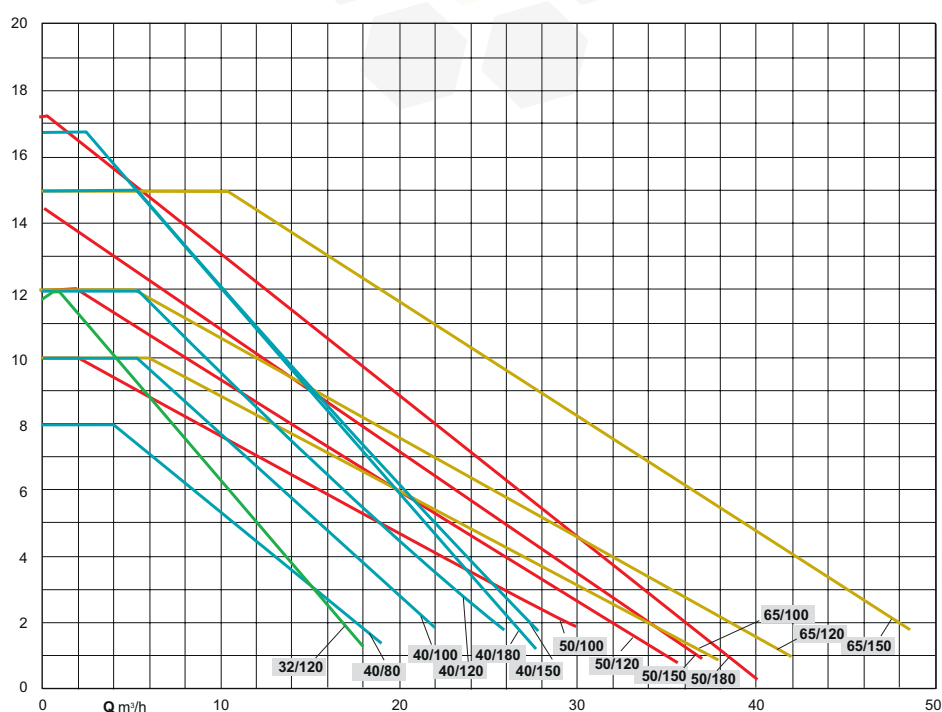


NCE HQ2



Coverage chart



Energy saving circulating pumps
with flanges



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NCE HQ2



Construction

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

- Dry running detection
- Automatic venting function

Digital input and output

- Start / stop input
- Relay output
- 0-10V input
- 4-20 mA input
- Modbus (RS485 and TCP / IP)

Applications

The energy-efficient circulation pump is designed for water circulation in heating systems.

Underfloor heating systems

Single-pipe systems

Two-pipe systems

Pumping liquid:

Clean, non-aggressive and non-explosive liquids, not containing solid particles, fibers or mineral/vegetable oil

In heating systems, water must meet the requirements of accepted standards of water quality in heating systems.

Operating conditions

- Liquid temperature from -10 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -10°C/+50°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 65 dB (A).
- Max. quantity of ethylene glycol: 40%
- EMC according to: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- Flanged connection DN 32,40,50,65 PN 6/10
- The energy efficiency index of circulators is $IEE \leq 0.23$.
- The benchmark for most efficient circulators is $EEL \leq 0.20$.

Motor

- Synchronous motor with permanent magnet.

Motor: variable speed

- Standard voltage: single-phase 230 V (-10%;+6%)

- Frequency: 50-60 Hz

- Protection: IP 44

- Insulation class: F

- Overload protection (integrated).

- Cable: phases and neutral.

- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Designation

NCE HQ2 40F - 100 / 220

NCE = Series

HQ2 = Version

40 = DN ports in mm

F = Flanged connection

100 = Max. head in dm

220 = connection size mm

Materials

Component	Material
Pump casing	Cast iron with cataphoresis coating
Impeller	Composite PES
Shaft	Ceramic
Ball bearings	Ceramic
Thrust bearing	Graphite carbon
Rotor	Stainless steel jacket
Electronic card	..

Operating modes



Automatic mode

(factory setting):

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



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow.

The pressure value can be adjusted on three curves.



Constant pressure mode:

The circulator maintains the pressure constant when the reference flow changes.

The pressure value can be adjusted on three curves.



Fixed speed mode:

The circulator works with constant curve and the curve could be changed over three curves.



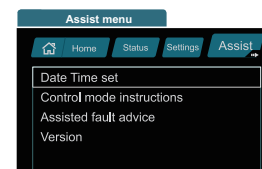
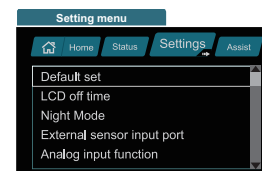
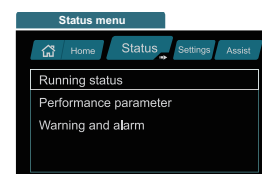
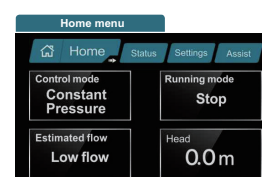
Night mode:

The pump is changed to an automatic deceleration curve at night, so that it runs at low performance and low energy consumption.



Temperature mode

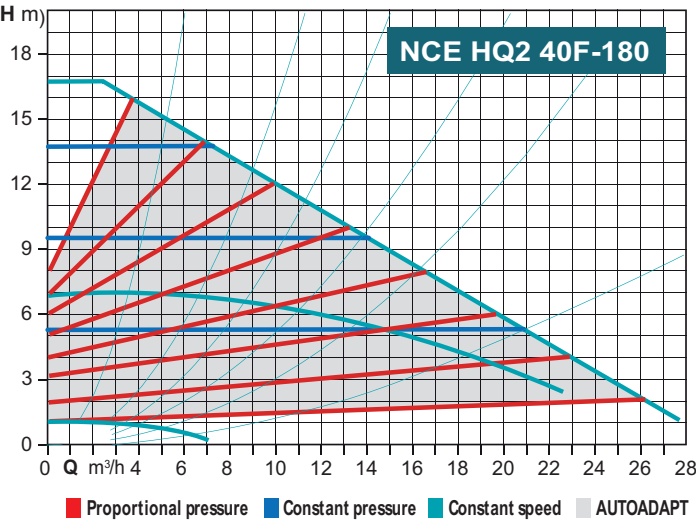
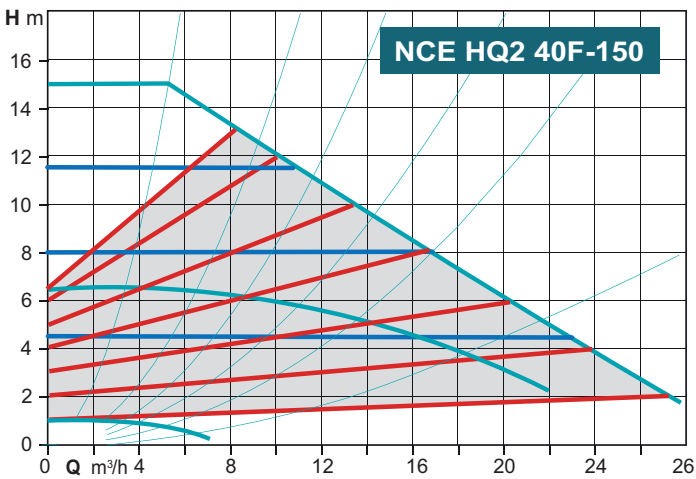
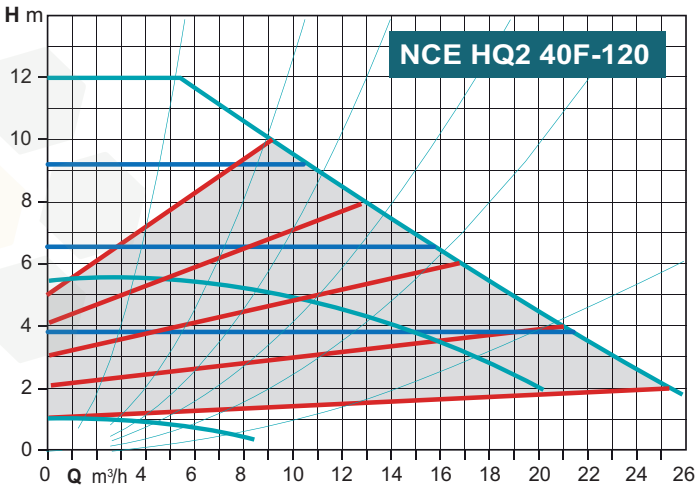
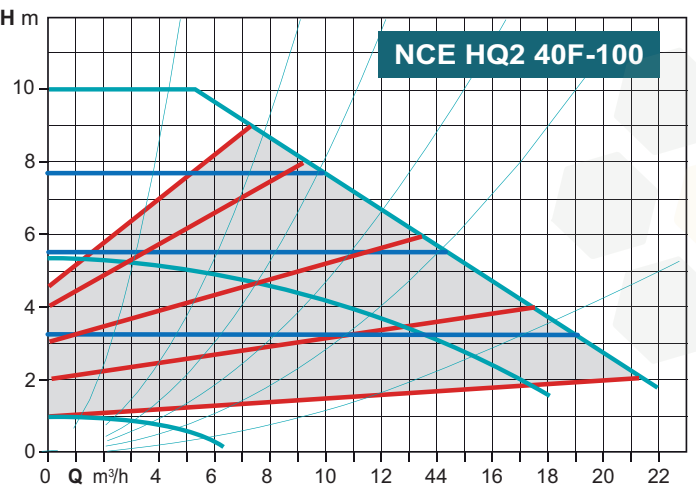
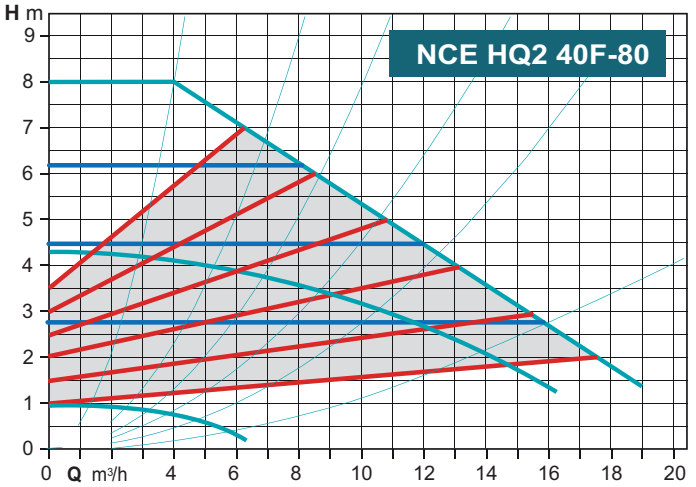
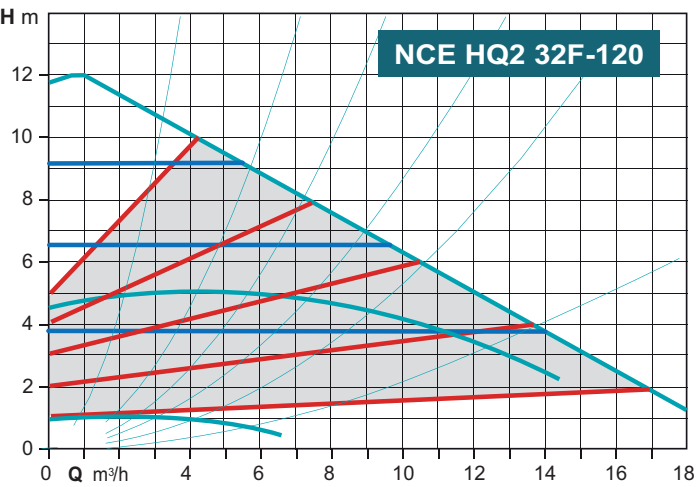
This control mode is suitable for systems with fixed system characteristic curves, and the pump can be controlled based on feedback from the system temperature sensor to operate under the working conditions required by the user.



NCE HQ2



Features

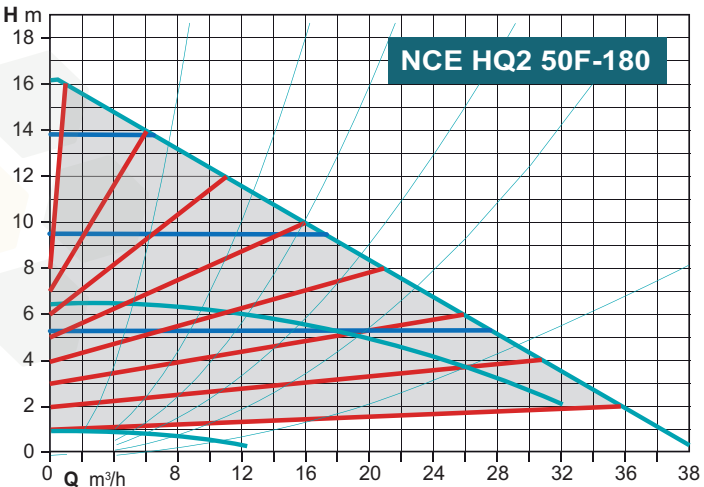
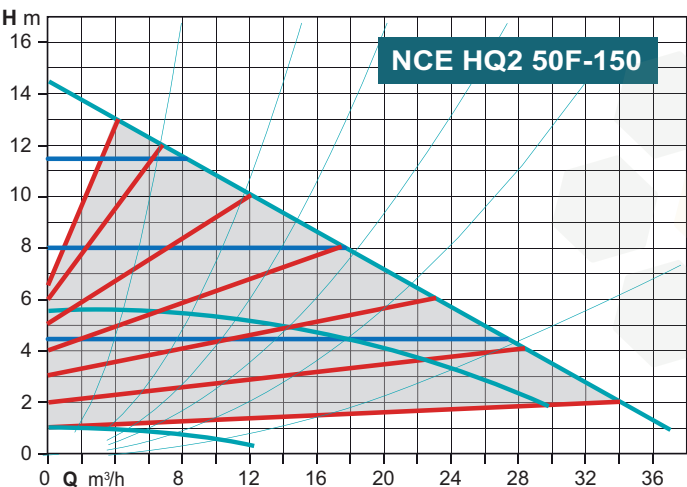
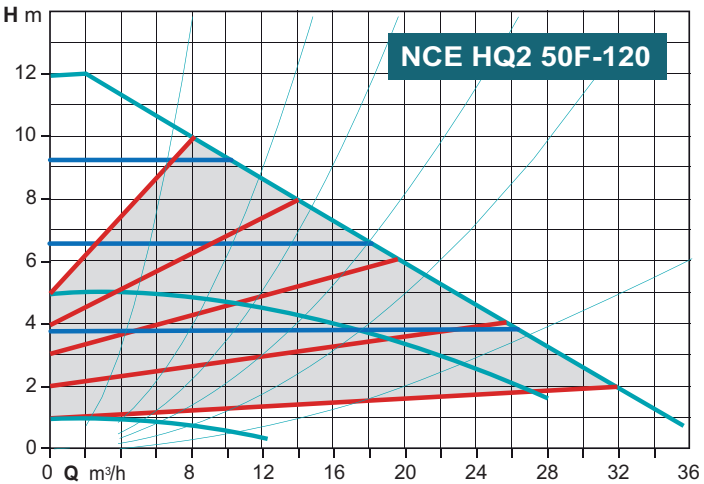
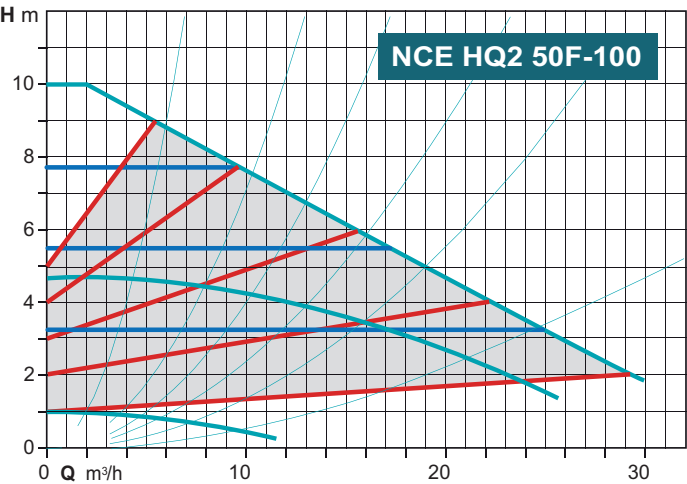


■ Proportional pressure ■ Constant pressure ■ Constant speed ■ AUTOADAPT

NCE HQ2



Features

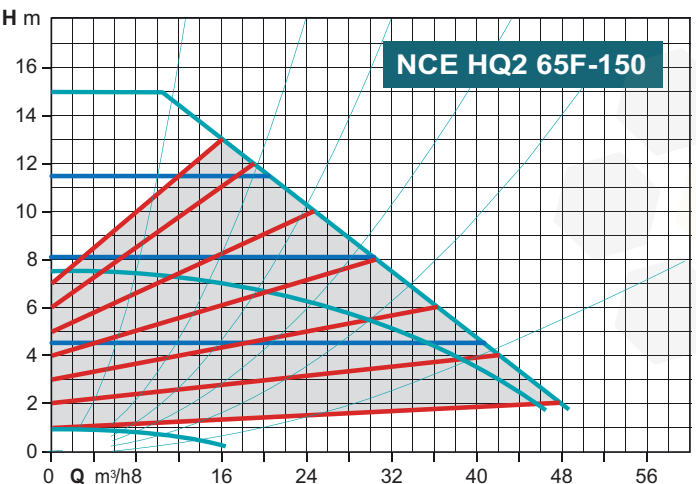
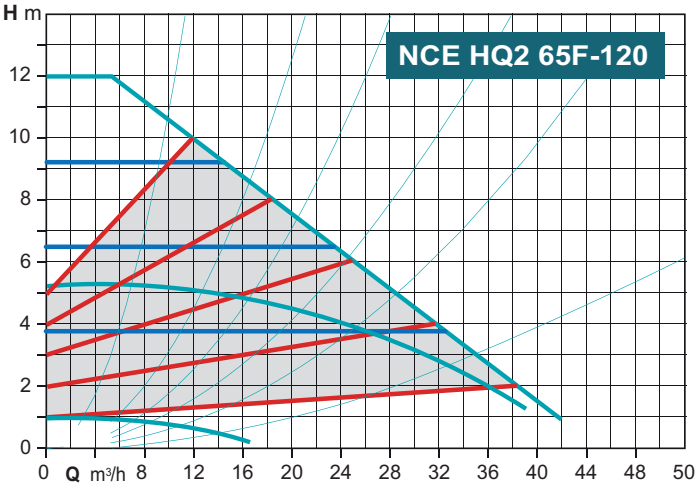
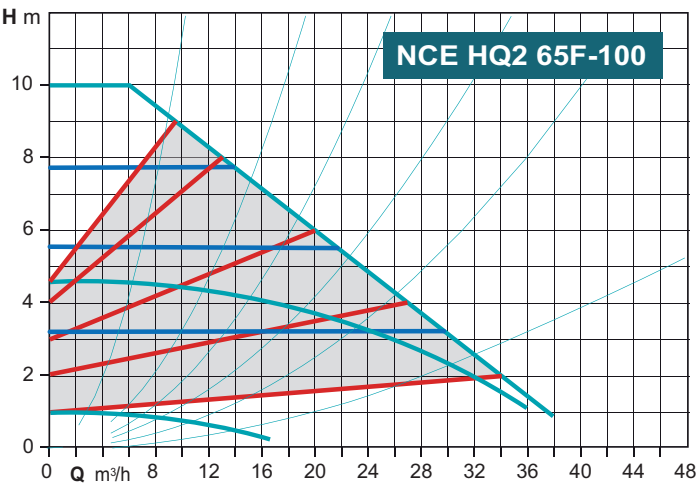


