

Pioneering for You

**wilo**

# Wilo-Dewatering Pump

**Reliable and Energy Efficient Pump**

PT Wilo Pumps Indonesia





# GREEN SOLUTIONS FOR A BETTER CLIMATE.

Smart. Efficient. Sustainable. Our solutions offer measurable added value. Energy-efficiency and resource-efficiency are vital elements to the efforts to protect climate. One of our primary sustainability goals is to supply people with clean water while reducing our ecological footprint.

With our high efficiency technologies we contribute worldwide to more gentle handling with valuable resources like water and energy. In doing so, we rely on smart products that integrate seamlessly into digitally controlled infrastructures. In this context, we use digitalisation which offers us new opportunities in terms of energy savings.

Wilo offers an extensive range of products for Building Services, Water Management and Industry, and is continuously working on the further development of its product portfolio.

[www.wilo.co.id](http://www.wilo.co.id)

An aerial photograph showing a dense urban skyline with numerous skyscrapers, including the Willis Tower. In the foreground, there is a large, lush green park with many trees and a winding path. The sky is blue with scattered white clouds.

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### More is more: in-depth digital content

**Our extra for you:** wherever you see this logo you can call up additional information we prepared for you. Simply scan the area with your smartphone and find out more about selected topics.



**wilo**

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the App Store for iOS.



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the Wilo-Assistent App  
and scan the content  
with your smartphone.



# Head Office



In 2008, **PT Wilo Pumps Indonesia** was established in Jakarta, as a subsidiary of Wilo SE Germany. Located at Altira Business Park, North Jakarta, Wilo Pumps Indonesia would be a preferred partner from the design stage to after sales service.



BUILDING  
SERVICES  
RESIDENTIAL



BUILDING  
SERVICES  
COMMERCIAL



OEM



WATER  
MANAGEMENT



INDUSTRY

Altira Business Park, Block A01-A02  
Jalan Yos Sudarso Kav. 85, Sunter Jaya Jakarta,  
14350, Indonesia  
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Keluhan Pelanggan  
0800-2100-236

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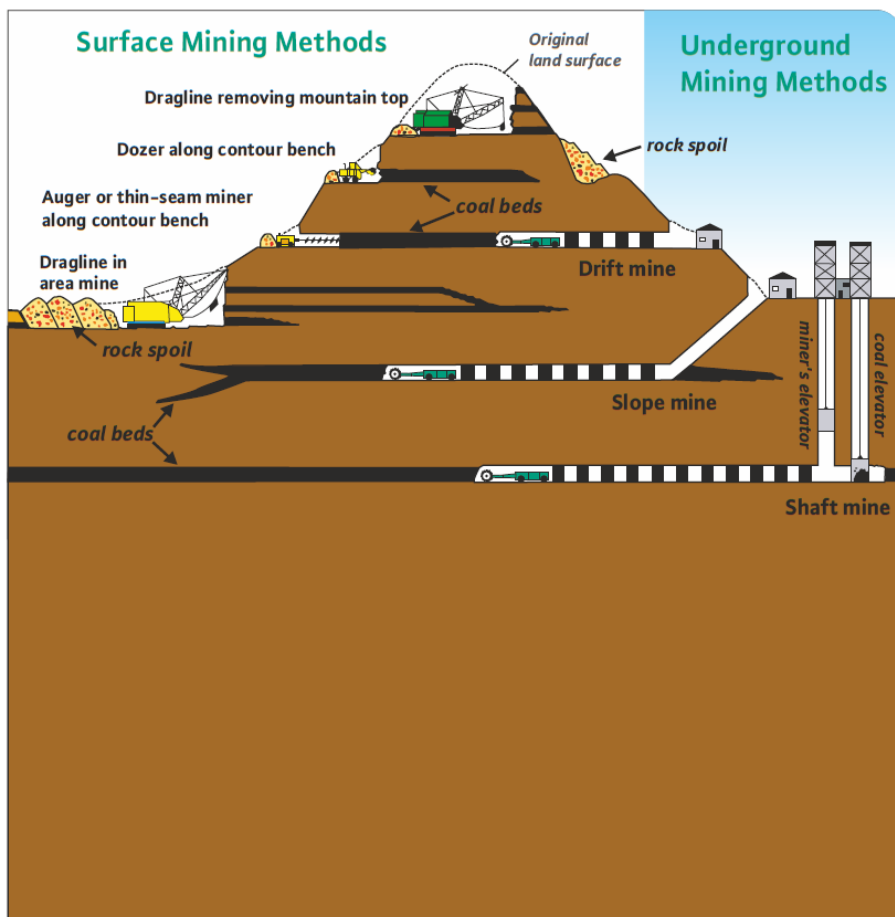


Wilo Pumps Indonesia



Engineer at Mopani Copper Mine,  
Mufulira, Zambia

Dewatering is one of the most important process in mining and to controlling and managing surface and groundwater play a major role to allow uninterrupted operation in relatively dry conditions and improve the efficiency of extraction methods. Wilo provides a range of highly reliable & Efficient pumps for this purpose.



Mining is the process of extraction or digging things out of the ground. Mining things from the ground is called extraction. Mining can include extraction of metals and minerals, like coal, diamond, gold, silver, platinum, copper, tin and iron, etc.

### 1. Surface mining

- Open cast or Open Pit mining
- Mountain top mining

### 2. Underground mining

- Drift mining with horizontal access tunnels
- and Shaft mining with vertical access shafts



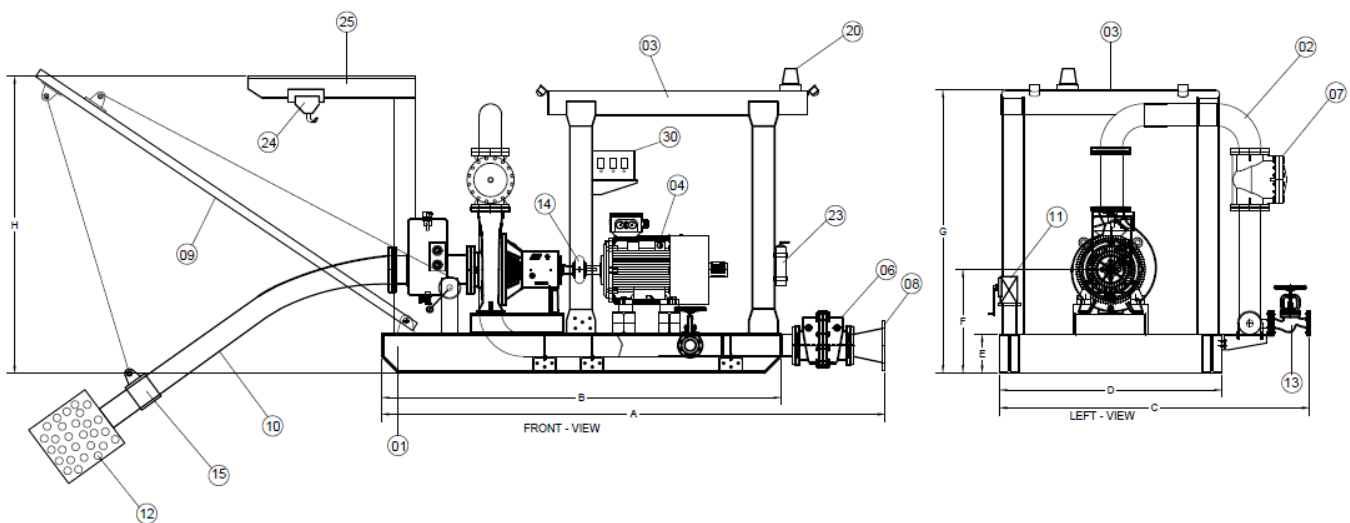
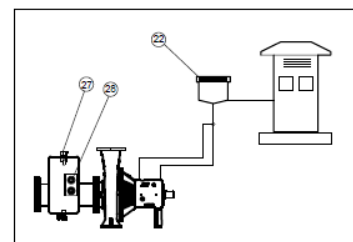
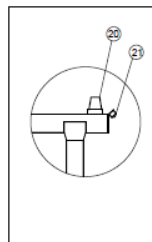
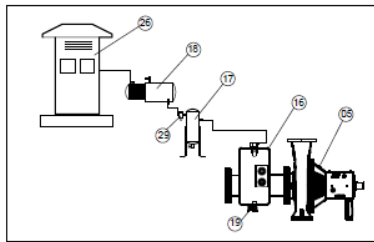
# Reliable and Energy Efficient Pump For Mining Industry





