NCE

Heating and conditioning

calpeda®

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, reduducing 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.

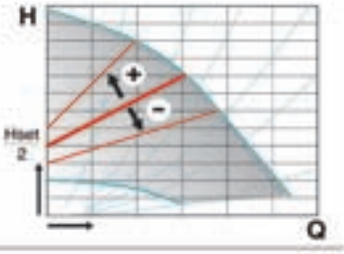
* Stand alone circulators are commonly available on the market.
** circulators integrated in products are component of a device, such as boilers, heat pumps, etc..

This Regulation shall not apply to:
a) drinking water circulators
b) 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.

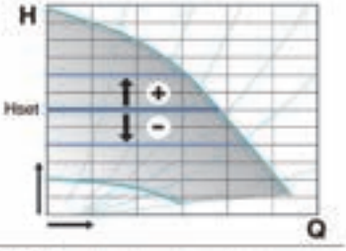
This Regulation shall apply in accordance with the following timetable:
1. from **1 January 2013**, glandless standalone circulators shall meet the efficiency level (EEI) less than 0.27, with the exception of those specifically designed for primary circuits of thermal solar systems and of heat pumps;
2. from **1 August 2015**, glandless standalone circulators and glandless circulators integrated in products shall meet the efficiency level (EEI) less than 0.23.

STANDARD OPERATING MODE IN CIRCULATING PUMPS

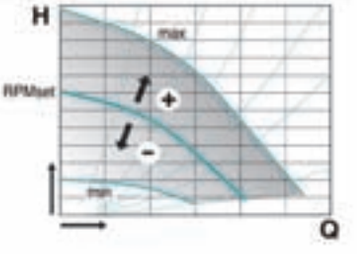
Proportional pressure curve
In the proportional pressure operating mode the pump changes the working pressure in-line with the flow demand of the system.
This operating mode is mainly used in:
- two pipe heating systems with thermostatic valves,
- systems with long pipelines;
- systems with high head 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.



NCE EI

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

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

Technical data

- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,5 bar at 95 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1, 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: 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 EI 32 - 60 / 180

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

Features

Compact design

The space saving **NCE EI** 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 EI** 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

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

Patented

Escape routes for impurities inside the rotor chamber

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.

NCE EI

Energy saving circulating pumps

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).

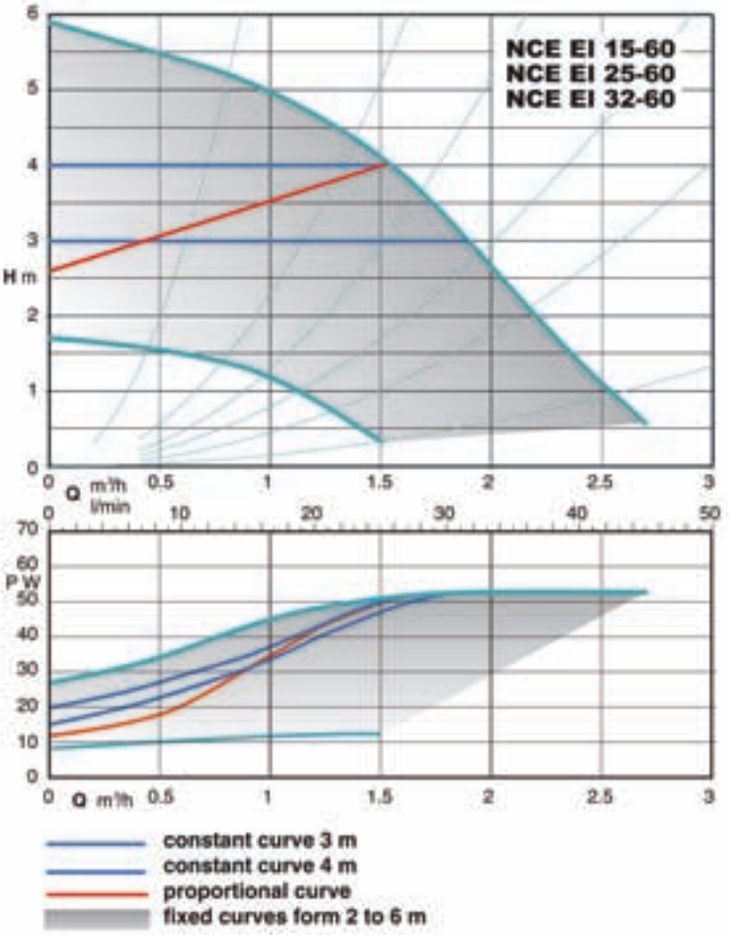
PROPORTIONAL CURVE PROGRAMMING Δp-v
(GREEN LED)
Moving the switch to the 'P' setting will allow the pump to operate against a proportional performance curve. This feature ensures maximum energy efficiency.

CONSTANT CURVE PROGRAMMING Δp-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 m³/ h).

CONSTANT CURVE PROGRAMMING Δp-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 m³/ h).

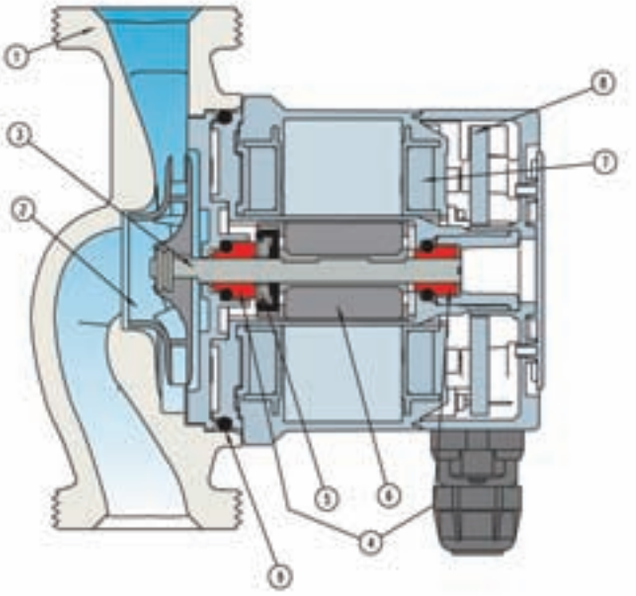
WARNING!
The red LED indicates that the pump is not rotating but is still under tension.

Characteristic curves

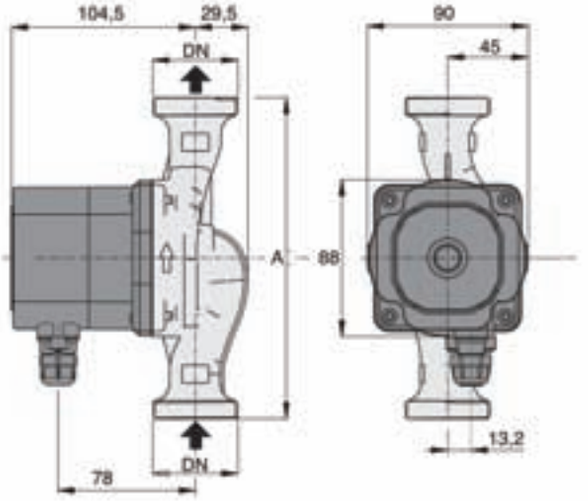


Materials

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



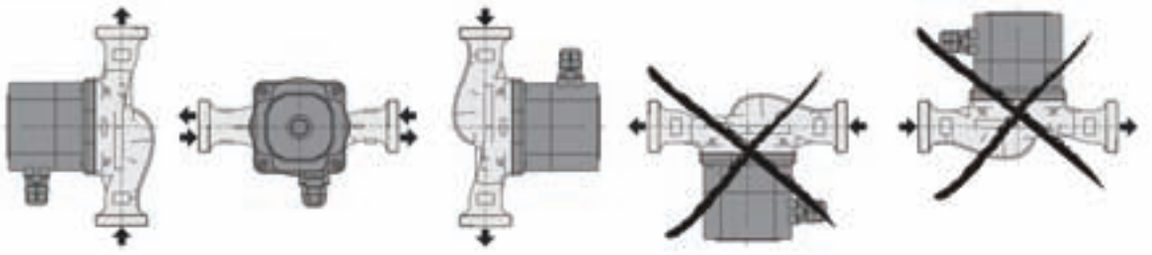
TYPE	DN	230V A max	230V A min	P1 W max	P1 W min	mm A	Peso netto kg
NCE EI 15-60/130	G 1	0,40	0,08	53	8,4	130	1,70
NCE EI 25-60/130	G 1 1/2	0,40	0,08	53	8,4	130	2,05
NCE EI 25-60/180	G 1 1/2	0,40	0,08	53	8,4	180	2,20
NCE EI 32-60/180	G 2	0,40	0,08	53	8,4	180	2,33

Unions (on request)

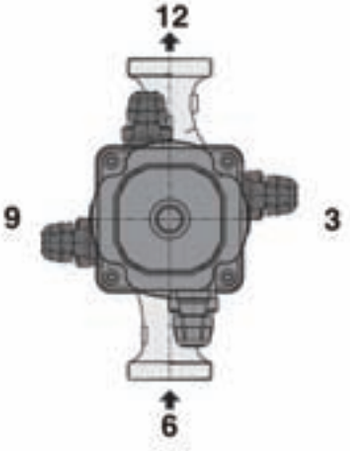
	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1 (NCE . 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NCE . 32..)	G 2	G 1 1/4

Examples of installations

Installation



Terminal box arrangement (on request)



NCE P

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

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

Technical data

- 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: 0,1 bar at 75 °C
- Maximum glycol quantity: 50%
- 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.

Designation

NCE P 25 - 60 / 180

- Series
- Version
- 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.

Operating mode

Operating functions - control buttons.
NCE P circulator could work:
- with proportional pressure curves
- with fixed speed curves

PROPORTIONAL CURVE PROGRAMMING Δp-v

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

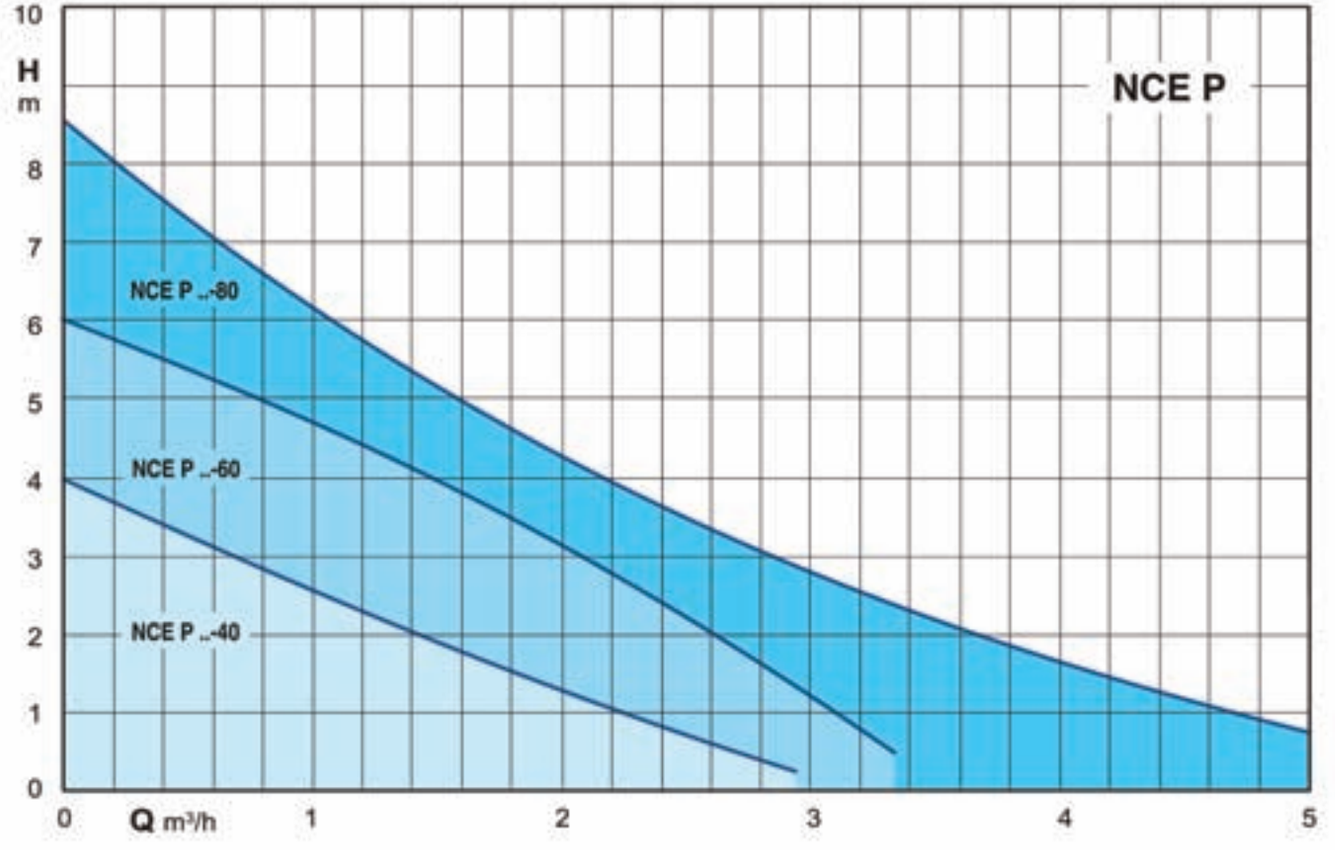
Push repeatedly the button to select the proportional curve.
The color changes depending on the selected curve.
This operating mode guarantees the maximum energy efficiency.

FIXED SPEED CURVE PROGRAMMING

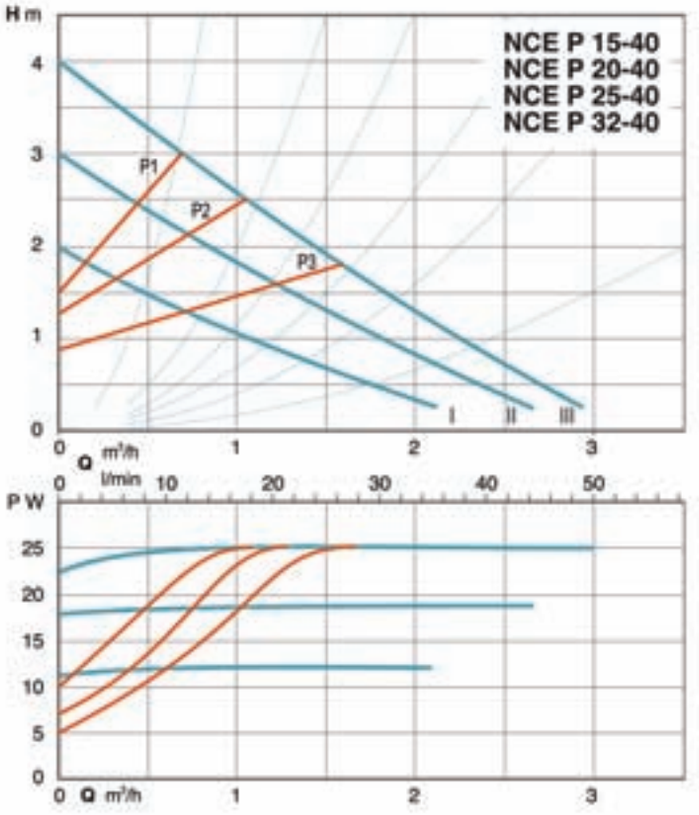
- (I BLUE LED light)
- (II GREEN LED light)
- (III YELLOW LED light)

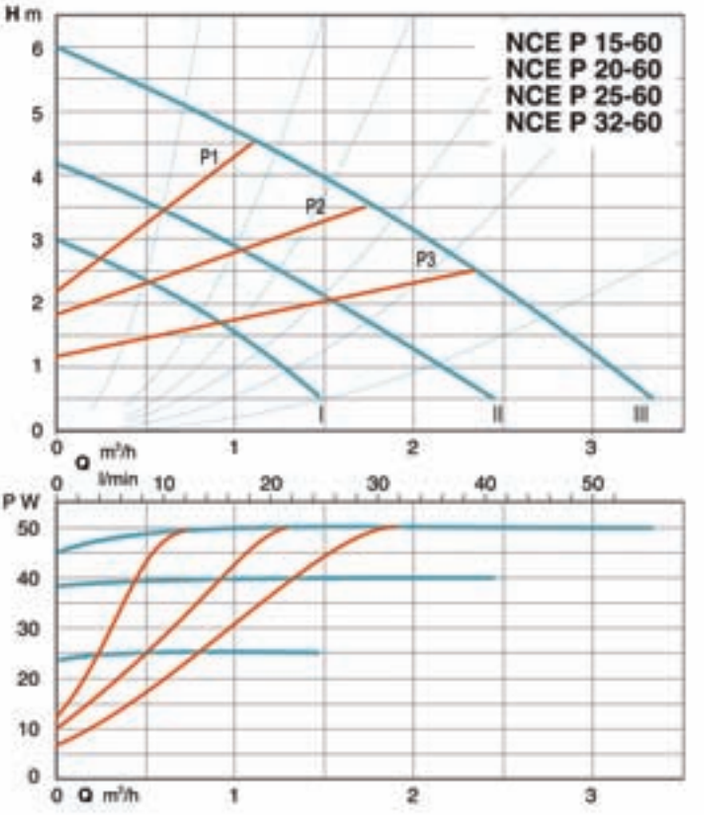
If you push the button for 5 seconds the pump adopt the fixed speed curve. The color changes depending on the selected curve. (to replace standard 3-speed circulators).

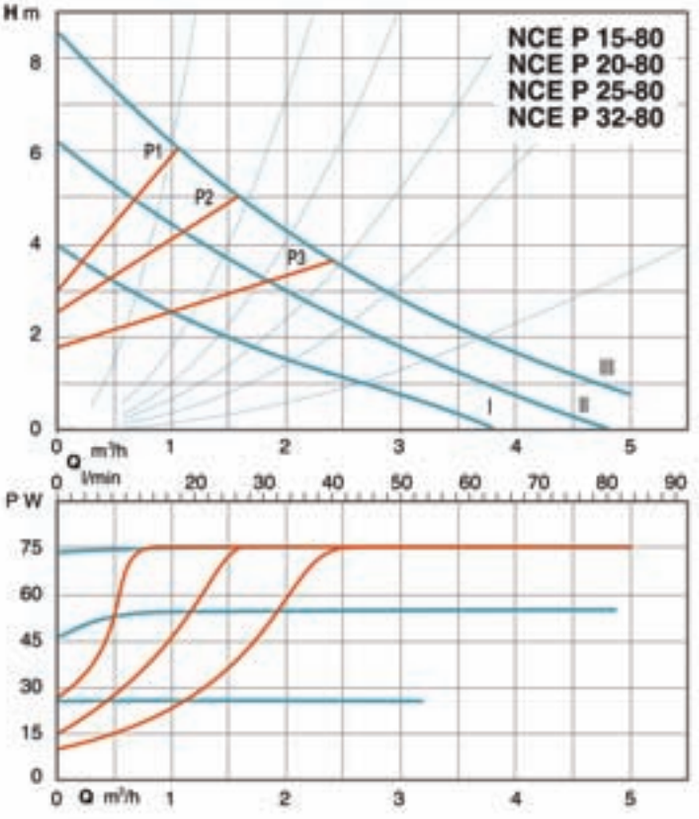
Coverage chart



Characteristic curves







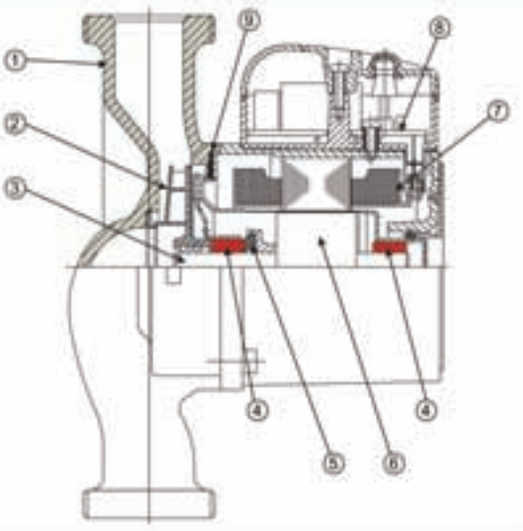
NCE P

Energy saving circulating pump

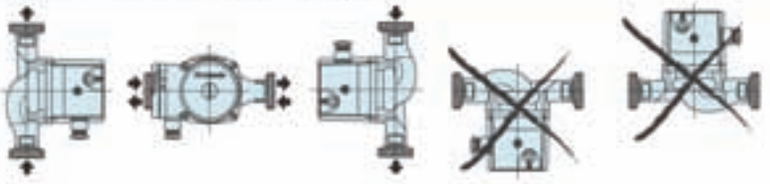
calpeda

Materials

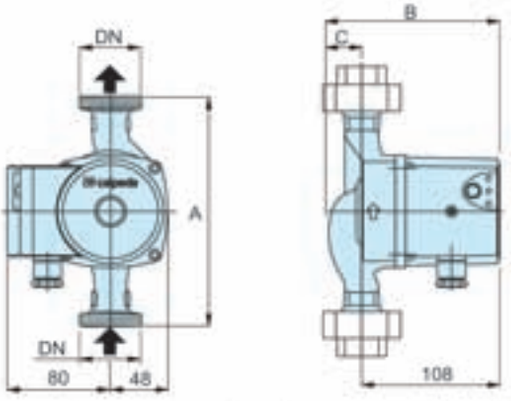
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m³/h	1~ 230 V A min	1~ 230 V A max	P1 W max	mm A	kg
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 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.

Technical data

- Liquid temperature from -10 °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: - 0,1 bar at 75 °C,
  - 1,1 bar at 110°C
- Maximum glycol quantity: 50%
- 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.

Designation

NCE H 25 - 100 / 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 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

Brass or cast iron unions.

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 mode

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 propotionally to the current flow.
The pressure value can be adjusted with the + and – buttons.

Constant pressure mode:
The circulator mantains 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.

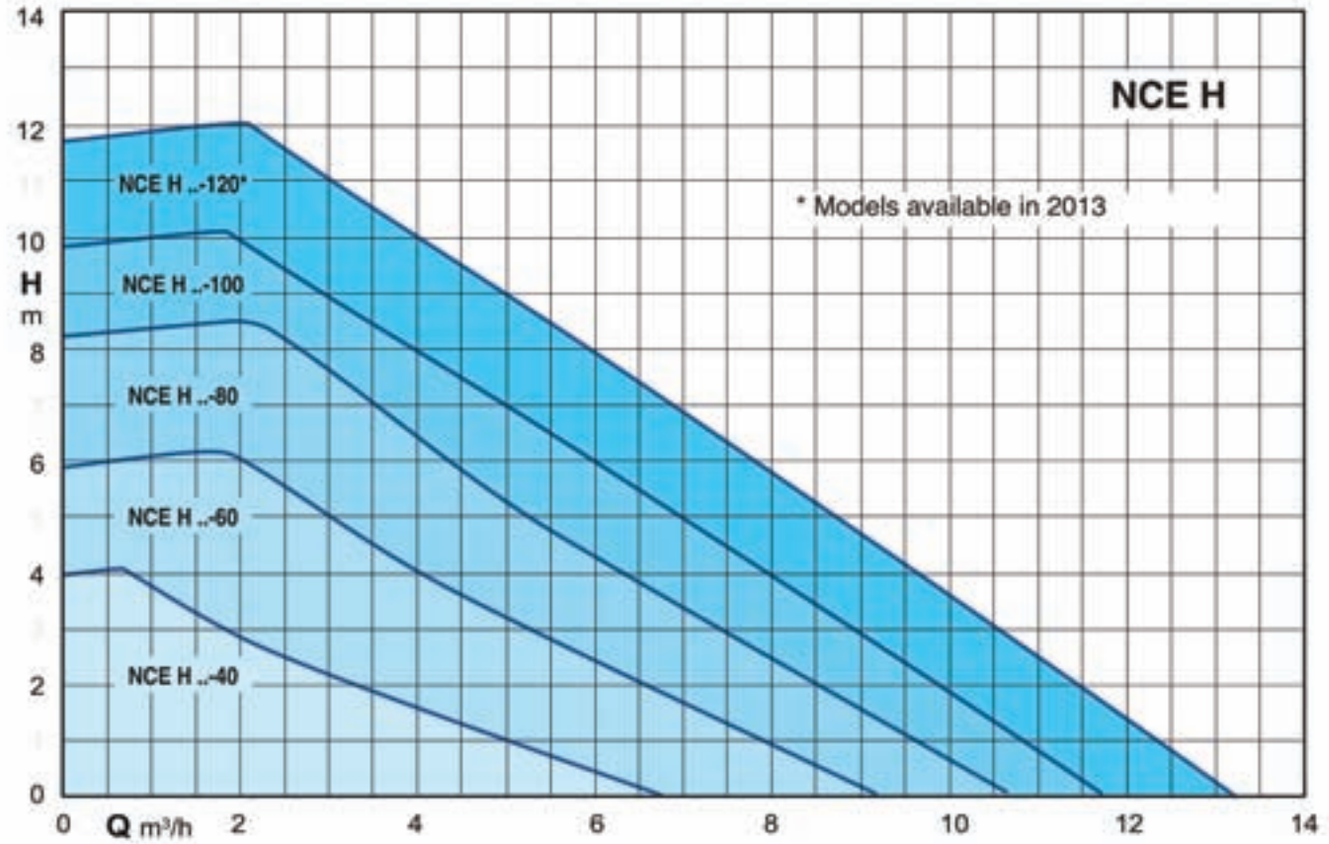
Night mode:.
When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve.
When the temperature rises again the pump comes back to the selected mode
The night mode could be selected with any operating mode.

Operating mode-control panel

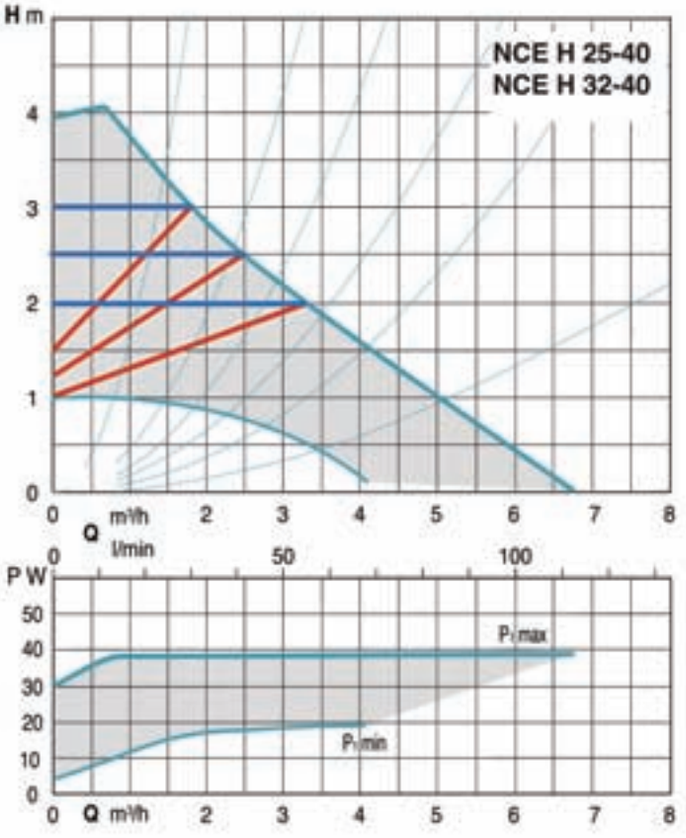
NCE H could works in:
- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

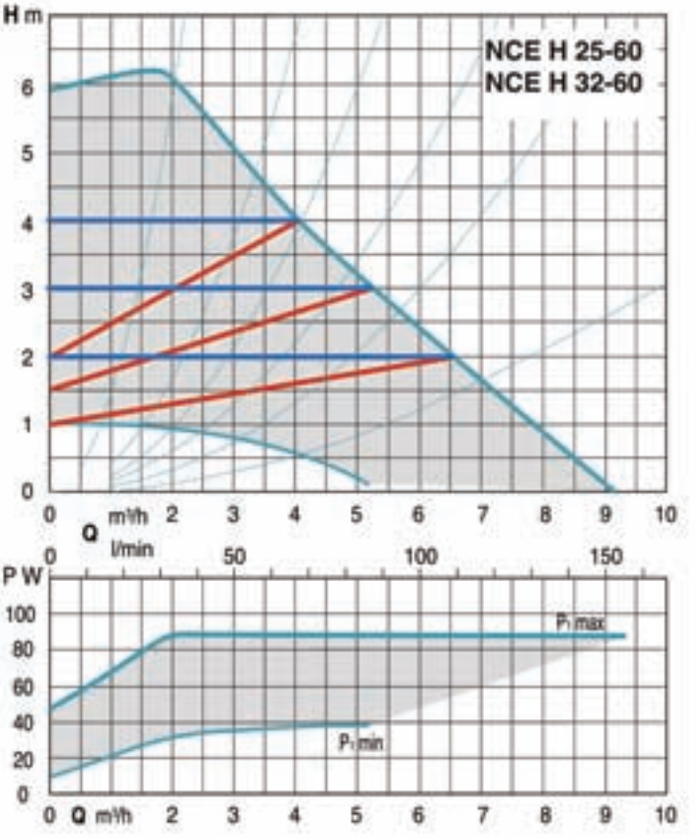
The night mode could be selected with any operating mode.

