

Submersible Pumps

Product Overview

Wilo-Drain Submersible Pumps

Pumping faeces, municipal and indus-

trial sewage containing long-fibre par-

- Sewage disposal and conservation

- Industrial and process engineering

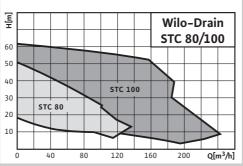
- Environmental protection and sew-

Wilo-Drain STC 80/100



Duty chart (2/4-pole, 50 Hz)

Duty chart (4-pole, 50 Hz)



Wilo-Drain STS 80/100

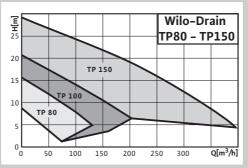


Wilo-Drain TP 80/100/150



E Wilo-Drain 20 STS 80/100 15 STS 80 0 50 100 150 200 Q[m³/h]

Duty chart (4-pole, 50 Hz)



Submersible sewage pump

· Submersible sewage pump

ticles in the following areas:

age farm technology

- Building and surface drainage

• Applications:

- Applications: Pumping faeces, municipal and industrial sewage containing long-fibre particles in the following areas:
 - Building and surface drainage
 - Sewage disposal and conservation
 Environmental protection and sewage farm technology
 - Industrial and process engineering
- Submersible sewage pump
- Applications:

Pumping faeces, municipal and industrial sewage containing long-fibre particles in the following areas:

- Building and surface drainage
- Sewage disposal and conservation
 Environmental protection and sew-
- age farm technology – Industrial and process engineering

Submersible Pumps

Product Advantages

Wilo-Drain Submersible Pumps

Wilo-Drain STC 80/100

- Separation chamber with double seal
- Wide range of performance levels

Wilo-Drain STS 80/100

- Detachable power cable
- Stainless steel motor

Wilo-Drain TP 80/100/150

- INOX & Composite
- Explosion protection fitted as standard
- Lightweight
- Detachable power cable
- Cooling jacket fitted as standard
- Corrosion-resistant (when used to drain swimming pools, for example)



Wilo-Drain STC 80/100, STS 80/100, TP 80-150



Product Description



Wilo-Drain STC 80/100

Submersible sewage pump

Type key

Example: Wilo-Drain STC 80 E 17.95/37.5

| STC 80 | Submersible pump Nominal diameter [mm] |
|-----------|-----------------------------------------------------------------------|
| E | lmpeller type: E = Single-vane impeller M = Multi-vane impeller |
| 17 | Max. delivery head when $Q = 0 [m]$ |
| 95 | Max. volume flow [m ³ /h] |
| 37.5 | Performance rating $P_2[kW] = value/10 = 3.75 kW$ |

Applications

Wilo-Drain STC submersible pumps are ideal for pumping faeces, municipal and industrial sewage containing long-fibre particles in the following areas:

- Building and surface drainage
- Sewage disposal and conservation
- Environmental protection and sewage farm technology
- Industrial and process engineering

Design

Monobloc submersible sewage pump for vertical wet sump installation.

Scope of delivery

Fully assembled pump with 15 m power cable with bare cable end and installation and operating manual. Non standard cable lengths on request



Wilo-Drain STS

Submersible sewage pump

Type key

| | -) |
|----------|--------------------------------------|
| Example: | Wilo-Drain STS 80 F 81.120/20 |
| STS | Submersible pump |
| 80 | Nominal diameter [mm] |
| F | Free-flow impeller |
| 81 | Max. delivery head when $Q = 0 [m]$ |
| 120 | Max. volume flow [m ³ /h] |
| | |

20 Performance rating P_2 [kW] = value/10 = 2.0 kW

Applications

Wilo-Drain STS submersible pumps are ideal for pumping faeces, municipal and industrial sewage containing long-fibre particles in the following areas:

- Building and surface drainage
- Sewage disposal and conservation
- Environmental protection and sewage farm technology
- Industrial and process engineering

High operating reliability due to unrestricted free spherical passage. Suitable for:

- Stationary wet sump installation
- Portable wet sump installation

Design

Monobloc submersible sewage pump for vertical wet sump installation.

