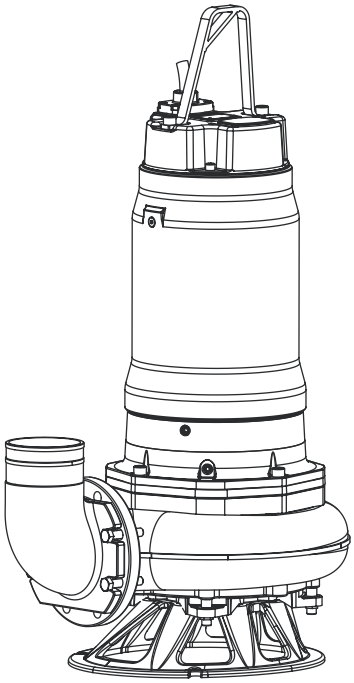
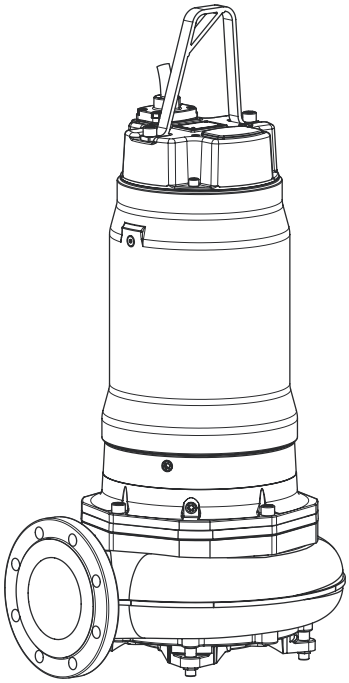
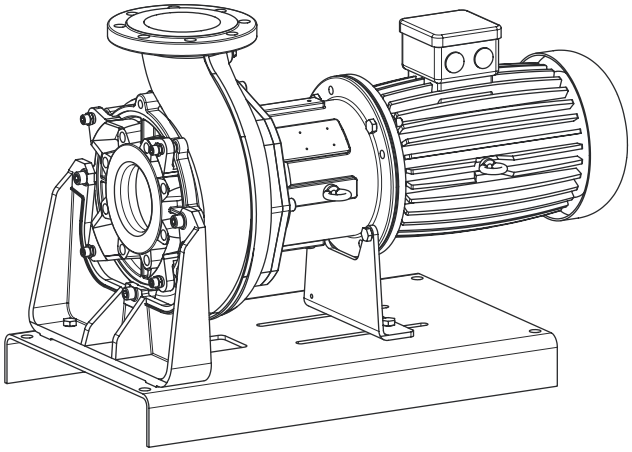
ABS submersible sewage pump AFP/AFPK
ABS submersible sludge pump JT
ABS dry installed sewage pump AFC







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GB

Installation and operating instructions

www.absgroup.com

ABS submersible sewage pump AFP/AFPK

0831 (50Hz & 60Hz)	1032 (50Hz & 60Hz)	1045 (50Hz)	1544 (50Hz)
0832 (50Hz)	1033 (50Hz)	1047 (60Hz)	1546 (50Hz& 60Hz)
0834 (50Hz & 60Hz)	1034 (50Hz & 60Hz)	1048 (50Hz & 60Hz)	1547 (60Hz)
0835 (50Hz & 60Hz)	1035 (50Hz & 60Hz)	1049 (50Hz & 60Hz)	1562 (50Hz& 60Hz)
0841 (50Hz & 60Hz)	1040 (60Hz)	1062 (50Hz& 60Hz)	2045 (50Hz)
0842 (50Hz)	1041 (50Hz & 60Hz)	1533 (50Hz)	2046 (50Hz& 60Hz)
0844 (50Hz & 60Hz)	1042 (50Hz & 60Hz)	1541 (50Hz& 60Hz)	1031 (50Hz & 60Hz)
1043 (50Hz)	1543 (50Hz)		

ABS submersible sludge pump JT

JT 20 HD	JT 110 HD	JT 20 ND	JT 160 ND
JT 30 HD	JT 200 HD	JT 40 ND	JT 200 ND
JT 50 HD	JT 250 HD	JT 50 ND	JT 160 LD
JT 80 HD	JT 15 ND	JT 80 ND	JT 200 LD

ABS dry installed sewage pump AFC

0831	0841	1032	1041	1541	2046	80/80
0832	0844	1033	1045	1543	50/50	80/80 RV
0835	1031	1035	1049	1546	50/50 RV	

Contents

1 General

1.1 Application areas

ATTENTION The maximum allowable temperature of the medium pumped is 40°C

The following guidelines must be observed when setting the lowest switch off point for ABS submersible sewage pumps AFP:

When switching on and operating the pump, the hydraulic section of dry installation pumps must always be filled with water.

For wet installation pumps, submerge the pump so that the water level is above pump oil chamber. The minimum submergence allowed for specific pumps can be found on the dimension installation sheets available from your local ABS representative. Other types of operation e.g. snore operation or dry running are not allowed.

The ABS submersible sewage pumps of the AFP & AFC series have been designed for the economical and reliable pumping of commercial, industrial and municipal sewage and can be installed dry or wet (AFP only).

They are suitable for pumping of the following liquids:

- clear and wastewater, for sewage containing solids and fibrous material
- faecal matter
- sludge

In combination with the ABS automatic coupling system, the below ground level wet installation is a particularly economical and environmentally friendly solution. The pumps are also suitable for horizontal or vertical dry installation.

The AFP SX (stainless steel) pumps series have been designed for pumping of waste water and sewage containing corrosive materials in chemical, processing and sea water applications.

The AFP “Chopper” pumps have been designed for heavy duty applications.
ABS submersible sludge pumps of the JT series have been designed for the economical and reliable pumping waste water, untreated or clean water, sludge and slurries.

The regulations of DIN 1986 as well as local regulations should be observed when installing the pumps.

1.1.1 Explosion-proof Approvals

The submersible motors can be supplied both as standard versions and in Explosion-proof execution with PTB approval (EEx dII B T4) for 50 Hz or FM approval for 60 Hz.