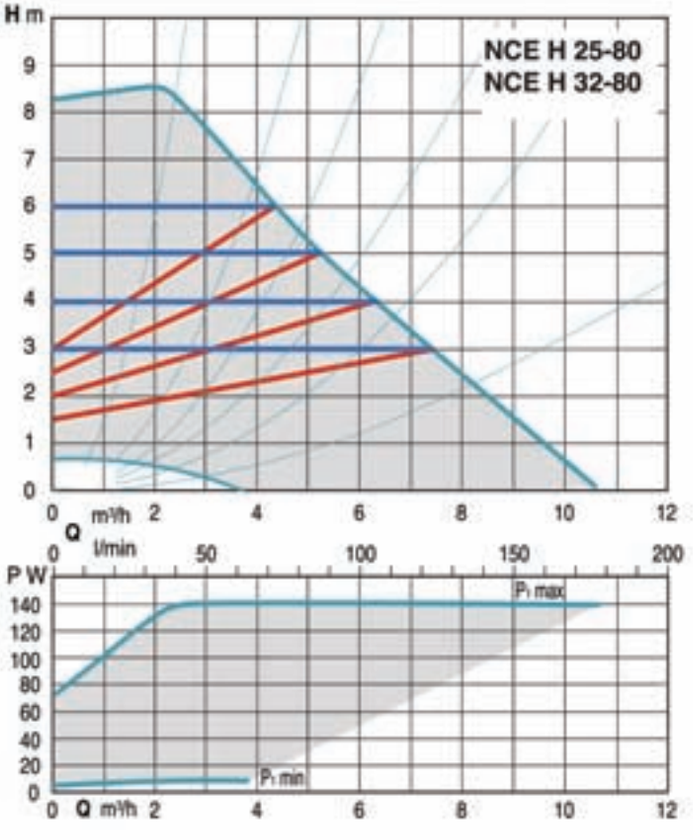
Coverage chart

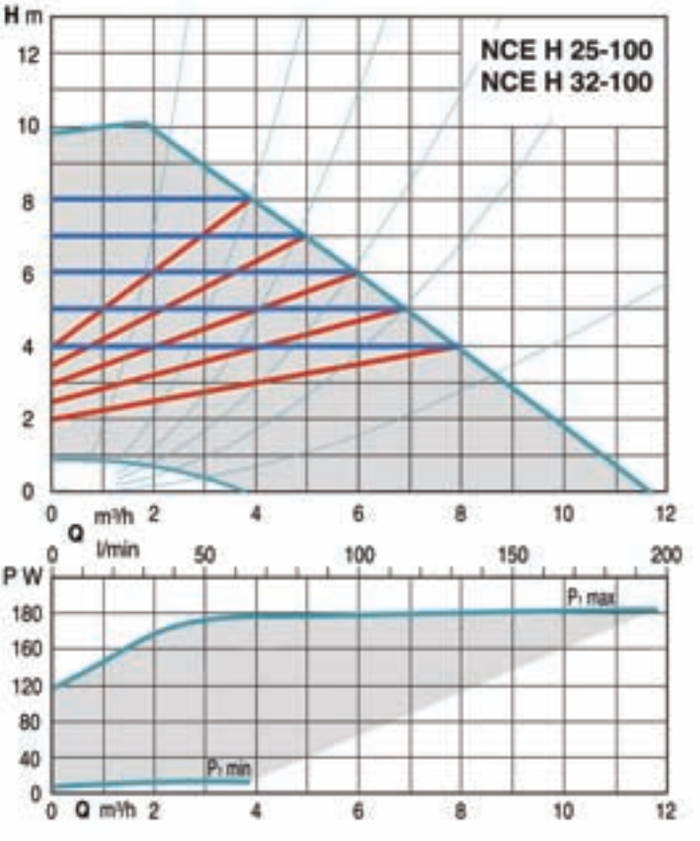


Characteristic curves



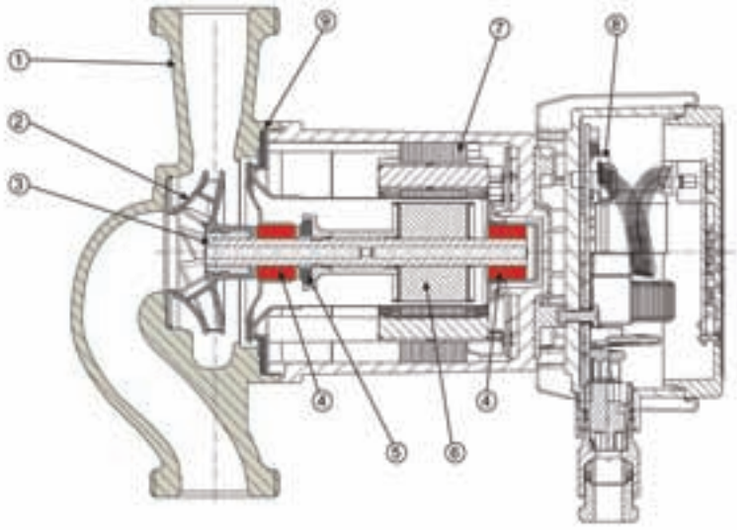




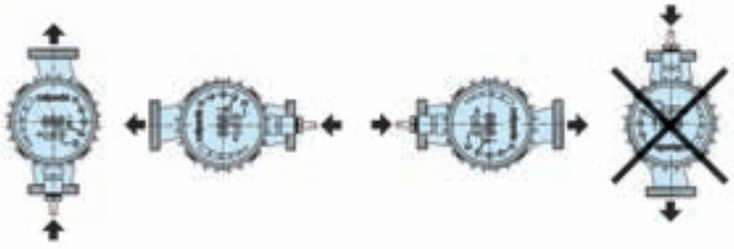


Materials

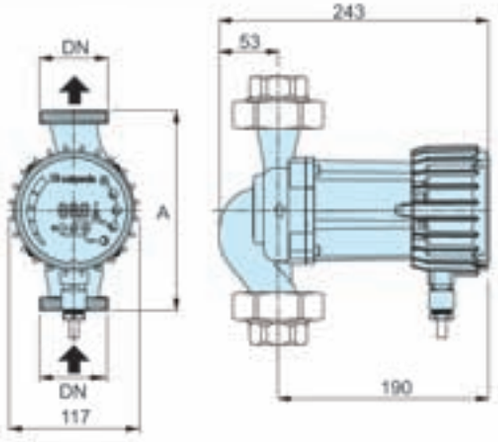
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	**Stainless steel**
Bearings	4	**Carbon**
Thrust bearing	5	Ceramic
Rotor	6	**Stainless steel jacket**
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m³/h	1~ 230 V A min	A max	P1 W min	W max	A mm	kg
NCE H 25-40/180	G 1 1/2	4	5	0,05	0,2	5	25	180	4
NCE H 32-40/180	G 2								4,1
NCE H 25-60/180	G 1 1/2	6	7,5	0,05	0,4	7	50	180	4
NCE H 32-60/180	G 2								4,1
NCE H 25-80/180	G 1 1/2	8	9	0,05	0,6	7	75	180	4
NCE H 32-80/180	G 2								4,1
NCE H 25-100/180	G 1 1/2	10	11	0,1	1,3	10	180	180	4
NCE H 32-100/180	G 2								4,1
NCE H 25-120/180	G 1 1/2	12	15	-	-	-	-	180	-
NCE H 32-120/180	G 2								

Unions (on request)

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 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.

Technical data
- Liquid temperature from -10 °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: - 0,1 bar at 75 °C,
  - 1,1 bar at 110°C
- Maximum glycol quantity: 50%
- 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.

Designation

NCE H 32 F - 60 / 220

- Series
- Version
- DN ports in mm
- With flanges
- 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 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 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 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 propotionally to the current flow.
The pressure value can be adjusted with the + and − buttons.

Constant pressure mode:
The circulator mantains 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.

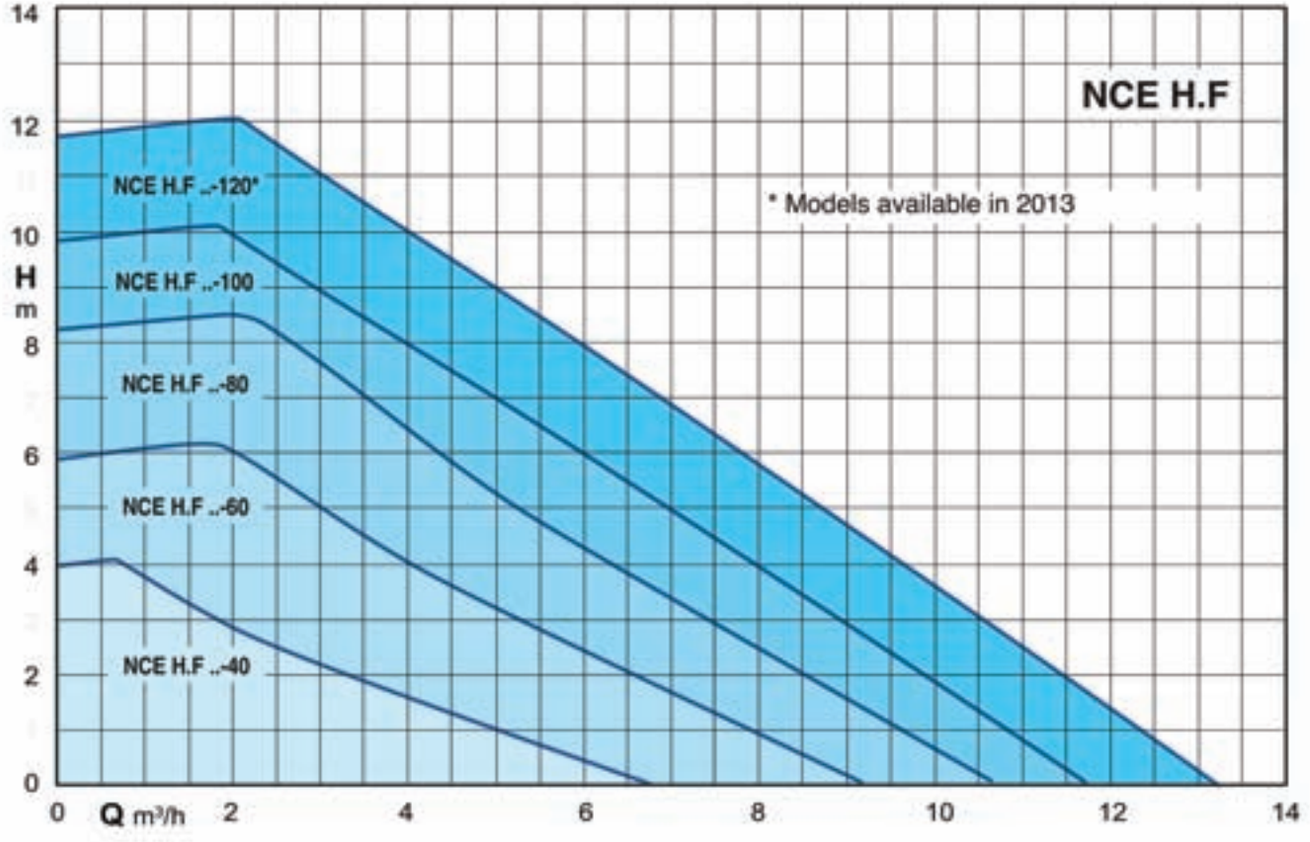
Night mode:.
When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve.
When the temperature rises again the pump comes back to the selected mode
The night mode could be selected with any operating mode.

Operating mode-control panel

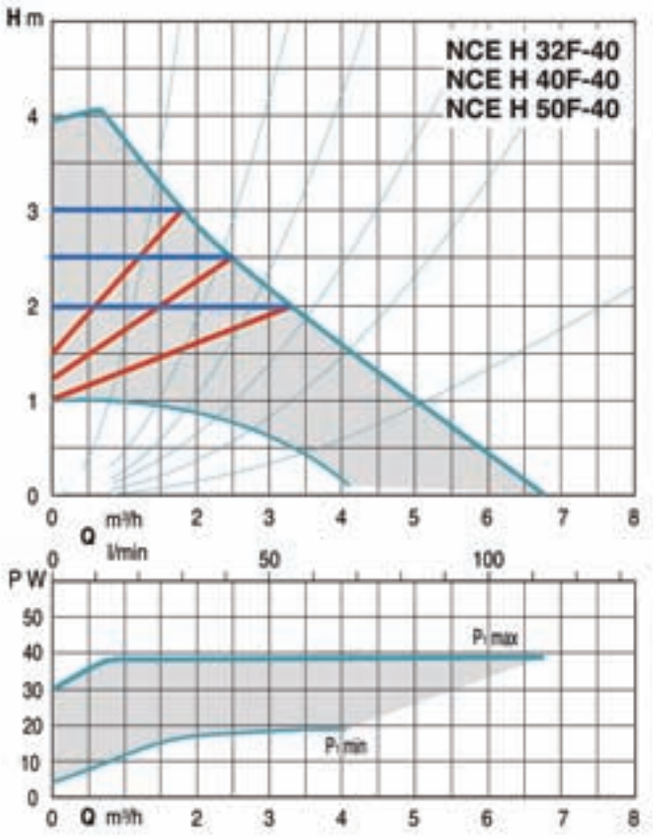
NCE H could works in:
- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

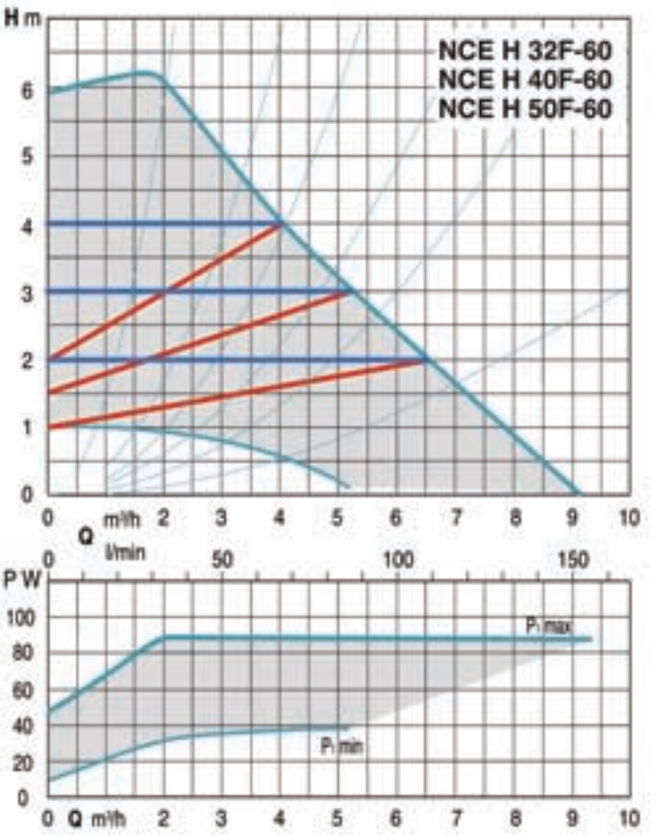
The night mode could be selected with any operating mode.

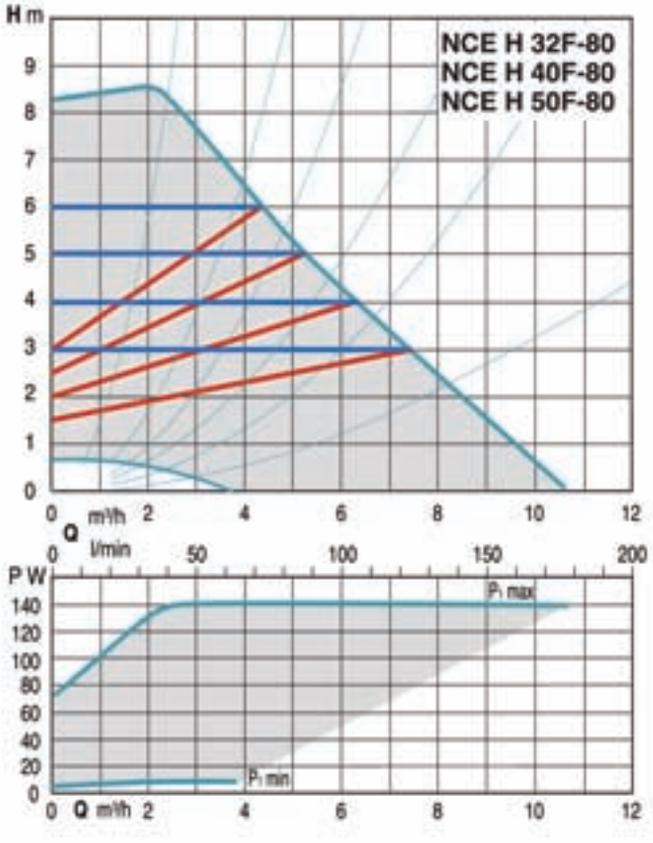
Coverage chart

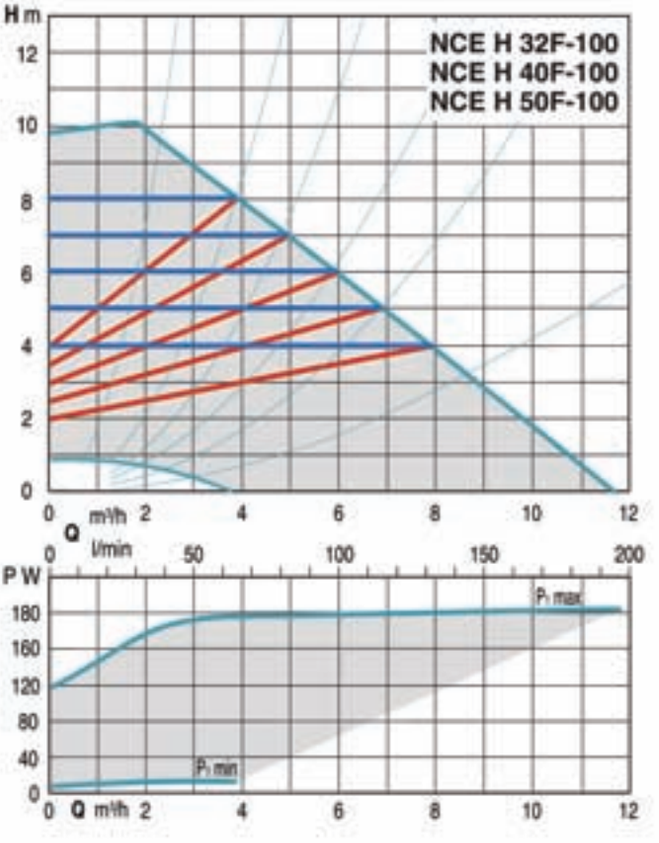


Characteristic curves







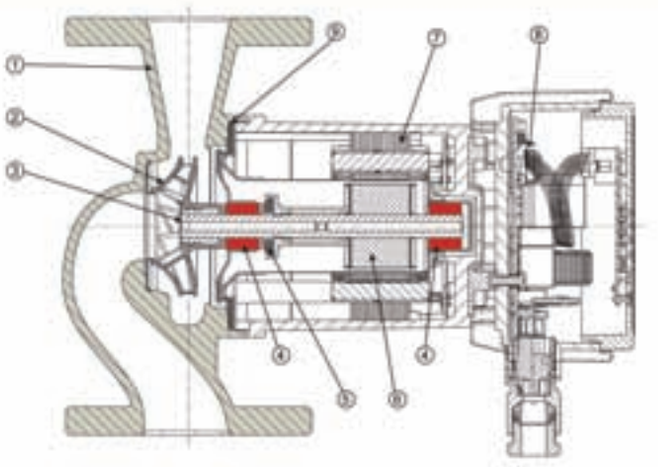


NCE H.F Energy saving circulating pumps with flanges

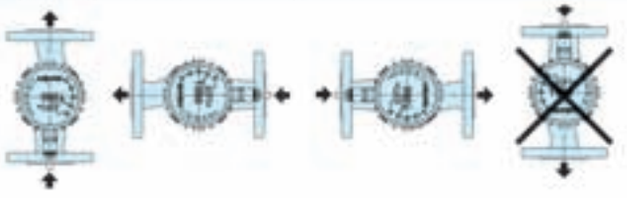
calpeda

Materials

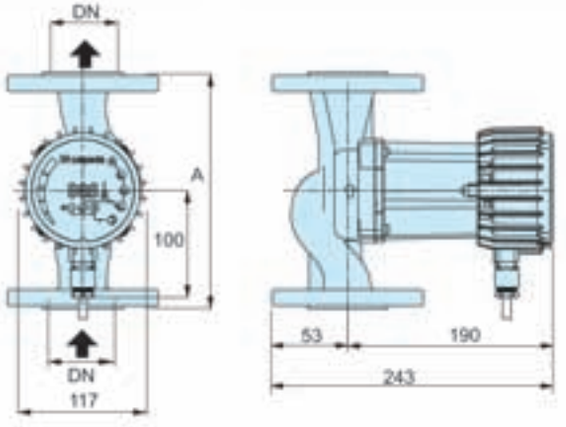
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM

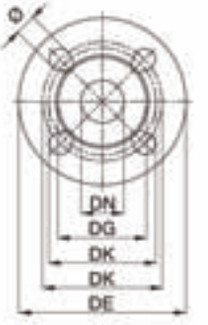


Examples of installations



Dimensions and weights





TYPE	DN	H m	Q m³/h	1~ 230 V A min	1~ 230 V A max	P1 W min	P1 W max	A mm	kg
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	1,3	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	-	-	-	-	220	-
NCE H 40F-120/220	40							220	
NCE H 50F-120/240	50							240	

DN	DE	DK	DG	fori N.	fori 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 G.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, conditioning, circulating systems.
For civil and industrial applications.

Technical data

- Liquid temperature from -10 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6/10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 54 dB (A).
- Minimum suction pressure at maximum flow:
  - 2,0 bar at 75 °C,
  - 2,9 bar at 110°C.
- Minimum suction pressure for flows less than 1/2 that nominal flow :
  - 0,9 bar at 75 °C,
  - 1,8 bar at 110°C
- Maximum glycol quantity: 50%
- 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 40, 50, 65, 80, 100.**
- The benchmark for most efficient circulators is EEI ≤ 0,20.

Designation

NCE G 40 F - 120 / 250

- Series
- Version
- DN ports in mm
- With flanges
- 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 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 G.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 G.F Energy saving circulating pumps with flanges

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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 propotionally to the current flow.
The pressure value can be adjusted with the + and – buttons.

Constant pressure mode:
The circulator mantains 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.

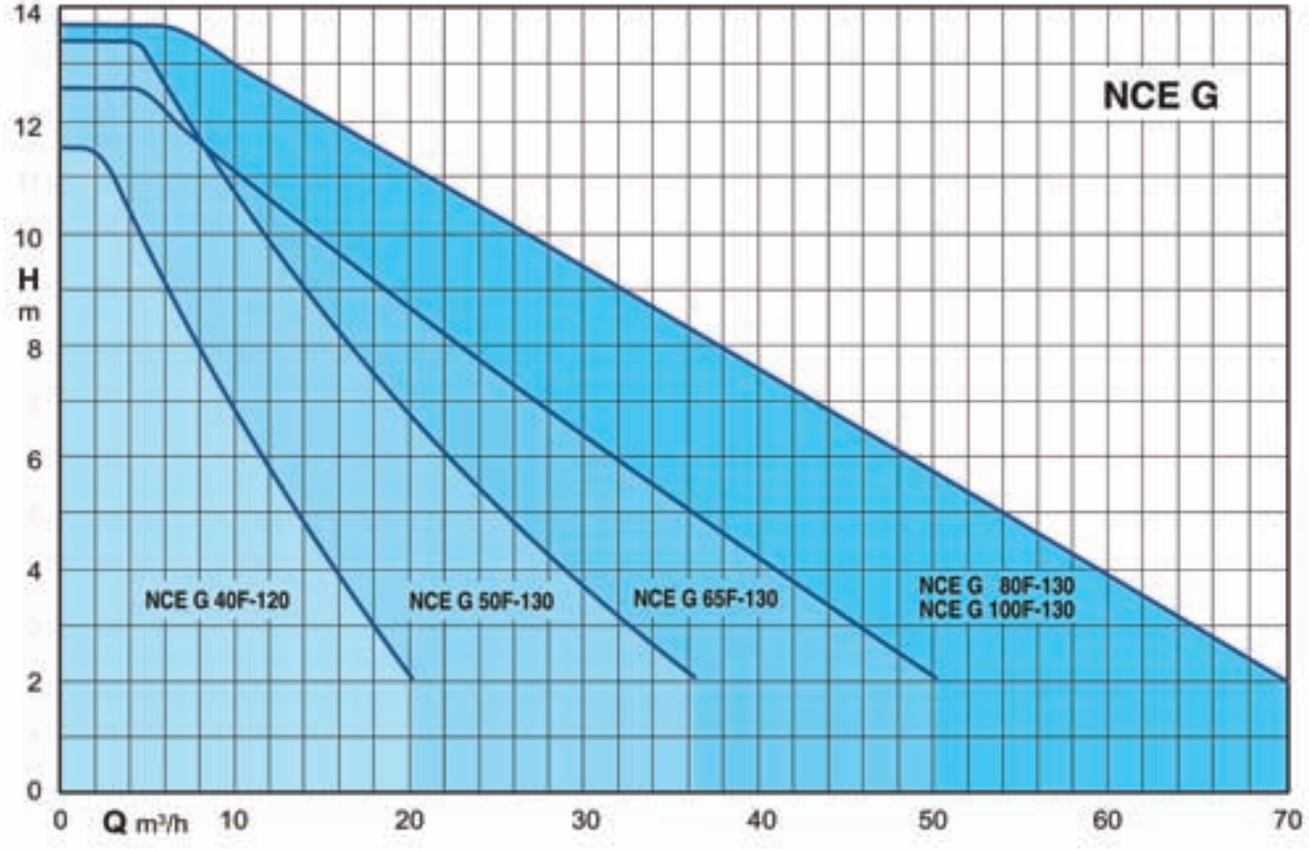
Night mode:.
When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve.
When the temperature rises again the pump comes back to the selected mode
The night mode could be selected with any operating mode.

Operating mode-control panel

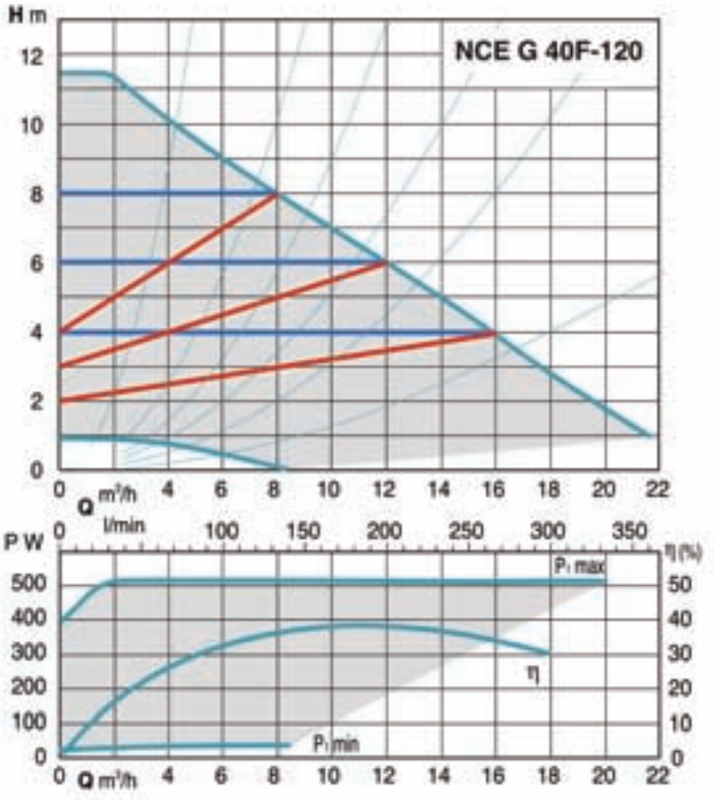
NCE H could works in:
- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

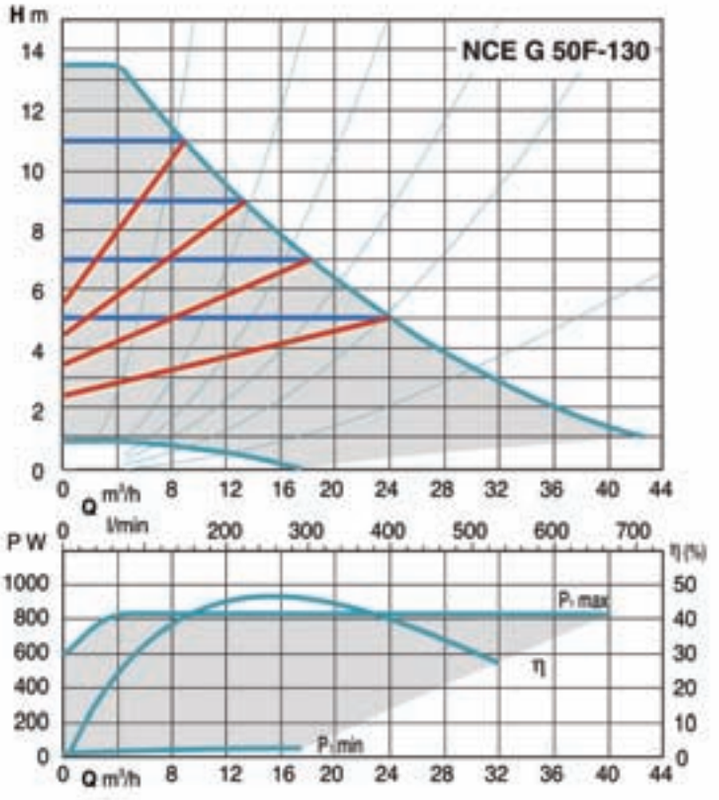
The night mode could be selected with any operating mode.

