



## Construction

With the new **NCE** series Calpeda wishes to introduce a new standard in domestic hot water circulating systems.

**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

- energy efficiency class: **A**
- high savings
- low consumption
- n flat curves in a wide working area
- 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

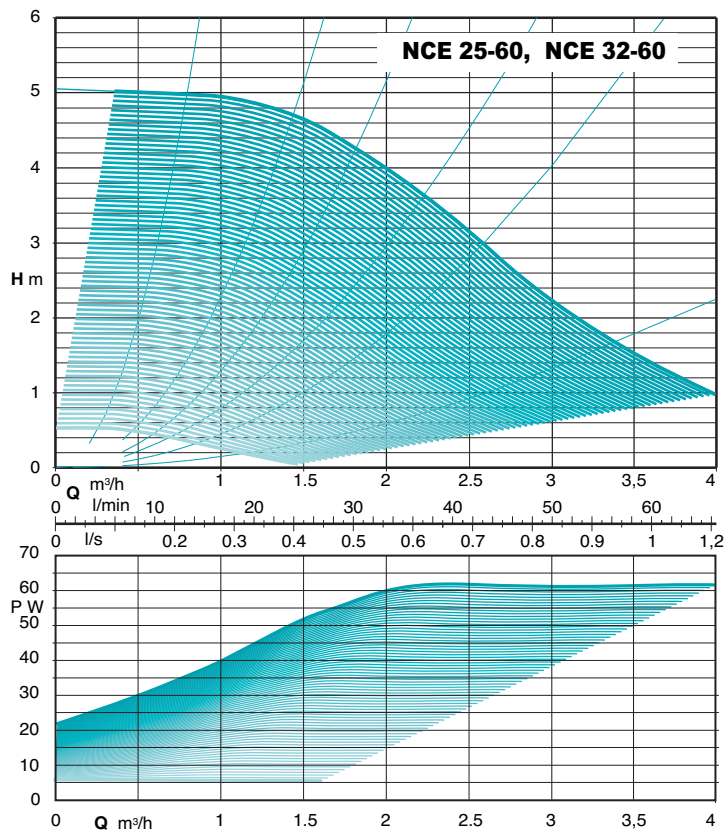
- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,5 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 1/2, G 2

## Motor

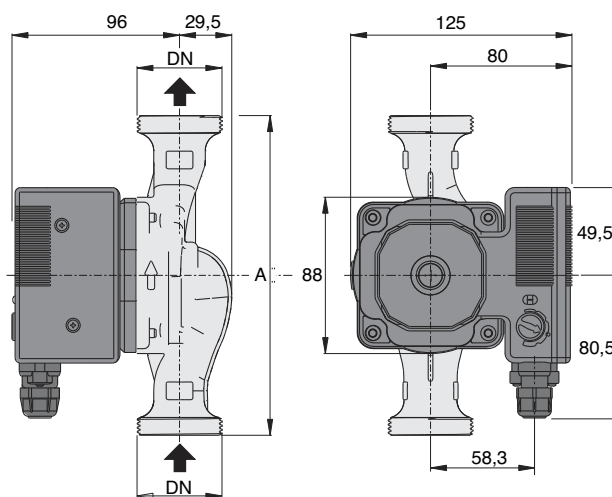
Synchronous motor with permanent magnet.

