version without red button (=external control)	–	–	•
Wrench attachment point on pump body	•	•	•
Including power cable	on request	•	•
Including power plug	on request	on request	on request
Including control cable	–	–	on request
Including seals for threaded connection (loose)	on request	on request	on request
Including installation and operating instructions	on request	on request	on request
Including thermal insulation	on request	on request	on request
Incl. Cooling-Shell for cooling	–	–	–
Individual packaging	on request	on request	on request
Collective packaging	•	•	•

• = available, – = not available

* see table "Possible combinations of functions and equipment"

WYonos_PARA_ST...

Equipment/function

	Yonos PARA RSTG	Yonos PARA High Flow		
	15/7.5 25/7.5 30/7.5	25/7 30/7	25/10 30/10	25/12 30/12
Operating modes				
Manual control mode (n=constant)	• RKC/PWM	•	•	•
Δp -c for constant differential pressure	-	• ($H_{min.} = 0.5$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 10$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 12$ m)
Δp -v for variable differential pressure	• ($H_{min.} = 0.5$ m, $H_{max.} = 7.5$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 10$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 12$ m)
Manual functions				
Operating mode setting	•	•	•	•
Differential-pressure setpoint setting	•	•	•	•
Automatic functions				
Infinitely variable power adjustment depending on the operating mode	•	•	•	•
Deblocking function	•	•	•	•
Soft start	•	•	•	•
Full motor protection with integrated trip electronics	-	•	•	•
Venting routine	•	-	-	-
External control functions				
Control input "Analogue In 0 ... 10 V" with cable break function (remote speed adjustment)	-	-	-	-
Control input "Analogue In 0 ... 10 V" without cable break function (remote setpoint adjustment)	-	-	-	-
Control input PWM	•	-	-	-
Signal and display functions				
Collective fault signal (potential-free NC contact)	-	•	•	•
Equipment/scope of delivery				
Red button	•	•	•	•
Version without red button (=external control)	-	-	-	-
Wrench attachment point on pump body	-	•	•	•
Including power cable	on request	on request	on request	on request
Including power plug	on request	on request	on request	on request
Including control cable	-	-	-	-
Including seals for threaded connection	on request	on request	on request	on request
Including installation and operating instructions	on request	on request	on request	on request
Including thermal insulation	on request	on request	on request	on request
Incl. Cooling-Shell for cooling	-	-	-	-
Individual packaging	•	•	•	•
Collective packaging	•	•	•	•

• = available, - = not available

* see table "Possible combinations of functions and equipment"

Solar thermal energy systems

High-efficiency pumps

Series description Wilo-Yonos PARA ST .../6 Red Knob, .../7.0 PWM2



Design

Glandless circulation pump with a cast iron pump housing and threaded. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology or remote control via external PWM signal. Equipped with LED user interface. Mechanical design dedicated for solar thermal applications.

Application

Circulation in solar thermal systems in the medium temperature range of -10 °C to +110 °C with short peaks of 140 °C.

Type key

Example:	Yonos PARA ST 15/6 RKC C 130 12
Yonos	Electronically controlled high-efficiency pump
PARA	pump range adapted to requirements of the OEM market
ST	Pump dedicated to the requirements for solar thermal applications Standard cast iron pump housing
15/	Nominal diameter: 15 threading 1" 25 threading 1 1/2" 30 threading 2"
6	Nominal delivery head range [m]
RKC	The pump is controlled by Red Knob technology: RKC = $\Delta p-v$ / constant speed I, II, III or PWM2 = the pump is controlled by an external system via PWM2 signal
C	Integrated Molex 3-way connector
130	Pump housing length: 110 mm, 130 mm or 180 mm
12	Electronic box orientation

Technical data

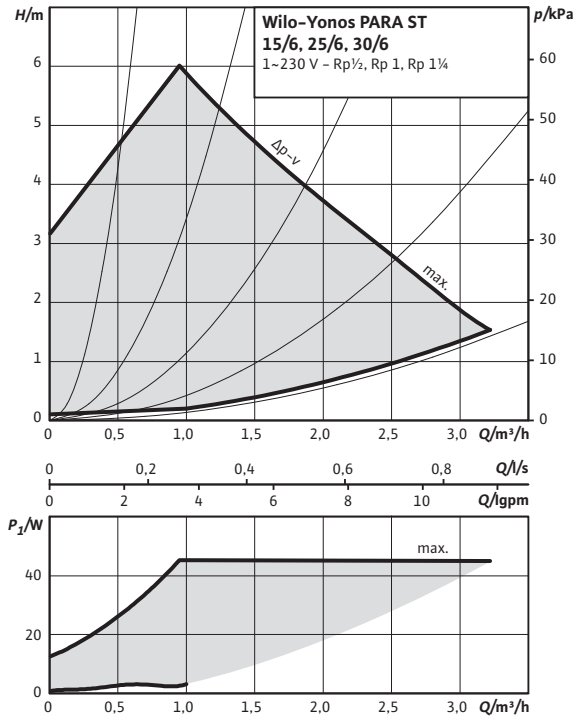
	.../6	.../7.0
Approved fluids (other fluids on request)		
Heating water (in accordance with VDI 2035)		•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)		•
Power		
Energy efficiency index (EEI)	≤ 0.20	
Max. delivery head	6.3 m	7.3 m
Max. volume flow	3.3 m ³ /h	
Permitted field of application		
Temperature range at max. ambient temperature	of 55°C = 0 to 110°C of 62°C = 0 to 90°C of 66°C = 0 to 80°C of 71°C = 0 to 70°C	
Maximum static pressure	10 bar	
Electrical connection		
Mains connection	1~230 V, 50/60 Hz	
Motor/electronics		
Electromagnetic compatibility	EN 61800-3	
Emitted interference	EN 61000-6-3 EN 61000-6-4	
Interference resistance	EN 61000-6-2 EN 61000-6-1	
Speed control	Frequency converter	
Protection class	IP X4D	
Insulation class	F	
Minimum suction head at suction port for avoiding cavitation at water pumping temperature		
Minimum suction head at 50 / 95 / 110 °C	0.5 / 4.5 / 11 m	

• = available, - = not available

Pump curves Wilo-Yonos PARA ST .../6 Red Knob, .../7.0 PWM2

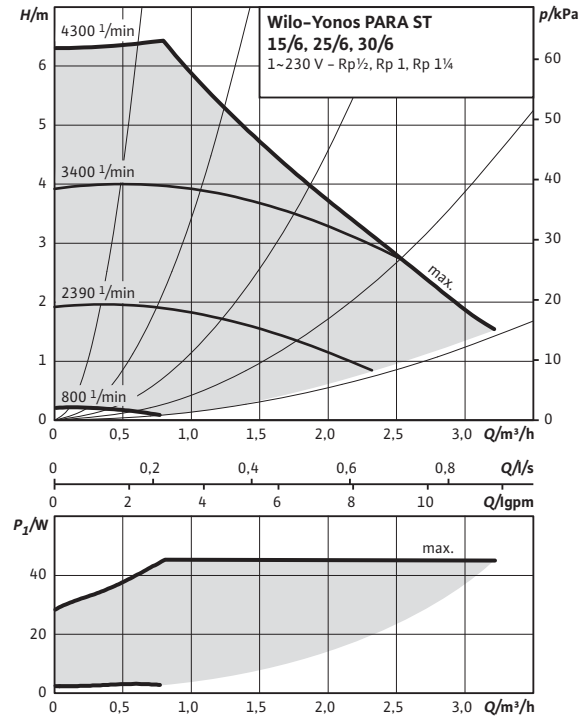
Wilo-Yonos PARA ST 15/6, 25/6, 30/6

Δp-v (variable)



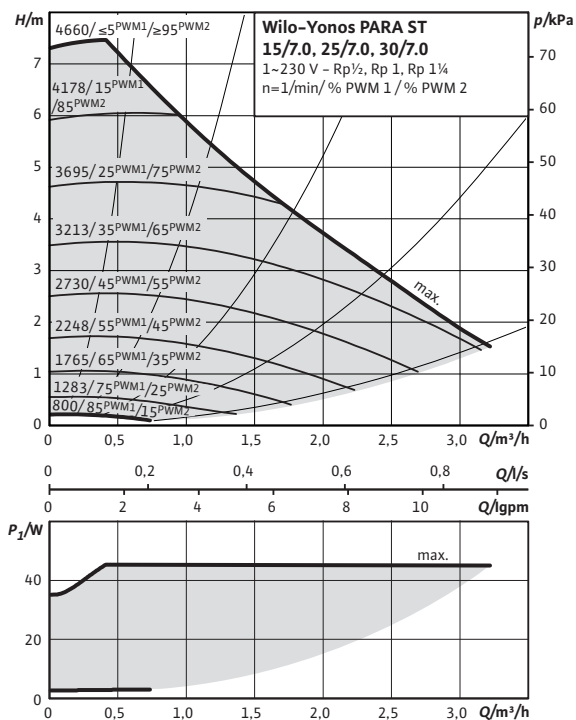
Wilo-Yonos PARA ST 15/6, 25/6, 30/6

Constant speed I, II, III



Wilo-Yonos PARA ST 15/7.0, 25/7.0, 30/7.0

External control via PWM



Solar thermal energy systems

Solar thermal energy systems

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA ST .../6 Red Knob, .../7.0 PWM2

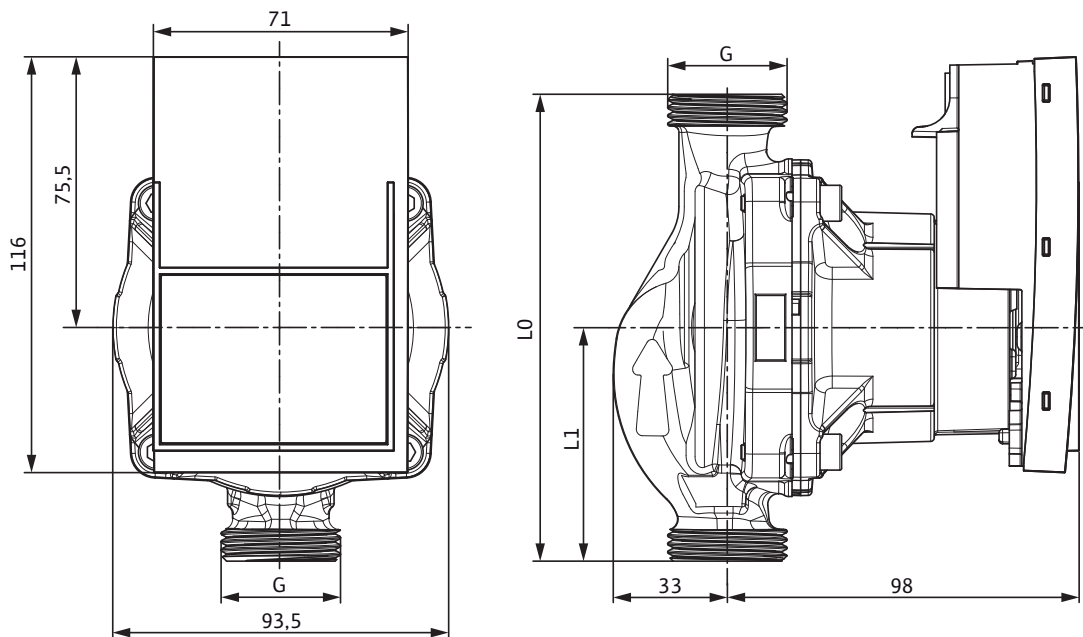
Motor data

Wilo-Yonos PARA ST...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated
.../7.0 PWM2	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA ST...	Pump housing	Impeller	Pump shaft	Bearing
.../6 RKC, .../7.0 PWM2	Cast iron with cathaphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA ST...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–	–	l_0	$L1$	m
	–	–		mm	kg
ST 15/6	Rp 1/2	G 1	130	65	1.7
ST 25/6	Rp 1	G 1 1/2	130	65	1.8
ST 25/6	Rp 1	G 1 1/2	180	90	1.9
ST 30/6	Rp 1 1/4	G 2	180	90	2.1
ST 15/7.0	Rp 1/2	G 1	130	65	1.7
ST 25/7.0	Rp 1	G 1 1/2	130	65	1.8
ST 25/7.0	Rp 1	G 1 1/2	180	90	1.9
ST 30/7.0	Rp 1 1/4	G 2	180	90	2.1

Series description Wilo-Yonos PARA ST .../7.5 Red Knob, PWM2



Design

Glandless circulation pump with a cast iron pump housing and threaded. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology or remote control via external PWM signal. Equipped with LED user interface. Mechanical design dedicated for solar thermal applications.

Application

Circulation in solar thermal systems in the medium temperature range of -10 °C to +110 °C with short peaks of 140 °C.

Type key

Example:	Yonos PARA ST 15/7.5 RKC C 130 12
Yonos	Electronically controlled high-efficiency pump
PARA	pump range adapted to requirements of the OEM market
ST	ST Pump dedicated to the requirements for solar thermal applications Standard cast iron pump housing RSTG Hybrid pump with cast iron pump housing- for all application RS, ST & GT
15/	Nominal diameter: 15 threading 1" 25 threading 1 1/2" 30 threading 2"
7.5	Nominal delivery head range [m]
RKC	The pump is controlled by Red Knob technology: RKC = $\Delta p-v$ / constant speed I, II, III or PWM2 = the pump is controlled by an external system via PWM2 signal
C	Integrated Molex 3-way connector
130	Pump housing length: 110 mm, 130 mm or 180 mm
12	Electronic box orientation

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.21
Max. delivery head	7.6 m
Max. volume flow	4.0 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 55°C = 0 to 110°C of 62°C = 0 to 90°C of 66°C = 0 to 80°C of 71°C = 0 to 70°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
------------------	-------------------

Motor/electronics

Electromagnetic compatibility	EN 61800-3
Emitted interference	EN 61000-6-3 EN 61000-6-4
Interference resistance	EN 61000-6-2 EN 61000-6-1
Speed control	Frequency converter
Protection class	IP X4D
Insulation class	F

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

Minimum suction head at 50/95/110 °C	0.5/4.5/11 m
--------------------------------------	--------------

• = available, - = not available

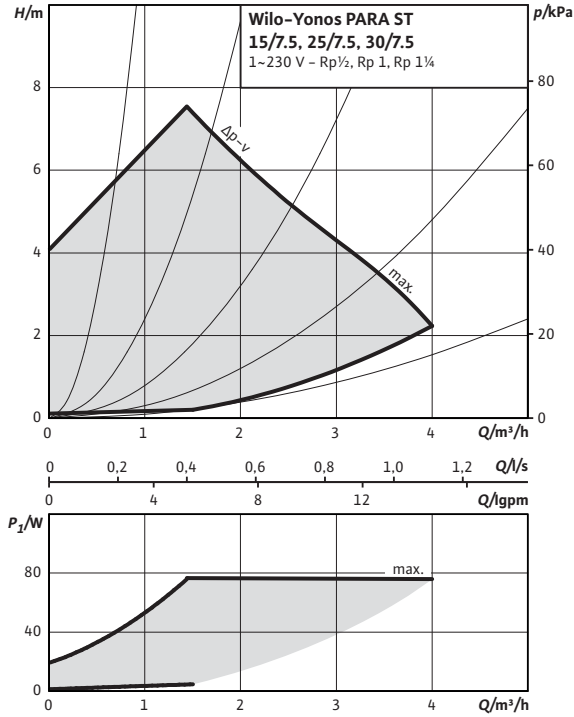
Solar thermal energy systems

High-efficiency pumps

Pump curves Wilo-Yonos PARA ST .../7.5 Red Knob, PWM2

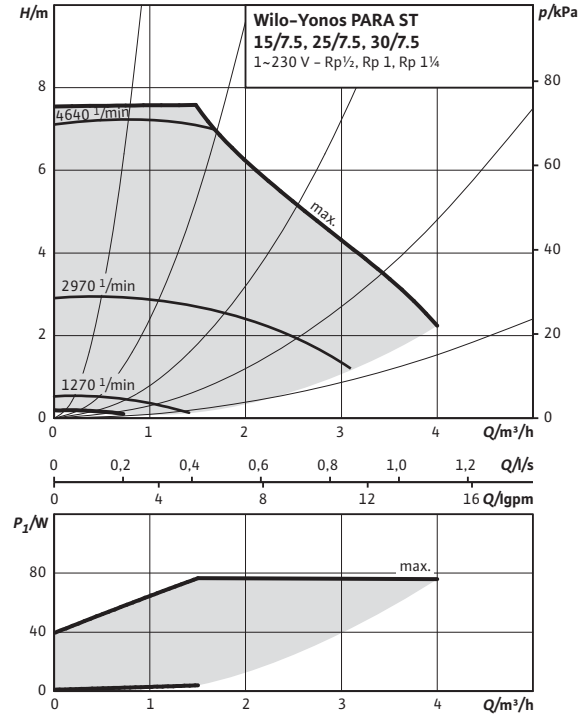
Wilo-Yonos PARA ST 15/7.5, 25/7.5, 30/7.5

Δp-v (variable)



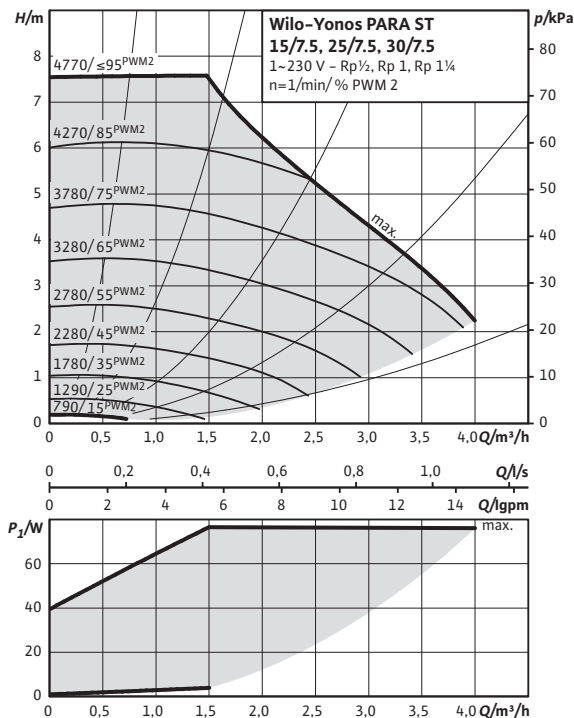
Wilo-Yonos PARA ST 15/7.5, 25/7.5, 30/7.5

Constant speed I, II, III



Wilo-Yonos PARA ST 15/7.5, 25/7.5, 30/7.5

External control via PWM



Dimensions, motor data Wilo-Yonos PARA ST .../7.5 Red Knob, PWM2

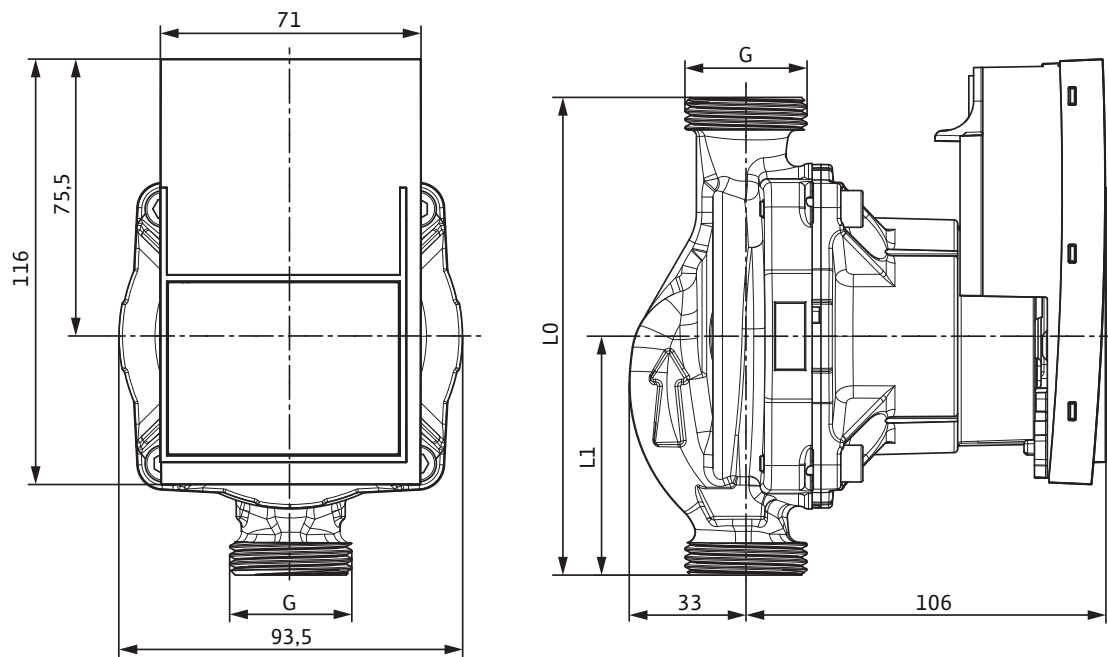
Motor data

Wilo-Yonos PARA ST...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../7.5 RKC/PWM2	800 - 4770	4-75	0.04 - 0.66	integrated

Materials

Wilo-Yonos PARA ST...	Pump housing	Impeller	Pump shaft	Bearing
.../7.5 RKC/PWM2	Cast iron with cataphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA ST...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–		l_0	$L1$	m
	–			mm	kg
ST 15/7.5 RKC/PWM2	Rp 1/2	G 1	130	65	1.8
ST 25/7.5 RKC/PWM2	Rp 1	G 1 1/2	130	65	1.9
ST 25/7.5 RKC/PWM2	Rp 1	G 1 1/2	180	90	1.9
ST 30/7.5 RKC/PWM2	Rp 1 1/4	G 2	180	90	2.2

Solar thermal energy systems

High-efficiency pumps

Series description Wilo-Yonos PARA ST 15/13, PWM2



Design

Glandless circulation pump with a cast iron pump housing and threaded. EC-motor with automatic power adjustment and self-protecting modes. Operation via external PWM2 signal. Equipped with LED user interface. Mechanical design dedicated for solar thermal applications.

