

Pioneering for You

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Catalogue Water Management 2014/2015

Drainage and Sewage – Wastewater Transport and Dewatering

Submersible pumps and accessories (stock pumps)



“Establishing one system supplier that meets all your individual needs,

that’s what I call Pioneering for You.”

Eike Dölschner, Senior Vice President Division Submersible & High Flow Pumps, WILO SE Hof/Germany



At Wilo, we offer you a one-stop service for your water management project. To achieve this, our team of experts adopts a holistic approach to meeting your needs. From clean water pumps to complete wastewater treatment systems, we provide you with customized solutions from one reliable source. This comprises the early stages of planning as well as full maintenance concepts. What challenge do you have for us?

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Wilo-EMU FA



Wilo-EMU Megaprop



Wilo-SCP



Wilo-EMU KM

Platin-Sponsor 2014



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Dewatering

Wastewater transport

Industrial process

Electrical accessories

Consulting guide

Drainage and sewage – Waste water transport and dewatering

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*) see Wilo online catalogue

Programme overview and fields of applications



Catalogue	Water Supply
Water Supply / Heating, Air-conditioning, Cooling	Glanded in-line pumps
	Glanded monobloc pumps
	Glanded norm pumps
	Axially split case pumps
	Condensate lifting units
	High-pressure multistage centrifugal pumps
	Pumps for fire extinguishing and sprinkler systems
Boosting	Single-pump systems
	Multi-pump systems
Raw Water Intake	Submersible pumps
	Polder pumps (Bottom intake pumps)
	Vertical turbine pumps

Catalogue	Drainage and Sewage
Wastewater Collection and Transport	Sewage lifting unit
	Pumps stations
	Submersible sewage pumps with macerator
	Solids separation systems (EMUport)
Wastewater Transport and Dewatering (Stock pumps)	Submersible drainage pumps
	Self-priming drainage pumps
	Submersible sewage pumps
Wastewater Transport and Dewatering (Order-specific production)	Submersible sewage pumps
	Axial submersible pumps (pipe sump pumps)
Wastewater Treatment	Submersible mixer
	Solids diffuser
	Ventilation systems
	Submersible mixers for special and industrial applications (MUD mixers)
	Recirculation pumps
	Axial submersible pumps (pipe sump pumps)
	Jet cleaner

Three other catalogues are available for building services applications.

Key:

- Applicable
- Not applicable
- 1) Local prescriptions and directives must be observed

Fields of application:



Heating



Secondary hot water



Air-conditioning



Cooling/Air-conditioning



Rainwater utilisation



Water distribution/boosting



Fire fighting¹⁾



Clean water treatment

Main field of application



•	-	•	•	-	-	-	-	-	-	-	-	-	-	-	•
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Fields of application:



Raw water intake



Desalination



Professional irrigation/agriculture



Energy/Leisure/Service
Special applications



Wastewater collection and transport



Wastewater treatment










Dewatering (incl. Flood Control)



Industrial process

General notes and abbreviations

Abbreviation	Meaning	Material	Meaning	AISI
1~	1-phase current	1.0570	Steel S355J2G3	A106
3~	3-phase current	1.4021	Chromium steel X20Cr13	420
-A	Float switch attached	1.4057	Chromium steel X17CrNi16-2	431
D	Direct activation	1.4112	Chromium steel X90CrMoV18	440B
DI	Leakage detection	1.4122	Chromium steel X39CrMo17-1	
Di	Inside diameter	1.4301	Chromium-nickel steel X5CrNi18-10	304
Di min.	Minimum inside diameter	1.4305	Chromium-nickel steel X8CrNiS18-9	303
DM	Three-phase motor, 3~	1.4306	Chromium-nickel steel X2CrNi19-11	304L
DN	Nominal diameter of the flange connection	1.4308	Chromium-nickel steel GX5CrNi19-10	304 CF8
EBM	Individual run signal	1.4401	Chromium-nickel-molybdenum steel X5CrNiMo17-12-2	316
EM	Single-phase motor, 1~	1.4404	Chromium-nickel-molybdenum steel X2CrNiMo17-12-2	316L
ESM	Individual fault signal	1.4408	Chromium-nickel-molybdenum steel GX5CrNiMo19-11-2	316
GRD/GLRD	Mechanical seal	1.4460	Chromium-nickel-molybdenum steel X3CrNiMoN 27-5-2	329
F	Thrust in newtons (N) (for submersible mixers)	1.4462	Chromium-nickel-molybdenum steel X2CrNiMoN22-5-3	329 (2205)
H, Hmax	Delivery head	1.4470	Chromium-nickel-molybdenum steel GX2CrNiMoN22-5-3	329
H _A	Suction head; inlet floor to ground level	1.4517	Chromium-nickel-molybdenum steel with copper addition GX2CrNiMoCuN25-6-3-3	
H _B	Installation depth to inlet floor	1.4528	Blade steel X105CrCoMo182	440B+ Co
H _N	Site altitude above MSL (mean sea level)	1.4541	Chromium-nickel steel with titanium addition X6CrNiTi18-10	321
H _G	Groundwater level to MSL (mean sea level)	1.4542	Chromium-nickel steel with copper and niobium additions X5CrNiCuNb16-4	630
I _A	Starting current	1.4571	Chromium-nickel steel with titanium addition X6CrNiMoTi17-12-2	316Ti
I _N	Nominal current; current at P ₂	1.4581	Chromium-nickel-molybdenum steel with niobium addition GX5CrNiMoNb19-11-2	316 / 316Nb
Inst.	Installation: H = horizontal, V = vertical	Abrasite	Chilled cast iron material for use in strongly abrasive fluids	
	Supply availability (L = stock article, C = available in 2 weeks, K = available in 4 weeks, A = available on request)	Al	Light metal material (aluminium)	
P ₁	Power consumption (power supplied from the network)	Al-oxide	Aluminium oxide	
P _{1.1}	Power consumption at the duty point	C	Carbon	
P ₂ (P _N)	Nominal motor power	Ceram	Coating with very high adhesive strength for long-lasting corrosion protection	
PN	Pressure class in bar (e.g. PN10 = suitable up to 10 bar)	Composite	High-strength plastic material	
PTC	Positive temperature coefficient (PTC thermistor sensor)	Cr	Chromium	
PT 100	Platinum temperature sensor with a resistance value of 100 Ω at 0 °C	EN-GJL	Cast iron with lamellar graphite, also referred to as grey cast iron. The use of grey cast iron in domestic water systems is governed by the Drinking Water Directive 98/83/EC and applicable recognised technical rules and standards!	
Q (=V̇)	Volume flow	EN-GJL 200	Grey cast iron GG20	
-S	Float switch attached	EN-GJL 250	Grey cast iron GG25	
SBM	Run signal or collective run signal			
SSM	Fault signal or collective fault signal			
WSK	Thermal winding contacts (in motor for monitoring the winding temperature, full motor protection through additional tripping unit)			
Y/Δ	Star-delta switching			
	Operating mode of double pumps: Individual operation of the respective duty pump			
 + 	Operating mode of double pumps: Parallel operation of both pumps			
	Number of poles of electric motors: 2-pole motor = approx. 2900 rpm at 50 Hz			
	Number of poles of electric motors: 4-pole motor = approx. 1450 rpm at 50 Hz			
	Number of poles of electric motors: 6-pole motor = approx. 950 rpm at 50 Hz			

Material	Meaning	AISI
EN-GJS	Cast iron with spheroidal graphite, also referred to as spheroidal cast iron. The use of spheroidal cast iron in domestic water systems is governed by the Drinking Water Directive 98/83/EC and applicable recognised technical rules and standards!	
EN-GJS-500-7	Spheroidal cast iron GGG50	
G-Al Si12	Die-cast aluminium	
GfK	Fibreglass plastic	
GG	See EN-GJL	
GGG	See EN-GJS	
Inox	Stainless steel	
ABS	Acrylic butadiene styrene	
PA 30GF	See Composite	
PE-HD	High-density polyethylene	
PP-GF30	Polypropylene, reinforced with 30% fibreglass	
PUR	Polyurethane	
SiC	Silicon carbide	
St	Steel	
St.vz.	Galvanised steel	
V2A	Material group, e.g. 1.4301, 1.4306	304
V4A	Material group, e.g. 1.4404, 1.4571	316

Wear and tear

Pumps or parts of pumps are subject to wear in accordance with the current technical standards (DIN 31051/DIN-EN 13306). This wear may vary depending on the operating parameters (temperature, pressure, speed, water conditions) and the installation/usage situation and may result in the failure of the above products/components, including their electrical/electronic circuits, at different times. Wear or wearing parts are all components subject to rotary or dynamic stress, including electronic components to which voltage is applied, including in particular:

- Gaskets (including mechanical seals), seal rings.
- Stuffing boxes.
- Bearings and shafts.
- Impellers and pump components.
- Thrust rings and wear rings.
- Wear rings / wear plates.
- Macerators.
- Condensers.
- Relays/contactors/switches.
- Electronic circuits, semiconductor components etc.

Pumps and continuous-flow machines (such as submersible mixers and recirculation pumps) and their coated components (cataphoretic, 2K or Ceram coating) are subject to constant wear due to the abrasive content of the fluids. For this reason the coating of these units is also counted as a wearing part!

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

Wilo – General Terms of Delivery and Service

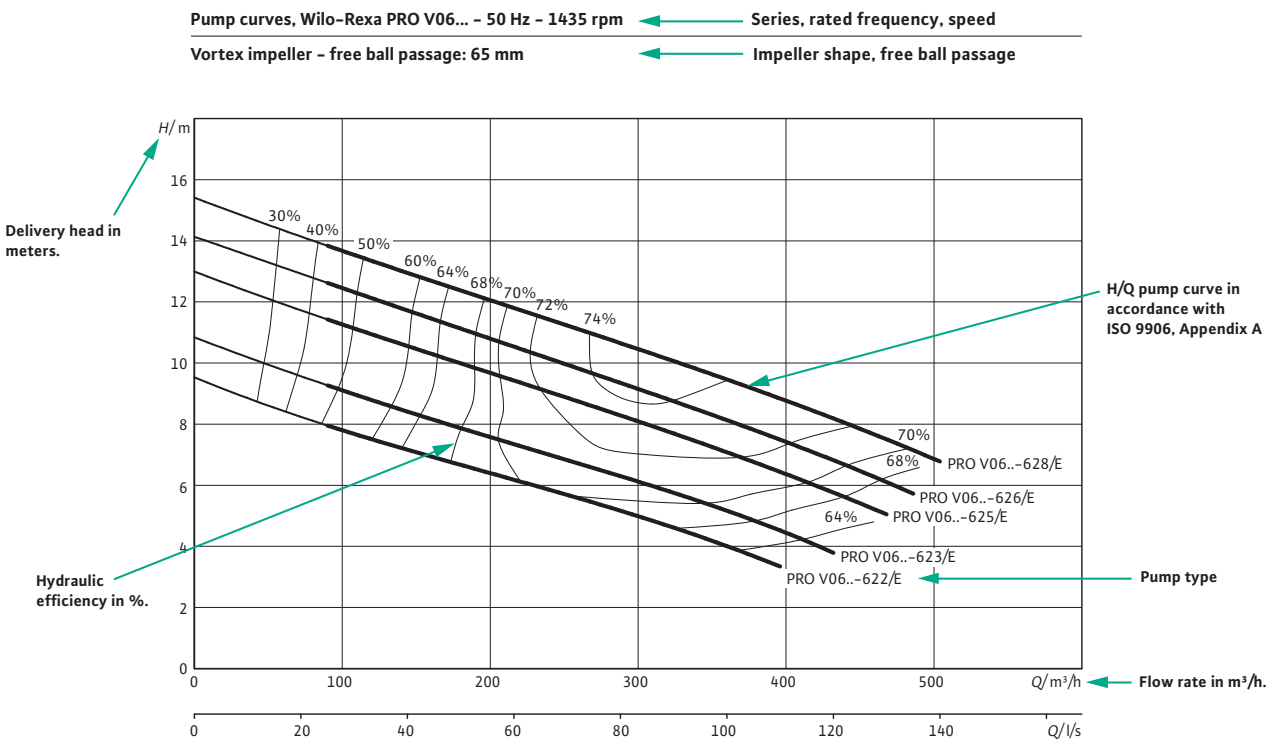
The latest version of our General Terms of Delivery and Service can be found on the Internet at www.wilo.com

General notes

Information for the pump curve graph

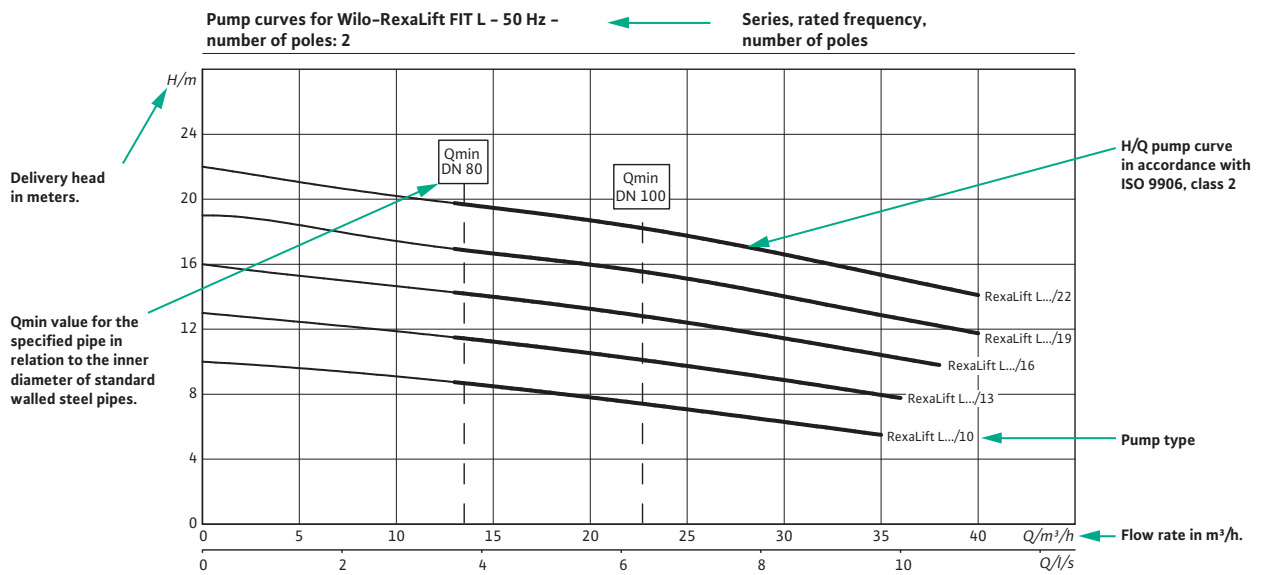
Submersible sewage pumps

Wilo-Rexa PRO (example)



Submersible sewage pumps

Wilo-RexaLift FIT L (example)



General notes

Equipment/function	Wilo-Drain...							
	TM 32	TMW 32	TMR 32	TS 32	TSW 32	TS 40	TS 50	TS 65
Design								
Submersible	•	•	•	•	•	•	•	•
Non-self-priming	•	•	•	•	•	•	•	•
Open single-channel impeller	–	–	–	–	–	–	–	–
Vortex impeller	–	–	–	–	–	–	–	–
Open multi-channel impeller	•	•	•	•	•	•	•	•
Turbulator	–	•	–	–	•	–	–	–
Sealing chamber	•	•	•	•	•	•	•	•
Sealing for mechanical seal on motor side	–	–	–	–	–	•	–	–
Sealing for rotary shaft seal on motor side	•	•	•	•	•	–	•	•
Sealing for mechanical seal on fluid side	•	•	•	•	•	•	•	•
Sealing for rotary shaft seal on fluid side	–	–	–	–	–	–	–	–
Single-phase AC motor	•	•	•	•	•	•	•	–
Three-phase motor	–	–	–	–	–	•	•	•
Direct activation	•	•	•	•	•	•	•	•
Star-delta activation	–	–	–	–	–	–	–	–
FC operation	–	–	–	–	–	–	–	–
Dry motor	•	•	•	•	•	•	•	•
Motor with oil cooling	–	–	–	–	–	–	–	–
Sheath current cooling	•	•	•	•	•	–	–	–
Application								
Wet well installation, stationary	•	•	•	•	•	•	•	•
Wet well installation, portable	•	•	•	•	•	•	•	•
Dry well installation, portable	–	–	–	–	–	–	–	–
Equipment/function								
Motor temperature monitoring	•	•	•	•	•	•	•	•
Explosion protection	–	–	–	–	–	–	• 3- only	•
Hose connection	•	•	•	•	•	•	–	–
Float switch	• TM 32/7			•			• Version A	
Non-return valve	–	•	•	•	•	•	–	–
Capacitor box for 1~230 V	–	–	–	–	–	–	•	–
Ready-to-plug				•			• Version A	

• = available or approved, – = not available or not approved

Equipment/function				
	Wilo-Drain...			Wilo-EMU
	LP 40	LPC	TP...-AM	KS
Design				
Submersible	–	–	•	•
Non-self-priming	–	–	–	•
Open single-channel impeller	–	–	–	•
Vortex impeller	•	–	–	•
Open multi-channel impeller	–	•	–	•
Turbulator	–	–	–	–
Sealing chamber	–	–	•	•
Sealing for mechanical seal on motor side	–	–	•	•
Sealing for rotary shaft seal on motor side	•	•	–	–
Sealing for mechanical seal on fluid side	•	•	•	•
Sealing for rotary shaft seal on fluid side	–	–	–	–
Single-phase AC motor	•	–	–	•
Three-phase motor	•	•	•	•
Direct activation	•	•	•	•
Star-delta activation	–	–	–	•
FC operation	–	–	–	–
Dry motor	•	•	–	•
Motor with oil cooling	–	–	–	•
Sheath current cooling	–	–	•	• From KS 24
Application				
Wet well installation, stationary	–	–	–	–
Wet well installation, portable	–	–	–	•
Dry well installation, portable	•	•	–	•
Equipment/function				
Motor temperature monitoring	•	–	•	• KS 5, 6, 16 only
Explosion protection	–	–	○	• KS 5, 6, 16 only
Hose connection	–	–	–	•
Float switch	–	–	–	•
Non-return valve	–	•	–	–
Capacitor box for 1~230 V	–	–	–	•
Ready-to-plug	–	–	–	•

• = available or approved, – = not available or not approved

General notes

Equipment/function						
	Wilo-RexaCut FIT	Wilo-Drain MTS	Wilo-RexaCut PRO	Wilo-Drain MTC	Wilo-Drain TC 40	Wilo-Drain STS 40
Design						
Submersible	•	•	•	•	•	•
Single-channel impeller	•	•	–	–	–	–
Vortex impeller	–	–	–	–	•	•
Multi-channel impeller	–	–	•	•	–	–
Open multi-channel impeller	–	–	–	–	–	–
Macerators	•	•	•	•	–	–
Turbulator	–	–	–	–	–	–
Sealing chamber	•	•	•	•	–	•
Leakage chamber	–	–	–	–	–	–
Sealing for mechanical seal on motor side	•	–	•	•	–	–
Sealing for rotary shaft seal on motor side	–	•	–	•	•	•
Sealing for mechanical seal on fluid side	•	•	•	•	•	•
Single-phase AC motor	•	–	–	–	•	•
Three-phase motor	•	•	•	•	–	•
Direct activation	•	•	•	•	•	•
Star-delta activation	–	–	–	•	–	–
FC operation	–	–	•	–	–	–
Dry motor	•	•	•	•	–	•
Motor with oil cooling	–	–	–	–	•	–
Dry motor with closed-circuit cooling	–	–	–	–	–	–
Sheath current cooling	–	–	–	–	–	–
Application						
Wet well installation, stationary	•	•	•	•	–	–
Wet well installation, portable	•	•	•	•	•	•
Dry well installation, stationary	–	–	–	–	–	–
Dry well installation, portable	–	–	–	–	–	–
Equipment/function						
Motor temperature monitoring	•	•	•	•	•	•
Sealing chamber monitoring	o	–	o	–	–	–
Explosion protection	–	•	•	•	–	–
Float switch	–	–	–	• Version A	•	• Version A
Capacitor box for 1–230 V	•	–	–	•	• integrated	• integrated
Ready-to-plug	• 1~	–	–	• Version A	•	• 1~

• = available, – = not available; o = optional

Equipment/function



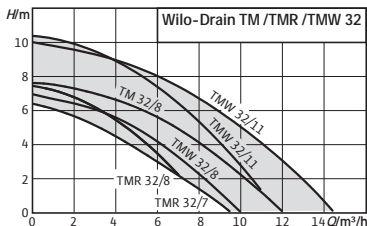
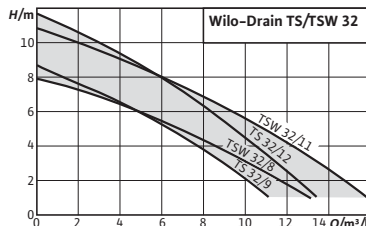
	Wilo-Rexa FIT	Wilo-Rexa PRO	Wilo-EMU FA (standard variant)	Wilo-Drain TMT/TMC	Wilo-Drain VC	Wilo-Drain TP 50/TP 65	Wilo-Drain TP 80/TP 100
Design							
Submersible	•	•	•	•	–	•	•
Single-channel impeller	–	–	•	–	–	•	•
Vortex impeller	•	•	•	–	–	•	–
Multi-channel impeller	–	–	–	–	–	–	–
Open multi-channel impeller	–	–	–	•	•	–	–
Macerators	–	–	–	–	–	–	–
Turbulator	–	–	–	–	–	–	–
Sealing chamber	•	•	•	–	–	•	•
Leakage chamber	–	–	•	–	–	–	–
Sealing for mechanical seal on motor side	•	•	•	•	–	–	•
Sealing for rotary shaft seal on motor side	–	–	•	–	•	•	–
Sealing for mechanical seal on fluid side	•	•	•	•	–	•	•
Single-phase AC motor	•	•	–	–	•	•	–
Three-phase motor	•	•	•	•	•	•	•
Direct activation	•	•	•	•	•	•	•
Star-delta activation	–	–	•	–	–	–	•
FC operation	–	•	–	–	–	–	–
Dry motor	•	•	•	–	•	•	–
Motor with oil cooling	–	–	–	•	–	–	–
Dry motor with closed-circuit cooling	–	–	–	–	–	–	–
Sheath current cooling	–	–	–	–	–	–	•
Application							
Wet well installation, stationary	•	•	•	–	•	•	•
Wet well installation, portable	•	•	•	•	–	•	•
Dry well installation, stationary	–	–	–	–	–	–	•
Dry well installation, portable	–	–	–	–	–	–	•
Equipment/function							
Motor temperature monitoring	•	•	•	–	–	•	•
Sealing chamber monitoring	o	o	o	–	–	–	–
Explosion protection	–	•	•	–	–	• TP 65/3~	•
Float switch	• Version A	–	–	–	•	• Version A	–
Capacitor box for 1~230 V	–	•	–	–	•	•	–
Ready-to-plug	•	optional	–	–	–	• Version A	–

• = available, – = not available; o = optional

Dewatering

Submersible pumps

Series overview

Series	Wilco-Drain TM/TMW/TMR 32	Wilco-Drain TS/TSW 32
Product photo		
Duty chart		
Design	Basement drainage pump, water-cooled	Basement drainage pump, water-cooled
Application	<p>For pumping clear or slightly muddy water</p> <ul style="list-style-type: none"> • From tanks, sumps or pits • For overflows and flooding • For draining basement stairways and basement areas 	<p>For pumping clear or slightly muddy water</p> <ul style="list-style-type: none"> • From tanks, sumps or pits • For overflows and flooding • For draining basement stairways and basement areas • From domestic areas (washing machine water, soapsuds) • From small fountains, waterworks or streams
H _{max}	11 m	12 m
Q _{max}	16 m ³ /h	16 m ³ /h
Special features/ product advantages	<ul style="list-style-type: none"> • Constantly clean pump sump due to patented integrated turbulator (TMW) • Minimal residual water level of 2 mm (TMR) • For aggressive fluids (HD version) • With float switch (A version) • Incl. hose connection and 10 m cable 	<ul style="list-style-type: none"> • Permanent operation 4000 h/year • High-quality motor seal with additional upstream dirt deflector • Heavy-duty, impact-resistant stainless steel housing • Detachable connection cable/float cable • Easy operation and maintenance • Constantly clean pump sump due to patented integrated turbulator (TSW)
Further information	Wilco online catalogue at www.wilo.com	Wilco online catalogue at www.wilo.com



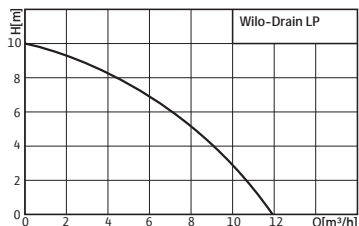
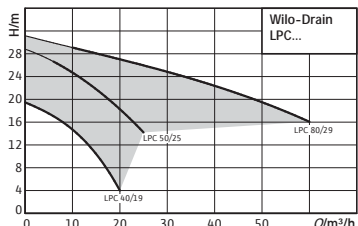
Series overview

Series	Wilo-Drain TS 40-65	Wilo-EMU KS	Wilo-Drain TP...-AM
Product photo			
Duty chart			
Design	Submersible drainage pump	Submersible drainage pump	Submersible sewage pump for mobile utilisation
Application	<p>For pumping wastewater with foreign matter of max. \varnothing 10 mm for</p> <ul style="list-style-type: none"> • Domestic and site drainage • Environmental and wastewater treatment technology • Industrial and process engineering 	<p>For pumping wastewater with foreign matter of max. \varnothing 45 mm (depending on the model), for</p> <ul style="list-style-type: none"> • Excavation pits, basins and sumps • Flooded basement areas • Use in fountains 	<p>Mobile application for pumping wastewater and drainage water as well as sewage containing faeces, municipal and industrial sewage, including long-fibre constituents, for:</p> <ul style="list-style-type: none"> • House and site drainage • Sewage and water management • Environmental and water treatment technology • Industrial and process engineering • Emergency management • Fire-fighting
H _{max}	25 m	42 m	22 m
Q _{max}	53 m ³ /h	165 m ³ /h	180 m ³ /h
Special features/ product advantages	<ul style="list-style-type: none"> • Inox and composites • Detachable connection cable • Wide performance range • Internal capacitor (TS 40/1~) • Internal self-switching thermal motor monitoring (TS 40 and TS 50/1~) 	<ul style="list-style-type: none"> • Long service life • High operational reliability • Slurping operation possible • Suitable for permanent operation • Easy handling 	<ul style="list-style-type: none"> • Mobile application due to installation of the pump in a trolley • Submersible • Low weight • Detachable connecting cable • Longitudinally watertight cable lead-in • Standard-equipped with clogging-free sheath current cooling • Corrosion-resistant (e.g. swimming-pool water, salt water, etc.) • Low-wearing • Patented clogging-free hydraulics
Further information	Series information from page 19 Wilo online catalogue at www.wilo.com Accessories from page 33	Series information from page 35 Wilo online catalogue at www.wilo.com Accessories from page 67	Series information from page 69 Wilo online catalogue at www.wilo.com

Dewatering

Self-priming pumps

Series overview

Series	Wilco-Drain LP	Wilco-Drain LPC
Product photo		
Duty chart		
Design	Self-priming drainage pump	Self-priming drainage pump
Application	Pumping of wastewater for <ul style="list-style-type: none"> • Ponds • Sprinkling / spraying of gardens and green areas • Mobile drainage 	Pumping of wastewater with small amounts of solid matter for <ul style="list-style-type: none"> • Excavation pits and ponds • Sprinkling / spraying of gardens and green areas • Drainage of seepage water • Mobile drainage
H _{max}	10 m	29 m
Q _{max}	12 m ³ /h	60 m ³ /h
Special features/ product advantages	<ul style="list-style-type: none"> • High operational reliability • Easy handling • Easy operation 	<ul style="list-style-type: none"> • Long service life • Heavy-duty design • Easy handling • Easy operation • Easy to maintain • Mobile and flexible use
Further information	Series information from page 76 Wilco online catalogue at www.wilo.com	Series information from page 81 Wilco online catalogue at www.wilo.com

Series description Wilo-Drain TS 40-65

Wilo-Drain TS 40

Wilo-Drain TS 50-65



Design

Submersible drainage pump

Type key

Example: **Wilo-Drain TS 50 H 111/11-A**

TS	Submersible pump for wastewater
50	Connection: 50 (= Rp 2); 65 (= Rp 2 1/2)
H	Impeller shape: H = half-open impeller
111	Nominal diameter of the impeller in mm
11	Power P ₂ in kW (=value/10 = 1.1 kW)
A	Version: A = with float switch and connecting cable with shock-proof plug (1~230 V/50 Hz) or CEE plug (3~400 V/50 Hz) CEE = without float switch with CEE plug without = without float switch with bare cable end

Additional type key:

Example: **Wilo-Drain TS 40/10-A**

TS	Submersible pump for wastewater
40	Connection: 40 (Rp 1 1/2)
10	Max. delivery head in m
A	Version: A = with float switch and connecting cable with shock-proof plug (1~230 V/50 Hz) or CEE plug (3~400 V/50 Hz) CEE = without float switch with CEE plug without = without float switch with bare cable end

Application

For pumping wastewater with foreign matter of max. Ø 10 mm for

- Domestic and site drainage
- Environmental and wastewater treatment technology
- Industrial and process engineering

Special features/product advantages

- Inox and composites
- Detachable connection cable
- Wide performance range
- Internal capacitor (TS 40/1~)
- Internal self-switching thermal motor monitoring (TS 40 and TS 50/1~)

Technical data

- Mains connection: 1~230 V, 50 Hz or 3~400 V, 50 Hz
- Protection class: IP 68
- Max. immersion depth: TS 40 = 5 m; TS 50/TS 65 = 10 m
- Fluid temperature: 3 - 35 °C
- Cable length: 10 m
- Free ball passage: 10 mm
- Pressure port: TS 40 = Rp 1, TS 50 = Rp 1 1/4, TS 65 = Rp 2 1/2

Equipment/function

- Ready-to-plug for 1~230 V and A and CEE model
- Thermal motor monitoring
- Explosion protection (TS 50/3~ and TS 65)
- Connection cable detachable
- Integrated non-return valve (TS 40)
- Hose connection (TS 40)

Materials

TS 40:

- Pump housing PP-GF30
- Impeller PP-GF30
- Shaft 1.4404
- Sealing on motor side: mechanical seal SiC/SiC
- Sealing on pump side: mechanical seal SiC/SiC
- Static seal: NBR
- Motor housing 1.4301

TS 50, 65:

- Pump housing: PUR
- Impeller: PP-GF30
- Shaft: 1.4404
- Sealing on motor side: NBR rotary shaft seal
- Sealing on pump side: mechanical seal SiC/SiC
- Static seal: NBR
- Motor housing 1.4301

Description/design

Submersible wastewater pump as submersible monobloc unit for stationary and portable wet well installation.

Hydraulics

The output on the pressure side is configured as a vertical threaded connection Rp 1 1/2 (TS 40), Rp 2 (TS 50) or Rp 2 1/2 (TS 65). Semi-open channel impellers with free ball passage of 10 mm are used as the impeller.

Dewatering

Submersible pumps

Series description Wilo-Drain TS 40-65

Motor

Dry motors as single-phase or three-phase AC motors with thermal motor monitoring. On models TS 40 and TS 50 (1~ only) this monitoring is built-in and self-switching. The waste heat is given off directly to the surrounding fluid via the housing components. As a result, these units must always be immersed for permanent or intermittent operation.

A sealing chamber protects the motor from fluid ingress. The filling fluid used is potentially biodegradable and environmentally safe.

The cable is detachable, oil-resistant and has bare cable ends. The cable lengths are available in length increments of 10 m. The A model is equipped with a float switch and a shock-proof plug (1~230 V/50 Hz) or a CEE plug (3~400 V/50 Hz). The CEE model does not have a float switch and is equipped with a CEE plug.

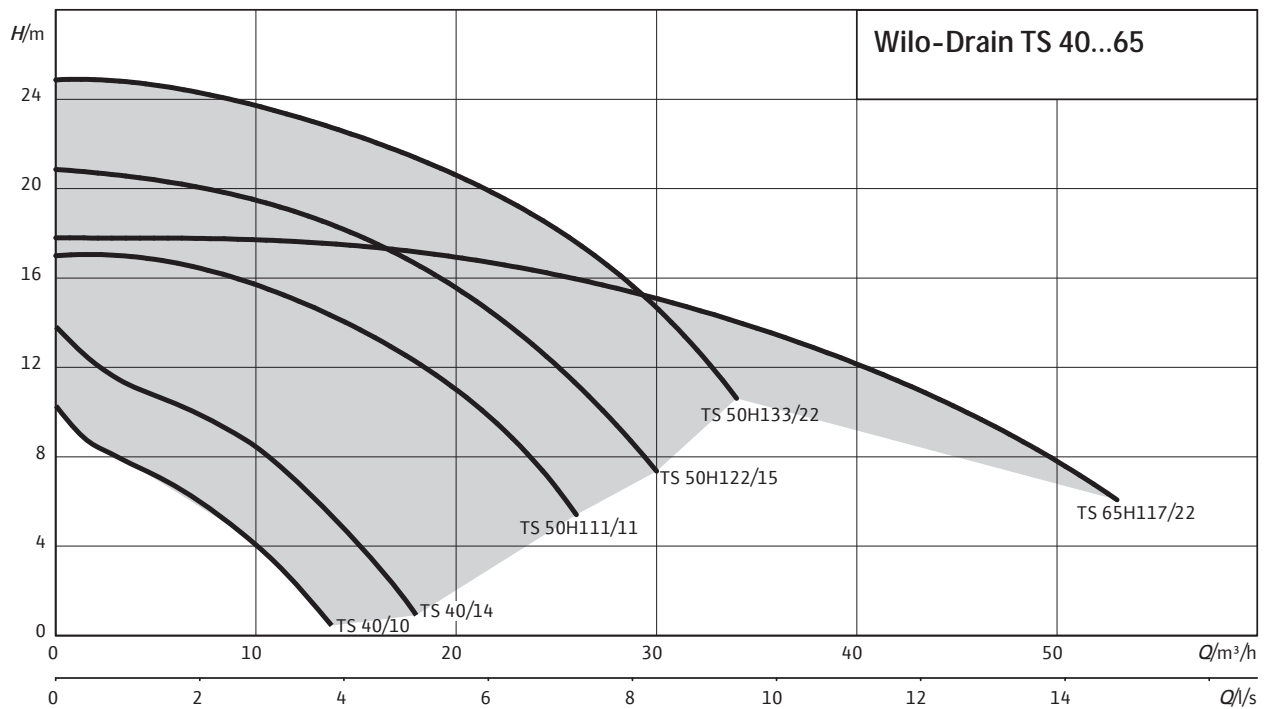
Sealing

Sealing on the fluid side is done using a bidirectional mechanical seal. On the TS 40, sealing on the motor side is likewise done using a bidirectional mechanical seal. On the TS 50 and TS 65, sealing on the motor side is with a rotary shaft seal.

Scope of delivery

- Pump ready for connection with 10 m connection cable and bare cable end
- "A" model equipped with float switch and shock-proof plug (1~230 V/50 Hz) or CEE plug (3~400 V/50 Hz)
- "CEE" version equipped with CEE plug
- Hose connection (TS 40 only)
- Installation and operating instructions

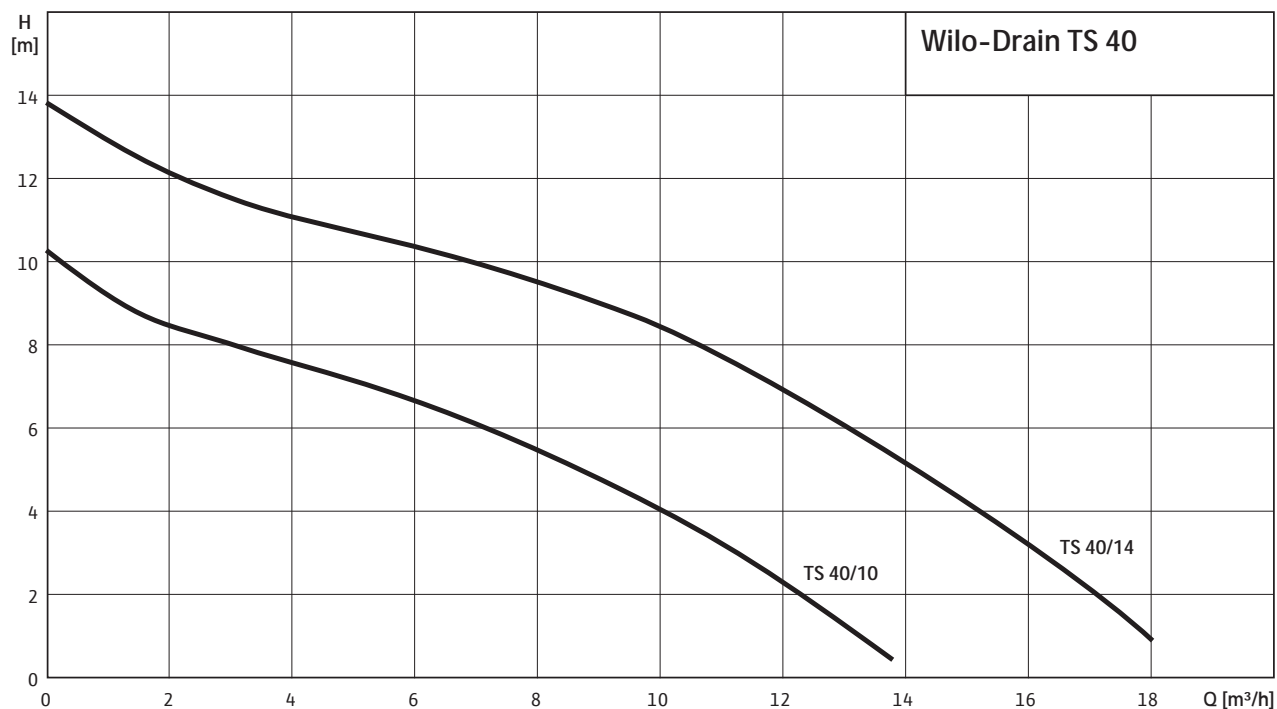
Duty chart



Pump curves, ordering information Wilo-Drain TS 40

Pump curves Wilo-Drain TS 40 - 50 Hz - No. of poles: 2

Single-channel impeller - Free ball passage: 10 mm



Pump curves in accordance with ISO 9906, Appendix A.

Information for order placements

Wilo-Drain...	Mains connection	Art No.	
TS 40/10	1~230 V, 50 Hz	L	2063928
TS 40/10-A	1~230 V, 50 Hz	L	2063926
TS 40/10	3~400 V, 50 Hz	L	2063927
TS 40/14	1~230 V, 50 Hz	L	2063931
TS 40/14-A	1~230 V, 50 Hz	L	2063929
TS 40/14	3~400 V, 50 Hz	L	2063930

Dewatering

Submersible pumps

Technical data Wilo-Drain TS 40

	TS 40/10	TS 40/10	TS 40/10-A
Motor data			
Mains connection	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz
Nominal current I_N/A	2.2	1.1	2.2
Nominal motor power P_2/kW	0.4	0.4	0.4
Power consumption P_1/kW	0.48	0.55	0.48
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900
Insulation class	B	B	B
Max. switching frequency 1/h	50	50	50
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	3G1	4G1	3G1
Type of connecting cable	Plug, detachable	Plug, detachable	Plug, detachable
Mains plug	Shock-proof	–	Shock-proof
Unit			
Pressure connection	Rp 1½	Rp 1½	Rp 1½
Free ball passage mm	10	10	10
Operating mode (immersed)	S1, S3-25%	S1, S3-25%	S1, S3-25%
Operating mode (non-immersed)	–	–	–
Max. immersion depth m	5	5	5
Protection class	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +35	+3 ... +35	+3 ... +35
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–	–
Weight approx. m/kg	14	14	14.2
Equipment/function			
Float switch	–	–	•
Motor protection	WSK	WSK	WSK
Explosion protection	–	–	–
Materials			
Static seal	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	SiC/SiC	SiC/SiC	SiC/SiC
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301
Pump housing	PP-GF30	PP-GF30	PP-GF30

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Drain TS 40

	TS 40/14	TS 40/14	TS 40/14-A
Motor data			
Mains connection	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz
Nominal current I_N/A	4.4	2	4.4
Nominal motor power P_2/kW	0.75	0.75	0.75
Power consumption P_1/kW	1	0.92	1
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900
Insulation class	B	B	B
Max. switching frequency $1/h$	50	50	50
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	3G1	4G1	3G1
Type of connecting cable	Plug, detachable	Plug, detachable	Plug, detachable
Mains plug	Shock-proof	–	Shock-proof
Unit			
Pressure connection	Rp 1½	Rp 1½	Rp 1½
Free ball passage mm	10	10	10
Operating mode (immersed)	S1, S3-25%	S1, S3-25%	S1, S3-25%
Operating mode (non-immersed)	–	–	–
Max. immersion depth m	5	5	5
Protection class	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +35	+3 ... +35	+3 ... +35
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–	–
Weight approx. m/kg	16	16	16.2
Equipment/function			
Float switch	–	–	•
Motor protection	WSK	WSK	WSK
Explosion protection	–	–	–
Materials			
Static seal	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	SiC/SiC	SiC/SiC	SiC/SiC
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301
Pump housing	PP-GF30	PP-GF30	PP-GF30

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

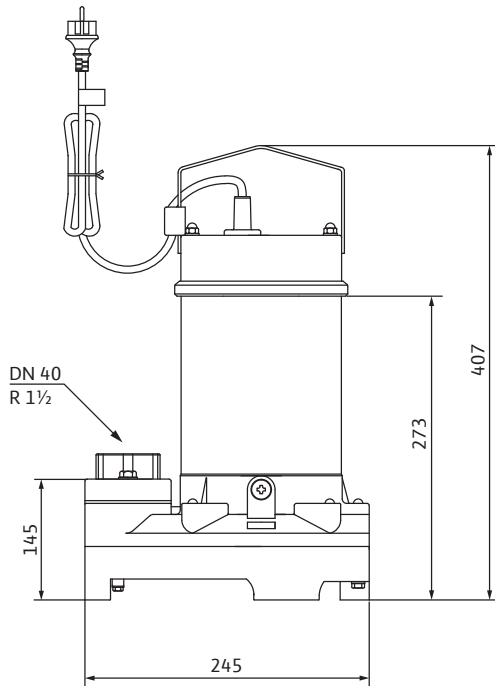
Dewatering

Submersible pumps

Dimension drawing Wilo-Drain TS 40

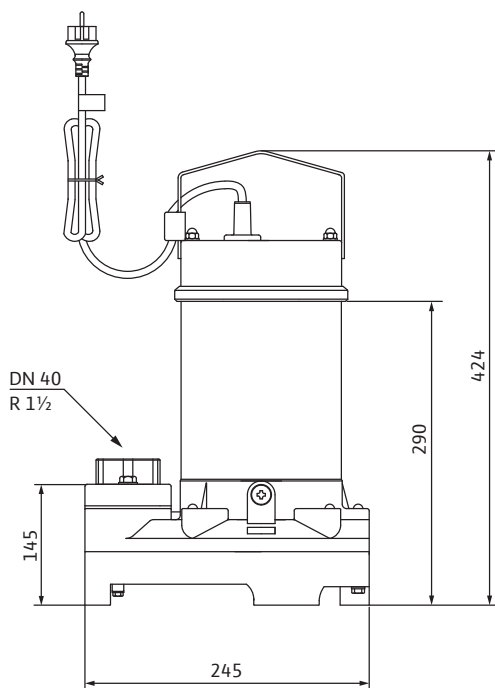
Dimension drawing

Wilo-Drain TS 40/10



Dimension drawing

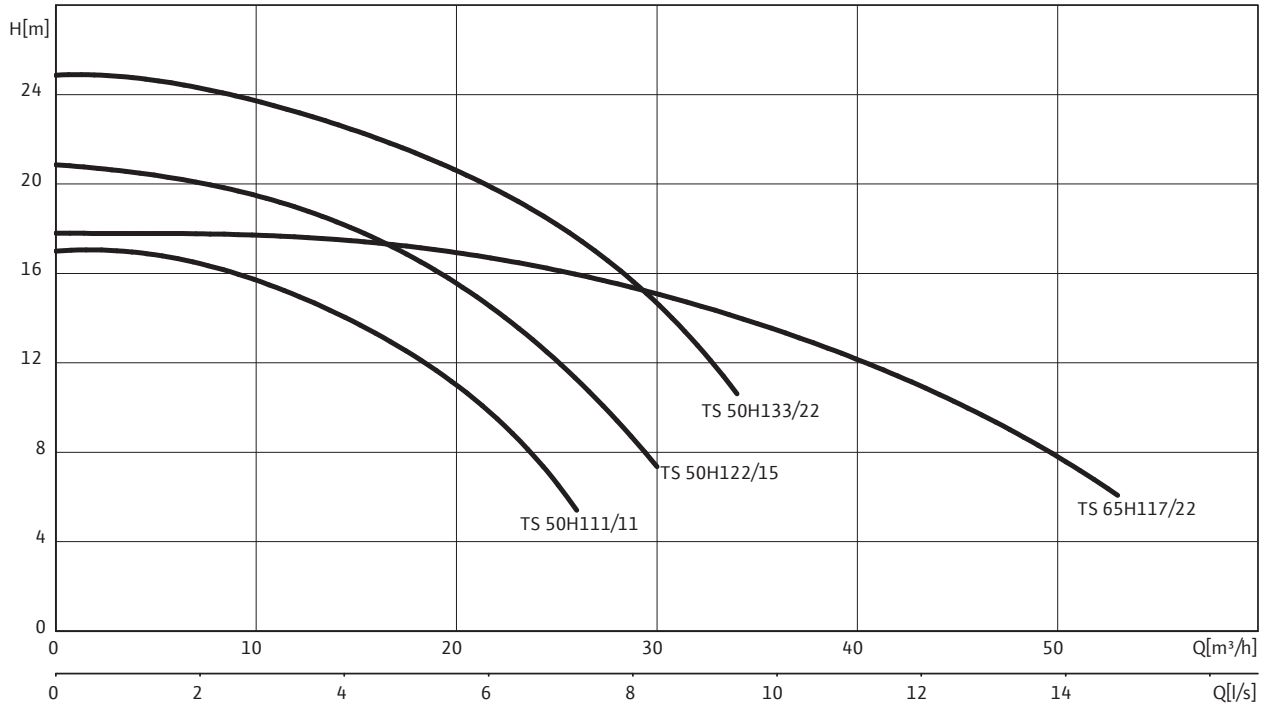
Wilo-Drain TS 40/14



Pump curves, ordering information Wilo-Drain TS 50/65

Pump curves Wilo-Drain TS 50/TS 65 - 50 Hz - No. of poles: 2

Semi-open multi-channel impeller - Free ball passage: 10 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art No.
TS 50 H 111/11	1~230 V, 50 Hz	L	4025037
TS 50 H 111/11-A	1~230 V, 50 Hz	L	4029477
TS 50 H 111/11	3~400 V, 50 Hz	L	4025036
TS 50 H 111/11-A	3~400 V, 50 Hz	L	4029553
TS 50 H 111/11 CEE	3~400 V, 50 Hz	L	6042447
TS 50 H 122/15	3~400 V, 50 Hz	L	4025039
TS 50 H 122/15-A	3~400 V, 50 Hz	L	6042448
TS 50 H 122/15 CEE	3~400 V, 50 Hz	A	6042449
TS 50 H 133/22	3~400 V, 50 Hz	L	4025042
TS 50 H 133/22-A	3~400 V, 50 Hz	L	6042451
TS 50 H 133/22 CEE	3~400 V, 50 Hz	A	6042450
TS 65 H 117/22	3~400 V, 50 Hz	L	4025059
TS 65 H 117/22-A	3~400 V, 50 Hz	L	6042453
TS 65 H 117/22 CEE	3~400 V, 50 Hz	K	6042452

Dewatering

Submersible pumps

Technical data TS 50

	TS 50 H 111/11	TS 50 H 111/11	TS 50 H 111/11-A	TS 50 H 111/11-A
Motor data				
Mains connection	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz
Nominal current I_N/A	7.7	3.2	7.7	3.2
Nominal motor power P_2/kW	1.1	1.1	1.1	1.1
Power consumption P_1/kW	1.5	1.5	1.5	1.5
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency 1/h	50	50	50	50
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1	6G1	4G1	6G1
Type of connecting cable	Plug, detachable	Plug, detachable	Plug, detachable	Plug, detachable
Mains plug	Shock-proof	–	Shock-proof	CEE M 16 WDSHA
Unit				
Pressure connection	Rp 2	Rp 2	Rp 2	Rp 2
Free ball passage mm	10	10	10	10
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-8 min	S2-8 min	S2-8 min	S2-8 min
Max. immersion depth m	10	10	10	10
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35
Max. fluid temperature, for short periods up to 3 min $T/^\circ C$	–	–	–	–
Weight approx. m/kg	21	21	21	21
Equipment/function				
Float switch	–	–	•	•
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	–	ATEX	–	–
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	PUR	PUR	PUR	PUR

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data TS 50

	TS 50 H 111/11 CEE	TS 50 H 122/15	TS 50 H 122/15-A	TS 50 H 122/15 CEE
Motor data				
Mains connection	3~400 V, 50 Hz			
Nominal current I_N/A	3.2	3.6	3.6	3.6
Nominal motor power P_2/kW	1.1	1.5	1.5	1.5
Power consumption P_1/kW	1.5	2.1	2.1	2.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency $1/h$	50	50	50	50
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	6G1	6G1	6G1	6G1
Type of connecting cable	Plug, detachable	Plug, detachable	Plug, detachable	Plug, detachable
Mains plug	CEE M 16 WDU	–	CEE M 16 WDSA	CEE M 16 WDU
Unit				
Pressure connection	Rp 2	Rp 2	Rp 2	Rp 2
Free ball passage mm	10	10	10	10
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2–8 min	S2–8 min	S2–8 min	S2–8 min
Max. immersion depth m	10	10	10	10
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35
Max. temperature, for short periods up to 3 min $T/°C$	–	–	–	–
Weight approx. m/kg	21	22	22	22
Equipment/function				
Float switch	–	–	•	–
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	–	ATEX
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	PUR	PUR	PUR	PUR

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dewatering

Submersible pumps

Technical data TS 50

	TS 50 H 133/22	TS 50 H 133/22-A	TS 50 H 133/22 CEE
Motor data			
Mains connection	3~400 V, 50 Hz		
Nominal current I_N/A	5.1	5.1	5.1
Nominal motor power P_2/kW	2.2	2.2	2.2
Power consumption P_1/kW	2.9	2.9	2.9
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900
Insulation class	F	F	F
Max. switching frequency 1/h	50	50	50
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	6G1	6G1	6G1
Type of connecting cable	Plug, detachable	Plug, detachable	Plug, detachable
Mains plug	–	CEE M 16 WDSHA	CEE M 16 WDU
Unit			
Pressure connection	Rp 2	Rp 2	Rp 2
Free ball passage mm	10	10	10
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S2-8 min	S2-8 min	S2-8 min
Max. immersion depth m	10	10	10
Protection class	IP 68	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +35	+3 ... +35	+3 ... +35
Max. fluid temperature, for short periods up to 3 min $T/^\circ C$	–	–	–
Weight approx. m/kg	23	23	23
Equipment/function			
Float switch	–	•	–
Motor protection	WSK	WSK	WSK
Explosion protection	ATEX	–	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301
Pump housing	PUR	PUR	PUR

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data TS 65

	TS 65 H 117/22	TS 65 H 117/22-A	TS 65 H 117/22 CEE
Motor data			
Mains connection	3~400 V, 50 Hz		
Nominal current I_N/A	5.1	5.1	5.1
Nominal motor power P_2/kW	2.2	2.2	2.2
Power consumption P_1/kW	2.9	2.9	2.9
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900
Insulation class	F	F	F
Max. switching frequency $1/h$	50	50	50
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	6G1	6G1	6G1
Type of connecting cable	Plug, detachable	Plug, detachable	Plug, detachable
Mains plug	–	CEE M 16 WDSHA	CEE M 16 WDU
Unit			
Pressure connection	Rp 2½	Rp 2½	Rp 2½
Free ball passage mm	10	10	10
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S2–8 min	S2–8 min	S2–8 min
Max. immersion depth m	10	10	10
Protection class	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +35	+3 ... +35	+3 ... +35
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–	–
Weight approx. m/kg	24	24	24
Equipment/function			
Float switch	–	•	–
Motor protection	WSK	WSK	WSK
Explosion protection	ATEX	–	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301
Pump housing	PUR	PUR	PUR

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

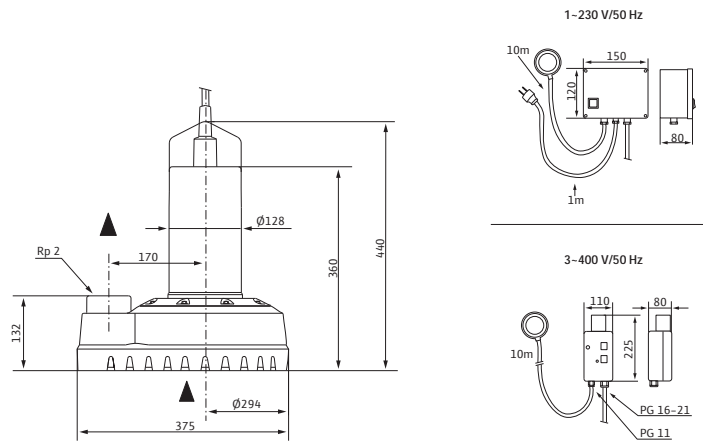
Dewatering

Submersible pumps

Dimension drawing Wilo-Drain TS 50/65

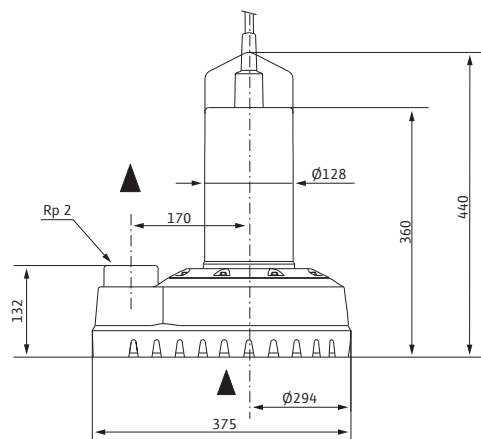
Dimension drawing

Wilo-Drain TS 50H111/11-A



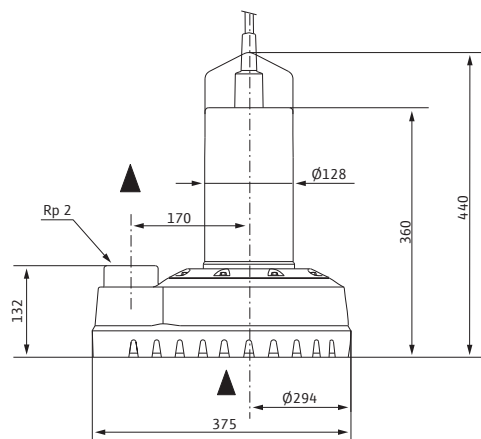
Dimension drawing

Wilo-Drain TS 50H111/11



Dimension drawing

Wilo-Drain TS 50H122/15



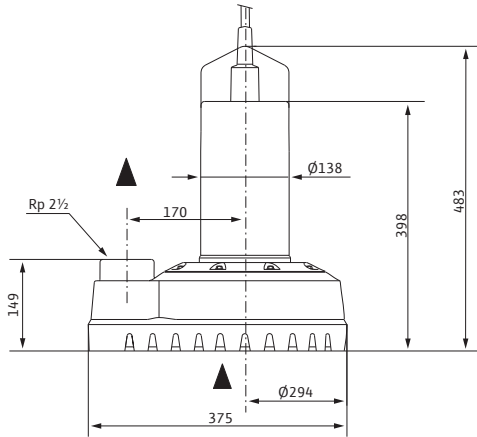
Dewatering

Submersible pumps

Dimension drawing Wilo-Drain TS 50/65

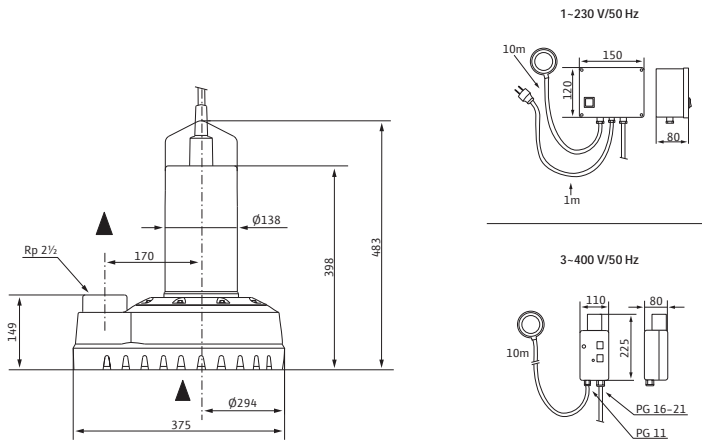
Dimension drawing

Wilo-Drain TS 65H117/22



Dimension drawing

Wilo-Drain TS 65H117/22-A



Mechanical accessories Wilo-Drain TS 40-65

Mechanical accessories

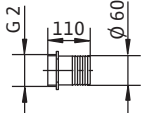
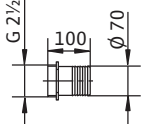
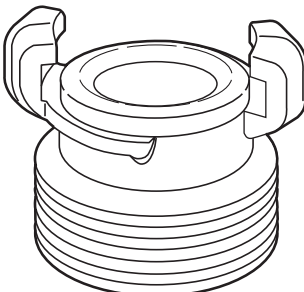
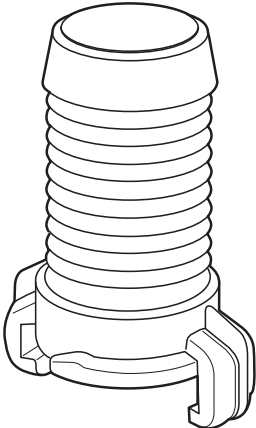
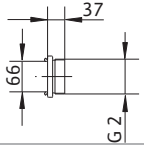
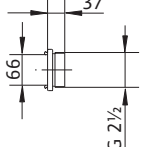
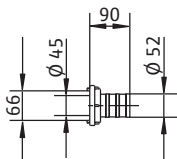
		Description	Art no.
Non-return ball valve		Made of EN-GJL-250, with Rp 1½ female thread for DN 40 connection	4027330
		Made of EN-GJL-250, with Rp 2 female thread for DN 50 connection	4027331
		Made of EN-GJL-250, with Rp 2½ female thread for DN 65 connection	4019225
Shut-off ball valve		Made of brass, nickel-plated, with Rp 1½ female thread for DN 40 connection	4027337
Shut-off ball valve		Made of brass, nickel-plated, with Rp 2 female thread for DN 50 connection	4027338
		Made of brass, nickel-plated, with Rp 2½ female thread for DN 65 connection	4019227

Dewatering

Submersible pumps

Mechanical accessories Wilo-Drain TS 40-65

Mechanical accessories

		Description	Art no.
Hose connection		Made of plastic, hose nozzle \varnothing 40 mm including hose clip, male thread R 1½ for direct hose connection	4027335
		Made of plastic, hose nozzle with \varnothing 60 mm including hose clip, G 2 male thread for direct hose connection	4027334
		Made of brass, hose nozzle with \varnothing 70 mm, including hose clip, G 2½ male thread for direct hose connection	4015210
Geka solid coupling		Made of brass, with R 1½ male thread, fits a Geka hose coupling for a DN 40 connection	2018100
Geka hose coupling		Made of brass, with hose nozzle (\varnothing 40 mm), including hose clip which fits Geka solid coupling for a DN 40 connection	2018101
Storz C pipe coupling with male thread G 2		Made of aluminium, Storz C connection, with G 2 male thread, tappet clearance 66 mm for a DN 50 connection	2018102
Storz pipe coupling with male thread G 2½		Made of aluminium, Storz C connection, with G 2½ male thread, tappet clearance 66 mm for a DN 65 connection	2015234
Storz hose coupling		Made of aluminium, Storz A connection, with hose nozzle (\varnothing 52 mm), tappet clearance 66 mm, incl. hose clip	2015235

Series description Wilo-EMU KS



Design

Submersible drainage pump

Type key

Example: **Wilo-EMU KS 15 X**

KS	Drainage pump
15	Code number for distinguishing between pumps
X	Versions

Possible versions:

E	Single-phase connection
ES	Single-phase connection + float switch
D	Three-phase current
DS	Three-phase current connection + float switch
DMS	Three-phase current connection + motor protection + float switch
E0	Single-phase connection without plug (bare cable end)
D0	Three-phase current connection without plug (bare cable end)
cast iron	Motor housing in cast iron
Ceram	Unit with ceramic coating
Ex	Ex-rated
Z	Centre pressure port
H	High-pressure impeller
M	Medium-pressure impeller
N	Low-pressure impeller

Application

For pumping wastewater with foreign matter of max. Ø 45 mm (depending on the model), for

- Excavation pits, basins and sumps
- Flooded basement areas
- Use in fountains

Special features/product advantages

- Long service life
- High operational reliability
- Slurping operation possible
- Suitable for permanent operation
- Easy handling

Technical data

- Mains connection: 1~230 V, 50 Hz or 3~400 V, 50 Hz
- Protection class: IP 68
- Max. submersion depth: 12.5 m
- Fluid temperature: 3...40 °C
- Cable length: 10 m/20 m
- Free ball passage: 5...45 mm (depending on type)
- Pressure port: G 1¼, G 2, G 2½, G 3, G 4 (depending on type)

Equipment/function

- Ready-to-plug
- Thermal motor monitoring
- Sheath current cooling (depending on type)
- Connection cable detachable

Materials

- Motor housing: aluminium or EN-GJL 250 (depending on type and version)
- Pump housing: EN-GJL-250
- Impeller: EN-GJL-250
- Shaft: 1.4021
- Sealing on motor side: mechanical seal in various material versions
- Sealing on pump side: Mechanical seal SiC/SiC
- Static seals: FPM

Description/design

Submersible drainage pump as submersible monobloc unit for portable dry and wet well installation.

Hydraulics

The outlet on the pressure side is designed as a horizontal or vertical threaded connection. On models with a horizontal pressure connection, a 90° elbow is attached to make a vertical outlet possible. Open channel impellers with free ball passage of 5...45 mm are used as the impellers.

Motor

Dry or self-cooling motors in single or three-phase versions are used, depending on the type. The self-cooling motors are filled with oil; the dry motors have thermal motor monitoring and sheath current cooling. The Ex-rated units KS 5, KS 6 and KS 16 are equipped with a dry motor without sheath current cooling. All models can be used both immersed and non-immersed, in permanent operation. This also permits slurping operation.

Dewatering

Submersible pumps

Series description Wilo-EMU KS

A sealing chamber protects the motor from fluid ingress. The filling fluid used is potentially biodegradable and environmentally safe.

The cable is detachable, the cable length is 10 m or 20 m. The S version is equipped with float switches. All models are equipped with plugs. The DMS versions are equipped with a switchgear with integrated motor protection.

Sealing

Sealing on the fluid side and on the motor side is achieved by a bidirectional mechanical seal.

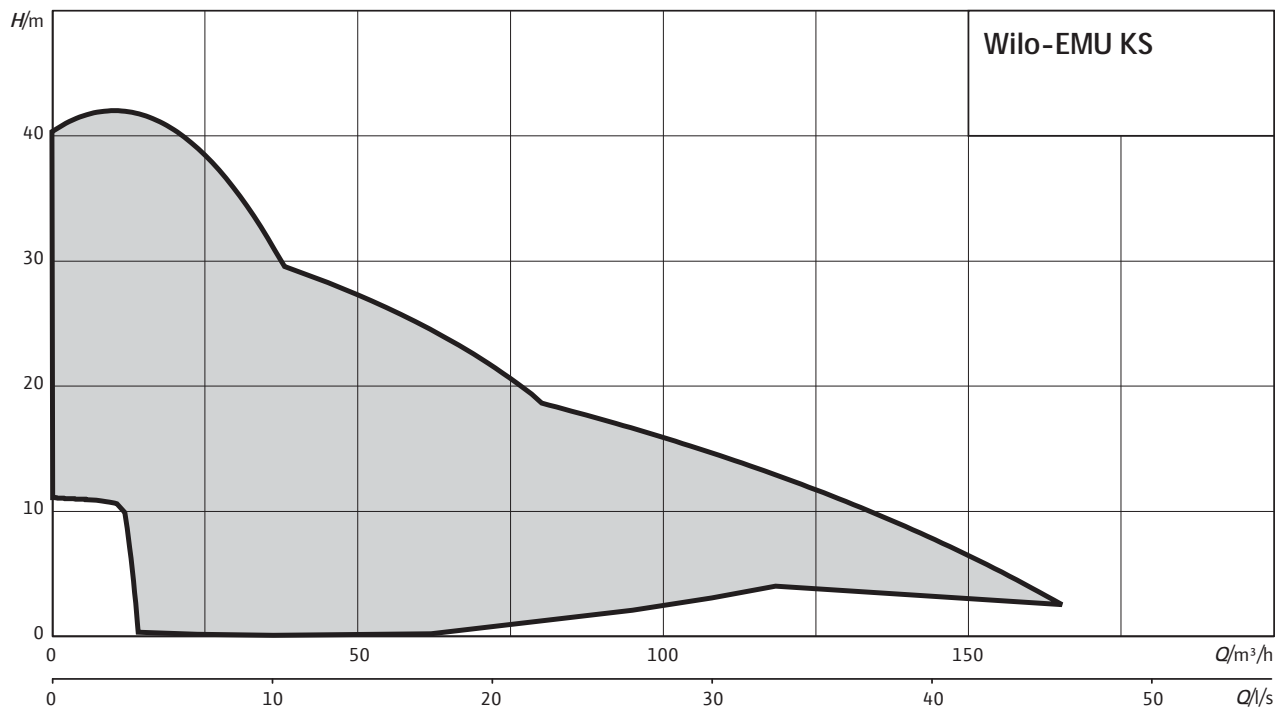
Scope of delivery

Pump ready for connection with 10 m connecting cable (starting from KS 24, 20 m) and single-phase or three-phase current plug, Storz or GEKA solid coupling, 90° bend if necessary for implementation of vertical pressure outlet, installation and operating instructions.

Accessories

- Flange transitions
- Pressure hose kit with Storz coupling
- Ceram coating for units in cast iron
- Special version with impeller and/or hydraulics housing made of Abrasite

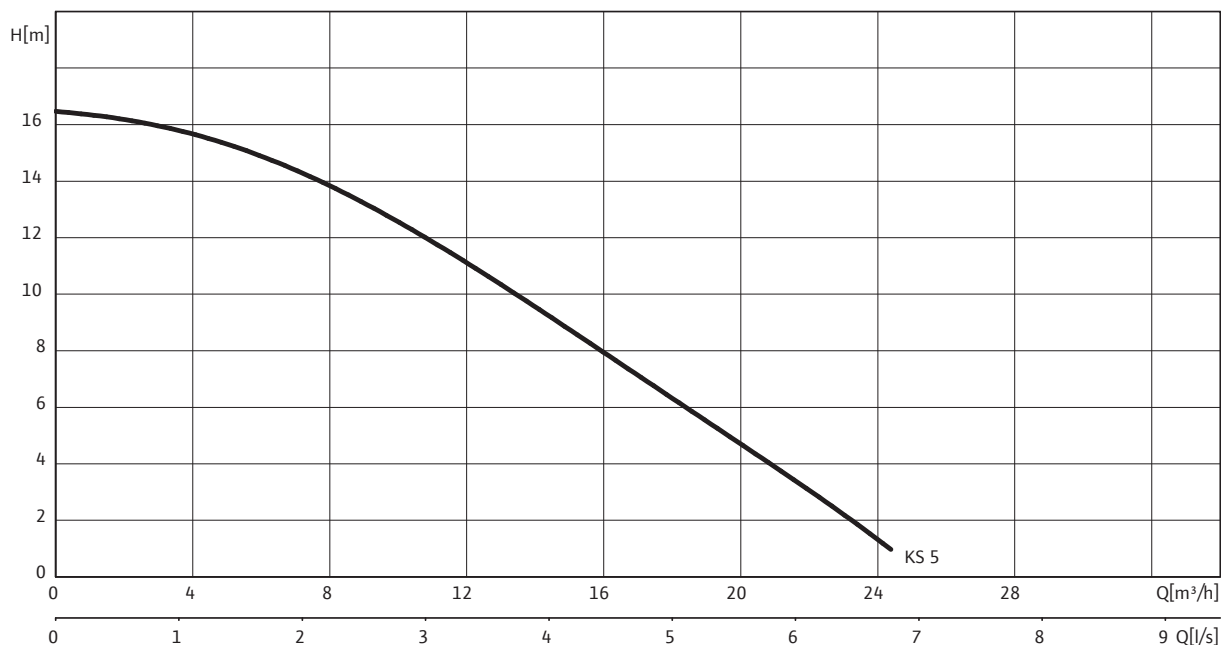
Duty chart



Pump curves, ordering information Wilo-EMU KS 5 Ex

Pump curves Wilo-EMU KS 5 Ex - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 9 mm



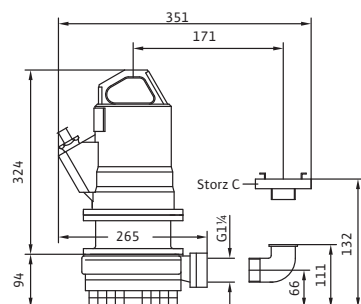
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 5 Ex D0	3~400 V, 50 Hz	L	6030969
KS 5 Ex DMS	3~400 V, 50 Hz	A	on request

Dimension drawing

Wilo-EMU KS 5Ex



Dewatering

Submersible pumps

Technical data Wilo-EMU KS 5 Ex

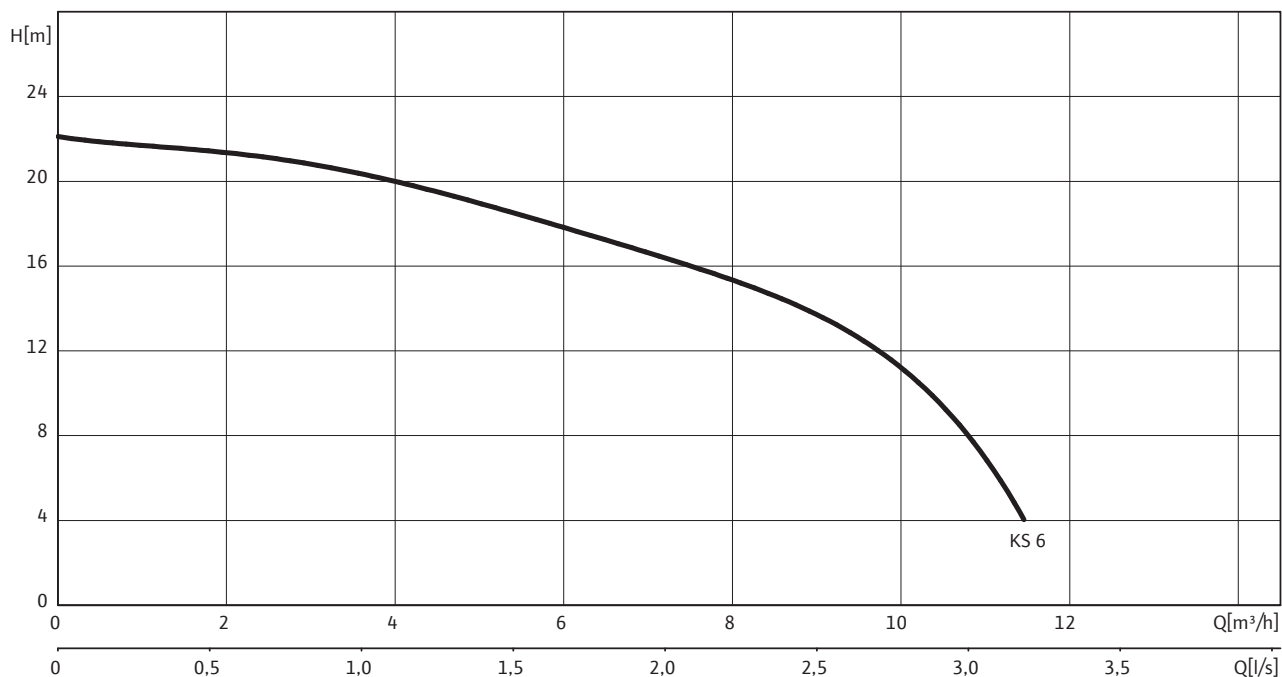
	KS 5 Ex D0	KS 5 Ex DMS
Motor data		
Mains connection	3~400 V, 50 Hz	
Nominal current I_N/A	1.76	1.76
Nominal motor power P_2/kW	0.75	0.75
Power consumption P_1/kW	1.1	1.1
Activation type	Direct	Direct
Nominal speed n/rpm	2900	2900
Insulation class	F	F
Max. switching frequency 1/h	15	15
Cable		
Length of connecting cable m	10	10
Cable type	H07RN-F	H07RN-F
Cable cross-section mm^2	7G1,5	7G1,5
Type of connecting cable	Non-detachable	Non-detachable
Mains plug	–	DMS-Ex + CEE 16
Pump		
Pressure connection	G 1¼	G 1¼
Free ball passage mm	9	9
Operating mode (immersed)	S1	S1
Operating mode (non-immersed)	S2-30 min	S2-30 min
Max. immersion depth m	12.5	12.5
Protection class	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–
Weight approx. m/kg	32	33
Equipment/function		
Float switch	–	•
Motor protection	WSK	WSK
Explosion protection	ATEX	ATEX
Materials		
Static seal	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250
Sealing on motor side	SiC/SiC	SiC/SiC
Sealing on pump side	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-EMU KS 6 Ex

Pump curves Wilo-EMU KS 6 Ex - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 5 mm



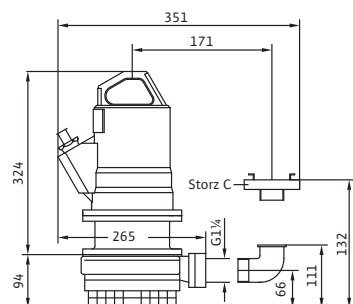
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 6 Ex D0	3~400 V, 50 Hz	A	on request
KS 6 Ex DMS	3~400 V, 50 Hz	A	on request

Dimension drawing

Wilo-EMU KS 6Ex



Dewatering

Submersible pumps

Technical data Wilo-EMU KS 6 Ex

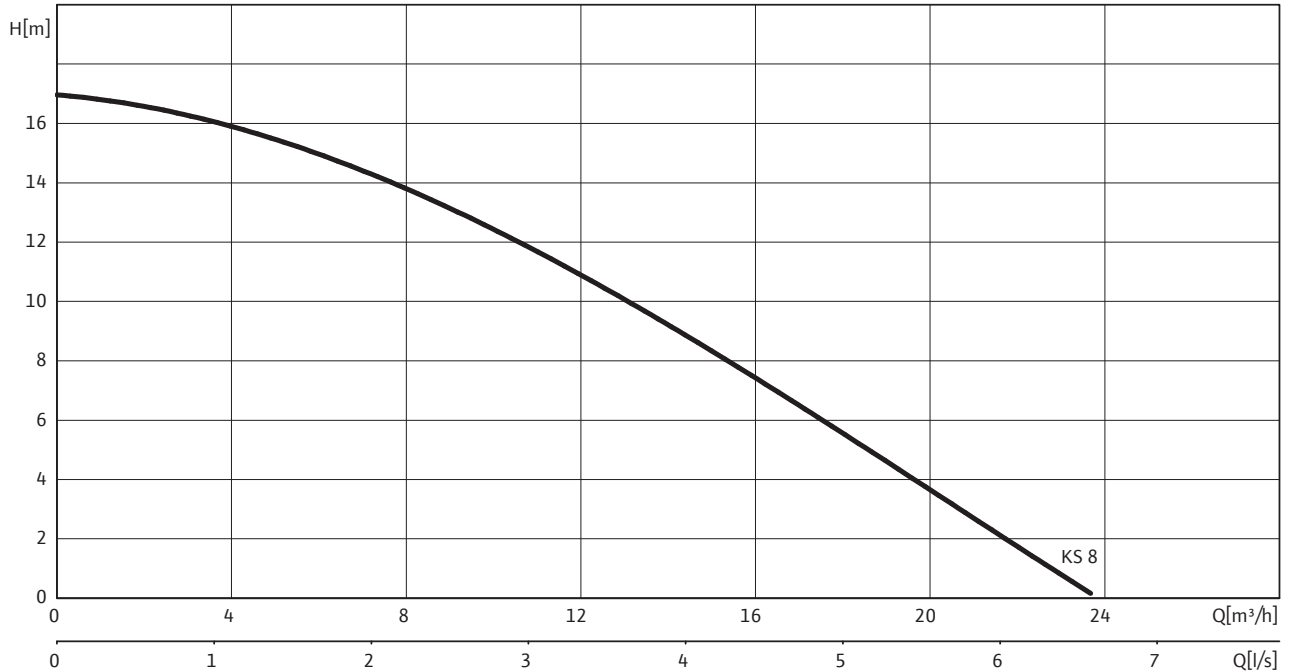
	KS 6 Ex D0	KS 6 Ex DMS
Motor data		
Mains connection	3~400 V, 50 Hz	
Nominal current I_N/A	1.76	1.76
Nominal motor power P_2/kW	0.75	0.75
Power consumption P_1/kW	1.1	1.1
Activation type	Direct	Direct
Nominal speed n/rpm	2900	2900
Insulation class	F	F
Max. switching frequency 1/h	15	15
Cable		
Length of connecting cable m	10	10
Cable type	H07RN-F	H07RN-F
Cable cross-section mm^2	7G1,5	7G1,5
Type of connecting cable	Non-detachable	Non-detachable
Mains plug	–	DMS-Ex + CEE 16
Pump		
Pressure connection	G 1¼	G 1¼
Free ball passage mm	5	5
Operating mode (immersed)	S1	S1
Operating mode (non-immersed)	S2-15 min	S2-15 min
Max. immersion depth m	12.5	12.5
Protection class	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–
Weight approx. m/kg	32	33
Equipment/function		
Float switch	–	•
Motor protection	WSK	WSK
Explosion protection	ATEX	ATEX
Materials		
Static seal	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250
Sealing on motor side	SiC/SiC	SiC/SiC
Sealing on pump side	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-EMU KS 8

Pump curves Wilo-EMU KS 8 - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 9 mm



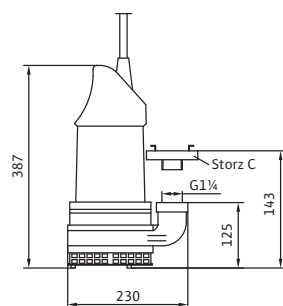
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 8 E	1~230 V, 50 Hz	L	6019740
KS 8 ES	1~230 V, 50 Hz	L	6019741
KS 8 D	3~400 V, 50 Hz	L	6019736
KS 8 DS	3~400 V, 50 Hz	L	6019739
KS 8 E GG	1~230 V, 50 Hz	A	on request
KS 8 ES GG	1~230 V, 50 Hz	A	on request
KS 8 D GG	3~400 V, 50 Hz	A	on request
KS 8 DS GG	3~400 V, 50 Hz	A	on request

Dimension drawing

Wilo-EMU KS 8



Dewatering

Submersible pumps

Technical data Wilo-EMU KS 8

	KS 8 E	KS 8 ES	KS 8 D	KS 8 DS
Motor data				
Mains connection	1~230 V, 50 Hz		3~400 V, 50 Hz	
Nominal current I_N/A	5.70	5.70	1.90	1.90
Nominal motor power P_2/kW	0.75	0.75	0.75	0.75
Power consumption P_1/kW	1.1	1.1	1.1	1.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency 1/h	15	15	15	15
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	SMP 6M	SMP 6MA	CEE M 16 W	CEE M 16 WDSA
Pump				
Pressure connection	G 1¼	G 1¼	G 1¼	G 1¼
Free ball passage mm	9	9	9	9
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–	–	–
Weight approx. m/kg	19	19	19	20
Equipment/function				
Float switch	–	•	–	•
Motor protection	–	–	–	–
Explosion protection	–	–	–	–
Materials				
Static seal	FPM	FPM	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	G-Al Si12	G-Al Si12	G-Al Si12	G-Al Si12
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-EMU KS 8

	KS 8 E GG	KS 8 ES GG	KS 8 D GG	KS 8 DS GG
Motor data				
Mains connection	1~230 V, 50 Hz		3~400 V, 50 Hz	
Nominal current I_N/A	5.70	5.70	1.90	1.90
Nominal motor power P_2/kW	0.75	0.75	0.75	0.75
Power consumption P_1/kW	1.1	1.1	1.1	1.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency $1/h$	15	15	15	15
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	SMP 6M	SMP 6MA	CEE M 16 W	CEE M 16 W DSHA
Pump				
Pressure connection	G 1¼	G 1¼	G 1¼	G 1¼
Free ball passage mm	9	9	9	9
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Max. temperature, for short periods up to 3 min $T/°C$	–	–	–	–
Weight approx. m/kg	25	25	25	26
Equipment/function				
Float switch	–	•	–	•
Motor protection	–	–	–	–
Explosion protection	–	–	–	–
Materials				
Static seal	FPM	FPM	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

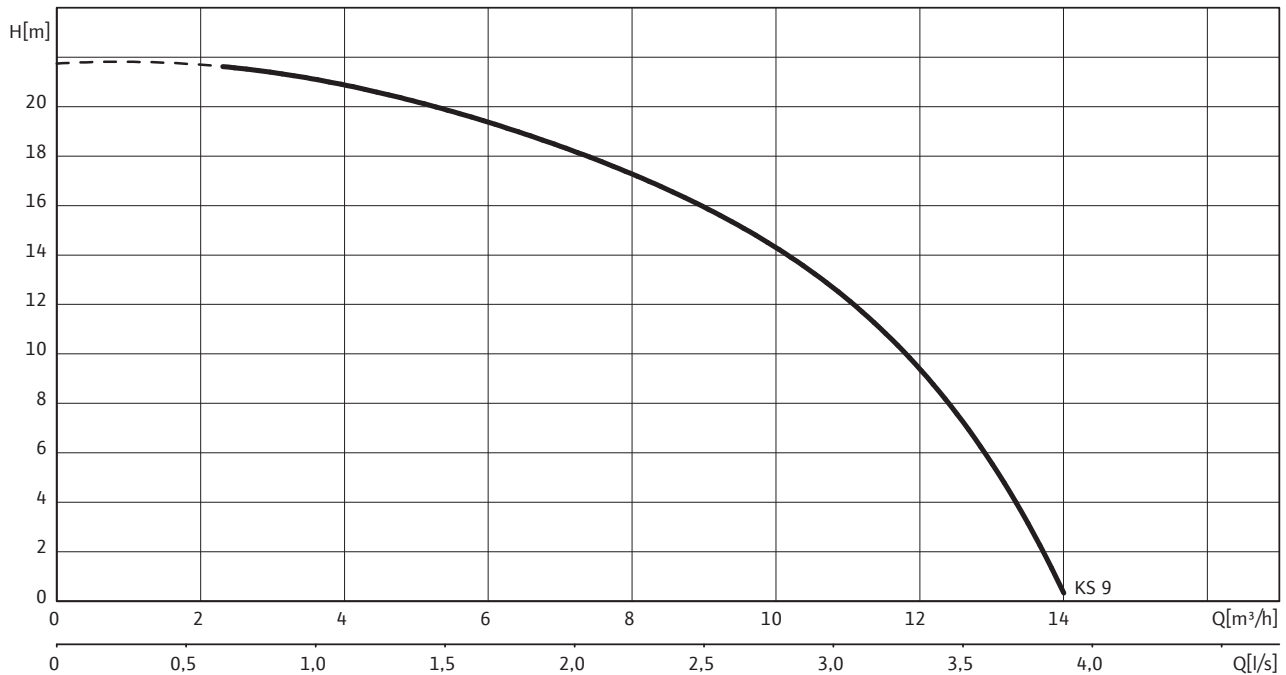
Dewatering

Submersible pumps

Pump curves, ordering information Wilo-EMU KS 9

Pump curves Wilo-EMU KS 9 - 50 Hz - No. of poles: 2

Multi-channel impeller - Free ball passage: 5 mm



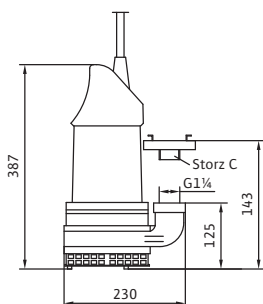
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 9 E	1~230 V, 50 Hz	L	6019745
KS 9 ES	1~230 V, 50 Hz	L	6020835
KS 9 D	3~400 V, 50 Hz	L	6019743
KS 9 DS	3~400 V, 50 Hz	A	on request
KS 9 E GG	1~230 V, 50 Hz	A	on request
KS 9 ES GG	1~230 V, 50 Hz	A	on request
KS 9 D GG	3~400 V, 50 Hz	A	on request
KS 9 DS GG	3~400 V, 50 Hz	A	on request

Dimension drawing

Wilo-EMU KS 9



Technical data Wilo-EMU KS 9

	KS 9 E	KS 9 ES	KS 9 D	KS 9 DS
Motor data				
Mains connection	1~230 V, 50 Hz		3~400 V, 50 Hz	
Nominal current I_N/A	5.70	5.70	1.90	1.90
Nominal motor power P_2/kW	0.75	0.75	0.75	0.75
Power consumption P_1/kW	1.1	1.1	1.1	1.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency $1/h$	15	15	15	15
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	SMP 6M	SMP 6MA	CEE M 16 W	CEE M 16 WDSHA
Pump				
Pressure connection	G 1¼	G 1¼	G 1¼	G 1¼
Free ball passage mm	5	5	5	5
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Max. temperature, for short periods up to 3 min $T/°C$	–	–	–	–
Weight approx. m/kg	19	20	19	21
Equipment/function				
Float switch	–	•	–	•
Motor protection	–	–	–	–
Explosion protection	–	–	–	–
Materials				
Static seal	FPM	FPM	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	G-Al Si12	G-Al Si12	G-Al Si12	G-Al Si12
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dewatering

Submersible pumps

Technical data Wilo-EMU KS 9

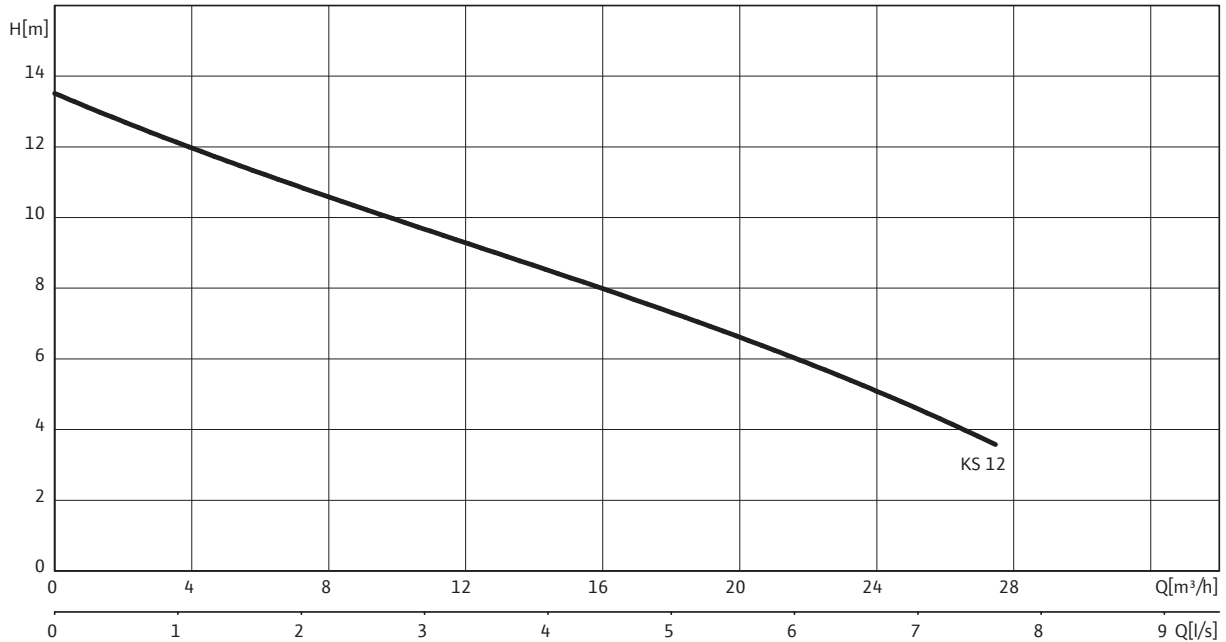
	KS 9 E GG	KS 9 ES GG	KS 9 D GG	KS 9 DS GG
Motor data				
Mains connection	1~230 V, 50 Hz		3~400 V, 50 Hz	
Nominal current I_N/A	5.70	5.70	1.90	1.90
Nominal motor power P_2/kW	0.75	0.75	0.75	0.75
Power consumption P_1/kW	1.1	1.1	1.1	1.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency 1/h	15	15	15	15
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	SMP 6M	SMP 6MA	CEE M 16 W	CEE M 16 WDSA
Pump				
Pressure connection	G 1¼	G 1¼	G 1¼	G 1¼
Free ball passage mm	5	5	5	5
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–	–	–
Weight approx. m/kg	25	25	25	25
Equipment/function				
Float switch	–	•	–	•
Motor protection	–	–	–	–
Explosion protection	–	–	–	–
Materials				
Static seal	FPM	FPM	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-EMU KS 12

Pump curves Wilo-EMU KS 12 - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 40 mm



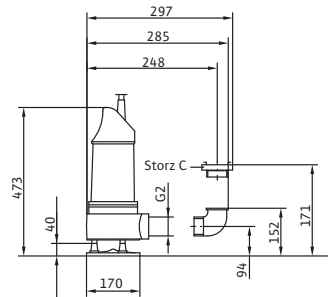
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 12 E GG	1~230 V, 50 Hz	L	6042086
KS 12 ES GG	1~230 V, 50 Hz	L	6042088
KS 12 D GG	3~400 V, 50 Hz	L	6042087
KS 12 DS GG	3~400 V, 50 Hz	L	6042089

Dimension drawing

Wilo-EMU KS 12



Dewatering

Submersible pumps

Technical data Wilo-EMU KS 12

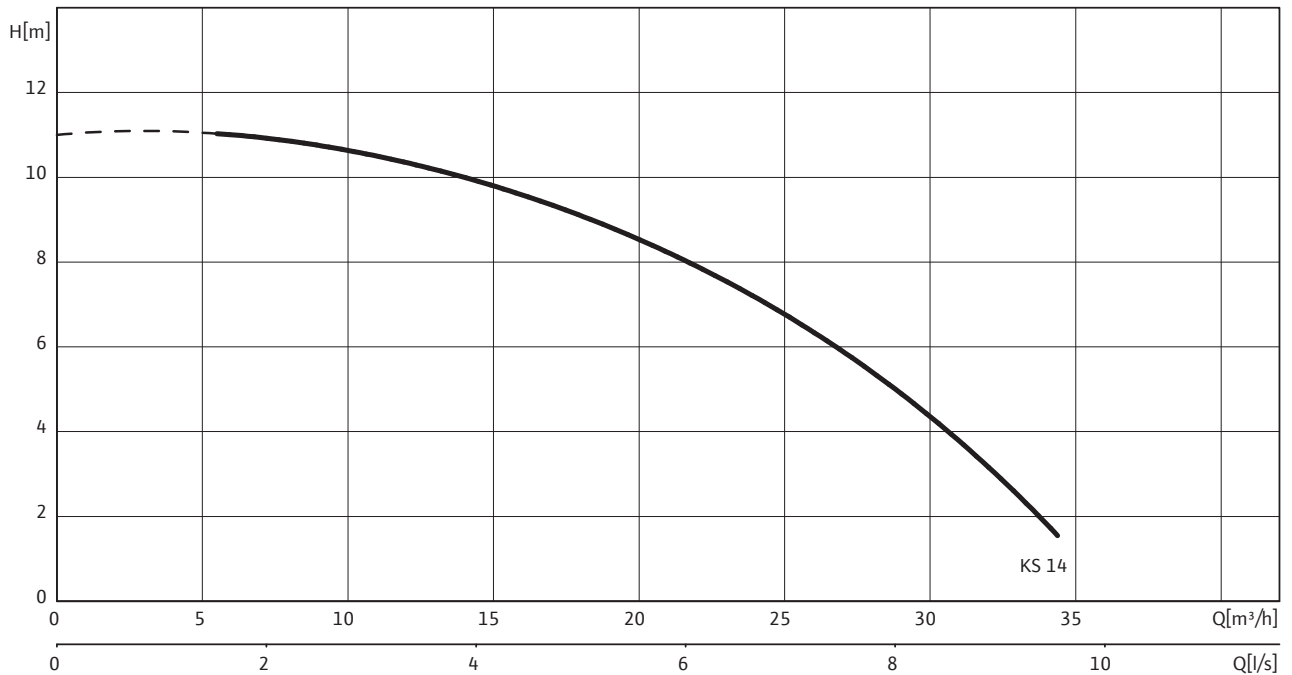
	KS 12 E GG	KS 12 ES GG	KS 12 D GG	KS 12 DS GG
Motor data				
Mains connection	1~230 V, 50 Hz		3~400 V, 50 Hz	
Nominal current I_N/A	9.40	9.40	3.15	3.15
Nominal motor power P_2/kW	1.3	1.3	1.3	1.3
Power consumption P_1/kW	1.9	1.9	1.9	1.9
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency 1/h	15	15	15	15
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	SMP 10M	SMP 10MA	CEE M 16 W	CEE M 16 WDSA
Pump				
Pressure connection	G 2	G 2	G 2	G 2
Free ball passage mm	40	40	40	40
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/^\circ C$	–	–	–	–
Weight approx. m/kg	27	29	27	29
Equipment/function				
Float switch	–	•	–	•
Motor protection	–	–	–	–
Explosion protection	–	–	–	–
Materials				
Static seal	FPM	FPM	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-EMU KS 14

Pump curves Wilo-EMU KS 14 - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 10 mm



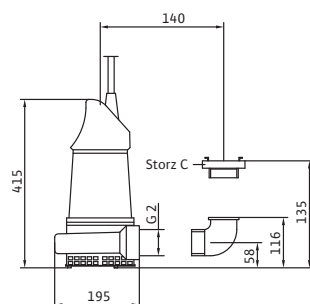
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 14 E	1~230 V, 50 Hz	L	6019448
KS 14 ES	1~230 V, 50 Hz	L	6019449
KS 14 D	3~400 V, 50 Hz	L	6019447
KS 14 DS	3~400 V, 50 Hz	A	on request
KS 14 E GG	1~230 V, 50 Hz	A	on request
KS 14 ES GG	1~230 V, 50 Hz	A	on request
KS 14 D GG	3~400 V, 50 Hz	A	on request
KS 14 DS GG	3~400 V, 50 Hz	A	on request

Dimension drawing

Wilo-EMU KS 14



Dewatering

Submersible pumps

Technical data Wilo-EMU KS 14

	KS 14 E	KS 14 ES	KS 14 D	KS 14 DS
Motor data				
Mains connection	1~230 V, 50 Hz		3~400 V, 50 Hz	
Nominal current I_N/A	5.70	5.70	1.90	1.90
Nominal motor power P_2/kW	0.75	0.75	0.75	0.75
Power consumption P_1/kW	1.1	1.1	1.1	1.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency 1/h	15	15	15	15
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	SMP 6M	SMP 6MA	CEE M 16 W	CEE M 16 WDSHA
Pump				
Pressure connection	G 2	G 2	G 2	G 2
Free ball passage mm	10	10	10	10
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/^\circ C$	–	–	–	–
Weight approx. m/kg	20	22	21	22
Equipment/function				
Float switch	–	•	–	•
Motor protection	–	–	–	–
Explosion protection	–	–	–	–
Materials				
Static seal	FPM	FPM	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	G-Al Si12	G-Al Si12	G-Al Si12	G-Al Si12
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-EMU KS 14