- Detachable power cable
- Large free ball passage
- Corrosion- and wear-resistant

Motor

Three-phase asynchronous motor 3^{400} V, 50 Hz, protection class IP 68, thermal winding contacts. Insulation class F Other operating voltages and frequencies upon request.

Bearings

The motor shaft is bedded in permanently lubricated, low-maintenance roller bearings.

Shaft seal

Mechanical seal on the motor side and shaft seal on the pump side.

Scope of delivery

Fully assembled pump with 10 m power cable with bare cable end and installation and operating manual. Non standard cable lengths on request



Wilo-Drain STC 80/100, STS 80/100, TP 80-150

Pump Equipment/Function STS 80/100

| | | Wilo-Drain STS 80 | Wilo-Drain STS 100 |
|--------------------------------|-----------------|----------------------|-----------------------|
| Operating mode S3 (intermitt | ent service) | | |
| Frequency switching/h [%] | | 25 | 25 |
| Max. frequency switching/h | | 20 | 20 |
| Recommended frequency switchin | ıg/h | 20 | 20 |
| Operating mode S1 (continuo | us service) | | |
| Motor below water | | • | • |
| Pump/motor seals | | | |
| In pumping medium area: | Mechanical seal | SiC/SiC | SiC/SiC |
| On the motor compartment side: | Shaft seal | NBR | NBR |
| Oil seal chamber | | • | • |
| Design | | | |
| Wet sump installation | Stationary | • | • |
| | Portable | • | • |
| Submersible | | • | • |
| Free-flow impeller | | • | • |
| Materials | | | |
| Motor | Stainless steel | • | • |
| Pump | Cast iron | • | • |
| Equipment | | | · |
| Motor monitor (temperature) | | • | • |

• = available, - = not available



Wilo-Drain STC 80/100, STS 80/100, TP 80-150

Technical Data STS 80/100

| | | | | Wilo-D | Drain | | | |
|-----------------------------------------------------------------------------|------------|------------|-------------|---------------|---------------|-------------|-------------|-------------|
| | | | STS 80 | | | | STS 100 | |
| | F 7.110/20 | F 9.120/24 | F 10.120/27 | F 12.120/32 | F 14.100/40 | F 10.170/59 | F 12.170/72 | F 15.170/84 |
| Approved fluids | | | 1 | | 1 | | 1 | |
| 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 | | | | | (up to 40 °C) | | | |
| Hot water | | | | | (up to 40 °C) | | | |
| Water from boilers | | | | | (up to 40 °C) | | | |
| Condensate | | | | | (up to 40 °C) | | | |
| Cooling (condenser) water | | | | | • | | | |
| Clean water | | | | | • | | | |
| Untreated wastewater | | | | | • | | | |
| Drainage water | | | | | • | | | |
| Partially desalinated water | | | | | • | | | |
| Rainwater | | | | | • | | | |
| Swimming pool water | | | | - | _ | | | |
| Sea water | | | | - | _ | | | |
| Wastewater, flood and river water | | | | | • | | | |
| Domestic wastewater and sewage including faeces | | | | | • | | | |
| Faeces, municipal and industrial sewage containing long- fibre particles | | | | | • | | | |
| Gaseous and non-gaseous sludge (up to 10% by volume of dry substance) | | | Gaseous: c | onditionally, | otherwise • (| up to 10%) | | |
| Highly dilute alkalines | | | | | • | | | |
| Strong alkalines | | | | Condit | ionally | | | |
| Media with low aggressiveness | | | | | • | | | |
| Acidic water | | | | Condit | ionally | | | |
| Aggressive media | | | | Condit | ionally | | | |
| Performance | | | | | | | | |
| Power consumption P ₁ 3~400 V [kW] | 2.7 | 3.4 | 3.7 | 4.5 | 5.3 | 7.1 | 8.8 | 10.1 |
| Motor power P ₂ [kW] | 2.0 | 2.4 | 2.7 | 3.2 | 4.0 | 5.9 | 7.2 | 8.4 |
| Rated current for 3~400 V [A] | 6.1 | 6.7 | 7.0 | 8.0 | 8.9 | 14.2 | 16.5 | 18.5 |
| Speed [rpm] | <u> </u> | 1 | | 1,4 | ŧ50 | <u> </u> | 1 | L |
| Motor | | | | | | | | |
| Protection class for max. submersion depth | | | | IP | 68 | | | |
| Insulation class | F | | | | | | | |
| Frequency switching [per hour] | | | | | 0 | | | |

