ABS submersible sewage pumps AFP-ME4 to ME6

ABS submersible sewage pumps, series AFP-ME are suitable for clear and wastewater, for sewage 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
- Bimetallic thermal sensors in the stator which open at 140 °C (284 °F)
- Rotor and rotor shaft dynamically balanced, upper and lower bearings lubricated-for-life, maintenance-free
- Clog - and maintenance-free internal closed looped cooling system. Cooling medium: Glycol - water mixture
- Double shaft sealing
- Lower sealing by means of a silicon carbide mechanical seal, independent of the direction of rotation
- Upper mechanical seal (silicon carbide) in case of motor size ME4 and (carbon/chrome steel) in case of motor size ME5 and ME6, independant of direction of rotation
- Separation chamber with sensor for moisture protection to indicate water leakage through mechanical seal
- Hydraulic parts with various impeller options: 1-, 2- or 3-channel, open or closed, Contrablock or Vortex
- These pumps are available both in standard and explosion-proof versions in accordance with international standards e.g. explosion-proof in accordance with NEC 500 for Class I, Division 1, Groups C and D hazardous (classified) locations.

Motor

Water pressure sealed high efficiency motors, (3-phase, squirrel cage induction motors) with efficiency class II, from 17 to 280 kW (23 to 375 hp) and, depending on hydraulic requirements as 4- to 12-pole versions
Voltage: 460 V3~, 60 Hz (other voltages on request)
Insulation class: H (motor winding protected by temperature sensor 140 °C)
Protection type: IP68
Start-up: direct on line (DOL), soft starter or star-delta

Hydraulics

You have the choice of the following hydraulics in the range of DN 100 to 600 (4 to 24 in) discharge:

Hydraulics / Impeller type

AFP 1001	2-channel, closed	AFP 2571	2-channel, open
AFP 1002	1-channel, closed	AFP 3001	2-channel, clo.
AFP 1036	Vortex	AFP 3002	2-channel, clo.
AFP 1077	2-channel, open	AFP 3003	2-channel, closed
AFP 1501	2-channel, closed	AFP 3071	3-channel, open
AFP 1552	2-channel, open	AFP 3501	3-channel, clo.
AFP 1576	2-channel, open	AFP 3502	3-channel, clo.
AFP 2001	2-channel, closed	AFP 4001	2-channel, clo.
AFP 2002	2-channel, closed	AFP 4004	3-channel, clo.
AFP 2073	3-channel, open	AFP 5001	3-channel, open
AFP 2501	2-channel, closed	AFP 6003	3-channel, open

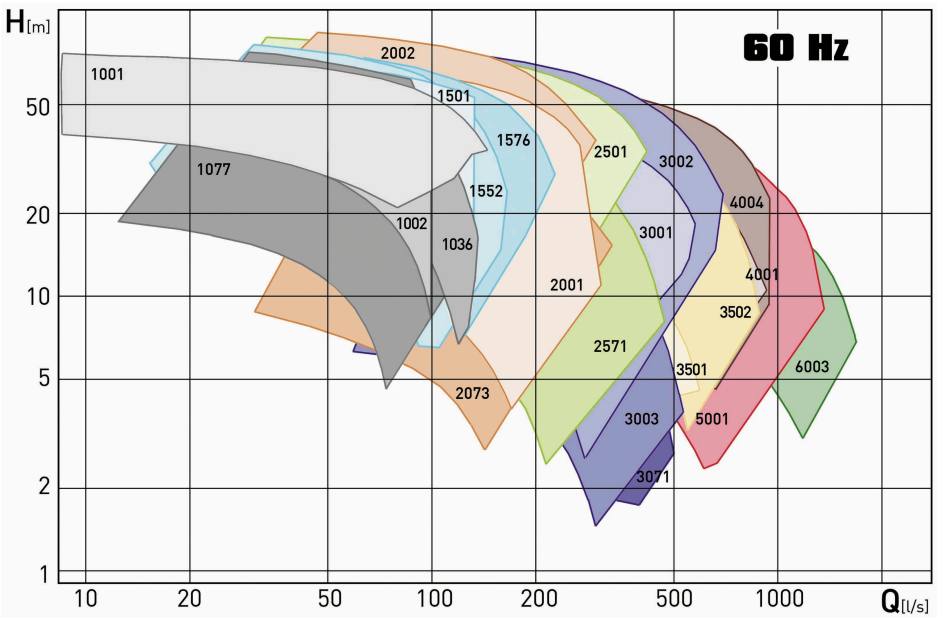
Pump selection

For pump selection please use our ABSEL program
Duty point -→ Selection of hydraulics -→ Choice of motor

