

Submersible sewage pump type ABS XFP 100J - 600X

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

Construction

- Premium Efficiency IE3 motors in accordance with NEMA and IEC 60034-30. Testing in accordance with IEC60034-2-1.
- 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.
- Bimetallic 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 standard for PE6 and optional for PE4 and PE5.
- Triple shaft sealing.
- Upper and lower sealing by means of a silicon carbide/silicon carbide mechanical seal, independent of the direction of rotation.
- Inspection chamber with moisture sensor to indicate water leakage through mechanical seal.
- Option: Blockage- and maintenance-free internal closed looped cooling system. Cooling medium: Glycol - water mixture (standard for PE6 range).
- 2-or 3-channel Contrablock, 1-, 2- or 3-channel closed impeller or 3-channel skew design.
- These pumps are available as standard (PE4 - PE6) and explosion-proof construction in accordance with international standards such as NEC 500 Class I, Division 1, Groups C and D hazardous (classified) locations.



Motor

Water pressure sealed Premium Efficiency motors, (3-phase, squirrel cage induction motors), from 20 to 280 kW (27 to 375 hp) and depending on hydraulic requirements as 4- to 12-pole versions.

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

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

Temperature rise: According to NEMA class A up to 125 kW and class B above.

Protection type: IP68

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

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 100 to DN 600 (4 to 24 in) discharge:

Hydraulics / Impeller type

XFP 105J (4 inch)	CB2	XFP 100J (4 inch)	CH1
XFP 106J (4 inch)	CB2	XFP 100J (4 inch)	CH2
XFP 107J (4 inch)	CB2	XFP 150J (6 inch)	CH2
XFP 155J / 150M (6 inch)	CB2	XFP 200J / 200M (8 inch)	CH2
XFP 206J (8 inch)	CB2	XFP 250M (10 inch)	CH2
XFP 205J (8 inch)	CB2	XFP 300M (12 inch)	CH2
XFP 205L (8 inch)	CB2	XFP 300M / 301M (12 inch)	CH3
XFP 250J / 255J (10 inch)	CB2	XFP 351M (14 inch)	CH2
XFP 255L (10 inch)	CB2	XFP 400M (16 inch)	CH2
XFP 305M / 306M (12 inch)	CB2	XFP 400R (16 inch)	CH3
XFP 305J (12 inch)	CB2	XFP 501U (20 inch)	SK3
XFP 405M (16 inch)	CB2	XFP 600V (24 inch)	CH3
		XFP 600X (24 inch)	SK3

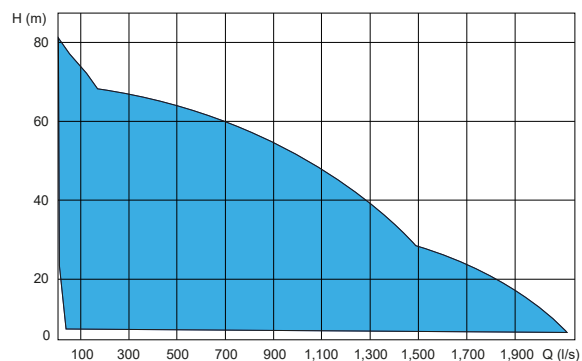
CB... = Contrablock, CH... = closed channel,
SK... = skew; last digit (1, 2 or 3) = Number of impeller vanes

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	230 V, 380 V, 575 V, 600 V / 60 Hz
Voltage tolerance	± 10 % at 460 V	-
Insulation components	Class H [140 °C/284 °F]	Class H [160 °C/320 °F] (not for Ex)
Start-up	DOL (direct on line), VFD or soft starter	-
Approval	Non-FM	NEC Class I, Division 1, Groups C and D*
Cables	G-GC, H07RN8-F	EMC shielded cables
Cable length (m)	10 [33]	15 [49], 20 [66], 30 [98], 40 [131], 50 [164]
Mechanical seal (medium side)	SiC-SiC (NBR)	SiC-SiC (Viton execution)
Mechanical seal (motor side)	SiC-SiC	-
O-rings	NBR	Viton
Preparation for lifting hoist	Lifting hoop	Lifting hoop in stainless steel *
Protective coating	Two component epoxy resin coating	Special coatings on request
Cathodic protection	-	Zinc anodes on request
Installation	Wet-well	Dry-well vertical/horizontal
Motor cooling	Cooling by surrounding medium	Closed loop cooling system **
Moisture sensor motor housing	PE6	PE3 - PE5
Moisture sensor inspection chamber	PE3 - PE6	-
Vibration sensor	-	PE4 - PE6

* Standard for PE3. ** Standard for PE6.

Performance field



H = Total Head; Q = Discharge Volume

Motor protection

		PE3 60 Hz			PE4/PE5 60 Hz		PE6 60 Hz	
		Non-Ex	FM	ATEX	Non-Ex	FM	Non-Ex	FM
Winding	Bi-metallic switch	●	●*	●	●	●*	●	●*
	Thermistor (PTC)	○	○*	●	○	○*	○	○*
	PT 100	-	-	-	○	○	○	○
Leakage sensor	Inspection chamber	-	●	-	●	●	●	●
	Motor chamber	●	-	●	○	○	●	●
	Connection chamber	-	-	-	○	○	●	●
Temperature bearing upper/lower	Bi-metallic switch	-	-	-	○	○	●	●
	Thermistor (PTC)	-	-	-	○	○	●	●
	PT 100	-	-	-	○	○	○	○
Vibration sensor	0 - 20 mm/s	-	-	-	○	○	○	○

● = Standard. ○ = Option. * Ex with VFD, monitoring via PTC.

Materials

Motor	Standard	Option	Connection system (wet)	Standard	Option
Connection chamber	EN-GJL-250	-	Pedestal	EN-GJL-250	Non sparking
Cooling chamber	EN-GJL-250	-	Fastening elements	Stainless steel	
Cooling jacket	1.0036*	Stainless steel	Protective coating	Epoxy resin based	
Motor housing	EN-GJL-250	-	Guide rail	Galvanized steel	Stainless steel
Motor shaft	1.4021	1.4462	Pipe retainer	EN-GJS-400-18	1.4470
Fasteners (medium contact)	1.4401	-			
Lifting hoop (PE3)	1.4401	-	Connection system (wet)	Standard	Option
Lifting hoop (PE4 & PE5)	EN-GJS-400-18	1.4470	Support frame	1.0036	Galvanized steel
Lifting hoop (PE6)	1.0553	1.4462			

Hydraulics	Standard	Option
Volute	EN-GJL-250	1.4470
Impeller	EN-GJL-250	1.4470** / A532***
Bottom plate (only CB version)	EN-GJL-250	1.4470** / A532***
Shroud (XFP 501U and 600X)	EN-GJL-250	-
Wear ring (only CH version)	EN-GJL-300	1.4581
Wear ring impeller (only CH version)	-	1.4571

* PE3 = EN-GJL-250. ** or EN-GJL-250 flame hardened for CB version.
*** ASTM A-532 Alloy III A

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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