Wilo-Drain STC 80/100, STS 80/100, TP 80-150



Technical Data STS 80/100

| | | Wilo–Drain | | | | | | | |
|------------------------------------------------------|------------|------------|--------------|-------------|--------------|--------------------------------|-------------|-------------|--|
| | | | STS 80 | | | | STS 100 | | |
| | F 7.110/20 | F 9.120/24 | F 10.120/27 | F 12.120/32 | F 14.100/40 | F 10.170/59 | F 12.170/72 | F 15.170/84 | |
| Pump | | 1 | | | | | - | | |
| Submersion depth, max. [m] | | | |] | LO | | | | |
| Fluid temperature [°C] | | | | L | ŧ0 | | | | |
| Fluid temperature permissible for short periods [°C] | | | | e | 50 | | | | |
| Fluid density, max. [kg/m ³] | | | | 10 |)50 | | | | |
| Cable type | | | | H07 RN | –F, round | | | | |
| Cable length [m] | | | |] | LO | | | | |
| Cable cross-section 3~400 V [mm ²] | | 7xG 1.5 | strand 6 not | occupied | | 10xG 1.5 strand 9 not occupied | | | |
| Plug | | | CONI | | | Strands with flat plug | | | |
| Type of power cable | | | | OZOFLEX Plu | ıs (H07 RN-F |) | | | |
| Activation type | | | direct | | | Star-delta | | | |
| Oil volume of oil chamber [l] | | | 0.17 | | | 0.35 | | | |
| Free ball passage [mm] | | | 75 | | | 100 | | | |
| Dimensions | | | | | | | | | |
| Discharge port DN | | | 80 | | | | 100 | | |
| Weight [kg] | | | 70 | | | | 96 | | |
| Materials | | | | | | | | | |
| Pump housing | | | | EN-G. | JL-250 | | | | |
| Impeller | | | | EN-G. | JL-250 | | | | |
| Shaft | | | | 1.4 | 021 | | | | |
| Mechanical seal (bidirectional), pump side | | | | SiC | /sic | | | | |
| Static seals | | | | Ν | BR | | | | |
| Shaft seal on motor side | | | | Ν | BR | | | | |
| Motor housing | | 1.4404 | | | | | | | |

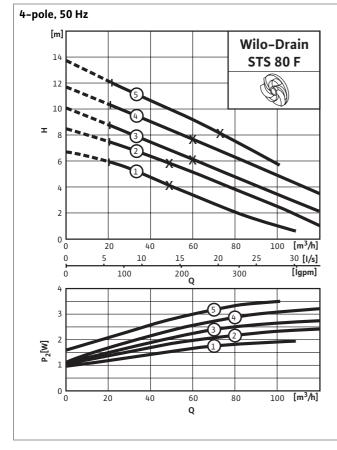
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Wilo-Drain STS 80/100

W/LO

Pump Curves

STS 80 F



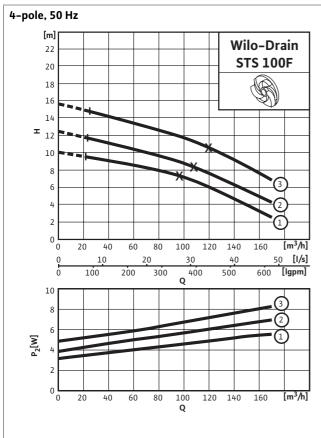
| | | | | | 7.110/20 |
|---|---|-----|----|---|-----------|
| 2 | = | STS | 80 | F | 9.120 /24 |
| 3 | = | STS | 80 | F | 10.120/27 |
| 4 | = | STS | 80 | F | 12.120/32 |
| 5 | = | STS | 80 | F | 14.100/40 |

