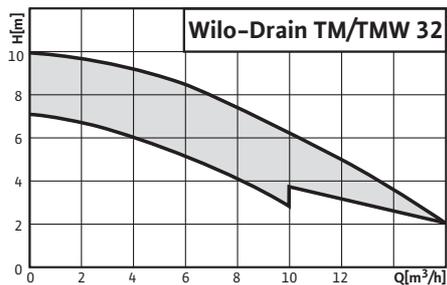


### Wilco-Drain Submersible Pumps

**Wilco-Drain TM/TMW 32**



**Duty chart (2-pole, 50 Hz)**

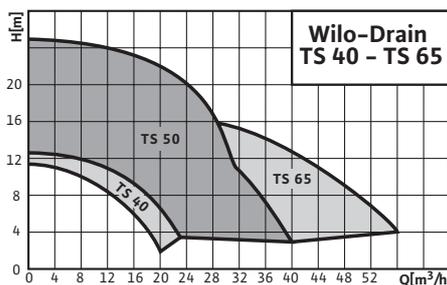


- Basement drainage pump
- Applications:  
Pumping clear or slightly soiled water from tanks, shafts or pits.

**Wilco-Drain TS 40, 40-12, 40-16, 50, 65**



**Duty chart (2-pole, 50 Hz)**

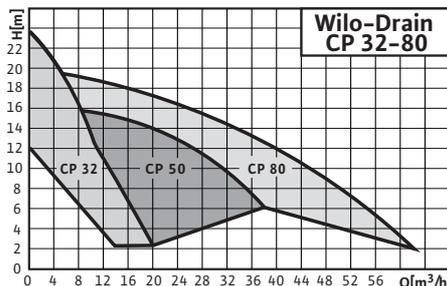


- Submersible wastewater pump
- Applications:  
Pumping wastewater containing solids with a max. diameter of 10 mm from  
– Building and surface drainage  
– Environmental protection and sewage farm technology  
– Industrial and process engineering

**Wilco-Drain CP**



**Duty chart (2-pole, 50 Hz)**



- Submersible wastewater pump
- Applications:  
Pumping wastewater containing solids with a max. diameter of 10 mm from  
– Excavation ditches, ponds and shafts  
– Flooded basements  
– Use in fountains

**Wilco-Drain LP 40**



**Duty chart (2-pole, 50 Hz)**

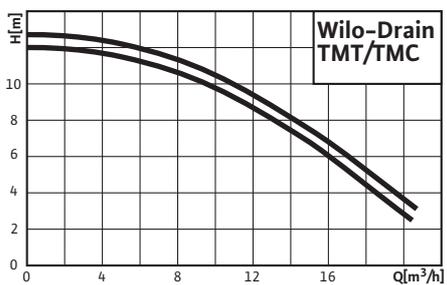


- Self-priming wastewater pump
- Applications:  
Pumping wastewater from  
– Excavation ditches and ponds  
– Spraying/irrigation of gardens and lawns  
– Mobile drainage

**Wilco-Drain TMT/TMC**



**Duty chart (2-pole, 50 Hz)**



- Wastewater pumps
- Applications:  
Industrial and municipal use, for example for condensate, hot water and aggressive media

### Wilo-Drain Submersible Pumps

#### Wilo-Drain TM/TMW 32

- Self-cleaning pump shaft
- Prevents odour build-up from fluids
- Easy to install
- High level of operating safety
- Simple to use

#### Wilo-Drain TS 40, 40-12, 40-16, 50, 65

- INOX & Composite
- Detachable power cable
- Wide range of performance levels

#### Wilo-Drain CP

- Long working life
- High level of operating safety
- Can be operated in "slurping" mode (simultaneous air and water intake)
- Suitable for continuous operation
- Easy to handle

#### Wilo-Drain LP 40

- High level of operating safety
- Sea water-resistant
- Easy to handle
- Simple to use

#### Wilo-Drain TMT/TMC

- High resistance to extreme temperatures
- Suitable even for aggressive media



## Wilco-Drain TM/TMW

Basement drainage pump

### Type key

Example: **Wilco-Drain TMW 32/8 HD**

<b>TM</b>	Submersible pump
<b>TMW</b>	Submersible pump with turbulator
<b>32</b>	Nominal diameter of delivery connection (DN 32)
<b>/8</b>	Max. delivery head (m)
<b>HD</b>	Suitable for handling abrasive pumping media

### Applications

#### TM 32

Pumping clear or slightly soiled water from tanks, shafts or pits with the pump installed vertically.

#### TMW 32

Submersible pumps that are used in pump sumps and exposed to soapy water from washing machines, washbasins and showers (for example) have a considerably shorter working life. The large amount of suspended matter contained in this water gradually accumulates in the pump shaft over time, leaving a slimy residue in the pump sump and in the pump itself.

