



water passion

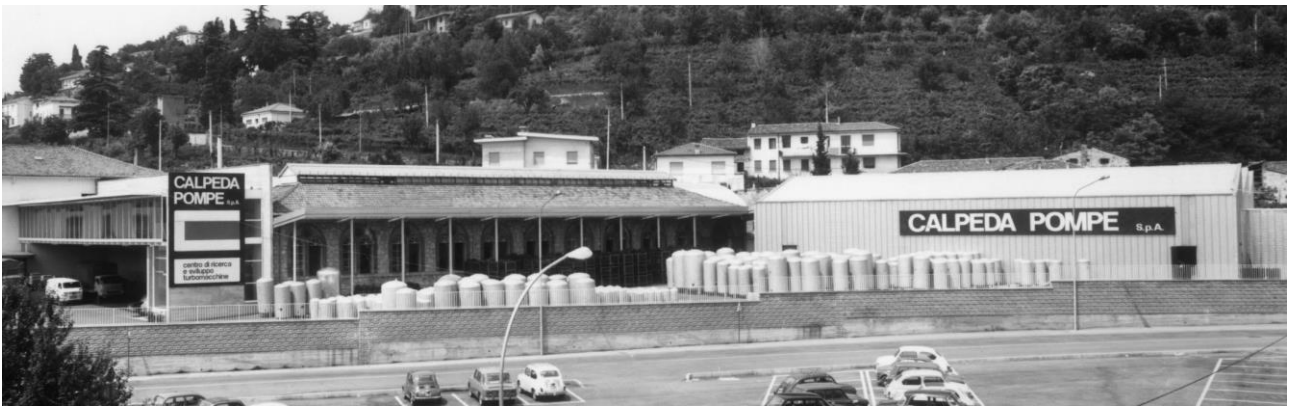
1959

WHO WE ARE

WE WANT TO CONTINUE THAT WHICH WAS STARTED MANY YEARS AGO BY VINICIO METTIFOGO, FOUNDER AND PIONEER.

Calpeda is a family owned company with an history of 61 years. Today, we are a reality that has evolved over the years, always looking to the future with a spirit that has brought us to being a respected reference point in the great world of water.

Our history has taken our tradition and strength to you, acknowledged for our professionalism, quality, reliability and service.



2020

CALPEDA TODAY

Employees: 250
Offices: Montorso V. (Vicenza) Italy
Main factory: 30,000 sq. metres (covered)
Types of pumps: more than 2,000
Power outputs: from 0.5 kW to 200 kW





Designation

NCE P 25 - 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

Small domestic heating systems.
Floor heating systems.
Air conditioning systems.

Operating conditions

- Liquid temperature from +5 °C to +95 °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 ≤ 38 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
- 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: threaded ports ISO 228: G 1, G 1 1/4, G 1 1/2, G 2.
- The benchmark for most efficient circulators is EEI ≤ 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: F
 - Overload protection (integrated).
 - Cable: phases and neutral.
 - Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Special features on request

The NCE PR version is equipped with an additional module that allows to control the pump with an analog signal 0-10V.
Brass or cast iron unions.

Features

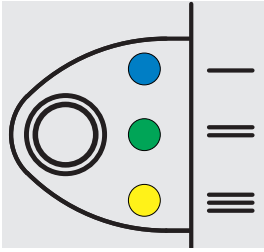
Easy adjustment

The adjustment is simple and intuitive thanks to the LED indicator.

Easy use

3 proportional curves and 3 fixed speed curves are available and selectable by the button.

Operating modes



Operating functions - control buttons.

NCE P circulator could work:
- with proportional pressure curves
- with fixed speed curves



PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$

- (P1 BLUE LED blinking light)
- (P2 GREEN LED blinking light)
- (P3 YELLOW LED blinking light)

Push repeatedly the button to select the proportional curve.
The color changes depending on the selected curve.
This operating mode guarantees the maximum energy efficiency.

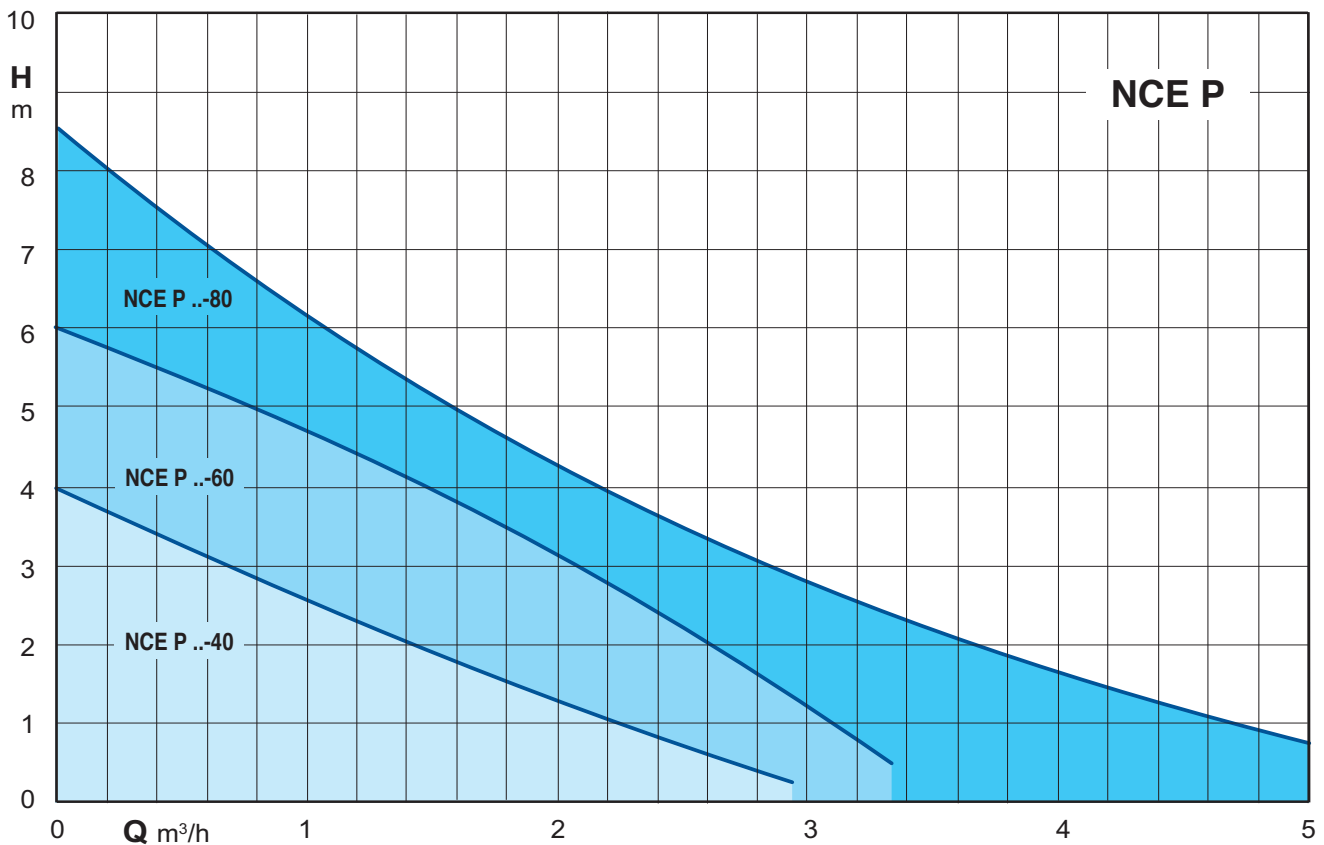


FIXED SPEED CURVE PROGRAMMING

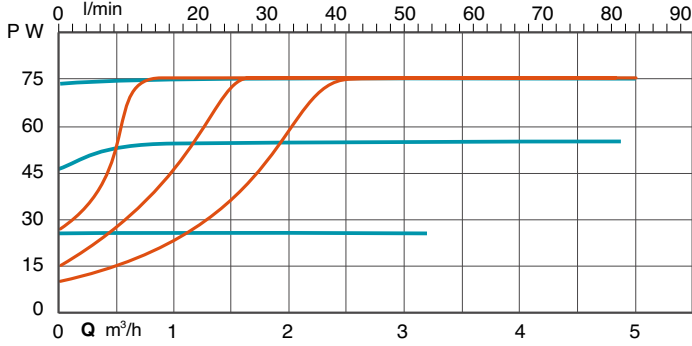
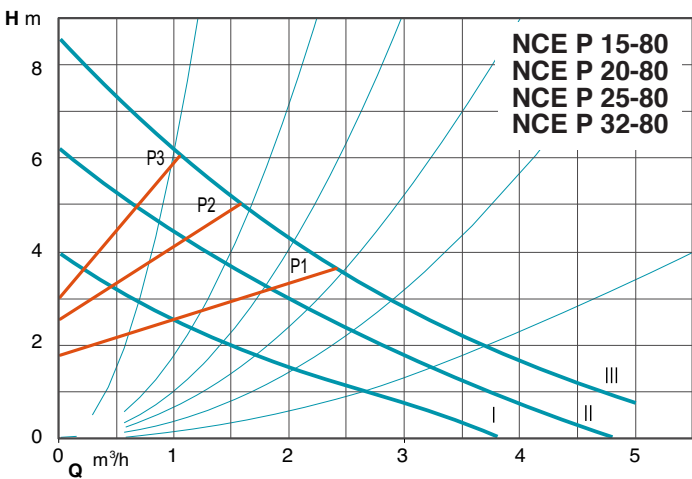
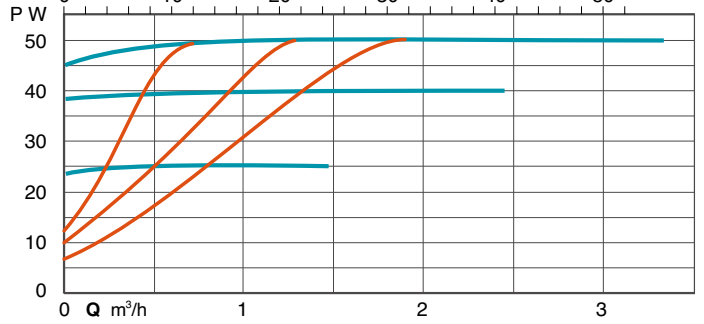
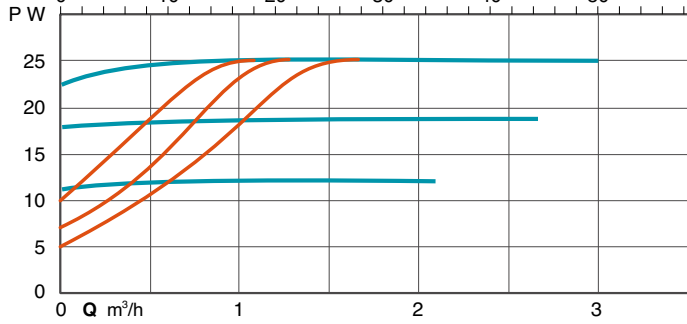
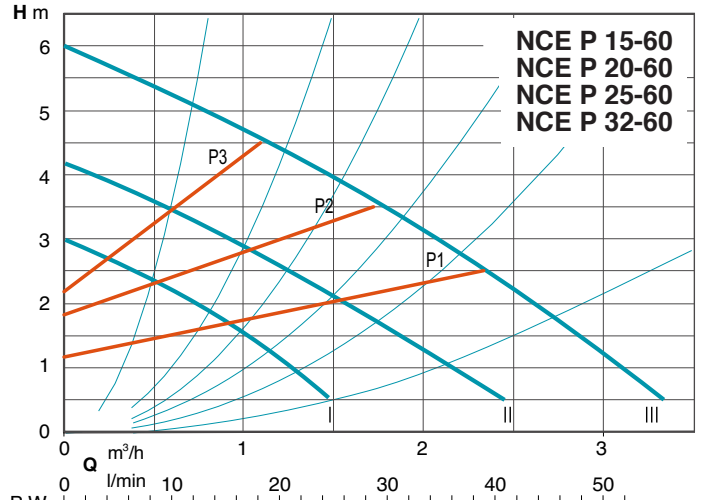
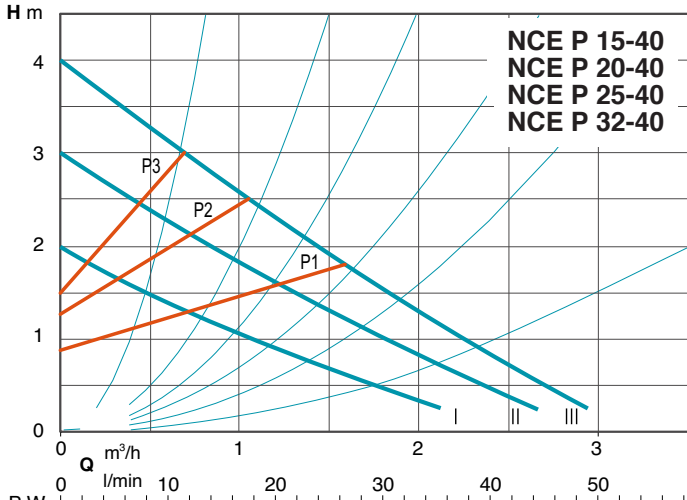
- (I BLUE LED light)
- (II GREEN LED light)
- (III YELLOW LED light)

If you push the button for 5 seconds the pump adopt the fixed speed curve. The color changes depending on the selected curve. (to replace standard 3-speed circulators).

Coverage chart

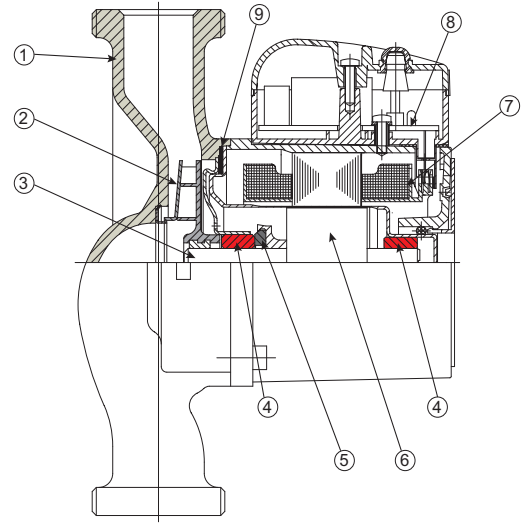


Characteristic curves

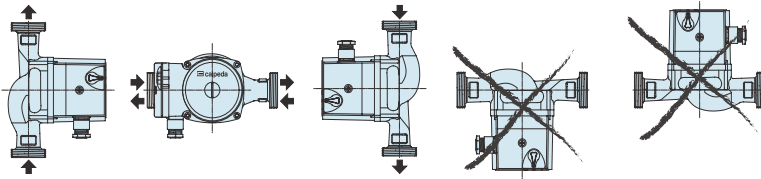


Materials

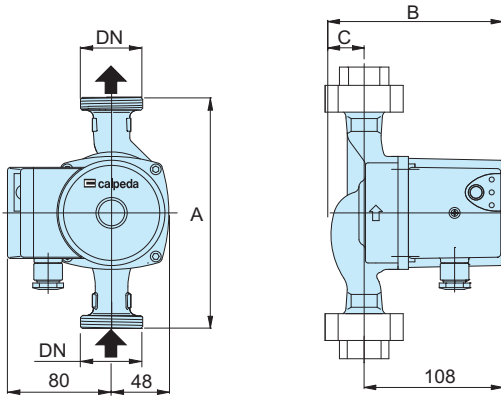
Component	Pos.	Material
Pump casing	1	Cast iron G.JL 200 EN 1561
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m ³ /h	1~ 230 V		P1 W max	mm A	kg
				A min	A max			
NCE P 15-40/130	G 1	4	2,6	0,05	0,2	25	130	1,9
NCE P 20-40/130	G 1 1/4							2,1
NCE P 25-40/130	G 1 1/2							2,1
NCE P 20-40/180	G 1 1/4	4	2,6	0,05	0,2	25	180	2,2
NCE P 25-40/180	G 1 1/2							2,3
NCE P 32-40/180	G 2							2,7
NCE P 15-60/130	G 1	6	3,7	0,05	0,4	50	130	1,9
NCE P 20-60/130	G 1 1/4							2,1
NCE P 25-60/130	G 1 1/2							2,1
NCE P 20-60/180	G 1 1/4	6	3,7	0,05	0,4	50	180	2,2
NCE P 25-60/180	G 1 1/2							2,3
NCE P 32-60/180	G 2							2,7
NCE P 15-80/130	G 1	8	4,5	0,05	0,6	75	130	1,9
NCE P 20-80/130	G 1 1/4							2,1
NCE P 25-80/130	G 1 1/2							2,1
NCE P 20-80/180	G 1 1/4	8	4,5	0,05	0,6	75	180	2,3
NCE P 25-80/180	G 1 1/2							2,3
NCE P 32-80/180	G 2							2,7

Unions (on request)

TYPE	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/2
KIT G 1 1/4 - G 3/4 (NCE . 20..)	G 1 1/4	G 3/4
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


NCE

Heating and conditioning






NCE EI
pag. 418
Energy saving circulating pumps



NCE EL
pag. 454
Energy saving circulating pumps for solar systems



NCE(D) H
pag. 422
Energy saving circulating pumps




NCE ES
pag. 458
Energy saving circulating pumps for sanitary hot water




NCE(D) H F
pag. 429
Energy saving circulating pumps with flanges




NCE PS
pag. 462
Energy saving circulating pumps for sanitary hot water



NCE(D) HQ F
pag. 432
Energy saving circulating pumps



NCS3
pag. 466
Circulating pumps for sanitary hot water



NC3
pag. 469
Three speeds circulating pumps with threaded ports

ENERGY EFFICIENCY OF CIRCULATING PUMPS

Directive of the European Parliament COMMISSION REGULATION (EC) No 641/2009 and 622/2012

Eco-design Directive of Energy Using Products (**ErP Directive - Energy-related Products**). The European Union wants to improve the design of equipment that "consume" significant energy e.g. (televisions, refrigerators, washing machines, boilers, pumps, and motors etc.) To improve eco-design providing environmental sustainability, reducing negative environmental impact as the consequence of production, use and disposal of products.



The objective of the Directive is to force manufacturers and importers to produce and distribute products with high energy efficiency, and carbon output. The criteria for eco-design will be an integral part of the declaration of conformity (**CE**), which is a necessary requirement/mark for products being sold in the EU.

This Regulation shall apply to:

Stand-alone* or integrated** circulators with the motor immersed in the pumped medium, with hydraulic power from 1 up to 2500 W, designed for use in heating systems or in secondary circuits of cooling distribution systems.

* Stand alone circulators are commonly available on the market.

** circulators integrated in products are component of a device, such as boilers, heat pumps, etc..

This Regulation shall not apply to:

- drinking water circulators
- circulators integrated in products and placed on the market not later than 1 January 2020 as replacement for identical circulators integrated in products and placed on the market no later than 1 August 2015. The replacement product or its packaging must clearly indicate the product(s) for which it is intended.



STANDARD OPERATING MODE IN CIRCULATING PUMPS

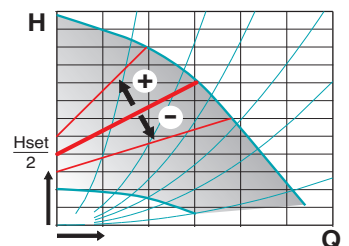


Proportional pressure curve

In the proportional pressure operating mode the pump changes the working pressure in-line with the flow demand of the system.

This operating mode is mainly used in:

- two pipe heating systems with thermostatic valves,
- systems with long pipelines;
- systems with high head losses.

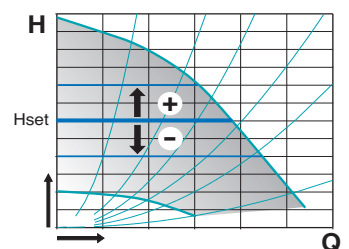


Constant pressure curve

In the constant pressure operating mode, the pump, keeps the pressure constant when the demand for water changes.

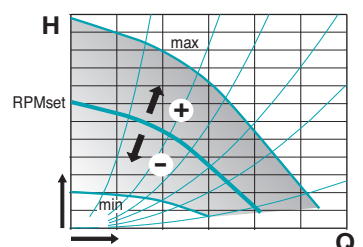
This operating mode is mainly used in:

- two pipe heating systems with thermostatic valves and low head losses
- underfloor heating systems with thermostatic valves;
- one pipe heating systems with thermostatic valves.



Constant speed curve

In this operating mode the pump works as a traditional pump with a constant curve, the operating curve can be chosen by the user within a range of curves.





Construction

Energy saving variable speed circulating pump 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 +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: 0,3 bar at 50 °C
1,0 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 ≤ 0,20.
- Minimum power: 3 W.

Motor

- Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50-60 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.

Designation

NCE EI 32 - 60 / 180

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

Special features on request

Brass or cast iron unions.
EPP thermal insulation shell.

Features

Compact design

The space saving **NCE EI** is a very compact circulating pump, allows inr easy installation in small domestic heating systems.

Easy to install and to adjust

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

Reliable

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

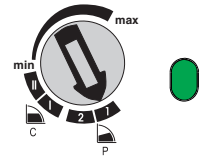
Operating modes



PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$

(GREEN LED)

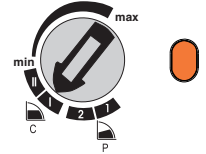
Moving the switch to 1 or 2 setting, the pump operates with the proportional curve. This mode ensures maximum energy efficiency.



CONSTANT CURVE PROGRAMMING $\Delta p-c$

(ORANGE LED)

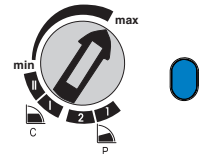
Moving the switch to I or II setting, the pump operates with a constant curve according to the selected flow rates.



MANUAL PROGRAMMING

(BLUE LED)

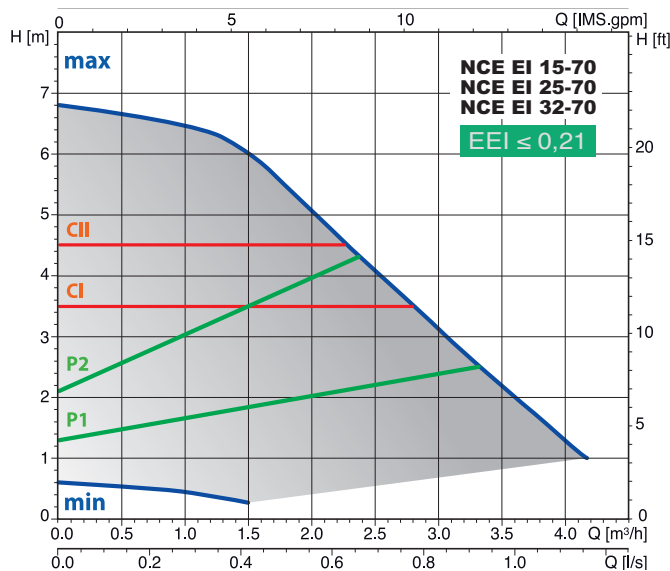
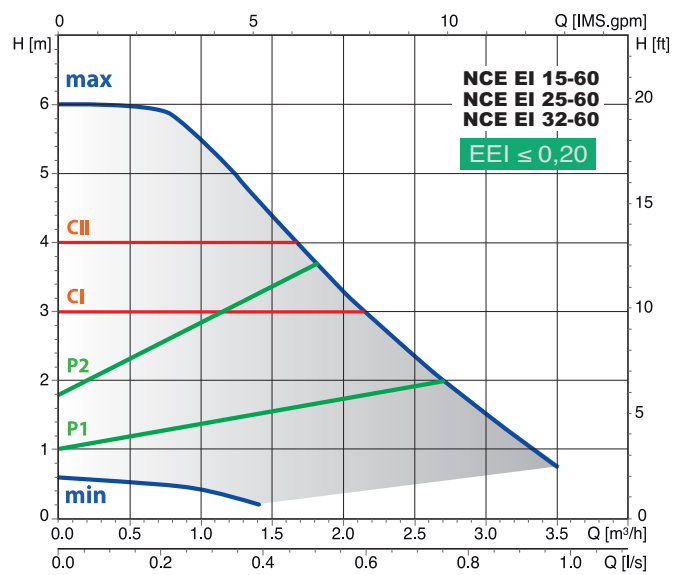
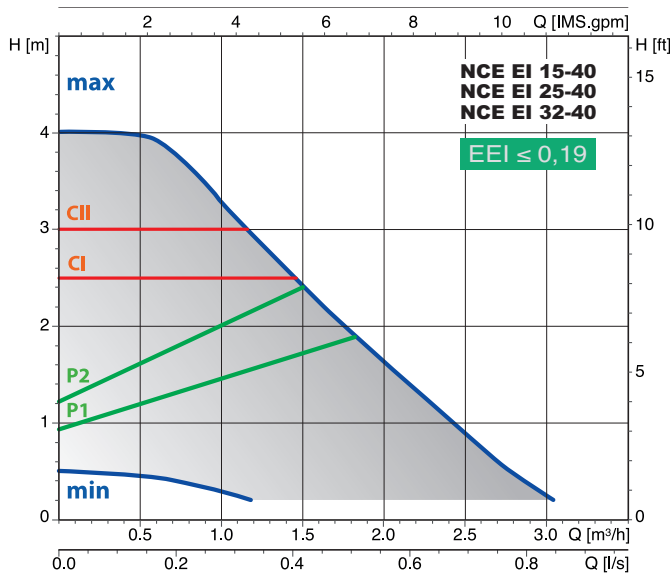
Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.



