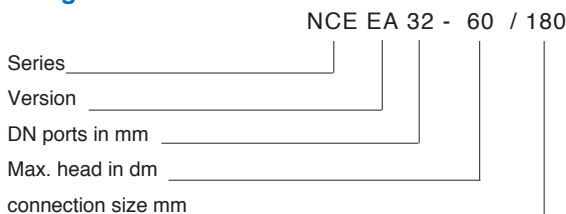




### Designation



### Construction

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

### Applications

Small domestic heating systems.  
Floor heating 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 ≤ 43 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, G 2
- The benchmark for most efficient circulators is EEI ≤ 0,20.
- Minimum power: 3 W.

### 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 EA** is a very compact circulating pump, allows inr easy installation in small domestic heating systems.

### Easy to install and to adjust

Installing the **NCE EA** is considerably simplified by the quick setting and power installation plug.

### Reliable

Like all our electronic circulating pumps, the **NCE EA** 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 0,5 m to 7 m; possibility to choose 3 (1-2-3) proportional pressure curves and 3 (I-II-III) constant pressure curves.

### Operating modes



#### AUTO CURVE PROGRAMMING Automatic mode (VIOLET LED)

Moving the switch to the AUTO setting, the pump finds the best working point and it controls it at any time.



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

Moving the switch to the 1,2 or 3 setting, the pump operates with the proportional curve. This mode ensures maximum energy efficiency.



#### CONSTANT CURVE PROGRAMMING $\Delta p-c$ (ORANGE LED)

Moving the switch to the I, II or III setting, the pump operates with a constant curve according to the selected flow rates.



#### MANUAL PROGRAMMING (BLUE LED)

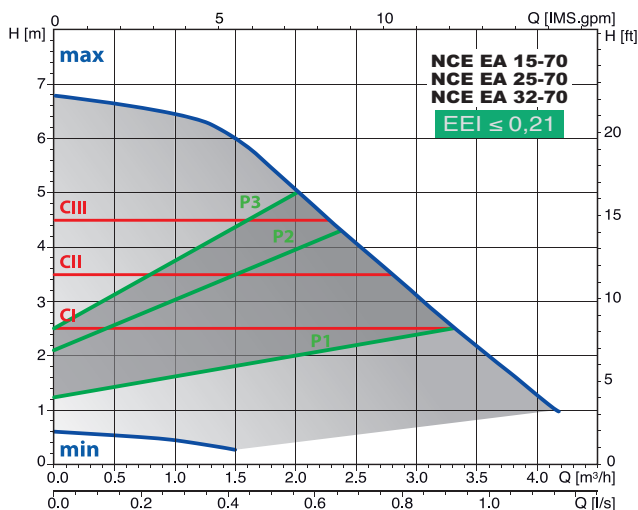
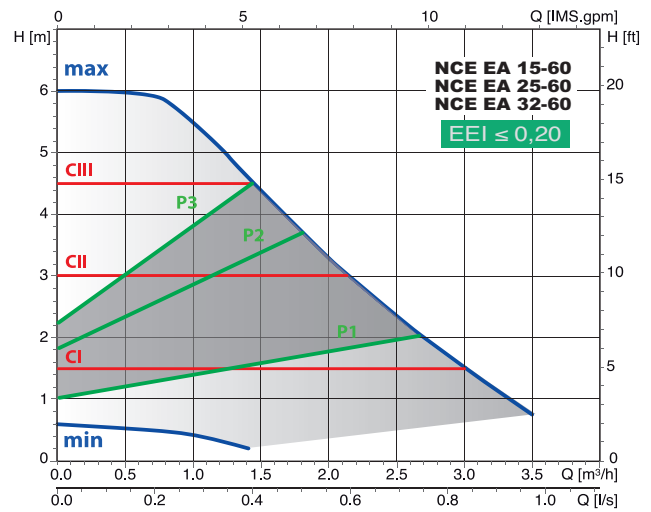
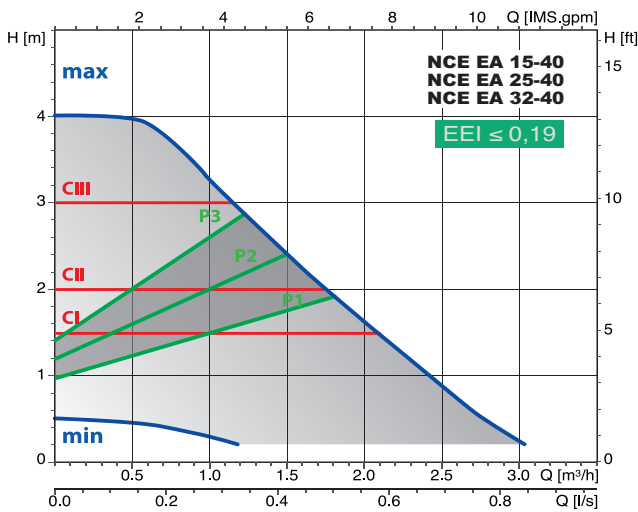
Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.