To prevent this, regular sump cleaning is required, a procedure which is both time-consuming and expensive. Furthermore, the problem of sludge disposal and possible hygiene implications cannot be definitely evaluated at this stage. The **Wilco-Drain TMW 32 Twister** provides an ideal solution in this case.

### Design

This submersible pump is suitable for stationary, fully automatic operation. A sufficiently long hose is connected to the pump discharge port for mobile use, while a solid pipe is fitted for stationary use. A fault current safety switch (mandatory for outdoor installations) for a breaking current of 30 mA must be fitted by the customer, in accordance with EN 60335-2.41.

#### In addition, for TMW:

The design of the Wilco-Drain Twister ensures constant circulation in the pump suction area, thus ensuring that the pump sump is kept clean.

Due to the constant turbulence and the fact that this eliminates the suspended matter, odours from the materials handled are not allowed to build up. Maintenance intervals are extended.

When you deactivate the twister (see the installation and operating manual), the pump curve is increased by 1 m.

#### Motor

Forced-flow casing cooled, stainless steel-cased, dry electric motor with integrated thermal motor protection and automatic restart.

#### Cable

A 10 m permanently wired power cable is required for outdoor installations in Germany (VDE), but different regulations may apply in other countries.

#### Pump/Motor Seals

There is a mechanical seal on the impeller, a shaft seal on the motor and an oil chamber between both seals.

### Scope of delivery

A fully assembled pump with cable, plug and fitted float switch is provided, together with installation and operating manual.

### Pump Equipment/Function

		Wilco-Drain TM/TMW 32	Wilco-Drain TS 40	Wilco-Drain TS 50	Wilco-Drain TS 65	Wilco-Drain TS 40/12/16	Wilco-Drain CP 32/50/80
<b>Operating mode S3 (intermittent service)</b>							
Frequency switching/h [%]		25	25	25	25	25	–
Max. frequency switching/h		60	70	50	40	50	–
Recommended frequency switching/h		20	20	20	20	20	–
<b>Operating mode S1 (continuous service)</b>							
Motor below water		•	•	•	•	•	•
Motor above water		–	–	–	–	–	•
<b>Pump/motor seals</b>							
In pumping medium area:	Mechanical seal	•	•	•	•	•	•
On the motor compartment side:	Mechanical seal	–	–	–	–	–	•
	Shaft seal	•	•	•	•	•	–
Oil seal chamber		•	•	•	•	•	•
<b>Design</b>							
Wet sump installation	Stationary	•	•	•	•	•	•
	Portable	•	•	•	•	•	•
Submersible		•	•	•	•	•	•
Open multi-vane impeller		•	•	•	•	–	–
Closed multi-vane impeller		–	–	–	–	–	•
Free-flow impeller		–	–	–	–	•	(CP 32/23 and CP 80 only)
Turbulator		(TMW only)	–	–	–	–	–
<b>Materials</b>							
Motor	Cast aluminium	–	–	–	–	–	•
	Stainless steel	•	•	•	•	•	–
Pump	Plastic	•	•	•	•	•	–
	Cast iron	–	–	–	–	–	•
<b>Equipment</b>							
Motor monitor (temperature)		•	(3~400 V model only)	(3~400 V model only)	•	–	•
Explosion protection		–	–	(3~400 V model only)	•	–	–
Forced-flow casing cooling		•	–	–	–	–	(CP 80 only)
Pre-assembled		•	–	–	–	•	–
Power cable [m]		3 10 for: TM 32/8 and TMW 32/11HD	10	10	10	5	10
Detachable power cable		–	•	•	•	–	•
Attached float switch		–/•	optional	optional	–	•	–
Built-in check valve body		–	•	–	–	•	–
Capacitor box for 1~230 V		–	•	•	•	–	(CP 32/17only)
Hose connection		–	–	–	–	•	–

