

Submersible Sewage Pump Type ABS XFP PE7

SULZER

60 Hz



Submersible sewage pump type ABS XFP PE7 is designed for municipal and industrial wastewater equipped with Premium Efficiency IE3-level motor. Suitable for clean water and wastewater, sewage with fibrous material and high contain of rags, solids and sludge.

Construction

- Premium Efficiency IE3 motors in accordance with NEMA and IEC 60034-30. Testing in accordance with IEC60034-2-1.
- Premium Efficiency motors designed for VFD operation in accordance with IEC/TS 60034-25 A ($U_{peak} < 1300$ V).
- The water-tight fully flood-proof motor and the pump section form a compact and robust unit, easy to clean and easy to service.
- Water pressure sealed connection chamber, with two stage cable entry, protected against excessive cable tension and bending.
- Thermal sensors in the stator which open at 140 °C (284 °F).
- Rotor and shaft dynamically balanced, upper and lower bearings lubricated-for-life, maintenance-free.
- Insulated upper bearing for VFD operation.
- Triple shaft sealing.
- Upper mechanical seal from SiC/SiC and lower mechanical seal from SiC/SiC, independent of the direction of rotation.
- Inspection chamber with sensor for moisture protection to indicate water leakage through mechanical seal, also standard for ex version, according to FM and CSA approval.
- Blockage-free open cooling system. Cooled by the medium.
- Impeller types with 2-or 3-channel closed, skew- or mixed flow impeller.
- These pumps are available as standard and explosion-proof* construction in accordance with international standards such as 500 Class I, Division 1, Groups C and hazardous (classified) locations.

*see table "Motor power and speed overview".

Motor

Water pressure sealed Premium Efficiency motors, (3-phase, squirrel cage induction motors), from 185 to 620 kW (248 to 831 hp) and depending on hydraulic requirements as 6- to 12-pole versions.

Voltage: 460 V, 3~, 60 Hz (other voltages on request).

Insulation system: Class H (winding protection by 140 °C (284 °F) sensor)

Temperature rise: According to NEMA class B.

Protection type: IP68

Start-up: DOL (direct on line), VFD, soft starter or star-delta.

Motor power and pole overview

pole	Motor Power P_2 in kW (60 Hz)						
6	290*	350*	415*	468	500	560	620
8	185*	220*	280*	350*	400	468	500
10	185*	220*	290*	350	415		
12	185	230	290	350			

*available in FM



Pump selection

To access more detailed information like pump performance curves, dimensional drawings, product description and motor performance curves, please use our ABSEL program:

<https://absel.sulzer.com/>

Hydraulic selection

-> Enter: Duty point -> Select: Hydraulics -> Select: Motor

Hydraulics

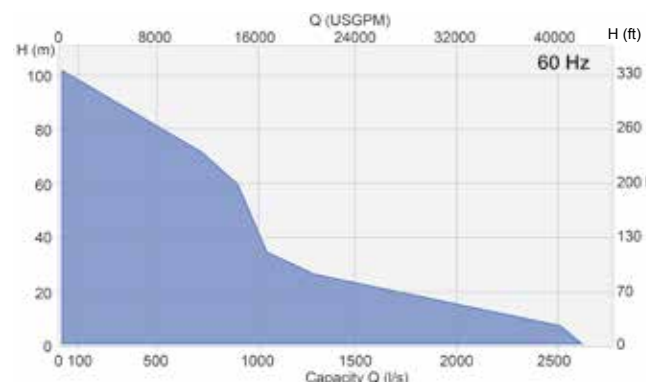
You have the choice of the following hydraulics in the range of DN 350 to DN 800 (14 to 32 in) discharge:

For power demand beyond available range, please refer to technical data sheet XFP 100J-600X or XFP CB Plus.

Hydraulics / Impeller type

Hydraulics / Impeller type			
XFP 355V / 14 inch	CH2	XFP 600V / 24 inch	CH3
XFP 400T / 16 inch	CH3	XFP 600X / 24 inch	SK3
XFP 500U / 20 inch	CH3	XFP 800X / 32 inch	MX5
XFP 505V / 20 inch	CH2	XFP 801X / 32 inch	CH5

Performance field



Standard and options

Description	Standard	Option
Max. ambient temperature	40 °C (104 °F)	60 °C (140 °F)
Max. submergence depth	20 m (66 ft)	
Mains voltage	460 V/60 Hz	other voltage on request
Voltage tolerance	± 10 %	
Insulation components	Class H (140°C/284 °F)	Class H (160°C/320 °F) (not for explosion-proof)
Start-up	DOL (direct on line), VFD or soft starter	star-delta
Approval	non Ex	NEC Class I, Division 1, Groups C and D, FM; CSA
Cables	H07RN8-F	EMC shielded cables
Cable length	10 m (33 ft)	15 m (49 ft), 20 m (66 ft) other length on request
Mechanical seal (medium side)	SiC-SiC (NBR)	SiC-SiC (Viton execution)
Mechanical seal (motor side)	SiC-SiC (NBR)	
O-rings	NBR	Viton
Preparation for lifting hoist	Lifting hoop	
Protective coating	Two component coating epoxy resin	Special coatings on request
Cathodic protection		Zinc anodes on request
Installation	Wet-well	Dry-well vertical/horizontal
Motor cooling	Blockage-free open cooling system	
Moisture sensor motor housing	DI (sensor for moisture detection)	
Moisture sensor connection chamber	DI (sensor for moisture detection)	
Moisture sensor inspection chamber	DI (sensor for moisture detection)	
Vibration sensor		on request

Motor protection

PE7		standard	NEC Class I, Division 1, Groups C and D, FM
Winding	Bi-metallic switch	X	X*
	Thermistor (PTC)	O	O*
	PT 100	O	O
Seal protection	Inspection chamber	X	X
	Motor housing	X	X
	Connection box	X	X
Temperature bearing upper/lower	Bi-metallic switch	X	X
	Thermistor (PTC)	O	O
	PT 100	O	O
Vibration sensor	0 - 20 mm/s	O	O

X = Standard; O = Option; * PTC to be used when operated via VFD.

Materials

Motor	Standard	Option
Connection chamber	EN-GJL-250	
Cooling chamber	EN-GJL-250	
Cooling jacket	1.0036	
Motor housing	EN-GJL-250	
Motor shaft	1.4021	1.4462
Fasteners (medium contact)	1.4401	
Lifting hoop	1.0553	1.4462
Hydraulics		
Volute	EN-GJL-250	1.4470
Impeller	EN-GJL-250	1.4470*
Bottom plate	EN-GJL-250	1.4470*

* or EN-GJL-250 flame hardened for CB version

Connection system (wet)	Standard	Option
Pedestal	EN-GJL-250	Non sparking
Fastening elements	Stainless steel	
Protective coating	Epoxy resin based	
Guide rail	Galvanized steel	Stainless steel
Pipe retainer	EN-GJS-400-18	1.4470
Connection system (dry)		
Support frame	1.0036	Galvanized steel

Material comparison	
Europe	USA
EN 1561; EN-GJL-250	ASTM A48; Class 35 B
EN 1563; EN-GJS-400-18	ASTM A536; 60-40-18
EN 10025; 1.0036; S235JRG1	ASTM / AISI A283 (C)
EN 10025; 1.0060; E335	ASTM / AISI A572 (65)
1.4021; 1.4401	ASTM / AISI 420; 316
1.4470	ASTM A 890 4A (CD 3MN)

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