

The Calpeda circulator **NCE EI** studied for a drastic reduction of energy consumption combine a new hydraulic with permanent magnet synchronous motor to look beyond the current A class.

Construction

Only one high efficiency, energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by one on board inverter suitable for small domestic heating systems.

Brass or cast iron unions on request.

Benefits

- high savings
- low consumption
- intelligent pump
- proportional curve
- constant curve
- low noise
- easy adjustment of right working point
- compact dimensions
- self cleaning

Benefits to distribution

- only one circulating pump to use and install
- less transportation and logistic cost
- less spare parts requirement

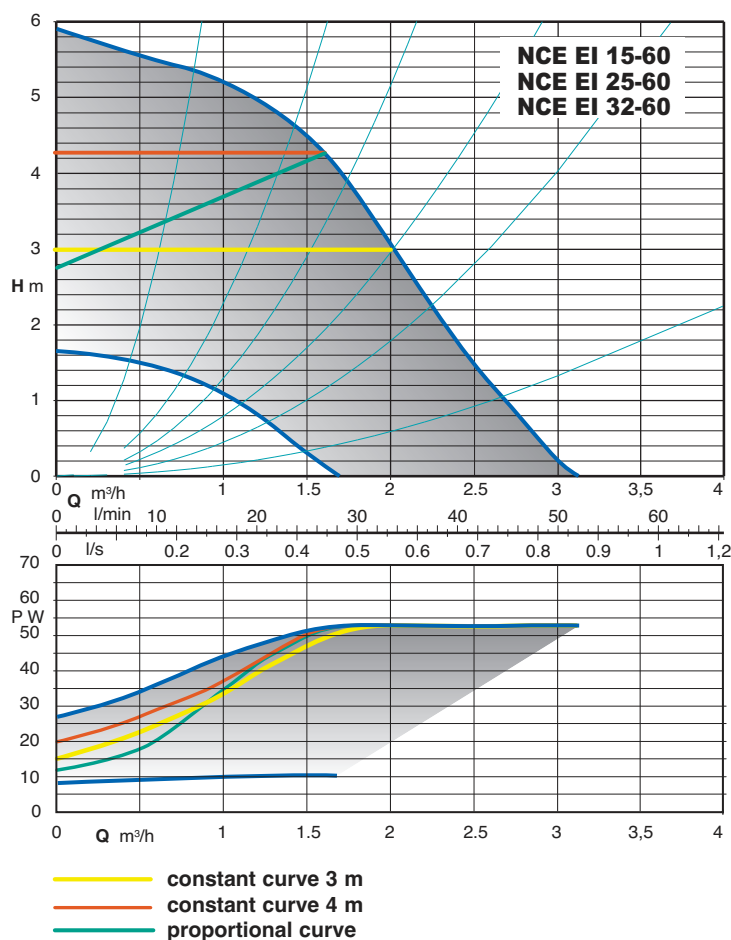
Technical data

- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,5 bar at 95 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1, G 1 1/2, G 2

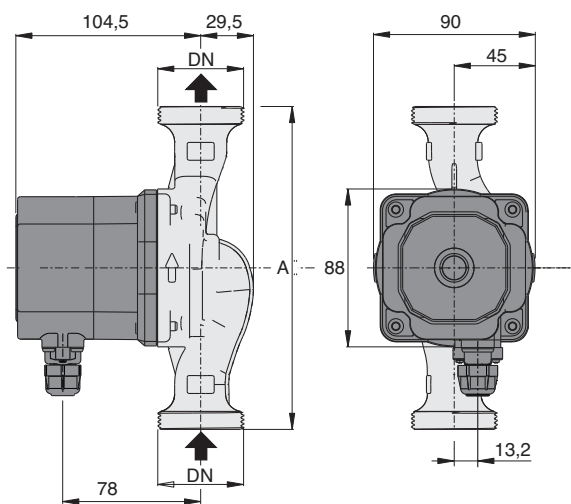
Motor

- Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (jammed rotor):
 - 1) automatic protection with electronic rotor release
 - 2) Overload thermal protector
- Cable: phases and neutral
- Constructed in accordance with: EN 60335-1, EN 60335-2-51

Characteristic curves



Dimensions and weights

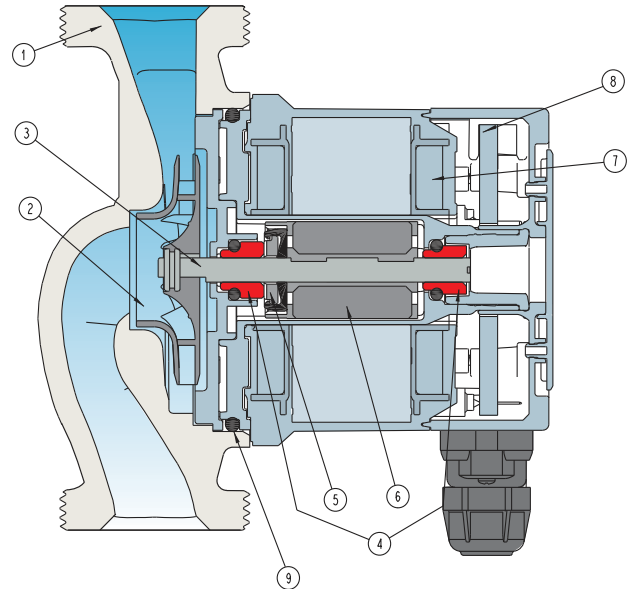


TYPE	DN	230V		P1		mm	kg
		A max	A min	W max	W min		
NCE EI 15-60/130	G 1	0,40	0,08	53	8,4	130	1,70
NCE EI 25-60/130	G 1 1/2	0,40	0,08	53	8,4	130	2,05
NCE EI 25-60/180	G 1 1/2	0,40	0,08	53	8,4	180	2,20
NCE EI 32-60/180	G 2	0,40	0,08	53	8,4	180	2,33