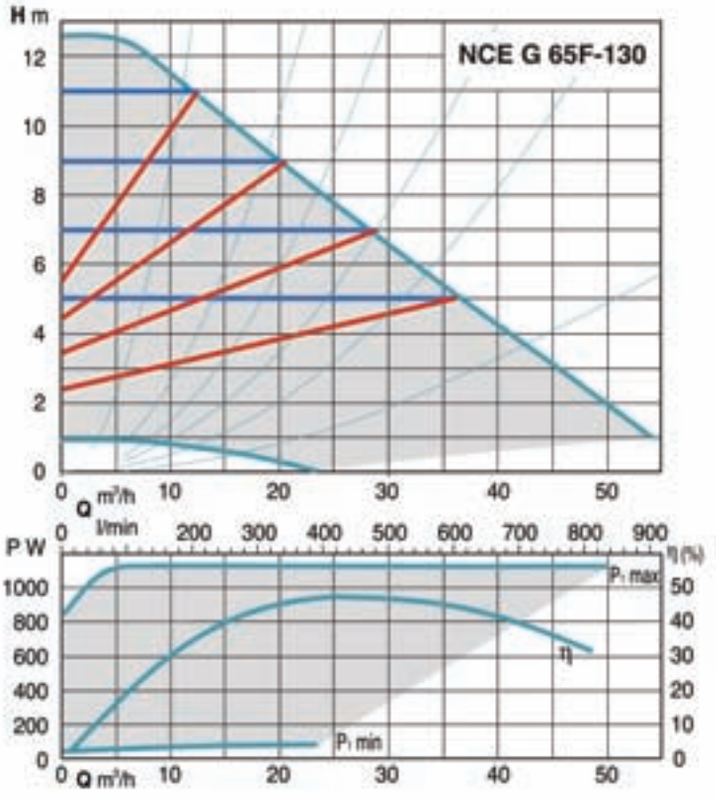
Coverage chart

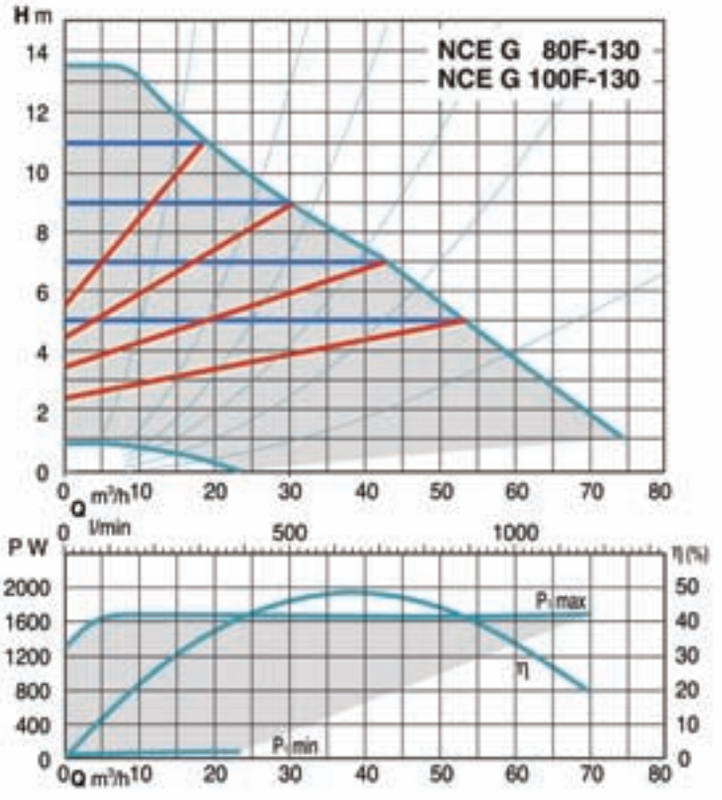


Characteristic curves









NCE G.F Energy saving circulating pumps with flanges

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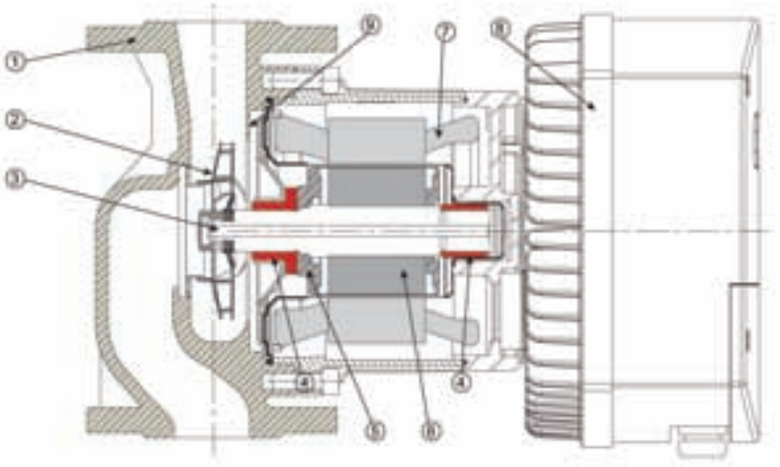
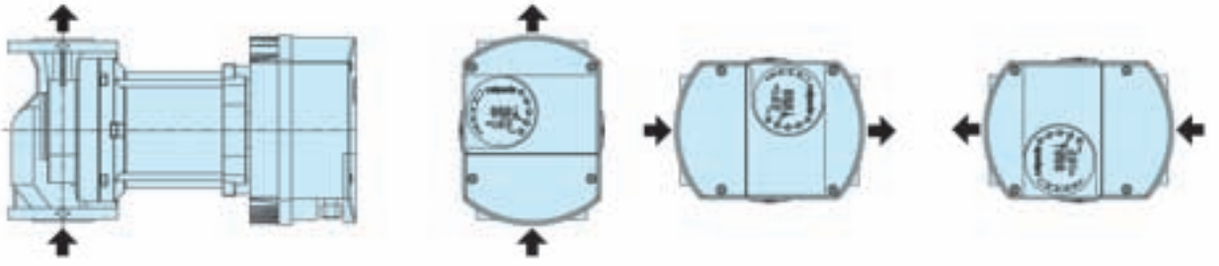
Materials

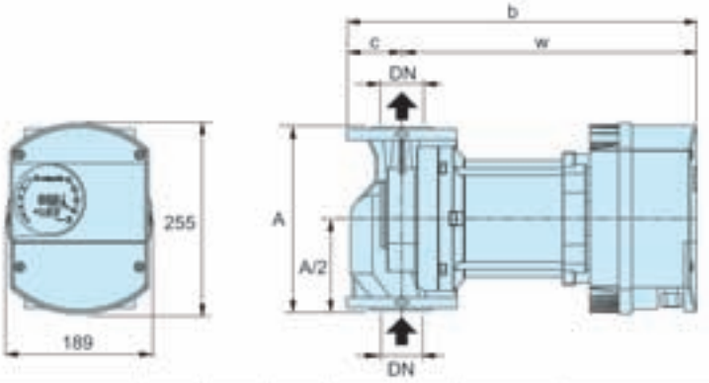
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Stainless steel
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Steel
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM

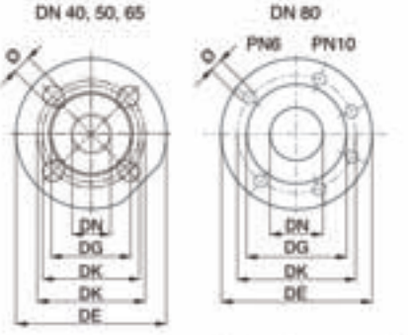


Examples of installations



Dimensions and weights





TYPE	DN	H	Q	1~ 230 V		P1		mm				kg
		m	m³/h	A min	A max	W min	W max	A	b	c	w	
NCE G 40F-120/250	40	12	25	0,18	2,2	20	500	250	386	65	321	24
NCE G 50F-130/280	50	13	39	0,23	3,5	26	800	280	425	70	355	31
NCE G 65F-130/340	65	13	65	0,33	4,8	38	1100	340	449	80	369	36
NCE G 80F-130/360	80	13	78	0,39	6,9	45	1600	360	503	100	403	44
NCE G 100F-130/360	80	13	78	0,39	6,9	45	1600	360	513	110	403	47

DN	DE	DK	DG	fori	
				N.	Ø
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 - PN6	200	150	128	4	19
80 - PN10	200	160	128	8	19
100 - PN6	220	170	-	4	19
100 - PN10	220	180	-	8	19

NCED G.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.

Applications
Heating, conditioning, circulating systems.
For civil and industrial applications.

Technical data
- Liquid temperature from -10 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6/10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 54 dB (A).
- Minimum suction pressure at maximum flow:
  - 2,0 bar at 75 °C,
  - 2,9 bar at 110°C.
- Minimum suction pressure for flows less than 1/2 of nominal flow:
  - 0,9 bar at 75 °C,
  - 1,8 bar at 110°C
- Maximum glycol quantity: 50%
- 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 40, 50, 65, 80, 100.**
- The benchmark for most efficient circulators is EEI ≤ 0,20.

Designation

NCE D G 40 F - 120 / 250

- Series
- Twin pumps version
- Version
- DN ports in mm
- With flanges
- Max. head in dm
- connection size mm

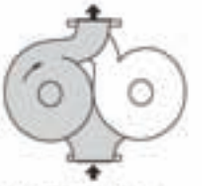
Motor
Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: F
- Overload protection **(integrated).**
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Features

Smart pump
NCED G.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.

Operation



Single operation
Operation of a single pump choosed by the customer, with the second pump on stand-by

Double operation
Operation in parallel of the two pumps

NCED G.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 propotionally to the current flow.
The pressure value can be adjusted with the + and − buttons.

Constant pressure mode:
The circulator mantains 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.

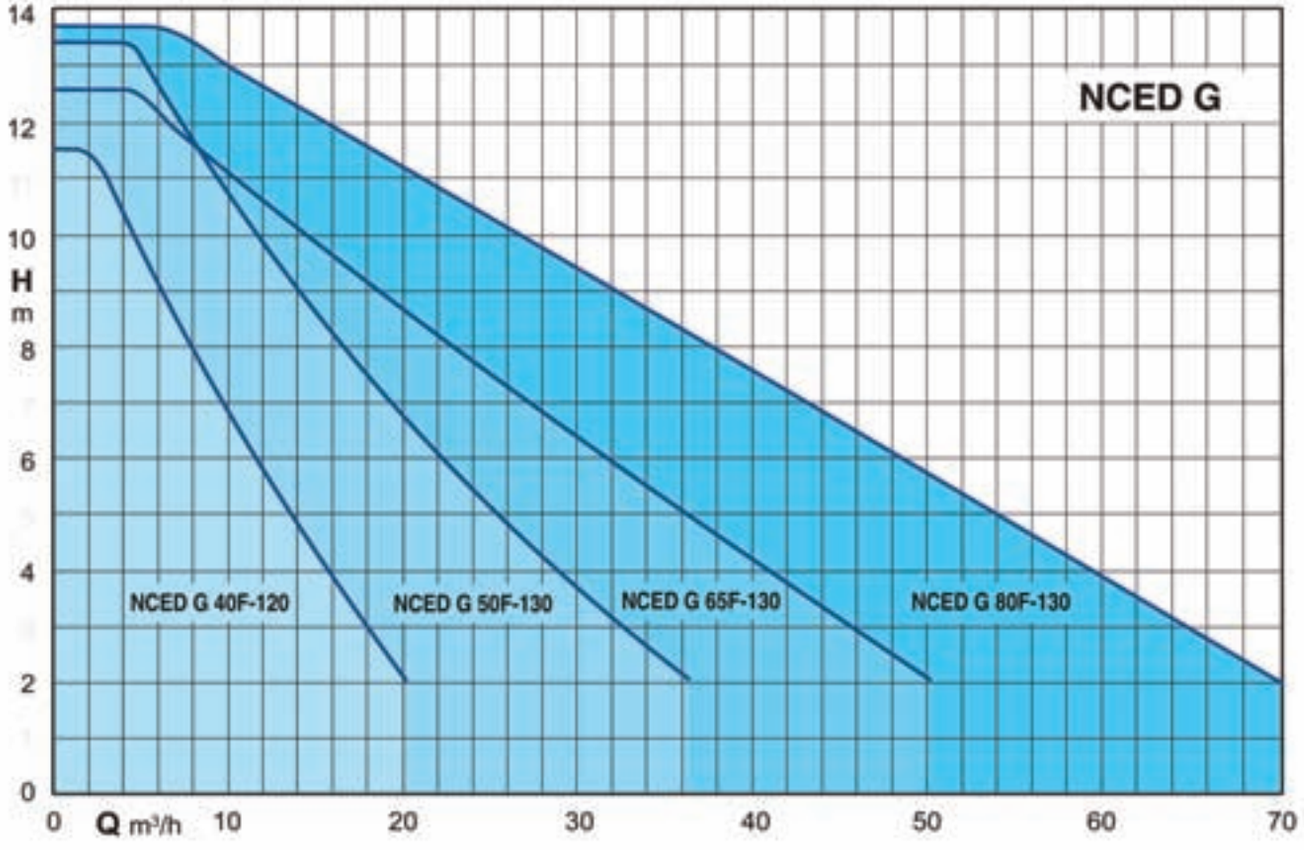
Night mode:.
When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve.
When the temperature rises again the pump comes back to the selected mode
The night mode could be selected with any operating mode.

Operating mode-control panel

NCE 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



NCED G.F

Energy saving twin circulating pumps with flanges

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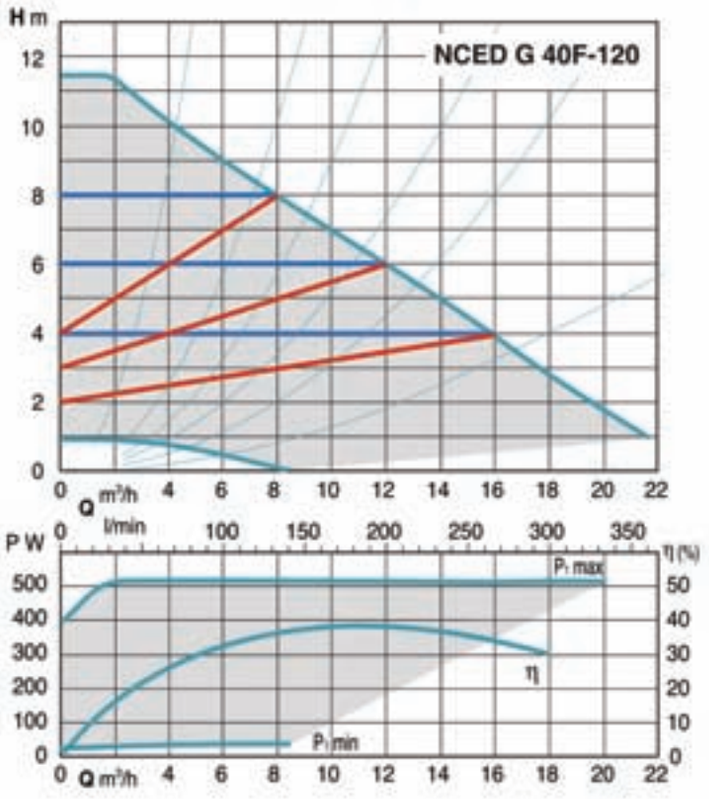
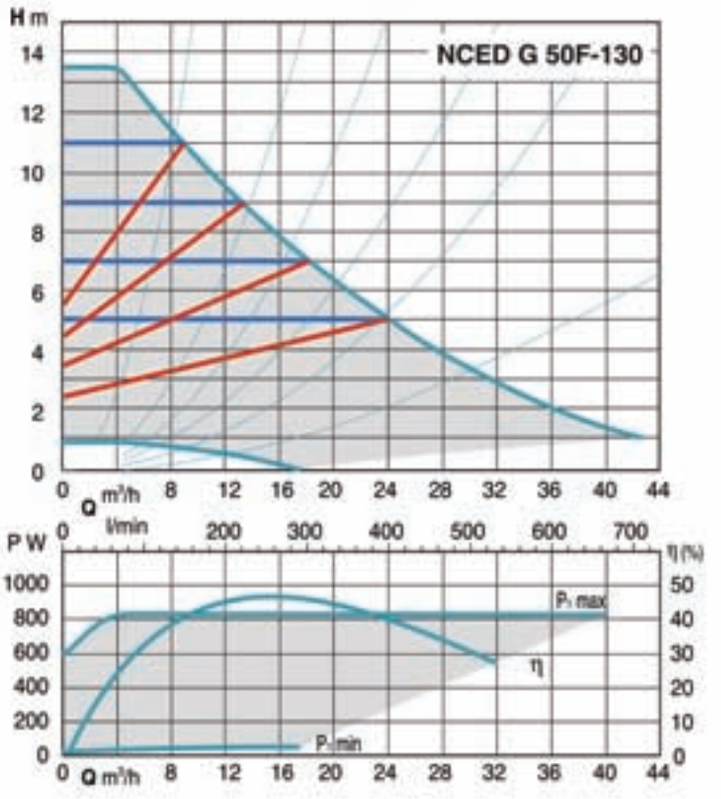
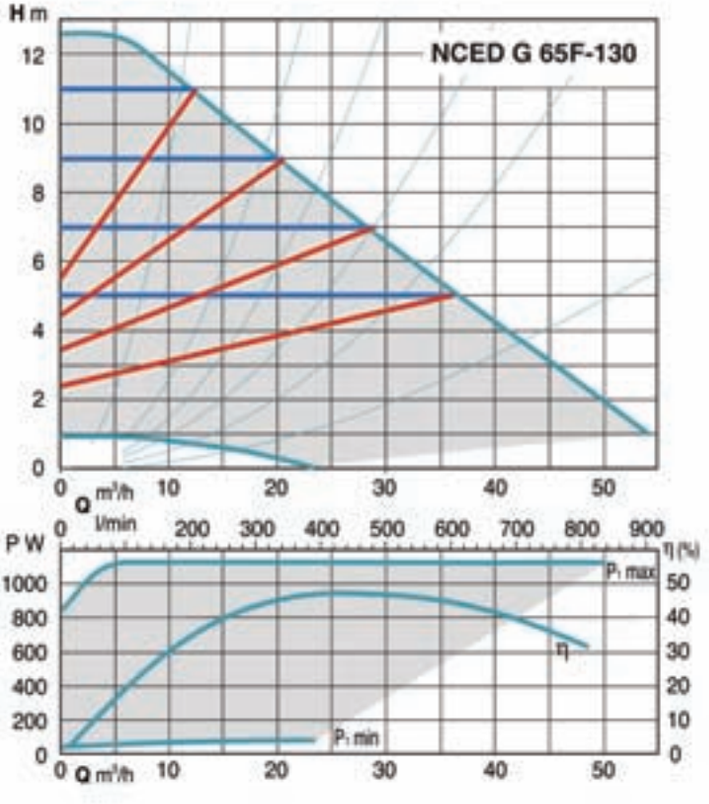
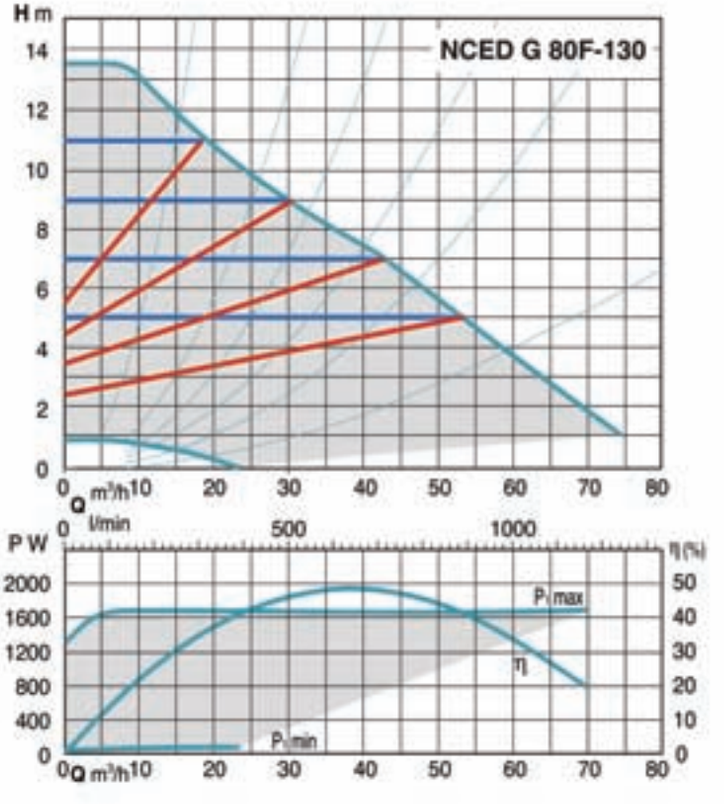
Characteristic curves









NCED G.F Energy saving twin circulating pumps with flanges

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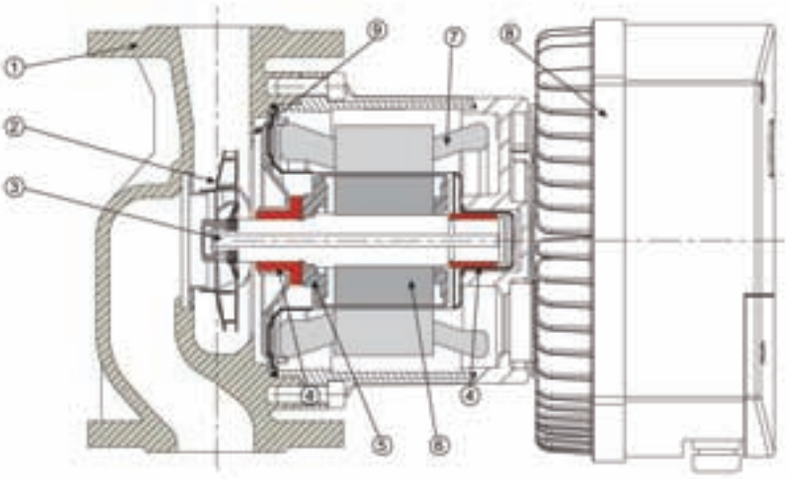
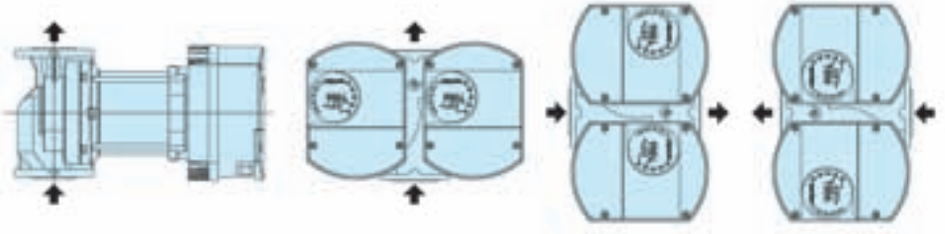
Materials

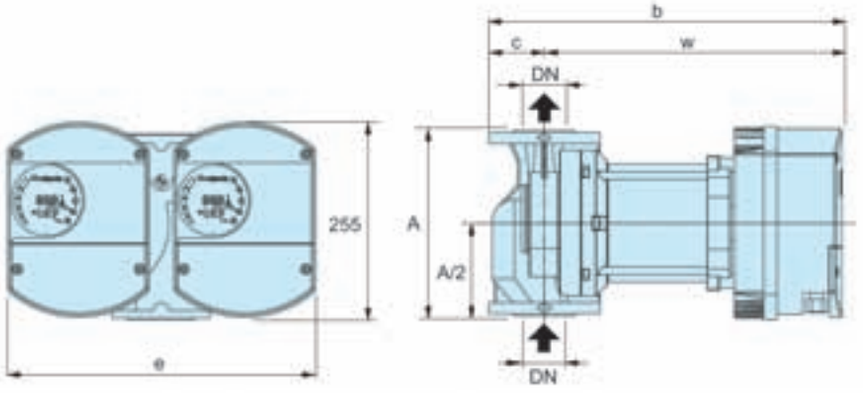
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Stainless steel
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Steel
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM

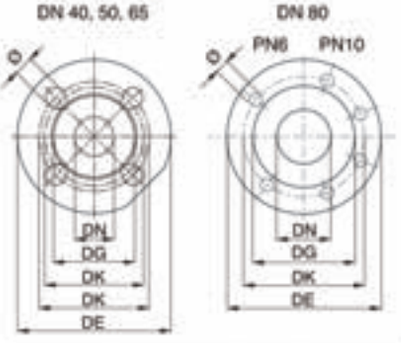


Examples of installations



Dimensions and weights





TYPE	DN	H	Q	1~ 230 V		P1		mm					kg
		m	m³/h	A min	A max	W min	W max	A	b	c	w	e	
NCED G 40F-120/250	40	12	25	0,18	2,2	20	500	250	386	65	321	403	47
NCED G 50F-130/280	50	13	39	0,23	3,5	26	800	280	425	70	355	403	60
NCED G 65F-130/340	65	13	65	0,33	4,8	38	1100	340	449	80	369	452	63
NCED G 80F-130/360	80	13	78	0,39	6,9	45	1600	360	503	100	403	462	81

DN	DE	DK	DG	fori	
				N.	Ø
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 - PN6	200	150	128	4	19
80 - PN10	200	160	128	8	19
100 - PN6	220	170	-	4	19
100 - PN10	220	180	-	8	19

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.

Technical data

- 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: 0,5 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 ≤ 0,20.

Designation

NCE EL 32 - 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 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.

Reliability

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.

Patented

Escape routes for impurities inside the rotor chamber

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.

NCE EL

Energy saving circulating pumps for solar systems

calpeda

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).

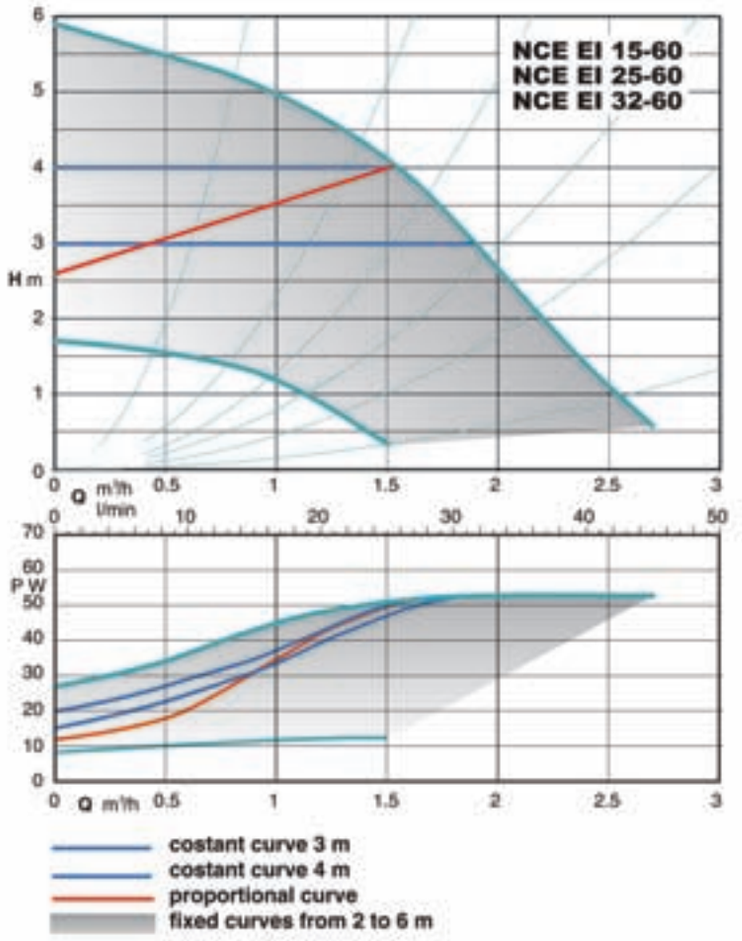
PROPORTIONAL CURVE PROGRAMMING Δp-v
(GREEN LED)
Moving the switch to the 'P' setting will allow the pump to operate against a proportional performance curve. This feature ensures maximum energy efficiency.

CONSTANT CURVE PROGRAMMING Δp-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 m³/ h).

CONSTANT CURVE PROGRAMMING Δp-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 m³/ h).

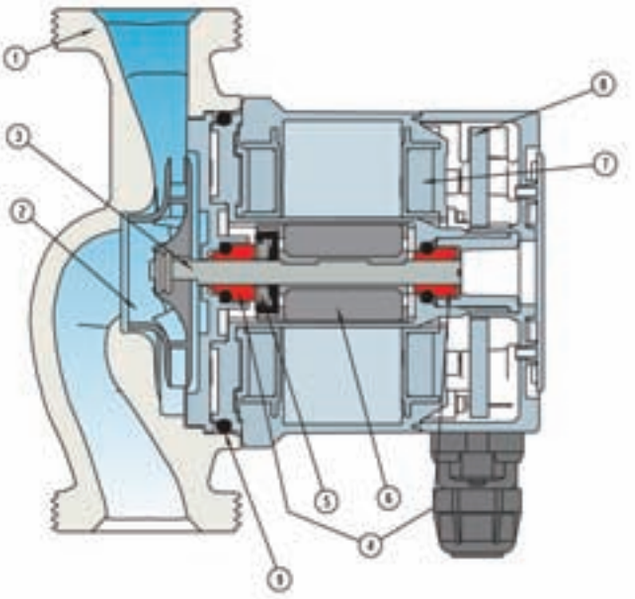
WARNING!
The red LED indicates that the pump is not rotating but is still under tension.

Characteristic curves

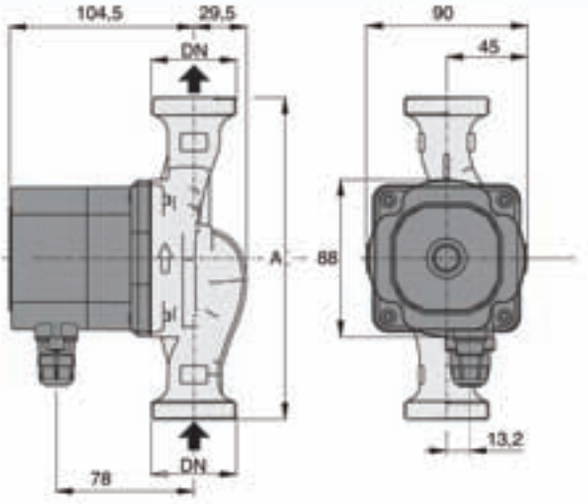


Materials

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

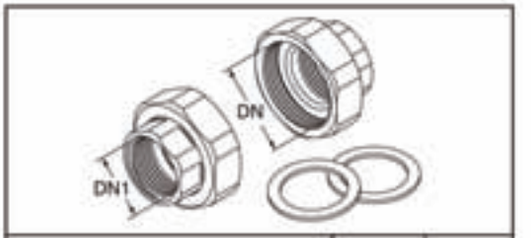


Dimensions and weights



TYPE	DN	230V A max	230V A min	P1 W max	P1 W min	mm A	Peso netto kg
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

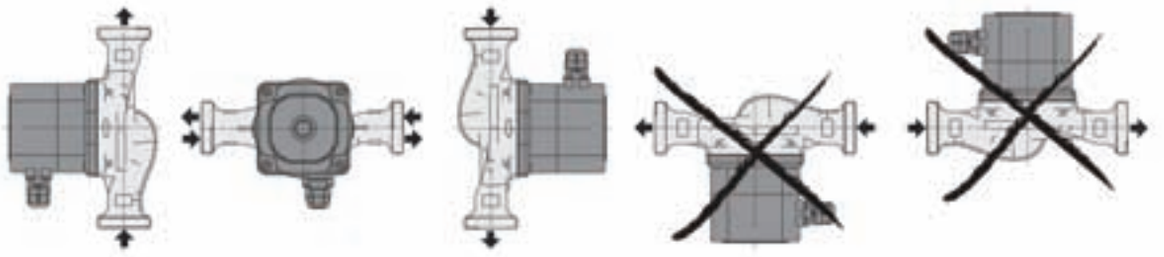
Unions (on request)



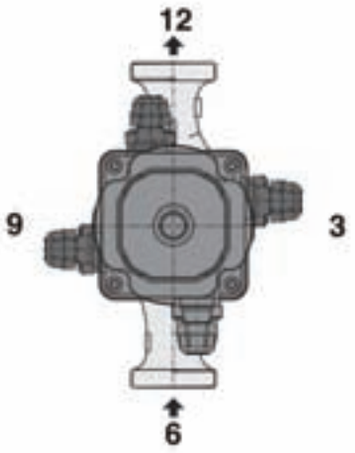
		DN	DN1
KIT G 1 - G 1/2	(NCE . 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1	(NCE . 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4	(NCE . 32..)	G 2	G 1 1/4

Examples of installations

Installation



Terminal box arrangement (on request)



NCES

Energy saving circulating pumps for sanitary hot water

calpeda

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.

Technical data

- 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: 0,6 bar at 95 °C
- EMC according to: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- Threated ports ISO 228: G 1, G 1 1/4, G 1 1/2.

Designation

NCE S 32 - 60 / 180

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

Motor

Synchronous motor with permanent magnets.

- 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 unions.

Features

Energy saving

NCES is an high energy efficiency product : 80% of energy saving compared to a traditional circulating pump.

Compact design

The space saving **NCES** 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

Two reference curves (positions 1 and 2); maximum head curve (Max) and minimum head curve (Min).
Selection of the optimum working point.

Patented

Escape routes for impurities inside the rotor chamber

Operating modes

Display

- GREEN led: regular operation.
- Blinking GREEN led : adjustment of working point.

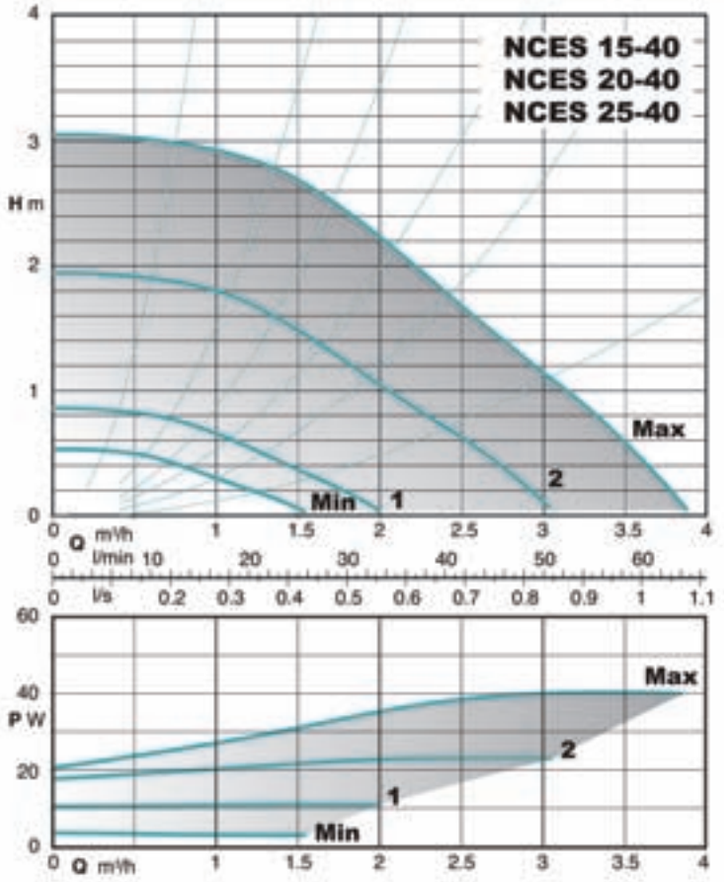
- RED led: possible fault (ex. locked rotor).