■ Proportional pressure ■ Constant pressure ■ Constant speed ■ AUTOADAPT

NCE HQ2



Features

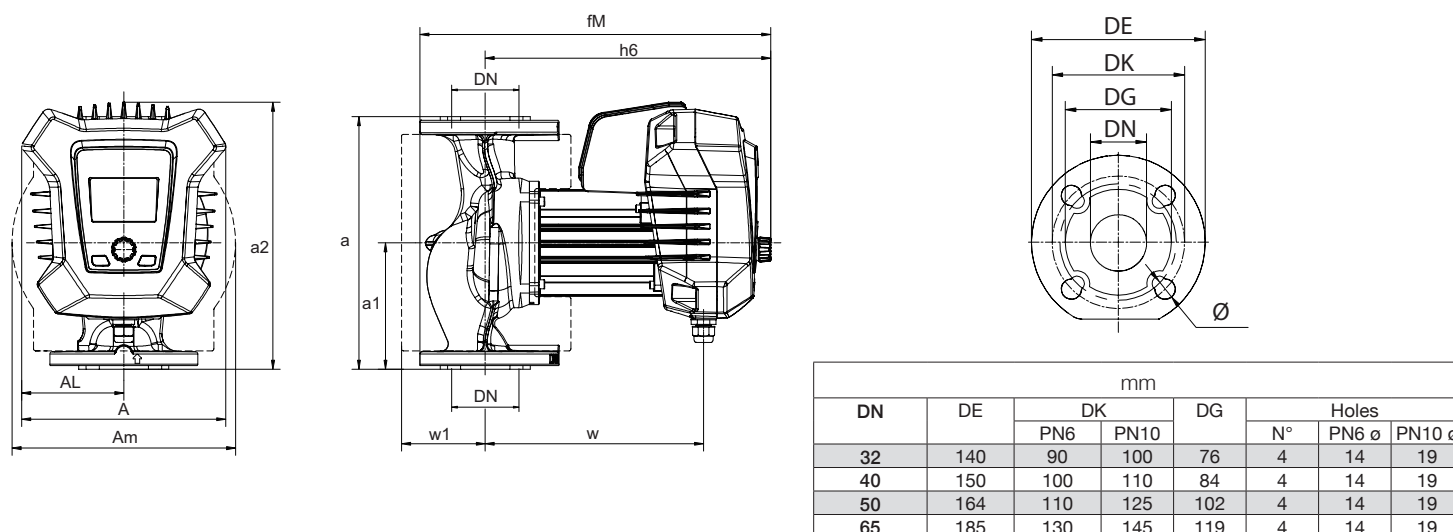


■ Proportional pressure ■ Constant pressure ■ Constant speed ■ AUTOADAPT

NCE HQ2

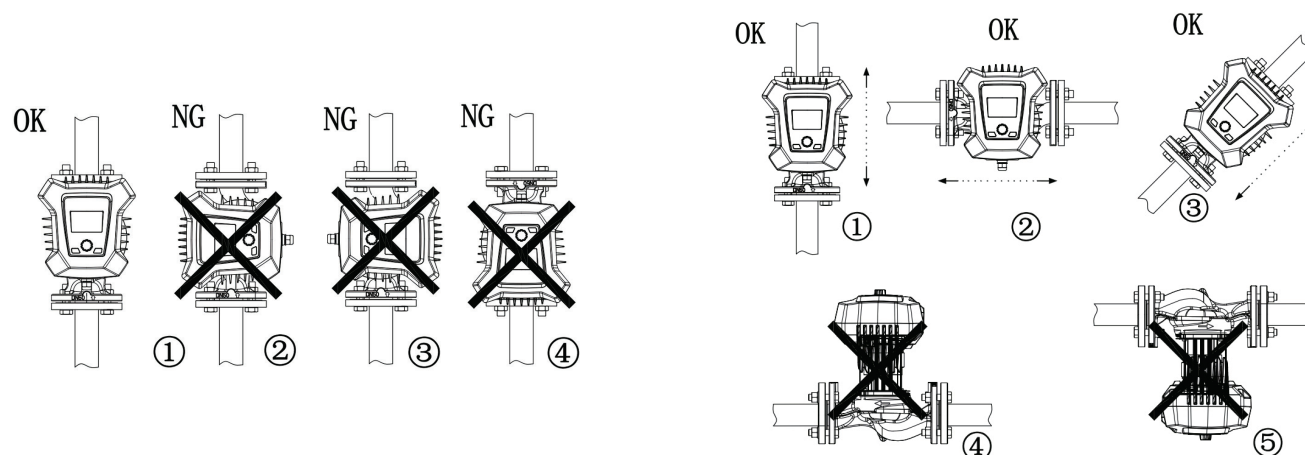


Dimensions and weights



TYPE	DN	H max	Q max	1~ 230 V	1~ 230 V	P1	P1	mm									kg
								a	a1	a2	fM	A	AL	Am	h6	w	
NCE HQ2 32F-120/220	32	12	17	0.17	1.48	15	329	220	110	266	379	226	113	212	312	242	16.4
NCE HQ2 40F-80/220	40	8	19	0.19	1.18	17	267	220	110	266	382	226	113	212	312	242	16.7
NCE HQ2 40F-100/220	40	10	22	0.19	1.65	17	370	220	110	266	382	226	113	212	312	242	16.7
NCE HQ2 40F-120/250	40	12	24	0.18	2.05	15	463	250	125	281	382	226	113	212	312	242	17.2
NCE HQ2 40F-150/250	40	15	26.2	0.18	2.71	16	615	250	125	281	382	226	113	212	312	242	17.2
NCE HQ2 40F-180/250	50	18	26.2	0.22	2.71	16	615	250	125	281	382	226	113	212	312	242	17.2
NCE HQ2 50F-100/280	50	10	30	0.22	1.9	21	425	280	140	296	389	226	113	248	312	242	18.8
NCE HQ2 50F-120/280	50	12	33	0.22	2.37	20	533	280	140	296	389	226	113	248	312	242	19
NCE HQ2 50F-150/280	50	15	35	0.24	2.87	22	649	280	140	296	389	226	113	248	312	242	19.7
NCE HQ2 50F-180/280	50	18	37.5	0.24	3.4	22	769	280	140	296	389	226	113	248	312	242	19.7
NCE HQ2 65F-100/340	65	10	37	0.26	2.73	25	619	340	170	326	399	226	113	266	320	250	21.3
NCE HQ2 65F-120/340	65	12	40	0.26	3.42	24	774	340	170	326	399	226	113	266	320	250	21.3
NCE HQ2 65F-150/340	65	15	49	0.31	5.53	31	1263	340	170	326	399	226	113	266	320	250	21.3

Examples of installations





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NR



In-line pumps



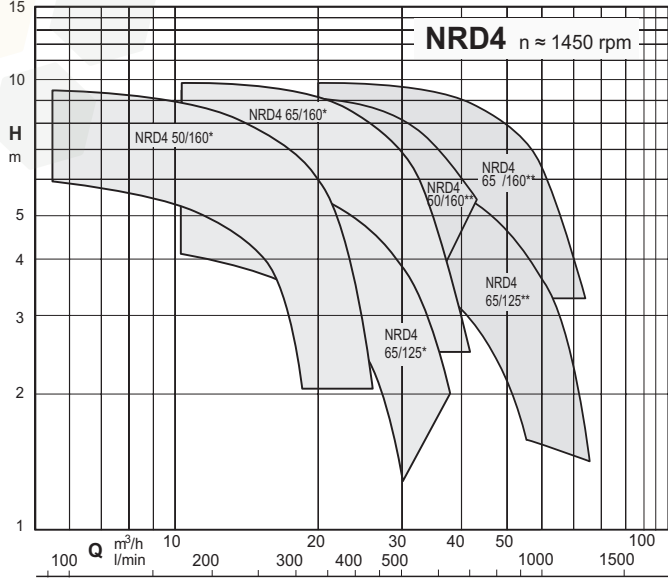
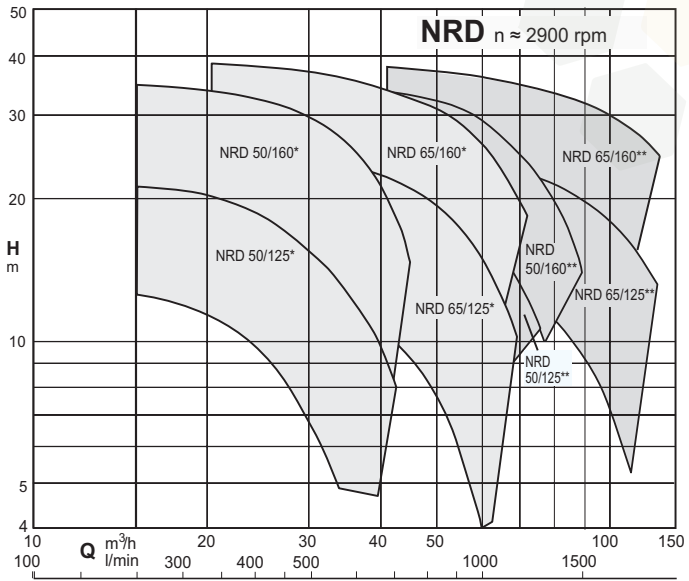
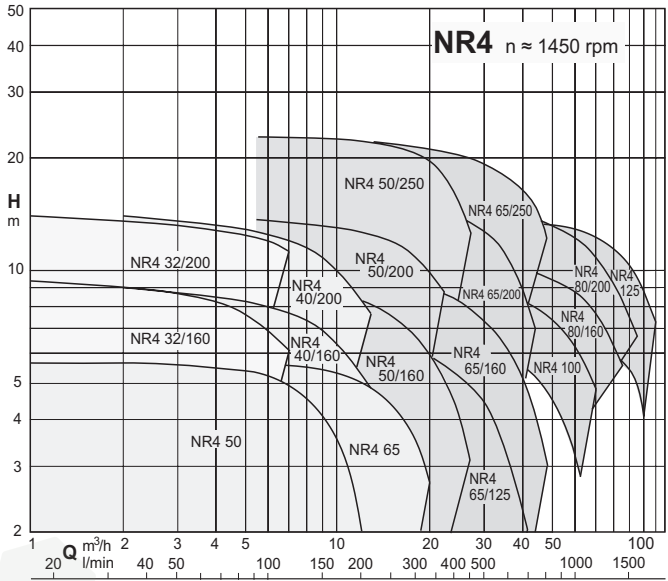
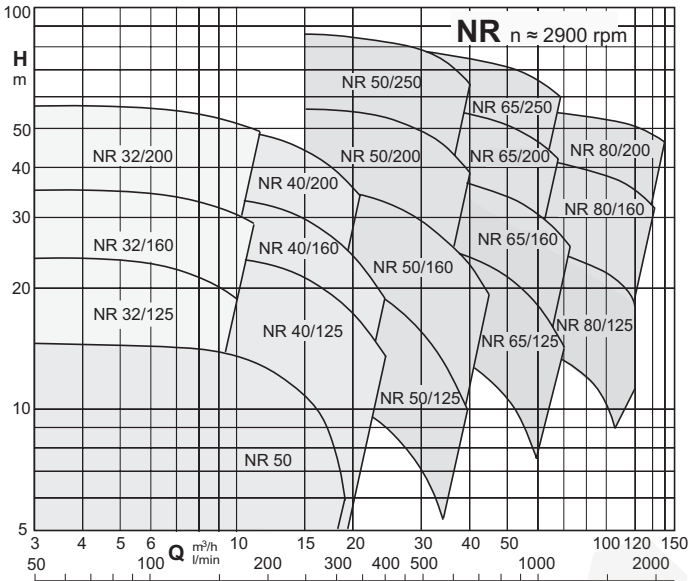
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Coverage chart



* Single operation
** Parallel operation

NR



Construction

Close-coupled, single-impeller, centrifugal pumps; electricmotor with extended shaft directly connected to the pump.

NR, NR4 series: Single head electropumps.

NRD, NRD4: Twin head pump with built-in automatic switching valve. The two head can operate singularly or in parallel.

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

Connections: Flanges according to PN 10, EN 1092-2.

Counter-flanges on request.

Sizes	Flanges
NR, NR4 32, 40, 50, 65, 80 NRD, NRD4 50, 65	Screwed flanges EN 1092-1, PN 16
NR 80 NR4 100, NR4 125	Flanges for welding EN 1092-1, PN 10 EN 1092-1, PN 10-16

Version with frequency converter (on request)

Applications

For clean liquids without abrasives, which are non-aggressive for the pump materials (solids content up to 0.2%).

For heating, air-conditioning, cooling and circulation plants.

For civil and industrial applications.

When low noise operation is required ($n \approx 1450$ rpm).

Operating conditions

Liquid temperature from -10°C to $+90^{\circ}\text{C}$.

Ambient temperature up to 40°C .

Total suction lift up to 7 m.

Maximum permissible working pressure up to 10 bar.

Continuous duty (S3 60% for single-phase pump to 1,5 kW).

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

NR(D): three-phase 230/400 V $\pm 10\%$ up to 3 kW;
400/690 V $\pm 10\%$ from 4 to 18,5 kW.

NRM: single-phase 230 V $\pm 10\%$.

4-pole induction motor, 50 Hz ($n \approx 1450$ rpm).

NR4: three-phase 230/400 V $\pm 10\%$ up to 3 kW;
400/690 V $\pm 10\%$ for 4 kW.

Insulation class F.

Protection IP 54.

Motor suitable for operation with frequency converter from 0,37 kW for NR4 and from 1,1 kW for NR(D).

IE2 efficiency class for single-phase motors up to 1,1 kW.

IE3 efficiency class for three-phase motors (IE2 up to 0,65 kW).

Constructed in accordance with: EN 60034-1; EN 60034-30-1.

EN 60335-1, EN 60335-2-41.

Special features on request

Other voltages.

Impeller in chrome-nickel stainless steel (except NR(4) 32... NR4 100 and NR4 125)

Frequency 60 Hz (as per 60 Hz data sheet).

Protection IP 55.

Special mechanical seal

Higher or lower liquid or ambient temperatures.

Motor suitable for operation with frequency converter up to 0,33 kW for NR(D)4 and up to 0,75 kW for NR(D).

Designation

Example: NR(D)4 EI 50/125A/A

NR = Series

4 = 4-pole version (without indication, 2-pole version)

D = Twin head

EI = With frequency converter I-MAT

50 = Delivery port diameter in mm

125 = Nominal impeller diameter

A = Impeller diameter

/A = It refers to a revision

The electropumps comply with the European Regulation no. 547/2012.

Materials

Components	Materials
Pump casing	Cast iron GJL 200 EN 1561
Lantern bracket	Cast iron GJL 200 EN 1561
Impeller	Cast iron GJL 200 EN 1561 (Brass CW617N EN 12165 for NR-NR4 32..., 40..., 50/200)
Shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303) Steel 1.4104 EN 10088 AISI 430F (NR 32/12, NR, NR4 50)
Valve	Chrome-nickel steel AISI 304 - NBR
Mechanical seal	Carbon - Ceramic - NBR
Counter-flanges	Steel 1.0044 EN 10025-2 (Fe 430B)

NR



El: Pumps with frequency converter

The NR(D) El, NR4 El, pumps are available with power from 0,25 kW up to 18,5 kW, the pumps are equipped with I-MAT installed on board. Which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water. The pump is fitted with transducers suitable for operation and is pre-programmed at the factory for ease of use.

Features

- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability

Construction

- The system consists of:
- Pump
- Induction motor (2 for NRD, NRD4)
- I-MAT Frequency converter (2 for NRD, NRD4)
- Motor adapter for the motor mounting of the frequency converter (2 for NRD, NRD4)
- Connection cable between frequency converter and induction motor
- Single pressure transducer for 2 poles and differential transducer for 4 poles
- Communication cable for cascade mode for NRD, NRD4
- 2 Cascade mode expansion board for NRD, NRD4

Main features

Rated motor power output from 0,25 kW to 18,5 kW
 Control range from 1750 to 2900 rpm (2-pole)
 Control range from 870 to 1450 rpm (4-pole)
 Protection against dry running
 Protection against operations with closed valve ports
 Protection against system leakages
 Protection against overcurrent in the motor
 Protection against overvoltage and undervoltage of the power supply
 Protection against current unbalances between phases



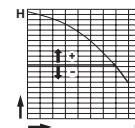
Operating modes



Constant pressure mode

with pressure transducer

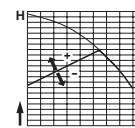
In this mode, the system maintains the preset pressure when the flow required by the installation changes.



Proportional pressure mode

with pressure transducer

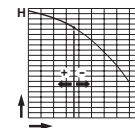
In this mode the system changes the working pressure according to the required flow rate.



Constant flow mode

with flow meter

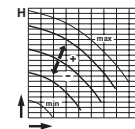
In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.



Fixed speed mode

with setting of the speed preferential rotation.

In this mode, by changing the working frequency, you may choose any operational curve included within the working range.



Constant temperature mode

with temperature transducer

In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.



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NR



Coverage chart n ≈ 2900 rpm

Three-phase

					Q = Flow												
					m³/h	0	6	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9
Model	230V	400V	P2		l/min		100	110	125	140	160	180	200	220	250	280	315
	A		kW	HP	H (m) = Total head												
NR 50D/A	2,3	1,3	0,45	0,6		11,6	11	10,8	10,5	10,2	9,5	8,5	7	6	-	-	-
NR 50C/B	3,7	2,2	0,75	1		16,2	16	15,9	15,8	15,7	15,3	14,6	14	13	11	9	5,5

Single-phase

					Q = Flow												
					m³/h	0	6	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9
Model	230V	P2		P1	l/min		100	110	125	140	160	180	200	220	250	280	315
	A	kW	HP	kW	H (m) = Total head												
NRM 50D/A	3,6	0,45	0,6	0,67		11,6	11	10,8	10,5	10,2	9,5	8,5	7	6	-	-	-
NRM 50C/A	5,7	0,75	1	0		16,2	16	15,9	15,8	15,7	15,3	14,6	14	13	11	9	5,5

Three-phase

						Q = Flow																	
						m³/h	0	2,4	3	3,6	4,8	6	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8		
Model	230V	400V	690V	P2		l/min																	
	A			kW	HP	H (m) = Total head																	
NR 32/125B	3	1,7	-	0,55	0,75		18,3	18,4	18,3	18,1	17,5	16,7	16,3	15,7	15	-	-	-	-	-	-		
NR 32/125A	3,7	2,2	-	0,75	1		23,3	23,3	23,2	23,1	22,6	21,9	21,5	20,8	20,1	19,1	-	-	-	-	-		
NR 32/160B/A	4,6	2,7	-	1,1	1,5		28,1	27,9	27,6	27,3	26,5	25,6	25,1	24,3	23,4	21,9	20	-	-	-	-		
NR 32/160A/A	7,5	4,3	-	1,5	2		36,8	36,3	36,1	35,7	35	34,3	33,8	33,2	32,4	31,2	29,7	-	-	-	-		
NR 32/200B/A	9,2	5,3	-	2,2	3		42,5	-	41,6	41,3	40,6	39,8	39,3	38,5	37,7	36,5	35,1	33,4	-	-	-		
NR 32/200A	11,5	6,6	-	3	4		51,2	-	49,7	49,5	48,9	48,2	47,9	47,2	46,5	45,4	44,2	42,8	41,2	37,9	-		
NR 32/200S/A	-	9,6	5,5	4	5,5		58	-	57,4	57,2	56,7	56,1	55,8	55,1	54,4	53,3	52	50,5	48,8	45,9	42,6		

Single-phase

Model					Q = Flow											
					m³/h l/min	0	2,4	3	3,6	4,8	6	6,6	7,5	8,4	9,6	10,8
							40	50	60	80	100	110	125	140	160	180
					H (m) = Total head											
	230V	P2		P1												
	A	kW	HP	kW												
NRM 32/125B	4,2	0,55	0,75	0		18,3	18,4	18,3	18,1	17,5	16,7	16,3	15,7	15	-	-
NRM 32/125A	5,4	0,75	1	0		23,3	23,3	23,2	23,1	22,6	21,9	21,5	20,8	20,1	19,1	-
NRM 32/160B	7,4	1,1	1,5	1,6		38,2	27,9	27,6	27,3	26,5	25,6	25,1	24,3	23,4	21,9	20
NRM 32/160A	9,2	1,5	2	2		36,8	36,3	36,1	35,7	35	34,3	33,8	33,2	32,4	31,2	29,7

Three-phase

						Q = Flow													
						m³/h	0	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24
Model	230V	400V	690V	P2		l/min		110	125	140	160	180	200	220	250	280	315	350	400
	A			kW	HP	H (m) = Total head													
NR 40/125C	4	2,3	-	0,75	1		15,5	15,7	15,5	15,3	14,8	14,3	13,6	12,9	11,6	10,2	8,1	5,8	-
NR 40/125B/A	4,6	2,7	-	1,1	1,5		19,5	19,8	19,6	19,4	19	18,5	18	17,5	16,5	15,2	13,6	11,6	8,5
NR 40/125A/A	7,5	4,3	-	1,5	2		23,3	23,7	23,7	23,6	23,4	23,1	22,8	22,4	21,7	20,6	19,1	17,3	14,2
NR 40/160B/A	7,5	4,3	-	1,5	2		26,1	25,7	25,4	25,1	24,6	24	23,3	22,6	21,4	19,7	17,3	14,4	9,9
NR 40/160A/A	9,2	5,3	-	2,2	3		33,6	32,9	32,6	32,3	31,8	31,3	30,6	29,9	28,7	27,2	25,2	23,1	19,4
NR 40/200B	11,5	6,6	-	3	4		41,9	40,2	39,7	39,2	38,5	37,6	36,7	35,7	33,8	31	26,9	22	-
NR 40/200A/A	-	9,6	5,5	4	5,5		52,4	49,6	49,1	48,5	47,6	46,7	45,7	44,7	43	41,2	38,6	34,8	-

