

Application

These robust submersible drainage pumps US 73 Ex and US 103 Ex can be used for the handling of contaminated water containing fibres and particles up to 30 mm size (no stones).

The pumps are suitable for mounting in collection chambers and pits located in hazardous areas. Hazardous areas are usually designated where the drainage system is fed from areas with vehicles, car parks, garages, tank farms or laboratories, etc.

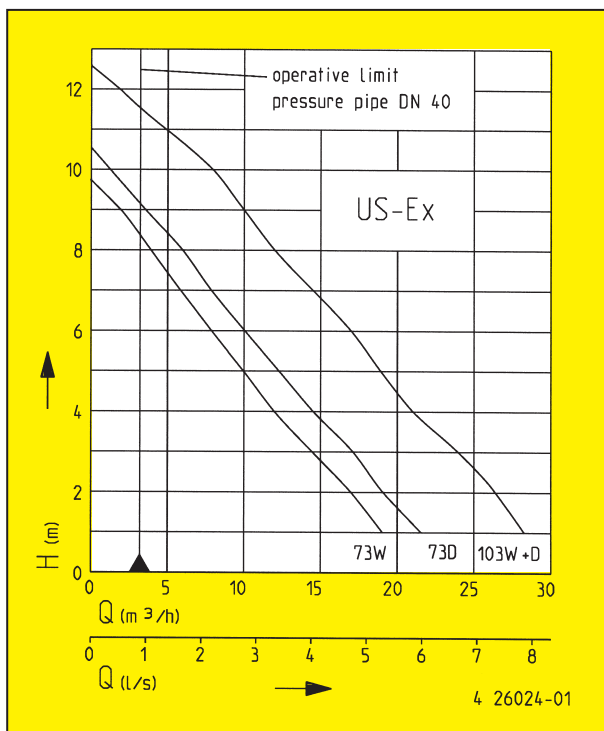
Type of protection Ex II 2 G EEx d IIB T4

The light weight of the pumps and low power consumption make the unit ideal for dealing with contaminated liquids in an economic manner. This range of pumps is suitable for stationary and portable use. For stationary use in drains the guide rail system GR 40 also offers all the advantages of fast and easy maintenance. A controllable oil chamber and a wear-resistant special mechanical seal ensure a long service life. For automatic monitoring of the oil chamber a seal leak control can be connected.

According to Ex-proof testing regulations, these pumps are provided with winding thermostats and can only be used with the equivalent control unit (see accessories).

The pumps must not be used for raising sewage from lavatories and urinals.

The minimum flow velocity in the pressure piping must be 0,7 m/s according to EN 12056. This data is represented in the performance curve as a limit of application.



- ▶ Stationary and portable use
- ▶ 30 mm passage
- ▶ Controllable oil chamber
- ▶ SiC mechanical seal independent of rotation direction
- ▶ Moisture sealed cable inlet
- ▶ Z-53.3-340



We reserve the right to change specifications without notice. Pump performance is subject to ISO 9906 tolerances.

Submersible drainage pump

| Type | Max. height x width | Discharge branch | Free passage | Cable quality H07RN-F- | Cable length | Weight | Code No. |
|-------------|---------------------|------------------|--------------|------------------------|--------------|---------|-------------|
| US 73 Ex W | 330 x 215 | 1½" | 30 mm | 6G1,5 | 10 m | 19,0 kg | 9292 |
| US 73 Ex D | 330 x 215 | 1½" | 30 mm | 6G1,5 | 10 m | 19,0 kg | 595 |
| US 103 Ex W | 360 x 215 | 1½" | 30 mm | 6G1,5 | 10 m | 21,5 kg | 9294 |
| US 103 Ex D | 360 x 215 | 1½" | 30 mm | 6G1,5 | 10 m | 21,5 kg | 9293 |