• = available, – = not available

	Wilco-Drain TM/TMW				Wilco-Drain TS					
	TM 32/8	TMW 32/8	TMW 32/11	TMW 32/11 HD	TS 40... H 90/5.5	TS 40... H 100/7.5	TS 50... H 111/11	TS 50... H 122/15	TS 50... H 133/22	TS 65... H 117/22
<b>Approved fluids</b>										
Washing machine soap and water mixture (without long-fibre particles)		•						•		
Water from car wash facilities		•						•		
Non-chlorinated pool water		•						•		
Water from firefighting systems		•						•		
Heating water (T <sub>max</sub> = 35 °C)		•						•		
Boiler feed water		•						•		
Condensate		–		•				•		
Cooling (condenser) water		•						•		
Clean water		•						•		
Untreated wastewater		•						–		
Drainage water		•						•		
Partially desalinated water		–		•				–		
Rainwater		•		•				•		
Swimming pool water		–		•				–		
Sea water		–		•				–		
Wastewater		•		•				•		
Aggressive media		–		•				–		
<b>Performance</b>										
Power consumption P <sub>1</sub> 1~230 V [kW]	0.5	0.45	0.75	0.75	1.0	1.3	1.5	–	–	–
Power consumption P <sub>1</sub> 3~400 V [kW]	–	–	–	–	1.0	1.1	1.5	2.0	2.9	2.9
Rated motor power P <sub>2</sub> [kW]	0.37	0.37	0.55	0.55	0.55	0.75	1.1	1.5	2.2	2.2
Rated current for 1~230 V [A]	2.2	2.1	3.6	3.6	4.0	5.5	7.7	–	–	–
Rated current for 3~400 V [A]	–	–	–	–	2.0	2.0	3.2	3.6	5.1	5.1
Speed [rpm]	2,900				2,900					
<b>Motor</b>										
Protection class for max. submersion depth	IP 68				IP 68					
Insulation class	F				F					
Frequency switching [per hour]	60				70		50		40	
<b>Pump</b>										
Max. noise level at min. level [dBA]	52	55	54	54	–					
Submersion depth, max. [m]	3				10					
Fluid temperature [°C]	3 – 35				3 – 35					
Fluid temperature, short periods up to 3 min [°C]	90				–					
Cable type	H07 RN-F	H05 RN-F		H07 RN-F	OZOFLEX (PLUS) H07 RN-F - Oil-resistant					
Cable length [m]	10	3	3	10	10	10	10	10	10	10
Cable cross-section 1~230 V [mm <sup>2</sup> ]	1	1	1	1	1	1	1	–	–	–
Cable cross-section 3~400 V [mm <sup>2</sup> ]	–	–	–	–	1	1	1	1.5	1.5	1.5
Plug	Schuko				Schuko/CE			–	–	–
Type of power cable	Fixed				Plug (detachable)					
Activation type	direct				direct					
Explosion protection (EEx d II B T4)	–	–	–	–	–	–	Three-phase current only	•	•	•
Free ball passage [mm]	10	10	10	10	10	10	10	10	10	10

### Technical Data

	Wilco-Drain TM/TMW				Wilco-Drain TS					
	TM 32/8	TMW 32/8	TMW 32/11	TMW 32/11 HD	TS 40... H 90/5.5	TS 40... H 100/7.5	TS 50... H 111/11	TS 50... H 122/15	TS 50... H 133/22	TS 65... H 117/22
<b>Dimensions</b>										
Discharge port [DN/Rp]	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	2	2	2	2 1/2
Hose connection [mm]	35	-	-	-	-	-	-	-	-	-
Weight [kg]	5.2	4.7	6.2	6.2	13.5	14.5	21	22	23	24
<b>Materials</b>										
Pump housing	PP-GF30				Polypropylene		Polyurethane			
Impeller	PP-GF30				Polypropylene					
Shaft	1.4021				C10/1.4404					
Shaft seal on motor side	NBR				NBR					
Motor housing	1.4301			1.4404	1.4301					

• = available or authorised, - = not available or not authorised

#### Note on Wilco-Drain TS:

Models

TS 40... H 90/5.5

TS 40... H 100/7.5

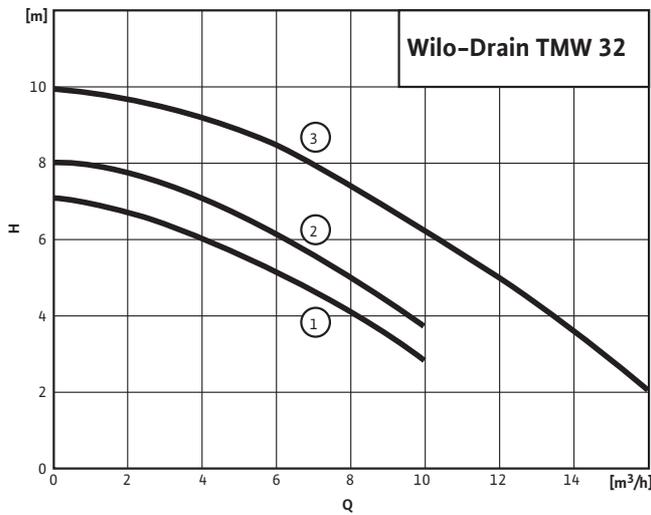
TS 50... H 111/11

also supplied as A model (without explosion protection, but including float switch and plug 1~230 V).