Single-phase

					Q = Flow													
					m³/h	0	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24
							l/min	110	125	140	160	180	200	220	250	280	315	350
Model	230V	P2		P1	H (m) = Total head													
	A	kW	HP	kW														
NRM 40/125C	5,8	0,75	1	1,01		15,5	15,7	15,5	15,3	14,8	14,3	13,6	12,9	11,6	10,2	8,1	5,8	-
NRM 40/125B	7,4	1,1	1,5	1,44		19,5	19,8	19,6	19,4	19	18,5	18	17,5	16,5	15,2	13,6	11,6	8,5
NRM 40/125A	9,2	1,5	2	2		23,3	23,7	23,7	23,6	23,4	23,1	22,8	22,4	21,7	20,6	19,1	17,3	14,2
NRM 40/160B	9,2	1,5	2	2		26,1	25,7	25,4	25,1	24,6	24	23,3	22,6	21,4	19,7	17,3	14,4	9,9

NR



Coverage chart n ≈ 2900 rpm

Three-phase

						Q = Flow													
						m³/h	0	15	16,8	18,9	21	24	27	30	33	37,8	39	42	45
								l/min	250	280	315	350	400	450	500	550	630	650	700
Model	230V	400V	690V	P2		l/min	0	H (m) = Total head											
	A			kW	HP														
NR 50/125F/A	4,6	2,7	-	1,1	1,5		14,9	13,8	13,4	12,8	12,1	11	9,9	8,4	6,9	-	-	-	-
NR 50/125C/A	7,5	4,3	-	1,5	2		17,7	17,4	17	16,5	16	15	13,9	12,6	11,3	9	8,3	-	-
NR 50/125A/B	9,2	5,3	-	2,2	3		22,2	21,7	21,4	21	20,6	19,8	18,8	17,5	16,3	14,1	13,5	12	-
NR 50/160C/B	9,2	5,3	-	2,2	3		23,1	21,9	21,4	20,6	19,9	18,6	17,3	15,6	13,8	10,8	10	-	-
NR 50/160B/A	11,5	6,6	-	3	4		28,6	27,9	27,4	26,7	26	24,6	23,1	21,3	19,7	16,6	15,7	13,6	-
NR 50/160A/B	-	9,6	5,5	4	5,5		36,6	35,5	35,1	34,5	33,7	32,7	31,2	29,4	27,5	24,3	23,4	21,3	19,1
NR 50/200D/B	-	9,6	5,5	4	5,5		41,8	37,8	36,8	35,7	34,5	32,4	30,1	27,6	24,9	-	-	-	-
NR 50/200B/A	-	10,8	6,2	5,5	7,5		50,9	48,5	47,7	46,8	45,7	43,9	41,7	39,2	36,5	-	-	-	-
NR 50/200A/A	-	14,3	8,3	7,5	10		56,7	54,9	54,3	53,4	52,4	50,7	48,9	46,5	44,1	39,7	38,8	-	-
NR 50/250C/B	-	18,5	10,7	9,2	12,5		61,2	58,8	58	57,3	56,5	55	53,2	51,1	48,9	44,8	43,1	39,4	-
NR 50/250B/A	-	21,5	12,4	11	15		69,4	67	66,4	65,5	64,8	63,2	61,5	59,6	57,7	53,8	52,6	50	-
NR 50/250A/B	-	27,3	15,8	15	20		87	84,6	84,1	83,2	82,3	80,7	78,8	76,9	74,3	69,8	68,4	65,2	-

Single-phase

					Q = Flow												
					m³/h	0	15	16,8	18,9	21	24	27	30	33	37,8	39	
Model	230V	P2		P1	l/min		H (m) = Total head										
	A	kW	HP	kW		14,9	13,8	13,4	12,8	12,1	11	9,9	8,4	6,9	-	-	
NRM 50/125F	7,4	1,1	1,5	1,6		14,9	13,8	13,4	12,8	12,1	11	9,9	8,4	6,9	-	-	
NRM 50/125C	9,2	1,5	2	2		17,7	17,4	17	16,5	16	15	13,9	12,6	11,3	9	8,3	

Three-phase

						Q = Flow														
						m³/h	0	21	24	27	30	33	37,8	42	48	54	60	66	69	72
						l/min		350	400	450	500	550	630	700	800	900	1000	1100	1150	1200
Model	230V	400V	690V	P2			H (m) = Total head													
	A			kW	HP															
NR 65/125F/B	9,2	5,3	-	2,2	3		16,5	16	15,7	15,3	14,8	14,3	13,5	12,5	11,1	9,5	7,3	5,3	-	-
NR 65/125D/A	11,5	6,6	-	3	4		21,1	20,2	19,9	19,6	19,2	18,7	17,9	16,9	15,2	13,3	11,3	9,1	-	-
NR 65/125A/B	-	9,6	5,5	4	5,5		25	24,4	24,1	23,8	23,4	23	22,2	21,4	19,8	18	15,9	13,7	12,4	-
NR 65/125S/B	-	9,6	5,5	4	5,5		27,2	26,3	26	25,7	25,4	25	24,3	23,6	22,1	20,3	18,3	16,1	14,7	-
NR 65/160B/A	-	10,8	6,2	5,5	7,5		31,9	32	31,7	31,4	30,9	30,4	29,5	28,6	26,8	24,8	22,2	19,7	18,3	16,7
NR 65/160A/A	-	14,3	8,3	7,5	10		39	39,3	39	38,7	38,3	37,9	36,9	36,1	34,7	32,9	30,6	28,1	26,7	25,3
NR 65/200B/B	-	18,5	10,7	9,2	12,5		47,1	46,7	45,9	45,1	44,4	43,6	42	40,5	37,9	35,3	32,4	28,3	-	-
NR 65/200A/A	-	21,5	12,4	11	15		54,2	53,3	52,8	52,3	51,5	50,7	49,2	47,5	45,1	41,9	38,1	34,5	-	-
NR 65/200S/B	-	27,3	15,8	15	20		60,4	60,5	60,2	59,6	59	58	56,3	54,5	52,2	49,5	46,5	42,7	-	-
NR 65/250C/A	-	21,5	12,4	11	15		54,6	54,8	54,2	53,5	52,8	52	50,5	48,9	46,3	43,5	40,6	37,3	-	-
NR 65/250B/B	-	27,3	15,8	15	20		67,1	67,2	66,7	66	65,1	64,3	62,8	61,3	58,6	55,8	52,9	49,7	-	-
NR 65/250A/C	-	34	19,6	18,5	25		78,5	78,5	77,8	77,3	76,7	76	74,8	73,6	71,1	68,4	65,5	62,2	-	-

Three-phase

					Q = Flow														
					m³/h	0	37,8	42	48	54	60	66	75	84	96	108	120	132	141
							l/min	630	700	800	900	1000	1100	1250	1400	1600	1800	2000	2200
Model	400V	690V	P2			H (m) = Total head													
	A		kW	HP															
NR 80/125E	9,6	5,5	4	5,5		18,9	16,8	16,5	16,1	15,7	15,3	14,8	14	13,1	11,5	9,2	-	-	-
NR 80/125C	10,8	6,2	5,5	7,5		21,6	20,5	20,3	20	19,7	19,3	18,9	18,3	17,4	15,9	13,9	11	-	-
NR 80/125A	14,3	8,3	7,5	10		27	25,8	25,7	25,5	25,3	25	24,8	24,2	23,4	22,1	20,2	17,7	-	-
NR 80/160D	14,3	8,3	7,5	10		25,2	-	-	24,8	24,5	24,1	23,8	23,3	22,6	21,3	19,1	16,1	-	-
NR 80/160C	18,5	10,7	9,2	12,5		28,1	-	-	28,2	28,1	27,9	27,7	27,3	26,6	25,3	23,2	20,5	17	-
NR 80/160B	21,5	12,4	11	15		32,4	-	-	32,8	32,7	32,5	32,2	31,8	31,1	29,9	28	25,5	22,4	-
NR 80/160AR	27,3	15,8	15	20		36,2	-	-	36,7	36,5	36,3	36	35,7	35,3	34,5	32,9	30,5	27,8	-
NR 80/160A	27,3	15,8	15	20		40,3	-	-	41,4	41,2	40,9	40,7	40,3	39,9	39,1	37,8	35,7	33,1	-
NR 80/200C	27,3	15,8	15	20		41,1	-	-	42,8	42,7	42,5	42,2	41,5	40,5	38,7	36,4	33,7	30,7	28,2
NR 80/200B	34	19,6	18,5	25		47,6	-	-	48,9	48,8	48,6	48,3	47,7	46,8	45,1	43	40,5	37,6	35,2
NR 80/200A	41	23,7	22	30		55,2	-	-	56,7	56,7	56,6	56,5	56,1	55,5	54,3	52,6	50,4	47,7	45,4

P1: Maximum power input.

P2: Rated motor power output.

Tolerances according to UNI EN ISO 9906:2012

NR


Performance n ≈ 1450 rpm
Three-phase

					Q = Flow											
					m³/h	0	2	4	6	8	10	12	14	16	18	20
Model	230V	400V	P2		l/min			33,3	66,6	100	133	167	200	233	267	300
	A		kW	HP	H (m) = Total head											
NR4 50C/A	1,3	0,75	0,25	0,34		3,9	3,9	3,8	3,3	2,5	-	-	-	-	-	-
NR4 50B/A	1,3	0,75	0,25	0,34		4,7	4,7	4,6	4,3	3,5	2,3	-	-	-	-	-
NR4 50A/A	1,3	0,75	0,25	0,34		5,6	5,6	5,5	5,2	4,5	3,5	2	-	-	-	-
NR4 65C/A	1,3	0,75	0,25	0,34		3,8	-	-	3,8	3,7	3,5	3,1	2,6	1,9	-	-
NR4 65B/A	2,1	1,2	0,33	0,45		4,7	-	-	4,7	4,6	4,5	4,2	3,8	3,2	2,5	-
NR4 65A/A	2,1	1,2	0,33	0,45		5,6	-	-	5,6	5,5	5,3	5	4,6	4,1	3,5	2,7

Single-phase

					Q = Flow									
					m³/h	0	2	4	6	8	10	12	14	16
Model	230V	P2		P1	l/min		33,3	66,6	100	133	167	200	233	267
	A	kW	HP	kW	H (m) = Total head									
NR4M 50C/A	2,1	0,25	0,34	0,27		3,9	3,9	3,8	3,3	2,5	-	-	-	-
NR4M 50B/A	2,1	0,25	0,34	0,29		4,7	4,7	4,6	4,3	3,5	2,3	-	-	-
NR4M 50A/A	2,1	0,25	0,34	0,33		5,6	5,6	5,5	5,2	4,5	3,5	2	-	-
NR4M 65C/A	2,1	0,25	0,34	0,31		3,8	-	-	3,8	3,7	3,5	3,1	2,6	1,9

Three-phase

					Q = Flow															
					0	1	1,2	1,5	1,89	2,4	3	3,6	4,2	4,8	5,4	6	6,6	7,5	8,4	9,6
Model	230V	400V	P2				16,6	20	25	31,5	40	50	60	70	80	90	100	110	125	140
	A		kW	HP	H (m) = Total head															
NR4 32/160B/A	1,65	0,95	0,37	0,5	8,1	7,9	7,9	7,7	7,6	7,4	7,2	6,9	6,6	6,1	5,6	4,4	-	-	-	-
NR4 32/160A/A	1,65	0,95	0,37	0,5	9,2	9,3	9,3	9,2	9,1	9	8,8	8,6	8,3	8	7,6	7,2	6,6	5,6	-	-
NR4 32/200C/A	1,65	0,95	0,37	0,5	11,5	11,3	11,3	11,2	11,1	10,9	10,7	10,5	10,2	9,9	9,5	9,1	8,5	7,4	5,7	-
NR4 32/200B/A	2,6	1,5	0,55	0,75	13,2	13,2	13,2	13,1	13	12,9	12,8	12,6	12,4	12,1	11,8	11,4	10,9	10	9,1	7,5
NR4 32/200A/A	3,3	1,9	0,75	1	14,6	14,5	14,5	14,4	14,3	14,2	14,1	13,9	13,8	13,5	13,2	12,8	12,3	11,4	10,5	9,1

Three-phase

					Q = Flow															
					m³/h	0	2,4	3	3,6	4,8	5,4	6	7,5	8,4	9,6	10,8	12	13,2	15	
Model	230V	400V	P2		l/min															
	A		kW	HP	H (m) = Total head															
NR4 40/160B/A	1,65	0,95	0,37	0,5		7,3	7,3	7,2	7,1	6,9	6,8	6,6	6,1	5,8	5,2	4,4	3,5	2,5	-	
NR4 40/160A/A	1,65	0,95	0,37	0,5		9,1	9	9	9	8,8	8,7	8,6	8,1	7,8	7,2	6,5	5,7	4,8	3,3	
NR4 40/200B/A	2,6	1,5	0,55	0,75		12,9	12,5	12,4	12,2	11,9	11,7	11,4	10,7	10,2	9,1	7,7	6,2	4,4	-	
NR4 40/200A/A	3,3	1,9	0,75	1		14,7	14,3	14,2	14,1	13,9	13,7	13,5	12,9	12,4	11,6	10,5	9,2	7,7	4,9	

Three-phase

Model					Q = Flow																	
					m³/h	0	5,4	6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24	27	30	
					l/min		90	100	125	140	160	180	200	220	250	280	315	350	400	450	500	
					H (m) = Total head																	
		230V	400V	P2																		
		A		kW	HP																	
NR4 50/160C/A		1,65	0,95	0,37	0,5		5,9	5,9	5,8	5,7	5,6	5,4	5,2	5	4,7	4,2	3,7	3,1	2,3	-	-	-
NR4 50/160B/A		2,6	1,5	0,55	0,75		7,3	7,4	7,4	7,2	7,1	6,9	6,7	6,4	6,2	5,7	5,2	4,5	3,8	2,5	-	-
NR4 50/160A/B		3,3	1,9	0,75	1		9,2	9,2	9,2	9,1	9	8,9	8,7	8,4	8,2	7,6	7,1	6,4	5,6	4,4	3,1	-
NR4 50/200B/B		5	2,9	1,1	1,5		12,8	12,6	12,5	12,3	12,1	11,9	11,5	11,2	10,7	10	9,2	8,2	7,1	5,2	-	-
NR4 50/200A/B		5	2,9	1,1	1,5		14,3	14,1	14	13,9	13,7	13,5	13,2	12,8	12,4	11,7	11	10	8,8	7,3	-	-
NR4 50/250C/B		6	3,5	1,5	2		17,1	17	16,9	16,6	16,4	16,1	15,9	15,6	15,2	14,6	13,9	12,8	11,3	8,5	5,3	-
NR4 50/250B/B		8,6	5	2,2	3		21	20,9	20,8	20,5	20,3	20	19,7	19,4	19	18,4	17,8	16,8	15,6	13,8	11,7	8,5
NR4 50/250A/A		11,1	6,4	3	4		22	21,9	21,9	21,8	21,6	21,4	21,1	20,9	20,5	19,9	19,2	18,3	17,2	15,3	13,4	11

P1: Maximum power input.

P2: Rated motor power output.

Tolerances according to UNI EN ISO 9906:2012

NR

**Performance n ≈ 1450 rpm****Three-phase**

						Q = Flow															
						m³/h	0	10,8	12	13,2	15	16,8	18,9	21	24	27	30	33	42	48	
								180	200	220	250	280	315	350	400	450	500	550	700	800	
Model	230V	400V	690V	P2		l/min	H (m) = Total head														
	A			kW	HP																
NR4 65/125F/A	1,65	0,95	-	0,37	0,5		4,1	3,9	3,8	3,8	3,6	3,5	3,3	3	2,6	2,1	1,6	1	-	-	
NR4 65/125D/A	2,6	1,5	-	0,55	0,75		5,3	5	5	4,9	4,8	4,7	4,5	4,3	3,9	3,4	2,9	2,4	-	-	
NR4 65/125A/B	3,3	1,9	-	0,75	1		6,3	6,2	6,1	6	5,9	5,8	5,7	5,5	5,1	4,6	4,1	3,5	1,5	-	
NR4 65/125S/B	3,3	1,9	-	0,75	1		6,8	6,6	6,6	6,5	6,4	6,3	6,1	5,9	5,6	5,1	4,6	4,1	2,1	-	
NR4 65/160B/B	5	2,9	-	1,1	1,5		8,2	8,2	8,2	8,1	8	7,9	7,7	7,5	7,1	6,6	6	5,4	3,2	-	
NR4 65/160A/B	5	2,9	-	1,1	1,5		9,7	9,6	9,5	9,5	9,4	9,2	9	8,8	8,5	8	7,4	6,8	4,7	3	
NR4 65/200C/B	5	2,9	-	1,1	1,5		11,4	11,3	11,2	11,1	10,8	10,6	10,3	9,9	9,4	8,7	7,9	7	3,4	-	
NR4 65/200B/B	6	3,5	-	1,5	2		13,3	13,1	13	12,9	12,7	12,4	12,1	11,8	11,2	10,5	9,7	8,9	5,4	-	
NR4 65/200A/B	8,6	5	-	2,2	3		14,5	14,6	14,5	14,4	14,2	13,9	13,6	13,2	12,7	12	11,3	10,5	7,2	-	
NR4 65/250D/B	8,6	5	-	2,2	3		13,7	13,9	13,8	13,8	13,6	13,4	13,1	12,8	12,3	11,6	10,9	10,1	7,2	-	
NR4 65/250C/B	8,6	5	-	2,2	3		17,1	17,3	17,2	17,2	16,9	16,7	16,3	16	15,4	14,7	13,9	13	10	-	
NR4 65/250B/A	11,1	6,4	-	3	4		19,9	20,1	20	20	19,8	19,6	19,3	19	18,4	17,7	16,9	16,1	13,2	10,8	
NR4 65/250A/A	-	8.3	4.8	4	5.5		21.4	21.6	21.5	21.4	21.3	21.1	20.8	20.5	19.9	19.2	18.4	17.6	14.7	12.2	

Three-phase

					Q = Flow															
					m³/h	0	21	24	27	33	37,8	42	48	54	60	66	75	84	96	
Model	230V	400V	P2		l/min		350	400	450	550	630	700	800	900	1000	1100	1250	1400	1600	
	A		kW	HP	H (m) = Total head															
	NR4 80/160C	5	2,9	1,1	1,5			6,7	6,3	6,2	6,1	6	5,8	5,7	5,4	4,8	4,1	-	-	-
NR4 80/160B	5	2,9	1,1	1,5		7,4	7,2	7,2	7,1	7	6,8	6,7	6,4	6	5,2	4,4	-	-	-	
NR4 80/160A	6	3,5	1,5	2		8,8	8,7	8,7	8,7	8,6	8,5	8,4	8,1	7,7	7,1	6,4	5,2	-	-	
NR4 80/160S	8,6	5	2,2	3		10,2	10,2	10,2	10,2	10,1	10	9,9	9,6	9,3	8,8	8,2	7	5,7	-	
NR4 80/200B	8,6	5	2,2	3		11,4	11,7	11,7	11,7	11,6	11,4	11,3	10,9	10,4	9,8	9	7,8	6,3	3,8	
NR4 80/200A	11,1	6,4	3	4		13,9	14,2	14,1	14,1	14	13,9	13,7	13,4	13	12,4	11,7	10,4	9	6,7	

Three-phase

						Q = Flow														
						m³/h	0	20	25	30	35	40	50	60	70	80	90	100	110	
								l/min	333	417	500	583	667	833	1000	1167	1333	1500	1667	1833
Model	230V	400V	690V	P2		H (m) = Total head														
	A			KW	HP															
NR4 100C/B	5	2,9	-	1,1	1,5		6,6	6,6	6,4	6,3	6	5,6	4,6	3,3	-	-	-	-	-	
NR4 100B/B	5	2,9	-	1,1	1,5		7,5	7,5	7,4	7,2	7	6,6	5,6	4,4	-	-	-	-	-	
NR4 100A/B	6	3,5	-	1,5	2		9	9	8,9	8,8	8,6	8,3	7,4	6,2	4,8	-	-	-	-	
NR4 125C/B	8,6	5	-	2,2	3		10,2	-	-	10,2	10,1	10	9,6	9	8,2	7,1	5,7	4	-	
NR4 125B/A	11,1	6,4	-	3	4		12	-	-	12	11,9	11,8	11,6	11	10,4	9,4	8,2	6,7	5,1	
NR4 125A/A	-	8,3	4,8	4	5,5		13,6	-	-	13,6	13,5	13,4	13,2	12,9	12,3	11,4	10,3	8,8	7,2	

P1: Maximum power input.**P2:** Rated motor power output.