Application

Circulation in solar thermal systems in the medium temperature range of -10 °C to +110 °C with short peaks of 140 °C.

Type key

Example:	Yonos PARA ST 15/13 PWM2 C 130 12
Yonos	Electronically controlled high-efficiency pump
PARA	pump range adapted to requirements of the OEM market
ST	Pump dedicated to the requirements for solar thermal applications Standard cast iron pump housing
15/	Nominal diameter: 15 threading 1"
13	Nominal delivery head range [m]
PWM2	The pump is controlled by via PWM2 = the pump is controlled by an external system via PWM2 signal
C	Integrated Molex 3-way connector
130	Pump housing length: 130 mm
12	Electronic box orientation

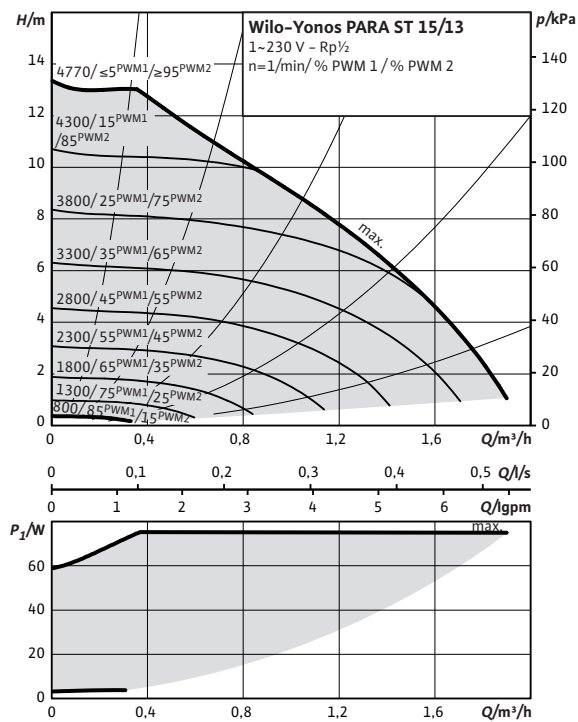
Technical data	
Approved fluids (other fluids on request)	
Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•
Power	
Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	13.0 m
Max. volume flow	1.9 m ³ /h
Permitted field of application	
Temperature range at max. ambient temperature	of 55°C = 0 to 110°C of 62°C = 0 to 90°C of 66°C = 0 to 80°C of 71°C = 0 to 70°C
Maximum static pressure	10 bar
Electrical connection	
Mains connection	1~230 V, 50/60 Hz
Motor/electronics	
Electromagnetic compatibility	EN 61800-3
Emitted interference	EN 61000-6-3 EN 61000-6-4
Interference resistance	EN 61000-6-2 EN 61000-6-1
Speed control	Frequency converter
Protection class	IP X4D
Insulation class	F
Minimum suction head at suction port for avoiding cavitation at water pumping temperature	
Minimum suction head at 50 / 95°C	0.5 / 4.5 m

• = available, - = not available

Pump curves Wilo-Yonos PARA ST 15/13 PWM2

Wilo-Yonos PARA ST 15/13

External control via PWM



Solar thermal energy systems

Solar thermal energy systems

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA ST 15/13 PWM2

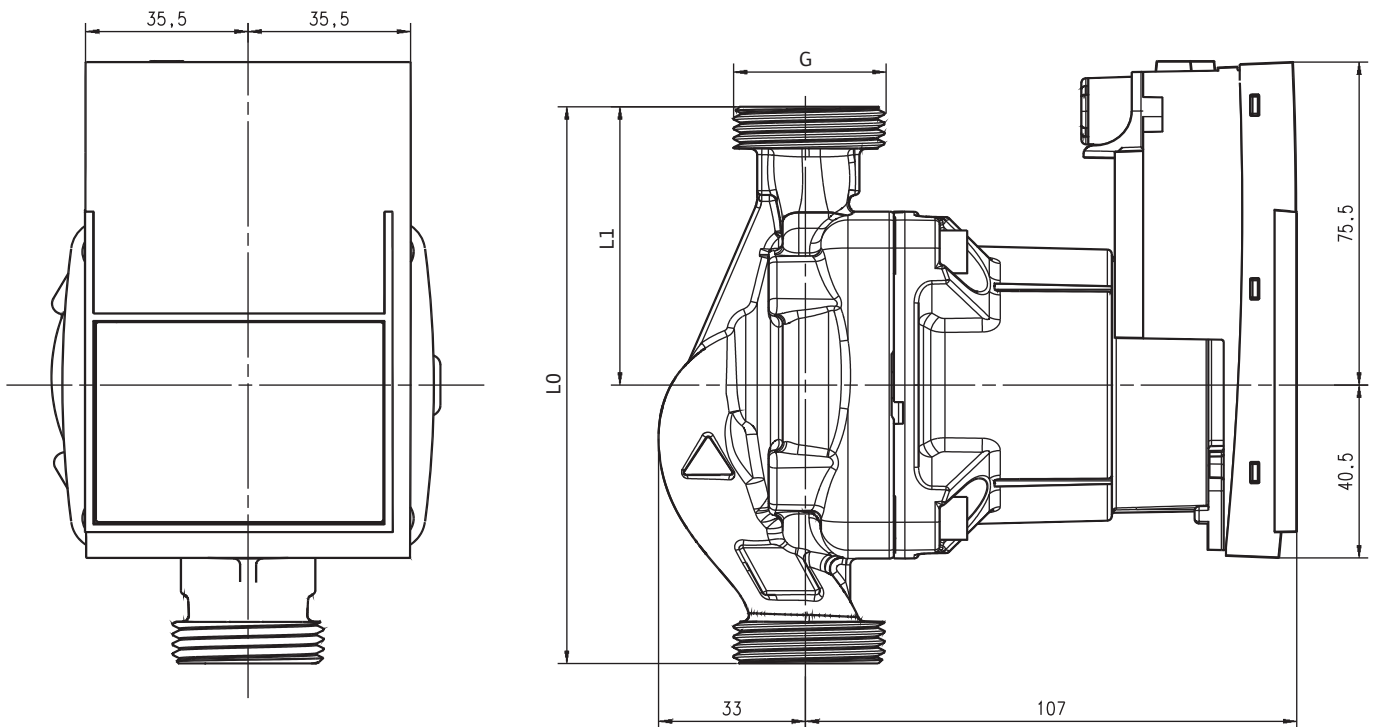
Motor data

Wilo-Yonos PARA ST...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../13 PWM2	800 - 4770	4-75	0.04 - 0.66	integrated

Materials

Wilo-Yonos PARA ST...	Pump housing	Impeller	Pump shaft	Bearing
.../13 PWM2	Cast iron with cathaphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA ST...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–	–	l_0	$L1$	m
	–	–		mm	kg
ST 15/13	Rp 1/2	G 1	130	65	2.3



Geothermal energy systems

High-efficiency pumps

Series overview

Series: Wilo-Yonos PARA GT



> Application

Circulation in geothermal systems in the medium temperature range of $-20\text{ }^{\circ}\text{C}$ to $+95\text{ }^{\circ}\text{C}$.

> Special features/product advantages

- Red Knob technology or PWM controlled
- Unique LED user interface
- Self-protecting modes
- Designed for optimised integration
- Self controlled pump (Red Knob) or externally controlled (PWM signal)

> Additional information

- | | Page |
|---|------|
| • Yonos PARA GT 15/6, 25/6, 30/6 Red Knob | 191 |
| • Yonos PARA GT 15/7.0, 25/7.0, 30/7.0 PWM1 | 191 |
| • Yonos PARA GT 15/7.5, 25/7.5, 30/7.5 Red Knob, PWM1 | 194 |

Series: Wilo-Yonos PARA RSTG

New!



> Application

Hot-water heating systems of all kinds, cooling, solar and geothermal applications. Circulation in heating systems in the medium temperature range of $-20\text{ }^{\circ}\text{C}$ to $+110\text{ }^{\circ}\text{C}$

> Special features/product advantages

- One product for all applications
- Red Knob technology or PWM controlled
- Unique LED user interface
- Self-protecting modes
- Designed for optimised integration
- Self controlled pump (Red Knob)

> Additional information

- | | Page |
|--|------|
| • Yonos PARA RSTG 15/7.5, 25/7.5, 30/7.5 | 150 |

Series: Wilo-Yonos PARA High Flow

New!



> Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems. Circulation in heating systems in the medium temperature range of $-20\text{ }^{\circ}\text{C}$ to $+110\text{ }^{\circ}\text{C}$

> Special features/product advantages

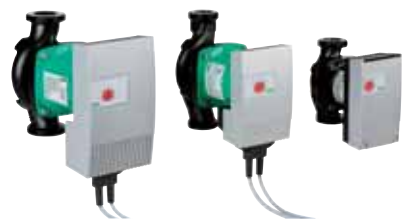
- THE AC replacement solution
- LED display for the indication of set delivery head and error messages
- Simple adjustment when replacing an uncontrolled standard pump
- Quick and convenient electrical connection with Wilo plug
- System availability ensured via collective fault signal
- Pump housing with cataphoretic coating for the prevention of corrosion

> Additional information

- | | Page |
|------------------------------------|------|
| • Yonos PARA HF 25/7, 30/7 | 153 |
| • Yonos PARA HF 25/10, 30/10 | 155 |
| • Yonos PARA HF 25/12, 30/12 | 157 |

Series overview

Series: Wilo-Stratos PARA



> Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

> Special features/product advantages

- Application in the medium temperature range of $-10\text{ }^{\circ}\text{C}$ to $+95\text{ }^{\circ}\text{C}$ (+110 $^{\circ}\text{C}$) ambient temperature of $+25\text{ }^{\circ}\text{C}$
- Electronic performance control via external control signals 0-10V or PWM
- Convenient setting of the pump via Red Button technology with operating mode $\Delta p\text{-c}$ and $\Delta p\text{-v}$.
- Standard delivery with cable for an easy electrical connection

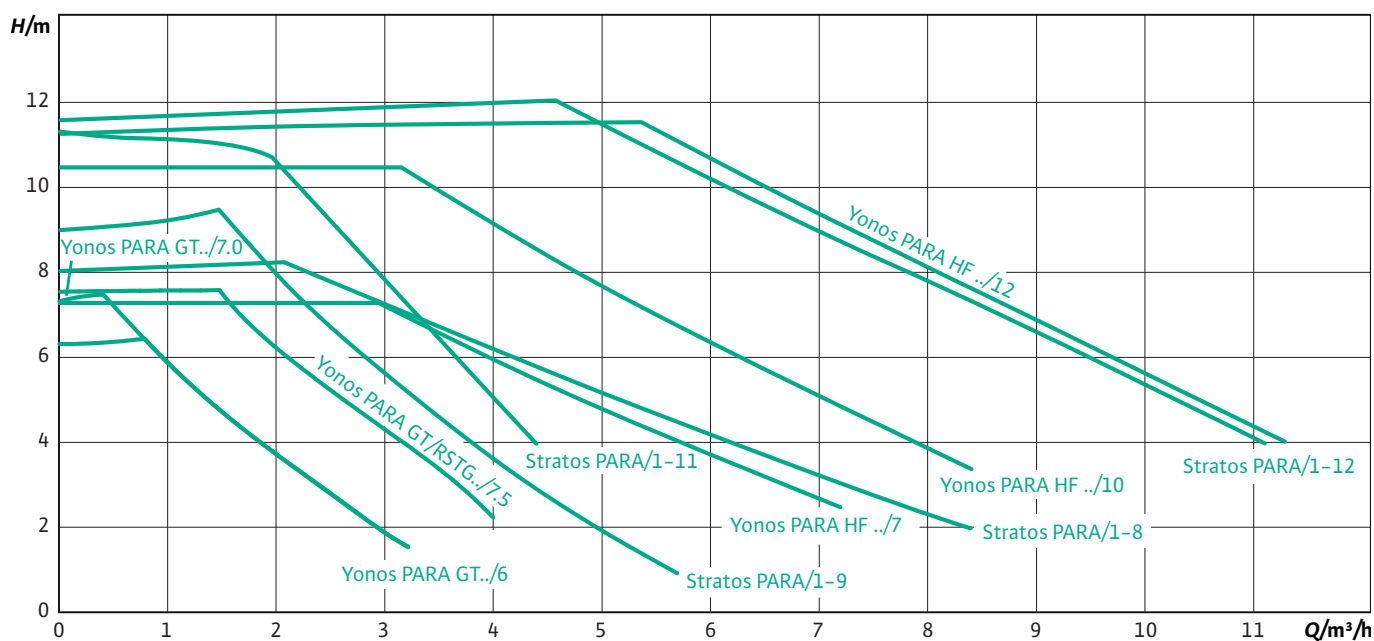
> Additional information

- | | Page |
|---|------|
| • Stratos PARA 25/1-8, 30/1-8 | 197 |
| • Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9 | 200 |
| • Stratos PARA 25/1-11, 30/1-11.... | 203 |
| • Stratos PARA 25/1-12, 30/1-12.... | 206 |

Page



Hydraulic operational overview



All curves conform with EN 16297

Geothermal energy systems

High-efficiency pumps

Equipment/function			
	Wilo-Yonos PARA GT...		
	15/6 RKC 25/6 RKC 30/6 RKC	15/7.5 RKC 25/7.5 RKC 30/7.5 RKC	15/7.0 (7.5) PWM1 25/7.0 (7.5) PWM1 30/7.0 (7.5) PWM1
Operating modes			
Manual control mode (n=constant)	• (RKC)	• (RKC)	• via PWM
Δp -c for constant differential pressure	• ($H_{min.} = 0,5 \text{ m}$, $H_{max.} = 6 \text{ m}$)	• ($H_{min.} = 0,5 \text{ m}$, $H_{max.} = 7.5 \text{ m}$)	–
Δp -v for variable differential pressure	–	–	–
Manual functions			
Operating mode setting	•	•	–
Differential-pressure setpoint setting	•	•	•
Automatic functions			
Infinitely variable power adjustment depending on the operating mode	•	•	•
Deblocking function	•	•	•
Soft start	•	•	•
Full motor protection with integrated trip electronics	–	–	–
Venting routine	–	–	–
External control functions			
Control input "Analogue In 0 ... 10 V" with cable break function (remote speed adjustment)	–	–	–
Control input "Analogue In 0 ... 10 V" without cable break function (remote setpoint adjustment)	–	–	–
Control input PWM	–	–	•
Signal and display functions			
Collective fault signal (potential-free NC contact)	–	–	–
Equipment/scope of delivery			
Red button	•	•	–
Version without red button (=external control)	–	–	•
Wrench attachment point on pump body	•	•	•
Including power cable	on request	•	•
Including power plug	on request	on request	on request
Including control cable	–	–	on request
Including seals for threaded connection	on request	on request	on request
Including installation and operating instructions	on request	on request	on request
Including thermal insulation	on request	on request	on request
Incl. Cooling-Shell for cooling	–	–	–
Individual packaging	on request	on request	on request
Collective packaging	•	•	•

Equipment/function

	Yonos PARA RSTG	Yonos PARA High Flow		
	15/7.5 25/7.5 30/7.5	25/7 30/7	25/10 30/10	25/12 30/12
Operating modes				
Manual control mode (n=constant)	• RKC/PWM	•	•	•
Δp -c for constant differential pressure	-	• ($H_{min.} = 0.5$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 10$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 12$ m)
Δp -v for variable differential pressure	• ($H_{min.} = 0.5$ m, $H_{max.} = 7.5$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 10$ m)	• ($H_{min.} = 0.5$ m, $H_{max.} = 12$ m)
Manual functions				
Operating mode setting	•	•	•	•
Differential-pressure setpoint setting	•	•	•	•
Automatic functions				
Infinitely variable power adjustment depending on the operating mode	•	•	•	•
Deblocking function	•	•	•	•
Soft start	•	•	•	•
Full motor protection with integrated trip electronics	-	•	•	•
Venting routine	•	-	-	-
External control functions				
Control input "Analogue In 0 ... 10 V" with cable break function (remote speed adjustment)	-	-	-	-
Control input "Analogue In 0 ... 10 V" without cable break function (remote setpoint adjustment)	-	-	-	-
Control input PWM	•	-	-	-
Signal and display functions				
Collective fault signal (potential-free NC contact)	-	•	•	•
Equipment/scope of delivery				
Red button	•	•	•	•
Version without red button (=external control)	-	-	-	-
Wrench attachment point on pump body	-	•	•	•
Including power cable	on request	on request	on request	on request
Including power plug	on request	on request	on request	on request
Including control cable	-	-	-	-
Including seals for threaded connection	on request	on request	on request	on request
Including installation and operating instructions	on request	on request	on request	on request
Including thermal insulation	on request	on request	on request	on request
Incl. Cooling-Shell for cooling	-	-	-	-
Individual packaging	•	•	•	•
Collective packaging	•	•	•	•

• = available, - = not available

* see table "Possible combinations of functions and equipment"