All pump curves shown are based on a density of ρ = 1 kg/dm^3



Recommended: Q _{optimal} +10%/-20%

STS 100 F



1 = STS 100 F 10.170/59 2 = STS 100 F 12.170/72 3 = STS 100 F 15.170/84

All pump curves shown are based on a density of ρ = 1 kg/dm^3

 $I = Q_{min}$ $X = Q_{optimal}$

Recommended: Q _{optimal} +10% / -20%



Wilo-Drain STS 80/100

Terminal Diagrams

Terminal diagram Wilo-Drain STS 80

| Wire No. 1 2 3 4 5 green/yel | Terminal | U1 | V ₁ | W1 | WSK | WSK | PE |
|------------------------------------------------------------------------------|----------|----|----------------|----|-----|-----|--------------|
| | Wire No. | 1 | 2 | 3 | 4 | 5 | green/yellow |

3~400 V, 50 Hz

Terminal diagram Wilo-Drain STS 100

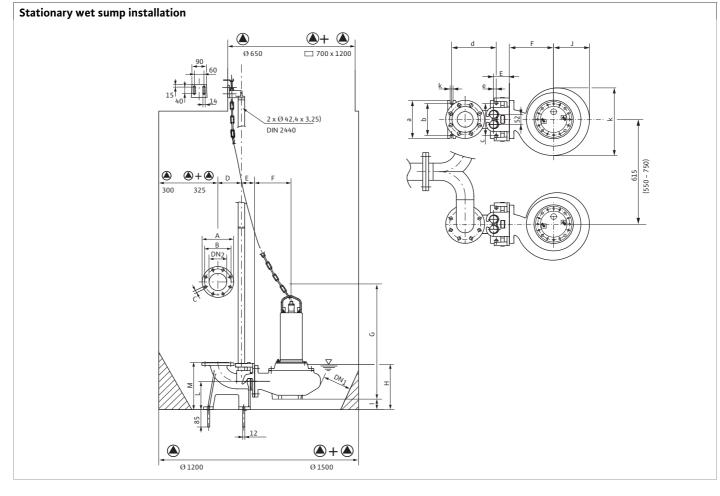
| Terminal | U ₁ | V ₁ | W1 | V ₂ | W2 | U2 | WSK | WSK | PE |
|----------------|----------------|----------------|----|----------------|----|----|-----|-----|----|
| Wire No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 0 |
| 2~400 1/ 50 47 | | | | | | | | | |

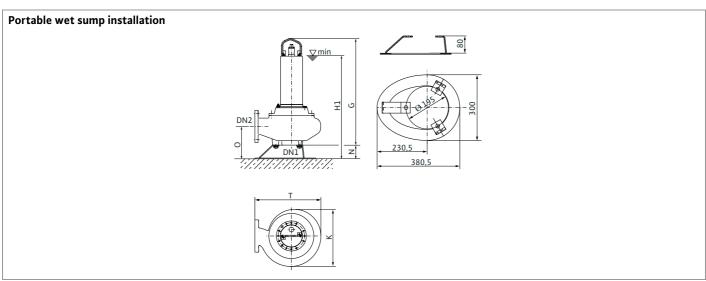
3~400 V, 50 Hz

Wilo-Drain STS 80/100

Dimension Drawings, Dimensions

Dimension drawings STS 80





Dimensions

| | Wilo-Drain STS 80 [mm] | | | | | | | | | | | |
|--------|---------------------------|-----|-----|-----|-----|----|-----|------------------|-----|-----|-----|-----|
| DN_1 | DN ₂ | Α | В | С | D | E | F | G | н | I | J | К |
| 80 | 80 | 200 | 160 | 19 | 146 | 81 | 228 | 660 | 300 | 70 | 185 | 355 |
| L | м | а | b | c | d | е | k | H ₁ H | N | 0 | т | |
| 180 | 315 | 200 | 170 | 170 | 220 | 14 | 14 | 635 | 85 | 200 | 409 | |