Selector

To modify the pump performances (head) rotate the selector according to the following table:

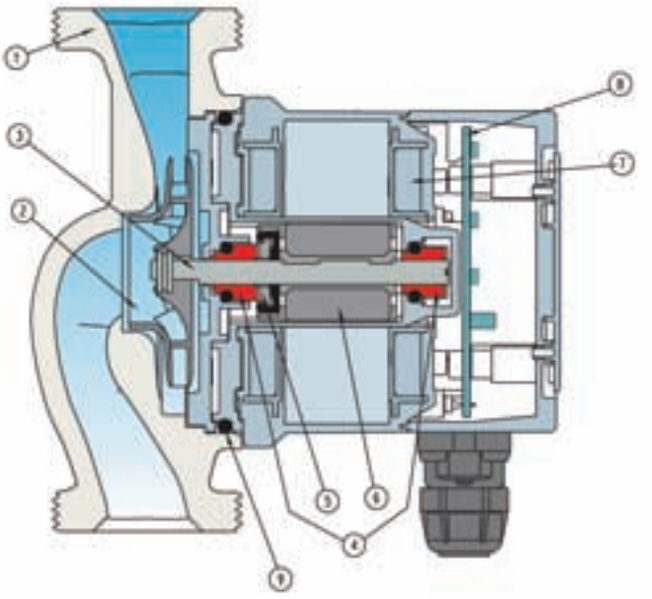
Chosing the optimal working point
- Position (Min): head from 0,3 m to 1.000 l/h.
- Position (1): head from 0,63 m to 1.000 l/h.
- Position (2): head from 1,8 m to 1.000 l/h.
- Position (Max): head from 3 m to 1.000 l/h.

Characteristic curves

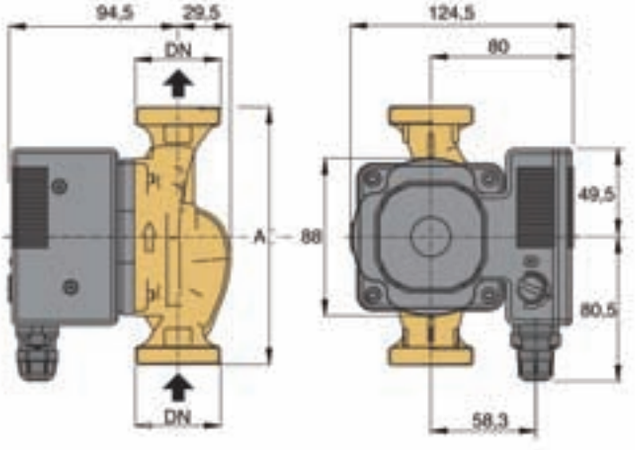


Materials

Component	Pos.	Material
Pump casing	1	Brass
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



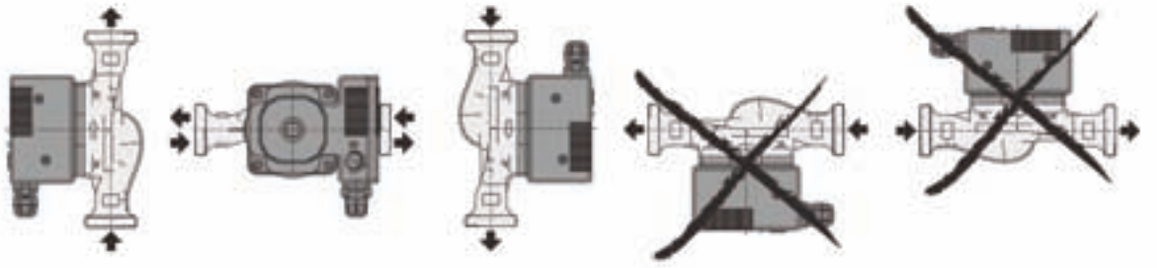
TYPE	DN	230V A max	230V A min	P1 W max	P1 W min	mm A	Peso netto kg
NCES 15-40/130	G 1	0,41	0,08	48	8	130	2,15
NCES 20-40/130	G 1 1/4	0,41	0,08	48	8	130	2,25
NCES 25-40/130	G 1 1/2	0,41	0,08	48	8	130	2,35

Unions (on request)

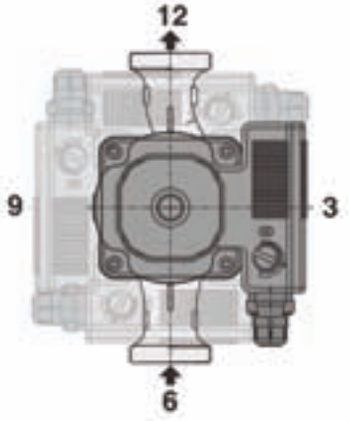
TYPE		DN	DN1
KIT G 1 - G 1/2	(NCES 15..)	G 1	G 1/2
KIT G 1 1/4 - G 3/4	(NCES 20..)	G 1 1/4	G 3/4
KIT G 1 1/2 - G 1	(NCES 25..)	G 1 1/2	G 1

Examples of installations

Installation



Terminal box arrangement (on request)



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.

Technical data

- 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: 0,1 bar at 75 °C
- Maximum glycol quantity: 50%
- 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.

Designation

NCE PS 25 - 60 / 180

- Series
- Version for sanitary hot water
- 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 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 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.

NCE PS

Energy saving circulating pumps for sanitary hot water

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Operating modes

Operating functions - control buttons.
NCE P circulator could work:
- with proportional pressure curves
- with fixed speed curves

PROPORTIONAL CURVE PROGRAMMING Δp-v

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

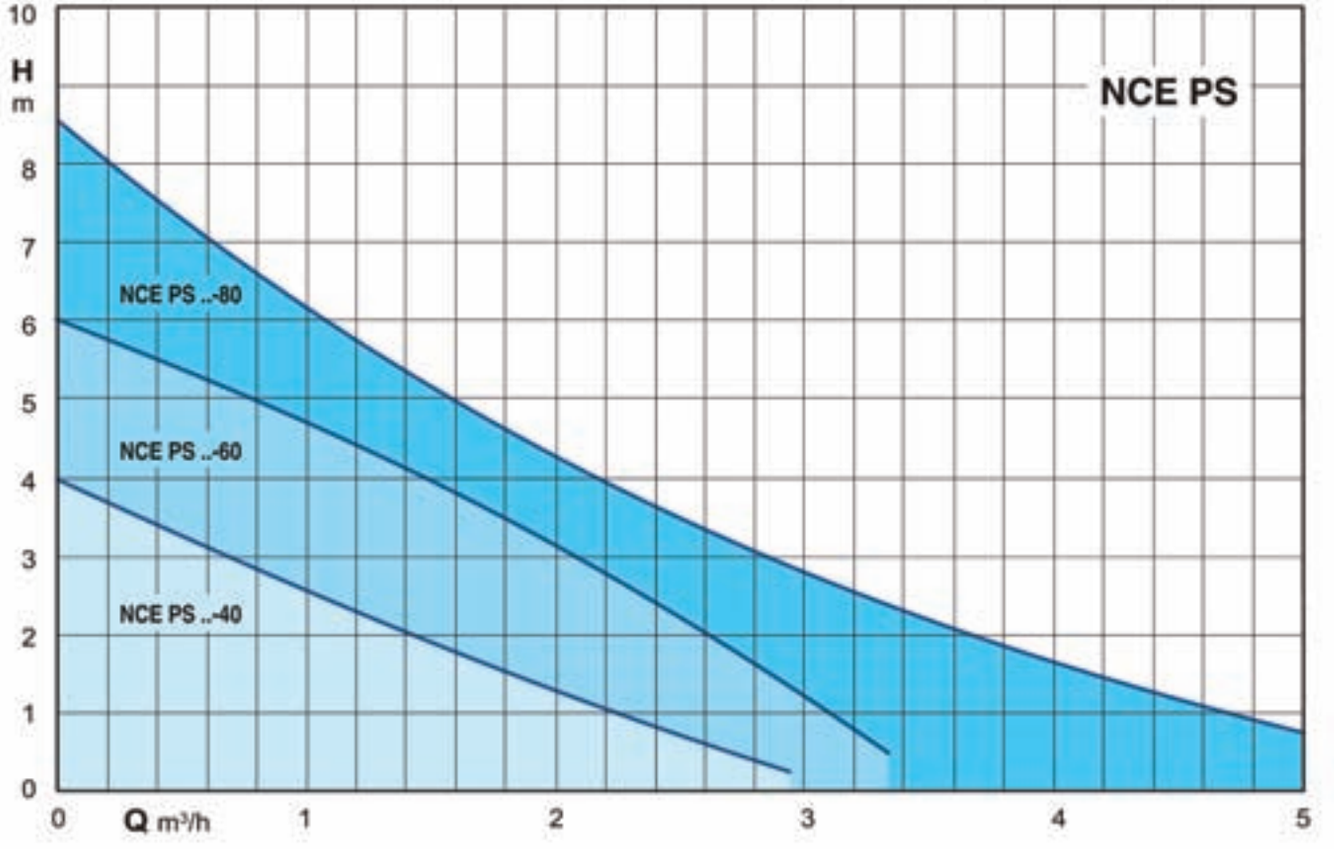
Push repeatedly the button to select the proportional curve.
The color changes depending on the selected curve.
This operating mode guarantees the maximum energy efficiency.

FIXED SPEED CURVE PROGRAMMING

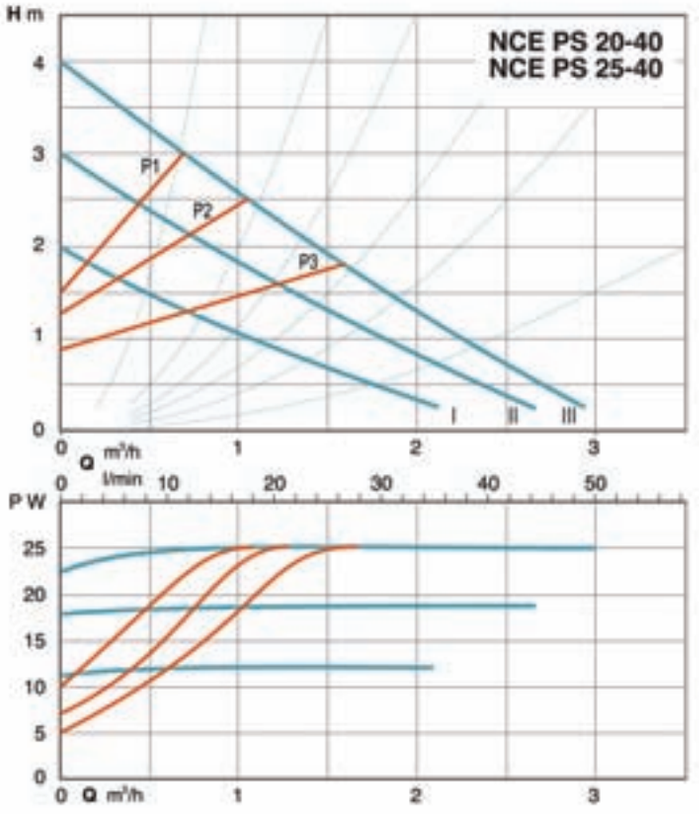
- (I BLUE LED light)
- (II GREEN LED light)
- (III YELLOW LED light)

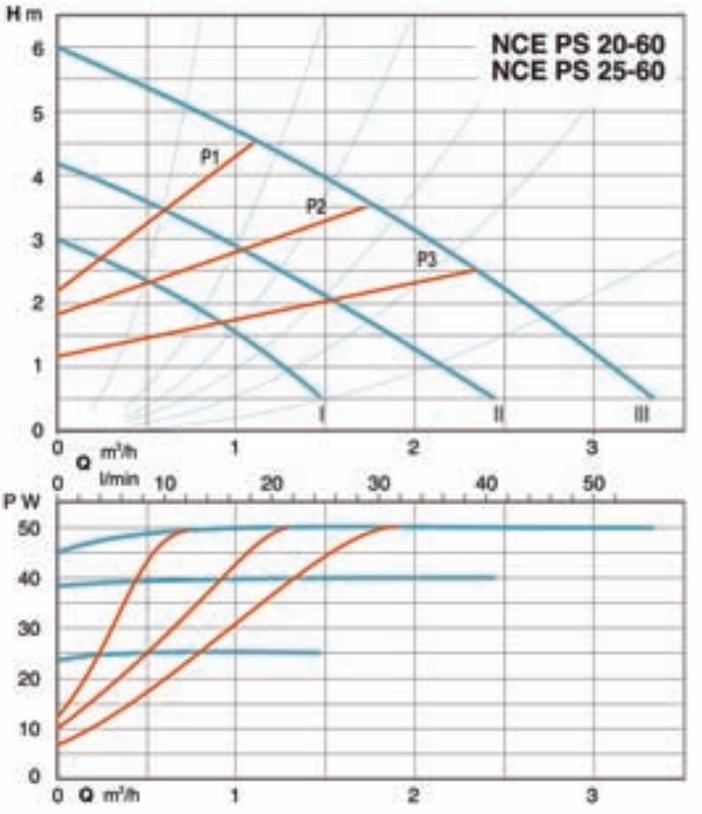
If you push the button for 5 seconds the pump adopt the fixed speed curve. The color changes depending on the selected curve. (to replace standard 3-speed circulators).

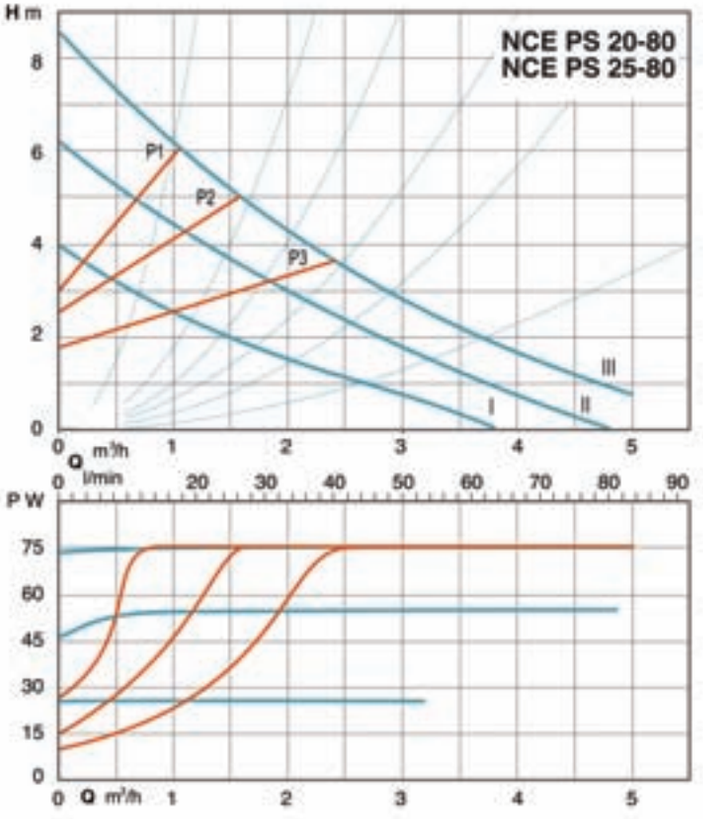
Coverage chart



Characteristic curves







NCE PS

Energy saving circulating pumps for sanitary hot water

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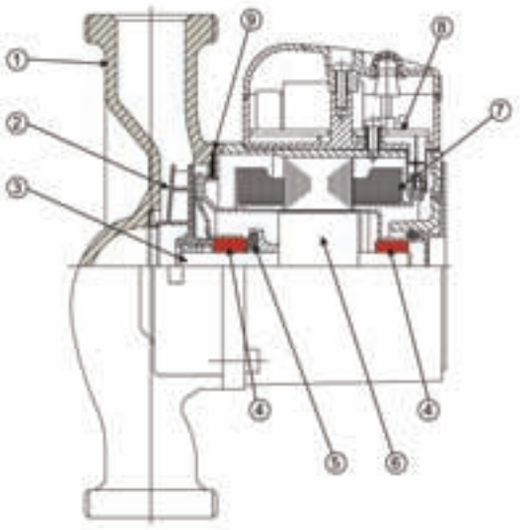
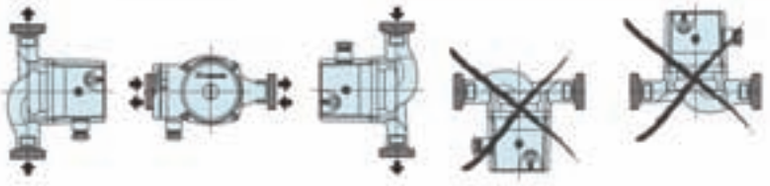
Materials

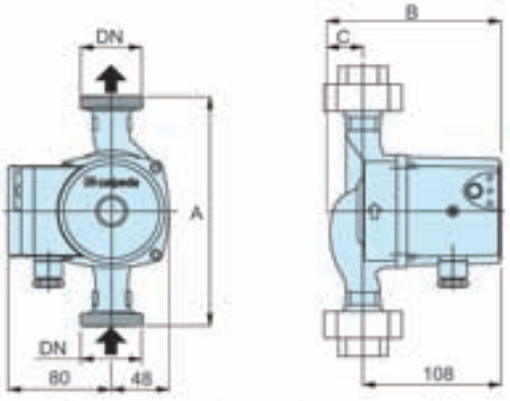
Component	Pos.	Material
Pump casing	1	Brass
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m³/h	1~ 230 V A min	1~ 230 V A max	P1 W max	mm A	kg
NCE PS 20-40/130	G 1 1/4	4	2,6	0,05	0,2	25	130	2,1
NCE PS 25-40/130	G 1 1/2							2,2
NCE PS 20-60/130	G 1 1/4	6	3,7	0,05	0,4	50	130	2,1
NCE PS 25-60/130	G 1 1/2							2,2
NCE PS 20-80/130	G 1 1/4	8	4,5	0,05	0,6	75	130	2,1
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

NCE GS.F

Energy saving circulating pumps with flanges 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.

Technical data

- Liquid temperature from -10 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6/10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 54 dB (A).
- Minimum suction pressure **at maximum flow:**
  - 2,0 bar at 75 °C,
  - 2,9 bar at 110°C.
- Minimum suction pressure for flows less than 1/2 that nominal flow :
  - 0,9 bar at 75 °C,
  - 1,8 bar at 110°C
- Maximum glycol quantity: 50%
- 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 40, 50, 65, 80, 100.**
- The benchmark for most efficient circulators is EEI ≤ 0,20.

Designation

NCE GS 40 F - 120 / 250

- Series
- Version for sanitary hot water
- DN ports in mm
- With flanges
- 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 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 GS.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 GS.F Energy saving circulating pumps with flanges for sanitary hot water

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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 propotionally to the current flow.
The pressure value can be adjusted with the + and − buttons.

Constant pressure mode:
The circulator mantains 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.

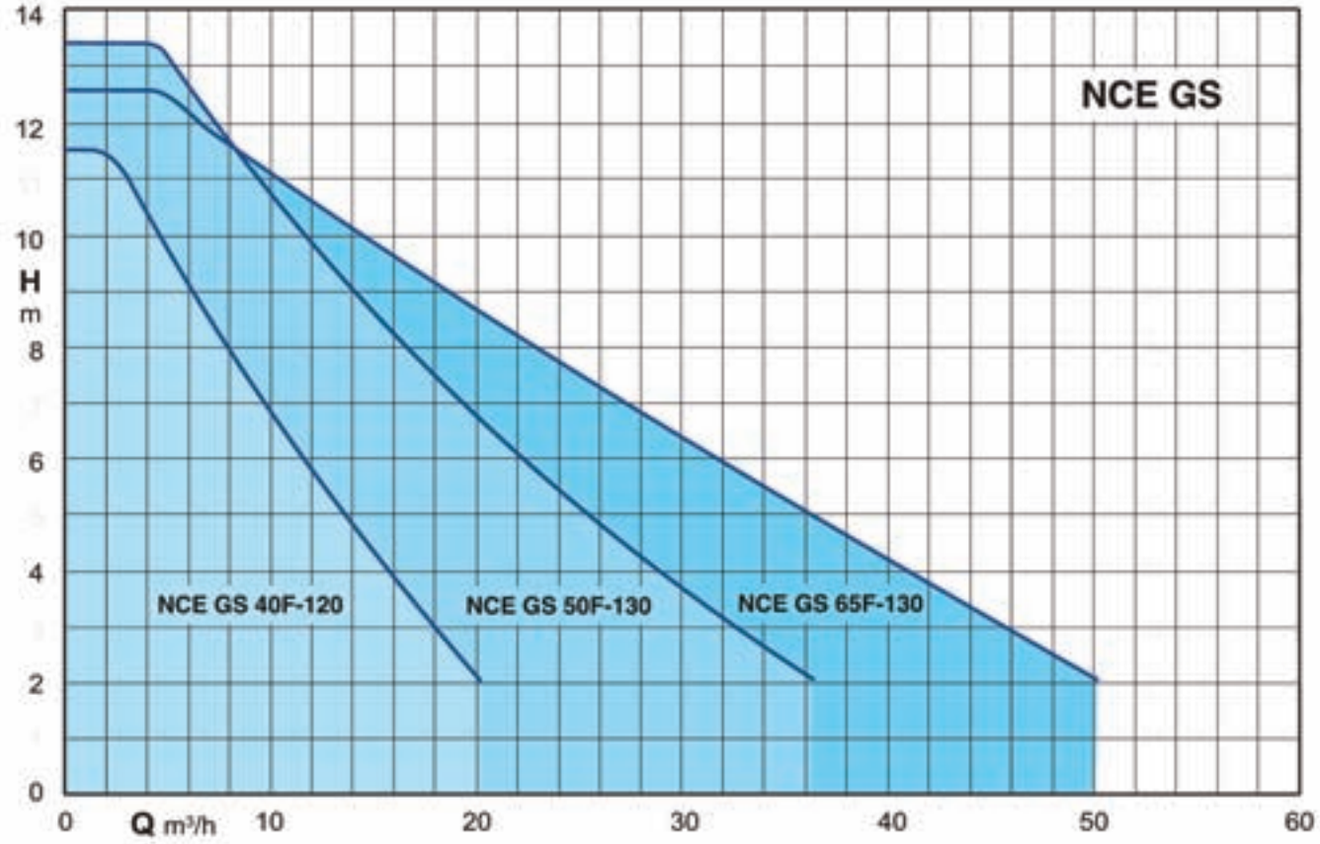
Night mode:.
When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve.
When the temperature rises again the pump comes back to the selected mode
The night mode could be selected with any operating mode.

Operating mode-control panel

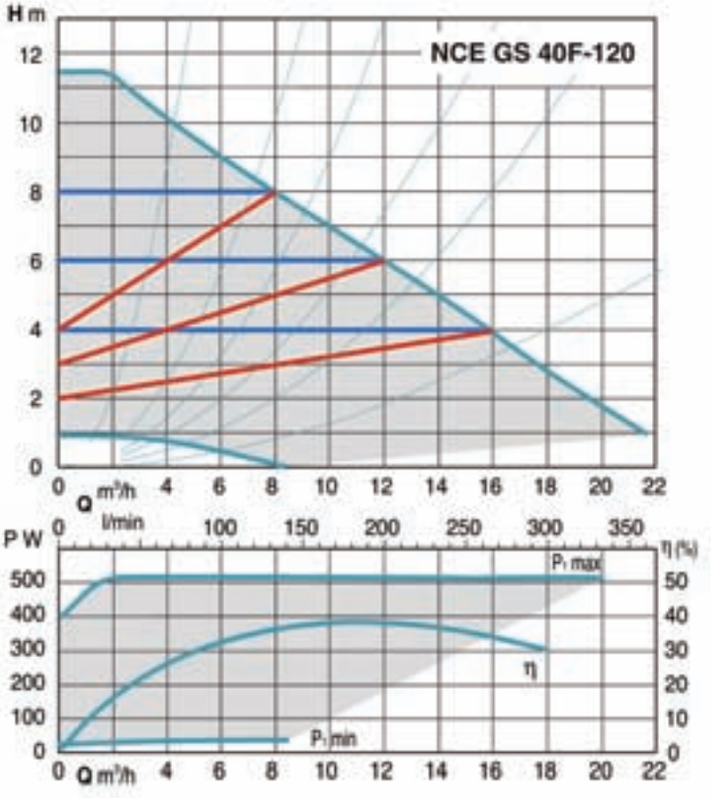
NCE H could works in:
- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

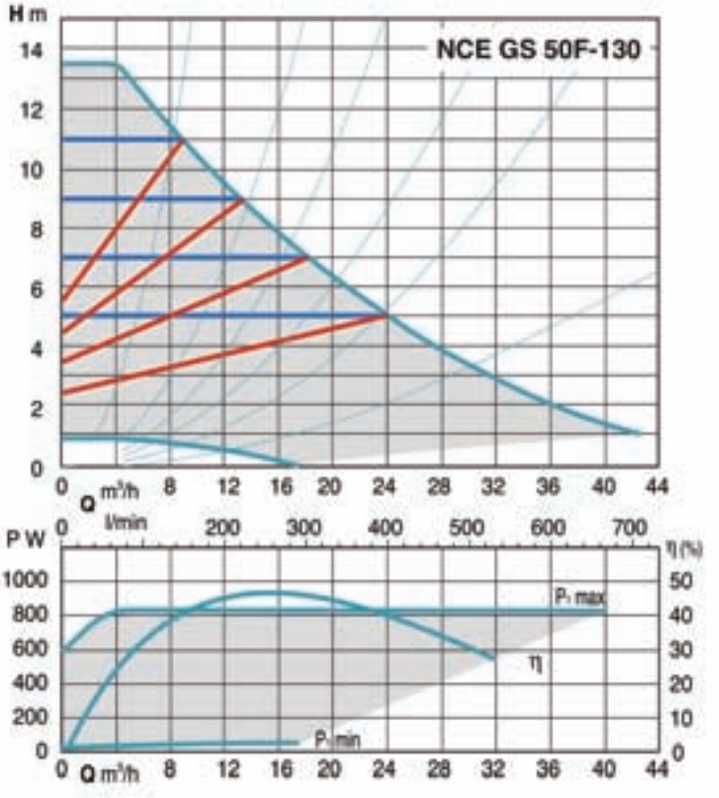
The night mode could be selected with any operating mode.

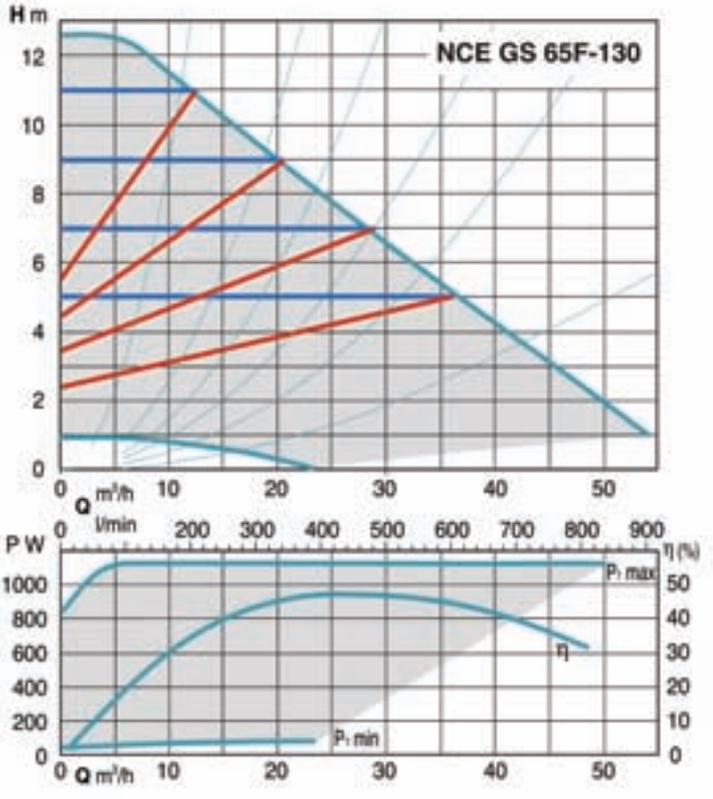
Coverage chart



Characteristic curves







NCE GS.F

Energy saving circulating pumps with flanges for sanitary hot water

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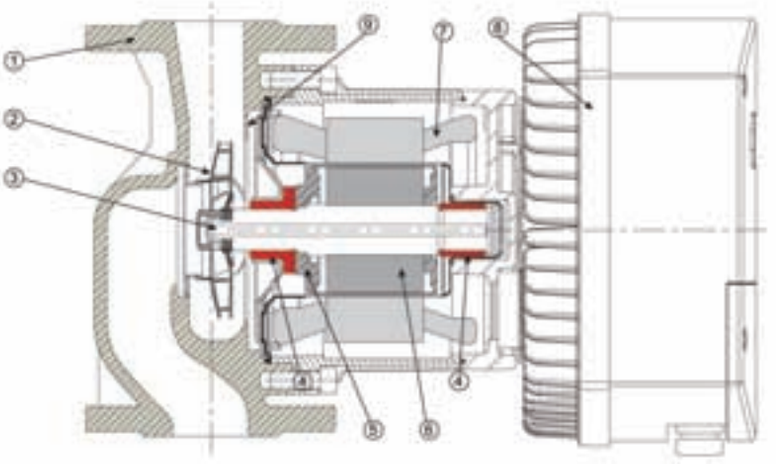
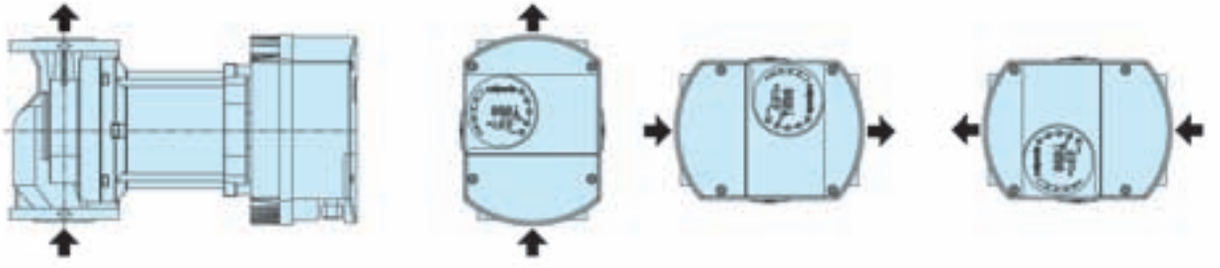
Materials

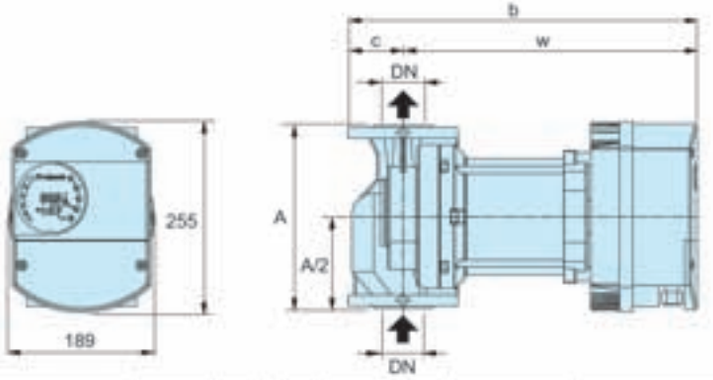
Component	Pos.	Material
Pump casing	1	Brass
Impeller	2	Stainless steel
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Steel
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM

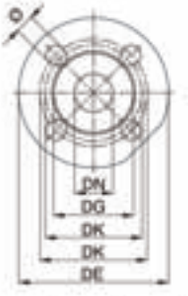


Examples of installations



Dimensions and weights





TYPE	DN	H	Q	1~ 230 V		P_1		mm				kg
		m	m³/h	A min	A max	W min	W max	A	b	c	w	
NCE GS 40F-120/250	40	12	25	0,18	2,2	20	500	250	386	65	321	26
NCE GS 50F-130/280	50	13	39	0,23	3,5	26	800	280	425	70	355	33
NCE GS 65F-130/340	65	13	65	0,33	4,8	38	1100	340	449	80	369	38,5

DN	DE	DK	DG	fori	
				N.	Ø
40	150	100/110	80	4	14/19
50	165	110/125	90	4	14/19
65	185	130/145	110	4	14/19

NCS3 Circulating pumps for sanitary hot water

calpeda

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	Ceramic
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.

