US

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CIRCULATOR PUMP INSTRUCTIONS

We continue to be committed to provide you tools with competitive price.
"Save Half", "Half Price" or any other similar expressions used by us only represents an estimate of savings you might benefit from buying certain tools with us compared to the major top brands and does not necessarily mean to cover all categories of tools offered by us. You are kindly reminded to verify carefully when you are placing an order with us if you are actually saving half in comparison with the top major brands.

VEVOR®
TOUGH TOOLS, HALF PRICE

CIRCULATOR PUMP

Model: 007E-2F2,

(The picture is for reference only, please refer to the actual object)

NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

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This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

FCC Information:

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment!

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) This product may cause harmful interference.

2)This product must accept any interference received, including interference that may cause undesired operation.

WARNING: Changes or modifications to this product not expressly approved by the party.responsible for compliance could void the user's authority to operate the product.

Note: This product has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules, These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This product generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception,which can be determined by turning the product off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

· Reorient or relocate the receiving antenna.

· Increase the distance between the product and receiver.

· Connect the product to an outlet on a circuit different from that to which the receiver is connected.

· Consult the dealer or an experienced radio/TV technician for assistance.

INSTALLATION:

1. Mounting position – Circulator must be mounted with the motor in a horizontal position. It may be mounted vertically with the motor up, provided that the system pressure is at least 20 psi (138 kPa).
2. Rotating body – Body has an arrow on the front that indicates direction of flow. To rotate body, remove the four body bolts, rotate body and replace bolts. Make sure that the junction box is NOT located underneath the circulator. (The junction box must NOT be located in the 6 o'clock position, as viewed from the motor end.)
3. Electrical connections – Observe all applicable codes when connecting to power supply. The motor is impedance protected, and does not require overload protection. Either colored wire from the capacitor box can be attached to either colored wire from the power supply. There is no "hot" or "common" wire leading from the capacitor box. Typical installation would be to attach the white wire to the white (common) power supply wire and either the yellow or blue wire to the black (hot) power supply wire. The pump cannot run backwards.

WARNING: Do not use in swimming pool or spa areas; pump has not been investigated for this application.

WARNING: In the event the retaining screws have been pulled out of the housing, DO NOT replace them. Use of any other screw may short out the stator windings, creating a risk of electrical shock.

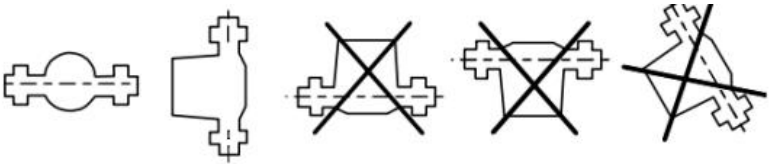
CAUTION: When installing electrical connections, do not apply mechanical loads to the capacitor box; otherwise, retaining screws may be pulled out of the housing, making circulator unusable.

CAUTION: Installations at higher elevations over 5000 feet must have higher fill pressure of 20 psi minimum to prevent pump cavitation and flashing. Premature failure may result. Adjust expansion tank pressure to equal fill pressure. A larger size expansion tank may be required.

4. Fill system with tap water – The system must be filled before operating the circulator. The bearings are water lubricated and should not be allowed to operate dry. Filling the system will result in immediate lubrication of the bearings. It is always good practice to flush a new system of foreign matter before starting the circulator.
5. Circulator operation – Operate the circulator for 5 minutes immediately after filling system to purge remaining air from the bearing chamber. This is especially important when installing the circulator during the off-season.

CAUTION: Use supply wires suitable for 90°C – ATTENTION: Employer des fils d´alimentation adequats pour 90°C.

WARNING: To avoid electrical shock, disconnect the power supply to the circulator and the main electrical unit.



Acceptable Not acceptable

Acceptable pump mounting positions

REPLACING MOTOR ASSEMBLY:

1. Disconnect the electrical supply.
2. Reduce system pressure to 0 psi and allow system to return to room temperature. Isolate the circulator by closing the service valves or draining the system.
3. Remove the body bolts and swing motor assembly away from the body.
4. Install new motor, and reassemble circulator using the new gasket and bolts supplied.
5. Follow the “installation” procedure to start up the circulator.

