



E6 PWM7
for heating and cooling
application

Installation and
operating instructions



cod. 671075146 rev. A ed. 09/2012

These installation and operating instructions must be followed during installation and operation. Read them carefully. We recommend that you keep these instructions where the device is used. Particular attention must be paid to instructions marked as follows:



Failure to follow these instructions may lead to personal safety risks.



Failure to follow these instructions may lead to the malfunction and possible damage of the device.

1. Safety instructions



This appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or persons with a lack of experience or knowledge, unless suitably supervised or unless provided with suitable instructions.

Children should be supervised at all times and should not play with appliance.

The pump must NOT be used with a damaged cord or enclosure.

Other relevant regulations should also be followed: e.g. accident prevention regulations or the internal operating and safety instructions of the system manufacturer.

Failure to follow these instructions can result in the loss of all entitlements to claim damages.

2. General Description (figure 5)

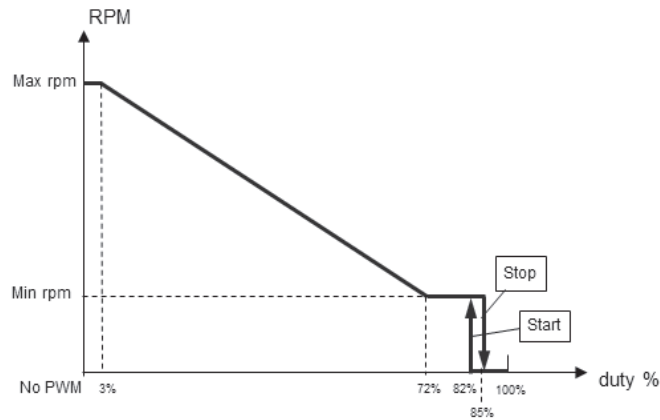
E6 PWM circulation pumps are shaftless spherical motor pumps with energy-efficient, electronically commutated permanent magnet technology (ECM technology) for use in hot water heating systems, heat pumps, solar systems, air conditioning systems, closed cooling circuits and industrial circulation systems.

For technical reasons, the contact surface between the rotor and the ceramic ball bearing in spherical motor pumps is very small. For this reason, even if they have not been in operation for a long time, such as after the summer, only a small amount of torque is required to start the pump. E6 PWM pumps do not require (and thus do not have) a release/vent screw.

E6 PWM pump is a speed controlled pump via external PWM (Pulse Width Modulation) signal. The pump has a standby function thus the pump can be disabled with power supply remained connected. In this mode the power is <1W.

It is very important to connect the PWM signal with the right polarity.
Brown= +PWM; Blue= GND (see figure 6)

These E6 PWM pump has the PWM7 control curve, see below:



Series	Max. delivery height	Max. delivery volume
E6 PWM7 NIBE	5,6 m	3500 l/h
E6 PWM7 NIBE ST2	6 m	4000 l/h

Rated connection width DN	For pipe thread	Pump connection thread
25	1"	G 1 1/2"

Installation length (see fig. 1): 180 mm

3. Dimensions (see figure 1)

4. Technical Specifications

Motor model	Electronically commutated spherical motor with permanent magnet rotor	
	E6 PWM7.. NIBE	E6 PWM7..NIBE ST2
Rated voltage	230 V	230 V
Frequency	50/60 Hz	50/60 Hz
Power consumption	9-75 W	9-110 W
IP protection	IP 42	IP 42
Insulation class	Class F	Class F
Max. system pressure	10 bar	10 bar
Permitted temperature range of pumped fluid	-10 °C*to +95 °C	-10 °C* to +60 °C
Permitted pumping media	Heating water according to VDI 2035, water/glycol mixtures**	

* Must not freeze. To avoid condensation the fluid temperature must always be higher than the ambient temperature.

** Performance of the pump will noticeably change when pumping water/glycol mixtures with concentrations higher than 20%.

5. Characteristic Curve (see figure 2)

6. Installation Advice

The installation of a stop valve upstream and downstream of the pump is recommended so the pump can be replaced at a later time without the need to completely drain the system.

7. Installation



The unit may not be installed in areas where there is a danger of explosion and may not be used to pump flammable liquids.

Figure 3: Only install in dry, frost-proof rooms in one of the permitted fitting positions.

The use of thermal insulation shells, available from the manufacturer, is recommended when a thermal insulation of the pump is required. When using other materials, leave the motor housing uninsulated, otherwise the electronics may overheat and the pump may automatically switch off.

