

Application

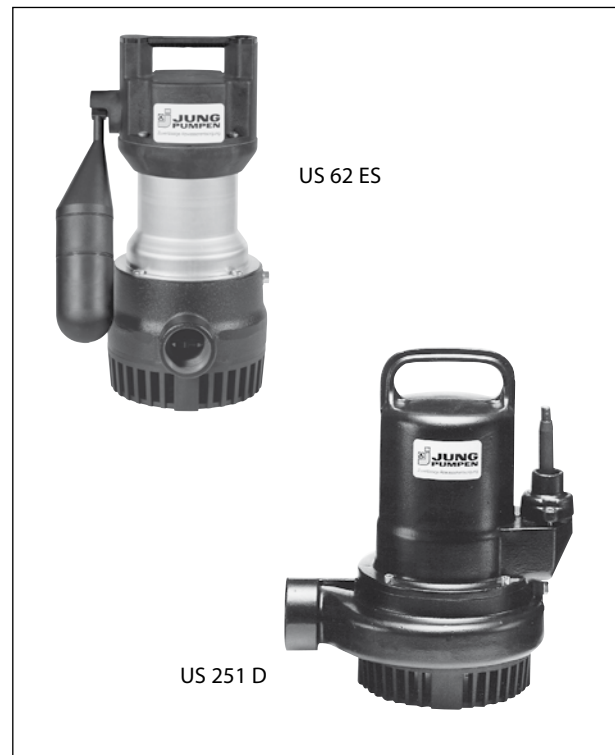
The centrifugal submersible drainage pumps US 62-251 can be used wherever sewage water with solids up to 10 mm particle size occurs, e.g. in collecting sumps for ground water, or in permanent draining systems for clean water, or handling solids in suspension. They are also ideal for pumping the sewage water from collecting sumps into which dishwashers or washing machines are discharging. For high temperature hot water in the industrial and commercial field we recommend the use of our US 73 and US 103 HE/HES.

This range of pumps is suitable for stationary and portable 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.

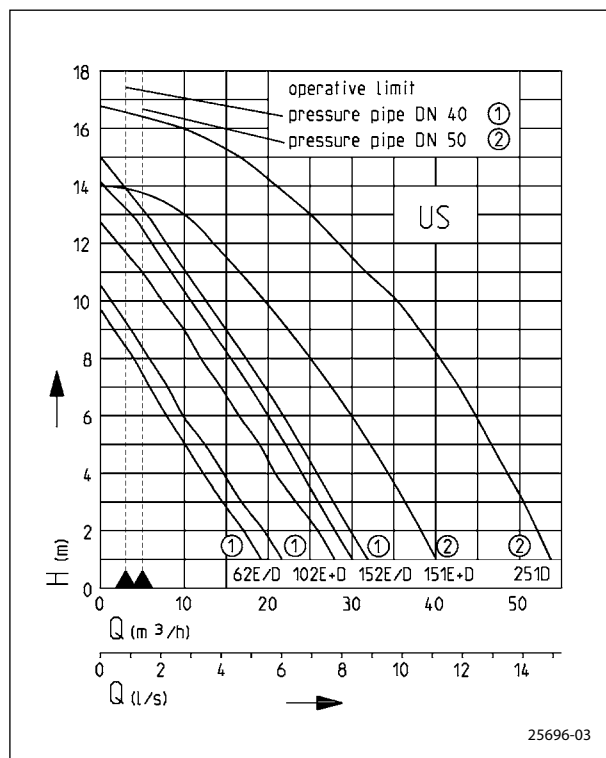
For automatic monitoring of the oil chamber a seal leak control can be connected.

Maximum cable length of the pumps is 10 m. 3-phase pumps with level control (US 151 DS, US 152 DS and US 251 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



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.

- Safe to run dry
- Easy to maintain due to guide rail systems
- 10 mm free passage
- Controllable oil chamber
- SiC mechanical seal independent of rotation direction
- Replaceable moisture sealed cable inlet