REPLACING CARTRIDGE ASSEMBLY:

1. Disconnect the electrical supply.
2. Reduce system pressure to 0 psi and allow system to return to room temperature. Isolate the circulator by closing the service valves or draining the system.
3. Remove the body bolts and swing motor assembly away from the body.
4. Pull cartridge out of the motor housing.
5. Install replacement cartridge, making sure that the cover plate is between the cartridge flange and motor.
6. Make sure the replacement cartridge corresponds to the full circulator product number. A complete parts list is available from your local plumbing supply wholesaler.
7. Reassemble the circulator using the new gasket and bolts supplied.
8. Follow the “Installation” procedure to start up the circulator.

REPLACING CAPACITOR:

1. Replacement capacitor must have same rating as originally furnished.

	Warning-To reduce the risk of injury, user must read instructions manual carefully.

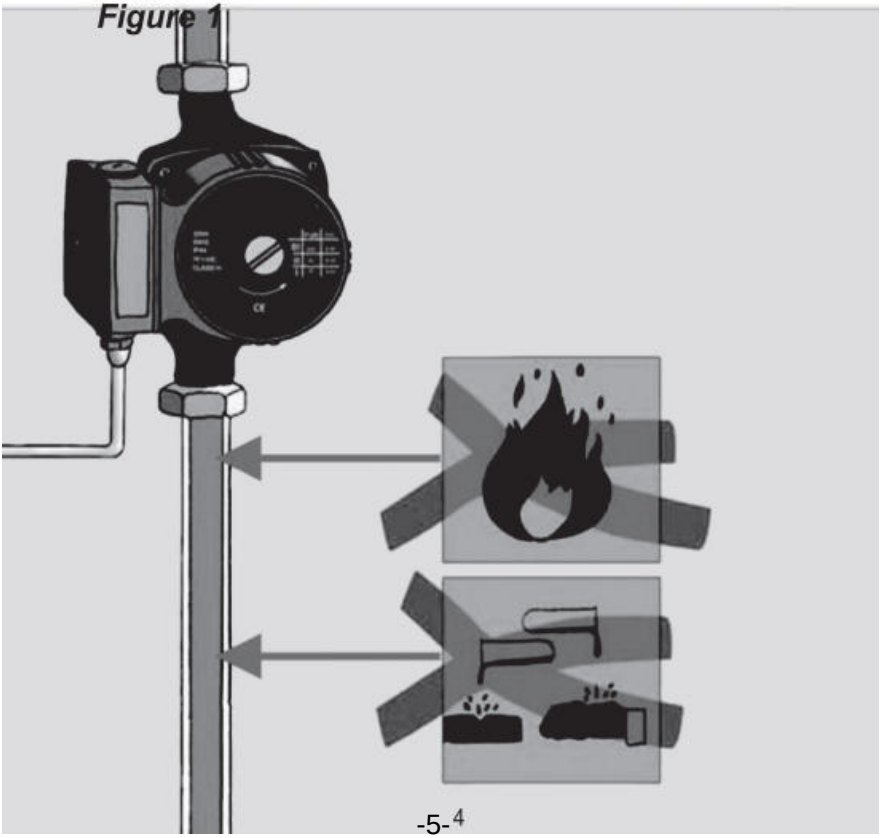
ATTENTION

Circulation Pump

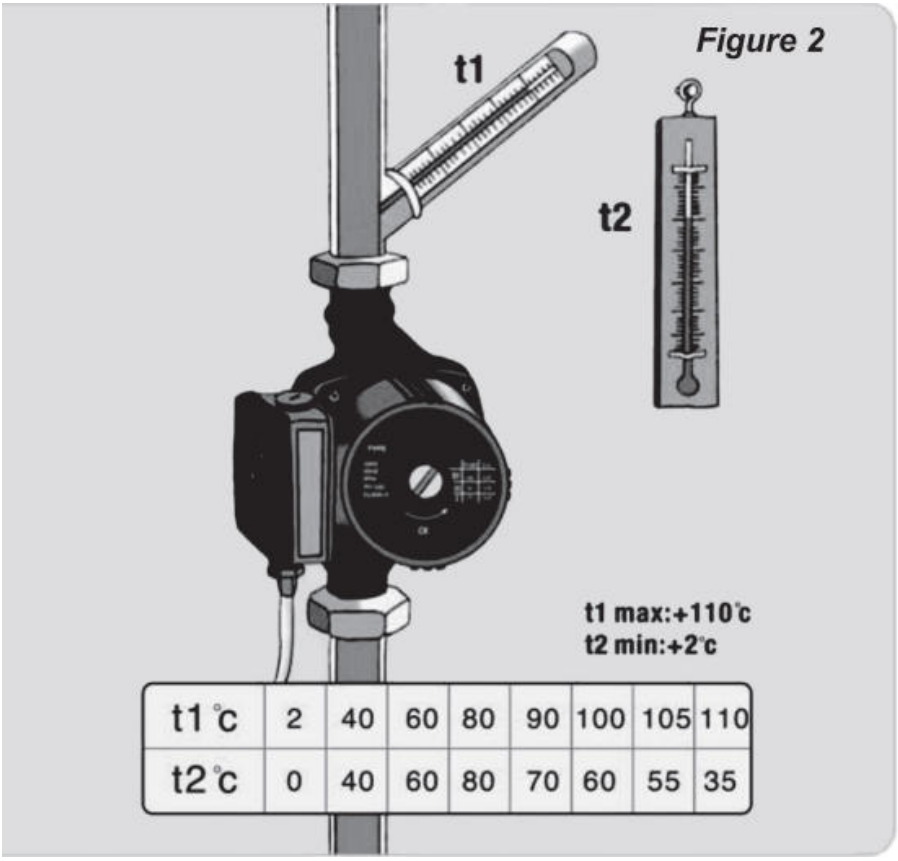
1.Using condition

- *This pump uses water or liquid to lubricate.*
  Therefore in the condition of no-water or no-liquid, operating shall not be exceed 10 seconds.
  (Figure 1)

Figure 1

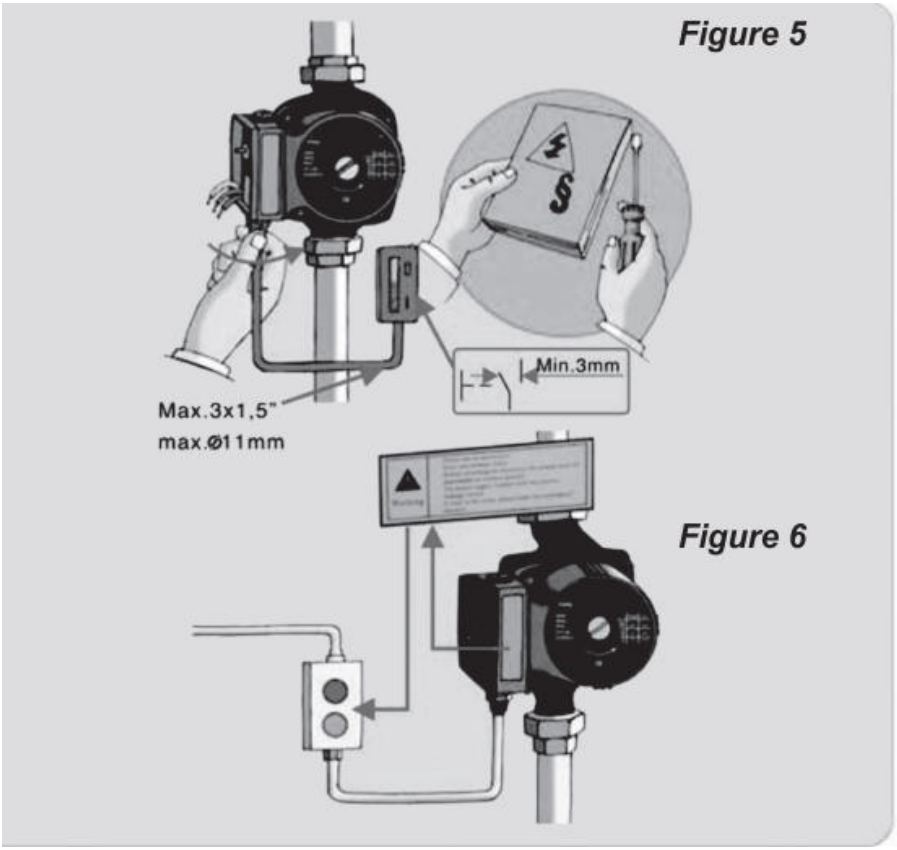


- *t1=pipe temperature*
  t2=ambient temperature
  (Figure 2)