	KS 14 E GG	KS 14 ES GG	KS 14 D GG	KS 14 DS GG
Motor data				
Mains connection	1~230 V, 50 Hz		3~400 V, 50 Hz	
Nominal current I_N/A	5.70	5.70	1.90	1.90
Nominal motor power P_2/kW	0.75	0.75	0.75	0.75
Power consumption P_1/kW	1.1	1.1	1.1	1.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency $1/h$	15	15	15	15
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	SMP 6M	SMP 6MA	CEE M 16 W	CEE M 16 WDSHA
Pump				
Pressure connection	G 2	G 2	G 2	G 2
Free ball passage mm	10	10	10	10
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Max. temperature, for short periods up to 3 min $T/^\circ C$	–	–	–	–
Weight approx. m/kg	26	28	27	28
Equipment/function				
Float switch	–	•	–	•
Motor protection	–	–	–	–
Explosion protection	–	–	–	–
Materials				
Static seal	FPM	FPM	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

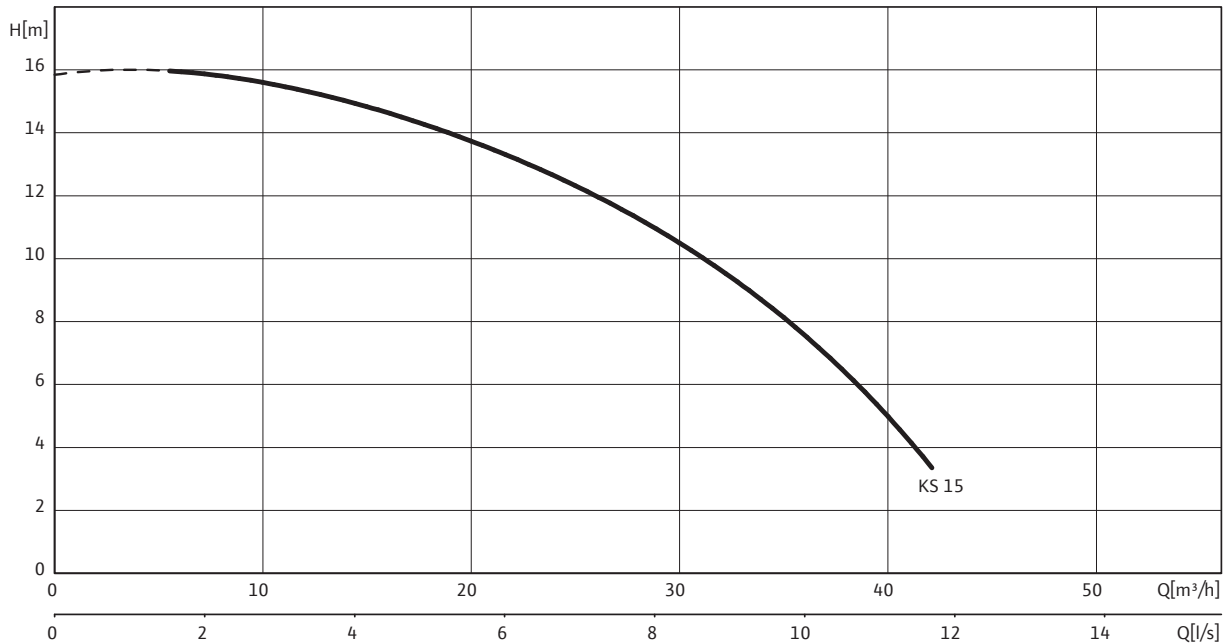
Dewatering

Submersible pumps

Pump curves, ordering information Wilo-EMU KS 15


Pump curves Wilo-EMU KS 15 - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 10 mm



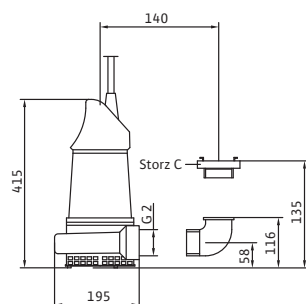
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
			
KS 15 E	1~230 V, 50 Hz	L	6019785
KS 15 ES	1~230 V, 50 Hz	L	6001201
KS 15 D	3~400 V, 50 Hz	L	6019450
KS 15 DS	3~400 V, 50 Hz	L	6019784
KS 15 E GG	1~230 V, 50 Hz	A	on request
KS 15 ES GG	1~230 V, 50 Hz	A	on request
KS 15 D GG	3~400 V, 50 Hz	A	on request
KS 15 DS GG	3~400 V, 50 Hz	A	on request

Dimension drawing

Wilo-EMU KS 15



Technical data Wilo-EMU KS 15

	KS 15 E	KS 15 ES	KS 15 D	KS 15 DS
Motor data				
Mains connection	1~230 V, 50 Hz		3~400 V, 50 Hz	
Nominal current I_N/A	9.40	9.40	3.20	3.20
Nominal motor power P_2/kW	1.3	1.3	1.3	1.3
Power consumption P_1/kW	1.9	1.9	1.9	1.9
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency $1/h$	15	15	15	15
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	SMP 10M	SMP 10MA	CEE M 16 W	CEE M 16 WDSHA
Pump				
Pressure connection	G 2	G 2	G 2	G 2
Free ball passage mm	10	10	10	10
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Max. temperature, for short periods up to 3 min $T/^\circ C$	–	–	–	–
Weight approx. m/kg	23	25	23	25
Equipment/function				
Float switch	–	•	–	•
Motor protection	–	–	–	–
Explosion protection	–	–	–	–
Materials				
Static seal	FPM	FPM	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	G-Al Si12	G-Al Si12	G-Al Si12	G-Al Si12
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dewatering

Submersible pumps

Technical data Wilo-EMU KS 15

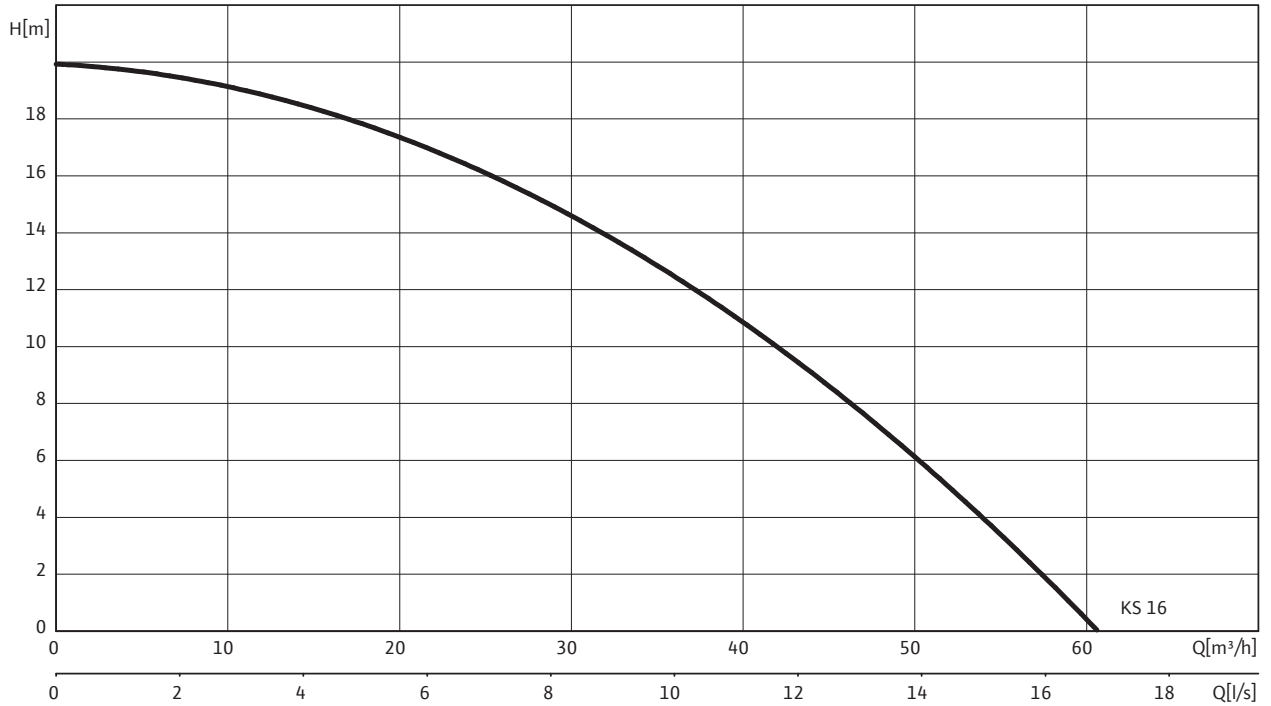
	KS 15 E GG	KS 15 ES GG	KS 15 DS GG	KS 15 D GG
Motor data				
Mains connection	1~230 V, 50 Hz		3~400 V, 50 Hz	
Nominal current I_N/A	9.40	9.40	3.20	3.20
Nominal motor power P_2/kW	1.3	1.3	1.3	1.3
Power consumption P_1/kW	1.9	1.9	1.9	1.9
Activation type	Direct	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900	2900
Insulation class	F	F	F	F
Max. switching frequency 1/h	15	15	15	15
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	SMP 10M	SMP 10MA	CEE M 16 WDSA	CEE M 16 W
Pump				
Pressure connection	G 2	G 2	G 2	G 2
Free ball passage mm	10	10	10	10
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/^\circ C$	–	–	–	–
Weight approx. m/kg	29	31	31	29
Equipment/function				
Float switch	–	•	•	–
Motor protection	–	–	–	–
Explosion protection	–	–	–	–
Materials				
Static seal	FPM	FPM	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-EMU KS 16 Ex

Pump curves Wilo-EMU KS 16 Ex - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 12 mm



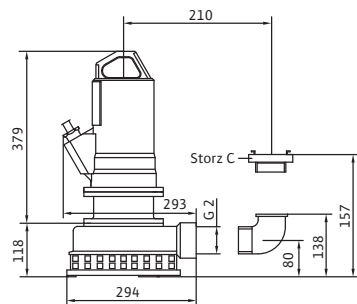
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 16 Ex D0	3~400 V, 50 Hz	A	on request
KS 16 Ex DMS-Ex	3~400 V, 50 Hz	A	on request

Dimension drawing

Wilo-EMU KS 16 Ex



Dewatering

Submersible pumps

Technical data Wilo-EMU KS 16 Ex

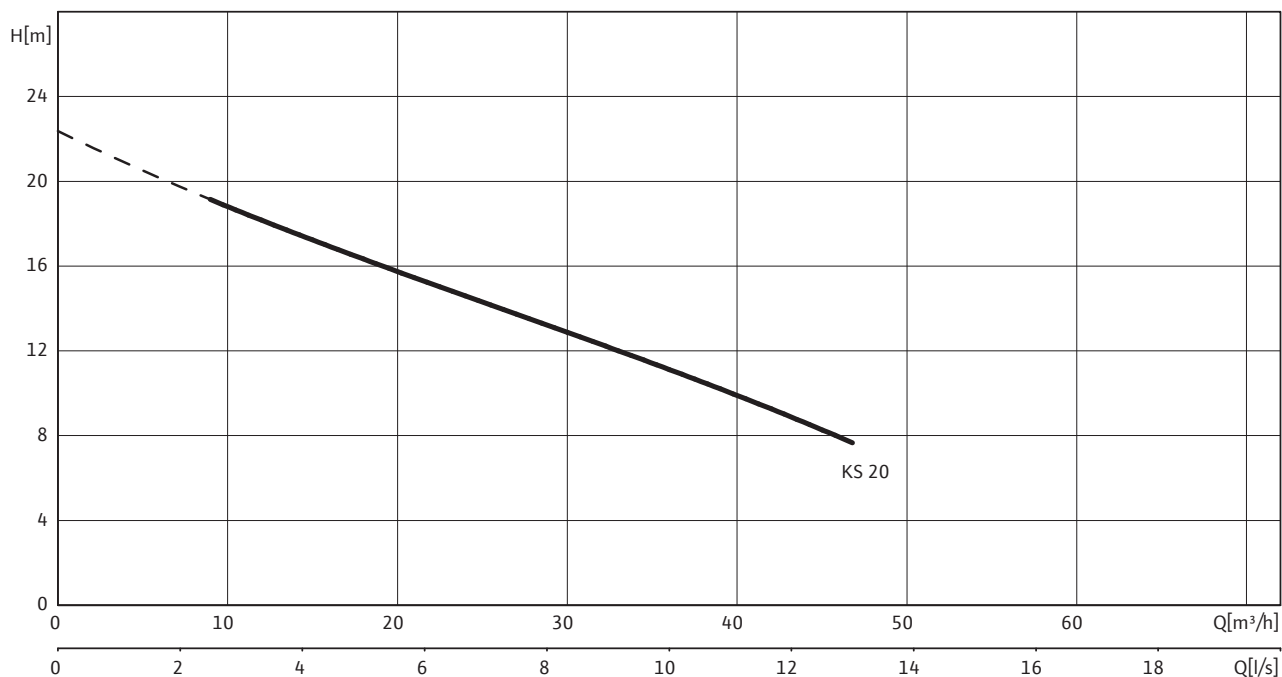
	KS 16 Ex D0	KS 16 Ex DMS-Ex
Motor data		
Mains connection	3~400 V, 50 Hz	
Nominal current I_N/A	4.50	4.50
Nominal motor power P_2/kW	2	2
Power consumption P_1/kW	2.6	2.6
Activation type	Direct	Direct
Nominal speed n/rpm	2900	2900
Insulation class	F	F
Max. switching frequency 1/h	15	15
Cable		
Length of connecting cable m	10	10
Cable type	H07RN-F	H07RN-F
Cable cross-section mm^2	7G1,5	7G1,5
Type of connecting cable	Non-detachable	Non-detachable
Mains plug	–	DMS-Ex + CEE 16
Pump		
Pressure connection	G 2	G 2
Free ball passage mm	12	12
Operating mode (immersed)	S1	S1
Operating mode (non-immersed)	S2-15 min	S2-15 min
Max. immersion depth m	12.5	12.5
Protection class	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/^\circ C$	–	–
Weight approx. m/kg	30	30
Equipment/function		
Float switch	–	•
Motor protection	WSK	WSK
Explosion protection	ATEX	ATEX
Materials		
Static seal	FPM	FPM
Impeller	EN-GJL-250	EN-GJL-250
Sealing on motor side	SiC/SiC	SiC/SiC
Sealing on pump side	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-EMU KS 20

Pump curves Wilo-EMU KS 20 - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 45 mm



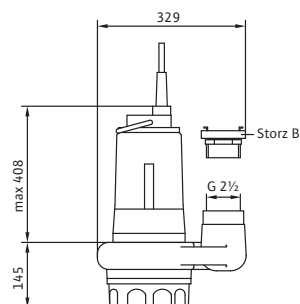
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 20 D GG	3~400 V, 50 Hz	L	6042090
KS 20 DS GG	3~400 V, 50 Hz	L	6042091

Dimension drawing

Wilo-EMU KS 20



Dewatering

Submersible pumps

Technical data Wilo-EMU KS 20

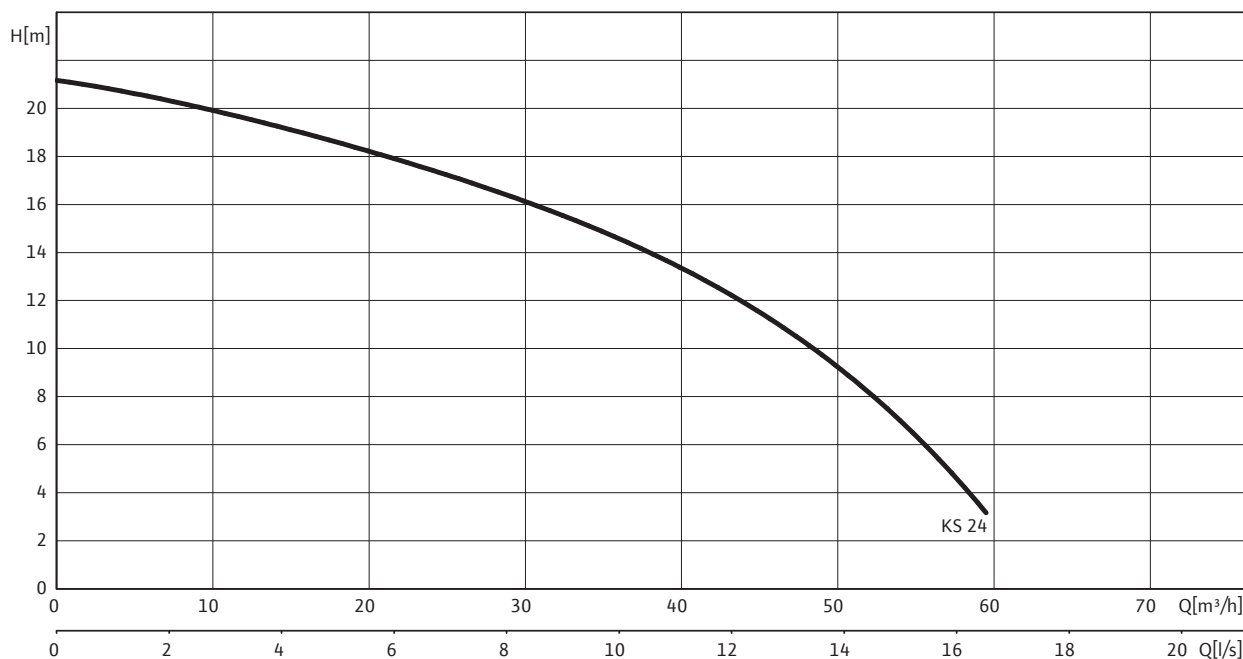
	KS 20 D GG	KS 20 DS GG
Motor data		
Mains connection	3~400 V, 50 Hz	
Nominal current I_N/A	4.65	4.65
Nominal motor power P_2/kW	2.2	2.2
Power consumption P_1/kW	2.8	2.8
Activation type	Direct	Direct
Nominal speed n/rpm	2900	2900
Insulation class	F	F
Max. switching frequency 1/h	15	15
Cable		
Length of connecting cable m	10	10
Cable type	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable
Mains plug	CEE M 16 W	CEE M 16 W DSHA
Pump		
Pressure connection	G 2½	G 2½
Free ball passage mm	45	45
Operating mode (immersed)	S1	S1
Operating mode (non-immersed)	S1	S1
Max. immersion depth m	12.5	12.5
Protection class	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–
Weight approx. m/kg	42	45
Equipment/function		
Float switch	–	•
Motor protection	–	–
Explosion protection	–	–
Materials		
Static seal	FPM	FPM
Impeller	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-EMU KS 24

Pump curves Wilo-EMU KS 24 - 50 Hz - No. of poles: 2

Multi-channel impeller - Free ball passage: 5 mm



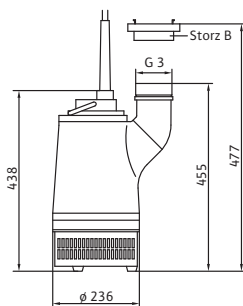
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 24 D	3~400 V, 50 Hz	L	6001204
KS 24 DS	3~400 V, 50 Hz	L	6023360

Dimension drawing

Wilo-EMU KS 24



Dewatering

Submersible pumps

Technical data Wilo-EMU KS 24

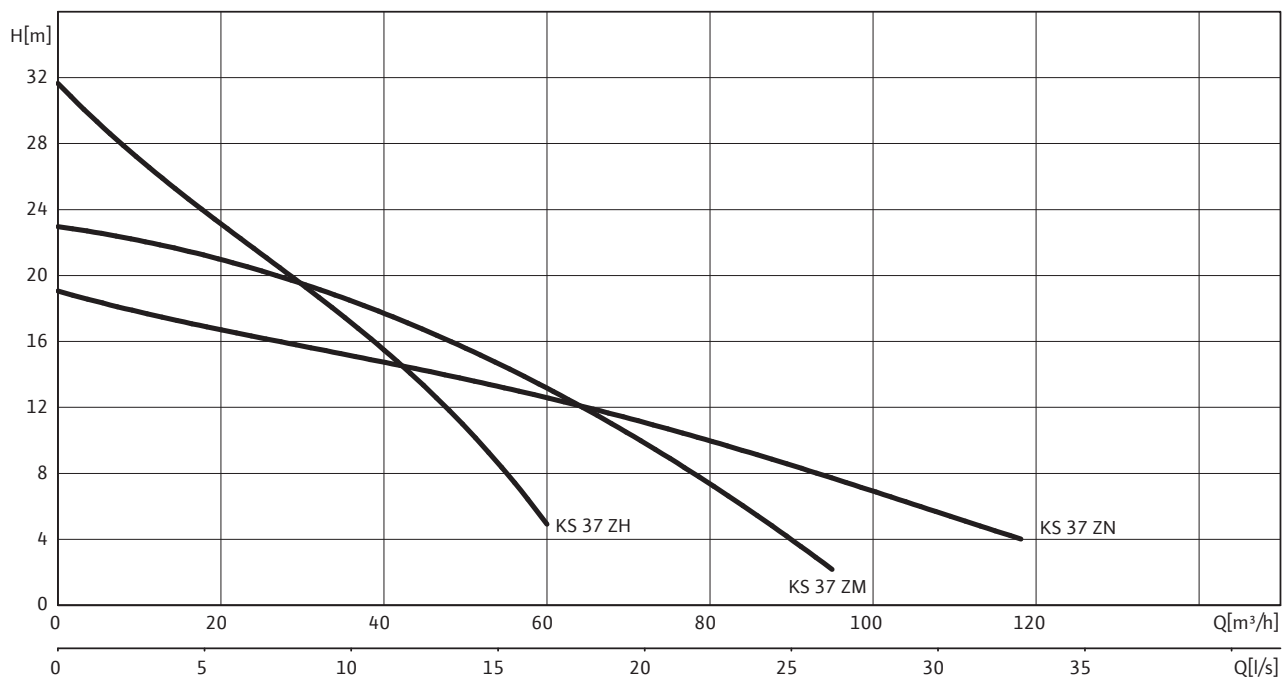
	KS 24 D	KS 24 DS
Motor data		
Mains connection	3~400 V, 50 Hz	
Nominal current I_N/A	4.70	4.70
Nominal motor power P_2/kW	2.4	2.4
Power consumption P_1/kW	2.8	2.8
Activation type	Direct	Direct
Nominal speed n/rpm	2900	2900
Insulation class	F	F
Max. switching frequency 1/h	15	15
Cable		
Length of connecting cable m	20	20
Cable type	H07RN-F	H07RN-F
Cable cross-section mm^2	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable
Mains plug	CEE M 16 W	CEE M 16 W DSHA
Pump		
Pressure connection	G 3	G 3
Free ball passage mm	5	5
Operating mode (immersed)	S1	S1
Operating mode (non-immersed)	S1	S1
Max. immersion depth m	12.5	12.5
Protection class	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/^\circ C$	–	–
Weight approx. m/kg	34	36
Equipment/function		
Float switch	–	•
Motor protection	–	–
Explosion protection	–	–
Materials		
Static seal	FPM	FPM
Impeller	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC
Motor housing	G-Al Si12	G-Al Si12
Pump housing	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-EMU KS 37

Pump curves Wilo-EMU KS 37 - 50 Hz - No. of poles: 2

Multi-channel impeller - Free ball passage: 6 mm



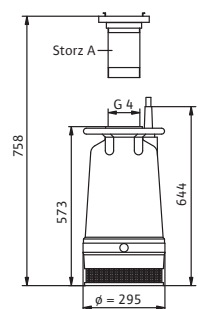
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 37ZN D	3~400 V, 50 Hz	L	6019732
KS 37ZN DS	3~400 V, 50 Hz	A	on request
KS 37ZM D	3~400 V, 50 Hz	L	6019731
KS 37ZM DS	3~400 V, 50 Hz	A	on request
KS 37ZH D	3~400 V, 50 Hz	L	6019730
KS 37ZH DS	3~400 V, 50 Hz	A	on request

Dimension drawing

Wilo-EMU KS 37



Dewatering

Submersible pumps

Technical data Wilo-EMU KS 37

	KS 37ZN D	KS 37ZN DS	KS 37ZM D
Motor data			
Mains connection	3~400 V, 50 Hz		
Nominal current I_N/A	8.00	8.00	8.00
Nominal motor power P_2/kW	3.85	3.85	3.85
Power consumption P_1/kW	4.9	4.9	4.9
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900
Insulation class	F	F	F
Max. switching frequency 1/h	15	15	15
Cable			
Length of connecting cable m	20	20	20
Cable type	NSSHÖU	NSSHÖU	NSSHÖU
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable
Mains plug	CEE M 16 W	CEE M 16 W DSHA	CEE M 16 W
Pump			
Pressure connection	G 4	G 4	G 4
Free ball passage mm	6	6	6
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–	–
Weight approx. m/kg	64	65	65
Equipment/function			
Float switch	–	•	–
Motor protection	–	–	–
Explosion protection	–	–	–
Materials			
Static seal	FPM	FPM	FPM
Impeller	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	G-Al Si12	G-Al Si12	G-Al Si12
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-EMU KS 37

	KS 37ZM DS	KS 37ZH D	KS 37ZH DS
Motor data			
Mains connection	3~400 V, 50 Hz		
Nominal current I_N/A	8.00	8.00	8.00
Nominal motor power P_2/kW	3.85	3.85	3.85
Power consumption P_1/kW	4.9	4.9	4.9
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900
Insulation class	F	F	F
Max. switching frequency $1/h$	15	15	15
Cable			
Length of connecting cable m	20	20	20
Cable type	NSSHÖU	NSSHÖU	NSSHÖU
Cable cross-section mm^2	4G1,5	4G1,5	4G1,5
Type of connecting cable	Detachable	Detachable	Detachable
Mains plug	CEE M 16 WDSA	CEE M 16 W	CEE M 16 WDSA
Pump			
Pressure connection	G 4	G 4	G 4
Free ball passage mm	6	6	6
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40	+3 ... +40
Max. temperature, for short periods up to 3 min $T/°C$	–	–	–
Weight approx. m/kg	66	66	67
Equipment/function			
Float switch	•	–	•
Motor protection	–	–	–
Explosion protection	–	–	–
Materials			
Static seal	FPM	FPM	FPM
Impeller	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	G-Al Si12	G-Al Si12	G-Al Si12
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

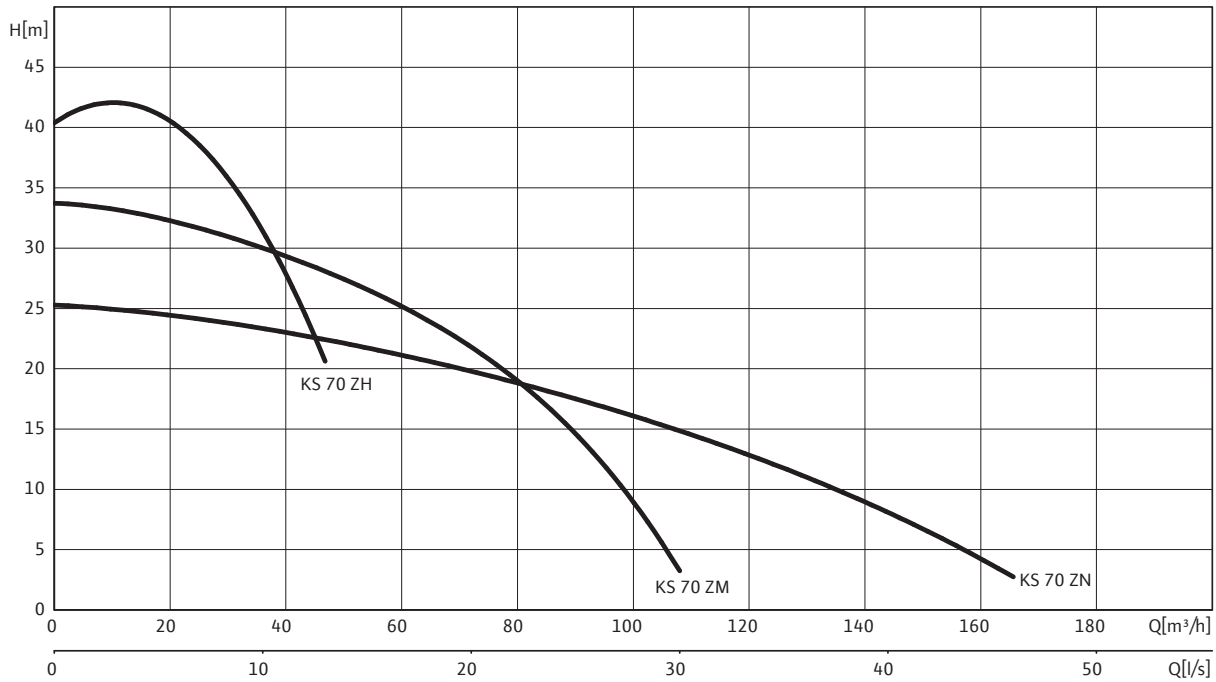
Dewatering

Submersible pumps

Pump curves, ordering information Wilo-EMU KS 70

Pump curves Wilo-EMU KS 70 - 50 Hz - No. of poles: 2

Multi-channel impeller - Free ball passage: 6 mm



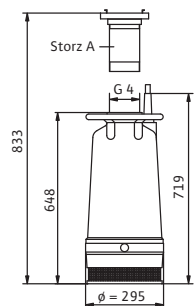
Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-EMU	Mains connection	Art No.	
KS 70ZN D	3~400 V, 50 Hz	L	6021369
KS 70ZN DS	3~400 V, 50 Hz	A	on request
KS 70ZM D	3~400 V, 50 Hz	L	6021343
KS 70ZM DS	3~400 V, 50 Hz	A	on request
KS 70ZH D	3~400 V, 50 Hz	L	6021370
KS 70ZH DS	3~400 V, 50 Hz	A	on request

Dimension drawing

Wilo-EMU KS 70



Technical data Wilo-EMU KS 70

	KS 70ZN D	KS 70ZN DS	KS 70ZM D
Motor data			
Mains connection	3~400 V, 50 Hz		
Nominal current I_N/A	15.60	15.60	15.60
Nominal motor power P_2/kW	7.5	7.5	7.5
Power consumption P_1/kW	9.5	9.5	9.5
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900
Insulation class	F	F	F
Max. switching frequency $1/h$	15	15	15
Cable			
Length of connecting cable m	20	20	20
Cable type	NSSHÖU	NSSHÖU	NSSHÖU
Cable cross-section mm^2	4G2,5	4G2,5	4G2,5
Type of connecting cable	Detachable	Detachable	Detachable
Mains plug	CEE M 32 WD	DMS + CEE M 32	CEE M 32 WD
Pump			
Pressure connection	G 4	G 4	G 4
Free ball passage mm	6	6	6
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–	–
Weight approx. m/kg	79	80	81
Equipment/function			
Float switch	–	•	–
Motor protection	–	–	–
Explosion protection	–	–	–
Materials			
Static seal	FPM	FPM	FPM
Impeller	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	G-Al Si12	G-Al Si12	G-Al Si12
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dewatering

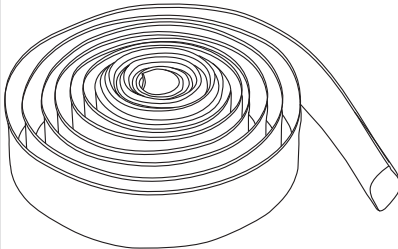
Submersible pumps

Technical data Wilo-EMU KS 70

	KS 70ZM DS	KS 70ZH D	KS 70ZH DS
Motor data			
Mains connection	3~400 V, 50 Hz		
Nominal current I_N/A	15.60	15.60	15.60
Nominal motor power P_2/kW	7.5	7.5	7.5
Power consumption P_1/kW	9.5	9.5	9.5
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900
Insulation class	F	F	F
Max. switching frequency 1/h	15	15	15
Cable			
Length of connecting cable m	20	20	20
Cable type	NSSHÖU	NSSHÖU	NSSHÖU
Cable cross-section mm^2	4G2,5	4G2,5	4G2,5
Type of connecting cable	Detachable	Detachable	Detachable
Mains plug	DMS + CEE M 32	CEE M 32 WD	DMS + CEE M 32
Pump			
Pressure connection	G 4	G 4	G 4
Free ball passage mm	6	6	6
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1
Max. immersion depth m	12.5	12.5	12.5
Protection class	IP 68	IP 68	IP 68
Fluid temperature $T/°C$	+3 ... +40	+3 ... +40	+3 ... +40
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–	–
Weight approx. m/kg	82	81	82
Equipment/function			
Float switch	•	–	•
Motor protection	–	–	–
Explosion protection	–	–	–
Materials			
Static seal	FPM	FPM	FPM
Impeller	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	C/Al-oxides	C/Al-oxides	C/Al-oxides
Sealing on pump side	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	G-Al Si12	G-Al Si12	G-Al Si12
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Mechanical accessories Wilo-EMU KS

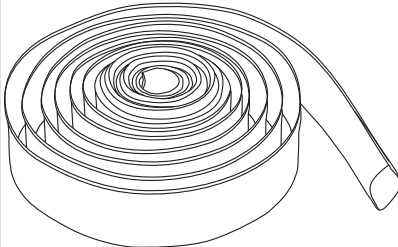
Mechanical accessories		Description	Art no.
Flat suction		Suction down to 10 mm, additional level control device not possible; KS 8/KS 9	6032495
Suction strainer extension		for filtering coarse constituents; KS 8/KS 9	6032496
		for filtering coarse constituents; KS 14/KS 15	6032616
Coupling key		for Storz A, B and C	6022280
		for Storz F	6022281
Storz B/C transition coupling		Made of aluminium, Storz B to Storz C	6000748
Storz A/B transition coupling		Made of aluminium, Storz A to Storz B	6003026
Storz F/A transition coupling		Made of aluminium, Storz F to Storz A	6022279
Adapter DN 80 on Rp 3		Made of steel, galvanised, DN 80 threaded flange, PN 10/16, DIN 2566 with Rp 3 female thread for DN 80 connection	6003672
Adapter DN 100 on Rp 4		Made of steel, galvanised, DN 100 threaded flange, PN 10/16, DIN 2566 with Rp 4 female thread for DN 100 connection	6003669
Pressure hose / Storz A		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 102 mm, length 5 m incl. Storz A coupling, 8/20 bar	6022391
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 102 mm, length 10 m incl. Storz A coupling, 8/20 bar	6022392
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 102 mm, length 20 m incl. Storz A coupling, 8/20 bar	6022393
		Plastic spiral hose, inner Ø 102 mm, length 5 m incl. Storz A coupling, 3/9 bar	6022275
		Plastic spiral hose, inner Ø 102 mm, length 10 m incl. Storz A coupling, 3/9 bar	6022276
		Plastic spiral hose, inner Ø 102 mm, length 20 m incl. Storz A coupling, 3/9 bar	6022277
Pressure hose / Storz B		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 5 m incl. Storz B coupling, 12/40 bar	6003052
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 10 m incl. Storz B coupling, 12/40 bar	6003051
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 20 m incl. Storz B coupling, 12/40 bar	6003050
		Plastic spiral hose, inner Ø 75 mm, length 5 m including Storz B coupling, 3.5/10.5 bar	6022272
		Plastic spiral hose, inner Ø 75 mm, length 10 m incl. Storz B coupling, 3.5/10.5 bar	6035187
		Plastic spiral hose, inner Ø 75 mm, length 20 m incl. Storz B coupling, 3.5/10.5 bar	6022274

Dewatering

Submersible pumps

Mechanical accessories Wilo-EMU KS

Mechanical accessories

		Description	Art no.
Pressure hose / Storz C		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 52 mm, length 5 m incl. Storz C coupling, 12/40 bar	6003651
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 52 mm, length 10 m incl. Storz C coupling, 12/40 bar	6003650
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 52 mm, length 20 m incl. Storz C coupling, 12/40 bar	6003649
		Plastic spiral hose, inner Ø 52 mm, length 5 m incl. Storz C coupling, 4.5/13.5 bar	6022269
		Plastic spiral hose, inner Ø 52 mm, length 10 m incl. Storz C coupling, 4.5/13.5 bar	6022270
		Plastic spiral hose, inner Ø 52 mm, length 20 m incl. Storz C coupling, 4.5/13.5 bar	6022271
Pressure hose / Storz F		Plastic spiral hose, inner Ø 150 mm, length 5 m incl. Storz F coupling, 1.8/5.5 bar	6022278
		Plastic spiral hose, inner Ø 150 mm, length 5 m incl. Storz F coupling, 8/- bar	6044660
		Synthetic fibre hose, synthetic, rubberised on the inside, inner Ø 150 mm, length 10 m incl. Storz F coupling, 7/21 bar	6003648
		Synthetic fibre hose, synthetic, rubberised on the inside, inner Ø 150 mm, length 20 m incl. Storz F coupling, 7/21 bar	6003647

Series description Wilo-Drain TP...-AM



Design

Submersible sewage pump for mobile utilisation

Type key

e.g.:	Wilo-Drain TP 80 E 160/17-AM
TP	Submersible pump
80	Nominal diameter [mm]
E	Single-channel impeller
160	Nominal diameter of the impeller [mm]
17	Power P_2 [kW] (=value/10 = 1.7 kW)
A	CEE plug and float switch
M	Mobile version with trolley

Application

Mobile application for pumping wastewater and drainage water as well as sewage containing faeces, municipal and industrial sewage, including long-fibre constituents, for:

- House and site drainage
- Sewage and water management
- Environmental and water treatment technology
- Industrial and process engineering
- Emergency management
- Fire-fighting

Special features/product advantages

- Mobile application due to installation of the pump in a trolley
- Submersible
- Low weight
- Detachable connecting cable
- Longitudinally watertight cable lead-in
- Standard-equipped with clogging-free sheath current cooling
- Corrosion-resistant (e.g. swimming-pool water, salt water, etc.)
- Low-wearing
- Patented clogging-free hydraulics

Technical data

- Mains connection: 3~400 V, 50 Hz
- Immersed and non-immersed operating modes: S1
- Protection class: IP 68
- Insulation class: F
- Max. fluid temperature: 3 – 40°C
- Free ball passage: 80 or 95 mm
- Max. immersion depth: 20 m

Equipment/function

- Trolley
- Thermal motor monitoring
- Leakage detection in the motor
- CEE plug including rotation direction monitoring and indication
- Float switch
- Sheath current cooling

Materials

- Trolley: 1.4301 stainless steel
- Pump housing: PUR
- Impeller: PUR
- Shaft: 1.4404 stainless steel
- Mechanical seal on pump side: SiC/SiC
- Mechanical seal on motor side: C/Cr
- Static gasket: NBR
- Motor housing: 1.4404 stainless steel

Description/design

Submersible sewage pump as submersible monobloc unit with trolley for mobile wet well installation.

Hydraulics

The outlet on the pressure side is designed as DN 80 or DN 100 horizontal flange connection. A 90° bend is mounted here as standard with a size B or size A Storz pipe coupling. Single-channel impellers are used as the impeller shape.

Motor

Dry motors are equipped with clogging-free sheath current cooling as standard. This ensures that heat is given off directly to the fluid. As a result, these units can be operated in immersed and non-immersed state for permanent or intermittent operation.

In addition, the motor is equipped with a leakage detection unit and a thermal motor monitoring unit. A sealing chamber protects the motor from fluid ingress. The filling fluid used is potentially biodegradable and environmentally safe.

The cable length for the connecting cable and the float switch is 10 m. The connection cable is equipped with a CEE plug.

Sealing

Sealing on the fluid side and on the pump side is achieved by two bi-directional mechanical seals.

Dewatering

Submersible pumps

Series description Wilo-Drain TP...-AM

Scope of delivery

- Pump ready for connection in the trolley
- 10 m connecting cable with CEE plug
- Float switch
- Storz pipe coupling
- Installation and operating instructions

Commissioning

Electrical connection:

The units are standard-equipped with a CEE plug for direct starting.

The TP 100 units can also be connected without CEE plug for star-delta starting.

If the device is connected to the public mains system, the regulations of the local electricity supply companies must be observed.

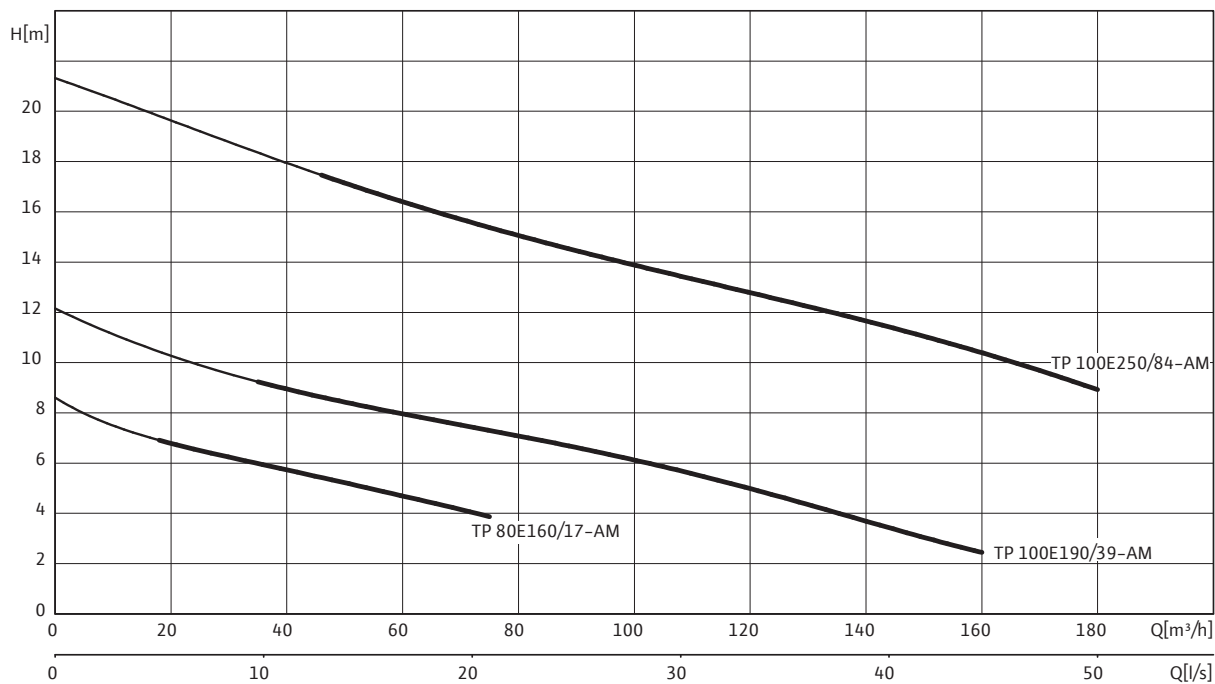
Accessories

- Pressure hoses with Storz B or Storz A uncoupling

Pump curves, ordering information Wilo-Drain TP...-AM

Pump curves Wilo-Drain TP...-AM - 50 Hz - No. of poles: 4

Open single-channel impeller - Free ball passage: 80 - 95 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art no.
TP 80E160/17-AM	3~400 V, 50 Hz	A	6047424
TP 100E190/39-AM	3~400 V, 50 Hz	A	6047430
TP 100E250/84-AM	3~400 V, 50 Hz	A	6047433

Dewatering

Submersible pumps

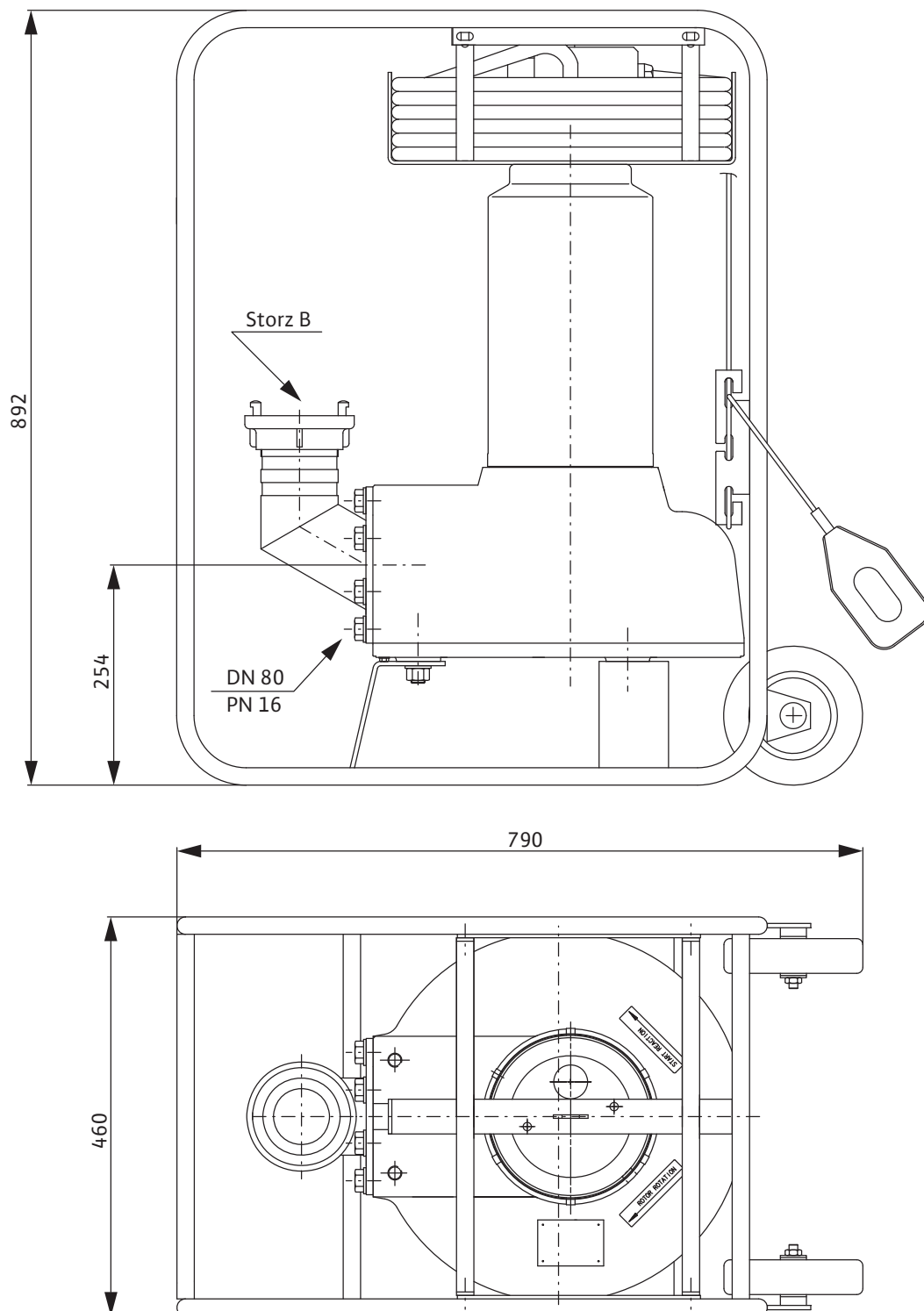
Technical data Drain TP...-AM

	TP 80E160/17-AM	TP 100E190/39-AM	TP 100E250/84-AM
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit			
Pressure connection	DN 80	DN 100	DN 100
Free ball passage mm	80	95	95
Max. volume flow $Q_{max}/m^3/h$	75	160	180
Max. delivery head H_{max}/m	9	12	21
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1
Max. immersion depth m	20	20	20
Protection class	IP 68	IP 68	IP 68
Fluid temperature $T/^\circ C$	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m/kg	53	71	71
Motor data			
Nominal current I_N/A	6.4	12.5	18.8
Starting current I_A/A	45	73	127
Nominal motor power P_2/kW	1.7	3.9	8.4
Power consumption P_1/kW	2	5	10.6
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	1450	1450	1450
Insulation class	F	F	F
Recommended switching frequency 1/h	20	20	20
Max. switching frequency 1/h	60	60	60
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	NSSHÖU	NSSHÖU	NSSHÖU
Cable cross-section mm^2	7x1,5	10x1,5	10x1,5
Type of connecting cable	Detachable	Detachable	Detachable
Mains plug	CEE	CEE	CEE
Equipment/function			
Float switch	•	•	•
Motor protection	WSK	WSK	WSK
Explosion protection	–	–	–
Materials			
Static seal	NBR	NBR	NBR
Impeller	PUR	PUR	PUR
Sealing on motor side	C/Cr	C/Cr	C/Cr
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4404	1.4404	1.4404
Pump housing	PUR	PUR	PUR
Pump shaft	1.4404	1.4404	1.4404

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.
Voltage tolerance +/- 10 % (specifications according to DIN EN 60034)

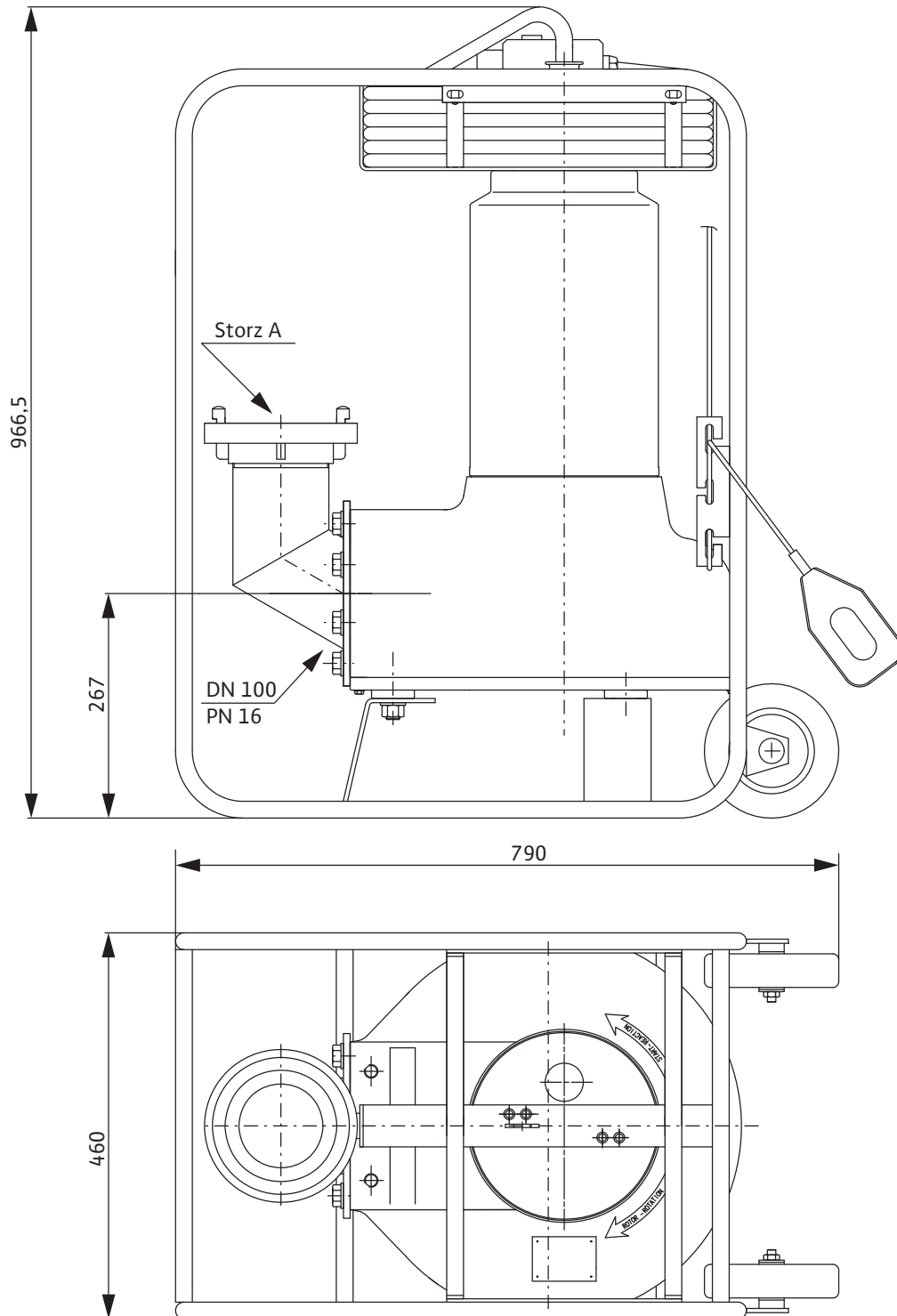
Dimension drawing Wilo-Drain TP...-AM

Dimension drawing Wilo-Drain TP 80...-AM



Dimension drawing Wilo-Drain TP...-AM

Dimension drawing Wilo-Drain TP 100...-AM



Mechanical accessories Wilo-Drain TP...-AM

Stationary vertical dry well installation

		Description	Art no.
Pressure hose / Storz B		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 10 m incl. Storz B coupling, 12/40 bar	6003051
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 20 m incl. Storz B coupling, 12/40 bar	6003050
Pressure hose / Storz A		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 102 mm, length 5 m incl. Storz A coupling, 8/20 bar	6022391
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 102 mm, length 10 m incl. Storz A coupling, 8/20 bar	6022392

Dewatering

Dewatering

Self-priming pumps

Series description Wilo-Drain LP



Design

Self-priming drainage pump

Type key

Example: **Wilo-Drain LP 40/10**
LP Self-priming pump
40 Nominal diameter (DN 40)
10 Maximum delivery head in m

Application

- Pumping of wastewater for
- Ponds
 - Sprinkling / spraying of gardens and green areas
 - Mobile drainage

Special features/product advantages

- High operational reliability
- Easy handling
- Easy operation

Technical data

- Mains connection: 1~230 V, 50 Hz
- Protection class: 44
- Fluid temperature: 3 - 35 °C
- Free ball passage: 5 mm
- Connection: Rp 1½
- Max. suction head: 6 m

Equipment/function

- Thermal motor monitoring
- Oval counter flange
- Vortex impeller

Materials

- Motor housing: Al
- Pump housing: PP
- Impeller: Brass
- Shaft: 1.4006
- Sealing: C/Cr mechanical seal
- Static seals: NBR

Description/design

Self-priming centrifugal pump for portable dry well installation, not submersible.

The centrifugal pump is equipped with a vortex impeller. Stable installation is ensured by a low-vibration polypropylene baseplate.

Scope of delivery

Pump includes 2 oval counter flanges with inside thread G 1 ½, carrying handle and installation and operating instructions.

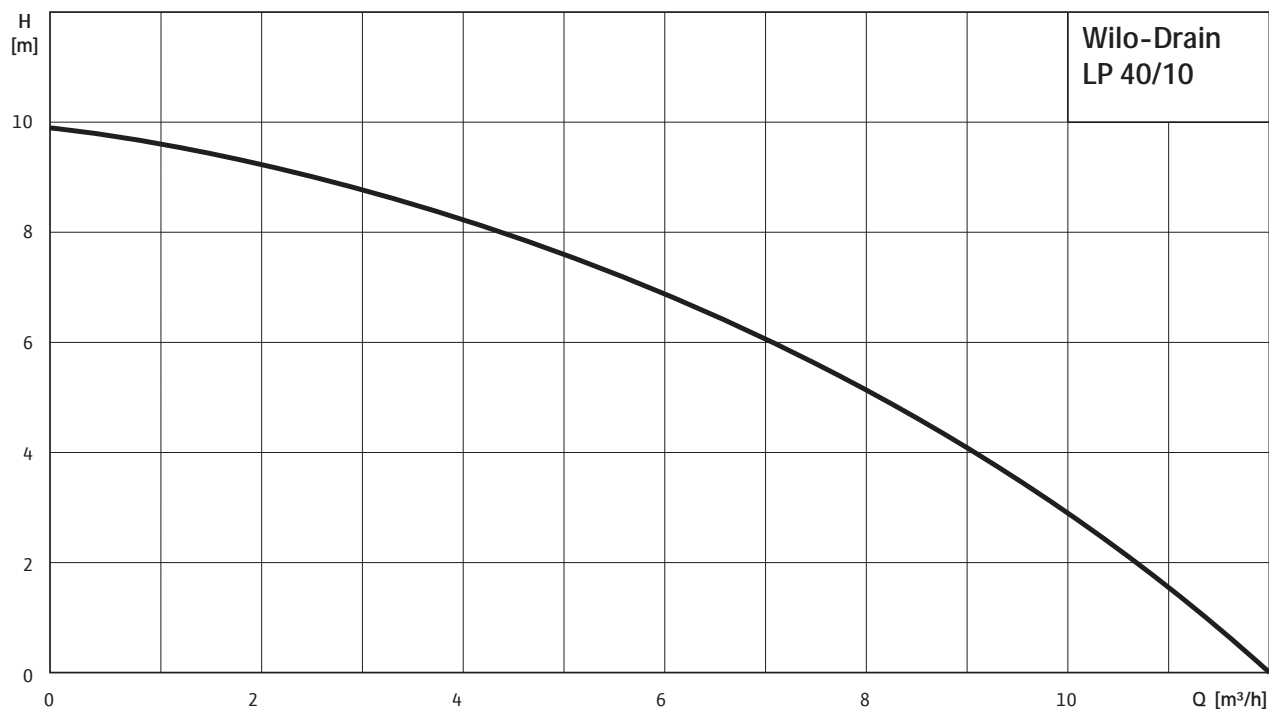
Accessories

5 m connecting cable including plug and switch, hose connection kit R 1 ½, level switching ZSE.

Pump curves, ordering information Wilo-Drain LP

Pump curves Wilo-Drain LP 40/10 - 50 Hz - No. of poles: 2

Vortex impeller - Free ball passage: 5 mm



Pump curves in accordance with ISO 9906, Appendix A. The specified degrees of efficiency correspond to the overall efficiency.

Information for order placements

Wilo-Drain...	Mains connection		Art No.
LP 40/10	1~230 V, 50 Hz	L	2047645

Dewatering

Dewatering

Self-priming pumps

Technical data Wilo-Drain LP

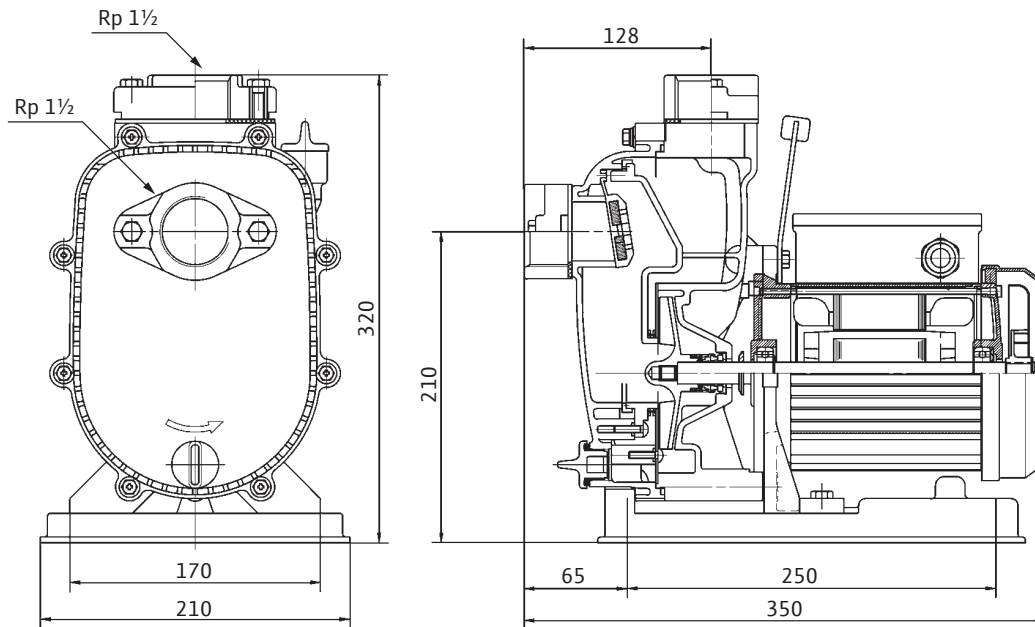
LP 40/10	
Motor data	
Mains connection	1~230 V, 50 Hz
Nominal current I_N/A	2.3
Nominal motor power P_2/kW	0.4
Power consumption P_1/kW	0.55
Activation type	Direct
Nominal speed n/rpm	2900
Insulation class	B
Max. switching frequency 1/h	–
Cable	
Length of connecting cable m	5
Cable type	H07RN-F
Cable cross-section mm^2	3G1
Type of connecting cable	Rubber hose line
Mains plug	Shock-proof
Unit	
Pressure connection	Rp 1½
Free ball passage mm	5
Operating mode (immersed)	–
Operating mode (non-immersed)	S1
Max. immersion depth m	–
Protection class	IP 44
Fluid temperature $T/°C$	+3 ... +35
Max. fluid temperature, for short periods up to 3 min $T/°C$	–
Weight approx. m/kg	12
Equipment/function	
Float switch	–
Motor protection	WSK
Explosion protection	–
Materials	
Static seal	NBR
Impeller	CuZn
Sealing on motor side	–
Mechanical seal	Carbon/ceramic
Motor housing	Al
Pump housing	PP

P_1 refers to the maximum power consumption. All of the data applies to 1~230 V, 50 Hz and a density of 1 kg/dm³.

Dimension drawing Wilo-Drain LP

Dimension drawing

Wilo-Drain LP 40/10

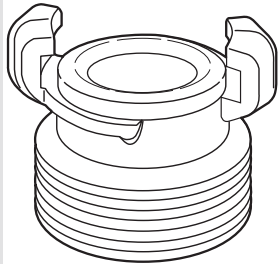
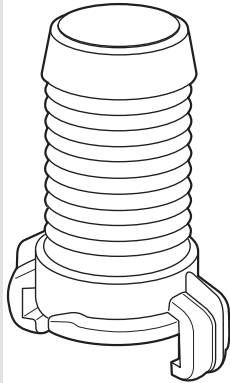
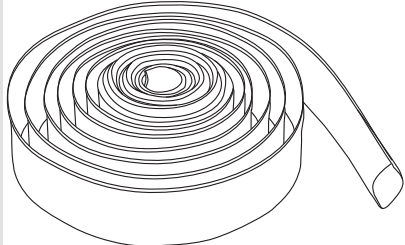


Dewatering

Self-priming pumps

Mechanical accessories Wilo-Drain LP

Mechanical accessories

		Description	Art no.
Suction kit DN 40		Including PVC hose \varnothing 38 mm, length 3 m, hose nozzle \varnothing 38 with female thread Rp 1½, 2 hose clips, foot valve with female thread Rp 1½ and connecting piece with male thread R 1½ .	6042689
		Including PVC hose \varnothing 38 mm, length 6 m, hose nozzle \varnothing 38 with female thread Rp 1½, 2 hose clips, foot valve with female thread Rp 1½ and connecting piece with male thread R 1½ .	6042690
Hose connection		Made of plastic, hose nozzle \varnothing 40 mm including hose clip, male thread R 1½ for direct hose connection	4027335
Pipe bend 90°		Made of steel, galvanised with G 1½ / R 1½ female/male thread for DN 40 connection	2083117
Geka solid coupling		Made of brass, with R 1½ male thread, fits a Geka hose coupling for a DN 40 connection	2018100
Geka hose coupling		Made of brass, with hose nozzle (\varnothing 40 mm), including hose clip which fits Geka solid coupling for a DN 40 connection	2018101
Pressure hose		Synthetic, inside \varnothing 42 mm, PN 6, length 3 m, including hose clip for direct connection of hose via \varnothing 40 mm hose nozzle or Geka hose coupling	2027641
		Synthetic, inside \varnothing 42 mm, PN 6, length 5 m, including hose clip for direct connection of hose via \varnothing 40 mm hose nozzle or Geka hose coupling	2027642
		Synthetic, inside \varnothing 42 mm, PN 6, length 15 m, including hose clip for direct connection of hose via \varnothing 40 mm hose nozzle or Geka hose coupling	2027643

Series description Wilo-Drain LPC



Design

Self-priming drainage pump

Type key

Example: LPC 40/19

LP Self-priming pump

C Cast version

40 Nominal diameter (DN 40)

19 Maximum delivery head in m

Application

Pumping of wastewater with small amounts of solid matter for

- Excavation pits and ponds
- Sprinkling / spraying of gardens and green areas
- Drainage of seepage water
- Mobile drainage

Special features/product advantages

- Long service life
- Heavy-duty design
- Easy handling
- Easy operation
- Easy to maintain
- Mobile and flexible use

Technical data

- Mains connection: 3~400 V, 50 Hz
- Protection class: IP 55
- Fluid temperature: 3 – 80 °C
- Free ball passage: 6 – 12 mm (depending on type)
- Pressure port: R 1½ / Rp 2 or Rp 3
- Max. suction head: 7.5 m

Equipment/function

- Open multi-channel impeller

Materials

- Pump housing: AlSi19MG or EN-GJL-250
- Impeller: EN-GJL-250
- Shaft: 1.4104
- Sealing: Mechanical seal C/Al or SiC/SiC
- Static seals: NBR
- Motor housing: Al

Description/design

Self-priming centrifugal pump with IE2 motor for portable and stationary dry well installation, not submersible.

The centrifugal pump is equipped with an open multi-channel impeller and integrated non-return valve (LPC 50 and LPC 80 only). Sturdy construction resulting from the high-quality cast iron of the impeller and of the pump housing (LPC 40 made of aluminium casting). The impeller and the pump housing can be cleaned through a small inspection opening.

Scope of delivery

Pump with installation and operating instructions.

Accessories

Motor protection switches, stop valves, suction kit consisting of: Hose nozzle, hose, hose clip, hose coupling and foot valve (strainer), trolley for mobile utilisation.

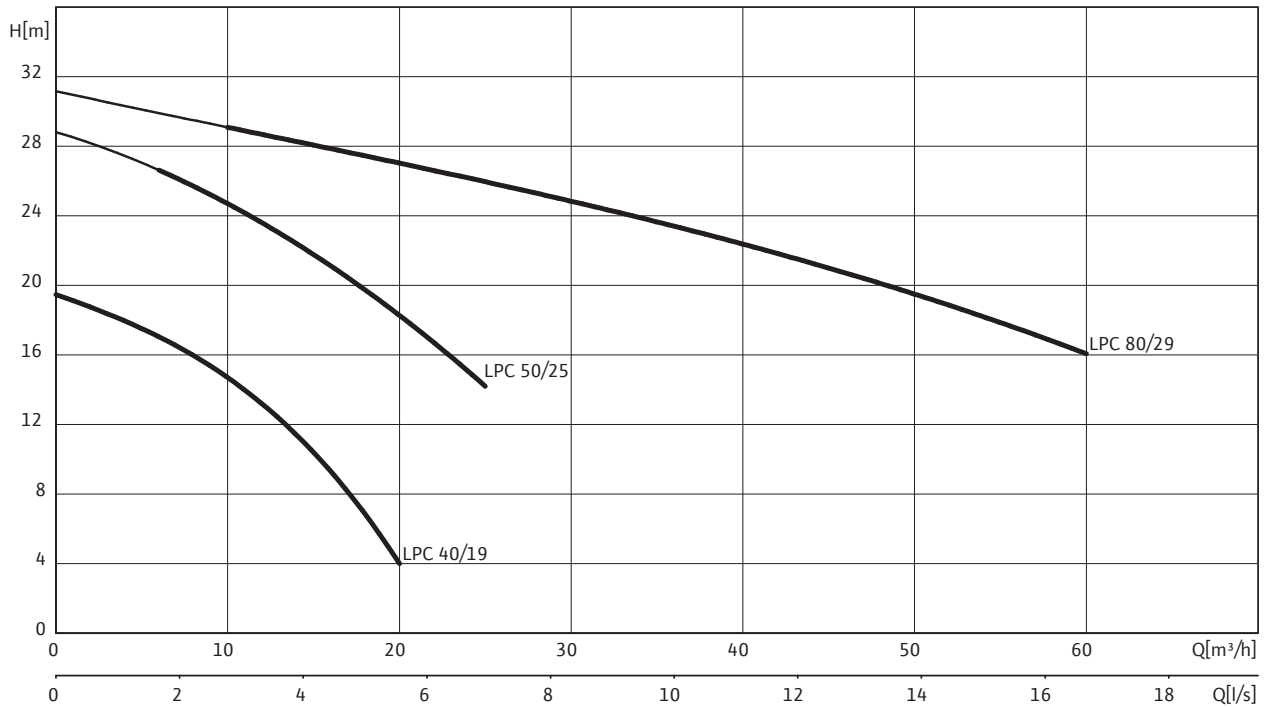
Dewatering

Self-priming pumps

Pump curves, ordering information Wilo-Drain LPC


Pump curves Wilo-Drain LPC - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 6 - 12 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art No.
			
LPC 40/19	3~400 V, 50 Hz	L	2081686
LPC 50/25	3~400 V, 50 Hz	L	2081660
LPC 80/29	3~400 V, 50 Hz	L	2081693

Technical data Wilo-Drain LPC

	LPC 40/19	LPC 50/25	LPC 80/29
Motor data			
Mains connection	3~400 V, 50 Hz		
Nominal current I_N/A	2.4	4.8	8.4
Nominal motor power P_2/kW	1.1	2.2	4
Power consumption P_1/kW	1.4	2.9	5
Activation type	Direct	Direct	Direct
Nominal speed n/rpm	2900	2900	2900
Insulation class	F	F	F
Max. switching frequency $1/h$	–	–	–
Cable			
Length of connecting cable m	–	–	–
Cable type	–	–	–
Cable cross-section mm^2	–	–	–
Type of connecting cable	–	–	–
Mains plug	–	–	–
Unit			
Pressure connection	R 1½	Rp 2	R 3
Free ball passage mm	6	6	12
Operating mode (immersed)	–	–	–
Operating mode (non-immersed)	S1	S1	S1
Max. immersion depth m	–	–	–
Protection class	IP 55	IP 55	IP 55
Fluid temperature $T/°C$	+3 ... +80	+3 ... +80	+3 ... +80
Max. fluid temperature, for short periods up to 3 min $T/°C$	–	–	–
Weight approx. m/kg	23	45	86
Equipment/function			
Float switch	–	–	–
Motor protection	–	–	–
Explosion protection	–	–	–
Materials			
Static seal	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	–	–	–
Mechanical seal	C/Al-oxides	C/Al-oxides	SiC/SiC
Motor housing	Al	Al	Al
Pump housing	Al	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm^3 .

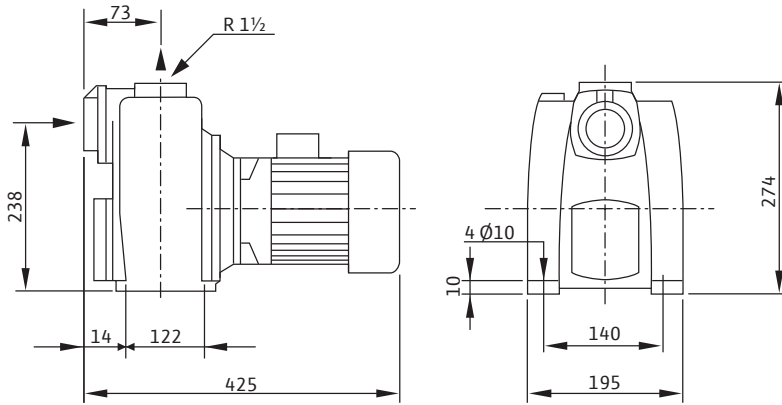
Dewatering

Self-priming pumps

Dimension drawing Wilo-Drain LPC

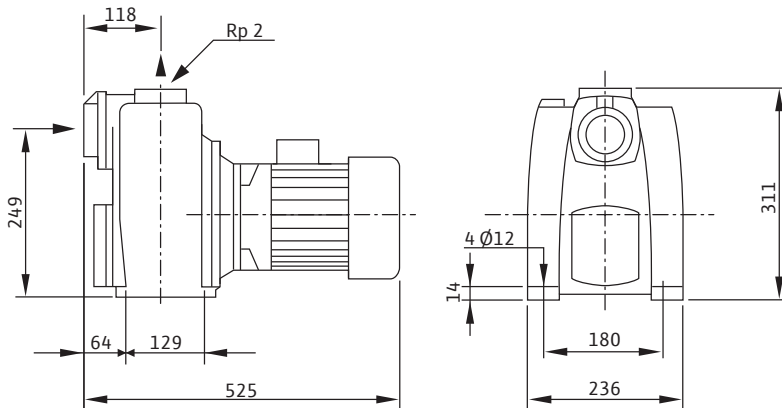
Dimension drawing

Wilo-Drain LPC 40/19



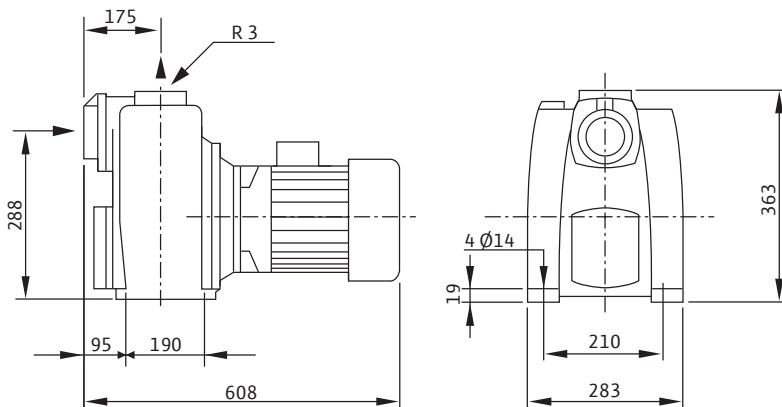
Dimension drawing

Wilo-Drain LPC 50/25

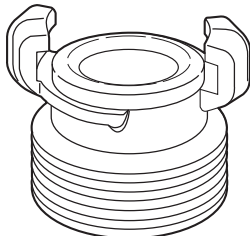
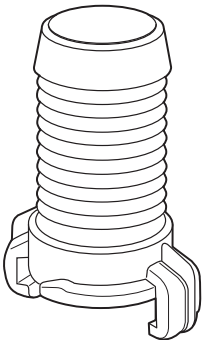


Dimension drawing

Wilo-Drain LPC 80/29



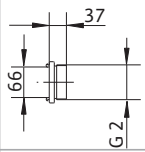
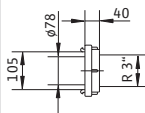
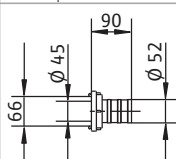
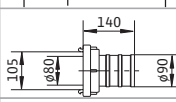
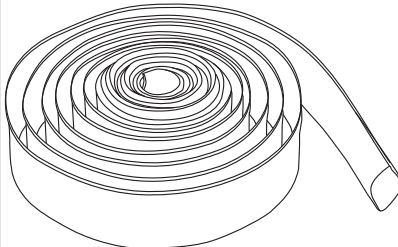
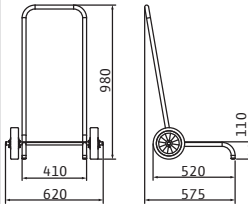
Mechanical accessories Wilo-Drain LPC

		Description	Art no.
Suction kit DN 40		Including PVC hose \varnothing 38 mm, length 3 m, hose nozzle \varnothing 38 with female thread Rp 1½, 2 hose clips, foot valve with female thread Rp 1½ and connecting piece with male thread R 1½ .	6042689
		Including PVC hose \varnothing 38 mm, length 6 m, hose nozzle \varnothing 38 with female thread Rp 1½, 2 hose clips, foot valve with female thread Rp 1½ and connecting piece with male thread R 1½ .	6042690
Suction kit DN 50		Including PVC hose \varnothing 50 mm, length 3 m, hose nozzle \varnothing 50 with male thread G 2, 2 hose clips, strainer with male thread G 2 and connecting piece with female thread G 2 .	6043355
		Including PVC hose \varnothing 50 mm, length 8 m, hose nozzle \varnothing 50 with male thread G 2, 2 hose clips, strainer with male thread G 2 and connecting piece with female thread G 2 .	6043356
Suction kit DN 80		Including PVC hose \varnothing 75 mm, length 3 m, hose nozzle \varnothing 75 with male thread G 3, 2 hose clips, strainer with male thread G 3 and connecting piece with female thread G 3 .	6043357
		Including PVC hose \varnothing 75 mm, length 8 m, hose nozzle \varnothing 75 with male thread G 3, 2 hose clips, strainer with male thread G 3 and connecting piece with female thread G 3 .	6043358
Hose connection		Hose connector \varnothing 40 mm including hose clip, female thread Rp 1½	2083109
		Hose connector \varnothing 50 mm including hose clip, male thread R 2	2083111
		Hose connector \varnothing 90 mm including hose clip, male thread R 3	2083112
Pipe bend 90°		Made of steel, galvanised with G 1½ / R 1½ female/male thread for DN 40 connection	2083117
Pipe elbow 90° DN 50		Made of steel, galvanized with G 2 / R 2 female/male thread for DN 50 connection	2083118
Pipe bend 90°		Made of steel, galvanised with G 3 / R 3 female/male thread for DN 80 connection	2083119
Geka solid coupling		Made of brass, with R 1½ male thread, fits a Geka hose coupling for a DN 40 connection	2018100
Geka hose coupling		Made of brass, with hose nozzle (\varnothing 40 mm), including hose clip which fits Geka solid coupling for a DN 40 connection	2018101

Dewatering

Self-priming pumps

Mechanical accessories Wilo-Drain LPC

		Description	Art no.
Storz C pipe coupling with male thread G 2		Made of aluminium, Storz C connection, with G 2 male thread, tappet clearance 66 mm for a DN 50 connection	2018102
Storz pipe coupling, 90 mm, with female thread G 3		Made of aluminium, Storz 90 connection, with G 3 female thread, tappet clearance 105 mm for a DN 80 connection	2017203
Storz hose coupling		Made of aluminium, Storz A connection, with hose nozzle (Ø 52 mm), tappet clearance 66 mm, incl. hose clip	2015235
Storz hose coupling, 90 mm		Made of aluminium, Storz 90 connection, with hose nozzle (Ø 90 mm), tappet clearance 105 mm, incl. hose clip	2017204
Pressure hose		Synthetic, inside Ø 42 mm, PN 6, length 3 m, including hose clip for direct connection of hose via Ø 40 mm hose nozzle or Geka hose coupling	2027641
		Synthetic, inside Ø 42 mm, PN 6, length 5 m, including hose clip for direct connection of hose via Ø 40 mm hose nozzle or Geka hose coupling	2027642
		Synthetic, inner Ø 52 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle (Ø 50 mm) or a Storz C hose coupling	2017192
		Synthetic, inner Ø 90 mm, PN 8, length 10 m, incl. 2 hose clips for direct hose connection via hose nozzle (Ø 90 mm) or a Storz B hose coupling	2017152
		Synthetic, inside Ø 42 mm, PN 6, length 15 m, including hose clip for direct connection of hose via Ø 40 mm hose nozzle or Geka hose coupling	2027643
		Synthetic, inner Ø 90 mm, PN 8, length 20 m, incl. 2 hose clips for direct hose connection via hose nozzle (Ø 90 mm) or a Storz B hose coupling	2017193
		Synthetic, inner Ø 90 mm, PN 8, length 30 m, incl. 2 hose clips for direct hose connection via hose nozzle (Ø 90 mm) or a Storz B hose coupling	2017194
Trolley LPC		Hand truck set including mounting accessories for screw connections M 8 for LPC 40 and LPC 50M 12 for LPC 80	6045543



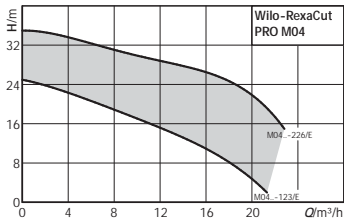
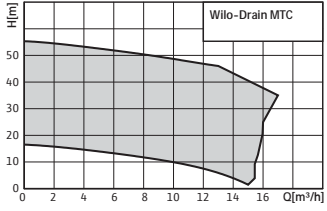
Series overview

Series	Wilo-RexaCut FIT	Wilo-Drain MTS
Product photo		
Duty chart		
Design	Submersible sewage pump with internal macerator for intermittent operation with grey cast iron hydraulics and stainless steel motor for stationary and portable wet well installation.	Submersible sewage pump with internal macerator for intermittent operation with grey cast iron hydraulics and stainless steel motor for stationary and portable wet well installation.
Application	Pumping sewage containing faeces as well as municipal and industrial sewage, also with long-fibre constituents in <ul style="list-style-type: none"> • Pressure drainage • House drainage • Sewage disposal • Water management • Environmental and water treatment technology 	Pumping sewage containing faeces as well as municipal and industrial sewage, also with long-fibre constituents in <ul style="list-style-type: none"> • Pressure drainage • House drainage • Sewage disposal • Water management • Environmental and water treatment technology
H _{max}	26.5 m	39 m
Q _{max}	19.5 m ³ /h	16 m ³ /h
Special features/ product advantages	<ul style="list-style-type: none"> • Internal macerator • Sealing by two mechanical seals • No Ex protection, therefore easy installation • Optional external electrode for monitoring the sealing chamber 	<ul style="list-style-type: none"> • Internal macerator • Low weight thanks to stainless steel motor • Explosion protection as standard
Further information	Series information from page 91 Wilo online catalogue at www.wilo.com	Series information from page 93 Wilo online catalogue at www.wilo.com



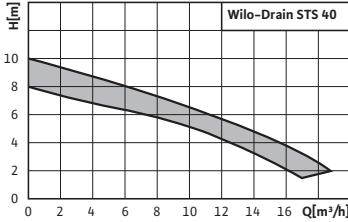
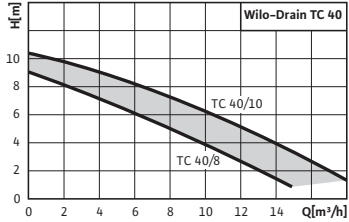
Wastewater transport

Submersible pumps with macerator

Series overview

Series	Wilo-RexaCut PRO	Wilo-Drain MTC
Product photo		
Duty chart		
Design	Submersible sewage pump with external macerator for intermittent and permanent operation, completely made of grey cast iron for stationary and portable wet well installation.	Submersible sewage pump with external macerator for intermittent and permanent operation, completely made of grey cast iron for stationary and portable wet well installation.
Application	Pumping sewage containing faeces as well as municipal and industrial sewage, also with long-fibre constituents in <ul style="list-style-type: none"> • Pressure drainage • House drainage • Sewage disposal • Water management • Environmental and water treatment technology 	Pumping sewage containing faeces as well as municipal and industrial sewage, also with long-fibre constituents in <ul style="list-style-type: none"> • pressure drainage • House drainage • Sewage disposal • Water management • Environmental and water treatment technology
H _{max}	34 m	55 m
Q _{max}	21.5 m ³ /h	17 m ³ /h
Special features/ product advantages	<ul style="list-style-type: none"> • External macerator • Seal by two mechanical seals • Ex-rated as standard • Longitudinally watertight cable inlet • Optional external electrode for monitoring the sealing chamber 	<ul style="list-style-type: none"> • External macerator • Seal by two mechanical seals • Longitudinally watertight cable • Ex protection
Further information	Series information from page 95 Wilo online catalogue at www.wilo.com	Series information from page 97 Wilo online catalogue at www.wilo.com




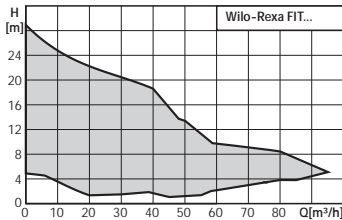
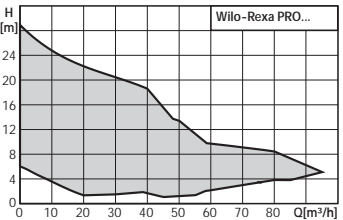
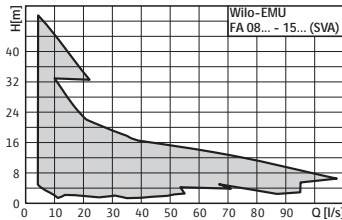
Series overview

Series	Wilo-Drain STS 40	Wilo-Drain TC 40
Product photo		
Duty chart		
Design	Submersible sewage pump	Submersible sewage pump
Application	<p>Pumping of heavily contaminated fluids for:</p> <ul style="list-style-type: none"> • Domestic and site drainage • Sewage disposal (pumping of sewage free of faeces) in accordance with DIN EN 12050-2) • Water management • Environmental and water treatment technology • Industrial and process engineering 	<p>Pumping of heavily contaminated fluids for:</p> <ul style="list-style-type: none"> • House/site drainage • Sewage disposal (pumping of sewage free of faeces in accordance with DIN EN 12050-2) • Environmental and water treatment technology
H _{max}	10 m	11 m
Q _{max}	20 m ³ /h	22 m ³ /h
Special features/ product advantages	<ul style="list-style-type: none"> • Detachable connection cable and float switch • Attached float switch (A-model) enables easy operation • Integrated pump base for easy installation • Free ball passage: 40 mm • Integrated thermal motor protection (1~/3~) and phase failure protection (3~) • Impeller made of stainless steel 	<ul style="list-style-type: none"> • Heavy-duty hydraulic housing made of cast iron • Easy operation due to the attached float switch • Integrated stainless steel pump base for easy installation • Free ball passage: 40 mm
Further information	<p>Series information from page 104</p> <p>Wilo online catalogue at www.wilo.com</p> <p>Accessories from page 108</p>	<p>Series information from page 99</p> <p>Wilo online catalogue at www.wilo.com</p> <p>Accessories from page 103</p>

Wastewater transport

Submersible pumps

Series overview

Series	Wilox-Rexa FIT	Wilox-Rexa PRO	Wilox-EMU FA (standard variant)
Product photo			
Duty chart			
Design	Submersible sewage pump for intermittent operation with grey cast iron hydraulics and stainless steel motor for stationary and portable wet well installation and stationary dry well installation.	Submersible sewage pump for permanent operation, made of grey cast iron for stationary and portable wet well installation and stationary dry well installation.	Submersible sewage pump
Application	For pumping in intermittent operation of: <ul style="list-style-type: none"> • Waste water and sewage • Waste water containing faeces • Sludges up to maximum 8% dry matter (depending on the selected hydraulics) out of sumps and vessels as well as to domestic and site drainage in accordance with EN 12050 (observing regional-specific regulations and instructions).	For pumping in permanent operation of: <ul style="list-style-type: none"> • Waste water and sewage • Waste water containing faeces • Sludges up to maximum 8% dry matter (depending on the selected hydraulics) out of sumps and vessels in municipal and industrial applications as well as to domestic and site drainage in accordance with EN 12050 (observing regional-specific regulations and instructions).	<ul style="list-style-type: none"> • Pumping of sewage with solid constituents in water treatment systems and pumping stations • Local drainage, water control and process water extraction • Applications in construction and industry
H _{max}	29 m	29 m	51 m
Q _{max}	95 m ³ /h	95 m ³ /h	380 m ³ /h
Special features/ product advantages	<ul style="list-style-type: none"> • Vortex impeller non-susceptible to clogging • Seal by two mechanical seals • Optional external sealing chamber control for the oil barrier chamber • Very smooth operation • Easy installation via suspension unit or pump base 	<ul style="list-style-type: none"> • Vortex impeller non-susceptible to clogging • Seal by two mechanical seals • Ex-rated in accordance with ATEX as standard • Operation with frequency converter • Optional external sealing chamber control for the oil barrier chamber • Longitudinally watertight cable inlet • Very smooth operation • Easy installation via suspension unit or pump base 	<ul style="list-style-type: none"> • Operation in stationary and portable wet well installation • Heavy-duty version made of grey cast iron • Easy installation due to suspension unit or pump base • Longitudinally watertight cable lead-in • Cable length 10 m • ATEX approval
Further information	Series information from page 109 Wilox online catalogue at www.wilox.com	Series information from page 144 Wilox online catalogue at www.wilox.com	Series information from page 179 Wilox online catalogue at www.wilox.com Accessories from page 230

Series description Wilo-RexaCut FIT



Design

Submersible sewage pump with internal macerator for intermittent operation with grey cast iron hydraulics and stainless steel motor for stationary and portable wet well installation.

Type key

Example: **Wilo-RexaCut FIT C04DA-124/EAD1-2-T0015-540-O**

RexaCut	Submersible sewage pump with macerator
FIT	Series with stainless steel motor
C	Single-channel impeller
04	Nominal diameter of the pressure connection: DN 40
D	Hydraulics drilled on the suction side in accordance with DIN drilled
A	Material version, hydraulics A = standard version
124	Hydraulics definition
E	dry motor
A	Material version, motor A = standard version
D	Seal with two independent mechanical shaft seals
1	IE-efficiency class (derived from IEC 60034-30)
-	not Ex-rated
2	Number of poles
T	Mains connection version: M = 1~ T = 3~
0015	Value/10 = rated power P_2 in kW
5	Frequency (5 = 50 Hz, 6 = 60 Hz)
40	Code for rated voltage
O	Additional electrical equipment: O = with bare cable end P = with plug

Application

Pumping sewage containing faeces as well as municipal and industrial sewage, also with long-fibre constituents in

- Pressure drainage
- House drainage
- Sewage disposal

- Water management
- Environmental and water treatment technology

Special features/product advantages

- Internal macerator
- Sealing by two mechanical seals
- No Ex protection, therefore easy installation
- Optional external electrode for monitoring the sealing chamber

Technical data

- Mains connection: 1-230 V, 50 Hz or 3-400 V, 50 Hz
- Submerged operating mode: S1
- Non-immersed operating mode: S2-15 min; S3 10%
- Protection class: IP 68
- Insulation class: F
- Fluid temperature: 3 ... 40 °C, max. 60 °C for 3 min
- Max. submersion depth: 20 m
- Cable length: 10 m

Equipment/function

- Patented, spherically formed macerator with internal rotating blade and pulling cut
- Winding temperature monitoring with bimetallic strip
- Optional external sealing chamber control for the sealing chamber

Materials

- Motor housing: 1.4301
- Hydraulic housing: EN-GJL-250
- Impeller: EN-GJL-250
- Shaft end: Stainless steel 1.4021
- Macerator: 1.4528
- Sealing on pump side: SiC/SiC
- Sealing on motor side: C/MgSiO₄
- Static seals: NBR

Description/design

Submersible sewage pump with spherically formed, internal macerator as submersible monobloc unit for stationary and portable wet well installation in intermittent operation.

Hydraulics

The outlet on the pressure side is designed as horizontal flange connection. The maximum possible dry matter is 8 % (depending on the hydraulics) Single-channel impellers are used.

Wastewater transport

Submersible pumps with macerator

Series description Wilo-RexaCut FIT

Motor

The motors available are dry motors in single-phase version (with built-in operation capacitor) and three-phase version for the direct starting. The waste heat is given off directly to the surrounding fluid via the motor housing. Motors can be used in a submerged state in permanent operation (S1) and also non-immersed in short-term operation (S2) or even in intermittent operation (S3).

Moreover, motors are equipped with a thermal winding monitoring. This protects the motor windings against overheating. For units with single-phase AC motors this is built-in and switches automatically. I.e. if the motor is switched off due to overheating and then cools down it is automatically switched on again. As a standard, bimetallic strips are used here.

Additionally, the motor can be fitted with an external electrode to monitor the sealing chamber. This will signal water ingress into the sealing chamber through the sealing on the pump side.

The connection cable has a standard length of 10 m and it is equipped with a plug in the single-phase current version. The three-phase version has bare cable ends.

Sealing

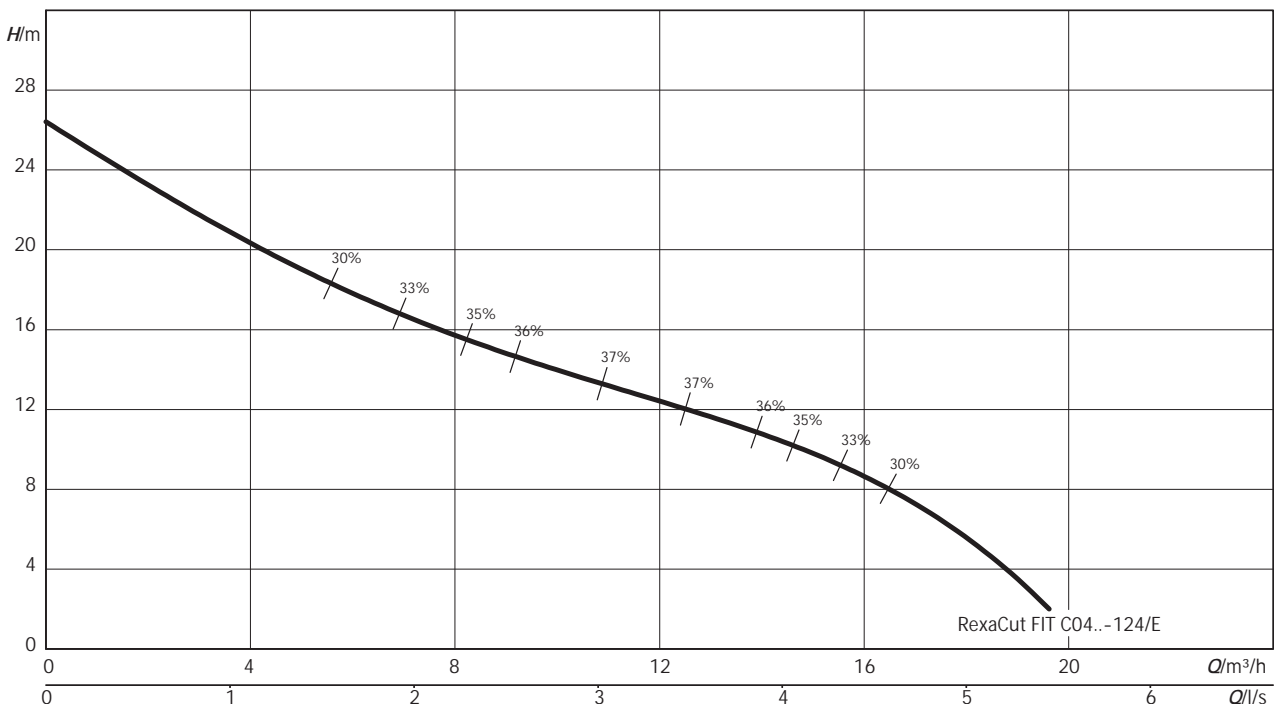
There is a sealing chamber between the motor and hydraulics. This is filled with medical white oil and protects the motor from fluid entering through the sealing on the pump side. The pump-side and motor-side seals are provided by two mechanical seals which rotate independently of each other.

Scope of delivery

- Pump

Pump curves Wilo-RexaCut FIT C04.. - 50 Hz - No. of poles: 2

Single-channel impeller with macerator



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

- 10 m connecting cable with plug
- Installation and operating instructions

Commissioning

Operation in wet well installation with non-immersed motor:

The motor can be run non-immersed. The operating times are defined here by the "Operating mode for non-immersed operation". This information must be strictly observed!

- Short-term operation S2: The maximum operating time is 15 minutes (S2-15minutes).
- Intermittent operation S3: By default, the maximum operating time is 1 minute in S3 operation (S3 10%). If the motor is completely immersed for 1 minute before a re-start and the necessary cooling of the motor has thus taken place, the maximum running time in S3 operation can be 2.5 minutes (S3 25%)!
- The maximum ambient and fluid temperature is 40 °C.

Dry-running protection system:

The hydraulics housing must always be immersed. In the case of fluctuating fluid levels, the system should shut down automatically once the minimum water submersion is reached. Please refer to the dimension drawings for this.

Horizontal installation:

Horizontal installation is **not** possible!

Accessories

- Suspension unit or pump base
- External electrode for monitoring the sealing chamber
- Chains
- Switchgears, relays and plugs
- Fixation sets with anchor bolts

Series description Wilo-Drain MTS



Design

Submersible sewage pump with internal macerator for intermittent operation with grey cast iron hydraulics and stainless steel motor for stationary and portable wet well installation.