Tolerances according to UNI EN ISO 9906:2012

NR



Coverage chart n ≈ 2900 rpm

Single operation

Three-phase

						Q = Flow													
						m³/h	0	15	16,8	18,9	21	24	27	30	33	37,8	39	42	45
Model	230V	400V	690V	P2		l/min		250	280	315	350	400	450	500	550	630	650	700	750
	A			kW	HP	H (m) = Total head													
NRD 50/125F	4,6	2,7	-	1,1	1,5		13,7	13,2	12,7	12	11,2	9,9	8,5	6,8	4,8	-	-	-	-
NRD 50/125C	7,5	4,3	-	1,5	2		17,8	17,8	17,4	16,8	16	14,8	13,3	11,7	9,9	6,8	5,9	-	-
NRD 50/125A	9,2	5,3	-	2,2	3		20,8	21,2	20,9	20,5	19,9	18,7	17,4	15,8	14,1	11,1	10,4	8,3	-
NRD 50/160C	9,2	5,3	-	2,2	3		23,4	22,9	22,4	21,7	20,9	19,4	17,7	15,7	13,4	9,1	7,8	-	-
NRD 50/160B	11,5	6,6	-	3	4		25,6	25	24,6	24	23,3	22	20,4	18,5	16,2	11,9	10,7	7,5	-
NRD 50/160A	-	9,6	5,5	4	5,5		34	34,6	34,3	33,8	33,2	32	30,5	28,7	26,7	22,8	21,7	18,8	15,6

Three-phase

						Q = Flow														
						m³/h	0	21	24	27	30	33	37,8	42	48	54	60	66	69	72
Model	230V	400V	690V	P2		l/min		350	400	450	500	550	630	700	800	900	1000	1100	1150	1200
	A			kW	HP		H (m) = Total head													
NRD 65/125F	9,2	5,3	-	2,2	3		16,2	14,9	14,4	13,8	13,2	12,5	11,3	10,1	8,2	6,1	3,9	-	-	-
NRD 65/125D	11,5	6,6	-	3	4		20,4	19,1	18,6	18,1	17,5	16,9	15,7	14,4	12,4	10	7,2	4,3	-	-
NRD 65/125A	-	9,6	5,5	4	5,5		25,3	25	24,7	24,3	23,8	23,2	22,1	21	19,1	16,9	14,3	11,5	9,9	-
NRD 65/160B	-	10,8	6,2	5,5	7,5		30,7	31,3	31,1	30,8	30,4	29,9	28,6	27,2	24,7	21,7	18,2	14,5	12,5	10,4
NRD 65/160A	-	14,3	8,3	7,5	10		37,5	37,7	37,6	37,4	37,1	36,6	35,6	34,4	32,1	29,3	26	22,5	20,6	18,5

Parallel operation

For parallel operation see curve diagram

P1: Maximum power input.**P2:** Rated motor power output.

Tolerances according to UNI EN ISO 9906:2012

Performance n ≈ 1450 rpm

Single operation

Three-phase

					Q = Flow															
					m³/h	0	5,4	6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24	27
Model	230V	400V	P2		l/min		90	100	125	140	160	180	200	220	250	280	315	350	400	450
	A		kW	HP	H (m) = Total head															
NRD4 50/160C	1,65	0,95	0,37	0,5		5,9	5,9	5,8	5,7	5,5	5,3	5,1	4,8	4,5	3,9	3,1	2,1	-	-	-
NRD4 50/160B	2,6	1,5	0,55	0,75		7,3	7,5	7,5	7,4	7,3	7,1	6,8	6,6	6,3	5,7	5,1	4,1	3	1,3	-
NRD4 50/160A	3,3	1,9	0,75	1		9,3	9,5	9,5	9,4	9,3	9,2	9,1	8,9	8,6	8,1	7,6	6,8	5,8	4,1	2,1

Three-phase

					Q = Flow														
					m³/h	0	10,8	12	13,2	15	16,8	18,9	21	24	27	30	33	37,8	42
Model	230V	400V	P2		l/min			180	200	220	250	280	315	350	400	450	500	550	630
	A		kW	HP	H (m) = Total head														
NRD4 65/125F	1,65	0,95	0,37	0,5		4,3	4,1	4	3,9	3,7	3,5	3,3	3	2,5	2	1,3	-	-	-
NRD4 65/125D	2,6	1,5	0,55	0,75		5,4	5,2	5,1	5	4,9	4,7	4,4	4,1	3,6	3,1	2,5	1,7	-	-
NRD4 65/125A	3,3	1,9	0,75	1		6,5	6,4	6,3	6,3	6,1	6	5,8	5,5	5	4,4	3,8	3,1	2	-
NRD4 65/160B	5	2,9	1,1	1,5		8,1	8,2	8,2	8,1	8	7,9	7,6	7,3	6,7	6	5,1	4,1	2,5	-
NRD4 65/160A	5	2,9	1,1	1,5		9,8	9,8	9,8	9,7	9,6	9,4	9,2	8,9	8,3	7,7	6,9	6	4,3	2,6

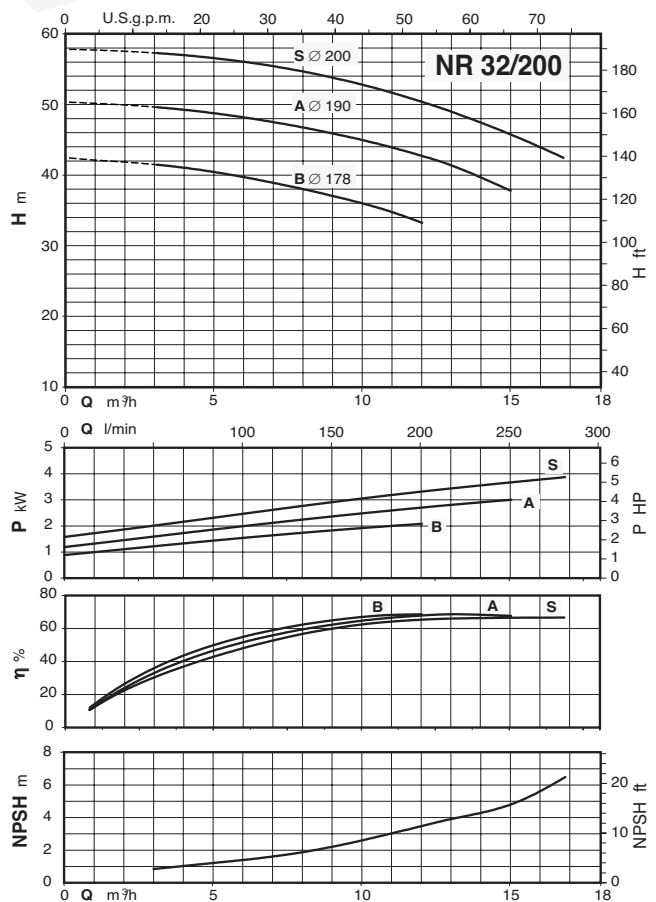
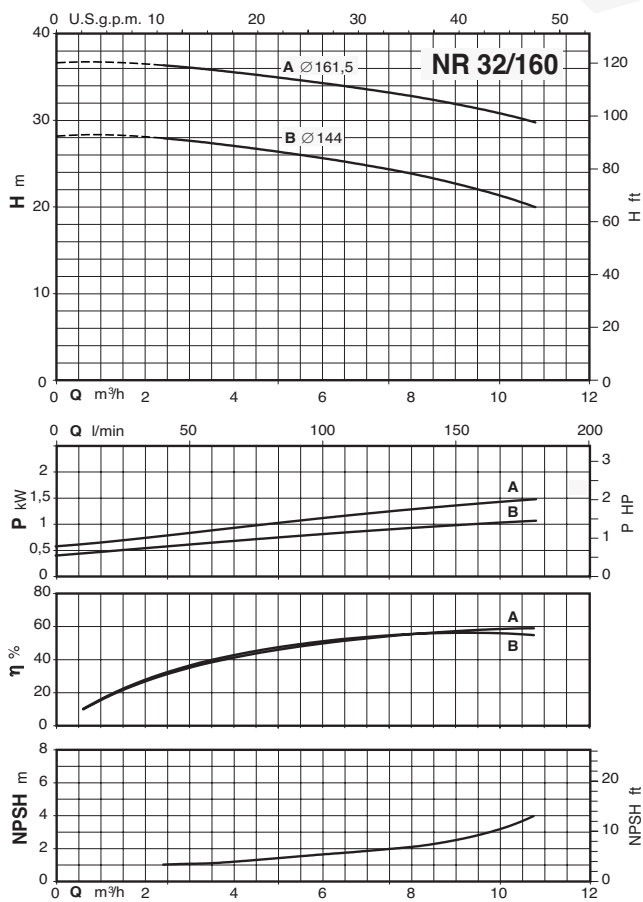
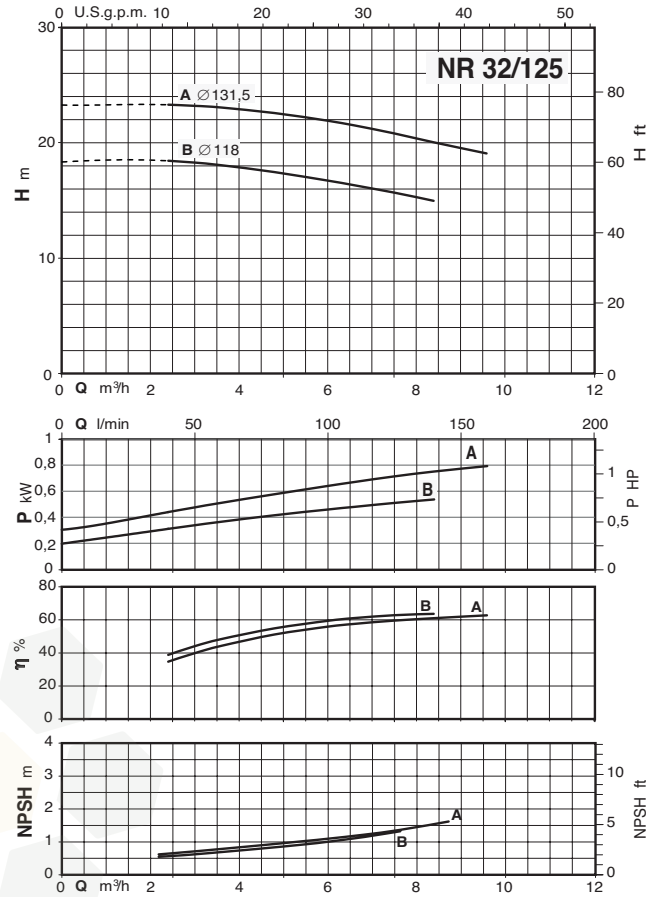
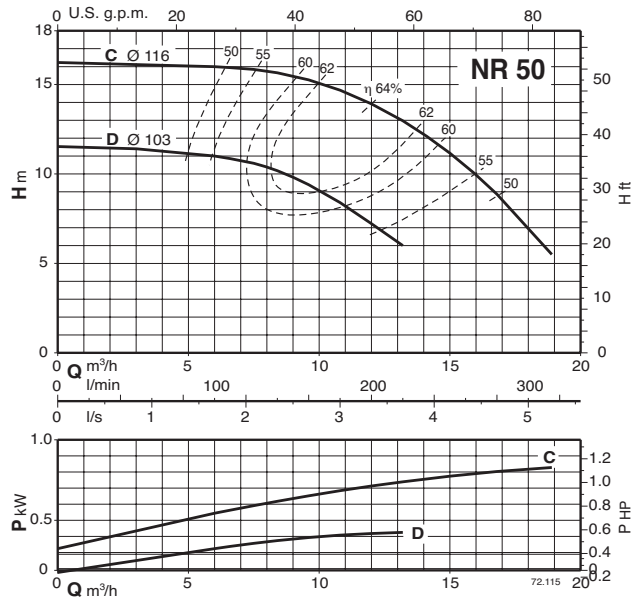
Parallel operation

For parallel operation see curve diagram

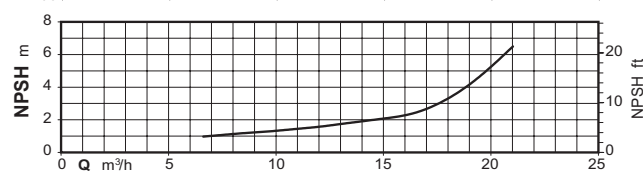
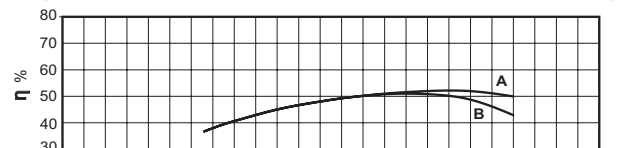
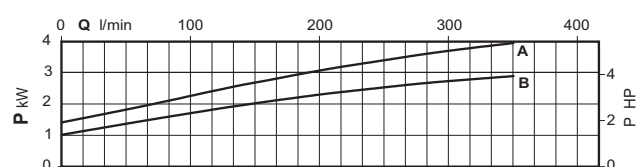
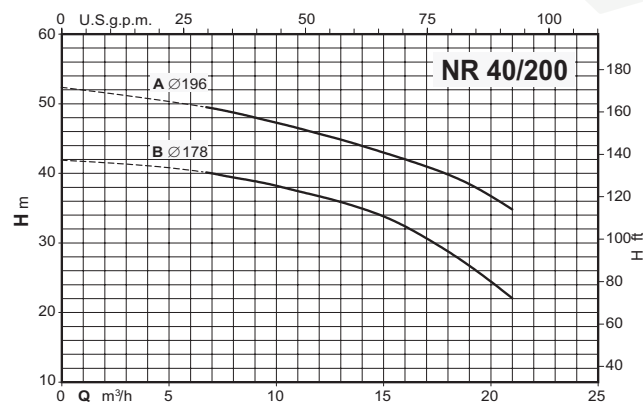
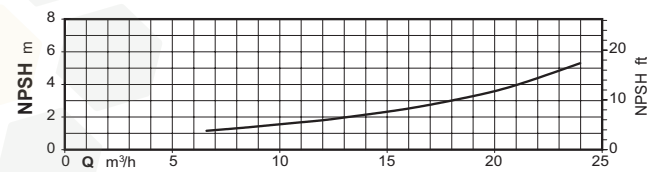
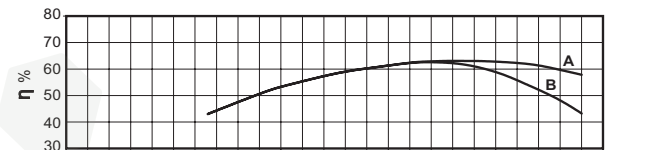
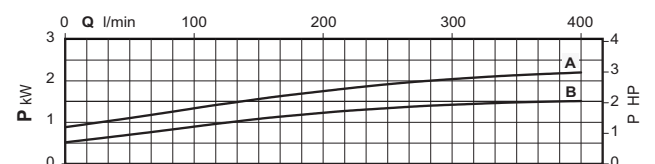
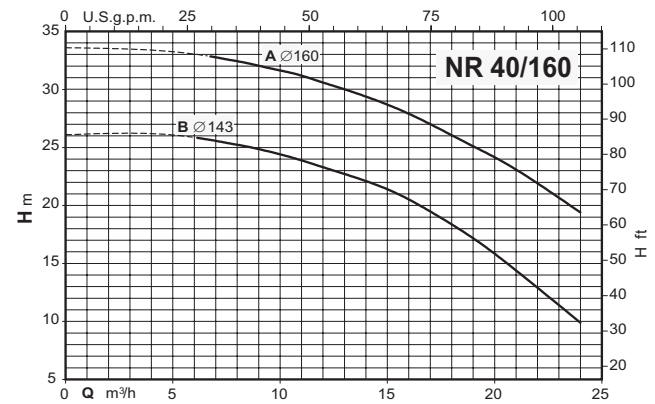
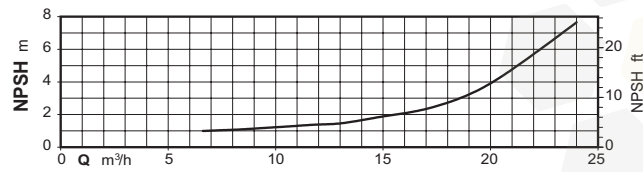
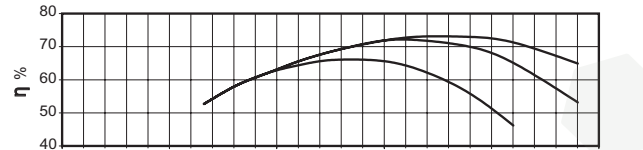
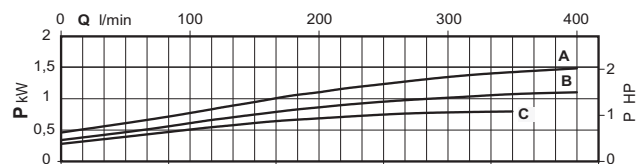
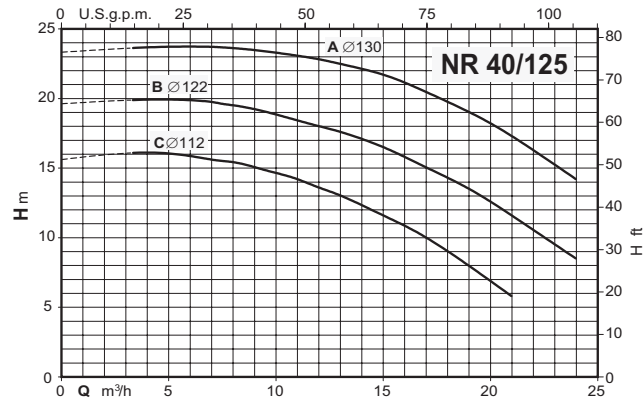
P1: Maximum power input.**P2:** Rated motor power output.

Tolerances according to UNI EN ISO 9906:2012

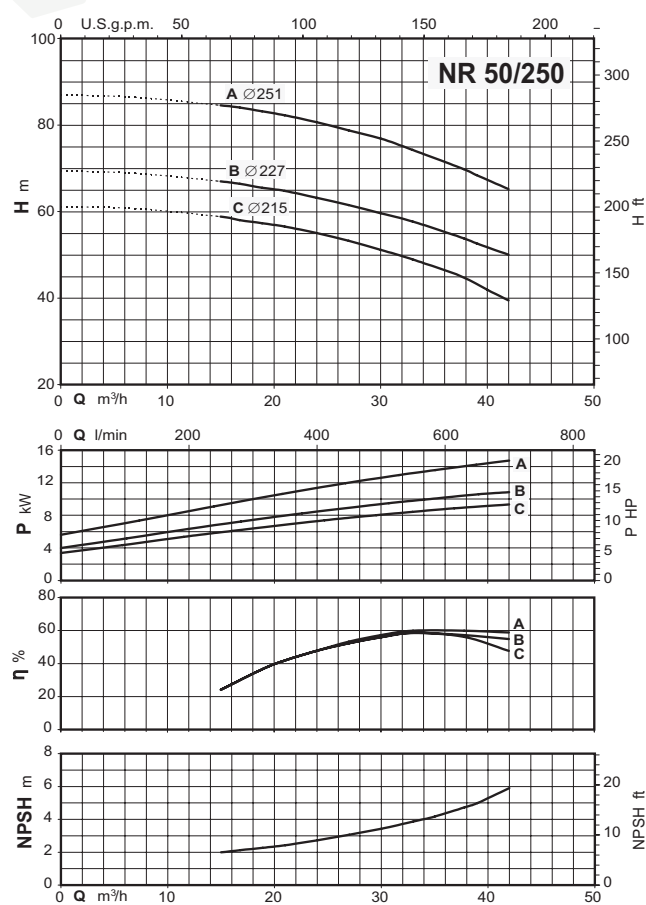
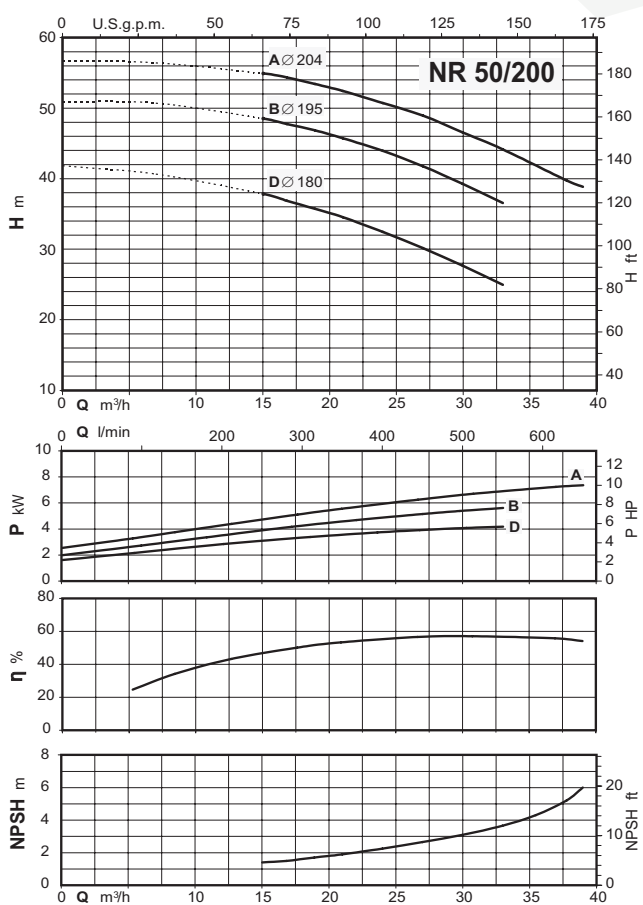
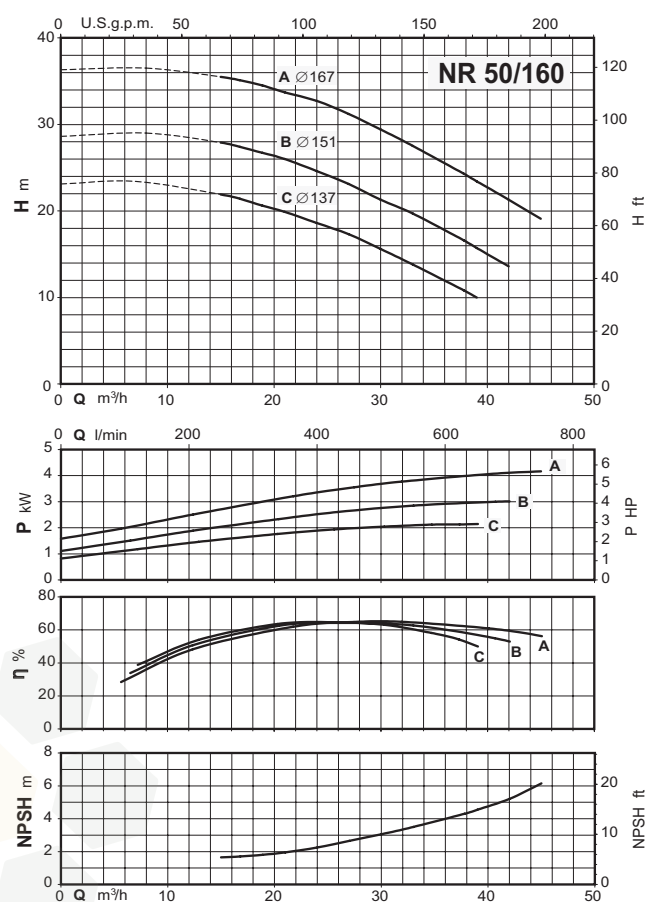
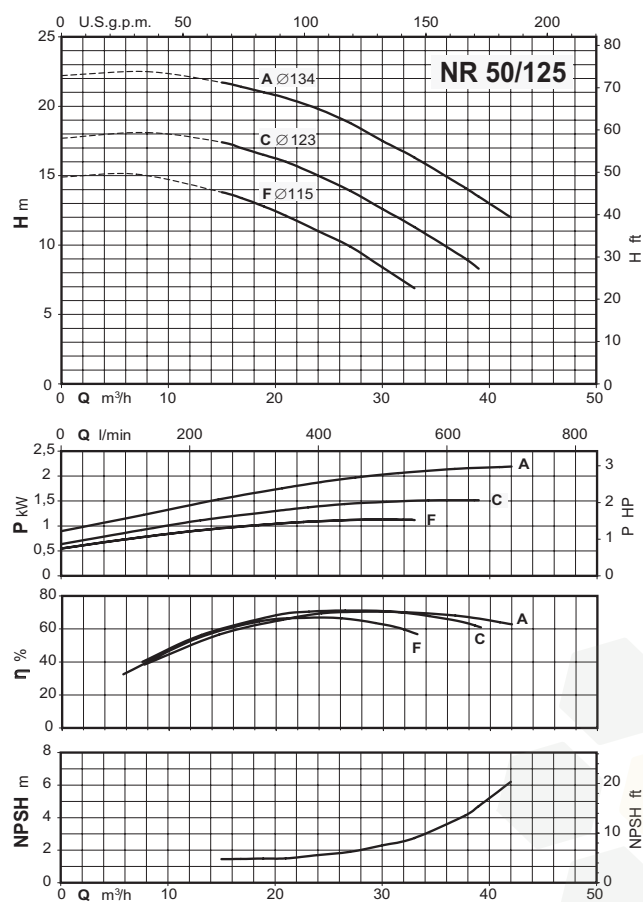
NR