Geothermal energy systems

High-efficiency pumps

Equipment/function

	Wilo-Stratos PARA...			
	25/1-8 30/1-8	15/1-9 20/1-9 25/1-9 30/1-9	25/1-11 30/1-11	25/1-12 30/1-12
Operating modes				
Manual control mode (n=constant)	• via Analog In 0–10 V or PWM	• via Analog In 0–10 V or PWM	• via Analog In 0–10 V or PWM	• via Analog In 0–10 V or PWM
Δp -c for constant differential pressure	• ($H_{\min.} = 1$ m, $H_{\max.} = 7$ m)	• ($H_{\min.} = 1$ m, $H_{\max.} = 9$ m)	• ($H_{\min.} = 2$ m, $H_{\max.} = 10$ m)	• ($H_{\min.} = 2$ m, $H_{\max.} = 11$ m)
Δp -v for variable differential pressure	• ($H_{\min.} = 2$ m, $H_{\max.} = 7$ m)	• ($H_{\min.} = 2$ m, $H_{\max.} = 8$ m)	• ($H_{\min.} = 4$ m, $H_{\max.} = 10$ m)	• ($H_{\min.} = 4$ m, $H_{\max.} = 10$ m)
Manual functions				
Operating mode setting	•	•	•	•
Differential-pressure setpoint setting	•	•	•	•
Automatic functions				
Infinitely variable power adjustment depending on the operating mode	•	•	•	•
Deblocking function	•	•	•	•
Soft start	•	•	•	•
Full motor protection with integrated trip electronics	•	•	•	•
Venting routine	–	–	–	–
External control functions				
Control input "Analogue In 0 ... 10 V" with cable break function (remote speed adjustment)	on request*	on request*	on request*	on request*
Control input "Analogue In 0 ... 10 V" without cable break function (remote setpoint adjustment)	on request*	on request*	on request*	on request*
Control input PWM	on request*	on request*	on request*	on request*
Signal and display functions				
Collective fault signal (potential-free NC contact)	•	•	•	•
Equipment/scope of delivery				
Red button	•	•	•	•
Version without red button (=external control)	•	•	•	•
Wrench attachment point on pump body	•	•	•	•
Including power cable	•	•	•	•
Including power plug	–	–	–	–
Including control cable	on request	on request	on request	on request
Including seals for threaded connection	on request	on request	on request	on request
Including installation and operating instructions	on request	on request	on request	on request
Including thermal insulation	on request	on request	on request	on request
Incl. Cooling-Shell for cooling	on request	on request	on request	on request
Individual packaging	•	•	•	•
Collective packaging	on request 108 pumps/box	on request 196 pumps/box	on request 108 pumps/box	on request 72 pumps/box

• = available, – = not available

* see table "Possible combinations of functions and equipment"

Series description Wilo-Yonos PARA GT .../6 Red Knob, .../7.0 PWM1



Design

Glandless circulation pump with a cast iron pump housing and threaded. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology or remote control via external PWM signal. Equipped with LED user interface. Mechanical design dedicated for geothermal applications.

Application

Circulation in geothermal systems in the medium temperature range of -20 °C to +95 °C.

Type key

Example:	Yonos PARA GT 15/6 RKC C 130 12
Yonos	Electronically controlled high-efficiency pump
PARA	pump range adapted to requirements of the OEM market
GT	Pump dedicated for geothermal applications Standard cast iron pump housing
15/	Nominal diameter: 15 threading 1" 25 threading 1 1/2" 30 threading 2"
6	Nominal delivery head range [m]
RKC	The pump is controlled by Red Knob technology: RKC = $\Delta p-v$ / constant speed I, II, III or PWM1 = the pump is controlled by an external system via PWM1 signal
C	Integrated Molex 3-way connector
130	Pump housing length: 110 mm, 130 mm or 180 mm
12	Electronic box orientation

Technical data

	.../6	.../7.0
Approved fluids (other fluids on request)		
Heating water (in accordance with VDI 2035)	•	
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•	
Power		
Energy efficiency index (EEI)	≤ 0.20	
Max. delivery head	6.3 m	7.3 m
Max. volume flow	3.3 m ³ /h	
Permitted field of application		
Temperature range at max. ambient temperature	of 58°C = 0 to 100°C of 62°C = 0 to 90°C of 66°C = 0 to 80°C of 71°C = 0 to 70°C	
Maximum static pressure	6 bar	
Electrical connection		
Mains connection	1~230 V, 50/60 Hz	
Motor/electronics		
Electromagnetic compatibility	EN 61800-3	
Emitted interference	EN 61000-6-3 EN 61000-6-4	
Interference resistance	EN 61000-6-2 EN 61000-6-1	
Speed control	Frequency converter	
Protection class	IP X4D	
Insulation class	F	
Minimum suction head at suction port for avoiding cavitation at water pumping temperature		
Minimum suction head at 50 / 95 / 110 °C	0.5 / 4.5 / 0 m	

• = available, - = not available

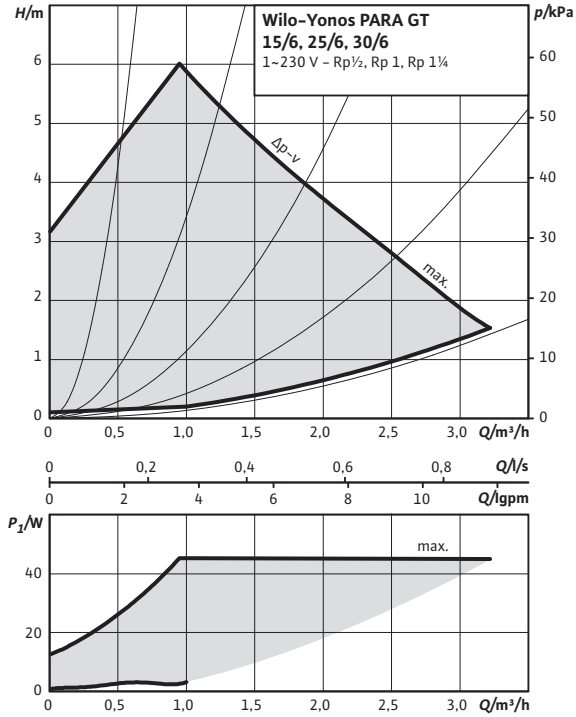
Geothermal energy systems

High-efficiency pumps

Pump curves Wilo-Yonos PARA GT .../6 Red Knob, .../7.0 PWM1

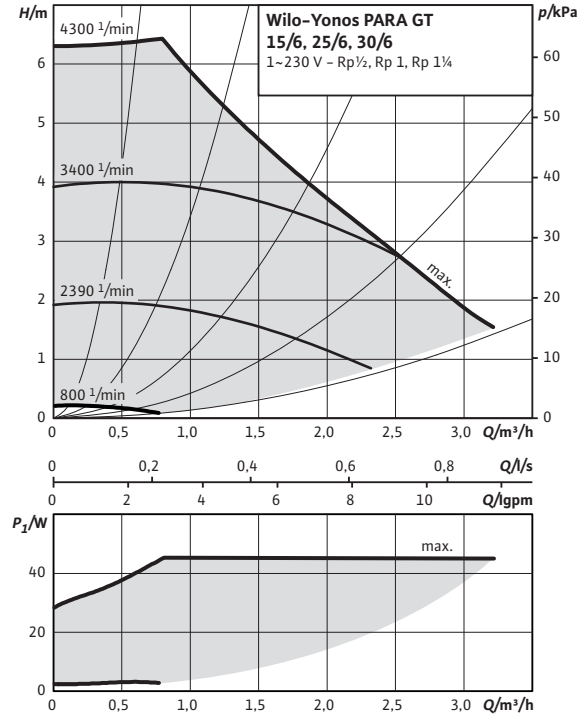
Wilo-Yonos PARA GT 15/6, 25/6, 30/6

$\Delta p-v$ (variable)



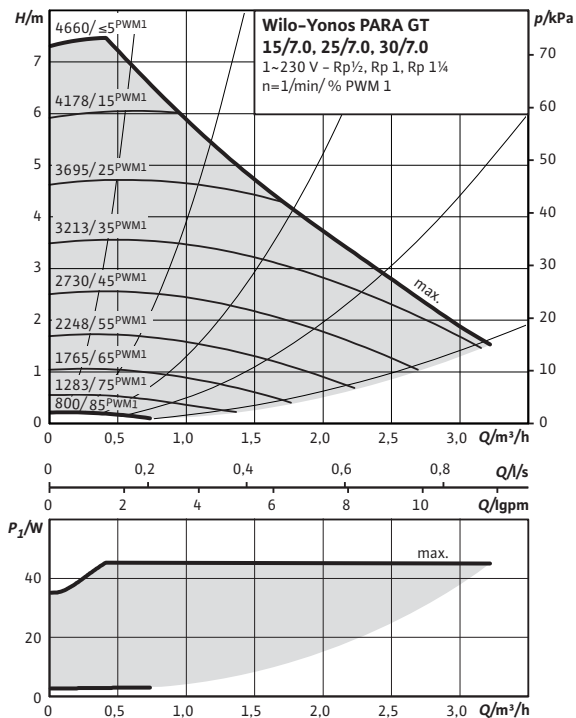
Wilo-Yonos PARA GT 15/6, 25/6, 30/6

Constant speed I, II, III



Wilo-Yonos PARA GT 15/7.0, 25/7.0, 30/7.0

External control via PWM 1



Dimensions, motor data Wilo-Yonos PARA GT .../6 Red Knob, .../7.0 PWM1

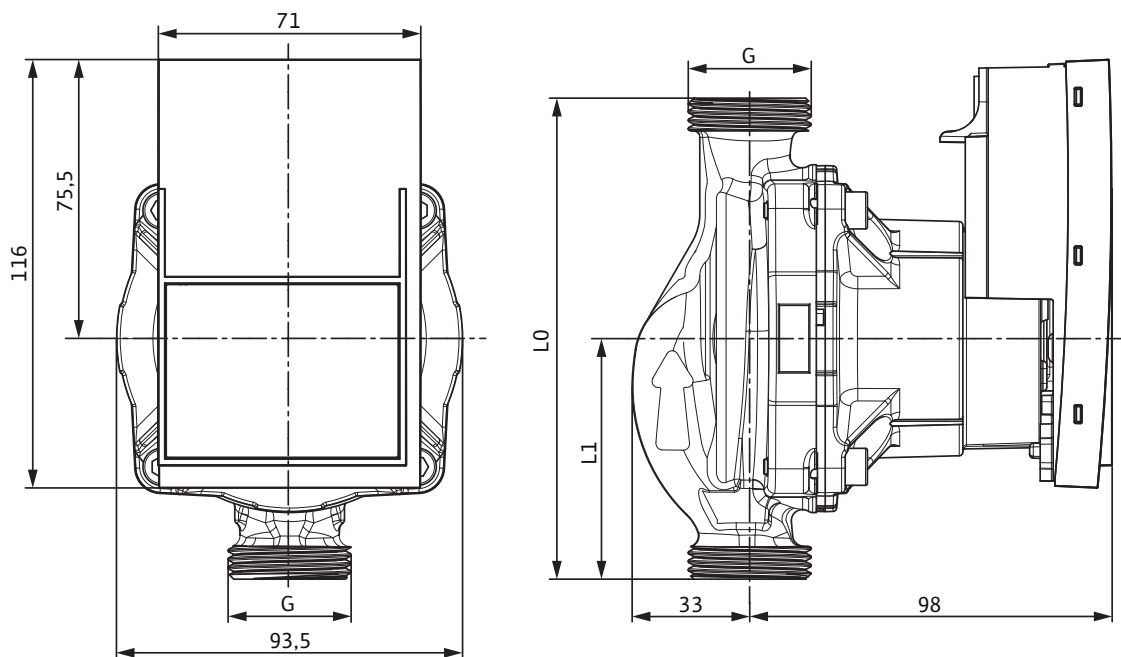
Motor data

Wilo-Yonos PARA GT...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../6 RKC	800 - 4300	3-45	0.03 - 0.44	integrated
.../7.0 PWM1	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA GT...	Pump housing	Impeller	Pump shaft	Bearing
.../6 RKC	Cast iron with cathaphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated
.../7.0 PWM1				

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA GT...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–		l_0	$L1$	m
	–			mm	kg
GT 15/6 RKC	Rp 1/2	G 1	130	65	1.7
GT 25/6 RKC	Rp 1	G 1 1/2	130	65	1.8
GT 25/6 RKC	Rp 1	G 1 1/2	180	90	1.9
GT 30/6 RKC	Rp 1 1/4	G 2	180	90	2.1
GT 15/7.0 PWM	Rp 1/2	G 1	130	65	1.7
GT 25/7.0 PWM	Rp 1	G 1 1/2	130	65	1.8
GT 25/7.0 PWM	Rp 1	G 1 1/2	180	90	1.9
GT 30/7.0 PWM	Rp 1 1/4	G 2	180	90	2.1

Geothermal energy systems

High-efficiency pumps

Series description Wilo-Yonos PARA GT .../7.5 Red Knob, PWM1



Design

Glandless circulation pump with a cast iron pump housing and threaded. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology or remote control via external PWM signal. Equipped with LED user interface. Mechanical design dedicated for geothermal applications.

Application

Circulation in geothermal systems in the medium temperature range of -20 °C to +95 °C.

Type key

Example:	Yonos PARA GT 15/7.5 RKC C 130 12
Yonos	Electronically controlled high-efficiency pump
PARA	pump range adapted to requirements of the OEM market
GT	GT Pump dedicated to the requirements for geothermal applications Standard cast iron pump housing RSTG Hybrid pump with cast iron pump housing – for all application RS, ST & GT
15/	Nominal diameter: 15 threading 1” 25 threading 1 ½” 30 threading 2”
7.5	Nominal delivery head range [m]
RKC	The pump is controlled by Red Knob technology: RKC = $\Delta p-v$ / constant speed I, II, III or PWM1 = the pump is controlled by an external system via PWM signal
C	Integrated Molex 3-way connector
130	Pump housing length: 110 mm, 130 mm or 180 mm
12	Electronic box orientation

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.21
Max. delivery head	7.6 m
Max. volume flow	4 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 58°C = 0 to 100°C of 62°C = 0 to 90°C of 66°C = 0 to 80°C of 71°C = 0 to 70°C
Maximum static pressure	6 bar (10 bar for RSTG)

Electrical connection

Mains connection	1~230 V, 50/60 Hz
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Motor/electronics

Electromagnetic compatibility	EN 61800-3
Emitted interference	EN 61000-6-3 EN 61000-6-4
Interference resistance	EN 61000-6-2 EN 61000-6-1
Speed control	Frequency converter
Protection class	IP X4D
Insulation class	F

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

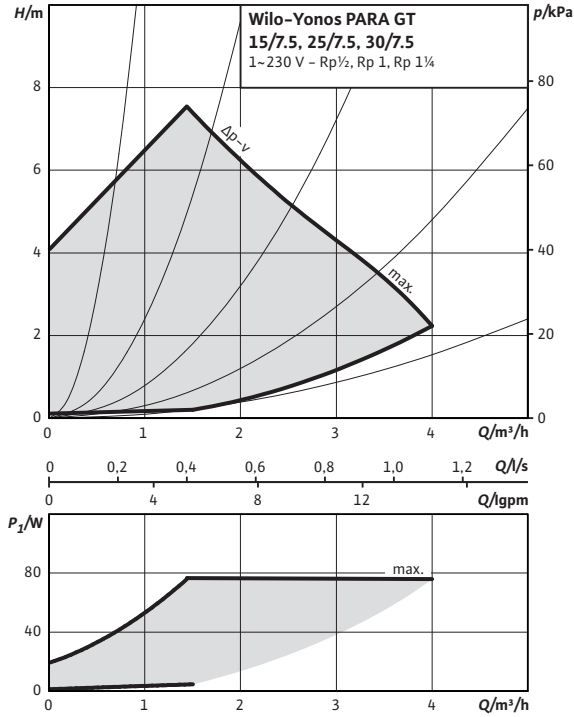
Minimum suction head at 50 / 95 °C	0.5 / 4.5 m
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• = available, - = not available

Pump curves Wilo-Yonos PARA GT .../7.5 Red Knob, PWM1

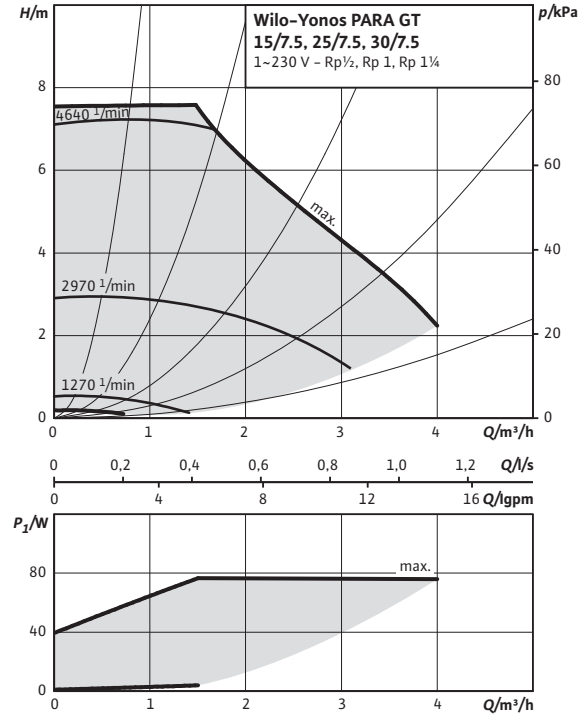
Wilo-Yonos PARA GT 15/7.5, 25/7.5, 30/7.5

$\Delta p-v$ (variable)



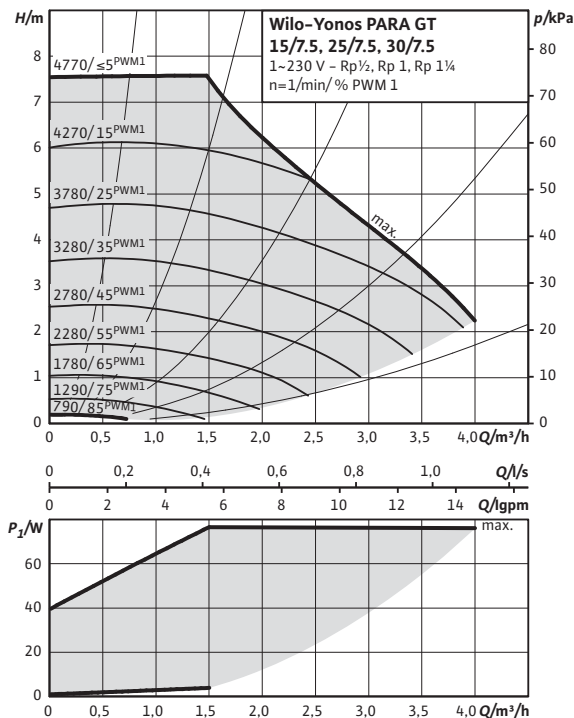
Wilo-Yonos PARA GT 15/7.5, 25/7.5, 30/7.5