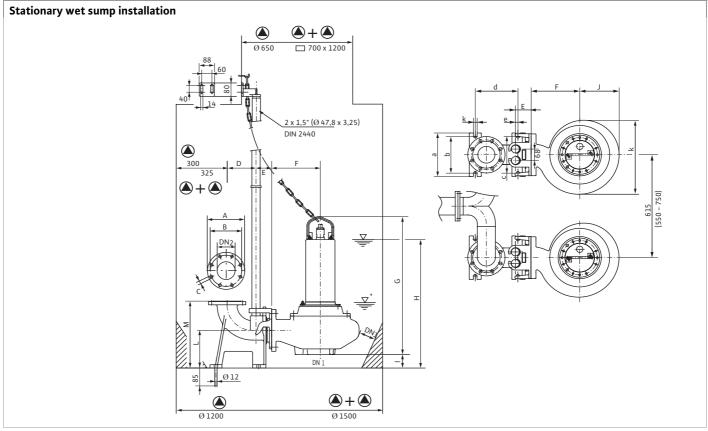


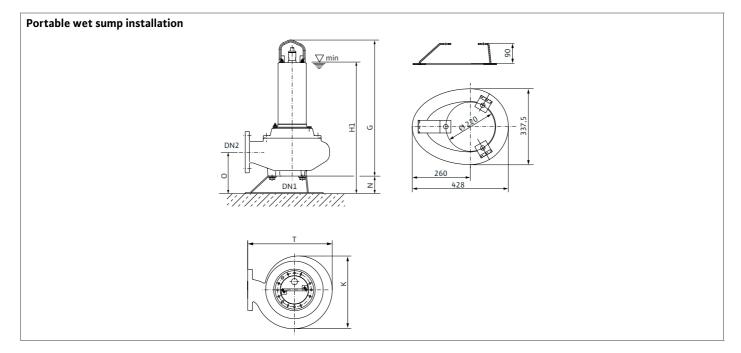


Wilo-Drain STS 80/100

Dimension Drawings, Dimensions

Dimension drawings STS 100





Dimensions

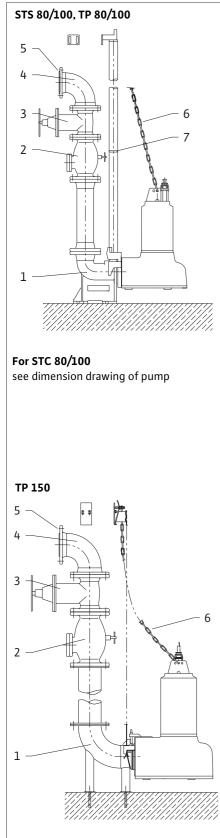
| Wilo-Drain STS 100 [mm] | | | | | | | | | | | | |
|----------------------------|-----------------|-----|-----|-----|-----|----|-----|----------------|-----|-----|-----|-----|
| DN_1 | DN ₂ | Α | В | С | D | E | F | G | н | I | J | К |
| 100 | 100 | 220 | 180 | 18 | 169 | 91 | 255 | 825 | 780 | 90 | 195 | 440 |
| L | М | а | b | c | d | е | k | H ₁ | N | 0 | т |] |
| 225 | 400 | 260 | 220 | 220 | 250 | 15 | 20 | 890 | 90 | 250 | 450 | |

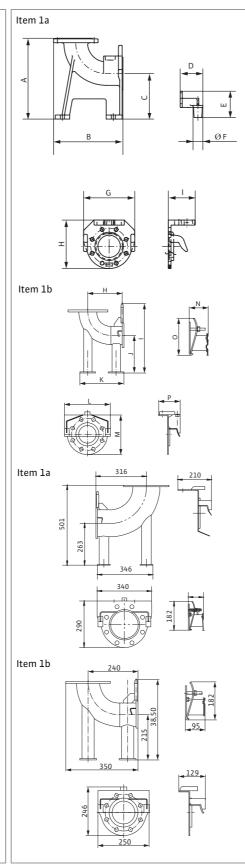
Wilo-Drain STC 80/100, STS 80/100, TP 80-150



Mechanical Accessories

Stationary wet sump installation





STS, TP: Base elbow (Item 1a)

Made of cast iron 25 (EN-GJL-250) including pump support, profile seal, accessories for mounting and fastening to the ground, and guide pipe bracket, cast iron 25 (EN-GJL-250), flanges PN 10/ 16 to DIN 2501 for DN 80/100.