Coverage chart $n \approx 2900$ rpm

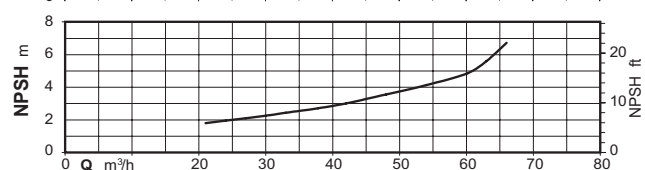
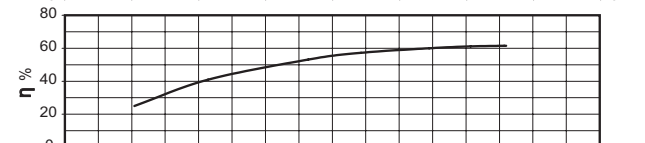
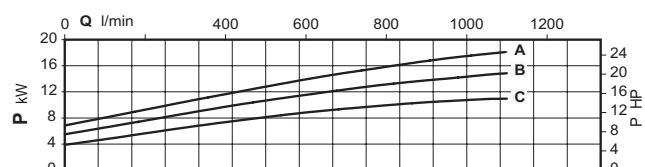
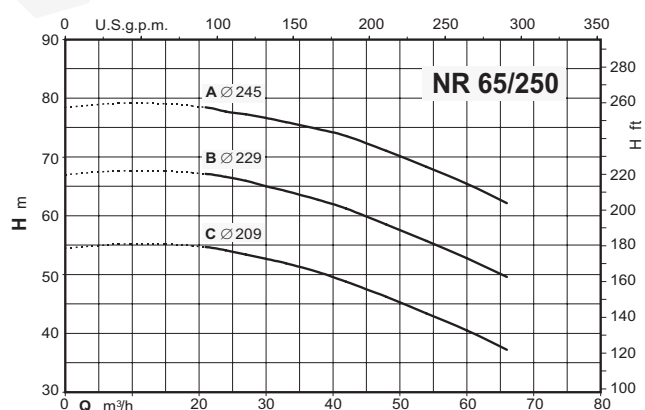
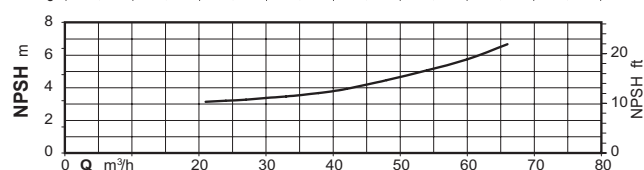
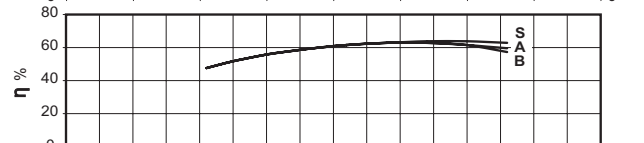
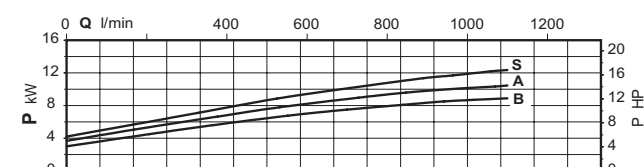
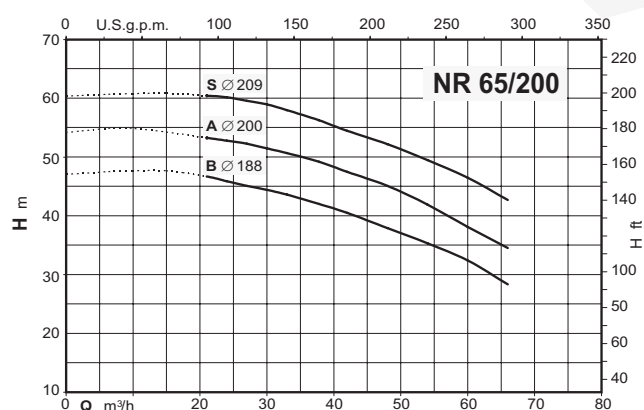
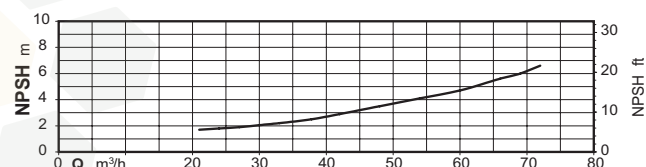
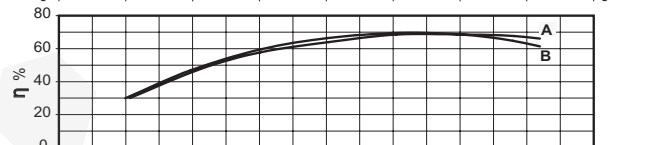
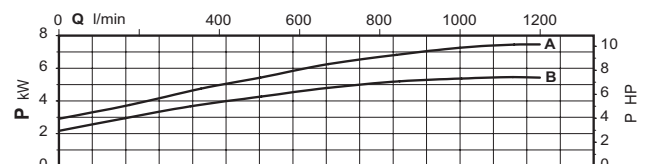
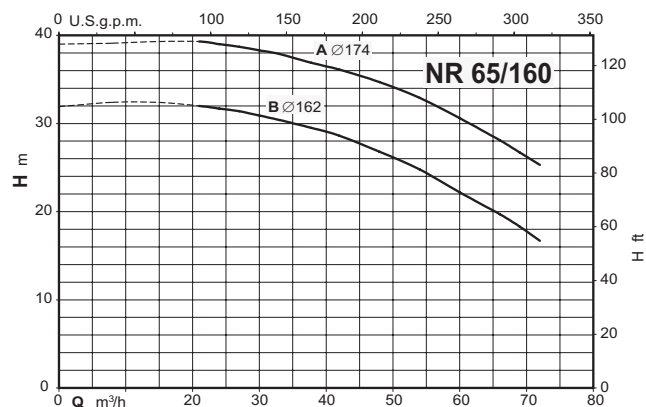
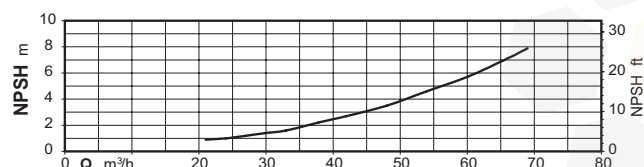
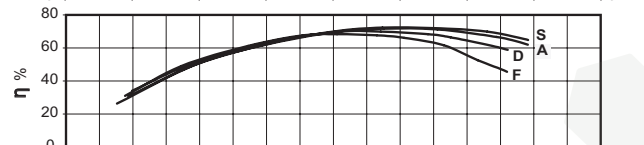
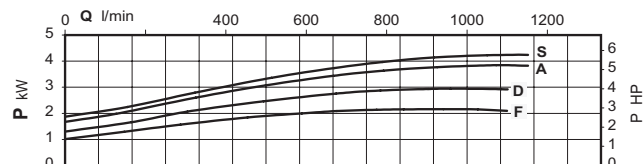
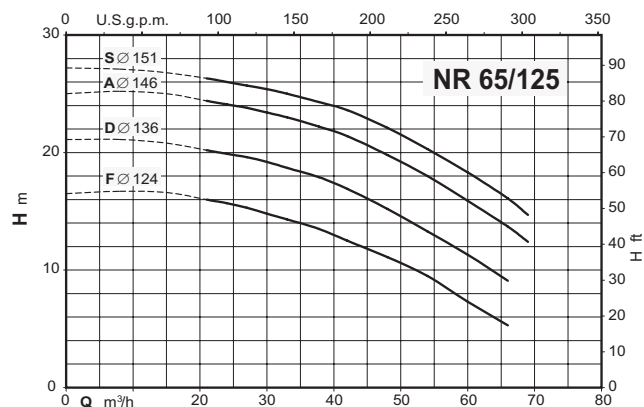
NR

Coverage chart $n \approx 2900$ rpm

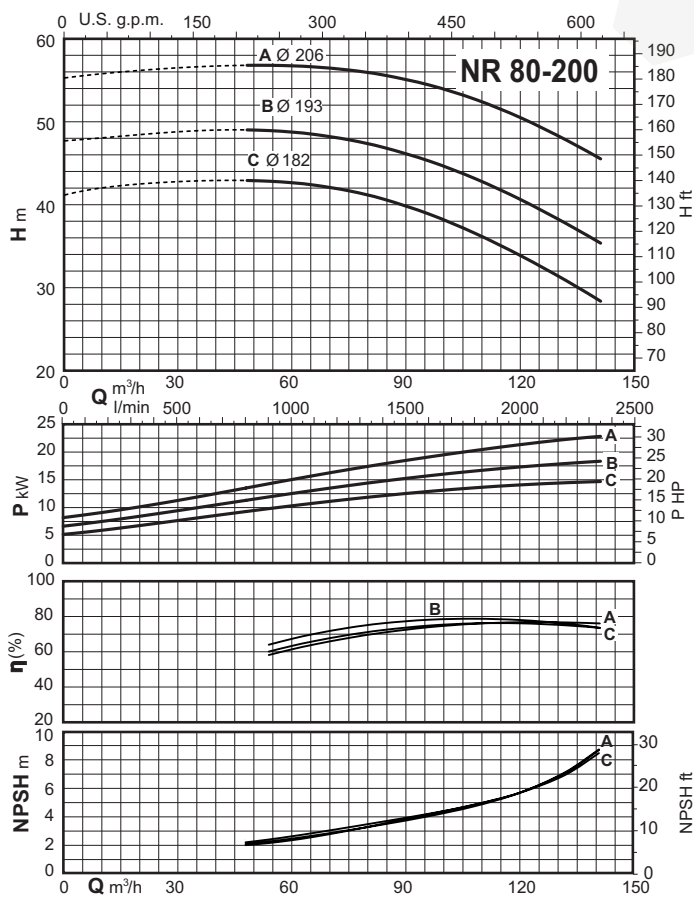
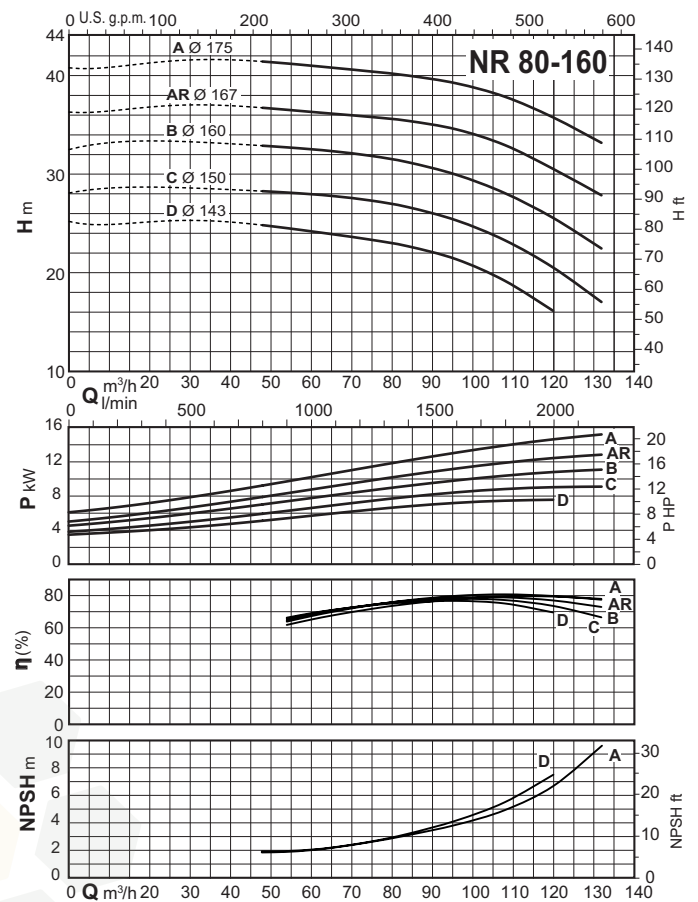
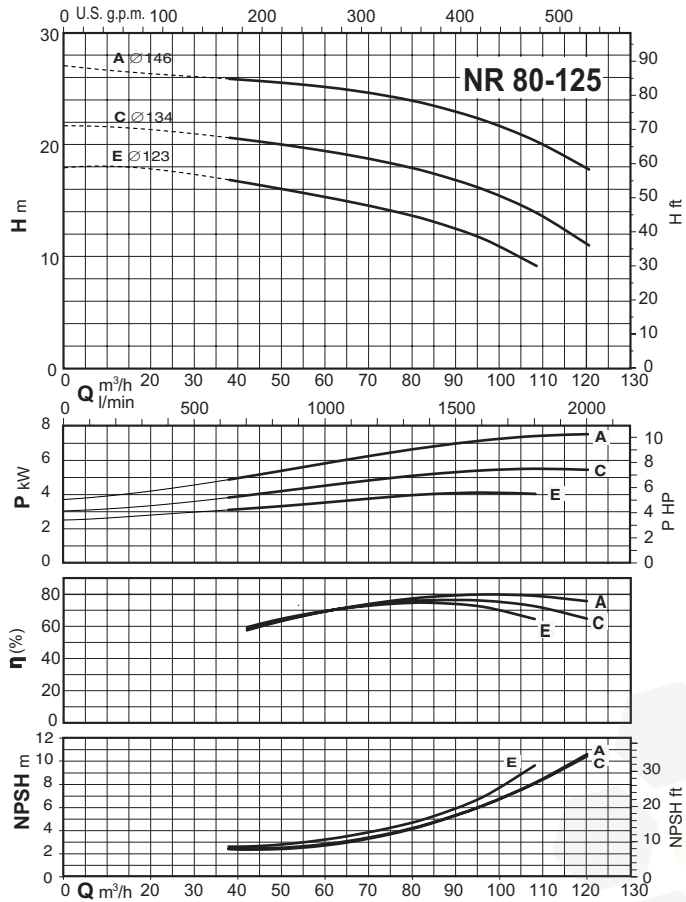
NR

Coverage chart $n \approx 2900$ rpm

NR

Coverage chart $n \approx 2900$ rpm

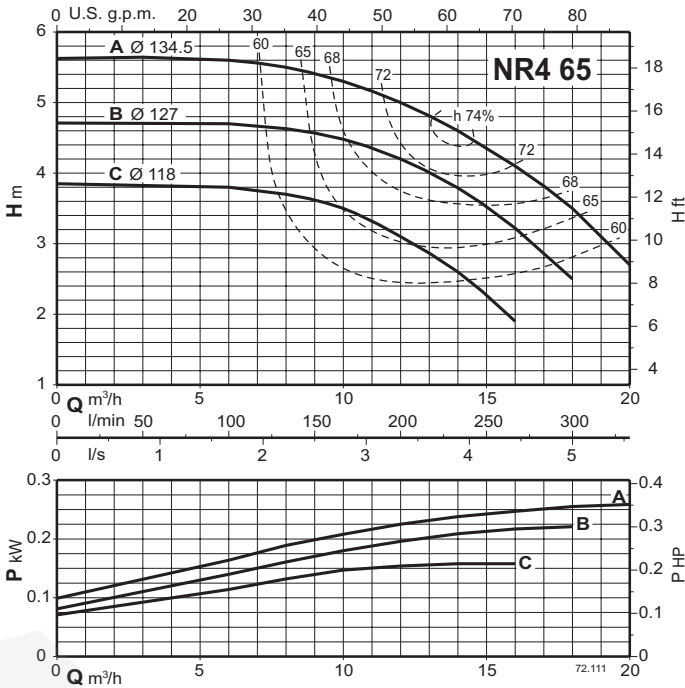
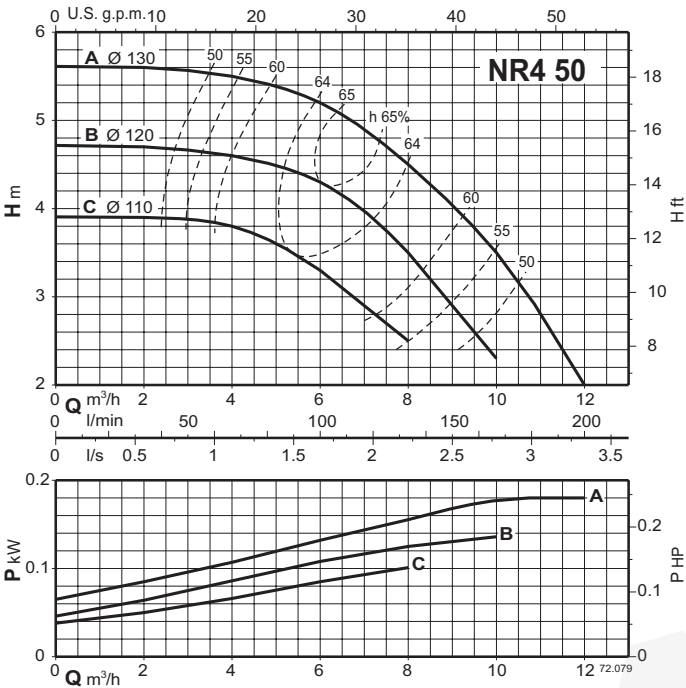
NR