Submersible drainage pumps US 62–251

10 mm free passage

Submersible drainage pumps US 62–251

Type	Maximum Height x Width x Depth	Discharge branch	Free passage	Cable quality H07RN-F-	Cable length with plug	Cable length without plug	Weight approx.	Code No.
Pumps without level control								
US 62 E	380 x 190 x 210 mm	1½"	10 mm	3G1.0	10 m		12.5 kg	JP 09812
US 62 D	380 x 190 x 210 mm	1½"	10 mm	4G1.0	10 m		13.0 kg	JP 09813
US 102 E	410 x 190 x 210 mm	1½"	10 mm	3G1.0	10 m		14.5 kg	JP 09278
US 102 D	410 x 190 x 210 mm	1½"	10 mm	4G1.0	10 m		15.0 kg	JP 00214
US 152 E	435 x 190 x 210 mm	1½"	10 mm	3G1.0		10 m	17.0 kg	JP 09435
US 152 D	435 x 190 x 210 mm	1½"	10 mm	4G1.0		10 m	18.0 kg	JP 09437
Pumps with built-in level control								
US 62 ES	380 x 225 x 325 mm	1½"	10 mm	3G1.0	10 m		12.5 kg	JP 09814
US 62 DS	380 x 225 x 325 mm	1½"	10 mm	4G1.0	10 m		13.0 kg	JP 09815
US 102 ES	410 x 225 x 325 mm	1½"	10 mm	3G1.0	10 m		14.5 kg	JP 09279
US 102 DS	410 x 225 x 325 mm	1½"	10 mm	4G1.0	10 m		15.0 kg	JP 00218
US 152 ES	435 x 225 x 325 mm	1½"	10 mm	3G1.0	10 m		17.0 kg	JP 09436
US 152 DS	435 x 225 x 325 mm	1½"	10 mm	4G1.0	10 m		18.0 kg	JP 09438
Pumps without level control								
US 151 E	360 x 220 x 310 mm	2"	10 mm	4G1.0		10 m	27.0 kg	JP 09310
US 151 D	360 x 220 x 310 mm	2"	10 mm	6G1.5		10 m	27.5 kg	JP 09300
US 251 D	360 x 220 x 310 mm	2"	10 mm	6G1.5		10 m	27.5 kg	JP 09301
Pumps with built-in level control								
US 151 ES	360 x 220 x 310 mm	2"	10 mm	4G1.0	10 m		29.0 kg	JP 09241
US 151 DS*	360 x 220 x 310 mm	2"	10 mm	6G1.5	10 m		29.5 kg	JP 09243
US 251 DS*	360 x 220 x 310 mm	2"	10 mm	6G1.5	10 m		29.5 kg	JP 09245

* CEE-Motorprotection with phase inverter

Performance

Typ	Delivery head H [m]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	16
US 62 E/ES		19	17	15	12	10	8	6	4	2			Flow rate Q [m³/h]			
US 62 D/DS		22	20	17	15	12	10	8	6	4						
US 102 E/ES/D/DS		28	26	23	21	19	17	15	12	10	8	5	2			
US 152 E/ES		30	29	27	24	22	20	18	15	13	11	8	6	3	1	
US 152 D/DS		31	30	28	26	23	21	19	17	14	12	10	8	5	3	
US 151 E/ES/D/DS		40	39	37	35	33	31	29	26	23	20	17	14			
US 251 D/DS		54	52	51	49	47	45	43	40	38	35	32	29	25	21	10

