

# High efficiency pumps with LED display, electronically controlled and protected against condensation

HEP Optimo Geo series, G1 product group



Insulation shell with installation length 180 mm included in delivery.

**BEST in class**

**ERP 2015+**

**5 YEAR WARRANTY**  
★★★★★

**BAFA GEFÖRDERT**

## TECHNICAL DATA

Rate of flow: up to 3.6 m<sup>3</sup>/h  
 Pressure head: 4 m/6 m  
 Control range: 4-20 W/5-37 W  
 Media temperature: -15 °C to +110 °C  
 Installation length: 130 and 180 mm  
 Threaded connection: 1", 1½" and 2"  
 Protection class: IP 42  
 Insulation class: F  
 Nominal pressure: PN 10  
 Control: Δpc + Δpv + fixed rpm  
 EEI: ≤ 0,17 HEP Optimo Geo XX-4.0 GXXX  
 ≤ 0,18 HEP Optimo Geo XX-6.0 GXXX

## PRODUCT FEATURES

- potted motor
- manual start-up feature
- smooth running
- very low energy consumption
- integrated night economy feature
- air-vent screw
- LED display
- convenient operation
- space-saving axially integrated terminal box
- automatic adjustment to pressure conditions
- cataphoretic coated pump housing
- pre-mounted, screwable angle entry-plug
- compact design

## USE

The electronically controlled HEP Optimo Geo high efficiency wet rotor circulators with LED display and permanent magnet technology are designed for use in heating and cold water circulation systems with variable or constant rate of flow. The motor integrity offers a sealed winding protection from ingress of condensation. The cataphoretic coated pump housing is stainless.

## MODE OF OPERATION ΔP CONTROL IN HEATING SYSTEMS

When thermostatic valves in systems with a long main supply heating pipe (likely for radiator systems) close, the total flow drops. This results in lower pipe resistance in this main pipe, which means the pump has to create lower head. Using proportional pressure mode (L) is the best setting for such heating systems, as here the pump decreases head at lower flow.

If the main supply heating pipe has not to be taken into consideration, because it is short or has its own pump (likely for underfloor heating systems with in mixing units integrated pumps), the best mode to use is constant pressure mode (B). In such heating systems, it is important always to have constant pressure for the radiators or ufh-circuits, as the pressure loss in the main pipe is not considered and all other consumers are installed in parallel, which does not influence the maximum pressure loss.

## MAIN AREAS OF USE

Heating, air-conditioning and industry systems as

- dual pipe system
- underfloor heating
- boiler/primary circuit
- storage charging circuit
- solar systems and heating pumps

## MATERIALS

| Component     | Material               | Material no. |
|---------------|------------------------|--------------|
| Pump housing  | Grey-cast iron         | 0.6020       |
| Impeller      | Polyamide (PA - GF 35) |              |
| Shaft         | Ceramic                |              |
| Bearing       | Ceramic                |              |
| Bearing plate | Stainless steel        | 1.4301       |
| Can           | Stainless steel        | 1.4301       |

## FLOW MEDIA

- heating water as per VDI 2035
- pure, thin, non-aggressive and non-explosive, mineral oil-free media without solid or long-fibre components
- media with a max. viscosity of 10 mm<sup>2</sup>/s
- operating data must be checked above 20 % glycol

## TEMPERATURE RANGE

Ambient temperature: 0 °C to +40 °C  
 Temperature class: TF 110  
 Media temperature: -15 °C to +110 °C

## AMBIENT TEMPERATURE

To avoid condensation forming in the terminal box and stator, the media temperature must always be the same or higher than the ambient temperature.

| Ambient temp. | Media temp. min. | Media temp. max. |
|---------------|------------------|------------------|
| 0             | 2                | 110              |
| 10            | 10               | 110              |
| 20            | 20               | 110              |
| 30            | 30               | 95               |
| 35            | 35               | 90               |
| 40            | 40               | 70               |

## MOTOR PROTECTION

External motor protection is not required.

