

# NCE EL Energy saving circulating pumps for solar systems



## 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:  $\leq 45$  dB(A).
- Minimum suction pressure: 0,3 bar at 50 °C  
1,0 bar at 95 °C  
1,5 bar at 110 °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.
- The benchmark for most efficient circulators is  $EEL \leq 0,20$ .
- Minimum power: 3 W.

## Designation

NCE EL 25 - 60 / 180

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

## Motor

Synchronous motor with permanent magnet.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50-60 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 a very compact circulating pump, allows inr 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.

### 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.

Program for automatic routine vent and release.

### Easy use

Operating range with fixed curves from 0,6 m to 7 m; possibility to choose proportional pressure curve or selection of the optimum working point.

## Operating modes



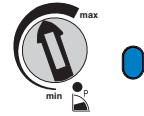
### PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$ (GREEN LED)

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



### MANUAL PROGRAMMING (BLUE LED)

Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.

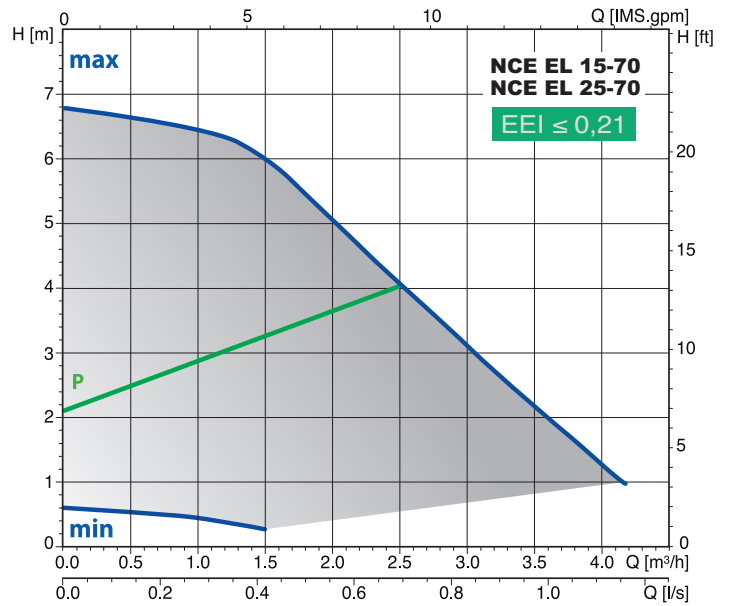
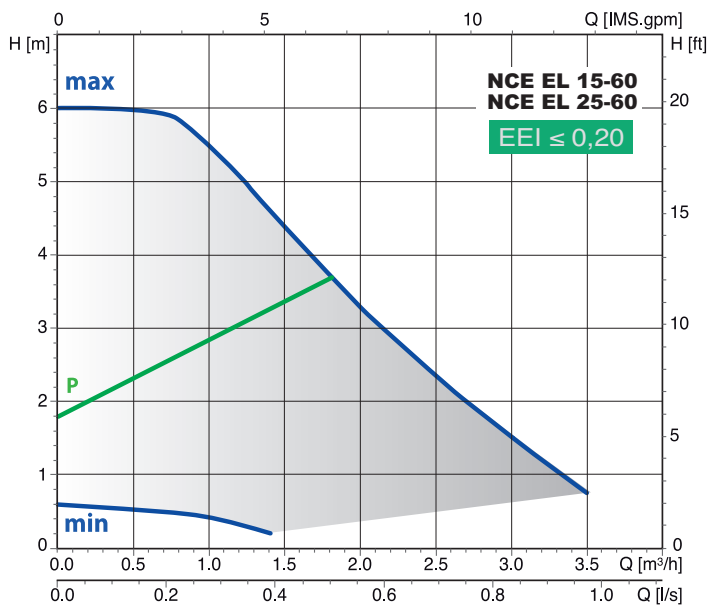


### WARNING!



- The red LED indicates that the pump is not rotating but is still under tension.
- White flashing LED : plant degassing requirement, air in the system.