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.

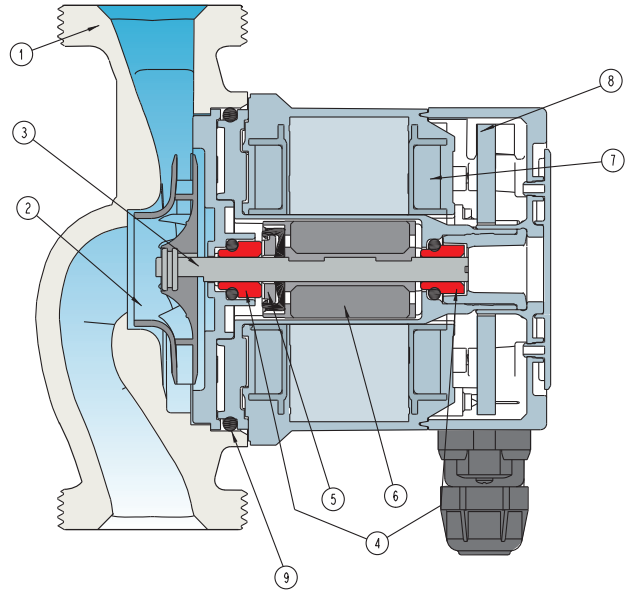
Characteristic curves



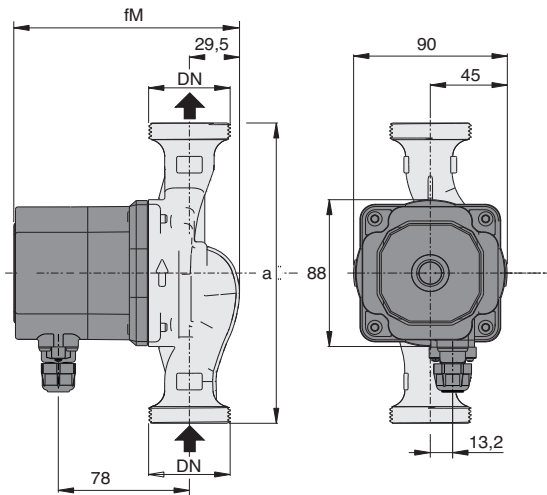
CI-CII constant curve
P1-P2 proportional curve
min-max n fixed curves

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



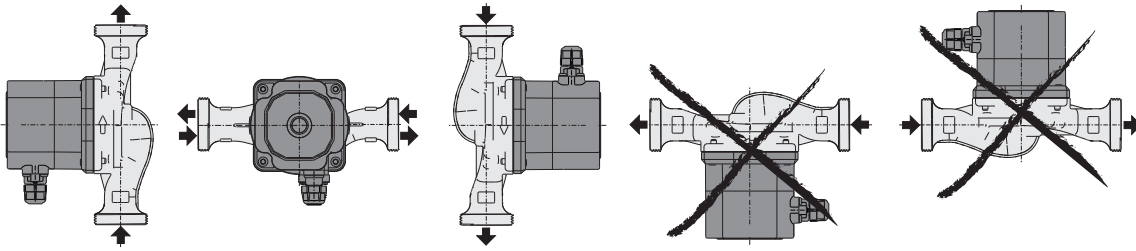
TYPE	DN	230V		P1		mm		kg
		A max	A min	W max	W min	fm	a	
NCE EI 15-40/130	G 1	0,17	0,03	22	3	134	130	1,67
NCE EI 25-40/130	G 1 1/2							1,81
NCE EI 25-40/180	G 1 1/2	0,17	0,03	22	3	134	180	1,96
NCE EI 32-40/180	G 2							2,10
NCE EI 15-60/130/A	G 1	0,33	0,03	42	3	134	130	1,67
NCE EI 25-60/130/A	G 1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

Unions (on request)

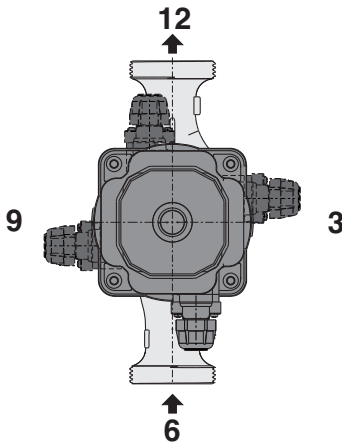
	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1 (NCE . 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NCE . 32..)	G 2	G 1 1/4

Examples of installations

Installation



Terminal box arrangement (on request)



NCE(D) H

Energy saving circulating pumps



Construction

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

Applications

Heating and conditioning 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 ≤ 40 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
- 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: threaded ports ISO 228: G 1 1/2, G 2.
- The benchmark for most efficient circulators is EEI ≤ 0,20.

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: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

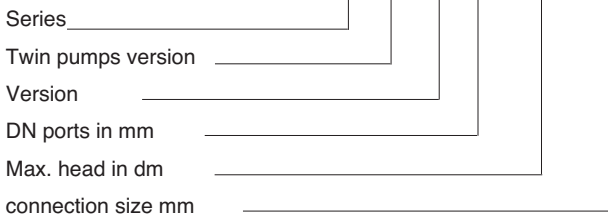
Special features on request

Additional module (included with NCEDH):

- Modbus
- Ethernet
- analog input 0-10V
- remote on/off input
- output relay

Designation

NCE(D) H 25 - 100 / 180



Features

Smart pump

NCE H adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

Easy use

There are different operating modes selectable from the control panel.

Operating modes



Automatic mode

(factory setting):

In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow. The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

The circulator maintains the pressure constant when the reference flow changes. The pressure value can be adjusted with the + and - buttons.



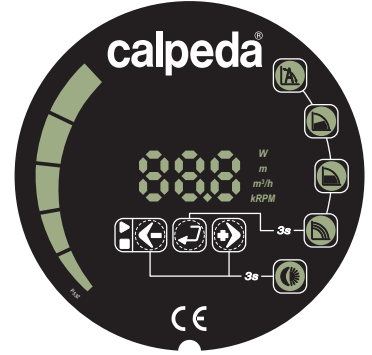
Fixed speed mode:

The circulator works with constant curve and the curve could be changed using + e - buttons.



Night mode:

When the liquid temperature fall by 15-20°C the pump automatically switches to night mode, in practice the circulator works at minimum curve. When the temperature rises again the pump comes back to the selected mode. The night mode could be selected with any operating mode.



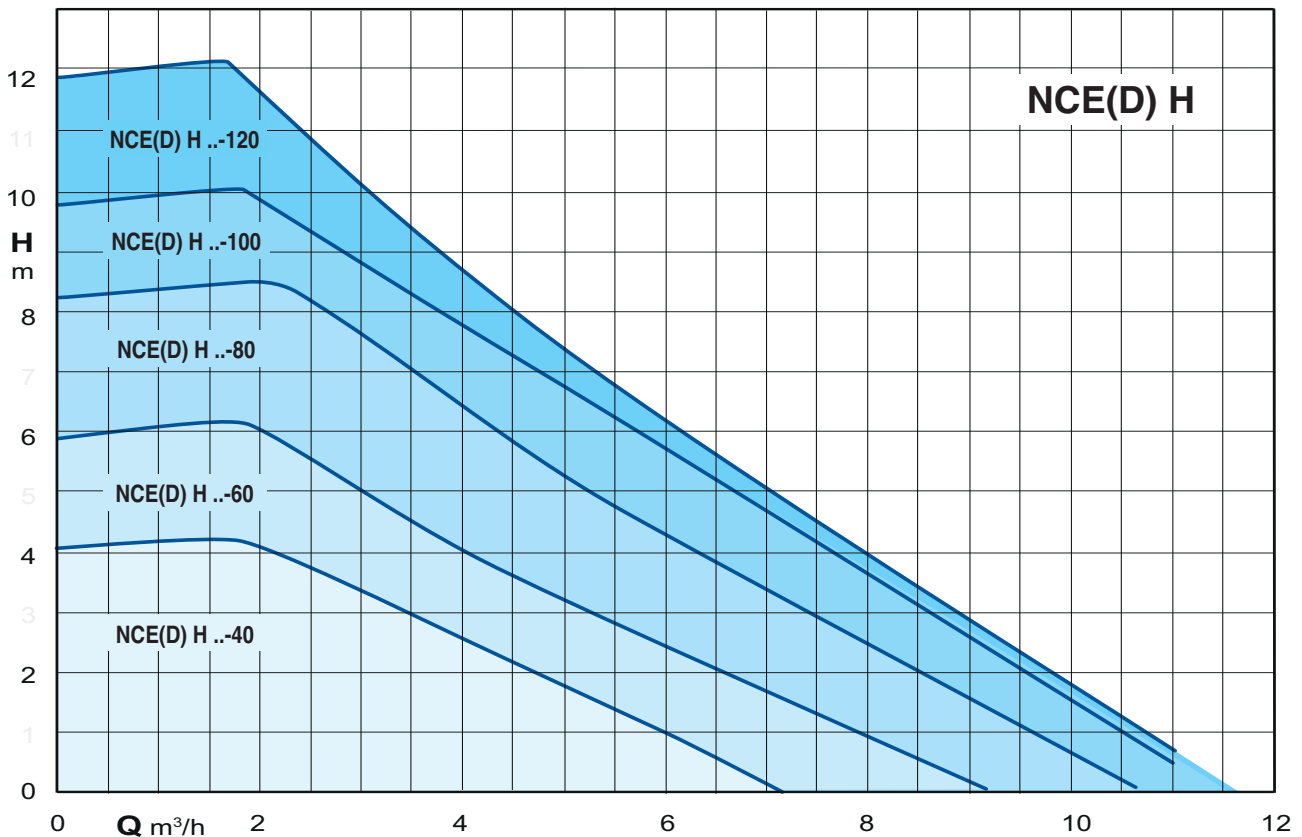
Operating mode-control panel

NCE(D) H could works in:

- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

The night mode could be selected with any operating mode.

Coverage chart



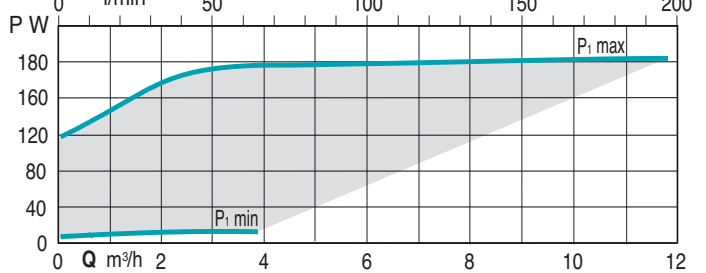
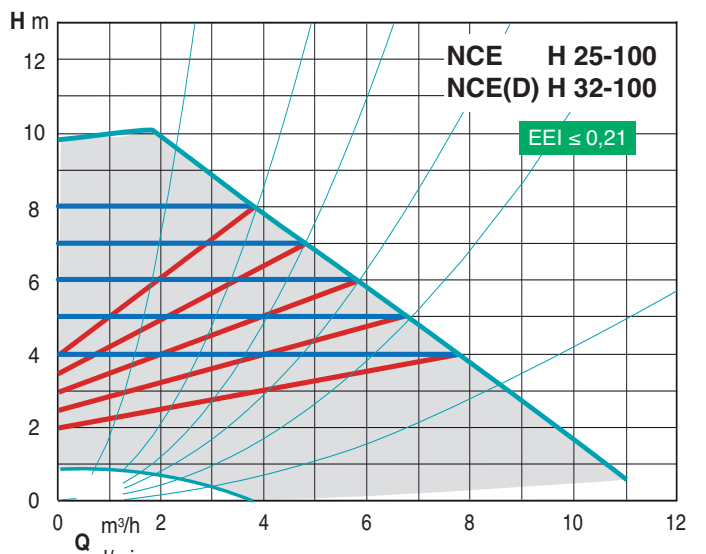
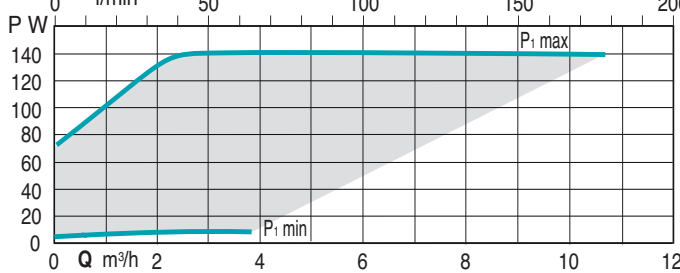
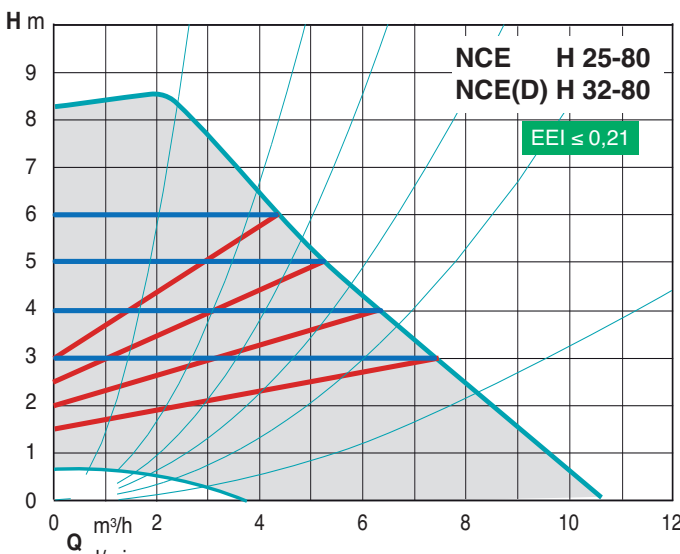
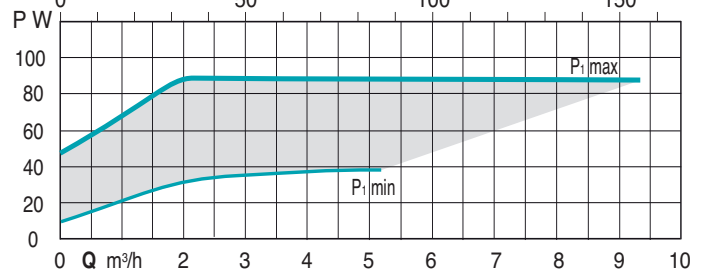
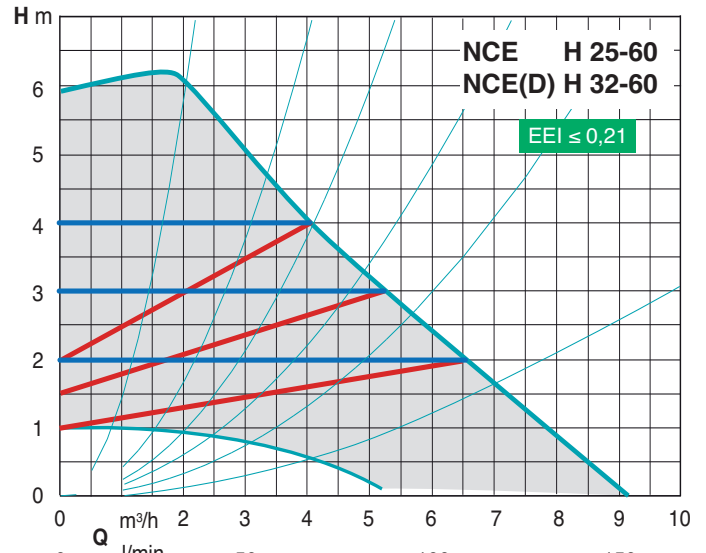
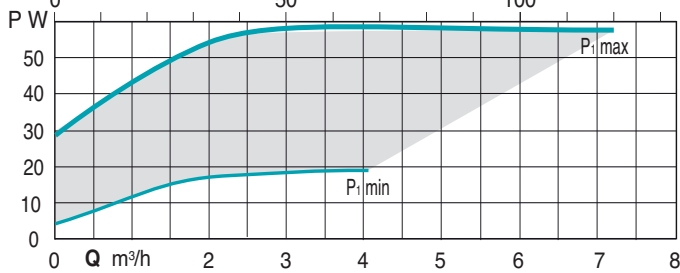
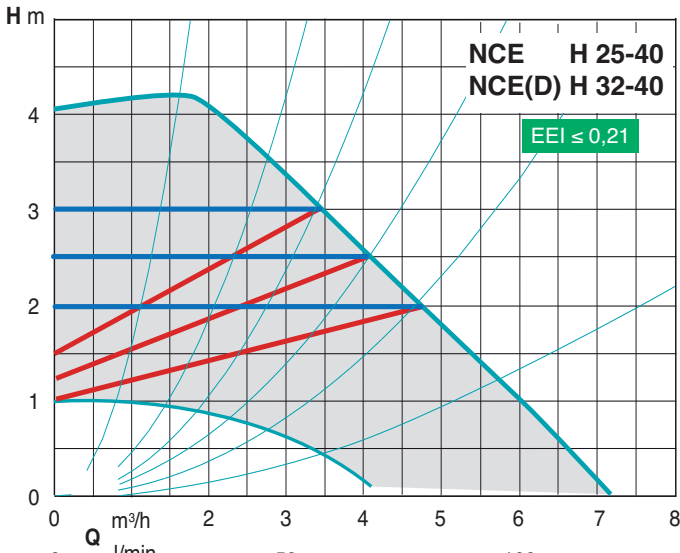
429

NCE(D) H

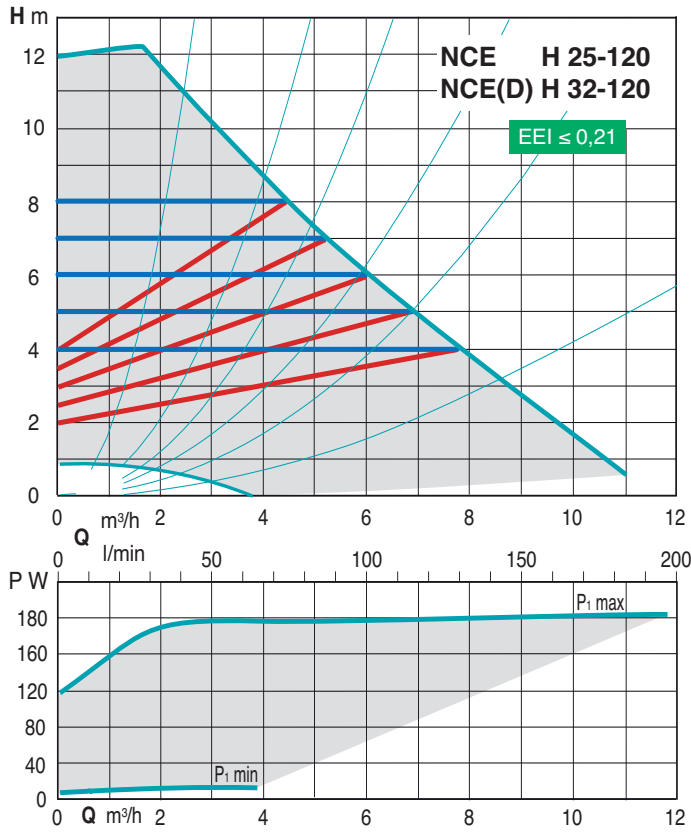
Energy saving circulating pumps



Characteristic curves

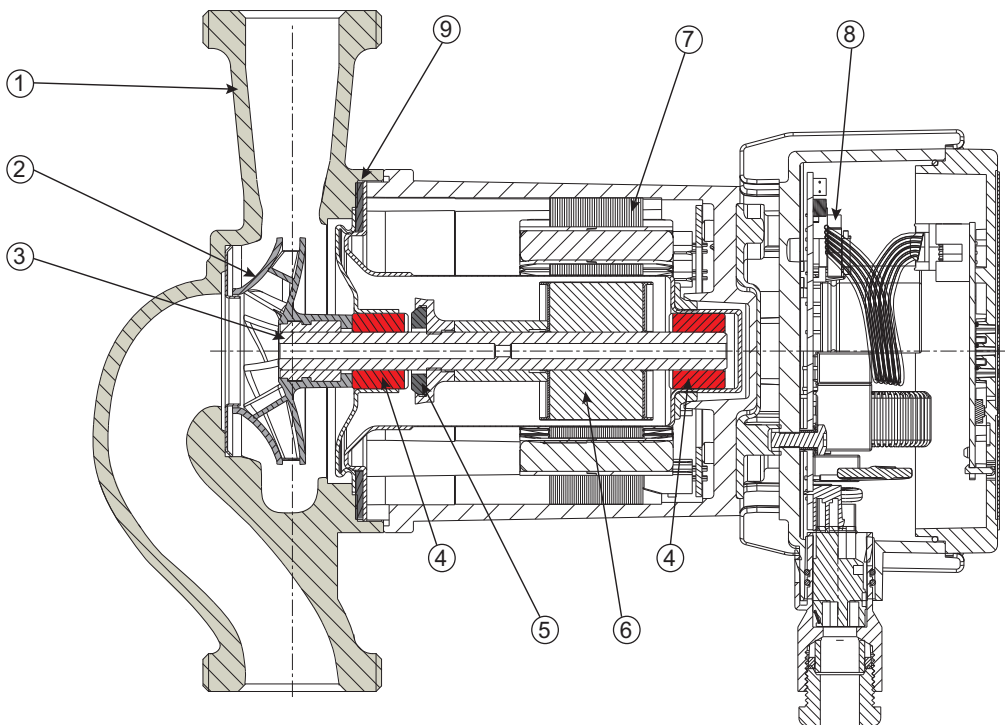


Characteristic curves

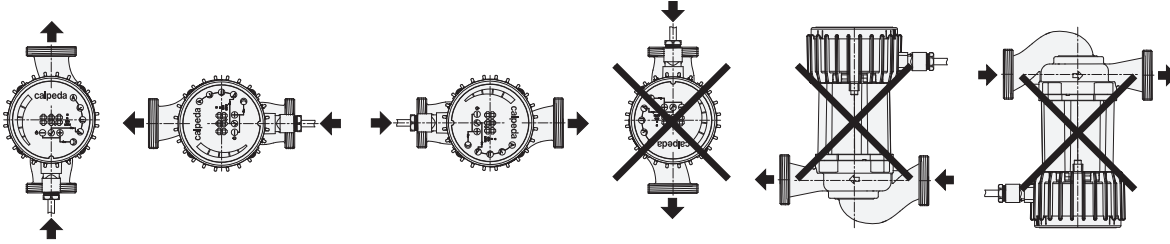


Materials

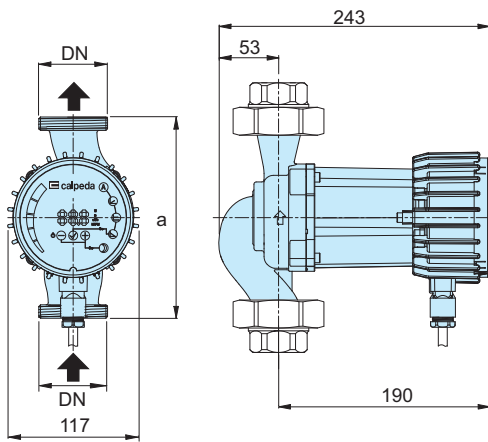
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations

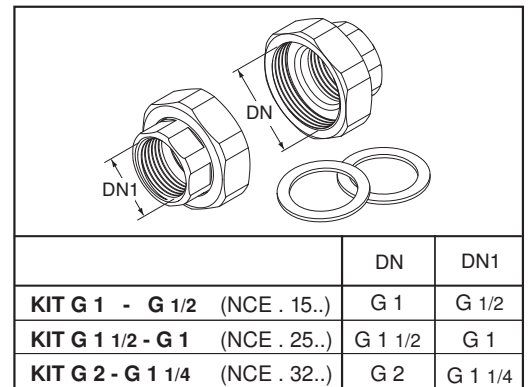


Dimensions and weights



TYPE	DN	H m	Q m ³ /h	1~ 230 V		P ₁		a mm	kg
				A min	A max	W min	W max		
NCE H 25-40/180 NCE H 32-40/180	G 1 1/2 G 2	4	5	0,1	0,5	10	60	180	4 4,1
NCE H 25-60/180 NCE H 32-60/180	G 1 1/2 G 2	6	7,5	0,1	0,75	10	90	180	4 4,1
NCE H 25-80/180 NCE H 32-80/180	G 1 1/2 G 2	8	9	0,1	1,15	10	140	180	4 4,1
NCE H 25-100/180 NCE H 32-100/180	G 1 1/2 G 2	10	11	0,1	1,5	10	180	180	4 4,1
NCE H 25-120/180 NCE H 32-120/180	G 1 1/2 G 2	12	15	0,1	1,5	10	180	180	4 4,1

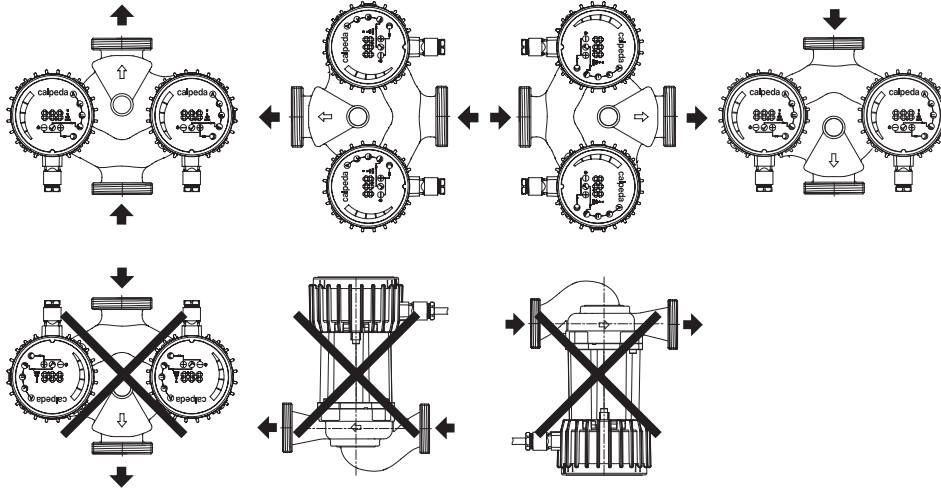
Unions (on request)



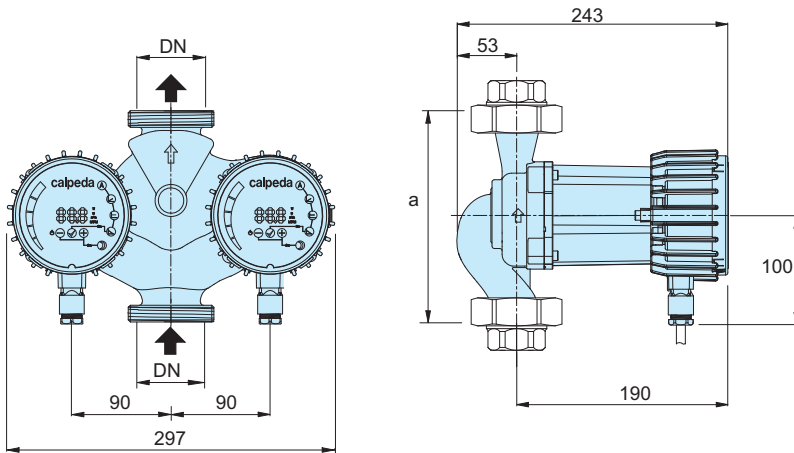
NCED H Energy saving circulating pumps



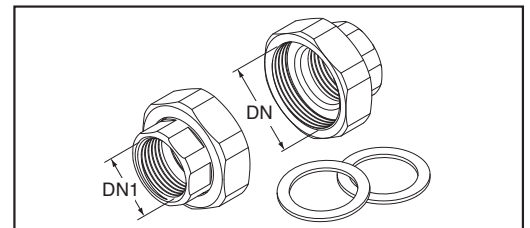
Examples of installations



Dimensions and weights



Unions (on request)



TYPE	DN	H m	Q m ³ /h	1~ 230 V		P ₁		a mm	kg
				A min	A max	W min	W max		
NCED H 32-40/180	G 2	4	5	0,1	0,5	10	60	180	8
NCED H 32-60/180	G 2	6	7,5	0,1	0,75	10	90	180	8
NCED H 32-80/180	G 2	8	9	0,1	1,15	10	140	180	8
NCED H 32-100/180	G 2	10	11	0,1	1,5	10	180	180	8
NCED H 32-120/180	G 2	12	15	0,1	1,5	10	180	180	8

TYPE	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

NCE(D) H.F Energy saving circulating pumps with flanges



Construction

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

Applications

Heating and conditioning 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 ≤ 40 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
- 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: Flanges according to PN 6/10, EN 1092-2, DN 32, 40, 50.
- The benchmark for most efficient circulators is EEI ≤ 0,20.

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: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

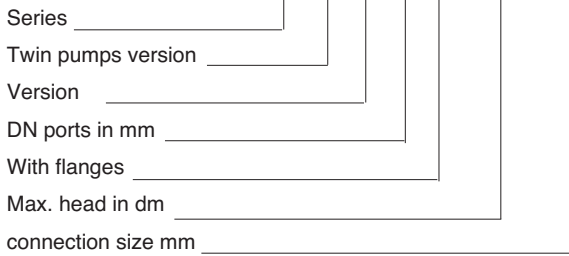
Special features on request

Additional module (included with NCEDH. F):

- Modbus
- Ethernet
- analog input 0-10V
- remote on/off input
- output relay

Designation

NCE(D) H 40 F - 60 / 220



Features

Smart pump

NCE H.F adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

Easy use

There are different operating modes selectable from the control panel.

NCE(D) H.F Energy saving circulating pumps with flanges



Operating modes



Automatic mode

(factory setting):

In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow. The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

The circulator maintains the pressure constant when the reference flow changes. The pressure value can be adjusted with the + and - buttons.



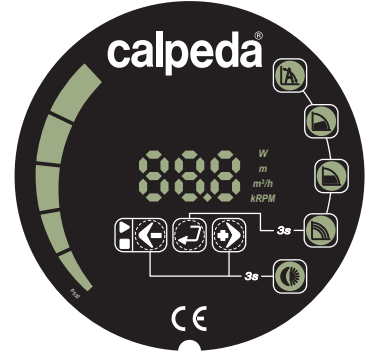
Fixed speed mode:

The circulator works with constant curve and the curve could be changed using + e - buttons.



Night mode:

When the liquid temperature fall by 15-20°C the pump automatically switches to night mode, in practice the circulator works at minimum curve. When the temperature rises again the pump comes back to the selected mode. The night mode could be selected with any operating mode.



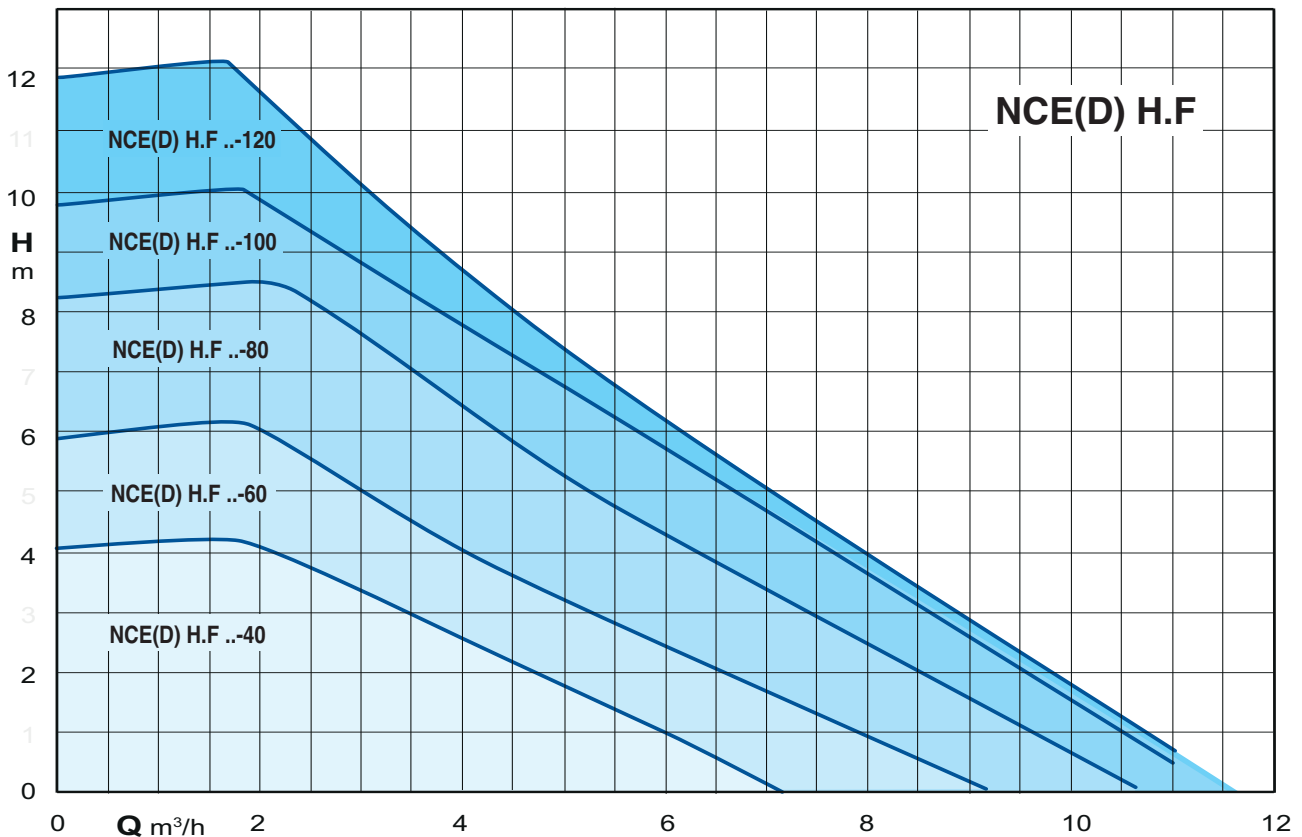
Operating mode-control panel

NCE(D) H.F could works in:

- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

The night mode could be selected with any operating mode.

Coverage chart

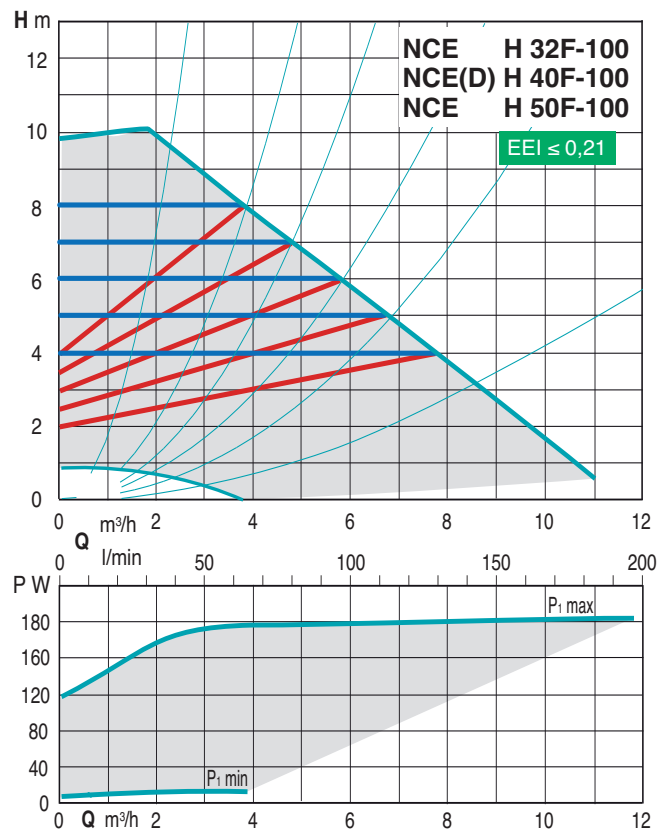
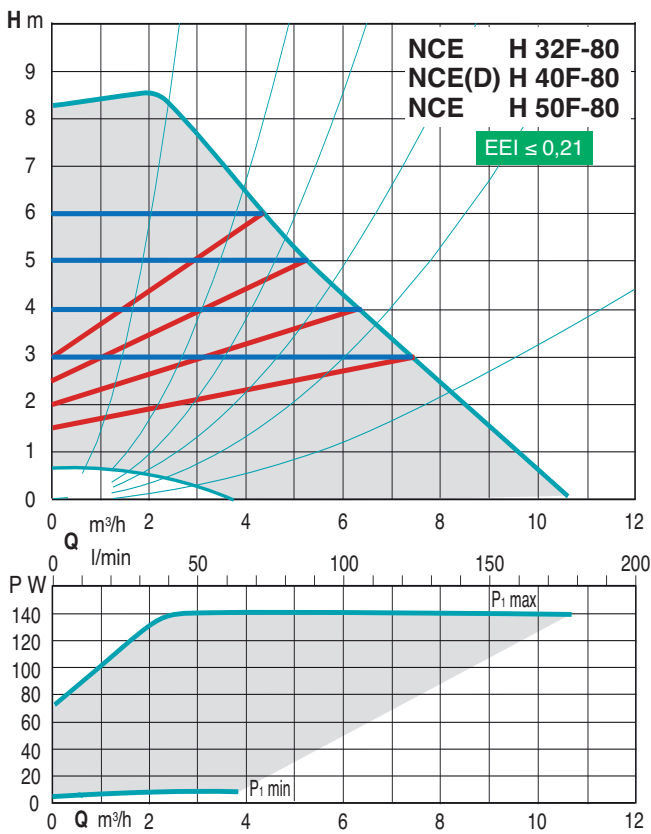
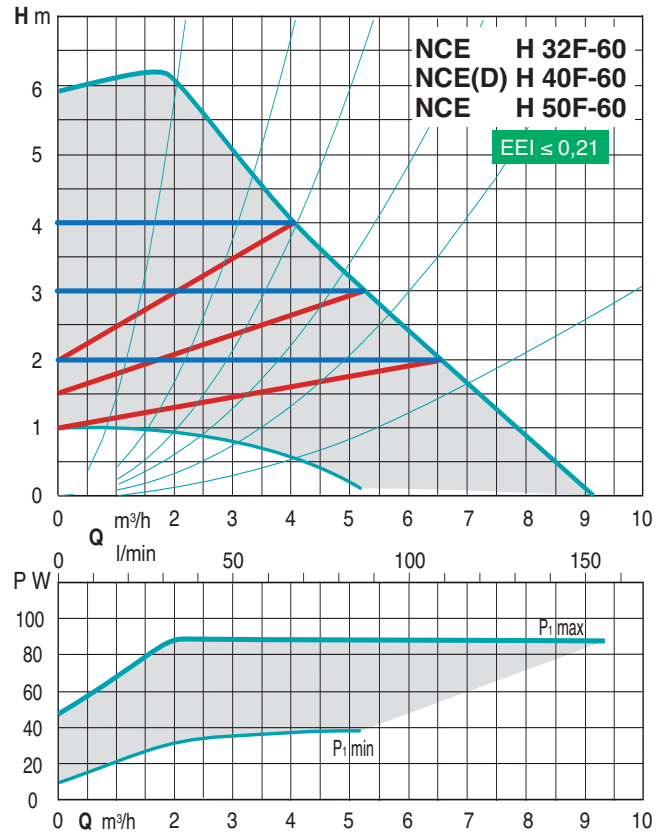
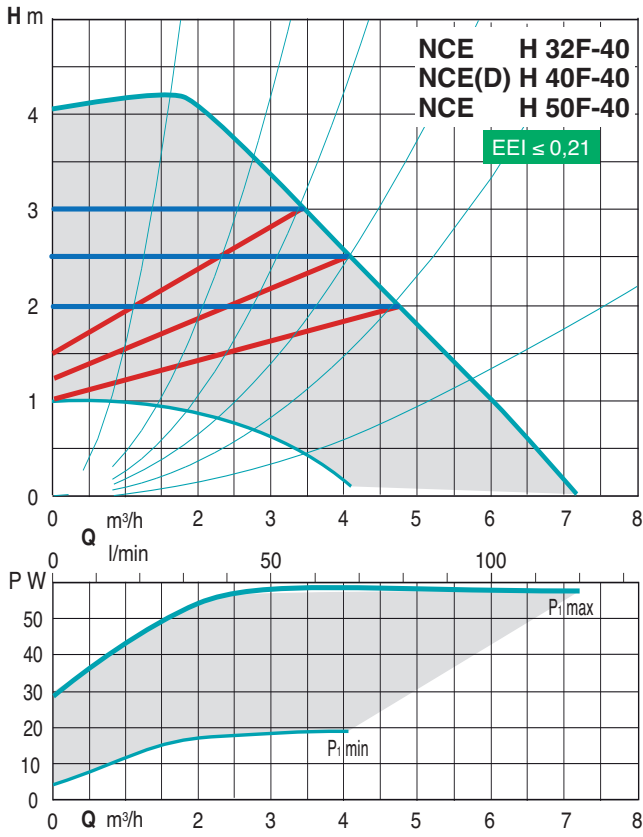


436

NCE(D) H.F Energy saving circulating pumps with flanges



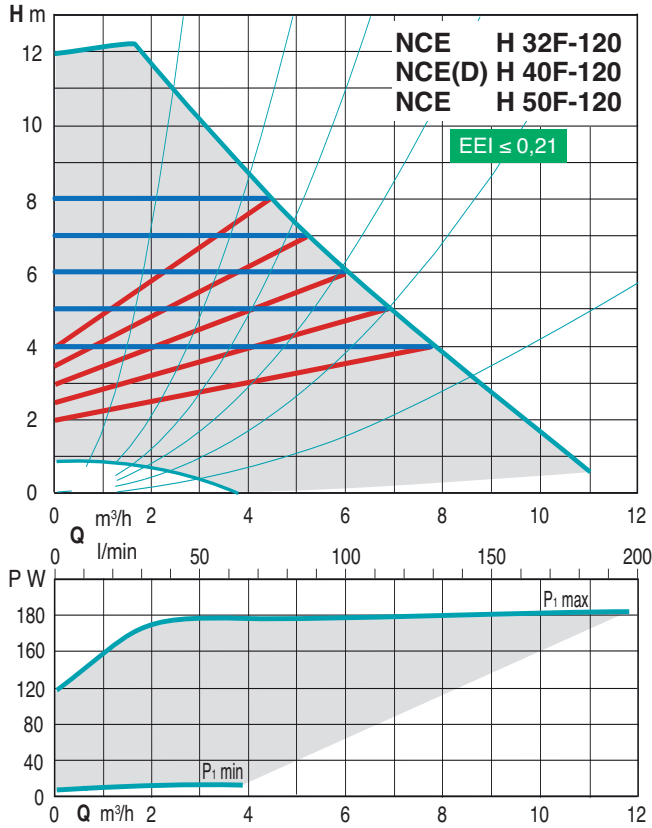
Characteristic curves



NCE(D) H.F Energy saving circulating pumps with flanges



Characteristic curves

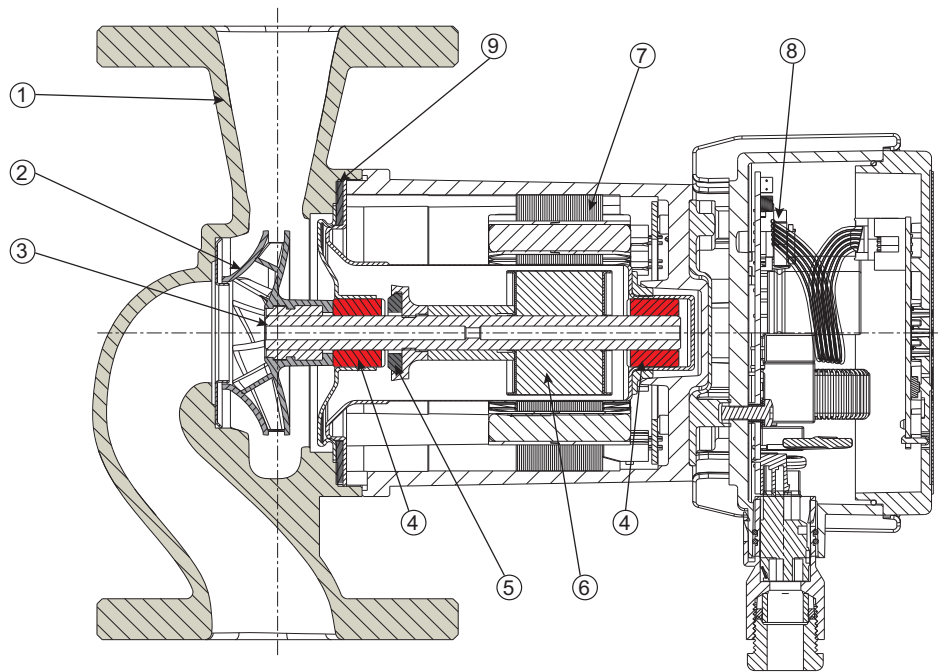


NCE(D) H.F Energy saving circulating pumps with flanges



Materials

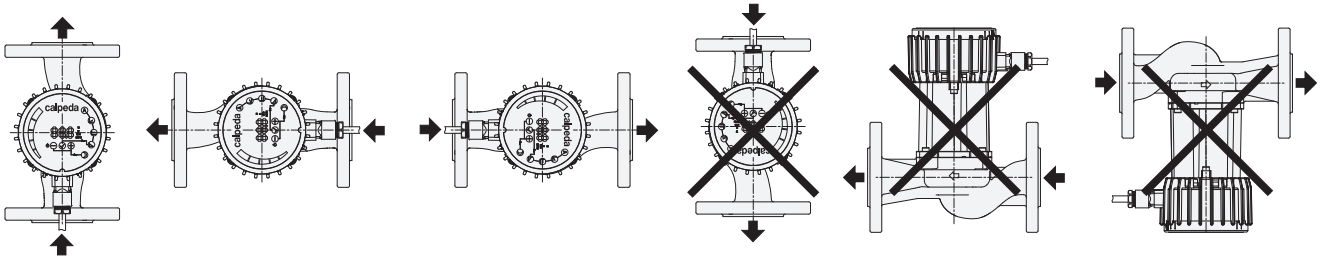
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