Type key

e.g.:	Wilo-Drain MTS 40/27-1-230-50-2
MT	Macerator technology
S	Stainless steel motor
40	Nominal diameter of pressure port [mm]
27	Max. delivery head [m]
1	Phase specification
230	Rated voltage
50	Frequency
2	Number of poles

Application

Pumping sewage containing faeces as well as municipal and industrial sewage, also with long-fibre constituents in

- Pressure drainage
- House drainage
- Sewage disposal
- Water management
- Environmental and water treatment technology

Special features/product advantages

- Internal macerator
- Low weight thanks to stainless steel motor
- Explosion protection as standard

Technical data

- Mains connection: 3~400 V, 50 Hz
- Submerged operating mode: S1
- Non-immersed operating mode: S2-8 min; S3 25%
- Protection class: IP 68
- Insulation class: F
- Fluid temperature: 3...40 °C
- Max. submersion depth: 10 m
- Cable length: 10 m

Equipment/function

- Patented, spherically formed macerator with internal rotating blade and pulling cut
- Winding temperature monitoring with bimetallic strip
- ATEX approval

Materials

- Motor housing: Stainless steel 1.4404
- Hydraulic housing: EN-GJL-250
- Impeller: EN-GJL-250
- Shaft: Stainless steel 1.4021
- Macerator: Stainless steel 1.4528
- Sealing on pump side: SiC/SiC
- Sealing on motor side: NBR
- Static gasket: NBR

Description/design

Submersible sewage pump with spherically formed, internal macerator as submersible monobloc unit for stationary and portable wet well installation in intermittent operation.

Hydraulics

The outlet on the pressure side is designed as horizontal threaded connection (Rp 1¼" for MTS 40/21...27) or flange connection. The maximum possible dry matter is 8 % (depending on the hydraulics) Single-channel impellers are used.

Motor

Glanded motors in three-phase version are used as the motors for direct starting. The waste heat is given off directly to the surrounding fluid via the motor housing. Motors can be used in a submerged state in permanent operation (S1) and also non-immersed in short-term operation (S2) or even in intermittent operation (S3).

Moreover, motors are equipped with a thermal winding monitoring. This protects the motor windings against overheating. Bimetallic strips are used here as a standard.

The connection cable has bare cable ends and a standard length of 10 m.

Sealing

There is a sealing chamber between the motor and hydraulics. This is filled with medical white oil and protects the motor from fluid entering through the sealing on the pump side. Sealing on the pump side is

Wastewater transport

Submersible pumps with macerator

Series description Wilo-Drain MTS

achieved by a bidirectional mechanical seal, while sealing on the motor side is achieved by a rotary shaft seal.

Scope of delivery

- Pump
- 10-metre connecting cable with bare cable end
- Installation and operating instructions

Commissioning

Operation in wet well installation with non-immersed motor:

- The motor can be run non-immersed. The operating times are defined here by the "Operating mode for non-immersed operation". This information must be strictly observed!
- Short-term operation S2: The maximum operating time is 8 minutes (S2-8minutes).
 - Intermittent operation S3: The maximum operating time is 2.5 minutes in S3 operation (S3 25%)!
 - The maximum ambient and fluid temperature is 40 °C.

Dry-running protection system:

The hydraulics housing must always be immersed. In the case of fluctuating fluid levels, the system should shut down automatically once the minimum water submersion is reached. Please refer to the dimension drawings for this.

Horizontal installation:

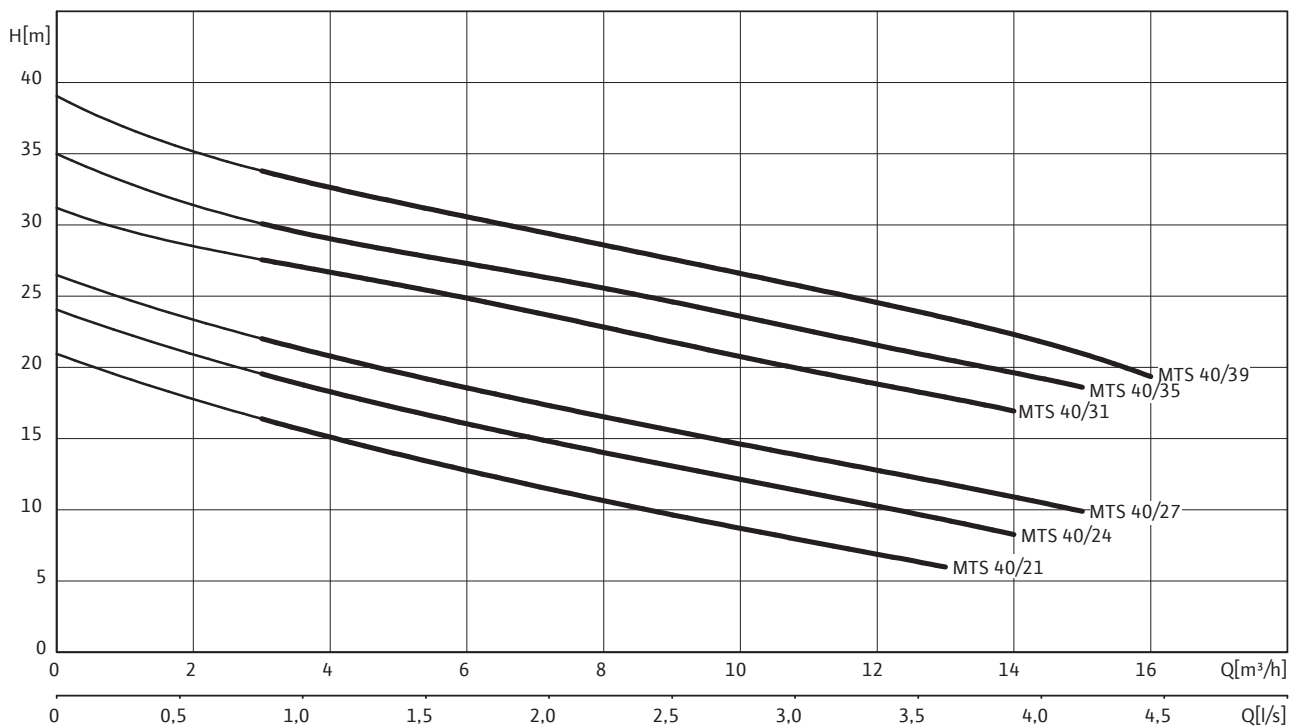
A horizontal installation is **not** possible!

Accessories

- Suspension unit or pump base
- Chains
- Switchgears, relays and plugs
- Fixation sets with anchor bolts

Pump curves Wilo-Drain MTS 40 - 50 Hz - No. of poles: 2

Single-channel impeller with macerator



Characteristic curves acc. to ISO 9906, Appendix A.

Series description Wilo-RexaCut PRO



Design

Submersible sewage pump with external macerator for intermittent and permanent operation, completely made of grey cast iron for stationary and portable wet well installation.

Type key

Example: **Wilo-RexaCut PRO M04DA-123/EAD1X2-T0025-540-O**

RexaCut Submersible sewage pump with macerator

PRO Series with cast iron motor

M Multi-channel impeller

04 Nominal diameter of the pressure connection: DN 40

D Hydraulics drilled on the suction side in accordance with DIN drilled

A Material version, hydraulics
A = standard version

123 Hydraulics definition

E Motor version
E = glanded motor
R = reduced-power motor

A Material version, motor
A = standard version

D Seal with two independent mechanical shaft seals

1 IE-efficiency class (derived from IEC 60034-30)

X Ex-rated
X = ATEX
F = FM
C = CSA

2 Number of poles

T Mains connection version:
M = 1~
T = 3~

0015 Value/10 = motor power P_2 in kW

5 Frequency (5 = 50 Hz, 6 = 60 Hz)

40 Code for rated voltage

O Additional electrical equipment:
O = with bare cable end
P = with plug

Application

Pumping sewage containing faeces as well as municipal and industrial sewage, also with long-fibre constituents in

- Pressure drainage
- House drainage
- Sewage disposal
- Water management
- Environmental and water treatment technology

Special features/product advantages

- External macerator
- Seal by two mechanical seals
- Ex-rated as standard
- Longitudinally watertight cable inlet
- Optional external electrode for monitoring the sealing chamber

Technical data

- Mains connection: 3-400 V, 50 Hz
- Submerged operating mode: S1
- Non-immersed operating mode: S2-30 min; S3 25%
- Protection class: IP 68
- Insulation class: F
- Fluid temperature: 3 ... 40 °C, max. 60 °C for 3 min
- Max. submersion depth: 20 m
- Cable length: 10 m

Equipment/function

- Macerator with external blade and pulling cut
- Leakage detection for the motor compartment
- Winding temperature monitoring with bimetallic strip
- ATEX approval
- Optional external sealing chamber control for the sealing chamber

Materials

- Motor housing: EN-GJL-250
- Hydraulic housing: EN-GJL-250
- Impeller: EN-GJL-250
- Shaft end: Stainless steel 1.4021
- Macerator: Abrasite/1.4034
- Sealing on pump side: SiC/SiC
- Sealing on motor side: C/MgSiO₄
- Static seals: NBR

Description/design

Submersible sewage pump with external macerator as submersible monobloc unit for stationary and portable wet well installation in permanent operation.

Wastewater transport

Submersible pumps with macerator

Series description Wilo-RexaCut PRO

Hydraulics

The outlet on the pressure side is designed as horizontal flange connection. The maximum possible dry matter is 8 % (depending on the hydraulics) Multi-channel impellers are used.

Motor

Glanded motors in three-phase version are used as the motors for direct starting. The waste heat is given off directly to the surrounding fluid via the motor housing. Motors can be used in a submerged state in permanent operation (S1) and also non-immersed in short-term operation (S2) or even in intermittent operation (S3).

Moreover, motors are equipped with the following monitoring devices:

- Motor compartment monitoring
A humidity electrode signals water ingress in the motor compartment.
- Thermal winding monitoring
The thermal winding monitoring protects the motor winding against overheating. Bimetallic strips are used for this as standard.

The motor can also be fitted with an external electrode to monitor the sealing chamber. This will signal water ingress into the sealing chamber through the sealing on the pump side.

The connection cable has bare cable ends as a standard, a standard length of 10 m and it is longitudinally watertight.

Sealing

There is a sealing chamber between the motor and hydraulics. This is filled with medical white oil and protects the motor from fluid entering through the sealing on the pump side. The pump-side and motor-side seals are provided by two mechanical seals which rotate independently of each other.

Scope of delivery

- Pump
- 10-metre connecting cable with bare cable end
- Installation and operating instructions

Commissioning

Operation in wet well installation with non-immersed motor:

The motor can be run non-immersed. The operating times are defined here by the "Operating mode for non-immersed operation". This information must be strictly observed!

- Short-term operation S2: The maximum operating time is 30 minutes (S2-30minutes).
- Intermittent operation S3: By default, the maximum operating time is 2.5 minutes in S3 operation (S3 25%). If the motor is completely immersed for 1 minute before a re-start and the necessary cooling of the motor has thus taken place, the maximum running time in S3 operation can be 5 minutes (S3 50%)!
- The maximum ambient and fluid temperature is 40 °C.

Dry-running protection system:

The hydraulics housing must always be immersed. In the case of fluctuating fluid levels, the system should shut down automatically once the minimum water submersion is reached. Please refer to the dimension drawings for this.

Horizontal installation:

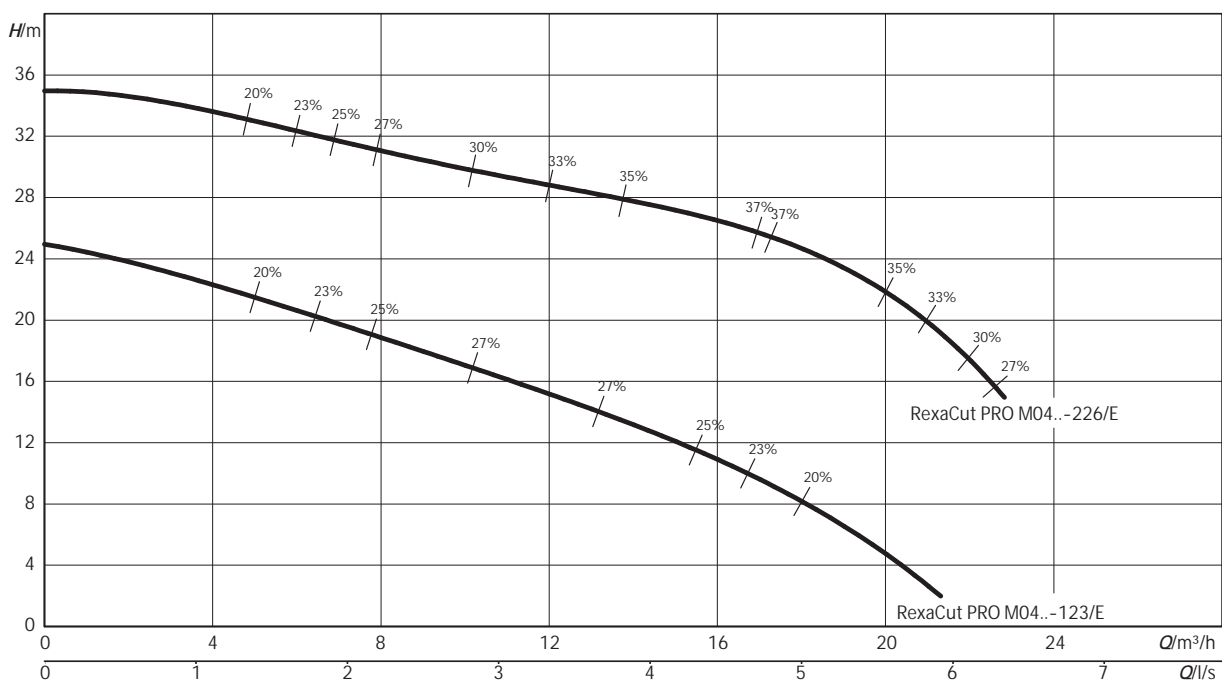
Horizontal installation is **not** possible!

Accessories

- Suspension unit or pump base
- External electrode for monitoring the sealing chamber
- Chains
- Switchgears, relays and plugs
- Fixation sets with anchor bolts

Pump curves Wilo-RexaCut PRO M04.. - 50 Hz - No. of poles: 2

Multi-channel impeller with macerator



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Series description Wilo-Drain MTC



Design

Submersible sewage pump with external macerator for intermittent and permanent operation, completely made of grey cast iron for stationary and portable wet well installation.

Type key

E.g.:	Wilo-Drain MTC 32F55.13/66Ex
MT	Macerator technology
C	Cast iron version
32	Nominal diameter [mm]
F	Impeller shape
55	Max. delivery head [m]
13	Max. volume flow [m ³ /h]
66	Power P ₂ [kW] (= value/10 = 6.6 kW)
Ex	ATEX approval
A	With float switch and shockproof plug

Application

Pumping sewage containing faeces as well as municipal and industrial sewage, also with long-fibre constituents in

- pressure drainage
- House drainage
- Sewage disposal
- Water management
- Environmental and water treatment technology

Special features/product advantages

- External macerator
- Seal by two mechanical seals
- Longitudinally watertight cable
- Ex protection

Technical data

- Mains connection: 1–230 V, 50 Hz (MTC 40 only) and 3–400 V, 50 Hz
- Submerged operating mode: S1
- Non-immersed operating mode: S2-15 min or S3 30%
- Protection class: IP 68
- Insulation class: F
- Fluid temperature: 3...40 °C (MTC 40: 3...35 °C)
- Max. submersion depth: 10 m or 20 m
- Cable length: 10 m

Equipment/function

- Macerator with external blade and pulling cut
- Winding temperature monitoring with bimetallic strip

Materials

- Motor housing: EN-GJL-200 or EN-GJL-250
- Hydraulic housing: EN-GJL-250
- Impeller: EN-GJL-HB175, EN-GJS-500 or EN-GJL-250
- Shaft: Stainless steel 1.0503, 1.7225 or 1.4021
- Macerator: Stainless steel 1.4112, Abrasit/1.4034 or X102CrMo17K4
- Sealing on pump side: SiC/SiC
- Sealing on motor side:
 - MTC 40: Al-Oxide/SiC
 - MTC 32F16.17, MTC 32F22.17 and MTC 32F26.17: SiC/SiC
 - MTC 32F33.17 and MTC 32F39.16: NBR
 - MTC 32F49.17 and MTC 32F55.13: Carbon/ceramic
- Static gasket: NBR

Description/design

Submersible sewage pump with external macerator as submersible monobloc unit for stationary and portable wet well installation in permanent operation.

Hydraulics

The outlet on the pressure side is designed as horizontal threaded/flange connection or flange connection. Open multi-channel impellers are used.

Motor

Glanded motors in single-phase (MTC 40 only) and three-phase version for direct starting are used as motors. The waste heat is given off directly to the surrounding fluid via the motor housing. Motors can be used in a submerged state in permanent operation (S1) and also non-immersed in short-term operation (S2) or even in intermittent operation (S3).

Moreover, motors are equipped with a thermal winding monitoring. The thermal winding monitoring protects the motor winding from overheating. As a standard, bimetallic strips are used here.

Depending on the construction size, the motor can be additionally fitted with an external electrode to monitor the sealing chamber. This will signal water ingress into the sealing chamber through the sealing on the pump side.

Wastewater transport

Submersible pumps with macerator

Series description Wilo-Drain MTC

The connection cable has bare cable ends as a standard, a standard length of 10 m and it is longitudinally watertight. The A-model is equipped with a float switch and shockproof plug.

Sealing

There is a sealing chamber between the motor and hydraulics. This is filled with medical white oil and protects the motor from fluid entering through the sealing on the pump side. Pump-side and motor-side sealing is available in different versions depending on the motor type:

- MTC 32F33.17 and ...39.16: mechanical seal on the fluid side, two rotary shaft seals on the motor side
- MTC 32F22.17, ...26.17, ...49.17, and ...55.13: two independently acting mechanical seals working independent of each other
- MTC 40: two independently acting mechanical seals

Scope of delivery

- Pump
- 10-metre connecting cable with bare cable end
- A version with attached float switch and shockproof plug
- Installation and operating instructions

Commissioning

Operation in wet well installation with non-immersed motor:

The motor can be run non-immersed. The operating times are defined here by the "Operating mode for non-immersed operation". This information must be strictly observed!

- Short-term operation S2: The maximum operating time is 15 minutes (S2 - 15minutes).
- Intermittent operation S3: The maximum operating time is 3 minutes in S3 operation (S3 30%)!
- The maximum ambient and fluid temperature is 40 °C.

Dry-running protection system:

The hydraulics housing must always be immersed. In the case of fluctuating fluid levels, the system should shut down automatically once the minimum water submersion is reached. Please refer to the dimension drawings for this.

Horizontal installation:

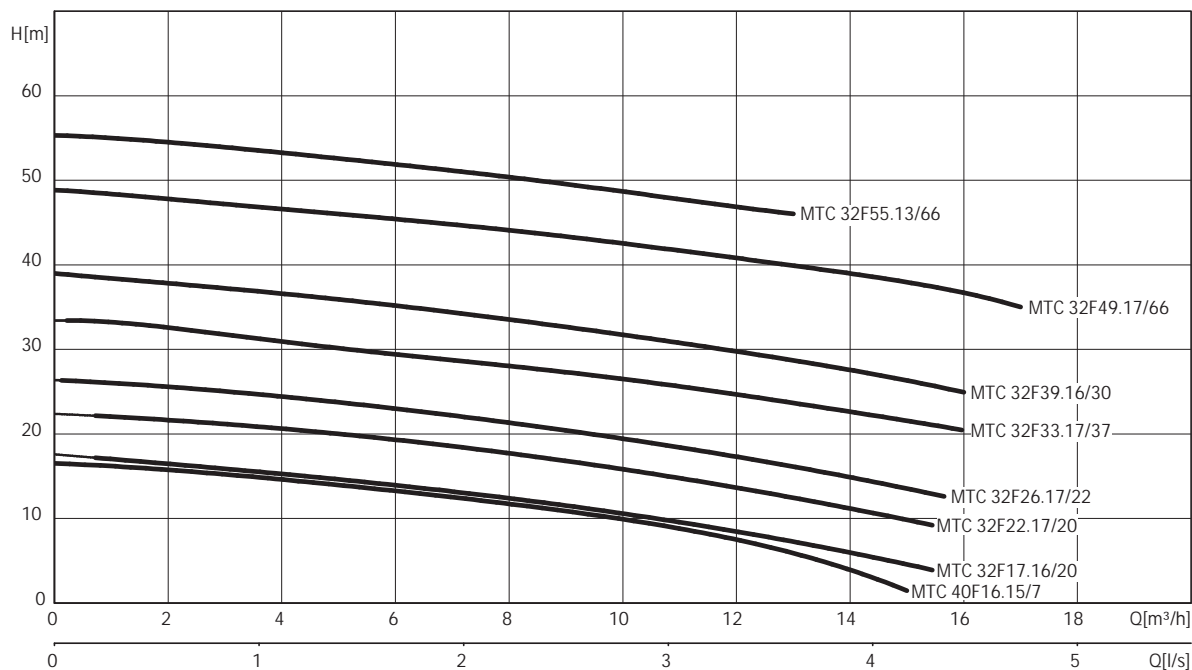
A horizontal installation is **not** temperature!

Accessories

- Suspension unit or pump base
- Chains
- Switchgears, relays and plugs
- Fixation sets with anchor bolts

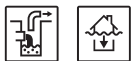
Pump curves Wilo-Drain MTC 32 - 50 Hz - No. of poles: 2

Multi-channel impeller with macerator



Characteristic curves acc. to ISO 9906, Appendix A.

Series description Wilo-Drain TC 40



Design

Submersible sewage pump

Type key

e.g.:	Wilo-Drain TC 40/10
T	Submersible pump
C	Hydraulic housing made of cast iron
40	Nominal diameter [mm]
10	Max. delivery head [m]

Application

Pumping of heavily contaminated fluids for:

- House/site drainage
- Sewage disposal (pumping of sewage free of faeces in accordance with DIN EN 12050-2)
- Environmental and water treatment technology

Special features/product advantages

- Heavy-duty hydraulic housing made of cast iron
- Easy operation due to the attached float switch
- Integrated stainless steel pump base for easy installation
- Free ball passage: 40 mm

Technical data

- Mains connection: 1–230 V, 50 Hz
- Immersed operating mode: S1 or S3 25%
- Surfaced operating mode: S3 25%
- Protection class: IP 68
- Insulation class: F
- Thermal winding monitoring
- Max. fluid temperature: 3 - 40 °C
- Cable length: 5 m
- Free ball passage: 40 mm
- Max. immersion depth: 5 m

Equipment/function

- Ready-to-plug
- Including float switch
- Thermal motor monitoring

Materials

- Pump housing: EN-GJL-200
- Pedestal: stainless steel

- Impeller: PA 30GF
- Shaft: stainless steel 1.4005
- Mechanical seal on pump side: carbon/ceramic
- Shaft seal on motor side: NBR
- Static gasket: NBR
- Motor housing: stainless steel 1.4308

Description/design

Submersible sewage pump as submersible monobloc unit for stationary and portable wet well installation.

Hydraulics

The outlet on the pressure side is designed as vertical threaded connection Rp 1½. Vortex impeller are used as the impeller shapes.

Motor

The oil-filled motors give off heat directly to the pumped fluid via an integrated heat exchanger. As a result, these motors can be used in immersed state for permanent and intermittent operation. In non-immersed state, these motors can be used for intermittent operation.

A sealing chamber protects the motor from fluid ingress. The filling fluid used is potentially biodegradable and environmentally safe.

The motor cable and float switch can be detached and replaced.

Sealing

Sealing on the fluid side is achieved by a bidirectional mechanical seal, while sealing on the motor side is achieved by a rotary shaft seal.

Scope of delivery

- Pump ready for connection with 5 m connecting cable and shock-proof plug
- With attached float switch
- Installation and operating instructions

Accessories

- Non-return valve and gate valve
- Various pressure outlets and hoses
- Switchgears and relays

Commissioning

Operating mode S1:

The unit is designed for a maximum of 200 operating hours in permanent operation.

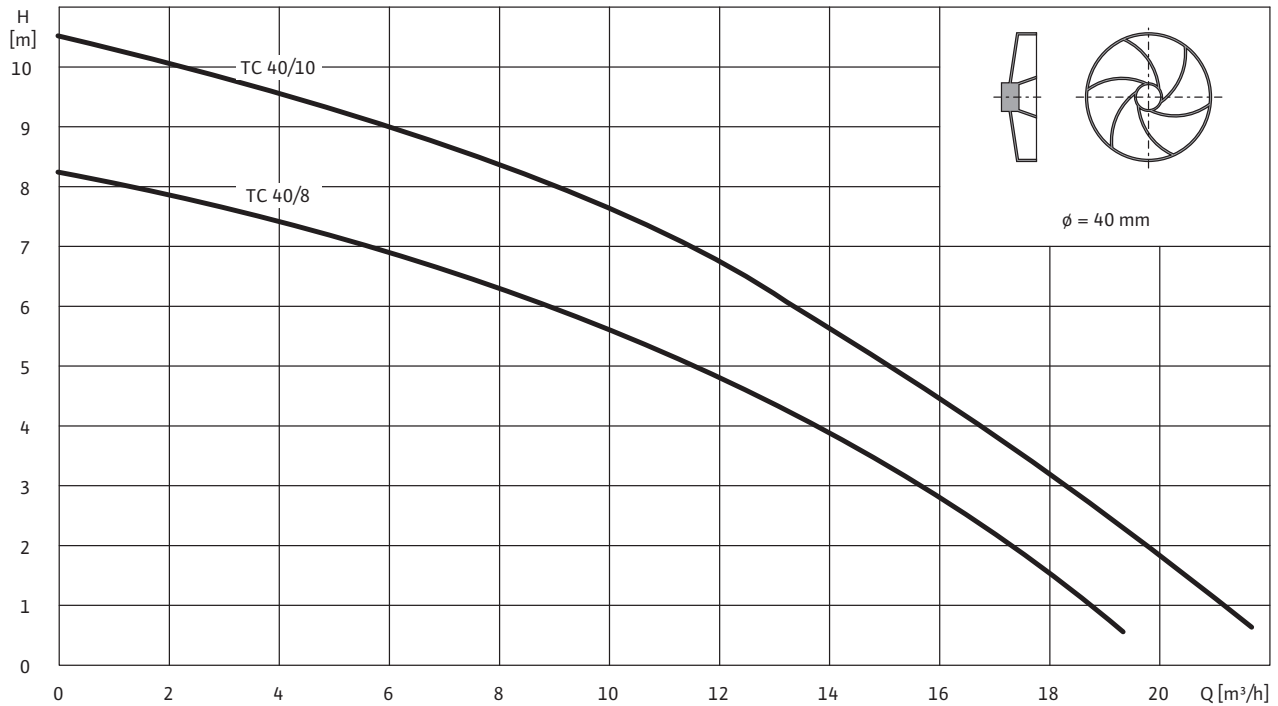
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-Drain TC 40

Pump curves Wilo-Drain TC 40 - 50 Hz - No. of poles: 2

Vortex impeller - Free ball passage: 40 mm



Pump curves in accordance with ISO 9906, Appendix A.

Information for order placements

Wilo-Drain...	Mains connection		Art no.
TC 40/8	1~230 V, 50 Hz	L	4050131
TC 40/10	1~230 V, 50 Hz	L	4050132

Technical data Wilo-Drain TC 40

	TC 40/8	TC 40/10
	1~230 V, 50 Hz	1~230 V, 50 Hz
Unit		
Pressure connection	Rp 1½	Rp 1½
Free ball passage mm	40	40
Max. volume flow Q_{max} / m ³ /h	19	22
Max. delivery head H_{max} / m	8	10.5
Operating mode (immersed)	S1 S3-25%	S1 S3-25%
Operating mode (non-immersed)	S3-25%	S3-25%
Max. immersion depth m	5	5
Protection class	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40
Weight approx. m / kg	9.5	12
Motor data		
Nominal current I_N / A	3.3	4.5
Starting current I_A / A	8.2	10
Nominal motor power P_2 / kW	0.5	0.6
Power consumption P_1 / kW	0.66	0.94
Activation type	Direct	Direct
Nominal speed n / rpm	2900	2900
Insulation class	F	F
Recommended switching frequency 1/h	20	20
Max. switching frequency 1/h	30	30
Permitted voltage tolerance %	±10	±10
Cable		
Length of connecting cable m	5	5
Cable type	H07RN-F	H07RN-F
Cable cross-section mm ²	3G1	3G1
Type of connecting cable	Detachable	Detachable
Mains plug	Shock-proof	Shock-proof
Equipment/function		
Float switch	•	•
Motor protection	WSK	WSK
Explosion protection	–	–
Materials		
Static seal	NBR	NBR
Impeller	PA 30GF	PA 30GF
Sealing on motor side	NBR	NBR
Mechanical seal	Carbon/ceramic	Carbon/ceramic
Motor housing	1.4308	1.4308
Pump housing	EN-GJL-200	EN-GJL-200
Pump shaft	1.4005	1.4005

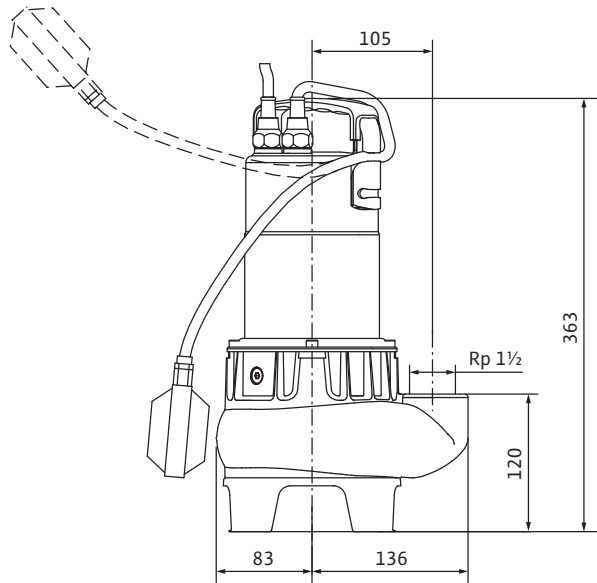
P_1 refers to the maximum power consumption. All of the data applies to 1–230 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

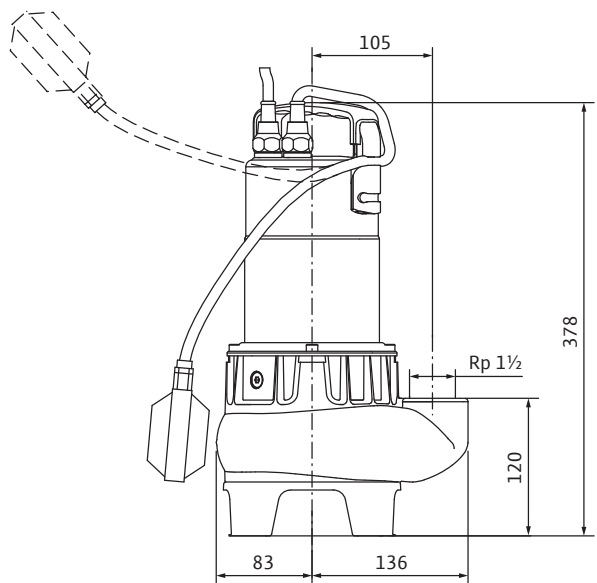
Submersible pumps

Dimensions Wilo-Drain TC 40

Dimension drawing Wilo-Drain TC 40/8

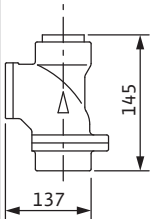
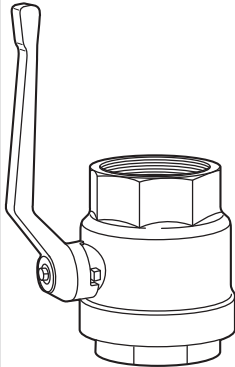
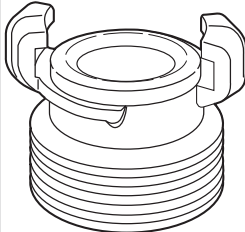
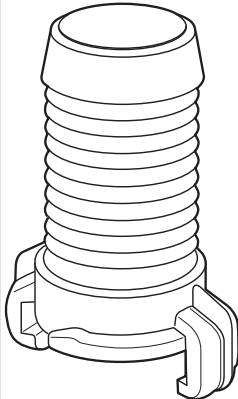


Dimension drawing Wilo-Drain TC 40/10



Mechanical accessories Wilo-Drain TC 40

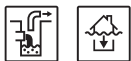
Portable wet well installation with hose connection

		Description	Art no.
Non-return ball valve		Made of EN-GJL-250, with Rp 1½ female thread for DN 40 connection	4027330
Shut-off ball valve		Made of brass, nickel-plated, with Rp 1½ female thread for DN 40 connection	4027337
Hose connection		Made of plastic, hose nozzle Ø 40 mm including hose clip, male thread R 1½ for direct hose connection	4027335
Geka solid coupling		Made of brass, with R 1½ male thread, fits a Geka hose coupling for a DN 40 connection	2018100
Geka hose coupling		Made of brass, with hose nozzle (Ø 40 mm), including hose clip which fits Geka solid coupling for a DN 40 connection	2018101

Wastewater transport

Submersible pumps

Series description Wilo-Drain STS 40



Design

Submersible sewage pump

Type key

e.g.:	Wilo-Drain STS 40/10-A
STS	Submersible pump
40	Nominal diameter [mm]
10	Max. delivery head [m]
A	With float switch

Application

Pumping of heavily contaminated fluids for:

- Domestic and site drainage
- Sewage disposal (pumping of sewage free of faeces) in accordance with DIN EN 12050-2)
- Water management
- Environmental and water treatment technology
- Industrial and process engineering

Special features/product advantages

- Detachable connection cable and float switch
- Attached float switch (A-model) enables easy operation
- Integrated pump base for easy installation
- Free ball passage: 40 mm
- Integrated thermal motor protection (1-/3-) and phase failure protection (3-)
- Impeller made of stainless steel

Technical data

- Mains connection: 1-230 V, 50 Hz or 3-400 V, 50 Hz
- Immersed operating mode: S1 or S3 25%
- Protection class: IP 68
- Insulation class: B
- Thermal winding monitoring
- Max. fluid temperature: 3 - 35 °C
- Cable length: 10 m
- Free ball passage: 40 mm
- Max. immersion depth: 5 m

Equipment/function

- Ready-to-plug single-phase version
- A-model version including float switch
- Thermal motor monitoring

Materials

- Pump housing: EN-GJL-250
- Pedestal: grey cast iron
- Impeller: stainless steel 1.4301
- Shaft: stainless steel 1.4404
- Mechanical seal on pump side: carbon/ceramic
- Shaft seal on motor side: NBR
- Static gasket: NBR
- Motor housing: stainless steel 1.4301

Description/design

Submersible sewage pump as submersible monobloc unit for stationary and portable wet well installation.

Hydraulics

The outlet on the pressure side is designed as vertical threaded connection Rp 1½. Vortex impellers are used as the impeller shapes.

Motor

Dry motors give off their heat directly to the surrounding fluid via the housing components and can be used in immersed state for permanent or intermittent operation.

A sealing chamber protects the motor from fluid ingress. The filling fluid used is potentially biodegradable and environmentally safe.

The single-phase AC motors are equipped with shockproof plugs, and A-model versions with float switches. The three-phase AC motors are equipped with bare cable ends.

Sealing

Sealing on the fluid side is achieved by a bidirectional mechanical seal, while sealing on the motor side is achieved by a rotary shaft seal.

Scope of delivery

- Pump ready for connection with 10 m connection cable
 - For 1-230 V with shock-proof plug
 - For 3-400 V with bare cable end
- A-model version with attached float switch
- Installation and operating instructions

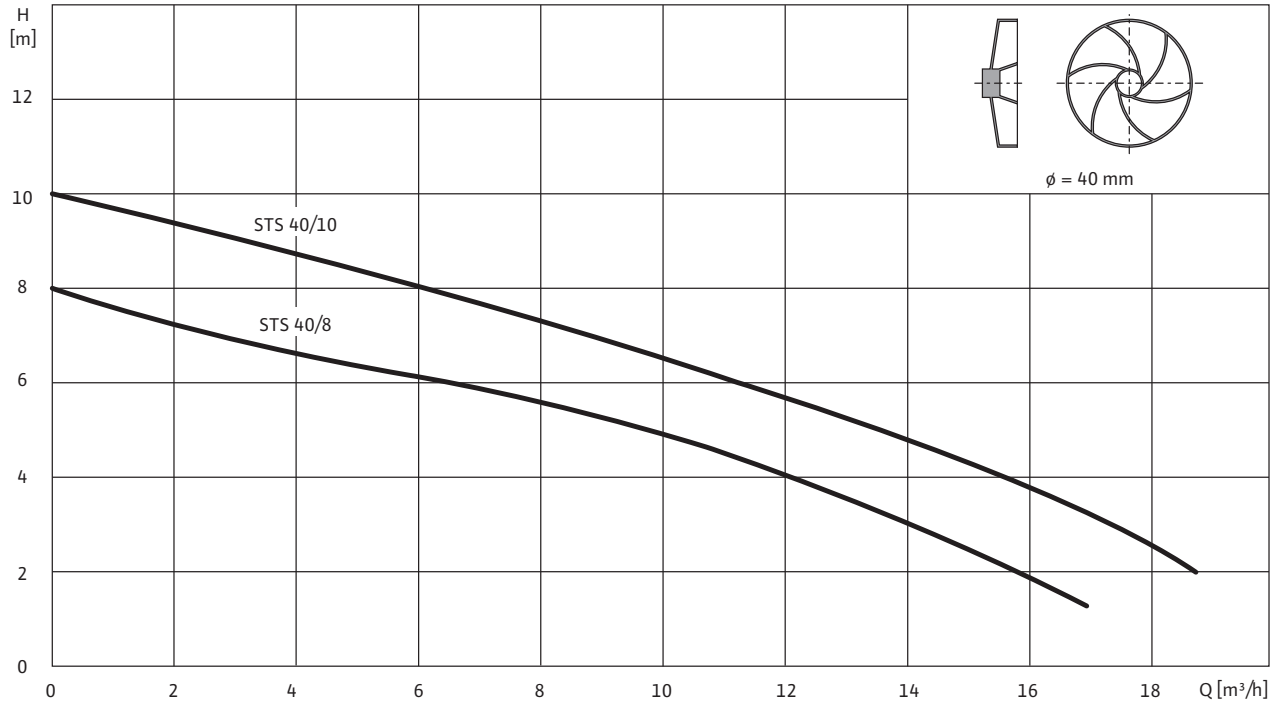
Accessories

- Non-return valve and gate valve
- Various pressure outlets and hoses
- Switchgears and relays

Pump curves, ordering information Wilo-Drain STS 40

Pump curves Wilo-Drain STS 40 - 50 Hz - No. of poles: 2

Vortex impeller - Free ball passage: 40 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art no.
STS 40/8	1-230 V, 50 Hz	L	2065866
STS 40/8-A	1-230 V, 50 Hz	L	2065868
STS 40/8	3-400 V, 50 Hz	L	2065870
STS 40/10	1-230 V, 50 Hz	L	2065872
STS 40/10-A	1-230 V, 50 Hz	L	2065874
STS 40/10	3-400 V, 50 Hz	L	2065876

Wastewater transport

Submersible pumps

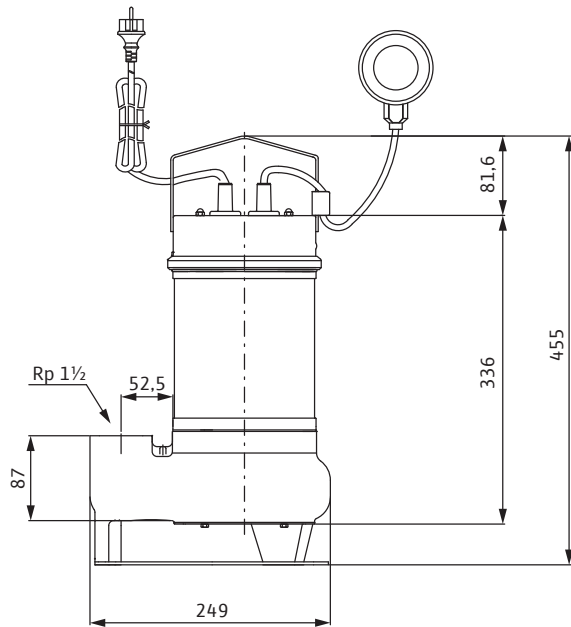
Technical data Wilo-Drain STS 40

	STS 40/8	STS 40/8-A	STS 40/8	STS 40/10	STS 40/10-A	STS 40/10
	1~230 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz
Unit						
Pressure connection	R 1½	R 1½	R 1½	R 1½	R 1½	Rp 1½
Free ball passage mm	40	40	40	40	40	40
Max. volume flow Q_{max} / m ³ /h	15	15	15	20	20	20
Max. delivery head H_{max} / m	8	8	8	10	10	10
Operating mode (immersed)	S1	S1	S1	S1	S1	S1
Operating mode (non-immersed)	–	–	–	–	–	–
Max. immersion depth m	5	5	5	5	5	5
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35
Weight approx. m / kg	20	20.2	20	20	20.2	20
Motor data						
Nominal current I_N / A	3.6	3.6	1.7	4.5	4.5	2
Starting current I_A / A	–	–	–	–	–	–
Nominal motor power P_2 / kW	0.6	0.6	0.6	0.75	0.75	0.75
Power consumption P_1 / kW	0.8	0.8	0.8	1	1	0.92
Activation type	Direct	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2900	2900	2900	2900	2900	2900
Insulation class	B	B	B	B	B	B
Recommended switching frequency 1/h	20	20	20	20	20	20
Max. switching frequency 1/h	50	50	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10	±10	±10
Cable						
Length of connecting cable m	10	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	3G1	3G1	4G1	3G1	3G1	4G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable	Detachable	Detachable
Mains plug	Shock-proof	Shock-proof	–	Shock-proof	Shock-proof	–
Equipment/function						
Float switch	–	•	–	–	•	–
Motor protection	WSK	WSK	WSK	WSK	WSK	WSK
Explosion protection	–	–	–	–	–	–
Materials						
Static seal	NBR	NBR	NBR	NBR	NBR	NBR
Impeller	1.4301	1.4301	1.4301	1.4301	1.4301	1.4301
Sealing on motor side	NBR	NBR	NBR	NBR	NBR	NBR
Mechanical seal	Carbon/ ceramic	Carbon/ ceramic	Carbon/ ceramic	Carbon/ ceramic	Carbon/ ceramic	Carbon/ ceramic
Motor housing	1.4301	1.4301	1.4301	1.4301	1.4301	1.4301
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4404	1.4404	1.4404	1.4404	1.4404	1.4404

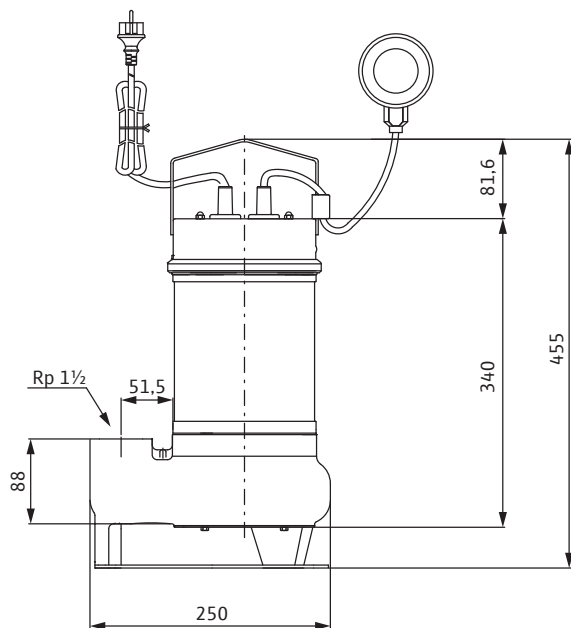
P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-Drain STS 40

Dimension drawing Wilo-Drain STS 40/8



Dimension drawing Wilo-Drain STS 40/10

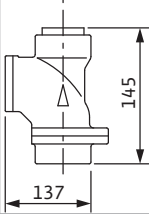
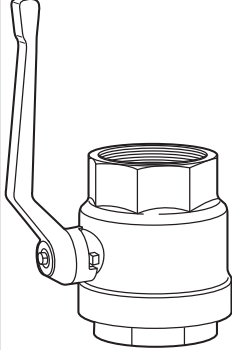
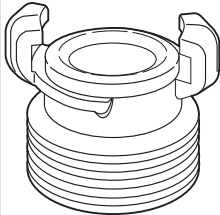
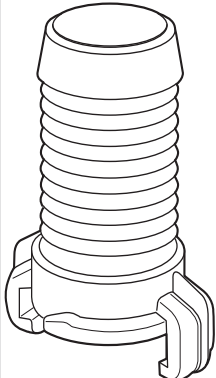


Wastewater transport

Submersible pumps

Mechanical accessories Wilo-Drain STS 40

Portable wet well installation with hose connection

		Description	Art no.
Non-return ball valve		Made of EN-GJL-250, with Rp 1½ female thread for DN 40 connection	4027330
Shut-off ball valve		Made of brass, nickel-plated, with Rp 1½ female thread for DN 40 connection	4027337
Hose connection		Made of plastic, hose nozzle Ø 40 mm including hose clip, male thread R 1½ for direct hose connection	4027335
Geka solid coupling		Made of brass, with R 1½ male thread, fits a Geka hose coupling for a DN 40 connection	2018100
Geka hose coupling		Made of brass, with hose nozzle (Ø 40 mm), including hose clip which fits Geka solid coupling for a DN 40 connection	2018101

Series description Wilo-Rexa FIT



Design

Submersible sewage pump for intermittent operation with grey cast iron hydraulics and stainless steel motor for stationary and portable wet well installation and stationary dry well installation.

Type key

Example: **Wilo-Rexa FIT V06DA-110/EAD1-2-T0015-540-A**

Rexa	Submersible sewage pump
FIT	Series
V	Vortex impeller
06	Nominal diameter of pressure connection e.g. DN 65
D	Hydraulics drilled on the suction side in accordance with DIN drilled
A	Material version, hydraulics A = standard version
110	Type of hydraulics
e	dry motor
A	Material version, motor A = standard version
D	Seal with two independent mechanical shaft seals
1	IE efficiency class, e.g. 1 = IE1 (derived from IEC 60034-30)
-	not Ex-rated
2	number of poles
T	Mains connection version: M = 1~ T = 3~
0015	Value/10 = motor power P_2 in kW
5	Frequency (5 = 50 Hz, 6 = 60 Hz)
40	Key for rated voltage
A	Additional electrical equipment: O = with bare cable end, P = with plug A = with float switch and plug

Application

For pumping in intermittent operation of:

- Waste water and sewage
- Waste water containing faeces

- Sludges up to maximum 8% dry matter (depending on the selected hydraulics)
- out of sumps and vessels as well as to domestic and site drainage in accordance with EN 12050 (observing regional-specific regulations and instructions).

Special features/product advantages

- Vortex impeller non-susceptible to clogging
- Seal by two mechanical seals
- Optional external sealing chamber control for the oil barrier chamber
- Very smooth operation
- Easy installation via suspension unit or pump base

Technical data

- Mains connection: 1-230 V, 50 Hz or 3-400 V, 50 Hz
- Immersed operating mode: S1
- Non-immersed operating mode: S2-15 min; S3 10%
- Protection class: IP 68
- Insulation class: F
- Fluid temperature: 3 - 40°C, max. 60°C for 3 min
- Free passage: 50 / 65 / 80 mm
- Max. immersion depth: 20 m
- Cable length: 10 m

Equipment/function

- Winding temperature monitoring with bimetal sensor
- Optional external sealing chamber control for the oil barrier chamber

Materials

- Motor housing: 1.4301
- Hydraulic housing: EN-GJL250
- Impeller: EN-GJL250
- Static seals: NBR
- Sealing on pump side: SiC/SiC
- Sealing on motor side: C/MgSiO₄
- Shaft end: Stainless steel 1.4021

Description/design

Submersible sewage pump as submersible monobloc unit for stationary and portable wet well installation, as well as stationary dry well installation in intermittent operation.

Wastewater transport

Submersible pumps

Series description Wilo-Rexa FIT

Hydraulics

The outlet on the pressure side is designed as horizontal flange connection. The maximum possible dry matter is 8 % (depending on the hydraulics) Vortex impellers are used as the impeller shape.

Motor

The motors available are dry motors in single-phase version (with built-in operation capacitor) and three-phase version for the direct starting. The waste heat is given off directly to the surrounding fluid via the motor housing. These motors can be operated immersed in permanent operation (S1) and non-immersed in short-term operation (S2) or intermittent operation (S3).

Furthermore the motors are equipped with thermal motor monitoring. This protects the motor windings against overheating. For units with single-phase AC motors this is built-in and switches automatically. I.e. if the motor is switched off due to overheating and then cools down it is automatically switched on again. Bimetallic strips are used as standard for this.

In addition the motor can be equipped with an external sealing chamber electrode for monitoring the oil barrier chamber. This signals if there is water ingress into the oil barrier chamber through the mechanical seal on the fluid side.

The connecting cable has a length of 10 m as standard and is available in following versions:

- With bare cable ends
- With plug
- With float switch and plug

Sealing

There is an oil barrier chamber between the motor and hydraulics. This is filled with medicinal white oil. The fluid-side and motor-side seals are provided by two mechanical seals which rotate independently of each other.

Scope of delivery

- Submersible sewage pump with 10 m cable
- Cable version depending on the variant:
 - With bare cable ends
 - With plug
 - With float switch and plug
- Operating and maintenance manual

Accessories

- Suspension unit or pump base
- External sealing chamber monitoring for monitoring the oil barrier chamber
- Chains
- Switchgears, relays and plugs
- Fixation sets with anchor bolts

Commissioning

Operation in wet well installation with non-immersed motor:

The motor can be run non-immersed. The operating times are defined here by the "Operating mode for non-immersed operation". This information must be strictly observed!

- Short-term operation S2: The maximum operating time is 15 minutes (S2-15minutes).
- Intermittent operation S3: By default, the maximum operating time is 1 minute in S3 operation (S3 10%). If the motor is completely immersed for 1 minute before a re-start and the necessary cooling of

the motor has thus taken place, the maximum running time in S3 operation can be 2.5 minutes (S3 25%)!

- The maximum ambient and fluid temperature is 40 °C.

Dry-running protection system:

The hydraulics housing must always be immersed. In the case of fluctuating fluid levels, the system should shut down automatically once the minimum water submersion is reached. Please refer to the dimension drawings for this.

Horizontal installation:

Horizontal installation is **not** possible!

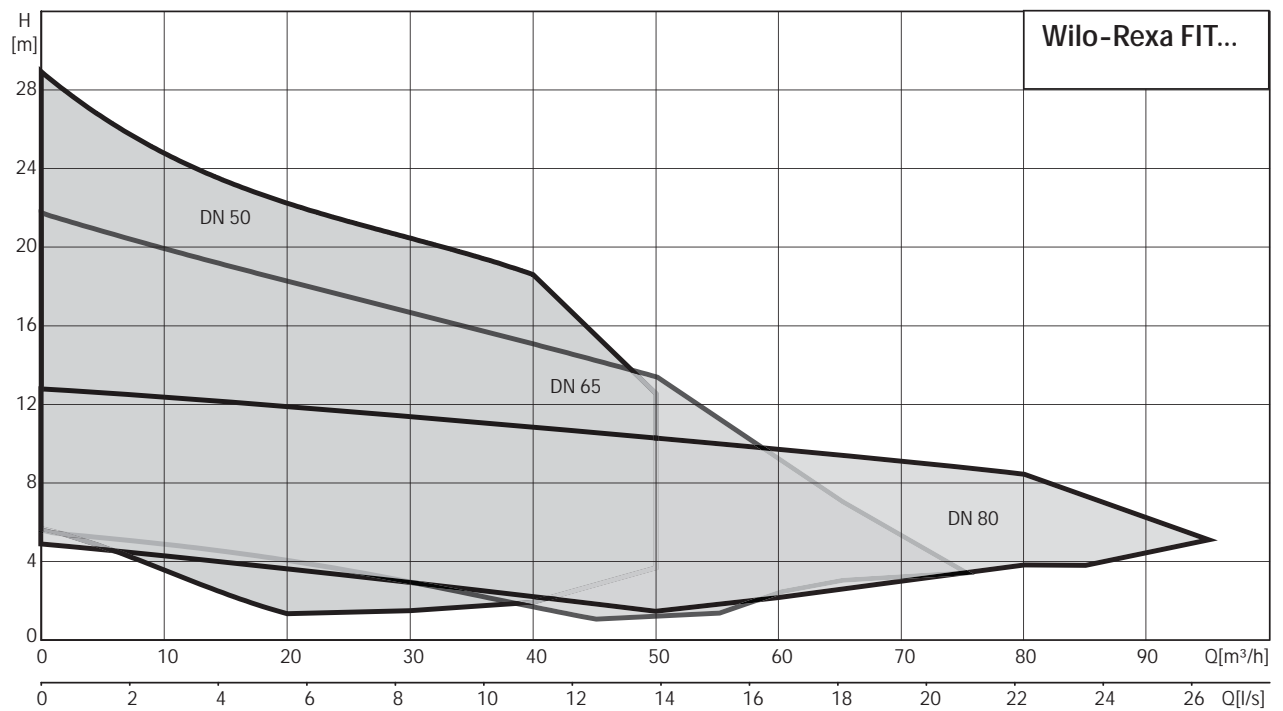
Dry well installation:

Dry well installation is possible. The operating times are defined here by the "Operating mode for non-immersed operation". This information must be strictly observed!

- Short-term operation S2: The maximum operating time is 15 minutes (S2-15minutes).
- Intermittent operation S3: The maximum operating time is 1 minute in S3 operation (S3 10%).
- The maximum fluid temperature is 40 °C.
- The maximum ambient temperature is 40 °C (in accordance with EN 60335-1)

Series description Wilo-Rexa FIT

Pump curves



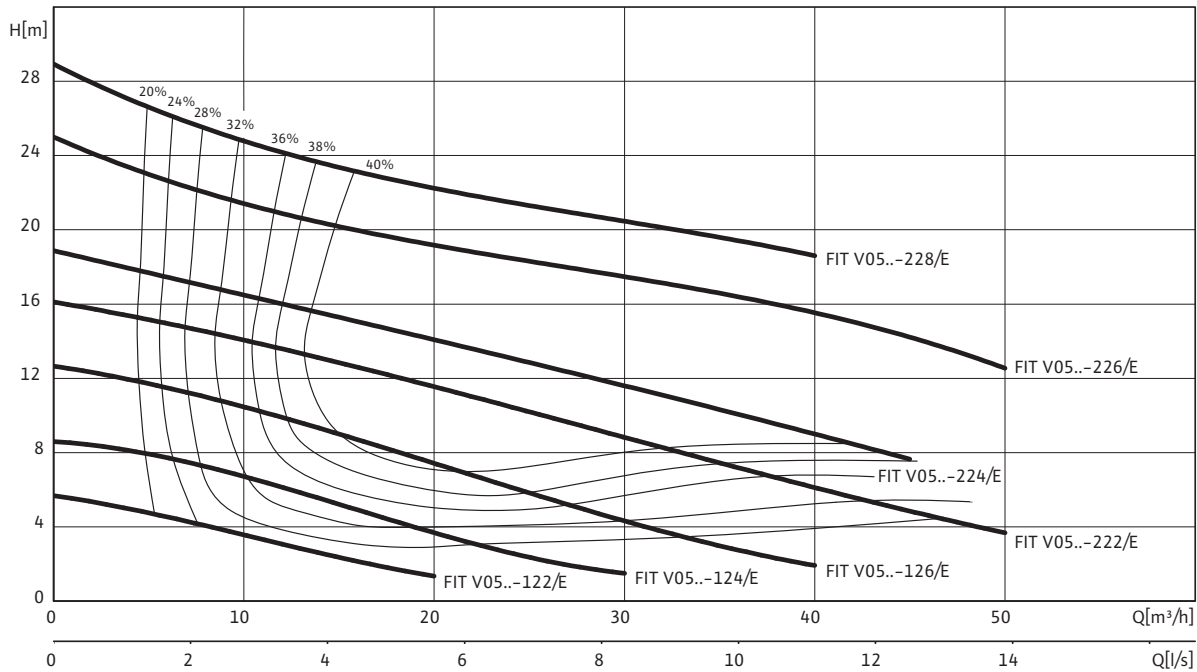
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-Rexa FIT V05

Pump curves Wilo-Rexa FIT V05.. - 50 Hz - No. of poles: 2

Vortex impeller - Free ball passage: 50 mm



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Pump type	Nominal motor power	Float switch	Mains plug	Weight approx.	Art no.		Art no.	
					1-230 V, 50 Hz		3-400 V, 50 Hz	
	P_2 kW			m kg				
FIT V05DA-122/E...-O	1.1	—	—	38.6	—	—	6064579	L
FIT V05DA-122/E...-A	1.1	•	•	38.6	6064576	L	6064577	L
FIT V05DA-124/E...-O	1.1	—	—	38.7	—	—	6064583	L
FIT V05DA-124/E...-A	1.1	•	•	38.7	6064580	L	6064581	L
FIT V05DA-126/E...-O	1.5	—	—	38.7	—	—	6064587	L
FIT V05DA-126/E...-A	1.5	•	•	38.7	6064584	L	6064585	L
FIT V05DA-222/E...-O	2.5	—	—	41.1	—	—	6064589	L
FIT V05DA-222/E...-A	2.5	•	•	41.1	—	—	6064588	L
FIT V05DA-224/E...-O	2.5	—	—	41.1	—	—	6064591	L
FIT V05DA-224/E...-A	2.5	•	•	41.1	—	—	6064590	L
FIT V05DA-226/E...-O	3.9	—	—	46.2	—	—	6064593	L
FIT V05DA-226/E...-A	3.9	•	•	46.2	—	—	6064592	L
FIT V05DA-228/E...-O	3.9	—	—	46.2	—	—	6064595	L
FIT V05DA-228/E...-A	3.9	•	•	46.2	—	—	6064594	L
FIT V05DA-122/E...-P	1.1	—	•	37.7	6064578	L	—	—
FIT V05DA-124/E...-P	1.1	—	•	37.8	6064582	L	—	—
FIT V05DA-126/E...-P	1.5	—	•	37.8	6064586	L	—	—

• = available, - = not available

P_1 refers to the maximum power consumption. All data are applicable to 1-230 V or 3-400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Rexa FIT V05

	FIT V05DA-122/E...-A	FIT V05DA-122/E...-A	FIT V05DA-124/E...-A	FIT V05DA-124/E...-A	FIT V05DA-126/E...-P	FIT V05DA-126/E...-O
	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz
Unit						
Pressure connection	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2
Free ball passage mm	50	50	50	50	50	50
Max. volume flow Q_{max} / m ³ /h	20	20	30	30	40	40
Max. delivery head H_{max} / m	5.7	5.7	8.6	8.6	12.7	12.7
Operating mode (immersed)	S1	S1	S1	S1	S1	S1
Operating mode (non-immersed)	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%
Max. immersion depth m	20	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data						
Nominal current I_N / A	7.2	2.55	7.2	2.55	9.3	3.3
Starting current - direct I_A / A	29	20	29	20	29	20
Nominal motor power P_2 / kW	1.1	1.1	1.1	1.1	1.5	1.5
Power consumption P_1 / kW	1.6	1.5	1.6	1.5	2.1	2
Activation type	Direct	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2899	2898	2899	2898	2852	2858
Insulation class	F	F	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20	20	20
Max. switching frequency 1/h	50	50	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10	±10	±10
Cable						
Length of connecting cable m	10	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	3G1	6G1	3G1	6G1	3G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable	Detachable	Detachable
Equipment/function						
Motor protection	WSK	WSK	WSK	WSK	WSK	WSK
Explosion protection	-	-	-	-	-	-
Materials						
Static seal	NBR	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/ steatite	Carbon/ steatite	Carbon/ steatite	Carbon/ steatite	Carbon/ steatite	Carbon/ steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301	1.4301	1.4301
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021

• = available, - = not available

P_1 refers to the maximum power consumption. All data are applicable to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

Submersible pumps

Technical data Wilo-Rexa FIT V05

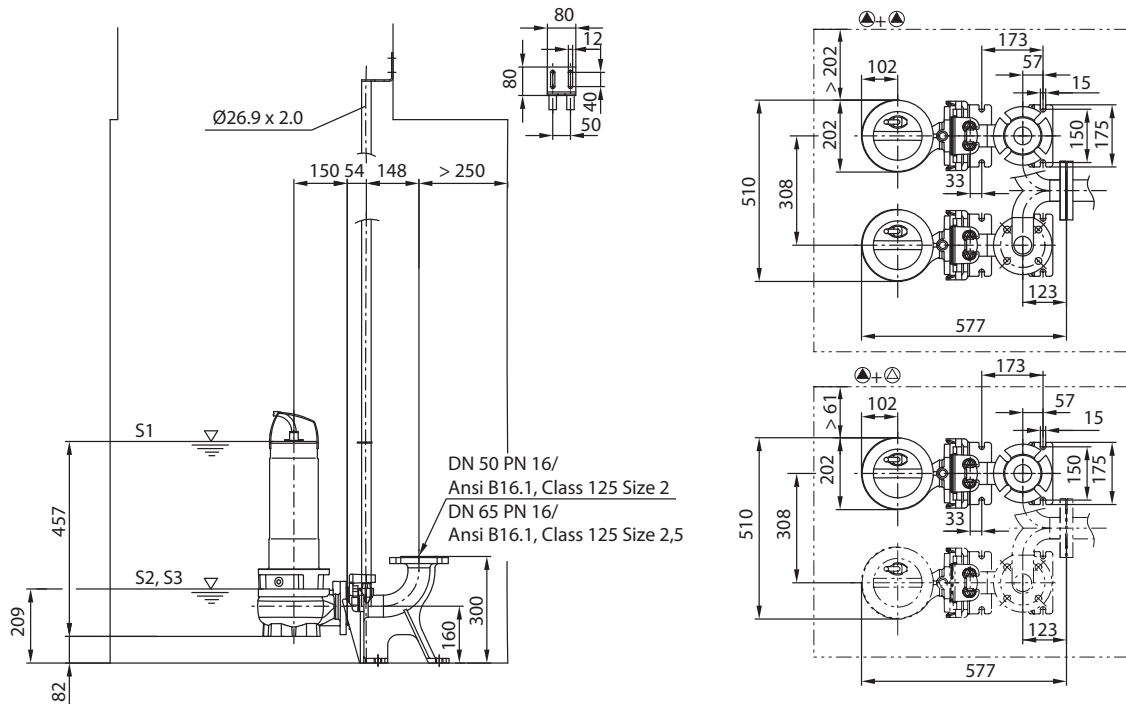
	FIT V05DA-222/E...-A	FIT V05DA-224/E...-O	FIT V05DA-226/E...-A	FIT V05DA-228/E...-O
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2
Free ball passage mm	50	50	50	50
Max. volume flow Q_{max} / m ³ /h	50	50	50	40
Max. delivery head H_{max} / m	16	18.6	24.2	28
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data				
Nominal current I_N / A	5.2	5.2	7.8	7.8
Starting current - direct I_A / A	31	31	66	66
Nominal motor power P_2 / kW	2.5	2.5	3.9	3.9
Power consumption P_1 / kW	3.2	3.2	4.8	4.8
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2840	2840	2861	2861
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	6G1	6G1	6G1,5	6G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Equipment/function				
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	–	–	–	–
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021

• = available, - = not available

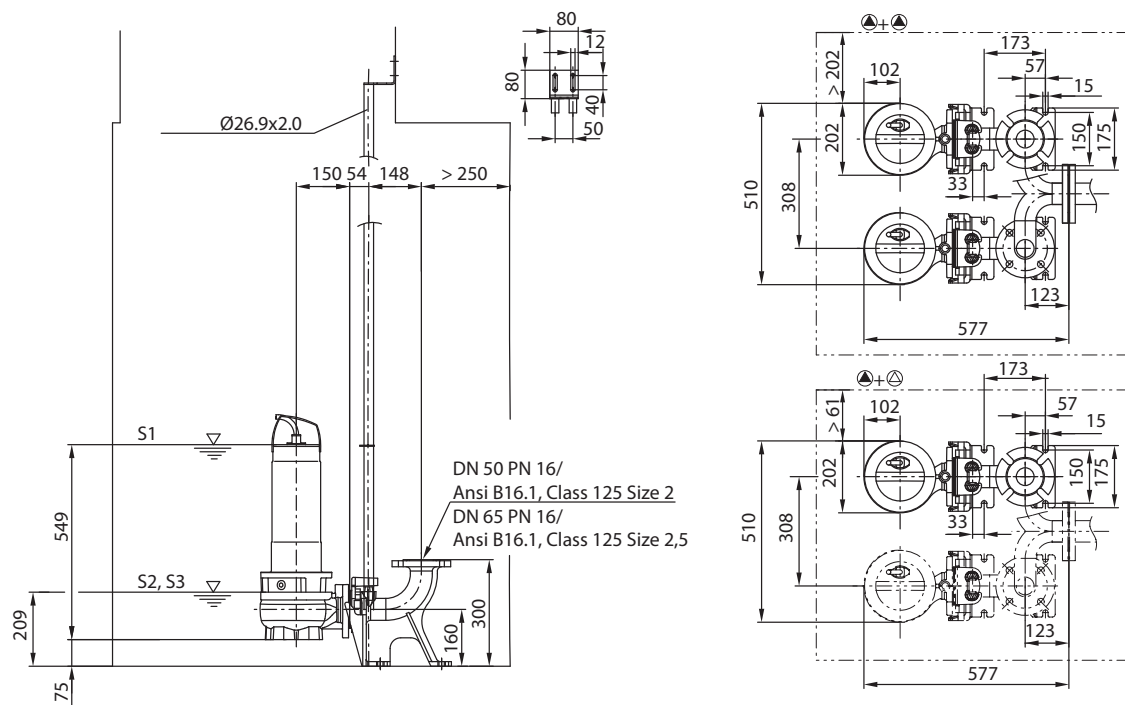
P_1 refers to the maximum power consumption. All data are applicable to 1-230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimension drawing Wilo-Rexa FIT V05

Dimension drawing Wilo-Rexa FIT V05-12.. - Stationary wet well installation



Dimension drawing Wilo-Rexa FIT V05-22.. - Stationary wet well installation

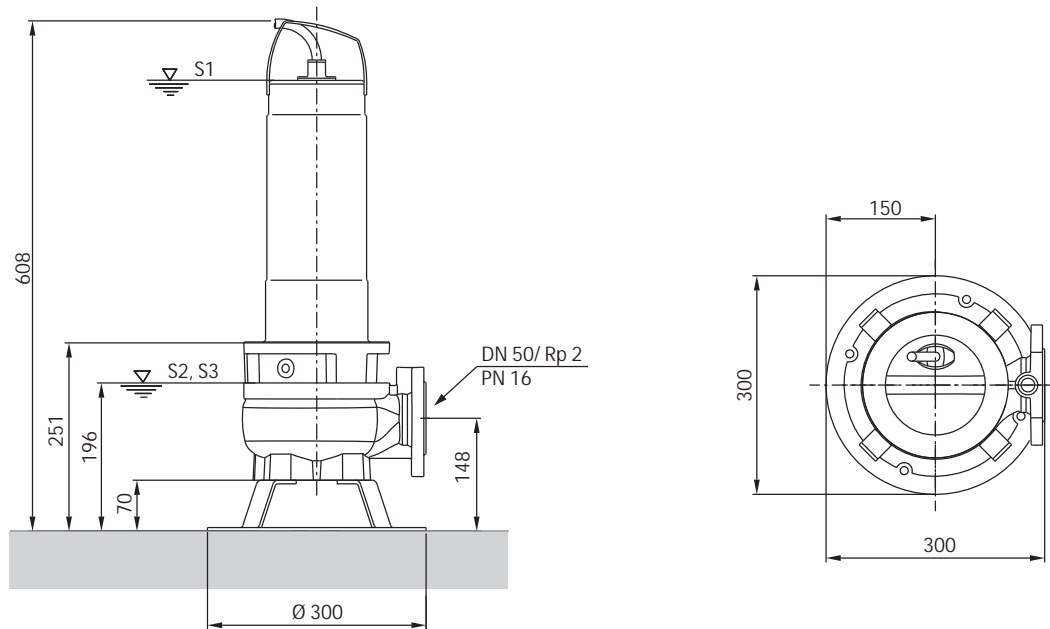


Wastewater transport

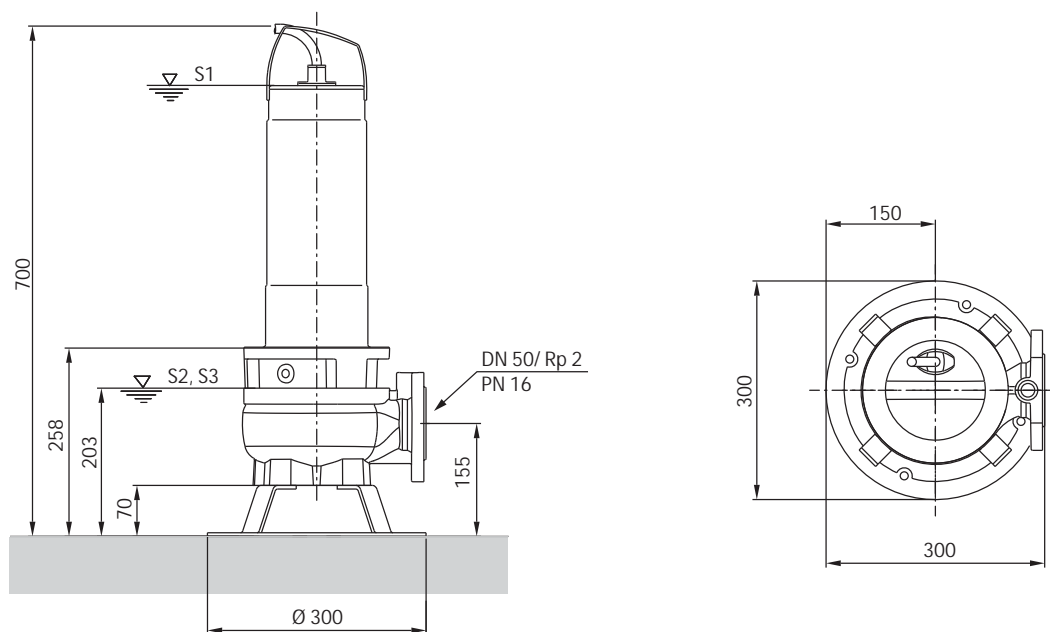
Submersible pumps

Dimension drawing Wilo-Rexa FIT V05

Dimension drawing Wilo-Rexa FIT V05-12.. - portable wet well installation



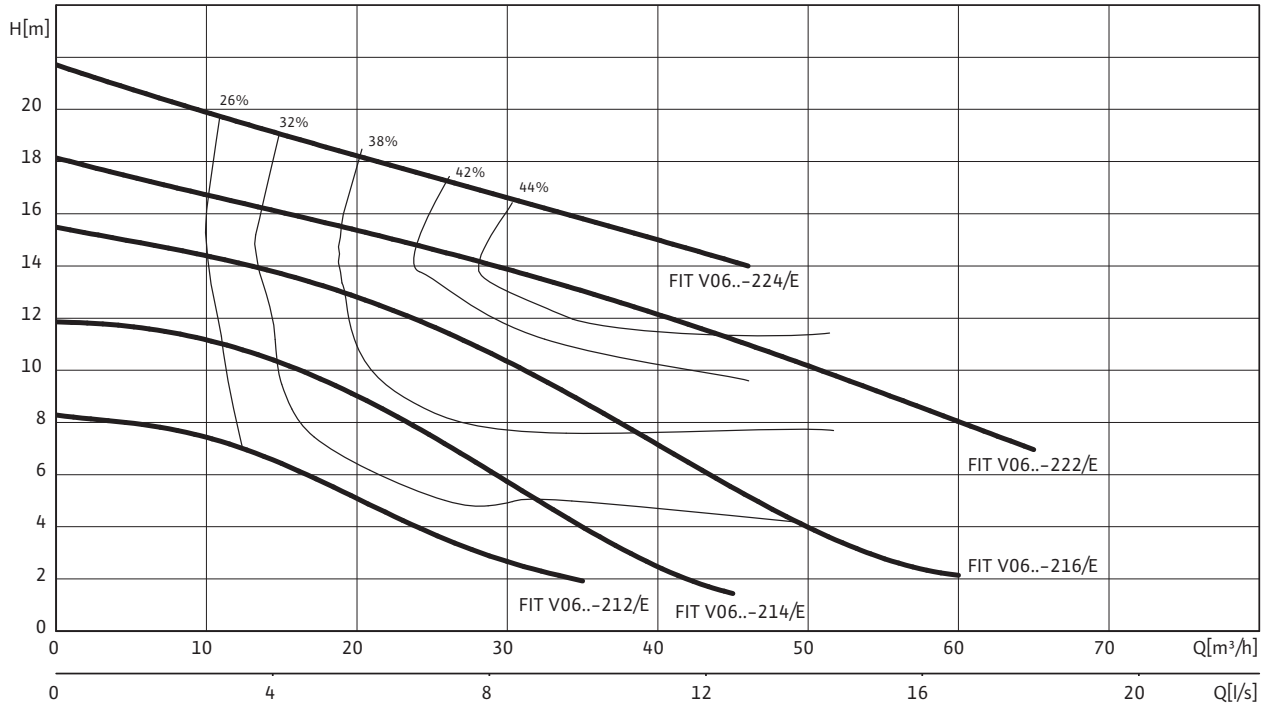
Dimension drawing Wilo-Rexa FIT V05-22.. - portable wet well installation



Pump curves, ordering information Wilo-Rexa FIT V06

Pump curves Wilo-Rexa FIT V06.. - 50 Hz - No. of poles: 2

Vortex impeller - Free ball passage: 65 mm



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Pump type	Nominal motor power	Float switch	Mains plug	Weight approx.	Art no.		Art no.	
					1-230 V, 50 Hz		3-400 V, 50 Hz	
	P_2			m				
	kW			kg				
FIT V06DA-212/E...-O	1.1	-	-	39.5	-	-	6064599	L
FIT V06DA-212/E...-A	1.1	•	•	38.6	6064596	L	6064597	L
FIT V06DA-212/E...-P	1.1	-	•	39.5	6064598	L	-	-
FIT V06DA-214/E...-O	1.5	-	-	39.6	-	-	6064703	L
FIT V06DA-214/E...-A	1.5	•	•	38.7	6064700	L	6064701	L
FIT V06DA-214/E...-P	1.5	-	•	39.6	6064702	L	-	-
FIT V06DA-216/E...-A	2.5	•	•	40.7	-	-	6064704	L
FIT V06DA-216/E...-O	2.5	-	-	40.7	-	-	6064705	L
FIT V06DA-222/E...-O	3.9	-	-	45.5	-	-	6064707	L
FIT V06DA-222/E...-A	3.9	•	•	45.5	-	-	6064706	L
FIT V06DA-224/E...-O	3.9	-	-	45.5	-	-	6064709	L
FIT V06DA-224/E...-A	3.9	•	•	45.5	-	-	6064708	L

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

Submersible pumps

Technical data Wilo-Rexa FIT V06

	FIT V06DA-212/E...-A	FIT V06DA-212/E...-A	FIT V06DA-214/E...-A	FIT V06DA-214/E...-P	FIT V06DA-216/E...-O
	1~230 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz
Unit					
Pressure connection	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80
Free ball passage mm	65	65	65	65	65
Max. volume flow Q_{max} / m ³ /h	35	35	45	45	60
Max. delivery head H_{max} / m	8.3	8.3	11.9	11.9	15.6
Operating mode (immersed)	S1	S1	S1	S1	S1
Operating mode (non-immersed)	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%
Max. immersion depth m	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data					
Nominal current I_N / A	7.2	2.55	3.3	9.3	5.2
Starting current - direct I_A / A	29	20	20	29	31
Nominal motor power P_2 / kW	1.1	1.1	1.5	1.5	2.5
Power consumption P_1 / kW	1.6	1.5	2	2.1	3.2
Activation type	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2899	2898	2858	2852	2840
Insulation class	F	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20	20
Max. switching frequency 1/h	50	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10	±10
Cable					
Length of connecting cable m	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	3G1	6G1	6G1	3G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable	Detachable
Equipment/function					
Motor protection	WSK	WSK	WSK	WSK	WSK
Explosion protection	—	—	—	—	—
Materials					
Static seal	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301	1.4301
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Rexa FIT V06

	FIT V06DA-222/E...-A	FIT V06DA-224/E...-A
	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit		
Pressure connection	DN 65/DN 80	DN 65/DN 80
Free ball passage mm	65	65
Max. volume flow Q_{max} / m ³ /h	65	50
Max. delivery head H_{max} / m	18.1	21.6
Operating mode (immersed)	S1	S1
Operating mode (non-immersed)	S2-15 min S3-10%	S2-15 min S3-10%
Max. immersion depth m	20	20
Protection class	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40
Motor data		
Nominal current I_N / A	7.8	7.8
Starting current - direct I_A / A	66	66
Nominal motor power P_2 / kW	3.9	3.9
Power consumption P_1 / kW	4.8	4.8
Activation type	Direct	Direct
Nominal speed n / rpm	2861	2861
Insulation class	F	F
Recommended switching frequency 1/h	20	20
Max. switching frequency 1/h	50	50
Permitted voltage tolerance %	±10	±10
Cable		
Length of connecting cable m	10	10
Cable type	H07RN-F	H07RN-F
Cable cross-section mm ²	6G1,5	6G1,5
Type of connecting cable	Detachable	Detachable
Equipment/function		
Motor protection	WSK	WSK
Explosion protection	–	–
Materials		
Static seal	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301
Pump housing	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

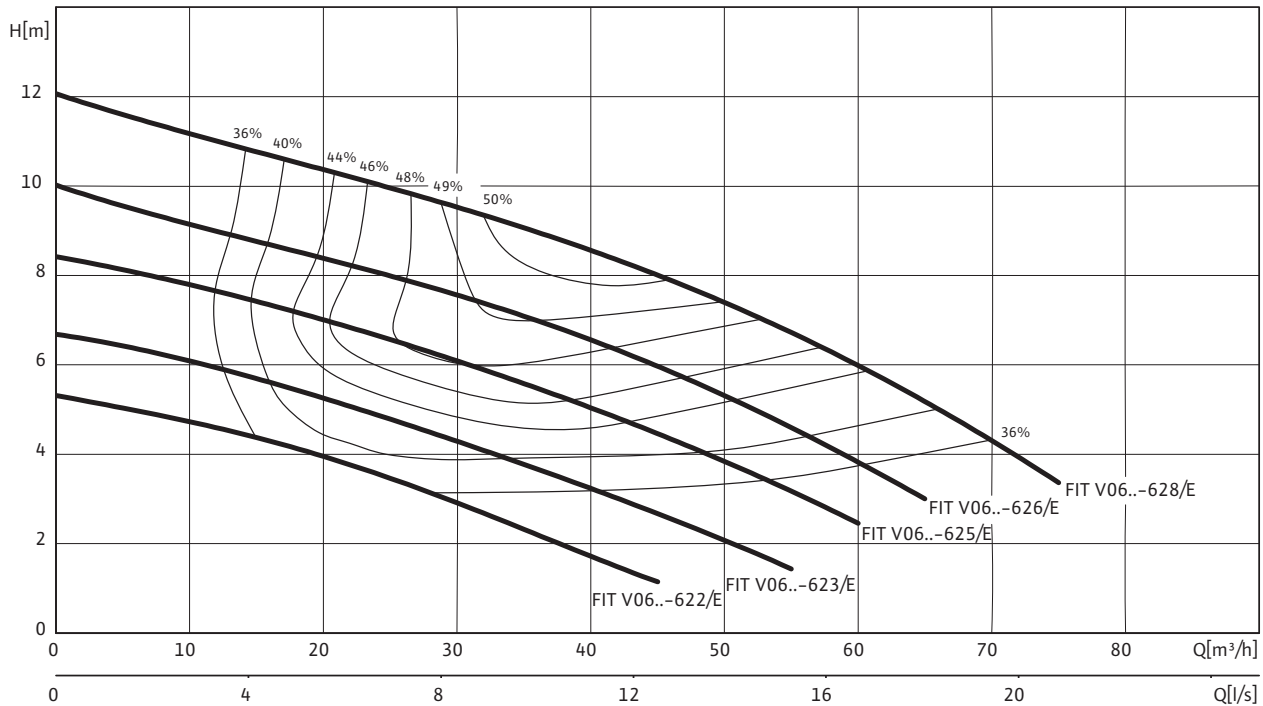
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-Rexa FIT V06

Pump curves Wilo-Rexa FIT V06.. - 50 Hz - No. of poles: 4

Vortex impeller - Free ball passage: 65 mm



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Pump type	Nominal motor power	Float switch	Mains plug	Weight approx.	Art no.		Art no.	
					1-230 V, 50 Hz		3-400 V, 50 Hz	
	P_2			m				
	kW			kg				
FIT V06DA-622/E...-O	1.1	-	-	51.1	-	-	6064711	L
FIT V06DA-622/E...-P	1.1	-	•	51	6064710	L	-	-
FIT V06DA-623/E...-O	1.5	-	-	51.1	-	-	6064713	L
FIT V06DA-623/E...-P	1.5	-	•	51	6064712	L	-	-
FIT V06DA-625/E...-O	1.5	-	-	51.3	-	-	6064715	L
FIT V06DA-625/E...-P	1.5	-	•	51	6064714	L	-	-
FIT V06DA-626/E...-O	2.5	-	-	53.4	-	-	6064716	L
FIT V06DA-628/E...-O	2.5	-	-	53.5	-	-	6064717	L

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Rexa FIT V06

	FIT V06DA-622/E...-O	FIT V06DA-623/E...-O	FIT V06DA-625/E...-O	FIT V06DA-626/E...-O	FIT V06DA-628/E...-O
	3-400 V, 50 Hz	3-400 V, 50 Hz	3-400 V, 50 Hz	3-400 V, 50 Hz	3-400 V, 50 Hz
Unit					
Pressure connection	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80
Free ball passage mm	65	65	65	65	65
Max. volume flow Q_{max} / m ³ /h	45	55	60	65	75
Max. delivery head H_{max} / m	5.3	6.7	8.4	10	12
Operating mode (immersed)	S1	S1	S1	S1	S1
Operating mode (non-immersed)	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%
Max. immersion depth m	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data					
Nominal current I_N / A	3.05	3.7	3.7	5.8	5.8
Starting current - direct I_A / A	24.5	24.5	24.5	35.5	35.5
Nominal motor power P_2 / kW	1.1	1.5	1.5	2.5	2.5
Power consumption P_1 / kW	1.5	2	2	3.3	3.3
Activation type	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1436	1413	1413	1402	1402
Insulation class	F	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20	20
Max. switching frequency 1/h	50	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10	±10
Cable					
Length of connecting cable m	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	6G1	6G1	6G1	6G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable	Detachable
Equipment/function					
Motor protection	WSK	WSK	WSK	WSK	WSK
Explosion protection	-	-	-	-	-
Materials					
Static seal	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301	1.4301
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021

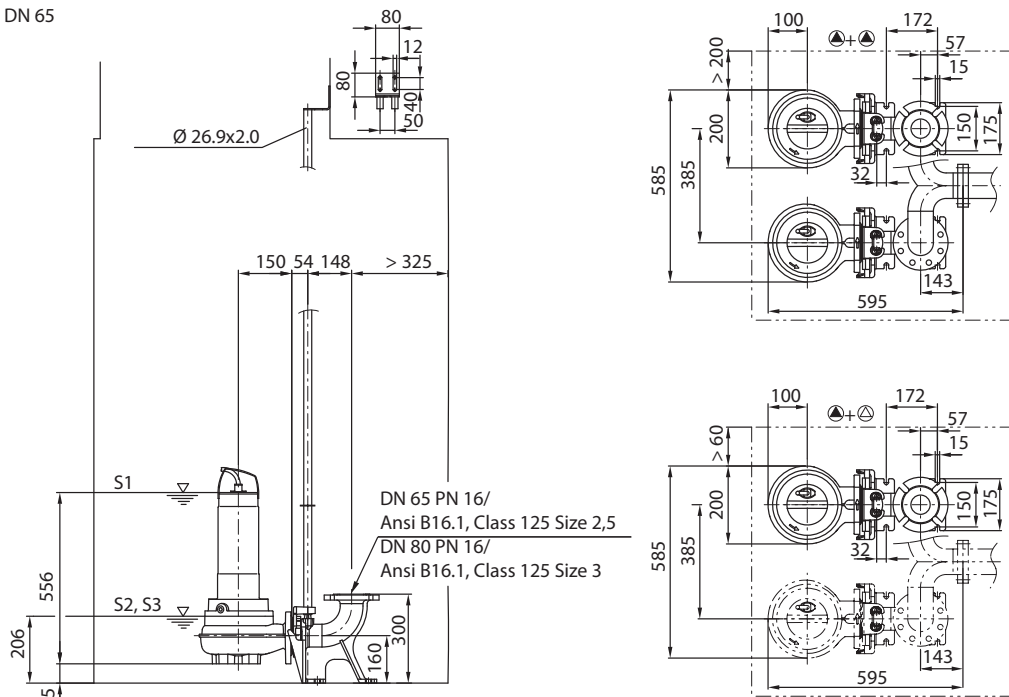
• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

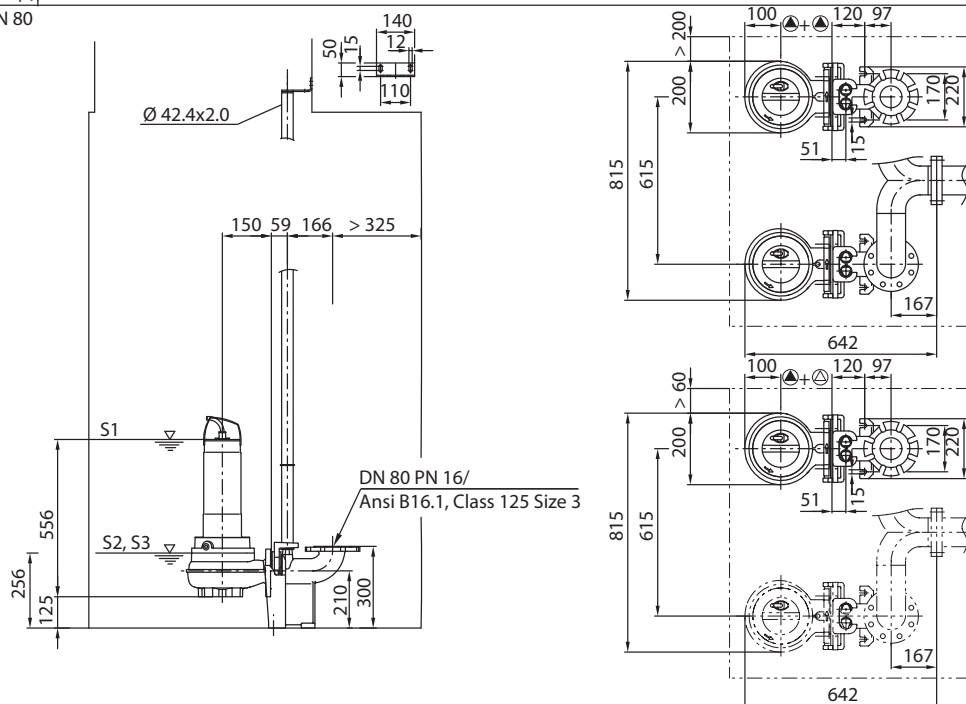
Dimension drawing Wilo-Rexa FIT V06

Dimension drawing Wilo-Rexa FIT V06-22.. - Stationary wet well installation

FIT V06DA-22....: DN 65



FIT V06DA-22....: DN 80



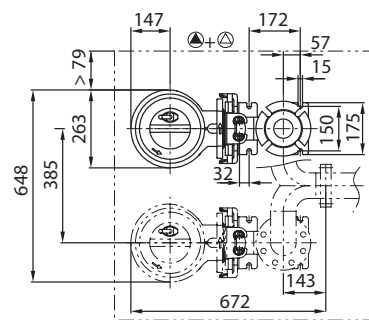
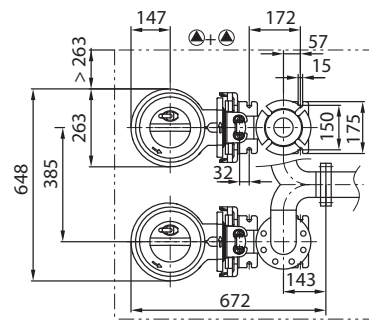
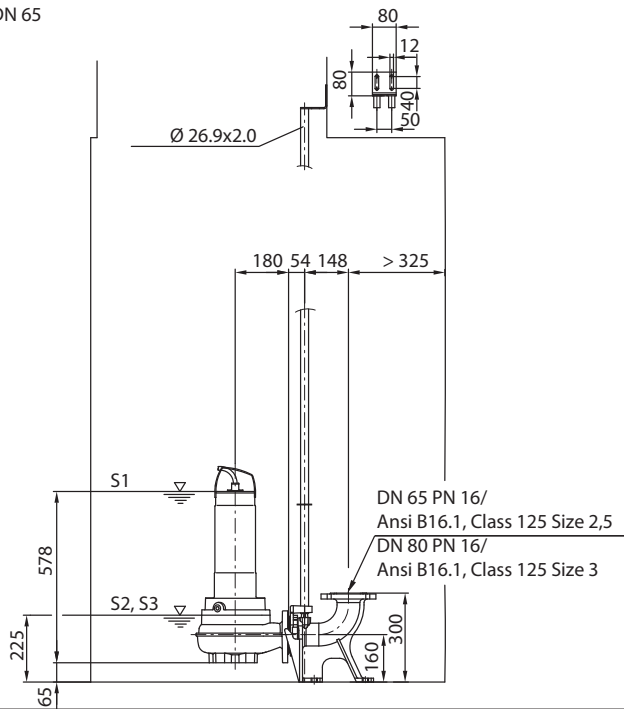
Wastewater transport

Submersible pumps

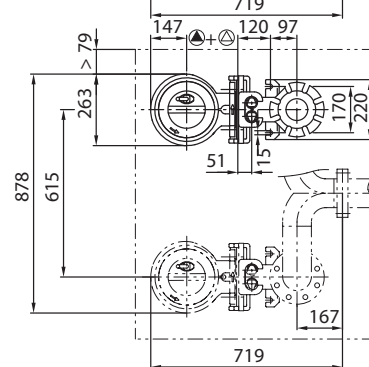
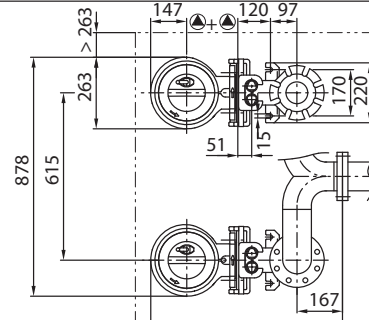
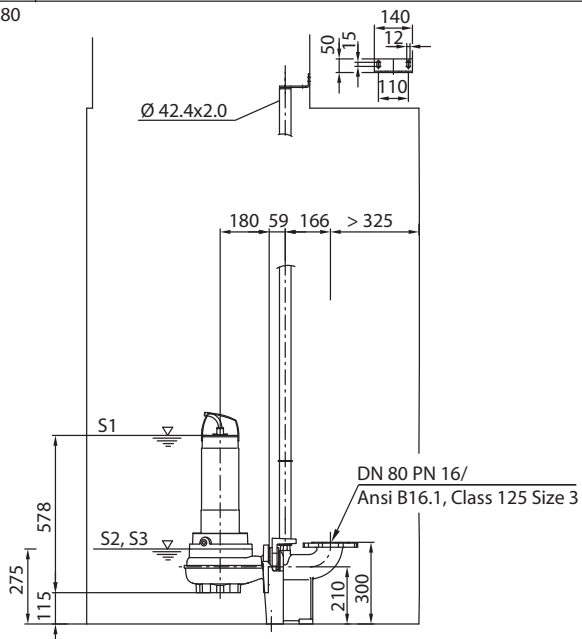
Dimension drawing Wilo-Rexa FIT V06