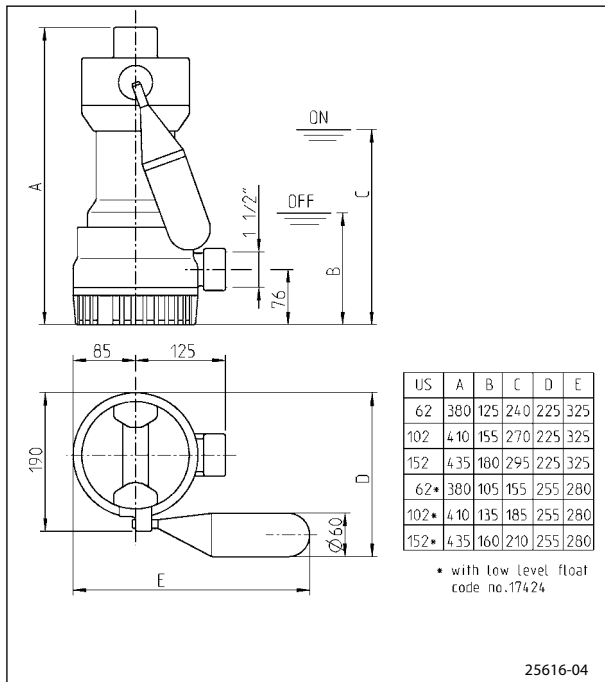
Electrical Data

Type	Type of current	Voltage Volt	Motor rating kW P ₁	P ₂	RPM min. ⁻¹	Current Ampere	Motor protection	Plug
US 62 E/ES	1-phase	1/N/PE~230	0.83	0.50	2510	3.9	integrated	Safety plug
US 62 D/DS	3-phase	3/PE~400	0.85	0.60	2800	1.4	integrated	CEE-
US 102 E/ES	1-phase	1/N/PE~230	1.37	0.98	2700	6.0	integrated	Safety plug
US 102 D/DS	3-phase	3/PE~400	1.36	1.06	2740	2.4	integrated	CEE-
US 152 E	1-phase	1/N/PE~230	1.60	1.21	2814	7.5	on site*	–
US 152 ES	1-phase	1/N/PE~230	1.60	1.21	2814	7.5	integrated	Safety plug**
US 152 D	3-phase	3/PE~400	1.70	1.41	2815	3.1	on site*	–
US 152 DS	3-phase	3/PE~400	1.70	1.41	2815	3.1	integrated	CEE-**
US 151 E	1-phase	1/N/PE~230	1.68	1.19	2812	7.6	on site*	–
US 151 ES	1-phase	1/N/PE~230	1.68	1.19	2812	7.6	integrated	Safety plug**
US 151 D	3-phase	3/N/PE~400	1.60	1.30	2925	3.0	on site*	–
US 151 DS	3-phase	3/N/PE~400	1.60	1.30	2925	3.0	integrated	CEE-**
US 251 D	3-phase	3/N/PE~400	2.60	2.10	2860	4.4	on site*	–
US 251 DS	3-phase	3/N/PE~400	2.60	2.10	2860	4.4	integrated	CEE-**

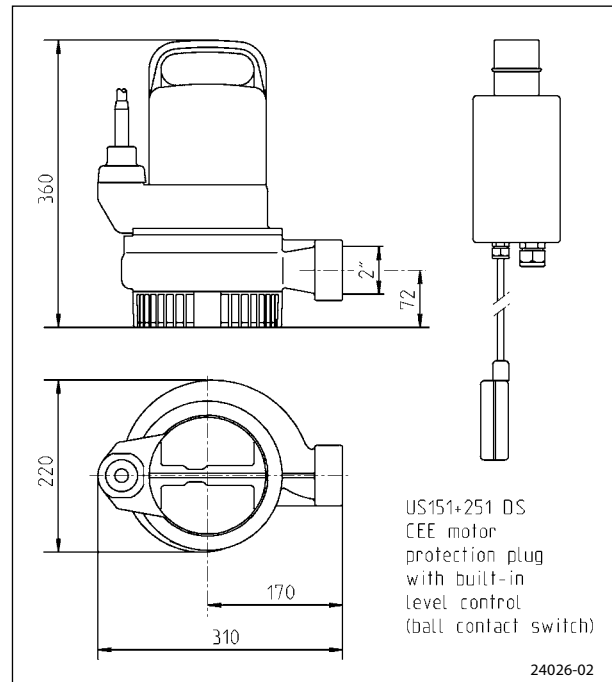
* additional requirements. see technical data or accessories

** Protective motor plug

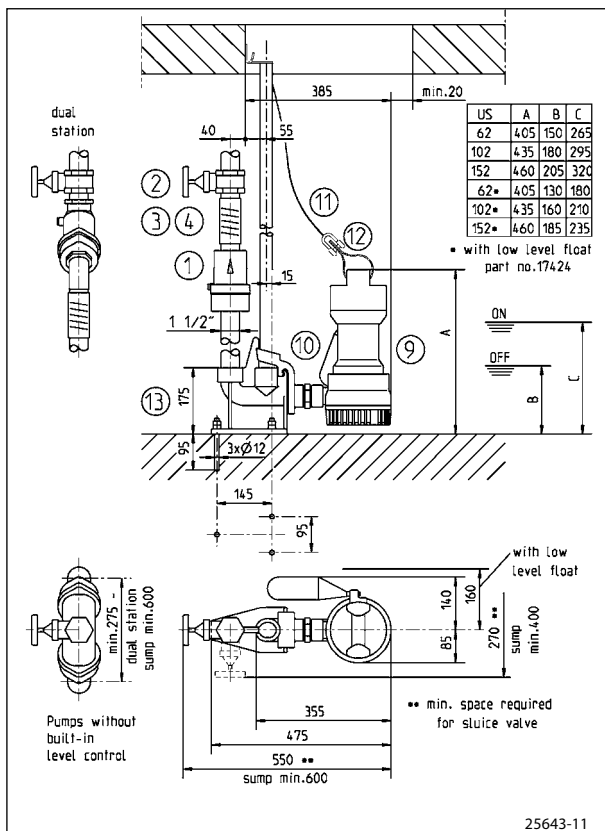
Dimensions US 62, US 102 and US 152 (mm)