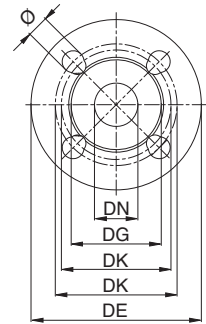
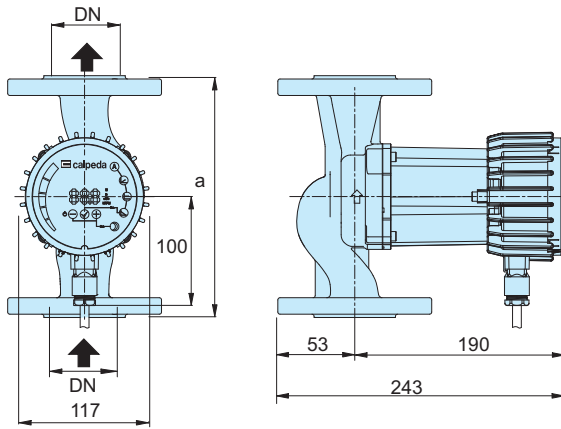
NCE(D) H.F Energy saving circulating pumps with flanges



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m ³ /h	1~ 230 V		P ₁		a mm	kg
				A min	A max	W min	W max		
NCE H 32F-40/220	32	4	5	0,1	0,5	10	60	220	7,4
NCE H 40F-40/220	40							220	8,5
NCE H 50F-40/240	50							240	9,8
NCE H 32F-60/220	32	5	7,5	0,1	0,75	10	90	220	7,4
NCE H 40F-60/220	40							220	8,5
NCE H 50F-60/240	50							240	9,8
NCE H 32F-80/220	32	8	9	0,1	1,15	10	140	220	7,4
NCE H 40F-80/220	40							220	8,5
NCE H 50F-80/240	50							240	9,8
NCE H 32F-100/220	32	10	11	0,1	1,5	10	180	220	7,4
NCE H 40F-100/220	40							220	8,5
NCE H 50F-100/240	50							240	9,8
NCE H 32F-120/220	32	12	15	0,1	1,5	10	180	220	7,9
NCE H 40F-120/220	40							220	8,7
NCE H 50F-120/240	50							240	10

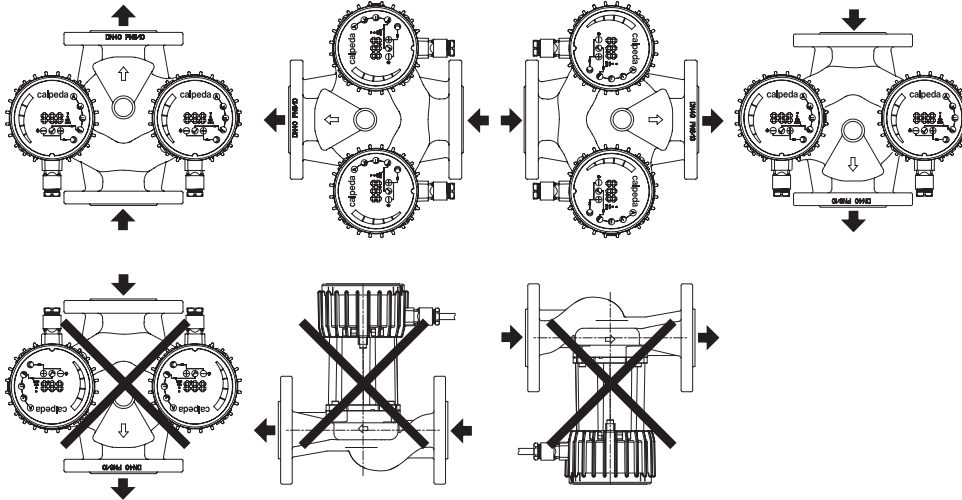
DN	DE	DK	DG	holes	
				N.	Ø
32	140	90/100	74	4	14/19
40	150	100/110	80	4	14/19
50	165	110/125	90	4	14/19

440

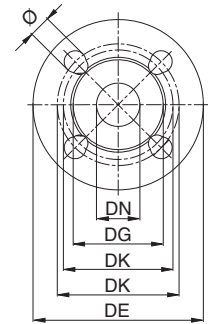
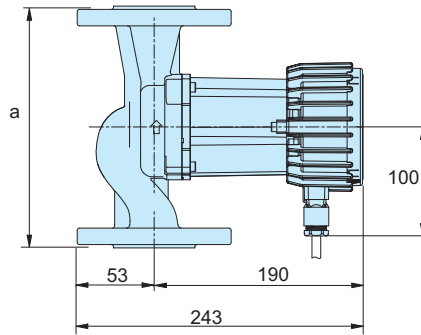
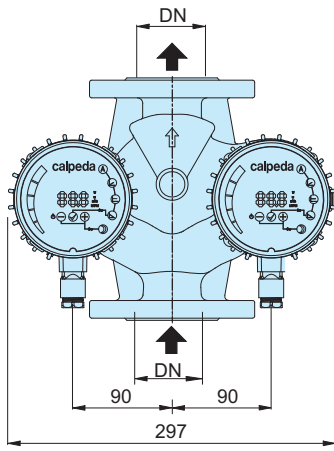
NCE(D) H.F Energy saving circulating pumps with flanges



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m ³ /h	1~ 230 V		P ₁		a mm	kg
				A min	A max	W min	W max		
NCED H 40F-40/220	40	4	5	0,1	0,5	10	60	220	11,3
NCED H 40F-60/220	40	5	7,5	0,1	0,75	10	90	220	11,3
NCED H 40F-80/220	40	8	9	0,1	1,15	10	140	220	11,3
NCED H 40F-100/220	40	10	11	0,1	1,5	10	180	220	11,3
NCED H 40F-120/220	40	12	15	0,1	1,5	10	180	220	11,3

DN	DE	DK	DG	holes	
				N.	Ø
32	140	90/100	74	4	14/19
40	150	100/110	80	4	14/19
50	165	110/125	90	4	14/19

NCE(D) HQ.F

Energy saving twin circulating pumps with flanges



Construction

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

Digital input and output:

- Modbus (NCE HQ on request)
- Ethernet (NCE HQ on request)
- analog input 0-10V
- remote on/off input
- output relay

Applications

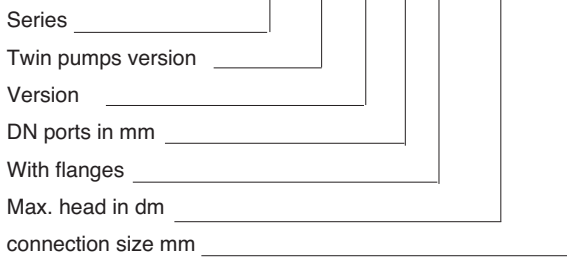
Heating and conditioning systems.

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 ≤ 40 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
- 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: Flanges according to PN 6/10, EN 1092-2, DN 32,40,50,65,80,100.
- The benchmark for most efficient circulators is $EEL \leq 0,20$.

Designation

NCE (D) HQ 40 F - 120 / 220



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: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Features

Smart pump

NCE(D) HQ.F adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

Easy use

There are different operating modes selectable from the control panel.

NCE(D) HQ.F

Energy saving twin circulating pumps with flanges



Operating modes



Automatic mode

(factory setting):

In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow. The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

The circulator maintains the pressure constant when the reference flow changes. The pressure value can be adjusted with the + and - buttons.



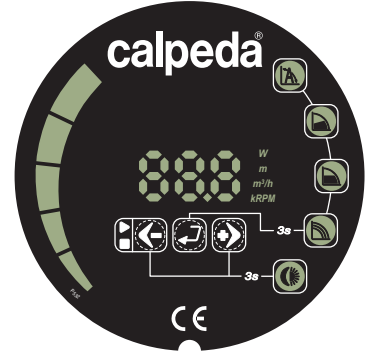
Fixed speed mode:

The circulator works with constant curve and the curve could be changed using + e - buttons.



Night mode:

When the liquid temperature fall by 15-20°C the pump automatically switches to night mode, in practice the circulator works at minimum curve. When the temperature rises again the pump comes back to the selected mode. The night mode could be selected with any operating mode.



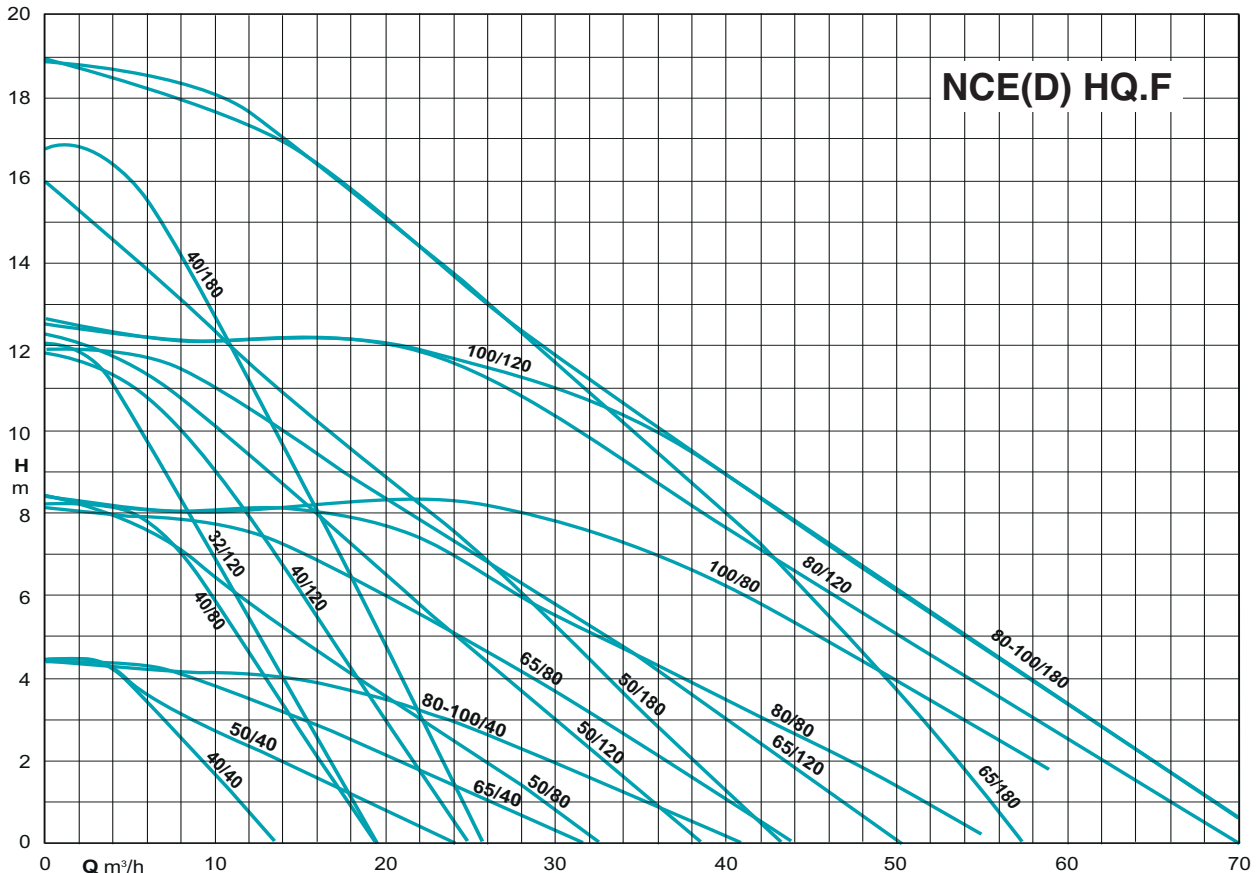
Operating mode-control panel

NCE HQ.F could works in:

- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

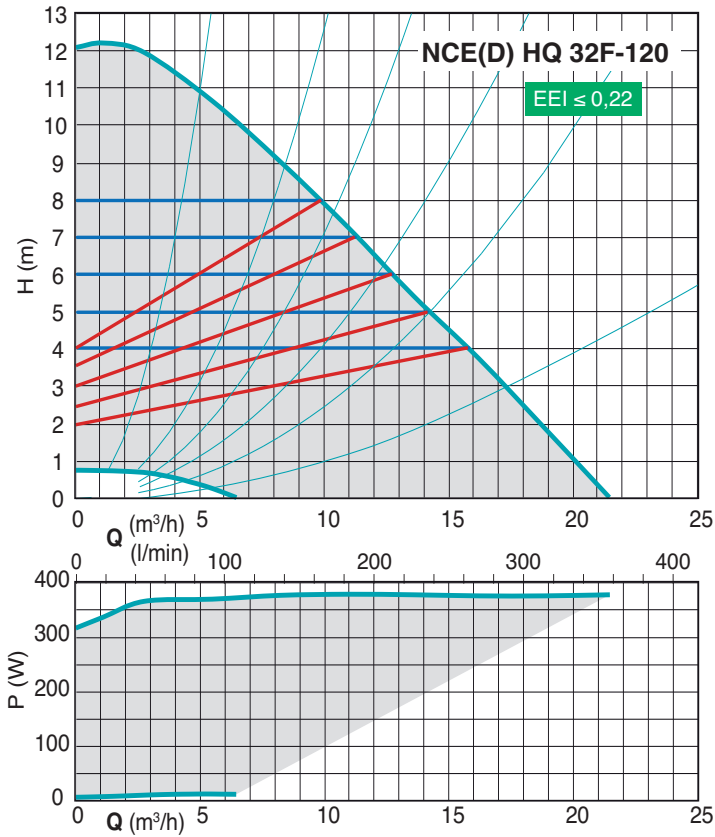
The night mode could be selected with any operating mode.