Dimension drawing Wilo-Rexa FIT V06-62.. - Stationary wet well installation

FIT V06DA-6...: DN 65

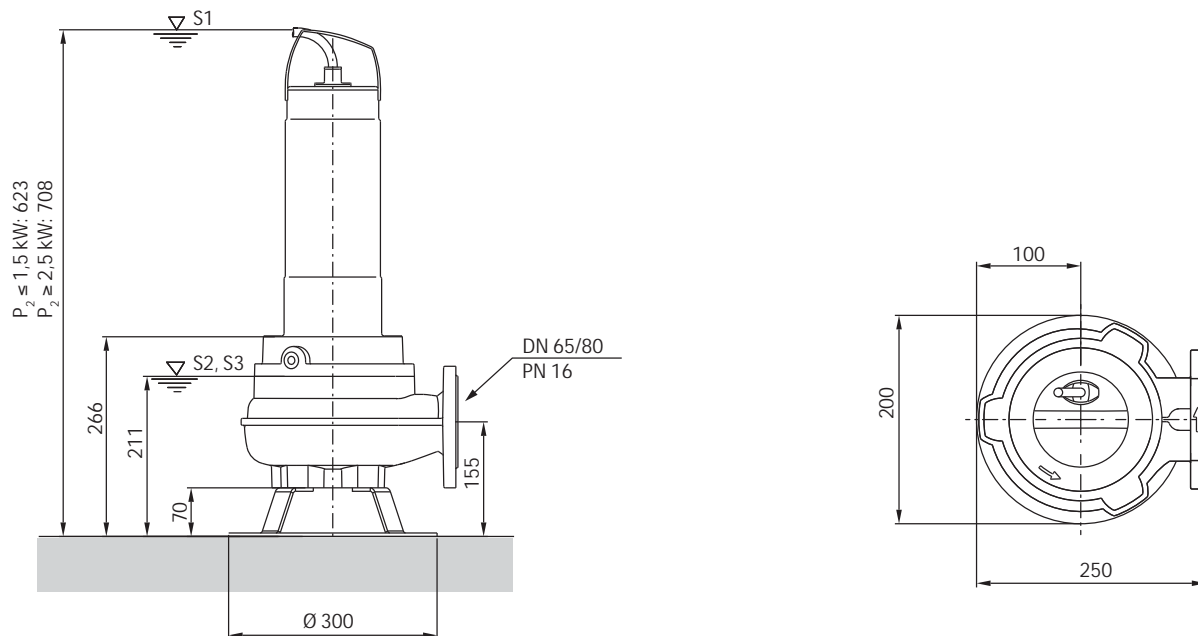


FIT V06DA-6...: DN 80

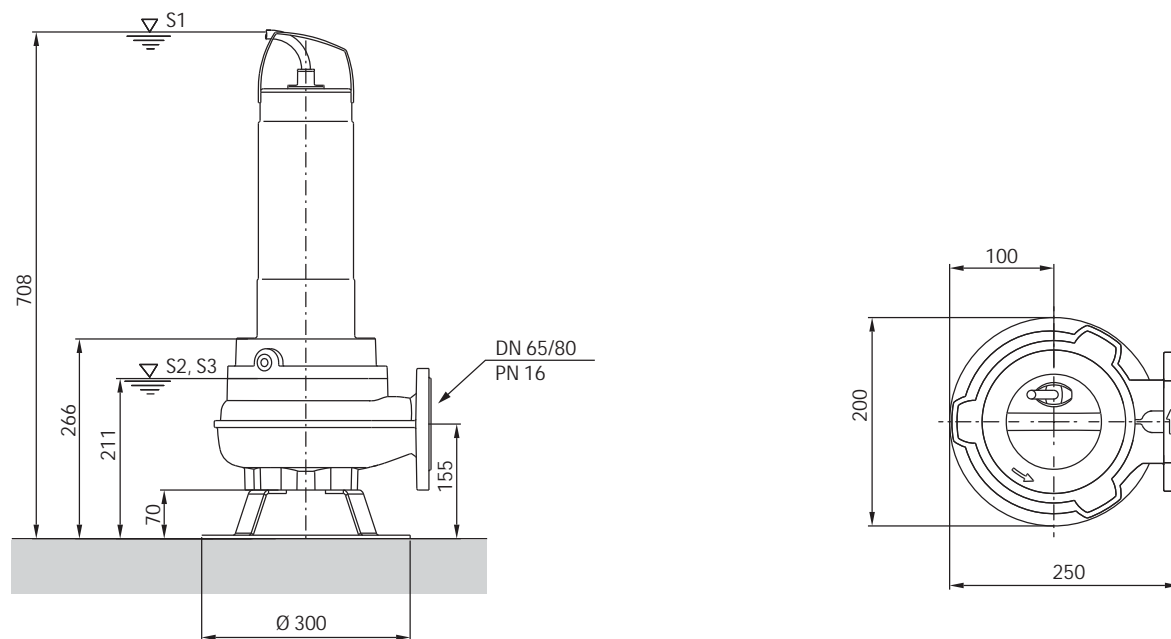


Dimension drawing Wilo-Rexa FIT V06

Dimension drawing Wilo-Rexa FIT V06-21.. - portable wet well installation



Dimension drawing Wilo-Rexa FIT V06-22.. - portable wet well installation

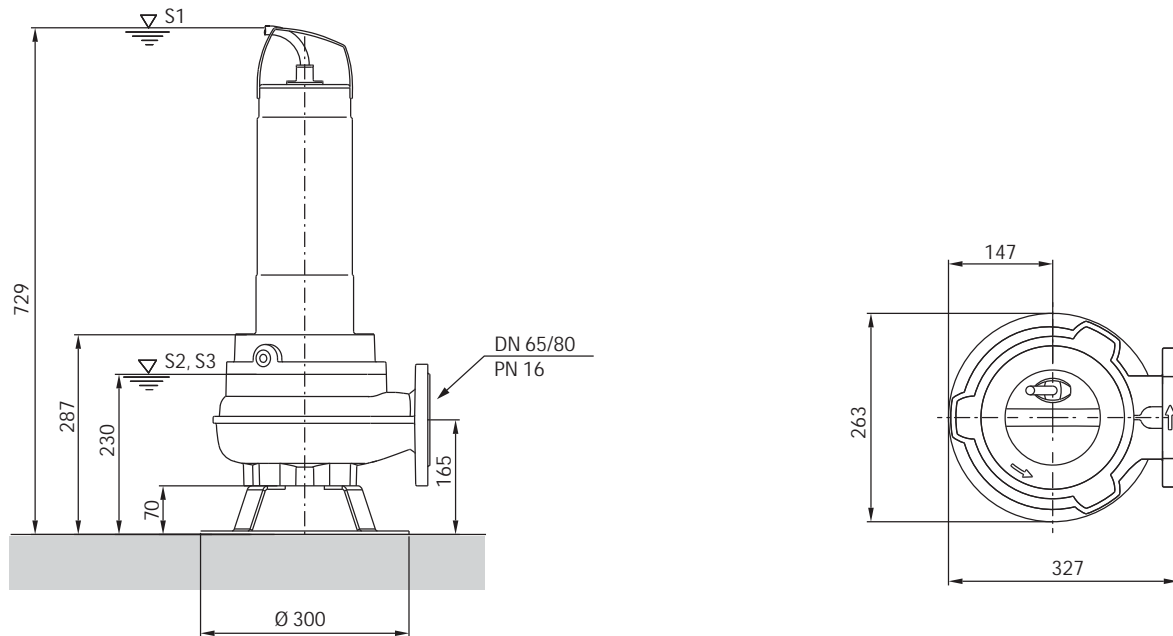


Wastewater transport

Submersible pumps

Dimension drawing Wilo-Rexa FIT V06

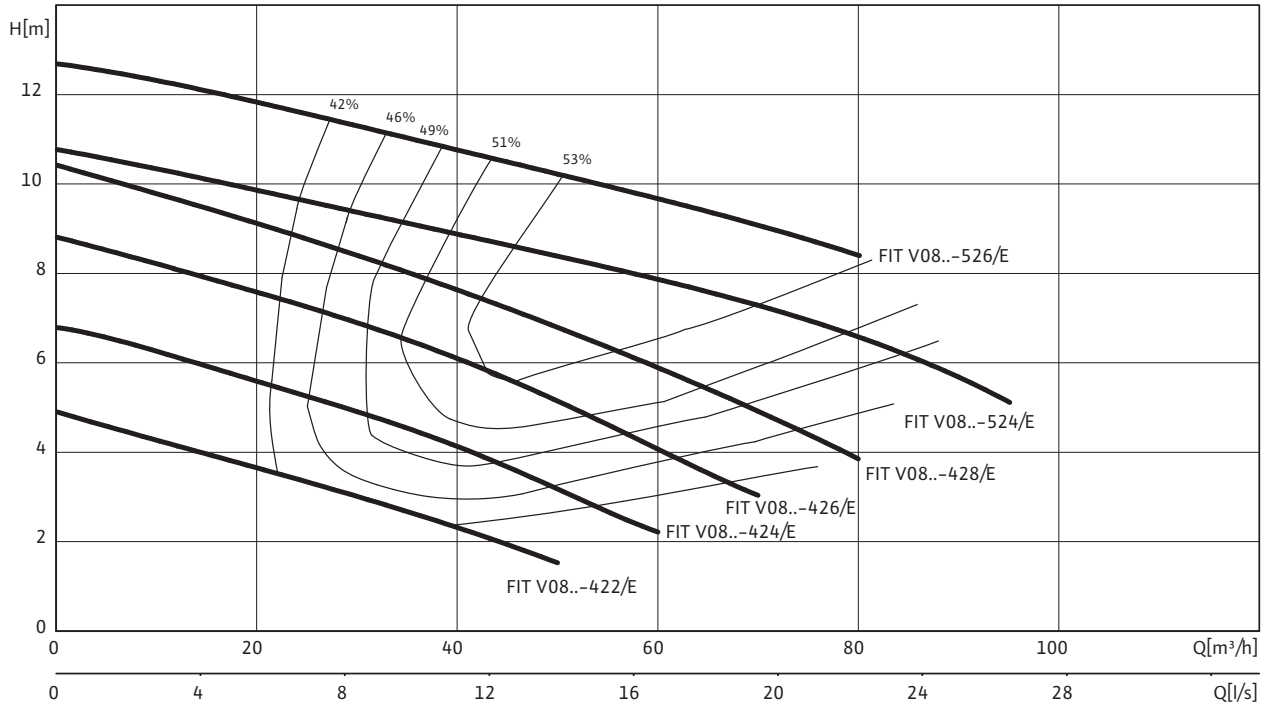
Dimension drawing Wilo-Rexa FIT V06-62.. - portable wet well installation



Pump curves, ordering information Wilo-Rexa FIT V08

Pump curves Wilo-Rexa FIT V08.. - 50 Hz - No. of poles: 4

Vortex impeller - Free ball passage: 80 mm



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Pump type	Nominal motor power	Float switch	Mains plug	Weight approx.	Art no.		Art no.	
					1~230 V, 50 Hz		3~400 V, 50 Hz	
	P_2			m				
	kW			kg				
FIT V08DA-422/E...-A	1.1	•	•	58	6065917	L	6065918	L
FIT V08DA-422/E...-O	1.1	–	–	58	–	–	6065920	L
FIT V08DA-422/E...-P	1.1	–	•	58	6065919	L	–	–
FIT V08DA-424/E...-A	1.1	•	•	59	6065921	L	6065922	L
FIT V08DA-424/E...-O	1.1	–	–	59	–	–	6065924	L
FIT V08DA-424/E...-P	1.1	–	•	59	6065923	L	–	–
FIT V08DA-426/E...-A	1.5	•	•	59	6065925	L	6065926	L
FIT V08DA-426/E...-O	1.5	–	–	59	–	–	6065928	L
FIT V08DA-426/E...-P	1.5	–	•	59	6065927	L	–	–
FIT V08DA-428/E...-O	2.5	–	–	61	–	–	6065929	L
FIT V08DA-524/E...-O	3.5	–	–	65	–	–	6065931	L
FIT V08DA-526/E...-O	3.5	–	–	65	–	–	6065932	L

• = available, – = not available

P_1 refers to the maximum power consumption. All of the data applies to 3–400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

Submersible pumps

Technical data Wilo-Rexa FIT V08

	FIT V08DA-422/E...-A	FIT V08DA-424/E...-O	FIT V08DA-426/E...-A	FIT V08DA-428/E...-O
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 80/DN 100	DN 80/DN 100	DN 80/DN 100	DN 80/DN 100
Free ball passage mm	80	80	80	80
Max. volume flow Q_{max} / m ³ /h	50	60	70	80
Max. delivery head H_{max} / m	4.9	6.8	8.8	10.4
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%	S2-15 min S3-10%
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data				
Nominal current I_N / A	3.05	3.05	3.7	5.8
Starting current - direct I_A / A	24.5	24.5	24.5	35.5
Nominal motor power P_2 / kW	1.1	1.1	1.5	2.5
Power consumption P_1 / kW	1.5	1.5	2	3.3
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1436	1436	1413	1402
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	6G1	6G1	6G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Equipment/function				
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	–	–	–	–
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Rexa FIT V08

	FIT V08DA-524/E...-O	FIT V08DA-526/E...-O
	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit		
Pressure connection	DN 80/DN 100	DN 80/DN 100
Free ball passage mm	80	80
Max. volume flow Q_{max} / m ³ /h	95	80
Max. delivery head H_{max} / m	10.8	12.7
Operating mode (immersed)	S1	S1
Operating mode (non-immersed)	S2-15 min S3-10%	S2-15 min S3-10%
Max. immersion depth m	20	20
Protection class	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40
Motor data		
Nominal current I_N / A	8.1	8.1
Starting current - direct I_A / A	51	51
Nominal motor power P_2 / kW	3.5	3.5
Power consumption P_1 / kW	4.5	4.5
Activation type	Direct	Direct
Nominal speed n / rpm	1393	1393
Insulation class	F	F
Recommended switching frequency 1/h	20	20
Max. switching frequency 1/h	50	50
Permitted voltage tolerance %	±10	±10
Cable		
Length of connecting cable m	10	10
Cable type	H07RN-F	H07RN-F
Cable cross-section mm ²	6G1,5	6G1,5
Type of connecting cable	Detachable	Detachable
Equipment/function		
Motor protection	WSK	WSK
Explosion protection	–	–
Materials		
Static seal	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301
Pump housing	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021

• = available, - = not available

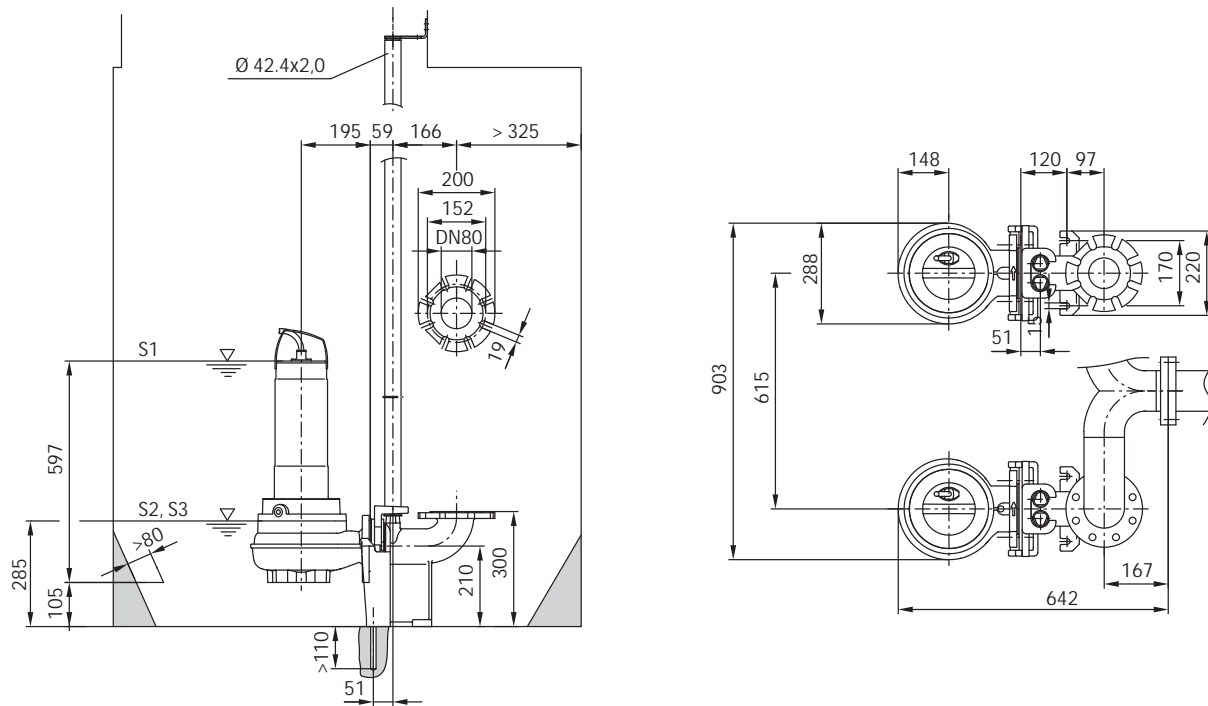
P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

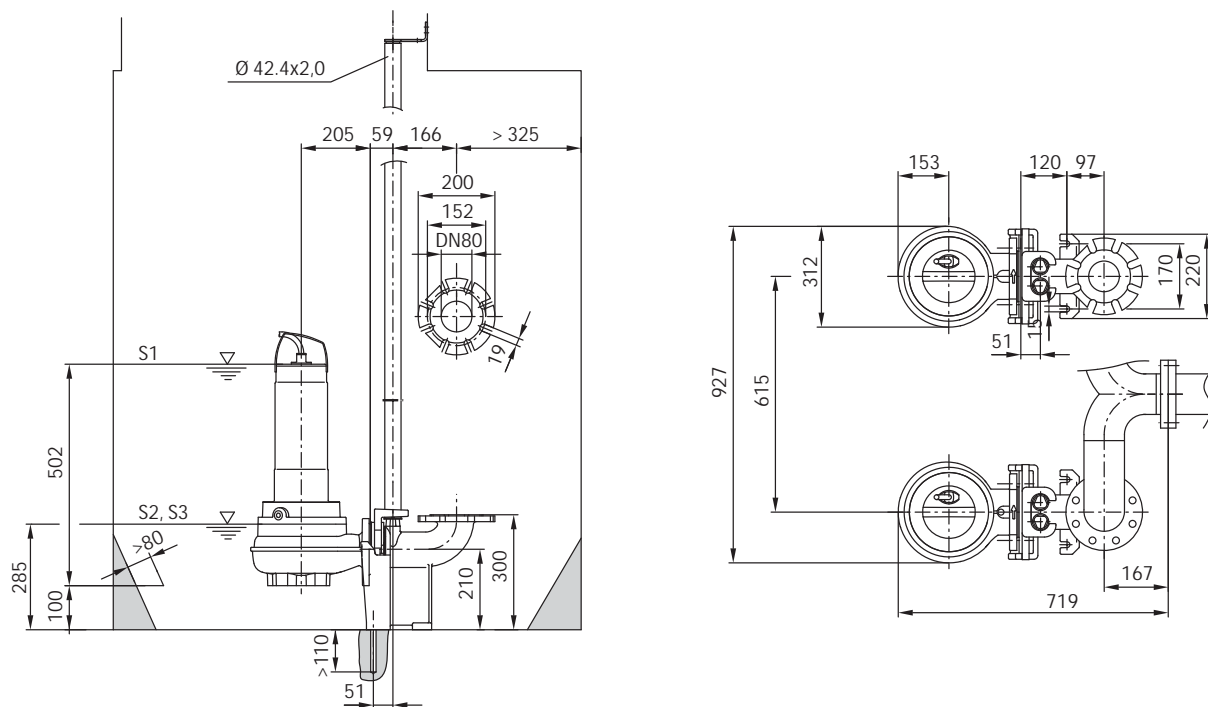
Submersible pumps

Dimension drawing Wilo-Rexa FIT V08

Dimension drawing Wilo-Rexa FIT V08-42.. - Stationary wet well installation

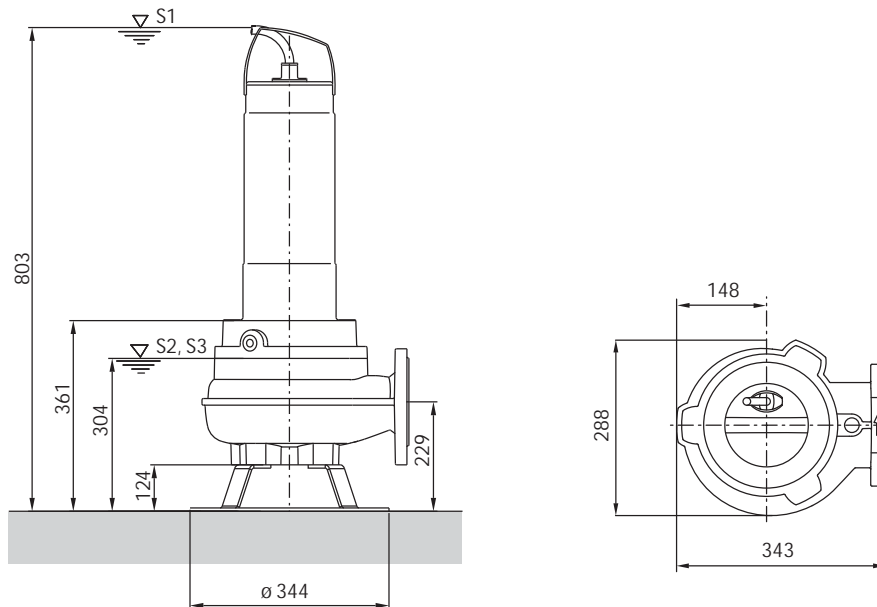


Dimension drawing Wilo-Rexa FIT V08-52.. - Stationary wet well installation

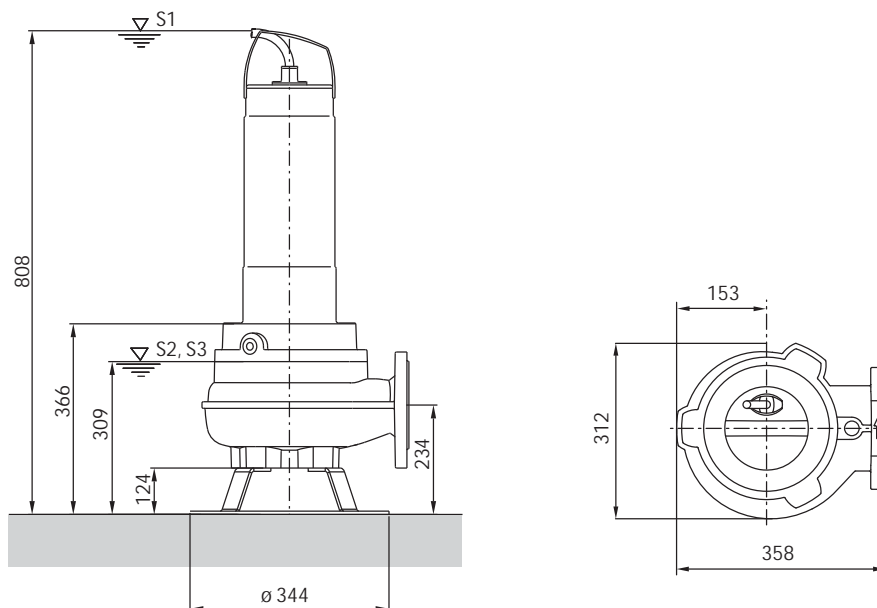


Dimension drawing Wilo-Rexa FIT V08

Dimension drawing Wilo-Rexa FIT V08-42.. - portable wet well installation



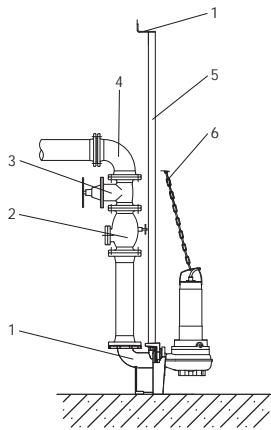
Dimension drawing Wilo-Rexa FIT V08-52.. - portable wet well installation



Wastewater transport

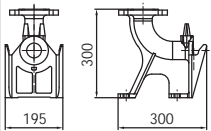
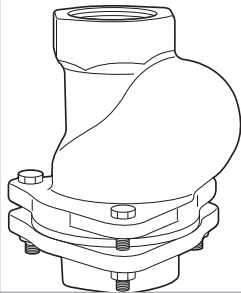
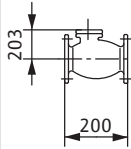
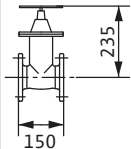
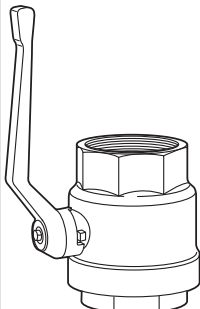
Submersible pumps

Mechanical accessories



- 1 Suspension unit
- 2 Non-return valve
- 3 Gate valve
- 4 Pipe elbow
- 5 Guide pipe
- 6 Chain

Stationary wet well installation DN 50

		Description	Art no.
Suspension unit DN50/2RK		For 2-pipe guide of EN-GJL-250, powder-coated, with free passage in DN 50, coupling foot with 90° pipe elbow, including coupling connection, guide pipe bracket of stainless steel for sump fixation, profile joint and mounting accessories, pressure-side connection DN 50; two guide pipes (26.9 x 2 mm) are to be provided by the customer!	6070146
Non-return ball valve		Made of EN-GJL-250, with Rp 2 female thread for DN 50 connection	4027331
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 50 connection	2017166
Gate valve		Made of EN-GJL-250, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, DN 50	2017160
Shut-off ball valve		Made of brass, nickel-plated, with Rp 2 female thread for DN 50 connection	4027338

Mechanical accessories

Stationary wet well installation DN 50

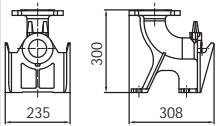
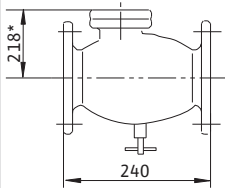
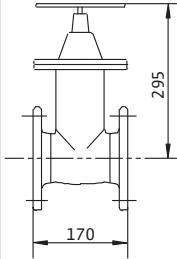
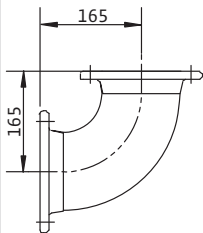
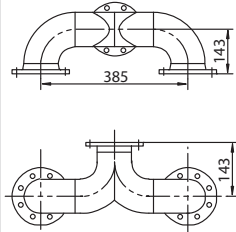

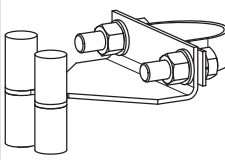
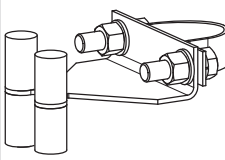
		Description	Art no.
Y-piece DN 50		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 50/50/50 connection	2019042
Mounting accessories DN 40/50		For a DN 40/50 flange connection, with 4 screws, 4 nuts and 1 flat gasket for PN 10/16 flange, DIN 2501	2057177
Guide pipe bracket		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 cast-iron pipe, including mounting accessories of A4	6066851
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 steel pipe, including mounting accessories of A4	6061084
Bracket for guide pipe extension		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 cast-iron pipe, including mounting accessories of A4	6066852
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 steel pipe, including mounting accessories of A4	6066846
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Wastewater transport

Submersible pumps

Mechanical accessories

Stationary wet well installation DN 65

		Description	Art no.
Suspension unit DN65/2RK		For 2-pipe guide, of EN-GJL-250, powder-coated, with free passage in DN 65, coupling foot with 90° pipe elbow, including coupling connection, guide pipe bracket of stainless steel for sump fixation, profile joint and mounting accessories, pressure-side connection DN 65; two guide pipes (26.9 x 2 mm) are to be provided by the customer!	6070150
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 65 connection	2017167
Gate valve		Made of EN-GJL-250, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, DN 65	2017161
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 65 connection	2017183
Y-piece DN 65		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 65/65/65 connection	2017178
Mounting accessories DN 65		For a DN 65 flange connection, with 4 screws, 4 nuts and 1 flat gasket for flanges, PN 10/16, DIN 2502	2012068
Guide pipe bracket		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 cast-iron pipe, including mounting accessories of A4	6066847
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 steel pipe, including mounting accessories of A4	6066848
Bracket for guide pipe extension		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 cast-iron pipe, including mounting accessories of A4	6066849
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 steel pipe, including mounting accessories of A4	6066850

Mechanical accessories

Stationary wet well installation DN 65

		Description	Art no.
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Wastewater transport

Stationary wet well installation DN 80

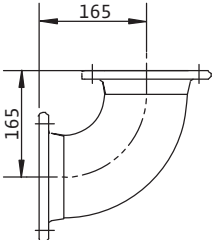
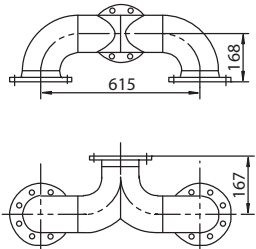
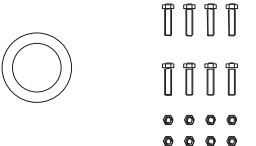
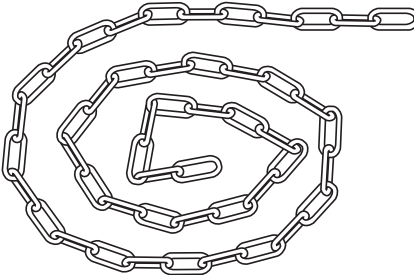
		Description	Art no.
Suspension unit DN 80/2RK		Made of EN-GJL-250, painted, with free passage in DN 80, foot elbow including pump holder, profile joint, installation and floor fixation accessories and guide pipe bracket without guide pipes. Connection on pressure side DN 80/PN16 in acc. with DIN 2501. The double pipe feed (42.4x2 mm) is to be provided by the customer.	6036888
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 80 connection	2017168
Gate valve		Made of EN-GJL-250, incl. 1 set of installation accessories, PN 10/16 flanges in accordance with DIN 2501, DN 80	2017162

Wastewater transport

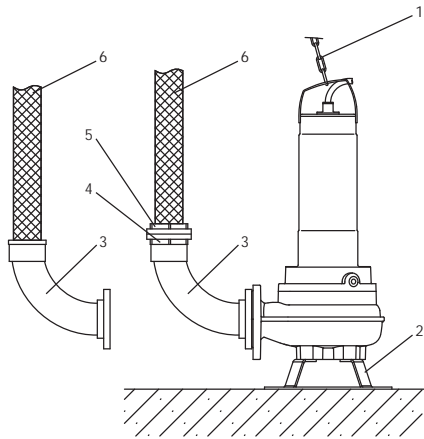
Submersible pumps

Mechanical accessories

Stationary wet well installation DN 80

		Description	Art no.
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 80 connection	2012064
Y-piece DN 80		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 80/80/80 connection	2017179
Mounting accessories DN 80		For a DN 80 flange connection, with 8 screws, 8 nuts and 1 flat gasket for PN 10/16 flange, DIN 2502	2012067
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanized steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanized steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanized steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanized steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Mechanical accessories



- 1 Chain
- 2 Pump base
- 3 Pipe elbow for hose connection or Storz pipe coupling
- 4 Storz pipe coupling
- 5 Storz hose coupling
- 6 Pressure hose

Portable wet well installation with hose connection DN 50

		Description	Art no.
Pipe elbow 90° R2/G2		Made of steel, galvanized with G 2 / R 2 female/male thread for DN 50 connection	4027332
Adapter DN 50 on Rp 2		Made of steel, galvanized, DN 50 threaded flange, PN 10/16, DIN 2566 with Rp 2 female thread, incl. 1 set of mounting accessories for DN 50 connection	4027333
Hose connection		Made of plastic, hose nozzle with Ø 60 mm including hose clip, G 2 male thread for direct hose connection	4027334
Pressure hose		Synthetic, inner Ø 60 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle, Ø 60 mm	2018106

Wastewater transport

Submersible pumps

Mechanical accessories

Portable wet well installation with hose connection DN 50

		Description	Art no.
Floor supporting foot DN 50/65		Made of steel (S235JR) with 4 supports for connection to DN 50/65, powder coated, incl. fixation material	6064666
Pipe bend 90°		Made of PVC, with hose nozzle (Ø 60 mm) for direct hose connection, flange on pump side, incl. 1 set of mounting accessories for DN 50 connection	4027344
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Mechanical accessories

Portable wet well installation with hose connection DN 65

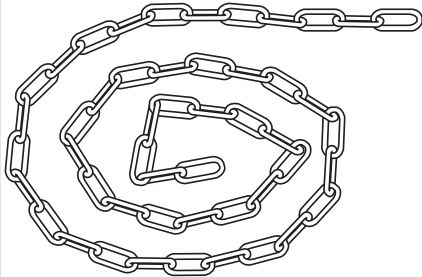
		Description	Art no.
Pipe bend 90°		Made of steel, galvanised with G 2 1/2 / R 2 1/2 female/male thread for DN 65 connection	4015212
Floor supporting foot DN 50/65		Made of steel (S235JR) with 4 supports for connection to DN 50/65, powder coated, incl. fixation material	6064666
Adapter DN 65 on Rp 2 1/2		Made of steel, galvanised, DN 65 threaded flange, PN 10/16, DIN 2566 with Rp 2 1/2 female thread, incl. 1 set of mounting accessories for DN 65 connection	4015204
Hose connection		Made of brass, hose nozzle with Ø 70 mm, including hose clip, G 2 1/2 male thread for direct hose connection	4015210
Pipe bend 90°		Made of EN-GJL-250, with hose nozzle (Ø 70 mm) for direct hose connection, flange on pump side, incl. 1 set of mounting accessories for DN 65 connection	4027346
Pressure hose		Synthetic, inner Ø 70 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle, Ø 70 mm	2014151

Wastewater transport

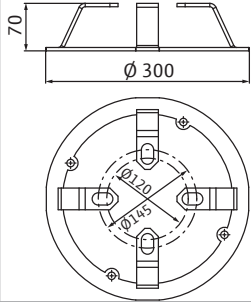
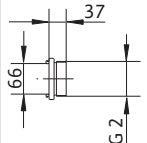
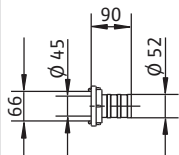
Submersible pumps

Mechanical accessories

Portable wet well installation with hose connection DN 65

		Description	Art no.
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Portable wet well installation with Storz coupling DN 50

		Description	Art no.
Floor supporting foot DN 50/65		Made of steel (S235JR) with 4 supports for connection to DN 50/65, powder coated, incl. fixation material	6064666
Storz C pipe coupling with male thread G 2		Made of aluminium, Storz C connection, with G 2 male thread, tappet clearance 66 mm for a DN 50 connection	2018102
Storz hose coupling		Made of aluminium, Storz A connection, with hose nozzle (Ø 52 mm), tappet clearance 66 mm, incl. hose clip	2015235

Mechanical accessories

Portable wet well installation with Storz coupling DN 50

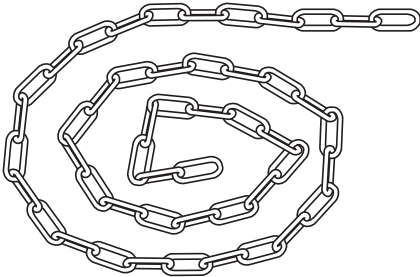
		Description	Art no.
Storz pipe coupling with male thread G 2½		Made of aluminium, Storz C connection, with G 2½ male thread, tappet clearance 66 mm for a DN 65 connection	2015234
Pressure hose		Synthetic, inner Ø 52 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle (Ø 50 mm) or a Storz C hose coupling	2017192
Pipe elbow 90° R2/G2		Made of steel, galvanized with G 2 / R 2 female/male thread for DN 50 connection	4027332
Pipe bend 90°		Made of steel, galvanized with G 2½ / R 2½ female/male thread for DN 65 connection	4015212
Adapter DN 50 on Rp 2		Made of steel, galvanized, DN 50 threaded flange, PN 10/16, DIN 2566 with Rp 2 female thread, incl. 1 set of mounting accessories for DN 50 connection	4027333
Adapter DN 65 on Rp 2½		Made of steel, galvanized, DN 65 threaded flange, PN 10/16, DIN 2566 with Rp 2½ female thread, incl. 1 set of mounting accessories for DN 65 connection	4015204

Wastewater transport

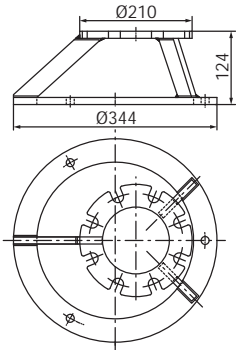
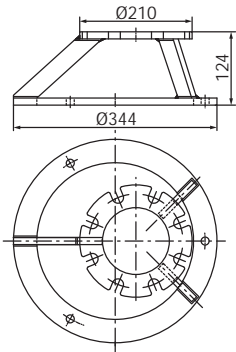
Submersible pumps

Mechanical accessories

Portable wet well installation with Storz coupling DN 50

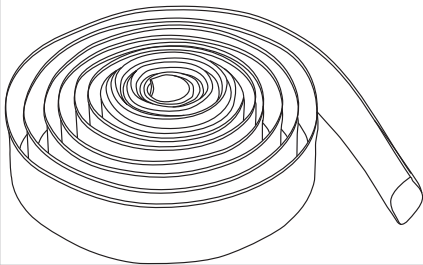
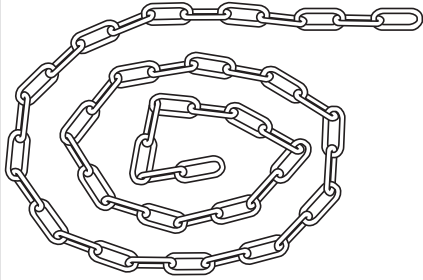
		Description	Art no.
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Portable wet well installation with Storz coupling DN 80

		Description	Art no.
Floor supporting foot DN 80/100		Made of steel (S235JR) with 4 supports for connection to DN 80/100, powder-coated, incl. fixation material	6065949
		Made of stainless steel (1.4571) with 4 supports for connection to DN 80/100, incl. fixation material	6065953
Pipe elbow 90° with Storz B pipe coupling and female thread R 3		Made of EN-GJL-250, with R 3 male thread, DN 80 flange on pump side, incl. 1 set of mounting accessories and Storz B fixed coupling, G 3 female thread	6031385

Mechanical accessories

Portable wet well installation with Storz coupling DN 80

		Description	Art no.
Pressure hose / Storz B		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 5 m incl. Storz B coupling, 12/40 bar	6003052
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 10 m incl. Storz B coupling, 12/40 bar	6003051
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 20 m incl. Storz B coupling, 12/40 bar	6003050
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Wastewater transport

Submersible pumps

Series description Wilo-Rexa PRO



Design

Submersible sewage pump for permanent operation, made of grey cast iron for stationary and portable wet well installation and stationary dry well installation.

Type key

Example: **Wilo-Rexa PRO V06DA-110/EAD1X2-T0015-540-O**

Rexa	Submersible sewage pump
PRO	Series
V	Vortex impeller
06	Nominal diameter of pressure connection e.g. DN 65
D	Hydraulics drilled on the suction side in accordance with DIN drilled
A	Material version, hydraulics A = standard version
110	Type of hydraulics
e	Motor version E = dry motor R = reduced-power motor
A	Material version, motor A = standard version
D	Seal with two independent mechanical shaft seals
1	IE efficiency class, e.g. 1 = IE1 (derived from IEC 60034-30)
X	Ex-rated X = ATEX F = FM C = CSA
2	number of poles
T	Mains connection version: M = 1- T = 3-
0015	Value/10 = motor power P_2 in kW
5	Frequency (5 = 50 Hz, 6 = 60 Hz)
40	Key for rated voltage
O	Additional electrical equipment: O = with bare cable end, A = with float switch and plug

Application

For pumping in permanent operation of:

- Waste water and sewage
 - Waste water containing faeces
 - Sludges up to maximum 8% dry matter (depending on the selected hydraulics)
- out of sumps and vessels in municipal and industrial applications as well as to domestic and site drainage in accordance with EN 12050 (observing regional-specific regulations and instructions).

Special features/product advantages

- Vortex impeller non-susceptible to clogging
- Seal by two mechanical seals
- Ex-rated in accordance with ATEX as standard
- Operation with frequency converter
- Optional external sealing chamber control for the oil barrier chamber
- Longitudinally watertight cable inlet
- Very smooth operation
- Easy installation via suspension unit or pump base

Technical data

- Mains connection: 1-230 V, 50 Hz or 3-400 V, 50 Hz
- Immersed operating mode: S1
- Non-immersed operating mode: S2-30 min; S3 25%
- Protection class: IP 68
- Insulation class: F
- Fluid temperature: 3 - 40°C, max. 60°C for 3 min
- Free passage: 50 / 65 / 80 mm
- Max. immersion depth: 20 m
- Cable length: 10 m

Equipment/function

- Leakage detection for the motor compartment
- Winding temperature monitoring with bimetal sensor
- Optional external sealing chamber control for the oil barrier chamber

Materials

- Motor housing: EN-GJL-250
- Hydraulic housing: EN-GJL250
- Impeller: EN-GJL250
- Static seals: NBR
- Sealing on pump side: SiC/SiC
- Sealing on motor side: C/MgSiO₄
- Shaft end: Stainless steel 1.4021

Series description Wilo-Rexa PRO

Description/design

Submersible sewage pump as submersible monobloc unit for stationary and portable wet well installation, as well as stationary dry well installation in permanent operation.

Hydraulics

The outlet on the pressure side is designed as horizontal flange connection. The maximum possible dry matter is 8 % (depending on the hydraulics) Vortex impellers are used.

Motor

The motors available are dry motors in single-phase version (with built-in operation capacitor in external switchgear) and three-phase version for the direct starting. The waste heat is given off directly to the surrounding fluid via the motor housing. These motors can operate immersed in permanent operation (S1) and non-immersed in short-term operation (S2) or intermittent operation (S3).

Furthermore the motors are equipped with the following monitoring devices:

- Leakage detection motor compartment. The leakage detection signals water ingress into the motor compartment.
- Thermal motor monitoring. The thermal motor monitoring protects the motor windings against overheating. Bimetallic strips are used as standard for this.

In addition the motor can be equipped with an external sealing chamber electrode for monitoring the oil barrier chamber. This signals if there is water ingress into the oil barrier chamber through the mechanical seal on the fluid side.

The connecting cable has bare cable ends and a length of 10 m as standard, and is available in following versions:

Sealing

There is an oil barrier chamber between the motor and hydraulics. This is filled with medicinal white oil. The fluid-side and motor-side seals are provided by two mechanical seals which rotate independently of each other.

Scope of delivery

- Submersible sewage pump with 10 m cable
- version "P" with plug, single-phase AC motor with switchgear
- Operating and maintenance manual

Accessories

- Suspension unit or pump base
- External sealing chamber monitoring for monitoring the oil barrier chamber
- Chains
- Switchgears, relays and plugs
- Fixation sets with anchor bolts

Commissioning

Operation in wet well installation with non-immersed motor:

The motor can be run non-immersed. The operating times are defined here by the "Operating mode for non-immersed operation". This information must be strictly observed!

- Short-term operation S2: The maximum operating time is 30 minutes (S2-30minutes).
- Intermittent operation S3: By default, the maximum operating time is 2.5 minutes in S3 operation (S3 25%). If the motor is completely immersed for 1 minute before a re-start and the necessary cooling of

the motor has thus taken place, the maximum running time in S3 operation can be 5 minutes (S3 50%)!

- The maximum ambient and fluid temperature is 40 °C.

Dry-running protection system:

The hydraulics housing must always be immersed. In the case of fluctuating fluid levels, the system should shut down automatically once the minimum water submersion is reached. Please refer to the dimension drawings for this.

Horizontal installation:

Horizontal installation is **not** possible!

Dry well installation:

Dry well installation is possible. The operating times are defined here by the "Operating mode for non-immersed operation". This information must be strictly observed!

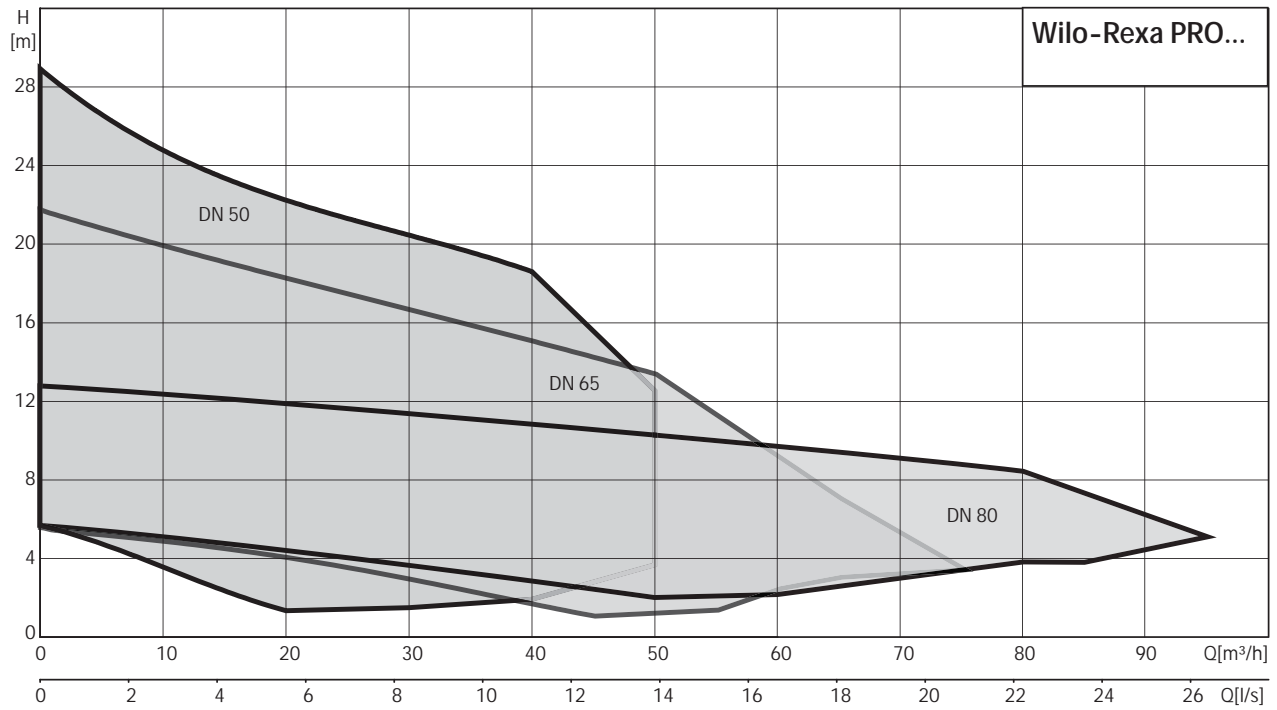
- Short-term operation S2: The maximum operating time is 30 minutes (S2-30minutes).
- Intermittent operation S3: The maximum operating time is 2.5 minutes in S3 operation (S3 25%).
- The maximum fluid temperature is 40 °C.
- The maximum ambient temperature is 40 °C

Wastewater transport

Submersible pumps

Series description Wilo-Rexa PRO

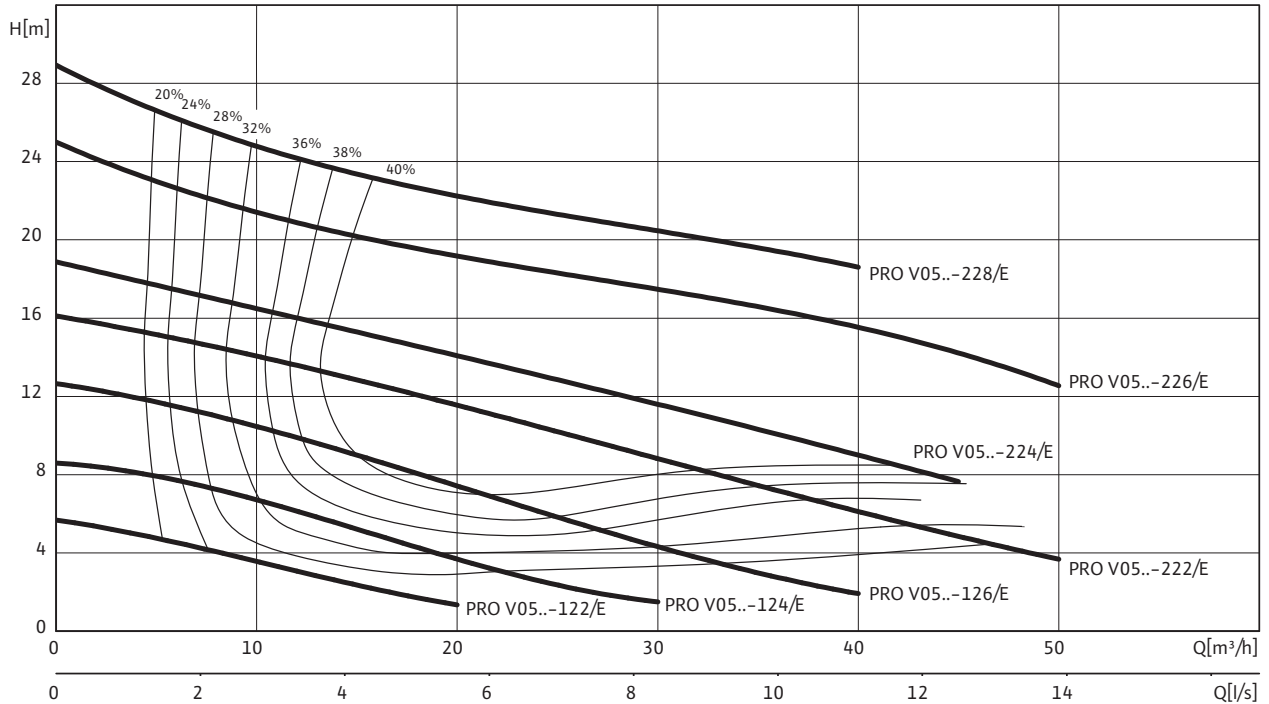
Pump curves



Pump curves, ordering information Wilo-Rexa PRO V05

Pump curves Wilo-Rexa PRO V05.. - 50 Hz - No. of poles: 2

Vortex impeller - Free ball passage: 50 mm



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Pump type	Nominal motor power	Float switch	Mains plug	Weight approx.	Art no.		Art no.	
					1-230 V, 50 Hz		3-400 V, 50 Hz	
	P_2			m				
	kW			kg				
PRO V05DA-122/E...-O	1.1	-	-	48	6064718	L	6064719	L
PRO V05DA-124/E...-O	1.1	-	-	48	6064720	L	6064721	L
PRO V05DA-126/E...-O	1.5	-	-	48	6064722	L	6064723	L
PRO V05DA-222/E...-O	2.5	-	-	53.7	-	-	6064724	L
PRO V05DA-224/E...-O	2.5	-	-	53.7	-	-	6064725	L
PRO V05DA-226/E...-O	3.9	-	-	57.8	-	-	6064726	L
PRO V05DA-228/E...-O	3.9	-	-	57.8	-	-	6064727	L

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

Submersible pumps

Technical data Wilo-Rexa PRO V05

	PRO V05DA-122/E...-O	PRO V05DA-122/E...-O	PRO V05DA-124/E...-O	PRO V05DA-124/E...-O	PRO V05DA-126/E...-O	PRO V05DA-126/E...-O
	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz
Unit						
Pressure connection	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2
Free ball passage mm	50	50	50	50	50	50
Max. volume flow Q_{max} / m ³ /h	20	20	30	30	40	40
Max. delivery head H_{max} / m	5.7	5.7	8.6	8.6	12.7	12.7
Operating mode (immersed)	S1	S1	S1	S1	S1	S1
Operating mode (non-immersed)	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%
Max. immersion depth m	20	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data						
Nominal current I_N / A	7.2	2.55	7.2	2.55	9.3	3.3
Starting current - direct I_A / A	29	20	29	20	29	20
Nominal motor power P_2 / kW	1.1	1.1	1.1	1.1	1.5	1.5
Power consumption P_1 / kW	1.6	1.5	1.6	1.5	2.1	2
Activation type	Direct	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2899	2898	2899	2898	2852	2858
Insulation class	F	F	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20	20	20
Max. switching frequency 1/h	50	50	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10	±10	±10
Cable						
Length of connecting cable m	10	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable	Detachable	Detachable
Equipment/function						
Motor protection	WSK	WSK	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX
Materials						
Static seal	NBR	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021 [AISI420]	1.4021 [AISI420]	1.4021 [AISI420]	1.4021 [AISI420]	1.4021 [AISI420]	1.4021 [AISI420]

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Rexa PRO V05

	PRO V05DA-222/E...-O	PRO V05DA-224/E...-O	PRO V05DA-226/E...-O	PRO V05DA-228/E...-O
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2	DN 50/Rp 2
Free ball passage mm	50	50	50	50
Max. volume flow Q_{max} / m ³ /h	50	50	50	40
Max. delivery head H_{max} / m	16	18.6	24.2	28
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data				
Nominal current I_N / A	5.2	5.2	7.8	7.8
Starting current - direct I_A / A	31	31	66	66
Nominal motor power P_2 / kW	2.5	2.5	3.9	3.9
Power consumption P_1 / kW	3.2	3.2	4.8	4.8
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2840	2840	2861	2861
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Equipment/function				
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021

• = available, - = not available

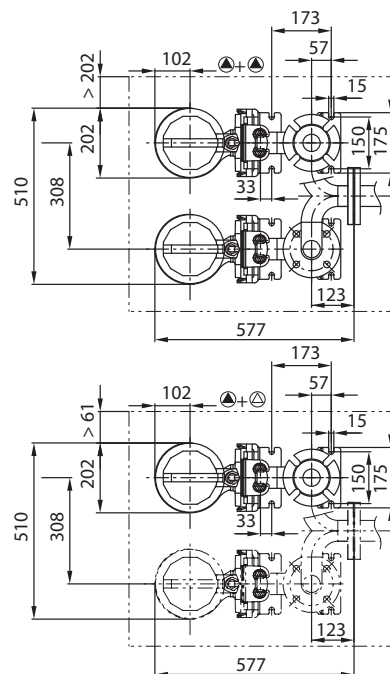
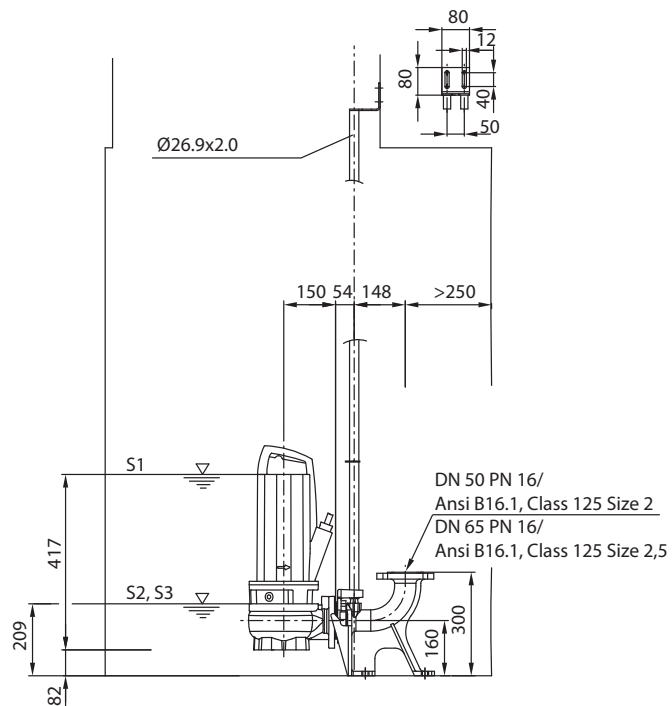
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

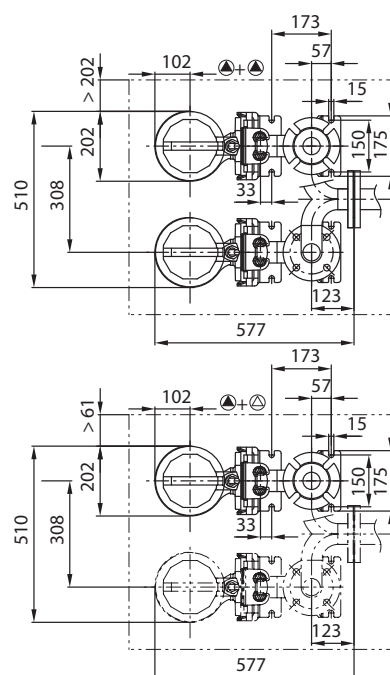
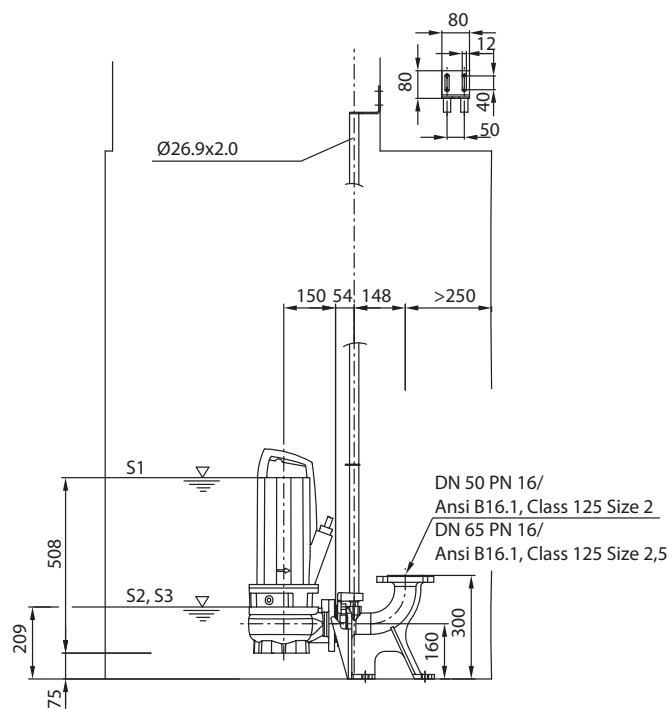
Submersible pumps

Dimensions, weights Wilo-Rexa PRO

Dimension drawing Wilo-Rexa FIT V05-21.. - Stationary wet well installation

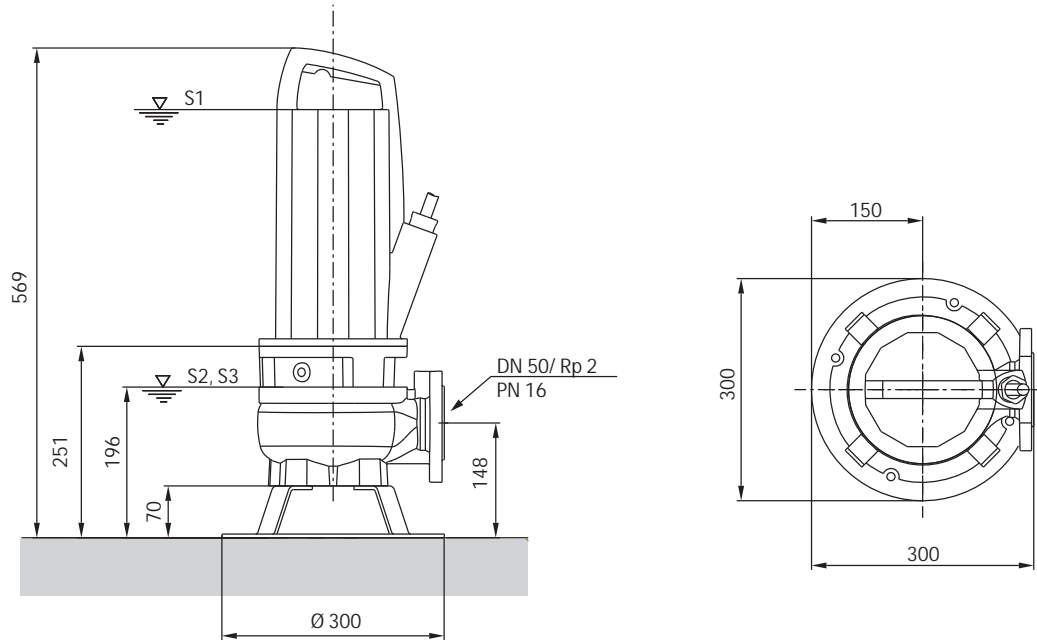


Dimension drawing Wilo-Rexa FIT V05-22.. - Stationary wet well installation

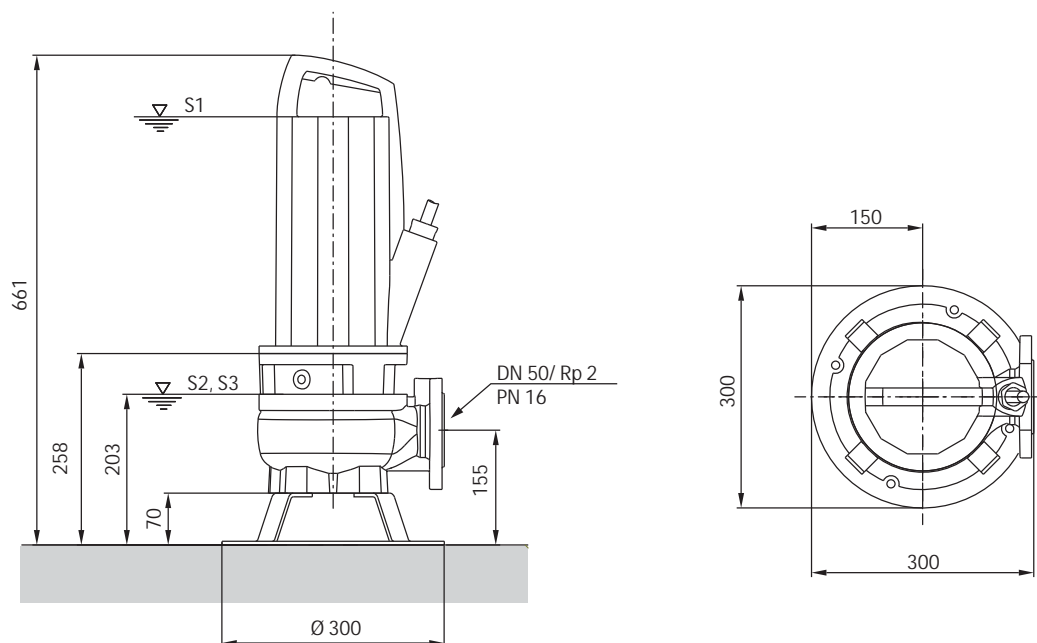


Dimensions, weights Wilo-Rexa PRO

Dimension drawing Wilo-Rexa FIT V05-21.. - portable wet well installation



Dimension drawing Wilo-Rexa FIT V05-22.. - portable wet well installation



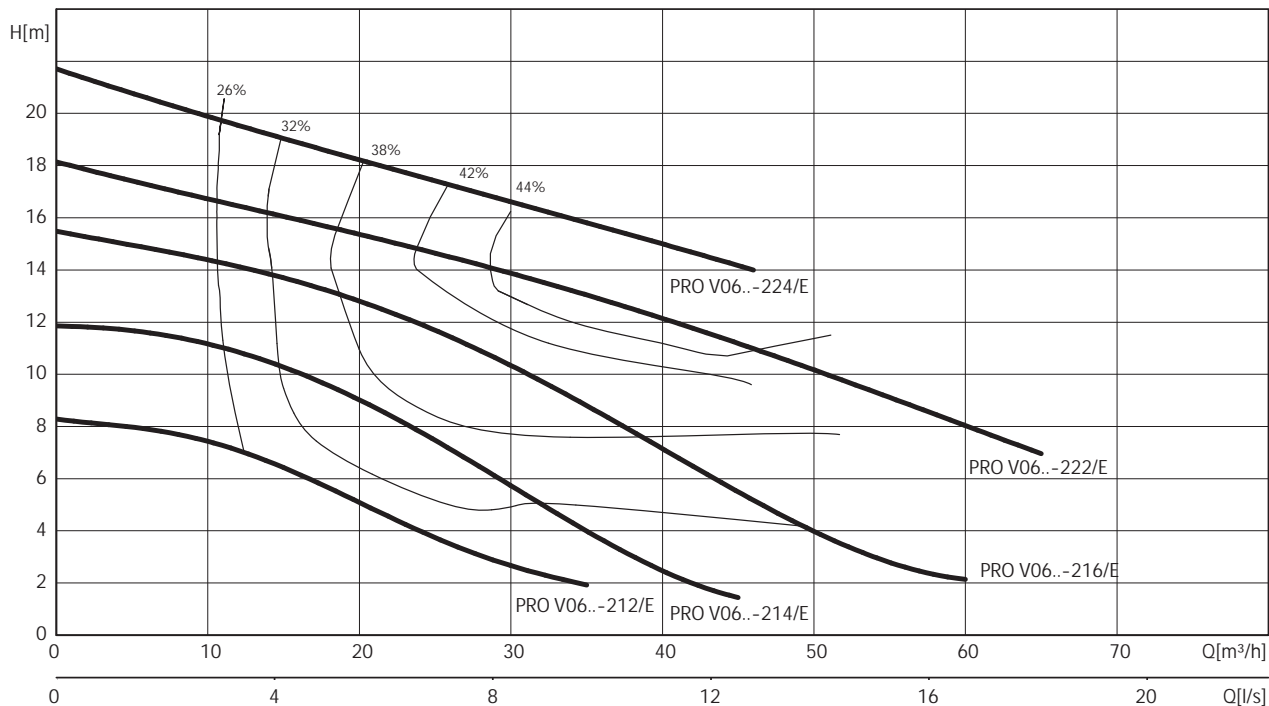
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-Rexa PRO V06

Pump curves Wilo-Rexa PRO V06.. - 50 Hz - No. of poles: 2

Vortex impeller - Free ball passage: 65 mm



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Pump type	Nominal motor power	Float switch	Mains plug	Weight approx.	Art no.		Art no.	
					1-230 V, 50 Hz		3-400 V, 50 Hz	
					P_2		m	
	kW			kg				
PRO V06DA-212/E...-O	1.1	-	-	49	6064728	L	6064729	L
PRO V06DA-214/E...-O	1.5	-	-	49	6064730	L	6064731	L
PRO V06DA-216/E...-O	2.5	-	-	53.3	-	-	6064732	L
PRO V06DA-222/E...-O	3.9	-	-	57.7	-	-	6064733	L
PRO V06DA-224/E...-O	3.9	-	-	57.7	-	-	6064734	L

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Rexa PRO V06

	PRO V06DA-212/E...-O	PRO V06DA-212/E...-O	PRO V06DA-214/E...-O	PRO V06DA-214/E...-O
	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz
Unit				
Pressure connection	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80
Free ball passage mm	65	65	65	65
Max. volume flow Q_{max} / m ³ /h	35	35	45	45
Max. delivery head H_{max} / m	8.3	8.3	11.9	11.9
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data				
Nominal current I_N / A	2.55	7.2	3.3	9.3
Starting current - direct I_A / A	20	29	20	29
Nominal motor power P_2 / kW	1.1	1.1	1.5	1.5
Power consumption P_1 / kW	1.5	1.6	2	2.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2898	2899	2858	2852
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Equipment/function				
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

Submersible pumps

Technical data Wilo-Rexa PRO V06

	PRO V06DA-216/E...-O	PRO V06DA-222/E...-O	PRO V06DA-224/E...-O
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit			
Pressure connection	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80
Free ball passage mm	65	65	65
Max. volume flow Q_{max} / m ³ /h	60	65	50
Max. delivery head H_{max} / m	15.6	18.1	21.6
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%
Max. immersion depth m	20	20	20
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40
Motor data			
Nominal current I_N / A	5.2	7.8	7.8
Starting current - direct I_A / A	31	66	66
Nominal motor power P_2 / kW	2.5	3.9	3.9
Power consumption P_1 / kW	3.2	4.8	4.8
Activation type	Direct	Direct	Direct
Nominal speed n / rpm	2840	2861	2861
Insulation class	F	F	F
Recommended switching frequency 1/h	20	20	20
Max. switching frequency 1/h	50	50	50
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5
Type of connecting cable	Detachable	Detachable	Detachable
Equipment/function			
Motor protection	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021

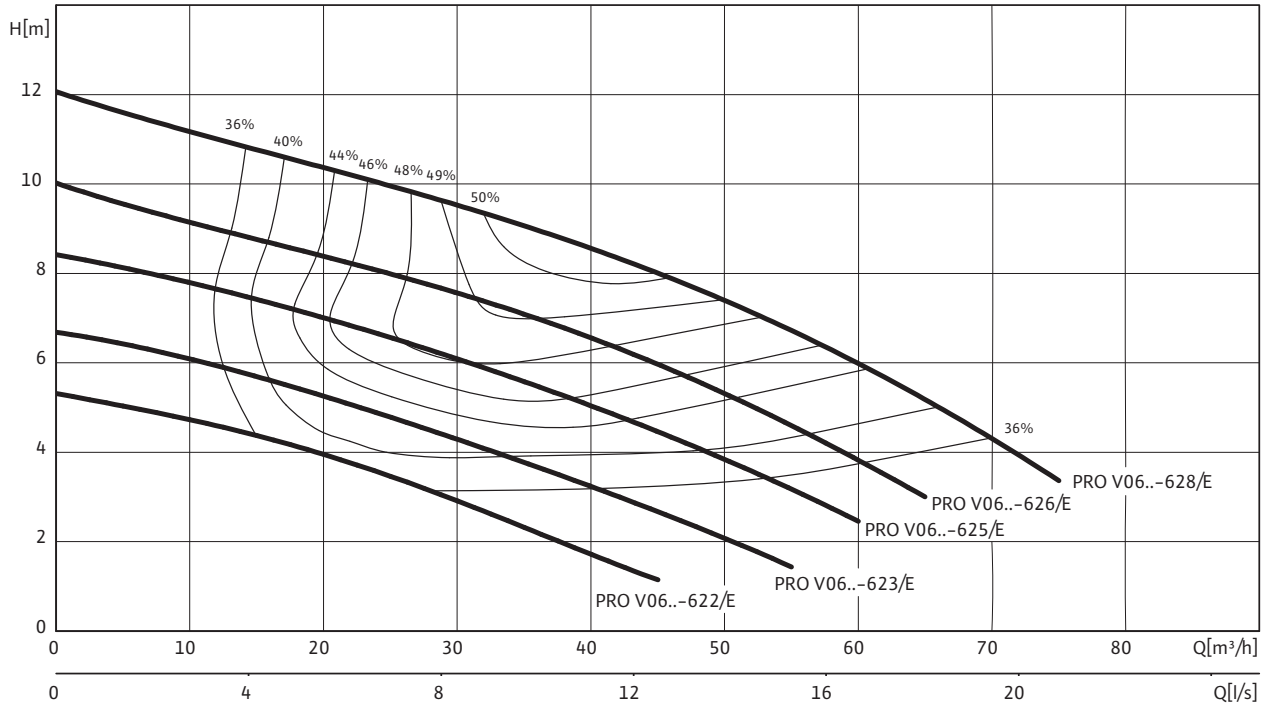
• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-Rexa PRO V06

Pump curves Wilo-Rexa PRO V06.. - 50 Hz - No. of poles: 4

Vortex impeller - Free ball passage: 65 mm



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Pump type	Nominal motor power	Float switch	Mains plug	Weight approx.	Art no.		Art no.	
					1~230 V, 50 Hz		3~400 V, 50 Hz	
	P_2			m				
	kW			kg				
PRO V06DA-622/E...-O	1.1	–	–	63.7	6064735	L	6064736	L
PRO V06DA-623/E...-O	1.5	–	–	63.7	6064737	L	6064738	L
PRO V06DA-625/E...-O	1.5	–	–	63.9	6064739	L	6064740	L
PRO V06DA-626/E...-O	2.5	–	–	66	–	–	6064741	L
PRO V06DA-628/E...-O	2.5	–	–	66.1	–	–	6064742	L

• = available, – = not available

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

Submersible pumps

Technical data Wilo-Rexa PRO V06

	PRO V06DA-622/E...-O	PRO V06DA-623/E...-O	PRO V06DA-625/E...-O
	1~230 V, 50 Hz	1~230 V, 50 Hz	1~230 V, 50 Hz
Unit			
Pressure connection	DN 65/DN 80	DN 65/DN 80	DN 65/DN 80
Free ball passage mm	65	65	65
Max. volume flow Q_{max} / m ³ /h	45	55	60
Max. delivery head H_{max} / m	5.3	6.7	8.4
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%
Max. immersion depth m	20	20	20
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40
Motor data			
Nominal current I_N / A	7.3	9.4	9.4
Starting current - direct I_A / A	25	25	25
Nominal motor power P_2 / kW	1.1	1.5	1.5
Power consumption P_1 / kW	1.6	2.2	2.2
Activation type	Direct	Direct	Direct
Nominal speed n / rpm	1453	1419	1419
Insulation class	F	F	F
Recommended switching frequency 1/h	20	20	20
Max. switching frequency 1/h	50	50	50
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5
Type of connecting cable	Detachable	Detachable	Detachable
Equipment/function			
Motor protection	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021

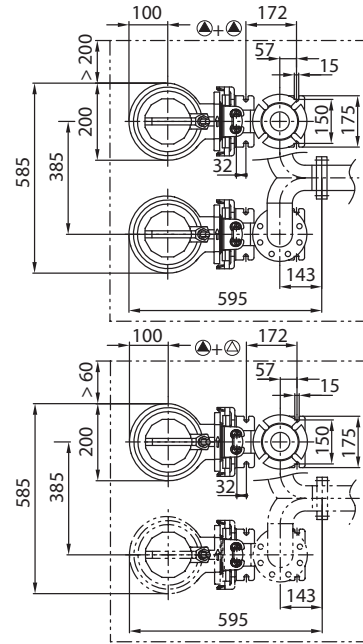
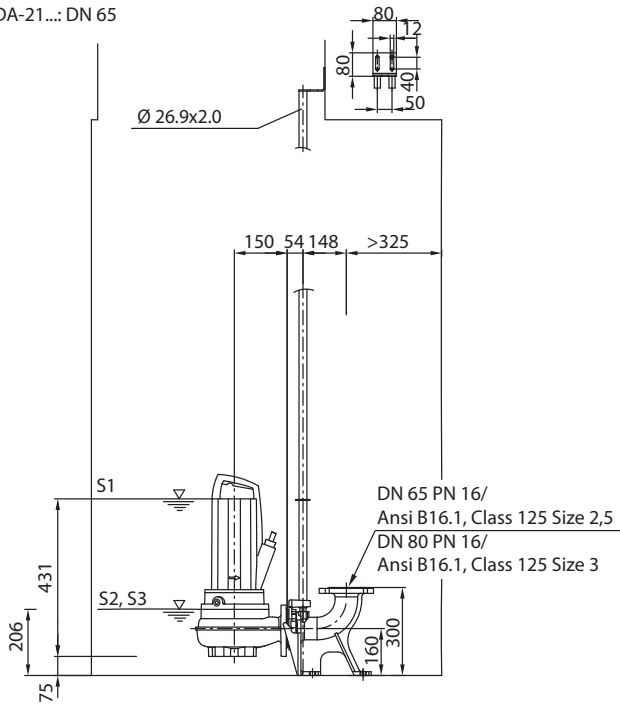
• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

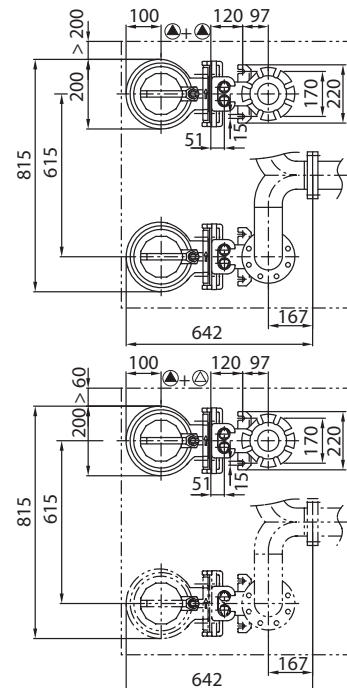
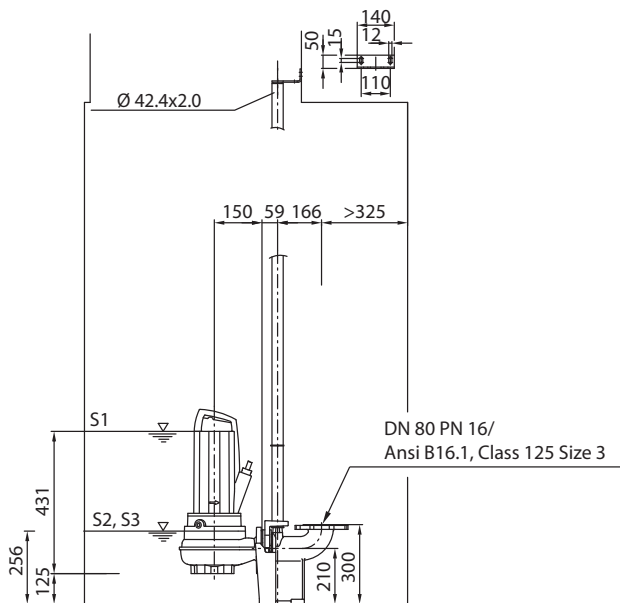
Dimensions, weights Wilo-Rexa PRO

Dimension drawing Wilo-Rexa PRO V06-21.. - Stationary wet well installation

PRO V06DA-21...: DN 65



PRO V06DA-21...: DN 80



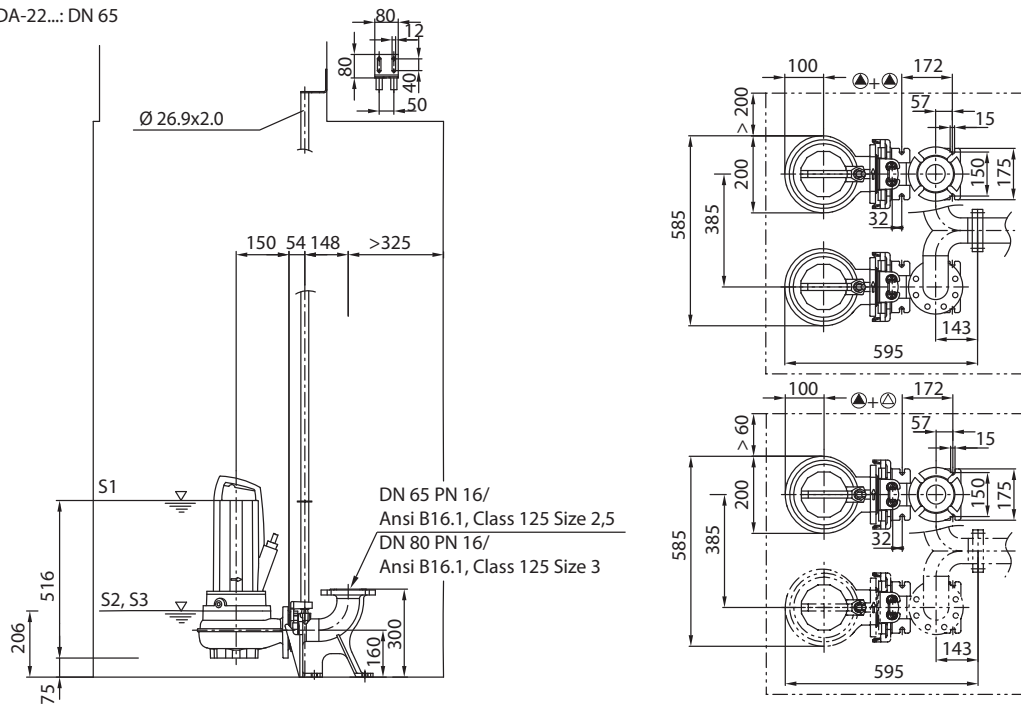
Wastewater transport

Submersible pumps

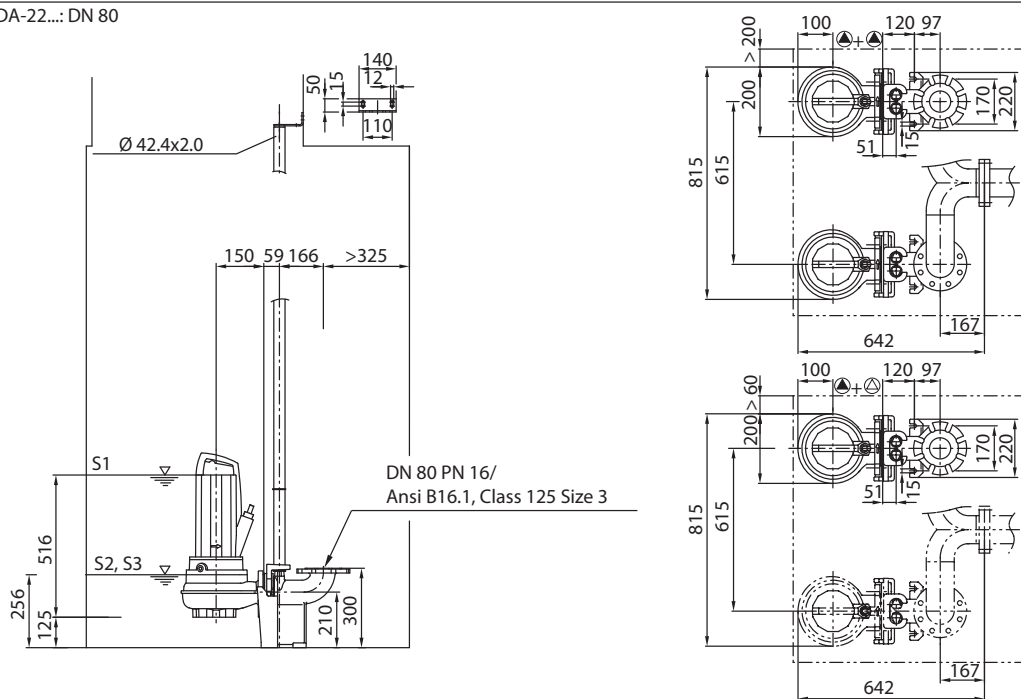
Dimensions, weights Wilo-Rexa PRO

Dimension drawing Wilo-Rexa PRO V06-22.. - Stationary wet well installation

PRO V06DA-22...: DN 65



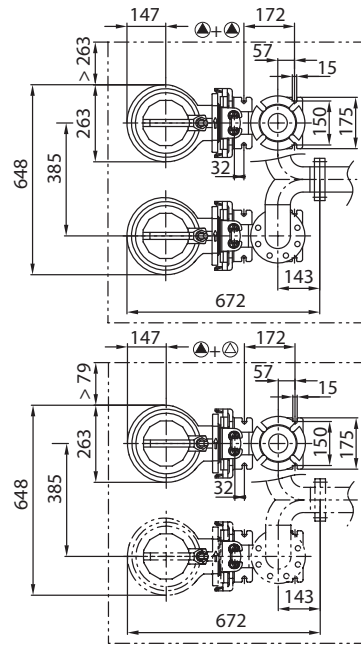
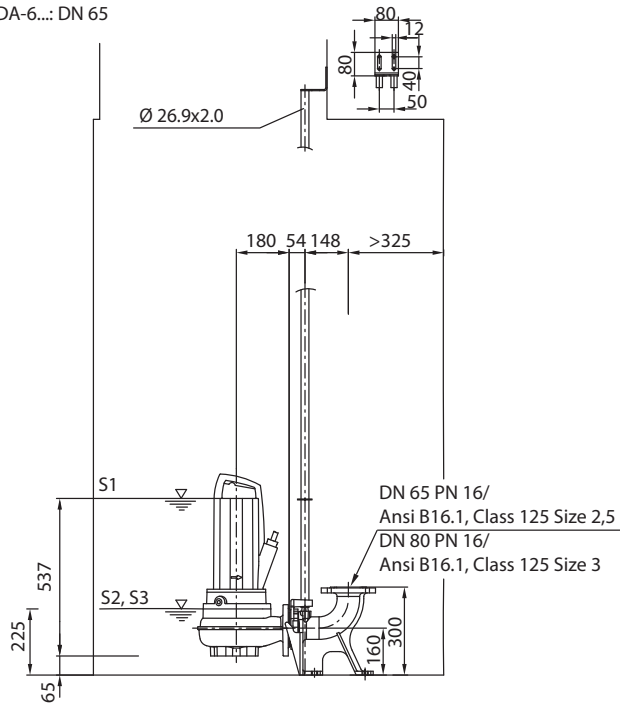
PRO V06DA-22...: DN 80



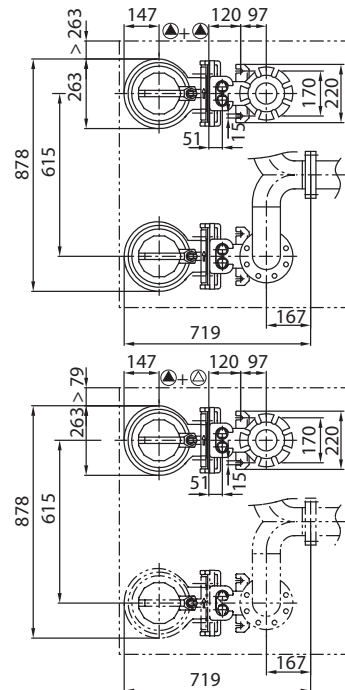
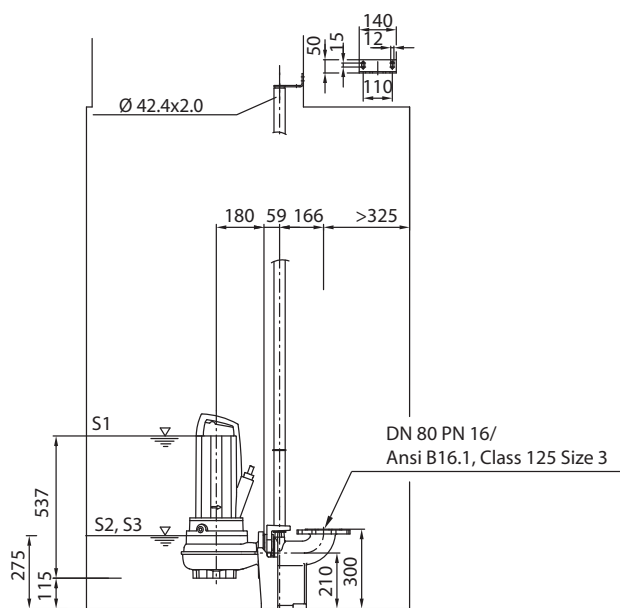
Dimensions, weights Wilo-Rexa PRO

Dimension drawing Wilo-Rexa PRO V06-62.. - Stationary wet well installation

PRO V06DA-6...: DN 65



PRO V06DA-6...: DN 80

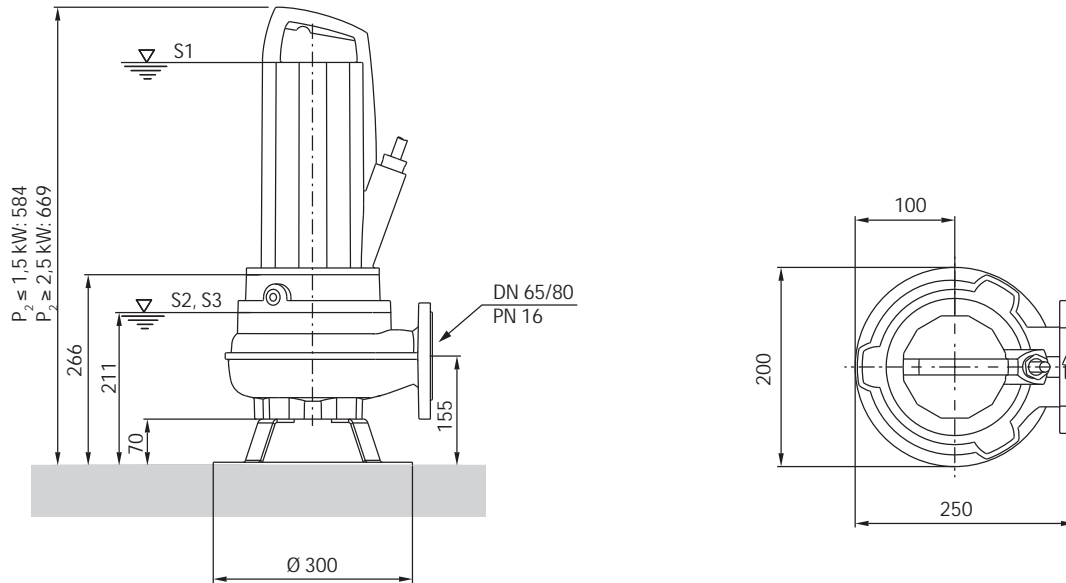


Wastewater transport

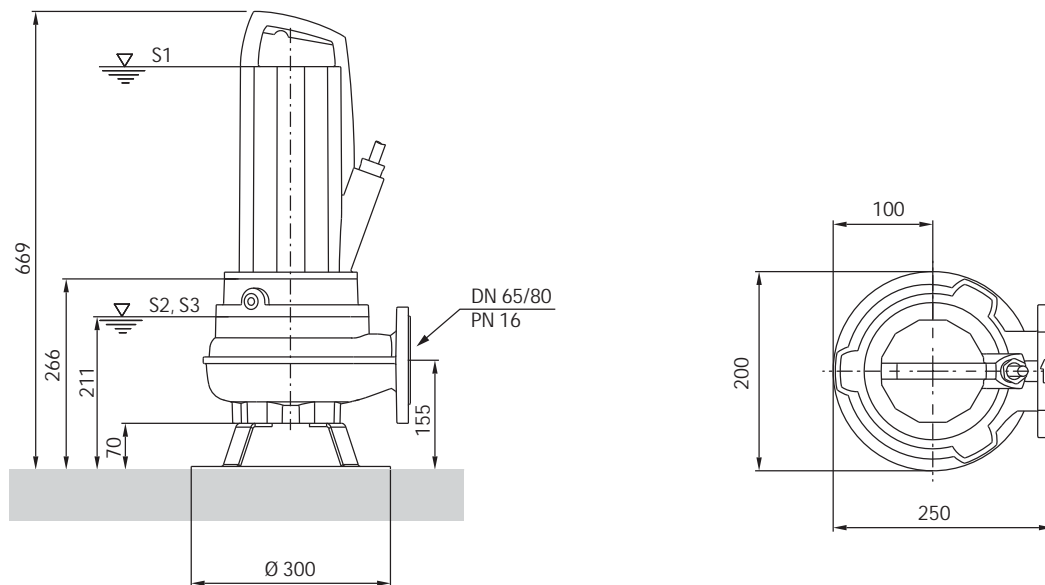
Submersible pumps

Dimensions, weights Wilo-Rexa PRO

Dimension drawing Wilo-Rexa PRO V06-21.. - portable wet well installation

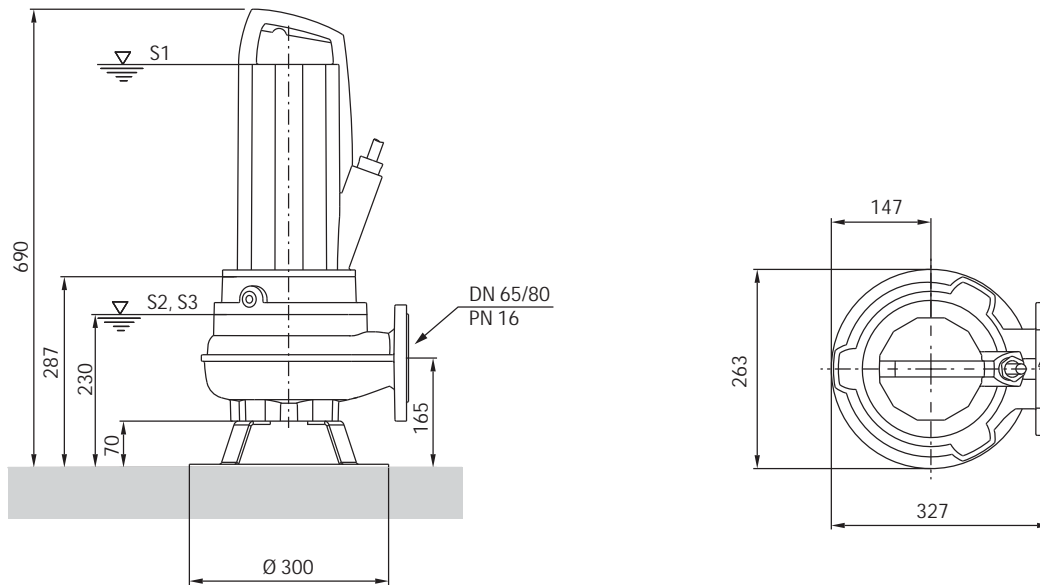


Dimension drawing Wilo-Rexa PRO V06-22.. - portable wet well installation



Dimensions, weights Wilo-Rexa PRO

Dimension drawing Wilo-Rexa PRO V06-62.. - portable wet well installation



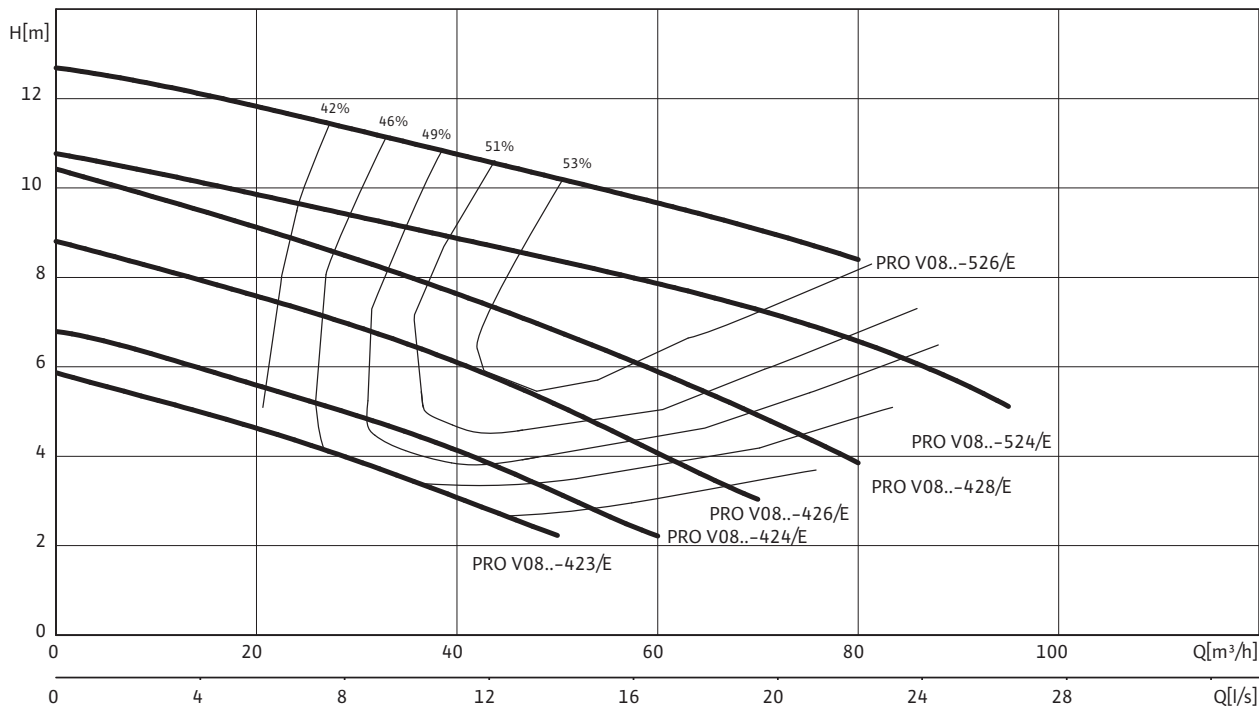
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-Rexa PRO V08

Pump curves Wilo-Rexa PRO V08.. - 50 Hz - No. of poles: 4

Vortex impeller - Free ball passage: 80 mm



Characteristic curves acc. to ISO 9906, Appendix A. The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Pump type	Nominal motor power	Float switch	Mains plug	Weight approx.	Art no.		Art no.	
					1~230 V, 50 Hz		3~400 V, 50 Hz	
	P_2 kW			m kg				
PRO V08DA-423/E...-O	1.1	–	–	72	6065933		6065934	
PRO V08DA-424/E...-O	1.1	–	–	72	6065935		6065936	
PRO V08DA-426/E...-O	1.5	–	–	72	6065937		6065938	
PRO V08DA-428/E...-O	2.5	–	–	73	–	–	6065939	
PRO V08DA-524/E...-O	3.5	–	–	77	–	–	6065941	
PRO V08DA-526/E...-O	3.5	–	–	77	–	–	6065942	

• = available, – = not available

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Rexa PRO V08

	PRO V08DA-423/E...-O	PRO V08DA-423/E...-O	PRO V08DA-424/E...-O	PRO V08DA-424/E...-O
	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 80/DN 100	DN 80/DN 100	DN 80/DN 100	DN 80/DN 100
Free ball passage mm	80	80	80	80
Max. volume flow Q_{max} / m ³ /h	50	50	60	60
Max. delivery head H_{max} / m	5.8	5.8	6.8	6.8
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data				
Nominal current I_N / A	7.3	3.05	7.3	3.05
Starting current - direct I_A / A	25	24.5	25	24.5
Nominal motor power P_2 / kW	1.1	1.1	1.1	1.1
Power consumption P_1 / kW	1.6	1.5	1.6	1.5
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1453	1436	1453	1436
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Equipment/function				
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021

• = available, - = not available

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

Submersible pumps

Technical data Wilo-Rexa PRO V08

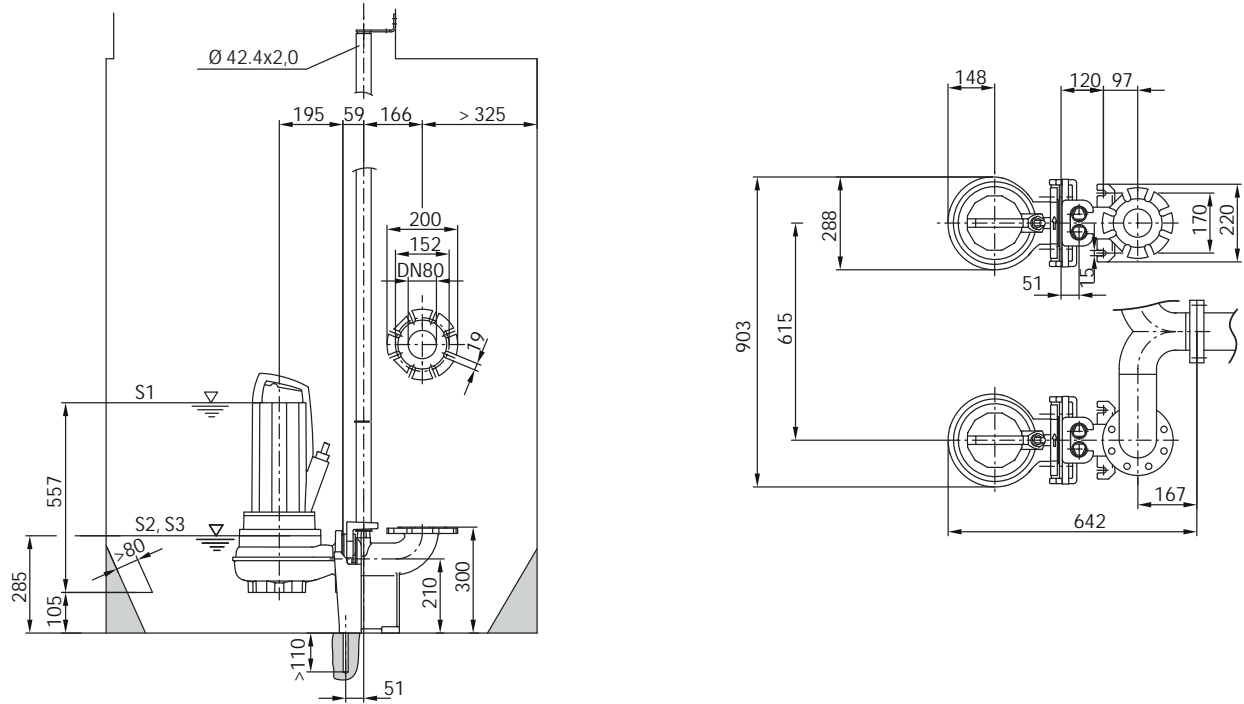
	PRO V08DA-426/E...-O	PRO V08DA-426/E...-O	PRO V08DA-428/E...-O	PRO V08DA-524/E...-O	PRO V08DA-526/E...-O
	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit					
Pressure connection	DN 80/DN 100	DN 80/DN 100	DN 80/DN 100	DN 80/DN 100	DN 80/DN 100
Free ball passage mm	80	80	80	80	80
Max. volume flow Q_{max} / m ³ /h	70	70	80	95	80
Max. delivery head H_{max} / m	8.8	8.8	10.4	10.8	12.7
Operating mode (immersed)	S1	S1	S1	S1	S1
Operating mode (non-immersed)	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%	S2-30 min S3-25%
Max. immersion depth m	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Motor data					
Nominal current I_N / A	3.7	9.4	5.8	8.1	8.1
Starting current - direct I_A / A	24.5	25	35.5	51	51
Nominal motor power P_2 / kW	1.5	1.5	2.5	3.45	3.45
Power consumption P_1 / kW	2	2.2	3.3	4.5	4.5
Activation type	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1413	1419	1402	1393	1393
Insulation class	F	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20	20
Max. switching frequency 1/h	50	50	50	50	50
Permitted voltage tolerance %	±10	±10	±10	±10	±10
Cable					
Length of connecting cable m	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable	Detachable
Equipment/function					
Motor protection	WSK	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX	ATEX
Materials					
Static seal	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite	Carbon/steatite
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021

