

**Delta HE**

**35-XX, 55-XX**



<b>Table of contents</b>	<b>page</b>
EC Conformity Declaration	3
Technical Data Delta HE 35	4
Technical Data Delta HE 55	5
Mounting Instructions	6
Installation and Wiring	7
System Filling and Aeration	8
Troubleshooting	9
Operating Panel	10
Pump Settings	12
Night Setback	13

We herewith declare that the products of the **Delta HE** series comply with the following EC Directives:

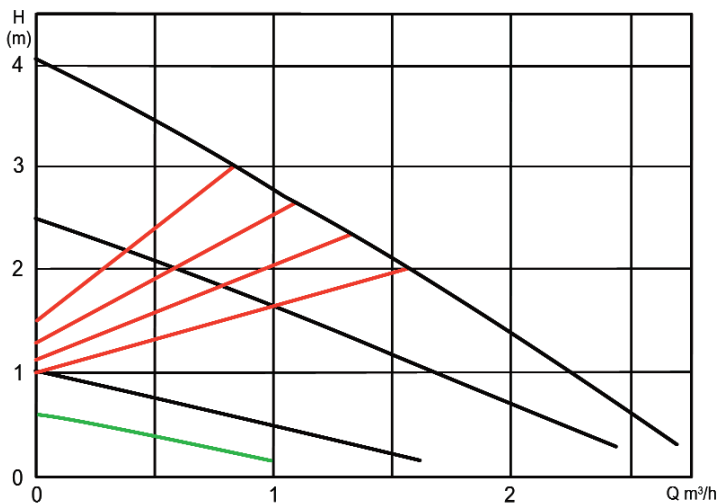
Electromagnetic Compatibility Directive  
2004/108/EC

Low Voltage Directive  
2006/95/EC

Applied Harmonised Standards:  
EN 61000-3-2 : 2006  
EN 61000-3-3 : 1995 + A1 : 2001 + A2 : 2005  
EN 55014-1 : 2006  
EN 55014-2: 1997 – A1 : 2001




Bad Oeynhausen, 28.10.2009




<b>Max. delivery height:</b>	4,0 m
<b>Max. flow rate:</b>	2600 l/h
<b>Power consumption P1 (W)</b>	3 - 23
<b>Supply voltage</b>	1x230V 50Hz
<b>Degree of protection</b>	IP 42
<b>Thermal class</b>	F
<b>Ambient temperature</b>	0°C to 40°C
<b>Media temperature</b>	+5 to 95°C
<b>Max. system pressure</b>	10 bar
<b>Media</b>	Heating water according to VDI 2035 Water/glycol mix 1:1

## Night setback

Press the  key to activate the night setback. If the display comes on, the night setback is activated and the pump automatically switches from normal operation to night set-back. The change between the two modes depends on the advance flow temperature. The pump automatically changes to night setback if the advance flow temperature falls by more than 10°C to 15°C within one hour. The display indicates “-C”. As soon as the advance flow temperature increases by 3°C the system changes back to normal operation.

## Permanent night setback

For setting the night setback as permanent mode, press the  key again for 5 seconds. The display indicates “-C”. The pump remains in night setback mode until the push-button is pressed again.

Pump Settings

**Proportional pressure control**

During operation the pump is running according to the proportional pressure curve set. The differential pressure is controlled through the pump depending on the delivery current. The proportional pressure characteristics are named PD1 to PD4 in the corresponding Q/H diagrams.

**Constant speed control**

The constant speed control characteristics are named I to III in the Q/H diagrams. When selecting constant speed control the pump speed does not change over the entire cycle.