# Product Solutions for Dewatering Applications

Thanks to Excellent Technology from Wilo with **Motor Driver**

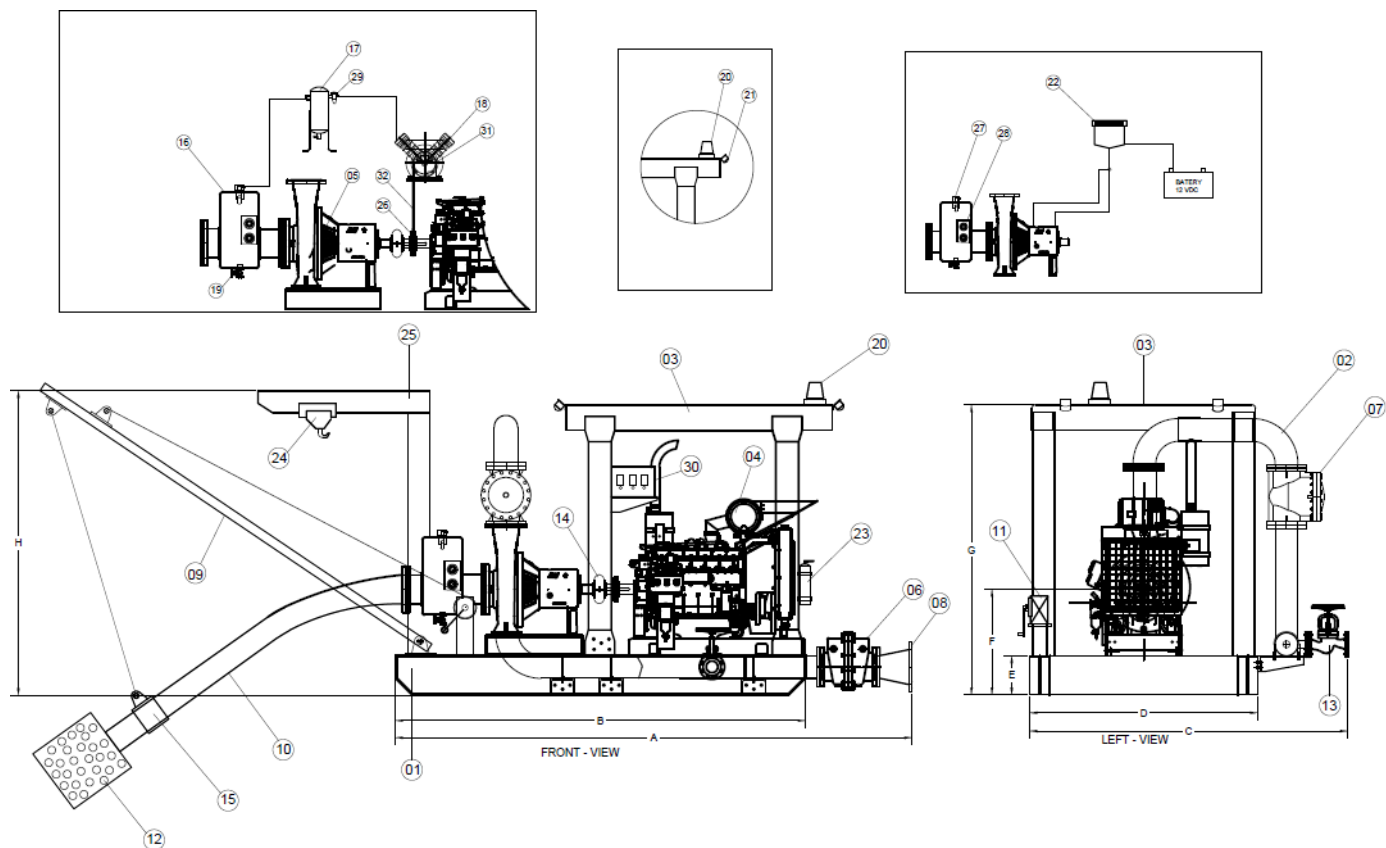


## General Drawing Assembly

- |  |                          |
|--|--------------------------|
| 1. Skid base heavy duty with fuel tank | 16. Vacuum Tank          |
| 2. Pipe Assy                           | 17. Separator Tank       |
| 3. Roof Assy                           | 18. Electric Vacuum Pump |
| 4. Motor Electric                      | 19. Drainage Valve       |
| 5. Barepump FD                         | 20. Sprinkle Lamp        |
| 6. Gate Valve.                         | 21. Working Lamp         |
| 7. Non-Return Valve                    | 22. Automatic Memolube   |
| 8. Increaser                           | 23. Fire Extinguisher    |
| 9. Boom Assy                           | 24. Crane Handling       |
| 10. Flexible Suction Hose              | 25. Structure Crane      |
| 11. Winch Manual                       | 26. Main Control Panel   |
| 12. Suction Strainer                   | 27. Ball Vacuum Valve    |
| 13. Drainage Valve                     | 28. Priming Sensor       |
| 14. Flexible Coupling                  | 29. Air Filter           |
| 15. Bracket Clamp                      | 30. Panel Priming        |

# Product Solutions for Dewatering Applications

Thanks to Excellent Technology from Wilo with Engine Driver



## General Drawing Assembly

- |  |                          |
|--|--------------------------|
| 1. Skid base heavy duty with fuel tank | 16. Vacuum Tank          |
| 2. Pipe Assy                           | 17. Separator Tank       |
| 3. Roof Assy                           | 18. Electric Vacuum Pump |
| 4. Industrial Variable Speed Engine    | 19. Drainage Valve       |
| 5. Barepump FD                         | 20. Sprinkle Lamp        |
| 6. Gate Valve.                         | 21. Working Lamp         |
| 7. Non-Return Valve                    | 22. Automatic Memolube   |
| 8. Increaser                           | 23. Fire Extinguisher    |
| 9. Boom Assy                           | 24. Crane Handling       |
| 10. Flexible Suction Hose              | 25. Structure Crane      |
| 11. Winch Manual                       | 26. Pulley Type C        |
| 12. Suction Strainer                   | 27. Ball Vacuum Valve    |
| 13. Drainage Valve                     | 28. Priming Sensor       |
| 14. Flexible Coupling                  | 29. Air Filter           |
| 15. Bracket Clamp                      | 30. Panel Priming        |
|  | 31. Magnetic Clutch      |
|  | 32. Belt Pulley          |



# Wilo – FD Pump

Dewatering pump system complete with pump and diesel engine driver or electric motor as option, mounted on a pontoon. To fulfill the needs, we provide 3 types of pump to run our dewateringsystem.

Horizontal pumps according ISO 2858 (DIN 24256) is the preferred solution to handle wastewater.



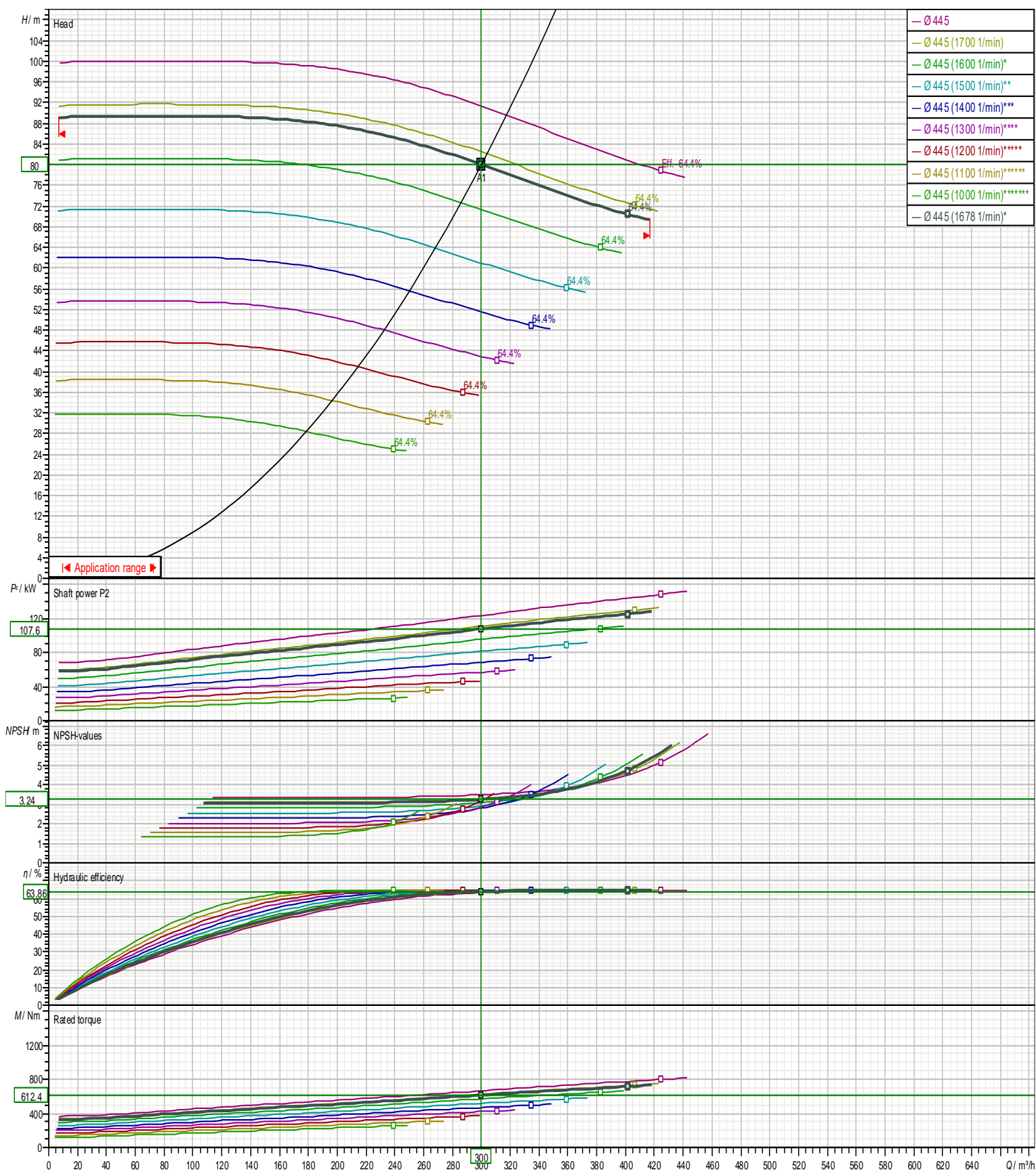
## DETAIL INFORMATION

	Wilo-FD 100		Wilo-FD 150		Wilo-FD 200		Wilo-FD 200H	
Hydraulic Data (Duty Point)								
Flow	Max	407 m³/h	Max	1060 m³/h	Max	1450 m³/h	Max	1940 m³/h
	Rated	300 m³/h	Rated	600 m³/h	Rated	800 m³/h	Rated	600 m³/h
	Min	6,49 m³/h	Min	16,8 m³/h	Min	25,6 m³/h	Min	32 m³/h
Head	Max	89,4 mWC	Max	125 mWC	Max	143 mWC	Max	209 mWC
	Rated	80 mWC	Rated	110 mWC	Rated	132 mWC	Rated	204 mWC
	Min	69,3 mWC	Min	71,3 mWC	Min	89,2 mWC	Min	117 mWC
Impeller	Max	532 mm	Max	532 mm	Max	530 mm	Max	625 mm
	Design	424 mm	Design	499 mm	Design	530 mm	Design	625 mm
	Min	400 mm	Min	445 mm	Min	390 mm	Min	525 mm
Pump Data (ISO 2858 Standard Pump)								
Impeller Type	Closed		Open		Special Open		Closed	
Shaft Sealing	Gland Packing		Gland Packing		Gland Packing		Gland Packing	
Bearing Lubrication	Grease		Grease		Grease		Grease	
Pressure Rating	16	Bar	Bar		16	Bar	16	Bar
Min. Fluid Temperature	-40	°C	-40 °C		-40	°C	-40	°C
Max. Fluid Temperature	120	°C	120 °C		120	°C	120	°C
Max. Solid Size	17	mm	39 mm		35	mm	34	Mm
Dimensions								
Suction Port	DN200 PN10		DN250 PN16		DN250 PN16		DN300 PN16	
Discharge Port	DN100 PN10		DN150 PN16		DN200 PN16		DN200 PN16	
Materials								
Casing	Duplex SS (1.4460)		Duplex SS (1.4460)		Duplex SS (1.4460)		Duplex SS (1.4460)	
Casing Cover	Duplex SS (1.4460)		Duplex SS (1.4460)		Duplex SS (1.4460)		Duplex SS (1.4460)	
Impeller	Duplex SS (1.4460)		Duplex SS (1.4460)		Duplex SS (1.4460)		Duplex SS (1.4460)	
Shaft	Duplex SS (1.4460)		Duplex SS (1.4460)		Duplex SS (1.4460)		Duplex SS (1.4460)	



