

Submersible Sewage Pump Type ABS AFP M8 and M9

50 Hz

Submersible sewage pump, type ABS AFP are suitable for clear and wastewater, for sewage with sludge containing solids and fibrous material.

Construction

- The water-tight fully flood-proof motor and the pump section form a compact and robust unit
- Water pressure sealed connection chamber, with two stage cable entry, protected against excessive cable tension and bending
- Water pressure sealed motor, insulation class H with bimetallic temperature monitors in the stator
- Rotor and rotor shaft dynamically balanced, upper and lower bearings lubricated-for-life, maintenance-free
- Blockage-free cooling system. Cooled by the medium
- Double shaft sealing
- Lower sealing by means of a silicon carbide mechanical seal, independent of the direction of rotation
- Upper mechanical seal carbon/chrome steel, independent of direction of rotation.
- Oil chamber with seal monitor sensor to indicate water leakage through mechanical seal
- Hydraulic parts with open or closed 3-channel or 5-channel impeller
- These pumps are available both in standard and explosion-proof versions in accordance with international standards e.g. Ex d IIB T4/ATEX II 2Gk

Motor

Water pressure sealed high efficiency motors, (3-phase, squirrel cage induction motors), from 110 to 650 kW and, depending on hydraulic requirements as 4- to 12-pole versions

Voltage: 400 V, 3-, 50 Hz (other voltages on request)

Insulation component: Class H (winding protection by 140 °C sensor)

Protection type: IP68

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

Pump selection

For pump selection please use our ABSEL programme,

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

Hydraulic selection

-> Enter: Duty point

-> Select: Hydraulics

-> Select: Motor

Hint

More detailed information like dimension drawings, electrical data, etc, is also available from the ABSEL V2 software.



Hydraulics

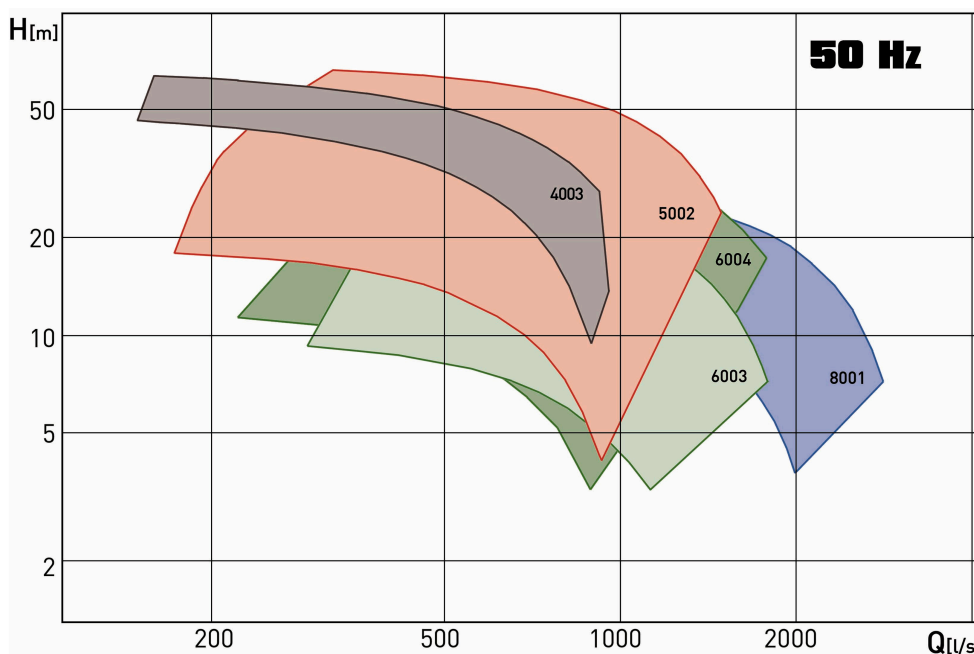
You have the choice of the following hydraulics in the range of DN 400 to DN 800 discharge:

Hydraulics / Impeller type

AFP 4003	3-channel, closed
AFP 5002	3-channel, closed
AFP 6003	3-channel, open
AFP 6004	3-channel, closed
AFP 8001	5-channel, open

For power demand beyond available range M8/M9 please refer to technical data sheet XFP 100J-600x or XFP CB Plus.

Performance field



Standard and options

Description	Standard	Option
Max. ambient temperature	40 °C	
Max. submergence depth	20 m	
Mains voltage	380...420 V/50 Hz	230 V [not for all versions], 690 V/50 Hz
Voltage tolerance	± 10%	
Insulation components	Class H (140°C)	Class H (160°C)
Start-up	DOL, star-delta or soft starter	
Approval	non Ex	Ex/ATEX
Cables	S1BN8-F	EMC shielded cables
Cable length	10 m	15 m, 20 m, other length on request
Mechanical seal (medium side)	SiC-SiC (NBR)	SiC-SiC (Viton execution)
Mechanical seal (motor side)	carbon/chrome steel	
O-rings	NBR	Viton
Preparation for lifting hoist	Eyelet bolts	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
Cooling	Open cooling system	
Filling of the oil chamber	Lubrication oil ISO VG class 46	other filling on request
Moisture sensor motor housing	DI (sensor for moisture detection)*	
Moisture sensor oil chamber	DI (sensor for moisture detection)**	External DI for Ex**

*For motors with Ex approbation the DI is part of the order; ** Upon request for motors with Ex approbation the DI must be ordered additionally

Motor protection

M8 and M9	Standard	Ex	FM
Winding	Bi-metallic switch	X	X
	Thermistor (PTC)	O	O
	PT 100	O	-
Seal protection	Oil chamber	X	O
	Motor chamber	X	X
	Connection chamber	X	X
Temperature bearing upper/lower	Bi-metallic switch	X	X
	Thermistor (PTC)	O	O
	PT 100	O	O

X = Standard; O = Option; - = not possible

Materials

Motor	Standard	Option
Connection chamber	EN-GJL-250	1.4470
Oil chamber	EN-GJL-250	1.4470
Cooling jacket	1.0036	1.4571
Motor housing	EN-GJL-250	
Motor shaft	1.4021	1.4418
Eyelet bolts	Galv. steel	Highgrade st. st.
Connection systems	Standard	Option
Pedestal	EN-GJL-250	Non sparking
Fastening elements	Galv. steel	Highgrade st. st.
Guide rail	Galv. steel	St. steel
Pipe retainer	EN-GJS-400-18	1.4470
Support frame	1.0036	Galv. steel

Hydraulics	Standard	Option
Volute	EN-GJL-250	1.4470
Impeller	EN-GJL-250	1.4470
Shroud (only AFP 6003/8001)	EN-GJL-250	1.4470
Wear ring volute*	EN-GJL-300	1.4581
Wear ring impeller (option)*	1.4571	
Washer	0.7660	1.4462
Fasteners (medium contact)	1.4401	

* Hydraulic version: AFP 5002 and 6004