Submersible Mixed Flow Column Pump Type ABS AFLX PE4 to PE6

50 Hz

Submersible mixed flow column pump type ABS 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 IEC 60034-2-1.
- Premium efficiency motors designed for VFD operation in accordance with IEC/TS 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.
- Optimum motor cooling by directing the medium being pumped over the motor.
- 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.
- Insulated upper bearings for VFD operation (only PE5/PE6).
- 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 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.
- Gearbox available from 132 kW for AFLX 1202 to AFLX 1207.
- Option: Available in ATEX explosion-proof version in accordance with international standards e.g. Ex d IIB T4/ATEX II 2Gk, FM or CSA.

Motor

Water pressure sealed premium efficiency motors, (3-phase, squirrel cage induction motors), from 15 to 350 kW and, depending on hydraulic requirements as 4- to 12-pole versions.
Voltage: 380...420 V, 3~, 50 Hz (other voltages on request)
Temperature rise: According to NEMA class A up to 110 kW and class B above.
Insulation components: Class H (winding protection by 140 °C sensor)
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 programme:

http://absel.sulzer.com/
Hydraulic selection:
-> Enter: Duty point
-> Select: Hydraulics
-> Select: Motor

Hydraulics

You have the choice of the following hydraulics for the nominal pipe diameter 600 to 1200 mm and larger.
For power demand beyond available range PE4 to PE6 please refer to technical data sheet AFLX PE7.

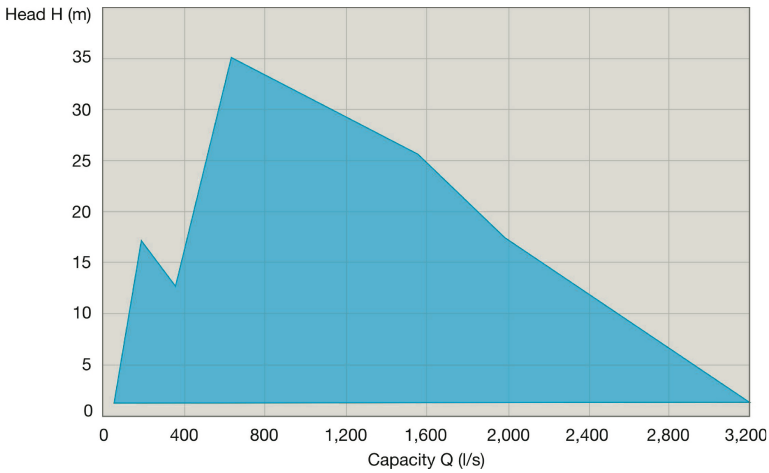
Installation

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 pipline is achieved automatically by means of conical coupling ring. No additional installation work required.

Hydraulics / Impeller type

AFLX 0601	3-blades
AFLX 0701	3-blades
AFLX 0801	3-blades
AFLX 0803	3-blades (skew)
AFLX 1202	5-blades
AFLX 1203	5-blades
AFLX 1207	5-blades

Performance field



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	± 10 % on 400 V	
Insulation components	Class H (140°C)	Class H (160°C) (not for explosion-proof)
Start-up	DOL, star-delta or soft starter, VFD	
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)	SiC-SiC	
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 Inspection chamber	DI (sensor for moisture detection)	
Vibration sensor		on request (only PE5/PE6)

* standard for PE6 motor range

Motor protection

PE4 to PE6		non Ex or Ex/ATEX	Ex/ATEX VFD drive
Winding	Bi-metallic switch	X	-
	Thermistor (PTC)	O	X
	PT 100	O	O
Seal protection	Inspection chamber	X	X
	Motor housing	O (X for PE6)	O
	Connection chamber	O (X for PE6)	O
Temperature bearing uppper/lower	Bi-metallic switch	O (X for PE6)	O
	Thermistor (PTC)	O	O
	PT 100	O	O
Vibration sensor	4....20mA	O (only PE5/PE6)	O (only PE5/PE6)

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

Materials

Motor	Standard	Option
Connection chamber	EN-GJL-250	
Cooling/oil chamber	EN-GJL-250	
Motor housing	EN-GJL-250	
Motor shaft	1.4021	1.4462
Fasteners (medium contact)	1.4401	
Lifting device		
Lifting hoop (PE4 & PE5)	EN-GJS-400-18	1.4470
Lifting hoop (PE6)	1.0060	1.4462
Connection system		
Coupling ring	1.0446	1.4408

Hydraulics	Standard	Option
Diffuser	EN-GJL-250	
Bellmouth	EN-GJL-250	
Impeller	EN-GJL-250	1.4470
Impeller washer	EN-GJS-400-18	1.4462
Fasteners (medium contact)	1.4401	

Please contact your SULZER repesentative for proposal of an effective suction chamber design!

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