Constant speed I, II, III



Wilo-Yonos PARA GT 15/7.5, 25/7.5, 30/7.5

External control via PWM 1



Geothermal energy systems

High-efficiency pumps

Dimensions, motor data Wilo-Yonos PARA GT .../7.5 Red Knob, PWM1

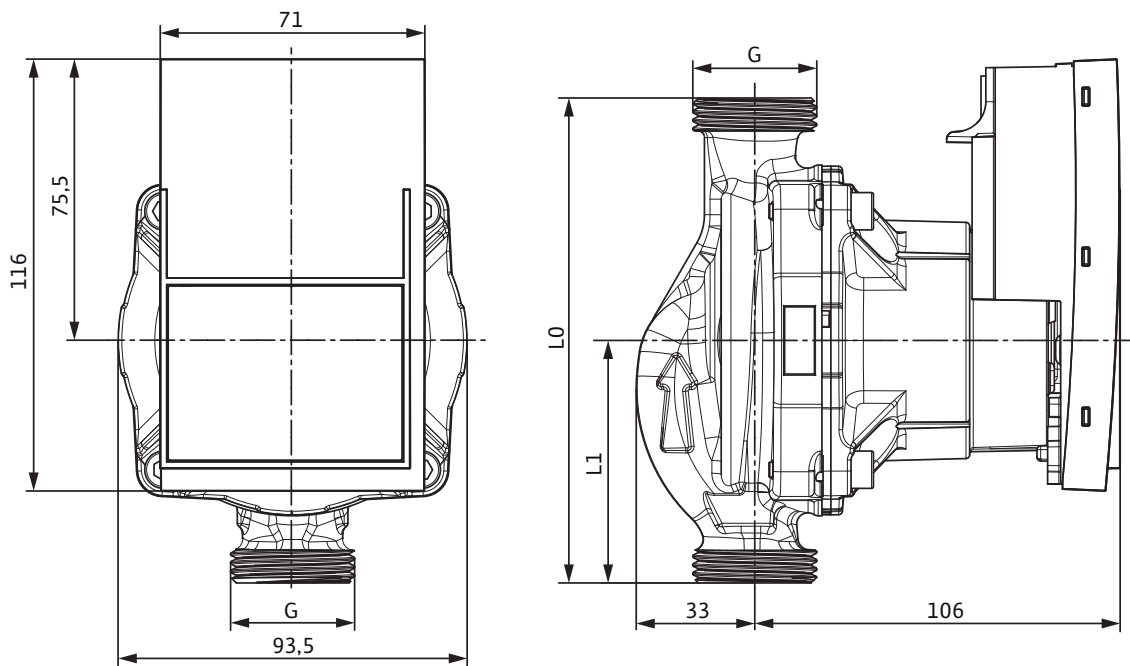
Motor data

Wilo-Yonos PARA GT...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../7.5 RKC/PWM1	800 - 4770	4-75	0.04 - 0.66	integrated

Materials

Wilo-Yonos PARA GT...	Pump housing	Impeller	Pump shaft	Bearing
.../7.5 RKC/PWM1	Cast iron with cataphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA GT...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–		l_0	$L1$	m
	–			mm	kg
GT 15/7.5 RKC/PWM1	Rp 1/2	G 1	130	65	1.8
GT 25/7.5 RKC/PWM1	Rp 1	G 1 1/4	130	65	1.9
GT 25/7.5 RKC/PWM1	Rp 1	G 1 1/2	180	90	2.1
GT 30/7.5 RKC/PWM1	Rp 1 1/4	G 2	180	90	2.2

Series description Wilo-Stratos PARA 25/1-8, 30/1-8



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology and delivered with power cable.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

Type key

Example:	Wilo-Stratos PARA 25/1-8 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
25/	Nominal connection diameter
1-8	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode $\Delta p-c$ (constant), $\Delta p-v$ (variable)
- Control mode selection and differential pressure setpoint setting for $\Delta p-c$, $\Delta p-v$ via operating button
- Special version without operating button
- All possible combinations of functions and equipment are available
- Version with cable according to customer specification
- Version with short overall length of 130 mm (DN 25 only)
- Delivery in collective packaging (108 pumps/packaging)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
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Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•
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Power

Energy efficiency index (EEI)	≤ 0.23
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Max. delivery head	8 m
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Max. volume flow	8.0 m ³ /h
------------------	-----------------------

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 110°C of 40°C = -10 to 90°C of 45°C = -10 to 80°C of 50°C = -10 to 70°C of 55°C = -10 to 60°C of 60°C = -10 to 50°C of 65°C = -10 to 40°C
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Maximum static pressure	10 bar
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Electrical connection

Mains connection	1~230 V, 50/60 Hz
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Motor/electronics

Electromagnetic compatibility	EN 61800-3
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Emitted interference	EN 61000-6-3
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Interference resistance	EN 61000-6-2
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Speed control	Frequency converter
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Protection class	IP X4D
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Insulation class	F
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Minimum suction head at suction port [m] for preventing cavitation at water pumping temperature*

Minimum suction head at 50 / 95 / 110 °C	3 / 10 / 16 m
--	---------------

*lower values are possible under specific conditions. Please contact our technical services.

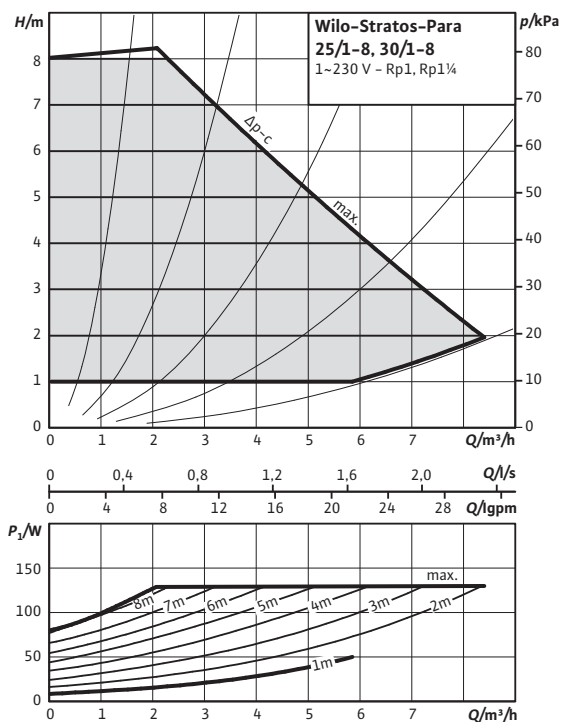
Geothermal energy systems

High-efficiency pumps

Pump curves Wilo-Stratos PARA 25/1-8, 30/1-8

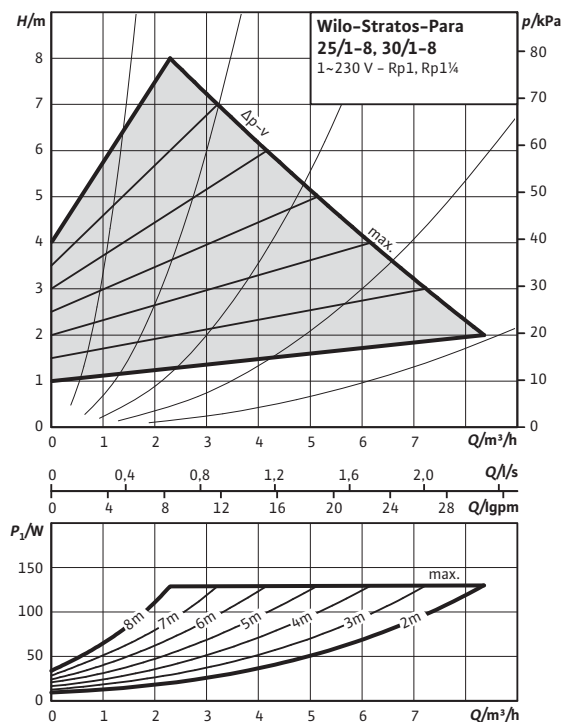
Wilo-Stratos PARA 25/1-8, 30/1-8

Δp -c (constant)



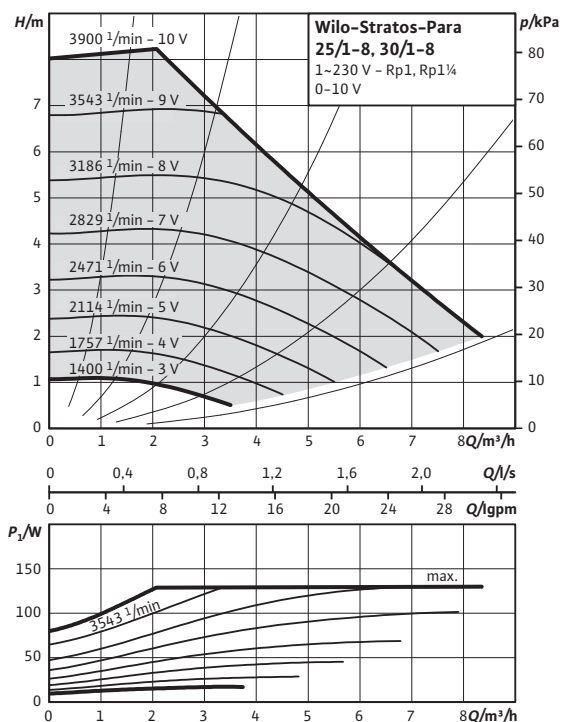
Wilo-Stratos PARA 25/1-8, 30/1-8

Δp -v (variable)



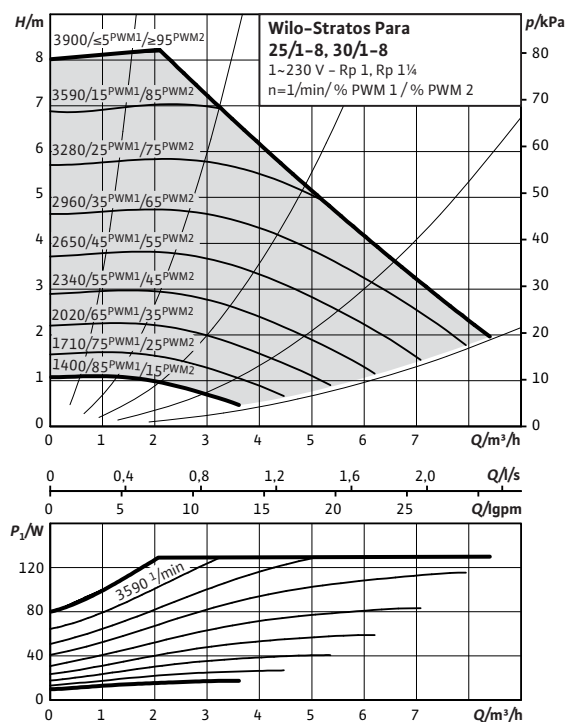
Wilo-Stratos PARA 25/1-8, 30/1-8

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA 25/1-8, 30/1-8

External control via PWM



Dimensions, motor data Wilo-Stratos PARA 25/1-8, 30/1-8

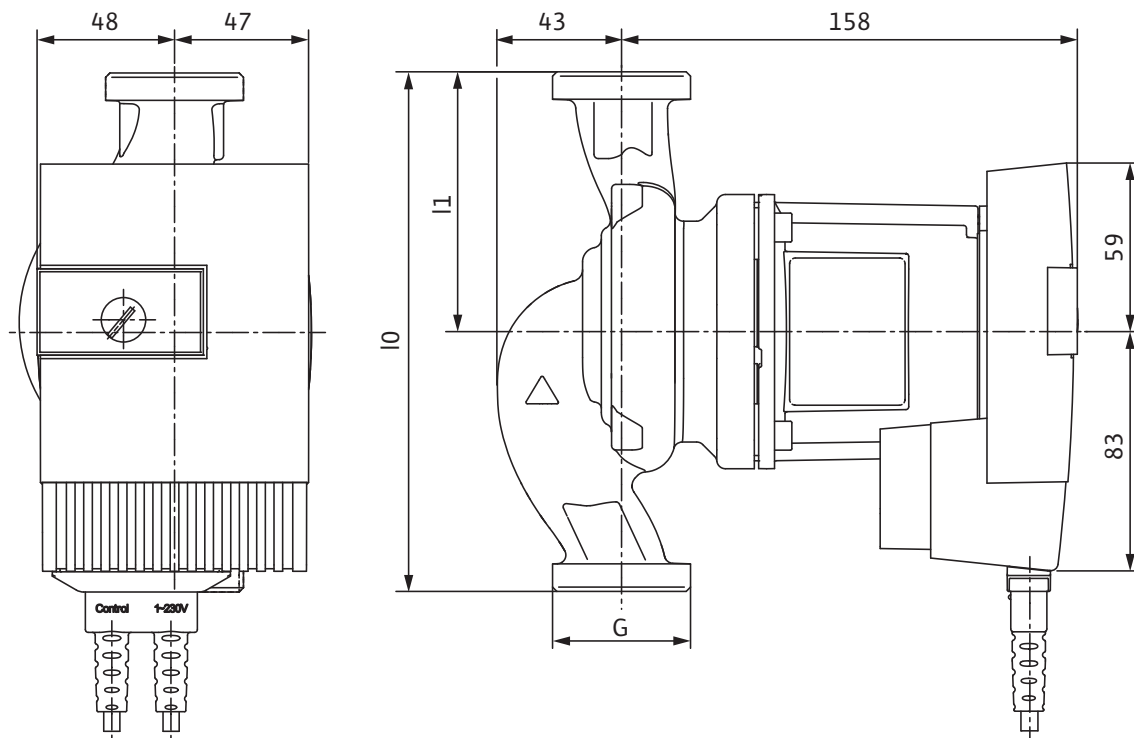
Motor data

Wilo-Stratos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-8	1400 - 3900	8-130	0.07 - 0.95	integrated

Materials

Wilo-Stratos PARA...	Pump housing	Impeller	Pump shaft	Bearing
.../1-8	Grey cast iron (EN-GJL-200)	Plastic (PPS - 40% GF)	Stainless steel (X46Cr13)	Carbon, metal impregnated

Dimension drawing



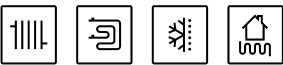
Dimensions, weights

Wilo-Stratos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–	–	l_0	$L1$	m
				mm	kg
25/1-8	Rp 1	G 1½	130	65	4.7
25/1-8	Rp 1	G 1½	180	90	4.7
30/1-8	Rp 1¼	G 2	180	90	4.7

Geothermal energy systems

High-efficiency pumps

Series description Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology and delivered with power cable.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in geothermal systems.

Type key

Example:	Wilo-Stratos PARA 25/1-9 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
25/	Nominal connection diameter
1-9	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v via operating button
- Special version without operating button
- Further combinations of functions and equipment are available: T1-T3, T6, T8, T10-T13, T16-T19, T27
- Version with cable according to customer specification
- Version with short overall length of 130 mm
- Delivery in collective packaging (196 pumps/package)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories
- Version for application at 110 °C, 10 bar (ambient temperature max. 40 °C) on request

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	9 m
Max. volume flow	5.0 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 95°C of 40°C = -10 to 95°C of 45°C = -10 to 95°C of 50°C = -10 to 90°C of 55°C = -10 to 80°C of 60°C = -10 to 70°C of 65°C = -10 to 60°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
------------------	-------------------

Motor/electronics

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

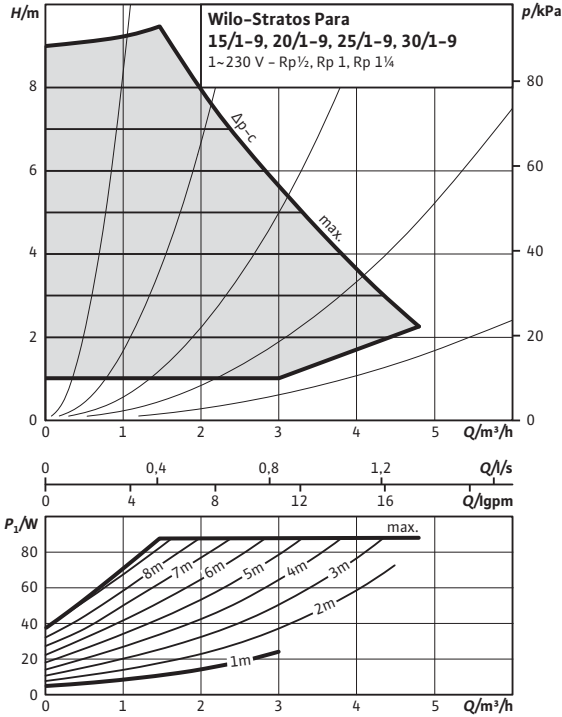
Minimum suction head at suction port [m] for preventing cavitation at water pumping temperature*

Minimum suction head at 50 / 95 °C	0.5 / 4.5
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Pump curves Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

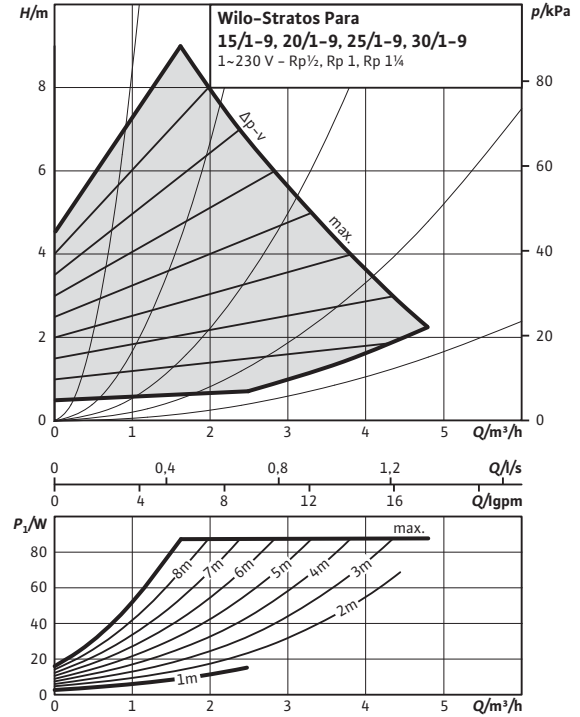
Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

Δp -c (constant)



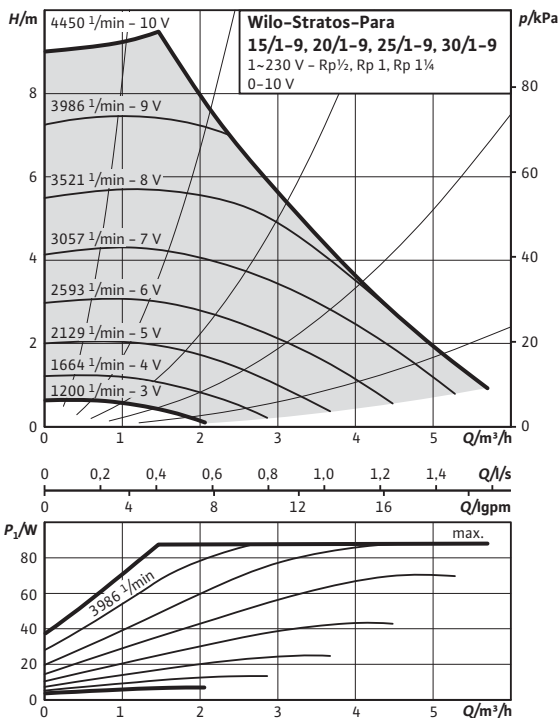
Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

Δp -v (variable)