Designation

NCS3 20 - 40 / 130

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

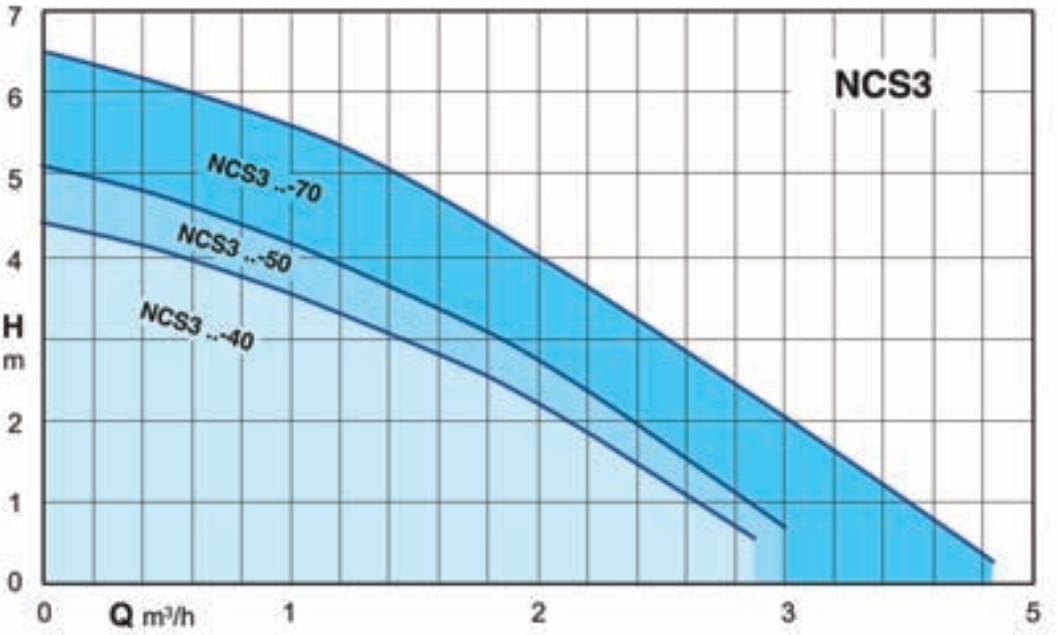
Motor

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

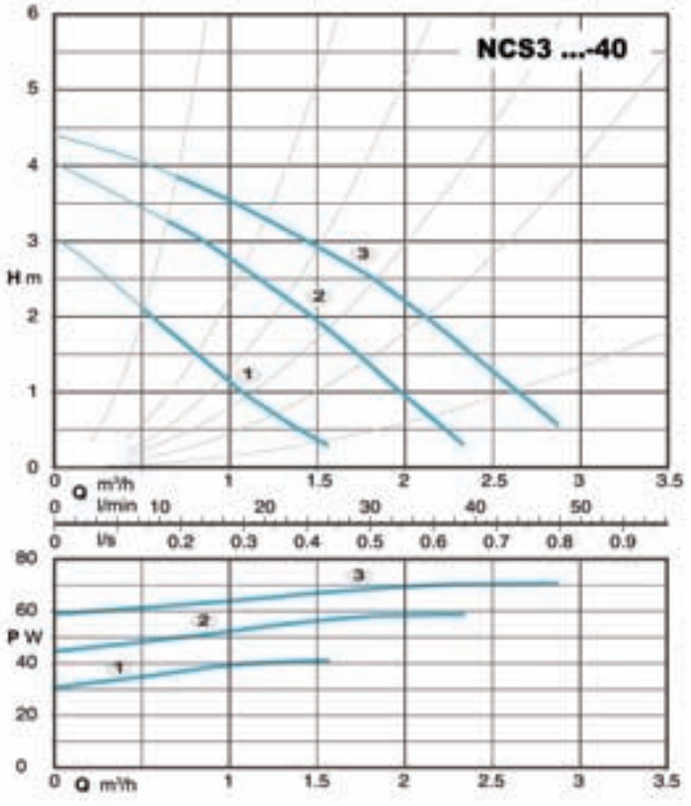
Special features on request

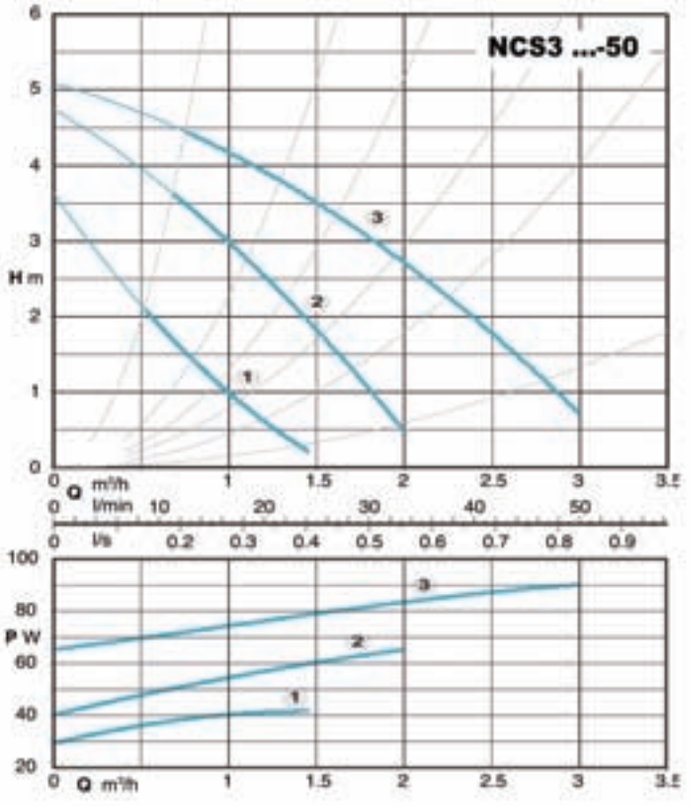
Brass unions.

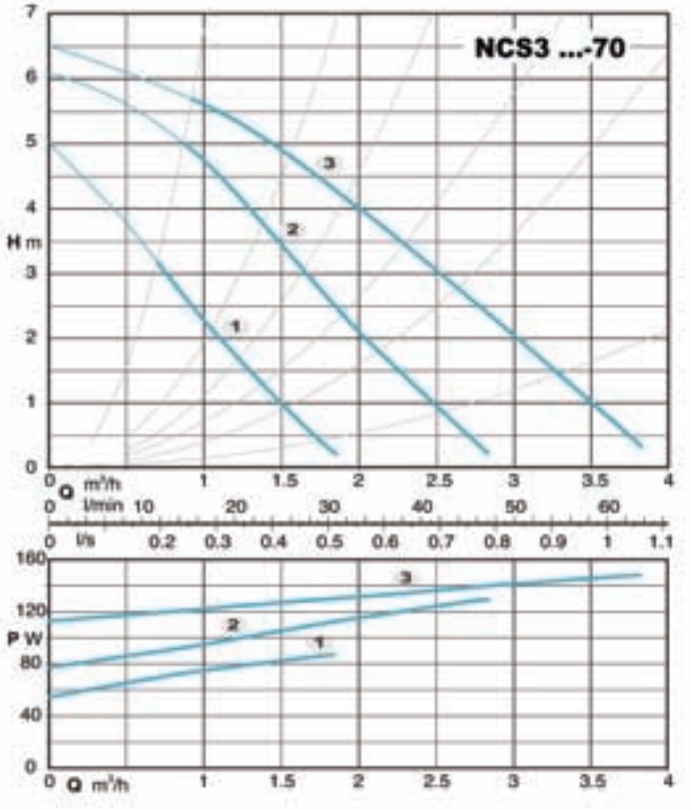
Coverage chart



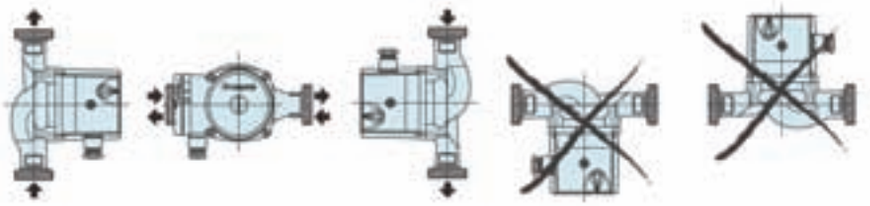
Characteristic curves



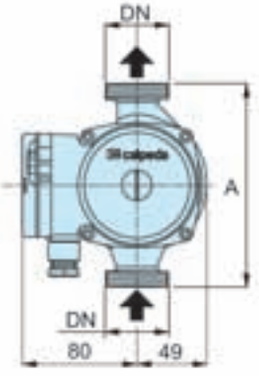


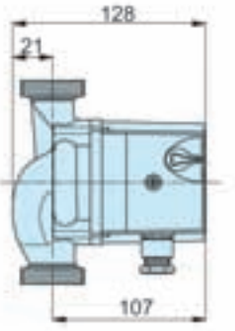


Examples of installations



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
		2	59	0,26		
NCS3 25-40/130	G 1 1/2	1	41	0,18		
NCS3 20-50/130	G 1 1/4	3	91	0,38	130	2,5
		2	65	0,28		
NCS3 25-50/130	G 1 1/2	1	42	0,18		
NCS3 20-70/130	G 1 1/4	3	148	0,66	130	3,8
		2	128	0,59		
NCS3 25-70/130	G 1 1/2	1	87	0,41		

Unions (on request)

TYPE		DN	DN1
KIT G 1 1/4 - G 3/4	(NCS3 20..)	G 1 1/4	G 3/4
KIT G 1 1/2 - G 1	(NCS3 25..)	G 1 1/2	G 1

NC3

Three speeds circulating pumps with threaded ports

calpeda

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.

Materials	NC3 ..40-50-60	NC3 ...70-80-85-120
Pump casing	Cast iron	Cast iron
Impeller	Composite	Composite
Shaft	Stainless steel	Ceramic

Applications

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

Operating conditions

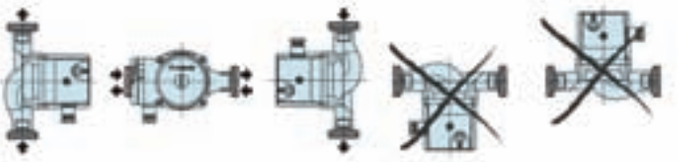
Liquid temperature from +5 °C to +110 °C (from -10 °C to +110 °C for NC3 ..-70 and NC3 ..-80-85-120).
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require recheking of the pumping data).
Maximum permissible working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

TYPE	Minimum suction pressure: bar		
	Temperature		
	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

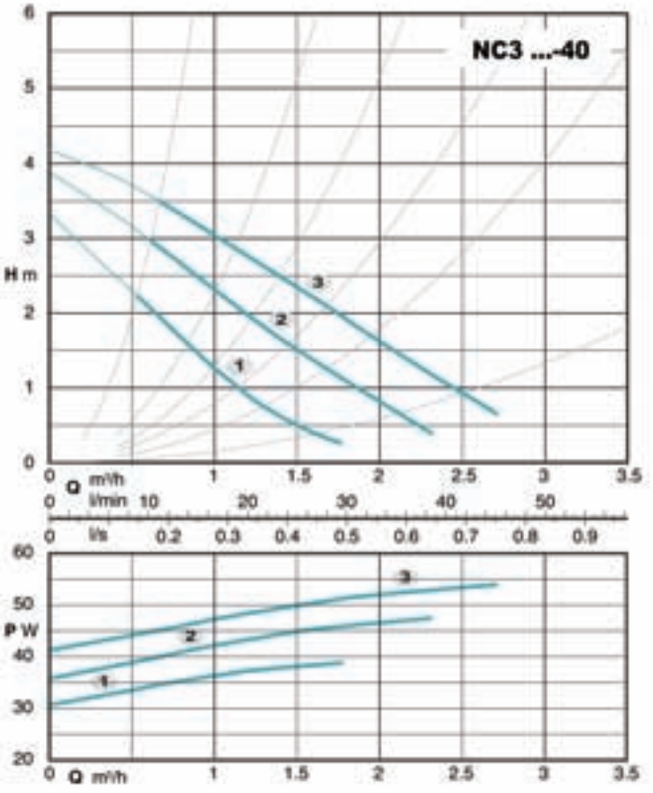
TYPE		DN	DN1
KIT G 1 - G 1/2	(NC3 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1	(NC3 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4	(NC3 32..)	G 2	G 1 1/4

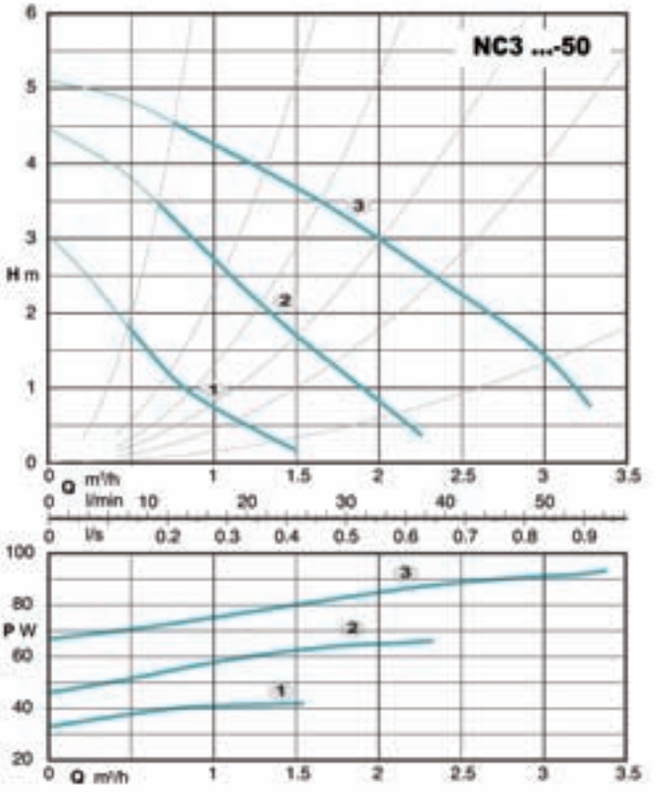
Designation

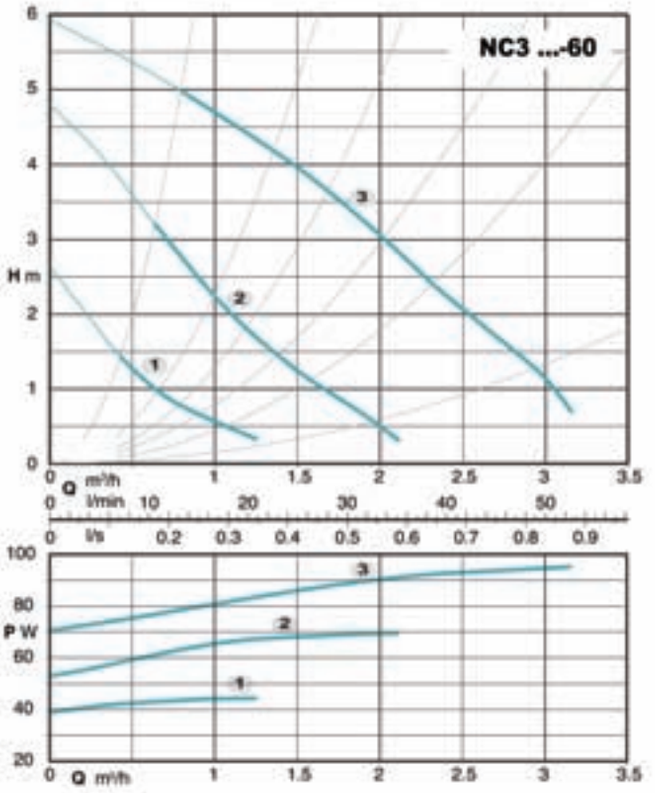
NC3 32 - 70 / 180

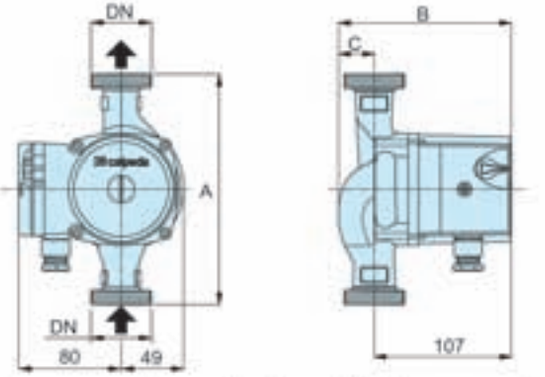
Series
DN ports in mm
Max. head in dm
connection size mm

Characteristic curves, dimensions and weights



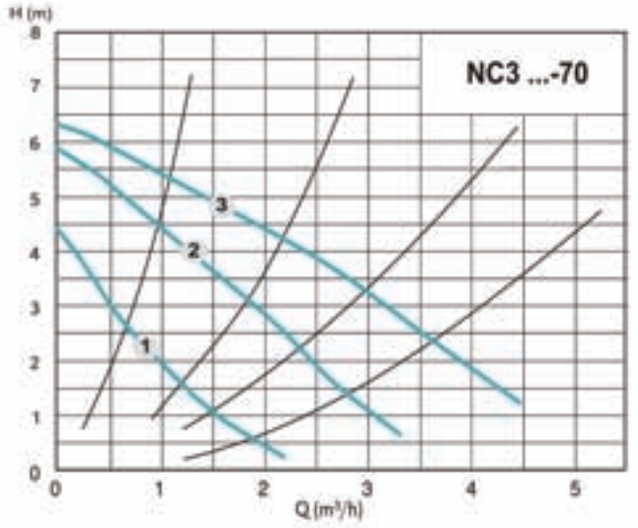


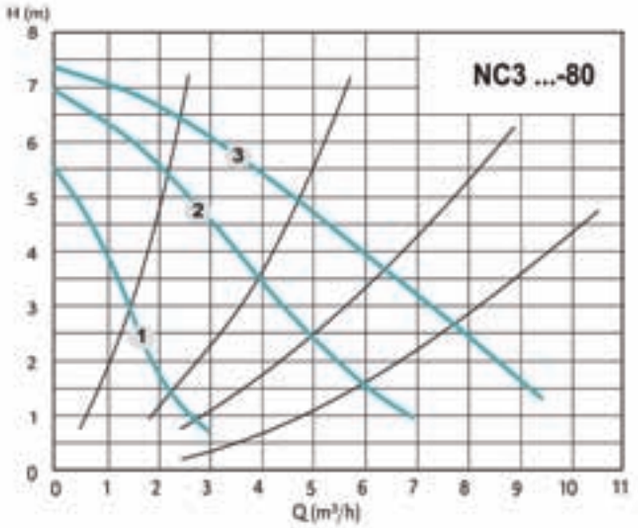


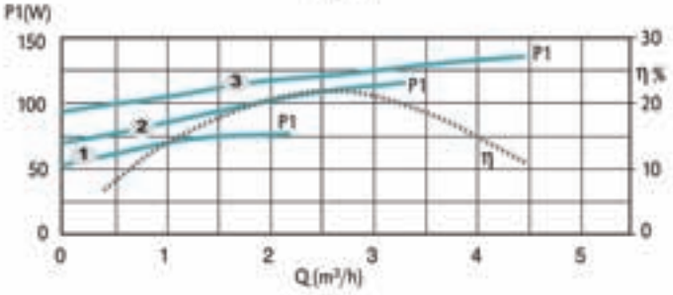


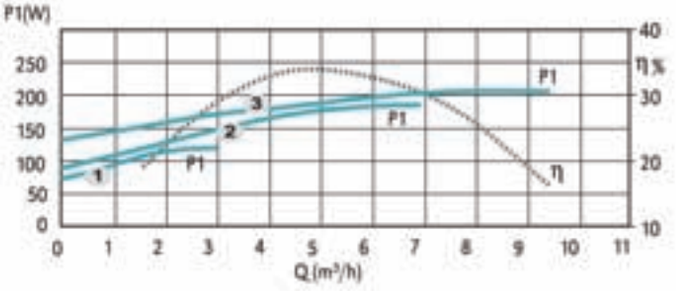
TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	mm A	B	C	[kg]
NC3 15-40/130	G 1	3	53	0,23	130	128	21	2,2
NC3 25-40/130	G 1 1/2	2	47	0,21	130	135	28	2,4
NC3 25-40/180	G 1 1/2	1	38	0,17	180	135	28	2,6
NC3 15-50/130	G 1	3	91	0,38	130	128	21	2,2
NC3 25-50/130	G 1 1/2	2	65	0,28	130	135	28	2,4
NC3 25-50/180	G 1 1/2	1	42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

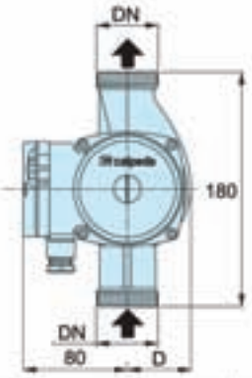
Characteristic curves, dimensions and weights

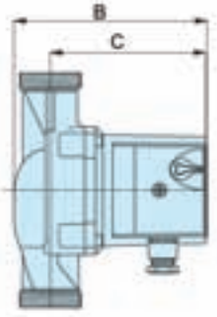












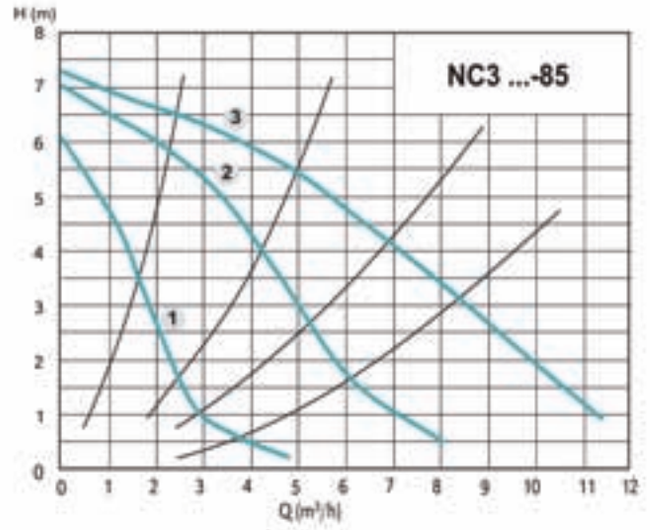
TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[mm] B	C	D	[kg]
NC3 25-70/180	G 1 1/2	3 2 1	136 116 77	0,61 0,54 0,37	135	107	49	2,9
NC3 32-70/180	G 2	3 2 1	136 116 77	0,61 0,54 0,37	138	107	49	3,1
NC3 32-80/180	G 2	3 2 1	206 185 120	0,91 0,88 0,60	185	143	58	4,7

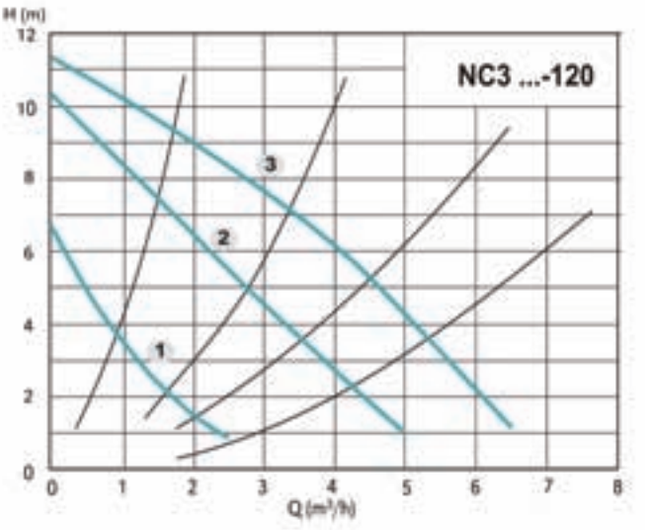
NC3

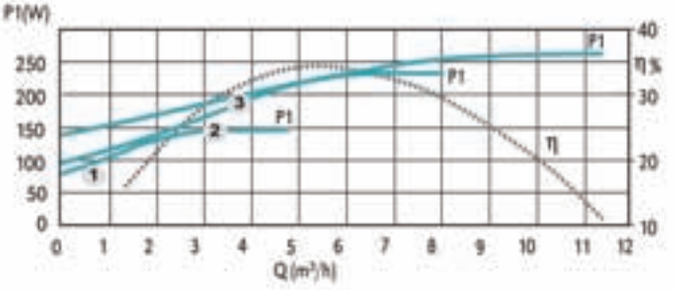
Three speeds circulating pumps with threaded ports

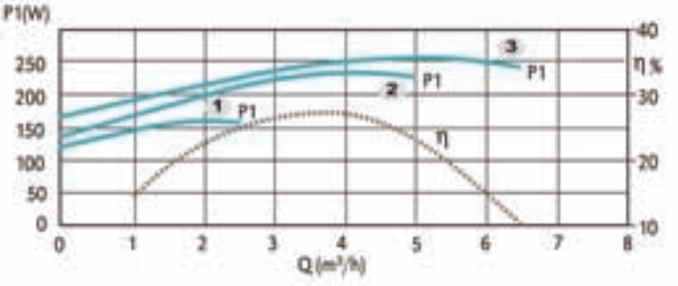
calpeda

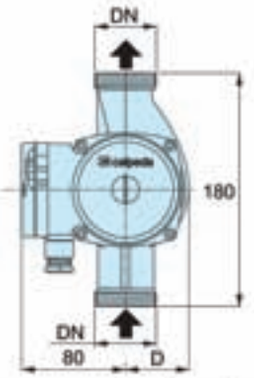
Characteristic curves, dimensions and weights

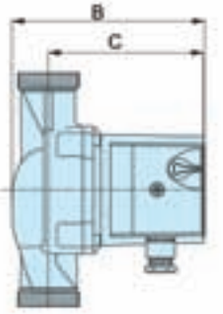












TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[mm] B	C	D	[kg]
NC3 32-85/180	G 2	3 2 1	277 250 172	1,2 1,16 0,85	185	143	58	4,9
NC3 32-120/180	G 2	3 2 1	265 251 176	1,15 1,14 0,85	208	174	68	5,2

NCD3

Three speeds circulating twin pumps with threaded ports

calpeda

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.

Materials	NCD3 ..40	NCD3 ...70-80-120
Pump casing	Cast iron	Cast iron
Impeller	Composite	Composite
Shaft	Stainless steel	Ceramic

Applications

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

Operating conditions

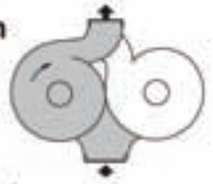
Liquid temperature from +5 °C to +110 °C (from -10 °C to +110 °C for NCD3 ..-70 and NCD3 ..-80-120).
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require recheking of the pumping data).
Maximum permissible working pressure 10 bar.

type	Minimum suction pressure: bar		
	Temperature		
	50 °C	80 °C	110 °C
NCD3 ..-40	0,05	0,4	1,1
NCD3 ..-70	0,05	0,4	1,1
NCD3 ..-80,120	0,05	0,4	1,2

Motor

2-pole induction motor, 50 Hz.
Three adjustable speeds.
NCD3: single-phase 230 V.
Insulation class H.
Protection IP 44.