Performance

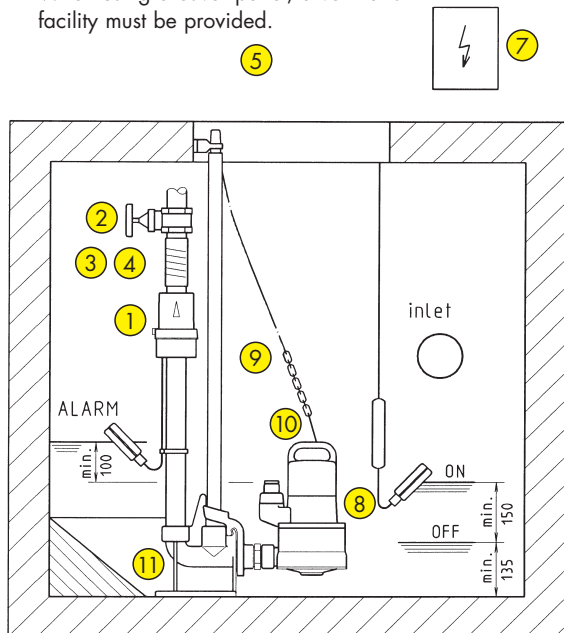
| Type | Delivery head H [m] | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 |
|---------------|---------------------|----|----|----|----|----|----|----|----|----|----|----|
| US 73 Ex W | Flow rate Q [m³/h] | 19 | 17 | 15 | 12 | 10 | 8 | 6 | 4 | 2 | | |
| US 73 Ex D | | 22 | 20 | 17 | 15 | 12 | 10 | 8 | 6 | 4 | | |
| US 103 Ex W/D | | 28 | 26 | 23 | 21 | 19 | 17 | 15 | 12 | 10 | 8 | 2 |

Electrical data

| Type | Type of current | Voltage Volt | Motor rating kW P ₁ | P ₂ | RPM min ⁻¹ | F.L.C. Amp. | Motorprotection | Plug |
|-------------|-----------------|--------------|--------------------------------|----------------|-----------------------|-------------|-----------------|---------|
| US 73 Ex W | 1-phase | 1N~230 | 0,83 | 0,50 | 2510 | 3,9 | in control unit | without |
| US 73 Ex D | 3-phase | 3~400 | 0,85 | 0,60 | 2800 | 1,4 | + winding | without |
| US 103 Ex W | 1-phase | 1N~230 | 1,37 | 0,98 | 2700 | 6,0 | thermostats | without |
| US 103 Ex D | 3-phase | 3~400 | 1,36 | 1,06 | 2740 | 2,4 | | without |

Single pump installation with GR

US 73+103 sump area **with GR 40** min. 40 x 60 cm
 US 73+103 sump area **without GR** min. 40 x 40 cm (without illustration)
 When using a cover panel, a ventilation facility must be provided.

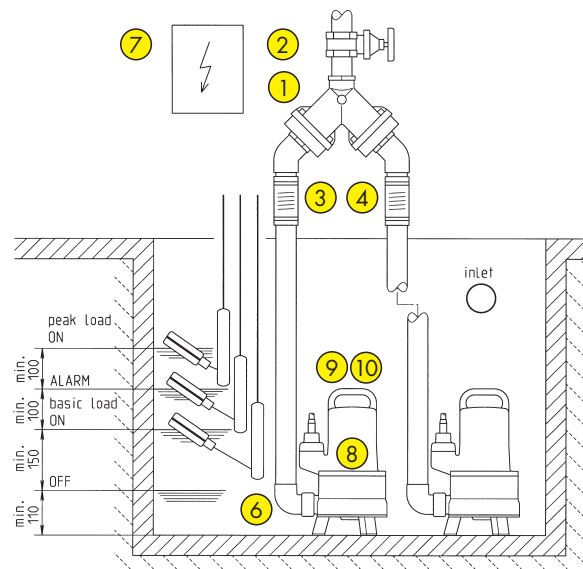


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In case of installation beneath the backpressure level the pressure tube must be taken in a loop over the local backup level acc. to EN 12056. Besides, it must be secured with a EN 12050-4 proofed swing-type check valve. Additionally we recommend an alarm system.

Duplex pump installation

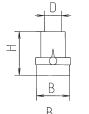




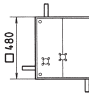





US 73+103 sump area **without GR** min. 40 x 60 cm
 US 73+103 sump area **with GR 40** min. 60 x 60 cm (without illustration)
 Suspend control unit in a dry room.



Notice of min. distance!