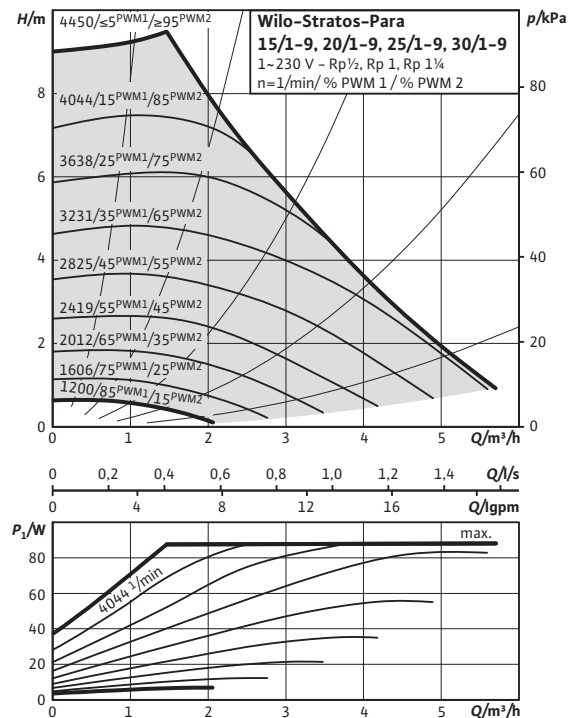
Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

External control via PWM



Geothermal energy systems

High-efficiency pumps

Dimensions, motor data Wilo-Stratos PARA 15/1-9, 20/1-9, 25/1-9, 30/1-9

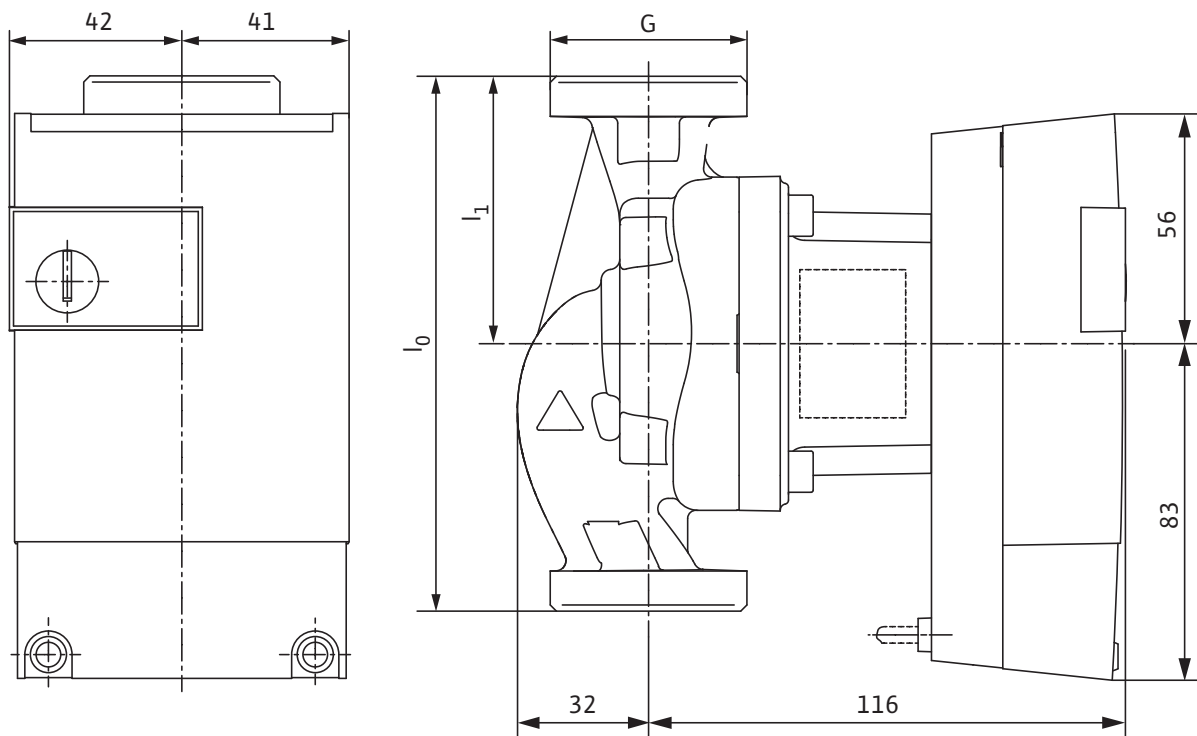
Motor data

Wilo-Stratos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-9	1200 - 4500	3.5-90	0.05 - 0.70	integrated

Materials

Wilo-Stratos PARA...	Pump housing	Impeller	Pump shaft	Bearing
.../1-9	Grey cast iron (EN-GJL-200)	Plastic (PPO – 30% GF)	Stainless steel (X30CR13)	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Stratos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–		l_0	l_1	m
	–			mm	kg
15/1-9	Rp 1/2	G 1	130	65	2.5
20/1-9	Rp 3/4	G 1 1/4	130	65	2.5
25/1-9	Rp 1	G 1 1/2	180	90	2.5
25/1-9	Rp 1	G 1 1/2	130	65	2.5
30/1-9	Rp 1 1/4	G 2	180	90	2.5
30/1-9	Rp 1 1/4	G 2	130	65	2.5

Series description Wilo-Stratos PARA 25/1-11, 30/1-11



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology and delivered with power cable.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

Type key

Example:	Wilo-Stratos PARA 25/1-11 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
25/	Nominal connection diameter
1-11	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v via operating button
- Special version without operating button
- All possible combinations of functions and equipment are available
- Version with cable according to customer specification
- Version with short overall length of 130 mm
- Delivery in collective packaging (108 pumps/package)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	11 m
Max. volume flow	4.5 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 110°C of 40°C = -10 to 90°C of 45°C = -10 to 80°C of 50°C = -10 to 70°C of 55°C = -10 to 60°C of 60°C = -10 to 50°C of 65°C = -10 to 40°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
------------------	-------------------

Motor/electronics

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

Minimum suction head at suction port [m] for preventing cavitation at water pumping temperature*

Minimum suction head at 50 / 95 / 110 °C	3 / 10 / 16 m
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*lower values are possible under specific conditions. Please contact our technical services.

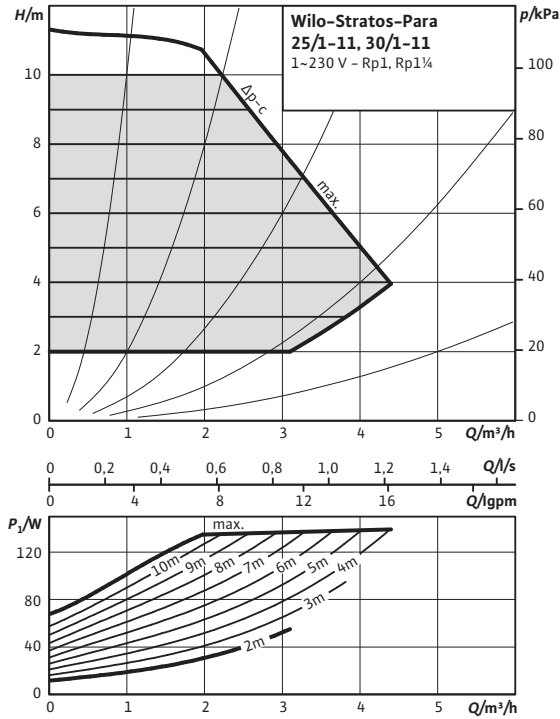
Geothermal energy systems

High-efficiency pumps

Pump curves Wilo-Stratos PARA 25/1-11, 30/1-11

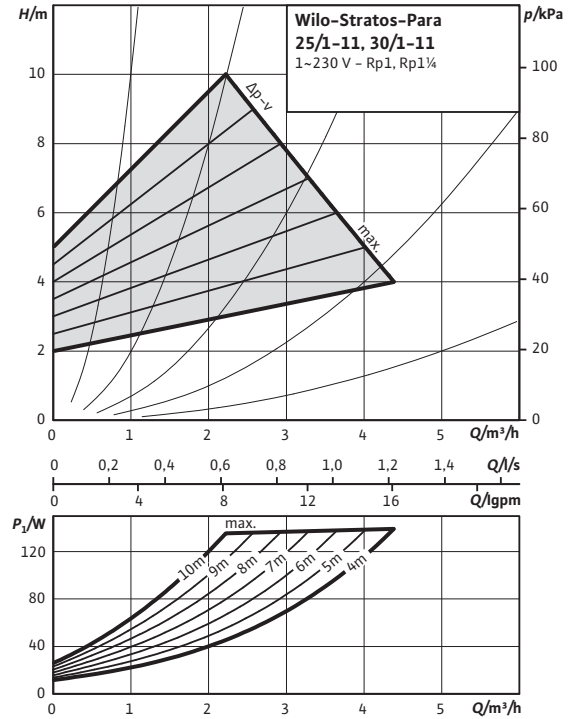
Wilo-Stratos PARA 25/1-11, 30/1-11

Δp-c (constant)



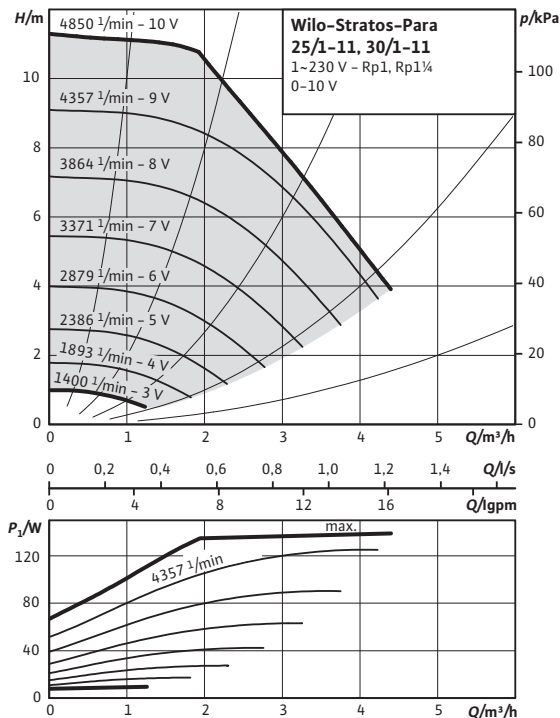
Wilo-Stratos PARA 25/1-11, 30/1-11

Δp-v (variable)



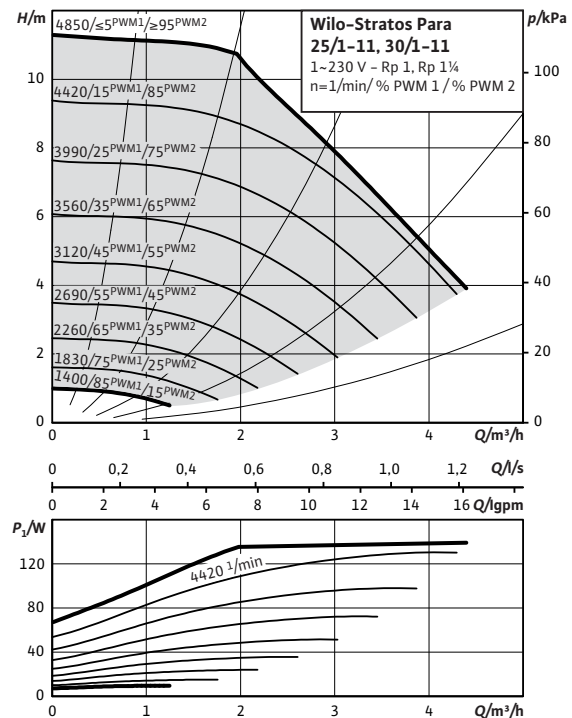
Wilo-Stratos PARA 25/1-11, 30/1-11

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA 25/1-11, 30/1-11

External control via PWM



Dimensions, motor data Wilo-Stratos PARA 25/1-11, 30/1-11

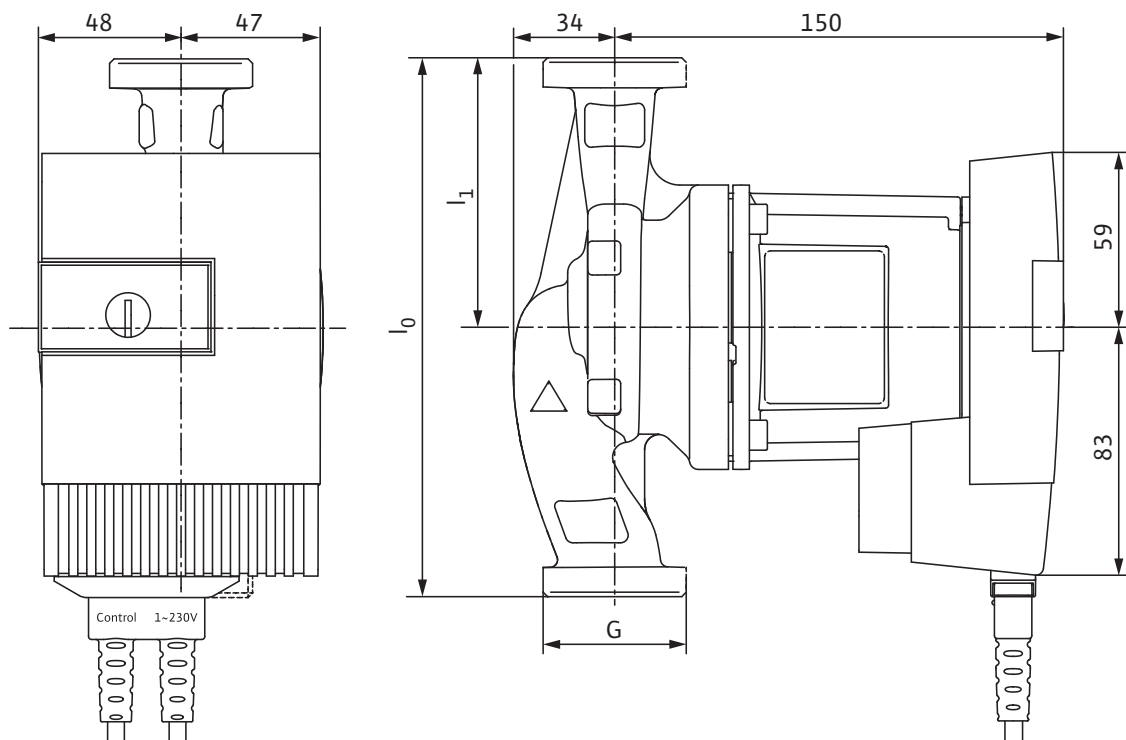
Motor data

Wilo-Stratos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-11	1400 - 4850	8-140	0.07 - 1.05	integrated

Materials

Wilo-Stratos PARA...	Pump housing	Impeller	Pump shaft	Bearing
.../1-11	Grey cast iron (EN-GJL-200)	Plastic (PPE - 30% GF)	Stainless steel (X46Cr13)	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Stratos PARA...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–		l_0	$L1$	m
	–			mm	kg
25/1-11	Rp 1	G 1½	180	90	4.3
25/1-11	Rp 1	G 1½	130	65	4.3
30/1-11	Rp 1¼	G 2	180	90	4.3

Geothermal energy systems

High-efficiency pumps

Series description Wilo-Stratos PARA 25/1-12, 30/1-12



Design

Glandless circulation pump with cast iron pump housing and threaded connection. EC-motor with automatic power adjustment and self-protecting modes. Operation by Red Knob technology and delivered with power cable.

Application

Hot-water heating systems of all kinds, closed cooling circuits, industrial circulation systems, circulation in solar thermal and geothermal systems.

Type key

Example:	Wilo-Stratos PARA 25/1-12 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
25/	Nominal connection diameter
1-12	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v via operating button
- Special version without operating button
- All possible combinations of functions and equipment are available
- Version with cable according to customer specification
- Delivery in collective packaging (72 pumps/package)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories

Technical data

Approved fluids (other fluids on request)

Heating water (in accordance with VDI 2035)	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	12 m
Max. volume flow	10.0 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 110°C of 40°C = -10 to 90°C of 45°C = -10 to 80°C of 50°C = -10 to 65°C of 55°C = -10 to 50°C of 60°C = -10 to 35°C of 65°C = -10 to 20°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
------------------	-------------------

Motor/electronics

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

Minimum suction head at suction port [m] for preventing cavitation at water pumping temperature*

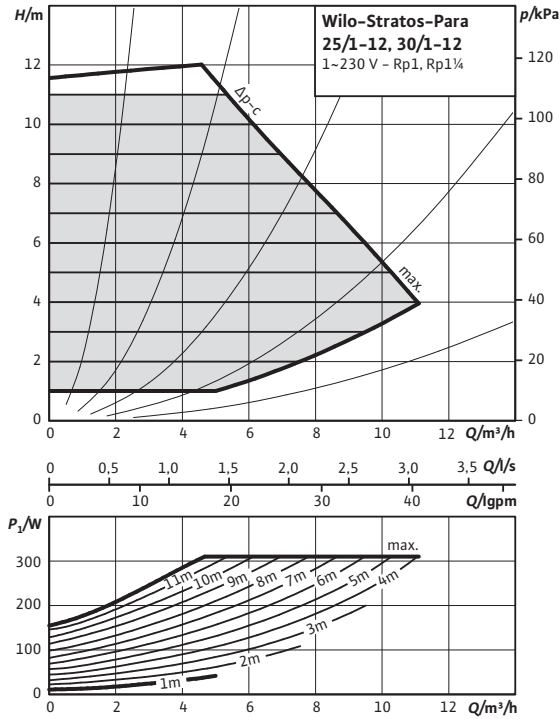
Minimum suction head at 50 / 95 / 110 °C	3 / 10 / 16 m
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*lower values are possible under specific conditions. Please contact our technical services.