1.1.2 Particular comments on the use of explosion-proof pumps in explosive zones.

1. Explosion-proof submersible pumps may only be operated with the thermal sensing system connected.
2. If ball type float switches are used, these must be connected to an intrinsically safe electrical circuit “Protection type EX (i)” in accordance with VDE 0165.
3. Dismantling and repair of submersible explosion-proof motors may only be carried out by approved personnel in specially approved work shops.
4. In the event that the pump is to be operated in explosive atmospheres, using a variable speed drive, please contact your local ABS representative for technical advice regarding the various Approvals and Standards concerning thermal overload protection.
5. Also see section 1.1

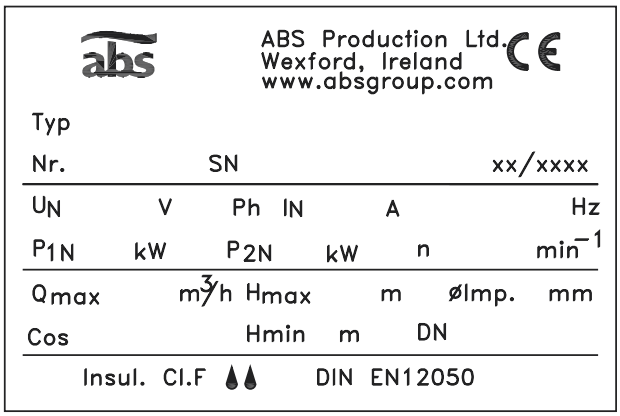
1.2 Technical Data

Maximum noise level ≤ 70 dB. This may be exceeded in certain circumstances

1.2.1 Nameplate

We recommend that you record the data from the original nameplate on the nameplate illustration below and maintain it, together with your purchase receipt, as a proof for subsequent use.

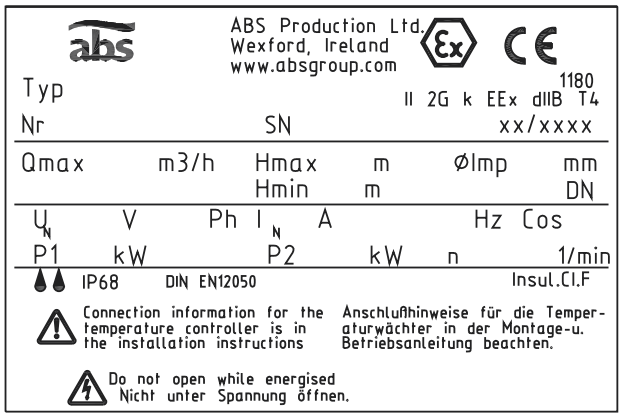
Always state the pump type, item no. and serial no. in the field “Nr” in all Communications.



Nameplate Standard Version

Legend

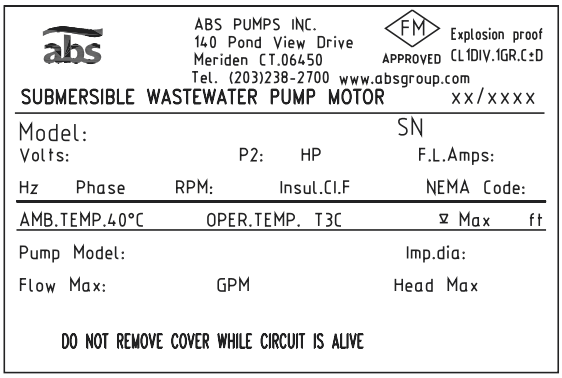
Typ	Pump type	
Nr./SN	Item No./Serial No.	
xx/xxxx	Production date (Week/Year)	
U_N	Rated Voltage	V
I_N	Rated Current	A
	Frequency	Hz
P_{1N}	Rated Input Power	kW
P_{2N}	Rated Output Power	kW
N	Speed	min^{-1}
Q_{max}	Max. Flow	m^3/h
H_{max}	Max. Head	M
Ø Imp.	Impeller diameter	mm
DN	Discharge diameter	mm
♦♦	Water pressure tight	
IP 68	Protection type	



Nameplate Ex Version

Legend

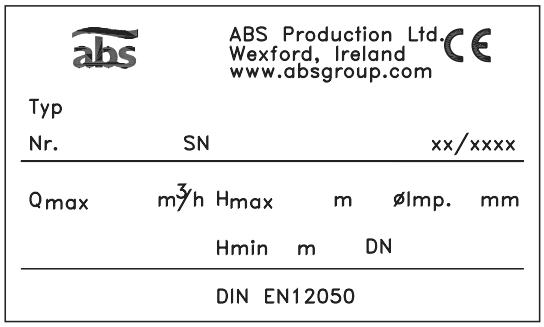
Typ	Pump type	
Nr./SN	Item No./Serial No.	
xx/xxxx	Production date (Week/Year)	
U_N	Rated Voltage	V
I_N	Rated Current	A
	Frequency	Hz
P_{1N}	Rated Input Power	kW
P_{2N}	Rated Output Power	kW
N	Speed	min^{-1}
Q_{max}	Max. Flow	m^3/h
H_{max}	Max. Head	M
Ø Imp.	Impeller diameter	mm
DN	Discharge diameter	mm
♦♦	Water pressure tight	
IP 68	Protection type	



Nameplate FM Version

Legend

Model	Pump type/ Item No.	
S_N	Serial No.	
U_N	Rated Voltage	
P2	Rated Output Power	HP
F.L.Amps	Full Load Amps	
Hz	Frequency	
Phase	Three/Single Phase	
RPM	Speed	min^{-1}
Imp. dia	Impeller diameter	mm
Max. ▽	Max submersible depth	FT
$Flow_{Max.}$	Rated Discharge	GPM
$Head_{Max.}$	Max. Head	FT



Nameplate AFC Version

Legend

Typ	Pump type/ Item No.	
Nr./ SN	Item No. / Serial No.	
xx/xxxx	Production date (Week/Year)	
Qmax	Max. Flow	m3/h
Hmax	Max. Head	m
Ø Imp.	Impeller diameter	mm
Hmin	Min. Head	m
DN	Discharge diameter	mm

2 Safety

The general and specific health and safety hints are described in detail in the separate booklet **Safety Hints.** If anything is not clear or you have any questions as to safety make certain to contact the manufacturer ABS.

3 Transport

During transport the submersible pump should not be dropped or thrown.

The unit must never be raised by the Power cable.

The pumps of the AFP & JT series are fitted with a lifting location to which a chain and shackle may be attached for transport or for suspension of the pump. Pumps of the AFC series must be fitted with lifting slings for transport or for suspension. Lifting eyes should not be used.

Take note of the entire weight of the unit. The hoist and chain must be adequately dimensioned for the weight of the unit and must comply with the current valid safety regulations.

All relevant safety regulators as well as general good technical practice must be complied with.

3.1 Motor connection cable moisture protection

The motor connection cables are protected against the ingress of moisture along the cable by having the ends sealed at the works with protective covers.

ATTENTION ***These protective covers should only be removed immediately prior to connecting the pumps electrically.***

Particular attention is necessary during storage or installation of pumps in locations, which could fill with water prior to laying and connection of the power cable of the AFP motor. Please note that the cable ends, even where fitted with protective sleeves, cannot be immersed in water.