### Pump Curves, Dimension Drawings, Dimensions, Weights, Accessories

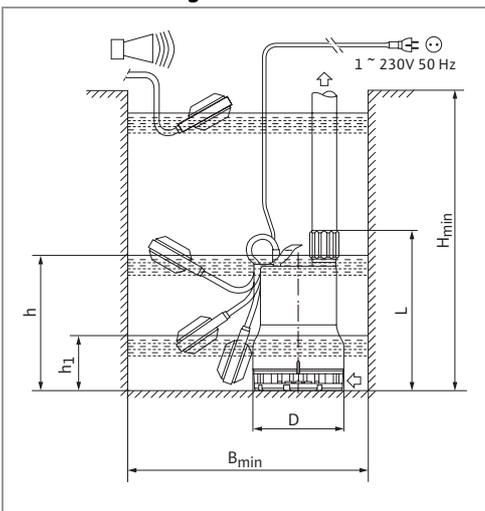
#### TM/TMW 32

2-pole, 50 Hz

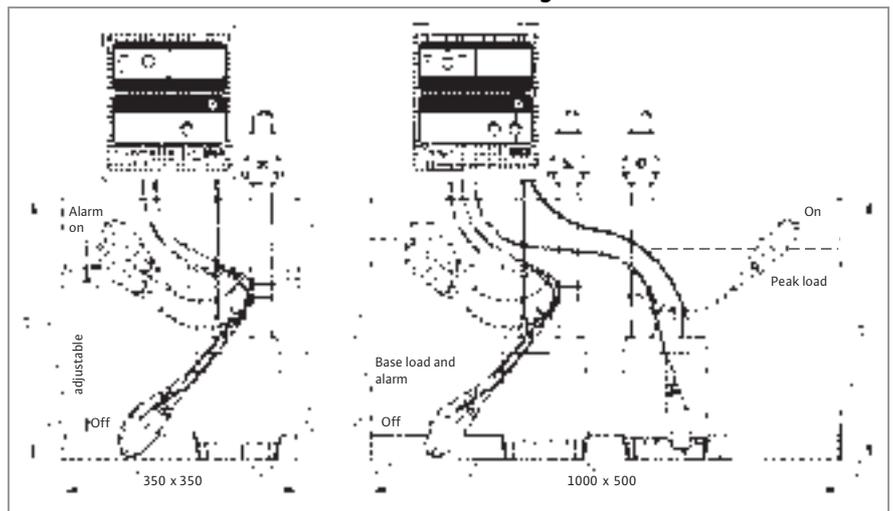


- 1 = TMW 32/8
- 2 = TM 32/8
- 3 = TMW 32/11

#### Dimension drawings



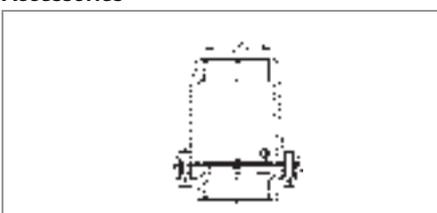
#### Installation schematics for installations with switchgears



#### Dimensions, weights

	Dis-charge port	Hose connection	Height of the connection	Pump diameter	Shaft dimensions, min.	Switch-on level ± 8 mm	Switch-off level ± 8 mm	Emptying level, min.	Weight
	-		L	D	H x B	-	h1	-	-
	Rp				[mm]				[kg]
TM 32/8	-	35	294	165	-	-	-	14	5.2
TMW 32/8	1 1/4	-	293	165	280x350	250	102	30	4.7
TMW 32/11	1 1/4	-	323	165	330x350	280	102	30	6.2
TMW 32/11 HD	1 1/4	-	323	165	330x350	280	102	30	6.2

#### Accessories



**Check valve body Rp 1 1/4**  
with drain plug, plastic, nominal pressure PN 4 bar

### Pump Equipment/Function

	ER1-A	SK 530	Drain Control PL1	Drain Control PL2	Drain Control 1	Drain Control 2	KAS
<b>Applications</b>							
Switchgear for controlling pumps	•	•	•	•	•	•	–
Alarm switchgear	–	–	–	–	–	–	•
Number of pumps to be controlled	1	2	1	2	1	2	–
<b>Electrical connection</b>							
Direct activation [A]	max.10 <sup>1)</sup>	max. 2x8	Max.12	max. 2x12	Max.10	max. 2x10	–
Star/delta connection	optional <sup>1)</sup>	–	–	–	> 10 A	> 10 A	–
<b>Design</b>							
Microprocessor-controlled	–	–	•	•	•	•	–
Electronic	•	•	–	–	–	–	•
<b>Housing material</b>							
Plastic	•	•	•	•	•	•	•
Metal	optional	–	–	–	–	–	–
<b>Equipment</b>							
Test run	•	–	•	•	–	–	–
Pump start counter/impulse counter	–	–	•	•	–	–	–
LCD display	–	–	•	•	•	•	–
LED/indicator lamp	•	•	•	•	•	•	–
Main switch	•	–	optional	optional	•	•	–
Ampere meter	optional upon requ.	–	•	•	• <sup>2)</sup>	• <sup>2)</sup>	–
Volt meter	optional upon requ.	–	–	–	–	–	–
Adjustable delay time	•	–	•	•	•	•	–
Operating hours counter	optional upon requ.	–	•	•	•	•	–
Level detection	Float switch	• <sup>3)</sup>	• <sup>3)</sup>	• <sup>3)</sup>	• <sup>3)</sup>	• <sup>3)</sup>	–
	Pneumatic pressure sensor	–	–	•	•	–	–
	Level sensor (4–20 mA)	–	–	• <sup>4)</sup>	• <sup>4)</sup>	• <sup>4)</sup>	• <sup>4)</sup>
	Electrodes	–	–	–	–	–	•
Alarm	Mains-operated	•	•	•	•	•	–
	Built-in (buzzer)	–	–	•	•	–	•
Pump Duty Cycling	–	•	–	•	–	•	–
<b>Message/display function</b>							
Collective run signal	•	•	–	–	–	–	–
Collective fault signal	•	•	•	•	•	•	–
Individual run signal	–	optional	–	–	•	•	–
Individual fault signal	–	optional	–	•	–	–	–
<b>Control functions (motor monitor)</b>							
Thermal winding contacts (WSK)	•	•	•	•	•	•	–
PTC	•	–	–	–	•	•	–
Leakage (DI)	–	–	–	–	•	•	–
Electronic	•	•	•	•	(up to 10 A)	(up to 10 A)	–
Protective motor switch	–	–	optional	optional	(>10 A)	(>10 A)	–
<b>Scope of delivery</b>							
Float switch	•	•	–	–	–	–	–
Signal horn	•	•	–	–	–	–	–