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Accessories

| | | | | Code-No. | US 73 Ex W | US 73 Ex D | US 103 Ex W | US 103 Ex D | |
|---|--|-------------------------------|----------|----------|------------------------------|---------------|----------------|----------------|---|
|  | 1 Swing-type check valve 1½" (DN 40), PN 4 EN 12050-4 | H | B | D | 317 | ● | ● | ● | ● |
| | | 150 | 120 | 1½" | | | | | |
|  | Double swing-type check valve 1½" (DN 40), PN 4 for double pump station, EN 12050-4 | H | B | D | 9155 | ● | ● | ● | ● |
| | | 200 | 280 | 1½" | | | | | |
|  | 2 Stop valve 1½" (DN 40), PN 16 | H | L | D | 11837 | ● | ● | ● | ● |
| | | 125 | max.60 | 1½" | | | | | |
|  | 3 Elastic connection 1½" (DN 40), PN 4 | H | D inside | | 20368 | ● | ● | ● | ● |
| | | 120 | 50 | | | | | | |
|  | 4 Hose band clamp 1½" | | | | 3571 | ● | ● | ● | ● |
|  | 5 Cover plate* c/w frame, seal and pipe conduct LW 420 Blind plate* c/w frame and seal LW 420 | | | | 1256 322 | ● | ● | ● | ● |
| | | | | | | ● | ● | ● | ● |
| | 6 Elbow 1½" | | | | 17894 | ● | ● | ● | ● |
| | 7 Control units for single unit | | | | | | | | |
| | First option | AD | 4 Ex W | | 25901 | ● | | | |
| | | AD | 8 Ex W | | 25902 | | | ● | |
| | | AD | 23 Ex | | 9754 | | ● | | |
| | | AD | 25 Ex | | 9683 | | | | ● |
| | | Auxiliary switch module Ex II | | | 14427 | ● | | ● | |
| | | Auxiliary switch unit ExH-A | | | 16720 | ● | ● | ● | ● |
| | | Level control package AmG | | | 16719 | ● | ● | ● | ● |
| | Second option | AD | 4 Ex W | | 25901 | ● | | | |
| | | AD | 8 Ex W | | 25902 | | | ● | |
| | | AD | 23 Ex | | 9754 | | ● | | |
| | | AD | 25 Ex | | 9683 | | | | ● |
| | | Air diaphragm control unit | | | 1080 | ● | ● | ● | ● |
| | Control units for duplex unit | | | | | | | | |
| | First option | BD | 23 Ex | | 9755 | | ● | | |
| | | BD | 25 Ex | | 9681 | | | | ● |
| | | Auxiliary switch unit ExH-B | | | 295 | | ● | | ● |
| | | Level control package BmG | | | 16726 | | ● | | ● |
| | Second option | BD | 23 Ex | | 9755 | | ● | | |
| | | BD | 25 Ex | | 9681 | | | | ● |
| | | Air diaphragm control unit | | | 1080 | | ● | | ● |
| | Control units for duplex unit with the pumps US 73 Ex W and US 103 Ex W as requested | | | | | | | | |
| | Ex-motor protection plug for transportable use, completely wired | | | | 12280 | | ● | | |
|  | Dito. To be suspended in a dry and not hazardous area. | | | | 12281 | | | | ● |
|  | 8 Seal leak control DKG Ex | | | | 249 | ● | ● | ● | ● |
|  | 9 Chain with 2 rings, DIN 766, 2,5 m, 320 kg Chain stainless steel with 5 rings, 1 shackle NG 10, DIN 766, 2,5 m, 200 kg | | | | 19189 23986 | ● | ● | ● | ● |
|  | 10 Shackle A 0,6 | | | | 13402 | ● | ● | ● | ● |
|  | 11 Guide rail system GR 40 | | | | 25592 | ● | ● | ● | ● |

*not for duplex pump installation and GR 40

Technical data

Pump

Vertical, single-stage, submersible, with free inlet, volute casing with 1 1/2" (female) discharge branch, open centrifugal impeller, passage 30 mm

Bearings

Common shaft for pump and motor, arranged in ball bearings, lubricated by permanent grease filling

Seal

Silicon carbide mechanical seal, oil chamber and duplex rotary shaft seal as secondary seal, safe to run dry, possibility to connect a seal leak control

Motor

Special submersible motor, type of enclosure IP 68, insulation class F, winding thermostat protects the motor from overload, tested by PTB for type of protection Ex II 2 G EEx d IIB T4, automatic activation through control unit only

Materials

Volute and motor casing in GG grey cast iron, vortex impeller, wear plate and pump base in synthetic material (GFK), shaft in stainless steel, power supply through rubber insulated flexible cable

Installation

Pump can be installed free standing or together with guide rail system type GR 40, which provides a detachable connection with swing-type check valve mounted in permanent position in discharge pipework

Scope of supply

Pump acc. to EN 12050 ready for connection with 10 m cable