ATTENTION ***These protective covers only provide protection against water spray or similar and are not a water tight seal. The ends of the cables should not be immersed in water, otherwise moisture could enter the connection chamber of the motor.***

NOTE ***If there is a possibility of water ingress then the cable should be secured so that the end is above the maximum possible flood level.***

ATTENTION ***Take care not to damage the cable or its insulation when doing this!***

4 Electrical Connection

Before commissioning an expert should check that one of the necessary electrical protective devices is available. Earthing, neutral, earth leakage circuit breakers, etc. must comply with the regulations of the local electricity supply authority and a qualified person should check that these are in perfect order.

ATTENTION ***The power supply system on site must comply with VDE or other local regulations with regard to cross-sectional area and maximum voltage drop. The voltage stated on the nameplate of the pump must correspond to that of the mains***

The power supply cable must be protected by an adequately dimensioned slow-blow fuse corresponding to the rated power of the pump.

The incoming power supply as well as the connection of the pump itself to the terminals on the control panel must comply with the circuit diagram of the control panel as well as the motor connection diagrams and must be carried out by a qualified person.

All relevant safety regulators as well as general good technical practice must be complied with.

ATTENTION ***For use in the open air, the following VDE regulations apply:***

Submersible pumps used outdoors must be fitted with a power cable of at least 10m length. Other regulations may apply in different countries.

The installation instructions for pumps intended to be used in outdoor fountains, garden ponds and similar places shall state that the pump is to be supplied through a residual current device (RCD) having a rated residual Operating current not exceeding 30 mA.

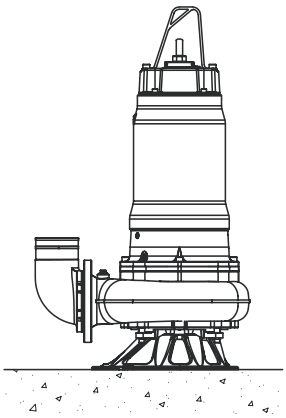
Please consult your electrician.

4.1 Mounting and Installation

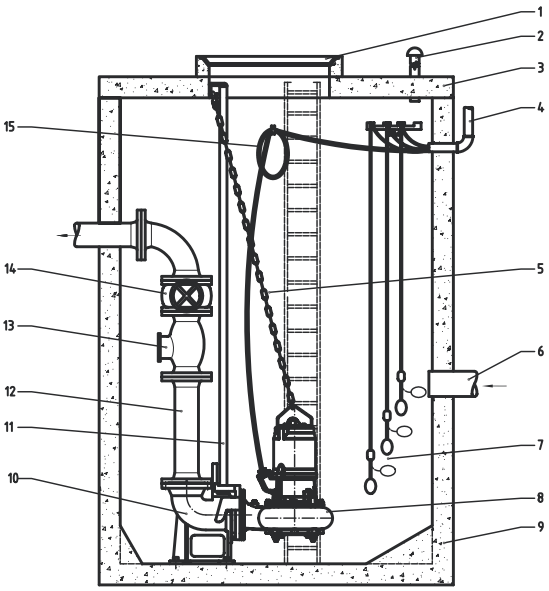
The regulations covering the use of pumps in sewage applications together with all regulations involving the use of explosion-proof motors should be observed.The cable ducting to the control panel should be sealed off in a gas-tight manner by the use of a foaming material after the cable and control circuits have been pulled through. In particular the safety regulations covering work in enclosed areas in sewage plants should be observed together with general good technical practice.

For the JT series arrange the cable run so that the cables will not be kinked or nipped. Connect the discharge pipe and cable. See section ”Electrical connection” for further details. Place the pump on a firm surface which will prevent it from overturning or burrowing down. The pump can also be bolted down to the base or suspended by the lifting handle slightly above the bottom. Hoses, pipes and valves must be sized to suit the pump performance.

4.2 Installation examples

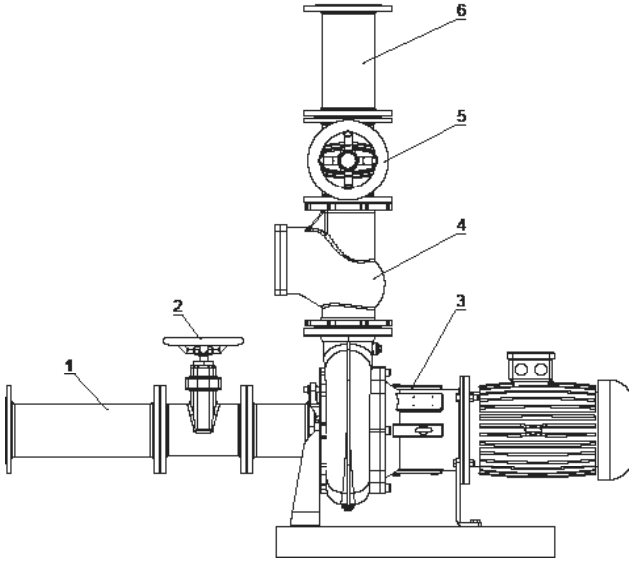


Installation example JT



1 Sump cover
2 Venting line
3 Sump cover
4 Sleeve for cable ducting to the control panel as well as for aeration and venting
5 Chain
6 Inflow line
7 Ball type float switch
8 Submersible pump
9 Concrete sump
10 Pedestal
11 Guide tube
12 Discharge line
13 Non-return valve
14 Gate valve
15 Power cable to motor

Installation example AFP, concrete sump



1 Inflow line
2 Gate valve
3 Pump
4 Non-return valve
5 Gate valve
6 Discharge line

Installation example AFC

4.3 Discharge Line

The discharge line must be installed in compliance with the relevant regulations.

DIN 1986/100 and EN 12056 applies in particular to the following:

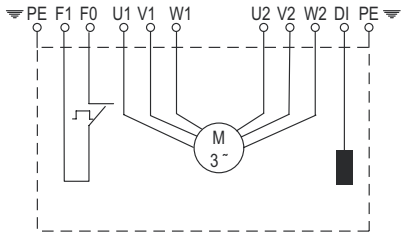
- The discharge line should be fitted with a backwash loop (180° bend) located above the backwash level and should then flow by gravity into the collection line or sewer.
- The discharge line should not be connected to a down pipe.
- No other inflows or discharge lines should be connected to this discharge line.