## PUMP CURVE INFORMATION

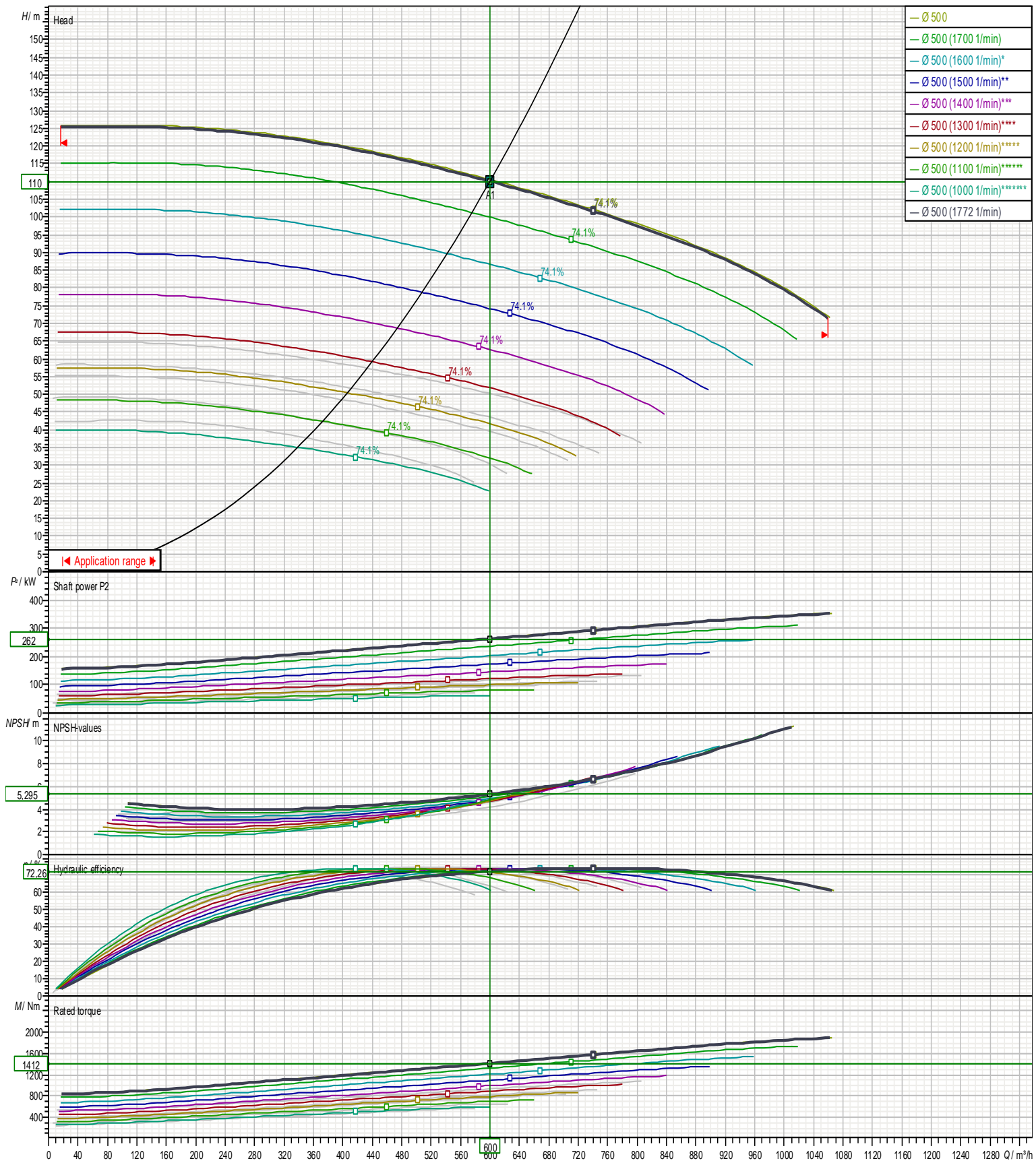
## Curve Wilo-FD 100

Flow : 300 m<sup>3</sup>/h vs Head : 80 m



## PUMP CURVE INFORMATION

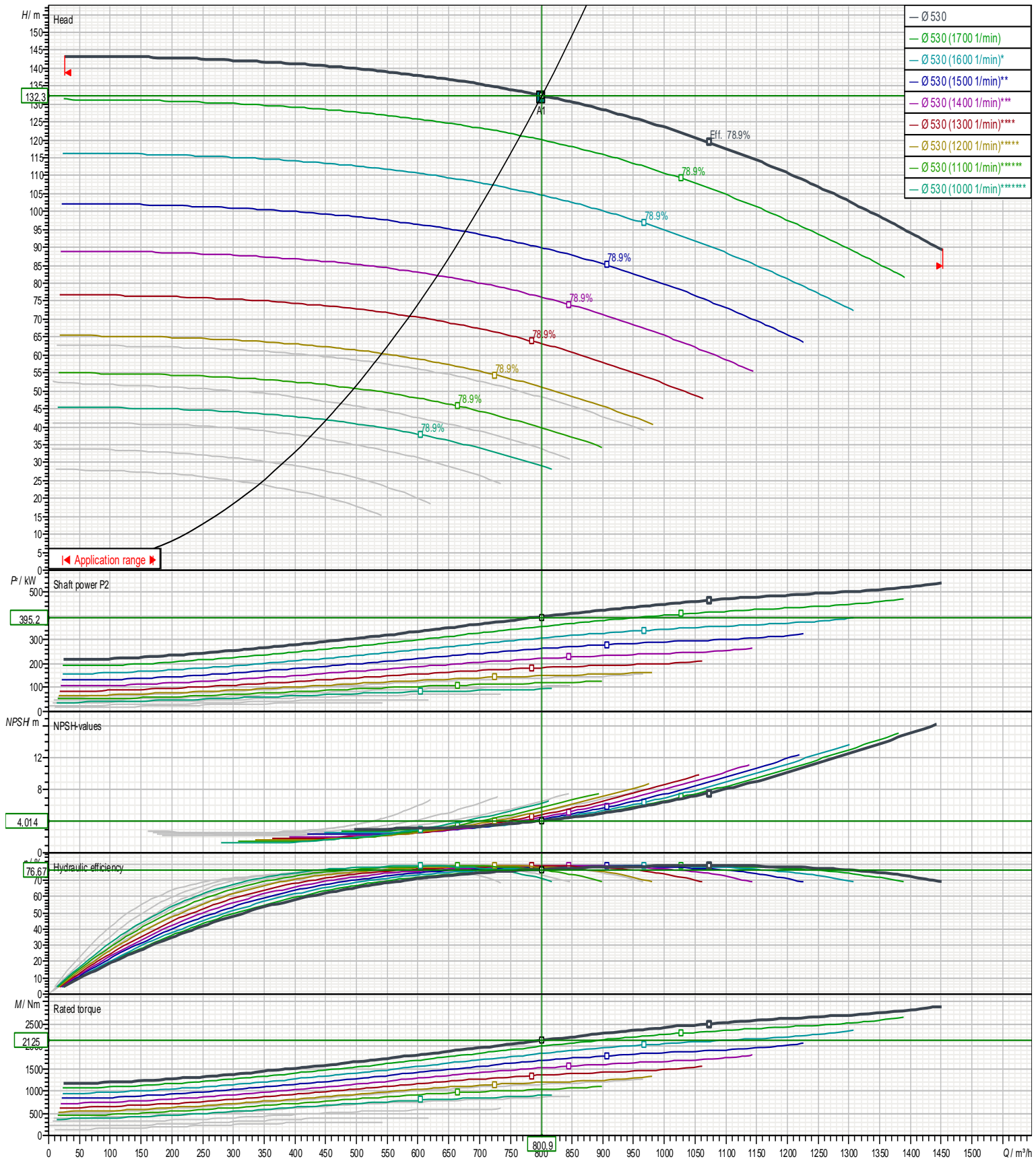
## Curve Wilo-FD 150

Flow : 600 m<sup>3</sup>/h vs Head : 110 m



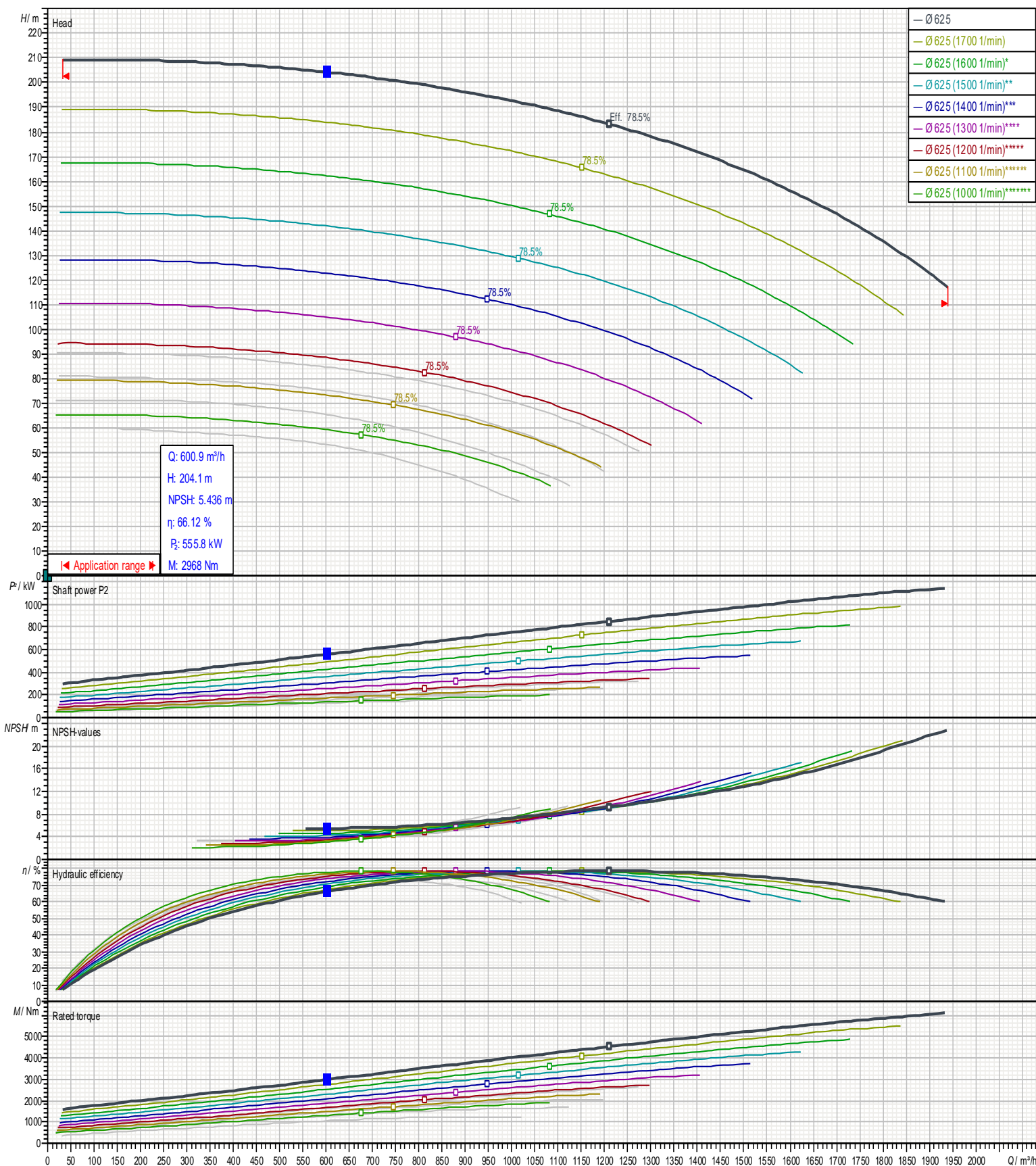
## PUMP CURVE INFORMATION

## Curve Wilo-FD 200

Flow : 800 m<sup>3</sup>/h vs Head : 132 m

## PUMP CURVE INFORMATION

## Curve Wilo-FD 200 High Head

Flow : 600 m<sup>3</sup>/h vs Head : 204 m



## OUR SPECIAL MATERIALS

## Duplex Stainless Steel – EN 1.4460

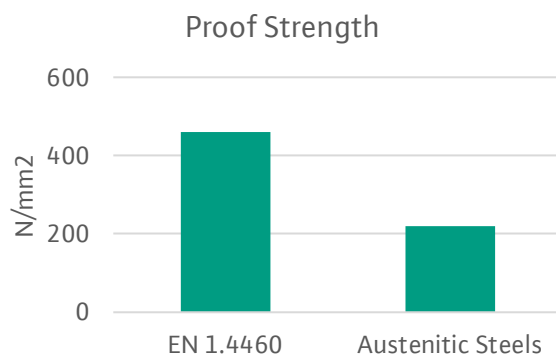
### • A stainless austenitic–ferritic steel

Typical Analysis %	C	Cr	Ni	Mo
	0,025	25,4	5,75	1,5
Delivery Condition	Solution annealed			

### • Mechanical Properties

Values for solution annealed condition to EN 10088 – 3

Tensile strength Rm	N/mm <sup>2</sup>	620 – 880
Proof strength RP <sub>02</sub>	N/mm <sup>2</sup>	Min 460
Elongation A <sub>5</sub>	%	Min 20
Impact energy KV – RT	J/cm <sup>2</sup>	Min 85
Hardness	HB	Max 260



### • Physical properties acc. to EN 10088

Temperature	20° C	100° C	200° C	300° C
Density $kg/dm^3$	7,8			
Modulus of Elasticity GPa	200	194	186	180
Mean coeff. Of Thermal Expansion 20° C – Temp $\times 10^{-6} / K$		13,0	13,5	14,0
Specific Thermal Capacity $W/m \cdot K$	15			
Electrical Resistivity $\Omega \cdot mm^2/m$	0,75			
Specific heat $J/kg \cdot K$	500			

The steel is susceptible to embrittlement when applied in the temperature range of 300–900° C. Scaling temperature in air is approx. 1070° C.