- 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



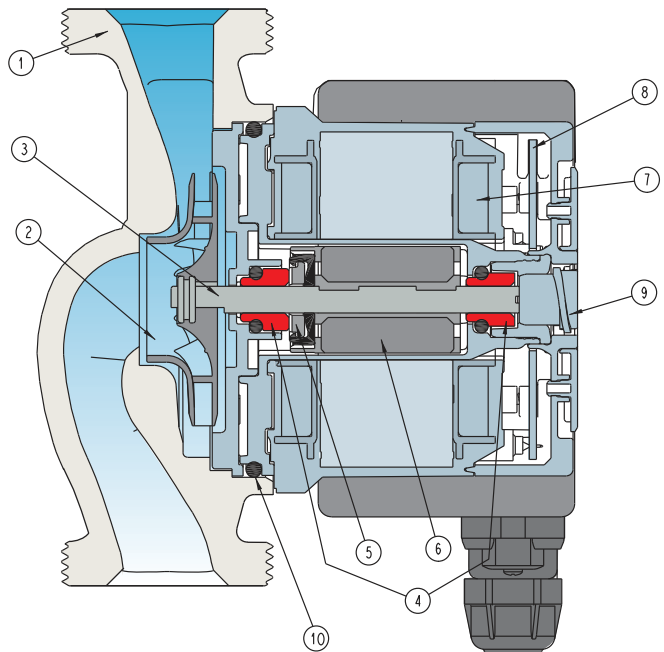
### Dimensions and weights



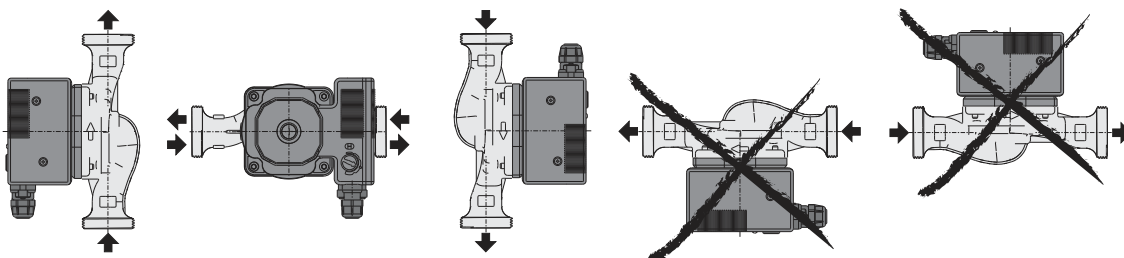
TYPE	DN	230V		P1		mm	kg
		A max	A min	W max	W min		
NCE 25-60/130	G 1 1/2	0,50	0,06	62	5,9	130	2,05
NCE 25-60/180	G 1 1/2	0,50	0,06	62	5,9	180	2,20
NCE 32-60/180	G 2	0,50	0,06	62	5,9	180	2,33

### Materials

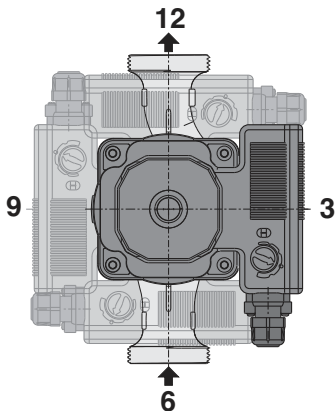
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Plug	9	Composite
Gasket	11	EPDM



### Installation



### Terminal box arrangement

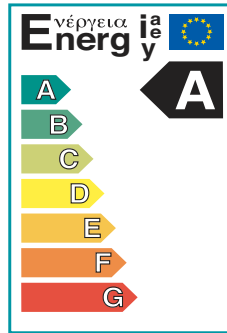


### Unions

TYPE		DN	DN1	kg
<b>KIT G 1 1/2 - G 1</b>	(NC 25..)	G 1 1/2	G 1	0,41 x 2
<b>KIT G 2 - G 1 1/4</b>	(NC 32..)	G 2	G 1 1/4	0,55 x 2

### CONSUMPTION

The circulating pump **NCE** is included in the **class A** of energy efficiency with an energy saving of about 80% compared with a traditional circulating pump.



### SAFETY AND PRACTICALITY

Reliable electronics guarantee the perfect operation of the electropump with double electrical insulation Class II motor for greatest safety for users.

The reduced temperatures of the motor provide for the use of materials, which allow for an electropump with high electrical insulation, by eliminating the risk of dangerous electrical losses when compared to traditional pumps.



### Interchangeability

The CALPEDA circulating pump has the same axis base of other traditional pumps.

### QUALITY/PRICE

An extraordinarily advantageous quality/price ratio.

### DISPLAY

- green led: correct operation
- flashing green led: adjustment of working point
- red led: possible fault ( ex: locked-rotor)

### SELECTOR

A wide working area with n curves allowing to select the correct operation point of the installation.

### Choosing the correct operation point

- highest speed: max
- lowest speed: min
- black dot factory setting: equivalent to the operating point of 80% of the domestic applications (3.5 m at 1000 l/h).
- Example : 5 is equivalent to the curve of a circulating pump of 5 m (4 m at 1000 l/h)

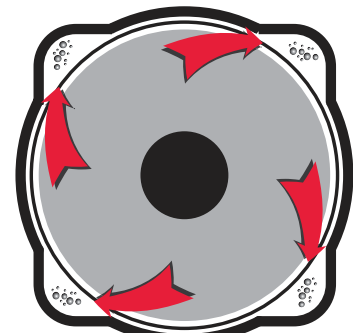


### RELIABILITY

The **patented** "squared chamber" eliminates any possibility of rotor stoppage.

- 1- The operational characteristics of the synchronous motor allow to larger gap between stator and rotor, compared to an asynchronous motor, without any reduction of efficiency.
- 2- Being a permanent ceramic magnet, the rotor is less subject to limestone deposit than traditional metal rotors.
- 3- The "intelligent" electronics can sense any rotation difficulties: in such circumstances the motor is turned over several times at a higher torque than in traditional motors.

**Always guaranteeing proper starting.**



**Patented**

Escape routes for impurities inside the rotor chamber