ATTENTION ***The discharge line should be installed so that it is not affected by frost.***

4.4 Wiring Diagrams (Not applicable for AFC)

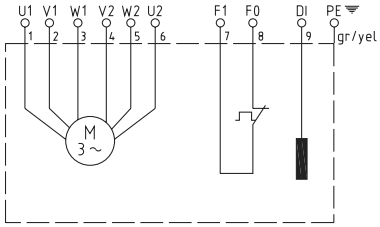
50Hz ME150/2, ME185/2, ME200/2, ME250/2, ME110/4, ME140/4, ME160/4, ME185/4, ME220/4, ME90/6, ME110/6, ME140/6

60Hz ME185/2, ME200/2, ME230/2, ME300/2, ME130/4, ME185/4, ME210/4, ME90/6, ME130/6, ME160/6, ME200/6, ME120/8

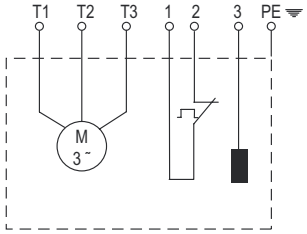


50Hz M30/4, M30/6, M40/2, M55/2, M40/4, M60/4, M70/2, M90/4, M110/2, ME150/2, ME185/2, ME200/2, ME250/2, ME110/4, ME140/4, ME160/4, ME185/4, ME220/4, ME90/6, ME110/6, ME140/6

60Hz M15/6, M22/4, M25/4, M35/4, M35/6, M46/4, M75/4, M90/4, M80/2, M70/6, M105/4, M125/2, ME130/4, ME90/6, ME130/6

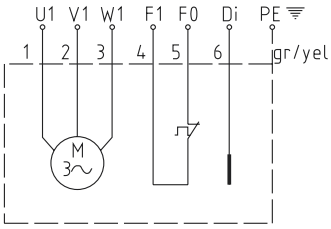


60Hz M15/6, M22/4, M25/4, M35/4, M35/6, M46/4, M75/4, M90/4, M80/2, M70/6, M105/4, M125/2, ME185/2, ME200/2, ME230/2, ME300/2, ME130/4, ME185/4, ME210/4, ME90/6, ME130/6, ME160/6, ME200/6, ME120/8

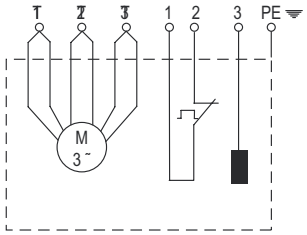


50Hz M13/6, M15/4, M22/4, M30/4, M30/6, M40/2, S13/4, S22/4, S17/2, S22/2

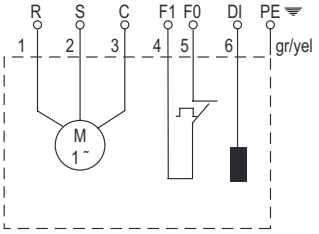
60Hz M15/6, M22/4, M25/4, M35/4, M35/6, M46/4



60Hz M75/4, M90/4, M80/2, M70/6, M105/4, M125/2, ME185/2, ME200/2, ME230/2, ME130/4, ME185/4, ME210/4, ME90/6, ME130/6, ME160/6,



60Hz M18/4, M28/4, M40/4



ATTENTION ***Explosion-proof pumps may only be used in explosive zones with the thermal sensors fitted (Leads: FO, F1)***

4.4.1 Checking direction of rotation

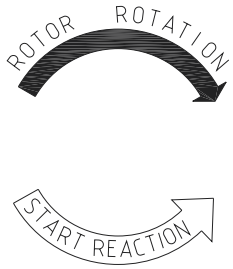
When three phase units are being commissioned for the first time and also when used on a new site, the direction of rotation must be carefully checked by a qualified person.

When checking the direction of rotation, the submersible pump should be secured in such a manner that no danger to personnel is caused by the rotating impeller, or by the resulting air flow. Do not place your hand into the hydraulic system!

The direction of rotation should only be altered by a qualified person.

When carrying out the direction of rotation check as well as when starting the unit pay attention to the **START REACTION**. This can be very powerful

ATTENTION
The **direction of rotation** is correct if the imeller/propeller rotates in a **clockwise** manner when viewing down from the top of the placed unit



Rotor rotation

ATTENTION
The start reaction is anti clockwise

NOTE ***If a number of pumps are connected to a single control panel then each unit must be individually checked.***

ATTENTION ***The mains supply to the control panel should have a clockwise rotation. If the leads are connected in accordance with the circuit diagram and lead designations, the direction of rotation will be correct.***

4.4.2 Changing direction of rotation

The direction of rotation should only be altered by a qualified person.

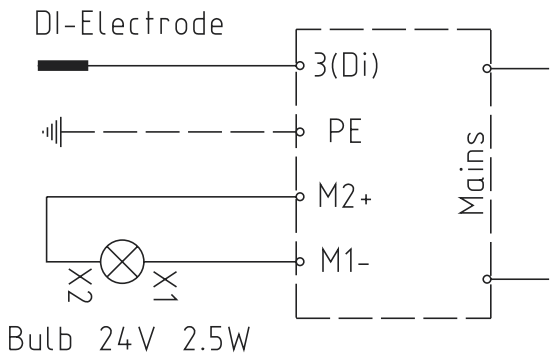
If the direction of rotation is incorrect then this is altered by changing over two phases of the power supply cable in the control panel. The direction of rotation should then be rechecked.

4.4.3 Connection of the seal monitoring device in the oil chamber

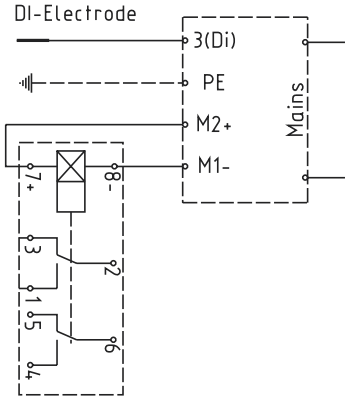
The submersible pumps are supplied as standard with DI-probes for seal monitoring. In order to integrate this seal monitoring function into the control panel of the pump it is necessary to fit an ABS DI-module and connect this in accordance with the circuit diagrams below.

ATTENTION ***If the DI-seal monitoring is activated the unit must be immediately taken out of service. Please contact your ABS service centre.***

NOTE ***DI-modules are available for voltages 110 V, 220 V, 380V and 440 V.***



ABS DI-module, connection of a neon lamp (not supplied as standard)



ATTENTION ***Maximum relay contact loading: 2 Ampere***

ABS DI-module with relay for individual signalling (not supplied as standard)

4.4.4 Temperature monitoring

Thermal sensors protect the motor from overheating.

The standard version is equipped with bimetallic thermal sensors in the stator.

4.4.5 PTC Thermistor (optional on AFP and JT, standard on AFC)

PTC Thermistor versions of AFP Motors include thermal protection in accordance with DIN 44082. PTC relays for use in Control Panels must also be in accordance with this standard.

4.4.6 Bearing temperature monitor (optional on AFC)

PTC Thermistor bearing monitor versions of AFC pumps include thermal protection in accordance with DIN 44082. PTC relays for use in Control Panels must also be in accordance with this standard.

5 Commissioning

Before commissioning the pump should be checked and a functional test carried out. Particular attention should be paid to the following:

- Have the electrical connections been carried out in accordance with regulations?
- Have the thermal sensors been connected?
- Is the seal monitoring device (where fitted) correctly installed?
- Is the motor overload switch correctly set?
- Does the pump sit correctly on the pedestal? (AFP Only)
- Is the direction of rotation of the pump correct - even if run via an emergency generator?
- Are the switching On and switching Off levels set correctly?