**Automatic night setback**

**Requirements for automatic night setback**

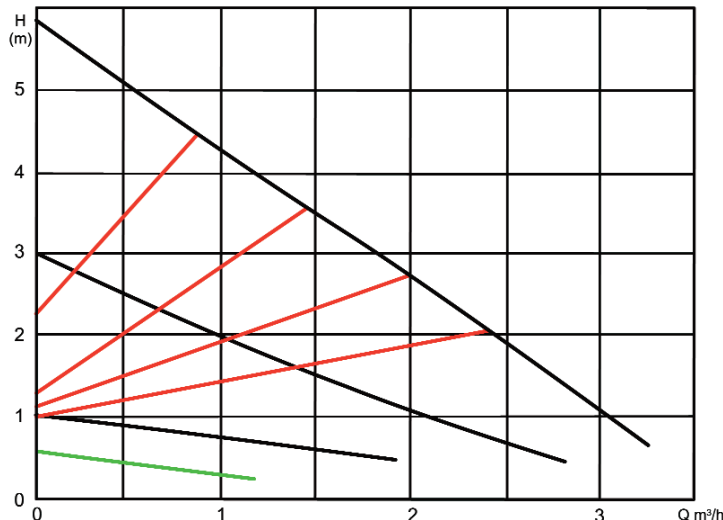


**Pumps installed in gas water heaters which only contain a small amount of water must not be set to night setback.**

**Note** If the heating system does not deliver sufficient water to the radiators, please check whether the automatic night setback is activated. If necessary, switch off the night setback.

The following requirements must be fulfilled to ensure proper working of the night setback:

1. The pump must be installed in the advance flow.
2. The heating system must be equipped with an automatic advance flow temperature control.



<b>Max. delivery height:</b>	6,0 m
<b>Max. flow rate:</b>	3200 l/h
<b>Power consumption P1 (W)</b>	3 - 38
<b>Supply voltage</b>	1x230V 50Hz
<b>Degree of protection</b>	IP 42
<b>Thermal class</b>	F
<b>Ambient temperature</b>	0°C to 40°C
<b>Media temperature</b>	+5 to 95°C
<b>Max. system pressure</b>	10 bar
<b>Media</b>	Heating water according to VDI 2035 Water/glycol mix 1:1

## Mounting Instructions

Fig. 1

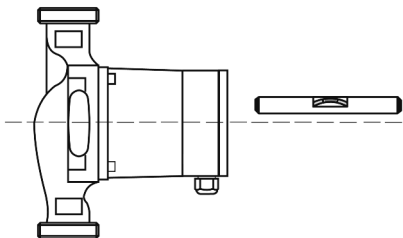


Fig. 2a

Fig. 2b

Fig. 2c

Fig. 2d

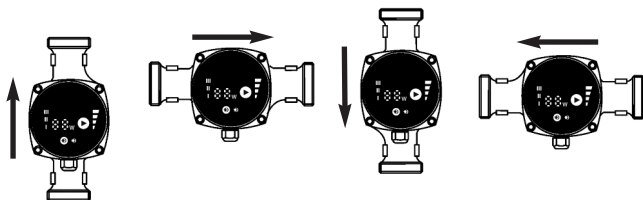
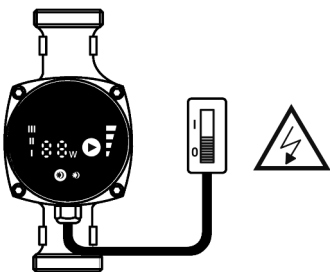


Fig. 3



## Display



The display comes on as soon as the pump is connected to the voltage supply. It indicates the actual power consumption during operation. Faults are indicated as errors: "E1", "E2" or "E3". If the pump operates in night setback, the decrease is indicated in "°C".

## Push-button for pump curve selection



The pump setting is changed by pressing the push-button. You run through all possible settings by pressing the push-button seven times.

Display	Explanation
I	Constant speed level I
II	Constant speed level II
III	Constant speed level III
PD1	Bottom proportional pressure curve
PD2	Second proportional pressure curve
PD3	Third proportional pressure curve
PD4	Top proportional pressure curve

## Push-button for night setback



The automatic night setback is activated by pressing this push-button. It is indicated in the display. The night setback is continuously and immediately activated by pressing the push-button again for 5 sec. The setback is indicated in °C in the display. The night setback is deactivated by pressing the push-button again.

