

US 73-US 253

SUBMERSIBLE DRAINAGE PUMPS

- 30 mm free passage (US 73-153)
- 40 mm free passage (US 253)
- Run dry protection
- Controllable oil chamber
- SiC mechanical seal independent of sense of rotation
- Replaceable moisture sealed cable inlet



DESCRIPTION

The centrifugal submersible drainage pumps US 73-253 are suitable for dealing with contaminated water and capable of handling solids up to 30 and 40 mm particle size without stones. Fibrous waste water, as found in laundries or automatic launderettes and waste water from domestic dishwashers and washing machines can be handled by this pump range. For hot water in the industrial and commercial market we recommend the US 73 and US 103 HE/HES.

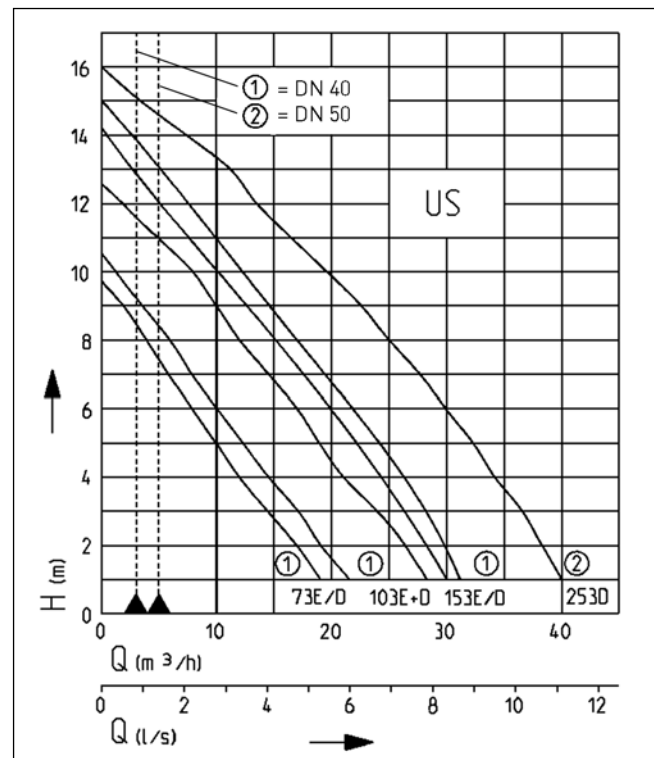
This range of pumps is suitable for stationary use. For easy removal of the pumps from deep sumps we recommend the use of our guide rail systems which provide ease of maintenance and inspection.

For automatic monitoring of the oil chamber a seal leak control can be connected.

The cable length is 10 m. The 3-phase pumps with built-in level control (US 153 DS and US 253 DS) have a CEE-plug with phase inverter.

The sewage pumps are tested by the German Institute for Construction Engineering and correspond to the valid construction and test principles.

PERFORMANCE



Type	Delivery head H [m]	1	2	3	4	5	6	7	8	9	10	11	12	13	14
US 73 E/ES	Flow rate Q [m³/h]	19	17	15	12	10	8	6	4	2					
US 73 D/DS		22	20	17	15	12	10	8	6	4					
US 103 E/D/ES/DS		28	26	23	21	19	17	15	12	10	8	5	2		
US 153 E/ES		30	29	27	24	22	20	18	15	13	11	8	6	3	1
US 153 D/DS		31	30	28	26	23	21	19	17	14	12	10	8	5	3
US 253 D/DS		40	38	36	34	32	30	28	25	23	20	17	14	10	7

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

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.



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SCOPE OF SUPPLY

Pump according to DIN EN 12050 ready for connection with 10 m cable. US 73 and US 103 with safety plug (1-phase) or CEE-Plug (3-phase).

US 153 and 253: Pumps without level control with free lead end. Pump with level control with CEE-motor protective plug and phase inverter (3-phase) or safety-plug (1-phase).