- Are the level control switches functioning correctly?
- Are the required gates valves (where fitted) open?
- Do the non-return valves (where fitted) function easily?

5.1 Types of operation and frequency of starting

All pumps of the AFP & JT series have been designed for continuous operation S 1 when either submerged, or fitted with a cooling jacket.

If the motor is not submerged and the cooling jacket is not fitted, then operation type S 3 applies.

All pumps of the AFC series have been designed for continuous operation S 1.

ATTENTION ***Explosion-proof pumps may only be used in explosive zones with the thermal sensors fitted (Leads: FO, F1).***

6 Maintenance

Before commencing any maintenance work the pump should be completely disconnected from the mains by a qualified person and care should be taken that it cannot be inadvertently switched back on.

When carrying out any repair or maintenance work, the safety regulations covering work in enclosed areas of sewage installations as well as good general technical pratices should be followed.

NOTE ***The maintenance hints given here are not designed for "do-it-yourself" repairs as special technical knowledge is required.***

A maintenance contract with our works service department will guarantee you the best technical service under all circumstances.

6.1 General maintenance hints

ABS submersible pumps are reliable quality products each being subjected to careful final inspection. Lubricated-for-life ball bearings together with monitoring devices ensure optimum pump reliability provided that the pump has been connected and operated in accordance with the operating instructions.

Should, nevertheless, a malfunction occur, do not improvise but ask your ABS customer service department for assistance.

This applies particularly if the pump is continually switched off by the current overload in the control panel, by the thermal sensors of the thermo-control system or by the seal monitoring system (DI).

Regular inspection and care is recommended to ensure a long service life.

The ABS service organisation would be pleased to advise you on any applications you may have and to assist you in solving your pumping problems.

NOTE ***The ABS warranty conditions are only valid provided that any repair work has been carried out in ABS approved workshop and where original ABS spare parts have been used.***

6.2 Commentary on maintenance of Lifting Stations in accordance with EN 12056

It is recommended that the lifting station be inspected monthly and its function checked.

In accordance with EN regulations, the lifting station should be maintained by a qualified person at the following intervals:

- in commercial premises - every three months.
- in apartment blocks - every six months.
- in a single family home - once a year.

In addition we recommend that a maintenance contract be taken out with a qualified ccompany.

6.3 Coolant filling and coolant changing

The oil chamber between the motor and the hydraulic section has been filled at the works with lubricant.

An coolant change is only necessary if a fault occurs.

Coolant specification: Coolant 70% water and 30% propylene glycol
Oil white ISO VG15 FP175C

AFP Chamber coolant & oil quantity (50Hz)

Pump Type 50Hz		Without cooling jacket			With cooling jacket	Pump Type 50Hz		Without cooling jacket			With cooling jacket
		Lip Seal + Mech Seal	2 x Mech Seal	Seal Cartridge	Seal Cartridge			Lip Seal + Mech Seal	2 x Mech Seal	Seal Cartridge	Seal Cartridge
		Oil	Oil	Coolant	Coolant			Oil	Oil	Coolant	Coolant
AFP 0831	M13/6	1,0	1,0	0,55	1,7	AFP 1049	M40/4	2	2	1	2,6
AFP 0831	M15/4	1,0	1,0	0,55	1,7	AFP 1049	M60/4	2	2	1	2,6
AFP 0831	M22/4	1,0	1,0	0,55	1,7	AFP 1049	M90/4	2	2	1	3,2
AFP 0831	M30/4	1,0	1,0	0,55	1,7	AFP 1062	M30/6	2	2	1	2,6
AFP 0832	M40/2	1,0	1,0	0,55	1,7	AFP 1062	M60/4	2	2	1	2,6
AFP 0832	M70/2	1,35	1,35	0,7	2,3	AFP 1062	M90/4	2	2	1	3,2
AFP 0834	M110/2	1,35	1,35	0,7	2,9	AFP 1533	ME90/6	5,7	5,7	4,8	10,1
AFP 0835	M55/2	2	2	1	2,6	AFP 1533	ME110/4	5,7	5,7	4,8	10,1
AFP 0835	M70/2	2	2	1	2,6	AFP 1533	ME140/4	5,7	5,7	4,8	10,1
AFP 0835	M110/2	2	2	1	3,2	AFP 1533	ME160/4	5,7	5,7	4,8	10,1
AFP 0841	M13/6	1,0	1,0	0,55	1,7	AFP 1533	ME185/4	5,7	5,7	4,8	10,1
AFP 0841	M30/4	1,0	1,0	0,55	1,7	AFP 1533 SX	ME90/6	-	-	-	20
AFP 0841	M15/4	1,0	1,0	0,55	1,7	AFP 1533 SX	ME110/4	-	-	-	20
AFP 0842	M40/2	1,0	1,0	0,55	1,7	AFP 1533 SX	ME140/4	-	-	-	20
AFP 0844	M70/2	1,35	1,35	0,7	2,9	AFP 1533 SX	ME160/4	-	-	-	20
AFP 0844	M110/2	1,35	1,35	0,7	2,9	AFP 1533 SX	ME185/4	-	-	-	20
AFP 1031	M13/6	1,0	1,0	0,55	1,7	AFP 1541	M30/6	2	2	1	2,6
AFP 1031	M15/4	1,0	1,0	0,55	1,7	AFP 1541	M40/4	2	2	1	2,6
AFP 1031	M22/4	1,0	1,0	0,55	1,7	AFP 1541	M60/4	2	2	1	2,6
AFP 1031	M30/4	1,0	1,0	0,55	1,7	AFP 1541	M90/4	2	2	1	3,2
AFP 1032	M30/6	2	2	1	2,6	AFP 1543	ME90/6	5,7	5,7	4,8	10,1
AFP 1032	M40/4	2	2	1	2,6	AFP 1543	ME110/4	5,7	5,7	4,8	10,1
AFP 1032	M60/4	2	2	1	2,6	AFP 1543	ME140/4	5,7	5,7	4,8	10,1
AFP 1032	M90/4	2	2	1	3,2	AFP 1543	ME160/4	5,7	5,7	4,8	10,1
AFP 1033	ME90/6	5,7	5,7	4,8	10,1	AFP 1543	ME185/4	5,7	5,7	4,8	10,1
AFP 1033	ME110/4	5,7	5,7	4,8	10,1	AFP 1543	ME220/4	5,7	5,7	4,8	10,1
AFP 1033	ME160/4	5,7	5,7	4,8	10,1	AFP 1543 SX	ME90/6	-	-	-	20
AFP 1033	ME185/4	5,7	5,7	4,8	10,1	AFP 1543 SX	ME110/4	-	-	-	20
AFP 1034	ME150/2	4,6	4,6	3,7	9,1	AFP 1543 SX	ME140/4	-	-	-	20
AFP 1034	ME185/2	4,6	4,6	3,7	9,1	AFP 1543 SX	ME160/4	-	-	-	20
AFP 1034	ME200/2	4,6	4,6	3,7	9,1	AFP 1543 SX	ME185/4	-	-	-	20