## INTEGRATED NIGHT ECONOMY FEATURE

When the automatic night economy feature is activated, the circulation pump switches between normal mode and economy mode (characteristic curve MIN). The flow temperature is detected by a temperature sensor, the pump reacts accordingly. For this, it is necessary for the circulation pump to be installed in flow.

## MINIMUM INFLOW PRESSURE

Please determine the minimum inflow pressure for corresponding temperature from the following table.

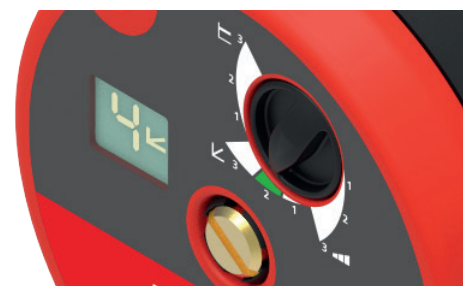
| Media temperature       | < 75 °C  | > 90 °C  |
|-------------------------|----------|----------|
| Minimum inflow pressure | 0.05 bar | 0.28 bar |

## SOUND PRESSURE LEVEL

The sound pressure level is < 45 dB (A).

## CHOICE OF CONTROL CHARACTERISTIC

You can set 3 different control modes via the potentiometer on the axial terminal box. Proportional pressure (L), fixed speed (M) and constant pressure (B) can be adjusted continuously variable. The display indicates power consumption in [W] watts. Once the potentiometer is turned, the flashing display first indicates mode of operation and value of set head in [m] meters. If not further turned the display shows the value of power consumption (Watt) and the symbol of the control mode permanently.



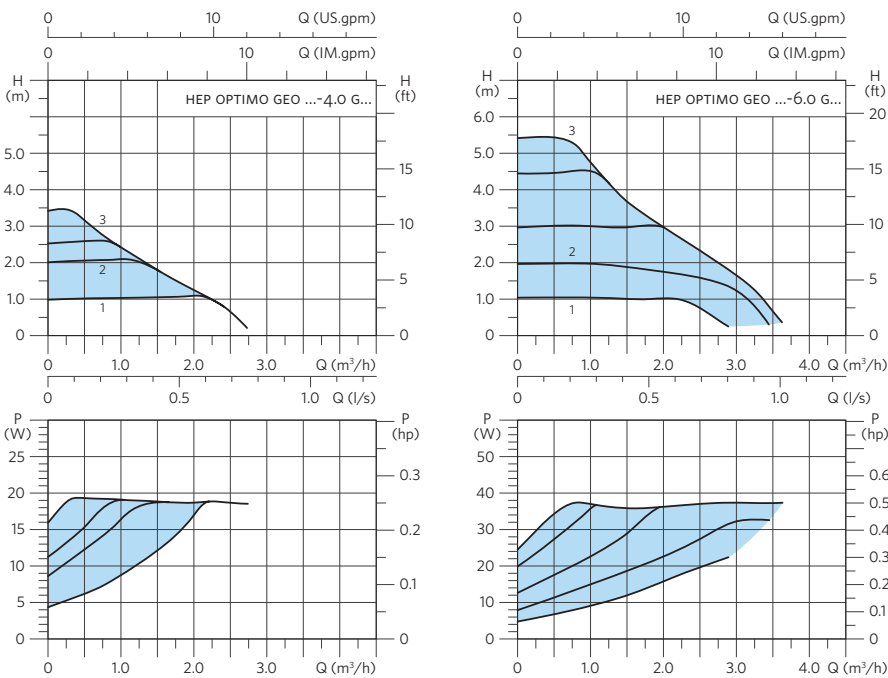
# High efficiency pumps with LED display, electronically controlled and protected against condensation