Screw connections for installing the pump in the system are not included in the scope of delivery. Use new gaskets (included in the scope of delivery) when installing the pump.

The customer must take appropriate isolation measures and provide appropriate acoustic insulation to reduce possible noise transfer.

7.1 Electrical connection (see figure 6)



The unit may only be connected by an authorized electrician. The pump is equipped with a factory installed cable.

The PWM wire must be connected to the controller with the right polarity mentioned. (see figure 6)

ATTENTION

The pump requires a separate circuit breaker installed on the phase with a rated value of 10A. The socket must be positioned in such way that no water can drip onto it even in the event of damage to the piping.

7.2 Getting started

ATTENTION The pump must not run dry as this can result in the destruction of the bearing in a very short time. Fill it with liquid before first start-up.

Before starting, the system must be:

- Rinsed thoroughly to prevent the presence of foreign objects and impurities which could block the pump.
- Fully filled with the pumped media (water or water-glycol mix).

8. Maintenance/Disassembly

Pumps are subject to wear. If the pump is blocked (see section 9) or grinding noises are audible, check the pump and replace it if necessary. Procedure:



- Disconnect the pump from the mains.
- Shut off supply and drain lines. If there are no shut-off devices, drain the system so that the fluid level is beneath that of the pump.
- Loosen the union nut by hand or with an appropriate tool (such as a strap wrench) and carefully pull the motor out of the pump housing.

ATTENTION Residual water may leak out of the rotor cavity. Prevent the pump's electrical connection from getting wet.

For figure 4:

- Carefully but firmly pull the rotor / impeller upward by hand and remove it.
- If necessary, remove foreign bodies and impurities/deposits with appropriate agents. Reinsert the rotor / impeller.
- The bearing is worn if the rotor / impeller cannot be freely moved or if wear marks are visible. In this case, replace the rotor, the pump motor, or the entire pump.

9. Disposal

This product and parts thereof must be disposed of in an environmentally friendly manner. Applicable local regulations must be followed.

10. Exploded View (see figure 5)

1. Supply cable
2. PWM signal cable
3. Stator/pump motor
4. Union nut
5. O-ring
6. Impeller / Rotor
7. Pump housing
8. Connection thread

11. EC DECLARATION OF CONFORMITY « ORIGINAL »

LOWARA SRL UNIPERSONALE, WITH HEADQUARTERS IN VIA VITTORIO LOMBARDI 14 - 36075 MONTECCHIO MAGGIORE VI - ITALIA, HEREBY DECLARES THAT THE PRODUCT

E6 PWM7 25/180G NIBE
E6 PWM7 25/180G NIBE ST2

FULFILLS THE RELEVANT PROVISIONS OF THE FOLLOWING EUROPEAN DIRECTIVES

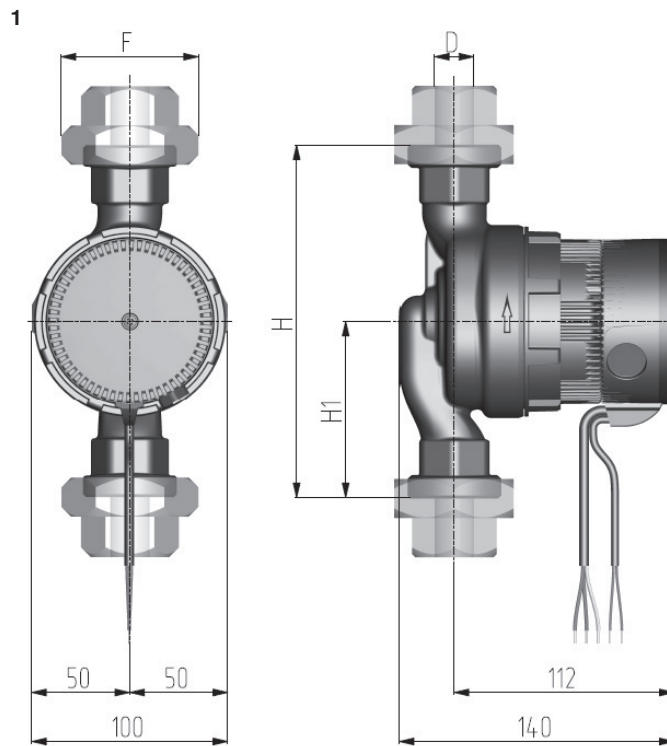
- MACHINERY 2006/42/EC (ANNEX II: THE TECHNICAL FILE IS AVAILABLE FROM XYLEM WATER SYSTEMS HUNGARY KFT, KÜLSÓ-KÁTAI ÚT 41, 2700 CEGLÉD, MAGYARORSZÁG).
 - ELECTROMAGNETIC COMPATIBILITY 2004/108/EC
- AND THE FOLLOWING TECHNICAL STANDARDS