• = available, – = not available

<sup>1)</sup> For other motor power ratings upon request

<sup>2)</sup> For direct activation units only (up to 4 kW)

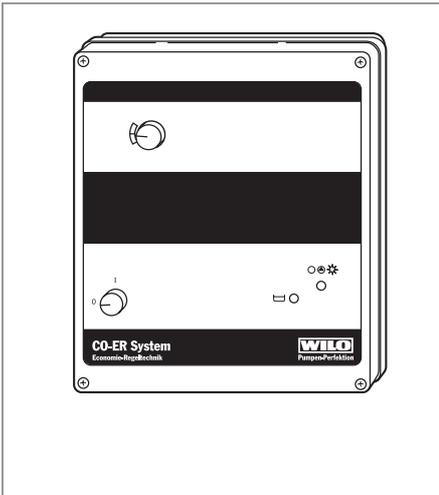
<sup>3)</sup> In potentially explosive areas only with Ex isolating relay

<sup>4)</sup> In potentially explosive areas only with Zener barrier

Pump Equipment/Function							
	Drain-Alarm2	Motor protection plug CEE	Isolation relay for explosion protection	Zener barrier	Flashing light	Signal horn	SK 545
<b>Applications</b>							
Switchgear for controlling pumps	–	•	–	–	–	–	–
Alarm switchgear	•	–	–	–	–	–	–
Number of pumps to be controlled	–	1	–	–	–	–	2
<b>Electrical connection</b>							
Direct activation	–	•	–	–	–	–	– External power pack
Star/delta connection	–	–	–	–	–	–	– External power pack
<b>Design</b>							
Electronic	•	–	•	•	•	–	•
Electromechanical	–	•	–	–	–	•	–
<b>Housing material</b>							
Plastic	•	•	•	•	•	•	•
<b>Equipment</b>							
LED/indicator lamp	•	•	•	–	–	–	•
Level detection	Float switch	•	•	–	–	–	–
	Level sensor (4–20 mA)	–	–	–	•	–	–
Alarm	Battery-operated	•	–	–	–	–	–
	Mains-operated	•	–	–	–	–	–
	Built-in (buzzer)	•	–	–	–	–	–
<b>Message/display function</b>							
Individual fault signal	•	–	–	–	–	–	–
<b>Control functions (motor monitor)</b>							
Thermal winding contacts (WSK)	–	•	–	–	–	–	•
Leakage (DI)	–	–	–	–	–	–	•
Protective motor switch	–	•	–	–	–	–	–

• = available, – = not available

### Description of Accessories



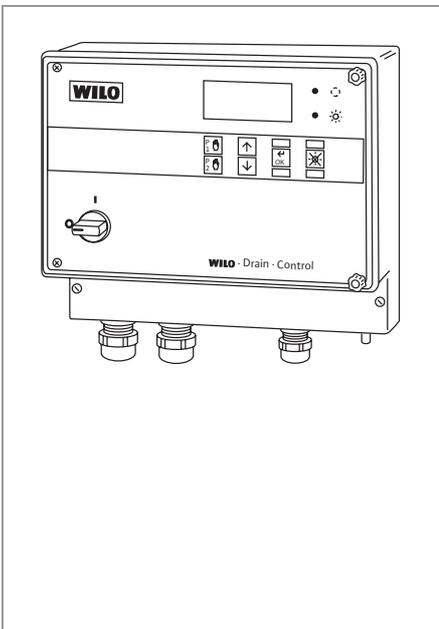
#### Wilo ER 1-A and Wilo SK 530 switchgears

For automatic transmitter control of 1 or 2 Wilo-Drain series submersible wastewater/sewage pumps.