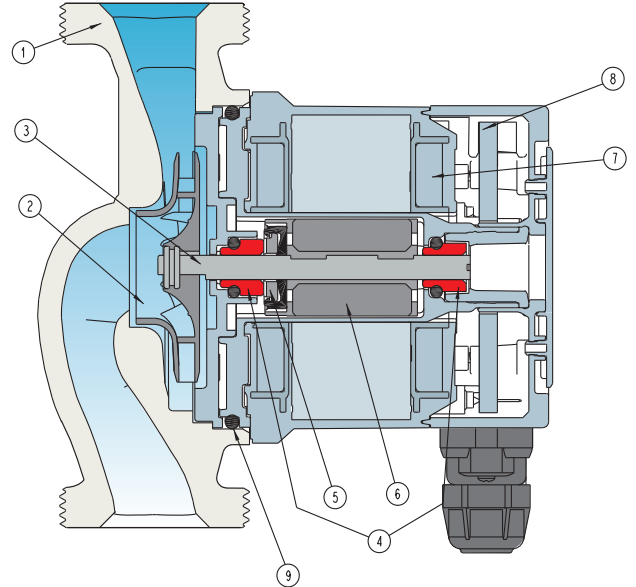
## Characteristic curves



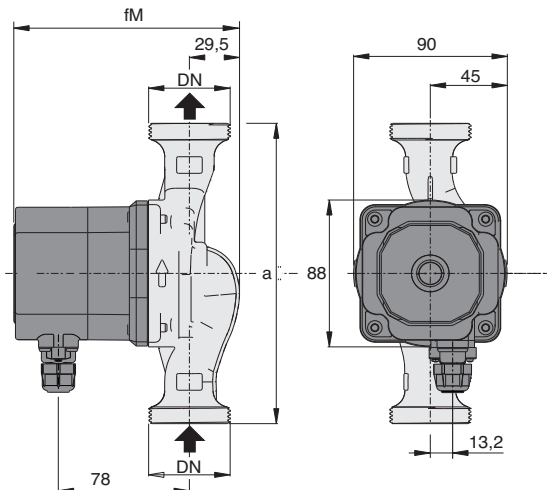
**P** proportional curve  
**min-max** n fixed curves

## 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

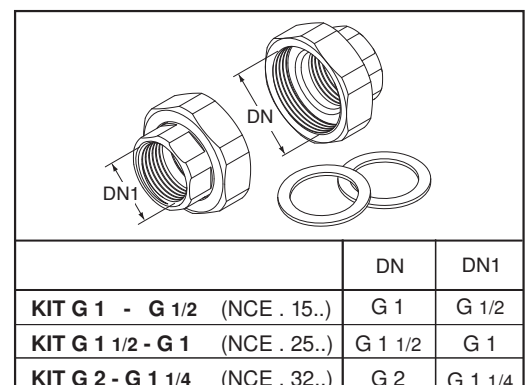


## Dimensions and weights



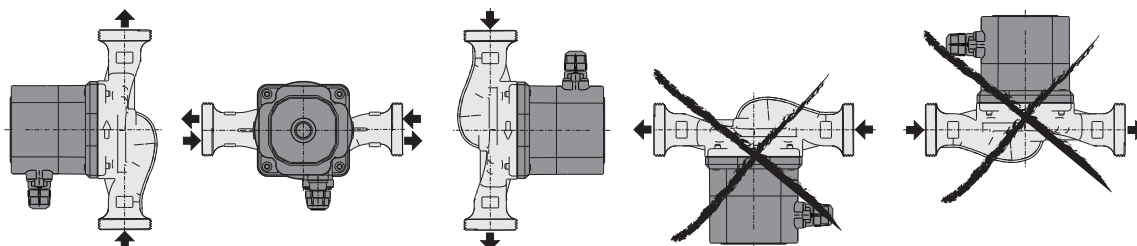
TYPE	DN	230V		P1		mm		kg
		A max	A min	W max	W min	fm	a	
NCE EL 15-60/130/A	G 1	0,33	0,03	42	3	134	130	1,67
NCE EL 25-60/130/A	G 1 1/2						1,81	
NCE EL 25-60/180/A	G 1 1/2	0,33	0,03	42	3	134	180	1,96
NCE EL 15-70/130	G 1	0,44	0,03	56	3	144	130	1,91
NCE EL 25-70/130	G 1 1/2						2,05	
NCE EL 25-70/180	G 1 1/2						2,20	

### Unions (on request)



## Examples of installations

### Installation



### Terminal box arrangement (on request)