Coverage chart



443

Characteristic curves

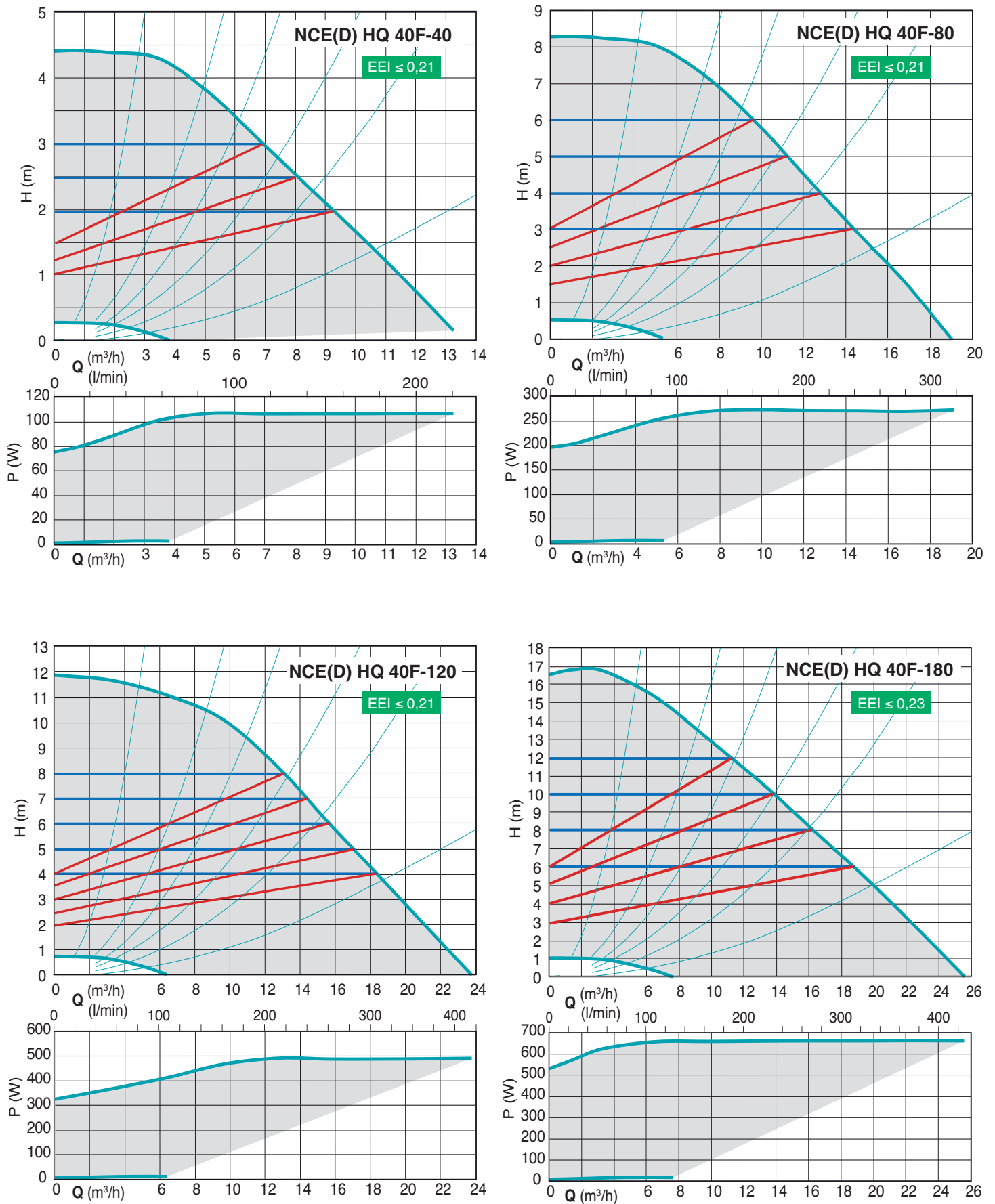


NCE(D) HQ.F

Energy saving twin circulating pumps with flanges



Characteristic curves

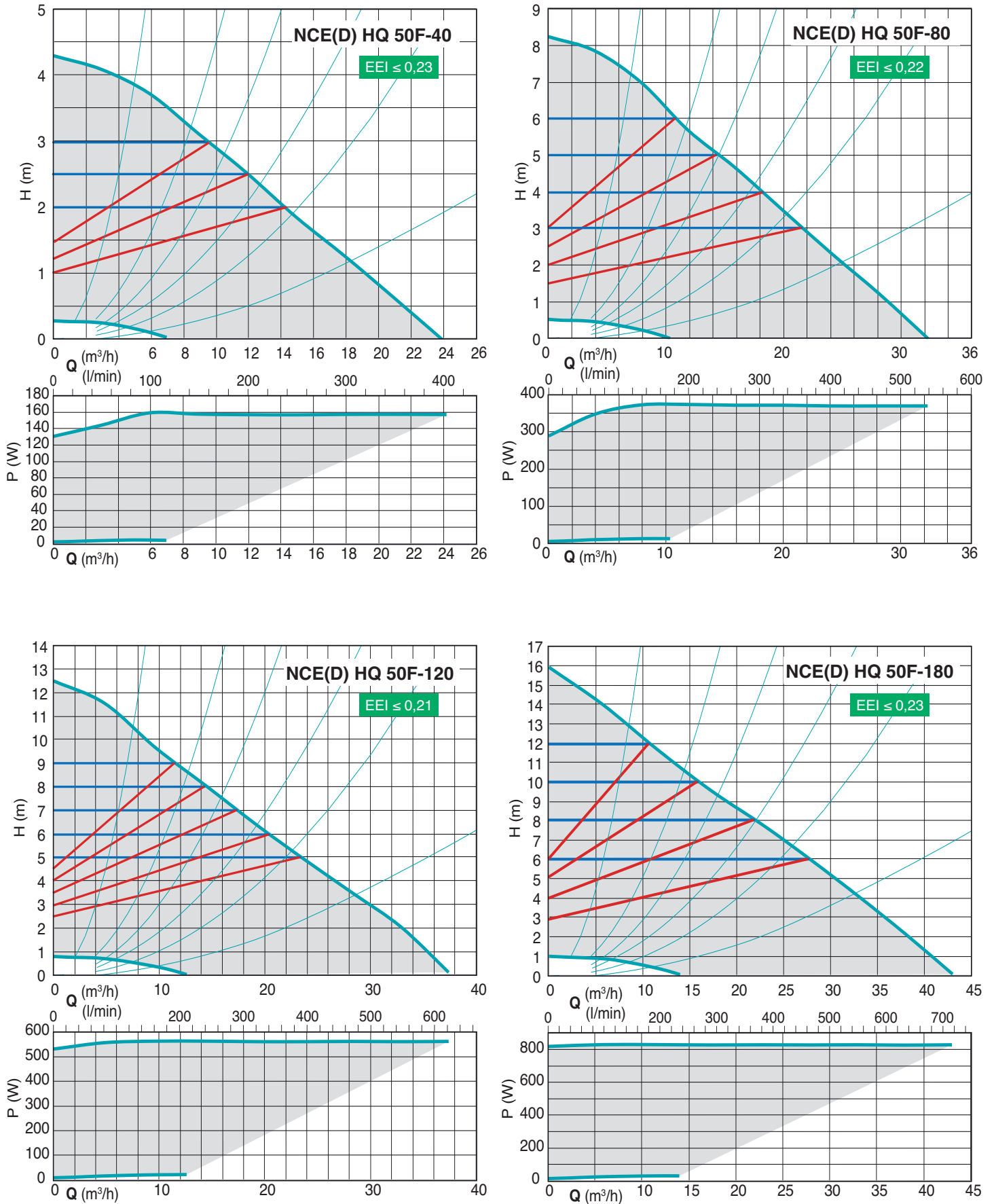


NCE(D) HQ.F

Energy saving twin circulating pumps with flanges



Characteristic curves

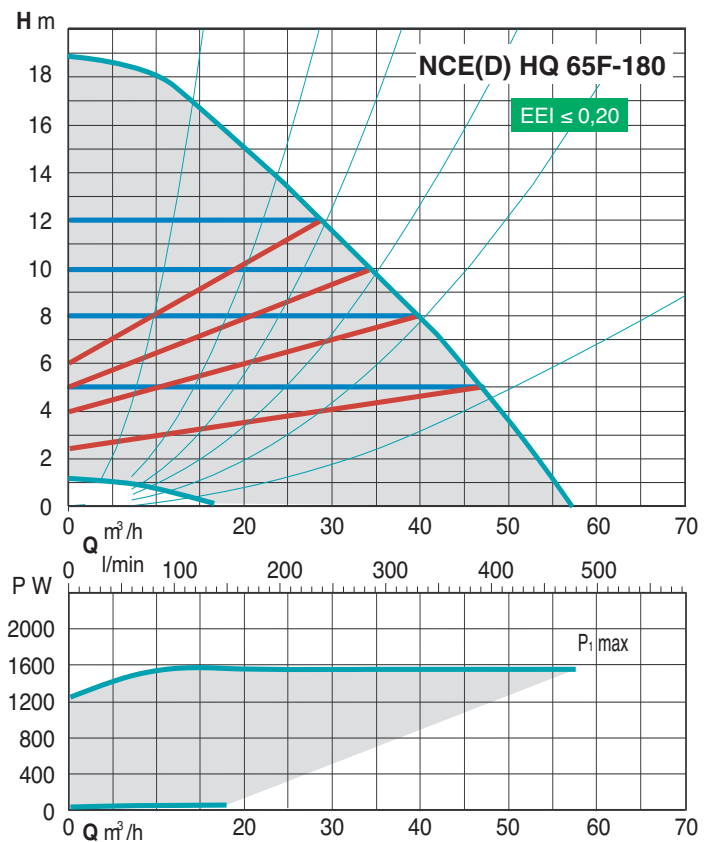
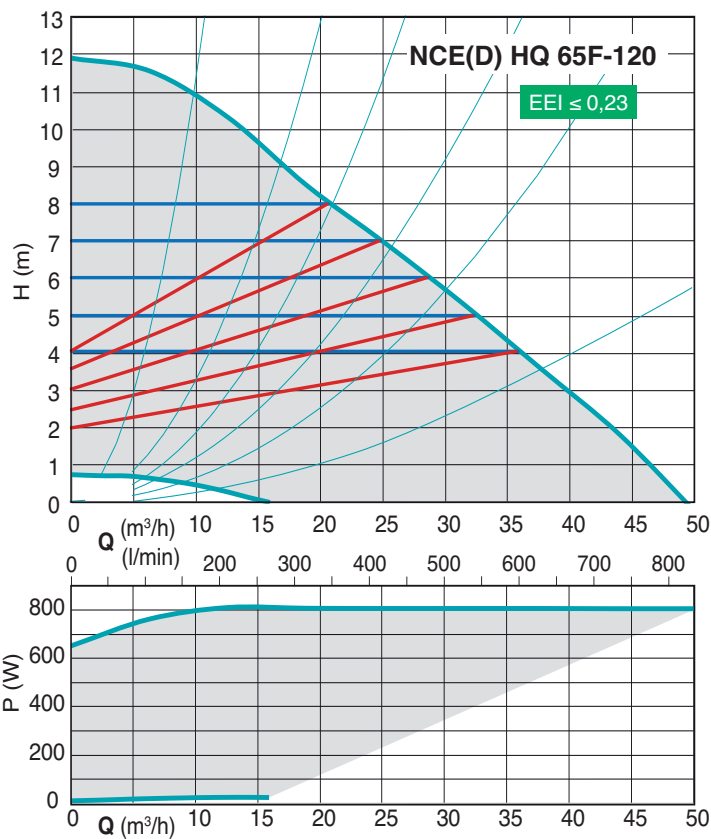
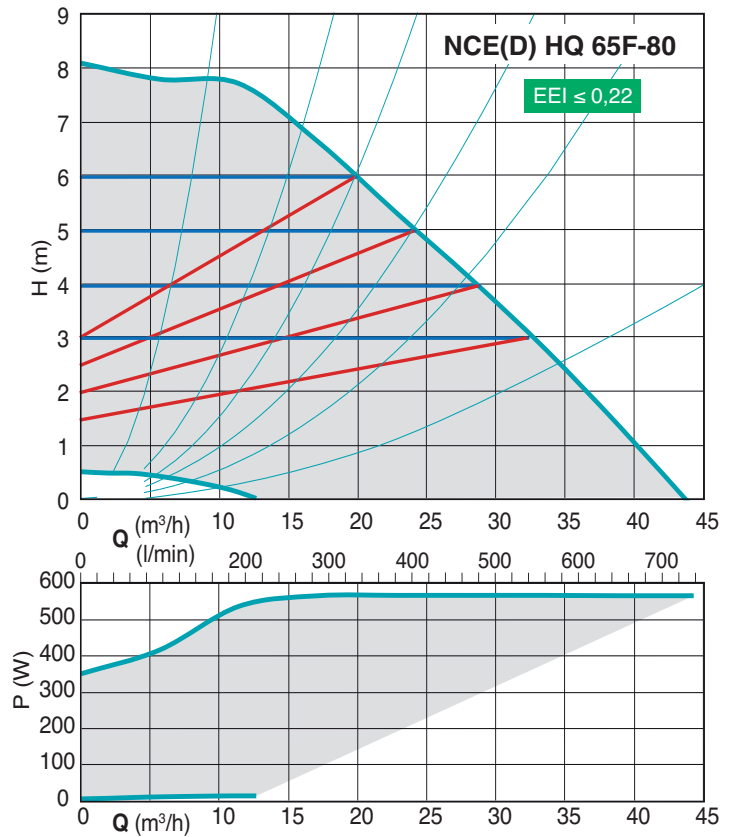
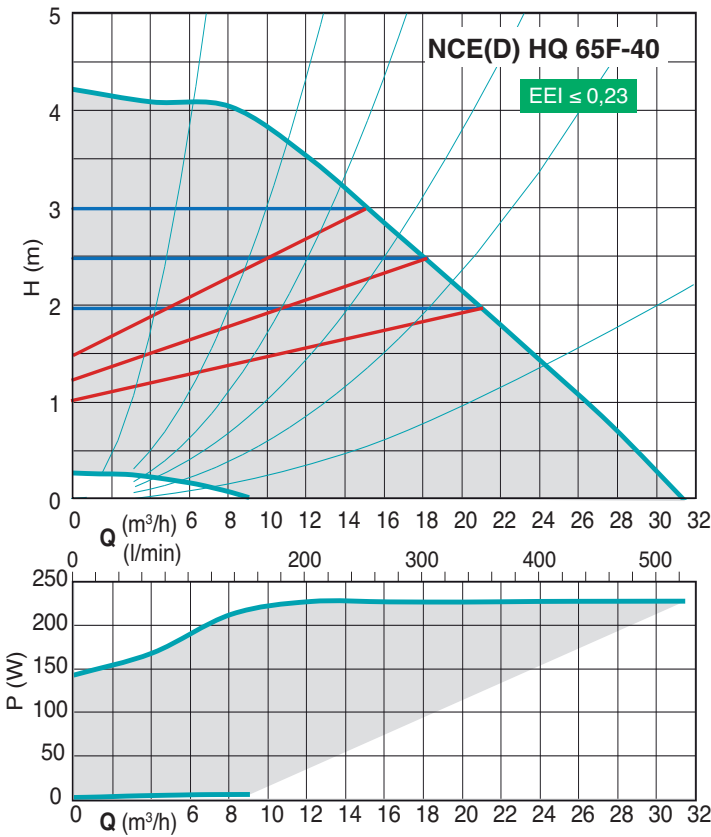


NCE(D) HQ.F

Energy saving twin circulating pumps with flanges



Characteristic curves

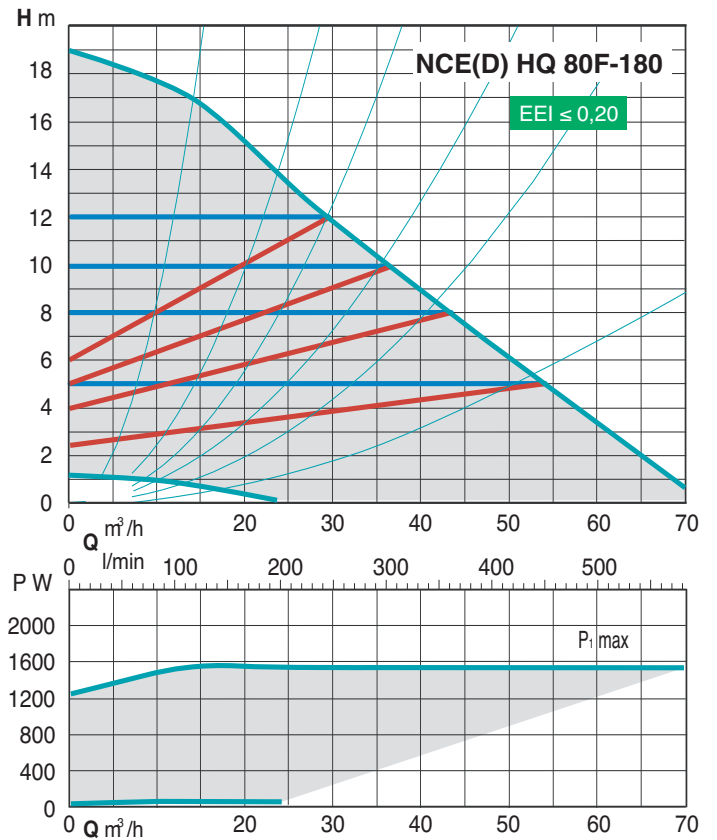
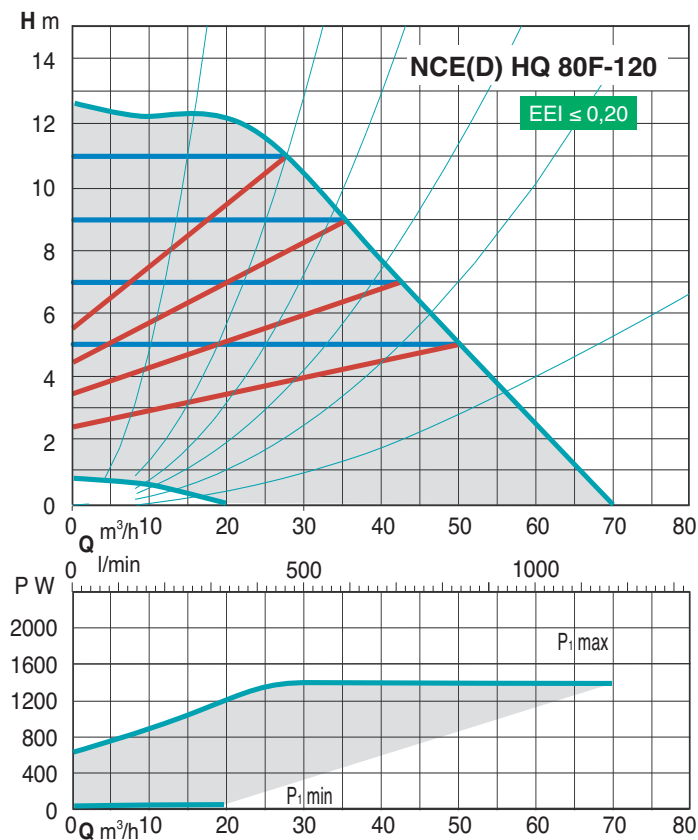
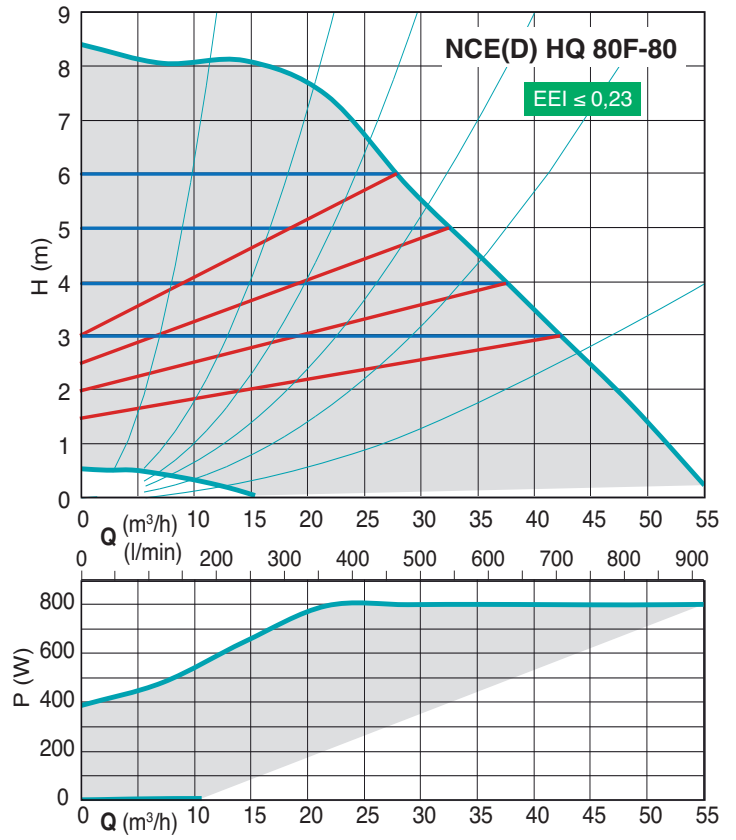
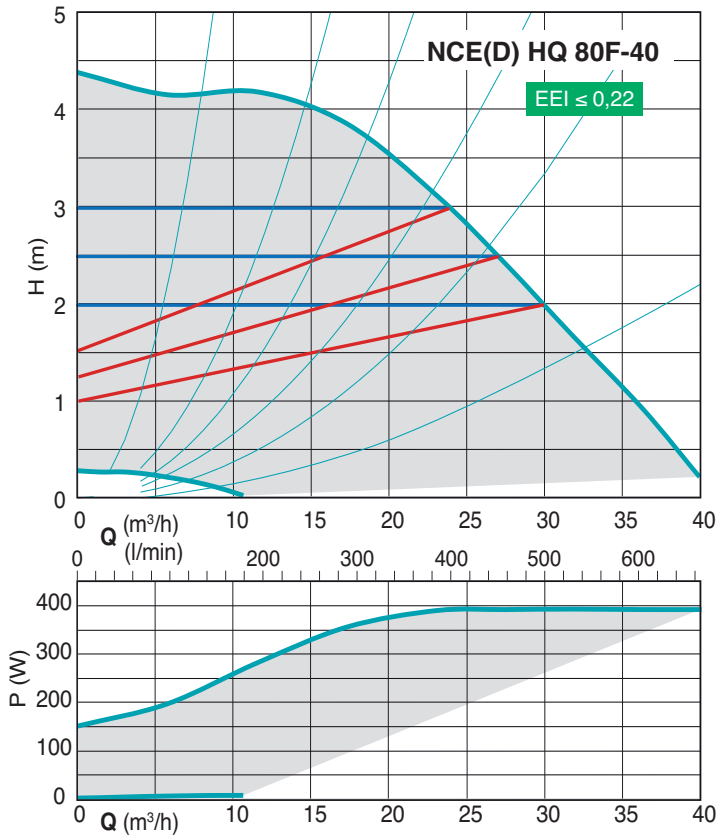


NCE(D) HQ.F

Energy saving twin circulating pumps with flanges



Characteristic curves

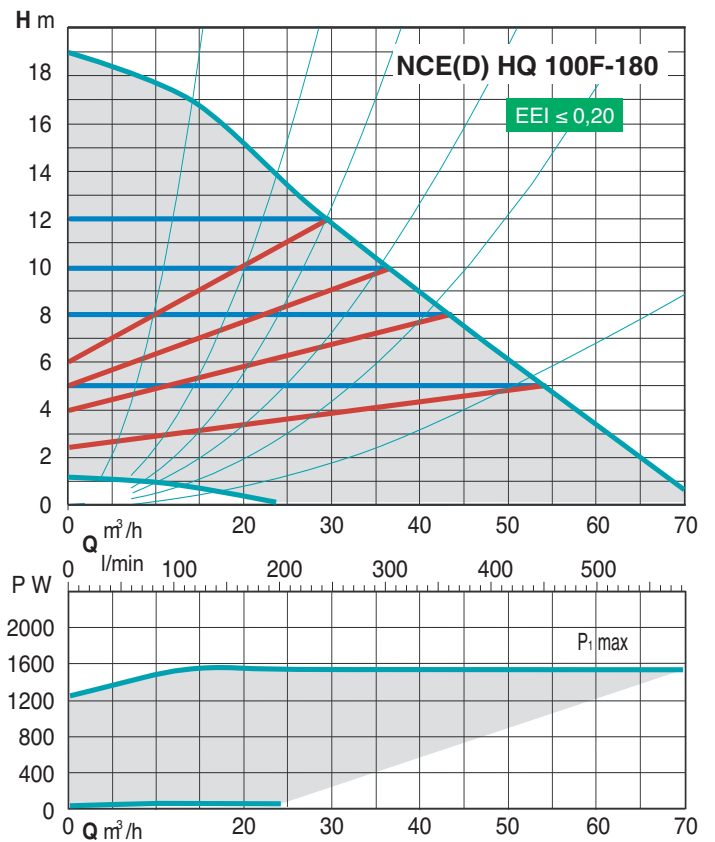
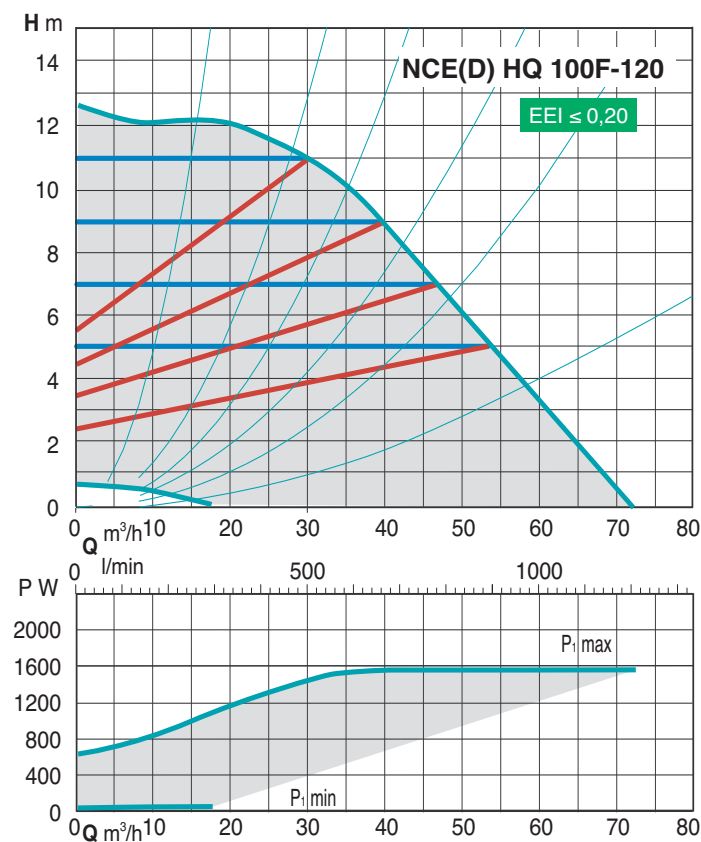
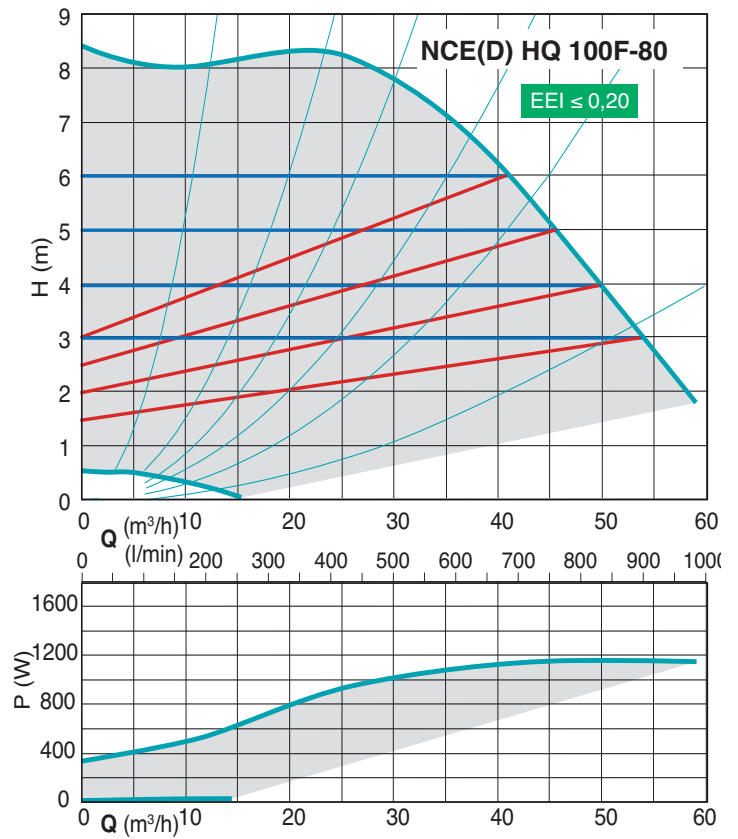
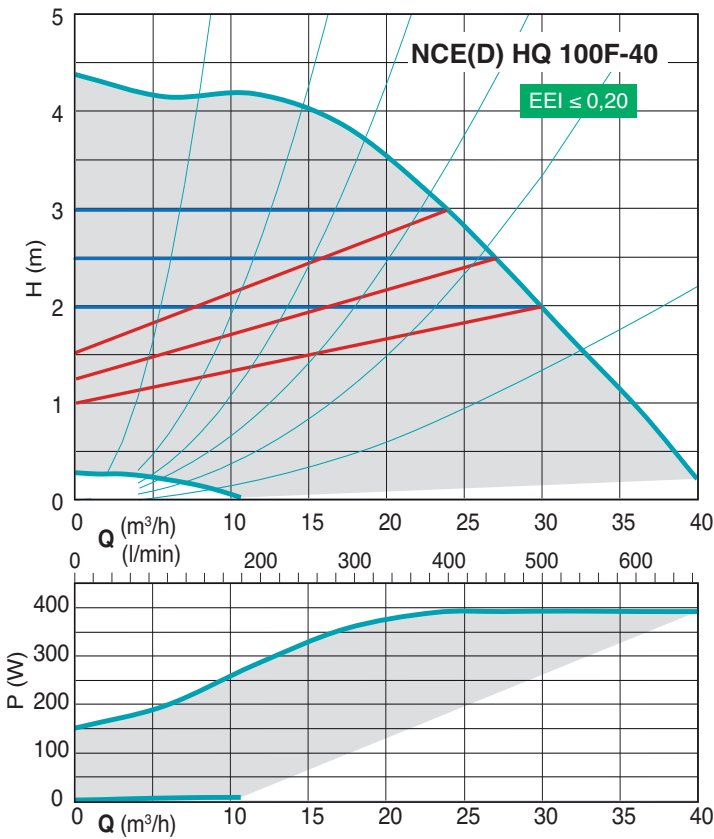


NCE(D) HQ.F

Energy saving twin circulating pumps with flanges



Characteristic curves



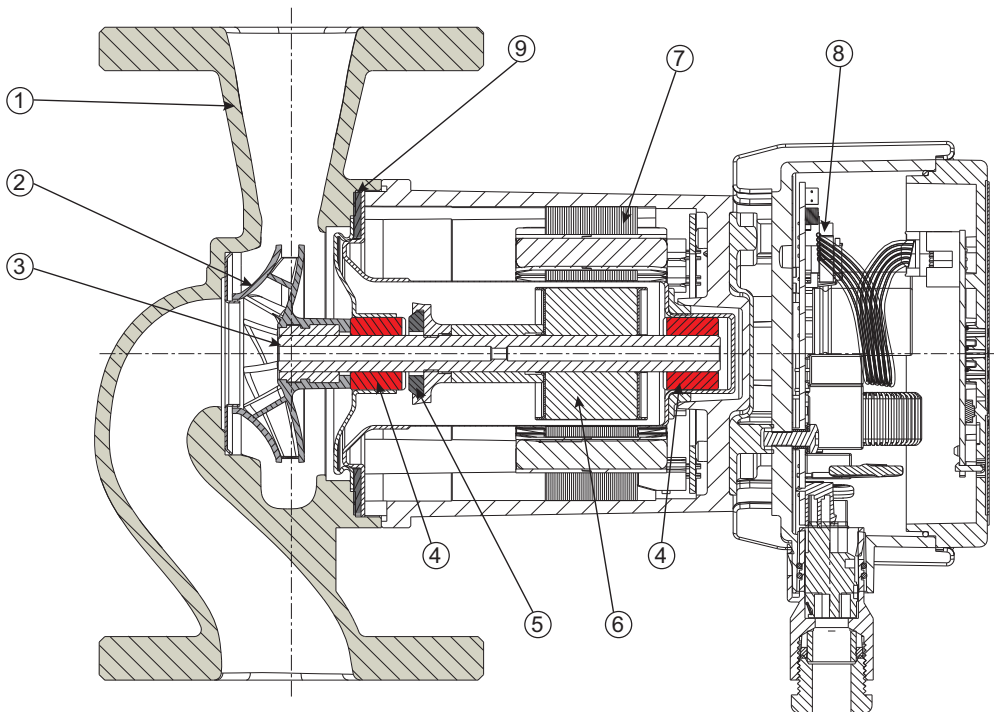
NCE(D) HQ.F

Energy saving twin circulating pumps with flanges



Materials

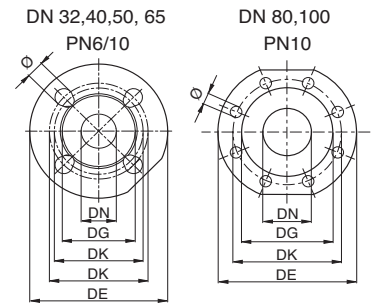
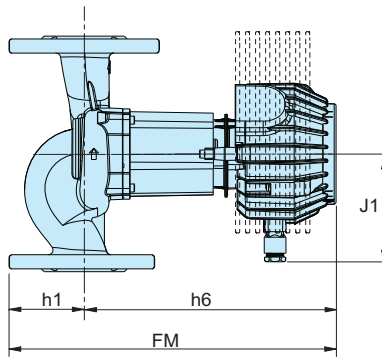
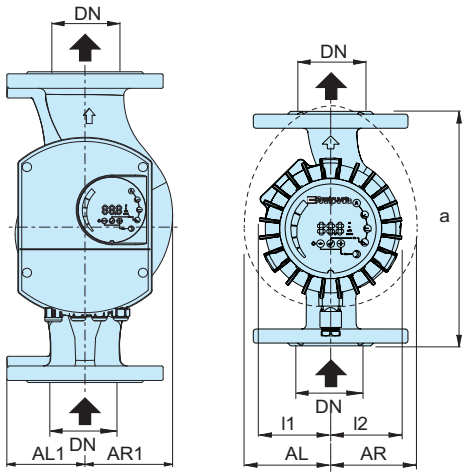
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