- W=228 mm, H=265 mm, D=74 mm
- Protection class IP 42
- Switchover from pump 1 – pump 2 (SK 530)
- Motor protection by WSK or electronic motor switch
- Transmitter connection for float switch, Type WA 95
- Automatic pump duty cycling (SK 530)
- Selector switches:
  - "Hand-2-Hand-1-0-Automatic" system (SK 530)
  - "Hand-0-Automatic" system (ER 1-A)
- Connection for high water alarm
- Volt-free fault signal (changeover contact) and volt-free run signal (changeover contact),
- Phase failure monitor (can be switched off)
- Includes float switch WA 65, cable length 5 m (2x for ER 1-A, 3x for SK 530) and 230 V signal horn (requires external power supply), included separately in delivery

For control of pumps in potentially explosive areas, Ex isolating relays must be used.

**Switchgears are not explosion-protected and may be used outside of potentially explosive areas only.**



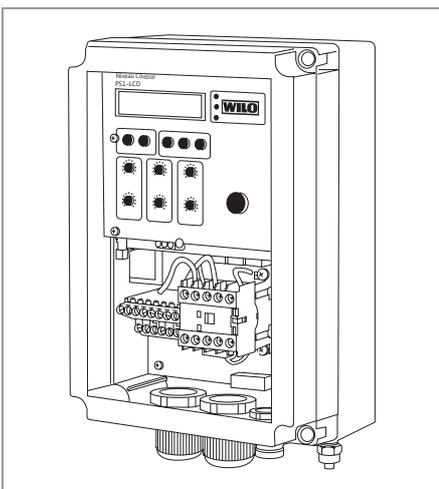
#### Wilo-DrainControl

Microprocessor-controlled switch unit for the fully automatic control of 1 or 2 Wilo-Drain submersible wastewater/sewage pumps.

- Hand-0-Automatic switch above membrane keyboard
- Two-line LCD display with 2 x 16 characters, multi-lingual, menu-controlled operation possible using membrane keyboard
- Input terminals for connecting a level probe
- Automatic phase failure and phase sequence control
- Operating hours counter
- Automatic pump duty cycling (Control 2) after each operation sequence
- Volt-free contacts for:
  - Collective fault signal
  - Signal horn (make contact)
  - Pump 1 operation (make contact)
  - Pump 2 operation (make contact) Control 2 only
  - Main switch
  - Built-in electronic motor current monitoring
- max. ambient temperature 40 °C
- Housing: Plastic for wall installation
- Type of start-up: Direct or star-delta

For control of pumps in potentially explosive areas, a level probe (with Zener barrier!) or float switch in conjunction with Ex isolating relays must be used.

**Switchgears are not explosion-protected and may be used outside of potentially explosive areas only.**



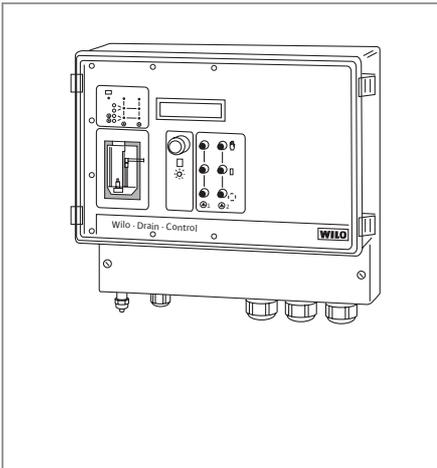
#### Wilo-DrainControl PL 1

Switchgear for level control of 1 submersible pump using the bubbling-through or dynamic pressure method.

- LCD display
- LEDs for alarm, operation/delay time, manual/automatic operation
- Volt-free contacts for collective fault signal and high water alarm
- Forced switch-on of the pump
- Time-delayed pump stop
- Built-in buzzer
- Operating hours counter

**Switchgears are not explosion-protected and may be used outside of potentially explosive areas only.**

### Description of Accessories



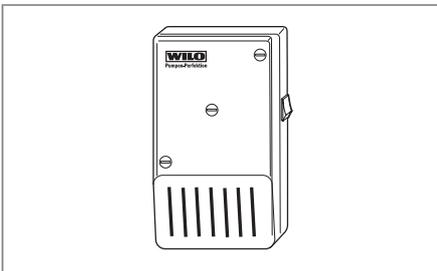
#### Wilco-DrainControl PL 2

Switchgear for level control of 2 submersible pumps. The level can be detected using the bubbling-through or dynamic pressure method or using an electronic level sensor (4 – 20 mA) or float switch.