• = available, - = not available

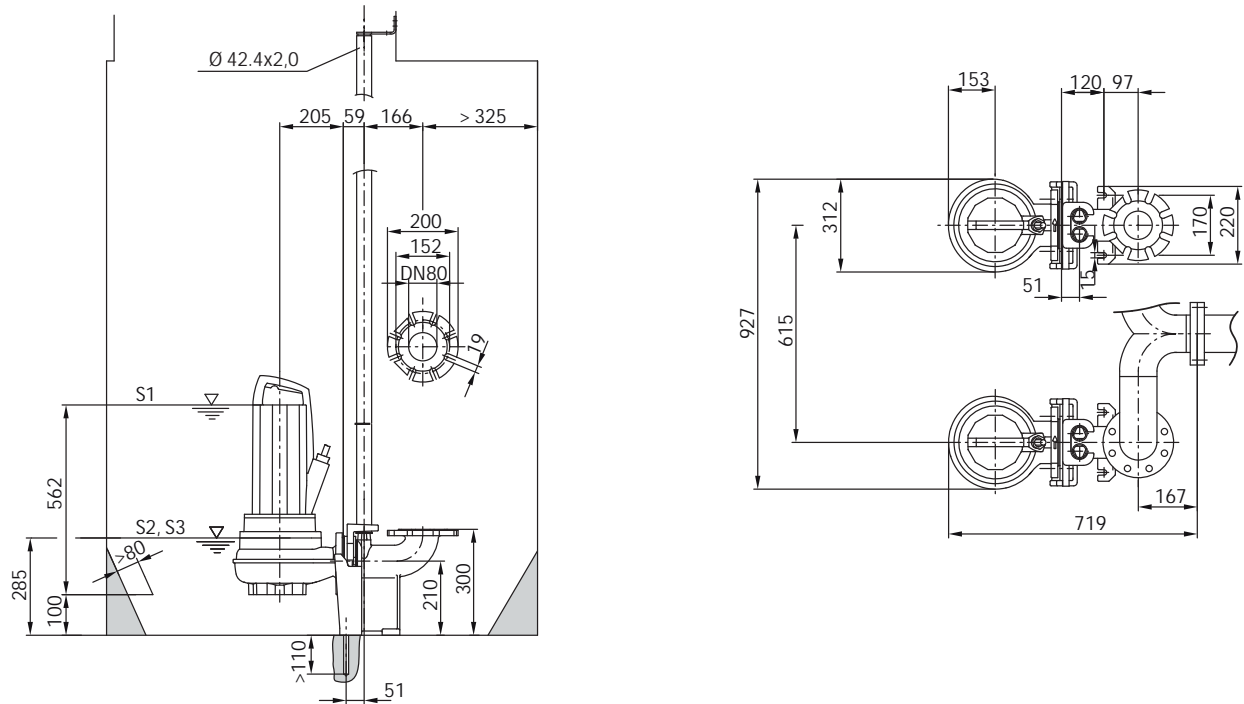
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions, weights Wilo-Rexa PRO

Dimension drawing Wilo-Rexa PRO V08-42.. - Stationary wet well installation



Dimension drawing Wilo-Rexa PRO V08-52.. - Stationary wet well installation

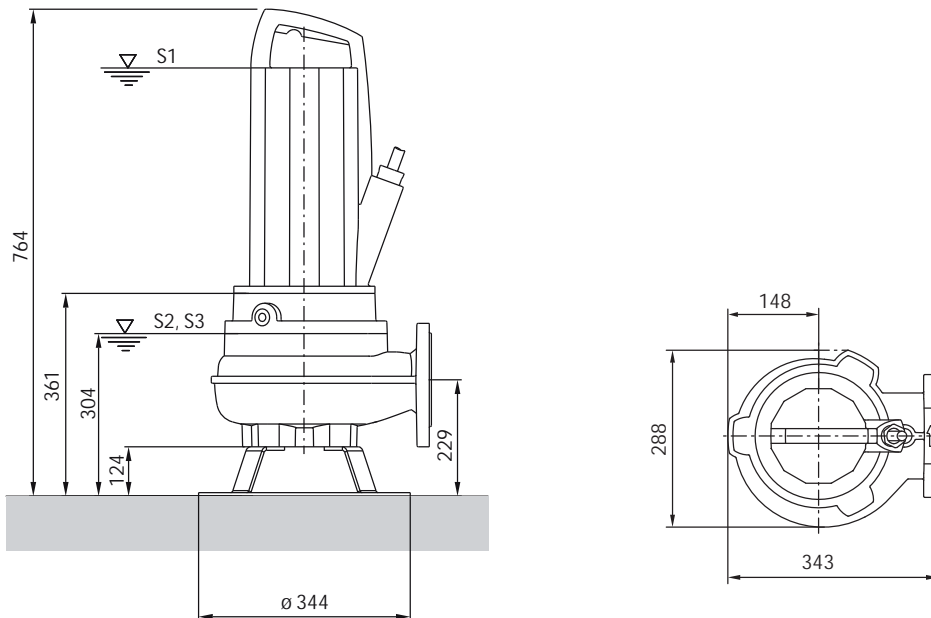


Wastewater transport

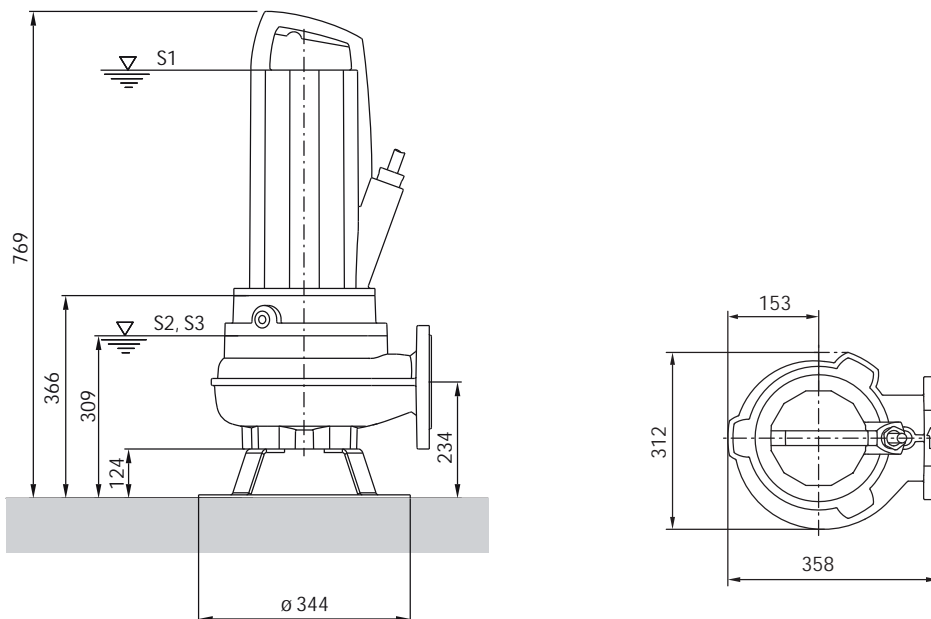
Submersible pumps

Dimensions, weights Wilo-Rexa PRO

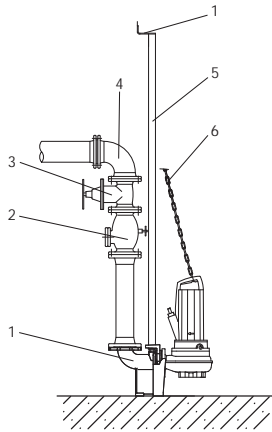
Dimension drawing Wilo-Rexa PRO V08-42.. - portable wet well installation



Dimension drawing Wilo-Rexa PRO V08-52.. - portable wet well installation

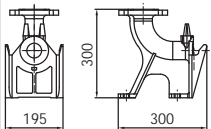
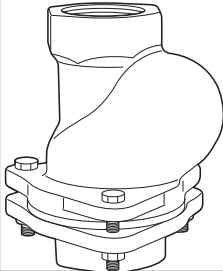
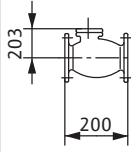
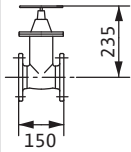
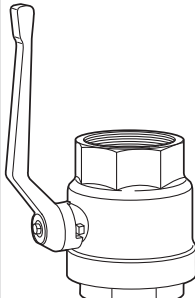


Mechanical accessories



- 1 Suspension unit
- 2 Non-return valve
- 3 Gate valve
- 4 Pipe elbow
- 5 Guide pipe
- 6 Chain

Stationary wet well installation DN 50

		Description	Art no.
Suspension unit DN50/2RK		For 2-pipe guide of EN-GJL-250, powder-coated, with free passage in DN 50, coupling foot with 90° pipe elbow, including coupling connection, guide pipe bracket of stainless steel for sump fixation, profile joint and mounting accessories, pressure-side connection DN 50; two guide pipes (26.9 x 2 mm) are to be provided by the customer!	6070146
Non-return ball valve		Made of EN-GJL-250, with Rp 2 female thread for DN 50 connection	4027331
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 50 connection	2017166
Gate valve		Made of EN-GJL-250, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, DN 50	2017160
Shut-off ball valve		Made of brass, nickel-plated, with Rp 2 female thread for DN 50 connection	4027338

Wastewater transport

Submersible pumps

Mechanical accessories

Stationary wet well installation DN 50

		Description	Art no.
Y-piece DN 50		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 50/50/50 connection	2019042
Mounting accessories DN 40/50		For a DN 40/50 flange connection, with 4 screws, 4 nuts and 1 flat gasket for PN 10/16 flange, DIN 2501	2057177
Guide pipe bracket		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 cast-iron pipe, including mounting accessories of A4	6066851
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 steel pipe, including mounting accessories of A4	6061084
Bracket for guide pipe extension		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 cast-iron pipe, including mounting accessories of A4	6066852
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 steel pipe, including mounting accessories of A4	6066846
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Mechanical accessories

Stationary wet well installation DN 65

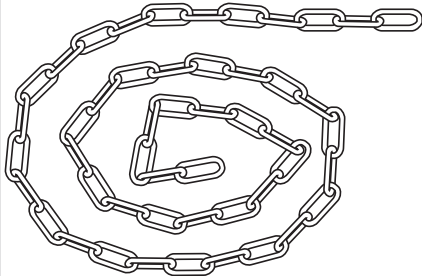
		Description	Art no.
Suspension unit DN65/2RK		For 2-pipe guide, of EN-GJL-250, powder-coated, with free passage in DN 65, coupling foot with 90° pipe elbow, including coupling connection, guide pipe bracket of stainless steel for sump fixation, profile joint and mounting accessories, pressure-side connection DN 65; two guide pipes (26.9 x 2 mm) are to be provided by the customer!	6070150
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 65 connection	2017167
Gate valve		Made of EN-GJL-250, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, DN 65	2017161
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 65 connection	2017183
Y-piece DN 65		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 65/65/65 connection	2017178
Mounting accessories DN 65		For a DN 65 flange connection, with 4 screws, 4 nuts and 1 flat gasket for flanges, PN 10/16, DIN 2502	2012068
Guide pipe bracket		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 cast-iron pipe, including mounting accessories of A4	6066847
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 steel pipe, including mounting accessories of A4	6066848
Bracket for guide pipe extension		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 cast-iron pipe, including mounting accessories of A4	6066849
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 steel pipe, including mounting accessories of A4	6066850

Wastewater transport

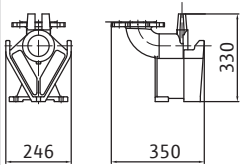
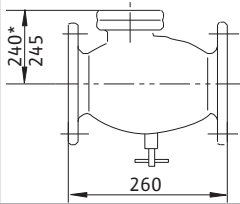
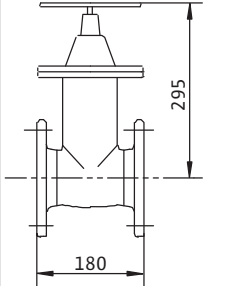
Submersible pumps

Mechanical accessories

Stationary wet well installation DN 65

		Description	Art no.
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Stationary wet well installation DN 80

		Description	Art no.
Suspension unit DN 80/2RK		Made of EN-GJL-250, painted, with free passage in DN 80, foot elbow including pump holder, profile joint, installation and floor fixation accessories and guide pipe bracket without guide pipes. Connection on pressure side DN 80/PN16 in acc. with DIN 2501. The double pipe feed (42.4x2 mm) is to be provided by the customer.	6036888
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 80 connection	2017168
Gate valve		Made of EN-GJL-250, incl. 1 set of installation accessories, PN 10/16 flanges in accordance with DIN 2501, DN 80	2017162

Mechanical accessories

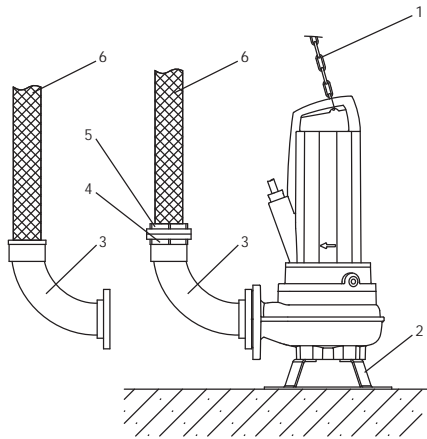
Stationary wet well installation DN 80

		Description	Art no.
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 80 connection	2012064
Y-piece DN 80		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 80/80/80 connection	2017179
Mounting accessories DN 80		For a DN 80 flange connection, with 8 screws, 8 nuts and 1 flat gasket for PN 10/16 flange, DIN 2502	2012067
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Wastewater transport

Submersible pumps

Mechanical accessories



- 1 Chain
- 2 Pump base
- 3 Pipe elbow for hose connection or Storz pipe coupling
- 4 Storz pipe coupling
- 5 Storz hose coupling
- 6 Pressure hose

Portable wet well installation with hose connection DN 50

		Description	Art no.
Pipe elbow 90° R2/G2		Made of steel, galvanized with G 2 / R 2 female/male thread for DN 50 connection	4027332
Adapter DN 50 on Rp 2		Made of steel, galvanized, DN 50 threaded flange, PN 10/16, DIN 2566 with Rp 2 female thread, incl. 1 set of mounting accessories for DN 50 connection	4027333
Hose connection		Made of plastic, hose nozzle with Ø 60 mm including hose clip, G 2 male thread for direct hose connection	4027334
Pressure hose		Synthetic, inner Ø 60 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle, Ø 60 mm	2018106

Mechanical accessories

Portable wet well installation with hose connection DN 50

		Description	Art no.
Floor supporting foot DN 50/65		Made of steel (S235JR) with 4 supports for connection to DN 50/65, powder coated, incl. fixation material	6064666
Pipe bend 90°		Made of PVC, with hose nozzle (Ø 60 mm) for direct hose connection, flange on pump side, incl. 1 set of mounting accessories for DN 50 connection	4027344
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Wastewater transport

Submersible pumps

Mechanical accessories

Portable wet well installation with hose connection DN 65

		Description	Art no.
Pipe bend 90°		Made of steel, galvanised with G 2½ / R 2½ female/male thread for DN 65 connection	4015212
Floor supporting foot DN 50/65		Made of steel (S235JR) with 4 supports for connection to DN 50/65, powder coated, incl. fixation material	6064666
Adapter DN 65 on Rp 2½		Made of steel, galvanized, DN 65 threaded flange, PN 10/16, DIN 2566 with Rp 2½ female thread, incl. 1 set of mounting accessories for DN 65 connection	4015204
Hose connection		Made of brass, hose nozzle with Ø 70 mm, including hose clip, G 2½ male thread for direct hose connection	4015210
Pipe bend 90°		Made of EN-GJL-250, with hose nozzle (Ø 70 mm) for direct hose connection, flange on pump side, incl. 1 set of mounting accessories for DN 65 connection	4027346
Pressure hose		Synthetic, inner Ø 70 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle, Ø 70 mm	2014151

Mechanical accessories

Portable wet well installation with hose connection DN 65

		Description	Art no.
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Wastewater transport

Portable wet well installation with Storz coupling DN 50

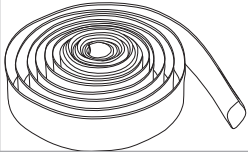
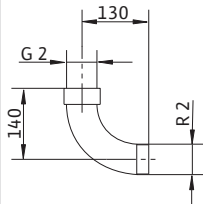
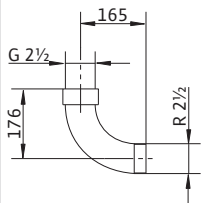
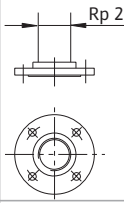
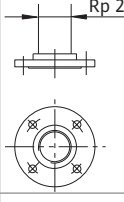
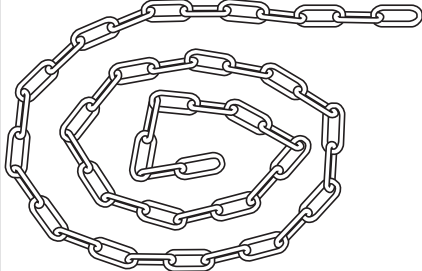
		Description	Art no.
Floor supporting foot DN 50/65		Made of steel (S235JR) with 4 supports for connection to DN 50/65, powder coated, incl. fixation material	6064666
Storz C pipe coupling with male thread G 2		Made of aluminium, Storz C connection, with G 2 male thread, tappet clearance 66 mm for a DN 50 connection	2018102
Storz hose coupling		Made of aluminium, Storz A connection, with hose nozzle (Ø 52 mm), tappet clearance 66 mm, incl. hose clip	2015235
Storz pipe coupling with male thread G 2½		Made of aluminium, Storz C connection, with G 2½ male thread, tappet clearance 66 mm for a DN 65 connection	2015234

Wastewater transport

Submersible pumps

Mechanical accessories

Portable wet well installation with Storz coupling DN 50

		Description	Art no.
Pressure hose		Synthetic, inner Ø 52 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle (Ø 50 mm) or a Storz C hose coupling	2017192
Pipe elbow 90° R2/G2		Made of steel, galvanized with G 2 / R 2 female/male thread for DN 50 connection	4027332
Pipe bend 90°		Made of steel, galvanized with G 2 1/2 / R 2 1/2 female/male thread for DN 65 connection	4015212
Adapter DN 50 on Rp 2		Made of steel, galvanized, DN 50 threaded flange, PN 10/16, DIN 2566 with Rp 2 female thread, incl. 1 set of mounting accessories for DN 50 connection	4027333
Adapter DN 65 on Rp 2 1/2		Made of steel, galvanized, DN 65 threaded flange, PN 10/16, DIN 2566 with Rp 2 1/2 female thread, incl. 1 set of mounting accessories for DN 65 connection	4015204
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Mechanical accessories

Portable wet well installation with Storz coupling DN 80

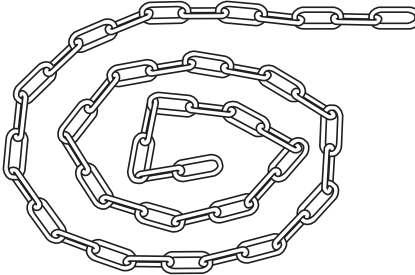
		Description	Art no.
Floor supporting foot DN 80/100		Made of steel (S235JR) with 4 supports for connection to DN 80/100, powder-coated, incl. fixation material	6065949
		Made of stainless steel (1.4571) with 4 supports for connection to DN 80/100, incl. fixation material	6065953
Pipe elbow 90° with Storz B pipe coupling and female thread R 3		Made of EN-GJL-250, with R 3 male thread, DN 80 flange on pump side, incl. 1 set of mounting accessories and Storz B fixed coupling, G 3 female thread	6031385
Pressure hose / Storz B		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 5 m incl. Storz B coupling, 12/40 bar	6003052
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 10 m incl. Storz B coupling, 12/40 bar	6003051
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 20 m incl. Storz B coupling, 12/40 bar	6003050

Wastewater transport

Submersible pumps

Mechanical accessories

Portable wet well installation with Storz coupling DN 80

		Description	Art no.
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Series description Wilo-EMU FA (standard variant)



Design

Submersible sewage pump

Type key

E.g.:	Wilo-EMU FA 08.22W-133+T12-2/11
FA	Submersible sewage pump
08	Nominal diameter of DN 80 pressure connection
22	Performance indicator
W	Impeller shape (W = vortex impeller, E = single-channel impeller)
133	Impeller diameter [mm]
T	Motor version
12	Size
2	Number of poles
11	Package length [cm]

Application

- Pumping of sewage with solid constituents in water treatment systems and pumping stations
- Local drainage, water control and process water extraction
- Applications in construction and industry

Special features/product advantages

- Operation in stationary and portable wet well installation
- Heavy-duty version made of grey cast iron
- Easy installation due to suspension unit or pump base
- Longitudinally watertight cable lead-in
- Cable length 10 m
- ATEX approval

Technical data

- Mains connection: 3-400 V, 50 Hz
- Immersed operating mode: S1
- Surfaced operating mode: S1, S2-15 or S2-30 (depending on type)
- Thermal motor monitoring
- Protection class: IP 68
- Insulation class: F
- Fluid temperature: 3 - 40 °C
- Cable length: 10 m
- Free ball passage from 45 mm to 100 mm
- Permanently lubricated roller bearings
- Max. immersion depth: 20 m

Equipment/function

- Stationary dry well installation possible for short-term operation, S1 and S2 (depending on type)
- Heavy-duty version made of cast iron
- Simple installation via suspension unit or pump base

Materials

- Pump housing: EN-GJL-250
- Impeller: EN-GJL or EN-GJS
- Static seals: NBR
- Mechanical seal on pump side: SiC/SiC
- Mechanical seal on motor side: SiC/SiC (depending on type)
- Rotary shaft seal on motor side: NBR (depending on type)
- Motor housing: EN-GJL-250
- Shaft: Stainless steel 1.4021

Description/design

Submersible sewage pump as submersible monobloc unit for stationary and portable wet well installation.

Hydraulics

The outlet on the pressure side is designed as horizontal flange connection. The maximum possible dry matter content is 8%, depending on the hydraulics and impeller type.

The following impeller shapes are used:

- Vortex impeller (W)
- Single-channel impeller (E)

Each single-channel hydraulic system (E) is equipped with a counter ring and stationary wear ring made of hardened material (except for FA 08.41E). These ensure the consistently high efficiency of the unit for a long duration.

Motor

Dry motors (T motors) give off their heat directly to the surrounding fluid via the housing components and can be used in immersed state for permanent operation. Depending on the size, they can also be used in non-immersed state for short-term operation.

All motors have a sealing chamber that protects the motor from fluid ingress. It can be accessed from the outside and can be monitored with an optional sealing chamber electrode.

Wastewater transport

Submersible pumps

Series description Wilo-EMU FA (standard variant)

All filling fluids used are potentially biodegradable and environmentally safe.

The cable inlet of the dry motors is longitudinally watertight. The cable length is 10 m.

Sealing

Fluid-side and motor-side sealing is possible in the following versions depending on the motor type:

- Version H: Mechanical seal for the fluid side, rotary shaft seal for the motor side
- Version G: Two independently operating mechanical seals

Scope of delivery

- Pump ready for connection with 10 m connecting cable without plug
- Installation and operating instructions

Commissioning

Operation with surfaced motor:

Surfacing of the self-cooling motors (FA 05.11W and FA 05.33E) is permitted.

Dry motors (T motors) may be surfaced only if an operating mode for surfaced operation is specified.

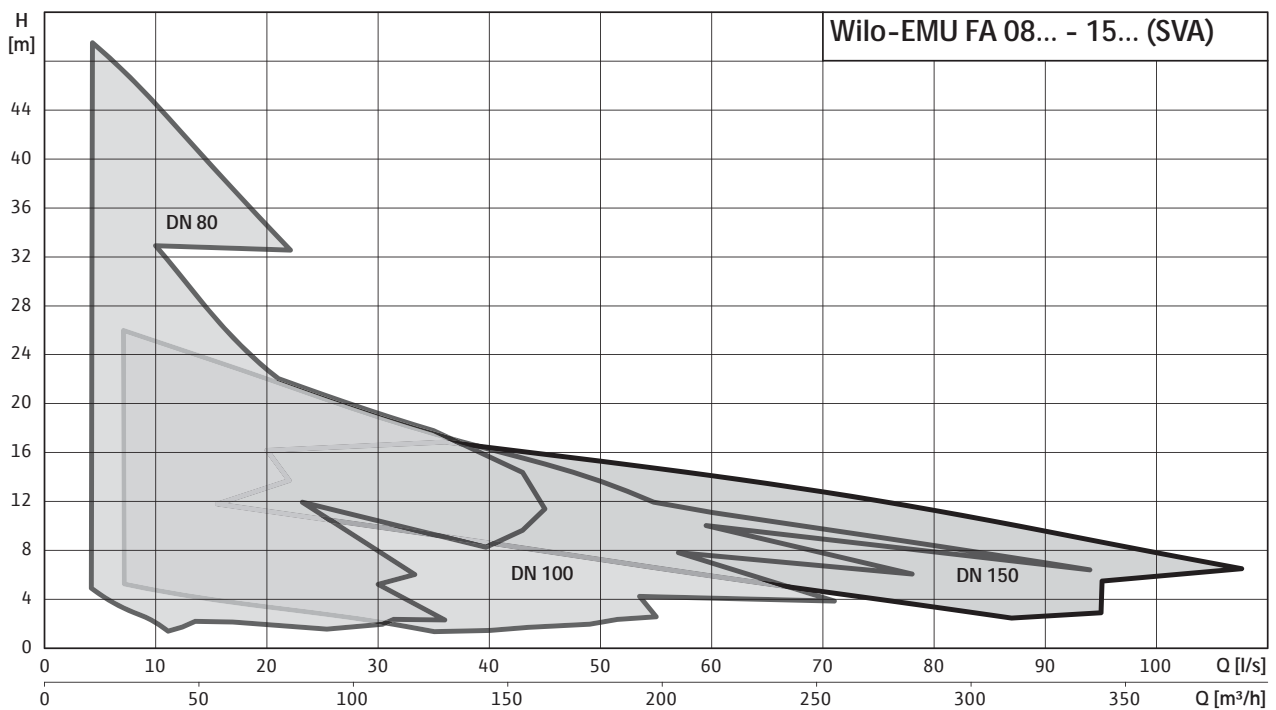
Dry-running protection system:

The hydraulic housing must always be immersed to prevent air from being drawn in. In the case of fluctuating fluid levels, the system should shut down automatically once the minimum water submersion is reached.

Accessories

- Suspension unit or pump base
- Various pressure outlets and Storz couplings
- Chains
- Switchgears, relays and plugs

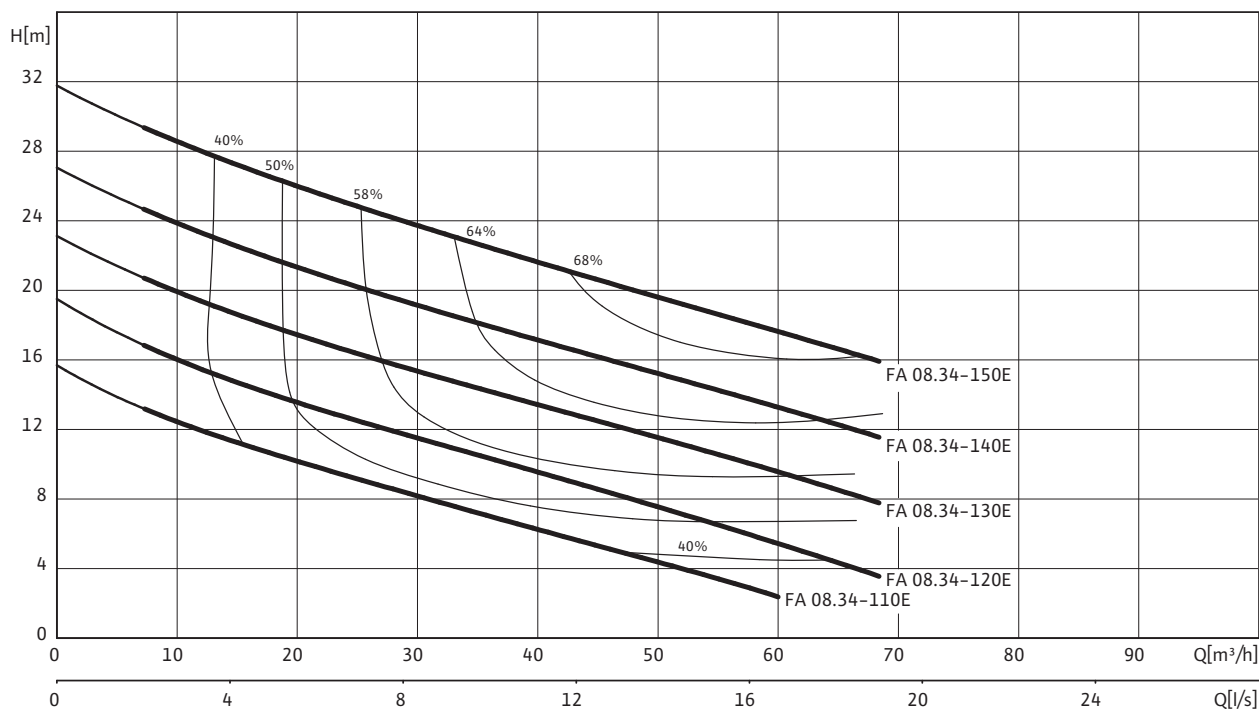
Duty chart



Pump curves, ordering information Wilo-EMU FA 08.34E (2900 rpm)

Pump curves Wilo-EMU FA 08.34E - 50 Hz - 2900 rpm

Single-channel impeller - Free ball passage: 45 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 08.34-110E + T 13-2/12HEX	3-400 V, 50 Hz	K	6047536
FA 08.34-120E + T 13-2/12HEX	3-400 V, 50 Hz	K	6035722
FA 08.34-130E + T 13-2/12HEX	3-400 V, 50 Hz	K	6047552
FA 08.34-140E + T 13-2/12HEX	3-400 V, 50 Hz	L	6047560
FA 08.34-150E + T 13-2/16HEX	3-400 V, 50 Hz	K	6047568

Wastewater transport

Submersible pumps

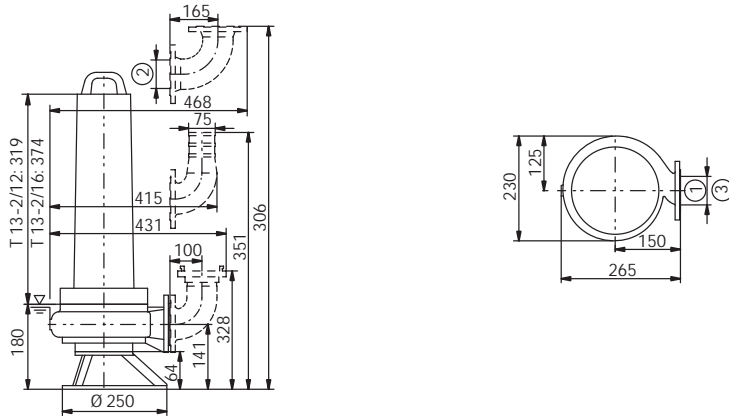
Technical data Wilo-EMU FA 08.34E (2900 rpm)

	FA 08.34-110E + T 13-2/12HEX	FA 08.34-120E + T 13-2/12HEX	FA 08.34-130E + T 13-2/12HEX	FA 08.34-140E + T 13-2/12HEX	FA 08.34-150E + T 13-2/16HEX
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit					
Pressure connection	DN 80	DN 80	DN 80	DN 80	DN 80
Free ball passage mm	45	45	45	45	45
Max. volume flow Q_{max} / m ³ /h	60.1	71.3	83.2	87.8	87.8
Max. delivery head H_{max} / m	15.6	19.4	23	27	31.7
Operating mode (immersed)	S1	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S2-15 min	S2-15 min	S2-15 min
Max. immersion depth m	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	54.5	54.5	55	55	58.5
Motor data					
Nominal current I_N / A	5	5	7.6	7.6	7.6
Starting current I_A / A	37	37	37	37	37
Nominal motor power P_2 / kW	2.2	2.2	3.75	3.75	5
Power consumption P_1 / kW	2.8	2.8	4.7	4.7	6
Activation type	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2890	2890	2825	2825	2825
Insulation class	F	F	F	F	F
Recommended switching frequency 1/h	–	–	–	–	–
Max. switching frequency 1/h	15	15	15	15	15
Permitted voltage tolerance %	±10	±10	±10	±10	±10
Cable					
Length of connecting cable m	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–	–	–
Equipment/function					
Float switch	–	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX	ATEX
Materials					
Static seal	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	NBR	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021

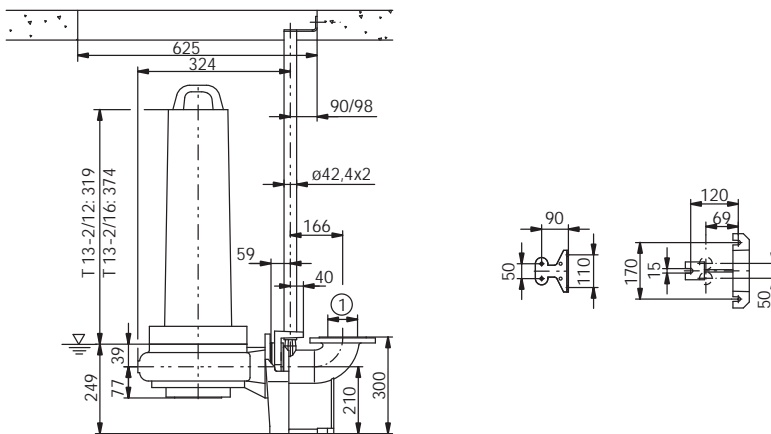
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-EMU FA 08.34E (2900 rpm)

Dimension drawing Wilo-EMU FA 08.34E - portable wet well installation



Dimension drawing Wilo-EMU FA 08.34E - stationary wet well installation



1 = DN80 PN10 / ANSI B16.1, Class 125, Size 3; 2 = DN80 PN10; 3 = DN65 PN10 / ANSI B16.1, Class 125, Size 2,5

Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 13-2/12 (Ex)	319
T 13-2/16 (Ex)	374

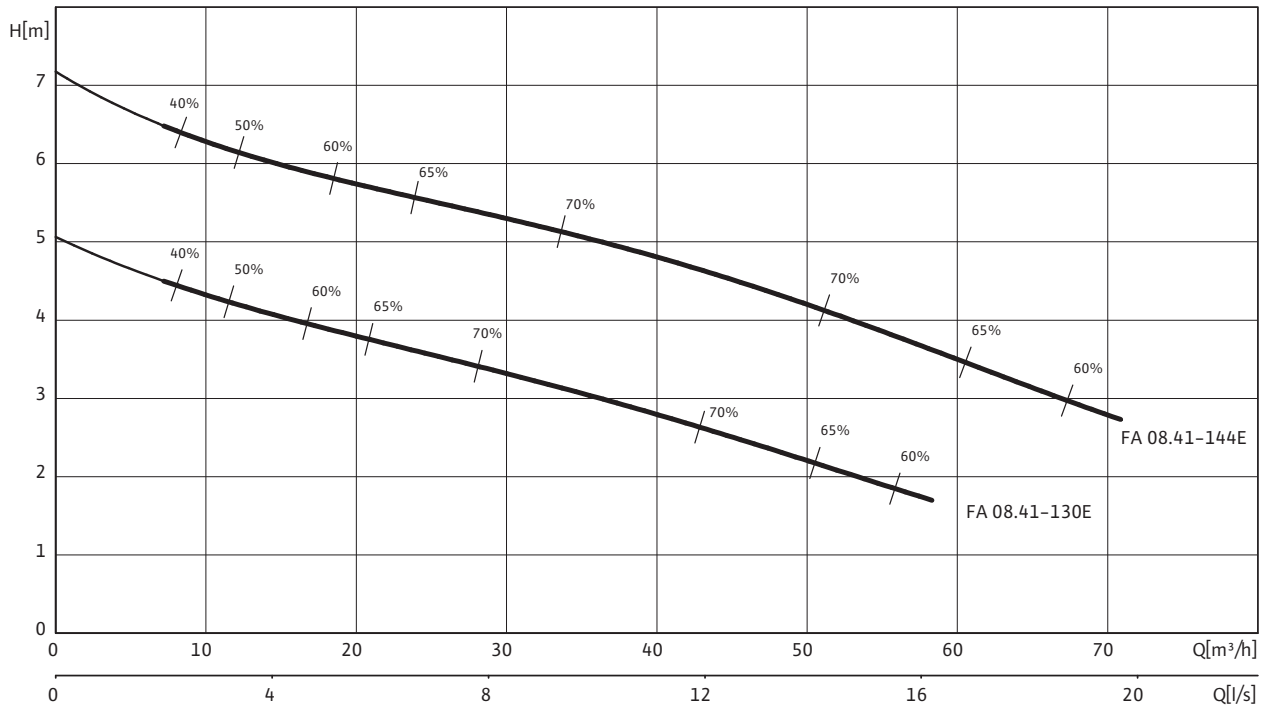
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-EMU FA 08.41E (1450 rpm)

Pump curves Wilo-EMU FA 08.41E - 50 Hz - 1450 rpm

Single-channel impeller - Free ball passage: 65 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 08.41-130E + T 12-4/11GEx	3~400 V, 50 Hz	L	6047580
FA 08.41-144E + T 12-4/11GEx	3~400 V, 50 Hz	L	6046640

Technical data Wilo-EMU FA 08.41E (1450 rpm)

	FA 08.41-130E + T 12-4/11GEx	FA 08.41-144E + T 12-4/11GEx
	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit		
Pressure connection	DN 80	DN 80
Free ball passage mm	65	65
Max. volume flow Q_{max} / m ³ /h	58.3	70.9
Max. delivery head H_{max} / m	5	7
Operating mode (immersed)	S1	S1
Operating mode (non-immersed)	S1	S2-15 min
Max. immersion depth m	20	20
Protection class	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40
Weight approx. m / kg	38	38
Motor data		
Nominal current I_N / A	2.5	3.3
Starting current I_A / A	16	16
Nominal motor power P_2 / kW	0.5	1.3
Power consumption P_1 / kW	0.8	1.8
Activation type	Direct	Direct
Nominal speed n / rpm	1460	1392
Insulation class	F	F
Recommended switching frequency 1/h	–	–
Max. switching frequency 1/h	15	15
Permitted voltage tolerance %	±10	±10
Cable		
Length of connecting cable m	10	10
Cable type	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5
Type of connecting cable	Non-detachable	Non-detachable
Mains plug	–	–
Equipment/function		
Float switch	–	–
Motor protection	WSK	WSK
Explosion protection	ATEX	ATEX
Materials		
Static seal	NBR	NBR
Impeller	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	SiC/SiC	SiC/SiC
Mechanical seal	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021

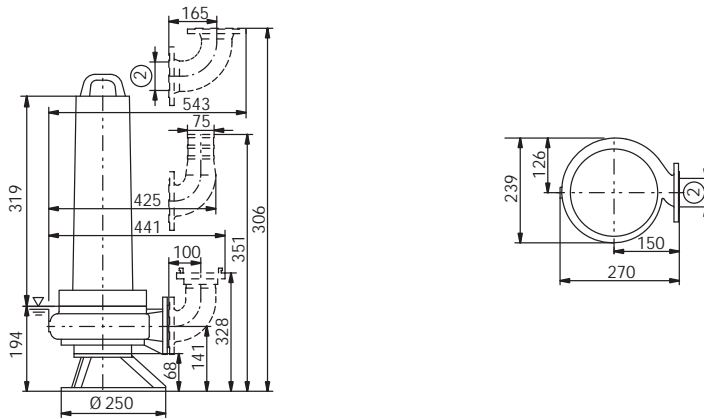
P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

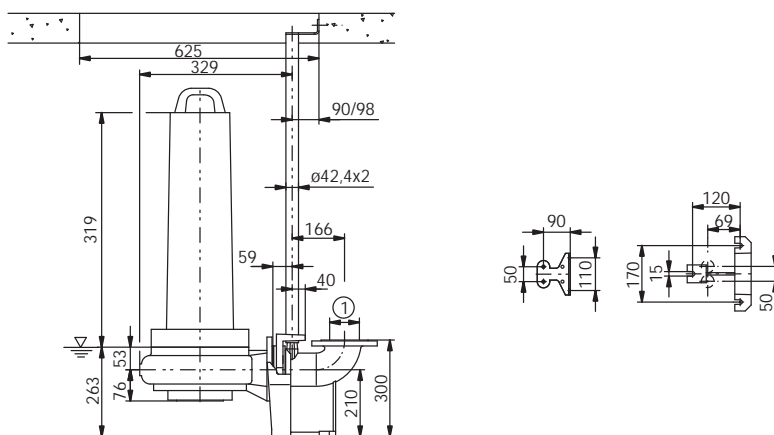
Submersible pumps

Dimensions Wilo-EMU FA 08.41E (1450 rpm)

Dimension drawing Wilo-EMU FA 08.41E - portable wet well installation



Dimension drawing Wilo-EMU FA 08.41E - stationary wet well installation



1 = DN80 PN10 / ANSI B16.1, Class 125, Size 3; 2 = DN80 PN10

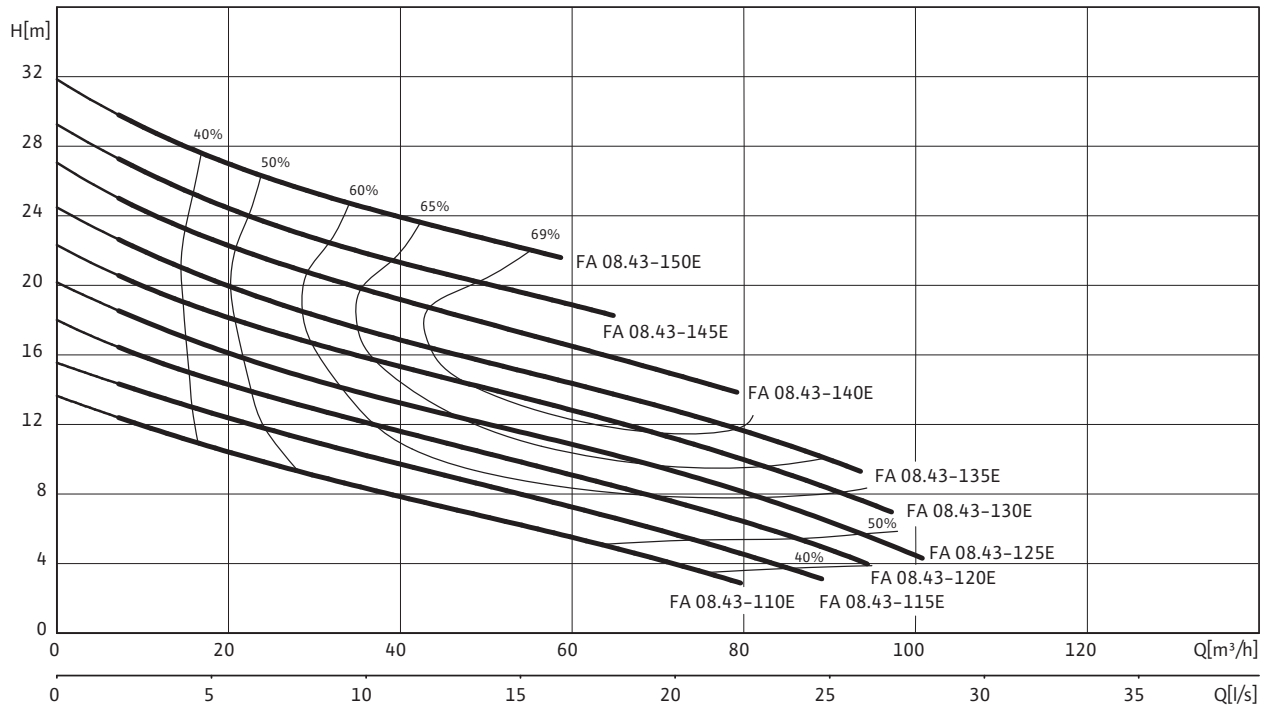
Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 12-4/11 (Ex)	319

Pump curves, ordering information Wilo-EMU FA 08.43E (2900 rpm)

Pump curves Wilo-EMU FA 08.43E - 50 Hz - 2900 rpm

Single-channel impeller - Free ball passage: 70 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection	🚚	Art no.
FA 08.43-110E + T 13-2/12HEX	3-400 V, 50 Hz	L	6047584
FA 08.43-115E + T 13-2/12HEX	3-400 V, 50 Hz	L	6047586
FA 08.43-120E + T 13-2/9HEX	3-400 V, 50 Hz	K	6047588
FA 08.43-120E + T 13-2/12HEX	3-400 V, 50 Hz	L	6044795
FA 08.43-125E + T 13-2/12HEX	3-400 V, 50 Hz	K	6047590
FA 08.43-130E + T 13-2/12HEX	3-400 V, 50 Hz	L	6047592
FA 08.43-135E + T 13-2/12HEX	3-400 V, 50 Hz	L	6035728
FA 08.43-135E + T 13-2/16HEX	3-400 V, 50 Hz	K	6044796
FA 08.43-140E + T 13-2/12HEX	3-400 V, 50 Hz	K	6049211
FA 08.43-140E + T 13-2/16HEX	3-400 V, 50 Hz	L	6047596
FA 08.43-145E + T 13-2/16HEX	3-400 V, 50 Hz	L	6047598
FA 08.43-150E + T 13-2/16HEX	3-400 V, 50 Hz	L	6035730

Wastewater transport

Submersible pumps

Technical data Wilo-EMU FA 08.43E (2900 rpm)

	FA 08.43-110E + T 13-2/12HEX	FA 08.43-115E + T 13-2/12HEX	FA 08.43-120E + T 13-2/9HEX	FA 08.43-120E + T 13-2/12HEX	FA 08.43-125E + T 13-2/12HEX	FA 08.43-130E + T 13-2/12HEX
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit						
Pressure connection	DN 80	DN 80	DN 80	DN 80	DN 80	DN 80
Free ball passage mm	70	70	70	70	70	70
Max. volume flow Q_{max} / m ³ /h	79.6	89.1	94.4	94.4	104	108
Max. delivery head H_{max} / m	13.6	15.6	18.1	18.1	20.3	22.3
Operating mode (immersed)	S1	S1	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S2-15 min	S2-15 min	S2-15 min	S2-15 min
Max. immersion depth m	20	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	55	55	53	55	55.5	55.5
Motor data						
Nominal current I_N / A	5	5	5.3	7.6	7.6	7.6
Starting current I_A / A	37	37	25	37	37	37
Nominal motor power P_2 / kW	2.2	2.2	2.4	3.75	3.75	3.75
Power consumption P_1 / kW	2.8	2.8	3	4.7	4.7	4.7
Activation type	Direct	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2890	2890	2800	2825	2825	2825
Insulation class	F	F	F	F	F	F
Recommended switching frequency 1/h	–	–	–	–	–	–
Max. switching frequency 1/h	15	15	15	15	15	15
Permitted voltage tolerance %	±10	±10	±10	±10	±10	±10
Cable						
Length of connecting cable m	10	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Non-detach-able	Non-detach-able	Non-detach-able	Non-detach-able	Non-detach-able	Non-detach-able
Mains plug	–	–	–	–	–	–
Equipment/function						
Float switch	–	–	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX
Materials						
Static seal	NBR	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	NBR	NBR	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-EMU FA 08.43E (2900 rpm)

	FA 08.43-135E + T 13-2/12HEX	FA 08.43-135E + T 13-2/16HEX	FA 08.43-140E + T 13-2/12HEX	FA 08.43-140E + T 13-2/16HEX	FA 08.43-145E + T 13-2/16HEX	FA 08.43-150E + T 13-2/16HEX
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit						
Pressure connection	DN 80	DN 80	DN 80	DN 80	DN 80	DN 80
Free ball passage mm	70	70	70	70	70	70
Max. volume flow Q_{max} / m ³ /h	112	112	118	118	78.1	58.7
Max. delivery head H_{max} / m	24.4	24.4	27	27	29.3	31.9
Operating mode (immersed)	S1	S1	S1	S1	S1	S1
Operating mode (non-immersed)	S2-15 min	S2-15 min	S2-15 min	S2-15 min	S2-15 min	S2-15 min
Max. immersion depth m	20	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	55.5	59	57	59.5	59.5	59.5
Motor data						
Nominal current I_N / A	7.6	9.7	7.6	7.6	7.6	9.7
Starting current I_A / A	37	64	37	37	37	64
Nominal motor power P_2 / kW	3.75	5	3.75	5	5	5
Power consumption P_1 / kW	4.7	6	4.7	6	6	6
Activation type	Direct	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2825	2835	2825	2825	2825	2835
Insulation class	F	F	F	F	F	F
Recommended switching frequency 1/h	–	–	–	–	–	–
Max. switching frequency 1/h	15	15	15	15	15	15
Permitted voltage tolerance %	±10	±10	±10	±10	±10	±10
Cable						
Length of connecting cable m	10	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Non-detach-able	Non-detach-able	Non-detach-able	Non-detach-able	Non-detach-able	Non-detach-able
Mains plug	–	–	–	–	–	–
Equipment/function						
Float switch	–	–	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX
Materials						
Static seal	NBR	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	NBR	NBR	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021

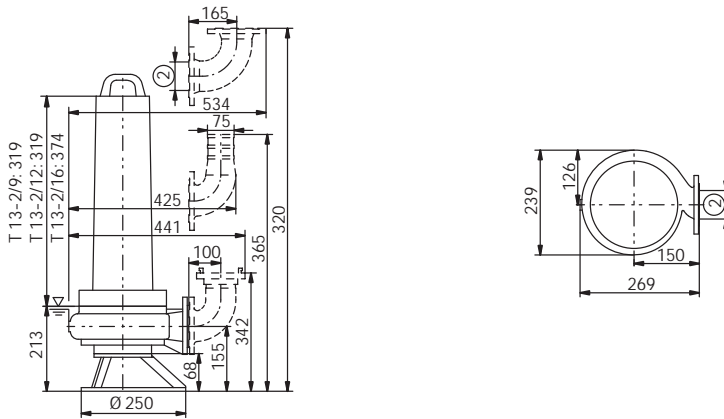
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

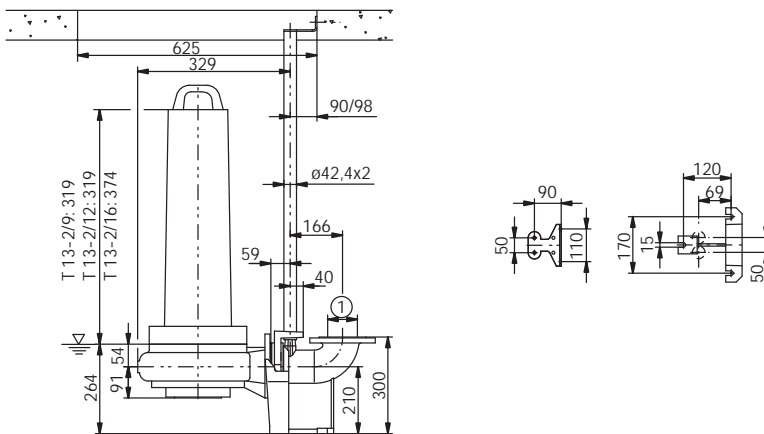
Submersible pumps

Dimensions Wilo-EMU FA 08.43E (2900 rpm)

Dimension drawing Wilo-EMU FA 08.43E - portable wet well installation



Dimension drawing Wilo-EMU FA 08.43E - stationary wet well installation



1 = DN80 PN10 / ANSI B16.1, Class 125, Size 3; 2 = DN80 PN10

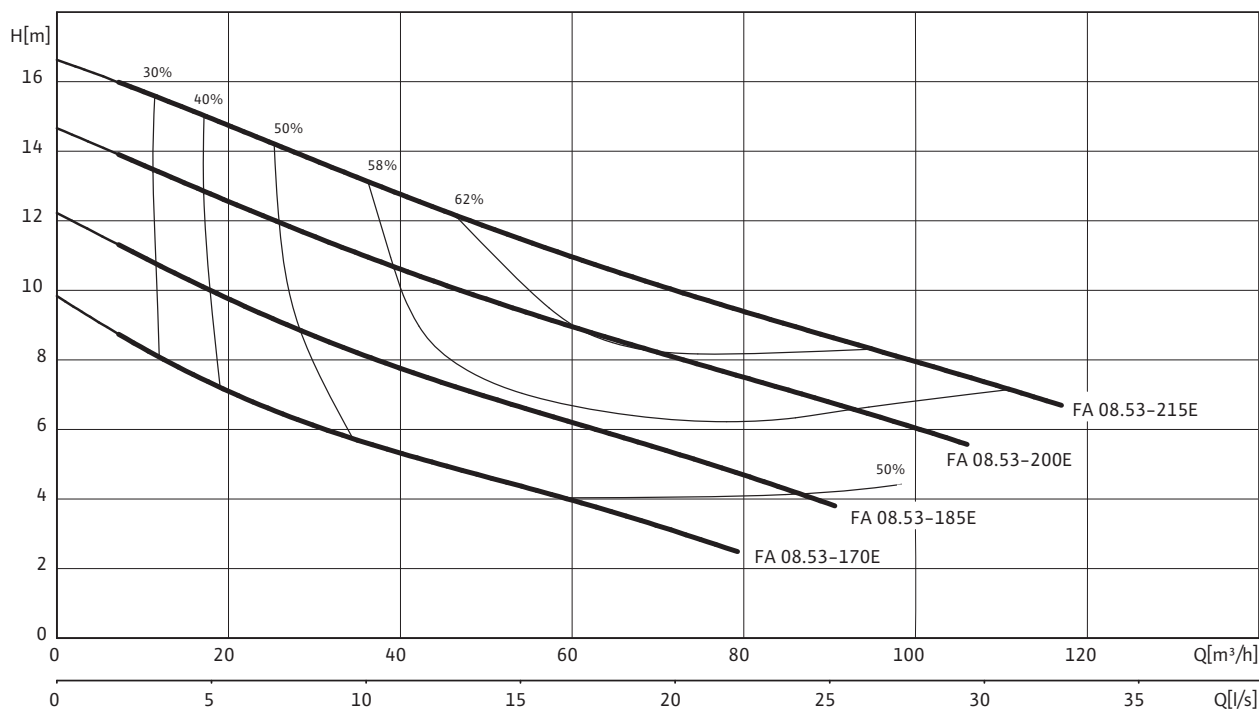
Dimensions

Wilo-EMU...	Dimensions
	AW mm
T 13-2/9 (Ex)	319
T 13-2/12 (Ex)	319
T 13-2/16 (Ex)	374

Pump curves, ordering information Wilo-EMU FA 08.53E (1450 rpm)

Pump curves Wilo-EMU FA 08.53E - 50 Hz - 1450 rpm

Single-channel impeller - Free ball passage: 70 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 08.53-170E + T 13-4/9HEX	3-400 V, 50 Hz	K	6047614
FA 08.53-185E + T 13-4/12HEX	3-400 V, 50 Hz	K	6047616
FA 08.53-200E + T 13-4/18HEX	3-400 V, 50 Hz	K	6047618
FA 08.53-215E + T 13-4/18HEX	3-400 V, 50 Hz	K	6046643

Wastewater transport

Wastewater transport

Submersible pumps

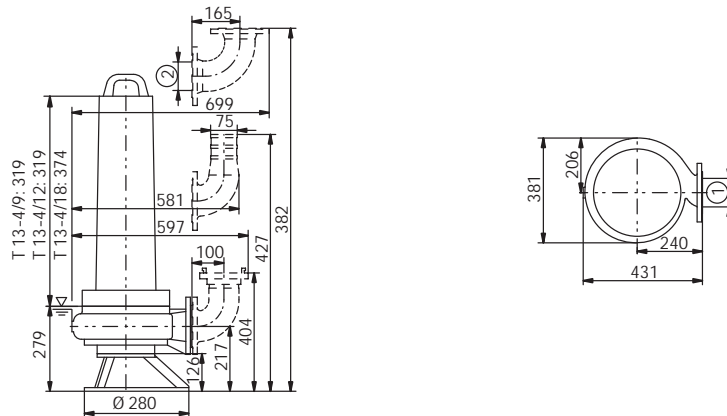
Technical data Wilo-EMU FA 08.53E (1450 rpm)

	FA 08.53-170E + T 13-4/9HEX	FA 08.53-185E + T 13-4/12HEX	FA 08.53-200E + T 13-4/18HEX	FA 08.53-215E + T 13-4/18HEX
	3-400 V, 50 Hz	3-400 V, 50 Hz	3-400 V, 50 Hz	3-400 V, 50 Hz
Unit				
Pressure connection	DN 80	DN 80	DN 80	DN 80
Free ball passage mm	70	70	70	70
Max. volume flow Q_{max} / m ³ /h	79.3	90.6	106	117
Max. delivery head H_{max} / m	9.8	12.2	14.7	16.6
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-15 min	S2-15 min	S2-15 min	S2-15 min
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	66.5	68.5	73.5	73.5
Motor data				
Nominal current I_N / A	4.2	5.1	9.2	9.2
Starting current I_A / A	16	20	32	32
Nominal motor power P_2 / kW	1.75	2.25	4	4
Power consumption P_1 / kW	2.5	3	5	5
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1310	1350	1400	1400
Insulation class	F	F	F	F
Recommended switching frequency 1/h	–	–	–	–
Max. switching frequency 1/h	15	15	15	15
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–	–
Equipment/function				
Float switch	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021

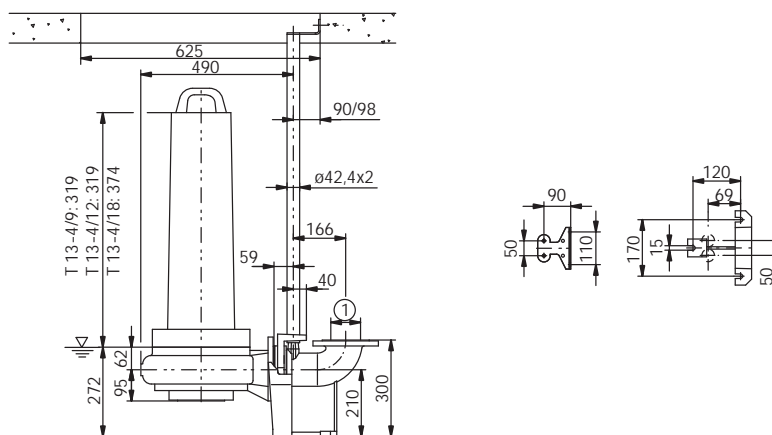
P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-EMU FA 08.53E (1450 rpm)

Dimension drawing Wilo-EMU FA 08.51E - portable wet well installation



Dimension drawing Wilo-EMU FA 08.51E - stationary wet well installation



1 = DN80 PN10 / ANSI B16.1, Class 125, Size 3; 2 = DN80 PN10

Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 13-4/9 (Ex)	319
T 13-4/12 (Ex)	319
T 13-4/18 (Ex)	374

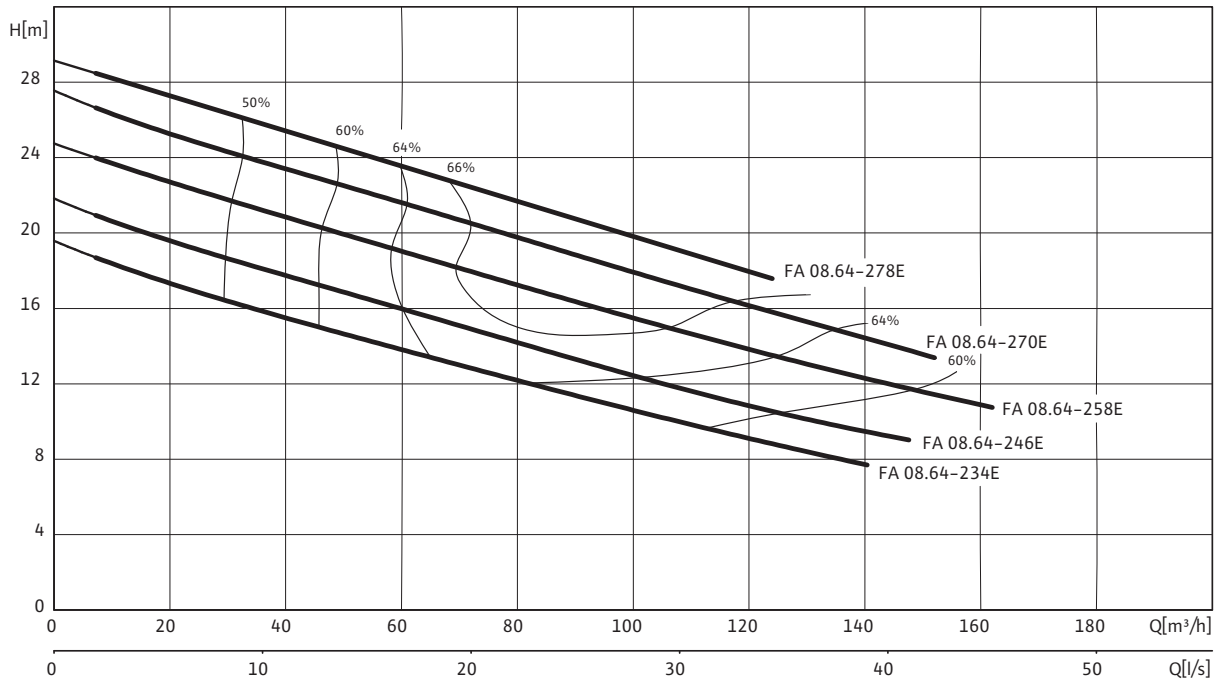
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-EMU FA 08.64E (1450 rpm)


Pump curves Wilo-EMU FA 08.64E - 50 Hz - 1450 rpm

Single-channel impeller - Free ball passage: 80 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 08.64-234E + T 17-4/16HEx	3~400 V, 50 Hz	A	6047622
FA 08.64-246E + T 17-4/16HEx	3~400 V, 50 Hz	A	6047624
FA 08.64-258E + T 17.2-4/24HEx	3~400 V, 50 Hz	A	6047626
FA 08.64-270E + T 17.2-4/24HEx	3~400 V, 50 Hz	A	6047628
FA 08.64-278E + T 17.2-4/24HEx	3~400 V, 50 Hz	A	6047630

Technical data Wilo-EMU FA 08.64E (1450 rpm)

	FA 08.64-234E + T 17-4/16HEX	FA 08.64-246E + T 17-4/16HEX	FA 08.64-258E + T 17.2-4/24HEX	FA 08.64-270E + T 17.2-4/24HEX	FA 08.64-278E + T 17.2-4/24HEX
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit					
Pressure connection	DN 80	DN 80	DN 80	DN 80	DN 80
Free ball passage mm	80	80	80	80	80
Max. volume flow Q_{max} / m ³ /h	144	155	162	152	124
Max. delivery head H_{max} / m	19.6	21.8	24.6	27.6	29.4
Operating mode (immersed)	S1	S1	S1	S1	S1
Operating mode (non-immersed)	–	–	–	–	–
Max. immersion depth m	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	105	106	136	137	138
Motor data					
Nominal current I_N / A	13.5	13.5	21	21	21
Starting current I_A / A	68	68	123	123	123
Nominal motor power P_2 / kW	6.5	6.5	10	10	10
Power consumption P_1 / kW	8.2	8.2	12.2	12.2	12.2
Activation type	Star-delta	Star-delta	Star-delta	Star-delta	Star-delta
Nominal speed n / rpm	1400	1400	1417	1417	1417
Insulation class	F	F	F	F	F
Recommended switching frequency 1/h	–	–	–	–	–
Max. switching frequency 1/h	15	15	15	15	15
Permitted voltage tolerance %	±10	±10	±10	±10	±10
Cable					
Length of connecting cable m	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	10G1,5	10G1,5	10G1,5	10G1,5	10G1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–	–	–
Equipment/function					
Float switch	–	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX	ATEX
Materials					
Static seal	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	NBR	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021

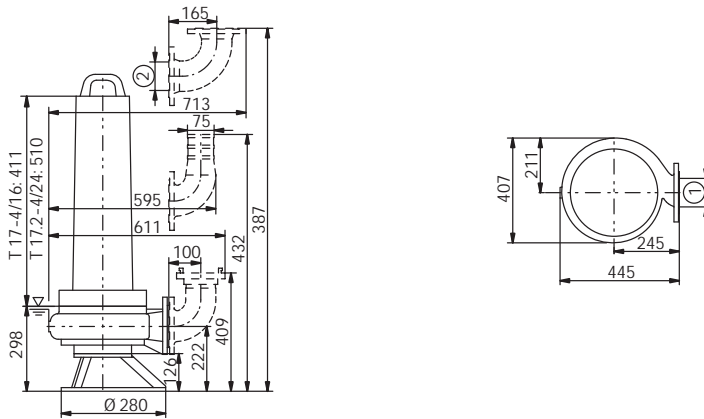
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

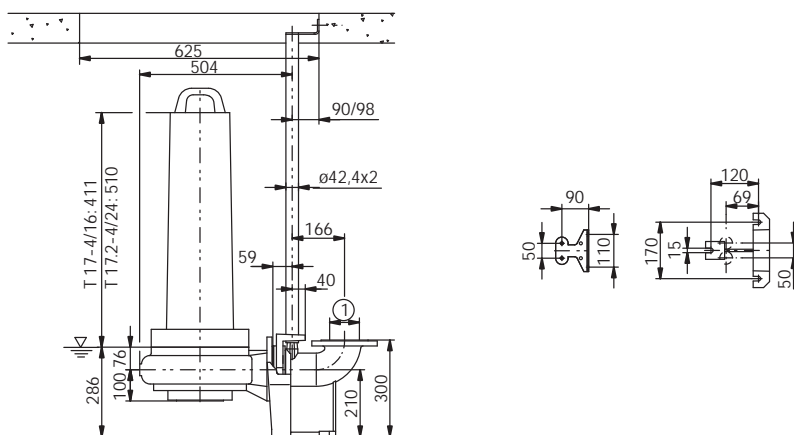
Submersible pumps

Dimensions Wilo-EMU FA 08.64E (1450 rpm)

Dimension drawing Wilo-EMU FA 08.64E - portable wet well installation



Dimension drawing Wilo-EMU FA 08.64E - stationary wet well installation



1 = DN80 PN10 / ANSI B16.1, Class 125, Size 3; 2 = DN80 PN10; 3 = DN100 PN10 / ANSI B16.1, Class 125, Size 4; 4 = DN100 PN10

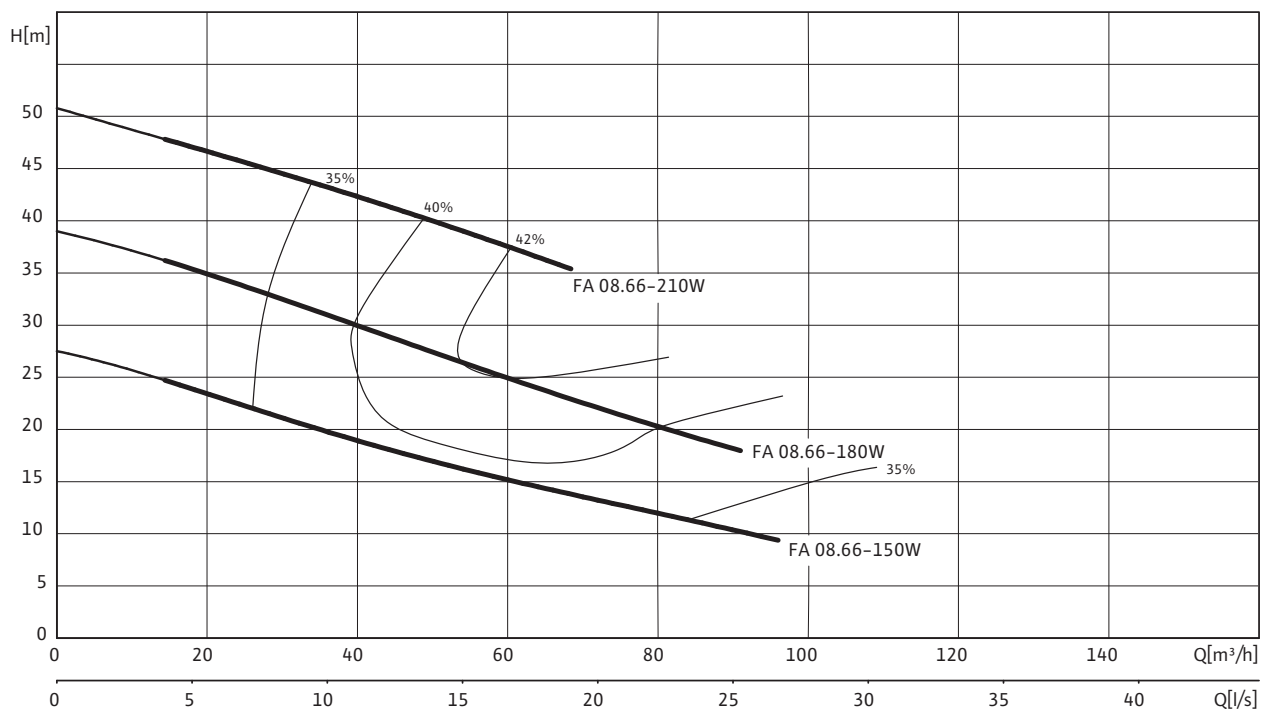
Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 17-4/16 (Ex)	411
T 17.2-4/24 (Ex)	510

Pump curves, ordering information Wilo-EMU FA 08.66W (2900 rpm)

Pump curves Wilo-EMU FA 08.66W - 50 Hz - 2900 rpm

Vortex impeller - Free ball passage: 50 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 08.66-150W + T 17-2/22HEX	3-400 V, 50 Hz	A	6049218
FA 08.66-180W + T 20.1-2/22GEX	3-400 V, 50 Hz	A	6049220
FA 08.66-210W + T 20.1-2/22GEX	3-400 V, 50 Hz	A	6049221

Wastewater transport

Submersible pumps

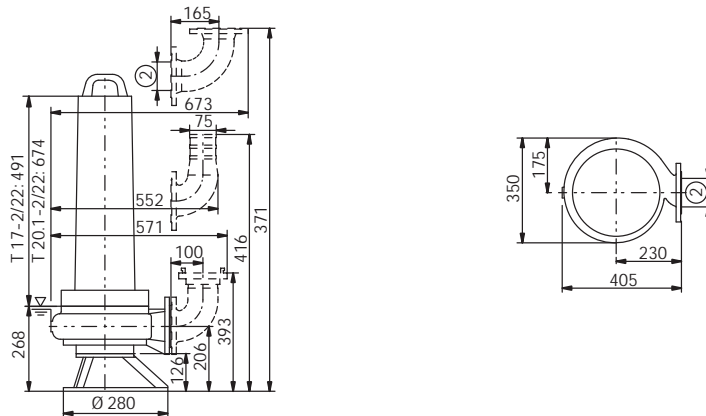
Technical data Wilo-EMU FA 08.66W (2900 rpm)

	FA 08.66-150W + T 17-2/22HEx	FA 08.66-180W + T 20.1-2/22GEx	FA 08.66-210W + T 20.1-2/22GEx
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit			
Pressure connection	DN 80	DN 80	DN 80
Free ball passage mm	50	50	50
Max. volume flow Q_{max} / m ³ /h	96	91	80
Max. delivery head H_{max} / m	27.5	39	51
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	–	S2-15 min	S2-15 min
Max. immersion depth m	20	20	20
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	118	195	195
Motor data			
Nominal current I_N / A	20.5	30	30
Starting current I_A / A	57	72	72
Nominal motor power P_2 / kW	10.5	15.5	15.5
Power consumption P_1 / kW	12.3	18.6	18.6
Activation type	Star-delta	Star-delta	Star-delta
Nominal speed n / rpm	2907	2900	2900
Insulation class	F	F	F
Recommended switching frequency 1/h	–	–	–
Max. switching frequency 1/h	15	15	15
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	NSSHÖU	NSSHÖU
Cable cross-section mm ²	10G1,5	2x 4x2,5 + 7x1,5	2x 4x2,5 + 7x1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–
Equipment/function			
Float switch	–	–	–
Motor protection	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	NBR	SiC/SiC	SiC/SiC
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021

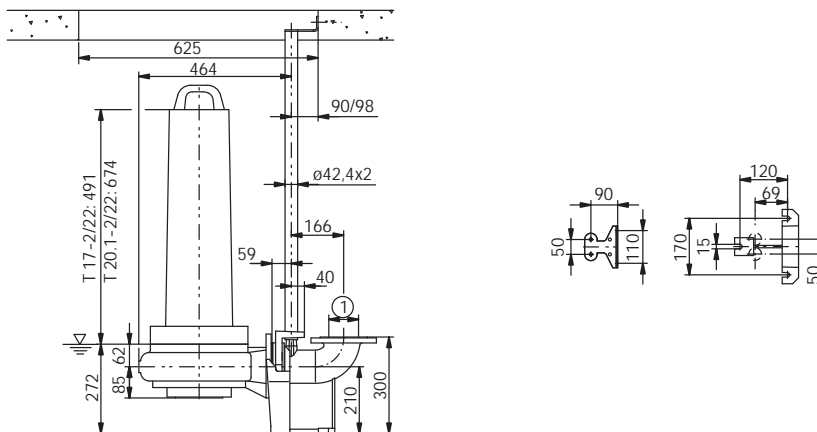
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-EMU FA 08.66W (2900 rpm)

Dimension drawing Wilo-EMU FA 08.66E - portable wet well installation



Dimension drawing Wilo-EMU FA 08.66E - stationary wet well installation



1 = DN80 PN10 / ANSI B16.1, Class 125, Size 3; 2 = DN80 PN10

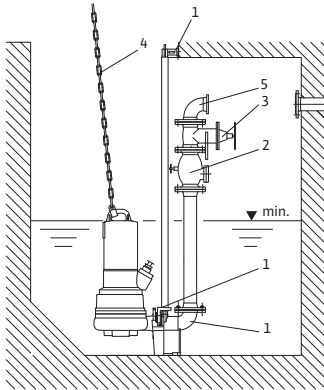
Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 17-2/22 (Ex)	491
T 20.1-2/22 (Ex)	674

Wastewater transport

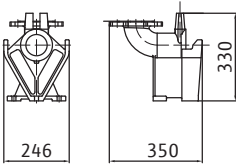
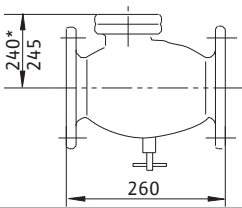
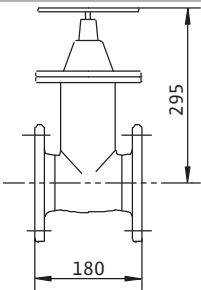
Submersible pumps

Mechanical accessories Wilo-EMU FA 08...



- 1 Suspension unit
- 2 Non-return valve
- 3 Gate valve
- 4 Chain
- 5 Pipe bend

Stationary wet well installation DN 80

		Description	Art no.
Suspension unit DN 80/2RK		Made of EN-GJL-250, painted, with free passage in DN 80, foot elbow including pump holder, profile joint, installation and floor fixation accessories and guide pipe bracket without guide pipes. Connection on pressure side DN 80/PN16 in acc. with DIN 2501. The double pipe feed (42.4x2 mm) is to be provided by the customer.	6036888
Adapter flange EMU/Flygt		Coupling flange for connecting a FA pump to a Flygt suspension unit, DN80 connection, made of EN-GJL-250, incl. installation accessories	6030437
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 80 connection	2017168
Gate valve		Made of EN-GJL-250, incl. 1 set of installation accessories, PN 10/16 flanges in accordance with DIN 2501, DN 80	2017162

Mechanical accessories Wilo-EMU FA 08...

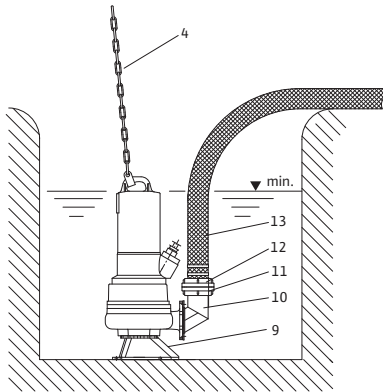
Stationary wet well installation DN 80

		Description	Art no.
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 80 connection	2012064
Y-piece DN 80		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 80/80/80 connection	2017179
Mounting accessories DN 80		For a DN 80 flange connection, with 8 screws, 8 nuts and 1 flat gasket for PN 10/16 flange, DIN 2502	2012067
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Wastewater transport

Submersible pumps

Mechanical accessories Wilo-EMU FA 08...



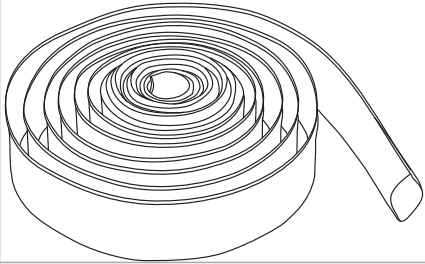
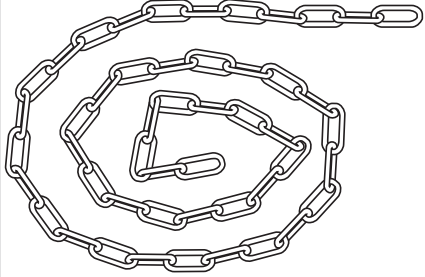
- 4 Chain
- 9 Floor supporting foot
- 10 Pipe bend
- 11 Storz pipe coupling
- 12 Storz hose coupling
- 13 Pressure hose

Portable wet well installation with hose connection

		Description	Art no.
Floor supporting foot DN 80/100		Made of steel (S235JR) with 4 supports for connection to DN 80/100, powder-coated, incl. fixation material	6065949
		Made of stainless steel (1.4571) with 4 supports for connection to DN 80/100, incl. fixation material	6065953
Pipe elbow 90° with Storz B pipe coupling and female thread R 3		Made of EN-GJL-250, with R 3 male thread, DN 80 flange on pump side, incl. 1 set of mounting accessories and Storz B fixed coupling, G 3 female thread	6031385

Mechanical accessories Wilo-EMU FA 08...

Portable wet well installation with hose connection

		Description	Art no.
Pressure hose / Storz B		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 5 m incl. Storz B coupling, 12/40 bar	6003052
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 10 m incl. Storz B coupling, 12/40 bar	6003051
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 75 mm, length 20 m incl. Storz B coupling, 12/40 bar	6003050
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

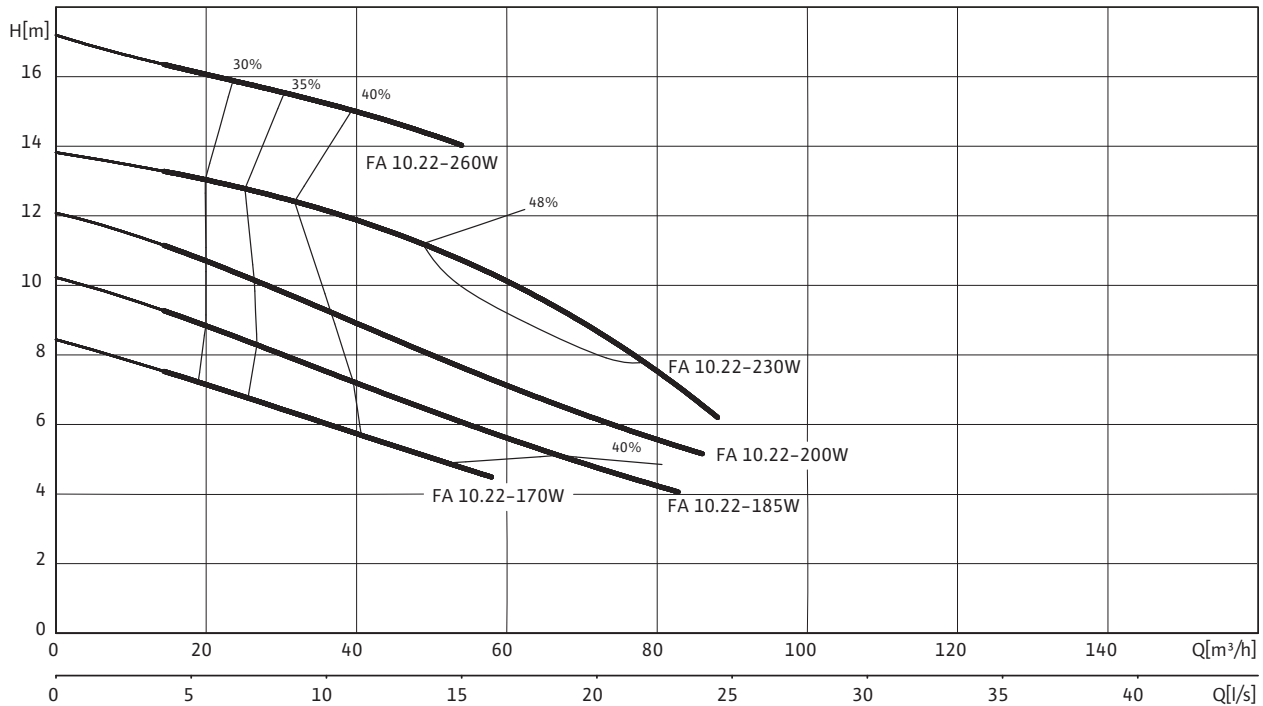
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-EMU FA 10.22W (1450 rpm)


Pump curves Wilo-EMU FA 10.22W - 50 Hz - 1450 rpm

Vortex impeller - Free ball passage: 100 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 10.22-170W + T 17-4/8HEX	3~400 V, 50 Hz	K	6047650
FA 10.22-185W + T 17-4/8HEX	3~400 V, 50 Hz	K	6047652
FA 10.22-200W + T 17-4/8HEX	3~400 V, 50 Hz	K	6047654
FA 10.22-230W + T 17-4/12HEX	3~400 V, 50 Hz	K	6035738
FA 10.22-230W + T 17-4/8HEX	3~400 V, 50 Hz	K	6047656
FA 10.22-260W + T 17-4/12HEX	3~400 V, 50 Hz	K	6047658

Technical data Wilo-EMU FA 10.22W (1450 rpm)

	FA 10.22-170W + T 17-4/8HEX	FA 10.22-185W + T 17-4/8HEX	FA 10.22-200W + T 17-4/8HEX	FA 10.22-230W + T 17-4/12HEX	FA 10.22-230W + T 17-4/8HEX	FA 10.22-260W + T 17-4/12HEX
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit						
Pressure connection	DN 100	DN 100	DN 100	DN 100	DN 100	DN 100
Free ball passage mm	100	100	100	100	100	100
Max. volume flow Q_{max} / m ³ /h	58	82.8	86	88.1	88.1	85.3
Max. delivery head H_{max} / m	8.5	10.2	12.1	13.9	13.9	17.3
Operating mode (immersed)	S1	S1	S1	S1	S1	S1
Operating mode (non-immersed)	–	–	–	–	–	–
Max. immersion depth m	20	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	73	73	74	84	76	86
Motor data						
Nominal current I_N / A	7.9	7.9	7.9	9.4	7.9	9.4
Starting current I_A / A	37	37	37	47	37	47
Nominal motor power P_2 / kW	3.5	3.5	3.5	4.5	3.5	4.5
Power consumption P_1 / kW	4.5	4.5	4.5	5.8	4.5	4.5
Activation type	Direct	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1410	1410	1410	1405	1410	1405
Insulation class	F	F	F	F	F	F
Recommended switching frequency 1/h	–	–	–	–	–	–
Max. switching frequency 1/h	15	15	15	15	15	15
Permitted voltage tolerance %	±10	±10	±10	±10	±10	±10
Cable						
Length of connecting cable m	10	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Non-detach-able	Non-detach-able	Non-detach-able	Non-detach-able	Non-detach-able	Non-detach-able
Mains plug	–	–	–	–	–	–
Equipment/function						
Float switch	–	–	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX
Materials						
Static seal	NBR	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	NBR	NBR	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021

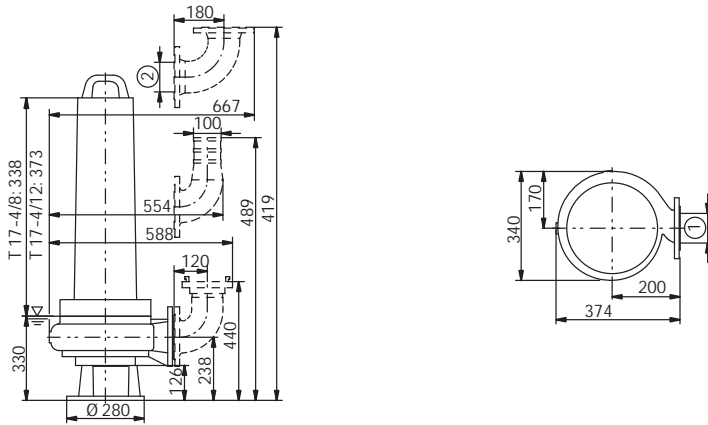
P_1 refers to the maximum power consumption. All of the data applies to 3–400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

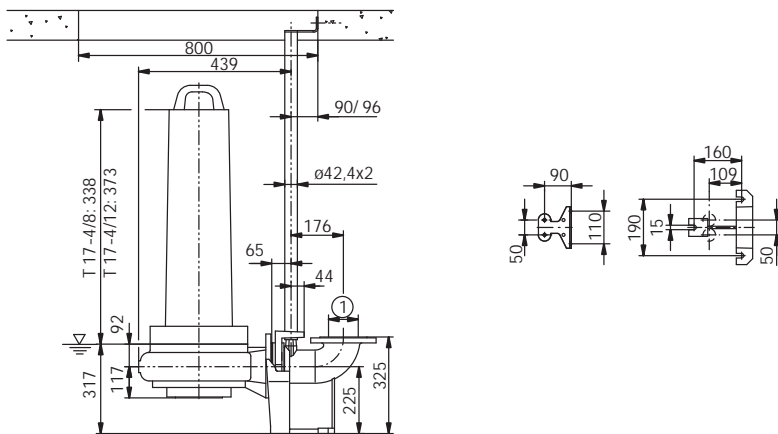
Submersible pumps

Dimensions Wilo-EMU FA 10.22W (1450 rpm)

Dimension drawing Wilo-EMU FA 10.22W - portable wet well installation



Dimension drawing Wilo-EMU FA 10.22W - stationary wet well installation



1 = DN100 PN10 / ANSI B16.1, Class 125, Size 4; 2 = DN100 PN10

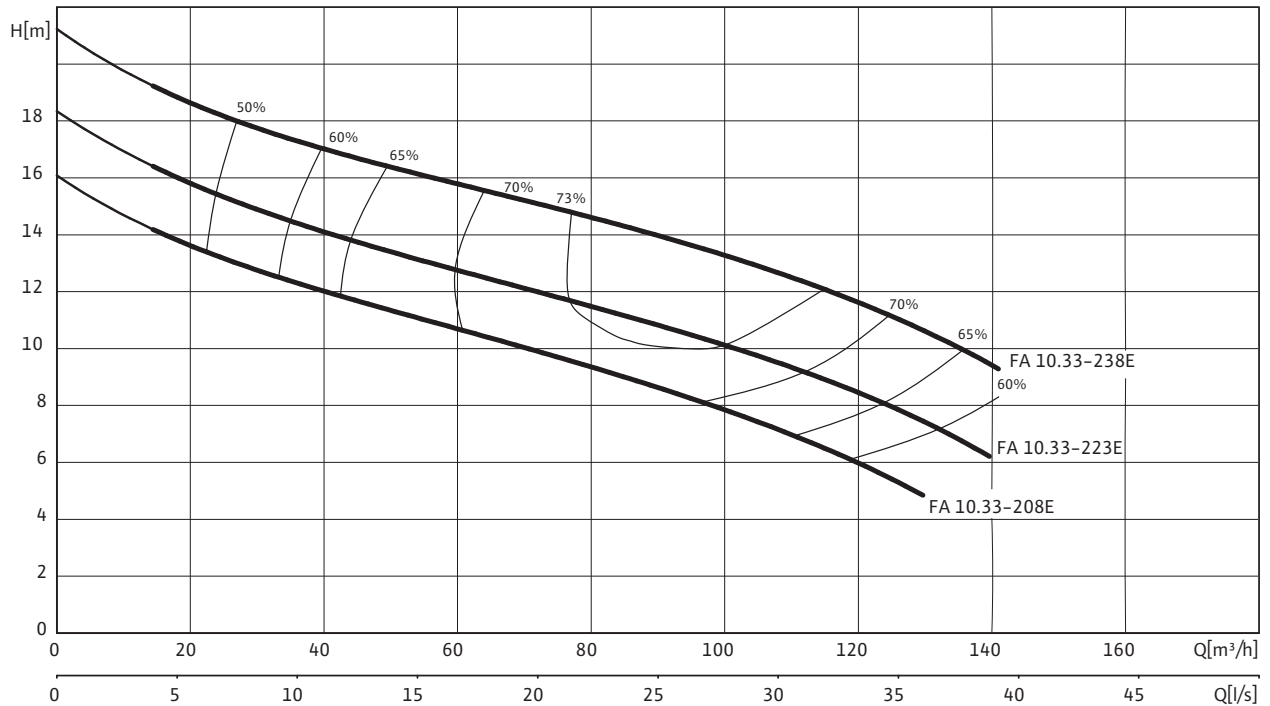
Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 17-4/8 (Ex)	338
T 17-4/12 (Ex)	373

Pump curves, ordering information Wilo-EMU FA 10.33E (1450 rpm)

Pump curves Wilo-EMU FA 10.33E - 50 Hz - 1450 rpm

Single-channel impeller - Free ball passage: 80 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 10.33-208E + T 17-4/8HEX	3-400 V, 50 Hz	K	6047662
FA 10.33-223E + T 17-4/12HEX	3-400 V, 50 Hz	K	6047664
FA 10.33-238E + T 17-4/16HEX	3-400 V, 50 Hz	K	6047666

Wastewater transport

Submersible pumps

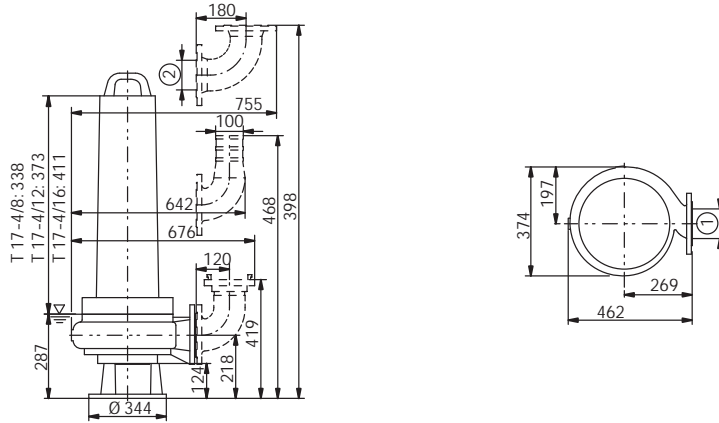
Technical data Wilo-EMU FA 10.33E (1450 rpm)

	FA 10.33-208E + T 17-4/8HEX	FA 10.33-223E + T 17-4/12HEX	FA 10.33-238E + T 17-4/16HEX
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit			
Pressure connection	DN 100	DN 100	DN 100
Free ball passage mm	80	80	80
Max. volume flow Q_{max} / m ³ /h	130	140	141
Max. delivery head H_{max} / m	16.1	18.3	21.2
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	–	–	–
Max. immersion depth m	20	20	20
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	73	81	92
Motor data			
Nominal current I_N / A	7.9	9.4	13.5
Starting current I_A / A	37	47	68
Nominal motor power P_2 / kW	3.5	4.5	6.5
Power consumption P_1 / kW	4.5	5.8	8.2
Activation type	Direct	Direct	Star-delta
Nominal speed n / rpm	1410	1405	1400
Insulation class	F	F	F
Recommended switching frequency 1/h	–	–	–
Max. switching frequency 1/h	15	15	15
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	10G1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–
Equipment/function			
Float switch	–	–	–
Motor protection	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	EN-GJS-500-7	EN-GJS-500-7	EN-GJS-500-7
Sealing on motor side	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021

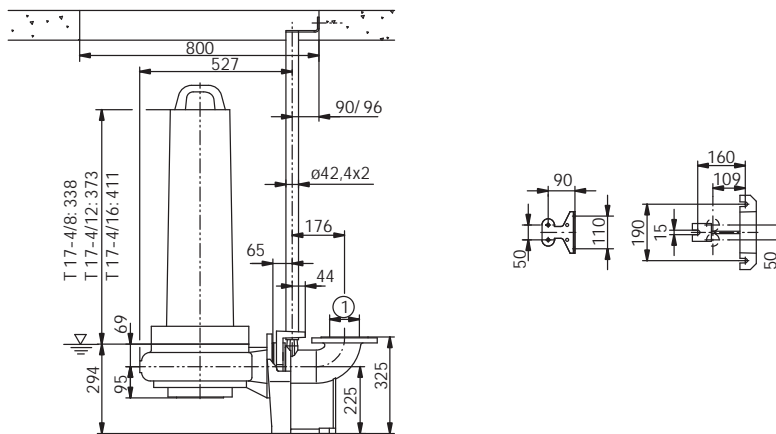
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-EMU FA 10.33E (1450 rpm)

Dimension drawing Wilo-EMU FA 10.33E - portable wet well installation



Dimension drawing Wilo-EMU FA 10.33E - stationary wet well installation



1 = DN100 PN10 / ANSI B16.1, Class 125, Size 4; 2 = DN100 PN10; 3 = DN80 PN10

Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 17-4/8 (Ex)	338
T 17-4/12 (Ex)	373
T 17-4/16 (Ex)	411