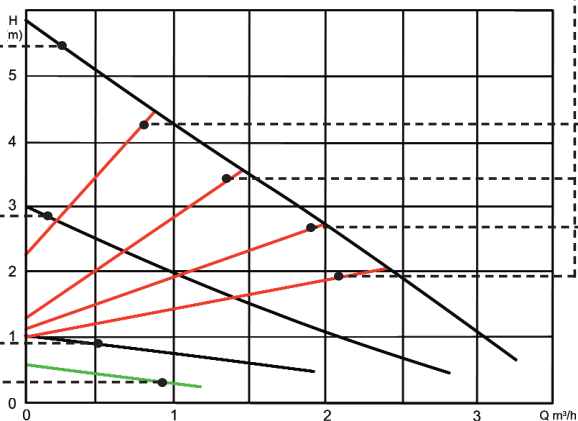
Operating panel

Push-button for pump curve selection



Push-button for night setback

Power consumption



Installation and Wiring

The system must only be wired by experts and according to local regulations.



**Warning! Risk of personal injury!**  
The existing Health and Safety Regulations must be observed!



**Warning! Risk of electric shock!**  
Any hazard caused by electric energy must be avoided. General and local Regulations and Directives (e.g. IEC, etc.) must be observed.

Installation

Ensure installation without any strain and mount the pump motor in a horizontal position (arrow on the pump housing indicates the direction of flow) (Fig. 1).

Pump motor and electronic housing must not be insulated! If you need to change the mounting position, the motor housing must be rotated as follows: (Fig. 2a to 2d).

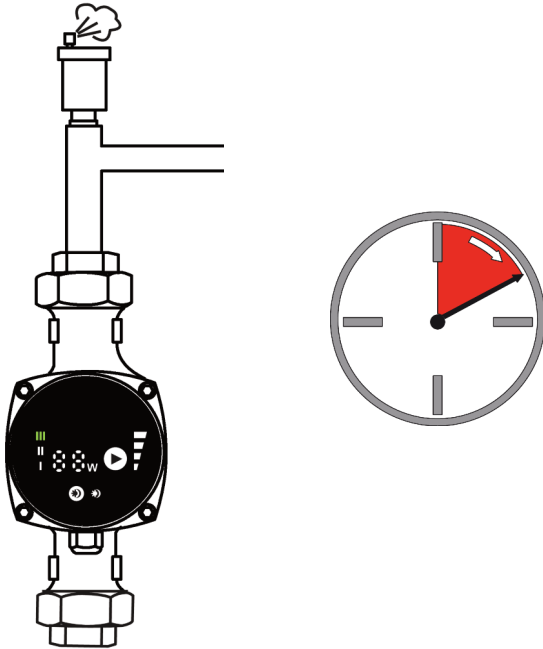
- Loosen the hexagon socket screws
- Rotate the motor housing
- Tighten the hexagon socket screws

Wiring

The pump is equipped with a preinstalled connection cable. Current and voltage must comply with the indications on the nameplate.

If the pump is to be used in systems with temperatures exceeding 90°C ensure the use of corresponding connection cables.

System Filling and Aeration



The system must be in upright position for filling and aeration. Set the electronics to III and run the system for at least 10 minutes before you aerate the pump. After aeration the pump can be reset to any control mode.

1. **Pump does not start when power is supplied.**
  - Check mains fuse
  - Check voltage applied to the pump
  
2. **Noise generated in the system.**
  - Aerate the system
  - Check the pump settings
  
3. **Noisy pump**
  - Aerate pump (see page 8)
  - Increase the inlet pressure and check the gas volume in the expansion vessel.
  
4. **Building does not heat up**
  - Increase the set value (see page 11)
  - Switch off night setback (see page 11)

**Please contact a specialist if you cannot eliminate the fault.**