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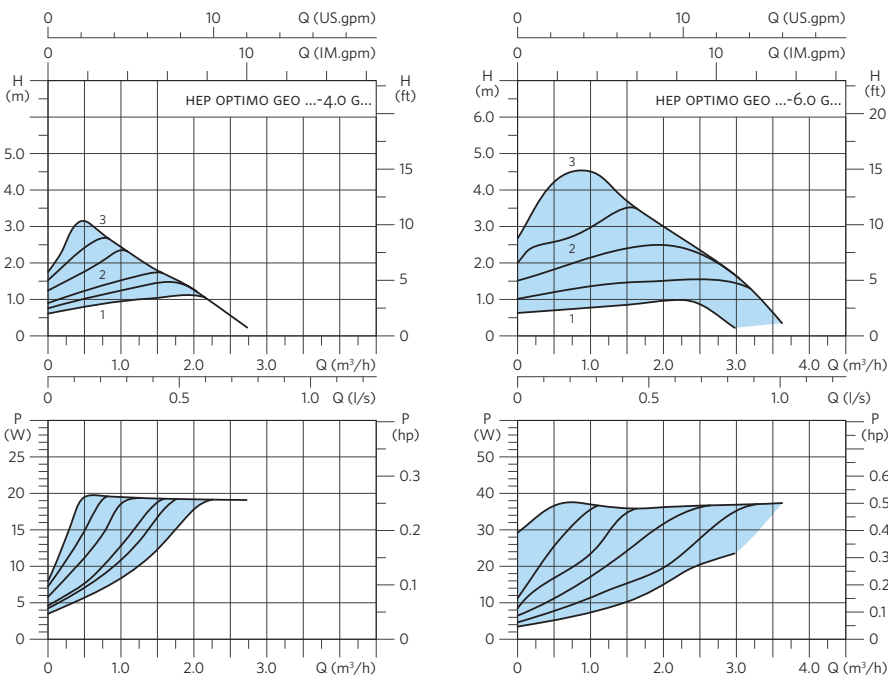
### TECHNICAL DATA

| TYPE                       | CONNECTION PIPE | THREADED CONNECTION | INSTALLATION LENGTH (MM) | VOLTAGE / FREQUENCY | P1 (W)   | I <sub>MAX</sub> (A) | NET-WEIGHT (KG) | PRODUCT NO.      | EEL    |
|----------------------------|-----------------|---------------------|--------------------------|---------------------|----------|----------------------|-----------------|------------------|--------|
| HEP OPTIMO GEO 25-4.0 G180 | 1"              | 1½"                 | 180                      | 230 V 50/60 HZ      | 4 ... 20 | 0,26                 | 2,8             | 0623-34204.8-072 | ≤ 0,17 |
| HEP OPTIMO GEO 25-6.0 G180 | 1"              | 1½"                 | 180                      | 230 V 50/60 HZ      | 5 ... 37 | 0,41                 | 2,8             | 0623-34206.8-072 | ≤ 0,18 |
| HEP OPTIMO GEO 30-4.0 G180 | 1¼"             | 2"                  | 180                      | 230 V 50/60 HZ      | 4 ... 20 | 0,26                 | 2,9             | 0624-34204.8-072 | ≤ 0,17 |
| HEP OPTIMO GEO 30-6.0 G180 | 1¼"             | 2"                  | 180                      | 230 V 50/60 HZ      | 5 ... 37 | 0,41                 | 2,9             | 0624-34206.8-072 | ≤ 0,18 |
| HEP OPTIMO GEO 15-4.0 G130 | ½"              | 1"                  | 130                      | 230 V 50/60 HZ      | 4 ... 20 | 0,26                 | 2,4             | 0621-34004.8-072 | ≤ 0,17 |
| HEP OPTIMO GEO 15-6.0 G130 | ½"              | 1"                  | 130                      | 230 V 50/60 HZ      | 5 ... 37 | 0,41                 | 2,4             | 0621-34006.8-072 | ≤ 0,18 |
| HEP OPTIMO GEO 20-4.0 G130 | ¾"              | 1¼"                 | 130                      | 230 V 50/60 HZ      | 4 ... 20 | 0,26                 | 2,5             | 0622-34004.8-072 | ≤ 0,17 |
| HEP OPTIMO GEO 20-6.0 G130 | ¾"              | 1¼"                 | 130                      | 230 V 50/60 HZ      | 5 ... 37 | 0,41                 | 2,5             | 0622-34006.8-072 | ≤ 0,18 |
| HEP OPTIMO GEO 25-4.0 G130 | 1"              | 1½"                 | 130                      | 230 V 50/60 HZ      | 4 ... 20 | 0,26                 | 2,6             | 0623-34004.8-072 | ≤ 0,17 |
| HEP OPTIMO GEO 25-6.0 G130 | 1"              | 1½"                 | 130                      | 230 V 50/60 HZ      | 5 ... 37 | 0,41                 | 2,6             | 0623-34006.8-072 | ≤ 0,18 |