Pump curves Wilo-Stratos PARA 25/1-12, 30/1-12

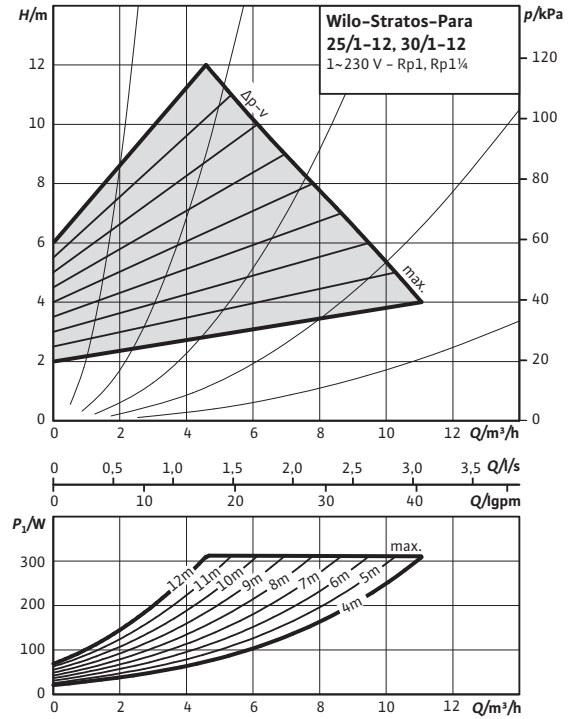
Wilo-Stratos PARA 25/1-12, 30/1-12

Δp-c (constant)



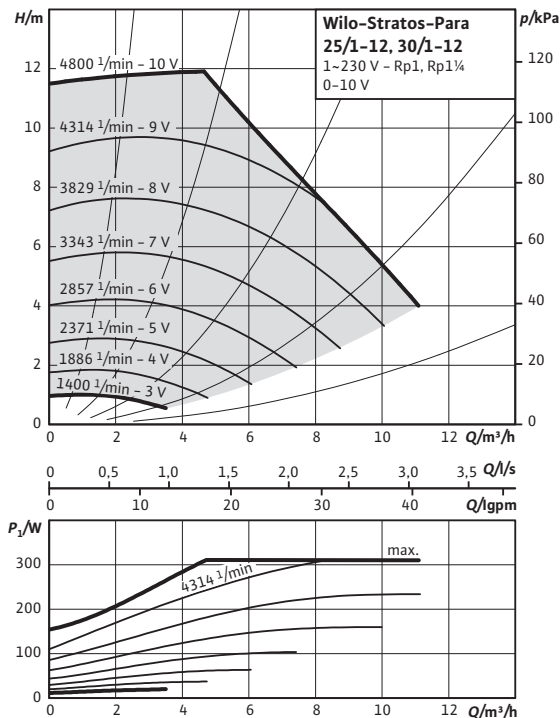
Wilo-Stratos PARA 25/1-12, 30/1-12

Δp-v (variable)



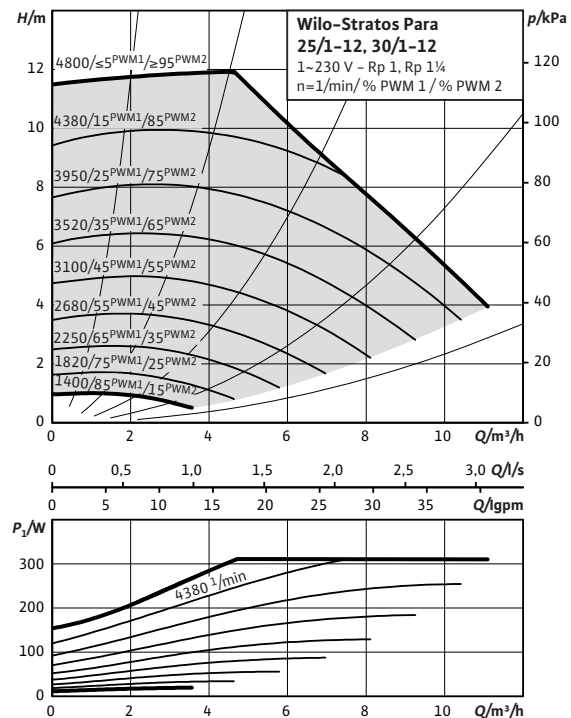
Wilo-Stratos PARA 25/1-12, 30/1-12

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA 25/1-12, 30/1-12

External control via PWM



Geothermal energy systems

High-efficiency pumps

Dimensions, motor data Wilo-Stratos PARA 25/1-12, 30/1-12

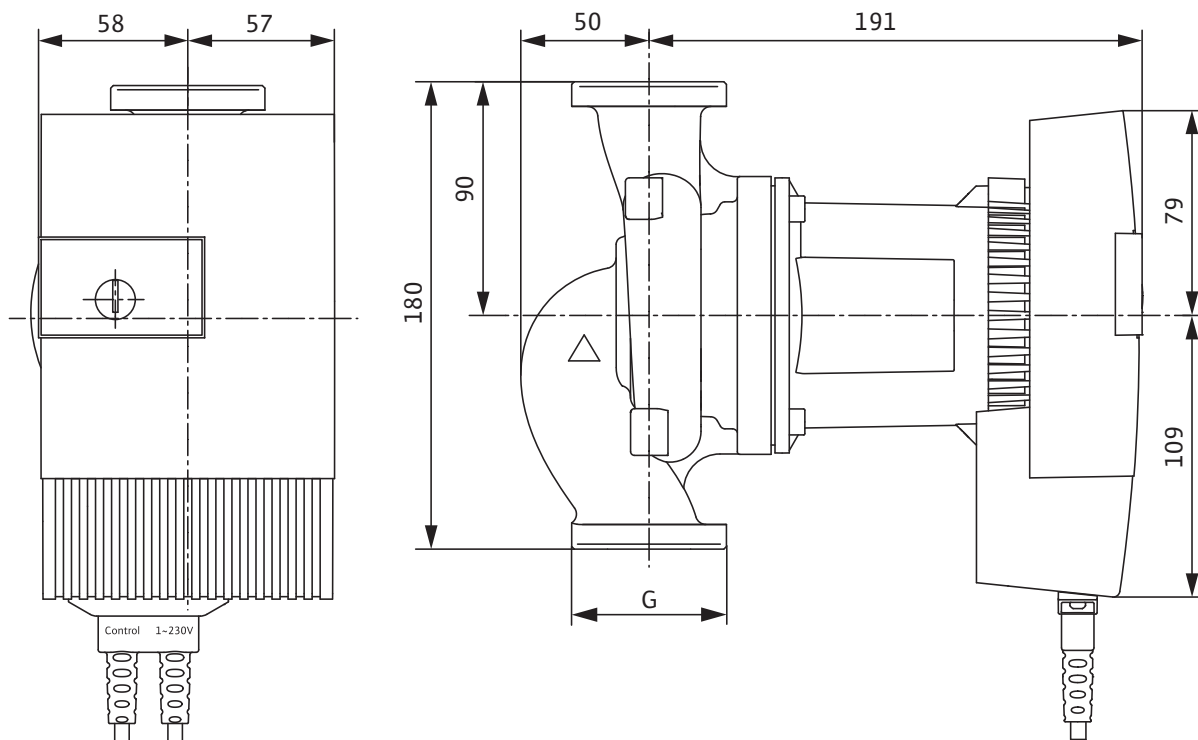
Motor data

Wilo-Stratos PARA...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-12	1400 - 4800	16-310	0.16 - 1.37	integrated

Materials

Wilo-Stratos PARA...	Pump housing	Impeller	Pump shaft	Bearing
.../1-12	Grey cast iron (EN-GJL-200)	Plastic (PPS - 40% GF)	Stainless steel (X46Cr13)	Carbon, metal impregnated

Dimension drawing



Dimensions, weights

Wilo-Stratos PARA...	Threaded pipe union	Thread	Weight approx.
		–	m
		–	kg
25/1-12	Rp 1	G 1½	6.2
30/1-12	Rp 1¼	G 2	6.2



Sanitary hot water circulation

High-efficiency pumps

Series overview

Series: Wilo-Yonos PARA Z



> Application

Secondary hot water circulation systems of all kinds, hot-water heating systems of all kinds.

> Special features/product advantages

- Red Knob technology or PWM controlled
- Unique LED user interface
- Self-protecting modes
- Designed for optimised integration
- Self controlled pump (Red Knob) or externally controlled (PWM signal)
- WRAS certified
- Brass pump housing (dezincification resistant)

> Additional information

- | | Page |
|--|-------------|
| • Yonos PARA-Z 15/7.0, 25/7.0 Red Knob, PWM2 | 215 |

Series: Wilo-Stratos PARA-Z



> Application

Secondary hot water circulation systems of all kinds, hot-water heating systems of all kinds.

> Special features/product advantages

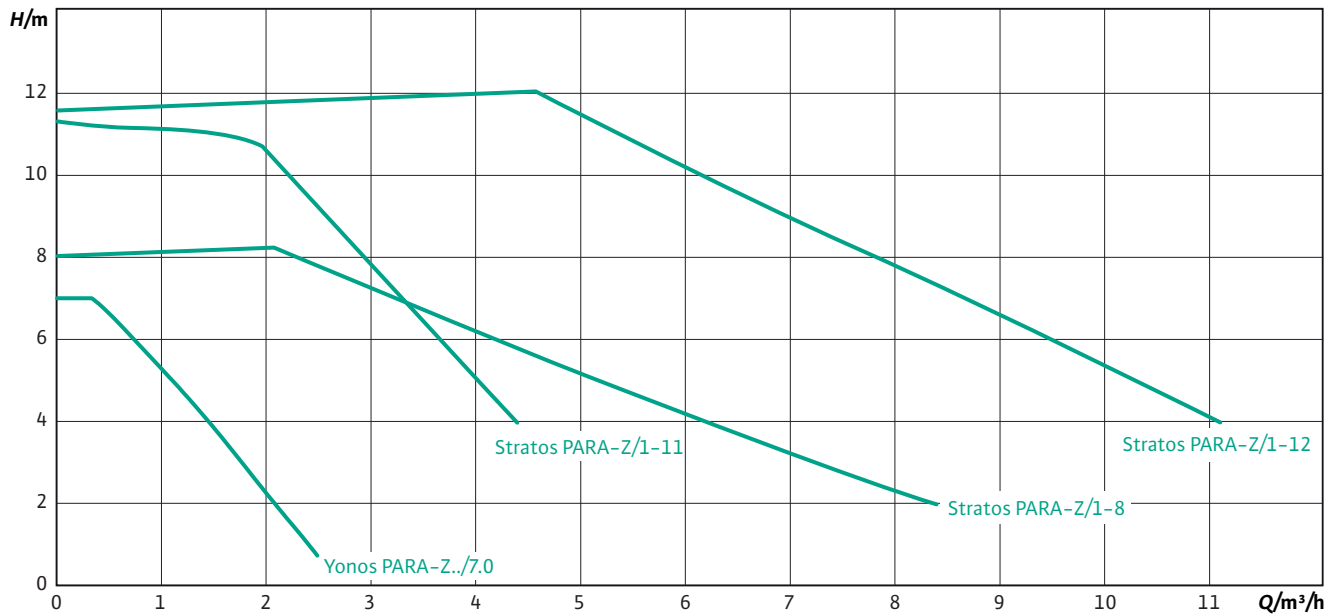
- Application in the medium temperature range of -10 °C to +80 °C (+110 °C)
- Electronic performance control via external control signals 0-10 V or PWM
- Control mode selection and differential pressure setpoint setting for $\Delta p-c$, $\Delta p-v$ via operating button
- Standard delivery with cable for an easy electrical connection

> Additional information

- | | Page |
|---|-------------|
| • Stratos PARA Z 25/1-8, 30/1-8 | 218 |
| • Stratos PARA Z 25/1-11, 30/1-11 . . | 221 |
| • Stratos PARA Z 25/1-12, 30/1-12 . . | 224 |

Series overview

Hydraulic operational areas



Tolerances of each curve according to EN 1151-1:2006

Sanitary hot water circulation

High-efficiency pumps

Equipment/function	Wilo-Yonos PARA-Z...		Wilo-Stratos PARA-Z...		
	15/7.0 RKC 25/7.0 RKC	15/7.0 PWM2 25/7.0 PWM2	25/1-8 30/1-8	25/1-11 30/1-11	25/1-12 30/1-12
Operating modes					
Manual control mode (n=constant)	• (RKC)	• via PWM	• via Analog In 0-10 V	• via Analog In 0-10 V	• via Analog In 0-10 V
Δp -c for constant differential pressure	–	–	• ($H_{min.} = 1$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 2$ m, $H_{max.} = 10$ m)	• ($H_{min.} = 2$ m, $H_{max.} = 11$ m)
Δp -v for variable differential pressure	• ($H_{min.} = 0,5$ m, $H_{max.} = 7$ m)	–	• ($H_{min.} = 2$ m, $H_{max.} = 7$ m)	• ($H_{min.} = 4$ m, $H_{max.} = 10$ m)	• ($H_{min.} = 4$ m, $H_{max.} = 10$ m)
Manual functions					
Operating mode setting	•	–	•	•	•
Differential-pressure setpoint setting	•	•	•	•	•
Automatic functions					
Infinitely variable power adjustment depending on the operating mode	•	•	•	•	•
Deblocking function	•	•	•	•	•
Soft start	•	•	•	•	•
Full motor protection with integrated trip electronics	–	–	•	•	•
Venting routine	–	–	–	–	–
External control functions					
Control input "Analogue In 0 ... 10 V" with cable break function (remote speed adjustment)	–	–	• on request*	• on request*	• on request*
Control input "Analogue In 0 ... 10 V" without cable break function (remote setpoint adjustment)	–	–	• on request*	• on request*	• on request*
Control input PWM	–	•	–	–	–
Signal and display functions					
Collective fault signal (potential-free NC contact)	–	–	•	•	•
Equipment/scope of delivery					
Red button	•	–	•	•	•
Version without red button (=external control)	–	•	•	•	•
Wrench attachment point on pump body	–	–	•	•	•
Including power cable	• on request	•	•	•	•
Including power plug	• on request	–	–	–	–
Including control cable	–	on request	on request	on request	on request
Including seals for threaded connection	on request	on request	on request	on request	on request
Including installation and operating instructions	on request	on request	on request	on request	on request
Including thermal insulation	on request	on request	on request	on request	on request
Incl. Cooling-Shell for cooling	–	–	on request	on request	on request
Individual packaging	on request	on request	•	•	•
Combined packaging	•	•	on request 108 pumps/box	on request 108 pumps/box	on request 72 pumps/box

• = available, – = not available

* see table "Possible combinations of functions and equipment"

Series description Wilo-Yonos PARA Z .../7.0 Red Knob, PWM2



Design

Glandless circulation pump with a brass pump housing and threaded connection. EC motor with automatic power adjustment and self-protecting modes.

Operation by Red Knob technology or remote control via external PWM signal. Equipped with LED user interface.

Application

Secondary hot water circulation systems of all kinds, hot-water heating systems of all kinds.

Type key

Example:	Yonos PARA Z15/7.0 RKC C 130 12
Yonos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
Z	Pump for sanitary hot water circulation systems, with brass pump housing
15/	Nominal diameter: 15 threading 1" 25 threading 1 1/2"
7.0	Nominal delivery head range [m]
RKC	The pump is controlled by Red Knob technology: RKC = $\Delta p-v$ / constant speed I, II, III or PWM2 = the pump is controlled by an external system via PWM2 signal
C	Integrated Molex 3-way connector
130	Pump housing length: 130 mm or 180 mm
12	Electronic box orientation

Technical data

Approved fluids (other fluids on request)

Water and water for food-processing companies in accordance with TrinkwV 2001 (drinking water ordinance)

Power

Max. delivery head	7 m
Max. volume flow	2.5 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 62 °C = 0 to 90 °C of 66 °C = 0 to 80 °C of 71 °C = 0 to 70 °C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
------------------	-------------------

Motor/electronics

Electromagnetic compatibility	EN 61800-3
Emitted interference	EN 61000-6-3 EN 61000-6-4
Interference resistance	EN 61000-6-2 EN 61000-6-1
Speed control	Frequency converter
Protection class	IP X4D
Insulation class	F

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

Minimum suction head at 50 / 95 °C	0.5 / 4.5
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• = available, - = not available

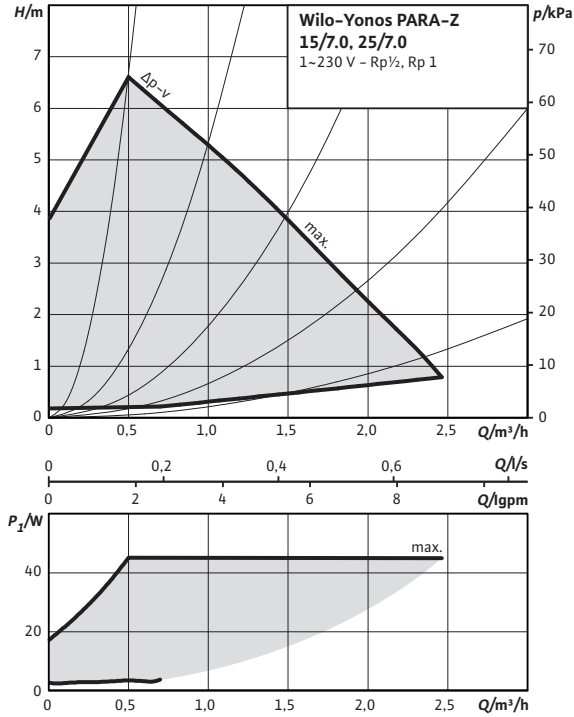
Sanitary hot water circulation

High-efficiency pumps

Pump curves Wilo-Yonos PARA Z .../7.0 Red Knob, PWM2

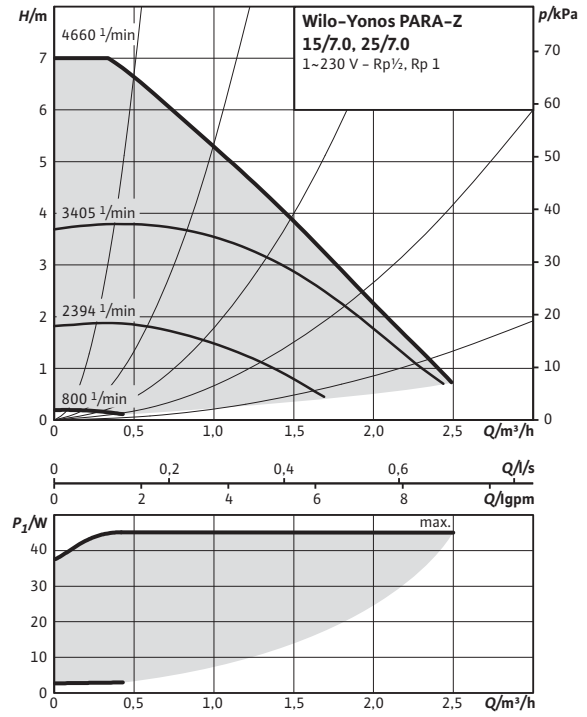
Wilo-Yonos PARA Z 15/7.0, 25/7.0

Δp-v (variable)



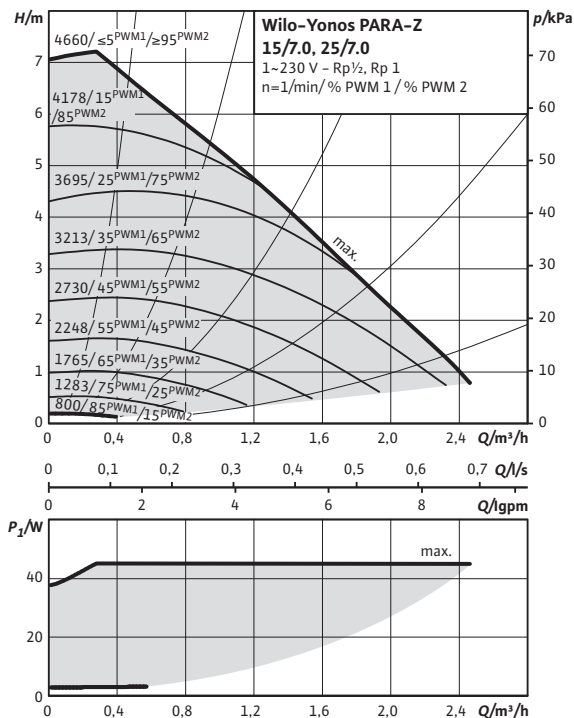
Wilo-Yonos PARA Z 15/7.0, 25/7.0

Constant speed I, II, III



Wilo-Yonos PARA Z 15/7.0, 25/7.0

External control via PWM2



Dimensions, motor data Wilo-Yonos PARA Z .../7.0 Red Knob, PWM2

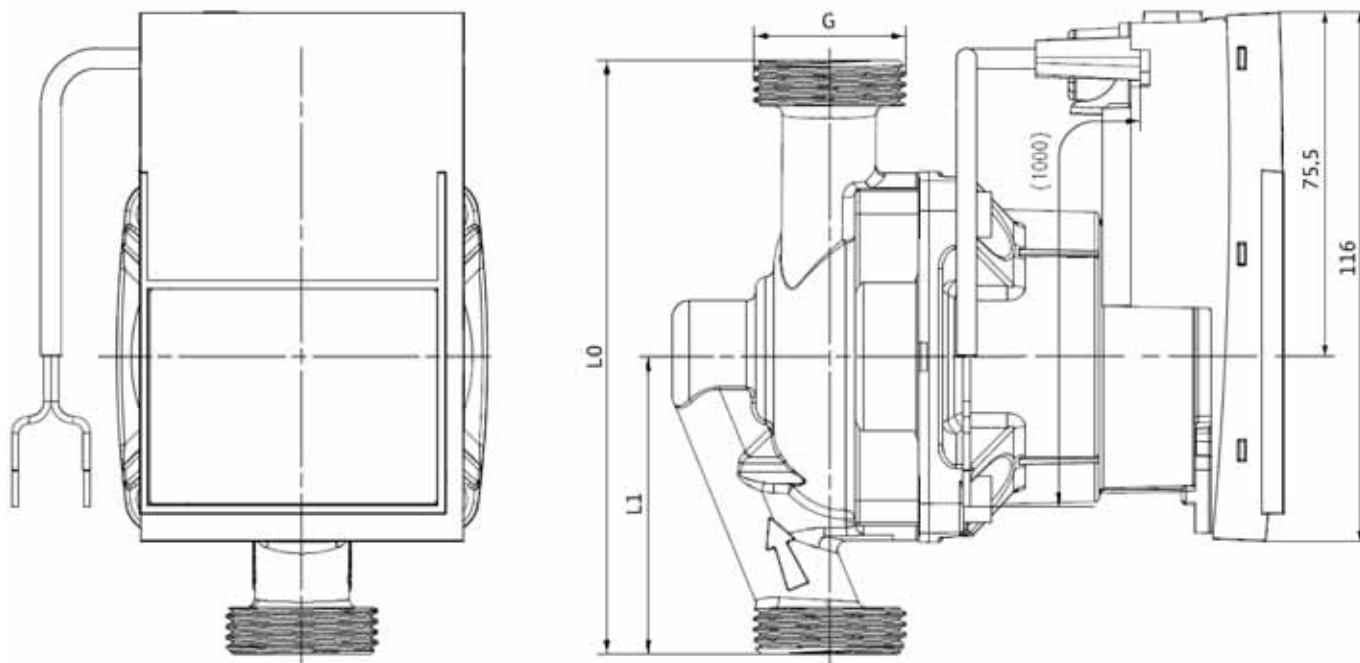
Motor data

Wilo-Yonos PARA Z...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../7.0 RKC/PWM2	800 - 4660	3-45	0.03 - 0.44	integrated