- LCD display, multi-lingual, adjustable
- LEDs for alarm, operation/delay time, manual/automatic operation
- Volt-free contacts for collective fault signal and high water alarm, pump 1 fault, pump 2 fault
- Forced switch-on of the pump
- Time-delayed pump stop
- Automatic pump duty cycling after each operation sequence
- Automatic fault switchover
- Built-in buzzer
- Operating hours, pump start counters

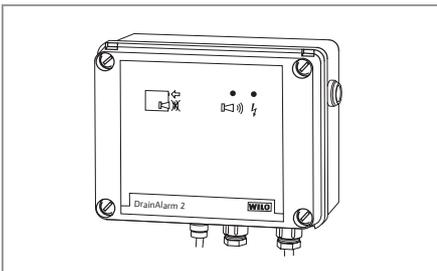
For control of pumps in potentially explosive areas, a level probe with Zener barrier or float switch in conjunction with Ex isolating relays must be used.

**Switchgears are not explosion-protected and may be used outside of potentially explosive areas only.**



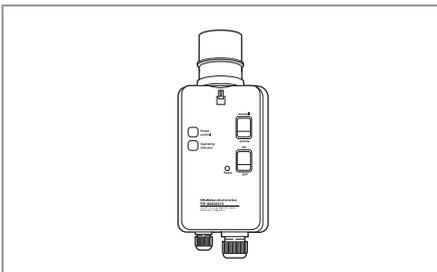
#### Wilco KAS

Mini alarm switchgear with 70 dBA signal bell, signal transmitter (electrode) with 3 m cable, self-recharging power supply pack (power reserve approx. 5 hrs.) in ISO plug housing (Schuko), protection class IP 30, 230 V~ / 9V=; 1.5 VA.



#### Wilco Drain-Alarm 2

Alarm switchgear for wall installation with visual and acoustic alarm signal (85 dBA buzzer, self-recharging power supply pack, volt-free contact, ISO housing, protective class IP 54, 1~230 V. As the transmitter, a WA type float switch is required.

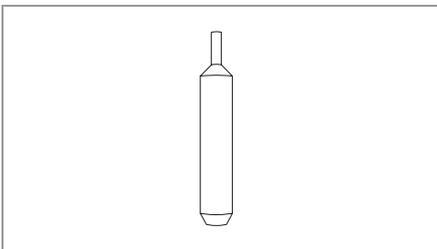


#### Protective motor switch CEE

(Up to rated motor power  $P_2 < 4$  kW) with phase inverter and rotation direction indicator, thermal motor protection of the motor. Current ranges:

- 2.6 – 3.7 A
- 3.7 – 5.5 A
- 5.5 – 8 A
- 8 – 11.5 A

For TP 80/TP 100, evaluation of the thermal motor protection and leak monitoring.

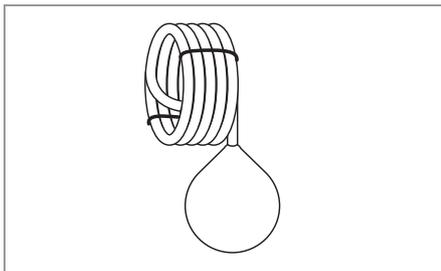


#### Level probe

For level detection.

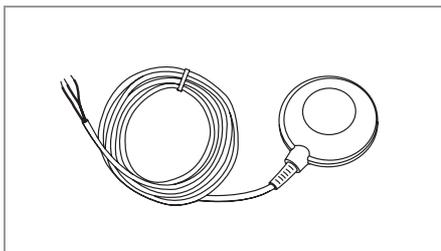
- Protection class IP 68
- Measurement range 0 – 1 m WS; 0 – 2.5 m WS
- Cable lengths 10, 30 or 50 m
- Output signal 4 – 20 mA

### Description of Accessories



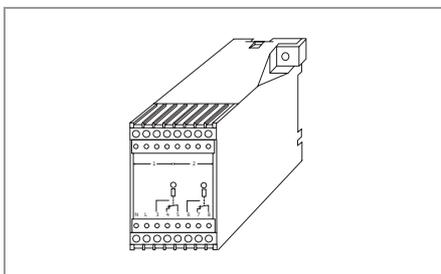
#### Float switch MS1

Cable length 10 m, for sewage containing faeces, for connection to a Wilo-DrainControl 1 or 2.