NCE HQ.F Energy saving circulating pumps with flanges



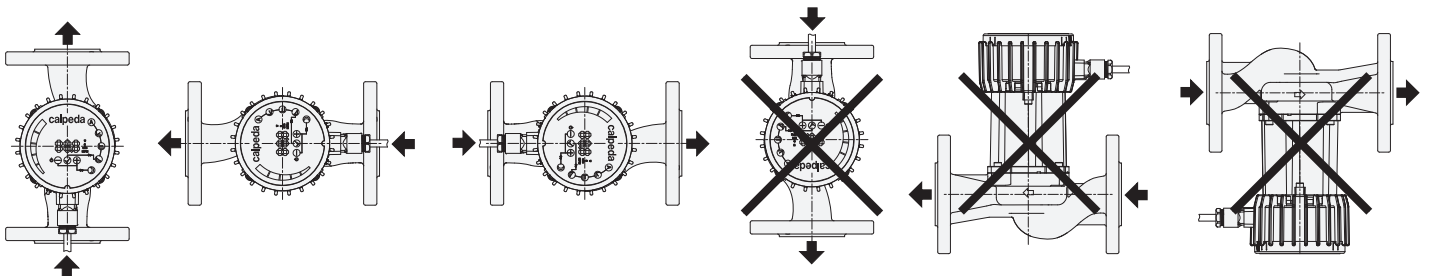
Dimensions and weights



DN	DE	DK	DG	holes N.	holes Ø
32	140	90/100	74	4	14/19
40	150	100/110	80	4	14/19
50	165	110/125	90	4	14/19
65	185	130/145	110	4	14/19
80	200	160	148	8	19
100	220	180	166	8	19

TYPE	DN	H m	Q m ³ /h	1~ 230 V A max	P ₁ W max	mm											kg
						a	J1	FM	h1	h6	I1	I2	AL	AR	AL1	AR1	
NCE HQ 32F-120/220	32	12	19	1.8	370	220	115	330	65	265	75	75	-	-	-	-	9,1
NCE HQ 40F-40/250	40	4	13	1	110	250	99	270	65	205	59	74	-	-	-	-	8,2
NCE HQ 40F-80/250	40	8	19	1.3	270	250	115	330	65	265	75	75	-	-	-	-	9,6
NCE HQ 40F-120/250	40	12	24	2.3	480	250	115	330	65	265	75	75	-	-	-	-	9,95
NCE HQ 40F-180/250	40	18	25	3.4	680	250	115	330	65	265	-	-	90	90	-	-	14,2
NCE HQ 50F-40/280	50	4	23	1.3	160	280	99	313	65	241	74	92	-	-	-	-	10,8
NCE HQ 50F-80/280	50	8	32	1.7	370	280	115	373	72	301	75	92	-	-	-	-	12,35
NCE HQ 50F-120/280	50	12	36	2.5	560	280	115	373	72	301	75	92	-	-	-	-	13
NCE HQ 50F-180/280	50	18	42	3.6	830	280	115	383	72	311	-	-	92	90	-	-	15,9
NCE HQ 65F-40/340	65	4	31	1.1	230	340	115	386	75	311	83	100	-	-	-	-	15,95
NCE HQ 65F-80/340	65	8	43	2.6	560	340	115	386	75	311	83	103	-	-	-	-	16,65
NCE HQ 65F-120/340	65	12	50	3.5	810	340	115	397	75	322	-	103	90	-	-	-	19,3
NCE HQ 65F-180/340	65	18	57	6,6	1550	340	137	434	75	359	-	-	-	-	94,5	104	-
NCE HQ 80F-40/360	80	4	40	1.8	390	360	115	414	93	321	98	123	-	-	-	-	23,4
NCE HQ 80F-80/360	80	8	53	3.5	800	360	115	425	93	332	98	123	-	-	-	-	25,8
NCE HQ 80F-120/360	80	12	69	6,0	1400	360	137	462	93	369	-	-	-	-	98,5	124	-
NCE HQ 80F-180/360	80	18	72	6,6	1550	360	137	462	93	369	-	-	-	-	98,5	124	-
NCE HQ 100F-40/450	100	4	40	2.4	550	450	115	424	103	321	98	123	-	-	-	-	-
NCE HQ 100F-80/450	100	8	59	4,7	1150	450	137	472	103	369	-	-	-	-	110	124	-
NCE HQ 100F-120/450	100	12	72	6,6	1550	450	137	472	103	369	-	-	-	-	110	124	-
NCE HQ 100F-180/450	100	18	72	6,6	1550	450	137	472	103	369	-	-	-	-	110	124	-

Examples of installations

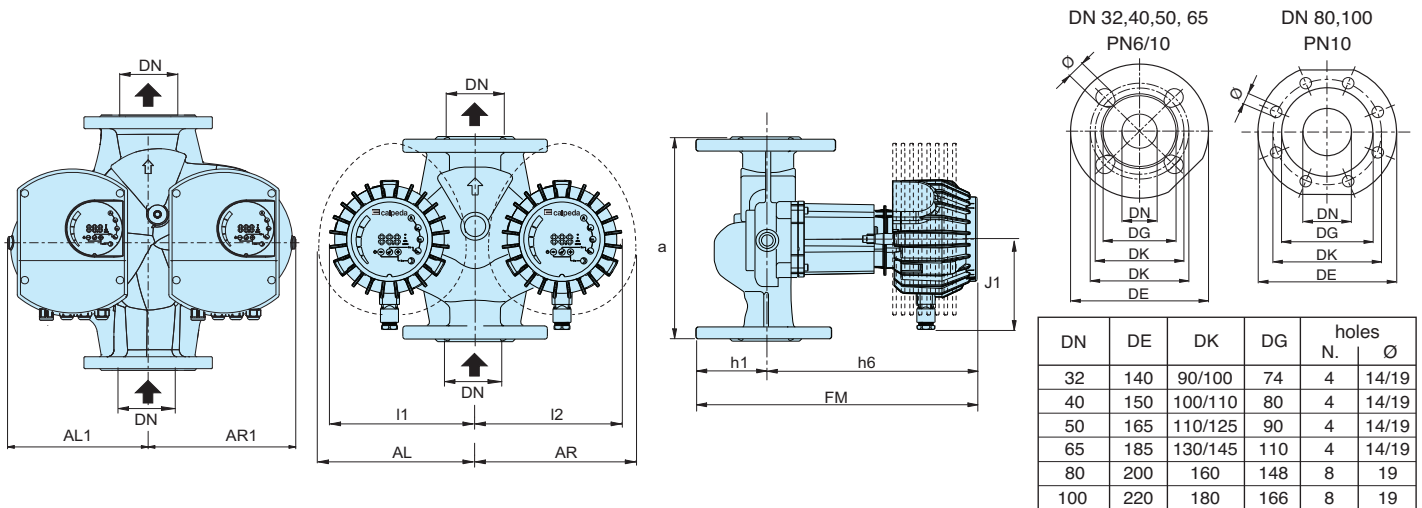


NCE(D) HQ.F

Energy saving twin circulating pumps with flanges

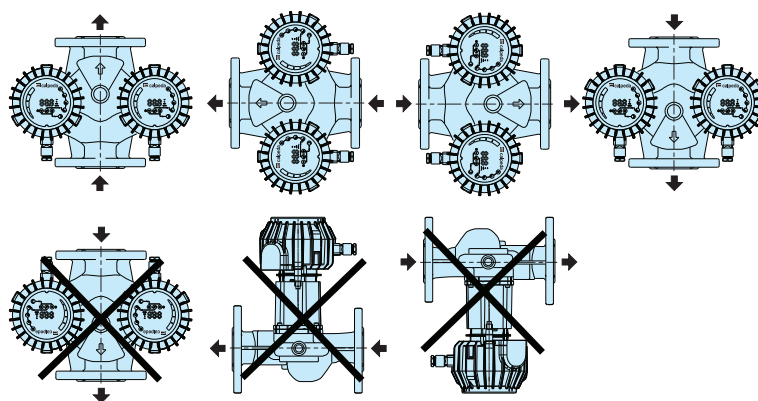


Dimensions and weights



TYPE	DN	H m	Q m ³ /h	1~ 230 V A max	P ₁ W max	mm											kg
						a	J1	FM	h1	h6	l1	l2	AL	AR	AL1	AR1	
NCED HQ 32F-120/220	32	12	19	1.8	370	220	115	330	65	265	-	-	185	186	-	-	-
NCED HQ 40F-40/250	40	4	13	1	110	250	99	270	65	205	181	186	-	-	-	-	14,3
NCED HQ 40F-80/250	40	8	19	1.3	270	250	115	330	65	265	-	-	185	186	-	-	16,7
NCED HQ 40F-120/250	40	12	24	2.3	480	250	115	330	65	265	-	-	185	186	-	-	16,9
NCED HQ 40F-180/250	40	18	25	3.4	680	250	115	390	65	325	-	-	200	200	-	-	25
NCED HQ 50F-40/280	50	4	23	1.3	160	280	99	313	72	241	199	200	-	-	-	-	19,6
NCED HQ 50F-80/280	50	8	32	1.7	370	280	115	373	72	301	199	200	-	-	-	-	22,4
NCED HQ 50F-120/280	50	12	36	2.5	560	280	115	373	72	301	199	200	-	-	-	-	23,6
NCED HQ 50F-180/280	50	18	42	3.6	830	280	115	373	72	311	-	203	200	-	-	-	28,8
NCED HQ 65F-40/340	65	4	31	1.1	230	340	115	384	75	309	216	226	-	-	-	-	32,2
NCED HQ 65F-80/340	65	8	43	2.6	560	340	115	384	75	309	216	226	-	-	-	-	32,7
NCED HQ 65F-120/340	65	12	50	3.5	810	340	115	395	75	320	216	226	-	-	-	-	38,4
NCED HQ 65F-180/340	65	18	57	6,6	1550	340	137	432	75	357	-	-	-	-	216	226	-
NCED HQ 80F-40/360	80	4	40	1.8	390	360	115	414	93	321	241	253	-	-	-	-	-
NCED HQ 80F-80/360	80	8	53	3.5	800	360	115	425	93	332	241	253	-	-	-	-	-
NCED HQ 80F-120/360	80	12	69	6,0	1400	360	137	462	93	369	-	-	-	-	241	253	-
NCED HQ 80F-180/360	80	18	72	6,6	1550	360	137	462	93	369	-	-	-	-	241	253	-
NCED HQ 100F-40/450	100	4	40	2.4	550	450	115	424	103	321	241	253	-	-	-	-	-
NCED HQ 100F-80/450	100	8	59	4,7	1150	450	137	472	103	369	-	-	-	-	241	253	-
NCED HQ 100F-120/450	100	12	72	6,6	1550	450	137	472	103	369	-	-	-	-	241	253	-
NCED HQ 100F-180/450	100	18	72	6,6	1550	450	137	472	103	369	-	-	-	-	241	253	-

Examples of installations



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 ≤ 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.
- 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: 50-60 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.

Designation

NCE EL 25 - 60 / 180

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

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.

NCE EL Energy saving circulating pumps for solar systems

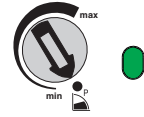


Operating modes



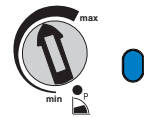
PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$ (GREEN LED)

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.

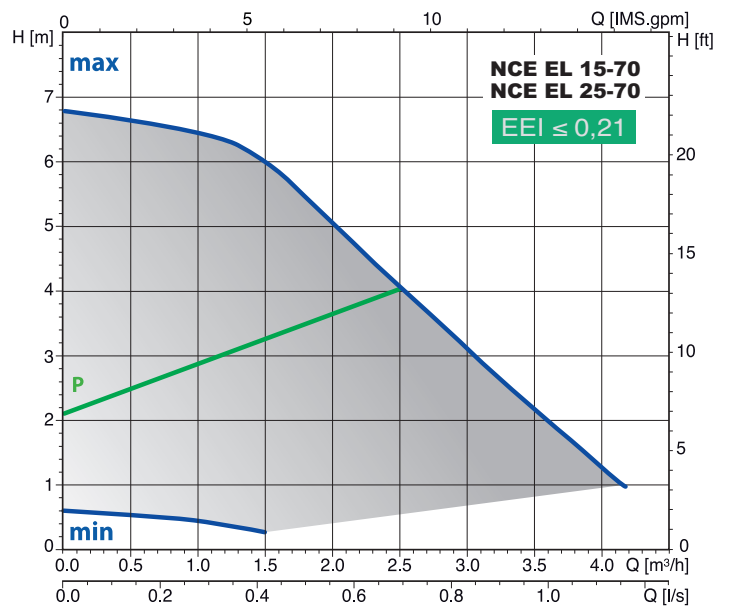
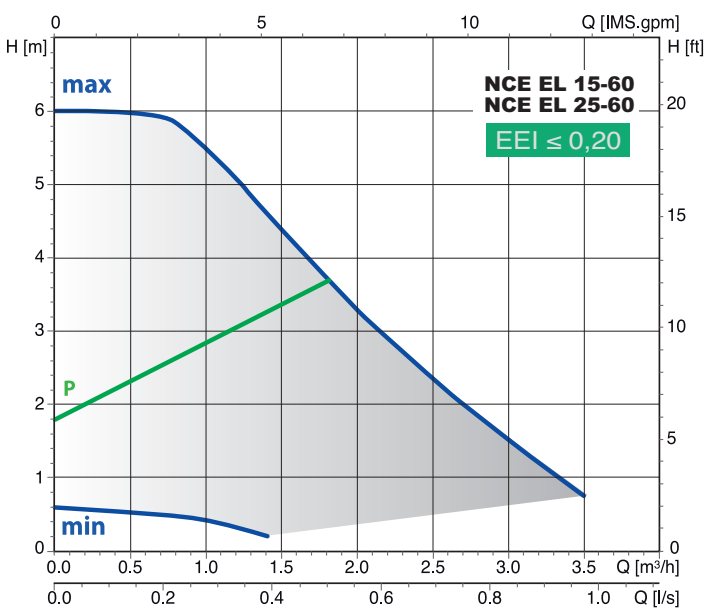


WARNING!



- 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



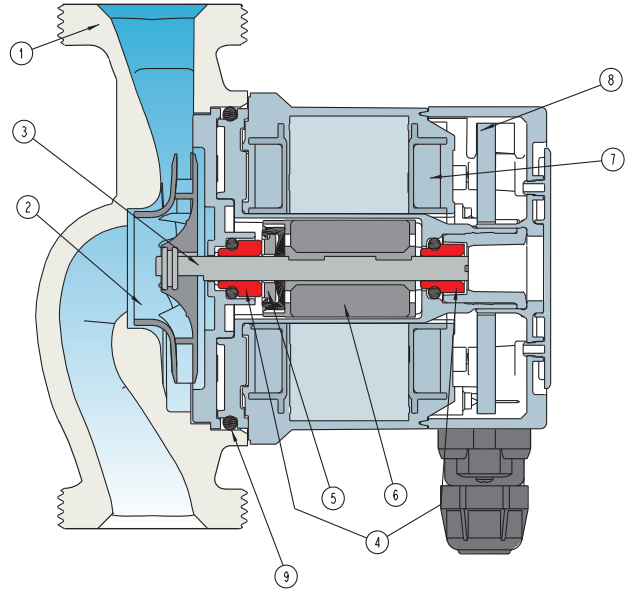
P proportional curve
min-max n fixed curves

NCE EL Energy saving circulating pumps for solar systems

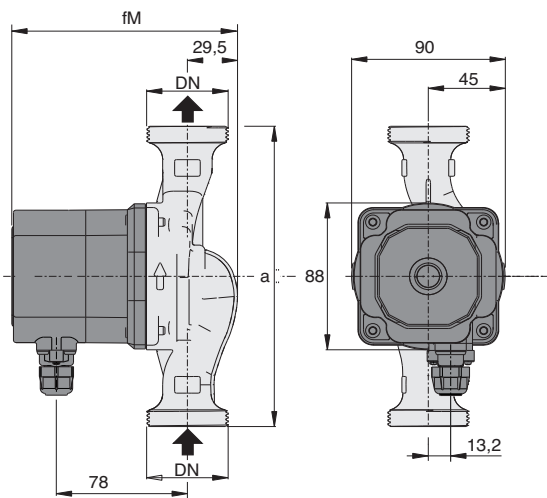


Materials

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

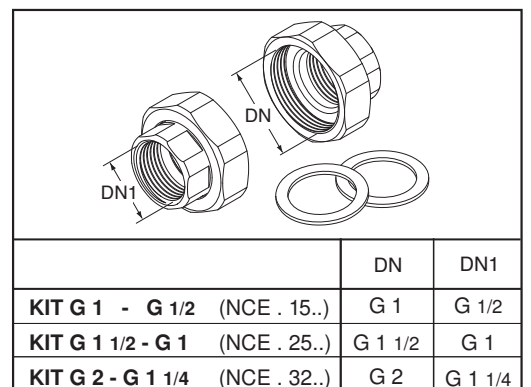


Dimensions and weights



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)

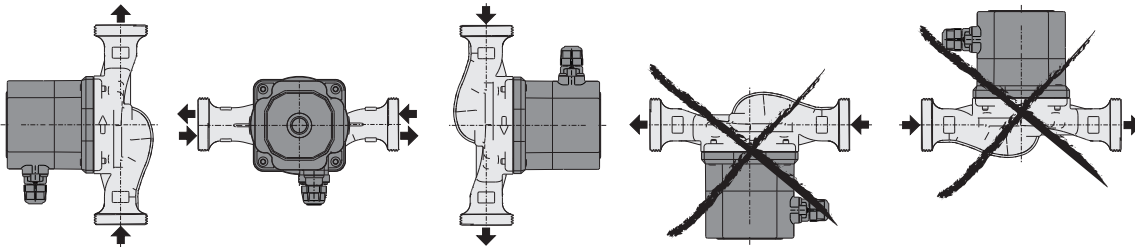


NCE EL Energy saving circulating pumps for solar systems

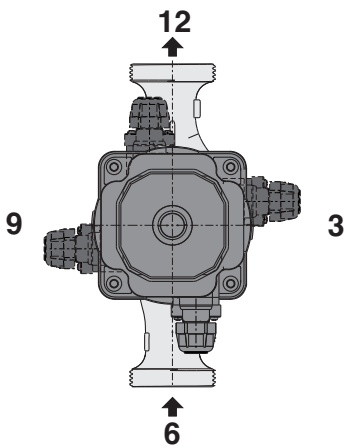


Examples of installations

Installation



Terminal box arrangement (on request)



NCE ES Energy saving circulating pumps for sanitary hot water



Construction

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

Applications

Hot sanitary water systems.

Operating conditions

- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from +2 °C to +40 °C
- Maximum working pressure: 10 bar
- Storage: -20°C/+70°C UR 95% a 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
- EMC according to: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- Threaded ports ISO 228: G 1, G 1 1/4, G 1 1/2.

Motor

Synchronous motor with permanent magnets.

- 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.

Designation

NCE ES 25 - 40 / 130

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

Special features on request

Brass unions.

Features

Energy saving

NCE ES is an high energy efficiency product.

Compact design

The space saving NCE ES facilitate the installation in the smaller systems.

Easy to install and to adjust

Installing the NCES 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.

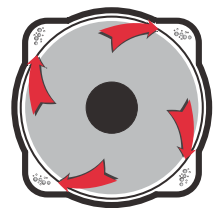
Reliability

NCES features the patented self-cleaning square chamber design, which eliminates any possibility of rotor blockage.

Easy use

Operating range with fixed curves from 0,6 m to 4 m with selection of the optimum working point.

Patented



Escape routes for impurities inside the rotor chamber

NCE ES Energy saving circulating pumps for sanitary hot water



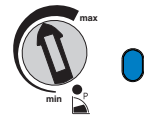
Operating modes



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.

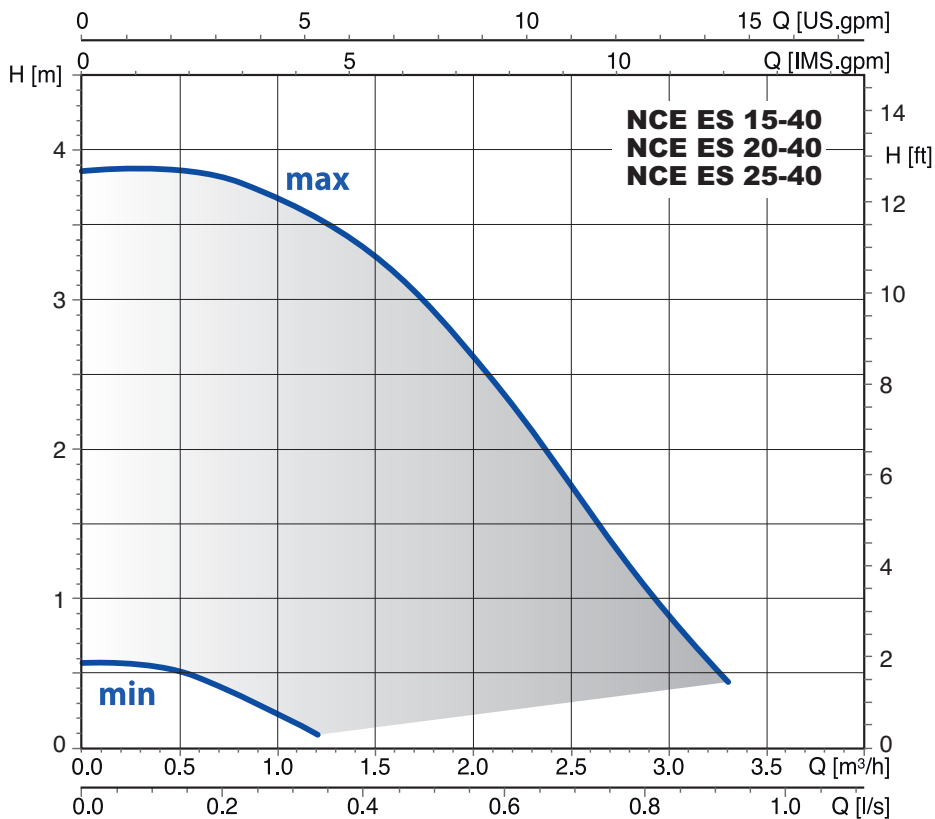


WARNING!