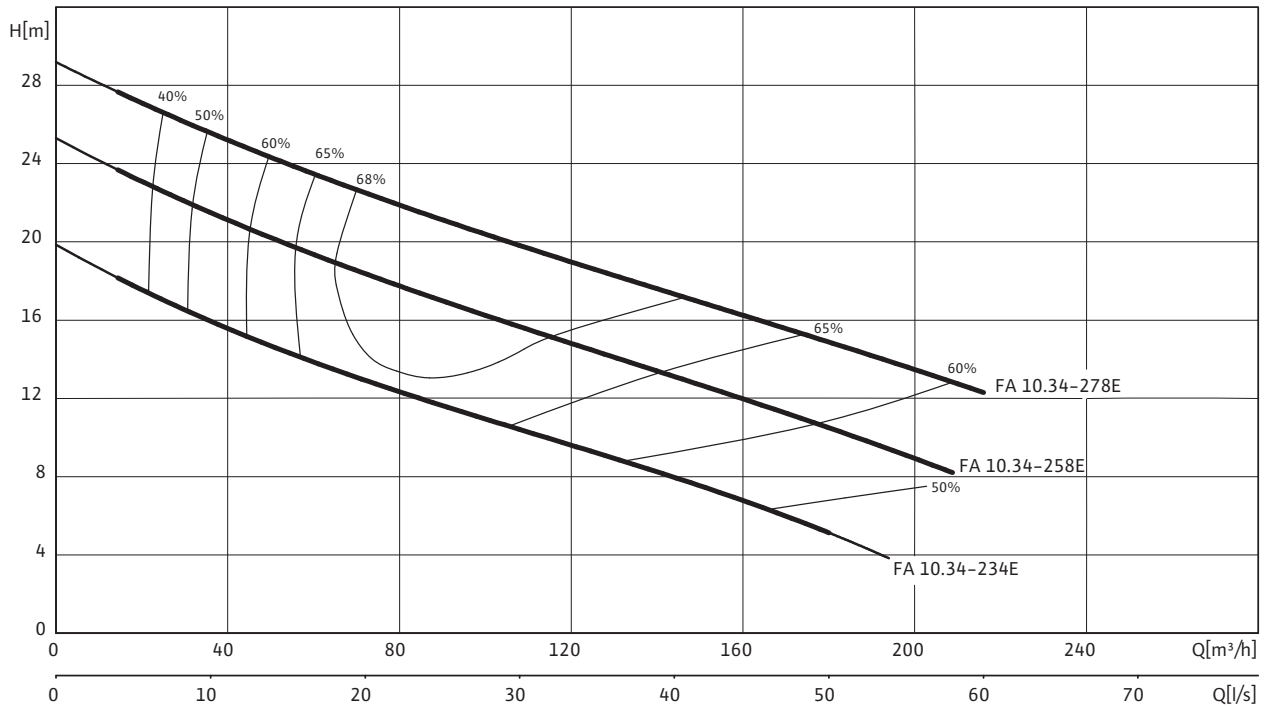
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-EMU FA 10.34E (1450 rpm)


Pump curves Wilo-EMU FA 10.34E - 50 Hz - 1450 rpm

Single-channel impeller - Free ball passage: 80 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 10.34-234E + T 17-4/16HEx	3~400 V, 50 Hz	L	6045118
FA 10.34-258E + T 17.2-4/24HEx	3~400 V, 50 Hz	K	6045117
FA 10.34-278E + T 20.1-4/22GEx	3~400 V, 50 Hz	K	6047678

Technical data Wilo-EMU FA 10.34E (1450 rpm)

	FA 10.34-234E + T 17-4/16HEX	FA 10.34-258E + T 17.2-4/24HEX	FA 10.34-278E + T 20.1-4/22GEx
	3-400 V, 50 Hz	3-400 V, 50 Hz	3-400 V, 50 Hz
Unit			
Pressure connection	DN 100	DN 100	DN 100
Free ball passage mm	80	80	80
Max. volume flow Q_{max} / m ³ /h	195	225	247
Max. delivery head H_{max} / m	19.6	25	28.9
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	–	–	S2-15 min
Max. immersion depth m	20	20	20
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	106	137	216
Motor data			
Nominal current I_N / A	13.5	21	30.5
Starting current I_A / A	68	123	156
Nominal motor power P_2 / kW	6.5	10	15
Power consumption P_1 / kW	8.2	12.2	18.2
Activation type	Star-delta	Star-delta	Star-delta
Nominal speed n / rpm	1400	1417	1425
Insulation class	F	F	F
Recommended switching frequency 1/h	–	–	–
Max. switching frequency 1/h	15	15	15
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	NSSHÖU
Cable cross-section mm ²	10G1,5	10G1,5	2x 4x2,5 + 7x1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–
Equipment/function			
Float switch	–	–	–
Motor protection	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	NBR	NBR	C/Al-oxides
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021

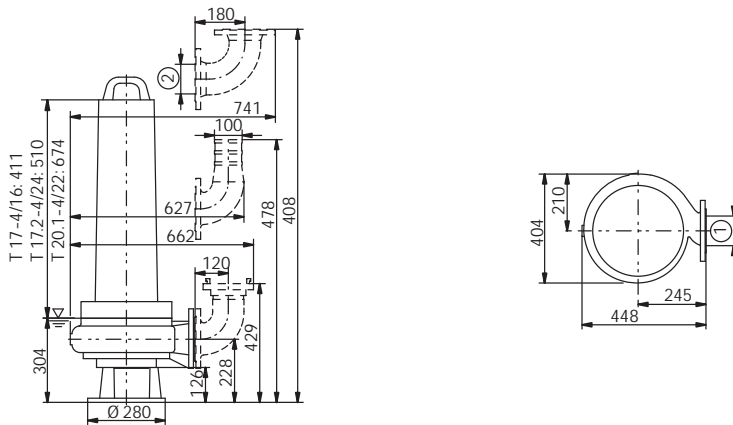
P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

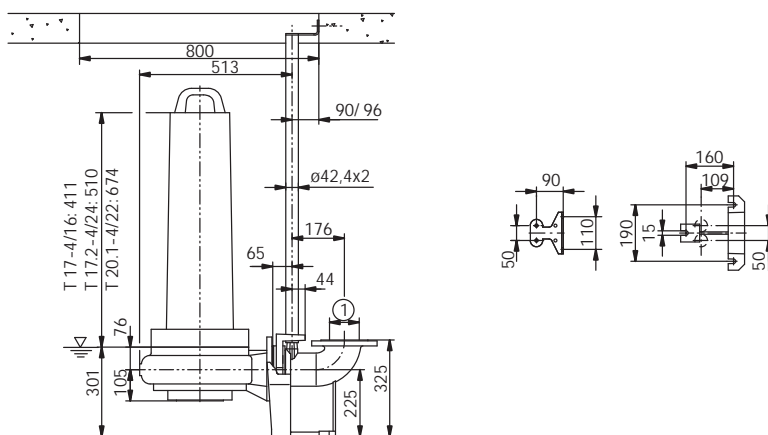
Submersible pumps

Dimensions Wilo-EMU FA 10.34E (1450 rpm)

Dimension drawing Wilo-EMU FA 10.34E - portable wet well installation



Dimension drawing Wilo-EMU FA 10.34E - stationary wet well installation



1 = DN100 PN10 / ANSI B16.1, Class 125, Size 4; 2 = DN100 PN10

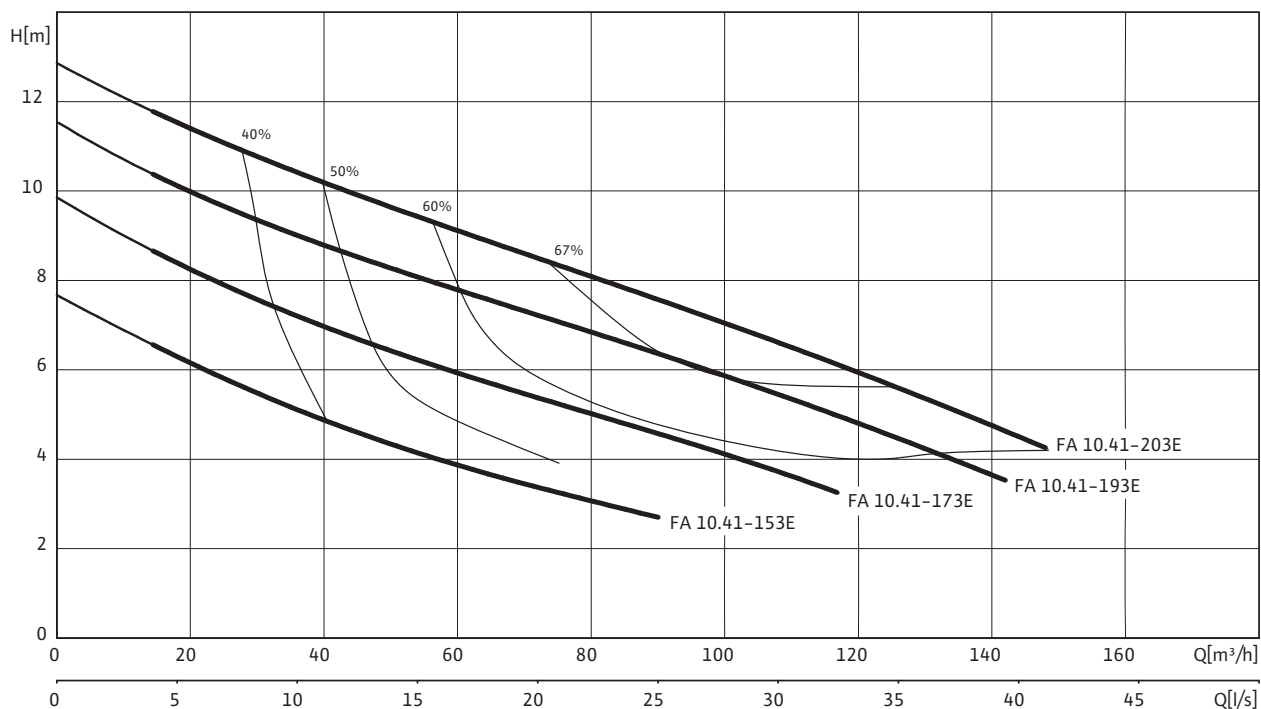
Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 17-4/16 (Ex)	411
T 17.2-4/24 (Ex)	510
T 20.1-4/22 (Ex)	674

Pump curves, ordering information Wilo-EMU FA 10.41E (1450 rpm)

Pump curves Wilo-EMU FA 10.41E - 50 Hz - 1450 rpm

Single-channel impeller - Free ball passage: 80 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 10.41-153E + T 17-4/8HEX	3-400 V, 50 Hz	A	6047680
FA 10.41-173E + T 17-4/8HEX	3-400 V, 50 Hz	A	6047684
FA 10.41-193E + T 17-4/8HEX	3-400 V, 50 Hz	A	6047688
FA 10.41-203E + T 17-4/8HEX	3-400 V, 50 Hz	A	6047690

Wastewater transport

Wastewater transport

Submersible pumps

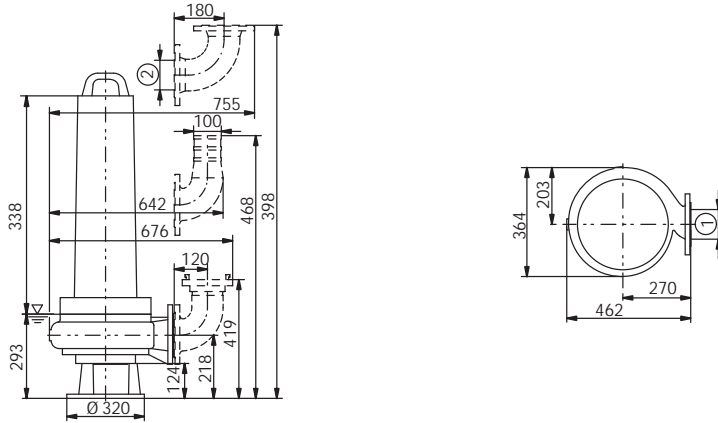
Technical data Wilo-EMU FA 10.41E (1450 rpm)

	FA 10.41-153E + T 17-4/8HEX	FA 10.41-173E + T 17-4/8HEX	FA 10.41-193E + T 17-4/8HEX	FA 10.41-203E + T 17-4/8HEX
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 100	DN 100	DN 100	DN 100
Free ball passage mm	80	80	80	80
Max. volume flow Q_{max} / m ³ /h	90	117	142	148
Max. delivery head H_{max} / m	7.6	9.8	11.4	12.8
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	–	–	–	–
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	69.5	70	70.5	70.5
Motor data				
Nominal current I_N / A	7.9	7.9	7.9	7.9
Starting current I_A / A	37	37	37	37
Nominal motor power P_2 / kW	3.5	3.5	3.5	3.5
Power consumption P_1 / kW	4.5	4.5	4.5	4.5
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1410	1410	1410	1410
Insulation class	F	F	F	F
Recommended switching frequency 1/h	–	–	–	–
Max. switching frequency 1/h	15	15	15	15
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–	–
Equipment/function				
Float switch	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021

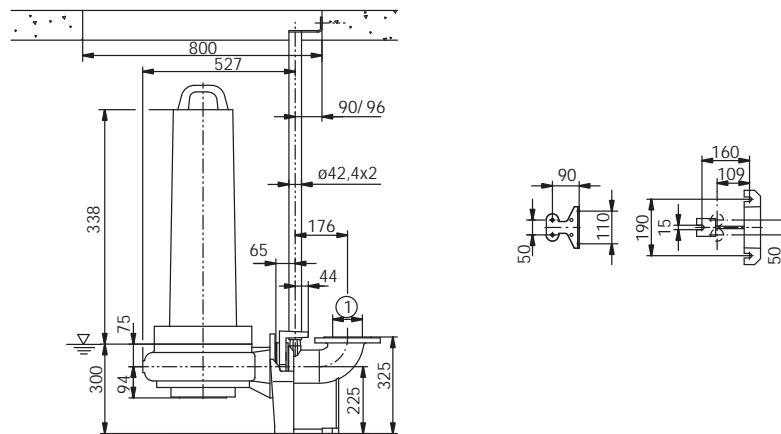
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-EMU FA 10.41E (1450 rpm)

Dimension drawing Wilo-EMU FA 10.41E - portable wet well installation



Dimension drawing Wilo-EMU FA 10.41E - stationary wet well installation



1 = DN100 PN10 / ANSI B16.1, Class 125, Size 4; 2 = DN100 PN10

Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 17-4/8 (Ex)	338

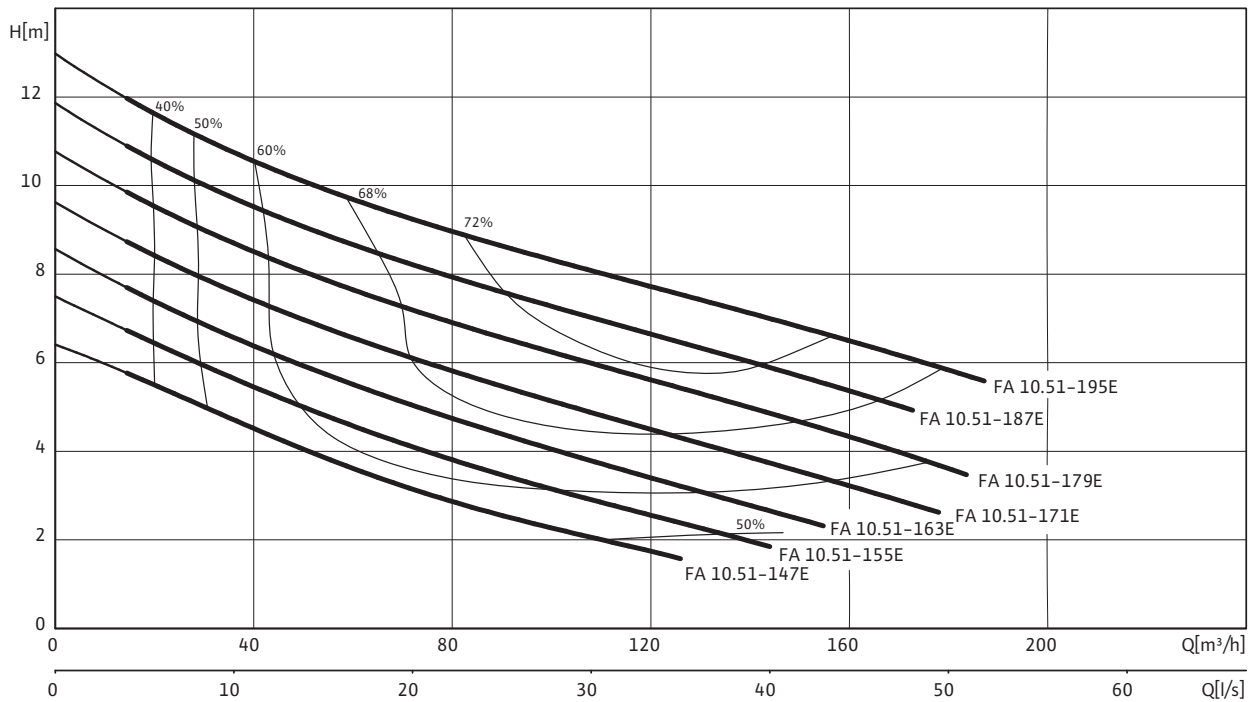
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-EMU FA 10.51E (1450 rpm)


Pump curves Wilo-EMU FA 10.51E - 50 Hz - 1450 rpm

Single-channel impeller - Free ball passage: 100 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 10.51-147E + T 17-4/8HEx	3~400 V, 50 Hz	K	6047692
FA 10.51-155E + T 17-4/8HEx	3~400 V, 50 Hz	K	6047694
FA 10.51-163E + T 17-4/8HEx	3~400 V, 50 Hz	K	6047696
FA 10.51-171E + T 17-4/8HEx	3~400 V, 50 Hz	K	6047698
FA 10.51-179E + T 17-4/8HEx	3~400 V, 50 Hz	K	6035740
FA 10.51-187E + T 17-4/8HEx	3~400 V, 50 Hz	K	6047702
FA 10.51-195E + T 17-4/12HEx	3~400 V, 50 Hz	K	6047704

Technical data Wilo-EMU FA 10.51E (1450 rpm)

	FA 10.51-147E + T 17-4/8HEX	FA 10.51-155E + T 17-4/8HEX	FA 10.51-163E + T 17-4/8HEX
	3-400 V, 50 Hz	3-400 V, 50 Hz	3-400 V, 50 Hz
Unit			
Pressure connection	DN 100	DN 100	DN 100
Free ball passage mm	100	100	100
Max. volume flow Q_{max} / m ³ /h	142	154	167
Max. delivery head H_{max} / m	6.4	7.5	8.5
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	–	–	–
Max. immersion depth m	20	20	20
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	65	67	67
Motor data			
Nominal current I_N / A	7.9	7.9	7.9
Starting current I_A / A	37	37	37
Nominal motor power P_2 / kW	3.5	3.5	3.5
Power consumption P_1 / kW	4.5	4.5	4.5
Activation type	Direct	Direct	Direct
Nominal speed n / rpm	1410	1410	1410
Insulation class	F	F	F
Recommended switching frequency 1/h	–	–	–
Max. switching frequency 1/h	15	15	15
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–
Equipment/function			
Float switch	–	–	–
Motor protection	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021

P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

Submersible pumps

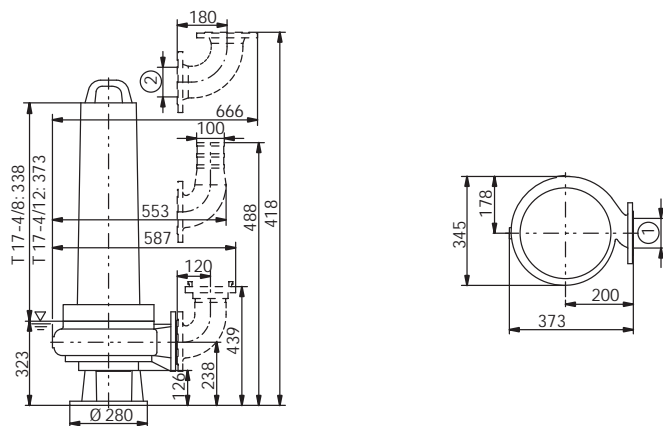
Technical data Wilo-EMU FA 10.51E (1450 rpm)

	FA 10.51-171E + T 17-4/8HEX	FA 10.51-179E + T 17-4/8HEX	FA 10.51-187E + T 17-4/8HEX	FA 10.51-195E + T 17-4/12HEX
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 100	DN 100	DN 100	DN 100
Free ball passage mm	100	100	100	100
Max. volume flow Q_{max} / m ³ /h	178	194	205	218
Max. delivery head H_{max} / m	9.6	10.6	11.7	12.8
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	–	–	–	–
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	68	68	69	77
Motor data				
Nominal current I_N / A	7.9	7.9	7.9	9.4
Starting current I_A / A	37	37	37	47
Nominal motor power P_2 / kW	3.5	3.5	3.5	4.5
Power consumption P_1 / kW	4.5	4.5	4.5	5.8
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1410	1410	1410	1405
Insulation class	F	F	F	F
Recommended switching frequency 1/h	–	–	–	–
Max. switching frequency 1/h	15	15	15	15
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	7G1,5	7G1,5	7G1,5	7G1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–	–
Equipment/function				
Float switch	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021

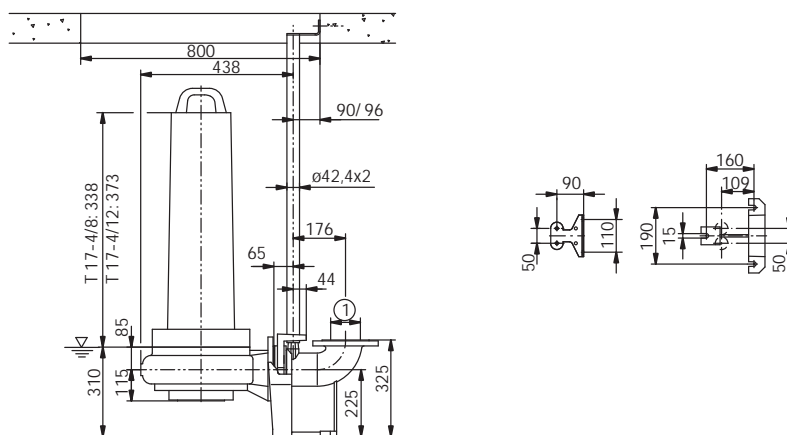
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-EMU FA 10.51E (1450 rpm)

Dimension drawing Wilo-EMU FA 10.51E - portable wet well installation



Dimension drawing Wilo-EMU FA 10.51E - stationary wet well installation



1 = DN100 PN10 / ANSI B16.1, Class 125, Size 4; 2 = DN100 PN10

Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 17-4/8 (Ex)	338
T 17-4/12 (Ex)	373

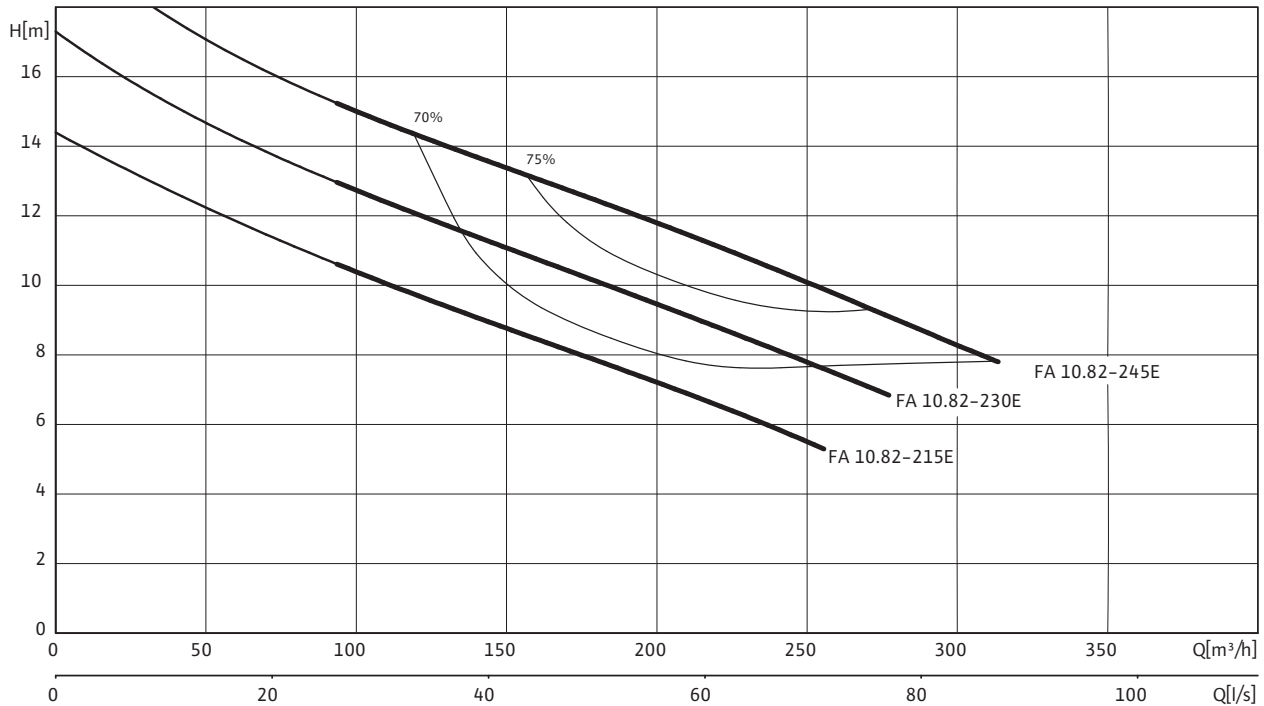
Wastewater transport

Submersible pumps

Pump curves, ordering information Wilo-EMU FA 10.82E (1450 rpm)


Pump curves Wilo-EMU FA 10.82E - 50 Hz - 1450 rpm

Single-channel impeller - Free ball passage: 100 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 10.82-215E + T 17-4/16HEx	3~400 V, 50 Hz	L	6047722
FA 10.82-230E + T 17.2-4/24HEx	3~400 V, 50 Hz	L	6047724
FA 10.82-245E + T 17.2-4/24HEx	3~400 V, 50 Hz	L	6047726

Technical data Wilo-EMU FA 10.82E (1450 rpm)

	FA 10.82-215E + T 17-4/16HEX	FA 10.82-230E + T 17.2-4/24HEX	FA 10.82-245E + T 17.2-4/24HEX
	3-400 V, 50 Hz	3-400 V, 50 Hz	3-400 V, 50 Hz
Unit			
Pressure connection	DN 100	DN 100	DN 100
Free ball passage mm	100	100	100
Max. volume flow Q_{max} / m ³ /h	260	288	314
Max. delivery head H_{max} / m	14.3	17.2	20
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	–	–	–
Max. immersion depth m	20	20	20
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	117	147	148
Motor data			
Nominal current I_N / A	13.5	21	21
Starting current I_A / A	68	123	123
Nominal motor power P_2 / kW	6.5	10	10
Power consumption P_1 / kW	8.2	12.2	12.2
Activation type	Star-delta	Star-delta	Star-delta
Nominal speed n / rpm	1400	1417	1417
Insulation class	F	F	F
Recommended switching frequency 1/h	–	–	–
Max. switching frequency 1/h	15	15	15
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F
Cable cross-section mm ²	10G1,5	10G1,5	10G1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–
Equipment/function			
Float switch	–	–	–
Motor protection	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021

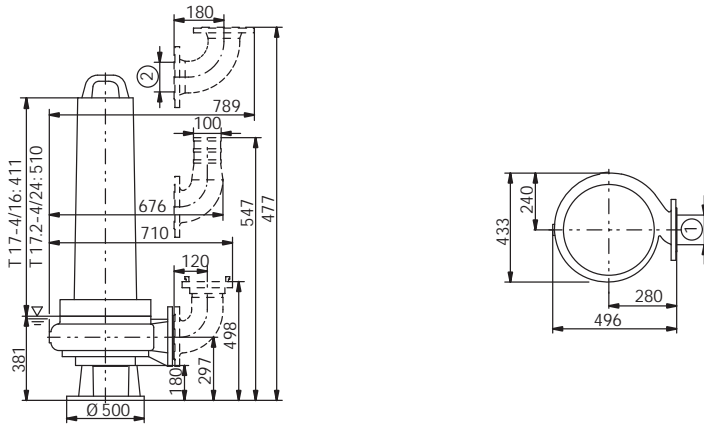
P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Wastewater transport

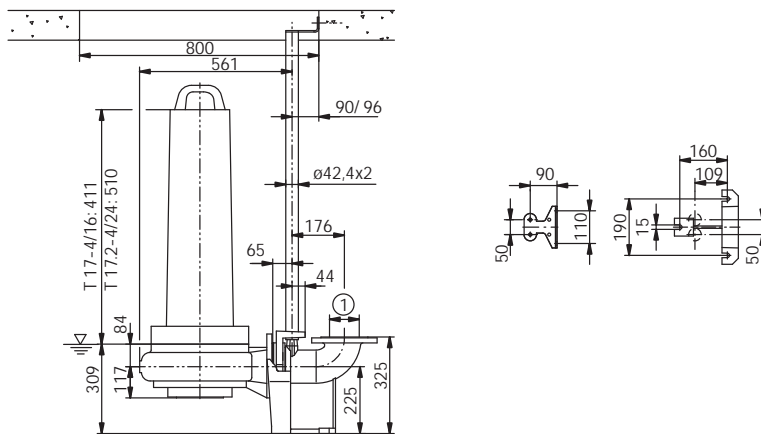
Submersible pumps

Dimensions Wilo-EMU FA 10.82E (1450 rpm)

Dimension drawing Wilo-EMU FA 10.82E - portable wet well installation



Dimension drawing Wilo-EMU FA 10.82E - stationary wet well installation

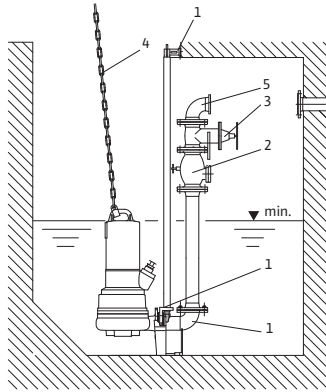


1 = DN100 PN10 / ANSI B16.1, Class 125, Size 4; 2 = DN100 PN10; 3 = DN150 PN10 / ANSI B16.1, Class 125, Size 6; 4 = DN150 PN10

Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 17-4/16 (Ex)	411
T 17.2-4/24 (Ex)	510

Mechanical accessories Wilo-EMU FA 10...



- 1 Suspension unit
- 2 Non-return valve
- 3 Gate valve
- 4 Chain
- 5 Pipe bend

Stationary wet well installation DN 100

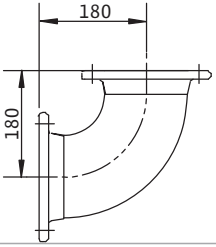
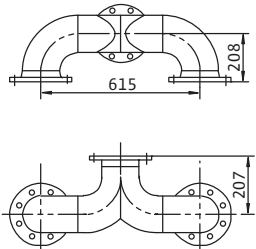
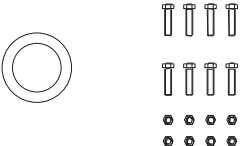
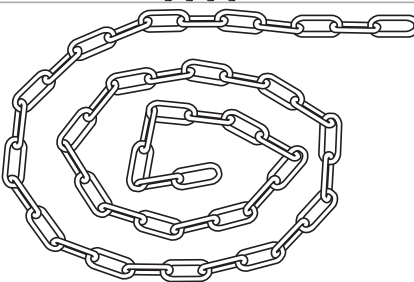
		Description	Art no.
Adapter flange EMU/Flygt		Coupling flange for connecting a FA pump to a Flygt suspension unit, DN100 connection, made of EN-GJL-250, incl. installation accessories	6030438
Suspension unit EHV DN100/2RK		Made of EN-GJL-250, painted, with free passage in DN 100, foot elbow including pump holder, profile joint, installation and floor fixation accessories and guide pipe bracket without guide pipes. Connection on pressure side DN 100. PN 10/16 flanges in accordance with DIN 2501. The double pipe feed (42.4x2 mm) is to be provided by the customer.	6036889
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 100 connection	2017169
Gate valve		Made of EN-GJL-250, incl. 1 set of installation accessories, PN 10/16 flanges in accordance with DIN 2501, DN 100	2017163

Wastewater transport

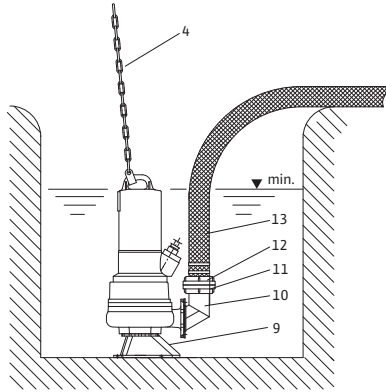
Submersible pumps

Mechanical accessories Wilo-EMU FA 10...

Stationary wet well installation DN 100

		Description	Art no.
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 100 connection	2004669
Y-piece DN 100		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 100/100/100 connection	2017180
Mounting accessories DN 100		For a DN 100 flange connection, with 8 screws, 8 nuts and 1 flat gasket for flanges, PN 10/16, DIN 2503	2017176
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Mechanical accessories Wilo-EMU FA 10...



- 4 Chain
- 9 Floor supporting foot
- 10 Pipe bend
- 11 Storz pipe coupling
- 12 Storz hose coupling
- 13 Pressure hose

Portable wet well installation with hose connection

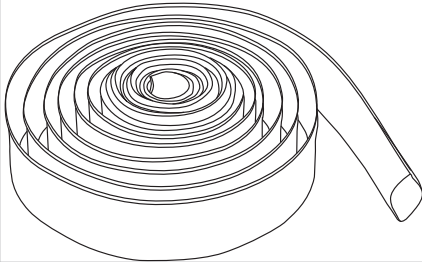
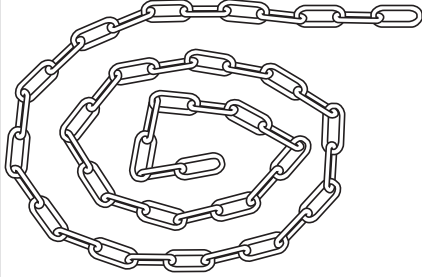
		Description	Art no.
Floor supporting foot DN 80/100		Made of steel (S235JR) with 4 supports for connection to DN 80/100, powder-coated, incl. fixation material	6065949
		Made of stainless steel (1.4571) with 4 supports for connection to DN 80/100, incl. fixation material	6065953
Pipe elbow 90° with Storz A pipe coupling and female thread R 4		Made of EN-GJL-250, with R 4 male thread, DN 100 flange on pump side, incl. 1 set of mounting accessories and Storz A fixed coupling, G 4 female thread	6031672

Wastewater transport

Submersible pumps

Mechanical accessories Wilo-EMU FA 10...

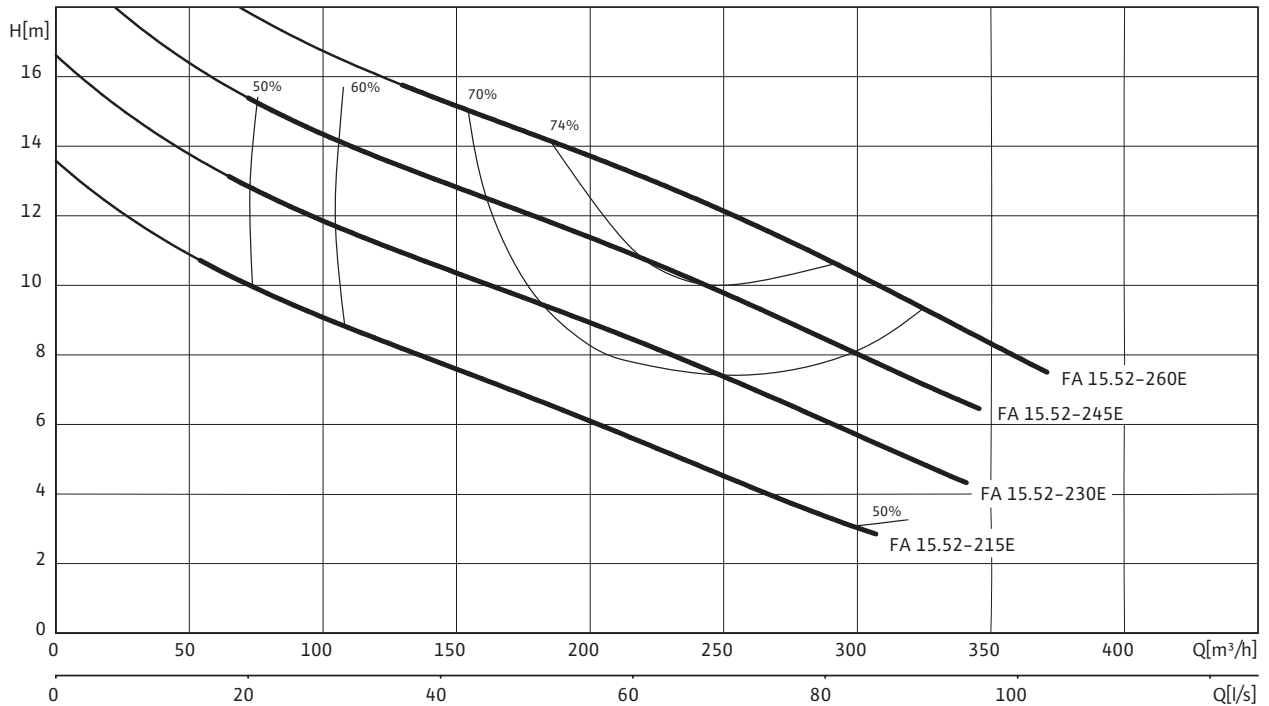
Portable wet well installation with hose connection

		Description	Art no.
Pressure hose / Storz A		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 102 mm, length 20 m incl. Storz A coupling, 8/20 bar	6022393
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 102 mm, length 10 m incl. Storz A coupling, 8/20 bar	6022392
		Synthetic fibre hose, synthetic, rubberized on the inside, inner Ø 102 mm, length 5 m incl. Storz A coupling, 8/20 bar	6022391
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Pump curves, ordering information Wilo-EMU FA 15.52E (1450 rpm)

Pump curves Wilo-EMU FA 15.52E - 50 Hz - 1450 rpm

Single-channel impeller - Free ball passage: 100 mm



Pump curves in accordance with ISO 9906, Appendix A The specified degrees of efficiency correspond to the hydraulic efficiency.

Information for order placements

Wilo-EMU...	Mains connection		Art no.
FA 15.52-215E + T 17-4/16HEx	3-400 V, 50 Hz	K	6046644
FA 15.52-230E + T 17.2-4/16HEx	3-400 V, 50 Hz	K	6049225
FA 15.52-230E + T 17.2-4/24HEx	3-400 V, 50 Hz	K	6047730
FA 15.52-245E + T 17.2-4/24HEx	3-400 V, 50 Hz	K	6047732
FA 15.52-260E + T 20.1-4/22GEx	3-400 V, 50 Hz	K	6047734

Wastewater transport

Submersible pumps

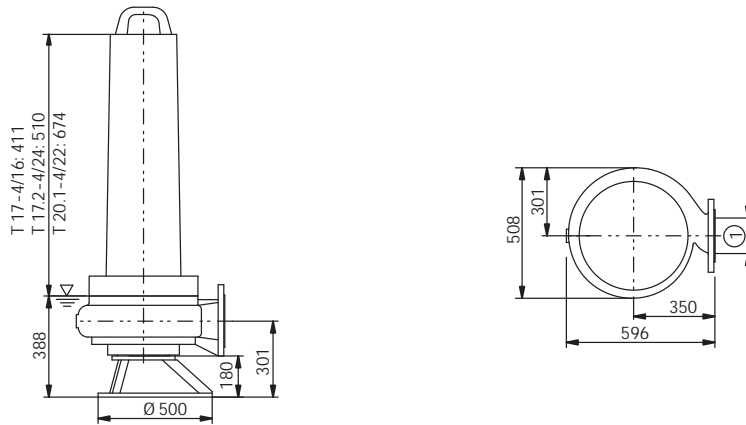
Technical data Wilo-EMU FA 15.52E (1450 rpm)

	FA 15.52-215E + T 17.2-4/16HEX	FA 15.52-230E + T 17.2-4/16HEX	FA 15.52-230E + T 17.2-4/24HEX	FA 15.52-245E + T 17.2-4/24HEX	FA 15.52-260E + T 20.1-4/22GEX
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit					
Pressure connection	DN 150	DN 150	DN 150	DN 150	DN 150
Free ball passage mm	100	100	100	100	100
Max. volume flow Q_{max} / m ³ /h	307	341	341	335	371
Max. delivery head H_{max} / m	13.6	16.6	16.6	19.6	22.3
Operating mode (immersed)	S1	S1	S1	S1	S1
Operating mode (non-immersed)	–	–	–	–	S2- 15 min
Max. immersion depth m	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	140	146	170	171	249
Motor data					
Nominal current I_N / A	13.5	13.5	21	21	30.5
Starting current I_A / A	68	68	123	123	156
Nominal motor power P_2 / kW	6.5	6.5	10	10	15
Power consumption P_1 / kW	8.2	8.2	12.2	12.2	18.2
Activation type	Star-delta	Star-delta	Star-delta	Star-delta	Star-delta
Nominal speed n / rpm	1400	1400	1417	1417	1425
Insulation class	F	F	F	F	F
Recommended switching frequency 1/h	–	–	–	–	–
Max. switching frequency 1/h	15	15	15	15	15
Permitted voltage tolerance %	±10	±10	±10	±10	±10
Cable					
Length of connecting cable m	10	10	10	10	10
Cable type	H07RN-F	H07RN-F	H07RN-F	H07RN-F	NSSHÖU
Cable cross-section mm ²	10G1,5	10G1,5	10G1,5	10G1,5	7x2,5 + 7x1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–	–	–
Equipment/function					
Float switch	–	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX	ATEX
Materials					
Static seal	NBR	NBR	NBR	NBR	NBR
Impeller	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Sealing on motor side	NBR	NBR	NBR	NBR	C/Al-oxides
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump shaft	1.4021	1.4021	1.4021	1.4021	1.4021

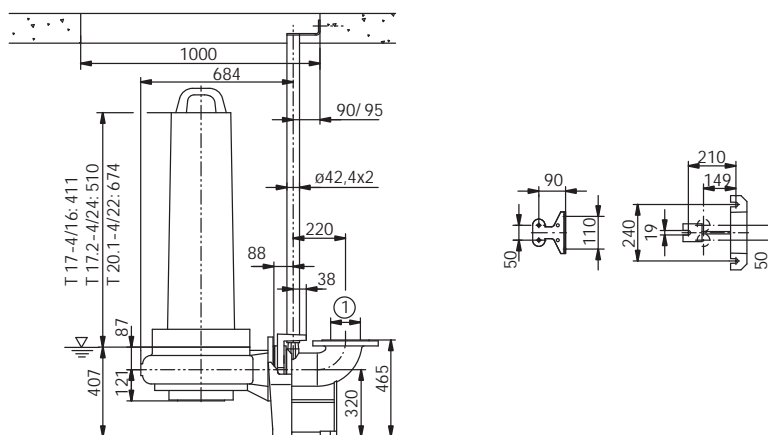
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-EMU FA 15.52E (1450 rpm)

Dimension drawing Wilo-EMU FA 15.52E - portable wet well installation



Dimension drawing Wilo-EMU FA 15.52E - stationary wet well installation



1 = DN150 PN10 / ANSI B16.1, Class 125, Size 6; 2 = DN150 PN10

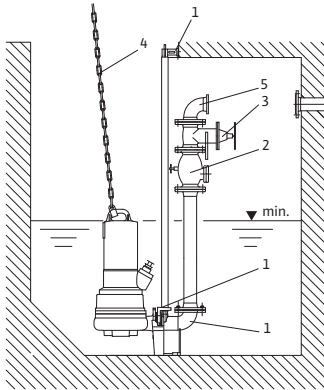
Dimensions

Wilo-EMU...	Dimensions
	AW
	mm
T 17-4/16 (Ex)	411
T 17.2-4/24 (Ex)	510
T 20.1-4/22 (Ex)	674

Wastewater transport

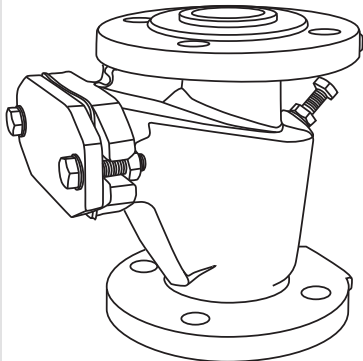
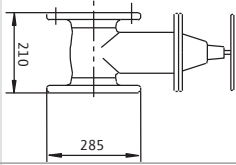
Submersible pumps

Mechanical accessories Wilo-EMU FA 15...



- 1 Suspension unit
- 2 Non-return valve
- 3 Gate valve
- 4 Chain
- 5 Pipe bend

Stationary wet well installation DN 150

		Description	Art no.
Suspension unit EHV DN150L/2RK		Made of EN-GJL-250, painted, with free passage in DN 150, foot elbow including pump holder, profile joint, installation and floor fixation accessories and guide pipe bracket without guide pipes. Connection on pressure side DN 150. PN 10/16 flanges in accordance with DIN 2501. The double pipe feed (42.4x2 mm) is to be provided by the customer.	6036890
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 150 connection	2017170
Gate valve		Made of EN-GJL-250, incl. 1 set of installation accessories, PN 10/16 flanges in accordance with DIN 2501, DN 150	2017164
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 150 connection	2017186
Y-piece DN 150		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 150/150/150 connection	2017181

Mechanical accessories Wilo-EMU FA 15...

Stationary wet well installation DN 150

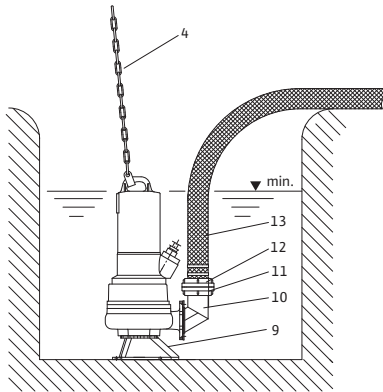
		Description	Art no.
Mounting accessories DN 150		For a DN 150 flange connection, with 8 screws, 8 nuts and 1 flat gasket for flanges, PN 10/16, DIN 2504	2390488
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Wastewater transport

Wastewater transport

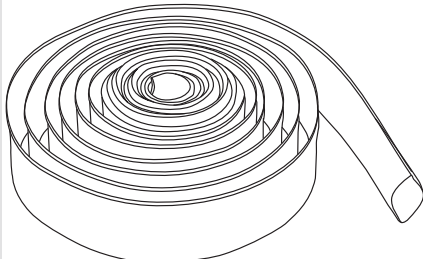
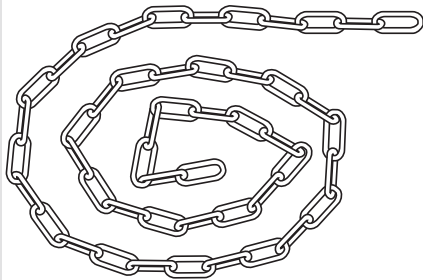
Submersible pumps

Mechanical accessories Wilo-EMU FA 15...



- 4 Chain
- 9 Floor supporting foot
- 10 Pipe bend
- 11 Storz pipe coupling
- 12 Storz hose coupling
- 13 Pressure hose

Portable wet well installation with hose connection

		Description	Art no.
Floor supporting foot FA 15..., FA 15.52		Made of steel (S235JR), painted, consisting of 3 support feet, 1 baseplate and fixation material	6024243
Pipe elbow 90° with Storz F pipe coupling and flange DN 150		made of aluminium, Storz F connection, with DN 150 flange connection	6040247
Pressure hose / Storz F		Synthetic fibre hose, synthetic, rubberised on the inside, inner Ø 150 mm, length 10 m incl. Storz F coupling, 7/21 bar	6003648
		Synthetic fibre hose, synthetic, rubberised on the inside, inner Ø 150 mm, length 20 m incl. Storz F coupling, 7/21 bar	6003647
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138



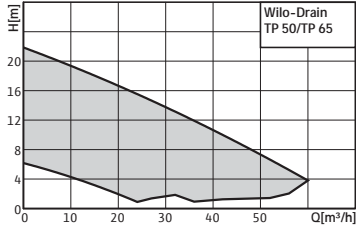
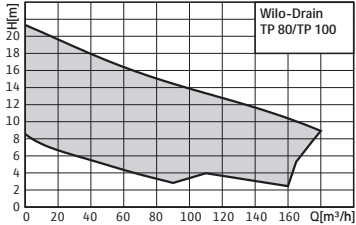
Series overview

Series	Wilo-Drain TMT/TMC	Wilo-Drain VC
Product photo		
Duty chart		
Design	Drainage pumps	Vertically-mounted drainage pump (pedestal pump with IE2 motor)
Application	For industrial use, e.g. for condensate, hot water and aggressive fluids.	Pumping of wastewater: <ul style="list-style-type: none"> • Containing solid substances of max. Ø 5 mm or Ø 7 mm (VC 40) • Fluids up to 95 °C • From pump sumps • With condensate • From basements at risk of flooding
H _{max}	13 m	20 m
Q _{max}	22 m ³ /h	14 m ³ /h
Special features/product advantages	<ul style="list-style-type: none"> • High temperature resistance (up to 95°C) • Also suitable for aggressive fluids 	<ul style="list-style-type: none"> • Long service life • Easy commissioning • Connection outside the fluid • Long downtimes possible • Built-in motor protection by thermal relay
Further information	Series information from page 235 Wilo online catalogue at www.wilo.com	Series information from page 240 Wilo online catalogue at www.wilo.com

Industrial process

Submersible pumps

Series overview

Series	Wilo-Drain TP 50/TP 65	Wilo-Drain TP 80/TP 100
Product photo		
Duty chart		
Design	Submersible sewage pump	Submersible sewage pump for industrial applications
Application	<p>Pumping of heavily contaminated fluids for:</p> <ul style="list-style-type: none"> • Domestic and site drainage • Sewage disposal (not within the scope of DIN EN 12050-1) • Water management • Environmental and water treatment technology • Industrial and process engineering 	<p>Pumping of wastewater and drainage water as well as sewage containing faeces, municipal and industrial sewage for:</p> <ul style="list-style-type: none"> • Domestic and site drainage • Sewage and water management • Environmental and water treatment technology • Industrial and process engineering
H _{max}	21 m	22 m
Q _{max}	60 m ³ /h	180 m ³ /h
Special features/product advantages	<ul style="list-style-type: none"> • Detachable connection cable • Stainless-steel glanded motor • ATEX approval (only for TP 65/3- without floater) • Attached float switch (A-model version) enables simple operation • Low weight • Motor housing optionally available in 1.4404 	<ul style="list-style-type: none"> • Operation in stationary wet well and dry well installation as well as portable wet well installation • Submersible • ATEX approval as standard • Low weight • Detachable connection cable • Longitudinally watertight cable inlet • Standard-equipped with clogging-free sheath current cooling • Corrosion-resistant (e.g. swimming-pool water, salt water, etc.) • Low-wearing • Patented clogging-free hydraulics • Easy installation due to suspension unit or pump base
Further information	<p>Series information from page 244 Wilo online catalogue at www.wilo.com Accessories from page 254</p>	<p>Series information from page 276 Wilo online catalogue at www.wilo.com Accessories from page 282</p>

Series description Wilo-Drain TMT/TMC



Design

Drainage pumps

Type key

Example: **Wilo-Drain TMC 32 H 102/7,5x**

TM	Submersible motor pump for hot water
C	Version T = for hot wastewater up to 95 °C C = for industrial wastewater up to 95 °C
32	Nominal diameter of the pressure port 32 = Rp 1¼ 40 = Rp 1½
H	Semi-open channel impeller
102	Impeller diameter in mm
7,5	/10 = nominal motor power in kW
x	Material version Ci = cast iron Br = bronze St = cast stainless steel

Application

For industrial use, e.g. for condensate, hot water and aggressive fluids.

Special features/product advantages

- High temperature resistance (up to 95°C)
- Also suitable for aggressive fluids

Technical data

- Mains connection: 3-400 V, 50 Hz
- Protection class: IP 68
- Max. immersion depth: 5 m
- Fluid temperature: immersed = 3 - 95 °C
- Cable length: 10 m
- Free ball passage: 10 mm
- Pressure port: TMT/TMC 32: Rp 1¼; TMC 40: Rp 1½

Equipment/function

- Connecting cable, permanently connected

Materials

"Ci" version

- Pump housing: EN-GJL-250
- Impeller: EN-GJL-250
- Shaft: 1.4122
- Mechanical seal: double, carbon/ceramic
- Static seals: Viton
- Motor housing: EN-GJL-250

"Br" version

- Pump housing: G-CuSn10
- Impeller: G-CuSn10
- Shaft: 1.4122
- Mechanical seal: double, carbon/ceramic
- Static seals: Viton
- Motor housing: G-CuSn10

"St" version

- Pump housing: 1.4408
- Impeller: 1.4408
- Shaft: 1.4571
- Mechanical seal: double, carbon/ceramic
- Static seals: PTFE/Teflon
- Motor housing: 1.4408

Description/design

Fully submersible wastewater pump for vertical wet well installation, for pumping of chemically contaminated fluids with temperatures of up to max. 95°C (depending on the material used: cast iron, bronze or cast stainless steel).

Hydraulics

The hydraulics housing and the impeller are, depending on type, made of cast iron, bronze or cast stainless steel. The connection on the pressure side is designed as horizontal threaded flange connection.

Motor

The motor is a self-cooling, interference-suppressed three-phase motor and is, depending on type, made of cast iron, bronze or cast stainless steel. The cooling of the motor is done by the oil in the motor. The waste heat is given off to the pumped and surrounding fluid via the housing components. For this reason, the unit can be used immersed in permanent operation and non-immersed in intermittent operation.

Industrial process

Pumps for hot fluids

Series description Wilo-Drain TMT/TMC

The cable is heat resistant and the cable inlet is cast in the motor housing. The cable has a length of 10 metres and has bare ends. In the cast stainless steel version, another cable protection hose is also delivered.

Seal

The pump-sided and motor-sided sealing is done by two mechanical shaft seals. The oil barrier chamber between the mechanical shaft seal is filled with a lubrication oil of class C in accordance with DIN 51517.

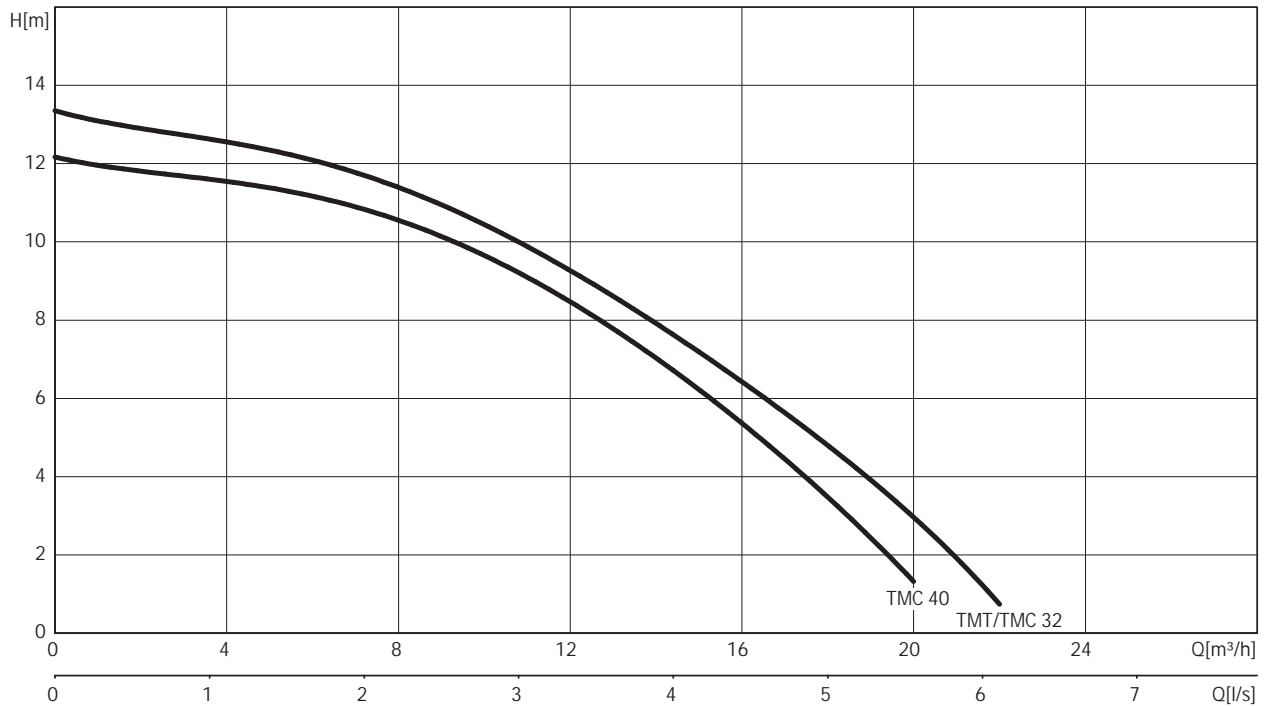
Scope of delivery

Pump with rigidly connected supply line with bare cable end, and installation and operating instructions.

Pump curves, ordering information Wilo-Drain TMT/TMC

Pump curves Wilo-Drain TMT/TMC - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 10 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art No.
TMT 32H102/7,5Ci	3-400 V, 50 Hz	L	120549093
TMC 32H102/7,5Br	3-400 V, 50 Hz	L	120549299
TMC 40H102/7,5St	3-400 V, 50 Hz	L	120654899

Industrial process

Pumps for hot fluids

Technical data Wilo-Drain TMT/TMC

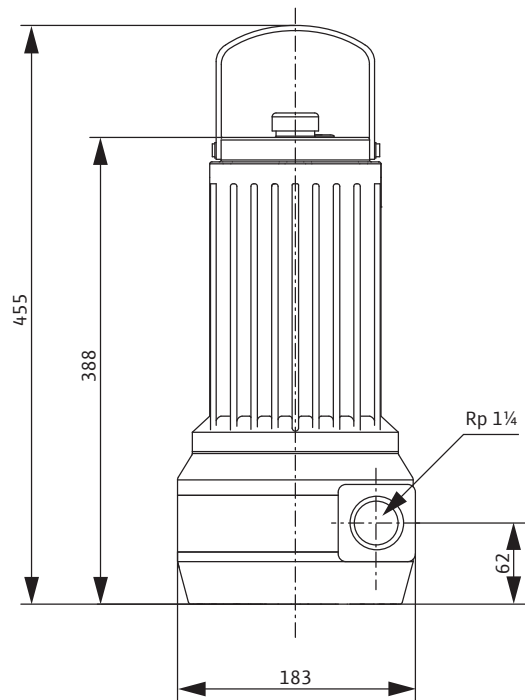
	TMT 32H102/7,5Ci	TMC 32H102/7,5Br	TMC 40H102/7,5St
Motor data			
Mains connection	3-400 V, 50 Hz		
Nominal current I_N / A	2	2	2
Nominal motor power P_2 / kW	0.75	0.75	0.75
Power consumption P_1 / kW	1.1	1.1	1.1
Activation type	Direct	Direct	Direct
Nominal speed n / rpm	2870	2870	2870
Insulation class	F	F	F
Max. switching frequency 1/h	50	50	50
Cable			
Length of connecting cable m	10	10	10
Cable type	SiAF	SiAF	SiAF
Cable cross-section mm ²	4x1,5	4x1,5	4x1,5
Type of connecting cable	Non-detachable	Non-detachable	Non-detachable
Mains plug	–	–	–
Unit			
Pressure connection	Rp 1¼	Rp 1¼	Rp 1½
Free ball passage mm	10	10	10
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S3-25%	S3-25%	S3-25%
Max. immersion depth m	5	5	5
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +95	+3 ... +95	+3 ... +95
Max. fluid temperature, for short periods up to 3 min T / °C	–	–	–
Weight approx. m / kg	30	33	32
Equipment/function			
Float switch	–	–	–
Motor protection	–	–	–
Explosion protection	–	–	–
Materials			
Static seal	FPM	FPM	PTFE/Teflon
Impeller	EN-GJL-250	G-CuSn10	1.4408
Sealing on motor side	Carbon/ceramic	Carbon/ceramic	Carbon/ceramic
Mechanical seal	Carbon/ceramic	Carbon/ceramic	Carbon/ceramic/PTFE
Motor housing	EN-GJL-250	G-CuSn10	1.4408
Pump housing	EN-GJL-250	G-CuSn10	1.4408

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimension drawing Wilo-Drain TMT/TMC

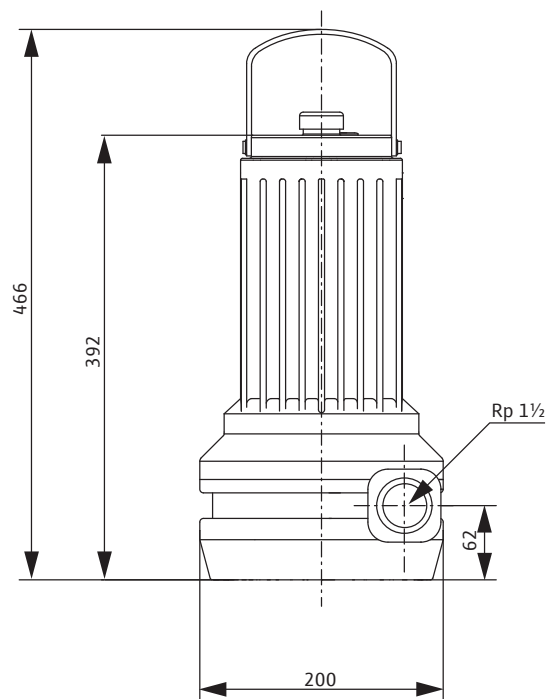
Dimension drawing

Wilo-Drain TMT 32H102/7,5Br



Dimension drawing

Wilo-Drain TMT 40H102/7,5St



Industrial process

Pumps for hot fluids

Series description Wilo-Drain VC



Design

Vertically-mounted drainage pump (pedestal pump with IE2 motor)

Type key

Example: **Wilo-Drain VC 32/10**

VC Vertical drainage pump

32 Nominal diameter of pressure port in mm

10 Max. delivery head in m

Application

Pumping of wastewater:

- Containing solid substances of max. Ø 5 mm or Ø 7 mm (VC 40)
- Fluids up to 95 °C
- From pump sumps
- With condensate
- From basements at risk of flooding

Special features/product advantages

- Long service life
- Easy commissioning
- Connection outside the fluid
- Long downtimes possible
- Built-in motor protection by thermal relay

Technical data

- Mains connection: 1~230 V, 50 Hz or 3~400 V, 50 Hz
- Protection class: IP 54
- Fluid temperature: 3 - 95 °C
- Free ball passage: 5 mm / 7 mm
- Pressure port: R 1 / R 1½

Equipment/function

- Attached float
- Capacitor box (VC 32), 1~

Materials

- Motor housing: Al
- Pump housing: EN-GJL-250
- Impeller: 1.4028 (VC 32/10), EN-GJL-250 (VC 40/20)
- Shaft: stainless steel
- Floater: PP

Description/design

Vertical pedestal-type wastewater pump with mounted float switch for stationary installation.

- IE2 motor
- On completely flat floors
- Shaft always vertical
- VC 40 hanging from flange

Float switch

- VC 32: On the motor
- VC 40: disconnected from motor

Electrical data

- VC 32: 1~230 V with capacitor 40 µF
- VC 40: 3~230/400 V motor protection switch required onsite.

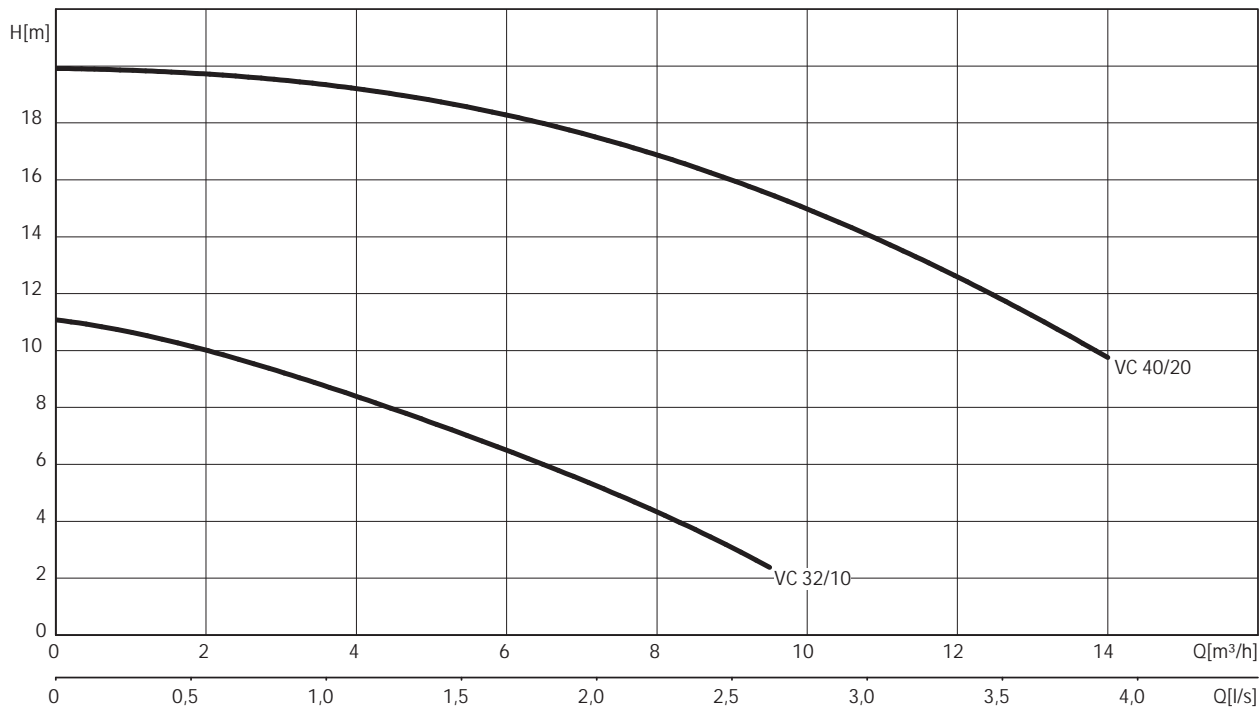
Scope of delivery

Pump with attached float switch and installation and operating instructions.

Pump curves, ordering information Wilo-Drain VC

Pump curves Wilo-Drain VC - 50 Hz - No. of poles: 2

Open multi-channel impeller - Free ball passage: 5 - 7 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art No.
VC 32/10	1~230 V, 50 Hz	L	2044582
VC 32/10	3~400 V, 50 Hz	L	2044583
VC 40/20	3~400 V, 50 Hz	L	2044584

Industrial process

Pumps for hot fluids

Technical data Wilo-Drain VC

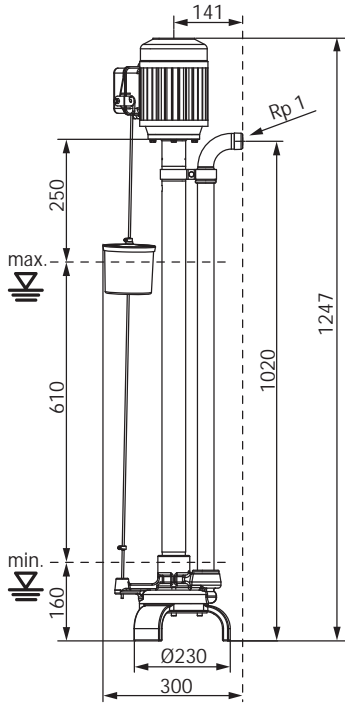
	VC 32/10	VC 32/10	VC 40/20
Motor data			
Mains connection	1–230 V, 50 Hz	3–400 V, 50 Hz	
Nominal current I_N / A	3.9	1	2.9
Nominal motor power P_2 / kW	0.37	0.37	2.2
Power consumption P_1 / kW	–	–	–
Activation type	Direct	Direct	Direct
Nominal speed n / rpm	2900	2900	2900
Insulation class	F	F	F
Max. switching frequency 1/h	50	50	50
Cable			
Length of connecting cable m	–	–	–
Cable type	–	–	–
Cable cross-section mm ²	–	–	–
Type of connecting cable	–	–	–
Mains plug	–	–	–
Unit			
Pressure connection	R 1	R 1	R 1½
Free ball passage mm	5	5	7
Operating mode (immersed)	–	–	–
Operating mode (non-immersed)	S1	S1	S1
Max. immersion depth m	–	–	–
Protection class	IP 55	IP 55	IP 55
Fluid temperature T / °C	+3 ... +95	+3 ... +95	+3 ... +95
Max. fluid temperature, for short periods up to 3 min T / °C	–	–	–
Weight approx. m / kg	36	36	77
Equipment/function			
Float switch	•	•	•
Motor protection	–	–	–
Explosion protection	–	–	–
Materials			
Static seal	–	–	–
Impeller	1.4028	1.4028	EN-GJL-250
Sealing on motor side	–	–	–
Mechanical seal	–	–	–
Motor housing	Al	Al	Al
Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250

P_1 refers to the maximum power consumption. All of the data apply to 1–230 V or 3–400 V, 50 Hz and a density of 1 kg/dm³.

Dimension drawing Wilo-Drain VC

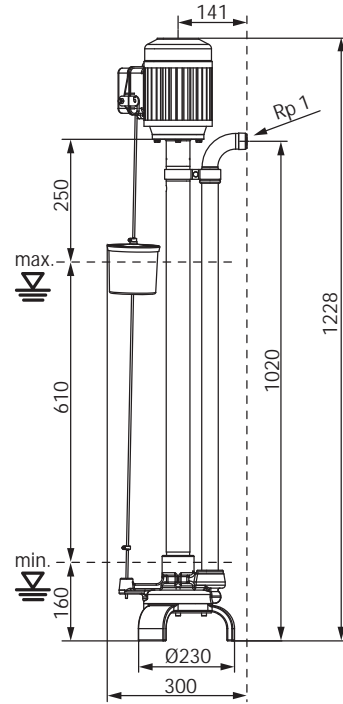
Dimension drawing

Wilo-Drain VC 32/10 (1~230 V)



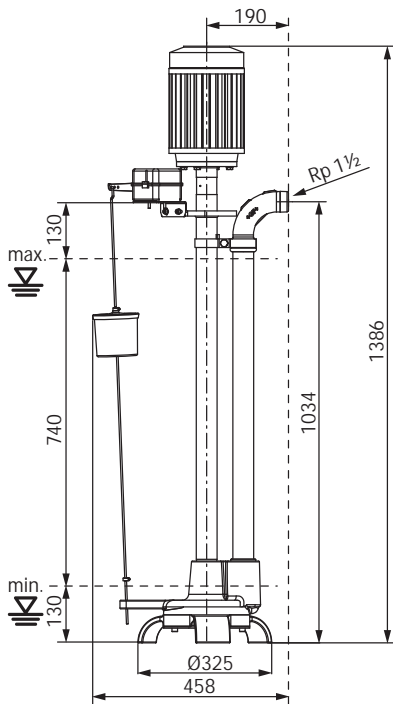
Dimension drawing

Wilo-Drain VC 32/10 (3~400 V)



Dimension drawing

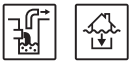
Wilo-Drain VC 40/20



Industrial process

Submersible pumps

Series description Wilo-Drain TP 50/TP 65



Design

Submersible sewage pump

Type key

e.g.:	Wilo-Drain TP 65 E 114/11-A
TP	Submersible pump
65	Nominal diameter [mm]
E	Impeller shape (E = single-channel impeller, F = Vortex impeller)
114	Nominal diameter of the impeller [mm]
11	Power P_2 [kW] (=value/10 = 1.1 kW)
A	With float switch and plug

Application

Pumping of heavily contaminated fluids for:

- Domestic and site drainage
- Sewage disposal (not within the scope of DIN EN 12050-1)
- Water management
- Environmental and water treatment technology
- Industrial and process engineering

Special features/product advantages

- Detachable connection cable
- Stainless-steel glanded motor
- ATEX approval (only for TP 65/3- without floater)
- Attached float switch (A-model version) enables simple operation
- Low weight
- Motor housing optionally available in 1.4404

Technical data

- Mains connection: 1-230 V, 50 Hz or 3-400 V, 50 Hz
- Immersed operating mode: S1
- Non-immersed operating mode: S2-8 min, S3 25%
- Protection class: IP 68
- Insulation class: F
- Thermal winding monitoring
- Max. fluid temperature: 3 - 35°C
- Cable length: 10 m
- Free ball passage: 44 mm
- Max. immersion depth: 10 m

Equipment/function

- Single-phase version with capacitor box
- A-model including float switch and plug
- Thermal motor monitoring
- ATEX approval (TP 65 3- without float)

Materials

- Pump housing: PP-GF30 (TP 50), PUR (TP 65)
- Impeller: PP-GF30 (vortex impeller), PUR (single-channel impeller)
- Shaft: Stainless steel 1.4404
- Mechanical seal on pump side: SiC/SiC
- Shaft seal on motor side: NBR
- Static gasket: NBR
- Motor housing: Stainless steel 1.4301

Description/design

Submersible sewage pump as submersible monobloc unit for stationary and portable wet well installation.

Hydraulics

The outlet on the pressure side is designed as DN 50 or DN 65 horizontal flange connections. The impeller shapes used are single-channel (E) or vortex impellers (F).

Motor

Dry motors give off their heat directly to the surrounding fluid via the housing components and can be used in immersed state for permanent or intermittent operation.

A sealing chamber protects the motor from fluid ingress. The filling fluid used is potentially biodegradable and environmentally safe.

Cable lengths are available in length increments of 10 m. The A-model is equipped with float switch and plug.

Sealing

Sealing on the fluid side is achieved by a bidirectional mechanical seal, while sealing on the motor side is achieved by a rotary shaft seal.

Scope of delivery

- Pump ready for connection with 10 m connection cable
 - Single-phase version in A-model design with capacitor box and shock-proof plug
 - Single-phase version with capacitor box and bare cable end

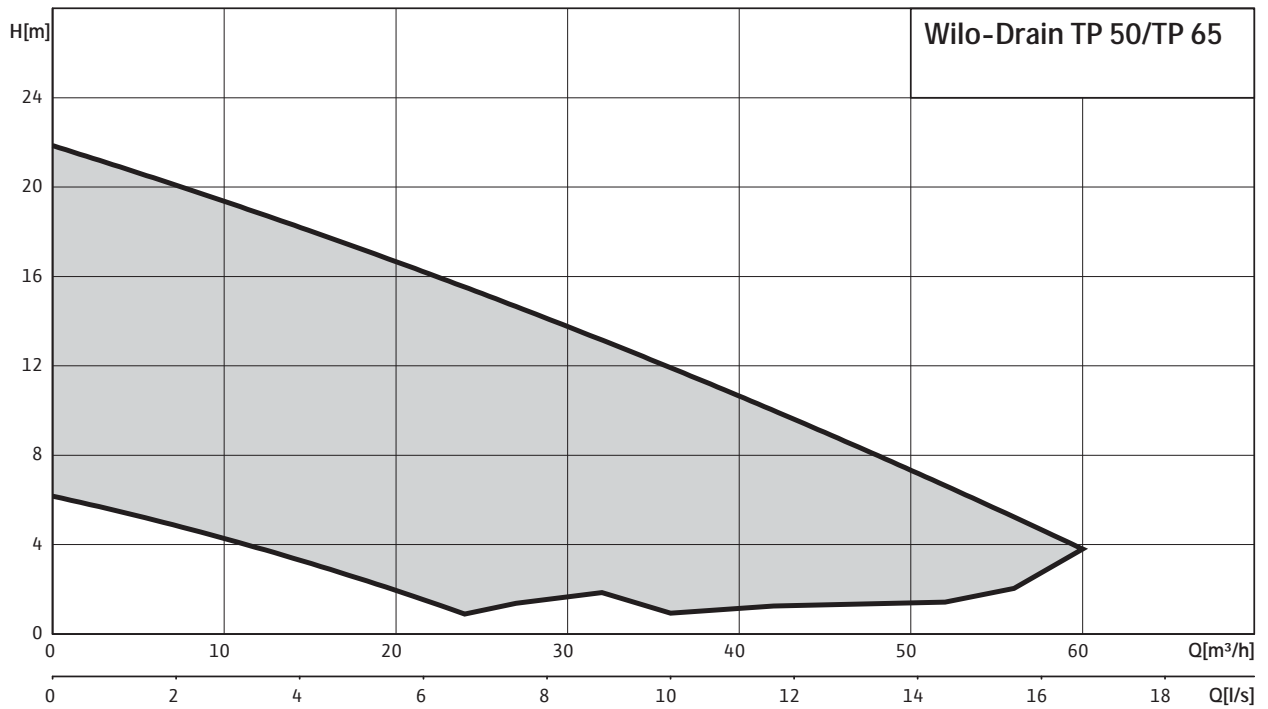
Series description Wilo-Drain TP 50/TP 65

- Three-phase version in A-model design with CEE plug
- Three-phase version with bare cable end
- A-model version with attached float switch
- Installation and operating instructions

Accessories

- Suspension unit
- Chains
- Non-return valve and gate valve
- Various pressure outlets and hoses
- Switchgears and relays

Duty chart



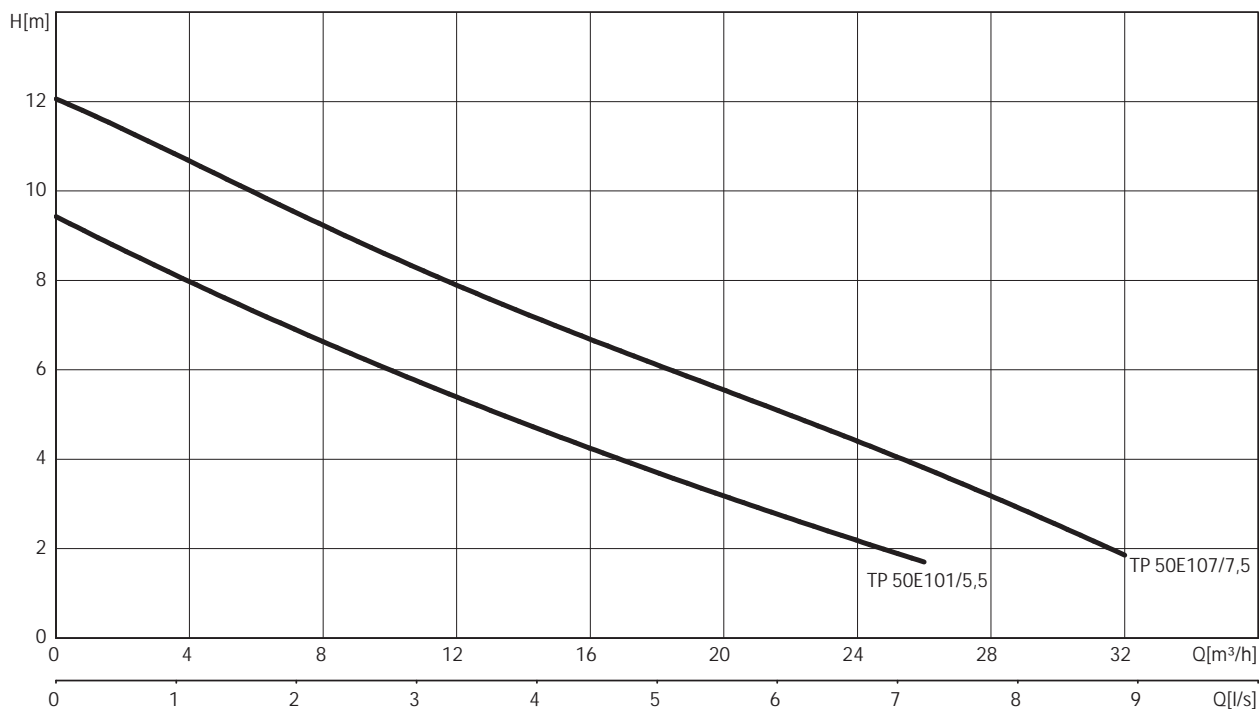
Industrial process

Submersible pumps

Pump curves, ordering information Wilo-Drain TP 50 E


Pump curves Wilo-Drain TP 50 E - 50 Hz - No. of poles: 2

Open single-channel impeller - Free ball passage: 44 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art no.
TP 50 E 101/5,5	1~230 V, 50 Hz	L	4025332
TP 50 E 101/5,5-A	1~230 V, 50 Hz	L	4029445
TP 50 E 101/5,5	3~400 V, 50 Hz	L	4025331
TP 50 E 101/5,5-A	3~400 V, 50 Hz	L	4029551
TP 50 E 107/7,5	1~230 V, 50 Hz	L	4025335
TP 50 E 107/7,5-A	1~230 V, 50 Hz	L	4029452
TP 50 E 107/7,5	3~400 V, 50 Hz	L	4025334
TP 50 E 107/7,5-A	3~400 V, 50 Hz	L	4029552

Technical data Wilo-Drain TP 50 E

	TP 50 E 101/5,5	TP 50 E 101/5,5	TP 50 E 107/7,5	TP 50 E 107/7,5
	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 50	DN 50	DN 50	DN 50
Free ball passage mm	44	44	44	44
Max. volume flow Q_{max} / m ³ /h	26	26	32	32
Max. delivery head H_{max} / m	9.5	9.5	12	12
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%
Max. immersion depth m	10	10	10	10
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35
Weight approx. m / kg	16	15.5	17	16.5
Motor data				
Nominal current I_N / A	4	2	5.5	2.1
Starting current I_A / A	–	–	–	–
Nominal motor power P_2 / kW	0.55	0.55	0.75	0.75
Power consumption P_1 / kW	1	1	1.3	1.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2850	2850	2850	2850
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	70	70	70	70
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	OZOFLEX (PLUS) O7RNF	OZOFLEX (PLUS) O7RNF	OZOFLEX (PLUS) O7RNF	OZOFLEX (PLUS) O7RNF
Cable cross-section mm ²	4G1	6G1	4G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	–	–	–	–
Equipment/function				
Float switch	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	–	–	–	–
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Pump shaft	1.4404	1.4404	1.4404	1.4404

P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Industrial process

Submersible pumps

Technical data Wilo-Drain TP 50 E

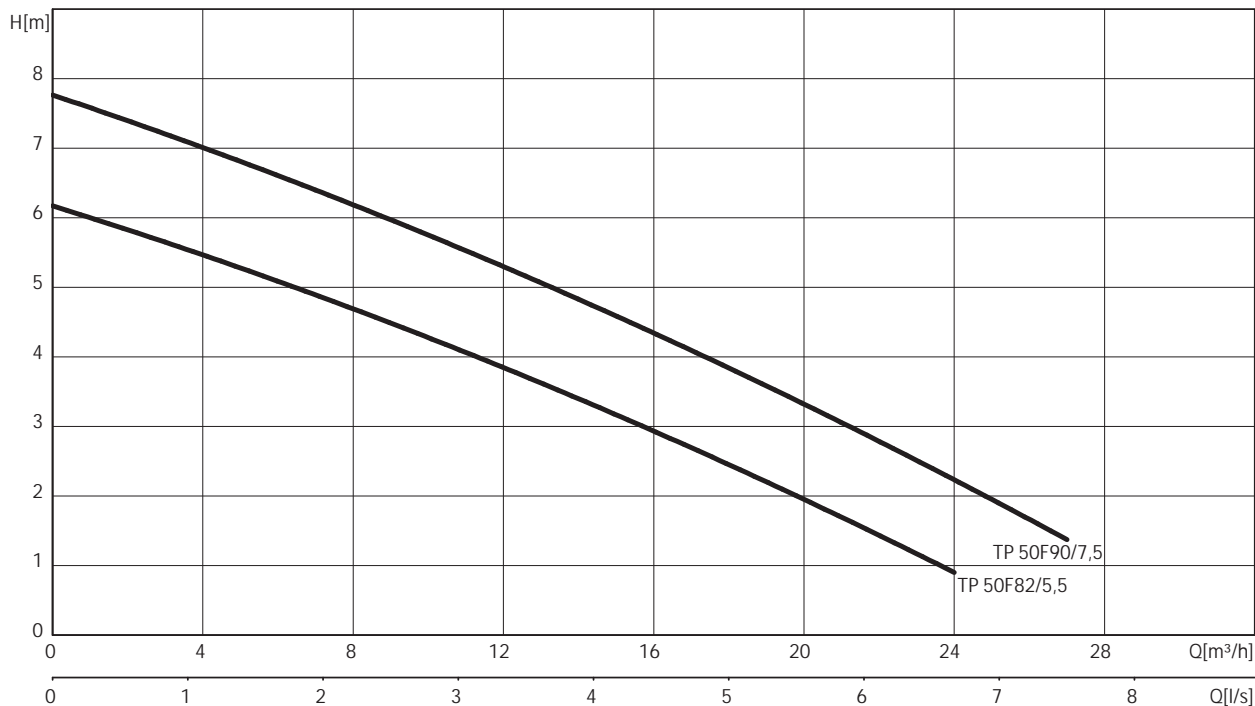
	TP 50 E 101/5,5-A	TP 50 E 101/5,5-A	TP 50 E 107/7,5-A	TP 50 E 107/7,5-A
	1-230 V, 50 Hz	3-400 V, 50 Hz	1-230 V, 50 Hz	3-400 V, 50 Hz
Unit				
Pressure connection	DN 50	DN 50	DN 50	DN 50
Free ball passage mm	44	44	44	44
Max. volume flow Q_{max} / m ³ /h	26	26	32	32
Max. delivery head H_{max} / m	9.5	9.5	12	12
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%
Max. immersion depth m	10	10	10	10
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35
Weight approx. m / kg	16	15	17	16.5
Motor data				
Nominal current I_N / A	4	2	5.5	2.1
Starting current I_A / A	–	–	–	–
Nominal motor power P_2 / kW	0.55	0.55	0.75	0.75
Power consumption P_1 / kW	1	1	1.3	1.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2850	2850	2850	2850
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	70	70	70	70
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF
Cable cross-section mm ²	4G1	6G1	4G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	Shock-proof	CEE	Shock-proof	CEE
Equipment/function				
Float switch	•	•	•	•
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	–	–	–	–
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Pump shaft	1.4404	1.4404	1.4404	1.4404

P_1 refers to the maximum power consumption. All of the data apply to 1-230 V or 3-400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-Drain TP 50 F

Pump curves Wilo-Drain TP 50 F - 50 Hz - No. of poles: 2

Vortex impeller - Free ball passage: 44 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art no.
TP 50 F 82/5,5	1-230 V, 50 Hz	L	4025319
TP 50 F 82/5,5-A	1-230 V, 50 Hz	L	4029438
TP 50 F 82/5,5	3-400 V, 50 Hz	L	4025318
TP 50 F 82/5,5-A	3-400 V, 50 Hz	L	4029548
TP 50 F 90/7,5	1-230 V, 50 Hz	L	4025322
TP 50 F 90/7,5-A	1-230 V, 50 Hz	L	4029439
TP 50 F 90/7,5	3-400 V, 50 Hz	L	4025321
TP 50 F 90/7,5-A	3-400 V, 50 Hz	L	4029549

Industrial process

Submersible pumps

Technical data Wilo-Drain TP 50 F

	TP 50 F 82/5,5 1-230 V, 50 Hz	TP 50 F 82/5,5 3-400 V, 50 Hz	TP 50 F 82/5,5-A 1-230 V, 50 Hz	TP 50 F 82/5,5-A 3-400 V, 50 Hz
Unit				
Pressure connection	DN 50	DN 50	DN 50	DN 50
Free ball passage mm	44	44	44	44
Max. volume flow Q_{max} / m ³ /h	24	24	24	24
Max. delivery head H_{max} / m	6.5	6.5	6.5	6.5
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%
Max. immersion depth m	10	10	10	10
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35
Weight approx. m / kg	16	15.5	16	15.5
Motor data				
Nominal current I_N / A	4	2	4	2
Starting current I_A / A	–	–	–	–
Nominal motor power P_2 / kW	0.55	0.55	0.55	0.55
Power consumption P_1 / kW	1	1	1	1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2850	2850	2850	2850
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	70	70	70	70
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF
Cable cross-section mm ²	4G1	6G1	4G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	–	–	Shock-proof	CEE
Equipment/function				
Float switch	–	–	•	•
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	–	–	–	–
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Pump shaft	1.4404	1.4404	1.4404	1.4404

P_1 refers to the maximum power consumption. All of the data apply to 1-230 V or 3-400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Drain TP 50 F

	TP 50 F 90/7,5 1~230 V, 50 Hz	TP 50 F 90/7,5 3~400 V, 50 Hz	TP 50 F 90/7,5-A 1~230 V, 50 Hz	TP 50 F 90/7,5-A 3~400 V, 50 Hz
Unit				
Pressure connection	DN 50	DN 50	DN 50	DN 50
Free ball passage mm	44	44	44	44
Max. volume flow Q_{max} / m ³ /h	27	27	27	27
Max. delivery head H_{max} / m	9	9	9	9
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%
Max. immersion depth m	10	10	10	10
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35
Weight approx. m / kg	17	16	16	16.5
Motor data				
Nominal current I_N / A	5.5	2.1	5.5	2
Starting current I_A / A	–	–	–	–
Nominal motor power P_2 / kW	0.75	0.75	0.75	0.75
Power consumption P_1 / kW	1.3	1.1	1.3	1.1
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2850	2850	2850	2850
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	70	70	70	70
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	OZOFLEX (PLUS) O7RNF	OZOFLEX (PLUS) O7RNF	OZOFLEX (PLUS) O7RNF	OZOFLEX (PLUS) O7RNF
Cable cross-section mm ²	4G1	6G1	4G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	–	–	Shock-proof	CEE
Equipment/function				
Float switch	–	–	•	•
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	–	–	–	–
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Pump shaft	1.4404	1.4404	1.4404	1.4404

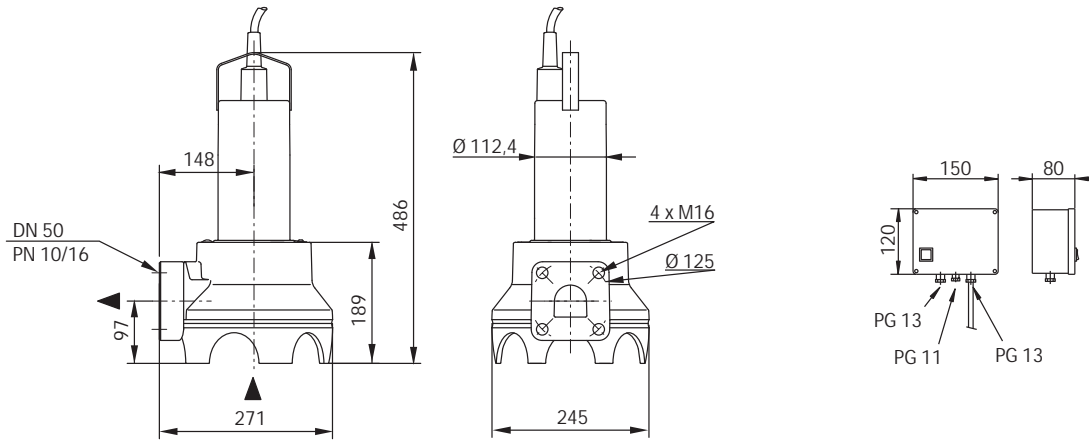
P_1 refers to the maximum power consumption. All of the data apply to 1~230 V or 3~400 V, 50 Hz and a density of 1 kg/dm³.