t1 °c	2	40	60	80	90	100	105	110
t2 °c	0	40	60	80	70	60	55	35

- *Power outlet must be grounded, Should not modify on the machine grounding plug without authorization.(Figure 5)*
- *Reading the warnings carefully (Figure 6)*



2.Installation

- *Forbid to install upside down or motor downward, to avoid liquid leakage come into the interior of motor, causing short circuit and motor burnt (Figure 3)*
- *Putting into the cushion,screwing on the pipe fittings, fixing the water pump (Figure 4)*

Figure 3

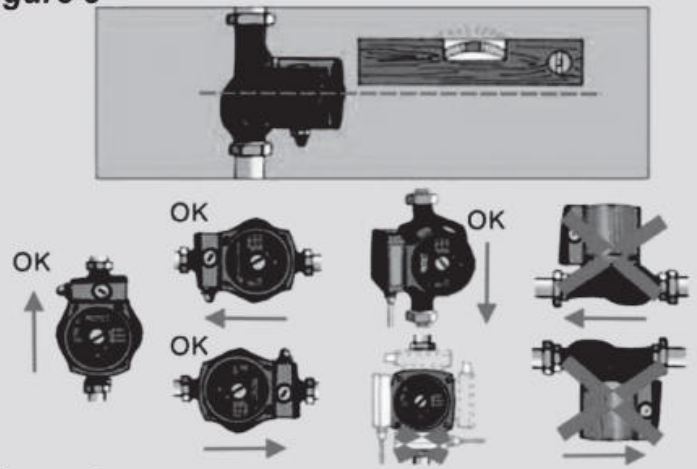
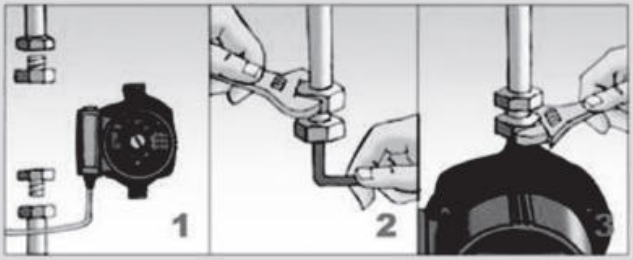
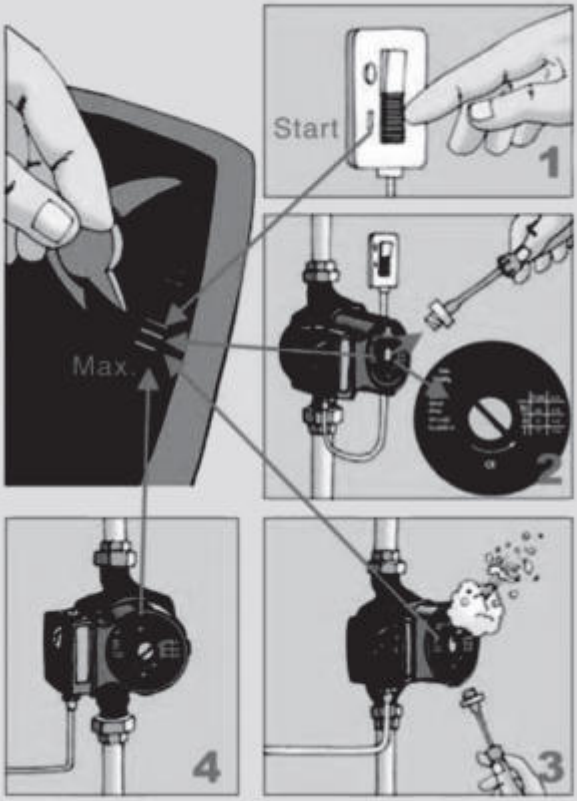


Figure 4



- *Starting the power, turn the switch into III speed, then loosen off the air screw for venting.*
  (Figure 7)