**EN 1.4460** is an acid resistant austenitic–ferritic steel that is characterized by:

- Excellent resistance to pitting corrosion, crevice corrosion, stress corrosion and corrosion fatigue
- High strength
- Excellent machinability
- High toughness

### • Typical application areas

- Propeller shafting
- Pump shafting
- Pump parts
- Valve parts
- Pistons
- Spindles
- Stirrers
- Bolting
- Nuts

### • Corrosion resistance

**EN 1.4460** shows very good corrosion resistance particularly in chloride-bearing environments. Its resistance to chloride caused attacks such as pitting, corrosion crevice, stress corrosion and corrosion fatigue is much better than that of fully austenitic stainless steels of EN 1.4404 type. Also, in most cases **EN 1.4460** is much better than EN 1.4404 type with regard to general corrosion resistance in reducing and oxidizing acids. Besides the two-phase microstructure and the low carbon content render **EN 1.4460** better resistance to intracrystalline corrosion after sensitization within the temperature interval 500 – 900° C.

When extremely high demands are imposed on resistance to pitting and crevice corrosion it is recommended that machining of the steel surface be followed by pickling or passivation.

## OUR SPECIAL MATERIALS

## Duplex Stainless Steel – EN 1.4460

- **Heat Treatment**

Solution annealing 1020 – 1100°C. Holding time at solution annealing temperature approx. 30 min, followed by rapid cooling in water. Stress relief treatments can in special cases be performed at 550°C – 600°C.

### Fabrication

- **Hot and cold forming**

Hot forming should be carried out in the temperature range 1200–950° C. It should, however, be observed that the strength of the duplex material is low at high temperatures. Hot working should normally be followed by solution annealing.

Due to the high proof strength of duplex material, greater working forces than those required for austenitic steel are usually needed for cold forming of duplex steel. The spring back is relatively high because of the high yield point. Solution annealing is normally recommended after more than 10 % cold deformation.

- **Machining**

**EN 1.4460** is a machinability improved Duplex stainless steel, which has considerably better machinability properties than EN 1.4462. It is not a "stainless free cutting steel" but a high-class norm steel. It is an "easy to machine steel", considered for parts where extensive machining is required.

- **Welding**

**EN 1.4460** possesses good weldability and can be welded in the same manner as austenitic material. Welding should be carried out without preheating and with small weld beads, i.e., with as little heat supply as possible. It is not necessary to use welding consumables of the same steel grade, but also austenitic ones can be used.

Welding of EN 1.4460 and subsequent application in highly corrosive environments could lead to a reduction in corrosion resistance. After annealing at 980° C and quenching in water the corrosion resistance of the weld will be just as high as that of the base material.

- **Bar Finish**

**EN 1.4460** is available with a machined or ground surface.

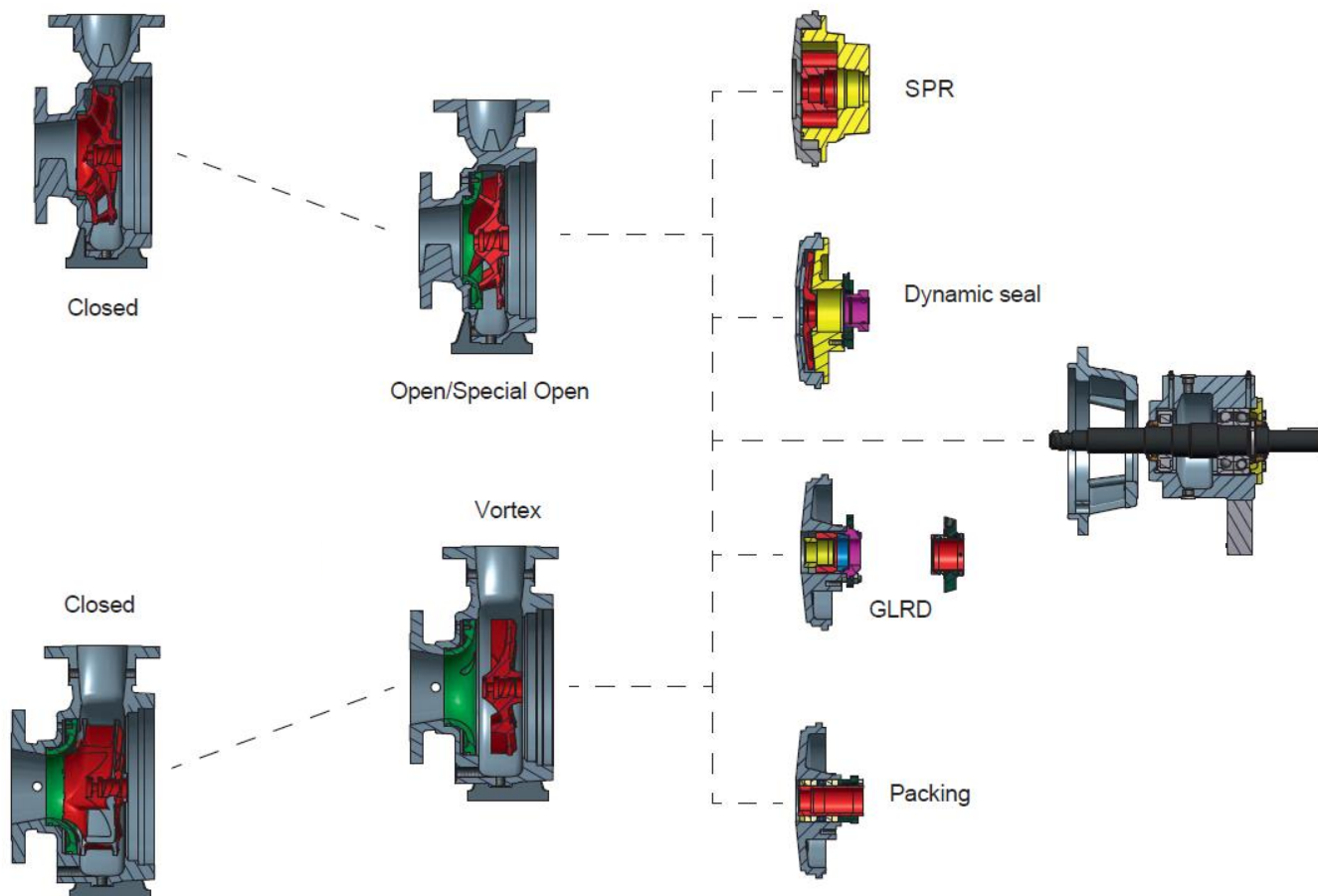
- **Material Standards**

SS-EN 10088-3	Stainless steels- Semifinished products, bars, rods, sections for general Purposes
ASTM A 276/ASME SA-276	Stainless steel bars for general purposes

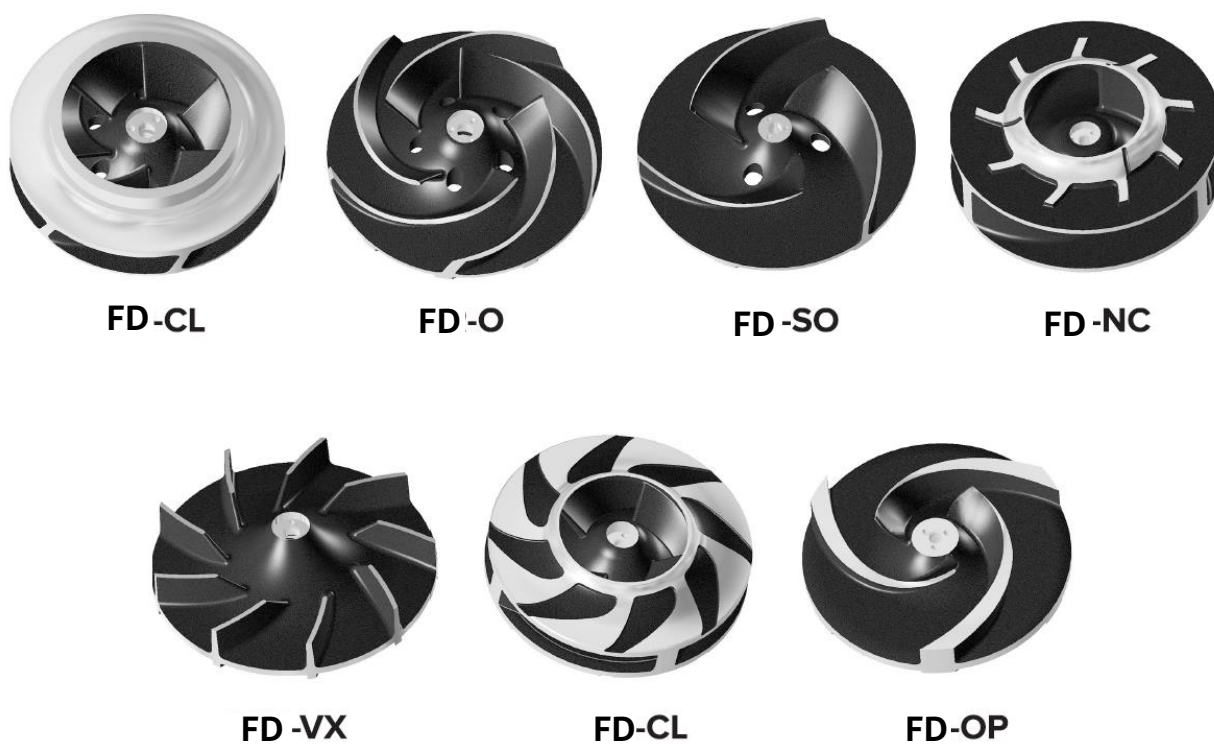


## PUMP CONFIGURATION

### Modular Pump Design



### Impeller



## COUPLING INFORMATION

## TYRE - FLEX COUPLINGS



## TYRE - FLEX COUPLINGS

TYPE  
TFH / T / TO / RST**TYRE - FLEX COUPLING**

The flexible capabilities of the Tyreflex Coupling help to accommodate angular, parallel and axial misalignments. Parallel Misalignment upto 6 mm.

Angular Misalignment upto 40.

End Float upto 8 mm.

0 Suitable in ambient temp. upto 70 C.

**CUSHIONING SHOCK LOADS**

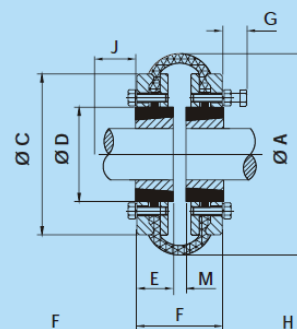
Tyreflex being a torsionally soft coupling protects against vibration, impact loads and heavy shocks in the event of sudden load changes.

**EASE OF ASSEMBLY / DISASSEMBLY**

Alignment is quickly checked by placing a straight edge across the outside diameters of the flanges. Installation or replacement of new tyre is achieved without disturbing driver or driven shafts, simply by loosening the clamping screws, placing a new tyre between the flanges and clamping rings and then tightening the clamping screws.

**FEATURES**

- Tyre-flex type TFH consists of four parts namely Hub, Clamping ring, Flange & Tyre clamped with a set of screws and washers.
- These are reversible which permit arranging them in any position FF, HH, HF as shown. Low inventory is the important feature of this type.