- EN 60335-1, EN 60335-2-51
- EN 55014-1:2006+A1:2009, EN 55014-2:1997+A1:2001+A2:2008

MONTECCHIO MAGGIORE, 16.09.2012
AMEDEO VALENTE
(DIRECTOR OF ENGINEERING AND R&D)
rev.00

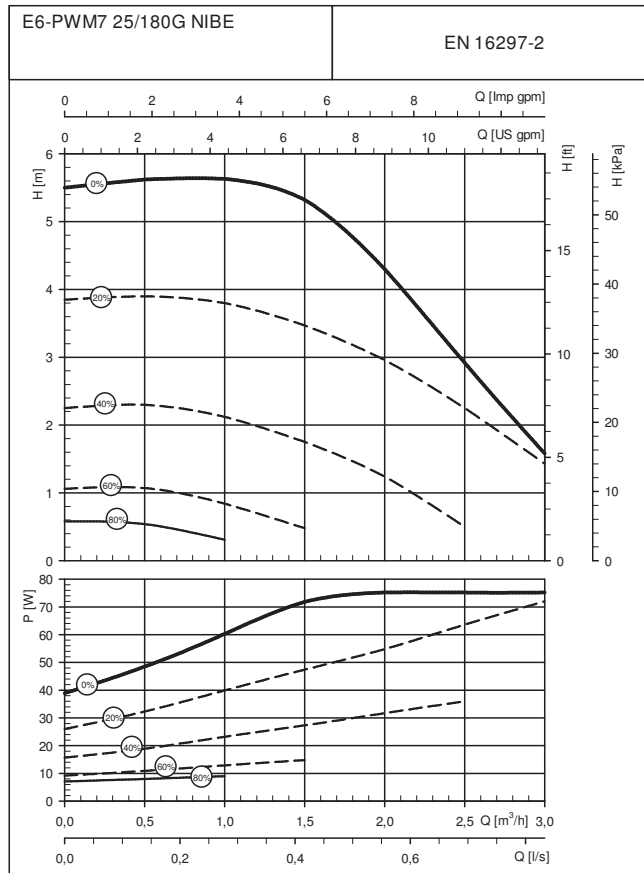


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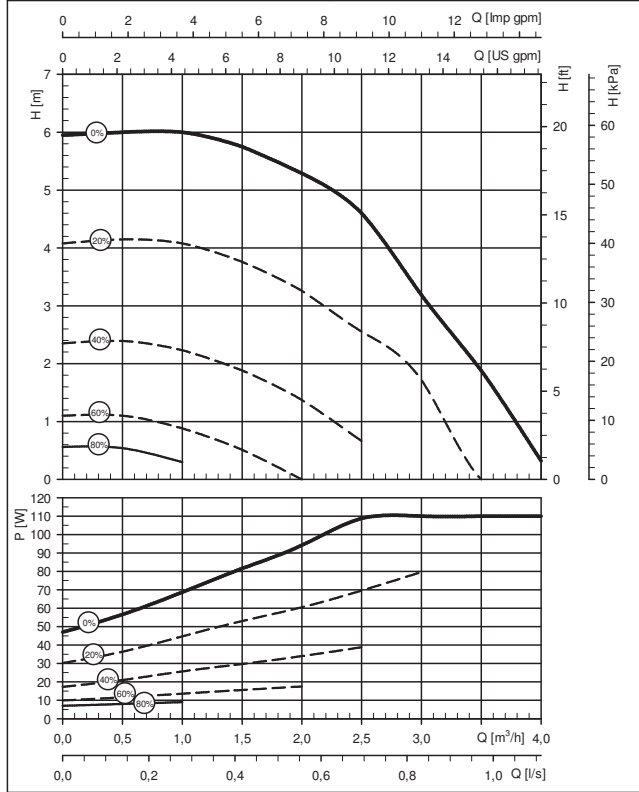
	H	H1	D	F	DN	kg
	mm					
E6-...25/180 NIBE	180	90	R 1	R 1½	25	2,4
E6-...25/180 NIBE ST2	180	90	R 1	R 1½	25	2,4