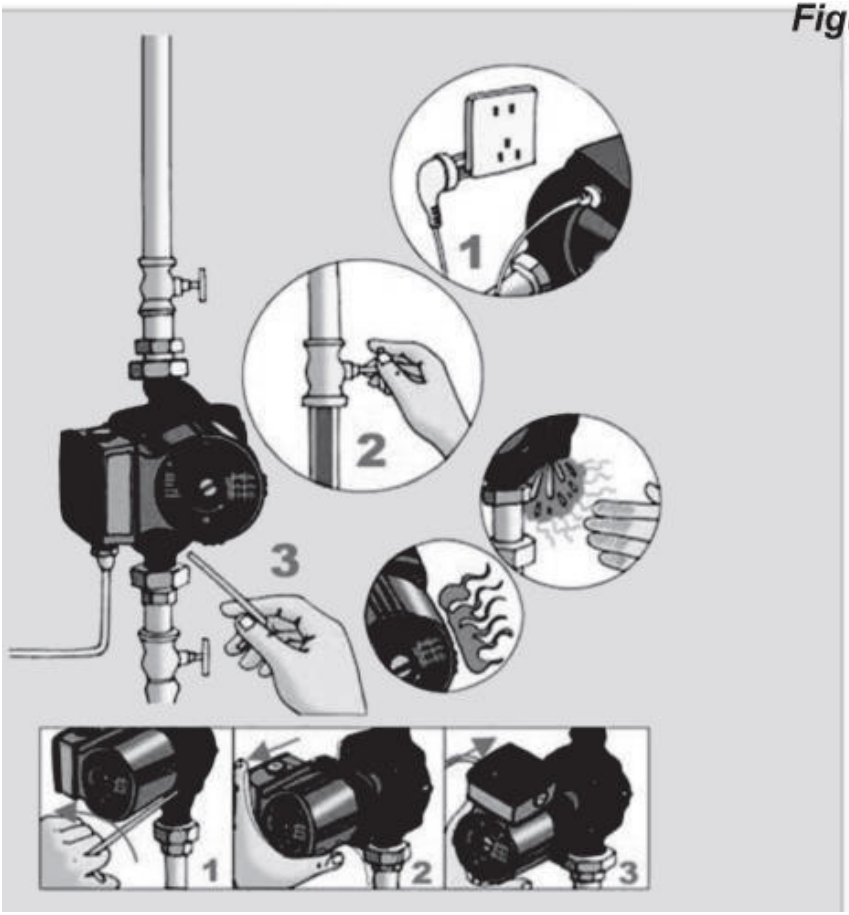
Figure 7



3.Disassemble and repair

- *Before repairing, must pull the plug first, cut off power, and close the inlet valve, remove the screw, then take out the damaged parts.(Figure 8)*

Figure 8



Fault	Cause	Remedy
Pump fails to start.	Supply failure.	Check fuses and possible loose electrical connections.
	Capacitor is defective.	Replace the capacitor.
	Pump blocked due to furred bearings.	Change over to maximum speed for a short period or free the rotor with a screwdriver inserted in the slot of the shaft end.
	Impurities in the pump.	Dismantle and clean the pump.
Noise in the system	Pump flow setting is too high.	Change over to a lower speed.
	Air in the system.	Vent the system.
Noise in the pump.	Air in the pump.	Vent the pump.
	Inlet pressure too low	Increase the inlet pressure or check the air volume in the expansion tank (if installed).

 -At high water temperatures and system pressures, close isolating valves at both pump ports. First, allow pump to cool down.

Noise

-Cavitation due to insufficient inlet pressure remedial actions:

-Increase system pressure within permissible limits.

-Check speed setting, if need be, adjust to a lower speed setting

If the fault cannot be located or rectified, please contact your nearest representatives.

6.THE CONTROL PANEL

CATALOGUE

6.1 Components on the control panel

Figure 7 THE CONTROL PANEL

The variable frequency pump control panel includes

NO.	Instructions
1	A display that displays the actual power consumed by a pump in watts
2	8 light areas for the pump setting
3	Light area in night mode
4	The button to enable night mode
5	The button for pump Settings

6.2Display When the power is turned on, the display at position 1 will work。

WARNING

During operation, the display value to Watt as a unit, showing the actual power consumption of the pump。

A fault that prevents the pump from working properly (for example,a blockage) is indicated on the display as "--".