Industrial process

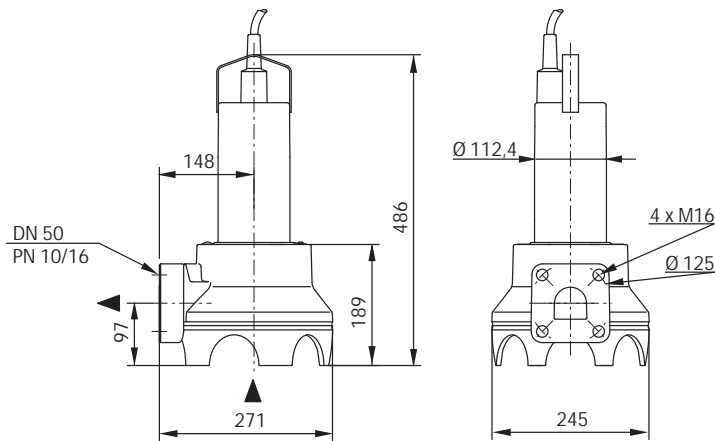
Submersible pumps

Dimensions Wilo-Drain TP 50/TP 65

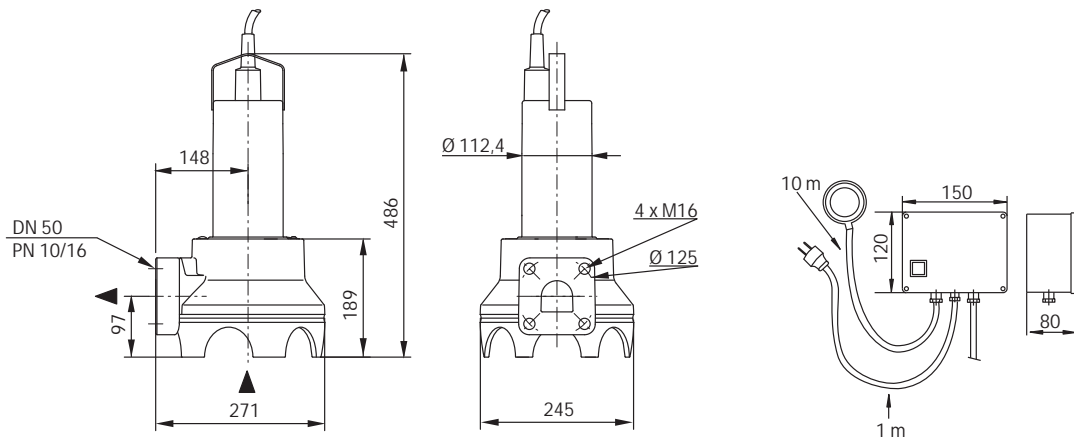
Dimension drawing Wilo-Drain TP 50 (1~230 V) - portable wet well installation



Dimension drawing Wilo-Drain TP 50 (3~400 V) - portable wet well installation

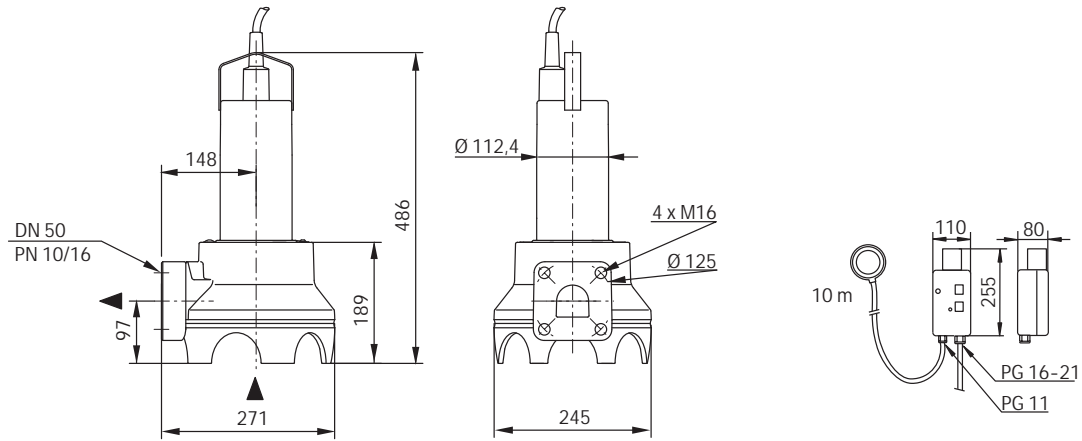


Dimension drawing Wilo-Drain TP 50...-A (1~230 V) - portable wet well installation

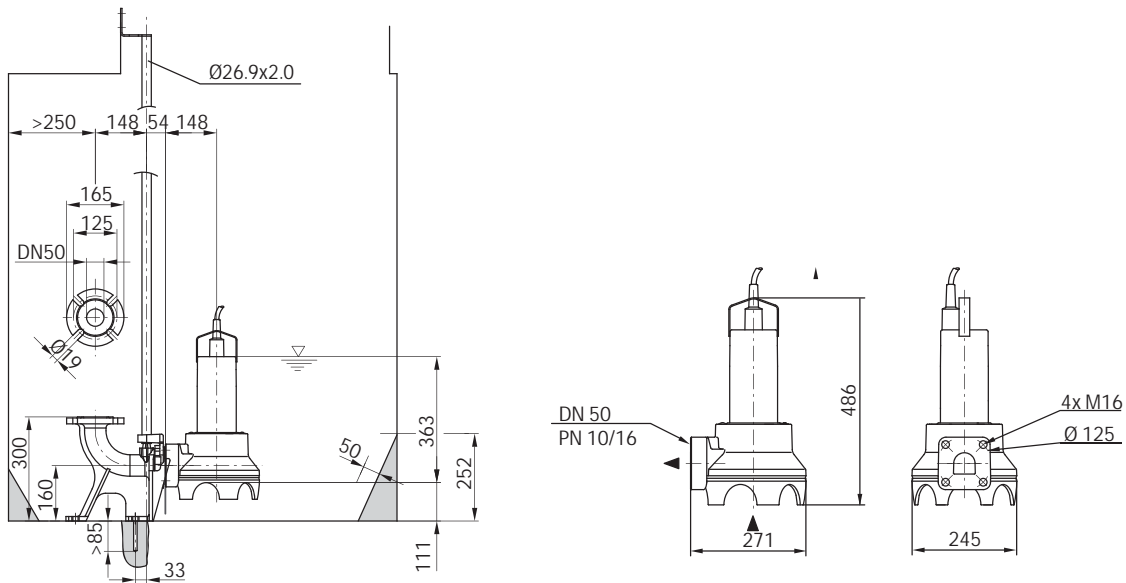


Dimensions Wilo-Drain TP 50/TP 65

Dimension drawing Wilo-Drain TP 50...-A (3-400 V) - portable wet well installation



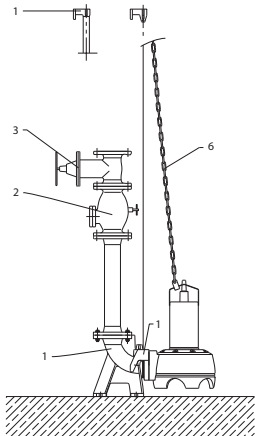
Dimension drawing Wilo-Drain TP 50 - stationary wet well installation



Industrial process

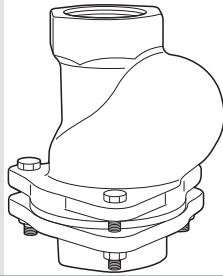
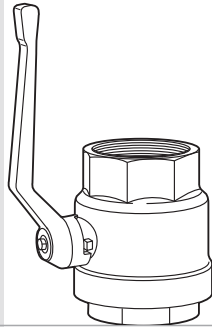
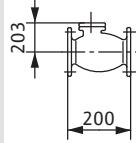
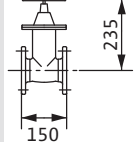
Submersible pumps

Mechanical accessories for Wilo-Drain TP 50



- 1 Suspension unit
- 2 Non-return valve
- 3 Gate valve
- 6 Chain

Stationary wet well installation DN 50

		Description	Art no.
Non-return ball valve		Made of EN-GJL-250, with Rp 2 female thread for DN 50 connection	4027331
Shut-off ball valve		Made of brass, nickel-plated, with Rp 2 female thread for DN 50 connection	4027338
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 50 connection	2017166
Gate valve		Made of EN-GJL-250, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, DN 50	2017160

Mechanical accessories for Wilo-Drain TP 50

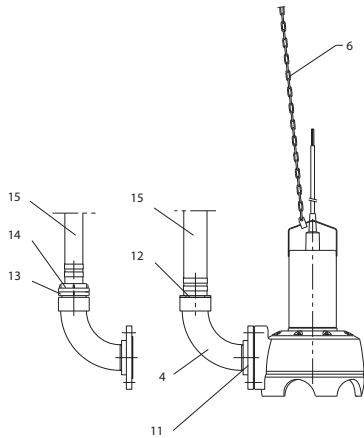
Stationary wet well installation DN 50

		Description	Art no.
Y-piece DN 50		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 50/50/50 connection	2019042
Mounting accessories DN 40/50		For a DN 40/50 flange connection, with 4 screws, 4 nuts and 1 flat gasket for PN 10/16 flange, DIN 2501	2057177
Suspension unit DN50/2RK		For 2-pipe guide of EN-GJL-250, powder-coated, with free passage in DN 50, coupling foot with 90° pipe elbow, including coupling connection, guide pipe bracket of stainless steel for sump fixation, profile joint and mounting accessories, pressure-side connection DN 50; two guide pipes (26.9 x 2 mm) are to be provided by the customer!	6070146
Guide pipe bracket		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 cast-iron pipe, including mounting accessories of A4	6066851
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 steel pipe, including mounting accessories of A4	6061084
Bracket for guide pipe extension		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 cast-iron pipe, including mounting accessories of A4	6066852
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 50 steel pipe, including mounting accessories of A4	6066846
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Industrial process

Submersible pumps

Mechanical accessories for Wilo-Drain TP 50



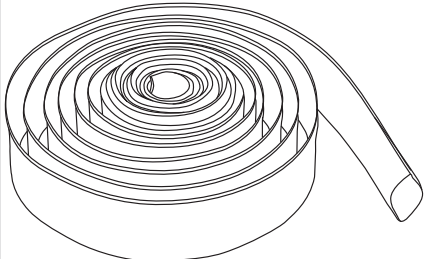
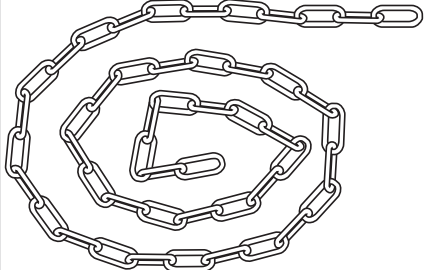
- 4 Pipe bend
- 6 Chain
- 11 Adapter
- 12 hose connection
- 13 Storz pipe coupling
- 14 Storz hose coupling
- 15 Pressure hose

Portable wet well installation with hose connection DN 50

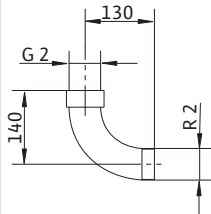
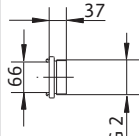
		Description	Art no.
Pipe elbow 90° R2/G2		Made of steel, galvanized with G 2 / R 2 female/male thread for DN 50 connection	4027332
Adapter DN 50 on Rp 2		Made of steel, galvanized, DN 50 threaded flange, PN 10/16, DIN 2566 with Rp 2 female thread, incl. 1 set of mounting accessories for DN 50 connection	4027333
Hose connection		Made of plastic, hose nozzle with Ø 60 mm including hose clip, G 2 male thread for direct hose connection	4027334
Pipe bend 90°		Made of PVC, with hose nozzle (Ø 60 mm) for direct hose connection, flange on pump side, incl. 1 set of mounting accessories for DN 50 connection	4027344

Mechanical accessories for Wilo-Drain TP 50

Portable wet well installation with hose connection DN 50

		Description	Art no.
Pressure hose		Synthetic, inner Ø 60 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle, Ø 60 mm	2018106
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Portable wet well installation with Storz coupling

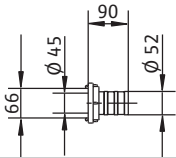
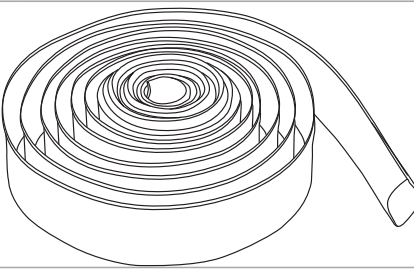
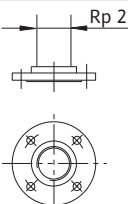
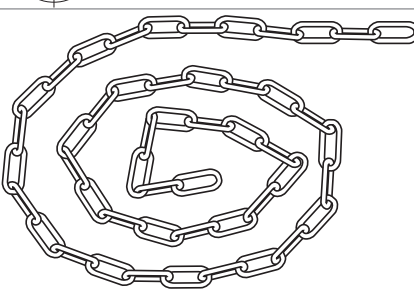
		Description	Art no.
Pipe elbow 90° R2/G2		Made of steel, galvanized with G 2/R 2 female/male thread for DN 50 connection	4027332
Storz C pipe coupling with male thread G 2		Made of aluminium, Storz C connection, with G 2 male thread, tappet clearance 66 mm for a DN 50 connection	2018102

Industrial process

Submersible pumps

Mechanical accessories for Wilo-Drain TP 50

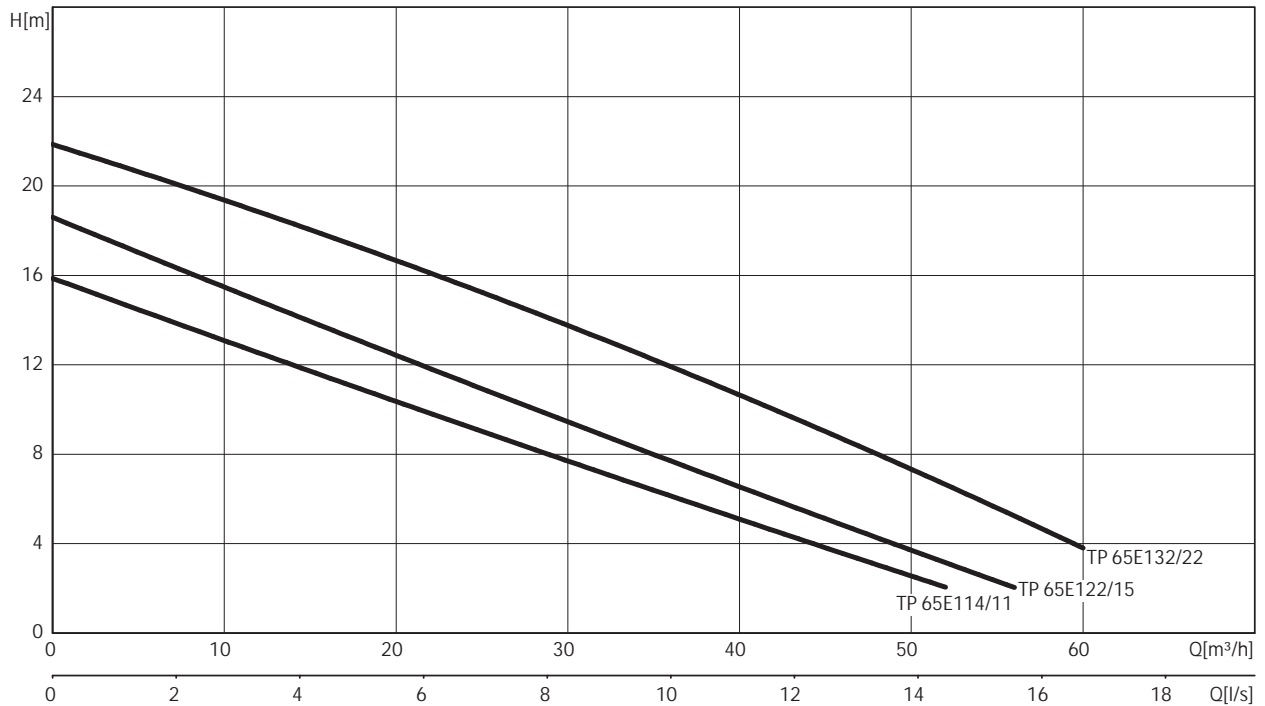
Portable wet well installation with Storz coupling

		Description	Art no.
Storz hose coupling		Made of aluminium, Storz A connection, with hose nozzle (Ø 52 mm), tappet clearance 66 mm, incl. hose clip	2015235
Pressure hose		Synthetic, inner Ø 52 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle (Ø 50 mm) or a Storz C hose coupling	2017192
Adapter DN 50 on Rp 2		Made of steel, galvanized, DN 50 threaded flange, PN 10/16, DIN 2566 with Rp 2 female thread, incl. 1 set of mounting accessories for DN 50 connection	4027333
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Pump curves, ordering information Wilo-Drain TP 65 E

Pump curves Wilo-Drain TP 65 E - 50 Hz - No. of poles: 2

Open single-channel impeller - Free ball passage: 44 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art no.
TP 65 E 114/11	1-230 V, 50 Hz	L	4007101
TP 65 E 114/11-A	1-230 V, 50 Hz	L	4029444
TP 65 E 114/11	3-400 V, 50 Hz	L	4007099
TP 65 E 114/11-A	3-400 V, 50 Hz	L	4029550
TP 65 E 122/15	1-230 V, 50 Hz	L	4007107
TP 65 E 122/15	3-400 V, 50 Hz	L	4007105
TP 65 E 132/22	3-400 V, 50 Hz	L	4007111

Industrial process

Submersible pumps

Technical data Wilo-Drain TP 65 E

	TP 65 E 114/11	TP 65 E 114/11	TP 65 E 114/11-A	TP 65 E 114/11-A
	1-230 V, 50 Hz	3-400 V, 50 Hz	1-230 V, 50 Hz	3-400 V, 50 Hz
Unit				
Pressure connection	DN 65	DN 65	DN 65	DN 65
Free ball passage mm	44	44	44	44
Max. volume flow Q_{max} / m ³ /h	52	52	52	52
Max. delivery head H_{max} / m	15	15	15	15
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%
Max. immersion depth m	10	10	10	10
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35
Weight approx. m / kg	24	22.8	24	22.8
Motor data				
Nominal current I_N / A	7.2	3.2	7.2	3.2
Starting current I_A / A	–	–	–	–
Nominal motor power P_2 / kW	1.1	1.1	1.1	1.1
Power consumption P_1 / kW	1.5	1.5	1.5	1.5
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2850	2850	2850	2850
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	40	40	40	40
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF
Cable cross-section mm ²	4G1	6G1	4G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	–	–	Shock-proof	CEE
Equipment/function				
Float switch	–	–	•	•
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	–	ATEX	–	–
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PUR	PUR	PUR	PUR
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	PUR	PUR	PUR	PUR
Pump shaft	1.4404	1.4404	1.4404	1.4404

P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

Technical data Wilo-Drain TP 65 E

	TP 65 E 122/15	TP 65 E 122/15	TP 65 E 132/22
	1-230 V, 50 Hz	3-400 V, 50 Hz	3-400 V, 50 Hz
Unit			
Pressure connection	DN 65	DN 65	DN 65
Free ball passage mm	44	44	44
Max. volume flow Q_{max} / m ³ /h	56	56	60
Max. delivery head H_{max} / m	18	18	21
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%
Max. immersion depth m	10	10	10
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +35	+3 ... +35	+3 ... +35
Weight approx. m / kg	26.5	23.5	24.5
Motor data			
Nominal current I_N / A	9.5	3.8	5.2
Starting current I_A / A	–	–	–
Nominal motor power P_2 / kW	1.5	1.5	2.2
Power consumption P_1 / kW	2	2	2.9
Activation type	Direct	Direct	Direct
Nominal speed n / rpm	2850	2850	2850
Insulation class	F	F	F
Recommended switching frequency 1/h	20	20	20
Max. switching frequency 1/h	40	40	40
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF
Cable cross-section mm ²	4G1	6G1	6G1,5
Type of connecting cable	Detachable	Detachable	Detachable
Mains plug	–	–	–
Equipment/function			
Float switch	–	–	–
Motor protection	WSK	WSK	WSK
Explosion protection	–	ATEX	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	PUR	PUR	PUR
Sealing on motor side	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301
Pump housing	PUR	PUR	PUR
Pump shaft	1.4404	1.4404	1.4404

P_1 refers to the maximum power consumption. All of the data applies to 3-400 V, 50 Hz and a density of 1 kg/dm³.

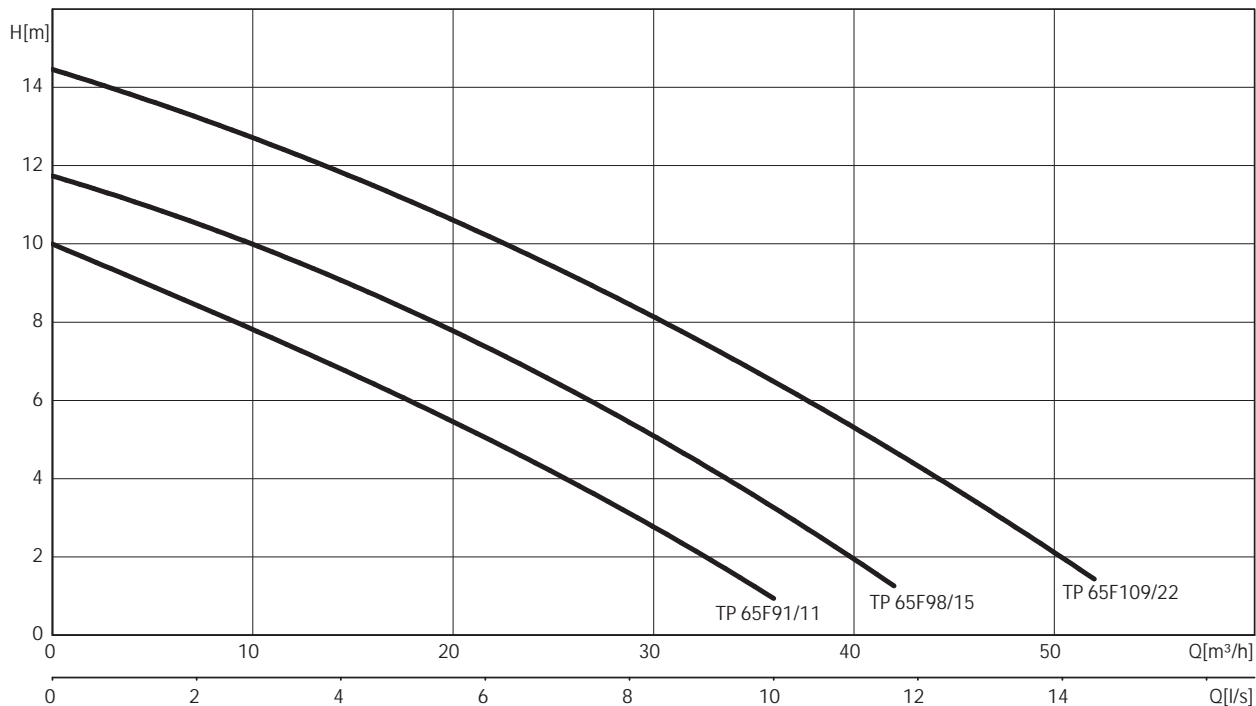
Industrial process

Submersible pumps

Pump curves, ordering information Wilo-Drain TP 65 F


Pump curves Wilo-Drain TP 65 F - 50 Hz - No. of poles: 2

Vortex impeller - Free ball passage: 44 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art no.
TP 65 F 91/11	1~230 V, 50 Hz	L	4007085
TP 65 F 91/11-A	1~230 V, 50 Hz	L	4029437
TP 65 F 91/11	3~400 V, 50 Hz	L	4007083
TP 65 F 91/11-A	3~400 V, 50 Hz	L	4029547
TP 65 F 98/15	1~230 V, 50 Hz	L	4007091
TP 65 F 98/15	3~400 V, 50 Hz	L	4007089
TP 65 F 109/22	3~400 V, 50 Hz	L	4007095

Technical data Wilo-Drain TP 65 F

	TP 65 F 91/11	TP 65 F 91/11	TP 65 F 91/11-A	TP 65 F 91/11-A
	1~230 V, 50 Hz	3~400 V, 50 Hz	1~230 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 65	DN 65	DN 65	DN 65
Free ball passage mm	44	44	44	44
Max. volume flow Q_{max} / m ³ /h	36	36	36	36
Max. delivery head H_{max} / m	9.5	9.5	9.5	9.5
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%
Max. immersion depth m	10	10	10	10
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +35	+3 ... +35	+3 ... +35	+3 ... +35
Weight approx. m / kg	22.4	22.4	23.9	22.4
Motor data				
Nominal current I_N / A	6.9	3.2	6.9	3.2
Starting current I_A / A	–	–	–	–
Nominal motor power P_2 / kW	1.1	1.1	1.1	1.1
Power consumption P_1 / kW	1.5	1.5	1.5	1.5
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	2850	2850	2850	2850
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	40	40	40	40
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	OZOFLEX (PLUS) O7RNF	OZOFLEX (PLUS) O7RNF	OZOFLEX (PLUS) O7RNF	OZOFLEX (PLUS) O7RNF
Cable cross-section mm ²	4G1	6G1	4G1	6G1
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	–	–	Shock-proof	CEE
Equipment/function				
Float switch	–	–	•	•
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	–	ATEX	–	–
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301	1.4301
Pump housing	PUR	PUR	PUR	PUR
Pump shaft	1.4404	1.4404	1.4404	1.4404

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Industrial process

Submersible pumps

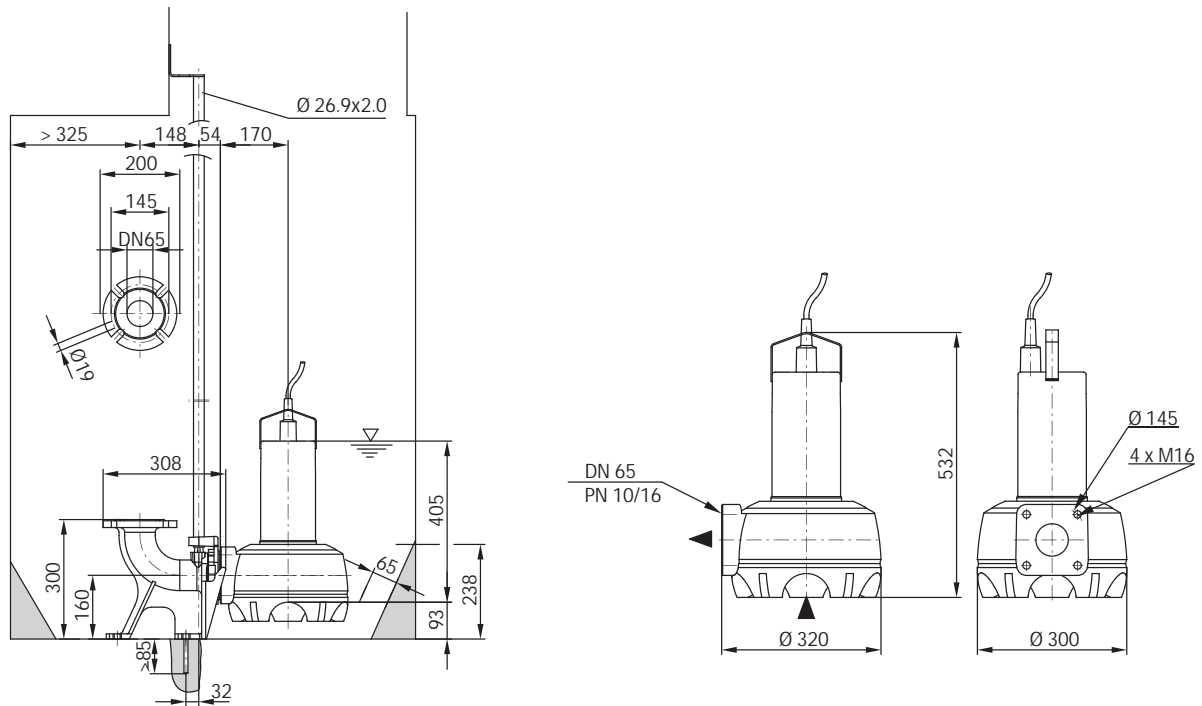
Technical data Wilo-Drain TP 65 F

	TP 65 F 98/15	TP 65 F 98/15	TP 65 F 109/22
	1~230 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit			
Pressure connection	DN 65	DN 65	DN 65
Free ball passage mm	44	44	44
Max. volume flow Q_{max} / m ³ /h	42	42	52
Max. delivery head H_{max} / m	11.5	11.5	14.5
Operating mode (immersed)	S1	S1	S1
Operating mode (non-immersed)	S2-8 min S3-25%	S2-8 min S3-25%	S2-8 min S3-25%
Max. immersion depth m	10	10	10
Protection class	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +35	+3 ... +35	+3 ... +35
Weight approx. m / kg	25.1	23.3	26.4
Motor data			
Nominal current I_N / A	9.5	3.6	5.1
Starting current I_A / A	–	–	–
Nominal motor power P_2 / kW	1.5	1.5	2.2
Power consumption P_1 / kW	1.8	1.8	2.7
Activation type	Direct	Direct	Direct
Nominal speed n / rpm	2850	2850	2850
Insulation class	F	F	F
Recommended switching frequency 1/h	20	20	20
Max. switching frequency 1/h	40	40	40
Permitted voltage tolerance %	±10	±10	±10
Cable			
Length of connecting cable m	10	10	10
Cable type	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF	OZOFLEX (PLUS) 07RNF
Cable cross-section mm ²	6G1	6G1	6G1,5
Type of connecting cable	Detachable	Detachable	Detachable
Mains plug	–	–	–
Equipment/function			
Float switch	–	–	–
Motor protection	WSK	WSK	WSK
Explosion protection	–	ATEX	ATEX
Materials			
Static seal	NBR	NBR	NBR
Impeller	PP-GF30	PP-GF30	PP-GF30
Sealing on motor side	NBR	NBR	NBR
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4301	1.4301	1.4301
Pump housing	PUR	PUR	PUR
Pump shaft	1.4404	1.4404	1.4404

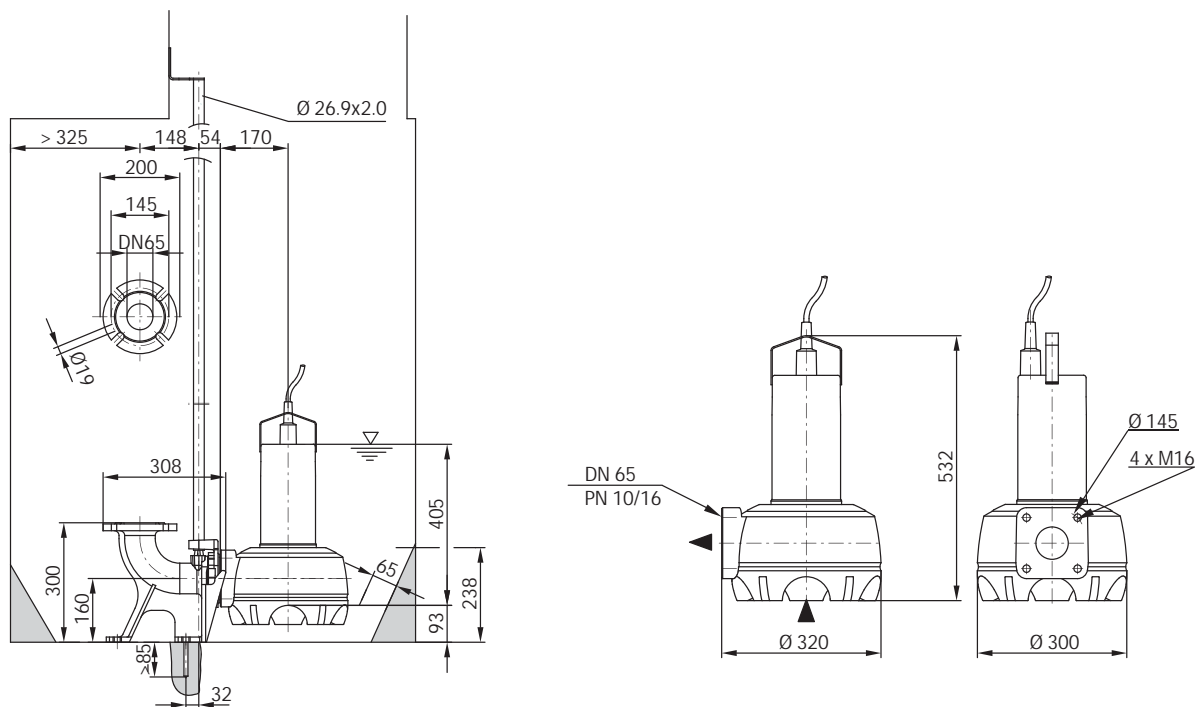
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions, Wilo-Drain TP 65

Dimension drawing Wilo-Drain TP 65 (1~230 V/1.1 kW) - stationary wet well installation



Dimension drawing Wilo-Drain TP 65 (1~230 V/1.5 kW) - stationary wet well installation

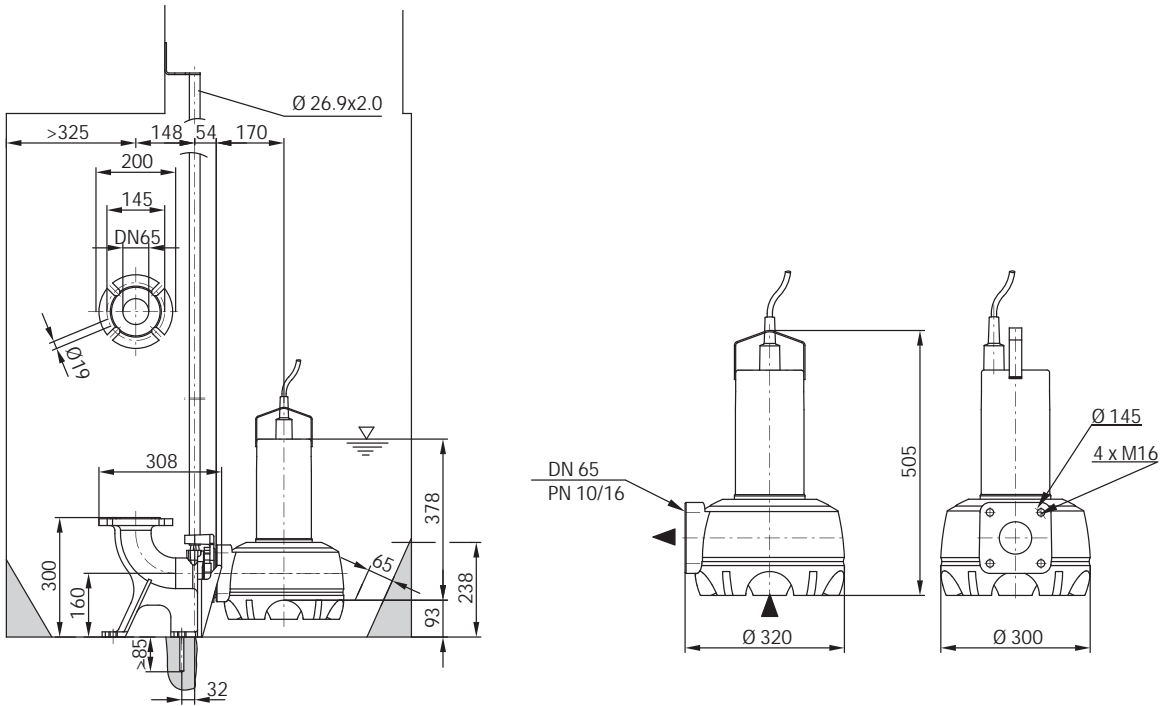


Industrial process

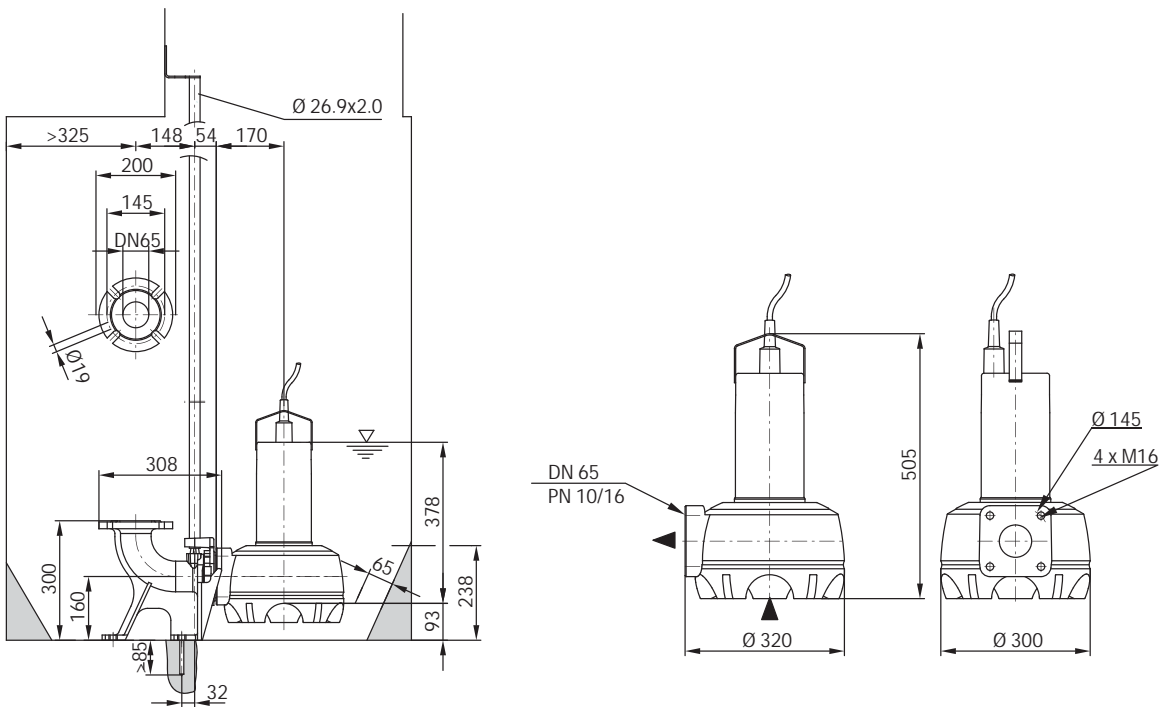
Submersible pumps

Dimensions, Wilo-Drain TP 65

Dimension drawing Wilo-Drain TP 65 (3-400 V/1.1 kW) - stationary wet well installation

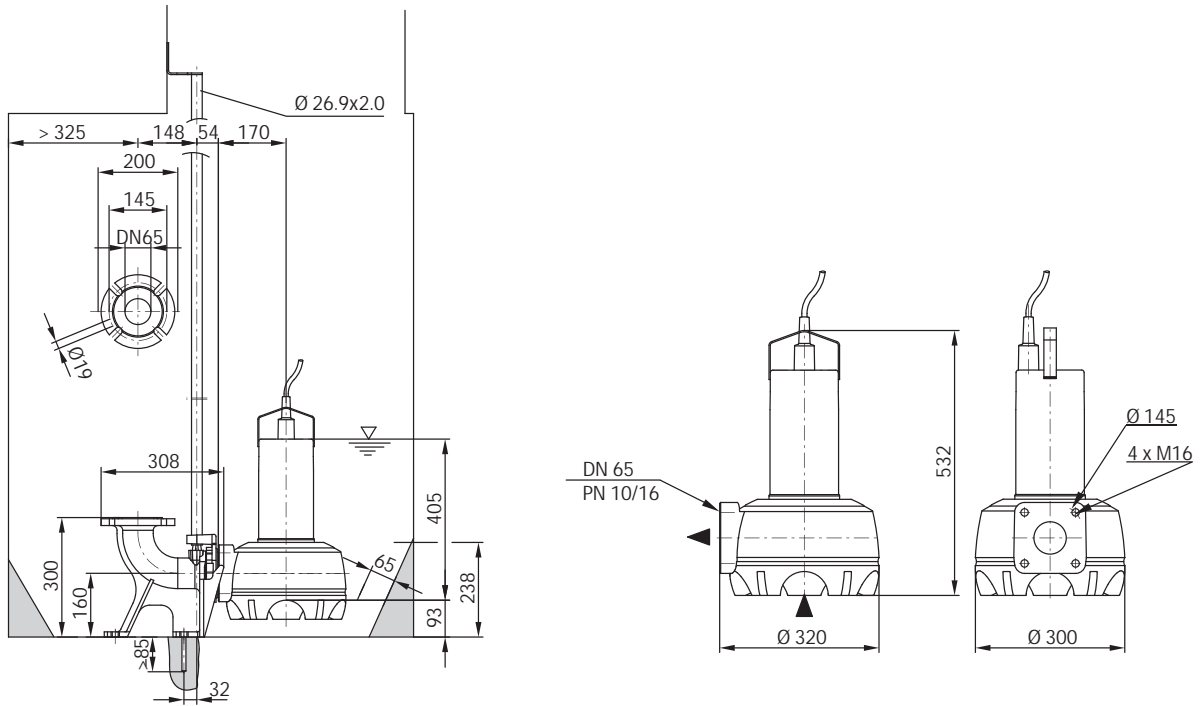


Dimension drawing Wilo-Drain TP 65 (3-400 V/1.5 kW) - stationary wet well installation

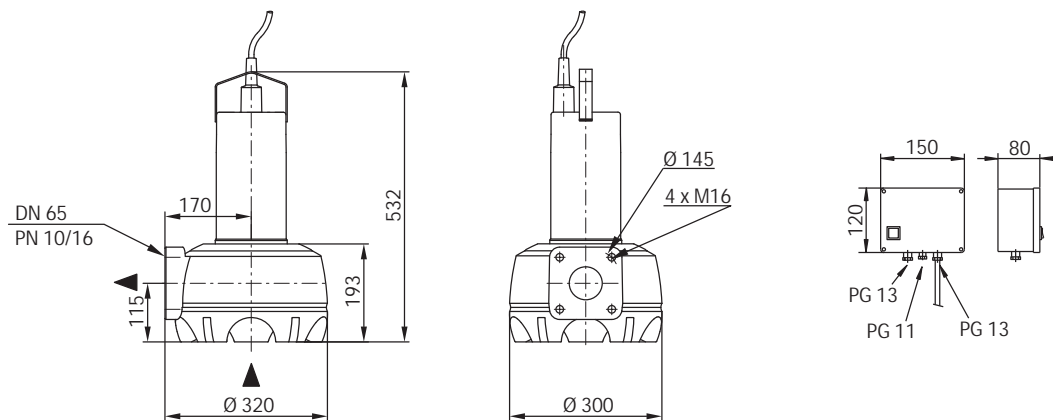


Dimensions, Wilo-Drain TP 65

Dimension drawing Wilo-Drain TP 65 (3~400 V/2.2 kW) - stationary wet well installation



Dimension drawing Wilo-Drain TP 65 (1~230 V/1.1 kW) - portable wet well installation

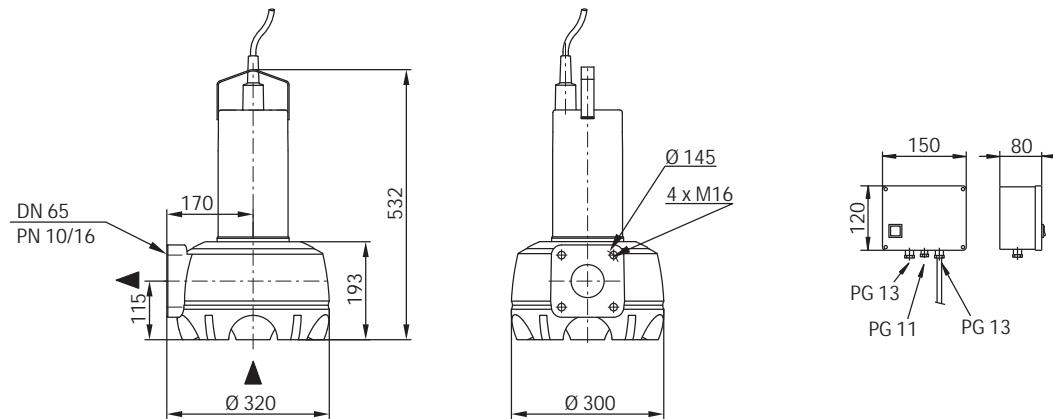


Industrial process

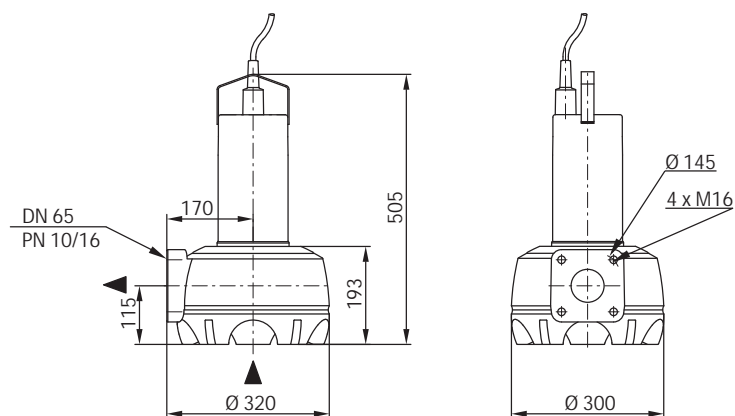
Submersible pumps

Dimensions, Wilo-Drain TP 65

Dimension drawing Wilo-Drain TP 65 (1~230 V/1.5 kW) - portable wet well installation

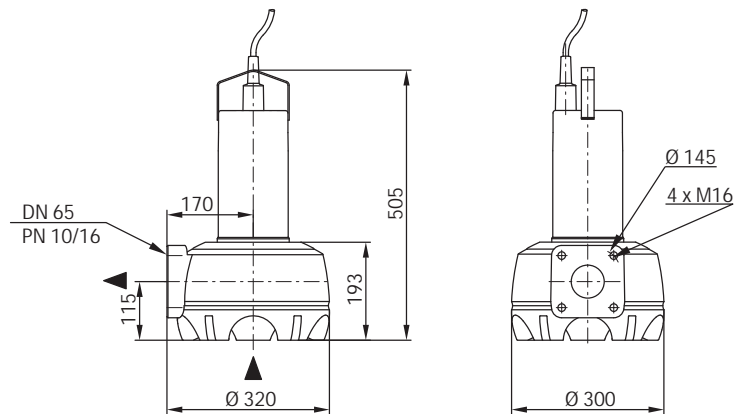


Dimension drawing Wilo-Drain TP 65 (3~400 V/1.1 kW) - portable wet well installation

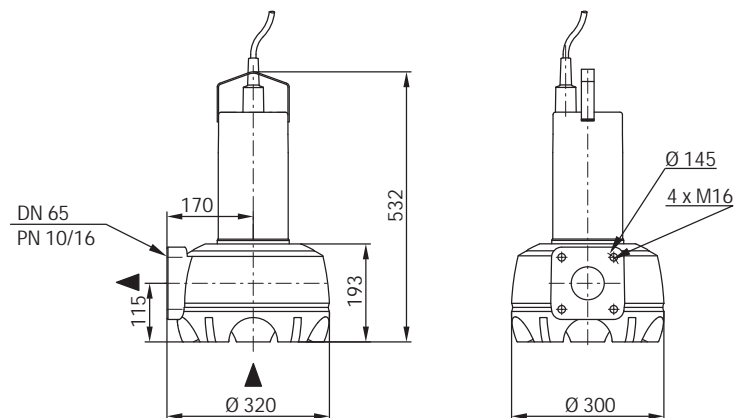


Dimensions, Wilo-Drain TP 65

Dimension drawing Wilo-Drain TP 65 (3~400 V/1.5 kW) - portable wet well installation



Dimension drawing Wilo-Drain TP 65 (3~400 V/2.2 kW) - portable wet well installation

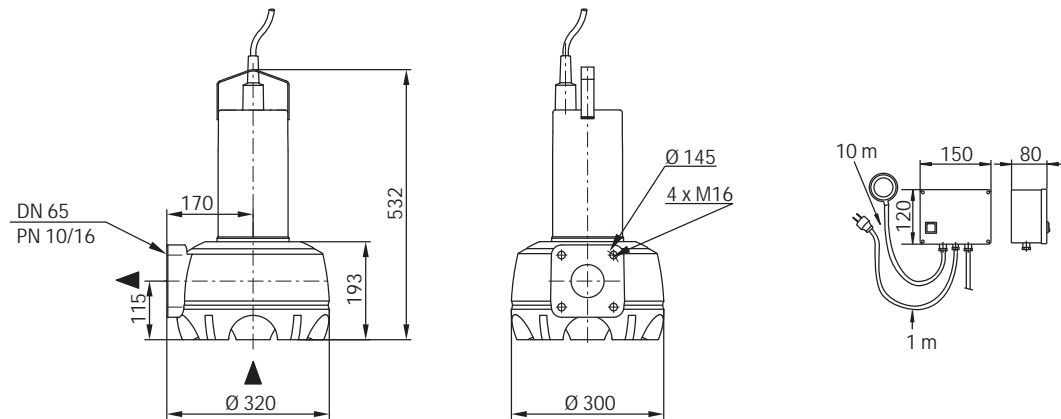


Industrial process

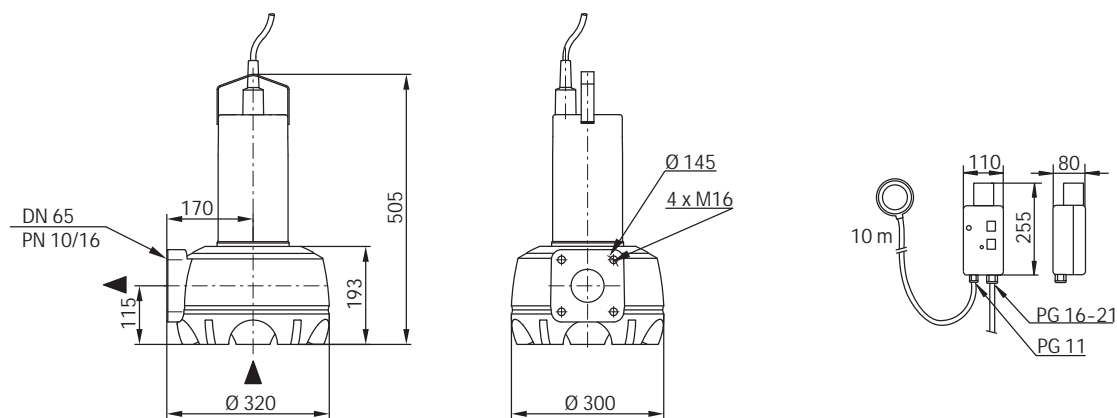
Submersible pumps

Dimensions, Wilo-Drain TP 65

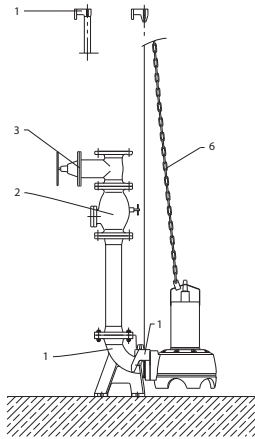
Dimension drawing Wilo-Drain TP 65...-A (1~230 V/1.1 kW) - portable wet well installation



Dimension drawing Wilo-Drain TP 65...-A (3~400 V/1.1 kW) - portable wet well installation



Mechanical accessories for Wilo-Drain TP 65



- 1 Suspension unit
- 2 Non-return valve
- 3 Gate valve
- 6 Chain

Stationary wet well installation DN 65


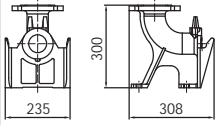
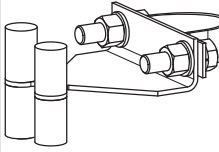
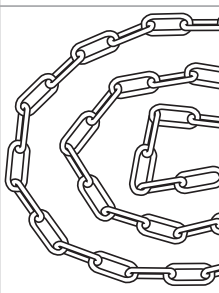
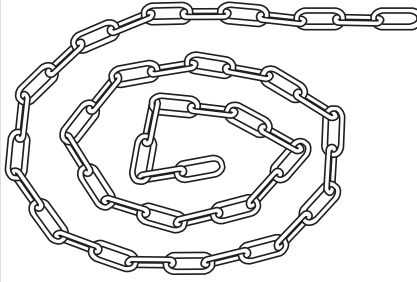
		Description	Art no.
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 65 connection	2017167
Gate valve		Made of EN-GJL-250, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, DN 65	2017161
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 65 connection	2017183
Y-piece DN 65		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 65/65/65 connection	2017178

Industrial process

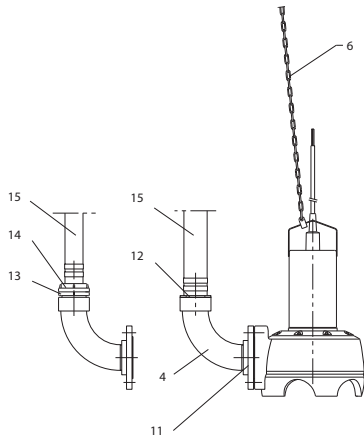
Submersible pumps

Mechanical accessories for Wilo-Drain TP 65

Stationary wet well installation DN 65

		Description	Art no.
Mounting accessories DN 65		For a DN 65 flange connection, with 4 screws, 4 nuts and 1 flat gasket for flanges, PN 10/16, DIN 2502	2012068
Suspension unit DN65/2RK		For 2-pipe guide, of EN-GJL-250, powder-coated, with free passage in DN 65, coupling foot with 90° pipe elbow, including coupling connection, guide pipe bracket of stainless steel for sump fixation, profile joint and mounting accessories, pressure-side connection DN 65; two guide pipes (26.9 x 2 mm) are to be provided by the customer!	6070150
Guide pipe bracket		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 cast-iron pipe, including mounting accessories of A4	6066847
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 steel pipe, including mounting accessories of A4	6066848
Bracket for guide pipe extension		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 cast-iron pipe, including mounting accessories of A4	6066849
		for 2-pipe guide, of stainless steel, for pipe attachment on a DN 65 steel pipe, including mounting accessories of A4	6066850
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Mechanical accessories for Wilo-Drain TP 65



- 4 Pipe bend
- 6 Chain
- 11 Adapter
- 12 hose connection
- 13 Storz pipe coupling
- 14 Storz hose coupling
- 15 Pressure hose

Portable wet well installation with hose connection DN 65

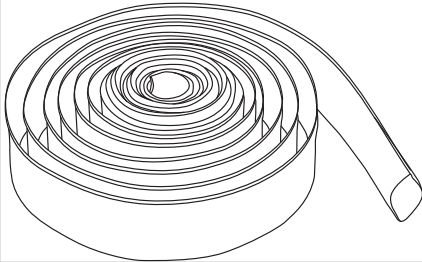
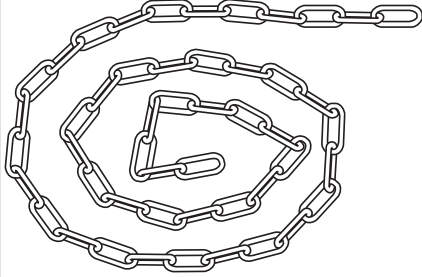
		Description	Art no.
Pipe bend 90°		Made of steel, galvanised with G 2½ / R 2½ female/male thread for DN 65 connection	4015212
Baseplate TP 65		Made of galvanized steel, consisting of: 1 baseplate and fixation material (required for sludgy ground; prevents pump from sinking)	4015206
Adapter DN 65 on Rp 2½		Made of steel, galvanised, DN 65 threaded flange, PN 10/16, DIN 2566 with Rp 2½ female thread, incl. 1 set of mounting accessories for DN 65 connection	4015204
Hose connection		Made of brass, hose nozzle with Ø 70 mm, including hose clip, G 2½ male thread for direct hose connection	4015210
Pipe bend 90°		Made of EN-GJL-250, with hose nozzle (Ø 70 mm) for direct hose connection, flange on pump side, incl. 1 set of mounting accessories for DN 65 connection	4027346

Industrial process

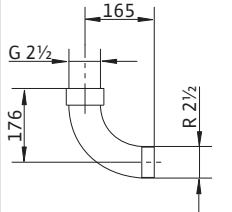
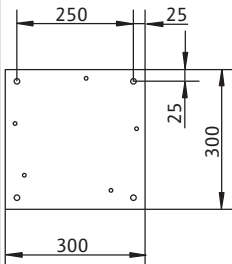
Submersible pumps

Mechanical accessories for Wilo-Drain TP 65

Portable wet well installation with hose connection DN 65

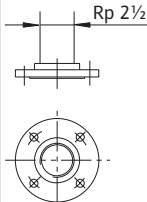
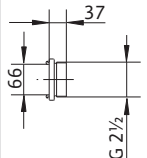
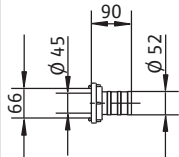
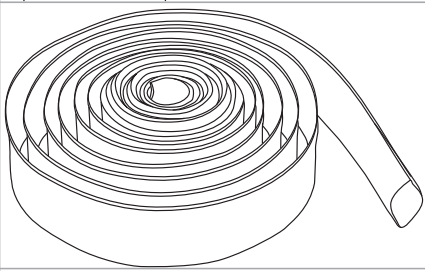
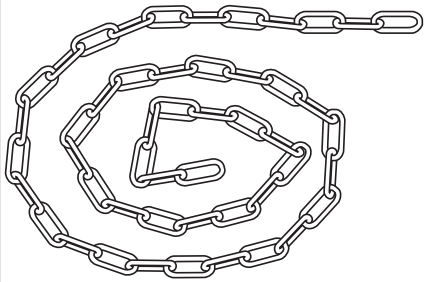
		Description	Art no.
Pressure hose		Synthetic, inner Ø 70 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle, Ø 70 mm	2014151
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Portable wet well installation with Storz coupling DN 65

		Description	Art no.
Pipe bend 90°		Made of steel, galvanised with G 2 1/2 / R 2 1/2 female/male thread for DN 65 connection	4015212
Baseplate TP 65		Made of galvanized steel, consisting of: 1 baseplate and fixation material (required for sludgy ground; prevents pump from sinking)	4015206

Mechanical accessories for Wilo-Drain TP 65

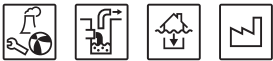
Portable wet well installation with Storz coupling DN 65

		Description	Art no.
Adapter DN 65 on Rp 2½		Made of steel, galvanized, DN 65 threaded flange, PN 10/16, DIN 2566 with Rp 2½ female thread, incl. 1 set of mounting accessories for DN 65 connection	4015204
Storz pipe coupling with male thread G 2½		Made of aluminium, Storz C connection, with G 2½ male thread, tappet clearance 66 mm for a DN 65 connection	2015234
Storz hose coupling		Made of aluminium, Storz A connection, with hose nozzle (Ø 52 mm), tappet clearance 66 mm, incl. hose clip	2015235
Pressure hose		Synthetic, inner Ø 52 mm, PN 8, length 10 m, incl. hose clip for direct hose connection via hose nozzle (Ø 50 mm) or a Storz C hose coupling	2017192
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 3 m	6063139
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 5 m	6063140
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 6 m	6063141
		As chain sling including 2 shackles to DIN 32891. Material: galvanised steel, bearing capacity: 400 kg, length: 10 m	6063142
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Industrial process

Submersible pumps

Series description Wilo-Drain TP 80/TP 100



Design

Submersible sewage pump for industrial applications

Type key

E.g.	Wilo-Drain TP 80 E 160/17
TP	Tauchmotorpumpe (submersible pump)
80	Nominal diameter [mm]
E	Einkanallauftrad (single-channel impeller)
160	Nominal diameter of impeller [mm]
17	Power P_2 [kW] (= value/10 = 1.7 kW)

Application

Pumping of wastewater and drainage water as well as sewage containing faeces, municipal and industrial sewage for:

- Domestic and site drainage
- Sewage and water management
- Environmental and water treatment technology
- Industrial and process engineering

Special features/product advantages

- Operation in stationary wet well and dry well installation as well as portable wet well installation
- Submersible
- ATEX approval as standard
- Low weight
- Detachable connection cable
- Longitudinally watertight cable inlet
- Standard-equipped with clogging-free sheath current cooling
- Corrosion-resistant (e.g. swimming-pool water, salt water, etc.)
- Low-wearing
- Patented clogging-free hydraulics
- Easy installation due to suspension unit or pump base

Technical data

- Mains connection: 3~400 V, 50 Hz
- Immersed and non-immersed operating modes: S1
- Protection class: IP 68
- Insulation class: F
- Max. fluid temperature: 3 - 40°C
- Free ball passage: 80 or 95 mm
- Max. immersion depth: 20 m

Equipment/function

- Thermal motor monitoring
- Leakage detection in the motor
- ATEX-certified
- Sheath current cooling

Materials

- Pump housing: PUR
- Impeller: PUR
- Shaft: stainless steel 1.4404
- Mechanical seal on pump side: SiC/SiC
- Mechanical seal on motor side: C/Cr
- Static gasket: NBR
- Motor housing: stainless steel 1.4404

Description/design

Submersible sewage pump as submersible monobloc unit for stationary wet well and dry well installation as well as portable wet well installation.

Hydraulics

The outlet on the pressure side is designed as DN 80 or DN 100 horizontal flange connection. Single-channel impellers are used as the impeller shape.

Motor

Dry motors are equipped with clogging-free sheath current cooling as standard. This ensures that heat is given off directly to the fluid. As a result, these units can be operated in immersed and non-immersed state for permanent or intermittent operation.

In addition, the motor is equipped with a leakage detection unit and a thermal motor monitoring unit. A sealing chamber protects the motor from fluid ingress. The filling fluid used is potentially biodegradable and environmentally safe.

The cable inlet is longitudinally watertight, the standard cable length is 10 m.

Sealing

Sealing on the fluid side and on the pump side is achieved by two bi-directional mechanical seals.

Series description Wilo-Drain TP 80/TP 100

Scope of delivery

- Pump ready for connection with 10 m connection cable (bare cable end)
- Installation and operating instructions

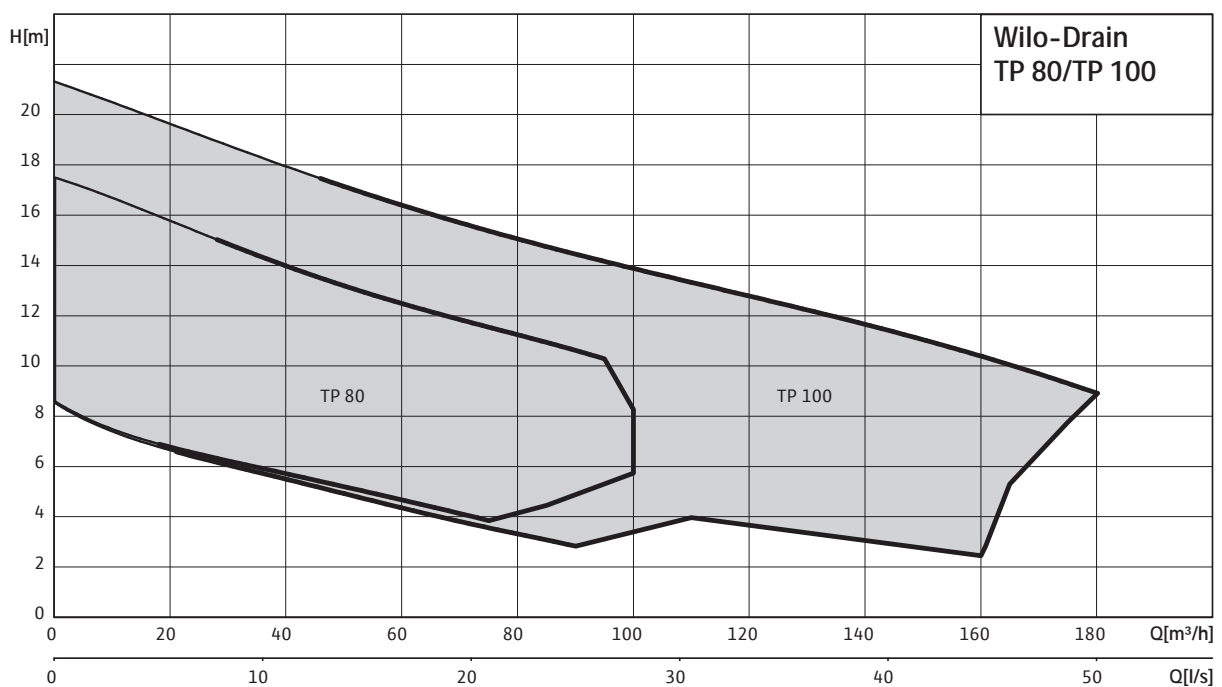
Accessories

- Suspension unit
- Chain
- Non-return valve and gate valve
- Various pressure outlets and hoses
- Switchgears and relays

Options

- HD version with Viton seals and another mechanical seals
- Pumps without cooling jacket for use in higher-viscosity fluids such as sludge (intermittent operation S3-25 only)
- Salt water version for higher temperatures and salt contents
- Version for horizontal dry well installation
- External cooling for fluid with floating solid matter, such as wood chippings
- Cable lengths up to 50 m are available in length increments of 10 m

Duty chart



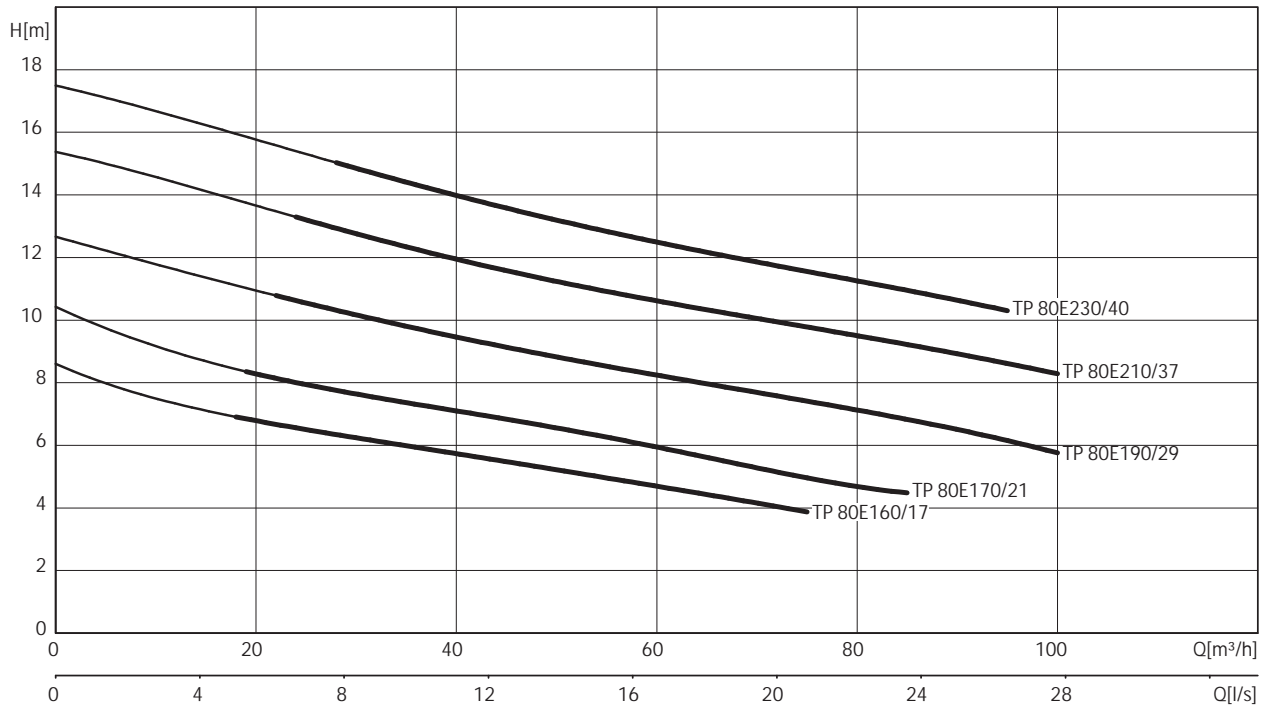
Industrial process

Submersible pumps

Pump curves, ordering information Wilo-Drain TP 80


Pump curves Wilo-Drain TP 80 - 50 Hz - No. of poles: 4

Open single-channel impeller - Free ball passage: 80 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art no.
TP 80E160/17	3~400 V, 50 Hz	K	6043950
TP 80E170/21	3~400 V, 50 Hz	K	6043957
TP 80E190/29	3~400 V, 50 Hz	K	6043963
TP 80E210/37	3~400 V, 50 Hz	K	6043971
TP 80E230/40	3~400 V, 50 Hz	K	6043983

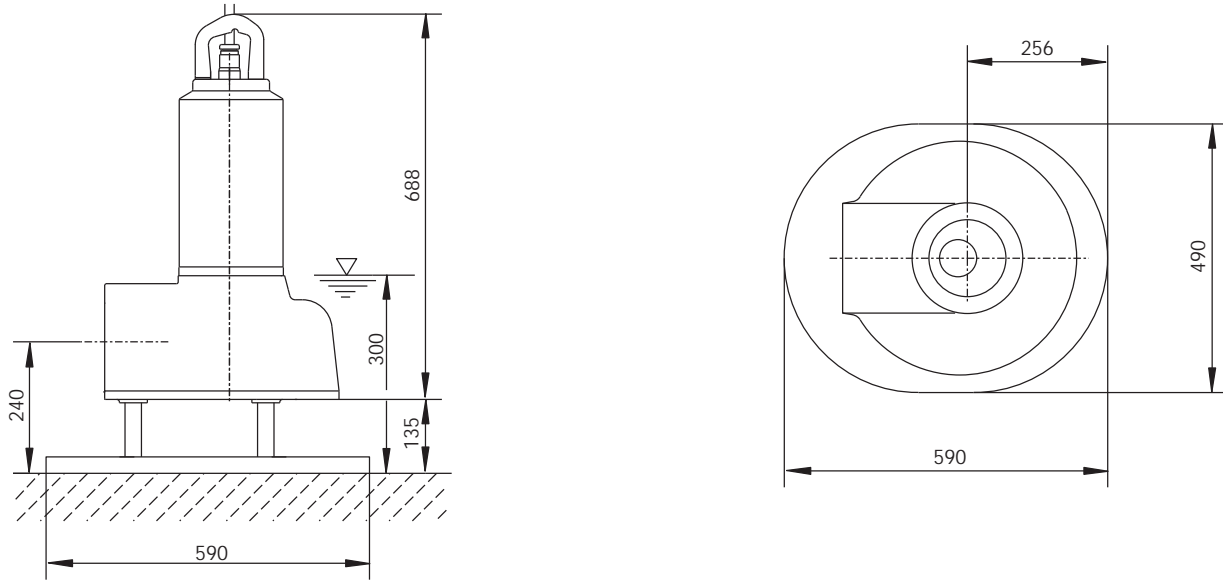
Technical data Drain TP 80

	TP 80E160/17	TP 80E170/21	TP 80E190/29	TP 80E210/37	TP 80E230/40
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit					
Pressure connection	DN 80	DN 80	DN 80	DN 80	DN 80
Free ball passage mm	80	80	80	80	80
Max. volume flow Q_{max} / m ³ /h	75	85	100	100	95
Max. delivery head H_{max} / m	9	10	13	15	17
Operating mode (immersed)	S1	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1	S1
Max. immersion depth m	20	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	42	42	42	42	42
Motor data					
Nominal current I_N / A	6.4	6.7	7.3	8.5	9.5
Starting current I_A / A	–	–	–	–	–
Nominal motor power P_2 / kW	1.7	2.1	2.9	3.7	4
Power consumption P_1 / kW	2	2.5	3.3	4.5	5.1
Activation type	Direct	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1450	1450	1450	1450	1450
Insulation class	F	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20	20
Max. switching frequency 1/h	60	60	60	60	60
Permitted voltage tolerance %	±10	±10	±10	±10	±10
Cable					
Length of connecting cable m	10	10	10	10	10
Cable type	NSSHÖU	NSSHÖU	NSSHÖU	NSSHÖU	NSSHÖU
Cable cross-section mm ²	7x1,5	7x1,5	7x1,5	7x1,5	7x1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable	Detachable
Mains plug	–	–	–	–	–
Equipment/function					
Float switch	–	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX	ATEX
Materials					
Static seal	NBR	NBR	NBR	NBR	NBR
Impeller	PUR	PUR	PUR	PUR	PUR
Sealing on motor side	C/Cr	C/Cr	C/Cr	C/Cr	C/Cr
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4404	1.4404	1.4404	1.4404	1.4404
Pump housing	PUR	PUR	PUR	PUR	PUR
Pump shaft	1.4404	1.4404	1.4404	1.4404	1.4404

P_1 refers to the maximum power consumption. All of the data applies to 3–400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-Drain TP 80

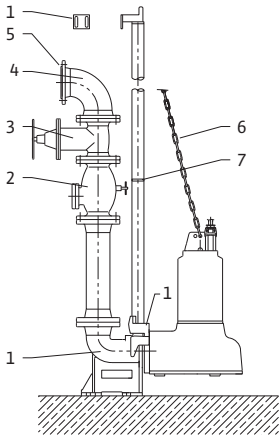
Dimension drawing Wilo-Drain TP 80 - portable wet well installation



Industrial process

Submersible pumps

Mechanical accessories Wilo-Drain TP 80



- 1 Suspension unit
- 2 Non-return valve
- 3 Gate valve
- 4 Pipe bend
- 5 Mounting accessories
- 6 Chain
- 7 Pipe connector

Stationary wet well installation DN 80

		Description	Art no.
Suspension unit DN 80		Made of EN-GJL-250, painted, with free passage in DN 80, foot elbow including pump holder, profile joint, installation and floor fixation accessories and guide pipe bracket without guide pipes. Connection on pressure side DN 80. PN 10/16 flanges in accordance with DIN 2501. The double pipe feed (42.4x3.25 mm) is to be provided by the customer.	2029039
Suspension unit DN 80, including cable guide		Made of stainless steel (AISI 304), with free passage in DN 80, foot elbow including pump holder, profile joint, installation and floor fixation accessories and 10 m stainless steel cable guide for 5 m installation depth. Connection on pressure side DN 80. Flanges PN 10/16 in accordance with DIN 2501.	2032495
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 80 connection	2017168

Mechanical accessories Wilo-Drain TP 80

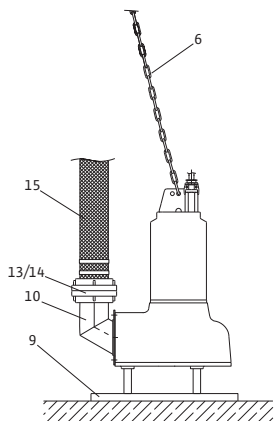
Stationary wet well installation DN 80

		Description	Art no.
Gate valve		Made of EN-GJL-250, incl. 1 set of installation accessories, PN 10/16 flanges in accordance with DIN 2501, DN 80	2017162
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 80 connection	2012064
Y-piece DN 80		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 80/80/80 connection	2017179
Mounting accessories DN 80		For a DN 80 flange connection, with 8 screws, 8 nuts and 1 flat gasket for PN 10/16 flange, DIN 2502	2012067
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Industrial process

Submersible pumps

Mechanical accessories Wilo-Drain TP 80



- 6 Chain
- 9 Floor supporting foot
- 10 Pipe bend
- 13 Storz pipe coupling
- 14 Storz hose coupling
- 15 Pressure hose

		Description	Art no.
Floor supporting foot TP 80/100		Made of stainless steel (AISI 304), comprising 3 support feet, 1 baseplate and fixation material	2004672
Pipe bend 90°		Made of stainless steel, with hose nozzle (Ø 90 mm) and G 3 male thread for direct hose connection or installation with Storz B fixed coupling, flange on pump side, incl. 1 set of mounting accessories for DN 80 connection. Hole pitch 45° allows variable attachment position.	2017207
Storz pipe coupling, 90 mm, with female thread G 3		Made of aluminium, Storz 90 connection, with G 3 female thread, tappet clearance 105 mm for a DN 80 connection	2017203
Storz hose coupling, 90 mm		Made of aluminium, Storz 90 connection, with hose nozzle (Ø 90 mm), tappet clearance 105 mm, incl. hose clip	2017204
Pressure hose		Synthetic, inner Ø 90 mm, PN 8, length 10 m, incl. 2 hose clips for direct hose connection via hose nozzle (Ø 90 mm) or a Storz B hose coupling	2017152
		Synthetic, inner Ø 90 mm, PN 8, length 20 m, incl. 2 hose clips for direct hose connection via hose nozzle (Ø 90 mm) or a Storz B hose coupling	2017193
		Synthetic, inner Ø 90 mm, PN 8, length 30 m, incl. 2 hose clips for direct hose connection via hose nozzle (Ø 90 mm) or a Storz B hose coupling	2017194

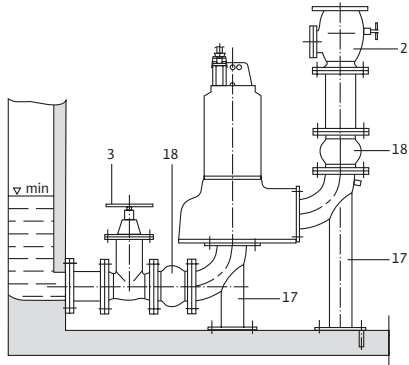
Mechanical accessories Wilo-Drain TP 80

		Description	Art no.
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Industrial process

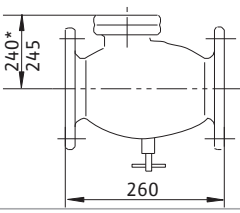
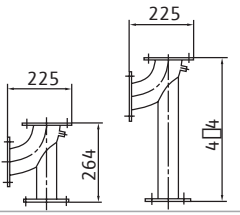
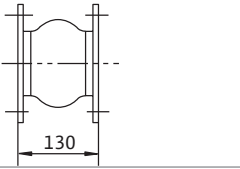
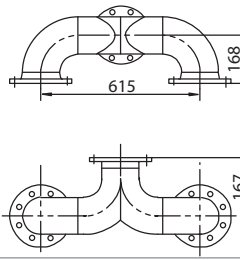
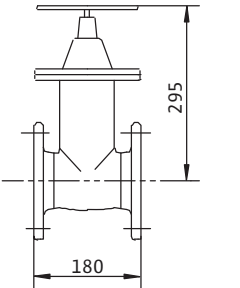
Submersible pumps

Mechanical accessories Wilo-Drain TP 80



- 2 Non-return valve
- 3 Gate valve
- 17 Installation kit
- 18 Compensator

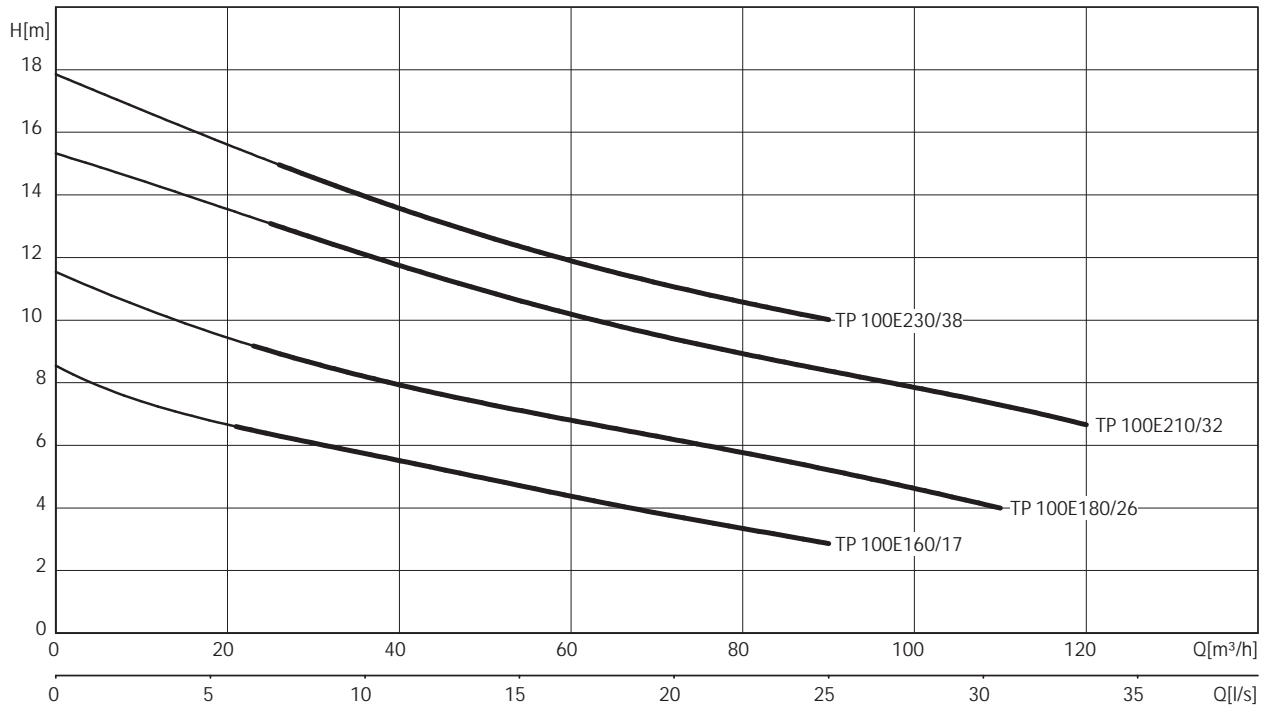
Stationary vertical dry well installation DN 80

		Description	Art no.
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 80 connection	2017168
Installation kit TP 80		Made of stainless steel (AISI 304), consisting of 2 pipe elbows with support (pressure and intake side), each with 2 flanges for DN 80 connection, incl. installation and floor fixation accessories	2036896
Compensator DN 80		Made of steel, galvanized / neoprene incl. mounting accessories, length 130 mm, PN 10/16 flange for DN 80 connection	2017189
Y-piece DN 80		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 80/80/80 connection	2017179
Gate valve		Made of EN-GJL-250, incl. 1 set of installation accessories, PN 10/16 flanges in accordance with DIN 2501, DN 80	2017162

Pump curves, ordering information Wilo-Drain TP 100

Pump curves Wilo-Drain TP 100 with nominal motor power up to 3.8 kW - 50 Hz - No. of poles: 4

Open single-channel impeller - Free ball passage: 95 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art no.
TP 100E160/17	3-400 V, 50 Hz	K	6044004
TP 100E180/26	3-400 V, 50 Hz	K	6044010
TP 100E210/32	3-400 V, 50 Hz	K	6044014
TP 100E230/38	3-400 V, 50 Hz	K	6044018

Industrial process

Submersible pumps

Technical data Drain TP 100

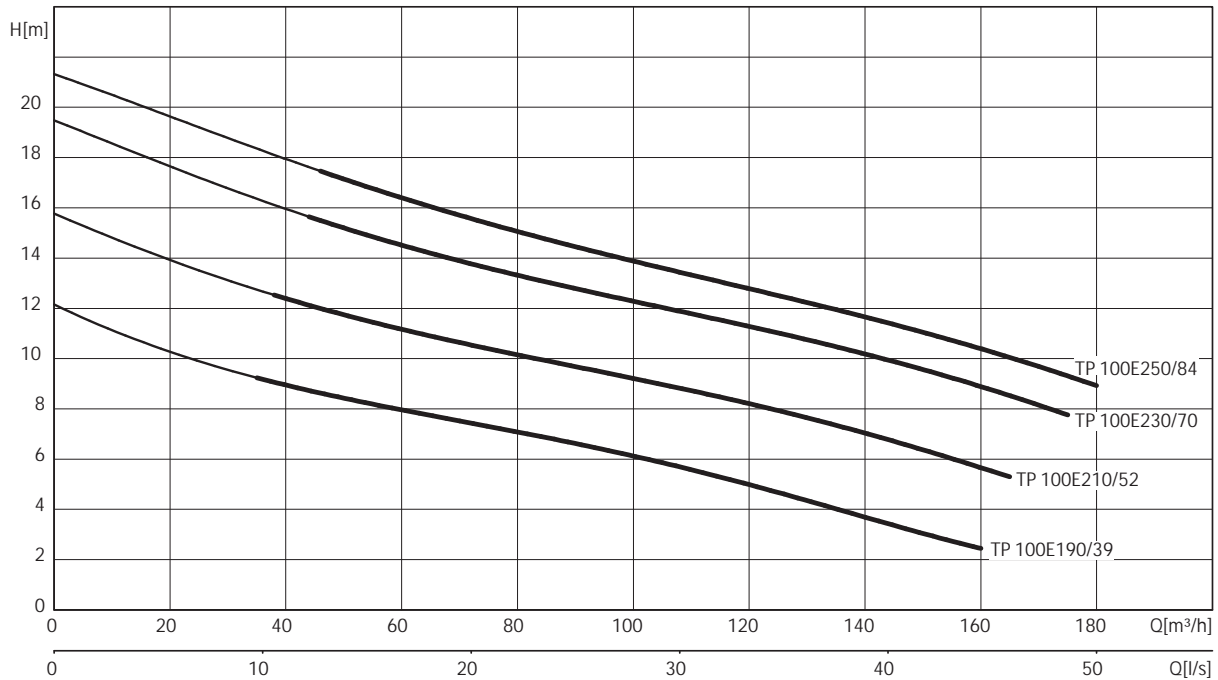
	TP 100E160/17	TP 100E180/26	TP 100E210/32	TP 100E230/38
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 100	DN 100	DN 100	DN 100
Free ball passage mm	95	95	95	95
Max. volume flow Q_{max} / m ³ /h	90	110	120	90
Max. delivery head H_{max} / m	8	11	15	18
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	43	43	43	43
Motor data				
Nominal current I_N / A	6.6	7.5	9	9.5
Starting current I_A / A	–	–	–	–
Nominal motor power P_2 / kW	1.7	2.6	3.2	3.8
Power consumption P_1 / kW	2.1	3.4	4.8	5.2
Activation type	Direct	Direct	Direct	Direct
Nominal speed n / rpm	1450	1450	1450	1450
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	60	60	60	60
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	NSSHÖU	NSSHÖU	NSSHÖU	NSSHÖU
Cable cross-section mm ²	7x1,5	7x1,5	7x1,5	7x1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	–	–	–	–
Equipment/function				
Float switch	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PUR	PUR	PUR	PUR
Sealing on motor side	C/Cr	C/Cr	C/Cr	C/Cr
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4404	1.4404	1.4404	1.4404
Pump housing	PUR	PUR	PUR	PUR
Pump shaft	1.4404	1.4404	1.4404	1.4404

P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Pump curves, ordering information Wilo-Drain TP 100

Pump curves Wilo-Drain TP 100 with nominal motor power 3.9 kW and higher - 50 Hz - No. of poles: 4

Open single-channel impeller - Free ball passage: 95 mm



Pump curves in accordance with ISO 9906, Appendix A

Information for order placements

Wilo-Drain...	Mains connection		Art no.
TP 100E190/39	3-400 V, 50 Hz	K	2008469
TP 100E210/52	3-400 V, 50 Hz	K	2003559
TP 100E230/70	3-400 V, 50 Hz	K	2003561
TP 100E250/84	3-400 V, 50 Hz	K	2003563

Industrial process

Submersible pumps

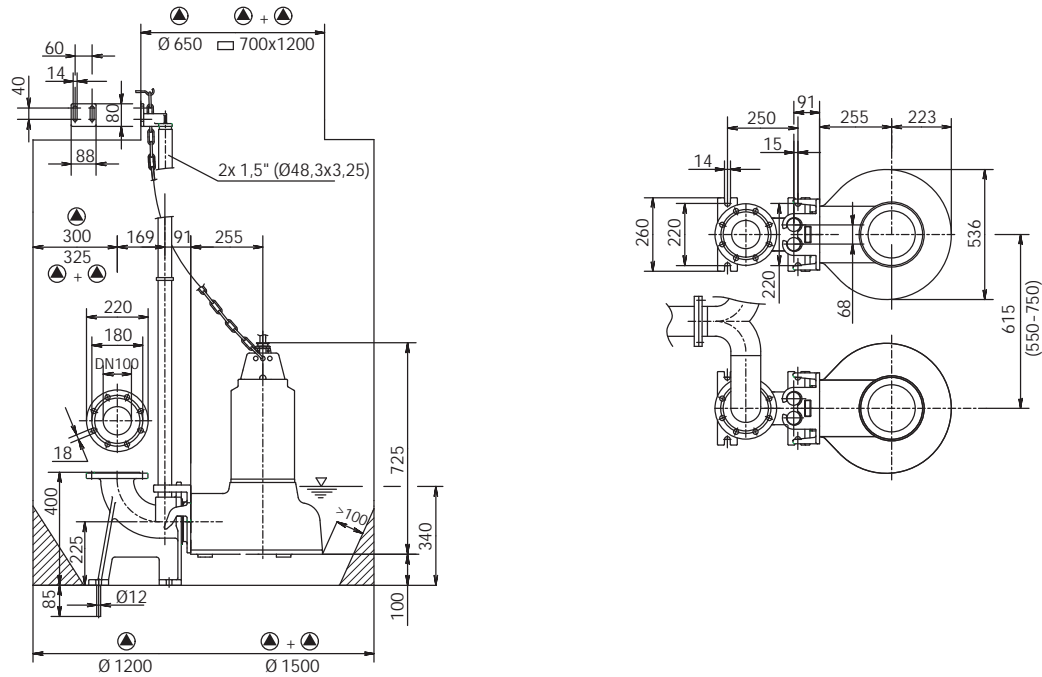
Technical data Drain TP 100

	TP 100E190/39	TP 100E210/52	TP 100E230/70	TP 100E250/84
	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz	3~400 V, 50 Hz
Unit				
Pressure connection	DN 100	DN 100	DN 100	DN 100
Free ball passage mm	95	95	95	95
Max. volume flow Q_{max} / m ³ /h	160	165	175	180
Max. delivery head H_{max} / m	12	16	19	21
Operating mode (immersed)	S1	S1	S1	S1
Operating mode (non-immersed)	S1	S1	S1	S1
Max. immersion depth m	20	20	20	20
Protection class	IP 68	IP 68	IP 68	IP 68
Fluid temperature T / °C	+3 ... +40	+3 ... +40	+3 ... +40	+3 ... +40
Weight approx. m / kg	60	60	60	60
Motor data				
Nominal current I_N / A	12.5	14.1	16.7	18.8
Starting current I_A / A	–	–	–	–
Nominal motor power P_2 / kW	3.9	5.2	7	8.4
Power consumption P_1 / kW	5	6.7	8.8	10.6
Activation type	Star-delta	Star-delta	Star-delta	Star-delta
Nominal speed n / rpm	1450	1450	1450	1450
Insulation class	F	F	F	F
Recommended switching frequency 1/h	20	20	20	20
Max. switching frequency 1/h	60	60	60	60
Permitted voltage tolerance %	±10	±10	±10	±10
Cable				
Length of connecting cable m	10	10	10	10
Cable type	NSSHÖU	NSSHÖU	NSSHÖU	NSSHÖU
Cable cross-section mm ²	10x1,5	10x1,5	10x1,5	10x1,5
Type of connecting cable	Detachable	Detachable	Detachable	Detachable
Mains plug	–	–	–	–
Equipment/function				
Float switch	–	–	–	–
Motor protection	WSK	WSK	WSK	WSK
Explosion protection	ATEX	ATEX	ATEX	ATEX
Materials				
Static seal	NBR	NBR	NBR	NBR
Impeller	PUR	PUR	PUR	PUR
Sealing on motor side	C/Cr	C/Cr	C/Cr	C/Cr
Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
Motor housing	1.4404	1.4404	1.4404	1.4404
Pump housing	PUR	PUR	PUR	PUR
Pump shaft	1.4404	1.4404	1.4404	1.4404

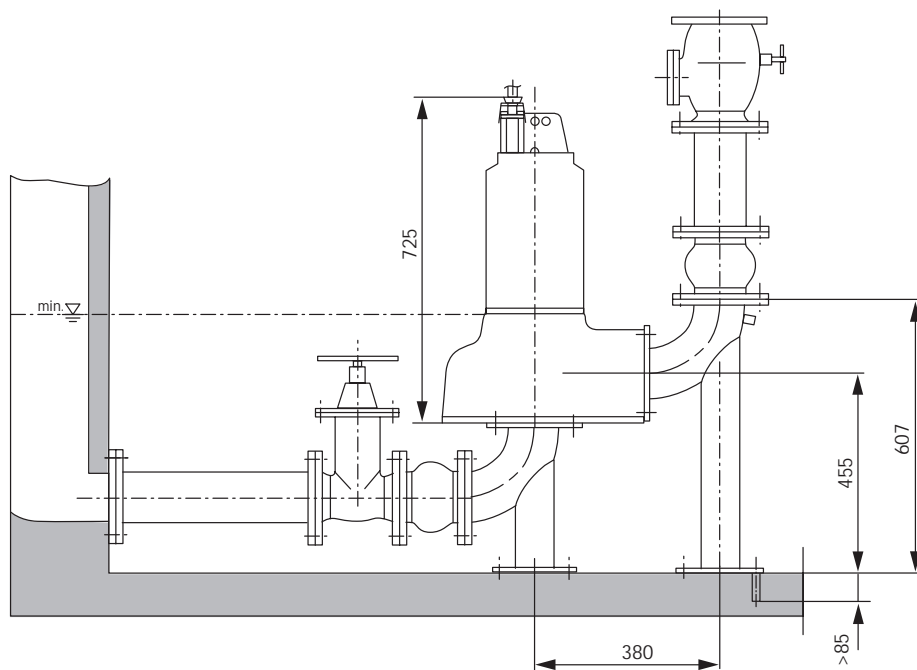
P_1 refers to the maximum power consumption. All of the data applies to 3~400 V, 50 Hz and a density of 1 kg/dm³.