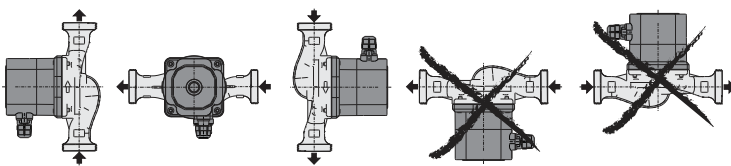
Features

Materials

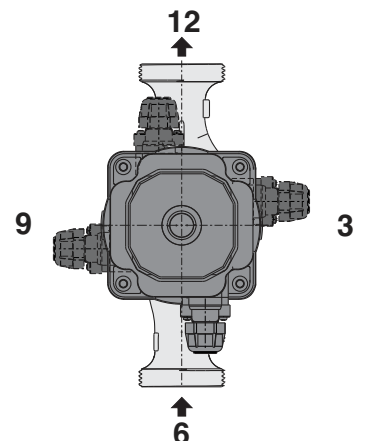
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



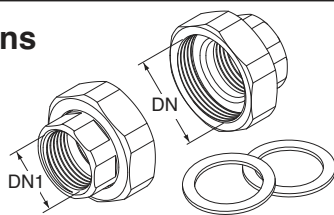
Installation



Terminal box arrangement



Unions



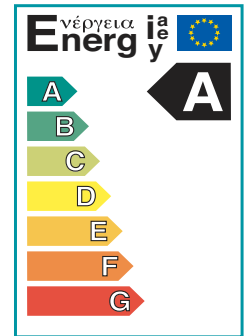
TYPE	DN	DN1
KIT G 1 - G 1/2 (NC. 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1 (NC. 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NC. 32..)	G 2	G 1 1/4

MAXIMISING ENERGY SAVING AND POWER CONSUMPTION

The Calpeda circulator **NCE EI** is a 'A' Class in every respect, an advanced product which already complies with the EU Regulation No. 641/2009, which calls for a drastic reduction of energy consumption and carbon emissions for the protection of our environment.

NCE EI has an Energy Efficiency Index (EEI) <0.27, meaning that the circulator has an index which is fully compliant with mandatory measures which will come into effect throughout the European Union from the 1st January 2013.

Reduced power consumption is further enhanced through the ability to automatically adjust the pump speed proportionally, with a decreasing heat demand of the system (i.e. reduced flow).



INTELLIGENT

Just one circulating pump model allows you to cover the entire operating range from 2 to 6 m head. One pump effectively replaces traditional ranges of fixed speed circulators.

- Easy to find the correct circulating pump for each installation
- No possibility of error during installation
- No loss of time for the installer



MANUAL PROGRAMMING

(BLUE LED)

- Setting the switch at any position between the MIN and MAX points will allow the pump to operate on fixed performance curves (classic form of Q/H).



PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$

(GREEN LED)

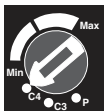
- Moving the switch to the 'P' setting will allow the pump to operate against a proportional performance curve. This feature ensures maximum energy efficiency.



CONSTANT CURVE PROGRAMMING $\Delta p-c$ 3 m

(WHITE LED)

- Moving the switch to the 'C' setting will allow the pump to operate against a constant performance curve (ideal for flow rates lower to 2 m³/h).



CONSTANT CURVE PROGRAMMING $\Delta p-c$ 4 m

(ORANGE LED)

- Moving the switch to the 'C' setting will allow the pump to operate against a constant performance curve (ideal for flow rates lower to 1.7 m³/h).

COMPACT DESIGN

The space saving **NCE EI** is the most compact circulating pump in the Calpeda range, and is amongst one of the most compact circulating pumps on the market today. This allows for easy installation in small domestic heating systems.

IDEAL PERFORMANCE

The **NCE EI** circulating pump has infinite stable operating curves, working with constant pressure. It is possible in any installation to select the exact working point across the entire working field, thus providing optimal conditions for thermal and acoustic stability.

EASY TO INSTALL AND TO ADJUST

Installing the **NCE EI** is considerably simplified by the quick setting and power installation plug. The adjustment is simple and intuitive thanks to the ability to be able to select the optimum working point or mode via a simple LED indicator and switch.

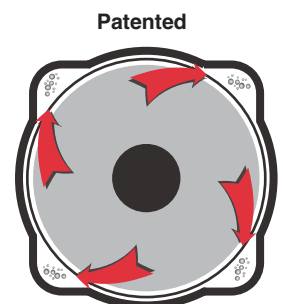


WARNING!

The red LED indicates that the pump is not rotating but is still under tension.

RELIABILITY

Like all our electronic circulating pumps, the **NCE EI** features the patented self-cleaning square chamber design, which eliminates any possibility of rotor blockage.



Escape routes for impurities inside the rotor chamber