MECHANICAL DATA

Pump	Vertical single-stage	Shaft	Stainless steel
Bearing	Ball bearings, grease-lubricated	Impeller	Vortex impeller, GFK
Seal on motor side	Duplex rotary shaft seals	Motor housing	Edelstahl (253: Grauguss)
Oil chamber	Yes	Pump housing	Grey cast iron
Seal on medium side	SiC mechanical seal	Submersible	Yes
Run dry protection	Yes	Pressure outlet	IG 1 1/2" (US253: 2")

ELECTRICAL DATA

Power line	10m H07RN-F	Insulation class	B (253:F)
Type of enclosure	IP 68	Winding thermostat	Yes

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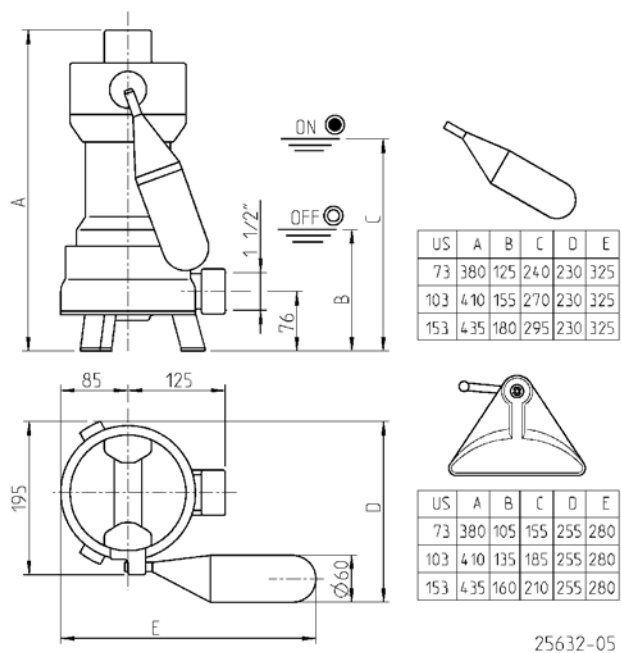
Type	Code No.	Voltage	Motor rating		Current	Wires	Motor protection	Plug	Free passage	Weight
P1	P2									
Without level control										
US 73 E	JP00676	1/N/PE~230 V	0.83 kW	0.50 kW	3.9 A	3G1,0	Integrated	Safety	30 mm	12.5 kg
US 73 D	JP00677	3/PE~400 V	0.85 kW	0.60 kW	1.4 A	4G1,0	Integrated	CEE	30 mm	12.5 kg
US 103 E	JP09280	1/N/PE~230 V	1.37 kW	0.98 kW	6.0 A	3G1,0	Integrated	Safety	30 mm	14.0 kg
US 103 D	JP09258	3/PE~400 V	1.36 kW	1.06 kW	2.4 A	4G1,0	Integrated	CEE	30 mm	14.5 kg
US 153 E	JP09311	1/N/PE~230 V	1.60 kW	1.21 kW	7.5 A	3G1,0	on request ¹	Without	30 mm	14.5 kg
US 153 D	JP09302	3/PE~400 V	1.70 kW	1.41 kW	3.1 A	4G1,0	on request ¹	Without	30 mm	15.0 kg
With built-in level control										
US 73 ES	JP00678	1/N/PE~230 V	0.83 kW	0.50 kW	3.9 A	3G1,0	Integrated	Safety	30 mm	12.5 kg
US 73 DS	JP00679	3/PE~400 V	0.85 kW	0.60 kW	1.4 A	4G1,0	Integrated	CEE	30 mm	13.0 kg
US 103 ES	JP09281	1/N/PE~230 V	1.37 kW	0.98 kW	6.0 A	3G1,0	Integrated	Safety	30 mm	14.0 kg
US 103 DS	JP09259	3/PE~400 V	1.36 kW	1.06 kW	2.4 A	4G1,0	Integrated	CEE	30 mm	15.0 kg
US 153 ES	JP09247	1/N/PE~230 V	1.60 kW	1.21 kW	7.5 A	3G1,0	Integrated	Safety	30 mm	16.0 kg
US 153 DS	JP09249	3/PE~400 V	1.70 kW	1.41 kW	3.1 A	4G1,0	Integrated	CEE	30 mm	17.0 kg
Without level control										
US 253 D	JP09303	3/N/PE~400 V	2.60 kW	2.10 kW	4.4 A	6G1,5	on request ¹	Without	40 mm	26.5 kg
With built-in level control										
US 253 DS	JP09251	3/N/PE~400 V	2.60 kW	2.10 kW	4.4 A	6G1,5	Integrated	CEE	40 mm	28.0 kg