Coverage chart $n \approx 2900$ rpm

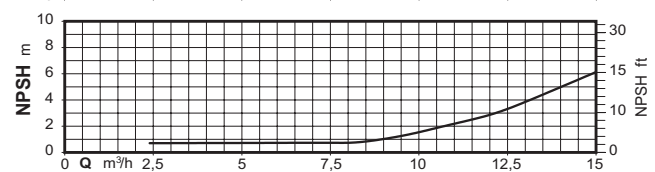
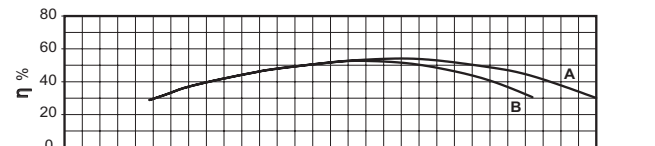
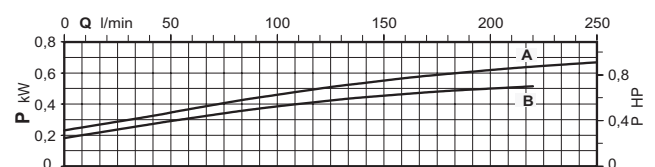
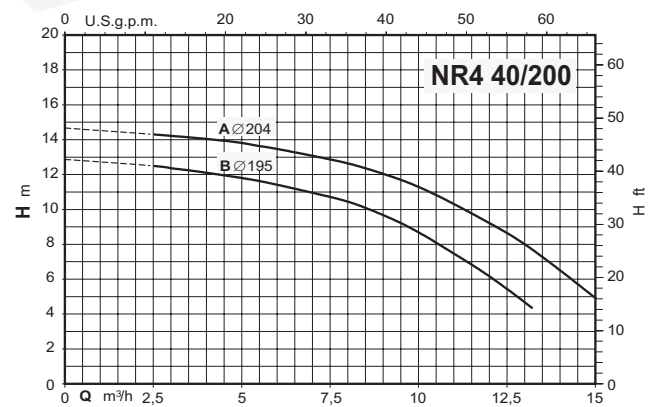
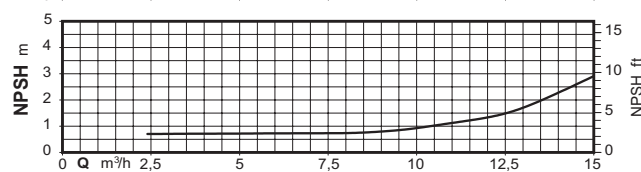
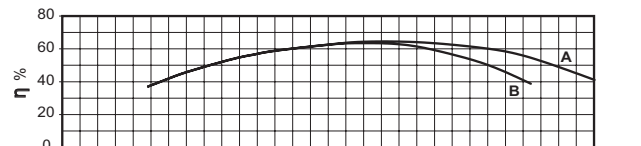
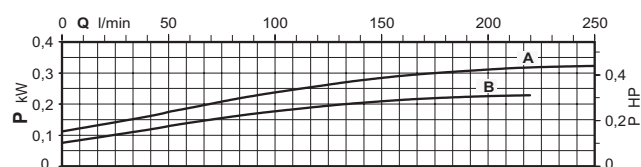
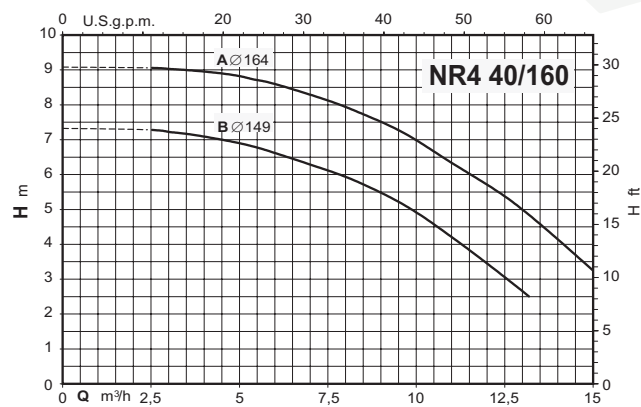
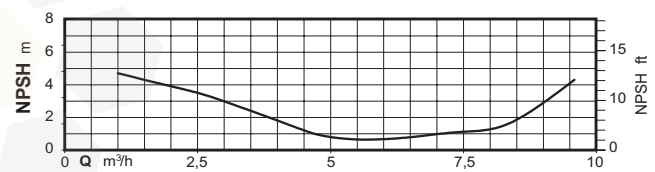
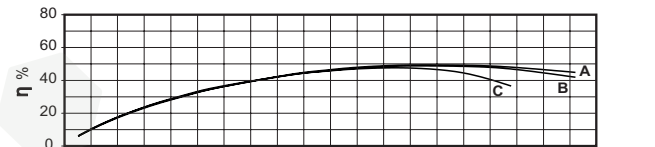
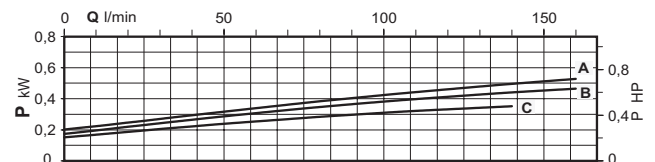
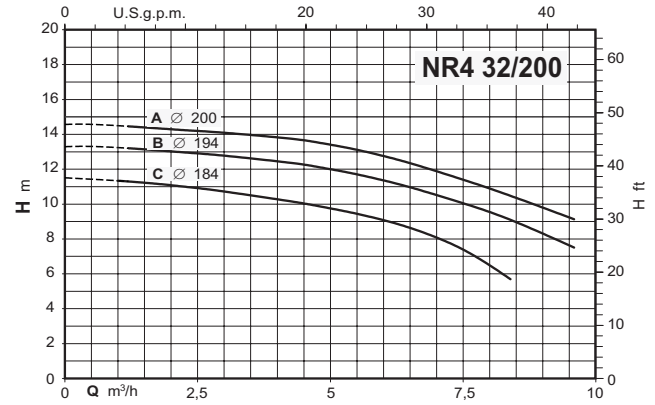
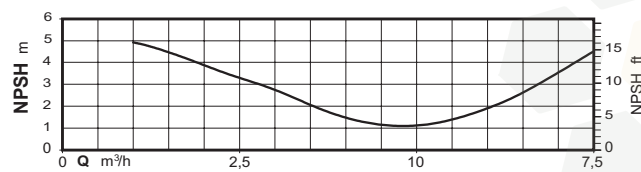
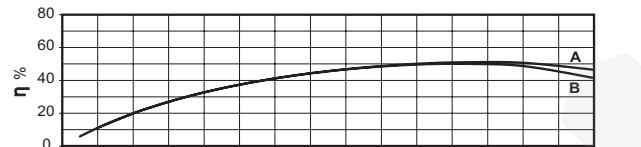
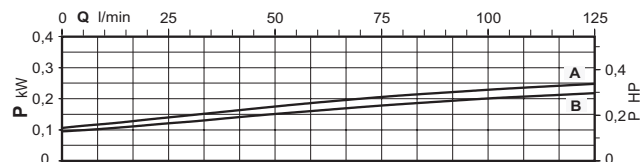
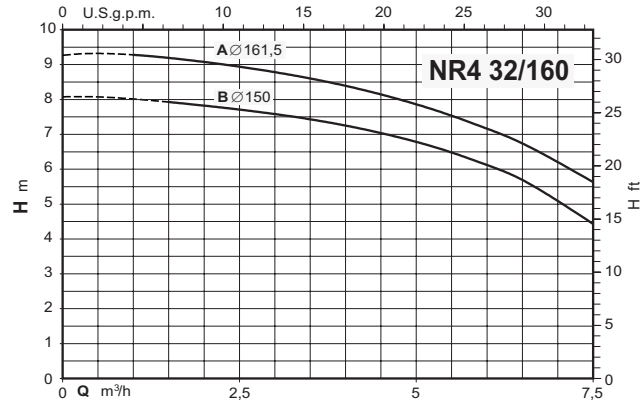
NR



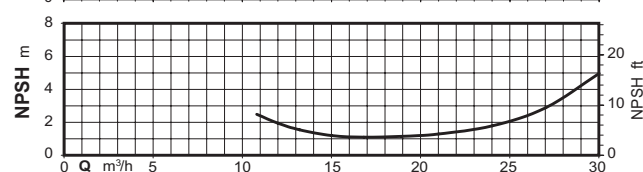
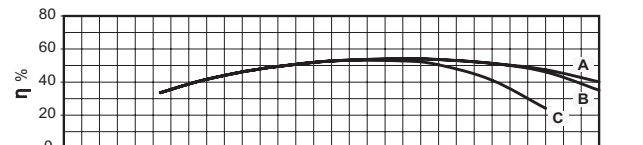
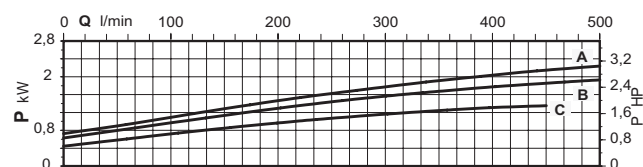
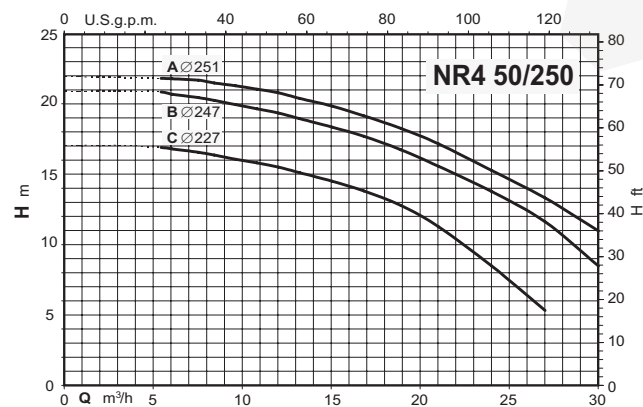
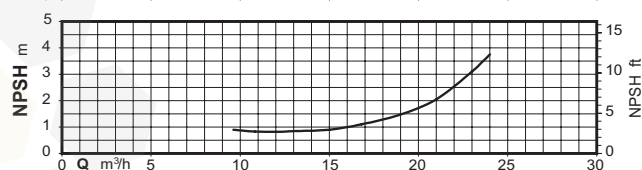
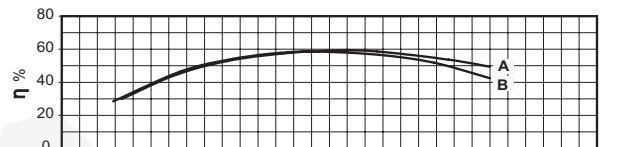
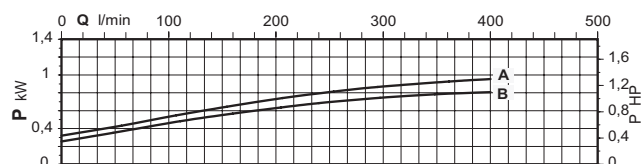
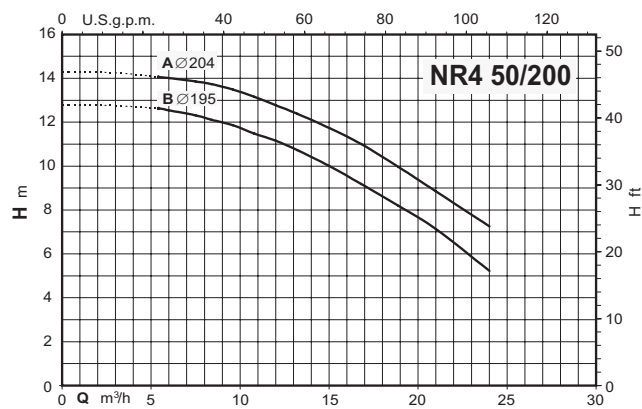
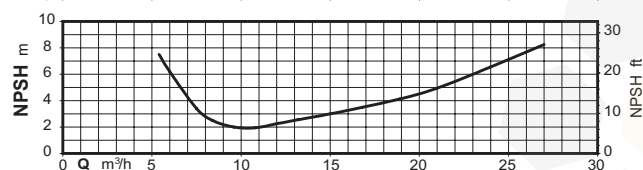
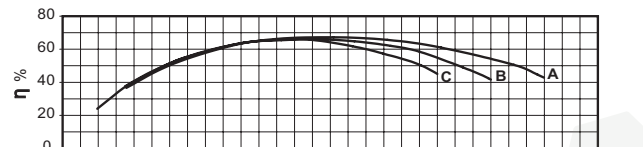
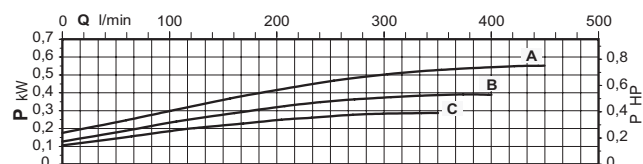
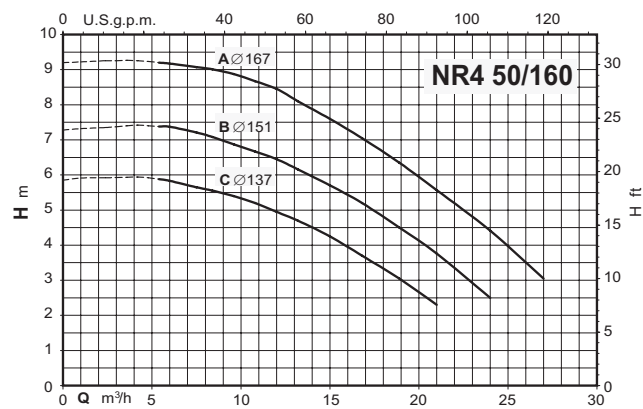
Coverage chart $n \approx 1450$ rpm



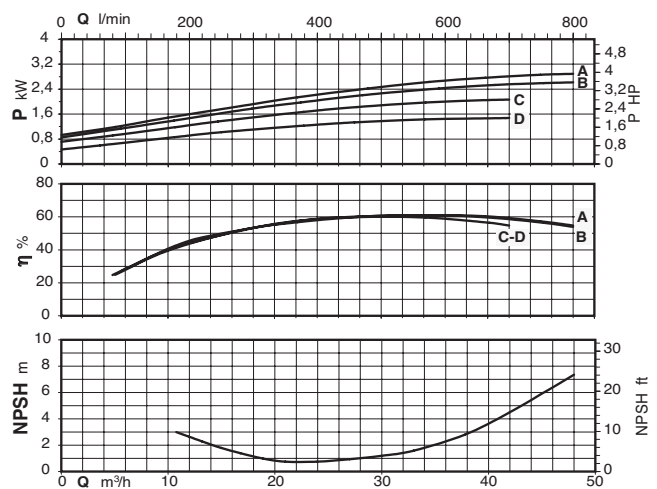
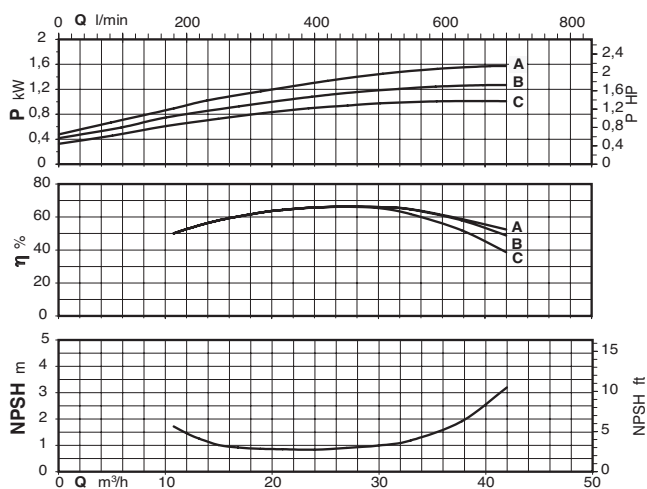
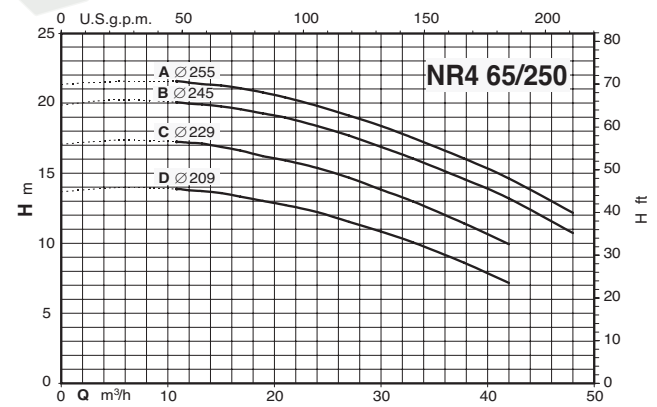
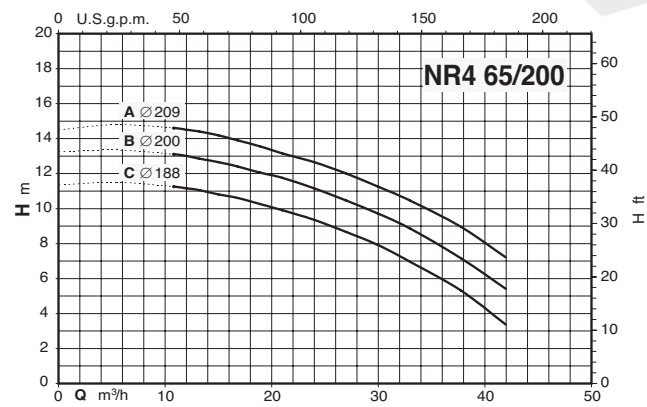
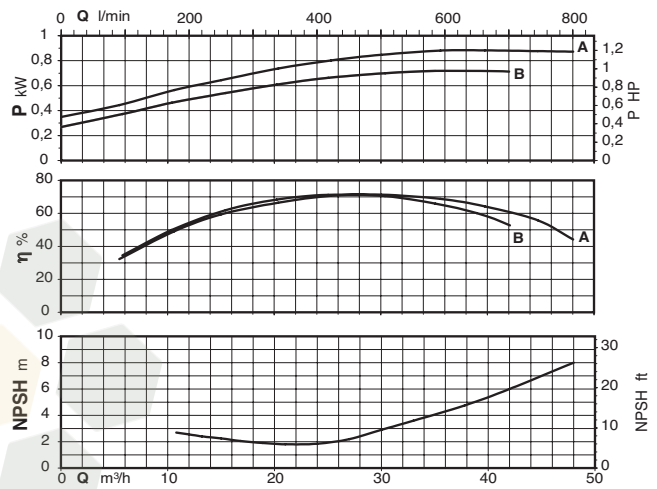
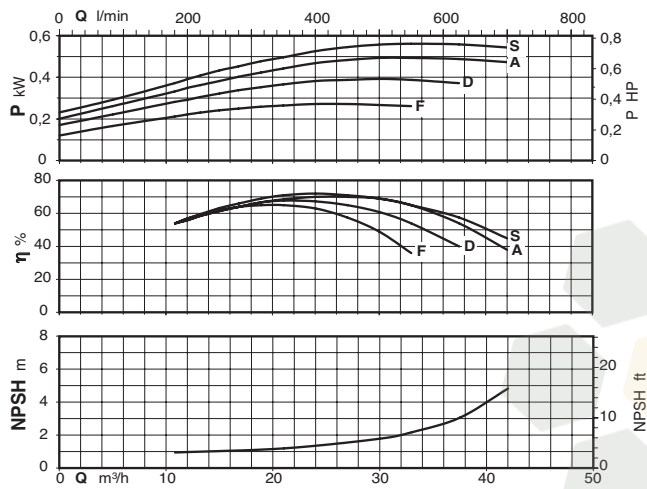
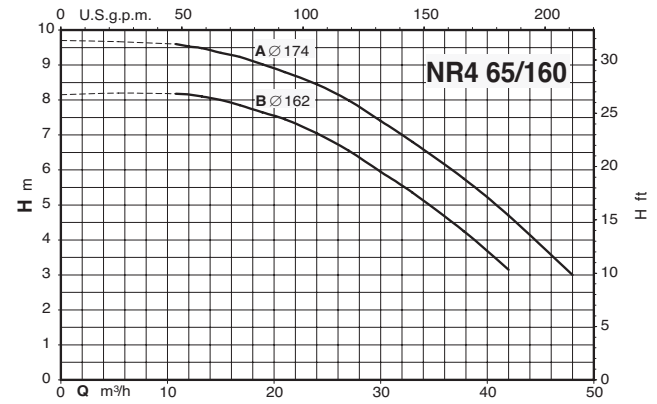
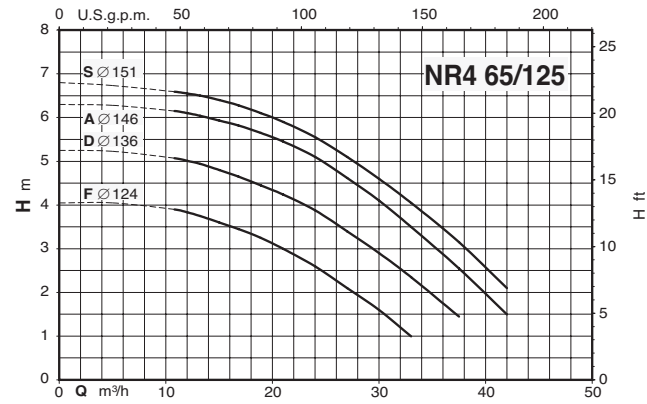
NR

