

ABS submersible mixed flow column pump AFLX-PE7

ABS submersible mixed flow impeller pumps of the AFLX series are used everywhere where large volumes of process water or wastewater containing solid effluent must be pumped up to approx. 25 m.

The AFLX can be applied as any of the following: Sewage pumps in combination with screens, active sludge pumps, combined sewage and surface water pumps, storm water pumps for storm protection, industrial raw water and for a multitude of other applications.

Construction

- Premium efficiency motors in accordance with IEC 60034-30 level IE3 with testing in accordance with IEC60034-2-1.
- Premium efficiency motors designed for VFD operation in accordance with IEC 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.
- Bimetallic thermal sensors in the stator which open at 140 °C.
- Rotor and shaft dynamically balanced.
- Upper and lower bearings lubricated-for-life, maintenance-free.
- Optimum motor cooling by directing the medium being pumped over the motor
- Insulated upper bearing for VFD operation.
- Triple shaft sealing.
- Lower sealing by means of a silicon carbide mechanical seal, independent of the direction of rotation.
- Upper mechanical seal in carbon/chrome steel, independent of the direction of rotation.
- Inspection chamber with sensor for moisture protection to indicate water leakage through mechanical seal.
- Hydraulics with mixed flow impeller. Hydraulics with diffuser and adjustable wear gap at the suction side.

Motor

Water pressure sealed premium efficiency motors, (3-phase, squirrel cage induction motors), from 160 to 650 kW and, depending on hydraulic requirements as 4- to 12-pole versions.

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

Temperature rise: According to class B.

Insulation class: H (motor winding protected by temperature sensor 140 °C)

Protection type: IP68

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

Pump selection

For pump selection please use our ABSEL programme

Duty point -> Selection of hydraulics -> Choice of motor

Hint

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

50 Hz



Hydraulics

You have the choice of the following hydraulics for the nominal pipe diameter 1200 mm and larger.

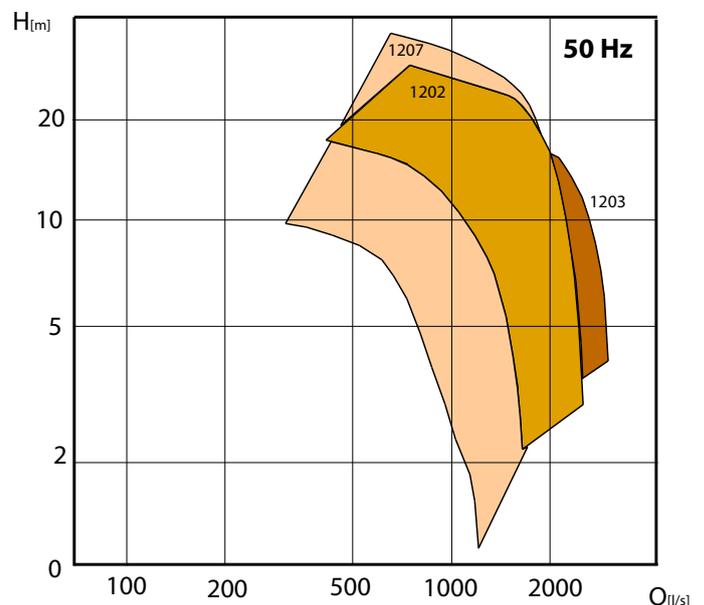
Installation

Suitable for installation in steel or concrete riser pipes for economical operation and simple installation. The centering of the pump and sealing between pump and pipeline is achieved automatically by means of conical coupling ring. No additional installation work required.

Hydraulics / Propeller type

AFLX 1202	5-blades
AFLX 1203	5-blades
AFLX 1207	5-blades

Performance fields



Standard and options

Description	Standard	Option
Max. ambient temperature	40 °C	
Max. submergence depth	20 m	
Mains voltage	400 V/50 Hz	690 V/50 Hz other voltage on request
Voltage tolerance	± 10 % on 400 V	
Insulation class	H (140)	H (160)
Start-up	DOL, star-delta, VFD or soft starter	
Approval		
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	Lifting hoop	Lifting hoop in stainless steel
Protective coating	Two component coating epoxy resin	Special coatings on request
Cathodic protection		Zinc anodes on request
Installation	Wet-well in steel pipe or concrete riser pipe	
Motor cooling	By surrounding medium	
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

X = Standard; 0 = Option

PE7		Std.
Winding	Bi-metallic switch	X
	Thermistor (PTC)	0
	PT 100	0
Seal protection	Inspection chamber	X
	Motor housing	X
	Connection chamber	X
Temperature bearing upper/lower	Bi-metallic switch	X
	Thermistor (PTC)	0
	PT 100	0
Vibration sensor	4....20mA	0

Materials

Motor	Standard	Option	Hydraulics	Standard	Option
Connection chamber	EN-GJL-250		Diffuser	EN-GJL-250	
Cooling/oil chamber	EN-GJL-250		Inlet diffuser	EN-GJL-250	
Motor housing	EN-GJL-250		Impeller	EN-GJL-250	1.4470
Motor shaft	1.4021	1.4462	Impeller washer	0.7660	1.4462
Fasteners (medium contacted)	1.4401		Fasteners (med. contacted)	1.4401	
Lifting device					
Lifting hoop	1.0060	1.4462			
Connection system					
Coupling ring	1.0446	1.4408			

Please contact your SULZER representative for proposal of an effective suction chamber design!
Sulzer reserves the right to alter specifications due to technical developments!

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