¹Protective motor plug necessary see accessory

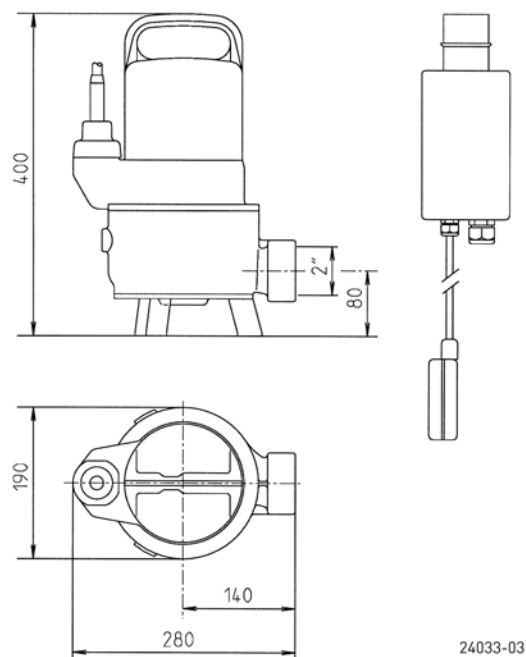
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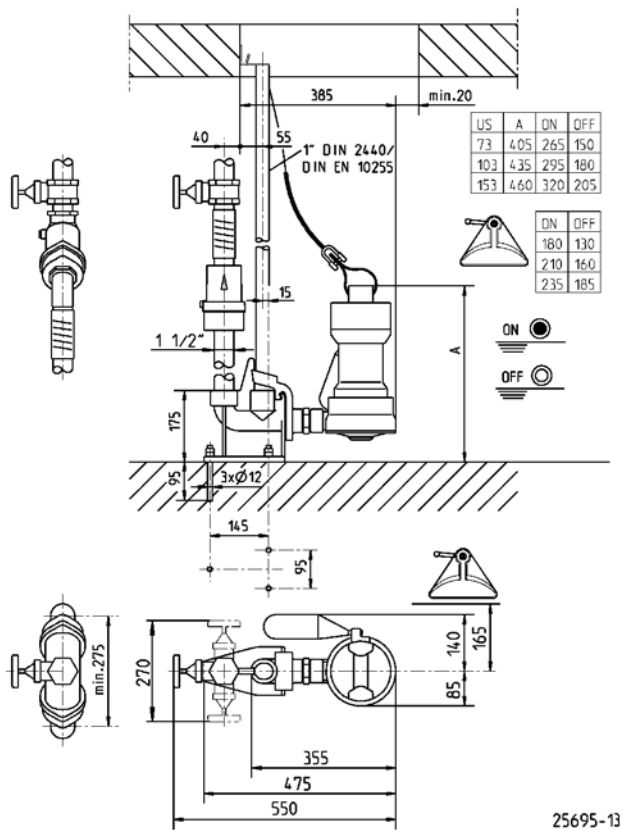
Dimensions and switching points US 73, US 103, US 153 (mm)



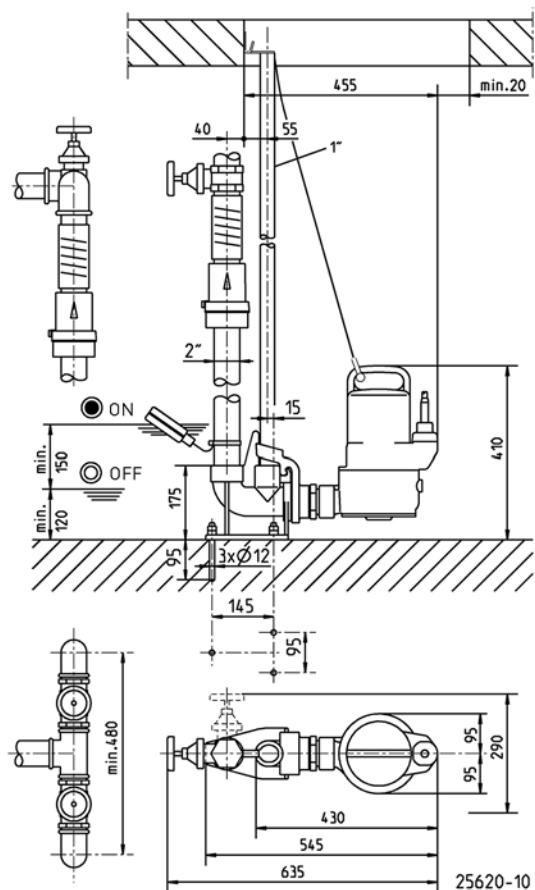
Dimensions US 253 (mm)