- 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

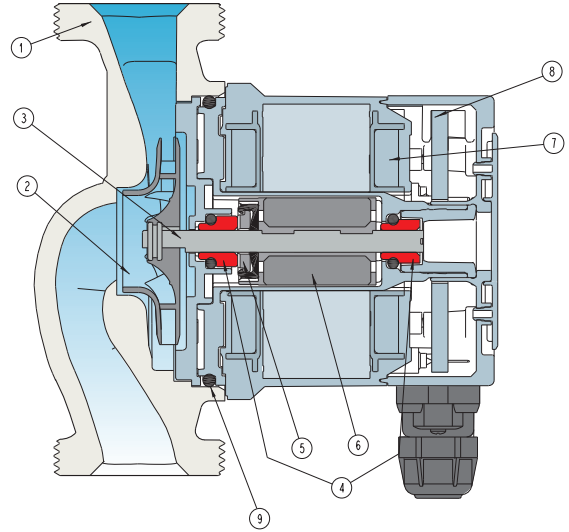


NCE ES Energy saving circulating pumps for sanitary hot water

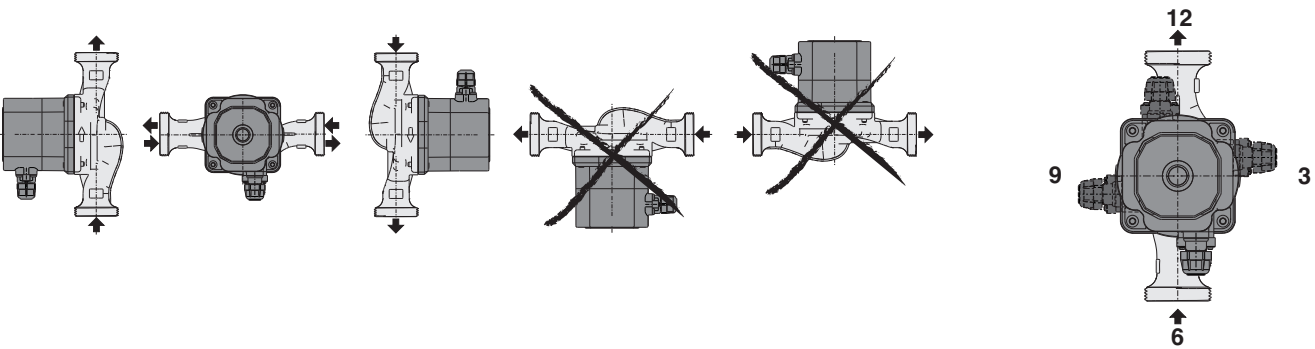


Materials

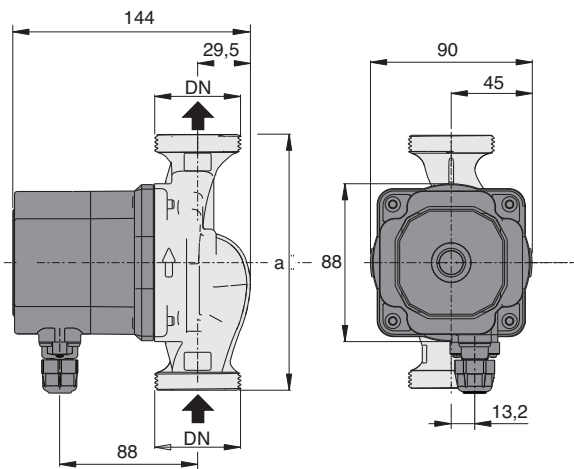
Component	Pos.	Material
Pump casing	1	Bronze
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights



Unions (on request)

TYPE	DN	DN1
KIT G 1 - G 1/2 (NCE ES 15..)	G 1	G 1/2
KIT G 1 1/4 - G 3/4 (NCE ES 20..)	G 1 1/4	G 3/4
KIT G 1 1/2 - G 1 (NCE ES 25..)	G 1 1/2	G 1

TYPE	DN	230V		P1		mm a	Net weight kg
		A max	A min	W max	W min		
NCE ES 15-40/130	G 1	0,35	0,03	44	4,5	130	2,15
NCE ES 20-40/130	G 1 1/4	0,35	0,03	44	4,5	130	2,25
NCE ES 25-40/130	G 1 1/2	0,35	0,03	44	4,5	130	2,35

NCE PS Energy saving circulating pumps for sanitary hot water



Construction

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

Applications

Sanitary hot water systems.

Operating conditions

- Liquid temperature from +5 °C to +65 °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 ≤ 38 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
- 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: threaded ports ISO 228: G 1 1/4, G 1 1/2.

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: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Special features on request

The NCE PSR version is equipped with an additional module that allows to control the pump with an analog signal 0-10V. Brass unions.

Designation

NCE PS 25 - 60 / 180

Series _____
Version for sanitary hot water _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

Features

Easy adjustment

The adjustment is simple and intuitive thanks to the LED indicator.

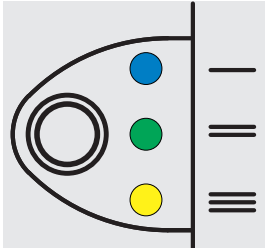
Easy use

3 proportional curves and 3 fixed speed curves are available and selectable by the button.

NCE PS Energy saving circulating pumps for sanitary hot water



Operating modes



Operating functions - control buttons.

NCE PS circulator could work:
- with proportional pressure curves
- with fixed speed curves



PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$

- (P1 BLUE LED blinking light)
- (P2 GREEN LED blinking light)
- (P3 YELLOW LED blinking light)

Push repeatedly the button to select the proportional curve.
The color changes depending on the selected curve.
This operating mode guarantees the maximum energy efficiency.

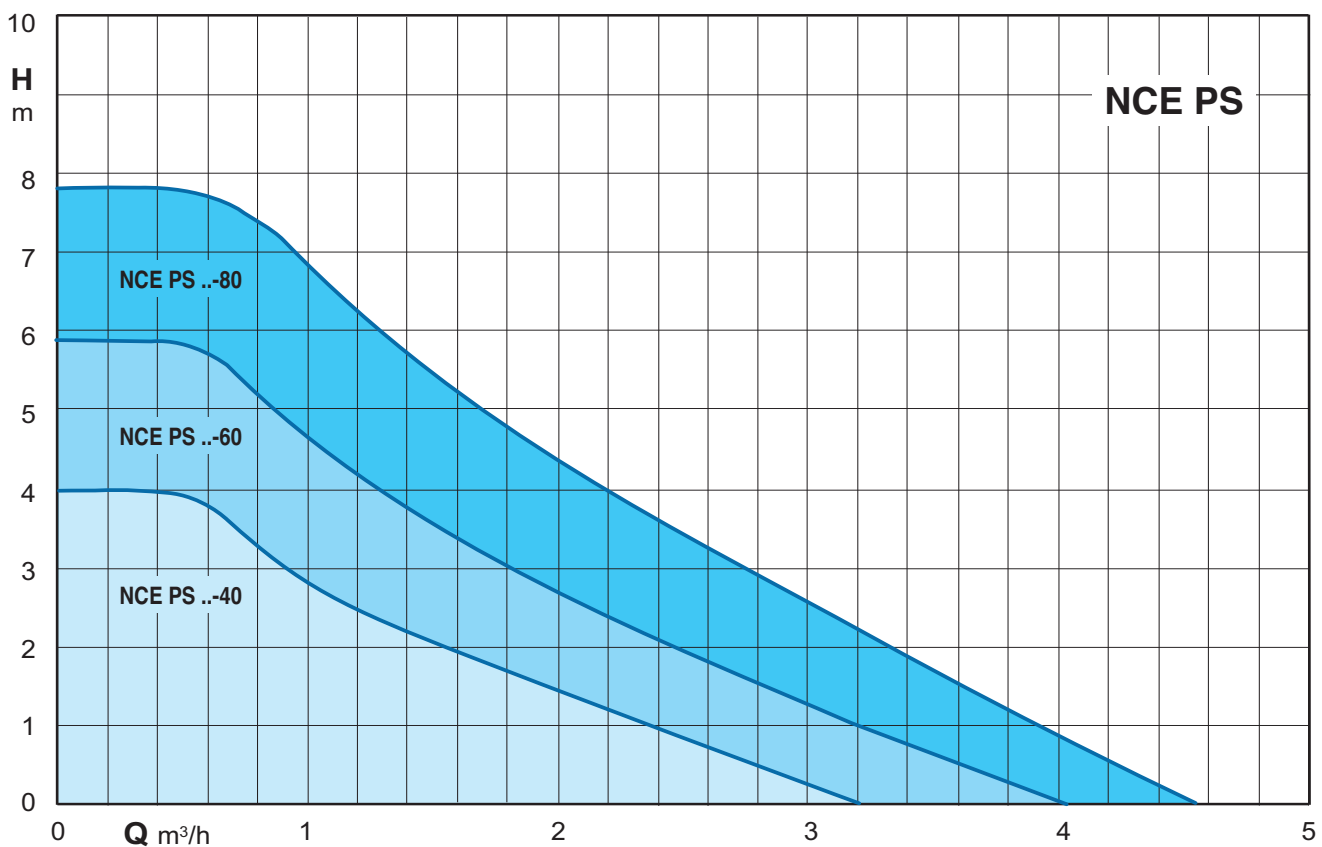


FIXED SPEED CURVE PROGRAMMING

- (I BLUE LED light)
- (II GREEN LED light)
- (III YELLOW LED light)

If you push the button for 5 seconds the pump adopt the fixed speed curve. The color changes depending on the selected curve. (to replace standard 3-speed circulators).

Coverage chart

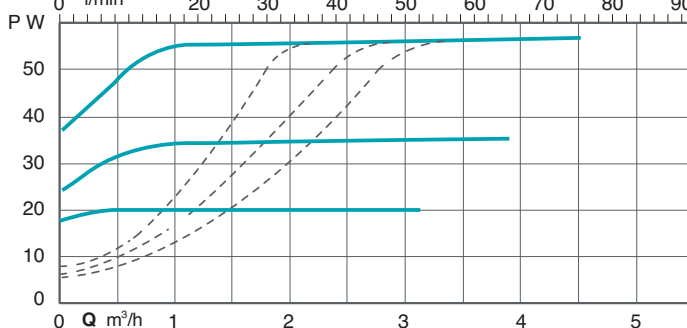
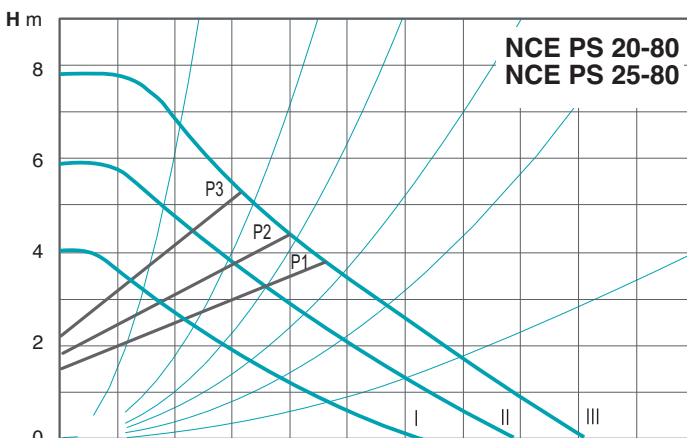
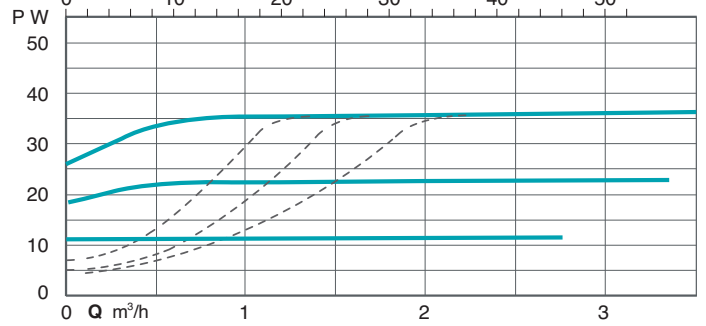
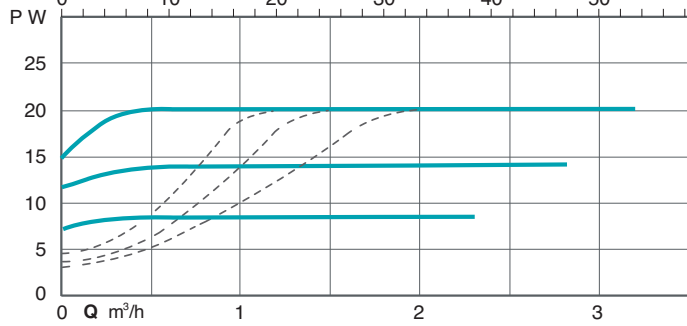
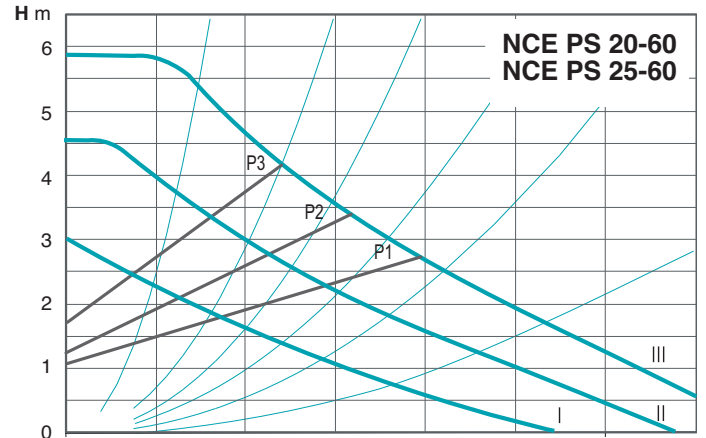
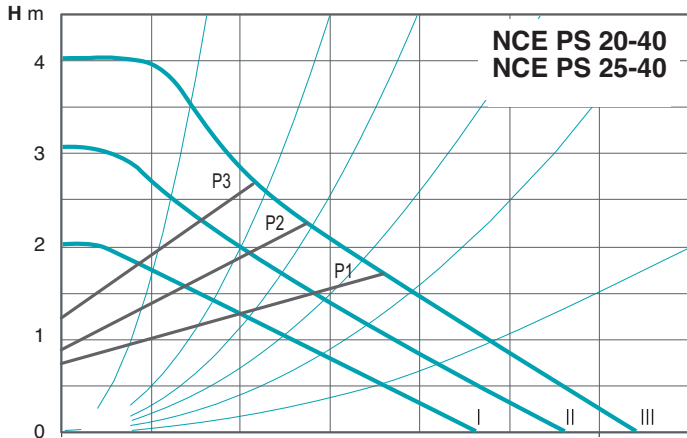


461

NCE PS Energy saving circulating pumps for sanitary hot water



Characteristic curves

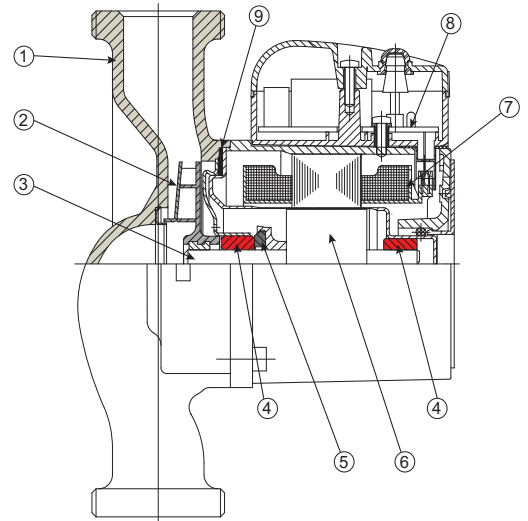


NCE PS Energy saving circulating pumps for sanitary hot water

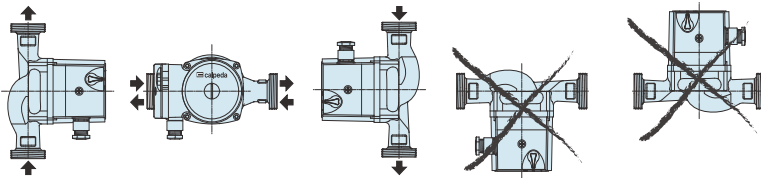


Materials

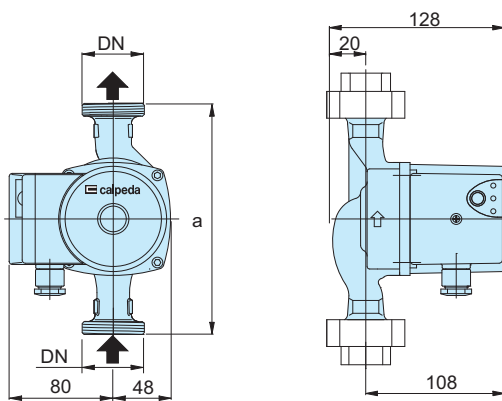
Component	Pos.	Material
Pump casing	1	Bronze
Impeller	2	Composite
Shaft	3	Stainless steel AISI 420
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations

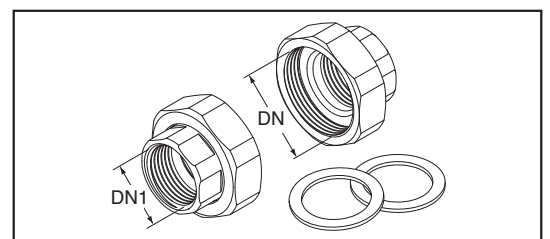


Dimensions and weights



TYPE	DN	H m	Q m ³ /h	1~ 230 V		P ₁ W max	a mm	kg
				A min	A max			
NCE PS 20-40/130	G 1 1/4	4	3	0,05	0,2	20	130	2,2
NCE PS 25-40/130	G 1 1/2							2,2
NCE PS 20-60/130	G 1 1/4	6	3,5	0,05	0,32	35	130	2,2
NCE PS 25-60/130	G 1 1/2							2,2
NCE PS 20-80/130	G 1 1/4	8	4	0,05	0,5	55	130	2,2
NCE PS 25-80/130	G 1 1/2							2,2

Unions (on request)



TYPE	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/2
KIT G 1 1/4 - G 3/4 (NCE . 20..)	G 1 1/4	G 3/4
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

NCS3

Circulating pumps for sanitary hot water



Construction

Bronze pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Stainless steel AISI 316 can.

Materials	NCS3 ..-40, -50	NCS3 ...-70
Pump casing	Bronze	Bronze
Impeller	Composite	Composite
Shaft	Stainless steel AISI 420	Stainless steel AISI 420
Bearings	Graphite	Ceramic

Applications

Circulation of sanitary hot water.

Operating conditions

Liquid temperature from +5 °C to +65 °C.
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Minimum suction pressure: 0,05 bar at 50 °C
Maximum permissible working pressure 10 bar.

Motor

2-pole induction motor, 50 Hz.
Three adjustable speeds.
NCS3: single-phase 230 V.
Insulation class H.
Protection IP 44.

Special features on request

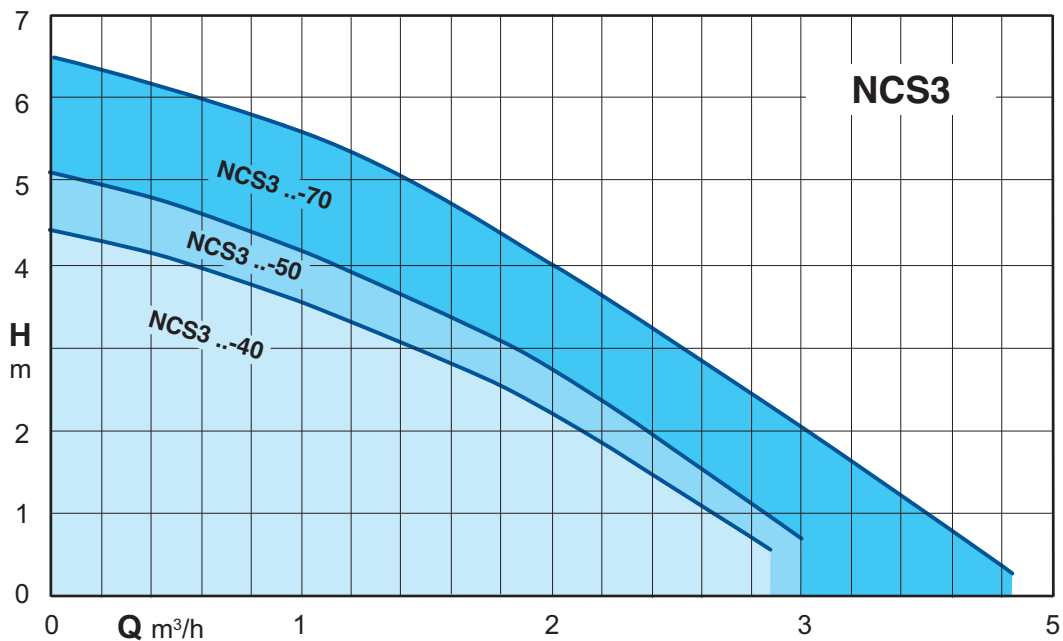
Brass unions.