### CONSTANT PRESSURE



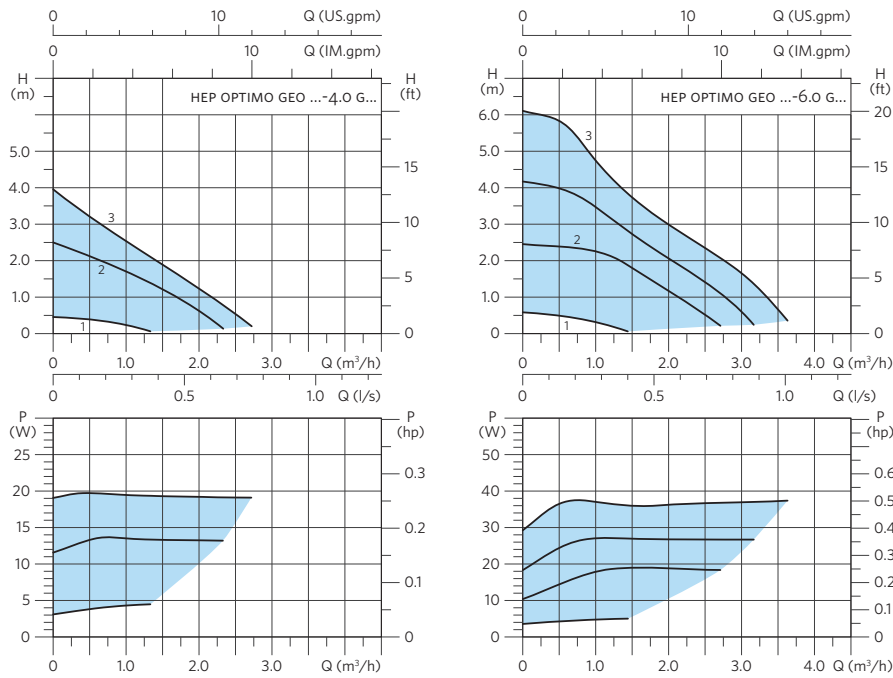
### PROPORTIONAL PRESSURE



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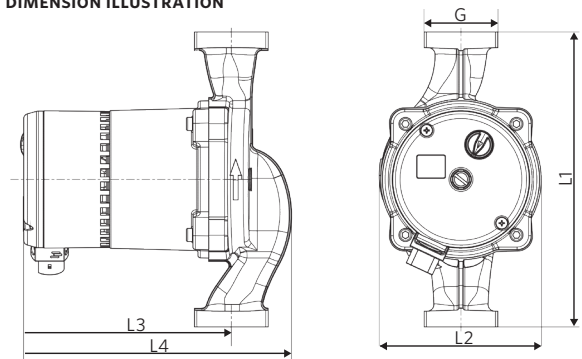
## FIXED RPM



## DIMENSIONS

| TYPE           | L1 (MM) | L2 (MM) | L3 (MM) | L4 (MM) |
|----------------|---------|---------|---------|---------|
| HEP OPTIMO GEO | 130/180 | 98      | 127     | 163     |

## DIMENSION ILLUSTRATION





IN CASE OF QUESTIONS OR FOR ORDERS,  
PLEASE CONTACT US AT

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