Dimensions and switching points with GR 40 (mm)



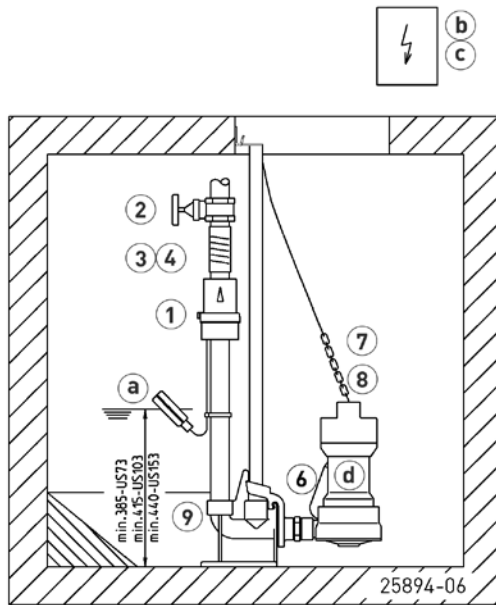
Dimensions with GR 50 (mm)



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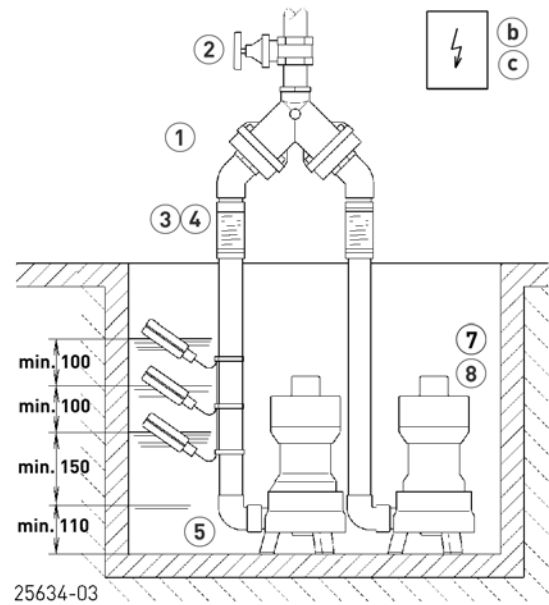
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Example of single pump station with GR



Single unit 1½" with GR 40: sump area min. 40x60 cm
 Single unit 1½" without GR: sump area min. 40x40 cm
 Single unit 2" with GR 50 S: sump area min. 40x65 cm
 Single unit 2" without GR: sump area min. 40x50 cm
 Duplex unit 1½" with GR 40: sump area min. 60x60 cm
 Duplex unit 1½" without GR: sump area min. 40x60 cm
 Duplex unit 2" with GR 50: sump area min. 70x70 cm

Example of duplex pump station



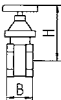
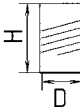
Duplex unit 2" without GR: sump area min. 50x70 cm

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 an EN 12050-4-proofed swing-type check valve. Additionally we recommend an alarm system.

In accordance with EN 12056-4 section 5.1, it has a built-in automatic spare pump or a double attachment included, which ensures that sewage drainage is not interrupted.