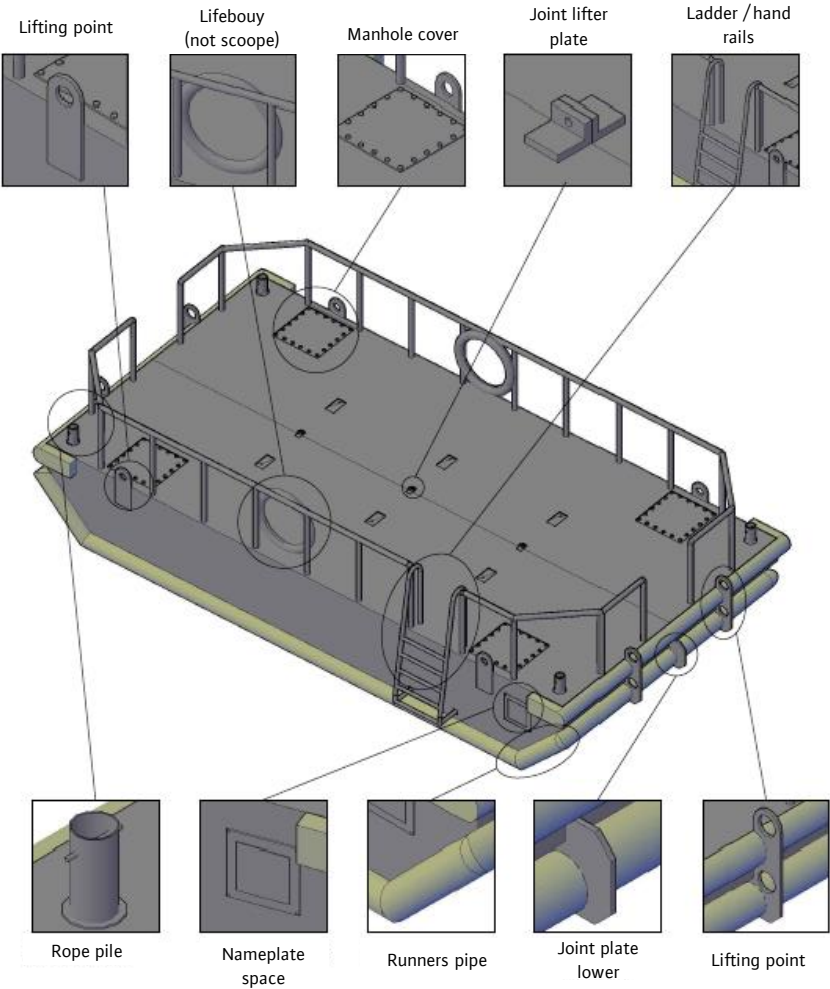


Size	Bush No	● Max. Bore		Ø A	Ø C	E	Ø D	J	F	G	M	Weight kg	Moment of inertia (WR <sup>2</sup> ) kgm <sup>2</sup>
		Inch	Metric										
TFH 7	1610	1 5/8	42	197	144	25	76	38	69	17	19	6.8	0.018
TFH 8	2012	2	50	210	167	32	96	42	85	17	21	9.1	0.036
TFH 9	2517	2 1/2	60	235	188	45	110	48	101	19	11	13.2	0.064
TFH 10	2517	2 1/2	60	254	216	45	125	48	102	19	12	18.7	0.110
TFH 11	3020	3	75	279	233	51	140	55	108	22	6	23.5	0.160
TFH 12	3020	3	75	314	264	51	152	55	111	25	9	34.1	0.280



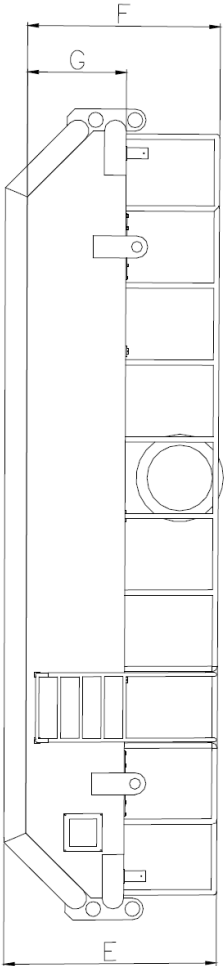
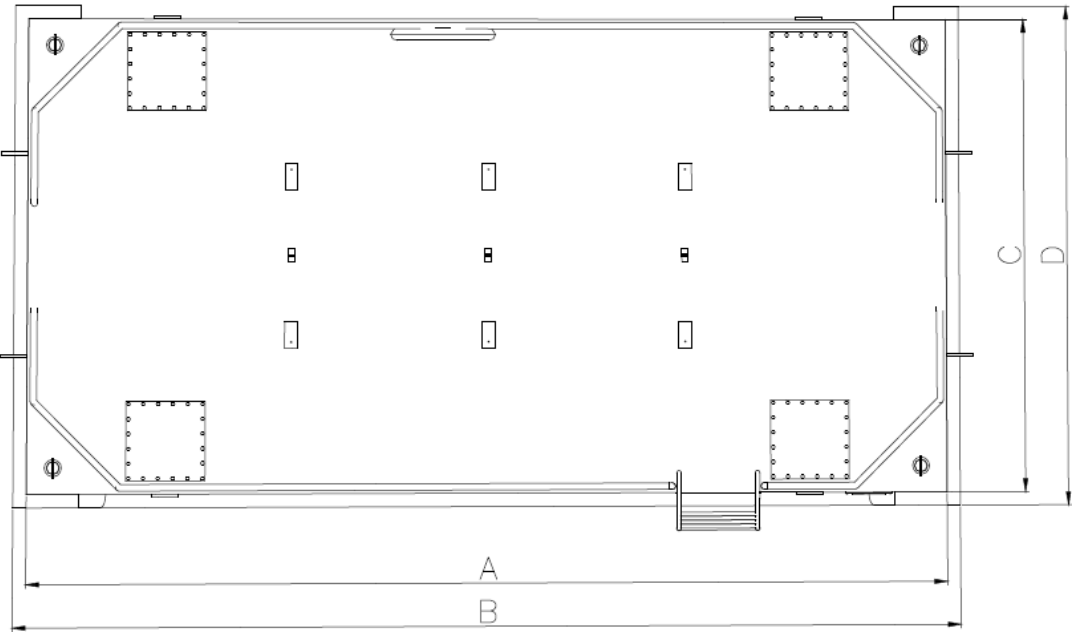
PONTOON INFORMATION

GENERAL DIMENSION DRAWING



Pontoon Type	FD-100	FD-150	FD-200
A	7000	7500	9000
B	7200	7700	9200
C	3600	4000	4500
D	3600	4200	4700
E	1930	1930	2030
F	1730	1730	1630
G	900	900	1000
Weight (kg)	5900	6660	6960

\*unit length in mm

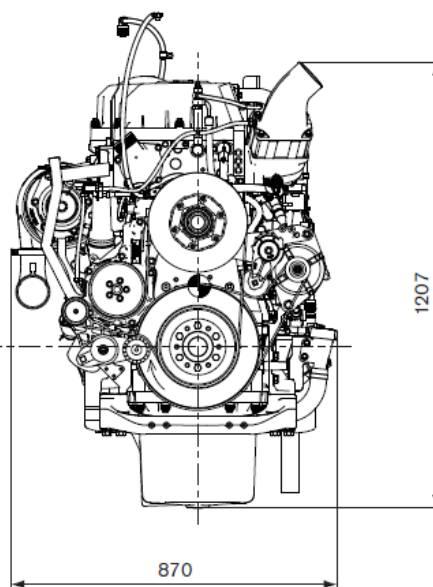
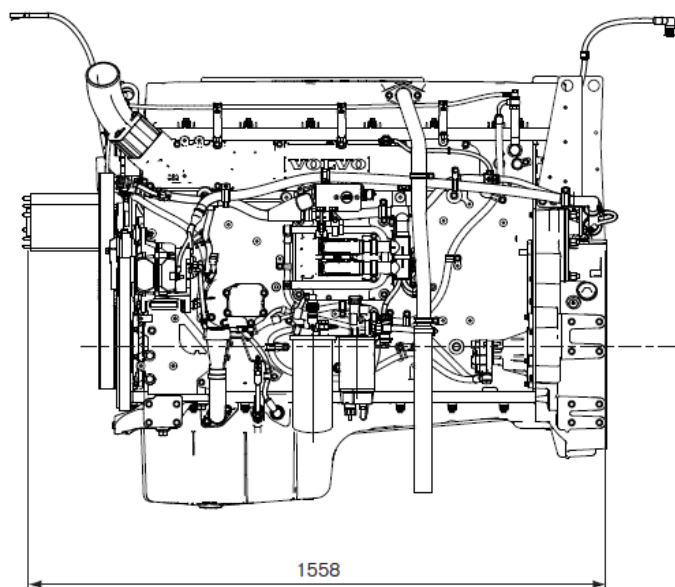
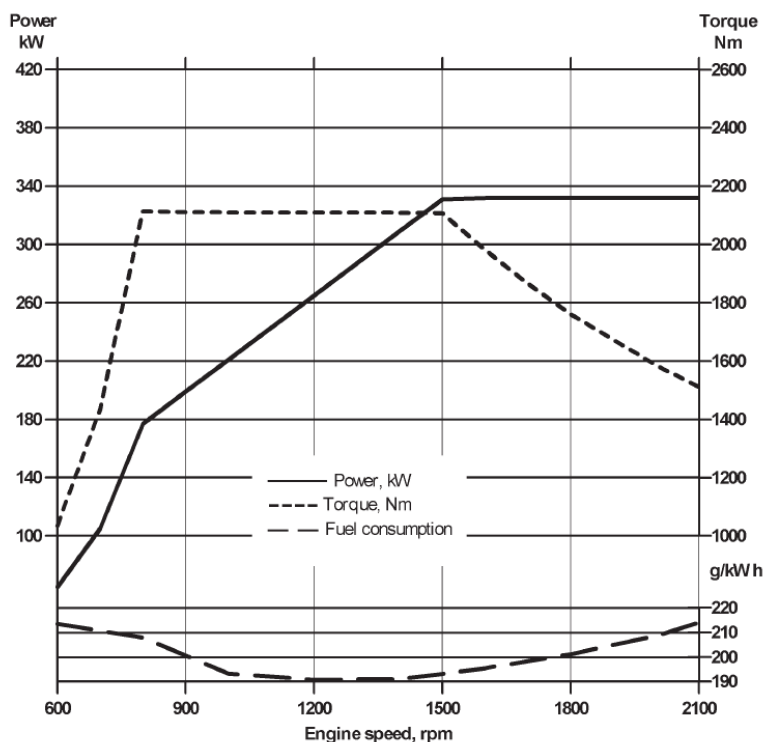


## ENGINE INFORMATION

## VOLVO PENTA INDUSTRIAL ENGINE - TAD1343VE

### Engine Description

No of Cylinders	In-line 6
Working Principle	4-stroke
Displacement	12,78 litres
Bore x stroke	131 x 158 mm
Compression ratio	18,1:1
Weight	1237 kg (excl. Oil and coolant)
Engine Interface	CAN SAE J1939
IFN power without fan, at 2100rpm kW (hp)	332 (452)
IFN power with fan Ø 890 mm, at 2100rpm kW (hp)	316 (430)
ICFN power without fan, at 1800rpm kW (hp)	332 (452)
ICFN power with fan Ø 890 mm, at 1800rpm kW (hp)	322 (438)
Torque at 1260 rpm, Nm (lb ft)	2143 (1580)



### Features

- High torque
- Highly efficient cooling system with Air to Air Intercooler
- High power density
- Fully electronic with EMS 2
- Complies with EU Stage II / EPA Tier 2 emissions
- Wide range of optional equipment including visco fan.