Hint

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

Performance fields



Standard and options

Description	Standard	Option
Max. ambient temperature	40 °C (104 °F)	
Max. submergence depth	20 m (65 ft)	
Mains voltage	460 V/60 Hz	230 V (not all vers.), 380 V, 575 V, 600 V/60 Hz
Voltage tolerance	+ 5% (+10% ME6)	
Insulation class	H (140)	H (160)
Start-up	DOL, star-delta or soft starter	
Approval		NEC 500 (USA)
Cables	S1BN8-F	EMC shielded cables
Cable length	10 m (33 ft)	15 m (49 ft), 20 m (65 ft)*
Mechanical seal (medium side)	ME4 to ME6 SiC-SiC (NBR)	SiC-SiC (Viton execution)
Mechanical seal (motor side)	ME4 SiC-SiC, ME5/6 carbon chrome steel	
O-rings	NBR	Viton
Preparation for lifting hoist	Lifting hoop	Eyelet bolts
Protective coating	Two component coating epoxy resin	Special coatings on request
Cathodic protection		Zinc anodes on request
Installation	Wet-well	Dry-well vertical/horizontal
Motor cooling	Internal closed looped cooling system	
Moisture sensor motor housing	DI (sensor for moisture detection) (ME6)	DI (sensor for moisture detection)
Moist. sens. separation chamber	DI (sensor for moisture detection)	

*other length on request

Motor protection

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

ME4 to ME6		Standard	EEx	FM
Winding	Bi-metallic switch	X	X	X
	Thermistor (PTC)	O	O	O
	PT 100	O	-	-
Seal protection	Separation chamber	X	O	X
	Motor housing	O (X only ME6)	X	O (X only ME6)
	Connection box	O (X only ME6)	O (X only ME6)	O (X only ME6)
Temperature	Bi-metallic switch	O (X only ME6)	O (X only ME6)	O (X only ME6)
bearing	Thermistor (PTC)	O	O	O
upper/lower	PT 100	O	O	O

Materials

Motor	Standard	Option
Connect. chamber (ME4/5)	EN-GJL-250	1.4470
Connect. chamber (ME6)	EN-GJS-400-18	1.4470
Cooling chamber	EN-GJL-250	1.4470
Cooling jacket	1.0036	
Motor housing	EN-GJL-250	
Motor shaft	1.4021	1.4462
Fasteners	1.4401	
Lifting hoop	EN-GJS-400-18	1.4470
Connection systems	**Standard**	**Option**
Pedestal	EN-GJL-250	Non sparking
Fastening elements	Galv. steel	St. steel
Protective coating	Epoxy resin basin	
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	1.4460
Impeller	EN-GJL-250	1.4460
Bottom plate (not for all vers.)*	EN-GJL-250	1.4460
Shroud (only AFP 5001/6003)	EN-GJL-250	1.4460
Wear ring (not for all vers.)**	EN-GJL-300	1.4581

* Hydraulic version: AFP-ME 1077, 1552, 1576, 2073, 2571, 3071
** Hydraulic version: AFP-ME 1001, 1501, 2001, 2002, 2501, 3001, 3002, 3003, 4001

Material comparison

Europe	USA
EN 1561; EN-GJL-250	ASTM A48; Class 35 B
EN 1561; EN-GJL-300	ASTM A48; Class 45 B
EN 1563; EN-GJS-400-18	ASTM A536; 60-40-18
1623-2; 1.0036; S235JRG1	ASTM / AISI A283 (C)
1.4021	ASTM / AISI 420
1.4401; 1.4460	ASTM / AISI 316; 329
1.4462; 1.4581	BS 318 S 13; BS 318 C 17

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