Suspend control unit in a dry room

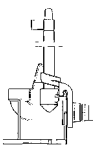
MECHANICAL ACCESSORY

					Code No.
	① Swing-type check valve				
	R40	EN 12050-4	1½" (DN 40), PN 4	150x120 (HxB)	JP00317
	DR 40	EN 12050-4	1½" (DN 40), PN 4	200x280 (HxB)	JP09155
	R50	EN 12050-4	2" (DN 50), PN 4	150x120 (HxB)	JP00326
	Ball-type check valve				
	KE40	EN 12050-4	1½" (DN 40), PN 6	170x125 (HxB)	JP47974
	K50	EN 12050-4	2" (DN 50), PN 6	185x155 (HxB)	JP44782
	② Stop valve		brass, 1½" (DN 40), PN 16	125x60 (HxB)	JP44786
			brass, 2" (DN 50), PN 16	140x70 (HxB)	JP44787
	③ Elastic connection		1½" (DN 40), PN 4	120x50 (HxD)	JP44777
			2" (DN 50), PN 4	150x63 (HxD)	JP44775
	④ Hose band clamp		1½"		JP44763
			2"		JP44764

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MECHANICAL ACCESSORY

			Code No.
	⑤ Elbow	1½"	JP45953
		2"	JP44771
	⑥ Special float	for lower switching points	JP44795
	⑦ Chain	certified, 2.5 m, 320 kg, 5 rings (EN 818 mod.)	JP45901
		certified, 5.0 m, 320 kg, 8 rings (EN 818 mod.)	JP45902
		certified, 7.5 m, 320 kg, 11 rings (EN 818 mod.)	JP47365
	⑧ Webbing	with shackle	JP45168
	⑨ Guide rail system	GR 40	JP25592
		GR 50	JP25593
		Guide rail 1"	1500 mm
		Guide rail 1"	2000 mm
		Guide rail 1"	2500 mm
		Guide rail 1"	3000 mm

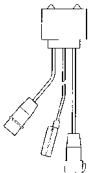
ELECTRICAL ACCESSORIES

Alarm unit			Code No.
	PTS.SA1	Level alarm system with battery backup 320x240x150mm (WxDxH)	PTS.SA1
	PTS.HLA	High Level alarm unit. 182x180x111mm (HxWxD)	PTS.HLA
	Power Isolation Alarm	Isolate appliance - in event of alarm no more water will be fed into the alarm system	P734

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ELECTRICAL ACCESSORY

			Code No.
	b Control for single units		
	Control unit NE 1	230 V, subm. ball contact switch 3.0 m	JP16710
	Control unit NE 1A	230 V, subm. ball contact switch 3.0 m, alarm	JP16714
	Control unit NE 2	230 V, subm. ball contact switch 9.5 m	JP16711
	Control unit NE 2A	230 V, subm. ball contact switch 9.5 m, alarm	JP16715
	Control unit ND 1	400 V, subm. ball contact switch 3.0 m	JP16712
	Control unit ND 1A	400 V, subm. ball contact switch 3.0 m, alarm	JP16716
	Control unit ND 3	400 V, subm. ball contact switch 9.5 m	JP16713
	Control unit ND 3A	400 V, subm. ball contact switch 9.5 m, alarm	JP16717
	Control for duplex units		
	Control unit BD 00 E	230 V, for pumps U3-U6, US 62-105, UV 300, 08/2 ME	JP45735
	Control unit HIGHLOGO 2-00 E	230 V	JP47996
	Control unit BD 00	400 V, for pumps U6, US 62-105, UV 300	JP45993
	Control unit HIGHLOGO 2-00	400 V	JP47997
	Control unit BD 25	400 V, for pumps US 151-155	JP45737
	Control unit HIGHLOGO 2-25	400 V	JP47998
	Control unit BD 46	400 V, for pumps US 251-253, UV 620-3, UV 625-3	JP45739
	Control unit HIGHLOGO 2-46	400 V	JP47999
	Level control		
	Subm. switch pack B	3 subm. ball contact switch with 9.5 m and fixing devices	JP16725
	Subm. switch pack BmG	3 subm. ball contact switch with 9.5 m and counterweight	JP16726
	Weight	to stabilize the subm. ball contact switch	JP44803
	Protective motor plug		
	Protective motor plug, 8 A	230 V, for pumps without integrated motor protection	JP44753
	CEE motor protection 2,5-4,0 A	400 V, mandatory for pumps without integrated motor protection	JP44754
	CEE motor protection 4,0-6,0 A	400 V, mandatory for pumps without integrated motor protection	JP44751
	c Rechargeable battery	for mains independent alarm	JP44850
	d Seal leak detector	DKG	JP44900