#### Type WA Float Switch

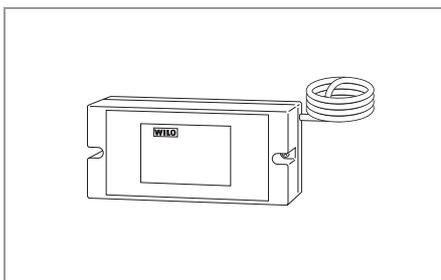
Cable length 5 m, switch setting: high ON/low OFF  
 WA 65 for media up to 65 °C  
 WA 95 for media up to 95 °C



#### Ex isolating relay

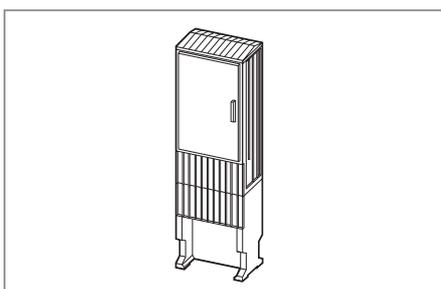
For installation of float switches in potentially explosive areas. Suitable for connection of 3 – 5 float switches. Built into an ISO housing, protection class IP 54, with transparent cover, for wall mounting (W = 182 mm, H = 180 mm, D = 165 mm).

- 3-circuit (3 float switches can be connected)
- 4-circuit (4 float switches can be connected)
- 5-circuit (5 float switches can be connected)



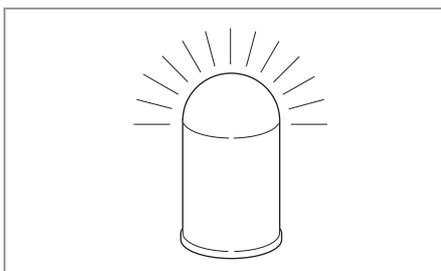
#### Zener barrier

For installation of a level probe in potentially explosive areas. Suitable for connection of a level sensor. Protection class IP40, housing for installation in non-potentially explosive areas (W = 75 mm, H = 150 mm, D = 106 mm). 1 m pre-attached cable.



#### Switch cabinet - outdoor installation of Wilo-Drain-System

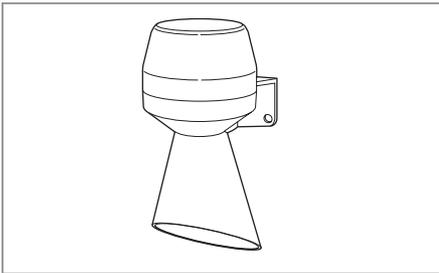
Empty cabinet for outdoor installation, with glass fibre-reinforced polyester, with lock, air supply and exhaust. For pedestal mounting. Additional options such as ammeter, volt meter, heating, etc. feasible on request and can, if required and in conjunction with a Wilo-Drain-Control, be supplied assembled in the switch board (at extra costs). (W = 590 mm, D = 320 mm, H = 875 mm)



#### Flashing light

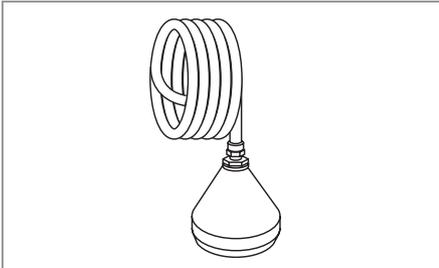
For installation on control cabinet, outdoor installation, 230 VAC

### Description of Accessories



#### Signal horn

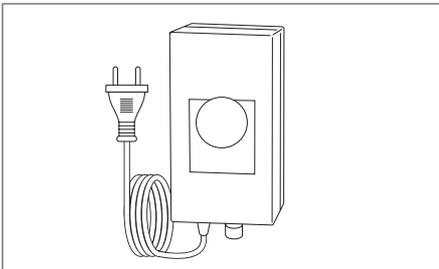
For connecting to a Wilo-DrainControl, 230 VAC



#### Dynamic pressure system

The pressure sensor (bell) senses changes of the fluid level in the shaft. The change of the pressure value in the bell is transmitted to the Wilo-DrainControl PL via a leak-proof hose, and evaluated by measuring elements in the switch box.

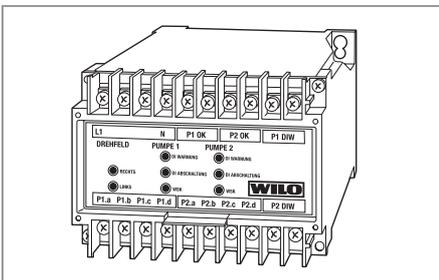
Scope of delivery: Submersible bell with 10 m hose



#### Bubble-through system

Dynamic pressure principle with permanent compressed air supply from the mini air compressor. The bell (dynamic pressure system) must be ordered separately.

Scope of delivery: Mini air compressor, 3 m hose with T-piece and non-return valve



#### Wilo-SK 545

Trigger device for monitoring of up to 2 Wilo TP 80,100 or 150 submersible pumps

- For installation into existing switchgear or as a module for conventionally designed switchgears, installation on 35 mm top hat rail
- Phase sequence monitoring
- 2-stage leak monitoring
- Thermal winding monitoring (WSK)
- Operating voltage 3~400 V max. 6 A fuse protection
- Volt-free output contacts, max. load 250 V/1 A
- Dimensions : H = 72mm, W = 100mm, D = 113mm