Coverage chart $n \approx 1450$ rpm

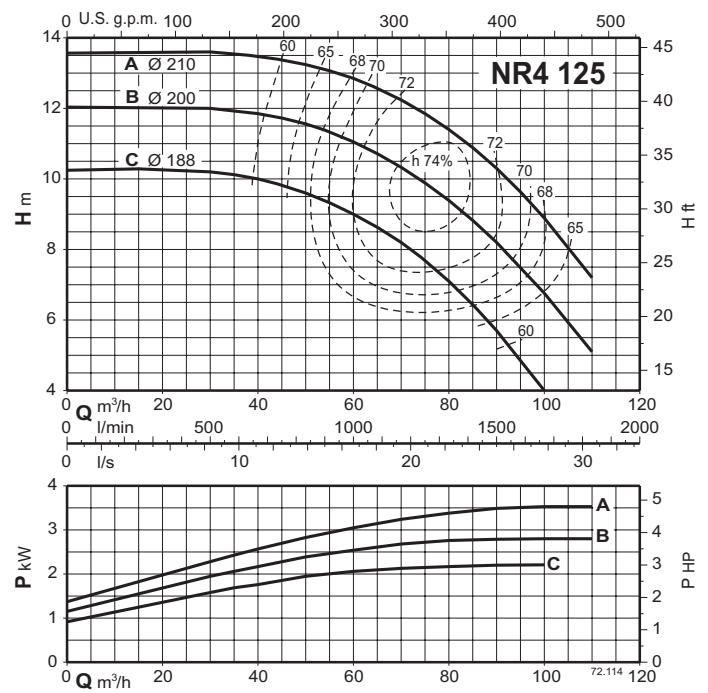
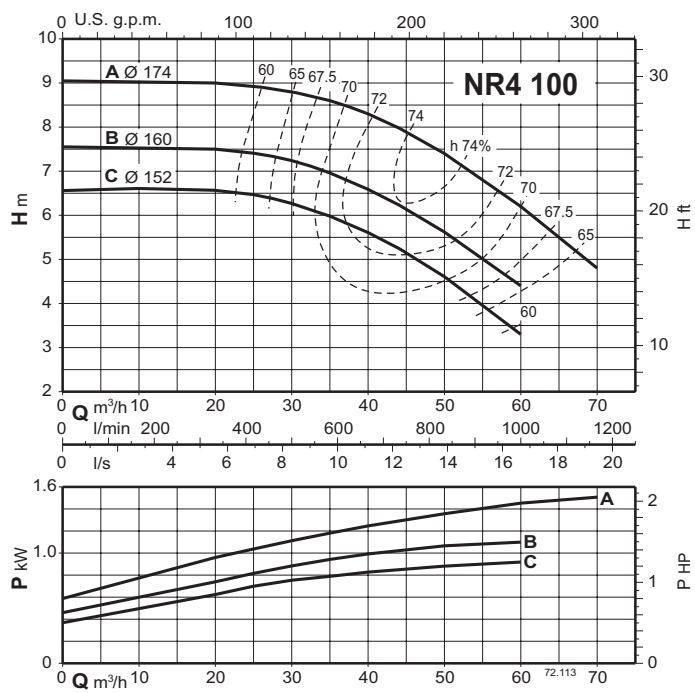
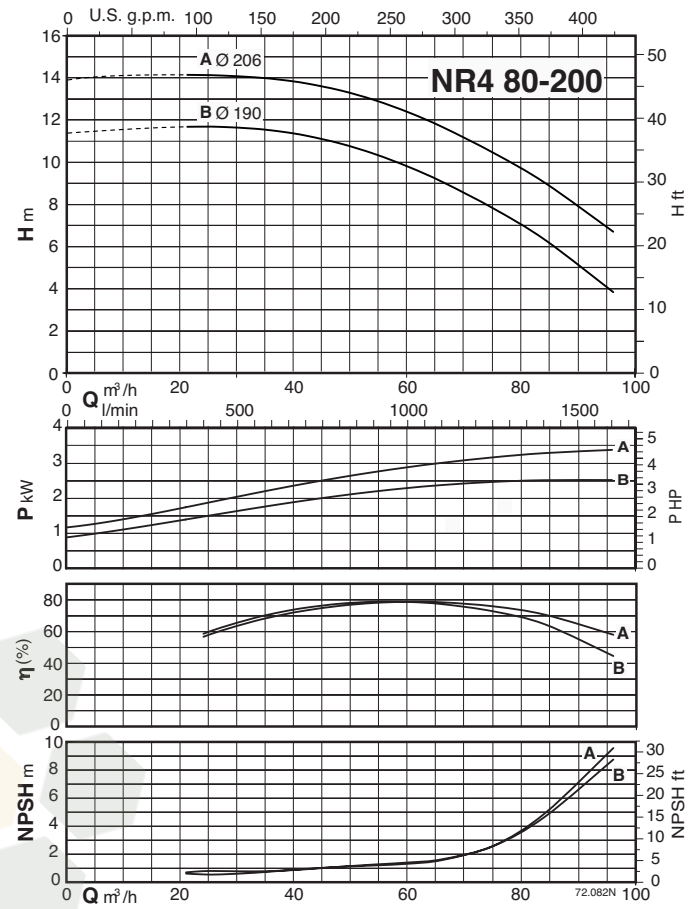
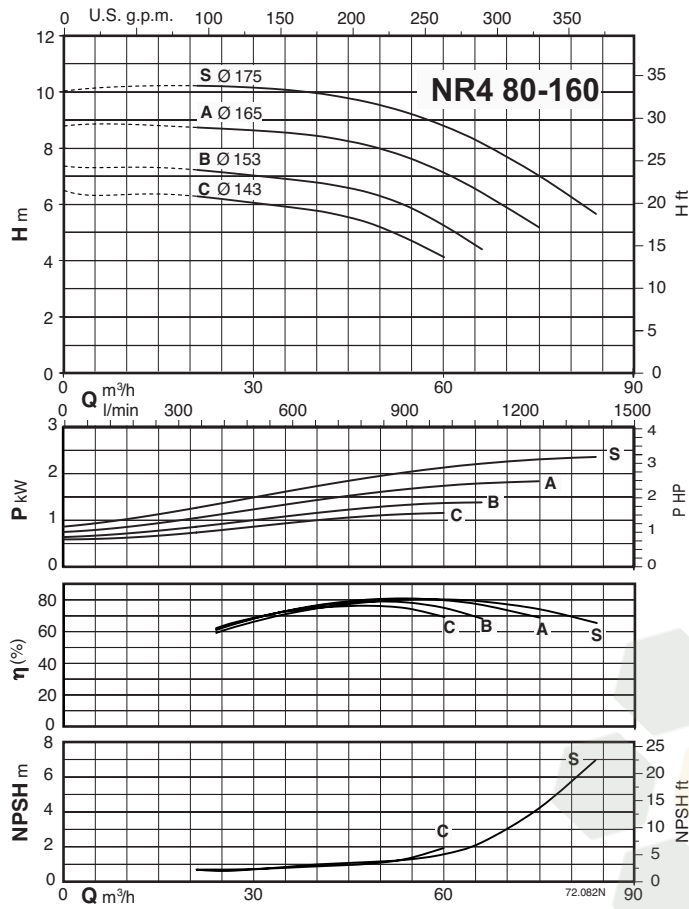
NR

Coverage chart $n \approx 1450$ rpm

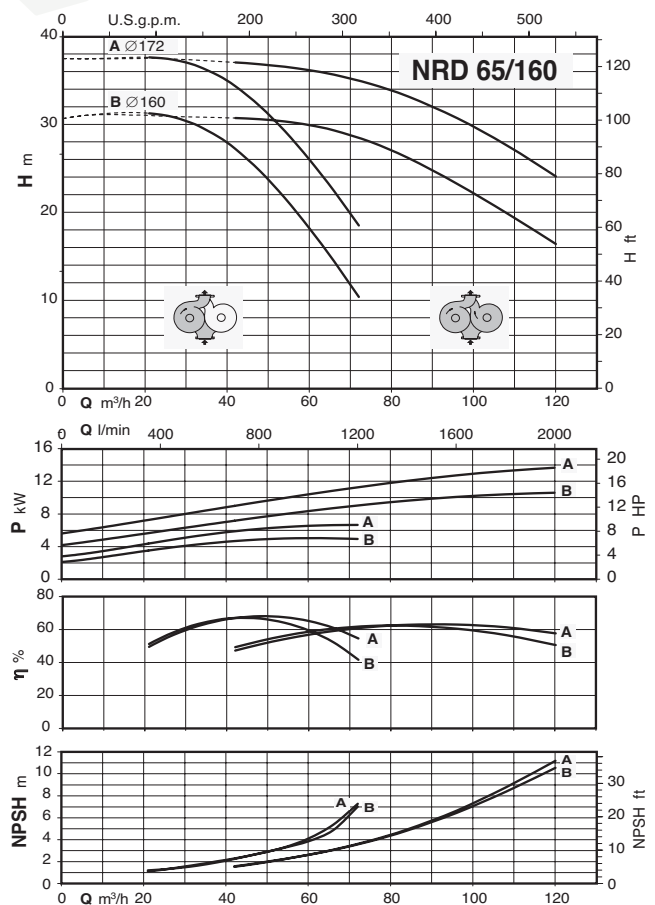
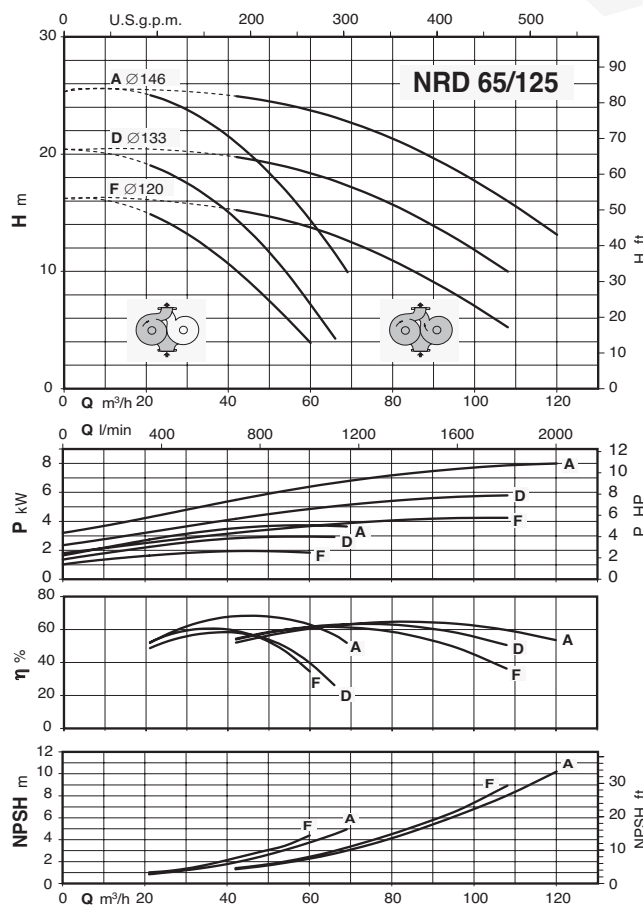
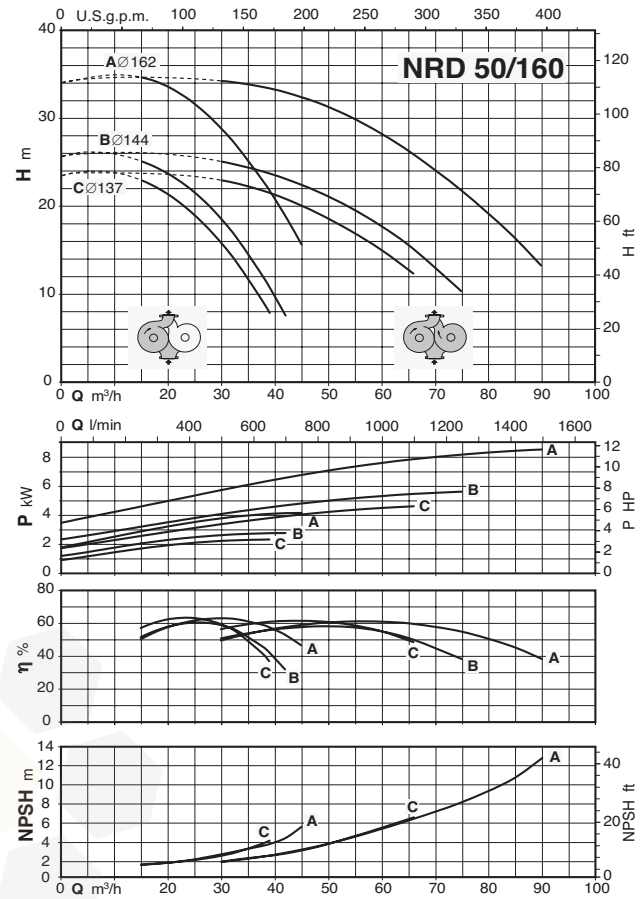
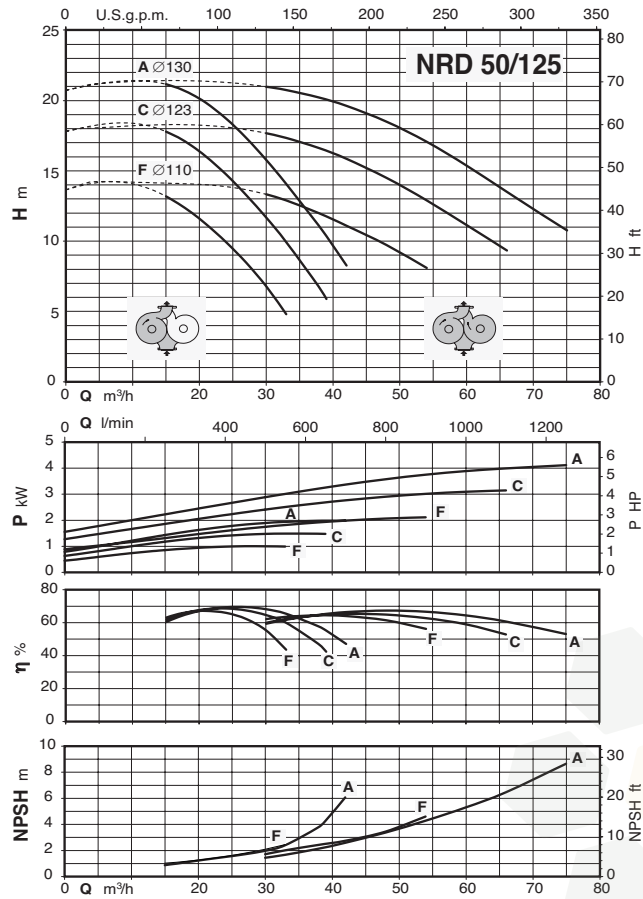
NR

Coverage chart $n \approx 1450$ rpm

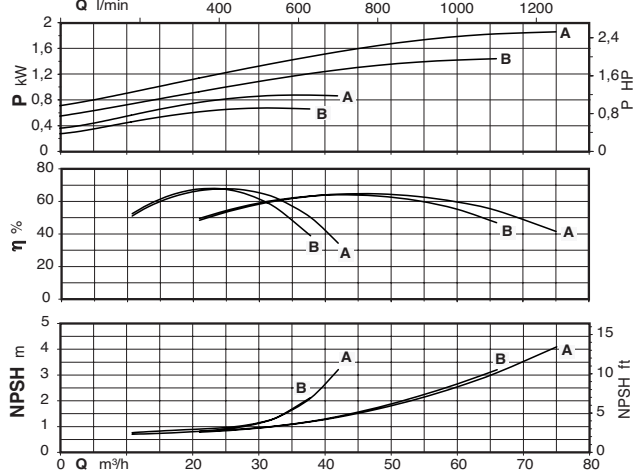
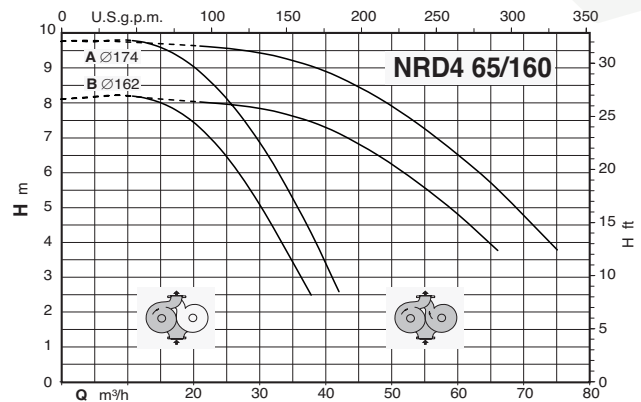
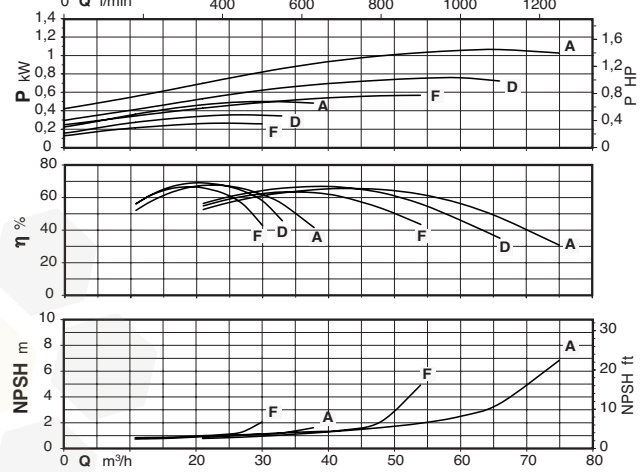
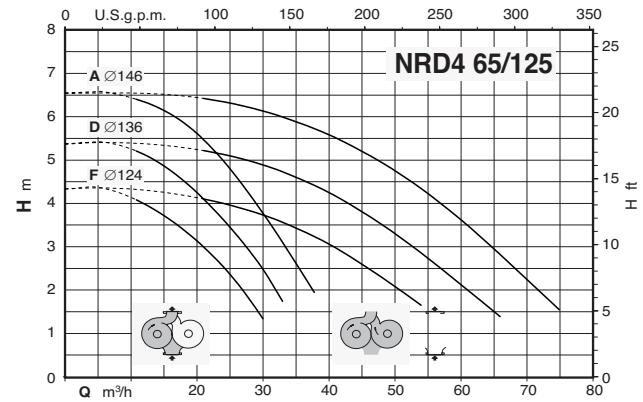
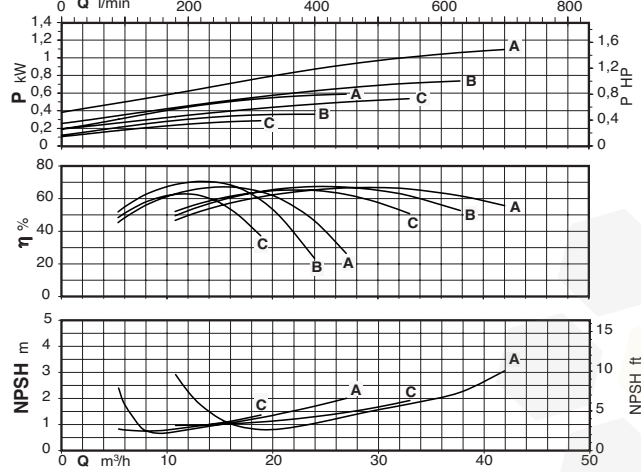
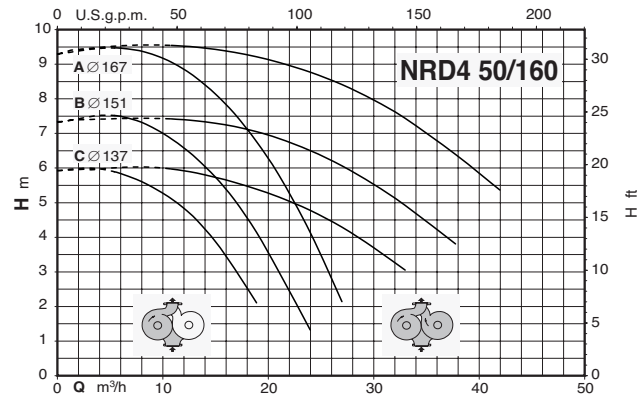
NR