If there is a failure, you must disconnect the power supply, in order to troubleshoot, after the failure, re-connect the power supply and start the pump.

6.3show the light area set by the pump

VEVOR intelligent has eight kinds of settings and can be selected by button.please refer to figure 7,the position 5.

Pump settings are represented by eight different lighting areas, as shown in figure 8.

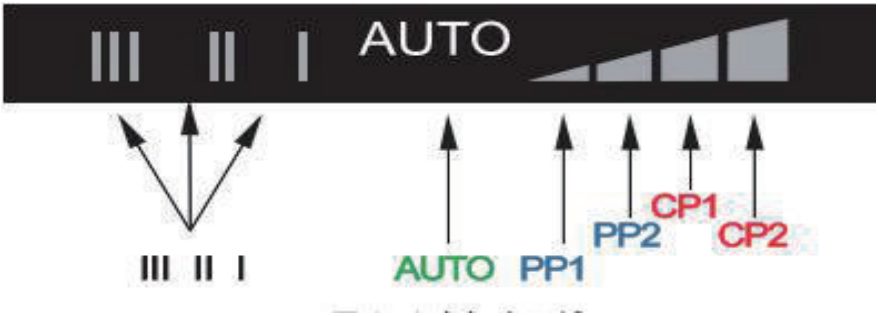


Figure 8 eight lighting areas

Button count	lighting area	instruction
0	AUTO(the factor set up)	Automatic Adaptation
1	PP1	Minimum proportional pressure curve
2	PP2	Maximum proportional pressure curve
3	CP1	Minimum constant pressure curve
4	CP2	Maximum constant pressure curve
5	III	Constant velocity curve, speed |||
6	II	Constant velocity curve, speed ||
7	I	Constant velocity curve, speed |
8	AUTO	Automatic Adaptation

For a detailed description of the setting function, see Chapter 11, 《pump setting and pump performance》

6.4 Represents a lighting area in automatic night mode

Denoted by☼☽， See figure 7, Position 3. The light indicates that automatic night mode is enabled. See Section 6.5 for《the button to activate automatic night mode》。

6.5Button to start automatic night mode

This button, shown in figure 7, at position 4,Turn on /off automatic night mode。

The automatic night mode feature is only available for heating systems with this feature, see Chapter 8, 《automatic night mode》。

The automatic night mode function starts when the lighting area☼☽light up,.

7.1 Set up the water pump according to the system type

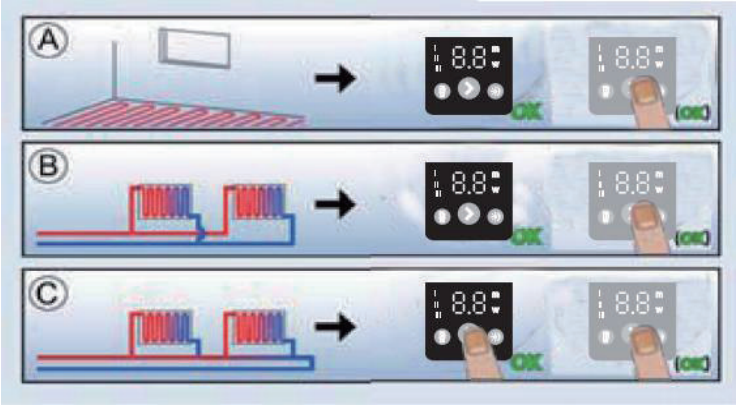


Figure 9 selection of pump settings by system type

Factory setting auto=adapting mode

Several optional pump settings are recommended, as shown in figure 9 :

Position	system type	pump setting	
		Optimal Setting	Or other optional settings
A	Floor Heating System	AUTO	Maximum constant pressure curve (CP2mode) Or Minimum constant pressure curve(CP1 mode)
B	Double-pipe heating system	AUTO	Maximum proportional pressure curve (PP2mode)
C	Single pipe heating system	(PP1mode)	(PP2mode)

* See Section 14.1, 《guide to performance curves》

AUTO （Adaptive mode）Heating System installed under the floor and double pipe system

AUTO （ Adaptive mode ） According to the actual heat demand of the system, automatically adjust the pump performance. As the performance is gradually adjusted, it is recommended that the pump be placed in "AUTO" mode for at least one week before changing its setting.If you choose to change back to "auto" mode, the intelligent pump can remember the vaguely auto-adaptive mode setting point, continue to automatically adjust the performance.