AFP Chamber coolant & oil quantity (50Hz)

Pump Type 50Hz		Without cooling jacket			With cooling jacket	Pump Type 50Hz		Without cooling jacket			With cooling jacket
		Lip Seal + Mech Seal	2 x Mech Seal	Seal Cartridge	Seal Cartridge			Lip Seal + Mech Seal	2 x Mech Seal	Seal Cartridge	Seal Cartridge
		Oil	Oil	Coolant	Coolant			Oil	Oil	Coolant	Coolant
AFP 1034	ME250/2	4,6	4,6	3,7	9,1	AFP 1544	ME160/4	5,7	5,7	4,8	10,1
AFP 1035	ME150/2	4,6	4,6	3,7	9,1	AFP 1544	ME185/4	5,7	5,7	4,8	10,1
AFP 1035	ME200/2	4,6	4,6	3,7	9,1	AFP 1544	ME220/4	5,7	5,7	4,8	10,1
AFP 1035	ME250/2	4,6	4,6	3,7	9,1	AFP 1546	M30/6	2	2	1	2,6
AFP 1041	M13/6	1,0	1,0	0,55	1,7	AFP 1546	M40/4	2	2	1	2,6
AFP 1041	M15/4	1,0	1,0	0,55	1,7	AFP 1546	M60/4	2	2	1	2,6
AFP 1041	M22/4	1,0	1,0	0,55	1,7	AFP 1546	M90/4	2	2	1	3,2
AFP 1041	M30/4	1,0	1,0	0,55	1,7	AFP 1562	ME90/6	5,7	5,7	4,8	10,1
AFP 1042	M30/6	2	2	1	2,6	AFP 1562	ME110/4	5,7	5,7	4,8	10,1
AFP 1042	M40/4	2	2	1	2,6	AFP 2045	ME90/6	5,7	5,7	4,8	10,1
AFP 1042	M60/4	2	2	1	2,6	AFP 2045	ME110/4	5,7	5,7	4,8	10,1
AFP 1042	M90/4	2	2	1	3,2	AFP 2045	ME140/4	5,7	5,7	4,8	10,1
AFP 1043	M70/2	2	2	1	2,6	AFP 2045	ME160/4	5,7	5,7	4,8	10,1
AFP 1045	ME90/6	5,7	5,7	4,8	10,1	AFP 2045	ME185/4	5,7	5,7	4,8	10,1
AFP 1045	ME110/4	5,7	5,7	4,8	10,1	AFP 2045	ME220/4	5,7	5,7	4,8	10,1
AFP 1045	ME160/4	5,7	5,7	4,8	10,1	AFP 2045 SX	ME90/6	-	-	-	20
AFP 1045	ME185/4	5,7	5,7	4,8	10,1	AFP 2045 SX	ME110/4	-	-	-	20
AFP 1045	ME220/4	5,7	5,7	4,8	10,1	AFP 2045 SX	ME140/4	-	-	-	20
AFP 1045 SX	ME90/6	-	-	-	20	AFP 2045 SX	ME160/4	-	-	-	20
AFP 1045 SX	ME110/4	-	-	-	20	AFP 2045 SX	ME185/4	-	-	-	20
AFP 1045 SX	ME160/4	-	-	-	20	AFP 2045 SX	ME220/4	-	-	-	20
AFP 1045 SX	ME185/4	-	-	-	20	AFP 2046	ME90/6	5,7	5,7	4,8	10,1
AFP 1045 SX	ME220/4	-	-	-	20	AFP 2046	ME110/6	5,7	5,7	4,8	10,1
AFP 1048	ME150/2	4,6	4,6	3,7	9,1	AFP 2046	ME140/6	5,7	5,7	4,8	10,1
AFP 1048	ME185/2	4,6	4,6	3,7	9,1	AFP 2046 SX	ME90/6	-	-	-	20
AFP 1048	ME200/2	4,6	4,6	3,7	9,1	AFP 2046 SX	ME110/6	-	-	-	20
AFP 1049	M30/6	2	2	1	2,6	AFP 2046 SX	ME140/6	-	-	-	20

AFP Chamber coolant & oil quantity (60Hz)

Pump Type 60Hz		Without cooling jacket			With cooling jacket	Pump Type 60Hz		Without cooling jacket			With cooling jacket
		Lip Seal + Mech Seal	2 x Mech Seal	Seal Cartridge	Seal Cartridge			Lip Seal + Mech Seal	2 x Mech Seal	Seal Cartridge	Seal Cartridge
		Oil	Oil	Coolant	Coolant			Oil	Oil	Coolant	Coolant
AFP 0831	M15/6	1,0	1,0	0,55	1,7	AFP 1042	M35/6	2	2	1	2,6
AFP 0831	M18/4	1,0	1,0	0,55	1,7	AFP 1042	M40/4	2	2	1	2,6
AFP 0831	M22/4	1,0	1,0	0,55	1,7	AFP 1042	M46/4	2	2	1	2,6
AFP 0831	M28/4	1,0	1,0	0,55	1,7	AFP 1042	M75/4	2	2	1	2,6
AFP 0831	M35/4	1,0	1,0	0,55	1,7	AFP 1042	M90/4	2	2	1	2,6
AFP 0834	M125/2	1,35	1,35	0,7	2,9	AFP 1047	M70/6	2	2	1	3,2
AFP 0835	M80/2	2,0	2,0	1,0	2,6	AFP 1047	ME130/4	-	4,6	3,7	9,1
AFP 0835	M125/2	2,0	2,0	1,0	3,2	AFP 1047	ME185/4	-	4,6	3,7	9,1
AFP 0841	M15/6	1,0	1,0	0,55	1,7	AFP 1047	ME210/4	-	4,6	3,7	9,1
AFP 0841	M18/4	1,0	1,0	0,55	1,7	AFP 1047 SX	ME130/4	-	-	-	19
AFP 0841	M22/4	1,0	1,0	0,55	1,7	AFP 1047 SX	ME185/4	-	-	-	19
AFP 0841	M28/4	1,0	1,0	0,55	1,7	AFP 1048	ME185/2	-	4,6	3,7	9,1
AFP 0841	M35/4	1,0	1,0	0,55	1,7	AFP 1048	ME200/2	-	4,6	3,7	9,1
AFP 0844	M80/2	1,35	1,35	0,7	2,3	AFP 1048	ME300/2	-	4,6	3,7	9,1
AFP 0844	M100/2	1,35	1,35	0,7	2,3	AFP 1049	M75/4	2	2	1	2,6
AFP 0844	M125/2	1,35	1,35	0,7	2,9	AFP 1049	M90/4	2	2	1	2,6

