



### Designation

NCE EL 32 - 60 / 180

Series \_\_\_\_\_  
 Version \_\_\_\_\_  
 DN ports in mm \_\_\_\_\_  
 Max. head in dm \_\_\_\_\_  
 connection size mm \_\_\_\_\_

### Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

### Applications

Solar thermal systems.

### Operating conditions

- Liquid temperature from +2 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure  $\leq$  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
- The benchmark for most efficient circulators is  $EEI \leq 0,20$ .

### 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.

### Special features on request

Brass or cast iron unions.

## Features

### Compact design

The space saving **NCE EL** 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.

### Easy to install and to adjust

Installing the **NCE EL** 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.

### Reliable

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

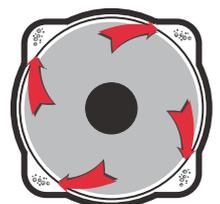
Ceramic shaft.

Hydraulics components are completely painted with cataphoresis.

### Easy use

Operating range with fixed curves from 2 m to 6 m; possibility to choose proportional pressure curve and 2 constant pressure curves. Selection of the optimum working point.

### Patented



Escape routes for  
impurities inside  
the rotor chamber

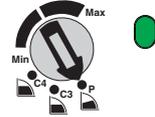
### Operating modes



#### MANUAL PROGRAMMING

(BLUE LED)

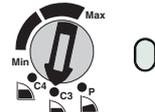
Setting the switch at any position between the MIN and MAX points will allow the pump to operate on fixed performance curves (classic form of Q/H).



#### PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$

(GREEN LED)

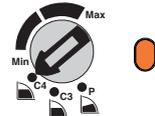
Moving the switch to the 'P' setting will allow the pump to operate against a proportional performance curve. This feature ensures maximum energy efficiency.



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

(WHITE LED)

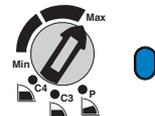
Moving the switch to the 'C' setting will allow the pump to operate against a constant performance curve (ideal for flow rates lower to 2 m<sup>3</sup>/h).



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

(ORANGE LED)

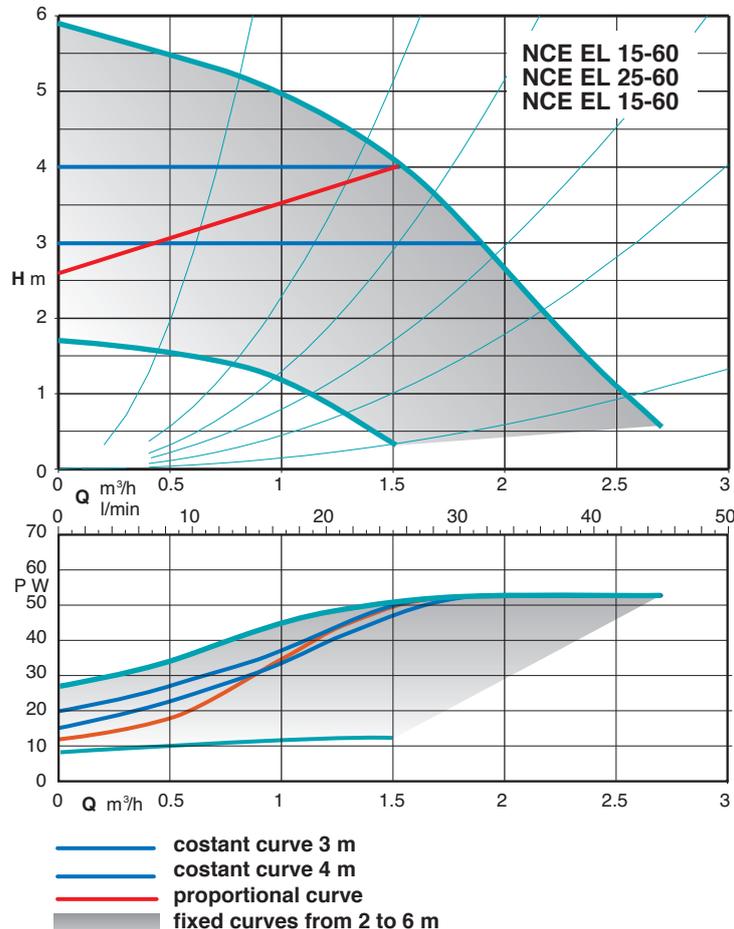
Moving the switch to the 'C' setting will allow the pump to operate against a constant performance curve (ideal for flow rates lower to 1.7 m<sup>3</sup>/h).