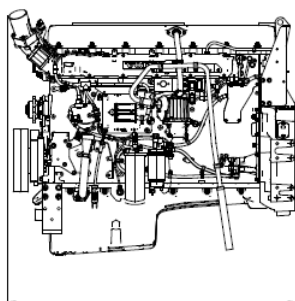




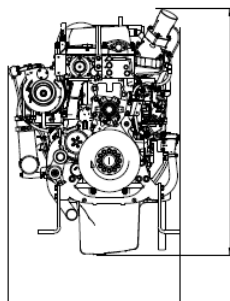
# ENGINE INFORMATION VOLVO PENTA INDUSTRIAL ENGINE – TAD1643VE-B

## Engine Description

No of Cylinders	In-line 6
Working Principle	4-stroke
Displacement	16,12 litres
Bore x stroke	144 x 165 mm
Compression ratio	17:1
Weight	1437 kg (excl. Oil and coolant)
IFN power without fan, at 1900rpm kW (hp)	565 (768)
IFN power with fan Ø 890 mm, at 1900rpm kW (hp)	543 (738)
Mean piston speed at 1900 rpm, m/s (ft/s)	10.5 (34.3)
Effective mean pressure at 1900 rpm, MPa (psi)	2.21 (321)
Max combustion pressure at 1900 rpm, MPa (psi)	16.7 (2422)
Oil consumption at max rpm, l/h (US gal/h)	0.10 (0.026)



1581

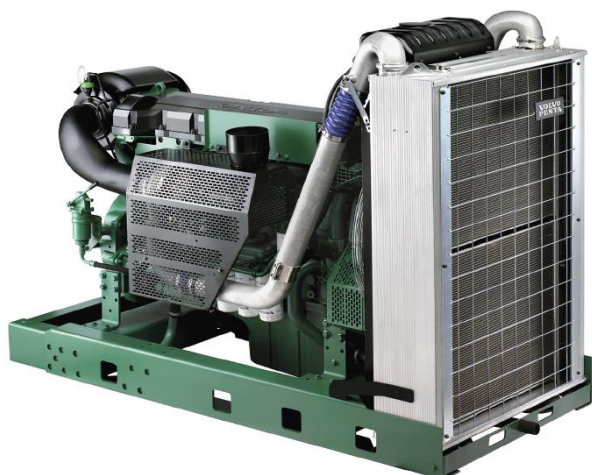


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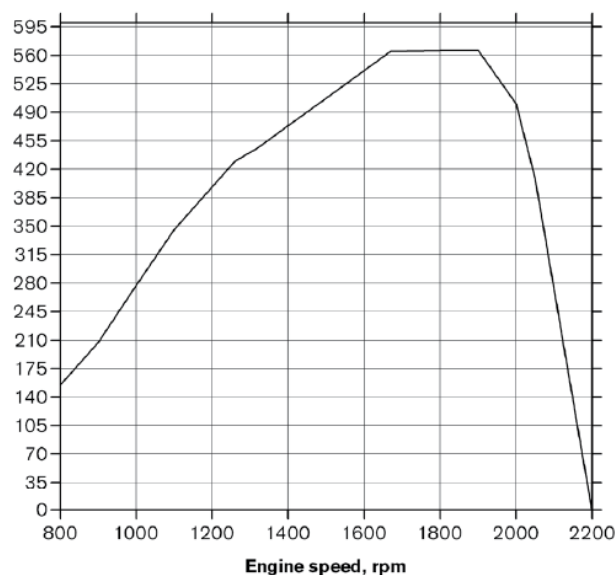
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## Features

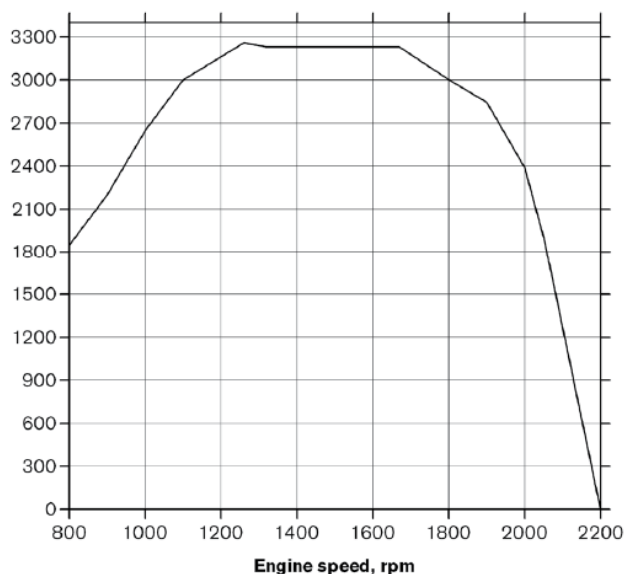
- Proven and straight-forward design - built on Volvo Group technology
- High power and torque already at low engine speed
- Compact, simple installation and easy to service
- Exhaust emission reduction system without EGR



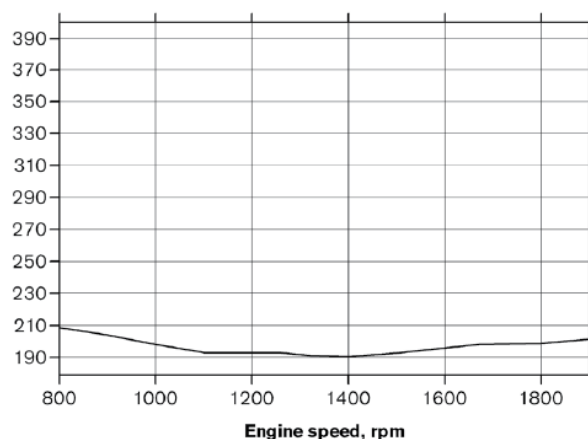
Power, kW



Torque, Nm



Fuel consumption, g/kWh

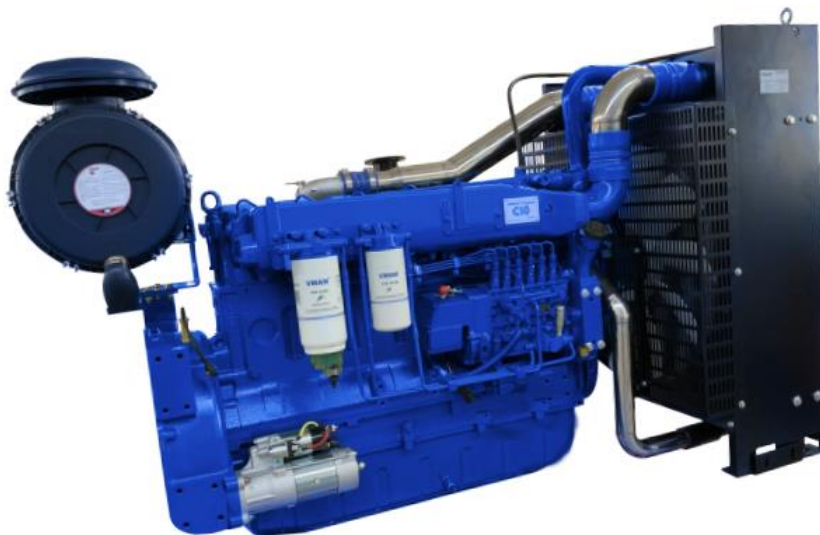


## ENGINE INFORMATION

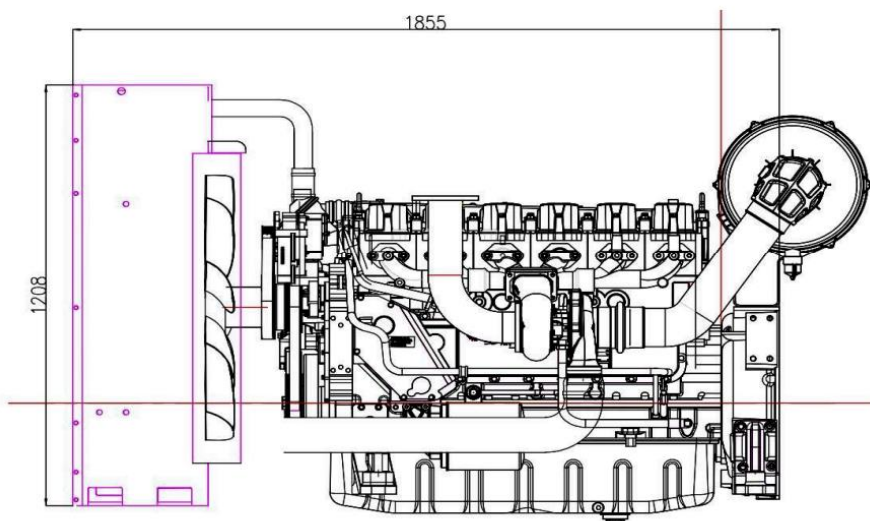
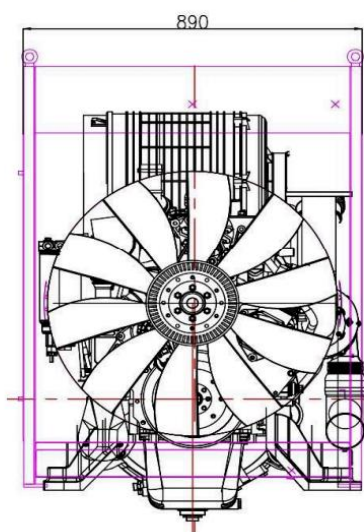
## VMAN ENGINE – C07 SERIES

### Engine Description

Prime Power (C07B)	180 kW
Standby Power (C07B)	198 kW
Max RPM	1800 rpm
Bore x stroke	105 x 124 mm
Compression ratio	16 : 1
Weight	600 kg (excl. Oil and coolant)
Displacement	6,5 L
Rotation {Looking at flywheel}	Counter clockwise {CCW}
Firing order	1-5-3-6-2-4
Injection timing	12°±0.5° BTDC@ 1800 rpm
Dimension {L x W x H}	1330 * 789 *1079 mm
Flywheel housing	SAE 3 #
Flywheel	SAE (11-1/2) #