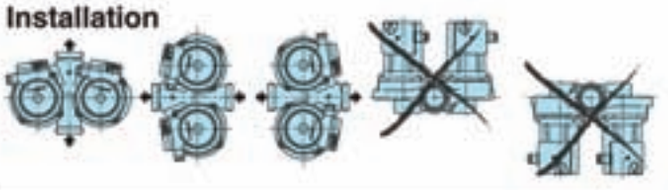
Operation



Single operation
Operation of a single pump choosed by the customer, with the second pump on stand-by

Double operation
Operation in parallel of the two pumps

Installation



Unions

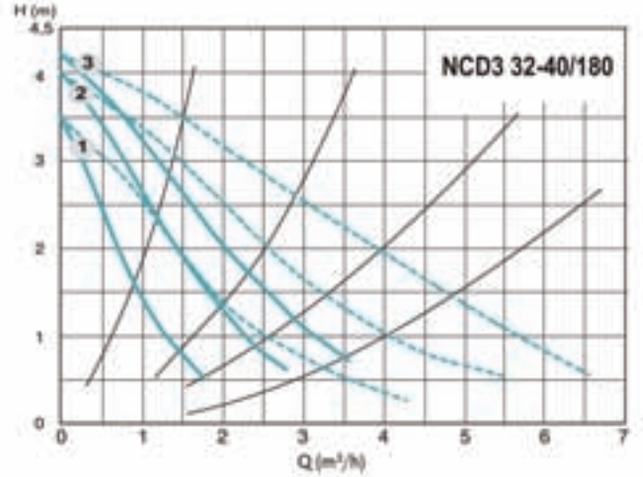
TYPE	DN	DN1
KIT G 2 - G 1 1/4 (NC3D 32..)	G 2	G 1 1/4

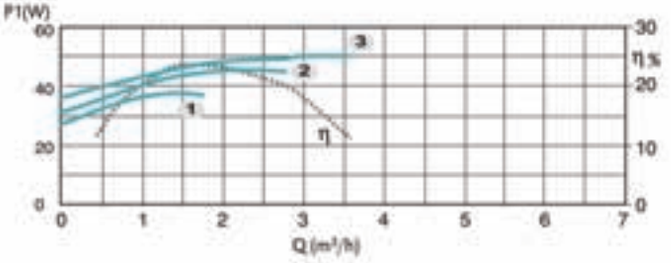
Designation

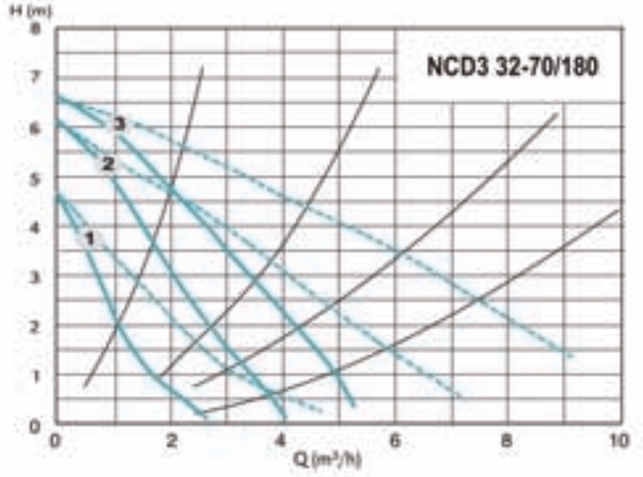
NCD3 32 - 70 / 180

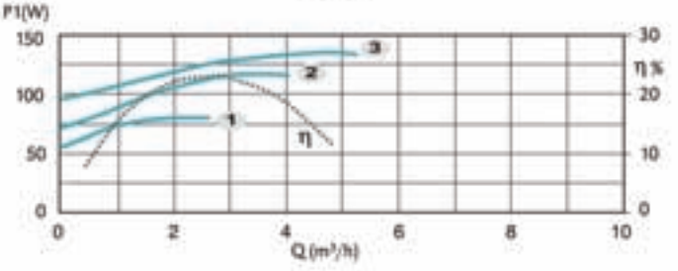
Series
DN ports in mm
Max. head in dm
connection size mm

Characteristic curves, dimensions and weights

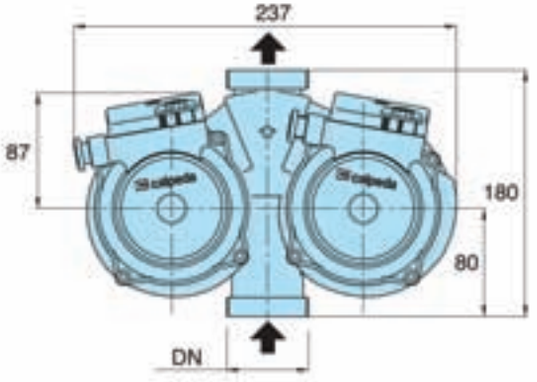


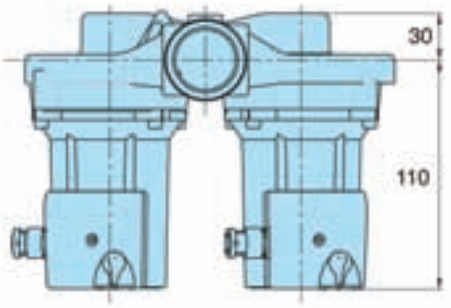






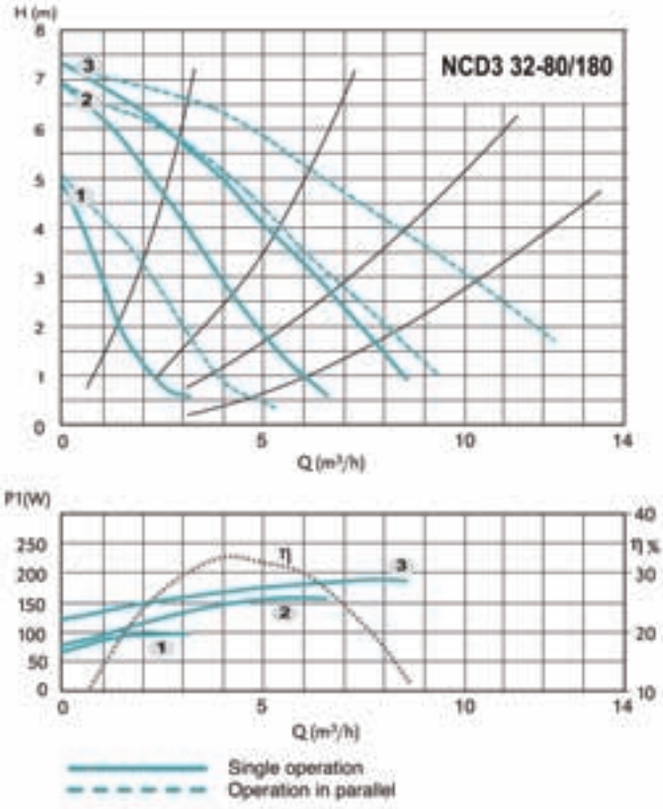
Single operation
Operation in parallel

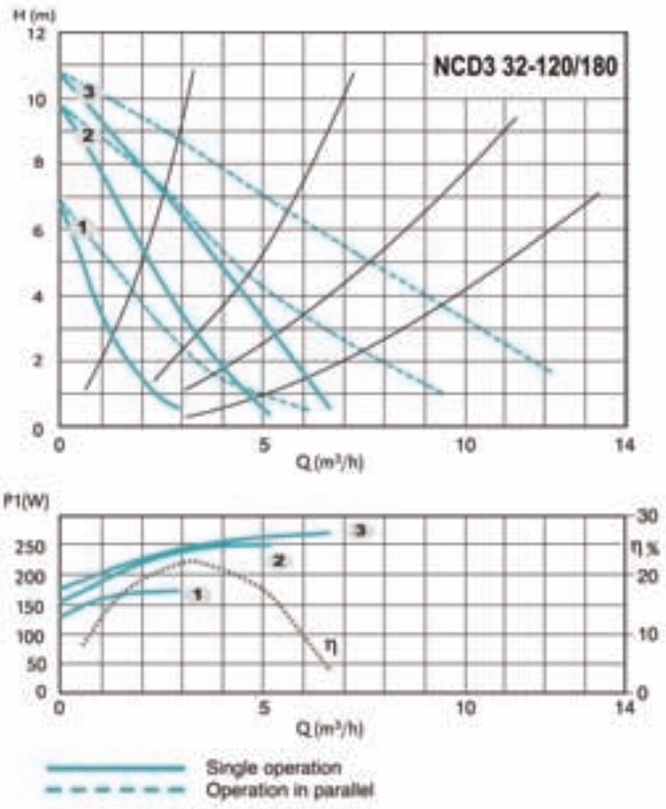


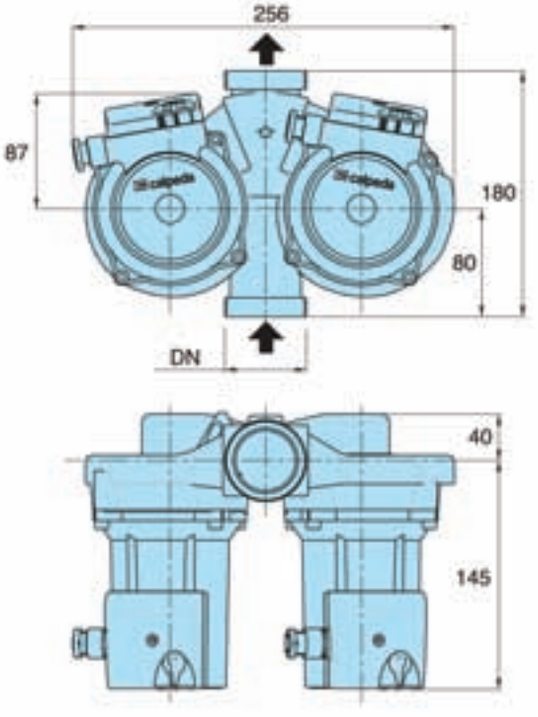


TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[kg]
NCD3 32-40/180	G 2	3 2 1	53 47 38	0,23 0,21 0,17	5,6
NCD3 32-70/180	G 2	3 2 1	136 116 77	0,61 0,54 0,37	6

Characteristic curves, dimensions and weights







TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[kg]
NCD3 32-80/180	G 2	3 2 1	206 185 120	0,91 0,88 0,6	9,6
NCD3 32-120/180	G 2	3 2 1	265 251 176	1,15 1,14 0,85	10,3

NC

Three speeds circulating pumps with flanges

calpeda

Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).

Materials:

Pump casing	Cast iron
Impeller	Stainless steel
Shaft	Stainless steel

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials (contents of solids up to 0.2%).
For heating, conditioning, cooling and circulation plants.
For civil and industrial applications.
When low noise operation is required.

Operating conditions

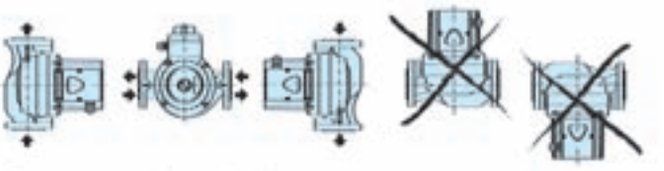
Liquid temperature from -10 °C to +120 °C (in short-time duty up to + 140 °C).
Ambient temperature up to 40 °C.
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require recheking of the pumping data).
Maximum permissible working pressure 6/10 bar.

TYPE	Minimum suction pressure: bar		
	Temperature		
	50 °C	80 °C	110 °C
NC 40	0,05	0,8	1,4
NC 50	0,3	1	1,6
NC 65	0,3	1	1,6
NC 80	0,3	1	1,6

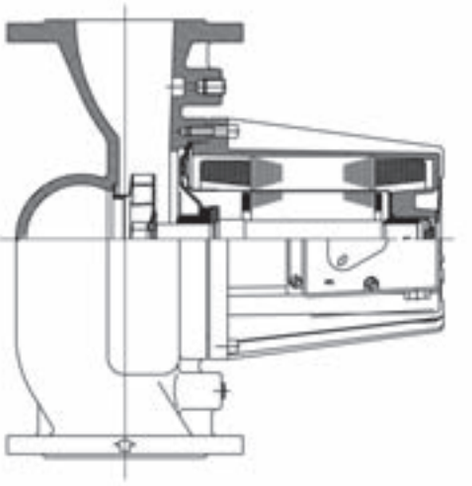
Motor

2-4-pole induction motor, 50 Hz.
Three adjustable speeds.
NC: three-phase 230V or 400 V.
NCM: single-phase 230 V.
Insulation class H.
Protection IP 43.

Installation



Cross section drawings

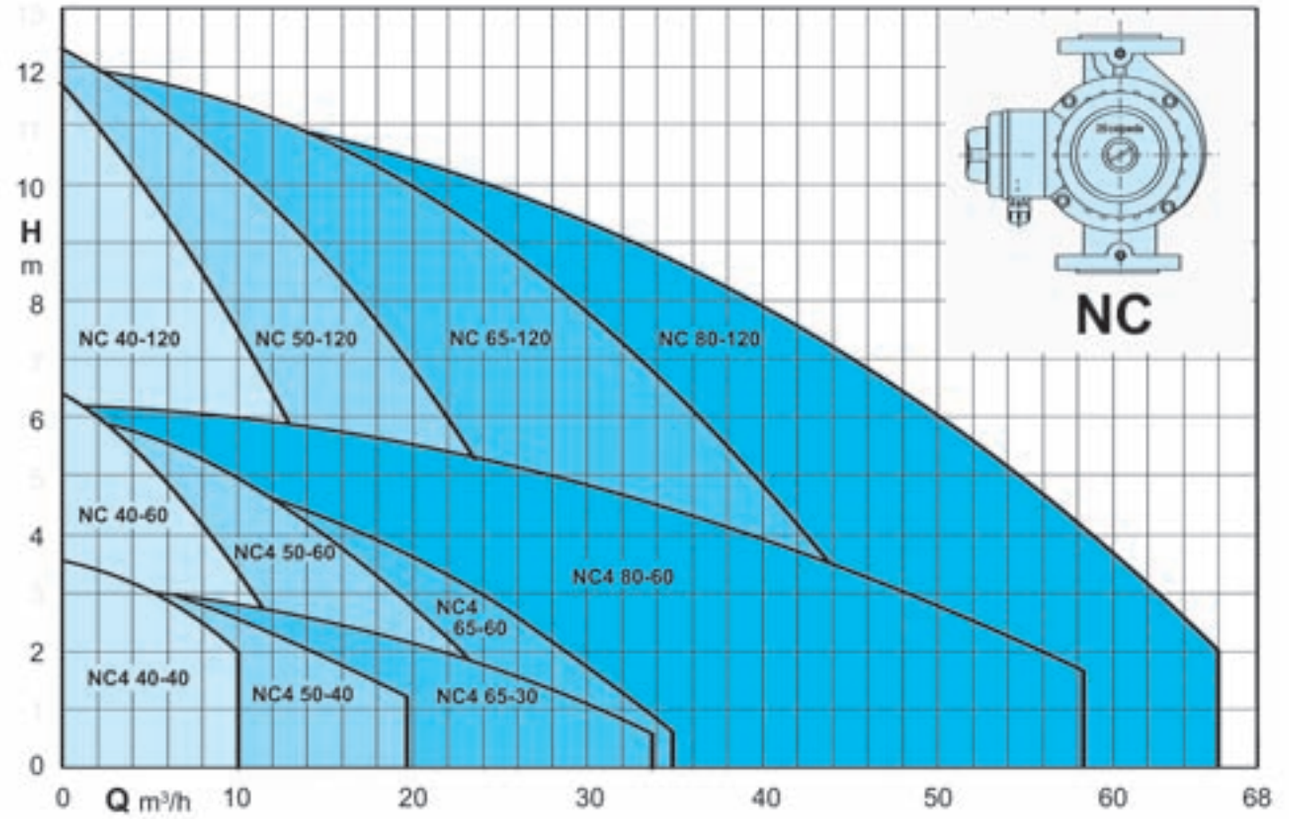


Designation

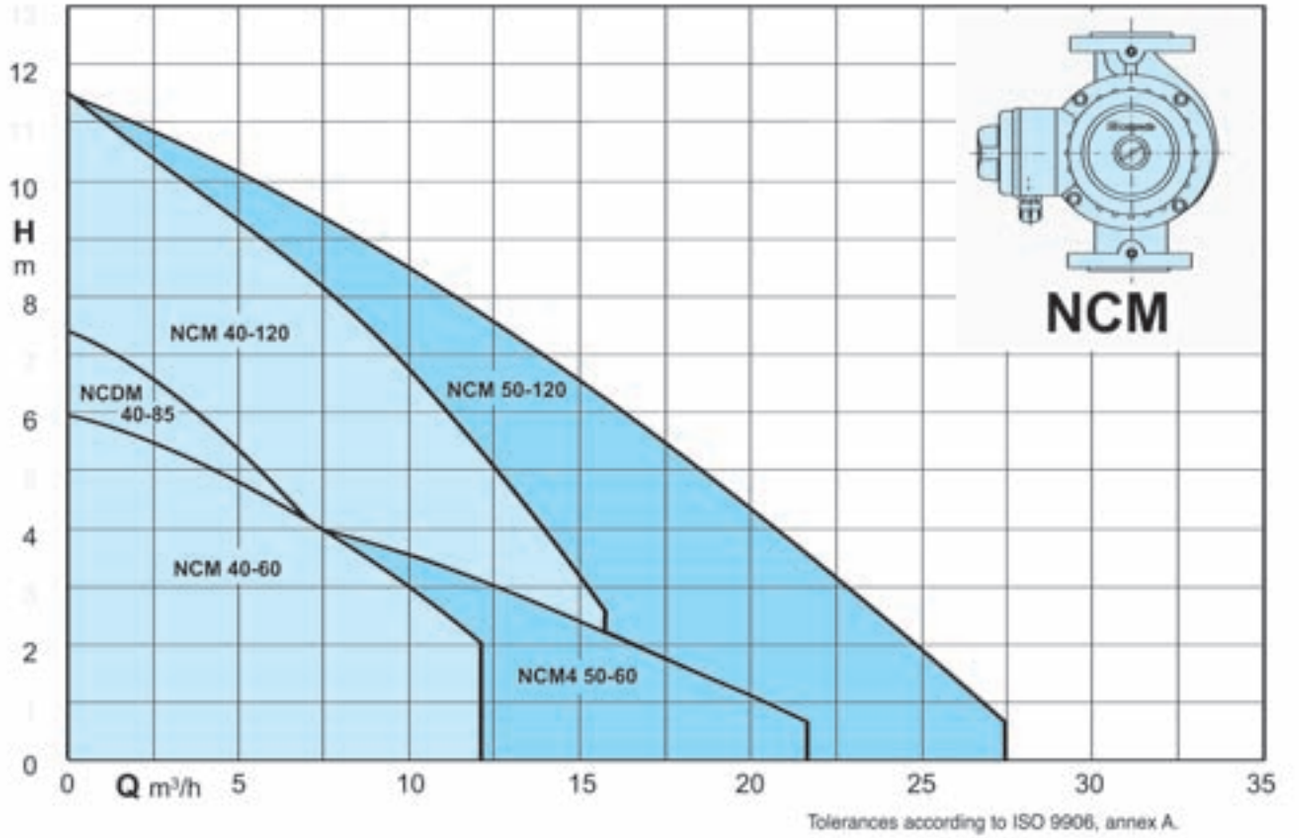
NC (M) 4 40 - 60 / 250

- Series
- Single-phase motor
- 4-pole motor
- DN ports in mm
- Max. head in dm
- connection size mm

Coverage chart



Tolerances according to ISO 9906, annex A.



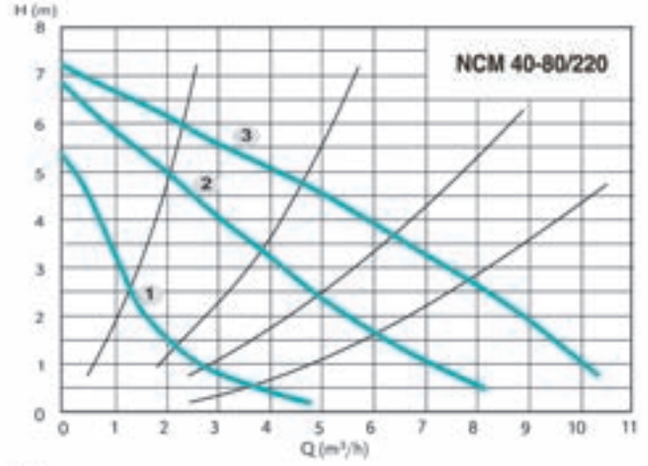
Tolerances according to ISO 9906, annex A.

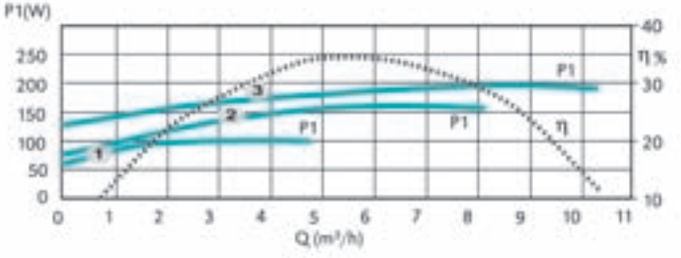
NCM 40

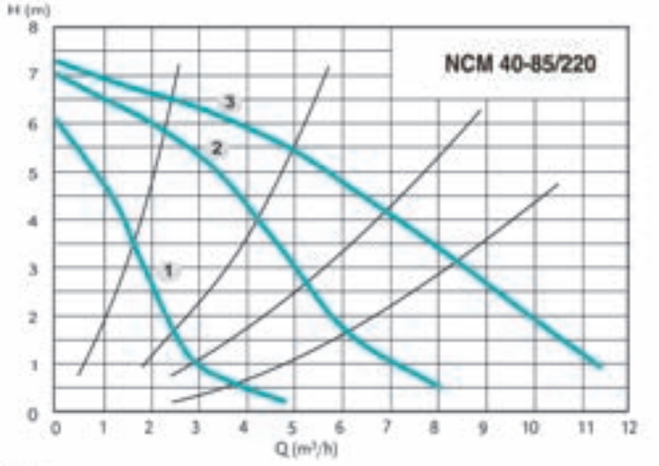
Three speeds circulating pumps with flanges

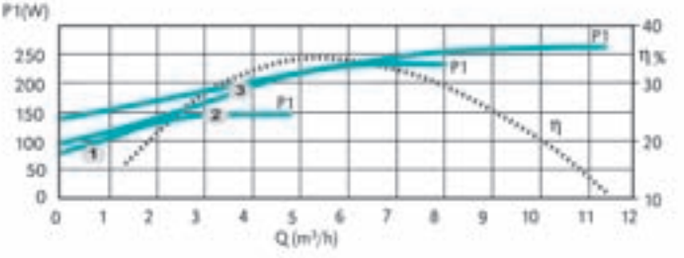
calpeda

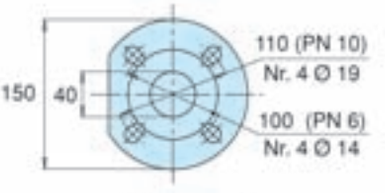
Characteristic curves, dimensions and weights

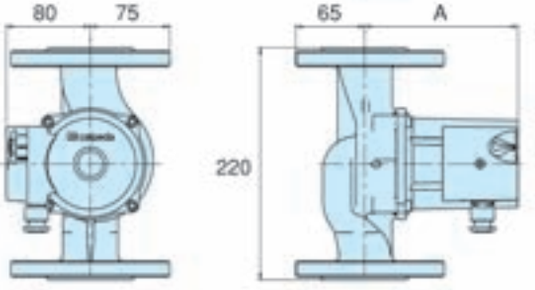










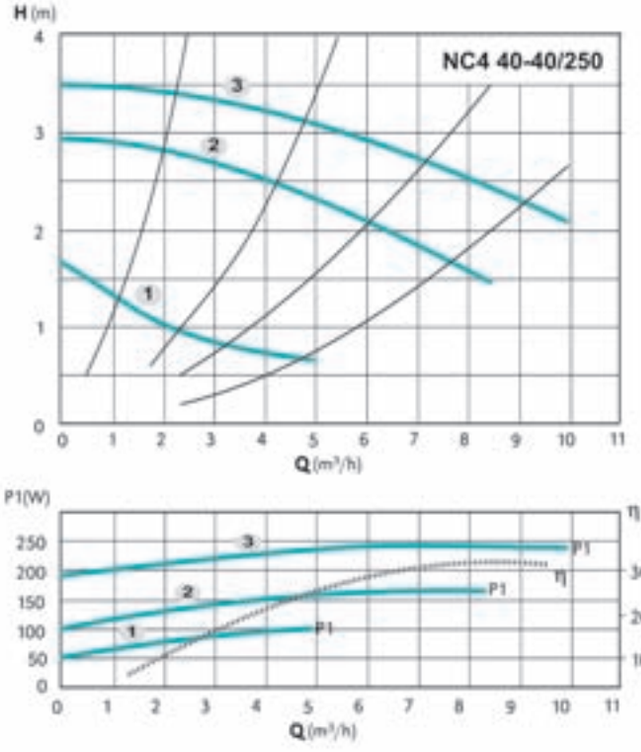


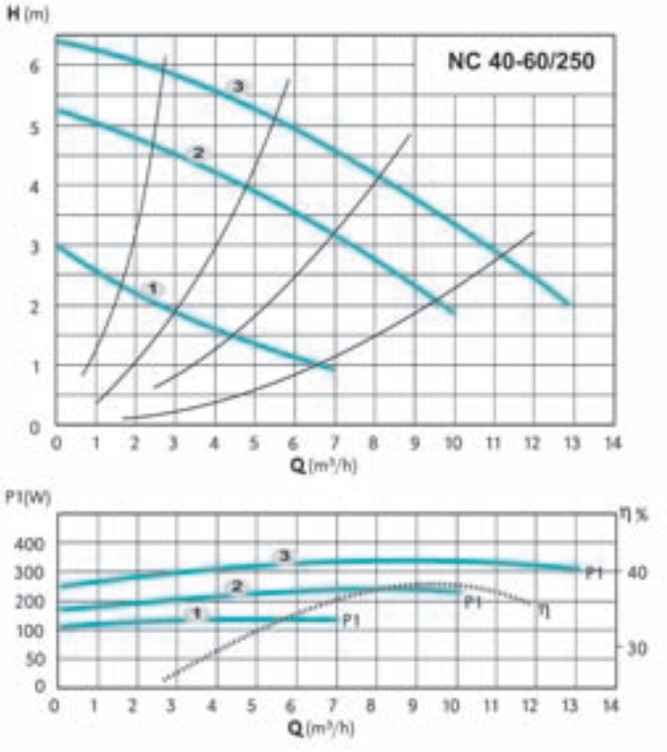
TYPE	DN	PN	N° Poli 2	N° Poli 4	Pos.	1/min	P1 (W)	1x 230 V [A]	A [mm]	[kg]
NCM 40-80/220	40	6/10	✔		3 2 1	- - -	210 176 107	0,95 0,80 0,49	150	8,1
NCM 40-85/220	40	6/10	✔		3 2 1	- - -	277 250 172	1,20 1,16 0,85	175	8,8

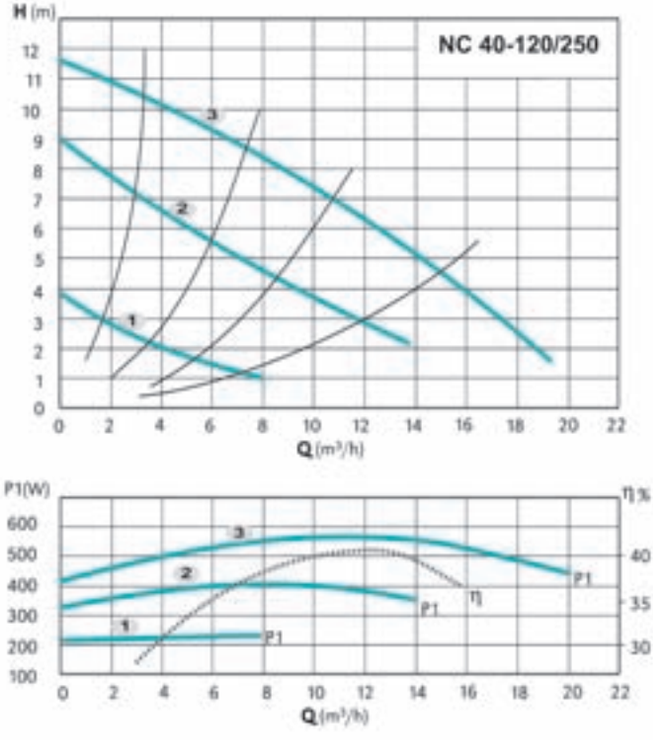
NC 40

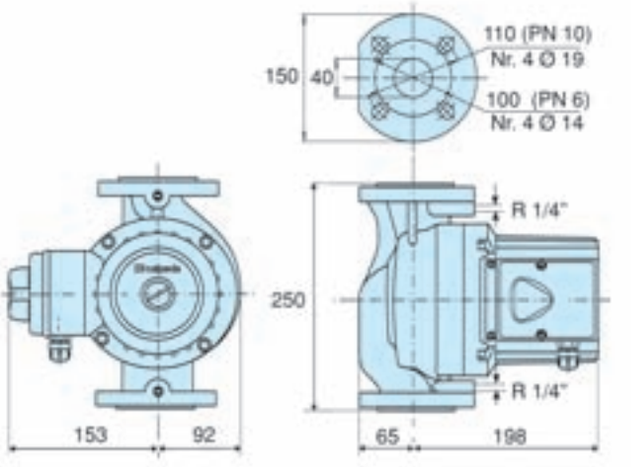
Three speeds circulating pumps with flanges

Characteristic curves, dimensions and weights









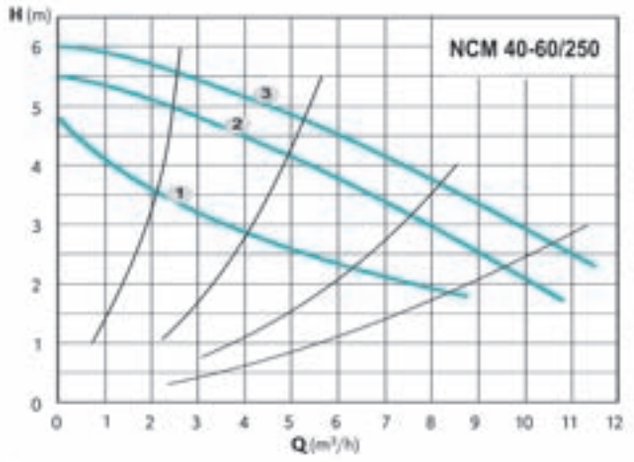
TYPE	DN	PN	N° Poli 2	N° Poli 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NC4 40-40/250	40	6/10		✔	3 2 1	1440 1200 660	240 160 100	0,76 0,24 0,11	17,0
NC 40-60/250	40	6/10	✔		3 2 1	2790 2240 1440	320 240 140	0,74 0,36 0,18	17,5
NC 40-120/250	40	6/10	✔		3 2 1	2820 2200 1250	560 400 220	1,16 0,64 0,26	19,0

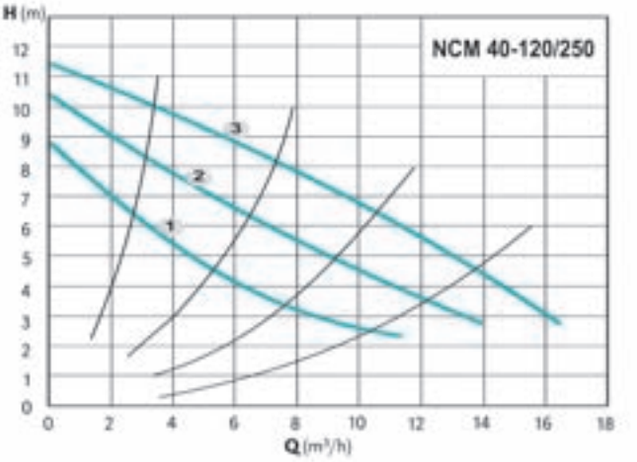
NCM 40

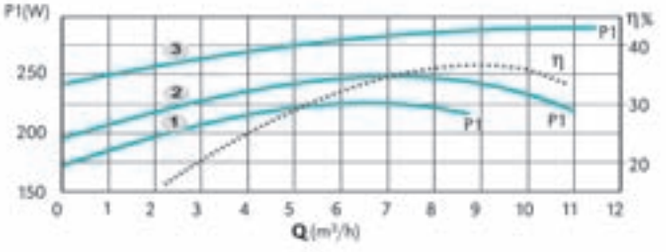
Three speeds circulating pumps with flanges

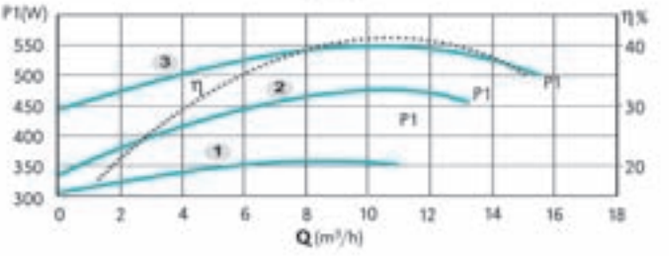
calpeda

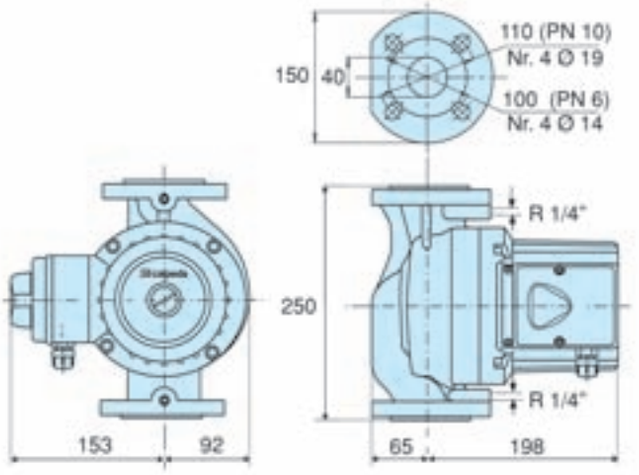
Characteristic curves, dimensions and weights











