

# Submersible Sewage Pump Type ABS AFP M8 and M9

# SULZER

## 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. ATEX (ATEX II 2G Ex db IIB T4 Gb).

### Motor

Water pressure sealed high efficiency motors, (3-phase, squirrel cage induction motors), from 160 to 550 kW and depending on hydraulic requirements as 6- to 12-pole versions.

**Voltage:** 400 V, 3~, 50 Hz (other voltages on request).

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

**Protection type:** IP68

**Start-up:** DOL (direct on line), star-delta 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:

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

#### Hydraulic selection

-> Enter: Duty point

-> Select: Hydraulics

-> Select: Motor



### Hydraulics

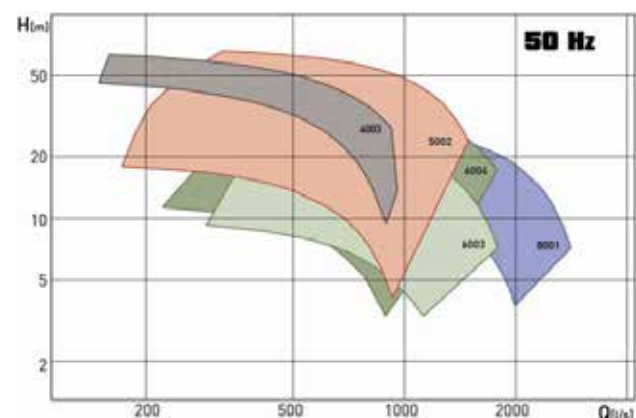
You have the choice of the following hydraulics in the range of DN 400 to DN 800 discharge:

### Hydraulics / Impeller type

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 150J-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/50Hz
Voltage tolerance	± 10% at 400 V	
Insulation components	Class H (140 °C)	Class H (160 °C)
Start-up	DOL (direct on line), star-delta, or soft starter	
Approval	non Ex	Ex/ATEX
Cables	H07RN8-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 inspection chamber	DI (sensor for moisture detection) **	External DI for Ex**

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

## Motor protection

M8 and M9		Standard	Ex/ATEX	FM
Winding	Bi-metallic switch	X	X	X
	Thermistor (PTC)	O	O	O
	PT 100	O	-	-
Seal protection	Oil chamber	X	O	X
	Motor chamber	X	X	X
	Connection chamber	X	X	X
Temperature bearing upper/lower	Bi-metallic switch	X	X	X
	Thermistor (PTC)	O	O	O
	PT 100	O	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	
Motor housing	EN-GJL-250	
Motor shaft	1.4021	1.4418
Eyelet bolts	Galv. steel	Highgrade st. st.
Connection system		
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

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