Guide pipe (2 x 1.5") must be provided onsite

| | STS/TP 80 | STS/TP 100 |
|---|-----------|------------|
| А | 300 | 400 |
| В | 303.4 | 339 |
| С | 180 | 225 |
| D | 105 | 110 |
| Е | 110 | 130 |
| F | Ø 40 | Ø 48 |
| G | 225 | 250 |
| Н | 210.5 | 238 |
| 1 | 118.5 | 132 |

or Item 1b

Stainless steel pump support, profile seal, accessories for installation and fastening to the ground, and stainless steel cable guide 10 m for 5 m installation depth, flanges PN 10/16, to DIN 2501 Made of stainless steel, as for item 1a, but with stainless steel cable guide for 5 m installation depth.

| | TP 80 | TP 100/150 |
|---|-------|------------|
| н | 180 | 240 |
| 1 | 345 | 385 |
| J | 185 | 215 |
| К | 217 | 350 |
| L | 232 | 250 |
| Μ | 211 | 246 |
| Ν | 95 | 95 |
| 0 | 182 | 182 |
| Р | 109 | 129 |
| | | |

Stainless steel pump support, profile seal, accessories for installation and fastening to the ground, and stainless steel cable guide 10 m for 5 m installation depth, flanges PN 10/16, to DIN 2501.

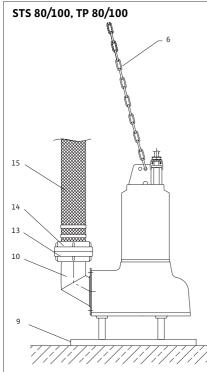
Made of cast iron 25 (EN-GJL-250), including pump support, profile seal, and accessories for installation and fastening to the ground. The double pipe guide (R 2) must be provided on-site.

Wilo-Drain STC 80/100, STS 80/100, TP 80-150

W/LO

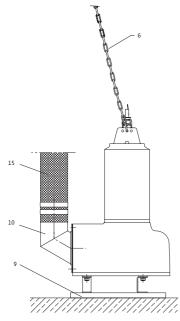
Mechanical Accessories

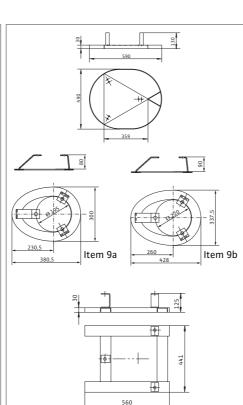
Portable wet sump installation



For STC 80/100 see dimension drawing of pump

















can be wound up

TP 80/100 ground support foot (Item 9)

Made of stainless steel, consists of 3 support feet, 1 base plate and mounting hardware

STS 80 (Item 9a) STS 100 (Item 9b) Consists of 3 support feet, 1 base plate and mounting hardware

TP 150 ground support foot (Item 9)

Made of stainless steel, consists of 3 support feet, 1 base plate and mounting hardware

Chain (Item 6)

Made of stainless steel, including shackles, length: 5 m and 10 m, lifting capacity: 400kg

Pipe bend (Item 10)

Made of stainless steel, can be used for direct hose connection or mounting a Storz fixed coupling. Variable set-up possible with 45° hole pitch (TP 100/150)

| | DN 80 | DN 100 | DN 150 |
|---|-------|--------|--------|
| А | G 3 | G 4 | Ø148 |
| В | 240 | 280 | 432.5 |
| С | Ø 89 | - | - |

Storz fixed coupling for mounting to pipe bend (Item 13)

AL, with R3 or R4 female thread for connection nominal diameter 80/100

| | DN 80 | DN 100 |
|---|-------|--------|
| D | 40 | 48 |
| Е | Ø 78 | Ø 100 |
| F | 105 | 133 |
| G | R 3 | R 4 |

Storz hose coupling (Item 14)

Made of aluminium, for hose inner dia. 90/110 mm

| | DN 80 | DN 100 |
|---|-------|--------|
| Н | 140 | 170 |
| L | 105 | 133 |
| J | Ø 80 | Ø 100 |
| К | Ø 90 | Ø 110 |
| | | |

Pressure hose for direct hose connection (Item 15)

Material: Synthetic material PN 8 including 2 hose clips, hose inner diameter 90/110/150 mm, length 10, 20 and 30 m