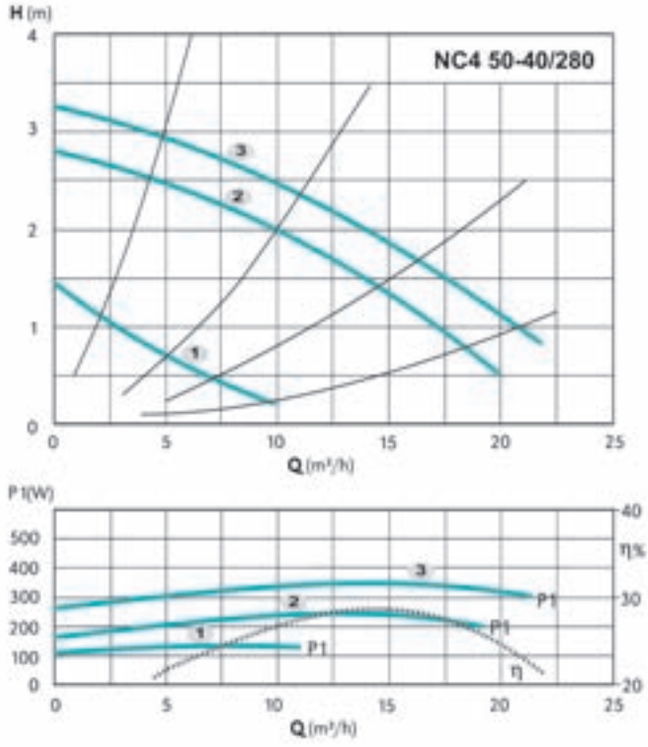
TYPE	DN	PN	N° Poli 2	4	Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
NCM 40-60/250	40	6/10	✔		3 2 1	2690 2360 1820	285 245 225	1,20 1,18 1,15	17,5
NCM 40-120/250	40	6/10	✔		3 2 1	2750 2100 1270	550 475 355	2,35 2,30 1,85	19,0

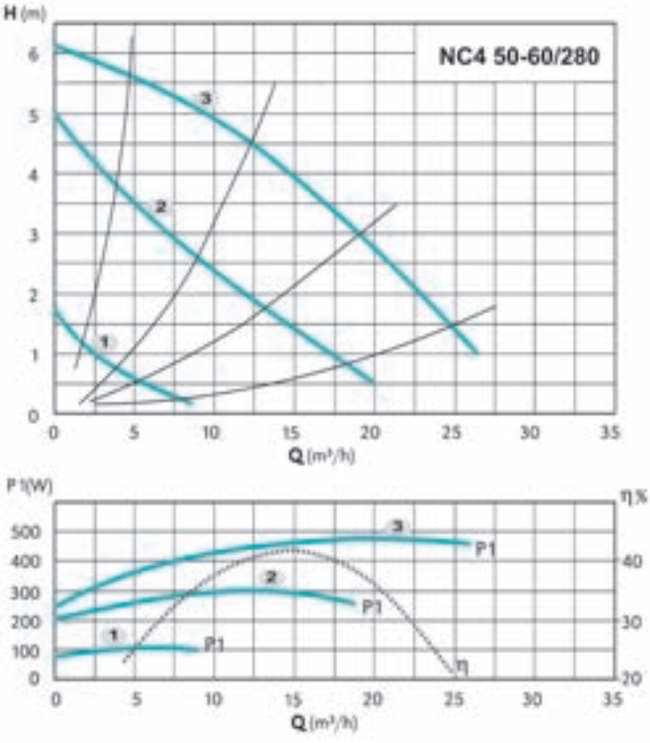
NC 50

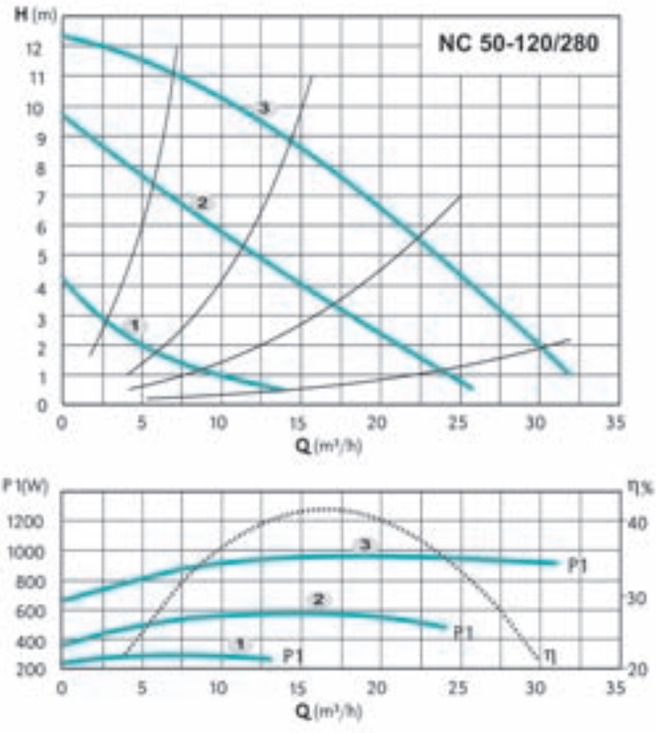
Three speeds circulating pumps with flanges

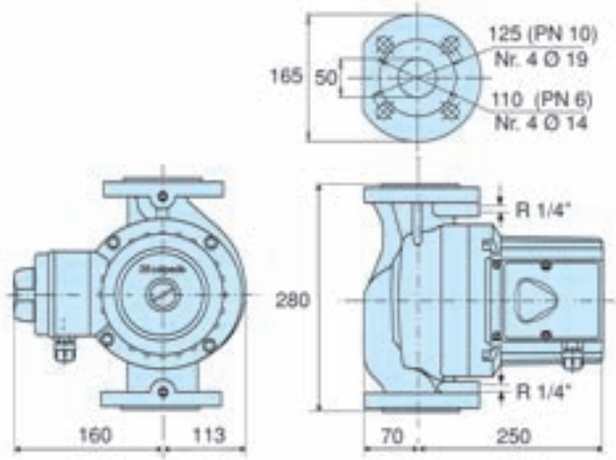
calpeda

Characteristic curves, dimensions and weights









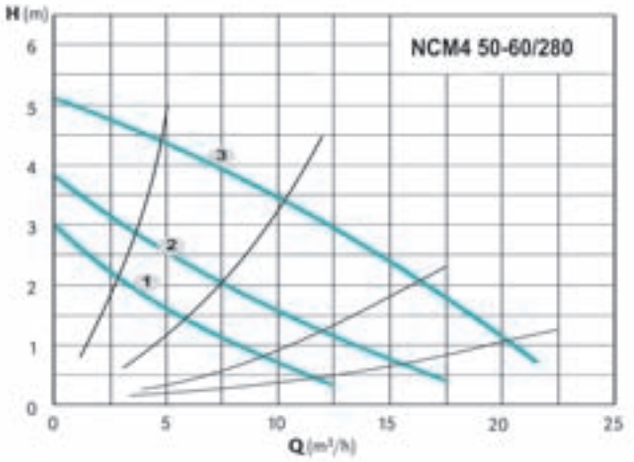
TYPE	DN	PN	N° Poli 2	N° Poli 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NC4 50-40/280	50	6/10		✔	3 2 1	1450 1220 620	340 240 120	1,05 0,44 0,22	24,0
NC4 50-60/280	50	6/10		✔	3 2 1	1400 1000 560	470 300 100	1,15 0,55 0,20	24,0
NC 50-120/280	50	6/10	✔		3 2 1	2800 2330 1270	950 540 265	1,73 1,05 0,46	24,0

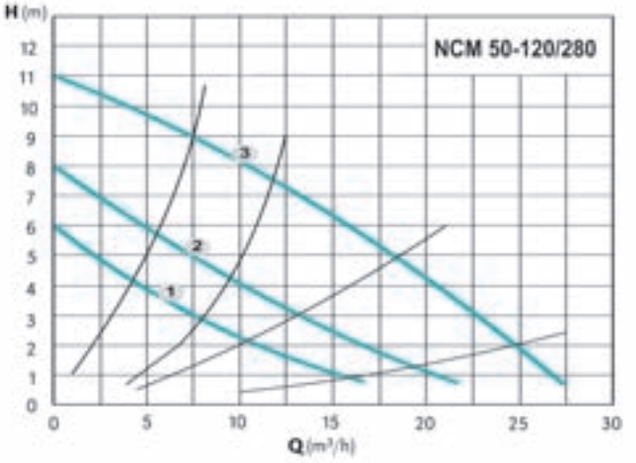
NCM 50

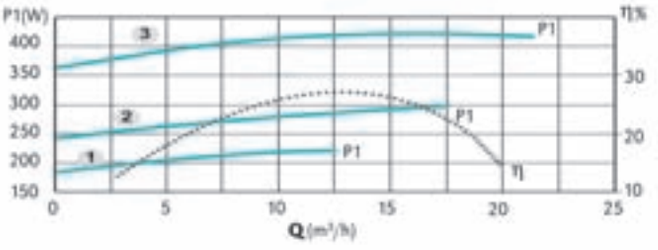
Three speeds circulating pumps with flanges

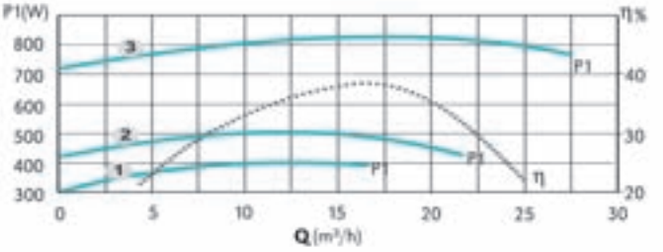
calpeda

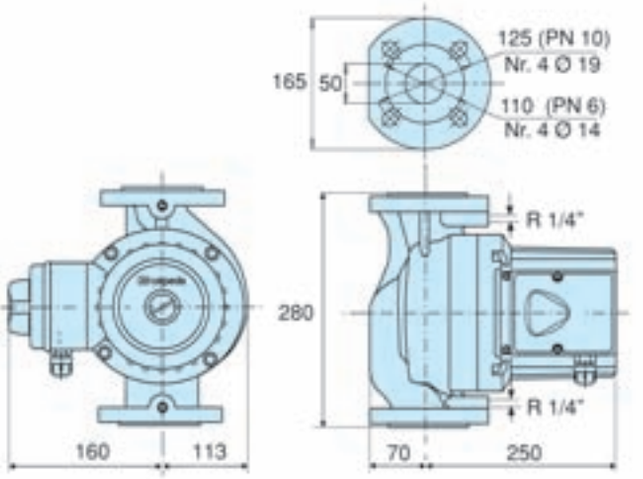
Characteristic curves, dimensions and weights











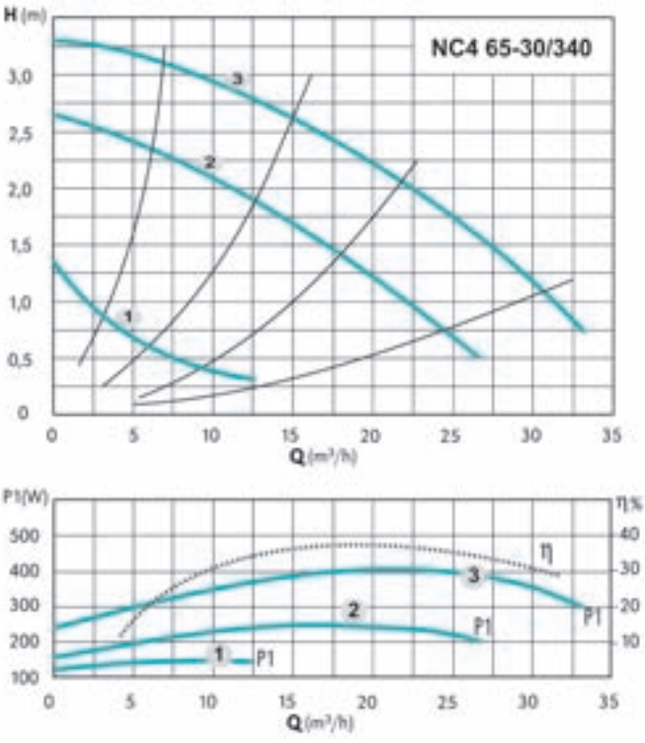
TYPE	DN	PN	N° Poli 2	4	Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
NCM4 50-60/280	50	6/10		✔	3 2 1	1260 1030 740	415 300 230	1,8 1,3 1,0	24,5
NCM 50-120/280	50	6/10	✔		3 2 1	2720 1870 1450	830 480 390	3,6 2,1 1,7	24,5

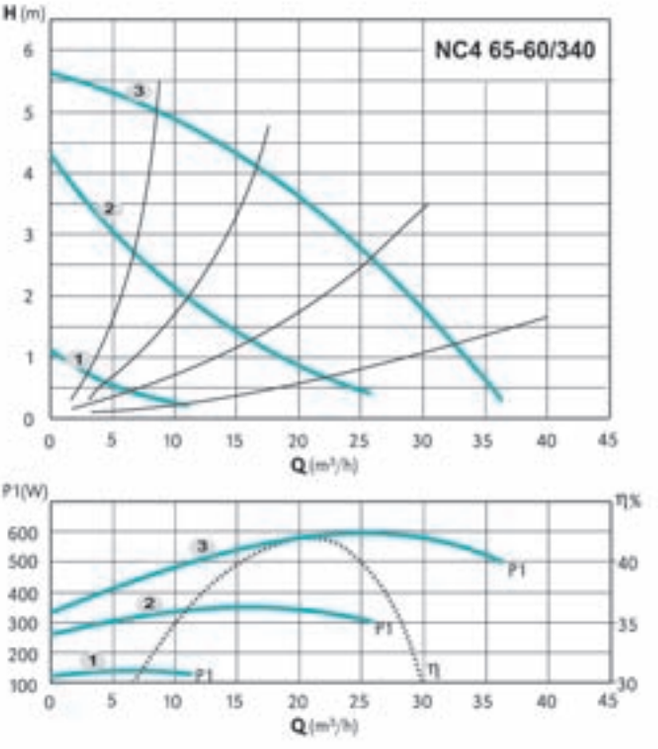
NC 65

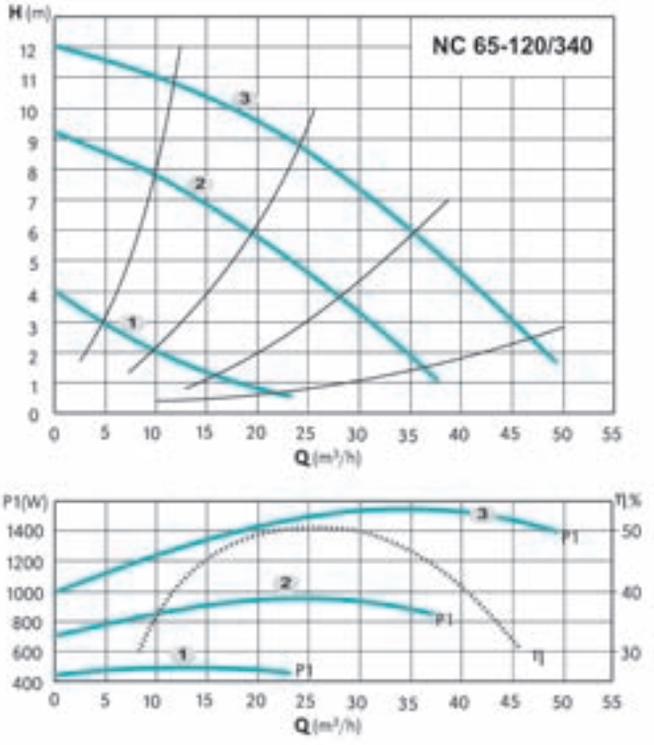
Three speeds circulating pumps with flanges

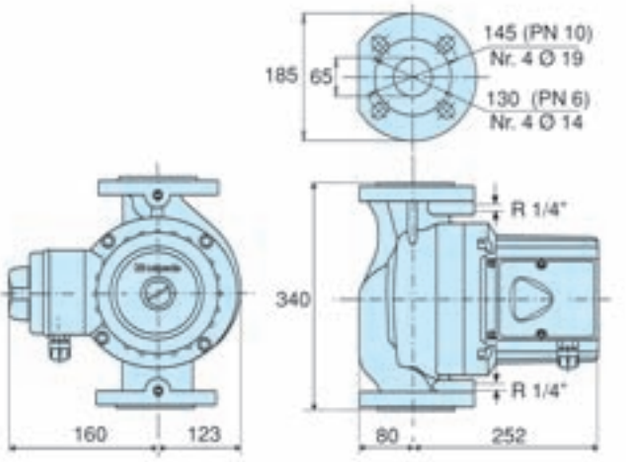
calpeda

Characteristic curves, dimensions and weights







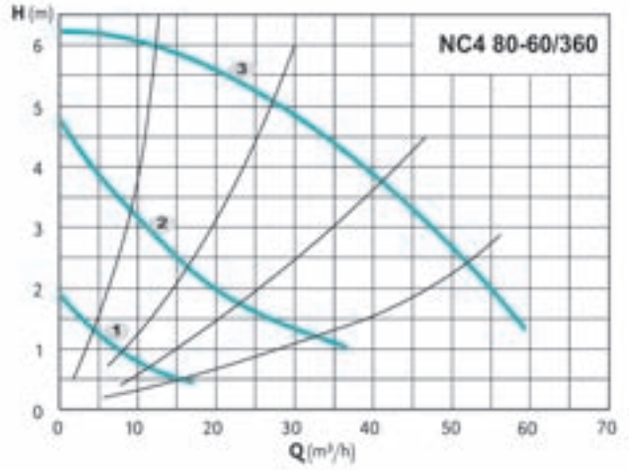


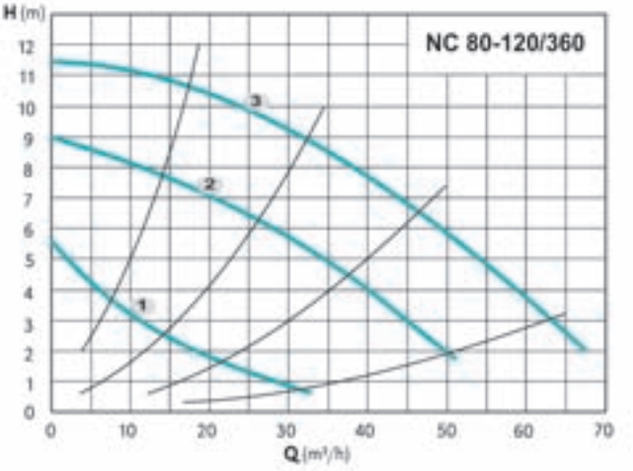
TYPE	DN	PN	N° Poli 2	N° Poli 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NC4 65-30/340	65	6/10		✔	3 2 1	1430 1150 600	400 260 120	1,10 0,50 0,22	29,0
NC4 65-60/340	65	6/10		✔	3 2 1	1370 950 450	600 360 120	1,25 0,64 0,22	29,0
NC 65-120/340	65	6/10	✔		3 2 1	2810 2200 1250	1560 960 460	2,80 1,70 0,84	31,0

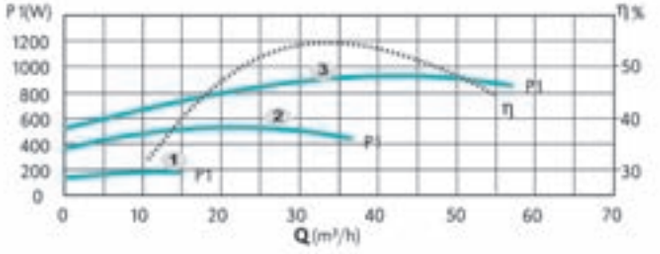
NC 80

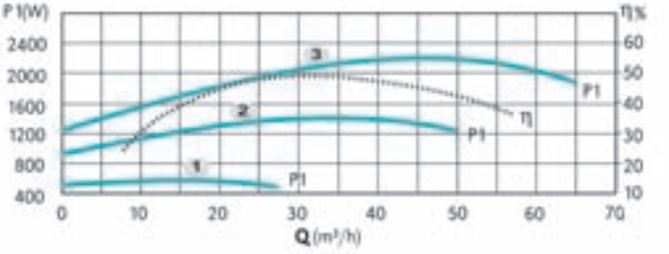
Three speeds circulating pumps
with flanges

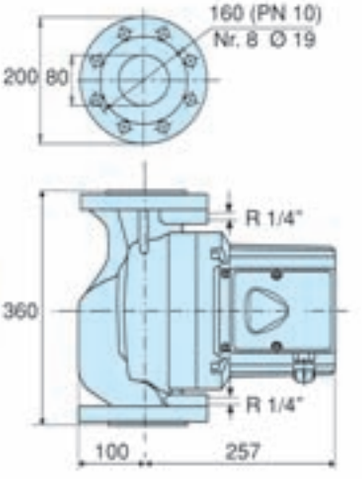
Characteristic curves, dimensions and weights











TYPE	DN	PN	N° Poli 2	4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NC4 80-60/360	80	10		✔	3 2 1	1350 1000 600	960 560 200	2,20 1,10 0,38	33,5
NC 80-120/360	80	10	✔		3 2 1	2800 2160 1200	2200 1400 550	3,80 2,40 1,05	34,5

NCD

Three speeds circulating twin pumps with flanges

Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).

Materials:

Pump casing	Cast iron
Impeller	Stainless steel
Shaft	Stainless steel

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials (contents of solids up to 0.2%).
For heating, conditioning, cooling and circulation plants.
For civil and industrial applications.
When low noise operation is required.

Operating conditions

Liquid temperature from -10 °C to +120 °C (in short-time duty up to + 140 °C).
Ambient temperature up to 40 °C.
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require recheking of the pumping data).
Maximum permissible working pressure 6/10 bar.

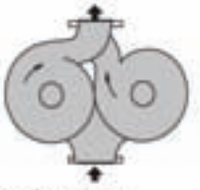
TYPE	Minimum suction pressure: bar		
	Temperature		
	50 °C	80 °C	110 °C
NCD 40	0,05	0,8	1,4
NCD 50	0,3	1	1,6
NCD 65	0,3	1	1,6
NCD 80	0,3	1	1,6

Motor

2-4-pole induction motor, 50 Hz.
Three adjustable speeds.
NCD: three-phase 230V or 400 V.
NCDM: single-phase 230 V.
Insulation class H.
Protection IP 43.

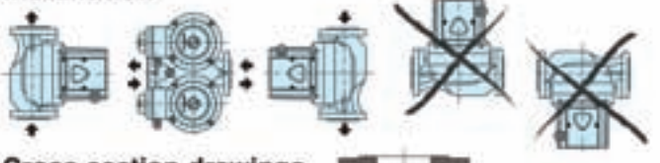
Operation

Single operation
Operation of a single pump choosed by the customer, with the second pump on stand-by

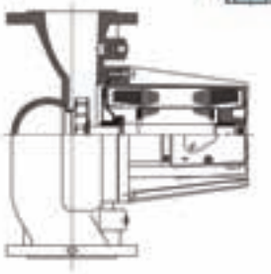


Double operation
Operation in parallel of the two pumps

Installation



Cross section drawings

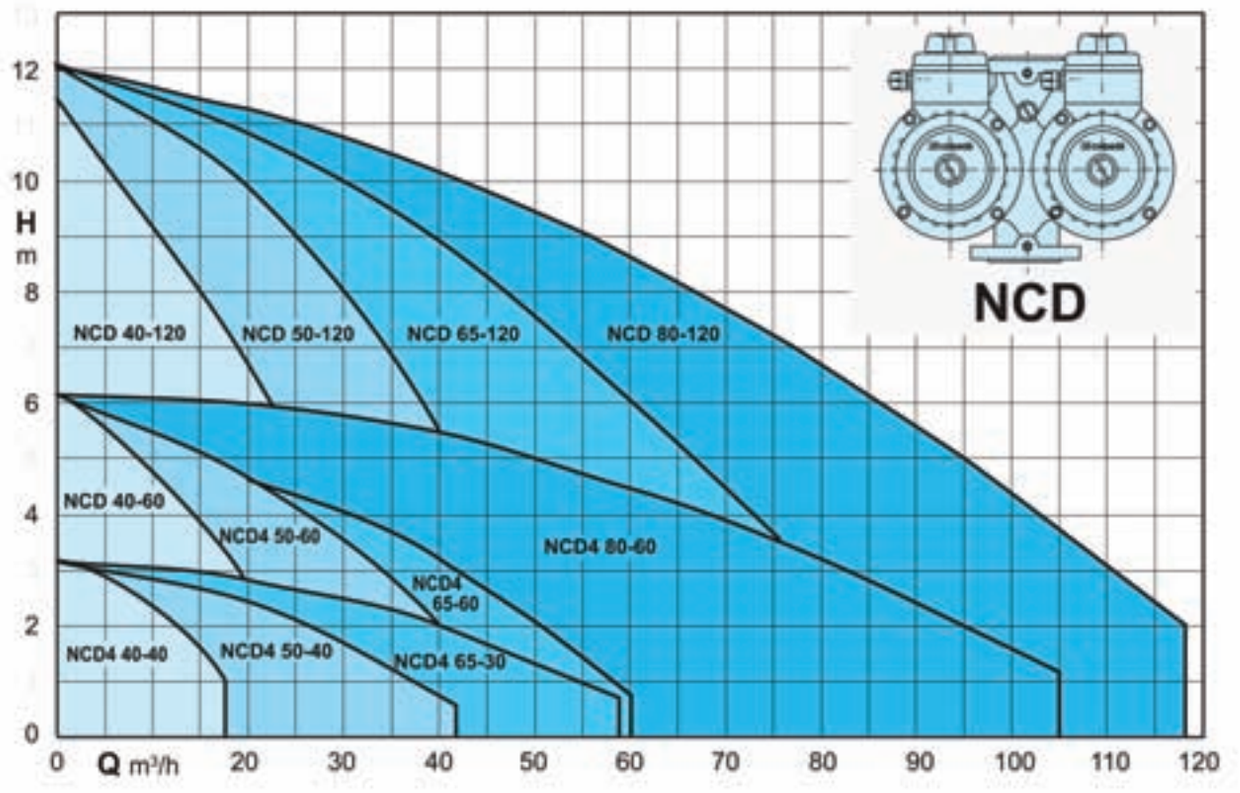


Designation

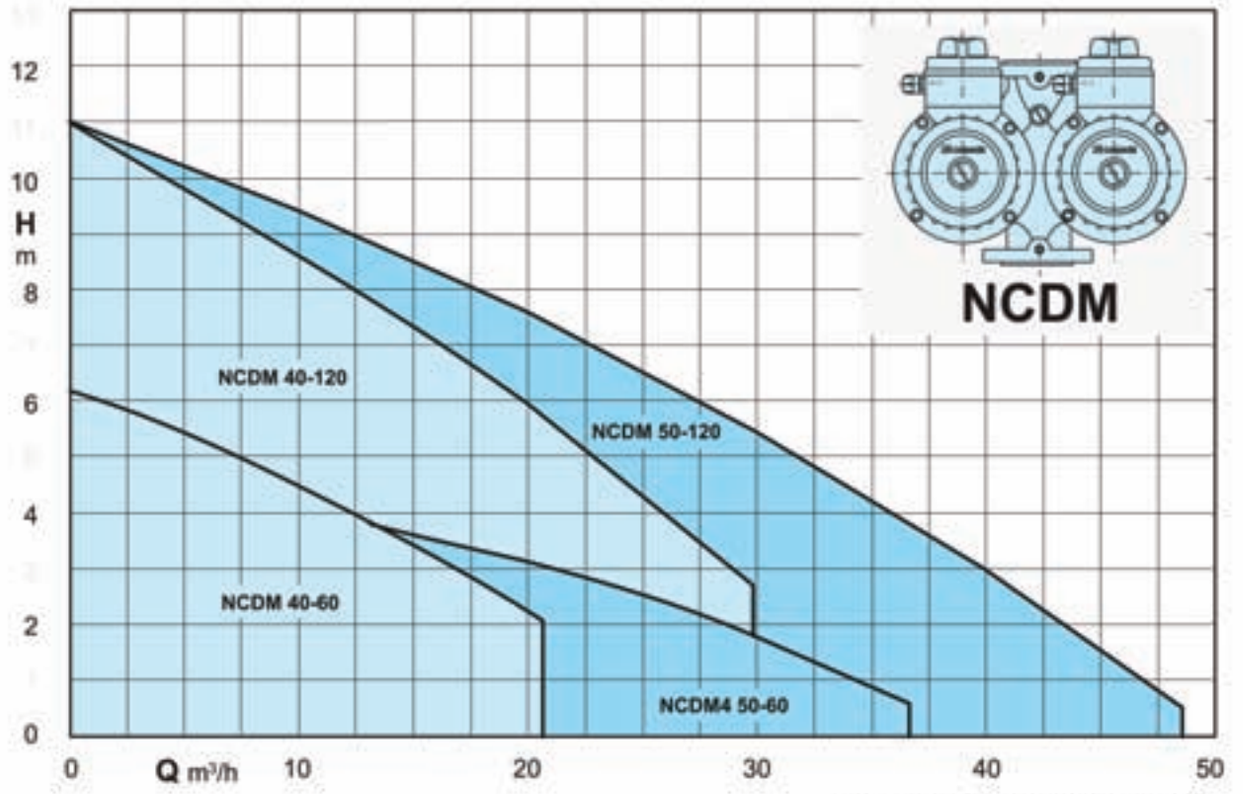
NC D (M) 4 40 - 60 / 250

- Series
- Twin pumps version
- Single-phase motor
- 4-pole motor
- DN ports in mm
- Max. head in dm
- connection size mm

Coverage chart



Tolerances according to ISO 9906, annex A.



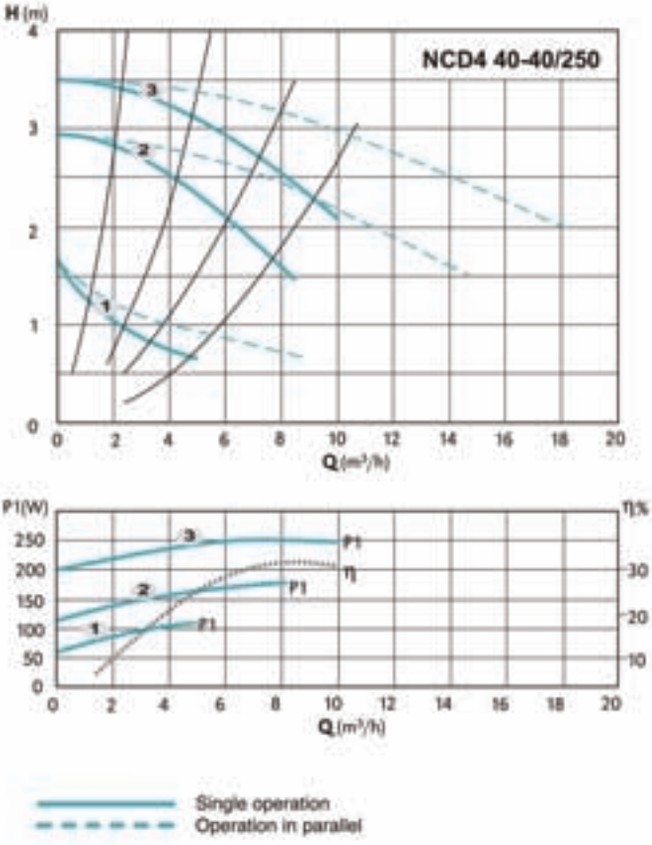
Tolerances according to ISO 9906, annex A.

