TECHNICAL DATASHEET

Submersible sewage pump type ABS XFP 105J - 600X

Submersible sewage pump type ABS XFP is designed for municipal and industrial wastewater, equipped with a 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 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 (Upeak< 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.
- Bimetallic thermal sensors in the stator that open at 140 °C.
- Rotor and shaft are 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 (PE4 - PE6).
- Option: blockage- and maintenance-free internal closed looped cooling system.
- Cooling medium: glycol/water mixture (standard for PE6 range).
- Hydraulic parts with various impeller options: 2-or 3-channel Contrablock, 2-or 3-channel closed, or 3-channel skew.
- ATEX explosion-proof version in accordance with international standards e.g. ATEX II 2G Ex h db IIB T4 Gb, FM or CSA (Ex as standard with PE3, optional with PE4 - PE6).

Motor

Water pressure sealed Premium Efficiency motors, (3-phase, squirrel cage induction motors), from 18.5 to 250 kW, and depending on hydraulic requirements as 4- to 10-pole versions.
Voltage: 380...420 V, 3~, 50 Hz (other voltages on request).
Insulation components: Class H (winding protection by 140 °C sensor)
Temperature rise: According to NEMA class A up to 110 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

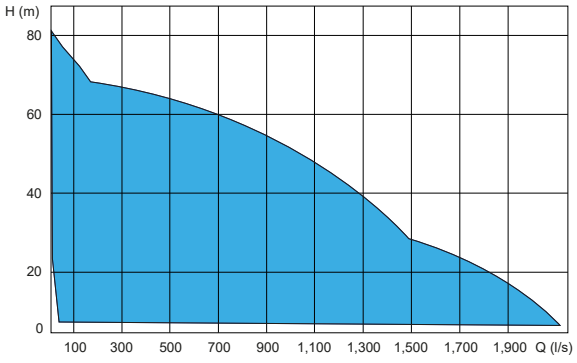
Hydraulics

You have the choice of the following hydraulics in the range of DN 100 to DN 600 discharge:

Hydraulics / Impeller type			
XFP 105J	CB2	XFP 301M	CH2
XFP 107J	CB2	XFP 305M	CB2
XFP 155J	CB2	XFP 306M	CB2
XFP 205J	CB2	XFP 351M	CH3
XFP 206J	CB2	XFP 356M	CB3
XFP 255J	CB2	XFP 400M	CH2
XFP 305J	CB2	XFP 405M	CB2
XFP 150M	CB2	XFP 400R	CH3
XFP 151M	CB2	XFP 500U	CH3
XFP 200M	CH2	XFP 501U	SK3
XFP 205M	CB3	XFP 600V	CH3
XFP 250M	CH2	XFP 600X	SK3
XFP 300M	CH2		

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

Performance field



H = Total Head; Q = Discharge Volume

Standard and options

Description	Standard	Option
Max. ambient temperature	40 °C	60 °C
Max. submergence depth	20 m	-
Mains voltage	380...420 V/50 Hz	Other voltage on request
Voltage tolerance	multi-voltage ± 5 %; 400 V ± 10 %	-
Insulation components	Class H [140 °C]	Class H [160 °C] (not for Ex)
Start-up	DOL [direct on line], star-delta, VFD or soft starter	-
Approval	non-Ex	Ex/ATEX *
Cables	H07RN8-F	EMC shielded cables
Cable length (m)	10	15, 20, 30, 40, 50
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 / connection chamber	PE3, PE6	PE4, PE5
Moisture sensor inspection chamber	PE4 - PE6	-
Vibration sensor	-	PE4 - PE6

* Standard for PE3. ** Standard for PE6.

Motor protection

		PE3 50 Hz			PE4/PE5 50 Hz		PE6 50 Hz	
		Non-Ex	FM	ATEX	Non-Ex	FM	Non-Ex	FM
Winding	Bi-metallic switch	●	●*	●	●	●*	●	●*
	Thermistor (PTC)	O	O*	●	O	O*	O	O*
	PT 100	-	-	-	O	O	O	O
Leakage sensor	Inspection chamber	-	●	-	●	●	●	●
	Motor chamber	●	-	●	O	O	●	●
	Connection chamber	-		-	O	O	●	●
Temperature bearing upper/lower	Bi-metallic switch	-	-	-	O	O	●	●
	Thermistor (PTC)	-	-	-	O	O	●	●
	PT 100	-	-	-	O	O	O	O
Vibration sensor	0 - 20 mm/s	-	-	-	O	O	O	O

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

Materials

Motor	Standard	Option
Connection chamber	EN-GJL-250	-
Cooling chamber	EN-GJL-250	-
Cooling jacket	1.0036 (PE4 - PE6)*	Stainless steel
Motor housing	EN-GJL-250	-
Motor shaft	1.4021	1.4462
Fasteners (medium contact)	1.4401	-
Lifting hoop (PE3)	1.4401	-
Lifting hoop (PE4 & PE5)	EN-GJS-400-18	1.4470
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 hardenend for CB version.
*** ASTM A-532 Alloy III A

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 (wet)	Standard	Option
Support frame	1.0036	Galvanized steel

sulzer.com