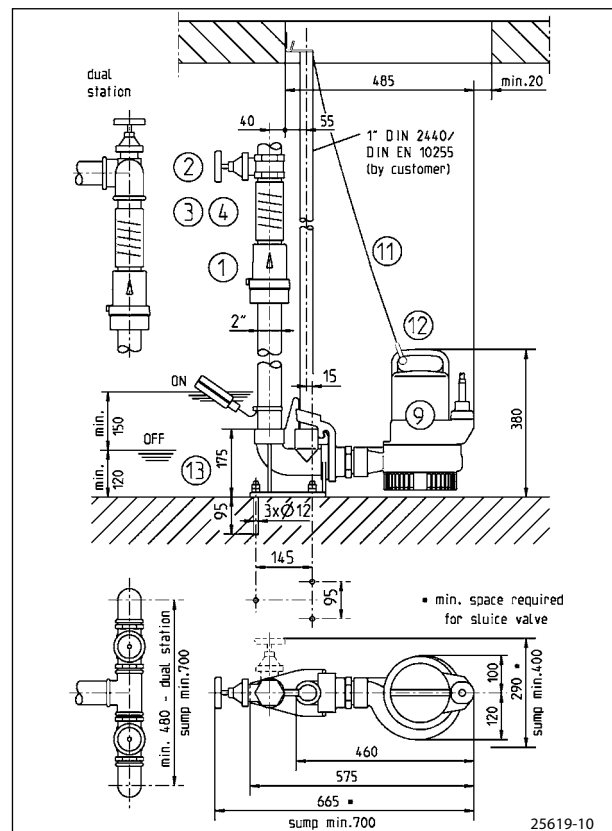
Dimensions US 151 and US 251 (mm)



Dimensions with GR 40 (mm)



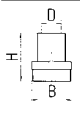
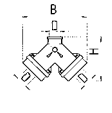
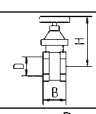



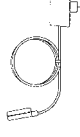
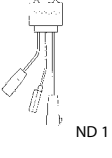







Dimensions with GR 50 (mm)



Submersible drainage pumps US 62–251

10 mm free passage

Accessories

			H	W	D	Code No.	62 E	62 ES	62 D	62 DS	102 E
	①	Swing-type check valve	1½" (DN 40), PN 4	150	120	1½"	JP 00317	●	●	●	●
		DIN EN 12050-4	2" (DN 50), PN 4	150	120	2"	JP 00326				
		Ball check valve	2" (DN 50), PN 6	185	155	2"	JP 09857				
		DIN EN 12050-4	1½" (DN 40), PN 6,	170	125	1½"	JP 22442	●	●	●	●
		Elbow ball check valve	DIN EN 12050-4								
		Duplex swing-type check valve	1½" (DN 40), PN 4	200	280	1½"	JP 09155	●	●	●	●
		for duplex pump stations, DIN EN 12050-4									
	②	Stop valve	1½" (DN 40), PN 16	H 125	W max. 60	D 1½"	JP 11837	●	●	●	●
			2" (DN 50), PN 16	140	max. 67	2"	JP 11838				
	③	Elastic connection	1½" (DN 40), PN 4	H 120	W 50	D	JP 20368	●	●	●	●
			2" (DN 50), PN 4	150	63		JP 17194				
	④	Hose band clamp	1½"				JP 03571	●	●	●	●
			2"				JP 03572				
	⑤	Elbow 1½"					JP 17894	●	●	●	●
		Elbow 2"					JP 14230				
	⑥	Alarm system with submersible ball contact switch, separate, mains-dependent, with potential-free contact and 3 m cable					JP 16723		●		●
		Alarm system ditto, with 9.5 m cable					JP 24434		●		●
		Alarm system for washing-machines with submersible ball contact switch with 3 m cable, separate, mains-dependent					JP 25090	●	●	●	●
		Alarm system for washing-machines ditto, with 9.5 m cable					JP 25091	●	●	●	●
	⑦	Separate level controls for single unit (see level controls for description)									
		NE 1 (Single-phase current) with sub. ball contact switch 3.0 m					JP 16710	●			●
		NE 2 (Single-phase current) with sub. ball contact switch 9.5 m					JP 16711	●			●
		ND 1 (3-phase current) with sub. ball contact switch 3.0 m					JP 16712		●		
		ND 3 (3-phase current) with sub. ball contact switch 9.5 m					JP 16713		●		
		NE 1A (Single-phase current) with sub. ball contact switch 3.0 m and alarm system					JP 16714	●			●
		NE 2A (Single-phase current) with sub. ball contact switch 9.5 m and alarm system					JP 16715	●			●
		ND 1A (3-phase current) with sub. ball contact switch 3.0 m and alarm system					JP 16716		●		
		ND 3A (3-phase current) with sub. ball contact switch 9.5 m and alarm system					JP 16717		●		
		Counterweight (1 piece)					JP 17541	●	●		●
		Duplex control units (see section on level controls for description)									
		BD 00 E (Single-phase current)					JP 00482	●			●
		BD 00 EC (Single-phase current with operating capacitor)					JP 25709				
		BD 00 (3-phase current)					JP 00299		●		
		BD 25 (3-phase current)					JP 00302				
		BD 46 (3-phase current)					JP 14358				
		Subm. switch packB with 3 subm. ball contact switches with 9.5 m cable and fixing device					JP 16725	●	●		●
		BmG with 3 subm. ball contact switches with 9.5 m cable and counterweight					JP 16726	●	●		●
		Protective motor safety plug – 230 V (without level control)					JP 40264				
		Protective motor plug – 8 A, 230 V (without level control)					JP 40770				
		Protective motor plug – 2.5–4 A, 400 V (without level control)					JP 40773				
		CEE-Protective motor plug – 400 V (without level control)	2.8–4.0 A				JP 12262				
			4.0–6.0 A				JP 12266				
	⑧	Rechargeable battery for off the line operation of the alarm system					JP 07562	●	●	●	●
	⑨	Seal leak detector DKG					JP 00252	●	●	●	●
	⑩	Special float assembly for low switching points									
		Switching points	US 62 ON/OFF	US 102 ON/OFF	US 152 ON/OFF		JP 17424		●		●
		without GR	155/105 mm	185/135 mm	210/160 mm						
	⑪	Chain with 2 rings DIN 766, 2.5 m, 320 kg					JP 19189	●	●	●	●
		Chain stainless steel with 5 rings, 1 shackle NG 10, DIN 766, 2.5 m, 200 kg					JP 23986	●	●	●	●
	⑫	Shackle A 0.6					JP 13402	●	●	●	●
	⑬	Guide rail system GR 40					JP 25592	●	●	●	●
		Guide rail system GR 50					JP 25593				