2 Hydraulic curves

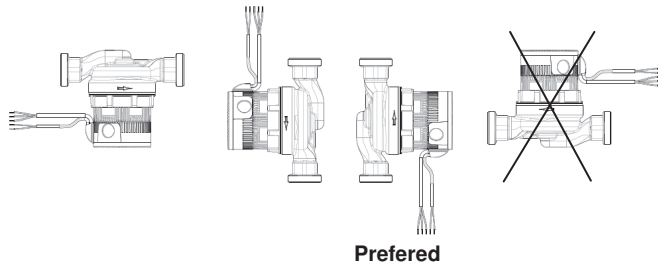


E6-PWM7 25/180G NIBE ST2

EN 16297-2

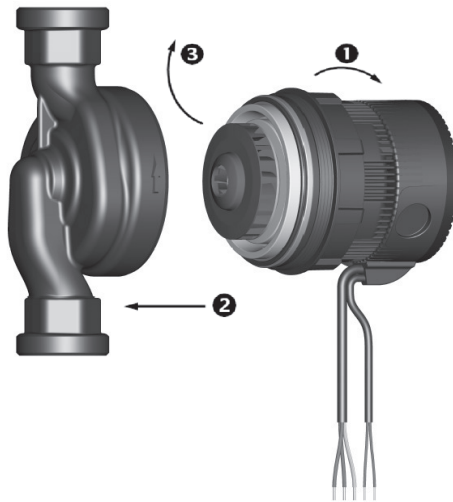


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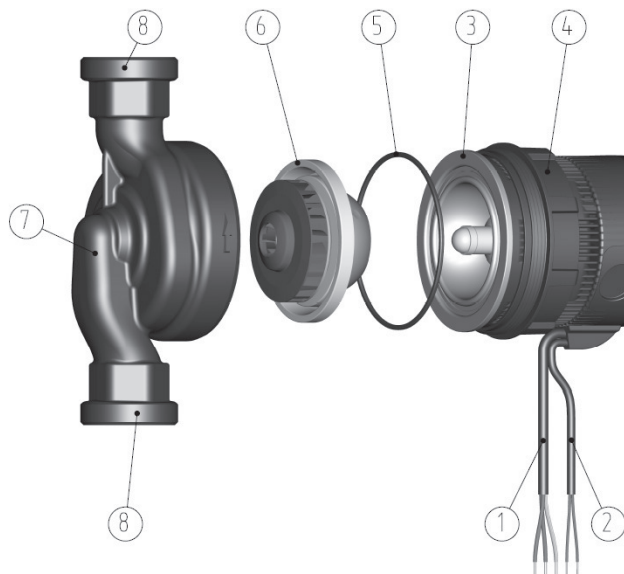


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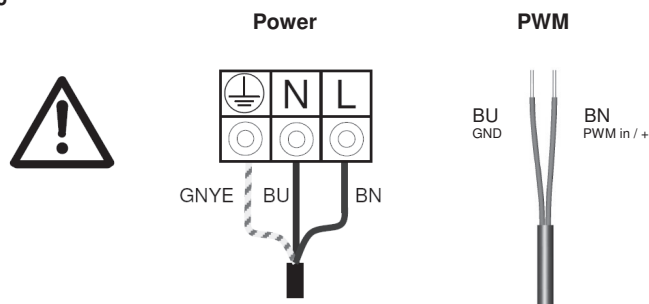
4.



5



6



	BU	BN	GNYE
it	Blu	Marrone	Verde/Giallo
en	Blue	Brown	Green/Yellow
fr	Bleu	Brun	Vert/Jaune
de	Blau	Braun	Grün/Gelb
es	Azul	Marròn	Verde/Amarillo
pt	Azul	Castanho	Verde/Amarelo
nl	Blauw	Bruin	Groen/Geel
da	Blå	Brun	Grøn/Gul
no	Blå	Brun	Grønn/Gul
sv	Blå	Brun	Grøn/Gul
fi	Tummansininen	Ruskea	Vihreä/Kelta
cs	Modrý	Hnědý	Zelenožlutý
hu	Kék	Barna	Zöld/Sárga
ro	Albastru	Maro	Verde/Galben
ru	Синий	Коричневый	Зеленый/Желтый



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