AFP Chamber coolant & oil quantity (60Hz)

Pump Type 60Hz		Without cooling jacket			With cooling jacket	Pump Type 60Hz		Without cooling jacket			With cooling jacket
		Lip Seal + Mech Seal	2 x Mech Seal	Seal Cartridge	Seal Cartridge			Lip Seal + Mech Seal	2 x Mech Seal	Seal Cartridge	Seal Cartridge
		Oil	Oil	Coolant	Coolant			Oil	Oil	Coolant	Coolant
AFP 1031	M15/6	1,0	1,0	0,55	1,7	AFP 1049	M105/4	2	2	1	3,2
AFP 1031	M18/4	1,0	1,0	0,55	1,7	AFP 1062	M35/6	2	2	1	2,6
AFP 1031	M22/4	1,0	1,0	0,55	1,7	AFP 1062	M75/4	2	2	1	2,6
AFP 1031	M25/4	1,0	1,0	0,55	1,7	AFP 1062	M105/4	2	2	1	3,2
AFP 1031	M28/4	1,0	1,0	0,55	1,7	AFP 1541	M35/6	2	2	1	2,6
AFP 1031	M35/4	1,0	1,0	0,55	1,7	AFP 1541	M40/4	2	2	1	2,6
AFP 1032	M35/6	2	2	1	2,6	AFP 1541	M46/4	2	2	1	2,6
AFP 1032	M40/4	2	2	1	2,6	AFP 1541	M75/4	2	2	1	2,6
AFP 1032	M46/4	2	2	1	2,6	AFP 1541	M90/4	2	2	1	2,6
AFP 1032	M75/4	2	2	1	2,6	AFP 1541	M105/4	2	2	1	3,2
AFP 1032	M90/4	2	2	1	2,6	AFP 1546	M35/6	2	2	1	2,6
AFP 1032	M105/4	2	2	1	3,2	AFP 1546	M75/4	2	2	1	2,6
AFP 1034	ME230/2	-	4,6	3,7	9,1	AFP 1546	M90/4	2	2	1	2,6
AFP 1034	ME300/2	-	4,6	3,7	9,1	AFP 1546	M105/4	2	2	1	3,2
AFP 1035	ME230/2	-	4,6	3,7	9,1	AFP 1547	M70/6	2	2	1	3,2
AFP 1035	ME300/2	-	4,6	3,7	9,1	AFP 1547	ME130/4	-	4,6	3,7	9,1
AFP 1040	M15/6	1,0	1,0	0,55	1,7	AFP 1547	ME185/4	-	4,6	3,7	9,1
AFP 1040	M15/4	1,0	1,0	0,55	1,7	AFP 1547	ME210/4	-	4,6	3,7	9,1
AFP 1040	M22/4	1,0	1,0	0,55	1,7	AFP 1547 SX	ME130/4	-	-	-	19
AFP 1040	M28/4	1,0	1,0	0,55	1,7	AFP 1547 SX	ME185/4	-	-	-	19
AFP 1040	M35/4	1,0	1,0	0,55	1,7	AFP 1562	ME90/6	-	5,7	4,8	10,1
AFP 1041	M15/6	1,0	1,0	0,55	1,7	AFP 2046	ME120/8	-	5,7	4,8	10,1
AFP 1041	M28/4	1,0	1,0	0,55	1,7	AFP 2046	ME130/6	-	5,7	4,8	10,1
AFP 1041	M35/4	1,0	1,0	0,55	1,7	AFP 2046	ME160/6	-	5,7	4,8	10,1
AFP 1041	M40/4	1,35	1,35	0,7	2,3	AFP 2046	ME200/6	-	5,7	4,8	10,1
AFP 1041	M46/4	1,35	1,35	0,7	2,3	AFP 2046 SX	ME130/6	-	-	-	20
AFP 1041	M75/4	1,35	1,35	0,7	2,3	AFP 2046 SX	ME160/6	-	-	-	20

AFC Chamber coolant quantity

Pump Type	Motors	Coolant
AFC 0831	3/4, 3/6	0.63
AFC 0832	4/2, 7.5/2	0.63
AFC 0835	7.5/2, 11/2	2
AFC 0841	3/4, 3/6	0.63
AFC 0844	7.5/2, 11/2	0.87
AFC 1031	3/4, 3/6	0.63
AFC 1032	7.5/4, 9.2/4, 3/6	1.15
AFC 1033	15/4, 18.5/4, 9.2/6	2.65
AFC 1035	22/2	2
AFC 1041	3/4, 3/6	0.63
AFC 1045	15/4, 18.5/4, 22/4, 9.2/6	2.65
AFC 1049	7.5/4, 9.2/4, 3/6	1.15
AFC 1541	7.5/4, 9.2/4, 3/6	1.15
AFC 1543	15/4, 18.5/4, 22/4, 9.2/6	2.65
AFC 1546	7.5/4, 9.2/4, 3/6	1.15
AFC 2046	9.2/6, 11/6, 15/6	2.65
AFC 50/50	7.5/4, 3/6	2
AFC 50/50 RV	15/2, 22/2	2
AFC 80/80	7.5/4, 9.2/4, 15/4, 3/6, 9.2/6	2
AFC 80/80 RV	22/2	2

JT Chamber coolant & oil quantity

		Oil	Coolant
JT 20 HD	S17/2	0,48	-
JT 30 HD	S30/2	0,48	-
JT 15 ND	S13/4	0,56	-
JT 20 ND	S22/4	0,56	-
JT 50 HD	M55/2	-	2,6
JT 80 HD	M70/2	-	2,6
JT 110 HD	M110/2	-	3,2
JT 40 ND	M30/4	-	1,7
JT 50 ND	M60/4	-	2,6
JT 80 ND	M90/4	-	3,2
JT 160 ND	ME160/4	-	10,1
JT 200 ND	ME220/4	-	10,1
JT 200 HD	ME200/2	-	9,1
JT 250 HD	ME250/2	-	9,1
JT 160 LD	ME160/4	-	10,1
JT 200 LD	ME220/4	-	10,1

The lighting up of the inspection control indicator in the control panel by the DI-electrode fitted in the pump means that there is water in the dry chamber. (in the motor chamber in the Ex PTB versions)

A coolant change is only necessary when carrying out repair work or if the inspection lamp does light.

The manufacturer has filled the cooling system of the AFP motor with cooling liquid (oil or water/propylene glycol).

The 70% water and 30% propylene glycol coolant is frost resisting down to -15°C / 5°F.

In case of extreme ambient temperatures below -15°C / 5°F (e.g. during transport, storage or if the pump is out of duty) the cooling liquid must be drained. Otherwise the pump may be damaged. Please contact your ABS consultant!