** only for single units

■ in connection with a motor protection plug

102 ES	102 D	102 DS	152 E	152 ES	152 D	152 DS	151 E	151 ES	151 D	151 DS	251 D	251 DS
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Technical data

Pump

Vertical, single-stage, submersible, open centrifugal impeller with 10 mm free passage

US 62, US 102 and US 152: volute casing with discharge branch 1½" (female thread).

US 151 and US 251: spiral casing with horizontal discharge 2" (female thread).

Bearings

Common shaft for pump and motor, with ball bearings, deep groove ball bearing with grease chamber (US 151 and 251 with angular ball bearings).

Seal

Silicon carbide mechanical seal, oil chamber and duplex rotary seal towards the motor section, safe to run dry, a seal leak control can be connected.

Motor

Submersible, motor type of enclosure IP 68, insulation class B or F (US 151 and US 251), winding thermostat protects the motor from overload, starting via plug, automatically via mounted circuit or submersible ball contact switches.

US 152: To protect the motor, a correct adjusted motor protecting switch has to be provided in the control unit at site by the customer.

US 151 E: To protect the motor, a correct adjusted motor protecting switch and an operating capacitor 30 µF have to be provided in the control unit at site by the customer. The winding thermostat (provided by customer in the control unit) must be corrected in series with the input side of the motor contactor.

US 151 D und US 251 D: To protect the motor, a correct adjusted motor protection switch has to be provided in the control unit at site by the customer. The winding thermostat (provided by customer in the control unit) must be corrected in series with the input side of the motor contactor.

Materials:

Volute casing or spiral housing made off GG grey cast iron, power supply through rubber insulated flexible cable.

US 62, US 102 and US 152: Terminal board lid, open centrifugal impeller, wear plate and foot strainer made off GRP, motor casing and shaft from stainless steel.

US 151 and US 251: Motor casing and cable inlet made of GG grey cast iron, open centrifugal impeller and foot strainer made of GRP, rubber coated wear plate, shaft from C 45 steel encapsulated

Installation

Pump can be installed free standing or in connection with guide rail system GR 40 or GR 50.

Scope of supply

Pump according to DIN EN 12050 ready for connection with 10 m cable. US 62 and US 102 with safety plug (1-phase) or CEE-Plug (3-phase).

US 151, US 152 and 251: Pumps without level control with free lead end. Pump with built-in level control with CEE-Plug and phase inverter (3-phase) or safety-plug (1-phase).