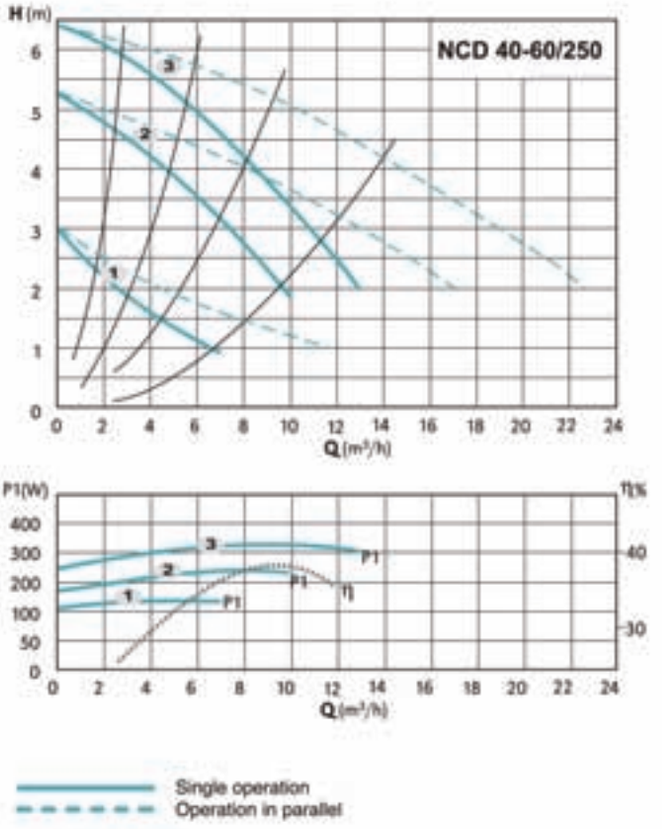
NCD 40

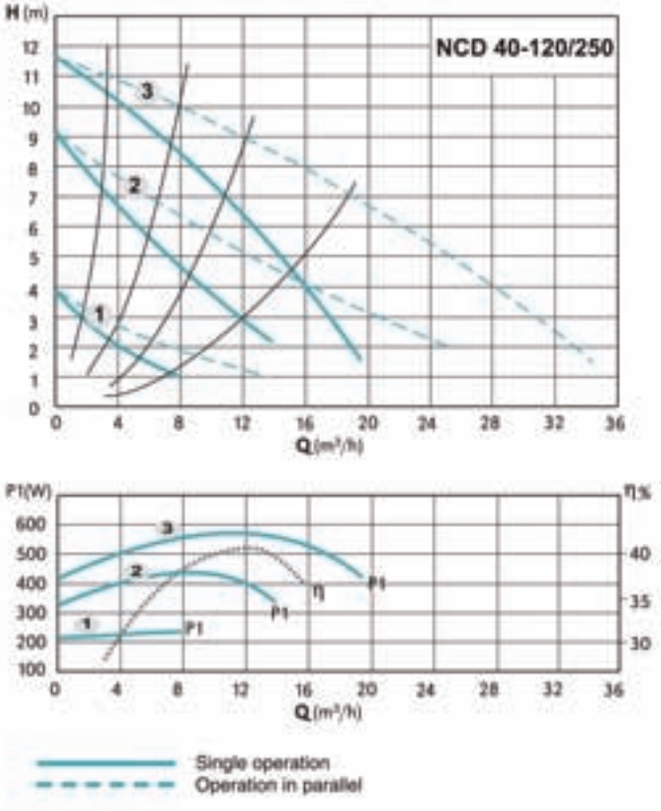
Three speeds circulating twin pumps with flanges

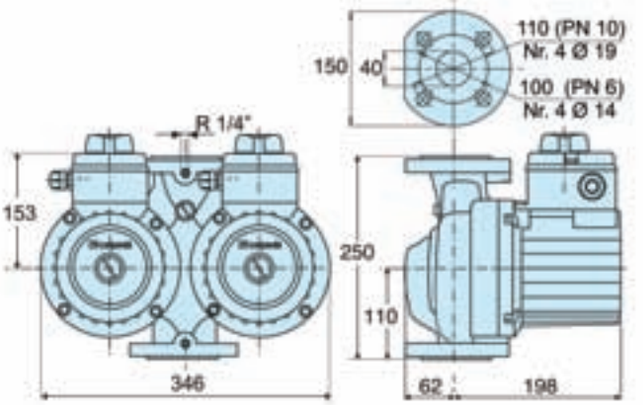
calpeda

Characteristic curves, dimensions and weights









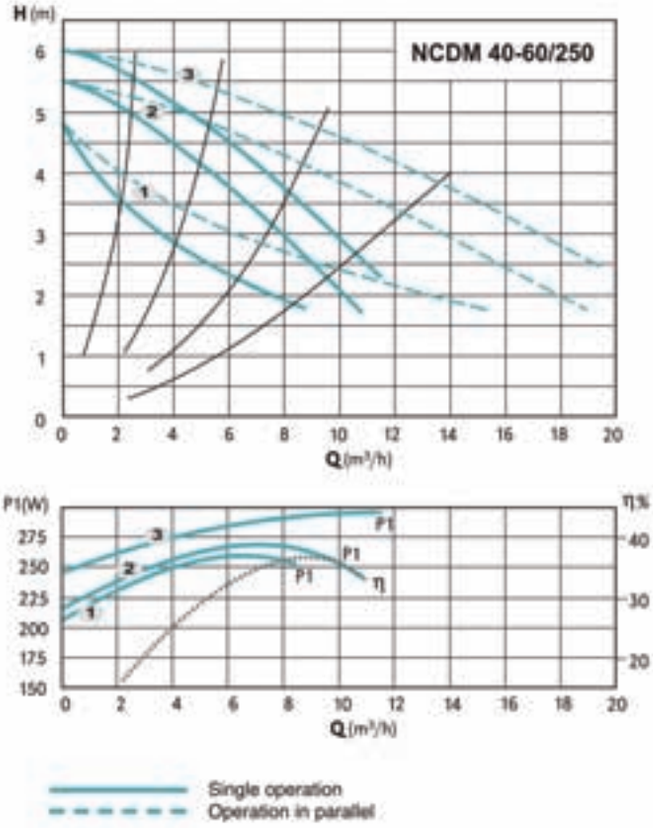
TYPE	DN	PN	N° Poli 2	N° Poli 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NCD4 40-40/250	40	6/10		✔	3 2 1	1440 1200 660	240 160 100	0,76 0,24 0,11	34,0
NCD 40-60/250	40	6/10	✔		3 2 1	2790 2240 1440	320 240 140	0,74 0,36 0,18	35,0
NCD 40-120/250	40	6/10	✔		3 2 1	2820 2200 1250	560 400 220	1,16 0,64 0,26	35,0

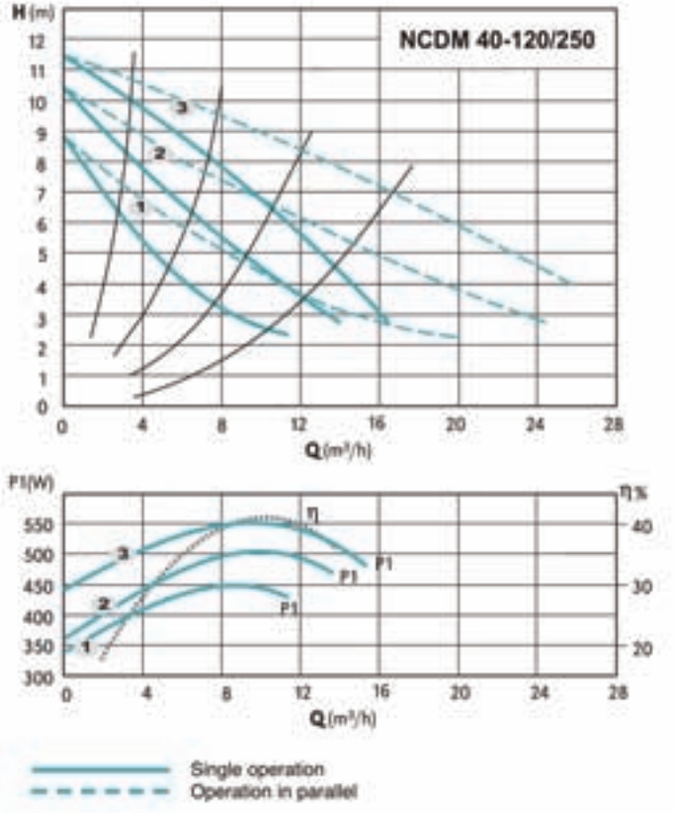
NCDM 40

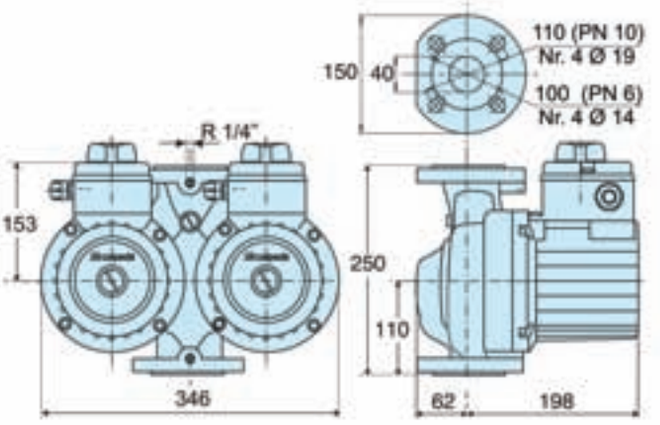
Three speeds circulating twin pumps with flanges

calpeda

Characteristic curves, dimensions and weights







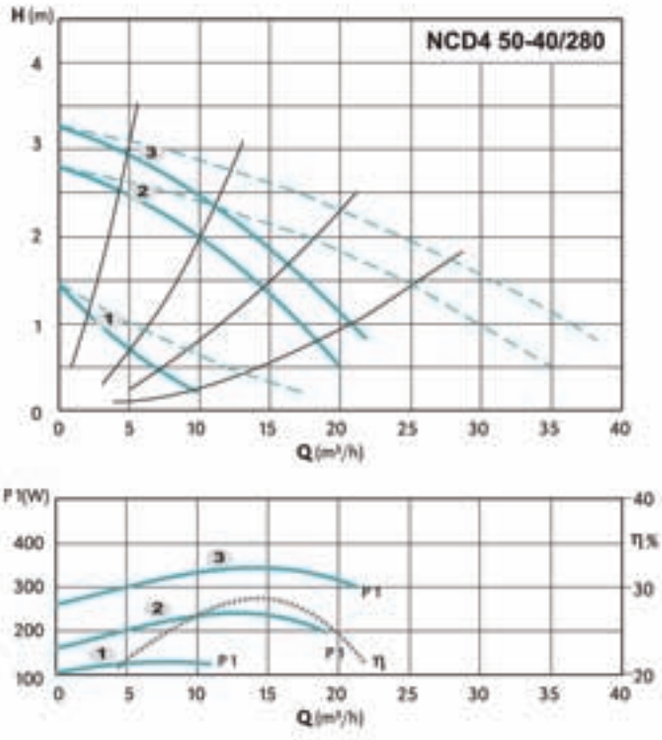
TYPE	DN	PN	N° Poli 2	4	Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
NCDM 40-60/250	40	6/10	✔		3 2 1	2690 2360 1820	285 245 225	1,20 1,18 1,15	35,0
NCDM 40-120/250	40	6/10	✔		3 2 1	2755 2100 1270	550 475 355	2,35 2,30 1,85	35,0

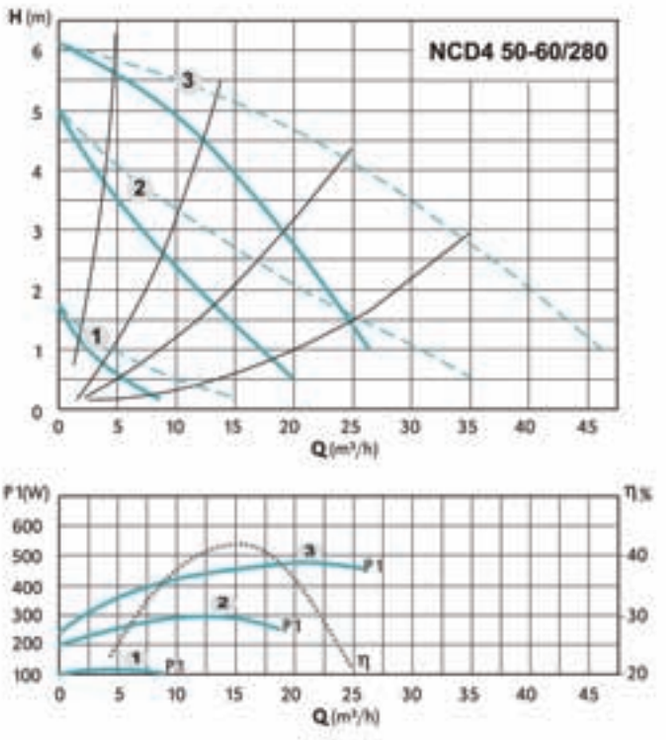
NCD 50

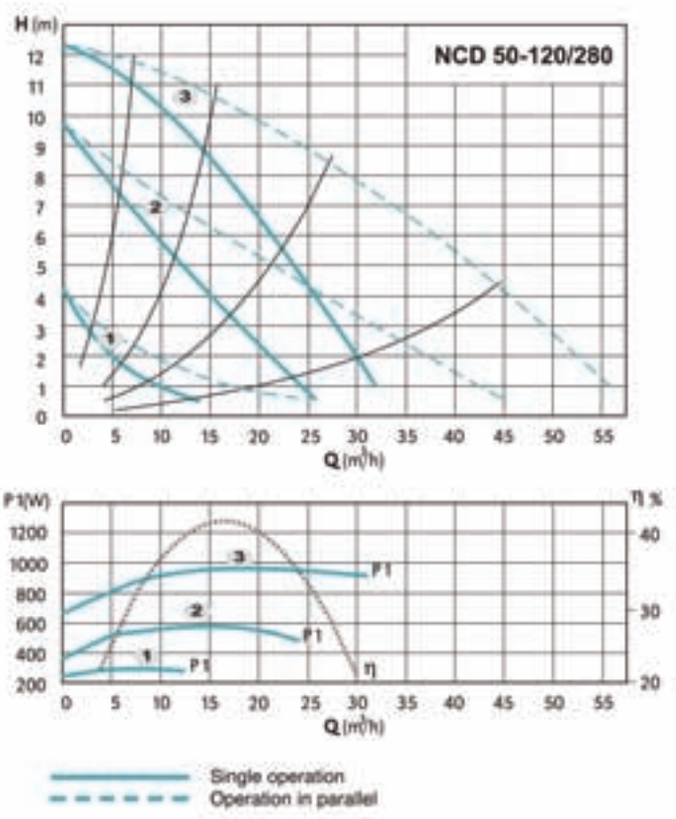
Three speeds circulating twin pumps with flanges

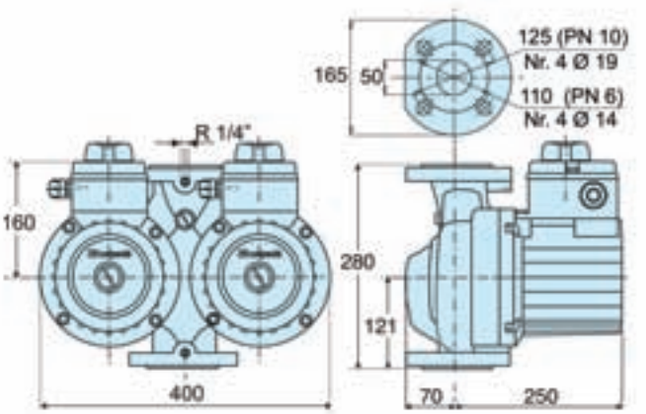
calpeda

Characteristic curves, dimensions and weights









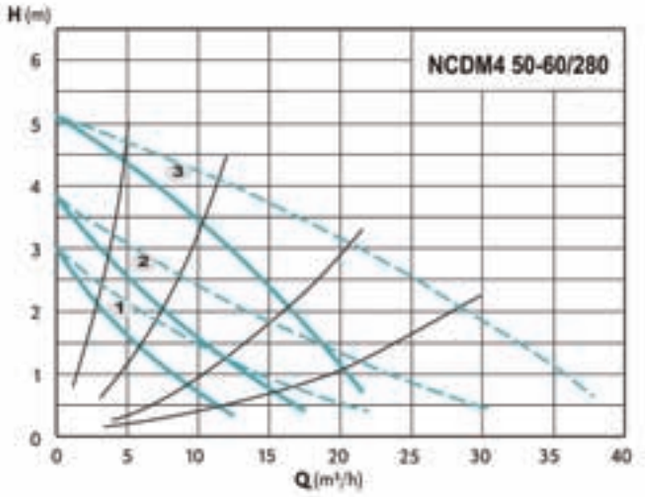
TYPE	DN	PN	N° Poli 2	N° Poli 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NCD4 50-40/280	50	6/10		✔	3 2 1	1450 1220 620	340 240 120	1,05 0,44 0,22	44,0
NCD4 50-60/280	50	6/10		✔	3 2 1	1400 1000 560	470 300 100	1,15 0,55 0,20	44,0
NCD 50-120/280	50	6/10	✔		3 2 1	2800 2330 1270	950 540 265	1,73 1,05 0,46	44,0

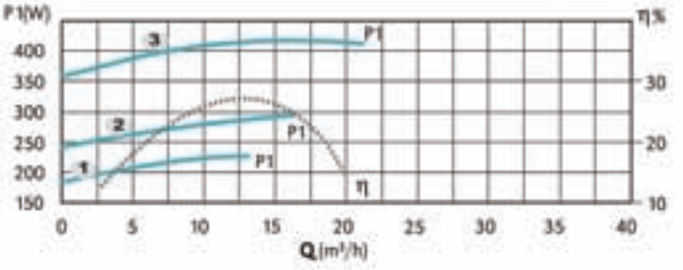
NCDM 50

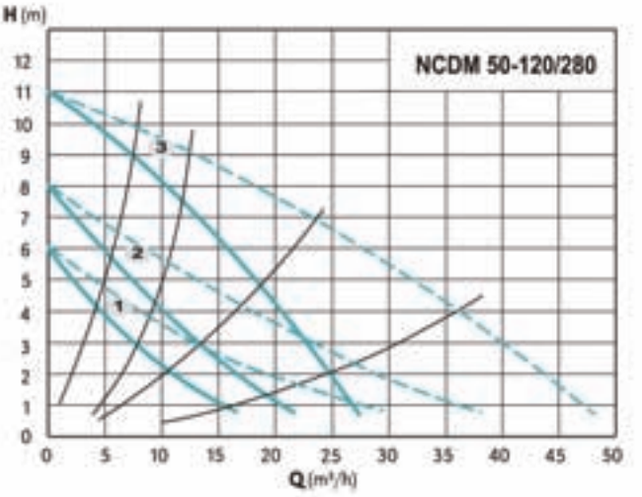
Three speeds circulating twin pumps with flanges

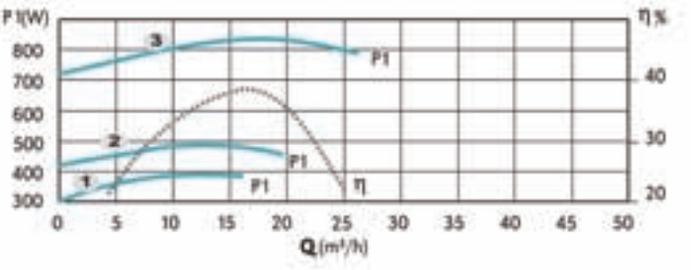
calpeda

Characteristic curves, dimensions and weights



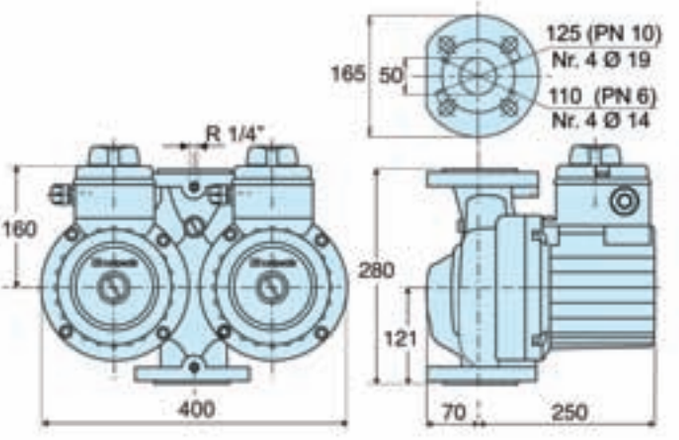






Single operation
Operation in parallel

Single operation
Operation in parallel



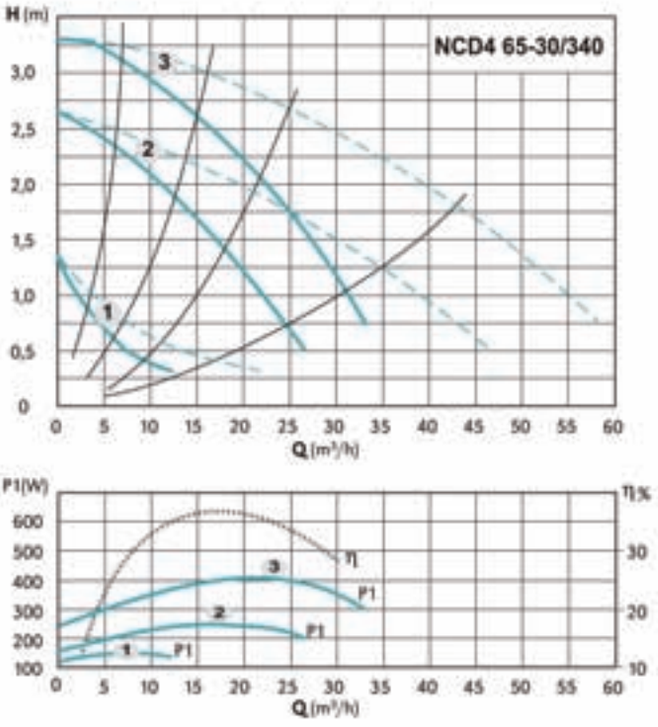
TYPE	DN	PN	N° Poli 2	N° Poli 4	Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
NCDM4 50-60/280	50	6/10		✔	3 2 1	1260 1030 740	415 300 230	1,8 1,3 1,0	44,0
NCDM 50-120/280	50	6/10	✔		3 2 1	2720 1870 1450	830 480 390	3,6 2,1 1,7	44,0

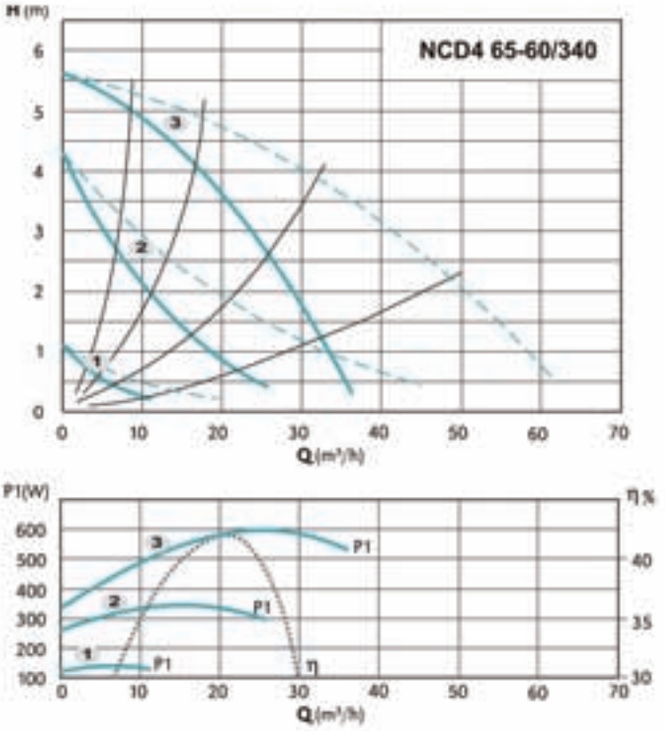
NCD 65

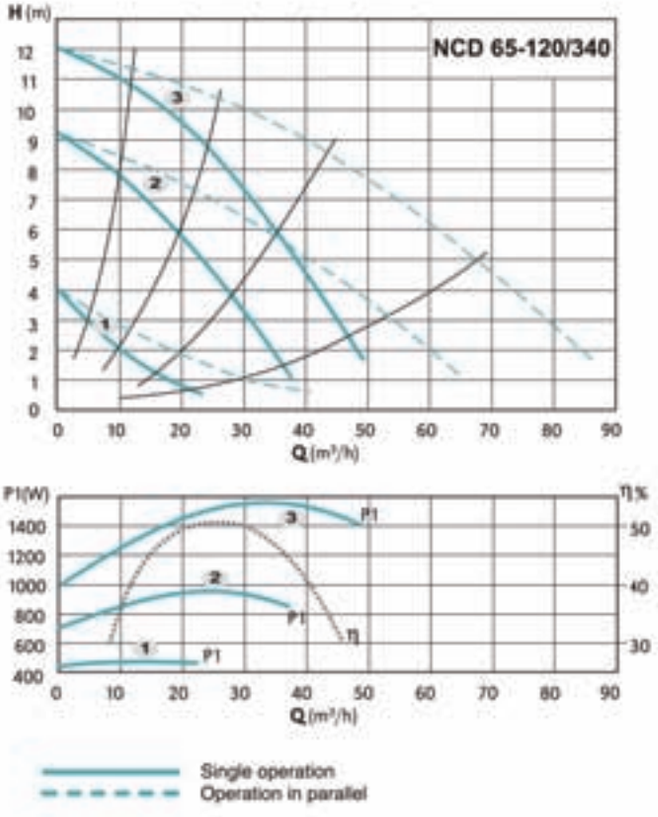
Three speeds circulating twin pumps with flanges

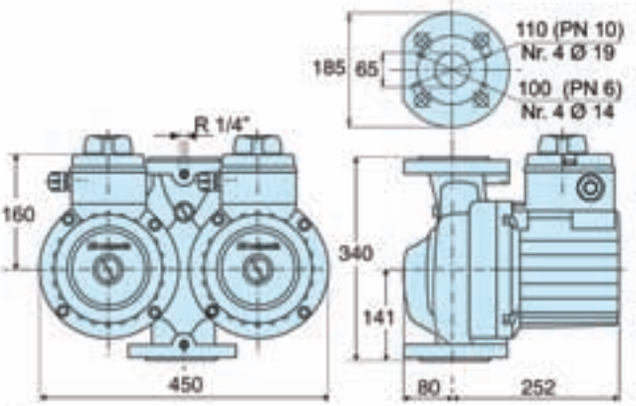
calpeda

Characteristic curves, dimensions and weights









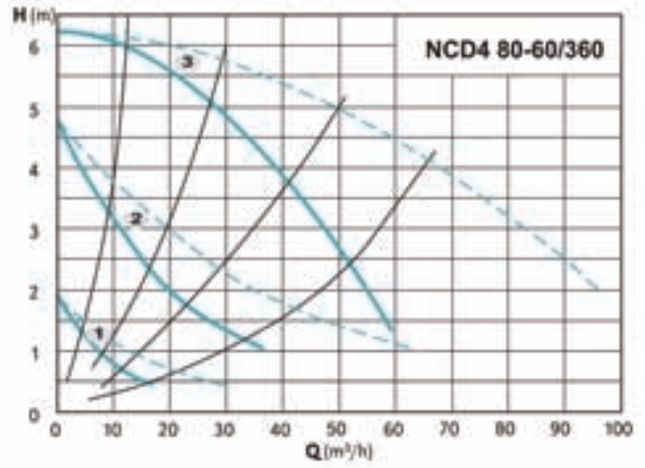
TYPE	DN	PN	N° Poli 2	N° Poli 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NCD4 65-30/340	65	6/10		✔	3	1430	400	1,10	49,0
					2	1150	260	0,50	
					1	600	120	0,22	
NCD4 65-60/340	65	6/10		✔	3	1370	600	1,25	49,0
					2	950	360	0,64	
					1	450	120	0,22	
NCD 65-120/340	65	6/10	✔		3	2810	1560	2,80	54,0
					2	2200	960	1,70	
					1	1250	460	0,84	

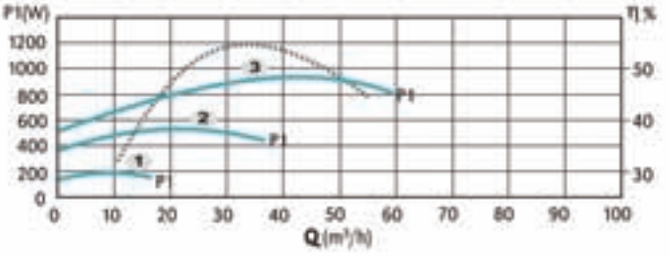
NCD 80

Three speeds circulating twin pumps with flanges

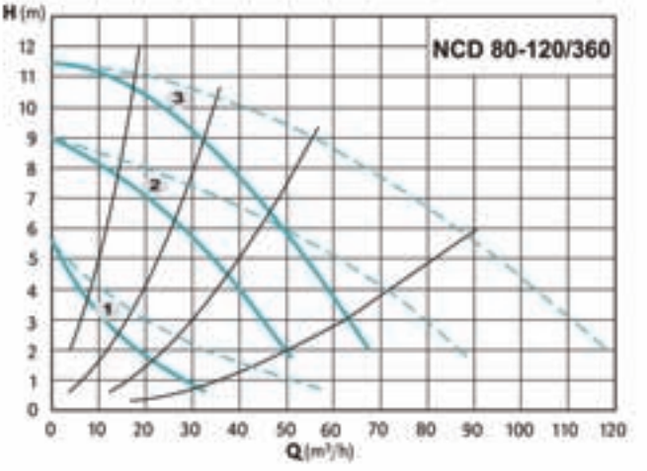
calpeda

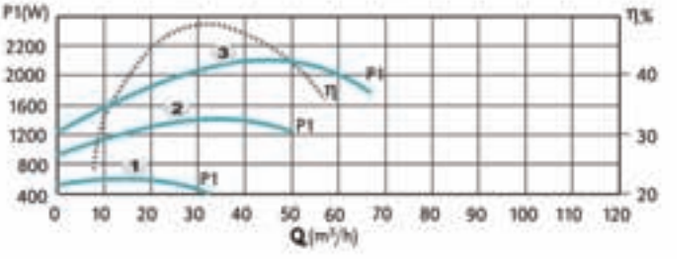
Characteristic curves, dimensions and weights



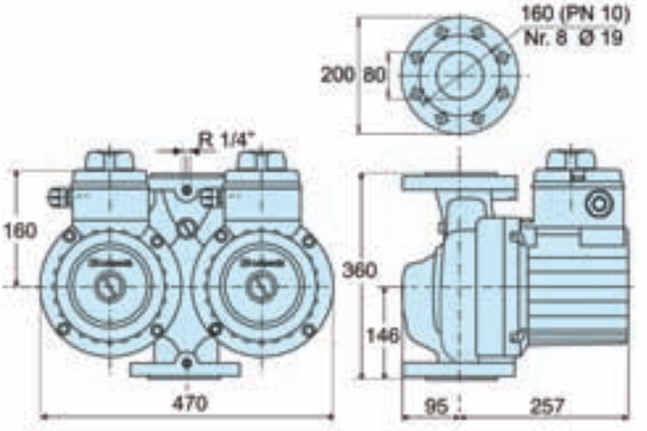


Single operation
Operation in parallel





Single operation
Operation in parallel



TYPE	DN	PN	N° Poli 2	N° Poli 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NCD4 80-60/360	80	10		✔	3 2 1	1350 1000 600	960 560 200	2,20 1,10 0,38	60,0
NCD 80-120/360	80	10	✔		3 2 1	2800 2160 1200	2200 1400 550	3,80 2,40 1,05	62,0

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