Pump setting changed from optimal to other optional settings

Heating Systems are "slow" systems that can not operate optimally in minutes or hours. If the optimal setting of the pump fails to achieve the desired heat distribution in each room, the pump setting should be changed to other settings.

For the relationship between pump settings and performance curves, see Chapter 11《pump settings and pump performance》。

7.2Pump control

During the operation of the pump, the pump is controlled according to the principle of "proportional pressure control" (PP) or "constant pressure control" (CP)。

Under these two control modes, the pump performance and corresponding power consumption are adjusted according to the heat demand of the system.

Proportional pressure control

Under these two control modes, the pressure difference between the two ends of the pump is controlled by the flow rate. The proportional pressure curve is shown in the Q/H diagram in PP1 and PP2, see Chapter 11《pump settings and pump performance》

Constant pressure control

In this control mode, the pressure difference between the two ends of the pump remains constant regardless of the flow rate.

Constant pressure curves CP1 and CP2 indicate a horizontal performance curve in the Q / h diagram.see Chapter 11《pump settings and pump performance》

8Automatic night mode

8.1 Basic principles of automatic night mode

8.2Automatic night mode function

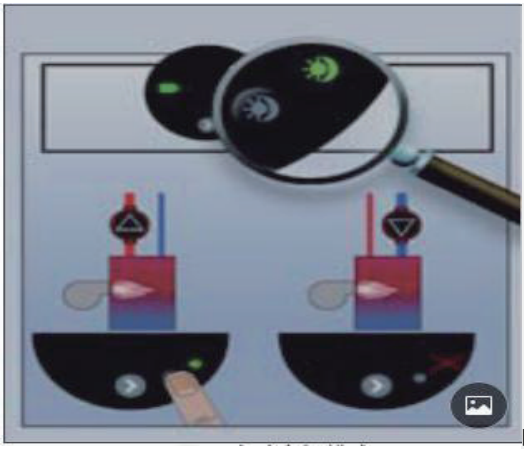


Figure 10 automatic night mode

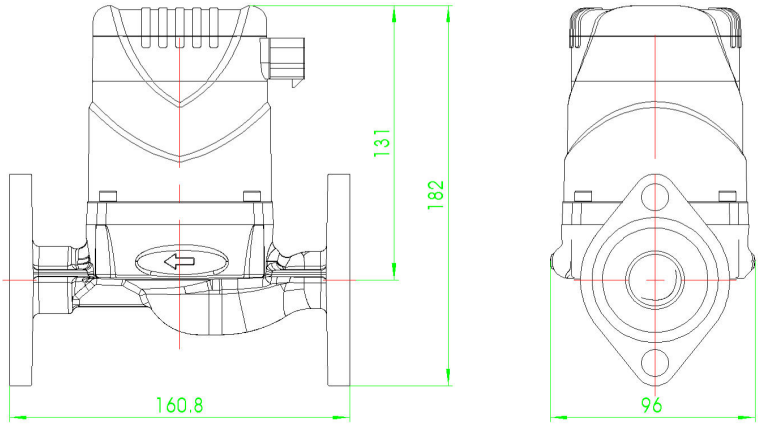
FAILURE CHECKLIST

WARNING

Ensure that the power is disconnected and will not be accidentally switched on before any maintenance and repair work is carried out on the pump

1.		b)C) pump failure 5)The voltage may be too low b)water pump jam	A) Replace fuse B) C) Check whether the power supply is within the specified range D) Remove the impurity
Failure check list	Control over panel	cause	Elimination methods
1.Water pump cannot start	Light out	a)A fuse blew out in the equipment	Replace fuse
		b)The current controller or voltage-controlled circuit breaker is disconnected	Switch on
		c)water pump jam	Replace the water pump
	"_ _"	a)The voltage may be too low	E) Check whether the power supply is within the specified range
		b)Pump blocked	Remove the impurity
2.There is noise in the system	Display a value	a)There's a gas in the system	Exhaust the system See section 10.3, exhaust for heating system
		b)Excess flow	Reduce inlet pressure of pump Chapter 11 "pump setting and pump performance"