### C10 Series diesel engine drawing





## ENGINE INFORMATION

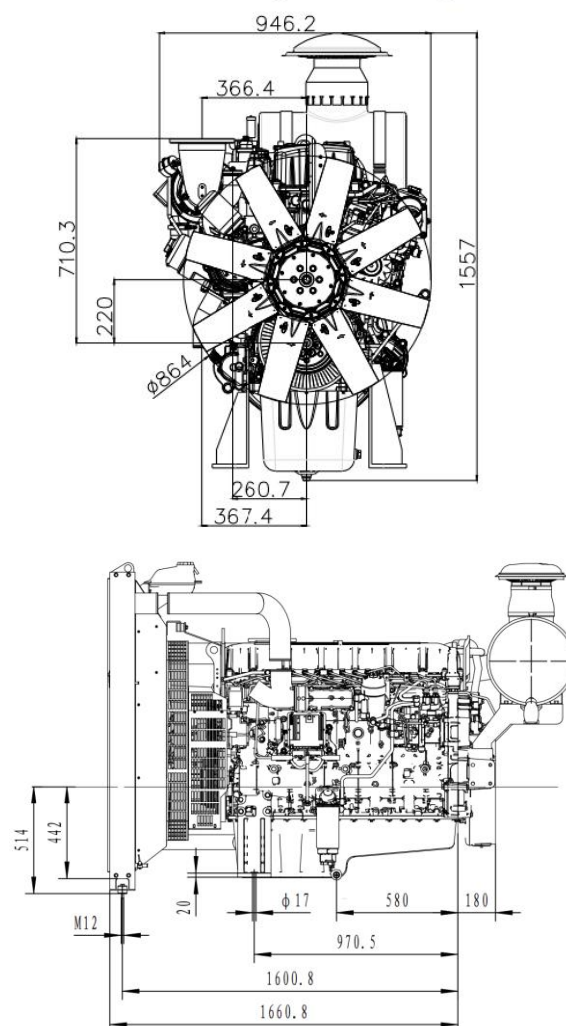
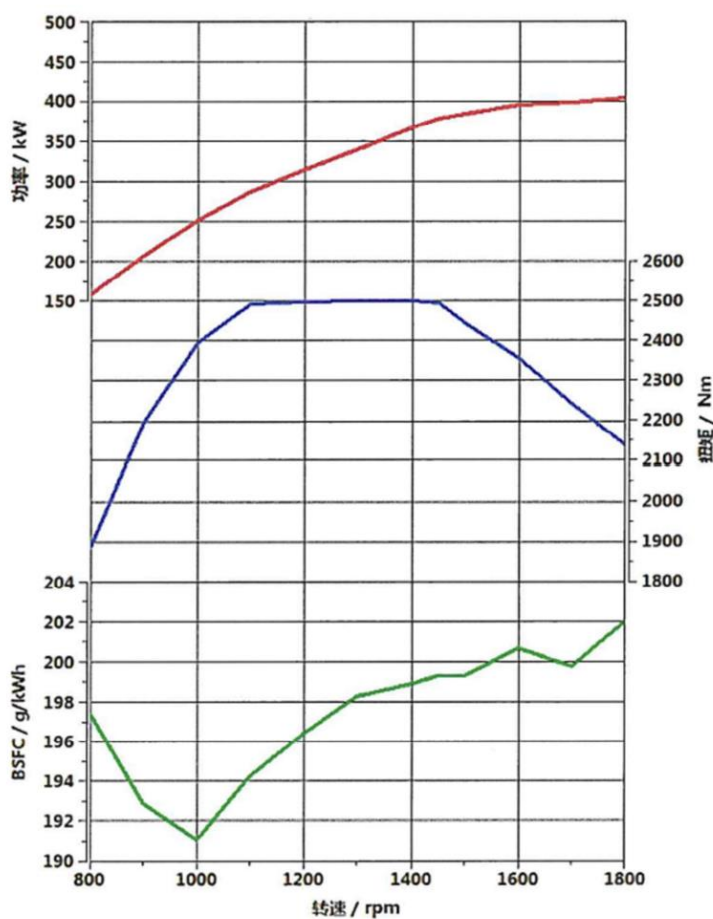
## VMAN ENGINE – CE13 SERIES

## Engine Description

Prime Power (CE13B)	415 kW
Standby Power (CE13B)	455 kW
Max RPM	1800 rpm
Bore x stroke	130 x 153 mm
Compression ratio	17 : 1
Weight	1078 kg (excl. Oil and coolant)
Displacement	12,8 L
Rotation {Looking at flywheel}	Counter clockwise {CCW}
Firing order	1-5-3-6-2-4
Injection timing	10°±1.5° BTDC@ 1800 rpm
Dimension {L x W x H}	1432 * 972 *1204 mm
Flywheel housing	SAE 3 #
Flywheel	14



CE13 Series diesel engine drawing

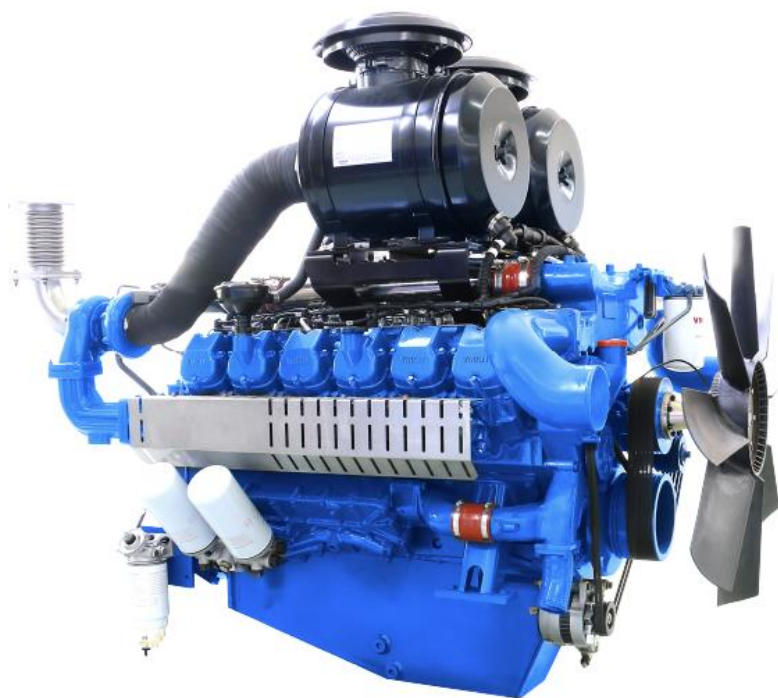


## ENGINE INFORMATION

## VMAN ENGINE – D22 SERIES

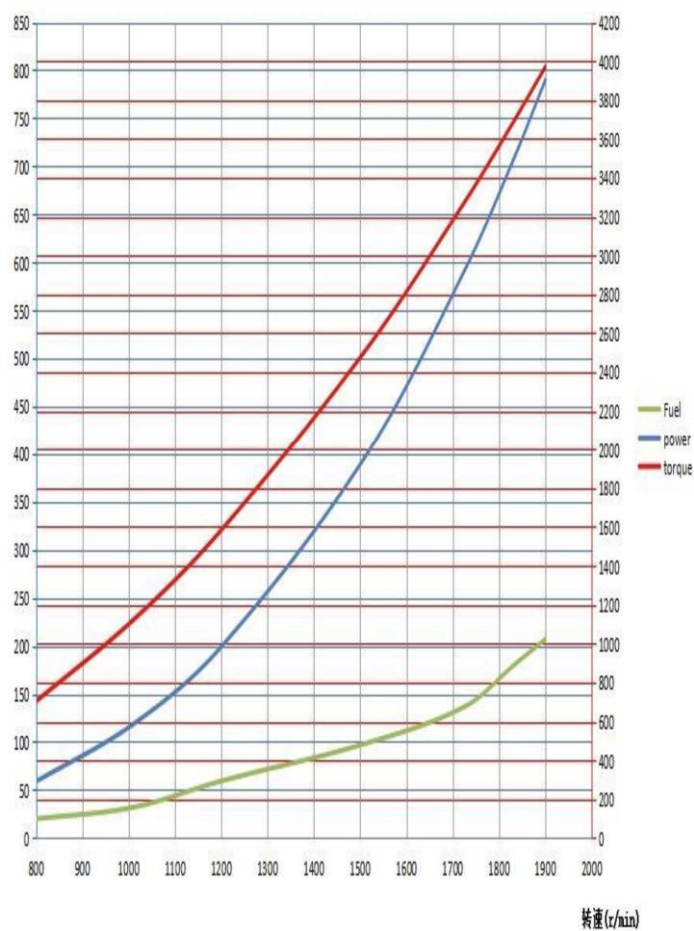
## Engine Description

Prime Power (D22.2)	718 kW
Standby Power (D22.2)	790 kW
Max RPM	1800 rpm
Bore x stroke	128 x 142 mm
Compression ratio	14.6 : 1
Weight	1575 kg (excl. Oil and coolant)
Displacement	22 L
Rotation {Looking at flywheel}	Counter clockwise {CCW}
Firing order	1-12-5-8-3-10-6-7-2-11-4-9
Injection timing	20°±1° BTDC @ 1800 rpm
Dimension {L x W x H}	1717*1389*1288 mm
Flywheel housing	SAE 1 or SAE 0
Flywheel	14 or 18

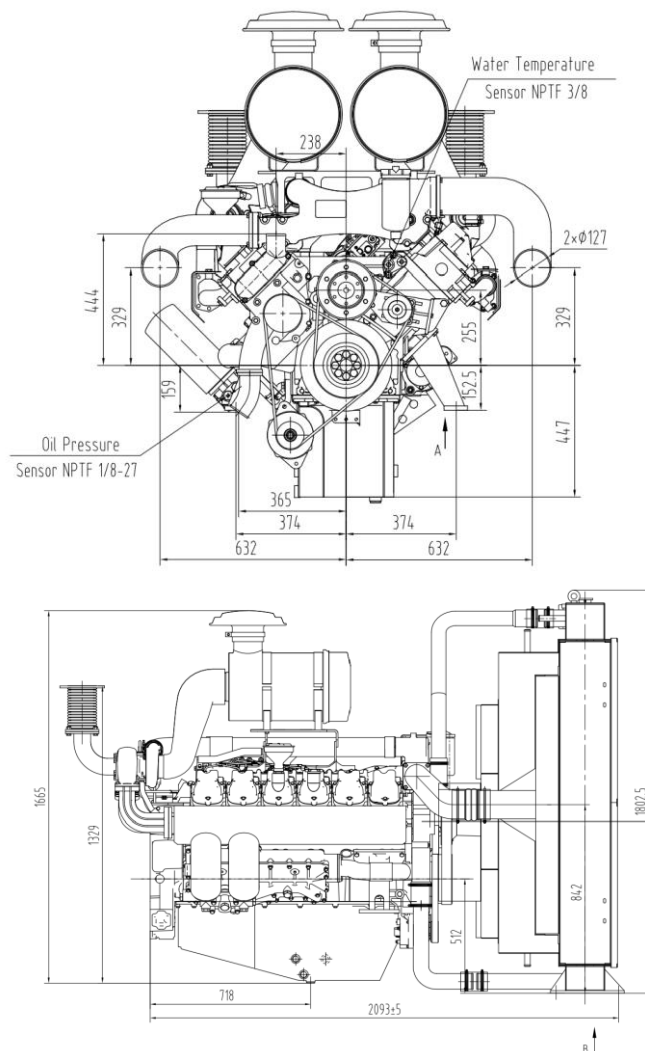


功率(kW)/燃油消耗率(g/kWh)

扭矩(Nm)



转速(r/min)





## VACUUM PUMP INFORMATION

Vacuum pump comes complete with all you require for a vast number of applications.