Wilo-Drain Electrical Accessories



Pump Equipment/Function

| | | ER1-A | SK 530 | Drain Control PL1 | Drain Control PL2 | Drain Control 1 | Drain Control 2 | KAS |
|-----------------------------------------------------------|---------------------------|------------------------|----------|----------------------|----------------------|--------------------|---------------------------------------|-----|
| Applications | | | | | | | · · · · · · · · · · · · · · · · · · · | |
| Switchgear for con | trolling pumps | • | • | • | • | • | • | - |
| Alarm switchgear | | - | _ | _ | - | - | - | • |
| Number of pumps | to be controlled | 1 | 2 | 1 | 2 | 1 | 2 | _ |
| Electrical conne | ction | | | | | | | |
| Direct activation [A | N] | max.10 ¹⁾ | max. 2x8 | Max.12 | max. 2x12 | Max.10 | max. 2x10 | - |
| Star/delta connect | ion | optional ¹⁾ | _ | _ | _ | > 10 A | > 10 A | _ |
| Design | | optional | | | | . 2071 | . 2011 | |
| Microprocessor-co | ntrolled | - | _ | • | • | • | • | _ |
| Electronic | | • | • | _ | _ | _ | _ | • |
| Housing materia | 1 | | | | | | | |
| Plastic | • | • | • | • | • | • | • | • |
| Metal | | optional | _ | _ | _ | _ | _ | _ |
| Equipment | | optional | | | | | | |
| Test run | | • | _ | • | • | _ | _ | _ |
| Pump start counte | r/impulse counter | - | _ | • | | | _ | |
| LCD display | | | | • | • | • | • | |
| LED/indicator lamp | | • | • | • | • | • | • | _ |
| Main switch | | • | _ | | | • | • | |
| Ampere meter | | optional upon requ. | _ | optional • | optional • | • 2) | • 2) | _ |
| Volt meter | | optional upon requ. | _ | _ | _ | _ | _ | _ |
| Adiustable delav tij | me | • | _ | • | • | • | • | _ |
| Adjustable delay time | | optional | | | | | | |
| Operating hours co | ounter | upon requ. | _ | • | • | • | • | - |
| Level detection | Float switch | • 3) | • 3) | • 3) | • 3) | • 3) | • 3) | _ |
| | Pneumatic pressure sensor | - | _ | • | • | - | - | - |
| | Level sensor (4–20 mA) | _ | _ | • 4) | • 4) | • 4) | • 4) | _ |
| | Electrodes | _ | _ | _ | _ | _ | _ | |
| Alarm | Mains-operated | • | • | • | • | • | • | _ |
| | Built-in (buzzer) | - | _ | • | • | _ | - | |
| Pump Duty Cycling | | - | • | _ | • | _ | • | _ |
| Message/display | | | | | | | | |
| Collective run signa | | • | • | _ | - | _ | _ | - |
| Collective fault sign | | • | • | • | • | • | • | _ |
| Individual run signa | | - | optional | _ | _ | • | • | _ |
| Individual fault sigr | | - | optional | _ | • | _ | - | _ |
| Individual fault signal Control functions (motor monitor) | | | · · | | I | I | | |
| Thermal winding co | | • | • | • | • | • | • | _ |
| PTC | | • | _ | _ | _ | • | • | _ |
| Leakage (DI) | | - | _ | _ | _ | • | • | _ |
| Electronic | | • | • | • | • | • (up to 10 A) | • (up to 10 A) | - |
| Protective motor s | witch | - | _ | optional | optional | • (>10 A) | • (>10 A) | - |
| Scope of deliver | у | | · | · | · | · | · | |
| • Float switch | | • | • | - | - | _ | - | - |
| Signal horn | | • | • | _ | _ | _ | _ | _ |

• = available, - = not available

⁽¹⁾ For other motor power ratings upon request ⁽²⁾ For direct activation units only (up to 4 kW) ⁽³⁾ In potentially explosive areas only with Ex isolating relay

⁴⁾ In potentially explosive areas only with Zener barrier



Wilo-Drain Electrical Accessories

Pump Equipment/Function

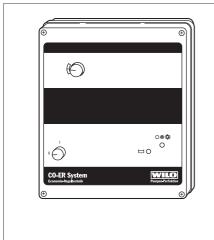
| | | Drain- Alarm2 | Motor pro- tection plug CEE | lsolation relay for explosion protection | Zener barrier | Flashing light | Signal horn | SK 545 |
|-----------------------------------|------------------------|------------------|-----------------------------------|---------------------------------------------------|------------------|-------------------|-----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

• = available, - = not available

Wilo-Drain Electrical Accessories



Description of Accessories



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WILO · Drain · Contro

WILO

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.