Dimensions Wilo-Drain TP 100

Dimension drawing Wilo-Drain TP 100 (P2 to 3.8 kW) - stationary wet well installation



Dimension drawing Wilo-Drain TP 100 (P2 to 3.8 kW) - stationary dry well installation

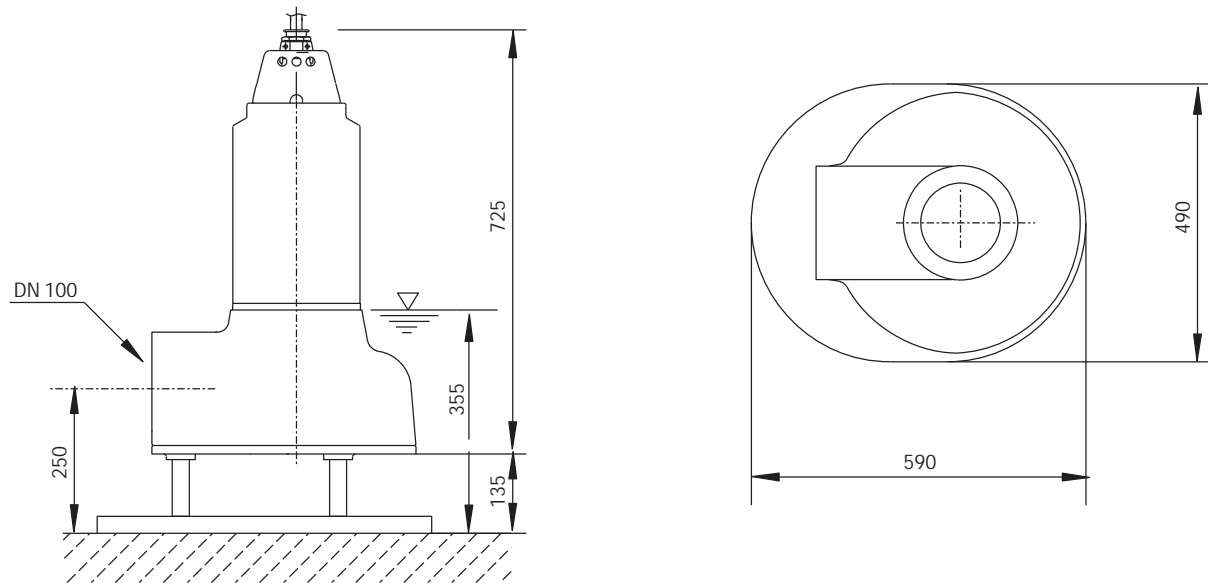


Industrial process

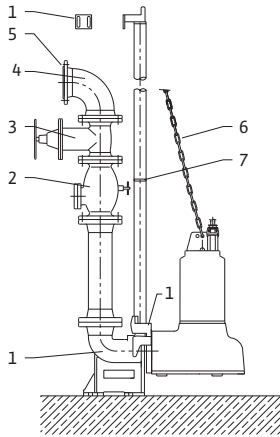
Submersible pumps

Dimensions Wilo-Drain TP 100

Dimension drawing Wilo-Drain TP 100 (P2 to 3.8 kW) - portable wet well installation



Mechanical accessories Wilo-Drain TP 100



- 1 Suspension unit
- 2 Non-return valve
- 3 Gate valve
- 4 Pipe bend
- 5 Mounting accessories
- 6 Chain
- 7 Pipe connector

Stationary wet well installation DN 100

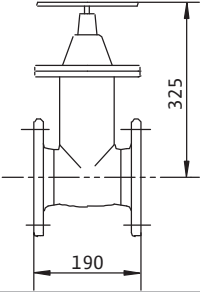
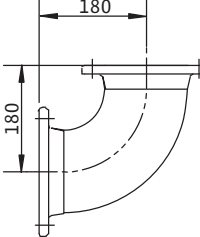
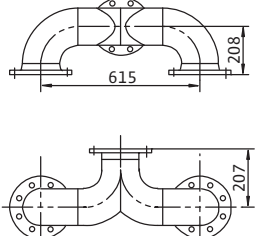
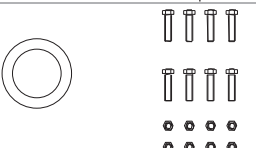
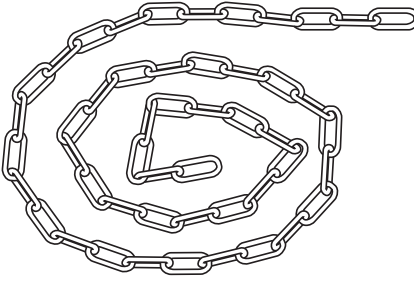
		Description	Art no.
Suspension unit DN 100		Made of EN-GJL-250, painted, with free passage in DN 100, foot elbow including pump holder, profile joint, installation and floor fixation accessories and guide pipe bracket without guide pipes. Connection on pressure side DN 100. PN 10/16 flanges in accordance with DIN 2501. The double pipe feed (48.3x3.25 mm) is to be provided by the customer.	2029040
Suspension unit DN 100, including cable guide		Made of stainless steel (AISI 304), with free passage in DN 100, foot elbow including pump holder, profile joint, installation and floor fixation accessories and 10 m stainless steel cable guide for 5 m installation depth. Connection on pressure side DN 100. Flanges PN 10/16 in accordance with DIN 2501.	2004667
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 100 connection	2017169

Industrial process

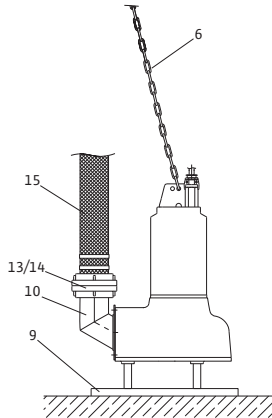
Submersible pumps

Mechanical accessories Wilo-Drain TP 100

Stationary wet well installation DN 100

		Description	Art no.
Gate valve		Made of EN-GJL-250, incl. 1 set of installation accessories, PN 10/16 flanges in accordance with DIN 2501, DN 100	2017163
Pipe bend 90°		Made of spheroidal cast iron 400-15, with 2 flanges, including 1 set of mounting accessories, PN 10/16 flange, DIN 28637, for DN 100 connection	2004669
Y-piece DN 100		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 100/100/100 connection	2017180
Mounting accessories DN 100		For a DN 100 flange connection, with 8 screws, 8 nuts and 1 flat gasket for flanges, PN 10/16, DIN 2503	2017176
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Mechanical accessories Wilo-Drain TP 100



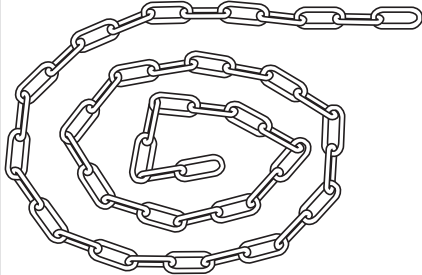
- 6 Chain
- 9 Floor supporting foot
- 10 Pipe bend
- 13 Storz pipe coupling
- 14 Storz hose coupling
- 15 Pressure hose

		Description	Art no.
Floor supporting foot TP 80/100		Made of stainless steel (AISI 304), comprising 3 support feet, 1 baseplate and fixation material	2004672
Pipe bend 90°		Made of stainless steel, with hose nozzle (Ø 110 mm) and G 4 male thread for direct hose connection or installation with Storz A fixed coupling, flange on pump side, incl. 1 set of mounting accessories for DN 100 connection. Variable set-up possible with 45° hole pitch.	2017184
Storz A pipe coupling with female thread G 4		Made of aluminium, Storz A connection, with G 4 female thread, tappet clearance 133 mm for a DN 100 connection	2016161
Storz hose coupling		Made of aluminium, Storz A connection, with hose nozzle (Ø 110 mm), tappet clearance 133 mm, incl. hose clip	2004675
Pressure hose		Synthetic, inner Ø 110 mm, PN 8, length 10 m, incl. 2 hose clips for direct hose connection via hose nozzle (Ø 110 mm) or a Storz A hose coupling	2017196
		Synthetic, inner Ø 110 mm, PN 8, length 20 m, incl. 2 hose clips for direct hose connection via hose nozzle (Ø 110 mm) or a Storz A hose coupling	2017197
		Synthetic, inner Ø 110 mm, PN 8, length 30 m, incl. 2 hose clamps for direct hose connection via hose nozzle Ø 110 mm or a Storz A hose coupling	2017198

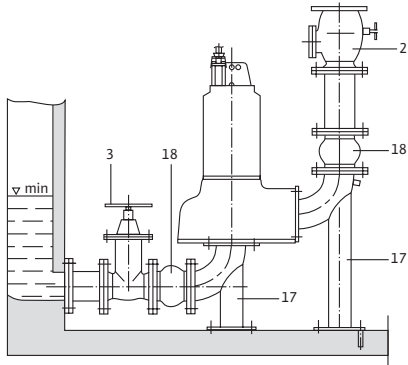
Industrial process

Submersible pumps

Mechanical accessories Wilo-Drain TP 100

		Description	Art no.
Chain set PCS-CE		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 3 m	6063135
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 5 m	6063136
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 6 m	6063137
		As chain sling including 2 shackles to DIN 32891. Material: stainless steel 1.4401, bearing capacity: 400 kg, length: 10 m	6063138

Mechanical accessories Wilo-Drain TP 100



- 2 Non-return valve
- 3 Gate valve
- 17 Installation kit
- 18 Compensator

Stationary vertical dry well installation DN 100

		Description	Art no.
Non-return valve		Made of EN-GJL-250, in accordance with DIN EN 12050-4, with non-constricted passage, cleaning aperture and ventilation device, incl. 1 set of mounting accessories, PN 10/16 flange in accordance with DIN 2501, for DN 100 connection	2017169
Gate valve		Made of EN-GJL-250, incl. 1 set of installation accessories, PN 10/16 flanges in accordance with DIN 2501, DN 100	2017163
Installation kit TP 100		Made of stainless steel (AISI 304), consisting of 2 pipe elbows with support (pressure and intake side), each with 2 flanges for DN 100 connection, incl. installation and floor fixation accessories	2026541
Compensator DN 100		Made of steel, galvanized / neoprene incl. mounting accessories, length 135 mm, PN 10/16 flange for DN 100 connection	2017190
Y-piece DN 100		For double-pump systems made of steel, galvanized, PN 10/16 flange in accordance with DIN 2501 with 2 sets of mounting accessories, DN 100/100/100 connection	2017180

Electrical accessories

Recommended accessories

Wilo ...	EC Drain PD1 ¹⁾	MS-L 1x4kW ¹⁾	MS-L 2x4kW ²⁾	Drain-Control PL1 ¹⁾	Drain-Control PL2 ²⁾	SC-L ⁴⁾
Submersible drainage pumps, self-priming drainage pumps, drainage pumps for hot water						
Wilo-Drain TM/TMW/TMR 32	–	•	•	–	o	–
Wilo-Drain TS/TSW 32	–	•	•	–	o	–
Wilo-Drain TS 40/50/65	–	•	•	o	o	o
Wilo-EMU KS	–	•	•	o	o	o
Wilo-Drain LP/LPC	–	•	•	–	o	o
Wilo-Drain TMT/TMC	–	•	•	o	o	–
Wilo-Drain VC	–	•	•	o	–	–
Submersible sewage pumps with macerator						
Wilo-Drain MTC 40	•	–	–	•	•	o
Wilo-Drain MTC 32	•	–	–	o*	o*	•
Wilo-Drain MTS 40	•	–	–	•	•	o
Wilo-RexaCut FIT	•	o	o	•	•	o
Wilo-RexaCut PRO	•	–	–	•	•	o
Submersible sewage pumps						
Wilo-Drain TC 40	–	•	•	o	o	–
Wilo-Drain STS 40	–	•	•	o	o	–
Wilo-Drain TP 50	–	•	•	o	o	o
Wilo-Drain TP 65	–	•	•	•	•	o
Wilo-Rexa FIT	–	•	•	•	•	o
Wilo-Rexa PRO	–	o	o	o	o	–
Wilo-Drain TP 80, 100	–	o	o	o*	o*	–
Wilo-EMU FA 08... to 15...	–	o	o	o*	o*	–

• = Recommended, o = Optional, – = Not required, * = Up to max. 4 kW motor power

¹⁾ Switchgear for 1 pump, ²⁾ Switchgear for 2 pumps, ³⁾ Required for use in potentially explosive areas

Recommended accessories

Wilo ...	KAS	Drain-Alarm 2	Alarm-Control 1	Alarm-Control 2	Motor protection plug CEE	Level sensor	Float switch MS 1
Submersible drainage pumps, self-priming drainage pumps, drainage pumps for hot water							
Wilo-Drain TM/TMW/TMR 32	o	o	•	o	–	–	–
Wilo-Drain TS/TSW 32	o	o	•	o	–	–	–
Wilo-Drain TS 40/50/65	o	o	o	o	o	o	o
Wilo-EMU KS	o	o	o	o	–	o	–
Wilo-Drain LP	–	–	–	–	o	–	o
Wilo-Drain LPC	o	o	o	o	o	o	o
Wilo-Drain TMT/TMC	o	o	o	o	o	o	o
Wilo-Drain VC	o	o	o	o	o	o	o
Submersible sewage pumps with macerator							
Wilo-Drain MTC 40	o	o	o	o	o	o	o
Wilo-Drain MTC 32	o	o	o	o	o	•	o
Wilo-Drain MTS 40	o	o	o	o	o	•	o
Wilo-RexaCut FIT	o	o	o	o	o	•	o
Wilo-RexaCut PRO	o	o	o	o	o	•	o
Submersible sewage pumps							
Wilo-Drain TC 40	o	o	o	o	o	o	o
Wilo-Drain STS 40	o	o	o	o	o	o	o*
Wilo-Drain STS 65	o	o	o	o	–	o	•
Wilo-Drain TP 50	o	o	o	o	o	o	o
Wilo-Drain TP 65	o	o	o	o	o	o	o
Wilo-Rexa FIT	o	o	o	o	o	o	o
Wilo-Rexa PRO	–	–	–	–	o	•	o
Wilo-Drain TP 80, 100	–	–	–	–	o*	•	o
Wilo-EMU FA 08... to 15...	–	–	–	–	o*	•	o

• = Recommended, o = Optional, – = Not required, * = Up to max. 4 kW motor power

¹⁾ Switchgear for 1 pump, ²⁾ Switchgear for 2 pumps, ³⁾ Required for use in potentially explosive areas

Electrical accessories

Recommended accessories

Wilo ...	Float switch WA	Dynamic pressure system	Bubbling-through system	Ex-rated cut-off relay	Zener barrier	Switch cabinet	Flashing light	Signal horn
Submersible drainage pumps, self-priming drainage pumps, drainage pumps for hot water								
Wilo-Drain TM/TMW/TMR 32	–	–	–	–	–	–	–	–
Wilo-Drain TS/TSW 32	–	–	–	–	–	–	–	–
Wilo-Drain TS 40	–	o	o	–	–	–	–	–
Wilo-Drain TS 50/65	•	o	o	o ³⁾	o ³⁾	–	–	–
Wilo-EMU KS	–	–	–	o ³⁾	o ³⁾	–	–	–
Wilo-Drain LP/LPC	•	–	–	–	–	–	–	–
Wilo-Drain TMT/TMC	•	o	o	–	–	–	–	–
Wilo-Drain VC	•	o	o	–	–	–	–	–
Submersible sewage pumps with macerator								
Wilo-Drain MTC 40	o	•	o	o	o	o	o	o
Wilo-Drain MTC 32	o	o	o	o ³⁾	o ³⁾	o	o	o
Wilo-Drain MTS 40	o	•	o	o ³⁾	o ³⁾	o	o	o
Wilo-RexaCut FIT	o	•	o	–	–	o	o	o
Wilo-RexaCut PRO	o	•	o	•	•	o	o	o
Submersible sewage pumps								
Wilo-Drain TC 40	•	o	o	–	–	–	–	–
Wilo-Drain STS 40	•	o	o	–	–	–	–	–
Wilo-Drain TP 50	•	o	o	o ³⁾	o ³⁾	o	o	o
Wilo-Drain TP 65	•	o	o	o ³⁾	o ³⁾	o	o	o
Wilo-Rexa FIT	•	o	o	–	–	o	o	o
Wilo-Rexa PRO	o	–	–	o ³⁾	o ³⁾	o	o	o
Wilo-Drain TP 80, 100	–	–	–	o ³⁾	o ³⁾	o	o	o
Wilo-EMU FA 08... to 15...	o	o	o	o ³⁾	o ³⁾	o	o	o

• = Recommended, o = Optional, – = Not required, * = Up to max. 4 kW motor power

¹⁾ Switchgear for 1 pump, ²⁾ Switchgear for 2 pumps, ³⁾ Required for use in potentially explosive areas

Equipment/function Basic and Comfort switchgears

Wilo ...	EC-Drain PD1	MS-L 1x4kW	MS-L 2x4kW	Drain Control PL 1/ PL 1 WS	Drain Control PL 2/ PL 2 WS	Smart Control SC-L
Application						
Switchgear for controlling pumps	•	•	•	•	•	•
Alarm switchgear	–	–	–	–	–	–
Evaluation relay	–	–	–	–	–	–
Number of pumps to be controlled	1	1	2	1	2	1 ... 4
Mains connection						
1–230 V / 50 Hz	•	•	•	•	•	•
3–400 V/50 Hz	•	•	•	•	•	–
Max. current with direct starter	12 A	12 A	2x 12 A	12 A	2x 12 A	32 A
Max. current with star-delta starter	–	–	–	–	–	72 A
Design						
Microprocessor-controlled	•	•	•	•	•	•
Electronic	–	–	–	–	–	–
Plastic housing	•	ABS	ABS	•	•	Steel, powder-coated
Equipment						
Test run	•	•	•	•	•	•
Pump starts counter/pulse counter	–	–	–	•	•	•
LC display	–	–	–	•	•	•
LED/control lamp	•	•	•	•	•	•
Main switch	–	•	•	(WS only)	(WS only)	•
Ampere indicator	–	–	–	•	•	–
Voltmeter	–	–	–	–	–	–
Adjustable follow-up time	•	•	•	•	•	•
Operating hours counter	–	–	–	•	•	•
Level measurement with float switch	•	• ²⁾	• ²⁾	• ²⁾	• ²⁾	• ⁴⁾
Level measurement with pneumatic pressure transducer	•	–	–	•	•	–
Level measurement with level sensor (4–20 mA)	–	–	–	• ³⁾	• ³⁾	• ⁴⁾
Level measurement with electrodes	–	–	–	–	–	–
Mains-dependent alarm	•	•	•	•	•	•
Mains-independent alarm	•	o	o	–	–	–
Integrated alarm (buzzer)	•	•	•	•	•	–
Pump cycling	–	–	•	–	•	•

• = available, o = optional, – = not available
¹⁾ only for direct switch-on devices (up to 4 kW)
²⁾ in the potentially explosive area, only with ex-rated cut-off relay
³⁾ in the potentially explosive area, only with Zener barrier

Electrical accessories

Equipment/function Basic and Comfort switchgears

Wilo ...	EC-Drain PD1	MS-L 1x4kW	MS-L 2x4kW	Drain Control PL 1/ PL 1 WS	Drain Control PL 2/ PL 2 WS	Smart Control SC-L
Signalling/display function						
Collective run signal (SBM)	–	–	–	–	–	•
Collective fault signal (SSM)	•	•	•	•	•	•
Individual run signal (EBM)	–	–	–	–	–	o
Individual fault signal (ESM)	–	–	–	–	•	o
Control functions (motor monitoring)						
WSK	•	•	•	•	•	•
PTC	–	–	–	–	–	•
Impermeability (DI)	–	–	–	–	–	•
Electronic	•	•	•	•	•	–
Motor protection switch	–	–	–	o	o	•

• = available, o = optional, – = not available

¹⁾ only for direct switch-on devices (up to 4 kW)

²⁾ in the potentially explosive area, only with ex-rated cut-off relay

³⁾ in the potentially explosive area, only with Zener barrier

Equipment/function Basic and Comfort switchgears

Wilo ...	KAS	Drain-Alarm 2	Alarm-Control 1	Alarm-Control 2
Application				
Switchgear for controlling pumps	–	–	–	–
Alarm switchgear	•	•	•	•
Evaluation relay	–	–	–	–
Number of pumps to be controlled	–	–	–	–
Mains connection				
1-230 V / 50 Hz	•	•	•	•
3-400 V/50 Hz	–	–	–	–
Max. current with direct starter	–	–	–	–
Max. current with star-delta starter	–	–	–	–
Design				
Microprocessor-controlled	–	–	–	–
Electronic	•	•	•	•
Plastic housing	•	•	•	•
Equipment				
LED/control lamp	–	•	–	–
Level measurement with float switch	–	•	•	•
Level measurement with pneumatic pressure transducer	–	–	–	–
Level measurement with level sensor (4-20 mA)	–	–	–	–
Level measurement with electrodes	•	–	–	–
Mains-dependent alarm	•	•	•	•
Mains-independent alarm	•	•	•	•
Integrated alarm (buzzer)	•	•	•	•
Socket 1-230 V	–	–	–	•
Signalling/display function				
Collective run signal (SBM)	–	–	–	–
Collective fault signal (SSM)	–	–	–	–
Individual run signal (EBM)	–	–	–	–
Individual fault signal (ESM)	–	•	•	–
Control functions (motor monitoring)				
WSK	–	–	–	–
PTC	–	–	–	–
Impermeability (DI)	–	–	–	–
Electronic	–	–	–	–
Motor protection switch	–	–	–	–

• = available, - = not available

Product descriptions

EC-Drain PD 1 switchgear



Switchgear for level control of 1 submersible wastewater or sewage pump in the series Wilo-Drain or Wilo-EMU. Level measurement can be performed by the dynamic pressure system or 2 float switches.

- LED for alarm, operation/run-on time, manual/automatic mode
- Input terminals for connecting 2 float switches (WA 65, WA 95 or MS 1)
- Button for manual mode of the pump
- The switching level and the motor currents are set by potentiometer and DIP switch
- Potential-free contacts for collective fault signal (changeover contact)
- Forced activation of the pump
- Pump switch-off with run-on time (0...120 s)
- Integrated mains-independent alarm buzzer by 9 V rechargeable battery (available as accessory)

Technical data:

- Operating voltage: 1~230 V or 3~400 V
- Frequency: 50/60 Hz
- Protection class: IP 54
- Dimensions (WxHxD): 190x320x110mm

Attention: Switchgears are not protected against explosions and may only be used outside of potentially explosive areas. Ex-rated cut-off relays are to be provided for controlling pumps in potentially explosive areas.

Switchgear Easy Control MS-Lift



Microprocessor-controlled switchgear for level-dependent control of 1 or 2 wastewater or submersible sewage pumps in direct-on-line starting for wastewater transportation.

Equipment:

- Lockable main switch
- Control panel with buttons
- Display of the current operating or fault conditions via LED
- Motor protection by means of integrated motor current and winding temperature monitoring
- Adjustable follow-up time up to 120 sec
- Pump kick function for 2 sec
- Fault memory
- High water alarm with forced switch-on of the connected pump(s)
- Collective fault signal
- Integrated mains-dependent alarm buzzer (optionally mains-independent via 9V battery)

Inputs:

- 2 or 3 digital inputs for float switches
- 1 or 2 inputs for thermal winding monitoring with bimetal sensor

Outputs:

- 1 potential-free contact for the collective fault signal (SSM)
- 1 potential-free contact for an external alarm signal (2 pump version only)

Technical data:

- Mains connection: 1~230 V or 3~400 V, 50/60 Hz
- Connected power P_2 : 4.0 kW
- Maximum current: 12 A
- Ambient/operating temperature: -30...+60 °C
- Max. relative humidity: 50 %
- Control voltage: 24 VDC
- Max. switching capacity of alarm contact: 250 V~, 1 A
- Protection class: IP 54
- Electrical safety: Degree of contamination II
- Housing material: Polycarbonate, UV-resistant

Important: Switchgears are not protected against explosions and may be used only outside potentially explosive areas. The direct connection of pumps within potentially explosive areas is not possible!

Product descriptions

Switchgear Wilo DrainControl PL 1



Switchgear for controlling the level of 1 submersible pump. Level measurement can be carried out with either the bubbling-through or the dynamic pressure system, via an electronic level sensor 0–1 mWs (4–20 mA) or float switch (WA 65, WA 95 or MS1).

- LC display
- LED for alarm, operation/run-on time, manual/automatic mode
- Potential-free contact for collective fault signal and high water alarm
- Forced switch-on of the pump
- Pump switch-off with run-on time (0...180 s)
- Integrated buzzer
- Operating hours counter, pump starts

Technical data:

- Operating voltage: 1~230 V, 3~400 V
- Connected load P_2 : 4.0 kW
- Frequency: 50/60 Hz
- Protection class: IP 65 (within buildings/switch cabinets)
- Dimensions (W x H x D): 180 x 255 x 180 mm

Attention: Switchgear is not protected against explosions and may only be used outside of potentially explosive areas. A level sensor in the potentially explosive area (with breakdown barrier!) or a float switch (in the potentially explosive area with ex-rated cut-off relay) is to be provided for controlling the pump.

Switchgear Wilo DrainControl PL 2



Switchgear for controlling the levels of 2 submersible pumps. Level measurement can be carried out by either the bubbling-through or the dynamic pressure system, via an electronic level sensor 0–2.5 mWs (4–20 mA) or float switch (WA 65, WA 95 or MS1).

- LC display, multi-language switching
- LED for alarm, operation/run-on time, manual/automatic mode
- Potential-free contacts for collective fault signal and high water alarm, malfunction pump 1, malfunction pump 2
- Forced switch-on of the pump
- Pump switch-off with run-on time (0...180 s)
- Automatic fault-actuated switchover
- Integrated buzzer
- Operating hours counter, pump starts

Technical data:

- Operating voltage: 1~230 V, 3~400 V
- Connected load P_2 : 2x 4.0 kW
- Frequency: 50/60 Hz
- Protection class: IP 65 (within buildings/switch cabinets)
- Dimensions (W x H x D): 320 x 300 x 120 mm

Attention: Switchgears are not protected against explosions and may only be used outside of potentially explosive areas. A level sensor in the potentially explosive area (with breakdown barrier!) or a float switch (in the potentially explosive area with ex-rated cut-off relay) is to be provided for controlling the pump.

Product descriptions

Switchgear Smart Control SC-Lift



Microprocessor-controlled switchgear for level-dependent control of 1...4 submersible sewage pumps by means of float switches or level sensors.

> Functions

- 2 operating modes
 - "Draining": For draining waste water shafts in water disposal
 - "Filling": For filling water tanks and rainwater storage tanks from boreholes in water supply
- Automatic pump alteration
- Test run
- Fault memory for 16 error messages including the type of fault (overflow or dry-running protection)

> Type key

Example: Wilo-Smart Control SC-L-2x16A-T4-DOL-WM-Ex

- SC-L = Smart Control switchgear for lifting applications
- 2x = Max. number of pumps to be connected
- 16A = Max. rated current for each connected pump
- T4 = Mains connection
- DOL = Start-up type (DOL = direct; SD = star-delta)
- WM = Installation version (WM = wall-mounted installation, BM = ground installation)
- Ex = Version for connection of pumps within potentially explosive areas

> Equipment

- Display of the current operating status and data, as well as faults via the LC display and LEDs
- Symbol-based menu navigation
- Menu navigation and adjustment of operating parameters via operating knob
- Motor protection by means of integrated motor current and winding temperature monitoring
- Direct and star-delta starter
- "Ex" version suitable for connection of pumps within potentially explosive areas

> Inputs

- 1 analogue precision input for level control with level sensor
- 3 digital inputs for level control with float switch
- 1 digital input for low water level with float switch
- 1 digital input for high water alarm with float switch
- Inputs for thermal winding monitoring for bimetal or PTC temperature sensor
- 2 inputs for connecting moisture sensors (e.g.: Motor compartment leakage or sealing chamber control)

> Outputs

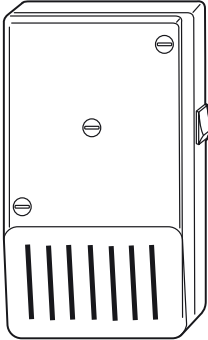
- 1 potential-free contact for SSM and SBM
- 1 potential-free contact for high water alarm
- 1 potential-free contact as a signal to start a submersible mixer (pump dependent)
- 1 analogue output 0-10 V, the output of the actual level value

> Technical data

- Power supply: 3~ 400V, 50/60Hz
- Max. number of connected pumps: max. 2 pumps with float switch, max. 4 pumps with level sensor
- Max. rated current: depending on type
- Start-up type: direct or star-delta
- Control voltage: 24 VDC, 230 VAC
- Operating temperature: 0 ... +40 °C
- Max. relative humidity: 50 %
- Housing: Coated steel sheeting with cable glands
- Protection class: IP 54
- Electrical safety: Degree of contamination II

Product descriptions

Small alarm switchgear Wilo KAS



Small alarm switchgear with signalling tone, signal transmitter (electrode) and 3 m cable

Technical data:

- Self-charging power supply unit (battery backup approx. 5 hrs)
- ISO plug housing (shock-proof)
- Protection class: IP 30
- Signal intensity: 70 dBA
- 230 V~ / 9 V=; 1.5 VA

Wilo Drain Alarm alarm switchgear



Alarm switchgear for wall-mounted installation with optical and acoustic alarm signal (buzzer); a WA float switch is required as the transmitter.

Technical data:

- Self-charging power supply unit
- Potential-free contact
- ISO housing
- Alarm signal: 85 dBA
- Protection class: IP 54
- 1~ 230 V

Wilo-AlarmControl alarm switchgear



> Wilo-AlarmControl 1

Mains-independent alarm system with shock-proof plug, rechargeable battery, acoustic alarm signal (buzzer) and potential-free contact. Mini-float switch with 3 m cable mounted on the device.

> Wilo-AlarmControl 2

Mains-independent alarm system with shock-proof adapter plug for connecting an appliance, e.g. a washing machine. With rechargeable battery and acoustic alarm signal (buzzer). Mini-float switch with 3 m cable mounted on the device.

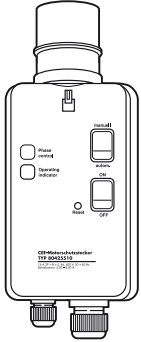
Technical data:

- Operating voltage: 1~230 V, 50 Hz
- Control voltage: 12 VDC (unstabilized)
- Alarm contact for AlarmControl 1: Potential-free NO contact, max. contact load 1 A (230 VAC)
- Contact socket for AlarmControl 2: max. contact load 16 A (250 VAC)
- Protection class: IP 20
- Housing: ABS
- Cable length, mini-float switch: 3 m (2 x 0.75 mm²)
- Maximum ambient temperature: + 60 °C
- Dimensions (W x H x D): 68 x 112 x 53 mm

Attention: Switchgears are not protected against explosions and may only be used outside of potentially explosive areas.

Product descriptions

Motor switchgear



- Motor protection plug without thermal motor protection.
- Phase inverter
 - Rotating field monitoring
 - On/Off switch
 - Connection for a float switch with "manual/automatic mode" switchover button
 - Operation display

- Technical data:
- Connection: 3~400 V/50 Hz, 5-pole
 - Max. rated motor power P_2 : 4 kW)
 - Max. current: 16 A
 - Protection class: IP 54

Attention: Switchgears are not protected against explosions and may be used only outside potentially explosive areas.

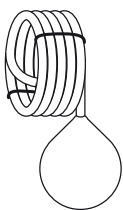
Level sensor



For level measurement.

- Technical data:
- Protection class: IP 68
 - Measurement range: 0–1 mWS; 0–2.5 mWS
 - Cable lengths: 10, 30 or 50 m
 - Output signal: 4–20 mA
 - Certified explosion approval in accordance with ATEX

Float switch MS



Signal transmitters for level control devices as min./max switches for fluids that are aggressive or contain faeces, floats with the fluid and switches when tilted.

Function:

Because of its construction and switching point, the float switch can exhibit only a very small hysteresis, i.e. the ON and OFF switching points lie close together. This property cannot be changed, not even the length of the cable. The following points must therefore be noted for the use of the signal transmitter:

- If only one signal transmitter is used, the connection to the switchgear must be made using a configurable run-on time, e.g. Wilo-DrainControl..., Wilo-EC Drain...
- The level control device must be fitted with two signal transmitters.

> Technical data

- Max. fluid temperature: 80 °C
- Cable length: 10 m
- Switching capacity: 250 V / 5 A
- Max. pressure: 2 bar
- Switching angle: 10°
- Protection class: IP 68

Product descriptions

Float switch WA



Signal transmitters for level control devices as min./max switches for fluids that are slightly dirty, floats with the fluid and switches when tilted. The signal transmitter must be permanently positioned on its signal line for the switching point.

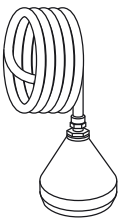
Technical data

- Max. fluid temperature: 60 – 90 °C
- Cable lengths: 5...30 m
- Switching capacity: 250 V / 8 A / 1.1 kW
- Max. pressure: 1 bar
- Protection class: IP 68
- Type WA...: as low-water cut-out switchgear for indirect connection.
- Type WAO...: if the actuated pump pumps into a tank, above the level of which switching is to take place.

Versions

- Type WA...: Switching points up "ON" / down "OFF"
- Type WAO...: Switching points up "OFF" / down "ON"
- TYPE ...EK: Float switch incl. small switchgear EK for pumps with AC motors up to 1 kW nominal power

Dynamic pressure system

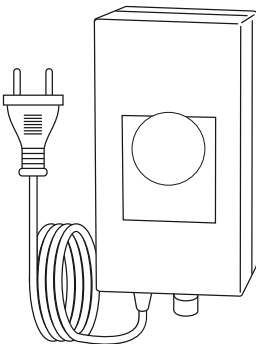


The pressure transducer (immersion bell) detects changes in the fluid level in the sump. The change in the pressure value in the immersion bell are transmitted via a leak-proof hose to the Wilo DrainControl PL switchgear and evaluated by measuring elements in the switchbox.

Scope of delivery:

- Immersion bell with 10 m hose

Bubbling-through system

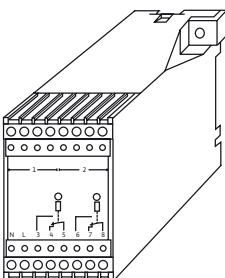


Dynamic pressure system with compressed air permanently introduced by small compressor. The immersion bell (dynamic pressure system) is to be ordered separately.

Scope of delivery:

- Mini-compressor
- 3 m hose with T-iron and non-return valve

Ex-rated cut-off relay



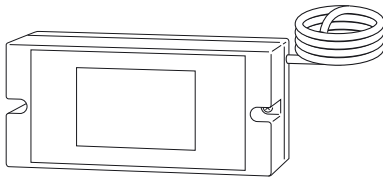
For the installation of float switches in potentially explosive areas.

- Suitable for connecting 2 to 5 float switches
 - 2-circuit (connection of 2 float switches possible)
 - 3-circuit (connection of 3 float switches possible)
 - 4-circuit (connection of 4 float switches possible)
 - 5-circuit (connection of 5 float switches possible)
- Installed in an ISO housing, with transparent cover
- Protection class IP 54
- For wall-mounted installation
- Dimensions (W x H x D): 182 x 180 x 165 mm

Electrical accessories

Product descriptions

Zener barrier



- For the installation of a level sensor in potentially explosive areas.
- Suitable for the connection of a level sensor.
 - Protection class IP 40, housing for installation in non-explosive areas.
 - Dimensions (W x H x D): 75 x 150 x 106 mm
 - 1 m cable premounted.

Switch cabinet for outdoor installation



One- or two-part cable distribution cabinet for outdoor installation. Made of fibreglass-reinforced polyester including integrated mounting plate. Housing with smooth surface.

Cable distribution cabinet without equipment:

Optional installation with selected accessories (additional charge).

- One-part size 00, protection class IP 34D, outer dimensions (WxHxD): 400 x 800(1600) x 225 for DrainControl PL1 and Easy Control MS-L 1x4kW
- Two-part size 00, protection class IP 44, outer dimensions (WxHxD): 460 x 830(1760) x 330 for DrainControl PL1 WS
- Two-part size 0, protection class IP 44, outer dimensions (WxHxD): 590 x 830(1760) x 330 for DrainControl 1+2 (0.5–10A) DE, PL2 and PL2 WS
- Two-part size 1, protection class IP 44, outer dimensions (WxHxD): 785 x 830(1760) x 330
- Two-part size 2, protection class IP 44, outer dimensions (WxHxD): 1115 x 830(1760) x 330

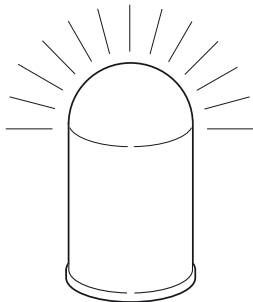
Cable distribution cabinet including switchgear:

with mounted distribution board, heating and flashing light.

- One-part size 00, protection class IP 34D, outer dimensions (WxHxD): 400 x 800(1600) x 225 optionally including DrainControl PL1 (not water column) or Easy Control MS-L 1x4kW
- Two-part size 0, protection class IP 44, outer dimensions (WxHxD): 590 x 830(1760) x 330 optionally including DrainControl PL2 (not water column), DrainControl 1 (0.5–10A) direct starter or DrainControl 2 (0.5–10A) direct starter

The switchgears being used have the protection class IP 54.

Flash light

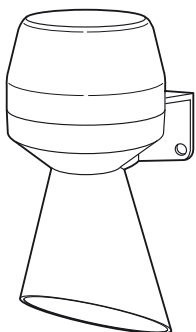


Signal light for outdoor installation on the switch cabinet.

Technical data:

- Connection: 1~230 V, 50 Hz

Signal horn



For connection to Wilo-DrainControl switchgear

Technical data:

- 1~230 V, 50 Hz
- Noise pressure level: 92 dBA

Consulting guide

We want to do more than just offer you first-class products. We also want you to be able to select and configure our pumps and pump systems as easily as possible. On the following pages we have therefore put together some basic information to make your work easier from the very start. In addition to concrete configuration data and installation notes, you will also find explanations on the basics of electrics and hydraulics amongst other things. This is supplemented by detailed information on standards and guidelines as well as on legal and statutory requirements. As a result, you can be certain that our highly efficient products can also be integrated highly efficiently.

Basic hydraulic principles

Flow rate

Solid matter and settling sediments in the sewage may be deposited in pipes, resulting in the clogging of the drainage system. To prevent pipe clogging, it is advisable to maintain the following minimum flow rates:

Recommendations for flow velocities		
Pipe/standard	Value according to standard	Recommendation
Free drainage via gravity		
Horizontal pipe	–	$V_{\min} = 0.7 \dots 1.0 \text{ m/s}$
Vertical pipe	–	$V_{\min} = 1.0 \dots 1.5 \text{ m/s}$
Sewer pipes	–	$V_{\min} = 2.0 \dots 3.0 \text{ m/s}$
Pressure drainage		
Pipe flushed with compressed air EN 1671	$0.6 \text{ m/s} \leq v_{\min} < 0.9 \text{ m/s}$	$0.7 \text{ m/s} \leq v_{\min}$
Non-flushed pipes, ATV-DVWK A 134	$0.5 \text{ m/s} \leq v_{\min} < 0.9 \text{ m/s}$	$0.7 \text{ m/s} \leq v_{\min} \leq 2.5 \text{ m/s}$

Depending on the composition of the fluid (e.g. high sand content, pumping sludge), the above-mentioned values may be higher. However, the corresponding regional and national standards and guidelines need to be observed. The flow rate is determined by the full volume flow (m^3/s) per area (m^2) and should generally lie between 0.7 m/s and 2.5 m/s.

The following should be taken into account for the selection of the pipe diameter:
The greater the flow velocity, the fewer deposits and the lower the risk of clogging. But then the resistances in the pipe increase with increasing flow velocity, which leads to system inefficiency and can lead to premature component damage due to abrasive constituents.

Building services

Both the sewage generated in a building or on a piece of land and the rainwater which accumulates on courtyard and roof surfaces should be pumped to the sewer system with the aid of pumping stations and lifting units, insofar as they do not flow naturally downhill into the local sewage network. There are different ways of disposing of this sewage, depending on the respective fluids to be pumped. Wilo submersible pumps and sewage lifting units are designed especially to meet these different requirements and comply with currently valid EN standards. Planning must be carried out in accordance with DIN EN 12050/12056 – Drainage systems for buildings and sites. A distinction is made here between sewage emerging from discharge points above the local backflow level, which must be guided to the public sewer system by taking advantage of natural slopes, and sewage from discharge points whose water levels in the anti-siphon trap lie below the local backflow level. The backflow level is defined in by-laws. The upper street edge is usually taken as a rough guide value. Drainage and sewage (rainwater and wastewater), which accumulates below the backflow level, must be conveyed to the public sewer system via automatically operating lifting units – Wilo sewage lifting units or Wilo submersible pumps.

The following details, among others, are to be observed for system planning and design in accordance with DIN 1986-100, EN 12050 and EN 12056:

- Lifting units are to be designed in terms of performance in such a way that a minimum flow velocity of $\geq 0.7 \text{ m/s}$ is guaranteed for the prescribed nominal diameters of the pressure pipe.
Required minimum nominal diameters:
Sewage lifting unit for sewage containing faeces without comminution unit: DN 80
Sewage lifting unit for sewage containing faeces with comminution unit: DN 32
Sewage lifting unit for sewage free of faeces DN: DN 32
Sewage lifting unit for limited use for sewage containing faeces without comminution unit: DN 25
Sewage lifting unit for limited use for sewage containing faeces without comminution unit: DN 20
- The pressure pipe of a lifting unit must be equipped with a non-return valve and installed with its bottom above the backflow level (backflow loop). The pressure pipe may not be connected to wastewater downpipes.
- Wastewater gate valves (supply and pressure sides) are to be installed in accordance with DIN 1986-100, EN 12050/EN 12056.
- Ventilation pipes for lifting units are to be guided to heights above the roof level; the minimum nominal pipe width is DN 70 for sewage lifting units.
- Feed lines are to be installed with sufficient slope (a minimum of 1:50).
- It is practical to install all pipes flexibly through masonry.
- An automatic standby pump is to be provided if the sewage disposal pipe does not allow for interruptions.
- Switchboxes and signalling systems are to be installed at a dry, easily accessible position. The signalling system is to be mounted at a position that can be observed.
- Lifting units must be serviced regularly. At least:
1x per year in single-family homes
Every six months in multi-family homes
Every 3 months for systems in commercial operations
- The installation room is to be provided with sufficient ventilation and lighting. Above and next to all operating elements and parts to be maintained there should be a working space of at least 600 mm. The lifting unit must be fastened so that it is anti-buoyant.
- Sewage containing mineral oils or explosive admixtures must be guided through oil precipitators and/or petrol precipitators; those containing fatty substances must go through grease traps and those with sand through grit chambers. Acidic sewage must be neutralised. Pumps are generally to be made with Ex-protection.

Determining the required pump and/or system power

Volume flow Q_p [l/s]:

Equivalent to the sum of the incoming waste water Q_S and the incoming rainwater Q_r , which must be determined in accordance with EN 12050/EN 12056:
 Q_S = Rate of waste water flow [l/s] from the sum of all sewage sources, taking the simultaneity into account, Q_r = rainwater flow rate [l/s] as a product of rainfall, discharge coefficient and precipitation area.

Pumping head H/H_{man} [m]:

Equivalent to the total height difference (H_{geo} in m) between the lowest collection tank level and the bottom of the backflow loop + the total friction losses H_v [m] in the pressure pipe.
Attention: When selecting the lifting unit, it is necessary to take into account that the pressure difference between the delivery head in the duty point at the nominal flow rate (observe minimum volume flow) and the delivery head at zero volume flow must still amount to approximately 2-3 m in order to open the non-return valve.

Basic hydraulic principles

Vibrations and resonance

When sewage pumps are installed and connected, various aspects must be observed to guarantee smooth operation. Fundamentally, every moving machine part causes vibrations.

In the case of submersible motor pumps and monobloc pumps, during rotation, free centrifugal forces are generated at the circulation frequency. Also, the hydraulic forces acting on the pump impeller considerably contribute to the machine vibrations.

In order to avoid malfunctions and damage, the strength of the vibrations in the operating state may not exceed a certain threshold. This is achieved by statically and dynamically balancing the corresponding parts.

If the pumps are subject to additional external vibrations due to unfavourable installation and connections, these vibrations are superimposed. These vibrations can put high levels of stress on individual components.

In order for the pumps to work without disturbances and to have long service lives, they must be installed according to the generally valid rules of technology.

General notes

- The volume flow to be handled by the pump must exceed the volume flow of approaching sewage. Make sure that the pumps run as close to the optimum duty point as possible to ensure durability and optimum performance.
- Consider a loss in performance with increasing pump age. The volume flow and pressures can be negatively influenced by abrasion and corrosion.
- Design the pump so that it operates as efficiently as possible.
- Steep pump curves prevent clogging in the pressure pipe, since when there's increased backpressure, the pump also increases pressure along its pump curve and rinses away the deposits.
- When selecting accessories, take the material properties into consideration with regard to the corrosion- and abrasion-resistance.
- Compensate for peak inflows for economical and safety reasons by using double-pump systems (pump splitting, standby pump is always to be considered separately).
- If the transfer point (drainage pipe) lies underneath the sump level, ventilation should be provided, since otherwise the created suction could empty the complete sump, incl. the pump. This would result in ventilation difficulties and should therefore be checked in advance.
- Observe the various operating conditions for pipes which are not permanently installed in one place. The partial and full-filling situations should be observed.

Pipe and pump material

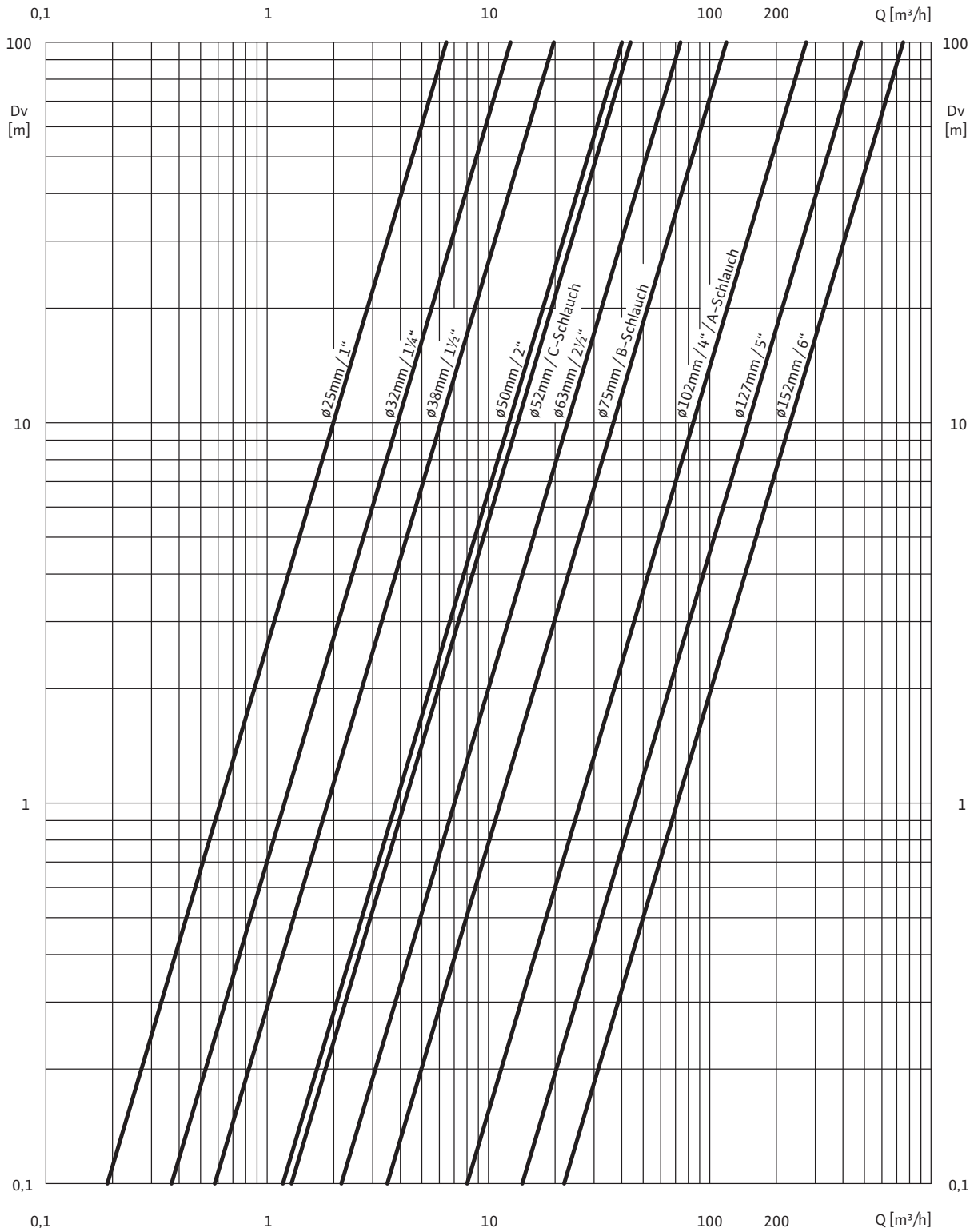
When designing, observe that the following influences could mean additional requirements for your system:

- Flow velocity of the fluid > Noises, wear
- pH value of the fluid > Material damage, corrosion
- Chemical constituents of the fluid > Corrosion
- Atmospheric conditions, such as humidity, salt content in the air, etc. > Corrosion
- Outside and fluid temperature > Fluid aggressiveness, corrosion
- Dwell time of the fluid in the pipe > Odour development
- Leakage currents due to using materials having different electron negativity

Due to the material changes and the resulting pressure level change, pipes for underground use should be designed as PN 10 pipes.

Pressure losses

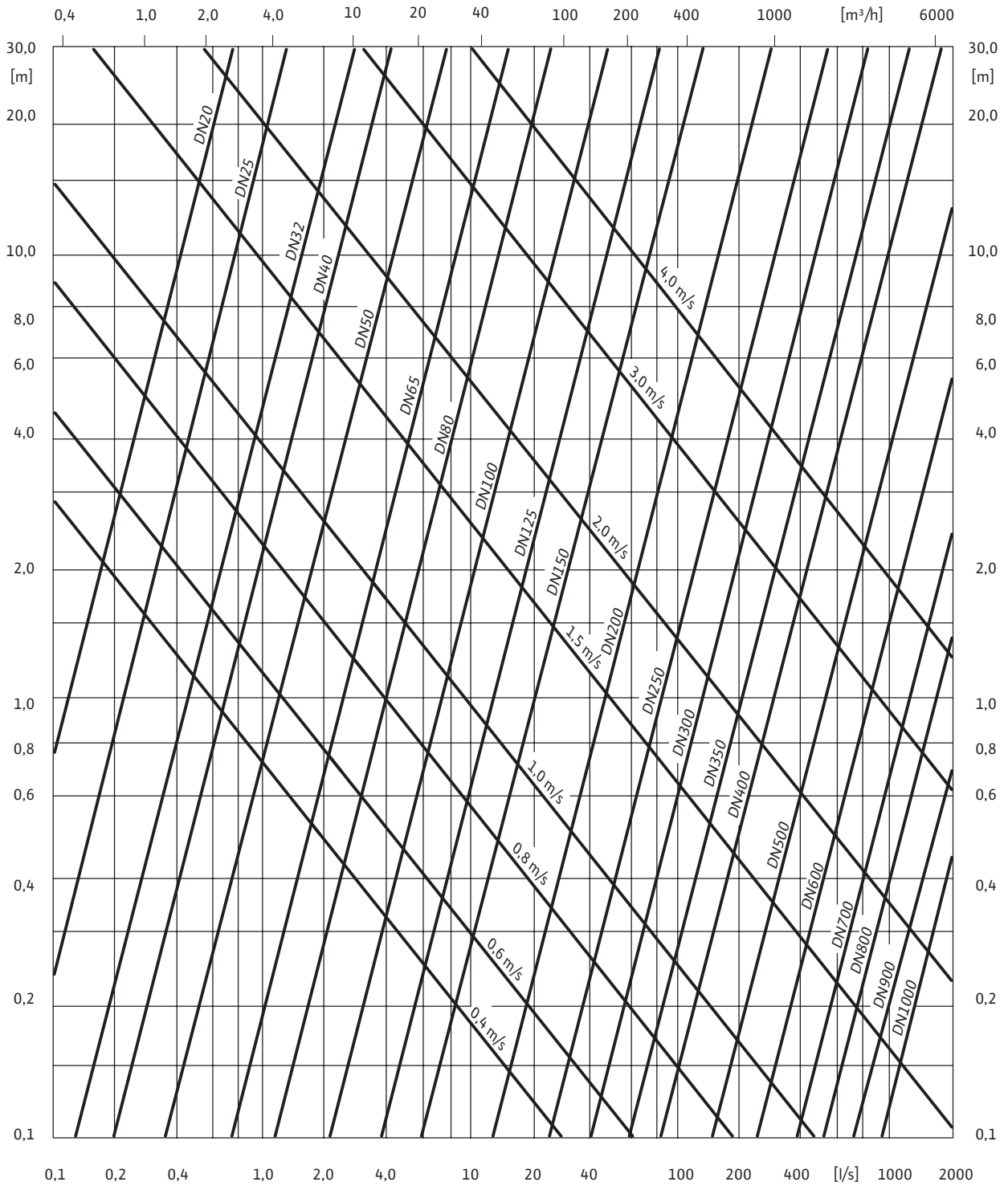
Pressure loss in hoses



Q = volume flow; D_v = pressure loss per 100 m hose ($k_b = 0.25$)

Pressure losses

Pressure loss in fixed pipes



Q = volume flow; Dv = pressure loss per 100 m hose ($k_b = 0.1$)

Pressure losses

Factors for adapting to other materials/older pipes

k_b	Pipe type
0.1	new galvanized steel pipes
0.8	newly rolled steel pipes, new plastic pipes
1.0	new cast-iron pipes, bitumen coated cast-iron pipes
1.25	older surface corroded cast-iron pipes
1.5	newly galvanized steel pipes, cleaned cast-iron pipes
1.7	encrusted pipes
2.0	new concrete pipes, medium-gloss
2.5	stoneware pipes
3	new concrete pipes, flat line markings
15-30	cast-iron pipes with light to heavy encrustations

Losses in valves and pipe line contents

Valve type	Unit	Nominal diameter						
		DN 40, 1¼	DN 32, 1½	DN 50, 2	DN 65, 2½	DN 80, 3	DN 100	DN 150
Non-return valve K_V	m ³ /h	-	-	158	267	405	632	1423
Non-return ball valve with flange K_V	m ³ /h	-	-	87	136.5	267	396	890
Non-return ball valve with female thread K_V	m ³ /h	26	54	70	115	180	-	-
Gate valve K_V	m ³ /h	-	-	160	280	470	830	2000
Pipe contents	l/m	0.8	1.3	2.1	2.9	4.3	8.2	17

Formula for calculating the losses in valves

$$\Delta_{PV} = \left(\frac{Q [\text{m}^3/\text{h}]}{K_V [\text{m}^3/\text{h}]} \right)^2$$

Q = volume flow in the duty point

K_V = Flow coefficient from table

Example

Non-return ball valves with flange, DN 80,
duty point 40 m³/h

$$\Delta_{PV} = \left(\frac{40}{267} \right)^2 = 0.022 \text{ bar} = 0.22 \text{ m}$$

Installation types

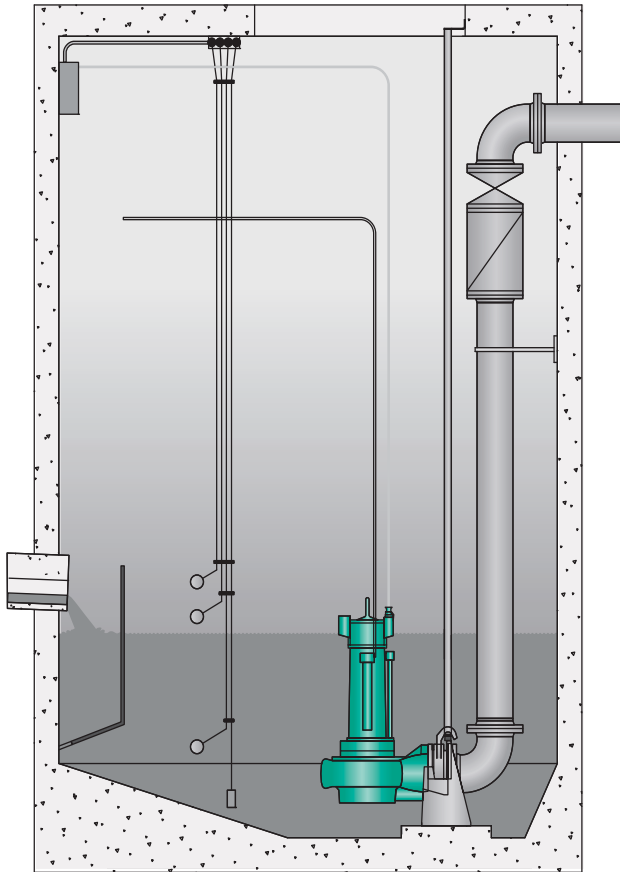
Very different types of installations are used in submersible systems in municipal applications. The type of installation depends mainly on the application purpose and the investment volume.

Basically, three main installation types are distinguished:

- Wet well installation, stationary
- Wet well installation, portable
- Dry well installation, stationary

The pipe sump installations are also required. The type of installation depends mainly on the requirements of the planning engineer and the operator. Different viewpoints arise, which each are justified in terms of the individual field of application.

Wet well installation or stationary tank installation



With wet well installation, the pump is installed in the fluid to be pumped. The motor is cooled by the circulating sewage. The advantage of this type of installation is low investment costs compared to the more sophisticated pumping station designs for dry-installed sewage pumps. In such a case, a construction above ground or an intermediate base in the sump for the pumps is not required. In greater depths, an intermediate ceiling is necessary.

The pump is fastened by means of a suspension unit with lowering mechanism. That allows the pump to be "pulled" at all times, e.g. for maintenance work.

The coupling base and the elbow are usually cast in one piece. The guide consists of two pipes, thus preventing any twisting. The Wilo

coupling connection is made in such a way that a lip prevents the seal ring from falling out.

The pressure pipe made of a galvanized steel pipe, or ideally of a stainless steel pipe, is fitted directly on the suspension unit via flanges and leads out of the pump sump. The sump can be made at low costs from ready-made concrete sumps equipped with elastomer seals in accordance with EN 1917 (national addition: DIN 4034 T1). However, one-piece PEHD sumps without joints are a better solution, since these prevent any infiltration of external water.

As shown on the diagram alongside, this installation type gives the operator the option of special pump sump geometries adjusted to individual requirements, the use of additional flushing valves or the installation of vortex impellers with special mixer head technology.

The disadvantage of a wet well installation is the lack of ease of maintenance. In addition, with a wet-installed submersible sewage pump, the water level can only be lowered to a certain level, since optimum cooling of the motor is only possible in submerged condition.

Installation types

Stationary dry well installation

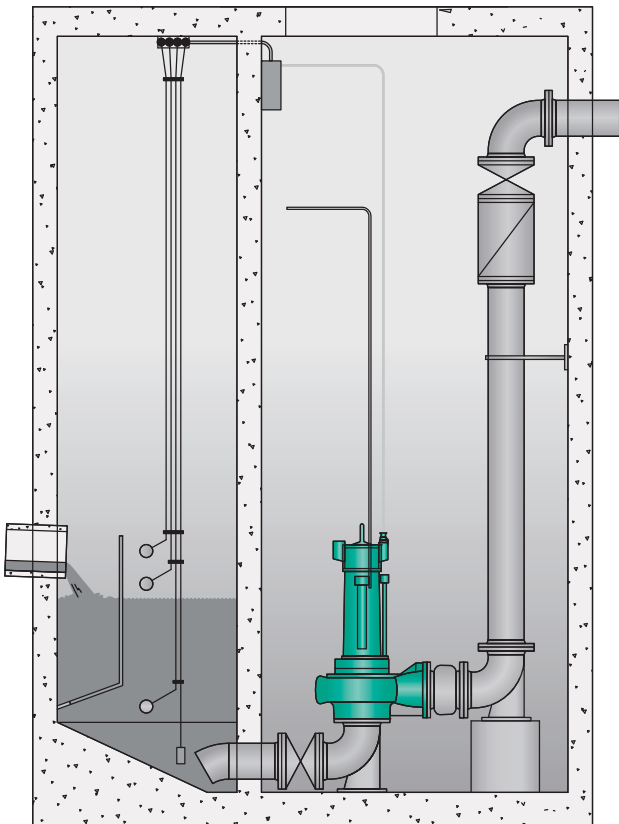
The dry well installation variant, in particular the dry-installed submersible pump, provides a number of advantages compared to dry-installed pumps, and also compared to wet-installed submersible pumps.

Installation principle of a dry-installed submersible pump

The main difference from a wet-installed submersible pump is the design of the motor. It is a fully encapsulated motor with internal closed-circuit cooling. A distinction is made between an open cooling system and a closed cooling system. With an open cooling system, the fluid to be pumped is used as the coolant. With a closed system (single-chamber or two-chamber system), cooling is performed by an external fluid, such as e.g. water-glycol or medical white oil, in a closed circuit.

Another main difference from the wet-installed submersible pump is that the dry-installed submersible pump is not installed in the fluid to be pumped. In terms of the technical construction, an intermediate base is required directly in the pumping station. The major advantages are the combination. On the one hand, this submersible pump offers all benefits of a dry-installed pump and, on the other hand, all benefits of a submersible pump, such as being overflow-proof.

As already mentioned, the pump is installed in a separate pump room. The pump is fastened to the inflow pipe unspectacularly via a pipe elbow.

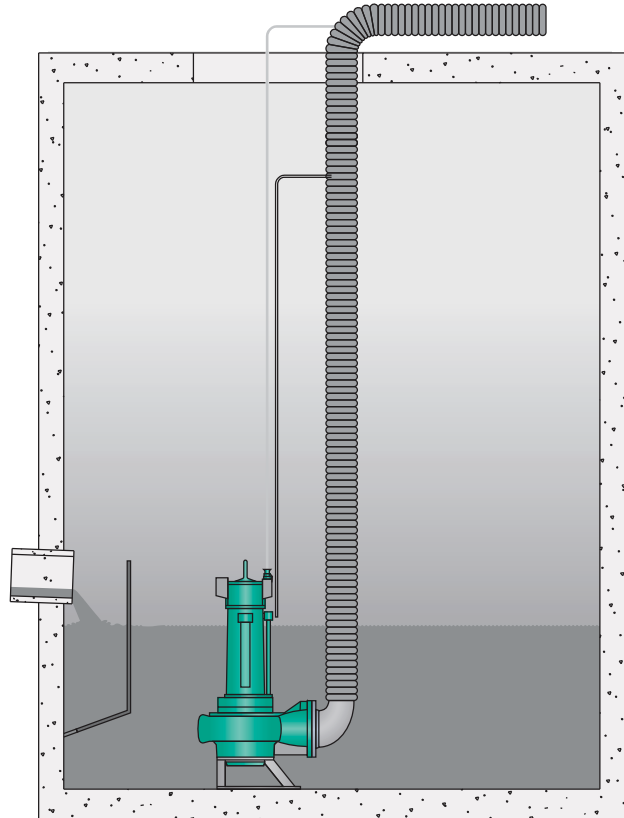


Advantages compared to dry-installed pumps (not submersible pumps)

- Overflow-proof and thus more operational reliability
- Low-maintenance carbide mechanical seals or seal cartridges

- No couplings or V-belts, thus fewer wearing parts and less maintenance required
- Ex protection possible at all times
- Clean and hygienic working conditions
- Easy to maintain

Portable installation



With this type of installation, the motor is cooled in the same way as for stationary wet well installation. However, the pump is not fastened firmly in the pump by means of a suspension unit. The pump can thus be installed in any sump via a base component on the pump housing. With the right couplings, hoses of appropriate length can be installed on the pressure port. When selecting the pump, hydraulic conditions, such as volume flow and delivery head as well as the pump's NPSH, must also be taken into account.

Portable pumps are frequently used for municipal applications as emergency drainage or residual drainage pumps.

Pumped fluids and impeller shapes

Impeller shapes and properties

To ensure the fluid can be pumped reliably, the correct impeller must be used for the corresponding fluid. Each impeller shape has its advantages and disadvantages here. The following impeller shapes are currently used in our hydraulics:

- Single-vane impeller (single-channel impeller)
- Multi-vane impeller with 2, 3 or 4 channels (multi-channel impeller)
- Vortex impeller
- SOLID impeller
- Propeller impeller (axial impeller)

Single-channel and multi-channel impellers and the SOLID impellers are available in a closed and half open design. It should be noted here that the efficiency of the half open design is generally lower than that of the closed design.

In addition to the shape of the impeller the level of process reliability is also dependent on the nominal diameter of the hydraulics. Vortex impellers tend to be used for small nominal diameters (DN 50...150). Multi-channel impellers, on the other hand, tend to be used for large nominal diameters (DN 200...600).

Furthermore, there are hydraulics which are also equipped with a cutting device or a mechanical stirring apparatus.

The additional cutting device breaks up the admixtures in the fluid, thereby facilitating the pumping process. The cutting device is installed internally or externally depending on the hydraulics selected, and it is combined with a half open single-channel impeller or a half open multi-channel impeller.

When using the additional mechanical stirring apparatus, the suction area is continuously stirred up. This prevents settlement of the solid material and the resulting encrustation. Due to the narrowly limited flow zone of the mixer head only the suction area of the pump is affected. The mechanical stirring apparatus is mostly used in combination with a vortex impeller.

When using the hydraulics, the following points must be observed:

- The fluid can exhibit a max. dry matter content (DM) of 8%.
- The fluid must flow independently of the hydraulics.
- The friction losses in the discharge pipeline and the specific weight of the fluid must be taken into account in the calculations.
- The motor power is to be designed with an adequate reserve for the current operating conditions.

Vortex impeller



Recommended nominal diameters: DN 50 to DN 150

Properties:

- Very low-clogging, as it is insensitive to fluids containing fibres and textiles
- Very smooth operation
- High wear-resistance
- Lower efficiency
- Suitable for pumping gaseous fluids
- Pumping sludge

Fields of application:

- Untreated sewage
- Activated sludge
- Raw and digested sludge

- Mixed water
- Fluids with problematic constituents and wearing constituents

Single-vane impeller (single-channel impeller)



Design: closed and half open

Recommended nominal diameters: DN 50 to DN 250

Properties:

- Low-clogging
- Smooth operation
- Wear-resistant
- Steep pump curve
- Good efficiency
- Pumping sludge

Fields of application:

- Untreated sewage
- Circulation and heating sludge
- Mixed water
- Raw and digested sludge
- Activated sludge

Double-vane impeller (two-channel impeller)



Design: closed

Recommended nominal diameters: DN 150 to DN 400

Properties:

- Low-clogging (depending on nominal diameter and fluid)
- Very smooth operation
- Wear-resistant
- Steep pump curve
- Good efficiency
- Pumping sludge

Fields of application:

- Rake-cleaned sewage
- Mechanically treated sewage
- Industrial waste water
- Landfill water
- Activated sludge
- Industrial sewage

Three and four-vane impeller (multi-channel impeller)



Design: closed

Recommended nominal diameters: DN 200 to DN 600

Properties:

- Low-clogging (depending on nominal diameter and fluid)

Pumped fluids and impeller shapes

- Very smooth operation

- Steep pump curve

- Very good efficiency

Fields of application:

- Rake-cleaned sewage
- Mechanically treated sewage
- Industrial waste water
- Landfill water
- Activated sludge
- Industrial sewage

SOLID impeller



Design: closed and half open

Recommended nominal diameters:

- Closed design: DN 150 to DN 400
- Half open design: DN 80 to DN 150

Properties:

- Closed design
 - Very low-clogging (depending on nominal diameter and flow rate)
 - Very smooth operation
 - Wear-resistant
 - Good efficiency
 - Pumping of gaseous fluids
 - Pumping sludge
- Half open design
 - Hardly any clogging
 - Lower efficiency than the closed design
 - Pumping of gaseous fluids
 - Pumping sludge

Fields of application:

- Untreated sewage
- Industrial waste water
- Landfill water
- Activated sludge
- Industrial sewage

Propeller impeller (axial impeller)



Possible pipe diameters: 340 mm, 500 mm and 760 mm

Properties:

- Very smooth operation
 - Very steep pump curve
 - Very good efficiency
- ### Fields of application:
- Fluids with small amounts of dirt
 - Rainwater
 - Return activated sludge
 - Circulation of activated sludge
 - Water drawing units, etc.

Cutting device



Design: internal and external

Recommended nominal diameter: DN 32 to DN 40

The properties are dependent on the impeller shape used.

Fields of application:

- Domestic sewage
- Wastewater
- Faeces
- Suitable for low-pressure drainage

Vortex impeller with mechanical stirring apparatus (mixer head)



Design: external

Recommended nominal diameter: DN 80 to DN 150

Properties:

- High wear-resistance
- Lower efficiency
- Pumping of gaseous fluids

Fields of application:

- In the grit chamber
- Sand and gravel systems
- Sludge settling ponds
- Sedimentation tanks
- Wherever deposits are possible

Pumped fluids and impeller shapes

Summary of impeller properties

Impeller properties						
Impeller shape	No clogging	Wear resistance	Efficiency	Smooth operation	Pumping of bubble-containing fluids	Sludge pumping
Vortex impeller	+++	+++	0	+++	+	+
Single-vane impeller	++	++	++	+	-	+
Double-vane impeller	+	++	++	++	0	+
Three and four-vane impeller	+	+	+++	++	0	0
SOLID impeller (closed)	+++	++	++	+++	+	+
SOLID impeller (half open)	+++	+	+	+	+	+
Propeller	-	0	+++	++	0	-

+++ = optimum; ++ = very good; + = good; 0 = limited; - = unfavourable

Basic electric principles

Starting current

This is the current which is required during the start-up operation of a machine to overcome friction losses and starting torques. The starting current can be up to seven times that of the nominal current, depending on the type of start-up. When there is instability in the electric mains or for larger motors, corresponding devices must be provided to reduce the starting current. These could be soft starters, frequency converters, etc. A reduction of the starting current can already be achieved by a motor circuit version in the star delta.

Operating modes (in acc. with DIN EN 60034-1)

Our motors are generally designed for permanent operation (operating mode S1) in immersed state. For operation with non-immersed motor (e.g. dry well installation or non-immersed in the sump), the motors can be used for permanent operation (operating modes S1), short-term operation (operating mode S2) or intermittent operation (operating mode S3), depending on the design.

The maximum operating times in short-term and intermittent operation are defined by the information in the operating mode, e.g. S2-15 min or S3 25%.

You can find more information on the individual operating modes in the separate chapter: "Operating modes". You can find exact information on the possible operating modes of the products on the corresponding product pages in the technical data.

Individual run signal

Indicates the fault of the individual pump and provides an exact evaluation method for building management systems.

Explosion protection

The operator is responsible for marking the explosion zones in the operating area. The explosion zones are clearly defined in the respective standards. Products to be used in explosive environments must be checked and approved by an external body. The Wilo units are certified for these applications according to three different standards:

- ATEX: European explosion protection standard
- FM: American explosion protection standard
- CSA: Canadian explosion protection standard

More information on the individual explosion protection standards and the corresponding classification is to be found in the chapter: "Explosion protection".

Ex-rated cut-off relay

With ex-rated cut-off relays, float switches can also be used in potentially explosive environments. These relays reduce the flowing current to a magnitude which doesn't cause sparks, even in the event of an error, which would cause the fluid or its surroundings to ignite.

Motor protection

To operate a motor safely, it must be protected from heating up too much. Unacceptable motor overheating can be caused by a fault that increases the motor current:

- Overload
- Phase failure
- Undervoltage
- Blocking

These faults can be detected by a motor protection relay or a motor protection switch, which then shut down the motor. Motor protection relays and motor protection switches may not be adjusted to a current higher than the motor's rated current.

Motor protection relay

Principle of operation:

Thermal protection is provided by bimetal strips that are heated up by heating windings through which the motor current flows. A separate bimetal strip with corresponding heating winding is provided for each electrical conductor to the motor. If the current consumption of just one winding of the motor exceeds the specified value for several seconds, the bimetal, which is deformed by the heat, triggers the switch lock and switches the motor contactor off. The motor is also shut down after a short while in the event of a phase failure of the motor (uneven heating of the bimetal strips). In the event of thermal triggering, the switch can only be turned back on again once the bimetals have cooled down. Motor protection relays do not shut the motor down directly. Their contacts have only a relatively small switching capacity. This contact is used to activate a contactor that shuts the motor down in the event of a fault. Unlike the motor protection switch, a motor protection relay does not have a short-circuit trigger. That is why fuses should be installed in the supply line for one or more motors that are protected with a motor protection relay. Furthermore, with motor protection relays, restarting can be set manually or automatically. Restarting should be performed manually, to prevent constant activation and deactivation if there is a fault.

Motor protection switch

Motor protection switches can be used to switch the operation of motors on and off. Thermal triggering works according to the principle of the motor protection relay. However, the operator is able to shut down the motor during operation or in the event of a fault. Furthermore, most motor protection switches also have a magnetic fast trigger mechanism that protects the line downstream and the motor from short-circuits. In small current ranges, these switches are short-circuit proof, i.e. a back-up fuse is not necessarily required.

Other faults that may result in an increase in heat:

- Dry running of motors that may only be operated in submerged state
- Unacceptably high fluid temperature / ambient temperature
- Impermissible running times during short-term operation

These faults do not have any effect on the motor's current consumption and can therefore not be detected by the overload protection connected upstream. For these types of faults, monitoring devices are used that are embedded in the component to be protected (motor winding). You can find more information on the possible monitoring devices in the chapter: "Motors".

Protective measures (DIN VDE 0100-410)

Protection classes: (DIN EN 50529 / VDE 0470 Part 1)

The degree of protection that a housing offers e.g. against direct contact is defined by the IP code (International Protection). It consists of "IP" and two digits (e.g. IP 54).

First figure:

- Protection of persons against access to hazardous parts
- Protection of the equipment against the ingress of solid foreign matter

Second figure:

- Protection of the equipment against the ingress of water

Basic electric principles

Code figure	First figure		Second figure
	Protection against contact	Protection against foreign matter	Protection against water
0	No protection	No protection	No protection
1	Protection against contact with the back of the hand	Protection against solid foreign matter with a diameter of 50 mm	Protection against water dripping vertically
2	Protection against contact with fingers	Protection against solid foreign matter with a diameter of 12.5 mm	Protection against water dripping at an angle (15°)
3	Protection against contact with tools	Protection against solid foreign matter with a diameter of 2.5 mm	Protection against sprayed water at an angle of up to 60°
4	Protection against contact with a wire	Protection against solid foreign body with a diameter of 1.0 mm	Protection against water splashing from any direction
5	Protection against contact with a wire	Dust protection	Protection against jets of water
6	Protection against contact with a wire	Dust-proof	Protection against strong jets of water
7	-	-	Protection against temporary submer- sion in water
8	-	-	Protection against permanent submer- sion in water

Operating modes

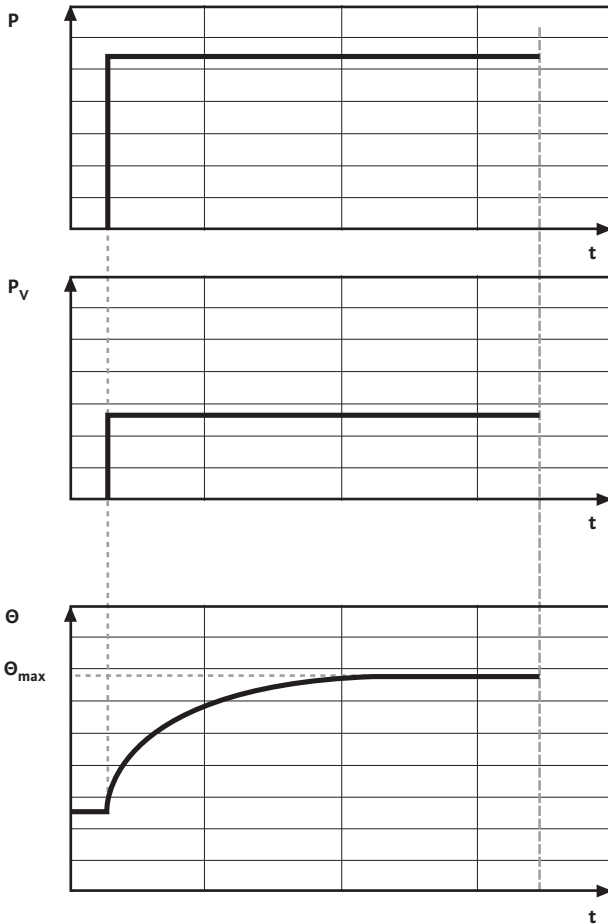
The operating mode defines the permissible motor activation period. Fundamentally, it is to be made sure that the installed temperature monitor of the motors is correctly connected. This ensures that the temperature classes of the windings are complied with if the operating time is exceeded or incorrect operating mode is used.

S1 permanent operation

Definition:

Operation at a constant load which is maintained until the machine is able to reach the thermal steady state.

The machine is designed such that the cooling under nominal conditions is sufficient. The operating mode provides no information about whether the machine is to be operated wet or dry, however. If no operating mode is specified on the rating plate of a machine, S1 permanent operation applies.



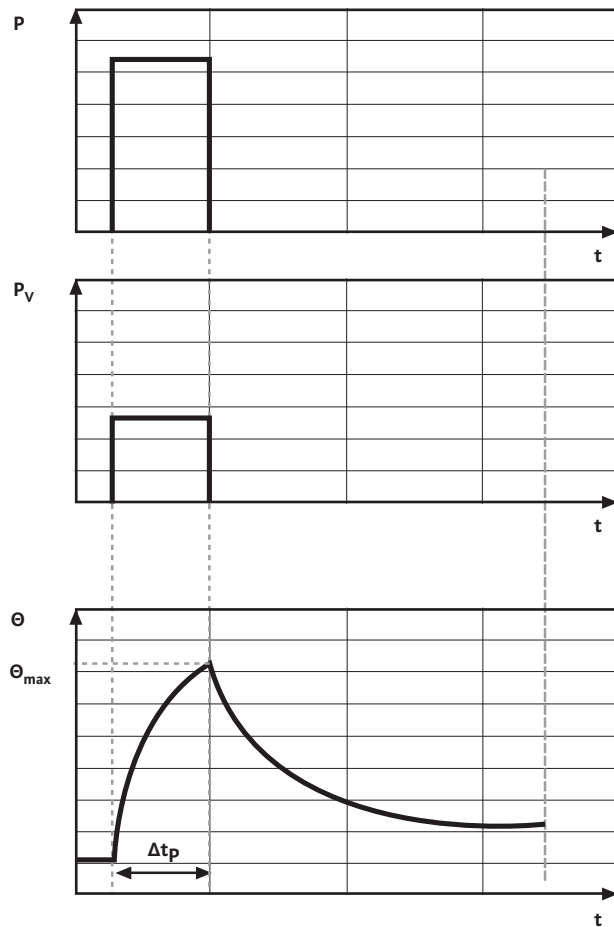
- P = load
- P_V = electrical losses
- Θ = temperature
- Θ_{max} = max. temperature
- t = time
- T_C = cycle duration
- Δt_p = operating time at constant load
- Δt_R = standstill time with no current in windings, relative activation period = $\Delta t_p / T_C$

S2 short-term operation

Definition:

Operation at a constant load, the duration of which is not sufficient to reach the thermal steady state, and a following time at a standstill, in which the machine temperatures, which have dropped again, only deviate from the coolant temperature by less than 2K.

The power dissipation of the machine is greater than that which can be conducted away via the coolant. For S2, the permissible operating time is always specified (e.g. S2 15 min). After this operating time, the machine must cool back down to the ambient temperature. This operating mode is mainly used with dry set-up machines.



- P = load
- P_V = electrical losses
- Θ = temperature
- Θ_{max} = max. temperature
- t = time
- T_C = cycle duration
- Δt_p = operating time at constant load
- Δt_R = standstill time with no current in windings, relative activation period = $\Delta t_p / T_C$

Operating modes

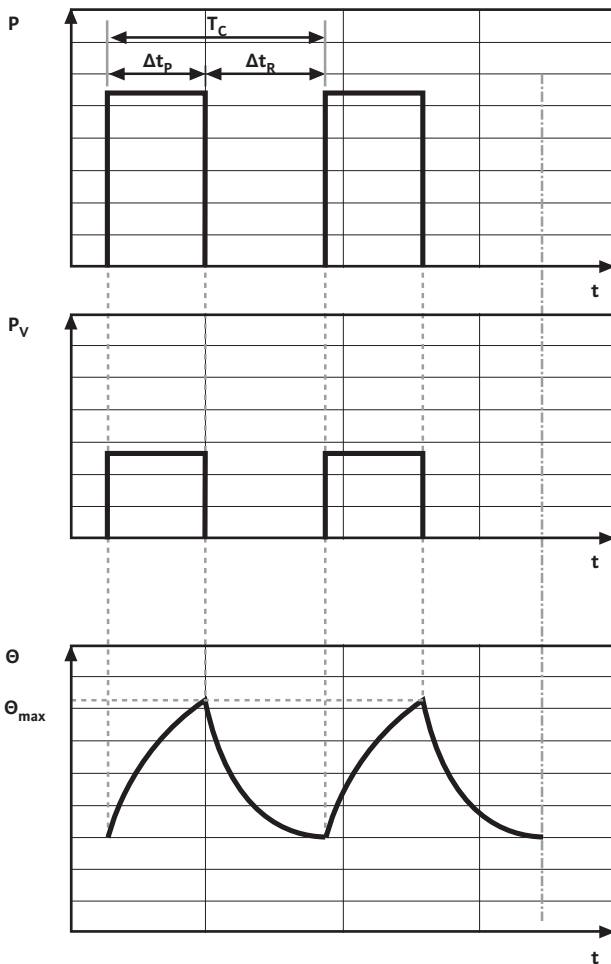
S3 intermittent operation without influence on the starting current

Definition:

Operation which is composed of a sequence of identical cycles, of which each one involves an operating time with a constant load and a standstill time, whereby the starting current has no noticeable effect on the excess temperature.

The power dissipation of the machine is greater than that which can be conducted away via the coolant. With operating mode S3, the cycle duration is specified in percent and the cycle time is also specified.

Example for S3 25% 10 min: The activation period is 2.5 min and the pause is 7.5 min. If no cycle duration is specified, a cycle duration of 10 min. is assumed.



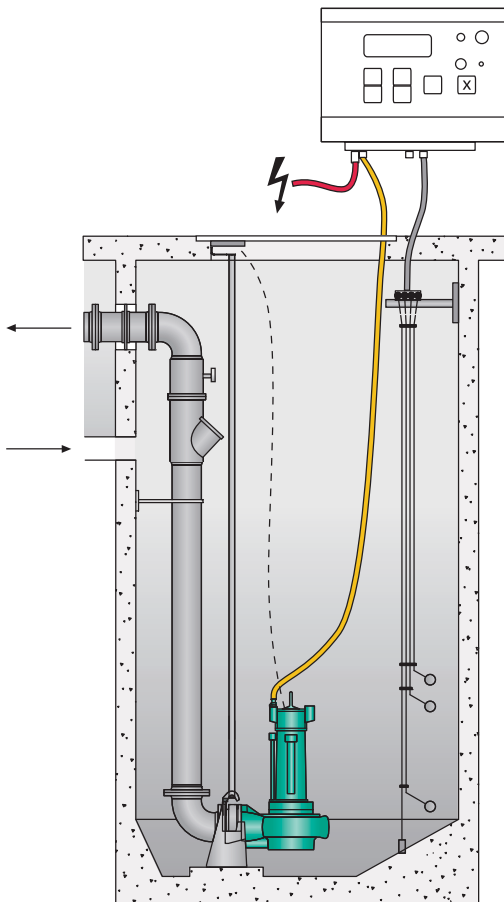
- P = load
- P_V = electrical losses
- Θ = temperature
- Θ_{max} = max. temperature
- t = time
- T_C = cycle duration
- Δt_p = operating time at constant load
- Δt_R = standstill time with no current in windings,
relative activation period = $\Delta t_p/T_C$

Level measuring systems

Level measurement systems are for measuring the water levels in tanks. Various systems are available, depending on the operating conditions.

Float switch

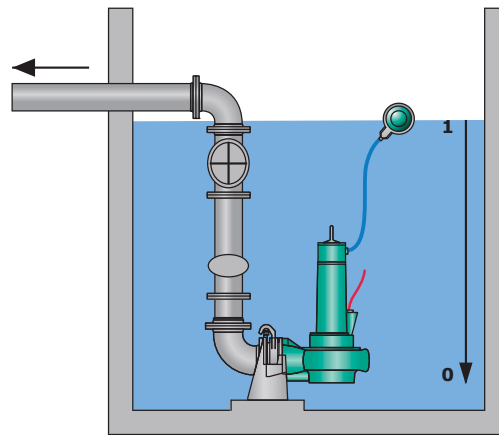
With this method, switching contacts are closed/opened in a float depending on the angle of inclination. In general, with float switches, it should be made sure that they can move freely in the sump. Furthermore, they can be used in the potentially explosive area if they are operated via a ex-rated cut-off relay (Ex-I).



Here, basically two different designs must be distinguished:

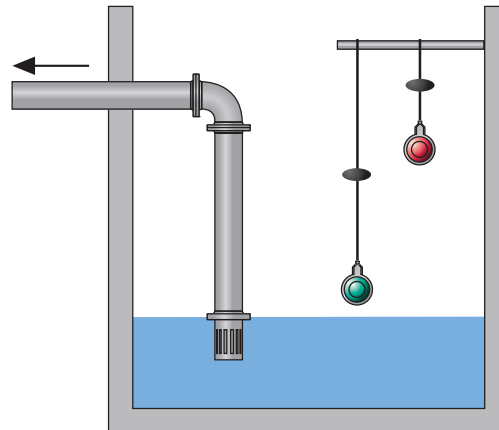
One-point float switch:

These floats are fixed very shortly on the cable and have a small difference between the activation and deactivation point. Some of these floats are also available in heavy versions which tilt around their centres of gravity. To avoid the pump constantly switching, at least two of these floats must be used for level control. They are better suited for the sewage area, however, due to their good floating behaviour.



Two-point float switch:

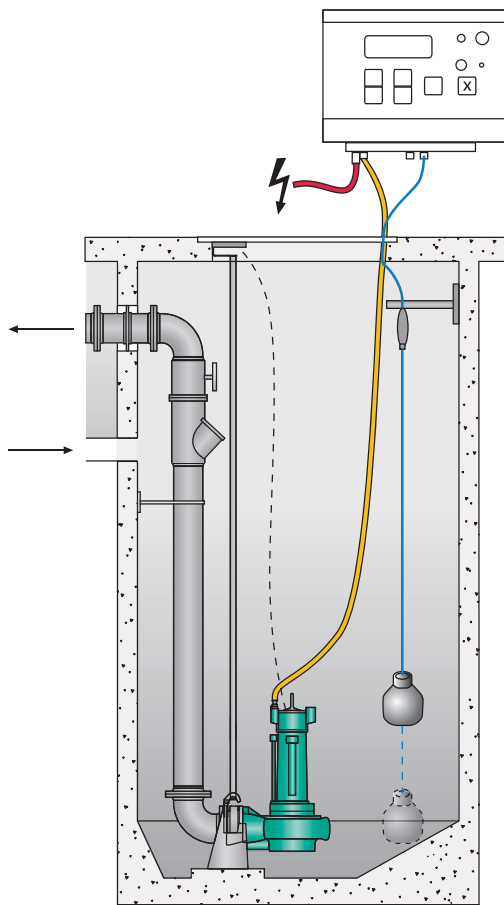
These float switches have a greater angle between the activation and deactivation points. They are fastened to their line. This way, it is possible to switch smaller differences with only one float switch, depending on the spanned line length.



Level measuring systems

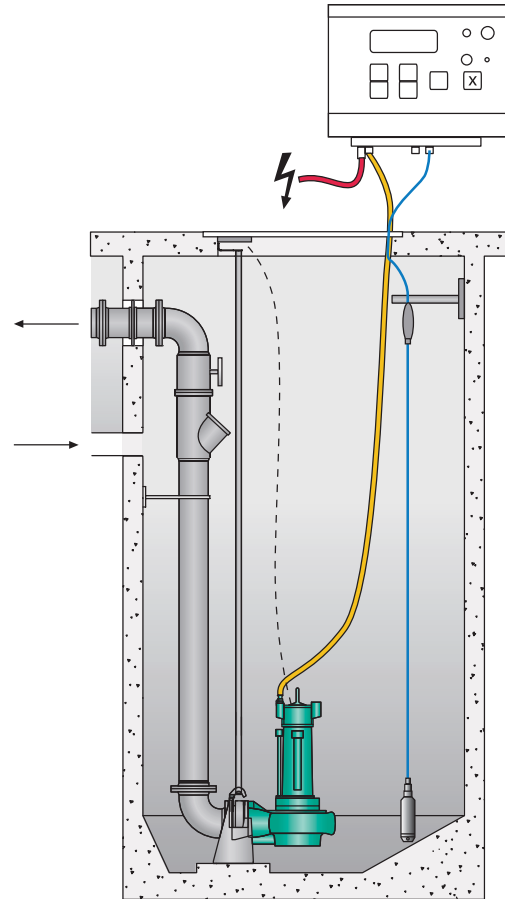
Dynamic pressure system (measurement of the hydrostatic pressure)

With this method, the pressure at the installation point is measured using a measuring bell/dynamic pressure bell. The filling height of the fluid generates a pressure, which is conducted to the evaluation device via a hose. In the evaluation device, the pressure is converted into an electric signal. Thus, a continuous filling level measurement is possible, where the switching points can be freely defined.



Pressure probe (electronic pressure transducer)

Similar to the back-pressure probes, the hydrostatic pressure at the installation point is measured here, too. Here, the pressure is directly converted into an electrical signal in the pressure transducer via a diaphragm.



A distinction is made between open systems and closed systems. The selection is made depending on the field of application and type of fluid. Use in the potentially explosive area is possible.

Open system:

For this variant, the bell is open toward the fluid. Every time after pumping out, the bell must emerge to vent the system. "Off" after a certain time. Another way of venting the system is to connect it to a small compressor (bubbling-through system), which vents the system constantly or periodically. "Off" depending on the water level.

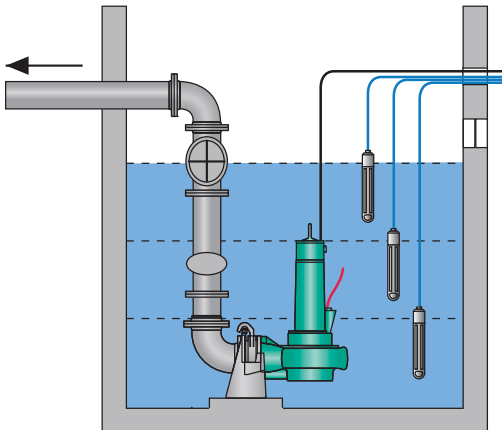
Closed system:

With this variant, the air cushion in the bell is separated from the fluid by a diaphragm. The system is then suitable for severely contaminated fluids. Leaks/air loss in the system lead to measurement errors or to system failure.

Level measuring systems

Conductivity (conductive measurement method)

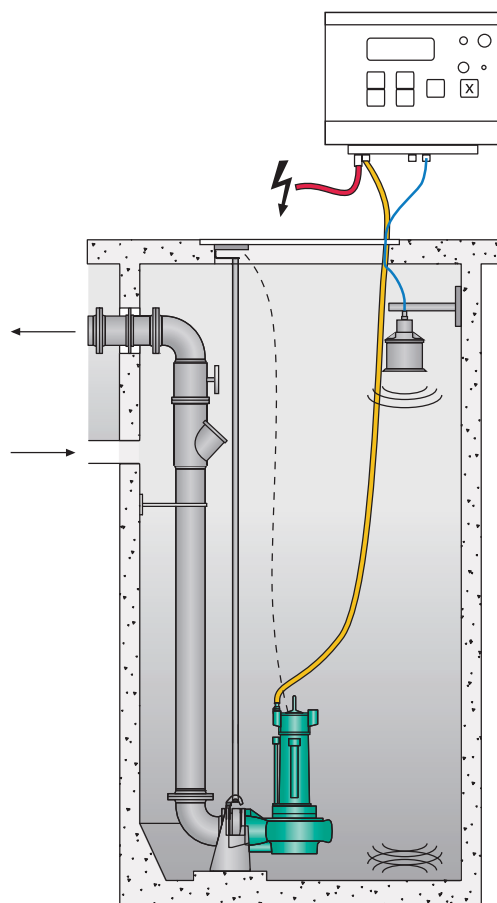
Here, the submersible electrodes are connected to an evaluation relay. The relay detects whether fluid is present or not based on the resistance. The reaction resistance can be set on most relays. This way, simple level control devices for filling or emptying can be realized. The dry-running protection application is also very common. Not suitable for sewage pump stations.



Ultrasound

The measurement with ultrasound is based on a running time measurement. The ultrasound pulses emitted by a sensor are reflected by the surface of the fluid and measured by the sensor. The required running time is a measure for the path traveled in the empty tank. This value is subtracted from the total tank height and one can get the filling level from this.

The advantage of this method is that, independent of the fluid, the filling level can be measured in a tank with no contact. During installation, make sure that the measuring cone emitted by the sensor is free of obstacles. Also, make sure a minimum distance is kept to the tank wall.



Explosion protection

For applications in explosive environments, the products must be checked accordingly by a certified body and approved. For these applications, the Wilo units are certified according to three different standards:

- The European ATEX standard
- The American FM standard
- The Canadian CSA standard

The three different standards are described briefly below, including what you need to observe for applications in explosive environments.

For the standard according to which the individual series are checked and approved, please refer to the technical data on the corresponding product pages. The explosion classification and the approval number are to be found on the rating plate or in the installation and operating instructions.

ATEX standard

The units are designed according to "EC directive 94/09/EC" (ATEX 95) and the European standards DIN EN 60079-0 and EN 60079-1. They may be operated in potentially explosive environments which require electrical devices of device group II, category 2.

Therefore, they may be used in zone 1 and zone 2. These units may not be used in zone 0.

The explosion classification, e.g. II 2 G Ex d IIB T4, defines the following:

II	Device group II Meaning: intended for potentially explosive locations except for mines
2	Category
G	Substance group Meaning: gases
Ex	explosion-protected device in acc. with European standard
d	Motor housing ignition protection class Meaning: pressure-resistant encapsulation
e	Terminal ignition protection class Meaning: Increased safety
IIB	Explosion group Meaning: for use in combination with gases of sub-category B, all gases apart from H ₂ , C ₂ H ₂ , CS ₂
T4	Temperature class Meaning: the maximum device surface temperature is 135 °C
GB	Device protection level "B"

FM standard

The units are certified and approved by the certified testing and licensing authority "FM Approvals" according to standards FM 3600, 3615, 3615.80 and ANSI/UL-1004. They may be operated in potentially explosive areas which require electrical devices of protection class "Explosion-proof, Class 1, Division 1". Therefore, operation in areas with the required protection class "Explosion-proof, Class 1, Division 2" according to the FM standard is also possible.

The explosion classification defines the following:

Class 1	Division 1; Groups C, D Meaning: gases, vapours, mists; explosive environment present constantly or occasionally during normal conditions; gas groups: ethylene (C), propane (D)
Class 2	Division 1; Groups E, F, G Meaning: dusts; Explosive environment present constantly or occasionally during normal conditions; Dust groups: Metal (E), carbon (F), corn (G)
Class 3	Meaning: fibres and lint
T3C	Temperature class Meaning: maximum machine surface temperature is 160 °C

CSA standard

The units are certified by the certified testing and licensing authority "KEMA" (European registration office for CSA) in accordance with the current standards. The units are approved according to the zone and class system.

Approval according to zones

They may be operated in potentially explosive areas which require electrical devices of protection class "Explosion-proof, Class 1, Zone 1". Therefore, operation in areas with the required protection class "Explosion-proof, Class 1, Zone 2" is also possible.

The explosion classification, e.g. Ex d IIB T4 Gb, defines the following:

Ex	Ex-protected device in accordance with IEC standard
D	Motor housing ignition protection class Meaning: pressure-resistant encapsulation
IIB	Explosion group Meaning: for use in combination with gases of sub-category B, all gases apart from H ₂ , C ₂ H ₂ , CS ₂
T4	Temperature class Meaning: maximum device surface temperature is 135 °C
GB	Device protection level "B"

Approval according to classes

They may be operated in potentially explosive areas, which require electrical devices of protection class "Explosion-proof, Class 1, Division 1". Therefore, operation in areas with the required protection class "Explosion-proof, Class 1, Division 2" is also possible:

The explosion classification defines the following:

Class 1	Division 1; Groups C, D Meaning: gases, vapours, mists; explosive environment present constantly or occasionally during normal conditions; gas groups: ethylene (C), propane (D)
T3C	Temperature class Meaning: maximum machine surface temperature is 160 °C

Temperature monitoring

Standard explosion-certified motors must be equipped with a temperature monitoring option. This monitoring can take place using bimetal strip sensors or PTC sensors.

The standard temperature monitoring unit is always designed as a 1-circuit monitoring unit, i.e. when the maximum winding temperature is reached, the motor must be switched off!

Explosion protection

The temperature monitoring unit can be designed as an optional 2-circuit monitoring unit, i.e. when the lower temperature is reached, a preliminary warning is emitted. Deactivation is only necessary if the maximum winding temperature is reached.

The temperature monitoring unit must be connected in such a way that when the maximum winding temperature is reached, the motor is deactivated and reactivation is only possible if the release button was actuated manually.

When the lower temperature is reached (2-circuit monitoring), a preliminary warning is possible or deactivation with automatic reactivation.

Non-immersion of the motor in the sump or dry well installation of dry motors

These motors may only be non-immersed or dry well installed if there is a 2-circuit temperature monitoring unit!

Frequency converter operation

For operation on a frequency converter, it must be ensured that the internal winding temperature monitoring unit (bimetal strip sensor or PTC sensor) can be connected.

Sealing chamber control

The units can be equipped with external sealing chamber monitoring, which can also be retrofitted. If the unit is equipped with external sealing chamber control, it must be connected to an intrinsically-safe electric circuit.

Definition of the explosion zones

The explosion zones are clearly defined in the respective standards. Marking the zones in the operating range of the units must be done by the operator. When ordering, please state which explosion standard you are using and in which zone you would like to operate the unit.

Materials

Abrasite

Special material for pump housings and impellers. This is a high-alloy, extremely wear-resistant cast material. The material has a martensitic basic structure with a high chromium and mixed carbide content. It provides an especially high degree of wear resistance against sewage, which has a high concentration of abrasive particles (such as wastewater with a high proportion of sand, for example). Lab tests show that "Abrasive" provides a seven times longer pump service life for abrasive materials compared to normal cast materials.

Concrete

Material for creating sumps in accordance with DIN 4034-1. The concrete quality used by Wilo complies with DIN EN 206 (formerly DIN 1045). The exact designation is B45WU with a maximum water penetration depth of 30 mm as specified in the standard. The following are aggressive toward concrete: Fluids with pH values < 6.5, sulphuric acid, hydrochloric acid, butanoic acid and lactic acid, sulphates, salts, animal and mineral fats and oils.

Ceram

Ceram coating provides modern corrosion and abrasion protection. It is based on aluminium oxide particles enclosed in a polymer matrix. Its structure is based on the diamond model and combines two important properties: there are no predetermined breaking points and the adhesion is very high. The coating is available in five different qualities: C0, C1, C2, C3 and CT. For use in highly abrasive fluids, the coatings C1 to C3 can also be combined in order to establish an even higher degree of protection.

Duplex steel (1.4517, 1.4460, 1.4462)

Its microstructure consists of a ferritic matrix, in which austenitic inclusions are embedded. The ferrite/austenite ratio is normally 50:50. This duplex microstructure combines the beneficial properties of rustproof ferritic and austenitic materials. It has good mechanical properties and a significantly higher resistance to corrosion. The duplex steel 1.4460 and 1.4462 and the cast stainless steel material 1.4517 are relatively widespread. Compared to chromium-nickel-molybdenum steel, these materials have a better general resistance to corrosion. In addition, they are much more resistant to pitting corrosion, contact corrosion and stress corrosion cracking and are to a large extent resistant to intercrystalline corrosion. Lab tests show that the duplex material 1.4517 provides a significantly longer pump service life for pumping abrasive fluids compared to normal cast materials (more exact data is available in the sand material speed recommendation table, MH07.2006).

Stainless steel 1.4301 - V2A (AISI 304 - X5CrNi18-10)

V2A comes from the Thyssen Krupp definition (test series 2, type Austenite) for a chrome-nickel steel. This is the steel standard which is generally available in the pump industry, combining good strength properties with good temperature resistance. The material is also highly resistant to organic solutions.

Stainless steel 1.4404 - V4A (AISI 316L - X2CrNiMo17-12-3)

V4A comes from the Thyssen Krupp definition (test series 4, type Austenite) and refers to a high-alloy rustproof steel (as compared to 1.4301) with a molybdenum content, which can sometimes also be used in seawater. High strength and high elasticity are the features which make stainless steel superior to grey cast iron.

Grey cast iron

Grey cast iron is the standard material used in pump construction. For many years now, most units are made of grey cast iron. The benefits of grey cast iron are mainly its price and robustness. In the field of submersible pumps, the cast materials EN-GJL-250 and EN-GJS-500-7 are primarily used.

PE-HD (high density polythene)

The most frequently used material in pipe construction for sewage pipes with very high chemical resistance and extremely low surface roughness for preventing deposits and flow losses. High impact resistance and ultimate strain with low influence of temperature are other advantages. The material PE100 is used increasingly in practice and is replacing PE80 and grey cast iron. Benefits, such as installing pipes during renovation work, offer a high cost-savings potential.

PP (polypropylene)

Resistance to extreme temperatures and chemicals and an extremely high stability (due to the high impact strength of the material) characterise this material.

PUR (polyurethane)

PUR is available in many variations. The outstanding advantages of Baydur GS, which is used by Wilo and has been proven in industrial applications, such as the high chemical resistance to diluted acids, alkaline solutions, motor oils, greases, benzines, etc. as well as the corrosion- and micro-resistance, are predestined for use in aggressive media. It is also characterised by its superior wear resistance, resistance to rotting, weather resistance, dimensional stability under heat and impact resistance at a much lower weight compared to metallic materials, such as grey cast iron. In a sand-slurry test conducted by Bayer, the wear resistance of PUR is about twice as high as that of cast iron under the same conditions.

PVC (polyvinyl chloride)

PE sumps are designed in accordance with DIN 19537-1 and offer great advantages compared to conventional concrete sumps, such as durability, flexibility, easy installation and reduced installation costs. It is a flame-resistant material, which equally combines mechanical strength and chemical resistance.

Material table for austenitic steels

DIN designation	US designation	Chemical symbol	European standard	American standard
Material number	AISI		EN	ASTM
1.4301	304	X5CrNi18-10	10088-3	A 167 /276
1.4401	316	X5CrNiMo17-12-2	10088-3	A 167 /276
1.4404	316 L	X2CrNiMo17-12-3	10088-3	A 167 /276
1.4571	316 Ti	X6CrNiMoTi17-12-2	10088-3	A 167 /276

Materials

Material table for duplex materials

DIN designation	US designation	Chemical symbol	European standard	American standard
Material number	AISI		EN	ASTM
1.457		G-X2CrNiMoCuN25-6-3-3	10213-4 / 10283	A 351 / 744 / 890 / 995
1.4460	329	X-3CrNiMoN27-5-2	10088-3-2005	S32900
1.4462	2205	X-2CrNiMoN22-5-3	10088-2-2005	S31803

“Drainage and sewage is something only for professionals: the Rexa pumps from Wilo.”

The Wilo solution for sewage transport.



Check also:
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For safe transport of sewage there are two reliable and future-proof professionals: the Rexa pumps with macerator from Wilo. The special advantage for you as a consultant: You can choose between a fixed and a variable design. The Wilo-RexaCut FIT with pre-defined components is the fast, compact solution. The Wilo-RexaCut PRO can be individually configured and is thus adaptable to special fields of application or customer requests.

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Wilo-RexaCut FIT



Wilo-RexaCut PRO

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