Designation

NCS3 20 - 40 / 130

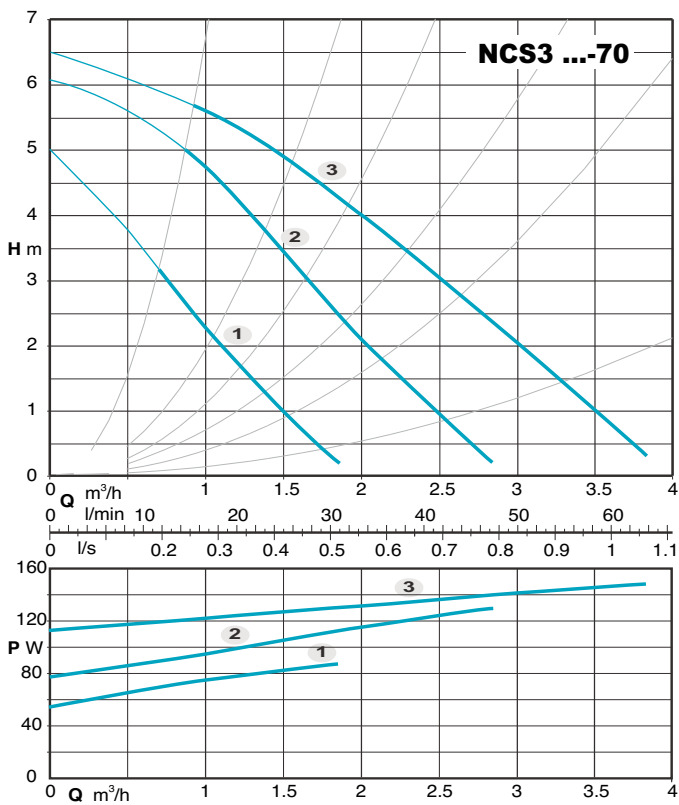
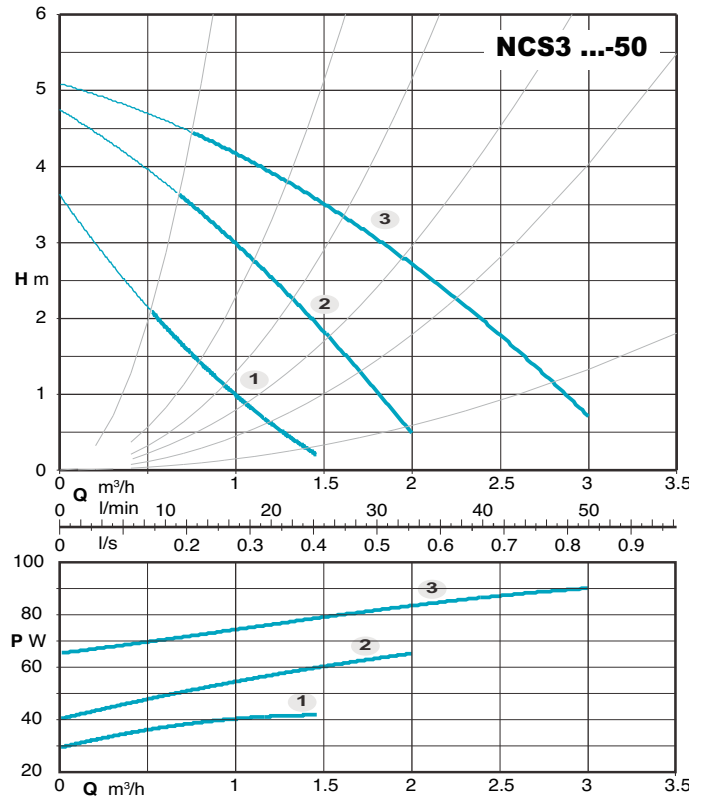
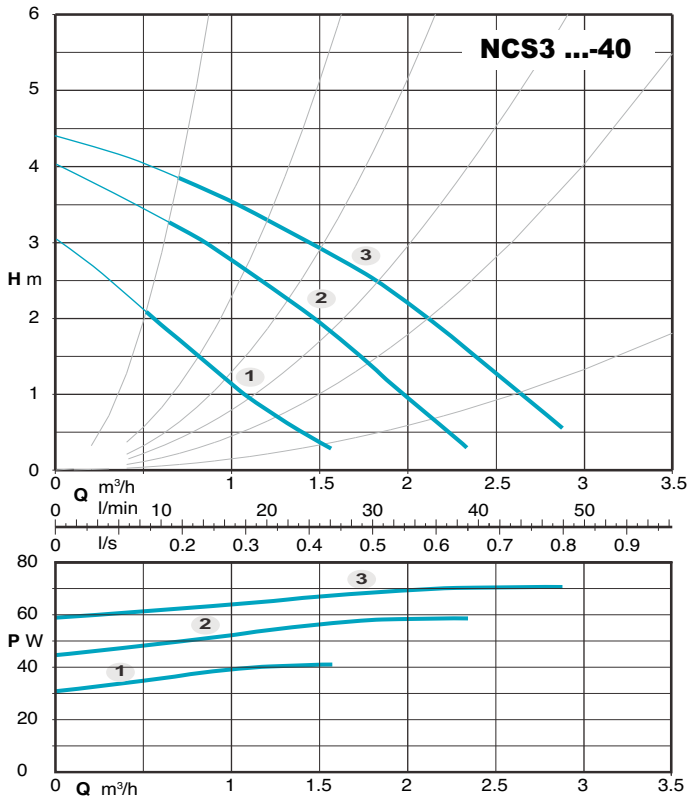
Series _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

Coverage chart



464

Characteristic curves

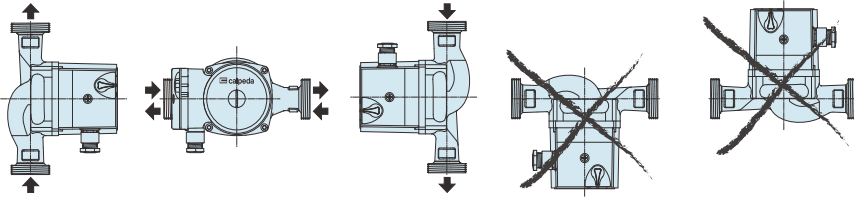


NCS3

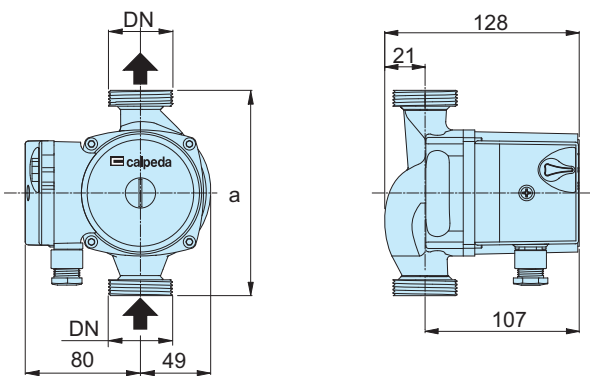
Circulating pumps for sanitary hot water



Examples of installations

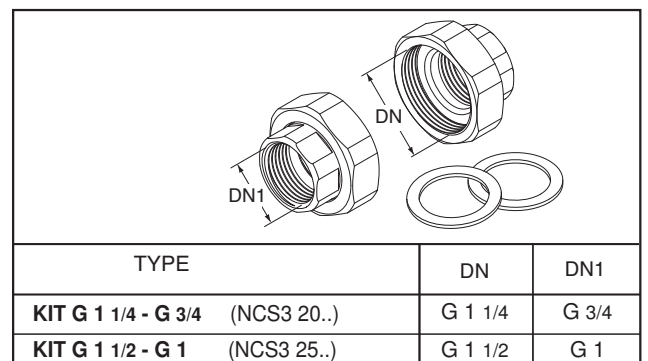


Dimensions and weights



TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	a mm	[kg]
NCS3 20-40/130	G 1 1/4	3	70	0,30	130	2,3
NCS3 25-40/130	G 1 1/2	1	59	0,26		
NCS3 20-50/130	G 1 1/4	3	91	0,38	130	2,5
NCS3 25-50/130	G 1 1/2	1	65	0,28		
NCS3 20-70/130	G 1 1/4	3	148	0,66	130	3,8
NCS3 25-70/130	G 1 1/2	1	128	0,59		
			87	0,41		

Unions (on request)



NC3

Three speeds circulating pumps with threaded ports



CANNOT BE SOLD IN THE EU

Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Brass or cast iron unions on request.

Component	Materials
Pump casing	Cast iron
Impeller	Composite
Shaft	Stainless steel AISI 420

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials.
Civil and industrial heaty systems.

Operating conditions

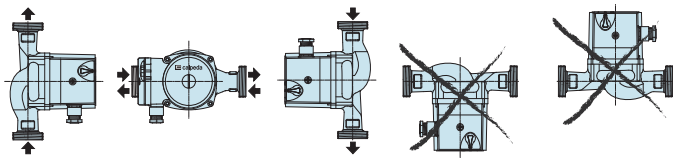
Liquid temperature from +5 °C to +110 °C (from -10 °C to +110 °C for NC3 ...-70 and NC3 ...-80-85-120).
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require rechecking of the pumping data).
Maximum permissible working pressure 10 bar.

TYPE	Minimum suction pressure: bar		
	50 °C	80 °C	110 °C
NC3 ...-40,50,60	0,05	0,4	1,1
NC3 ...-70	0,05	0,4	1,1
NC3 ...-80,85,120	0,05	0,4	1,2

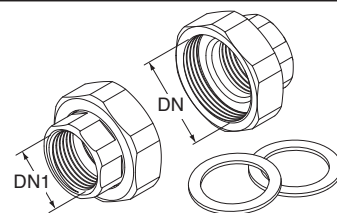
Motor

2-pole induction motor, 50 Hz.
Three adjustable speeds.
NC3: single-phase 230 V.
Insulation class H.
Protection IP 44.

Installation



Unions



TYPE	DN	DN1
KIT G 1 - G 1/2 (NC3 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1 (NC3 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NC3 32..)	G 2	G 1 1/4

Designation

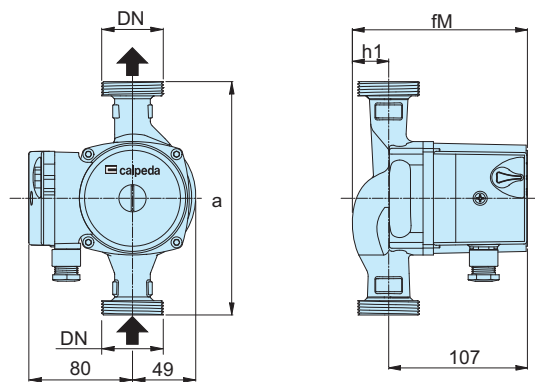
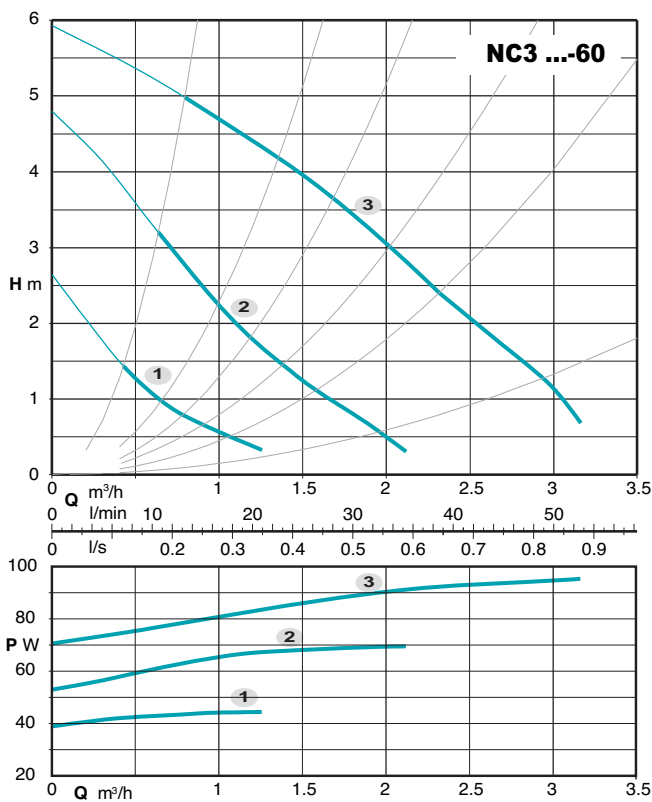
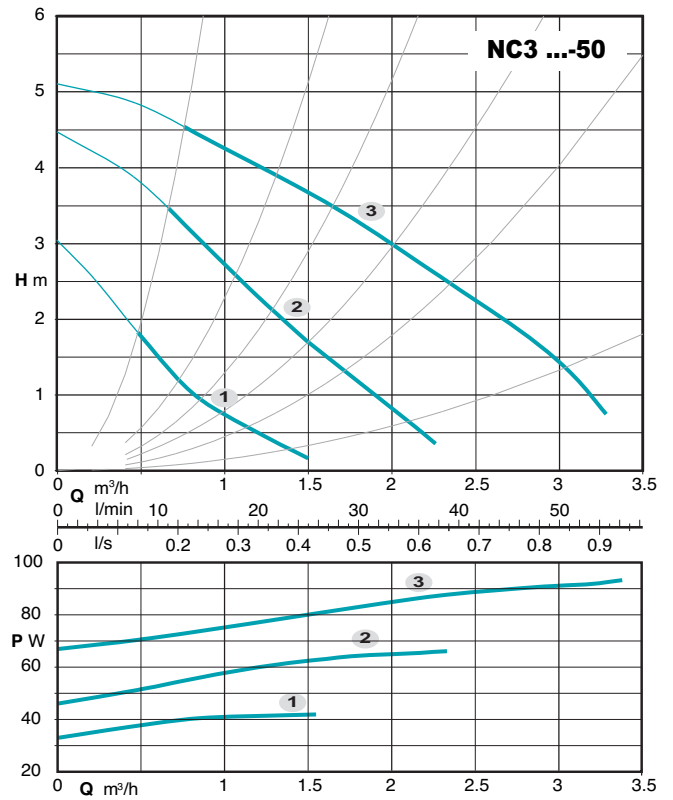
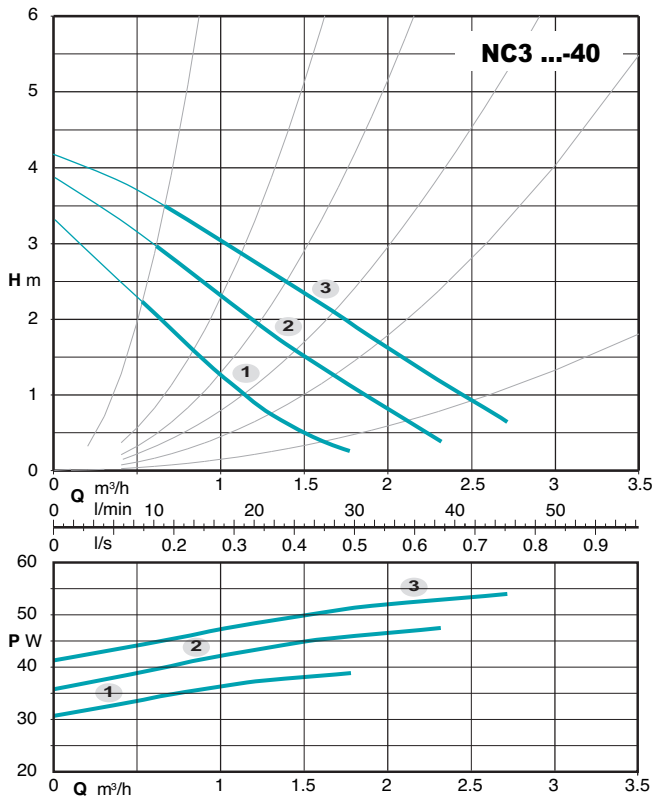
Series _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

NC3 32 - 70 / 180

NC3 Three speeds circulating pumps with threaded ports



Characteristic curves, dimensions and weights

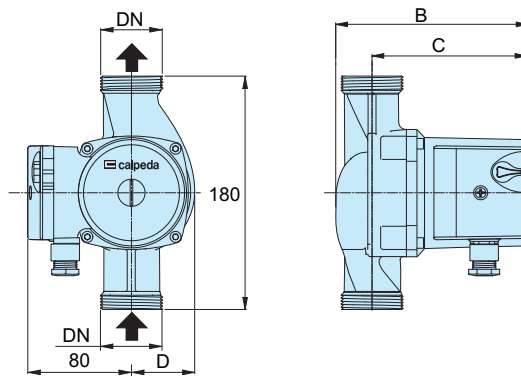
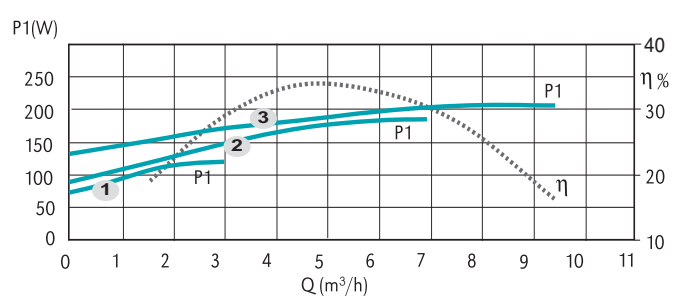
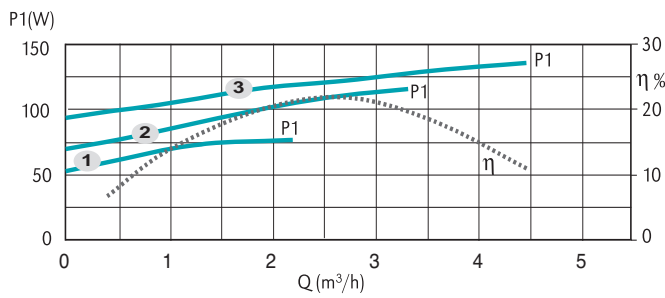
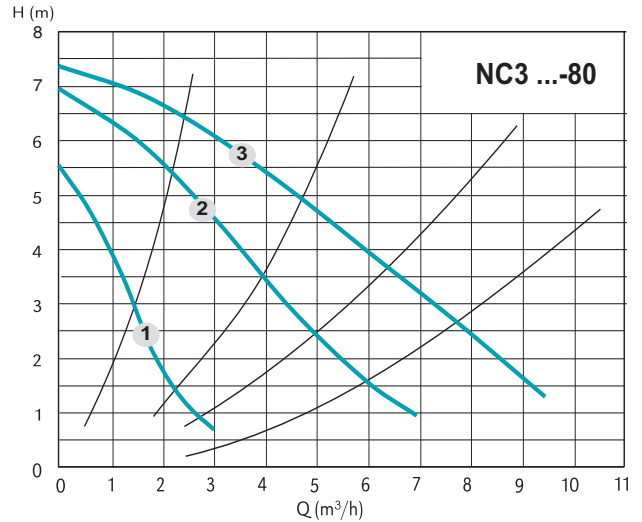
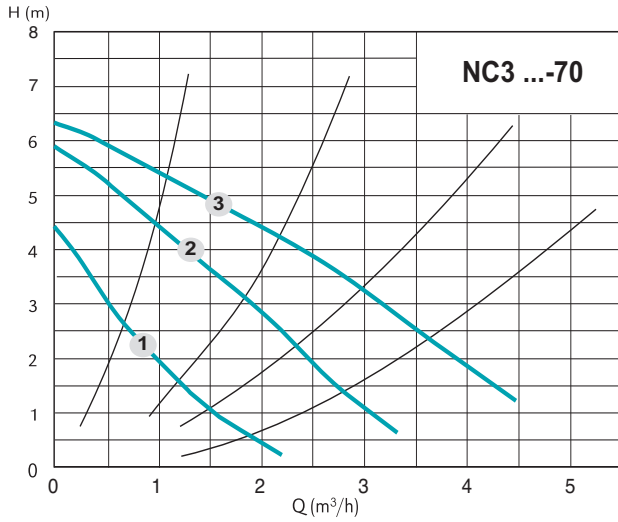


TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	mm			[kg]
					a	fM	h1	
NC3 15-40/130	G 1	3	53	0,23	130	128	21	2,2
NC3 25-40/130	G 1 1/2	2	47	0,21	130	135	28	2,4
NC3 25-40/180	G 1 1/2	1	38	0,17	180	135	28	2,6
NC3 15-50/130	G 1	3	91	0,38	130	128	21	2,2
NC3 25-50/130	G 1 1/2	2	65	0,28	130	135	28	2,4
NC3 25-50/180	G 1 1/2	1	42	0,18	180	135	28	2,6
NC3 32-50/180	G 2	1	42	0,18	180	138	31	3
NC3 15-60/130	G 1	3	95	0,41	130	128	21	2,2
NC3 25-60/130	G 1 1/2	2	70	0,30	130	135	28	2,4
NC3 25-60/180	G 1 1/2	1	44	0,20	180	135	28	2,6
NC3 32-60/180	G 2	1	44	0,20	180	138	31	3

NC3 Three speeds circulating pumps with threaded ports



Characteristic curves, dimensions and weights

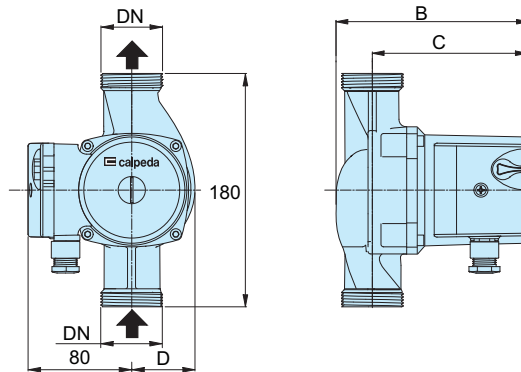
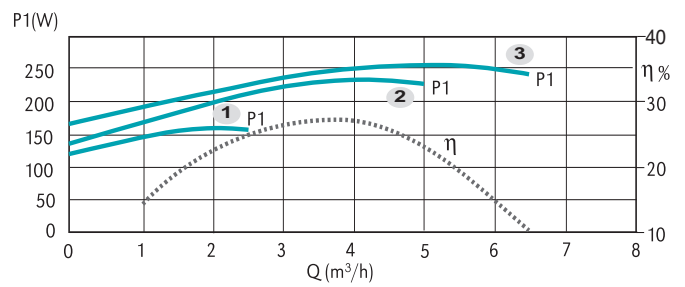
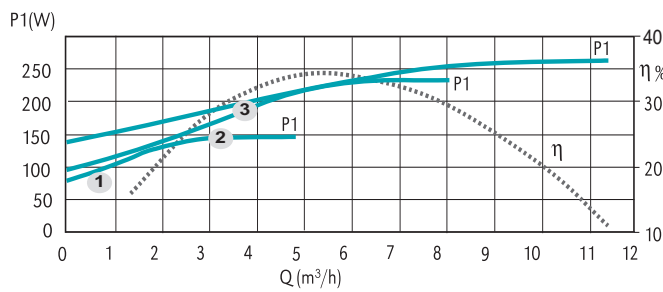
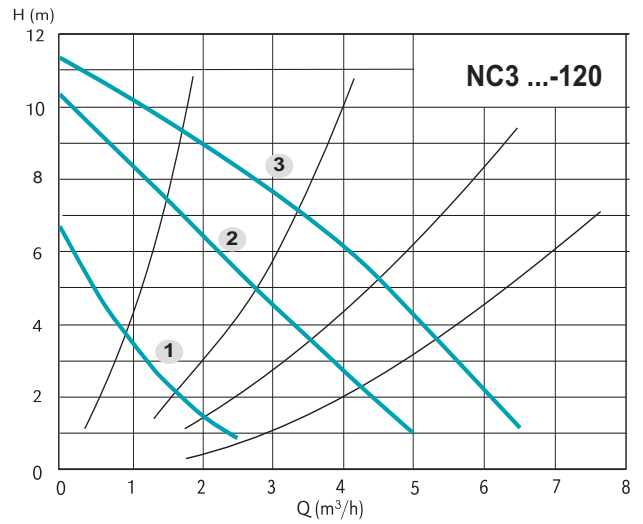
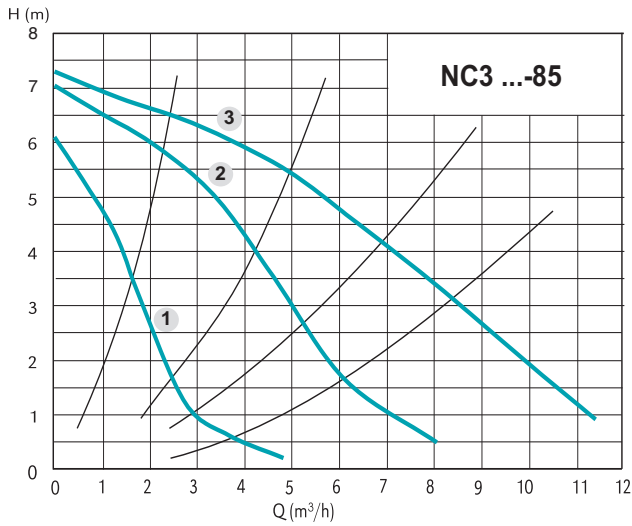


TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[mm]			[kg]
					B	C	D	
NC3 25-70/180	G 1 1/2	3	136	0,61	135	107	49	2,9
		2	116	0,54				
		1	77	0,37				
NC3 32-70/180	G 2	3	136	0,61	138	107	49	3,1
		2	116	0,54				
		1	77	0,37				
NC3 32-80/180	G 2	3	206	0,91	185	143	58	4,7
		2	185	0,88				
		1	120	0,60				

NC3 Three speeds circulating pumps with threaded ports



Characteristic curves, dimensions and weights



TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[mm]			[kg]
					B	C	D	
NC3 32-85/180	G 2	3	277	1,2	185	143	58	4,9
		2	250	1,16				
		1	172	0,85				
NC3 32-120/180	G 2	3	265	1,15	208	174	68	5,2
		2	251	1,14				
		1	176	0,85				