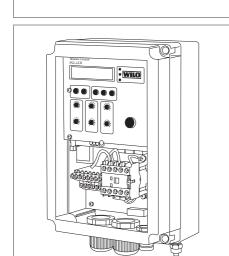
Switchgears are not explosion-protected and may be used outside of potentially explosive areas only.

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

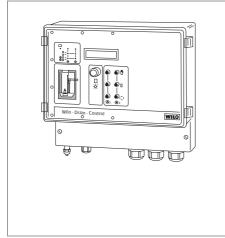
Switchgears are not explosion-protected and may be used outside of potentially explosive areas only.





Wilo-Drain Electrical Accessories

Description of Accessories



Wilo-DrainControl PL 2

Switchgear for level control of 2 submersible pumps. The level can be detected using the bubblingthrough 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

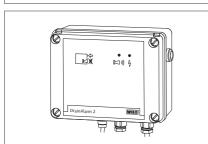
For control of pumps in potentially explosive areas, a level probe with Zener barrier or float switch in conjunction with Ex isolating relays must be used.

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

Wilo KAS

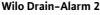
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Mini alarm switchgear with 70 dBA signal bell, signal transmitter (electrode) with 3 m cable, selfrecharging power supply pack (power reserve approx. 5 hrs.) in ISO plug housing (Schuko), protection class IP 30, 230 V~/9V=; 1.5 VA.

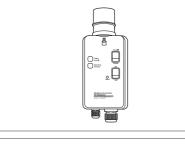


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Alarm switchgear for wall installation with visual and acoustic alarm signal (85 dBA buzzer, self-recharging power supply pack, volt-free contact, ISO housing, protective class IP 54, 1~230 V. As the transmitter, a WA type float switch is required.



Protective motor switch CEE

(Up to rated motor power P2 < 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.



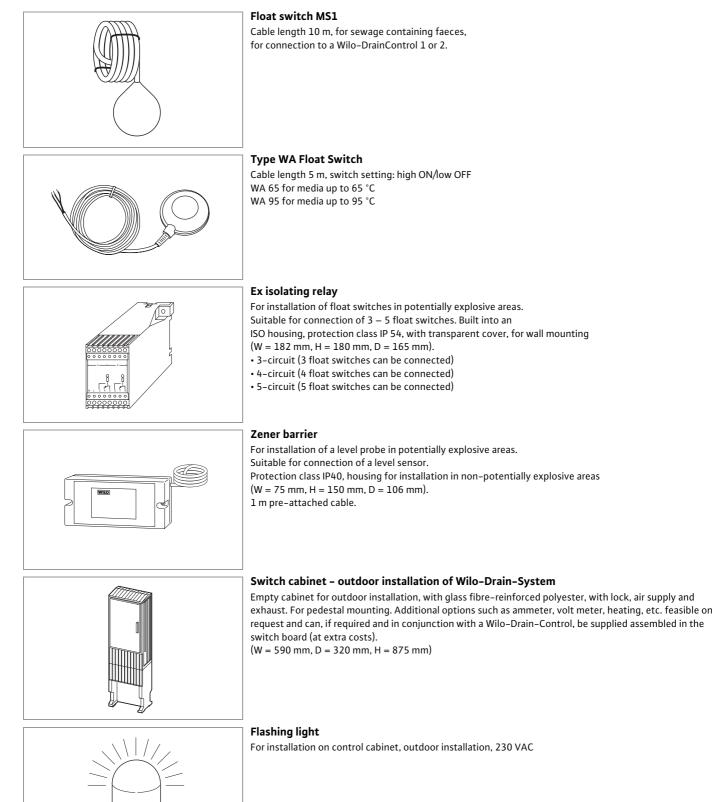
Level probe

- 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

Wilo-Drain Electrical Accessories

Description of Accessories







Sewage/Faeces Wilo-Drain Electrical Accessories

110-Dialit Electrical Accessories

Description of Accessories