Materials

Wilo-Yonos PARA Z...	Pump housing	Impeller	Pump shaft	Bearing
.../7.0 RKC/PWM2	Brass forged	PP composite with GF 40%	Stainless steel	Carbon, synthetic resin impregnated

Dimension drawing



Dimensions, weights

Wilo-Yonos PARA Z...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–	–	l_0	$L1$	m
				mm	kg
15/7.0 RKC/PWM2	Rp 1/2	G 1	130	65	1.6
25/7.0 RKC/PWM2	Rp 1	G 1 1/2	180	90	1.9

Sanitary hot water circulation

High-efficiency pumps

Series description Wilo-Stratos PARA-Z 25/1-8, 30/1-8



Design

Glandless circulation pump with threaded connection.
EC motor with automatic power adjustment.
Standard delivery with cable for an easy electrical connection

Application

Secondary hot water circulation systems of all kinds, hot-water heating systems of all kinds.

Type key

Example:	Wilo-Stratos PARA-Z 25/1-8 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
Z	Pump for sanitary hot water circulation systems
25/	Nominal connection diameter
1-8	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode $\Delta p-c$ (constant), $\Delta p-v$ (variable)
- Control mode selection and differential pressure setpoint setting for $\Delta p-c$, $\Delta p-v$ via operating button
- Special version without operating button
- All possible combinations of functions and equipment are available
- Version with cable according to customer specification
- Delivery in collective (108 pumps/packaging)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories

Technical data

Approved fluids (other fluids on request)

Potable water and water for food-processing companies in accordance with TrinkwV 2001 (drinking water ordinance)

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	8 m
Max. volume flow	8.0 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 110°C of 40°C = -10 to 90°C of 45°C = -10 to 80°C of 50°C = -10 to 70°C of 55°C = -10 to 60°C of 60°C = -10 to 50°C of 65°C = -10 to 40°C
Temperature range for applications in secondary hot water circulation systems at max. ambient temperature	of 40°C = 0 to 80°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
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Motor/electronics

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

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

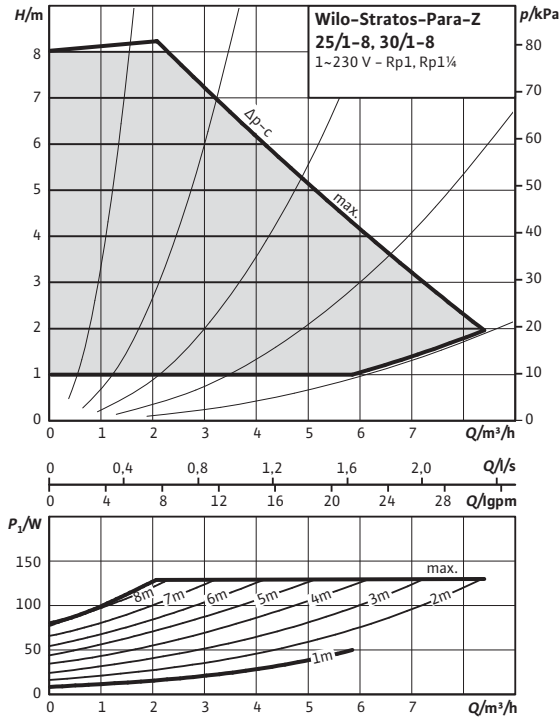
Minimum suction head at 50/95/110 °C	3/10/16 m
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• = available, - = not available

Pump curves Wilo-Stratos PARA-Z 25/1-8, 30/1-8

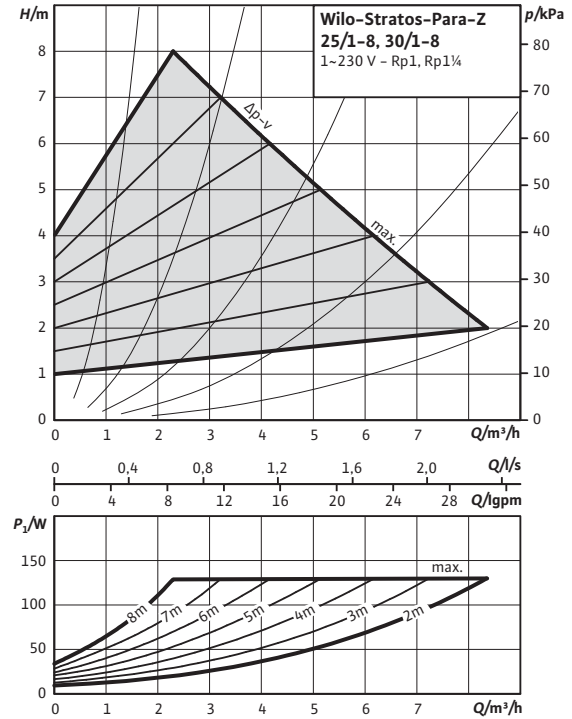
Wilo-Stratos PARA-Z 25/1-8, 30/1-8

$\Delta p-c$ (constant)



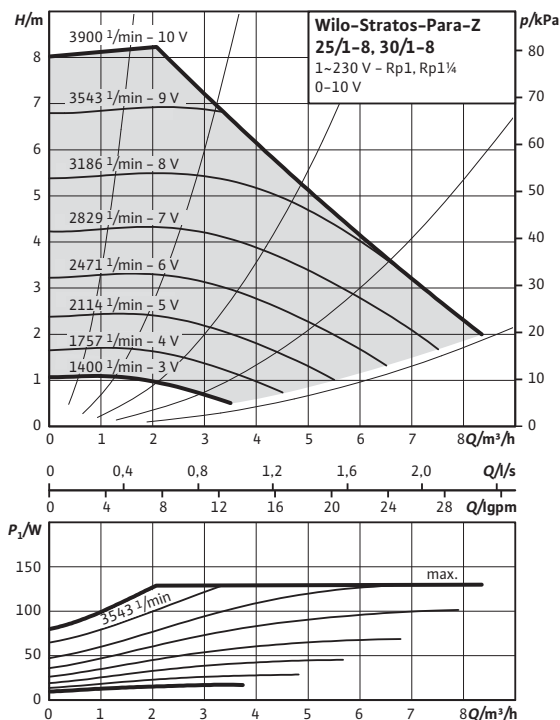
Wilo-Stratos PARA-Z 25/1-8, 30/1-8

$\Delta p-v$ (variable)



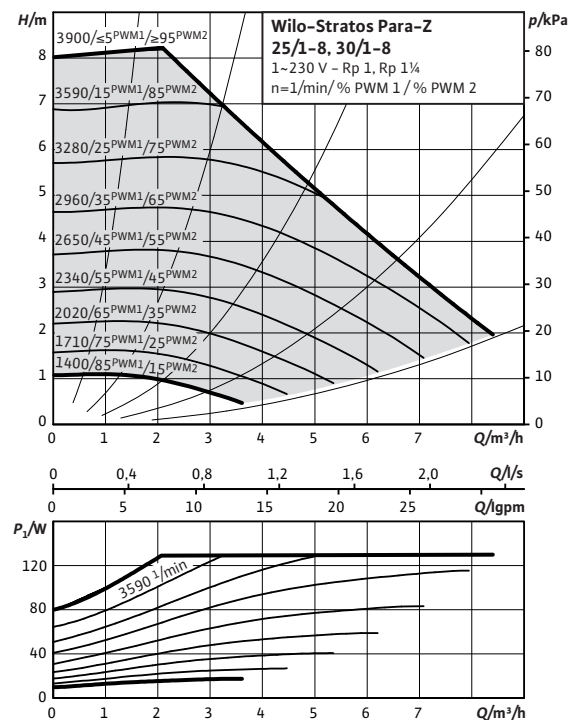
Wilo-Stratos PARA-Z 25/1-8, 30/1-8

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA-Z 25/1-8, 30/1-8

External control via PWM



Sanitary hot water circulation

Sanitary hot water circulation

High-efficiency pumps

Dimensions, motor data Wilo-Stratos PARA-Z 25/1-8, 30/1-8

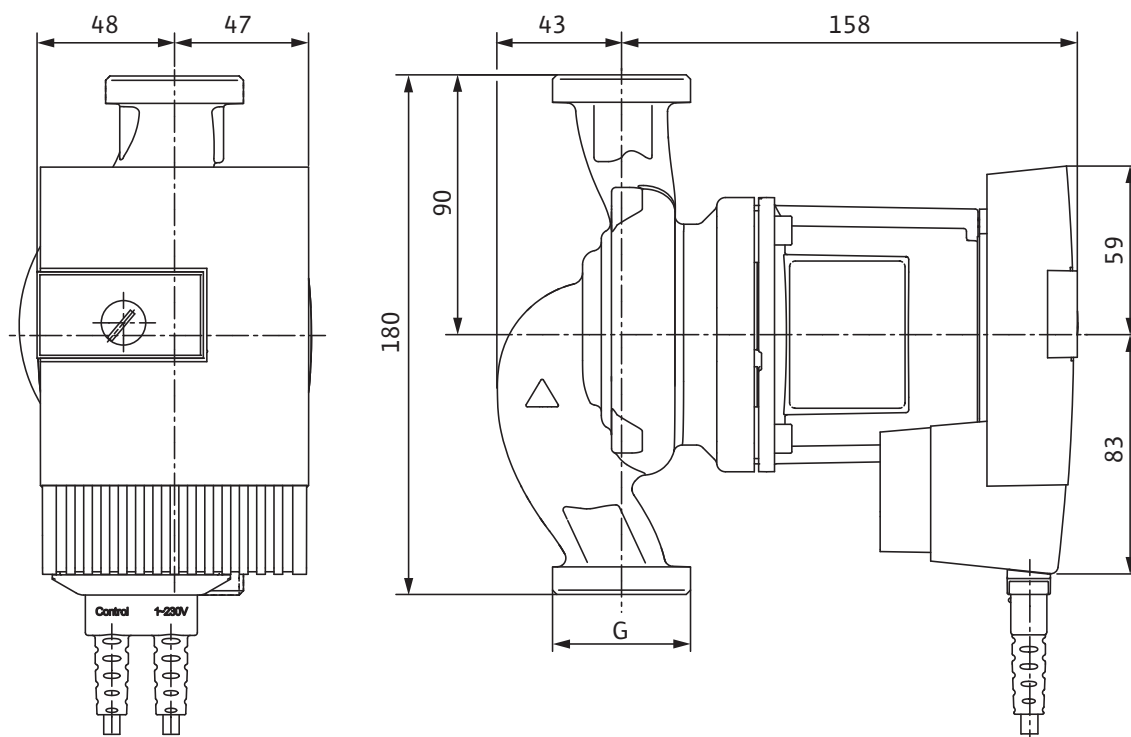
Motor data

Wilo-Stratos PARA-Z...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-8	1400 - 3900	8-130	0.07 - 0.95	integrated

Materials

Wilo-Stratos PARA-Z...	Pump housing	Impeller	Pump shaft	Bearing
.../1-8	Red brass (CC 499K) according to DIN 50930-6 in accordance with Drinking Water Ordinance	Plastic (PPS - 40% GF)	Stainless steel (X39CrMo17-1)	Carbon, synthetic resin impregnated

Dimension drawing



Dimensions, weights

Wilo-Stratos PARA-Z...	Threaded pipe union	Thread	Weight approx.
		–	m
		–	kg
25/1-8	Rp 1	G 1½	4.7
30/1-8	Rp 1¼	G 2	4.7

Sanitary hot water circulation

High-efficiency pumps

wilo

Series description Wilo-Stratos PARA-Z 25/1-11, 30/1-11



Design

Glandless circulation pump with threaded connection.
EC motor with automatic power adjustment.
Standard delivery with cable for an easy electrical connection

Application

Secondary hot water circulation systems of all kinds, hot-water heating systems of all kinds.

Type key

Example:	Wilo-Stratos PARA-Z 25/1-11 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
Z	Pump for sanitary hot water circulation systems
25/	Nominal connection diameter
1-11	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v via operating button
- Special version without operating button
- All possible combinations of functions and equipment are available
- Version with cable according to customer specification
- Delivery in collective (108 pumps/packaging)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories

Technical data

Approved fluids (other fluids on request)

Potable water and water for food-processing companies in accordance with TrinkwV 2001 (drinking water ordinance)

Power

Energy efficiency index (EEI)	≤ 0.23
Max. delivery head	11 m
Max. volume flow	4.5 m ³ /h

Permitted field of application

Temperature range at max. ambient temperature	of 25°C = -10 to 110°C
	of 40°C = -10 to 90°C
	of 45°C = -10 to 80°C
	of 50°C = -10 to 70°C
	of 55°C = -10 to 60°C
Temperature range for applications in secondary hot water circulation systems at max. ambient temperature	of 60°C = -10 to 50°C
	of 65°C = -10 to 40°C
Maximum static pressure	10 bar

Electrical connection

Mains connection	1~230 V, 50/60 Hz
------------------	-------------------

Motor/electronics

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

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

Minimum suction head at 50/95/110 °C	3/10/16 m
--------------------------------------	-----------

• = available, - = not available

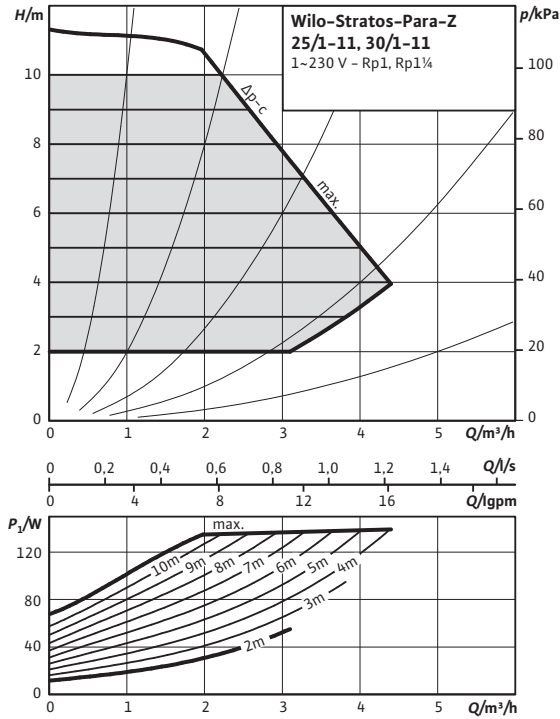
Sanitary hot water circulation

High-efficiency pumps

Pump curves Wilo-Stratos PARA-Z 25/1-11, 30/1-11

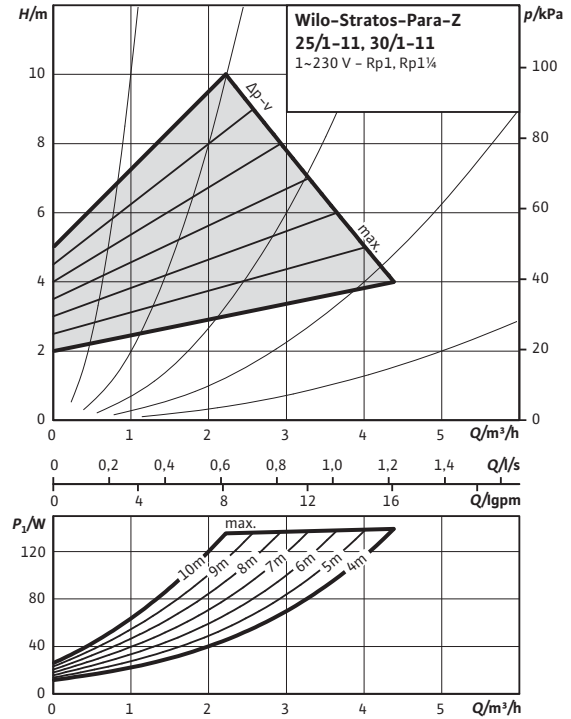
Wilo-Stratos PARA-Z 25/1-11, 30/1-11

$\Delta p-c$ (constant)



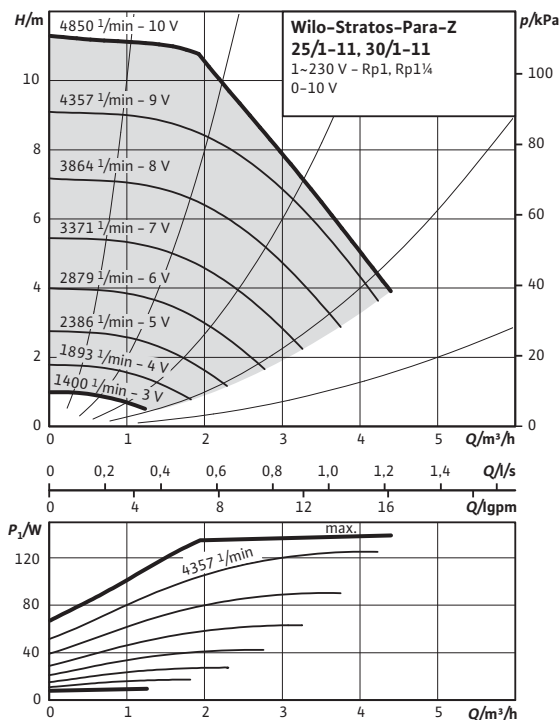
Wilo-Stratos PARA-Z 25/1-11, 30/1-11

$\Delta p-v$ (variable)