Repair work on explosion-proof submersible pumps may only be carried out by approved personnel in approved workshops.

When carrying out repairs only original spare parts, supplied by the manufacturer, should be used.

The DI-electrode fitted in explosion-proof pumps indicates that there is moisture in the motor area.

6.4 Cleaning

If the pump is used for transportable applications then it should be cleaned after each usage by pumping clear water in order to avoid deposits of dirt and encrustation. In the case of fixed installation, we recommend that the functioning of the automatic level control system be checked regularly. By switching the selection switch (switch setting “HAND”) the sump will be emptied. If deposits of dirt are visible on the floats then these should be cleaned. After cleaning, the pump should be rinsed out with clear water and a number of automatic pumping cycles carried out.

6.5 Venting of the volute

After lowering the pump into a sump full of water, an air lock may occur in the volute and cause pumping problems. In this case, raise the pump in the medium and then lower it again. If necessary, repeat this venting procedure.

We strongly recommend that dry installed AFP pumps be vented back into the sump by means of the (drilled and tapped) hole provided in the volute.

6.6 Draining of the volute

To drain the volute on the AFC series remove the plug from the tapped hole on the under side of the volute.

7 Declaration of conformity

As defined by: Machinery Directive 98/37/EC, EMC-Directive 2004/108/EC, Low Voltage Directive 2006/95/EC, ATEX 94/9/EC, Construction Products 89/106/EC

GB:	**Declaration of conformity**	**NL:**	**Overeenkomstigheidsverklaring**	**HU:**	**Megfelelõségi nyilatkozat**
DE:	**Konformitätserklärung**	**SE:**	**Försäkran om överensstämmelse**	**GR:**	**Δήλωση εναρμόνισης**
FR:	**Déclaration de Conformité**	**NO:**	**Samsvarserklæring**	**EE:**	**Vastavusdeklaratsioon**
ES:	**Declaración de Confirmidad**	**DK:**	**Overensstemmelseserklæring**	**CZ:**	**Prohlášení o shodši**
PT:	**Declaracão de conformidade**	**FI:**	**Vaatimustenmukaisuusvakuutus**	**SI:**	**Izjava o skladnosti**
IT:	**Dichiarazione di conformità**	**PL:**	**Deklaracja zgodnosci**	**SK:**	**Vyhlásenie o zhode**

ABS Production Wexford Ltd, Clonard Road, Wexford, IRELAND

GB: Declare under our sole responsibility that the products
DE: Erklärt eigenverantwortlich, daß die Produkte
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DK: Erklærer på eget ansvar, at følgende produkter
FI: Vakuutamme yksinomaan omalla vastuullamme, että seuraavat tuotteet
PL: Deklaruje z pelna odpowiedzialnoscia, ze urzadzenia typu
HU: Felelösségünk teljes tudatában kijelentjük, hogy a termékek
GR: Dhlönoyme me apokleistikq maw eyuýnh óti ta proïónta
EE: Deklareerime ainuvastutajana, et tooted
CZ: Prohlašuje na vlastní odpovìdnost, že výrobky
SI: Izjavljamo, da so z našo izkljuèno odgovornostjo izdelki
SK: Vyhlasujeme na našu zodpovednost', že výrobky

Products:
ABS submersible sewage pump AFP M1, M2, ME3
ABS submersible sludge pump JT
ABS dry installed sewage pump AFC

II 2G k EEx d IIB T4

GB: To which this declaration relates are in conformity with the following standards or other normative documents
DE: Auf die sich diese Erklärung bezieht, den folgenden und/oder anderen normativen Dokumenten entsprechen
FR: Auxquels se réfère cette déclaration sont conformes aux normes ou à d'autres documents normatifs
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PT: Aque se refere esta declaracáo está em conformidade com as Normas our outros documentos normativos
IT: Ai quali questa dichiarazione si riferisce sono conformi alla seguente norma o ad altri documenti normativi
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FI: Joihin tämä vakuutus liitty, ovat seuraavien standardien sekä muiden sääntöämääräävien asiakirjojen mukaisia
PL: Do których odnosi sie niniejsza deklaracja sa zgodne z nastepujacymi normami lub innymi dokumentami normatywnymi.
HU: Amelyekre ez a nyilatkozat vonatkozik, megfelelnek a következõszabványokban és egyéb szabályozó dokumentumokban leírtaknak.
GR: Τα οποία αφορά η παρούσα δήλωση είναι σύμφωνα με τα ακόλουθα και/ή άλλα πρότυπα κανονιστικά έγγραφα
EE: Mida käespöev deklaratsioon puudutab, on vastavuses järgmiste standardite ja muude normatiivdokumentidega.
CZ: Na které se toto prohlášeni vztahuje, jsou v souladu s následujícími normami nebo jinými normativními dokumenty.
SI: Na katere se ta izjava nanaša, skladni z naslednjimi standardi ali drugimi normativnimi dokumenti.
SK: Na ktoré sa vz ahuje toto vyhlásenie, zodpovedajú nasledujúcim štandardom a iným záväzným dokumentom.

AFP Series - DIN EN 12050-1, EN 60335, EN 60079-0, EN 60079-1:2004, EN 13463, EN ISO 12100-1, EN 809, EN 60034, EN 61000-6, EN ISO 12100-2

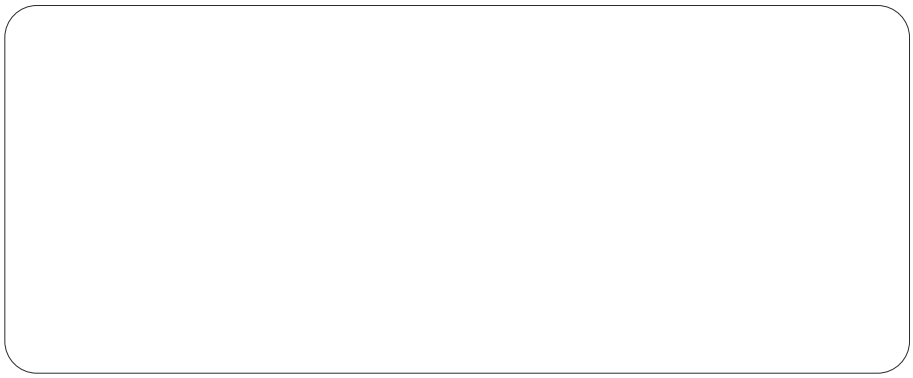
JT Series - EN 60335, EN 60079-0, EN 60079-1:2004, EN 13463, EN ISO 12100-1, EN ISO 12100-2, EN 809, EN 60034, EN 61000-6

AFC Series - EN 13463, EN ISO 12100-1, EN ISO 12100-2, EN 809, EN 61000-6

03-01-2008

Sean Roche

ABS Production Wexford Ltd.



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