#### 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.

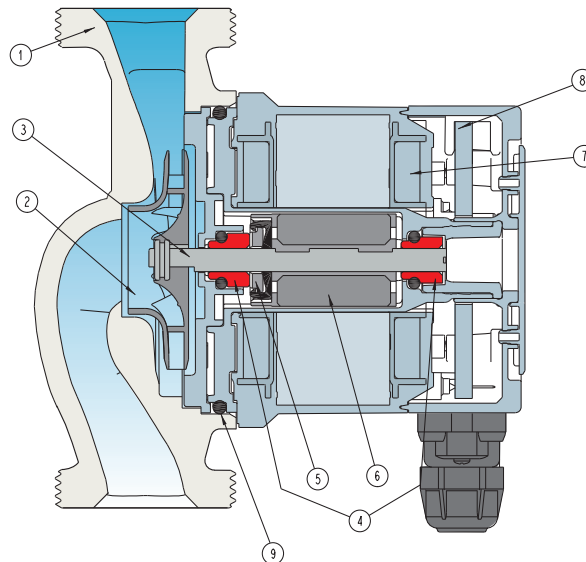
### Characteristic curves



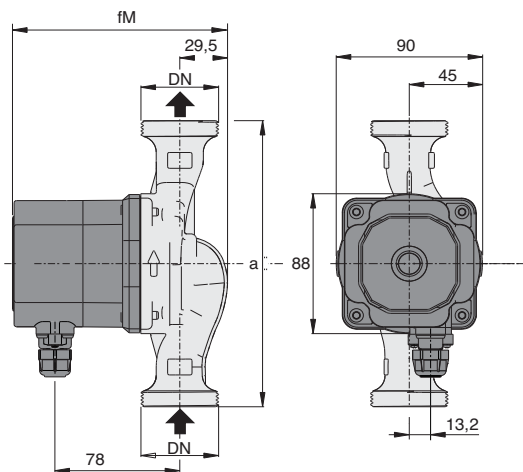
CI-CII-CIII constant curve  
P1-P2-P3 proportional curve  
min-max n fixed curves

### 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



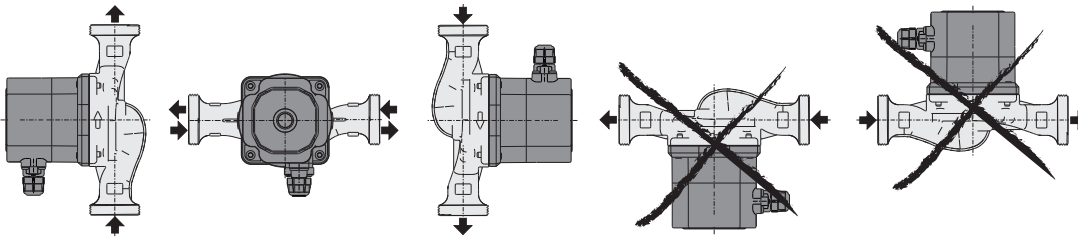
TYPE	DN	230V		P1		mm		kg
		A max	A min	W max	W min	fm	a	
NCE EA 15-40/130	G 1	0,17	0,03	22	3	134	130	1,67
NCE EA 25-40/130	G 1 1/2						1,81	
NCE EA 25-40/180	G 1 1/2						1,96	
NCE EA 32-40/180	G 2	0,17	0,03	22	3	134	180	2,10
NCE EA 15-60/130	G 1	0,33	0,03	42	3	134	130	1,67
NCE EA 25-60/130	G 1 1/2						1,81	
NCE EA 25-60/180	G 1 1/2						1,96	
NCE EA 32-60/180	G 2	0,33	0,03	42	3	134	180	2,10
NCE EA 15-70/130	G 1	0,44	0,03	56	3	144	130	1,91
NCE EA 25-70/130	G 1 1/2						2,05	
NCE EA 25-70/180	G 1 1/2						2,20	
NCE EA 32-70/180	G 2	0,44	0,03	56	3	144	180	2,34

### Unions (on request)

	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)