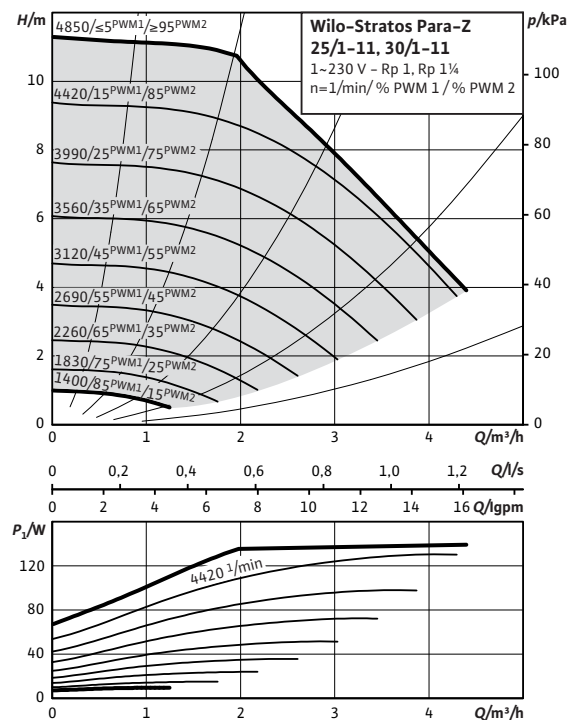
Wilo-Stratos PARA-Z 25/1-11, 30/1-11

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA-Z 25/1-11, 30/1-11

External control via PWM



Dimensions, motor data Wilo-Stratos PARA-Z 25/1-11, 30/1-11

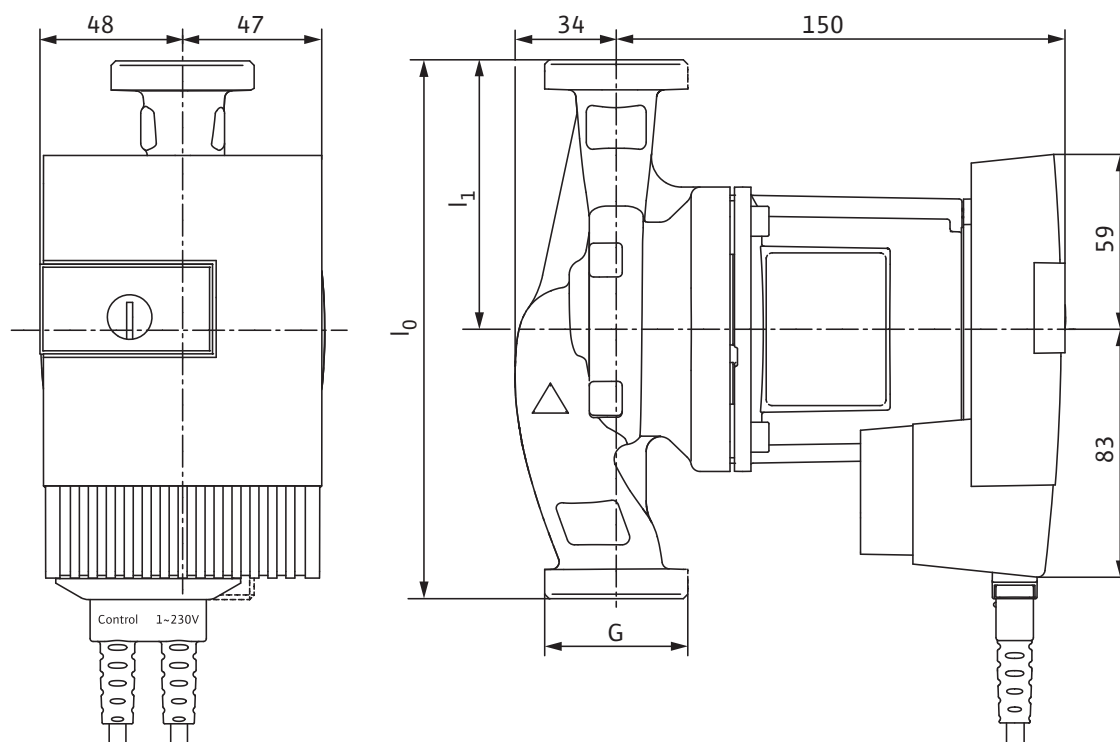
Motor data

Wilo-Stratos PARA-Z...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-11	1400 - 4850	8-140	0.07 - 1.05	integrated

Materials

Wilo-Stratos PARA-Z...	Pump housing	Impeller	Pump shaft	Bearing
.../1-11	Red brass (CC 499K) according to DIN 50930-6 in accordance with Drinking Water Ordinance	Plastic (PPS - 40% GF)	Stainless steel (X39CrMo17-1)	Carbon, synthetic resin impregnated

Dimension drawing



Dimensions, weights

Wilo-Stratos PARA-Z...	Threaded pipe union	Thread	Overall length	Dimensions	Weight approx.
	–		l_0	$L1$	m
	–		mm		kg
25/1-11	Rp 1	G 1½	180	90	4.3
30/1-11	Rp 1¼	G 2	180	90	4.3

Sanitary hot water circulation

High-efficiency pumps

Series description Wilo-Stratos PARA-Z 25/1-12, 30/1-12



Design

Glandless circulation pump with threaded connection.
EC motor with automatic power adjustment.
Standard delivery with cable for an easy electrical connection

Application

Secondary hot water circulation systems of all kinds, hot-water heating systems of all kinds.

Type key

Example:	Wilo-Stratos PARA-Z 25/1-12 T1
Stratos	Electronically controlled high-efficiency pump
PARA	Pump range adapted to requirements of the OEM market
Z	Pump for sanitary hot water circulation systems
25/	Nominal connection diameter
1-12	Nominal delivery head range [m]
T1	Type key for combinations of function and equipment
12 h	Position of electronic module, special version
(not specified)	Position of electronic module 6h, standard version

Options

- External control via 0-10V or PWM
- Control mode Δp -c (constant), Δp -v (variable)
- Control mode selection and differential pressure setpoint setting for Δp -c, Δp -v via operating button
- Special version without operating button
- All possible combinations of functions and equipment are available
- Version with cable according to customer specification
- Delivery in collective (108 pumps/package)
- Delivery with thermal insulation
- Cold insulation Cooling-Shell as accessories

Technical data

Approved fluids (other fluids on request)

Potable water and water for food-processing companies in accordance with TrinkwV 2001 (drinking water ordinance)

Power

Energy efficiency index (EEI) ≤ 0.23

Max. delivery head 12 m

Max. volume flow 10.0 m³/h

Permitted field of application

Temperature range at max. ambient temperature

of 25°C = -10 to 110°C
of 40°C = -10 to 90°C
of 45°C = -10 to 80°C
of 50°C = -10 to 65°C
of 55°C = -10 to 50°C
of 60°C = -10 to 35°C
of 65°C = -10 to 20°C

Temperature range for applications in secondary hot water circulation systems at max. ambient temperature

of 40°C = 0 to 80°C

Maximum static pressure 10 bar

Electrical connection

Mains connection 1~230 V, 50/60 Hz

Motor/electronics

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

Minimum suction head at suction port for avoiding cavitation at water pumping temperature

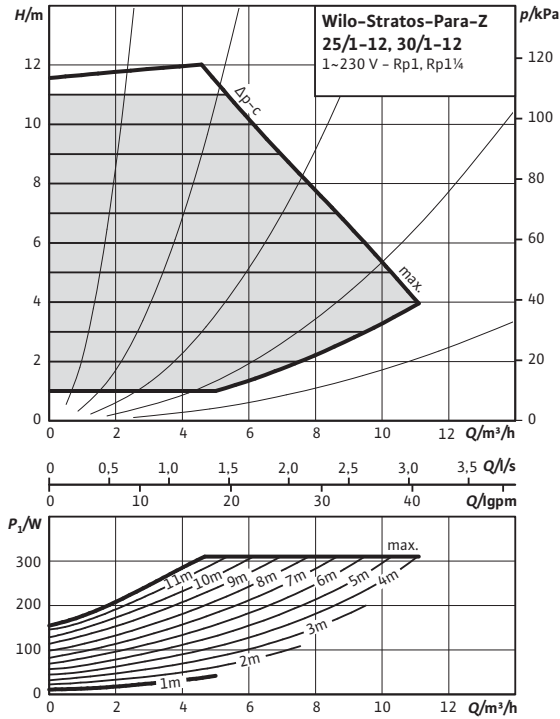
Minimum suction head at 50 / 95 / 110 °C 3 / 10 / 16 m

• = available, - = not available

Pump curves Wilo-Stratos PARA-Z 25/1-12, 30/1-12

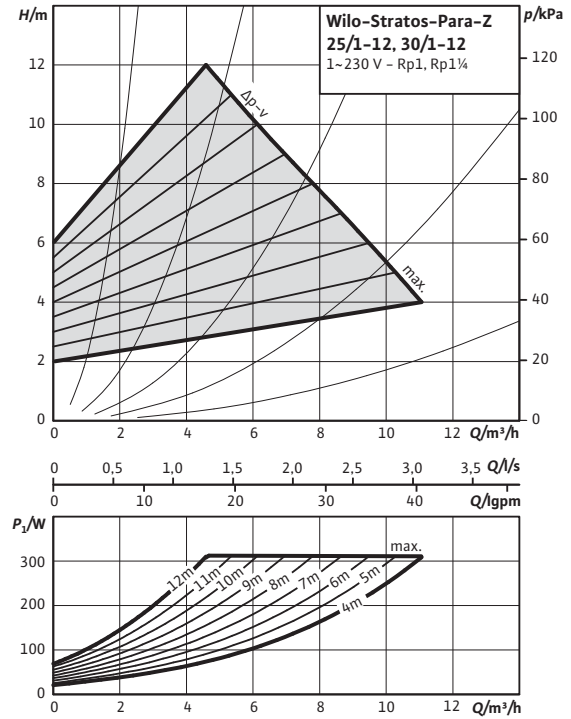
Wilo-Stratos PARA-Z 25/1-12, 30/1-12

Δp -c (constant)



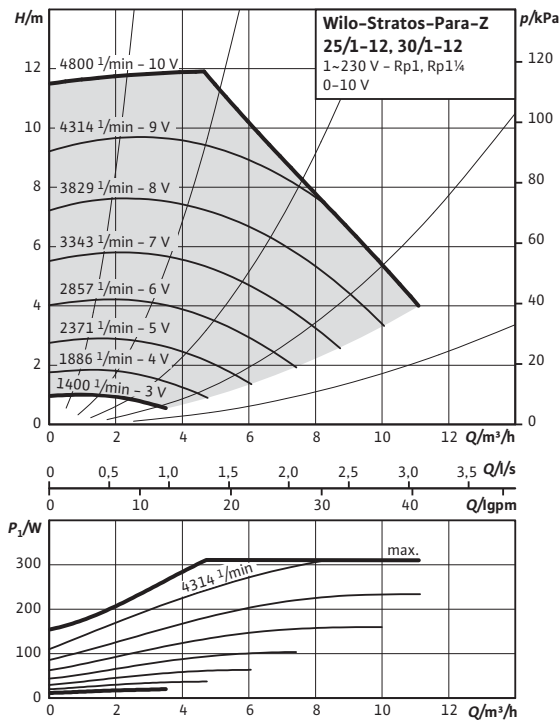
Wilo-Stratos PARA-Z 25/1-12, 30/1-12

Δp -v (variable)



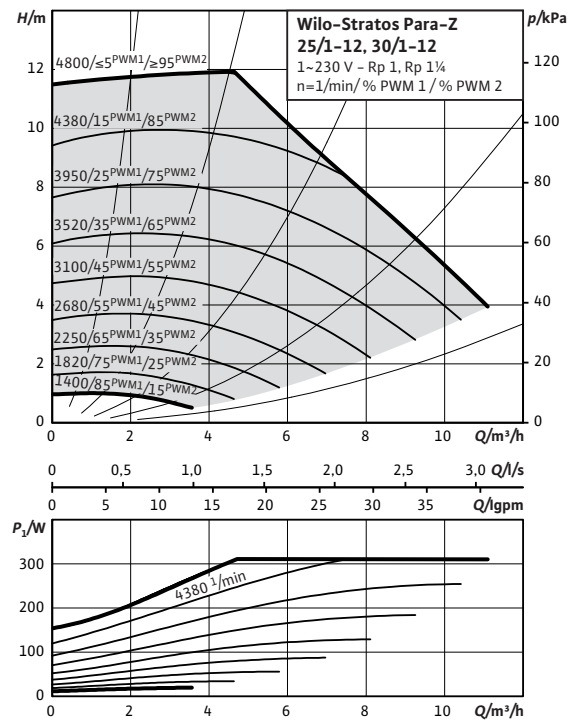
Wilo-Stratos PARA-Z 25/1-12, 30/1-12

External control mode via Analog-In 0-10 V



Wilo-Stratos PARA-Z 25/1-12, 30/1-12

External control via PWM



Sanitary hot water circulation

Sanitary hot water circulation

High-efficiency pumps

Dimensions, motor data Wilo-Stratos PARA-Z 25/1-12, 30/1-12

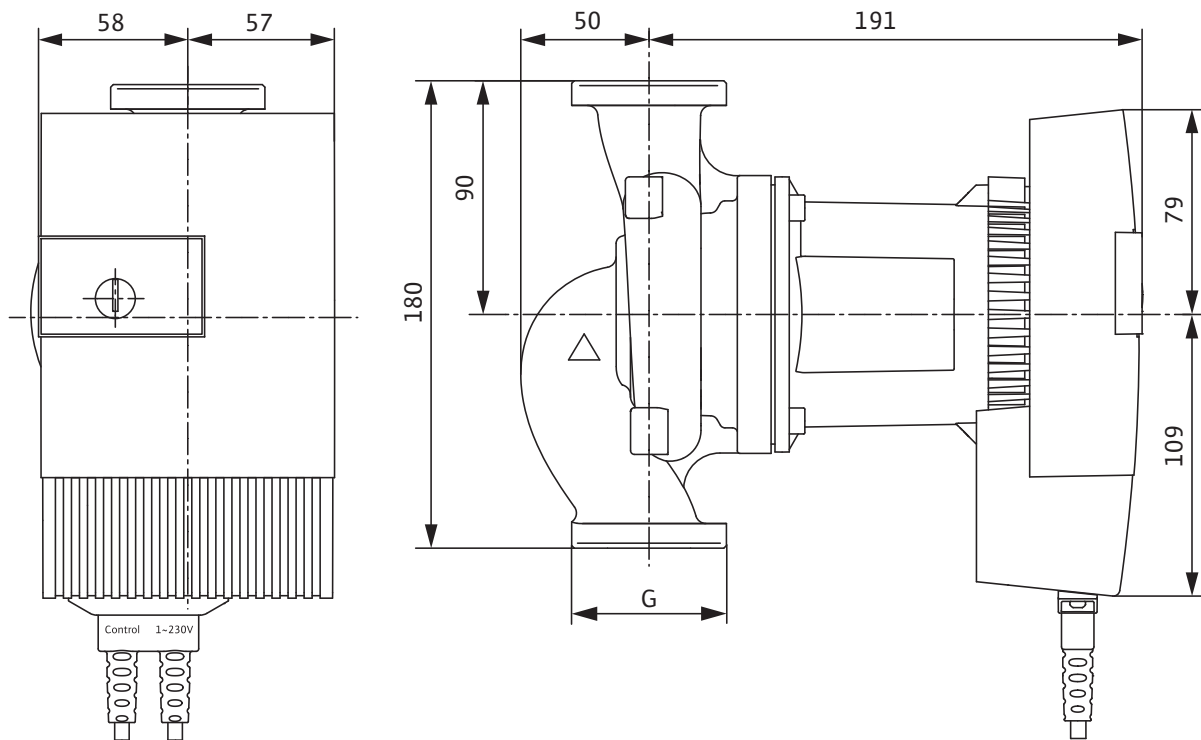
Motor data

Wilo-Stratos PARA-Z...	Speed	Power consumption 1~230 V	Current at 1~230V	Motor protection
	n	P_1	I	–
	rpm	W	A	–
.../1-12	1400 - 4800	16-310	0.16 - 1.37	integrated

Materials

Wilo-Stratos PARA-Z...	Pump housing	Impeller	Pump shaft	Bearing
.../1-12	Red brass (CC 499K) according to DIN 50930-6 in accordance with Drinking Water Ordinance	Plastic (PPS - 40% GF)	Stainless steel (X39CrMo17-1)	Carbon, synthetic resin impregnated

Dimension drawing



Dimensions, weights

Wilo-Stratos PARA-Z...	Threaded pipe union	Thread	Weight approx.
		–	m
		–	kg
25/1-12	Rp 1	G 1½	6.2
30/1-12	Rp 1¼	G 2	6.2



Wilo-Cooling-Shell, Wilo thermal insulation shells

Wilo thermal insulation shells



> User benefits

- Reduces the heat losses of the pump by up to 85 % (depending on the electrical power P_1)
- Reduces the overall energy consumption of the heating system
- Saves energy costs
- Resistant to moisture, salts, many acids, most greases and solvents
- Ensures even temperature distribution at the pump
- Protects the pump from outside moisture
- Groundwater-neutral, propellant-free, formaldehyde-free
- 100 % recyclable
- Fire resistance classification B2

> Suitable for pumps of the series:

- Yonos PARA .../6; 130 mm, 180 mm
- Yonos PARA .../7.0; 130 mm, 180 mm
- Yonos PARA .../7.5; 130mm, 180mm
- Yonos PARA High Flow/7; 180 mm
- Yonos PARA High Flow/10; 180 mm
- Yonos PARA High Flow/12; 180 mm
- Stratos PARA /1-9; 130 mm, 180 mm
- Stratos PARA /1-8; 180 mm
- Stratos PARA /1-11; 180 mm
- Stratos PARA /1-12 ; 180 mm
- Stratos PARA Z/1-11; 180 mm
- Stratos PARA Z/1-8; 180 mm
- Stratos PARA Z/1-12; 180 mm

Wilo-Cooling-Shell



> Wilo-Cooling-Shell

Diffusion-proof insulation of pump housings in cold water applications.

Suitable for pumps of the series:

- Yonos PARA .../6; 130 mm, 180 mm
- Yonos PARA .../7.0; 130 mm, 180 mm
- Yonos PARA .../7.5; 130 mm, 180 mm

Suitable for pumps of the series:

- Stratos PARA /1-8; 180 mm
- Stratos PARA /1-9; 180 mm
- Stratos PARA /1-11; 180 mm
- Stratos PARA /1-12 ; 180 mm
- Stratos PARA Z/1-8; 180 mm
- Stratos PARA Z/1-11; 180 mm
- Stratos PARA Z/1-12; 180 mm

For avoiding condensation formation on the surface of the pump housing and consequential damage caused by drips and corrosion on the pump housing and on the rest of the system.

> Application benefits and field of application

- Industrially prefabricated low-temperature insulation shell for the fast insulation of pump housings and secure connection with onsite diffusion-proof pipe insulation.
- Permitted temperature range of the fluid: -10 °C to +105 °C
- Simple contours and surfaces facilitate the application of any onsite surface coatings (e.g. coat of paint for UV protection, sheet metal application for impact protection)
- Smoother transition to ongoing pipe insulation: Pipe unions/counter flanges are enclosed by the insulation
- Dimensionally precise adjustment to the housing geometry reduces the hollow space between insulation and the pump housing and thus the inclusion of air and moisture
- The flexible elastomer insulation material can be cut and re-glued in situations where access for installation is difficult



Subject to change without prior notice.

Version 15.01/September 2015 Wilo Intec/EN

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