- Oil separator
- Gas ballast
- Motor
- Inlet non-return valve
- Shipped with oil



### Technical Specification

PUMP TYPE	Pumping speed		Ultimate pressure		Motor size				Water vapor handling capability			Motor supply specification
					1 ph		3 ph		Vapor limit			
	m³/h	cfm	mbar(a)	Torr	kW	hp	kW	hp	mbar	Torr	kg/h	
GVS 16 A	16	9	0.5	0.4	0.75	1	0.75	1	15	11	0.05	1 - 200-240V 50Hz / 3 - 200-240, 380-415V 50Hz
	19	11	0.5	0.4	0.9	1.2	0.9	1.2	15	11	0.05	1 - 200-240V 60Hz / 3 - 200-240, 380-460V 60Hz
GVS 25 A	25	15	0.5	0.4	0.75	1	0.75	1	15	11	0.08	1 - 220-230V 50Hz / 3 - 200-240, 380-415V 50Hz
	29	17	0.5	0.4	0.9	1.2	0.9	1.2	15	11	0.08	1 - 220-230V 60Hz / 3 - 200-240, 380-460V 60Hz
GVS 40 A	44	26	0.5	0.4	1.1	1.5	1.1	1.5	30	23	0.76	1 - 200-240V 50Hz / 3 - 230, 400V 50Hz / 3 - 220-230,380-400V 50Hz
	53	31	0.5	0.4	1.5	2	1.5	2	30	23	0.76	1 - 200-240V 60Hz / 3 - 230, 400V 60Hz / 3 - 190-240,380-460V 60Hz
Oxygen variant available (3)												
GVS 60 A	59	35	0.5	0.4	-	-	1.5	2.2	30	23	1	3 - 230, 400V 50Hz / 3 - 220-230, 380-400V 50Hz
	71	42	0.5	0.4	-	-	1.8	3	30	23	1	3 - 230, 460V 60Hz / 3 - 220-230, 380-460V 60Hz
GVS 100 A (1)	98	57	0.5	0.4	-	-	2.2	3	30	23	1.6	3 - 230, 400V 50Hz / 3 - 220-240, 380-415V 50Hz
	117	69	0.5	0.4	-	-	3.5	5	30	23	1.6	3 - 230, 460V 60Hz / 3 - 220-230, 380-460V 60Hz
GVS 150 (1)(2)	151	89	0.1	0.08	-	-	3.3	4.4	11	8	1.4	3 - 230, 400V 50Hz
	181	107	0.1	0.08	-	-	3.7	5	11	8	1.4	3 - 208-230V 60Hz / 3 - 265, 460V 60Hz
GVS 200 A (1)	180	106	0.1	0.08	-	-	4	6	30	23	3.4	3 - 200-240V 50Hz / 3 - 220-240, 380-415V 50Hz / 3 - 400V 50Hz
	220	130	0.1	0.08	-	-	5.5	7.5	30	23	3.4	3 - 440-460V 60Hz / 3 - 208-230, 460V 60Hz / 3 - 200-230, 380-460V 60Hz
GVS 300 A (1)	280	165	0.1	0.08	-	-	5.5	7.5	10	8	1.3	3 - 200-240V 50Hz / 3 - 220-240, 380-415V 50Hz / 3 - 400V 50Hz
	340	200	0.1	0.08	-	-	6.3	8.6	10	8	1.3	3 - 440-460V 60Hz / 3 - 208-230, 460V 60Hz / 3 - 200-230, 380-460V 60Hz
GVS 470 A	470	277	0.1	0.08	-	-	9.2	12	15	11	5	3 - 400V 50Hz / 3 - 200-240, 380-415 50Hz
	570	366	0.1	0.08	-	-	11	15	15	11	5	3 - 230, 440-480V 60Hz / 3 - 200-230, 380-460V 60Hz
GVS 630 A	700	412	0.1	0.08	-	-	15	20	40	30	17	3 - 400V 50Hz / 3 - 200-240, 380-415 50Hz
	840	494	0.1	0.08	-	-	18.5	25	40	30	17	3 - 230, 440-480V 60Hz / 3 - 200-230, 380-460V 60Hz

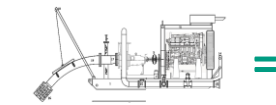
# 900.000 m<sup>3</sup> Wastewater had been pumped for Dewatering Applications

Thanks to Excellent Technology from Wilo



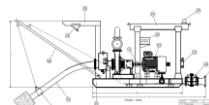
PT Adaro Energy Tbk is second largest coal miner in Indonesia. Through PT Adaro Tirta Sarana, as their Contractor to handle Dewatering process inside Adaro mining site, we supplied 9 Dewatering pumpsets complete with pump system infrastructure such as VSD control panel, pipe, and floating bridge.

## Energy Cost

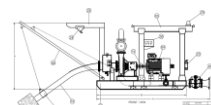


1 set of dewatering pump with Engine driver

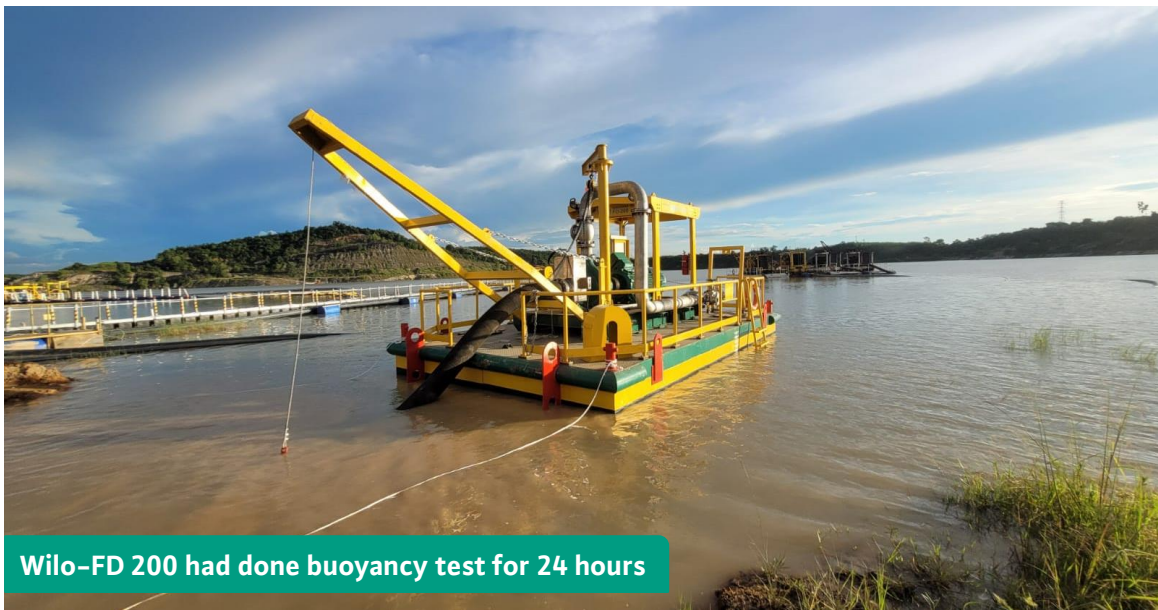
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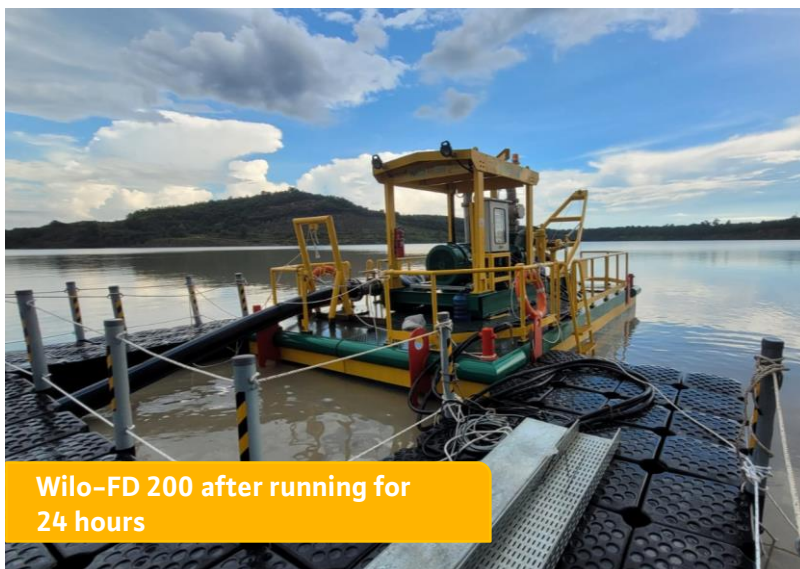
2 sets of dewatering pumps with motor driver



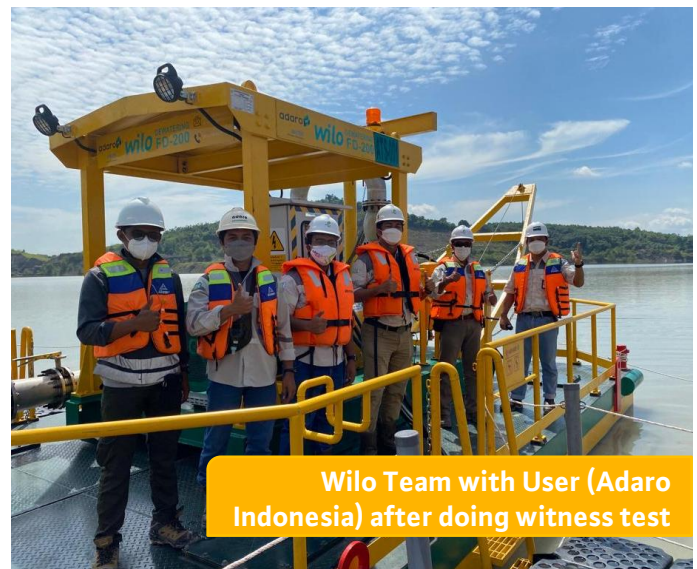
*\*Depends on electrical cost, fuel cost and working hour on every location*



Wilo-FD 200 had done buoyancy test for 24 hours



Wilo-FD 200 after running for 24 hours



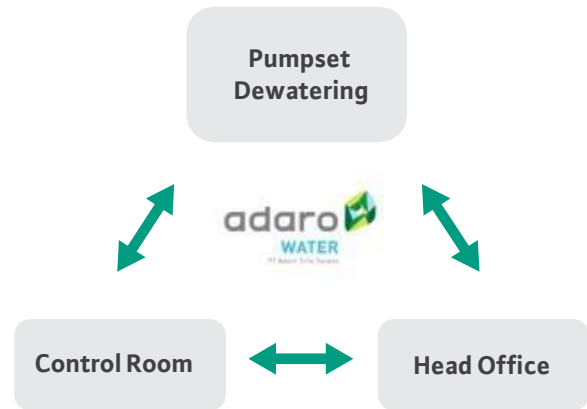
Wilo Team with User (Adaro Indonesia) after doing witness test



## Smart Dewatering Pump

We put our best control for your requirements

- Motor temperature sensor for motor safety
- Level and dry sensor for vacuum tank and vacuum pump automation
- Flow meter for performance parameter
- Pressure transmitter for dry running parameter



### Seamless integration utilizing energy-saving Altivar drive solution

Life Is On | **Schneider Electric**

#### Energy-saving Altivar drive

- Up to 30% energy saving when on standby due to the innovative “stop & go” operation without additional costs
- Monitor energy consumption, energy based KPIs with 95% accuracy
- Monitor pump operation state and efficiency (BEP) through Data logging and graphic display of the power consumption



### Seamless integration through EcoStruxure™

The Ecostruxure(tm) Architecture is to facilitate end-to-end connectivity between Ecostruxure(tm) OT devices and Ecostruxure(tm) machine advisors, tested, validated and supported nodes on the edge hardware.



We use **Node-RED** as the open-source technology to deliver basic connectivity.

3

Run: you're collecting data from Schneider products and forwarding data to Schneider advisors.

2

Create your data flow

1

Install EcoStruxure™ tested validated and supported nodes on the edge hardware



# Wilo services for you

## System Consulting

- On-site trainings with professional pump and system experts from Wilo
- Several training sites
- Practically experienced experts
- Topics of highest quality and practical relevance
- Personal exchange of experiences between the participants

## Commissioning

- Installation checks
- Setting of optimised system parameters
- Test run
- Checked and recorded with standardised check list
- Practical introduction to the operation

## Maintenance

- Professional pump and system inspection, maintenance and repair by Wilo pump and system experts
- Maintenance and refit
- Standardised maintenance options and packages
- Individual maintenance solutions and full service contracts
- All maintenance work recorded in a check list

## On-site repair

- Check of failure cause and system conditions
- Repair with genuine Wilo spare parts
- Corrective maintenance of failure cause
- Electric and hydraulic test run
- Repair recorded in service report

## Inhouse-repair

- Check of failure cause
- Repair or replacement offer
- Repair exclusively with genuine Wilo spare parts
- Optical preparation
- Electric and hydraulic test run
- Repair and test recorded in service report

## Spare parts

- Genuine spare parts in proven Wilo quality
- Customised spare parts stocks around the world
- Delivery capability of more than 92 %
- All popular spare parts available within 24 hours
- Individual advice on spare part selection and stock solution



System Consulting



Commissioning



Maintenance



On-site-repair



Spare parts





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