#### WARNING!

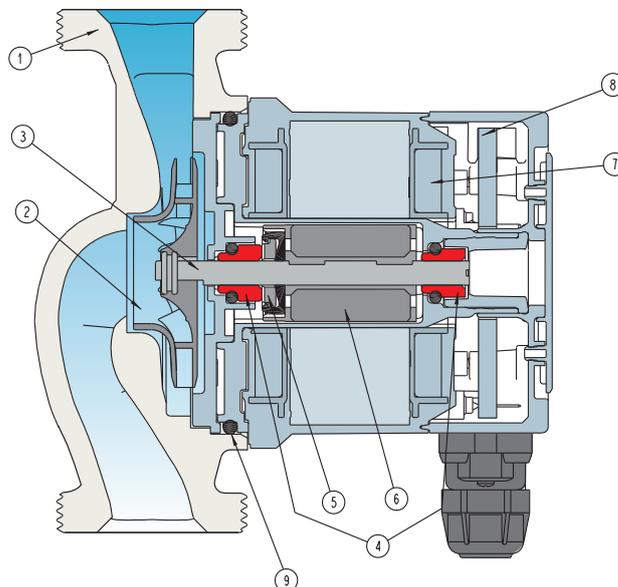
The red LED indicates that the pump is not rotating but is still under tension.

### Characteristic curves

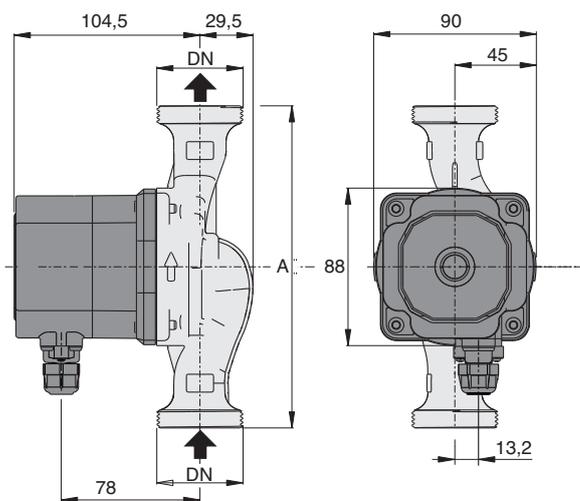


### Materials

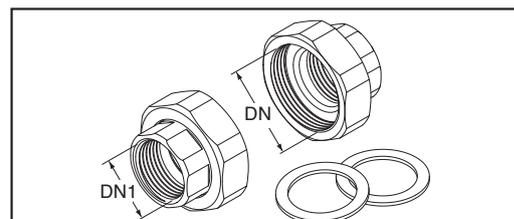
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



### Dimensions and weights



Unions (on request)

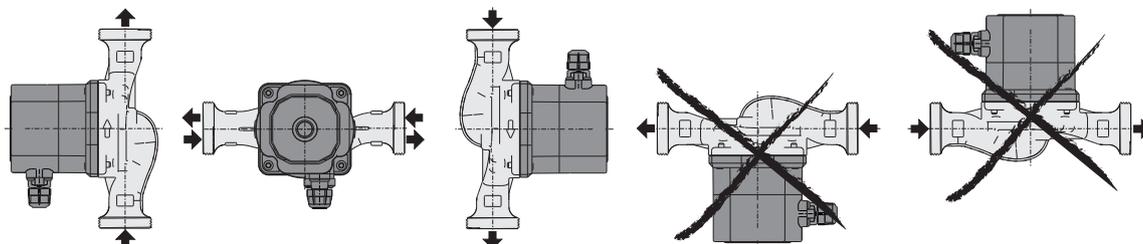


TYPE	DN	230V		P1		mm A	Net weight kg
		A max	A min	W max	W min		
NCE EL 15-60/130	G 1	0,40	0,08	53	8,4	130	1,70
NCE EL 25-60/130	G 1 1/2	0,40	0,08	53	8,4	130	2,05
NCE EL 25-60/180	G 1 1/2	0,40	0,08	53	8,4	180	2,20

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

### Examples of installations

#### Installation



#### Terminal box arrangement (on request)