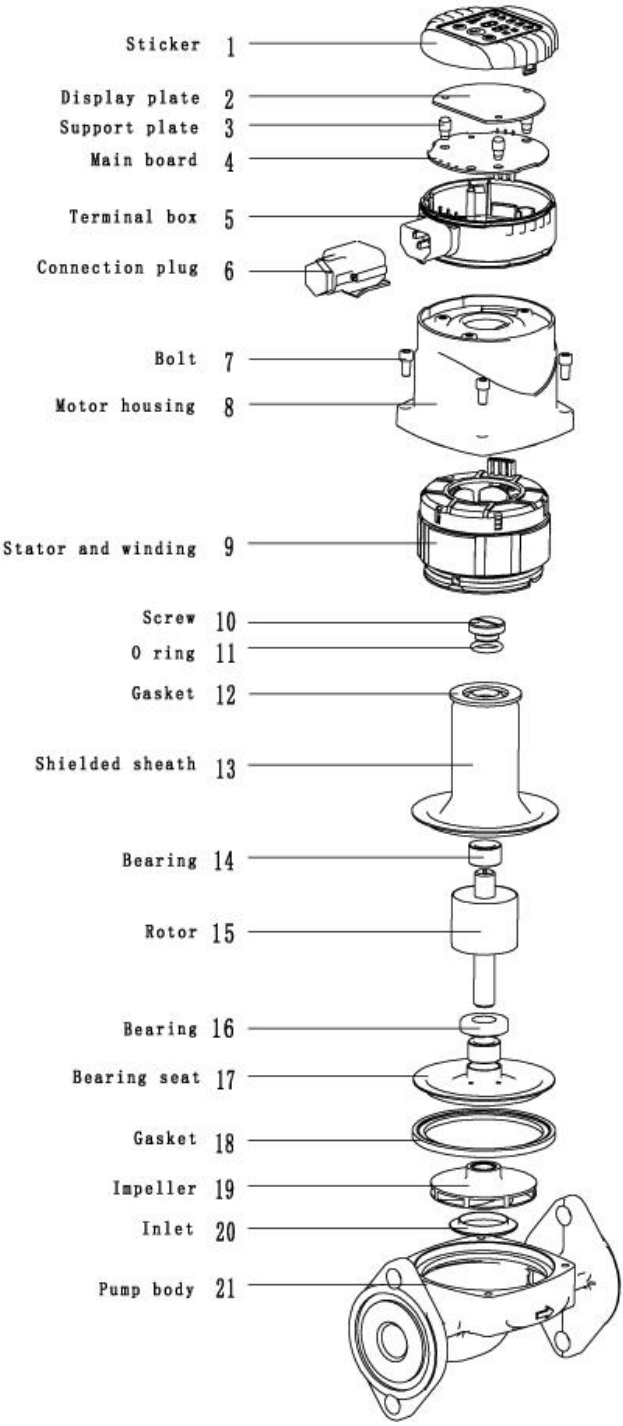
3）There is noise in the pump	Display a value	A)There's a gas in the pump B)Low inlet pressure	A)after running for a period of time,the pump will automatically exhaust see section 10.2 B)Increase inlet pressure.If expansion tank is installed,check the air volume.
4)shortage of heat	Display a value	Low pump performance	A) Increase inlet pressure of pump B) See chapter 11



007e

SPECIFICATION PARAMETERS

Model	Input	Max Flow [GPM]	Max Head [FT]	Outlet Size
007E-2F2	AC120V 60HZ	16	20	1"


Sticker 1
Display plate 2
Support plate 3
Main board 4
Terminal box 5
Connection plug 6
Bolt 7
Motor housing 8
Stator and winding 9
Screw 10
O ring 11
Gasket 12
Shielded sheath 13
Bearing 14
Rotor 15
Bearing 16
Bearing seat 17
Gasket 18
Impeller 19
Inlet 20
Pump body 21

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