Coverage chart $n \approx 1450$ rpm

NR

Coverage chart $n \approx 2900$ rpm

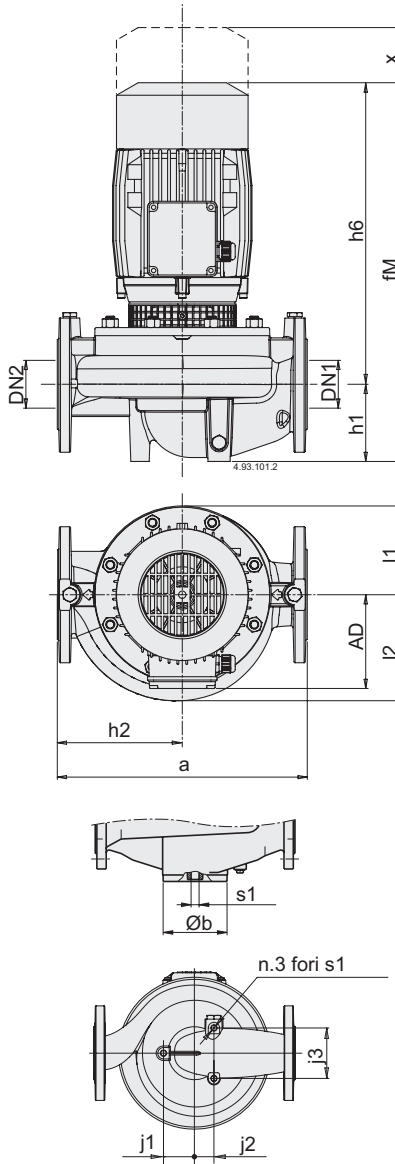
NR

Coverage chart $n \approx 1450$ rpm

NR



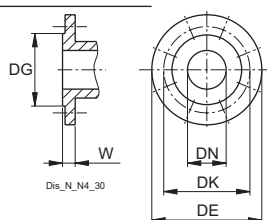
Dimensions and weights



TYPE	mm																kg
	DN1	DN2	a	AD	b	fM	h1	h2	h6	j1	j2	j3	l1	l2	s1	x	Peso
NR 50D/A	50	50	320	111	98	363.5	90	160	273.5	-	-	-	93	100	M16	70	20.8
NR 50C/B	50	50	320	111	98	363.5	90	160	273.5	-	-	-	93	100	M16	70	23.8
NR 32/125B	32	32	260	111	-	351	80	130	271	49.5	31.5	70.5	86	88	M10	60	18.9
NR 32/125A	32	32	260	111	-	351	80	130	271	49.5	31.5	70.5	86	88	M10	60	19
NR 32/160B/A	32	32	340	130	-	421	80	170	341	50	40	76	102	102	M10	60	26.1
NR 32/160A/A	32	32	340	130	-	421	80	170	341	50	40	76	102	102	M10	60	27.8
NR 32/200B/A	32	32	440	130	-	469	85	220	384	60	44	84	126	126	M10	60	36.7
NR 32/200A	32	32	440	140	-	495	85	220	410	60	44	84	126	126	M10	60	44
NR 32/200S/A	32	32	440	140	-	495	85	220	410	60	44	84	126	126	M10	60	46.7
NR 40/125C	40	40	320	130	-	423	81	160	342	49	31	80	93	98	M10	70	25.7
NR 40/125B/A	40	40	320	130	-	423	81	160	342	49	31	80	93	98	M10	70	27.3
NR 40/125A/A	40	40	320	130	-	423	81	160	342	49	31	80	93	98	M10	70	28.6
NR 40/160B/A	40	40	320	130	-	430	81	160	349	49	31	80	119	119	M10	75	35.6
NR 40/160A/A	40	40	320	130	-	470	81	160	389	49	31	80	119	119	M10	75	39.1
NR 40/200B	40	40	440	140	-	496	81	220	415	62	40	95	140	140	M10	75	53.4
NR 40/200A/A	40	40	440	140	-	496	81	220	415	62	40	95	140	140	M10	75	56.6
NR 50/125F/A	50	50	340	130	-	437	90	170	347	45	40	79	96	115	M10	75	30.4
NR 50/125C/A	50	50	340	130	-	437	90	170	347	45	40	79	96	115	M10	75	31.9
NR 50/125A/B	50	50	340	130	-	477	90	170	387	45	40	79	96	115	M10	75	35.3
NR 50/160C/B	50	50	340	130	-	480	90	170	390	45	40	79	120	128	M10	75	38.4
NR 50/160B/A	50	50	340	140	-	506	90	170	416	45	40	79	120	128	M10	75	47
NR 50/160A/B	50	50	340	140	-	506	90	170	416	45	40	79	120	128	M10	75	50.4
NR 50/200D/B	50	50	440	140	-	515	100	220	415	45	40	79	140	140	M10	80	57.3
NR 50/200B/A	50	50	440	167	-	576	100	220	476	45	40	79	140	140	M10	80	69.8
NR 50/200A/A	50	50	440	167	-	576	100	220	476	45	40	79	140	140	M10	80	74.9
NR 50/250C/B	50	50	440	190	-	656	100	220	556	45	40	79	175	175	M10	85	112
NR 50/250B/A	50	50	440	190	-	656	100	220	556	45	40	79	175	175	M10	85	119.5
NR 50/250A/B	50	50	440	190	-	731	100	220	631	45	40	79	175	175	M10	85	139.4
NR 65/125F/B	65	65	340	130	-	494	105	170	389	60	50	110	121	145	M10	95	43.7
NR 65/125D/B	65	65	340	140	-	519	105	170	414	60	50	110	121	145	M10	95	52.1
NR 65/125A/B	65	65	340	140	-	519	105	170	414	60	50	110	121	145	M10	95	55
NR 65/125S/B	65	65	340	140	-	519	105	170	414	60	50	110	121	145	M10	95	55.3
NR 65/160B/A	65	65	340	167	-	584	105	170	479	60	50	110	121	142	M10	95	68.5
NR 65/160A/A	65	65	340	167	-	584	105	170	479	60	50	110	121	142	M10	95	73.8
NR 65/200B/B	65	65	475	190	-	665	105	237.5	560	60	50	110	140	153	M10	90	109.2
NR 65/200A/A	65	65	475	190	-	665	105	237.5	560	60	50	110	140	153	M10	90	117.4
NR 65/200S/B	65	65	475	190	-	740	105	237.5	635	60	50	110	140	153	M10	90	136.7
NR 65/250C/A	65	65	475	190	-	670	105	237.5	565	60	50	110	175	175	M10	90	-
NR 65/250B/B	65	65	475	190	-	745	105	237.5	640	60	50	110	175	175	M10	90	152.8
NR 65/250A/C	65	65	475	208	-	791	105	237.5	686	60	50	110	175	175	M10	90	172.6
NR 80/125E	80	80	440	140	-	533	105	220	428	85	42.5	147.2	129	152	M10	105	60.5
NR 80/125C	80	80	440	167	-	595	105	220	490	85	42.5	147.2	129	152	M10	105	74.6
NR 80/125A	80	80	440	167	-	595	105	220	490	85	42.5	147.2	129	152	M10	105	79.6
NR 80/160D	80	80	440	167	-	604.5	120	220	484.5	85	42.5	147.2	138	159	M10	105	-
NR 80/160C	80	80	440	190	-	684	120	220	564	85	42.5	147.2	138	159	M10	105	-
NR 80/160B	80	80	440	190	-	684	120	220	564	85	42.5	147.2	138	159	M10	105	-
NR 80/160A	80	80	440	190	-	759	120	220	639	85	42.5	147.2	138	159	M10	105	-
NR 80/160AR	80	80	440	190	-	759	120	220	639	85	42.5	147.2	138	159	M10	105	-
NR 80/200C	80	80	500	190	-	792	150	250	642	85	42.5	147.2	156	177	M10	110	-
NR 80/200B	80	80	500	208	-	843	150	250	693	85	42.5	147.2	156	177	M10	110	-
NR 80/200A	80	80	500	208	-	843	150	250	693	85	42.5	147.2	156	177	M10	110	-

TYPE	mm																kg
	DN1	DN2	a	AD	b	fM	h1	h2	h6	j1	j2	j3	l1	l2	s1	x	Peso
NRM 50D/A	50	50	320	111	98	363.5	90	160	273.5	-	-	-	93	100	M16	70	22
NRM 50C/A	50	50	320	111	98	363.5	90	160	273.5	-	-	-	93	100	M16	70	24.5
NRM 32/125B	32	32	260	111	-	351	80	130	271	49.5	31.5	70.5	86	88	M10	60	17.8
NRM 32/125A	32	32	260	111	-	351	80	130	271	49.5	31.5	70.5	86	88	M10	60	-
NRM 32/160B	32	32	340	130	-	421	80	170	341	50	40	76	102	102	M10	60	29.8
NRM 32/160A	32	32	340	130	-	421	80	170	341	50	40	76	102	102	M10	60	29.8
NRM 40/125C	40	40	320	130	-	423	81	160	342	49	31	80	93	98	M10	70	-
NRM 40/125B	40	40	320	130	-	423	81	160	342	49	31	80	93	98	M10	70	-
NRM 40/125A	40	40	320	130	-	423	81	160	342	49	31	80	93	98	M10	70	29
NRM 40/160B	40	40	320	130	-	430	81	160	349	49	31	80	119	119	M10	75	-
NRM 50/125F	50	50	340	130	-	437	90	170	347	45	40	79	96	115	M10	75	-
NRM 50/125C	50	50	340	130	-	437	90	170	347	45	40	79	96	115	M10	75	32.4

Flanges EN 1092-2

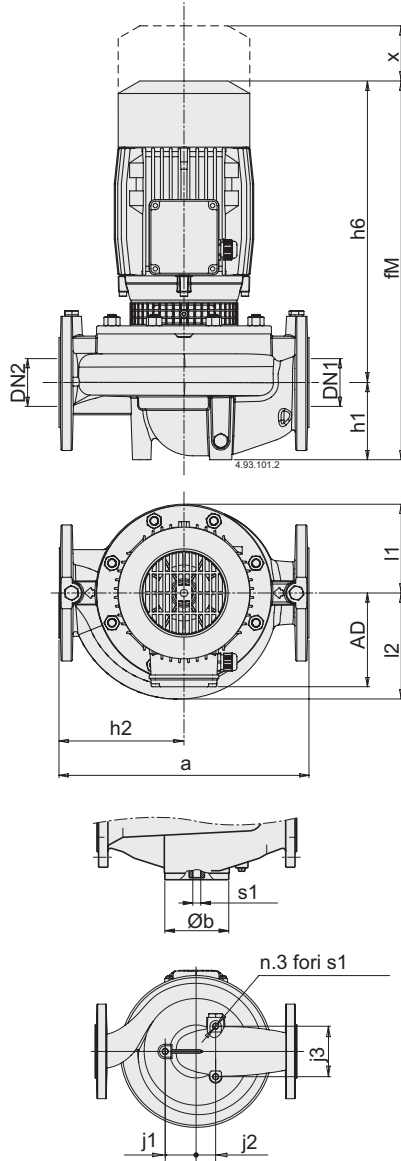


mm							
DN	PN	DG	DK	DE	Holes		W
					N°	ø	
32	10-16	76	100	140	4	19	18
40	10-16	84	110	150	4	19	18
50	10-16	99	125	165	4	19	20
65	10-16	118	145	185	4	19	20
80	10-16	132	160	200	8	19	22
100	10-16	156	180	220	8	19	24
125	10-16	184	210	250	8	19	24

NR



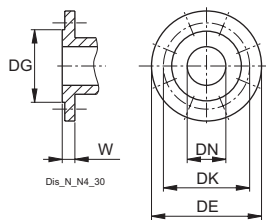
Dimensions and weights



TYPE			mm														kg
	DN1	DN2	a	AD	b	fM	h1	h2	h6	j1	j2	j3	l1	l2	s1	x	Weight
NR4 50C/A	50	50	320	111	98	363.5	90	160	273.5	-	-	-	93	100	M16	70	22
NR4 50B/A	50	50	320	111	98	363.5	90	160	273.5	-	-	-	93	100	M16	70	22
NR4 50A/A	50	50	320	111	98	363.5	90	160	273.5	-	-	-	93	100	M16	70	22.8
NR4 65C/A	65	65	360	111	118	373.5	100	180	273.5	-	-	-	102	114	M16	70	25
NR4 65B/A	65	65	360	111	118	373.5	100	180	273.5	-	-	-	102	114	M16	70	26.6
NR4 65A/A	65	65	360	111	118	373.5	100	180	273.5	-	-	-	102	114	M16	70	26.9
NR4 100C/B	100	100	500	140	162	548	150	250	398	-	-	-	153	173	M16	105	66.6
NR4 100B/B	100	100	500	140	162	548	150	250	398	-	-	-	153	173	M16	105	67
NR4 100A/B	100	100	500	140	162	548	150	250	398	-	-	-	153	173	M16	105	70.5
NR4 125C/B	125	125	600	167	194	640	170	300	470	-	-	-	172	195	M16	120	100.8
NR4 125B/A	125	125	600	167	194	640	170	300	470	-	-	-	172	195	M16	120	100
NR4 125A/A	125	125	600	167	194	640	170	300	470	-	-	-	172	195	M16	120	108
NR4 32/160B/A	32	32	340	130	-	421	80	170	341	50	40	76	102	102	M10	60	24.1
NR4 32/160A/A	32	32	340	130	-	421	80	170	341	50	40	76	102	102	M10	60	24.1
NR4 32/200C/A	32	32	440	130	-	426	85	220	341	60	44	84	126	126	M10	60	29.7
NR4 32/200B/A	32	32	440	130	-	426	85	220	341	60	44	84	126	126	M10	60	31.5
NR4 32/200A/A	32	32	440	130	-	466	85	220	381	60	44	84	126	126	M10	60	36.8
NR4 40/160B/A	40	40	320	130	-	430	81	160	349	49	31	80	119	119	M10	75	30.5
NR4 40/160A/A	40	40	320	130	-	430	81	160	349	49	31	80	119	119	M10	75	31.2
NR4 40/200B/A	40	40	440	130	-	430	81	220	349	62	40	95	140	140	M10	75	40.3
NR4 40/200A/A	40	40	440	130	-	470	81	220	389	62	40	95	140	140	M10	75	46.2
NR4 50/160C	50	50	340	128	-	440	90	-	350	45	40	79	120	128	M10	75	32.3
NR4 50/160B	50	50	340	128	-	440	90	-	350	45	40	79	120	128	M10	75	33.8
NR4 50/160A/B	50	50	340	130	-	480	90	170	390	45	40	79	120	128	M10	75	40.8
NR4 50/200B/B	50	50	440	140	-	515	100	220	415	45	40	79	140	140	M10	80	52.8
NR4 50/200A/B	50	50	440	140	-	515	100	220	415	45	40	79	140	140	M10	80	53.6
NR4 50/250C/B	50	50	440	140	-	516	100	220	416	45	40	79	175	175	M10	85	70.3
NR4 50/250B/B	50	50	440	167	-	577	100	220	477	45	40	79	175	175	M10	85	82.3
NR4 50/250A/A	50	50	440	167	-	577	100	220	477	45	40	79	175	175	M10	85	-
NR4 65/125F/A	65	65	340	130	-	454	105	170	349	60	50	110	121	145	M10	95	38.2
NR4 65/125D/A	65	65	340	130	-	454	105	170	349	60	50	110	121	145	M10	95	40.5
NR4 65/125A/B	65	65	340	130	-	494	105	170	389	60	50	110	121	145	M10	95	44.4
NR4 65/125S/B	65	65	340	130	-	494	105	170	389	60	50	110	121	145	M10	95	44.5
NR4 65/160B/B	65	65	340	140	-	522	105	170	417	60	50	110	121	142	M10	95	50.9
NR4 65/160A/B	65	65	340	140	-	522	105	170	417	60	50	110	121	142	M10	95	51
NR4 65/200C/B	65	65	475	140	-	535	105	237.5	430	60	50	110	140	153	M10	90	61.3
NR4 65/200B/B	65	65	475	140	-	535	105	237.5	430	60	50	110	140	153	M10	90	63.5
NR4 65/200A/B	65	65	475	167	-	586	105	237.5	481	60	50	110	140	153	M10	90	75
NR4 65/250D/B	65	65	475	167	-	586	105	237.5	481	60	50	110	175	175	M10	90	-
NR4 65/250C/B	65	65	475	167	-	586	105	237.5	481	60	50	110	175	175	M10	90	0.1
NR4 65/250B/A	65	65	475	167	-	586	105	237.5	481	60	50	110	175	175	M10	90	87.2
NR4 65/250A/A	65	65	475	167	-	586	105	237.5	481	60	50	110	175	175	M10	90	94.4
NR4 80/160C	80	80	440	140	-	543	120	220	423	85	42.5	147.2	138	159	M10	105	-
NR4 80/160B	80	80	440	140	-	543	120	220	423	85	42.5	147.2	138	159	M10	105	-
NR4 80/160A	80	80	440	140	-	543	120	220	423	85	42.5	147.2	138	159	M10	105	-
NR4 80/160S	80	80	440	167	-	604.5	120	220	484.5	85	42.5	147.2	138	159	M10	105	-
NR4 80/200B	80	80	500	167	-	637.5	150	250	487.5	85	42.5	147.2	156	177	M10	110	-
NR4 80/200A	80	80	500	167	-	637.5	150	250	487.5	85	42.5	147.2	156	177	M10	110	-

TYPE			mm											kg
	DN1	DN2	a	AD	b	fM	h1	h2	h6	l1	l2	s1	x	Weight
NR4M 50C/A	50	50	320	111	98	363.5	90	160	273.5	93	100	M16	70	23.6
NR4M 50B/A	50	50	320	111	98	363.5	90	160	273.5	93	100	M16	70	24
NR4M 50A/A	50	50	320	111	98	363.5	90	160	273.5	93	100	M16	70	24.1
NR4M 65C/A	65	65	360	111	118	373.5	100	180	273.5	102	114	M16	70	27

Flanges EN 1092-2

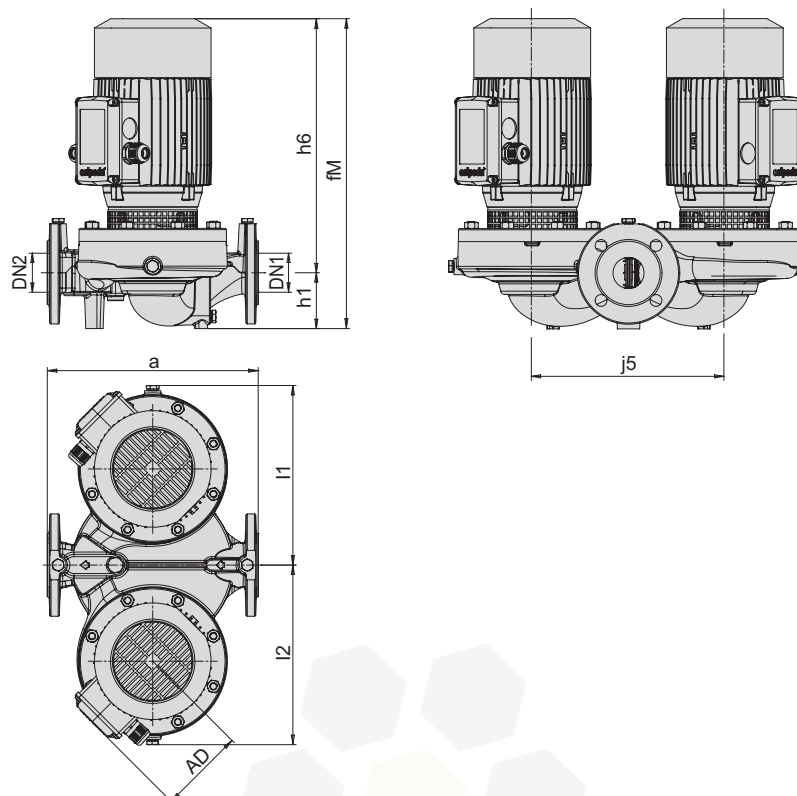


mm							
DN	PN	DG	DK	DE	Holes		W
					N°	ø	
32	10-16	76	100	140	4	19	18
40	10-16	84	110	150	4	19	18
50	10-16	99	125	165	4	19	20
65	10-16	118	145	185	4	19	20
80	10-16	132	160	200	8	19	22
100	10-16	156	180	220	8	19	24
125	10-16	184	210	250	8	19	24

NR



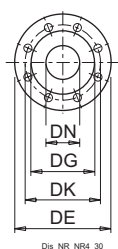
Dimensions and weights



TYPE			mm								kg
	DN1	DN2	a	AD	fM	h1	h6	j5	l1	l2	Weight
NRD 50/125F	50	50	340	130	433.5	90	343.5	310	278.5	278.5	62.7
NRD 50/125C	50	50	340	130	433.5	90	343.5	310	278.5	278.5	66.2
NRD 50/125A	50	50	340	130	473.5	90	383.5	310	278.5	278.5	72
NRD 50/160C	50	50	340	130	473.5	90	383.5	310	291.5	291.5	79
NRD 50/160B	50	50	340	139	499.5	90	409.5	310	291.5	291.5	91.8
NRD 50/160A	50	50	340	139	499.5	90	409.5	310	291.5	291.5	101.5
NRD 65/125F	65	65	340	128	488.5	105	383.5	310	303.5	303.5	86.8
NRD 65/125D	65	65	340	138	514.5	105	409.5	310	303.5	303.5	99.6
NRD 65/125A	65	65	340	138	514.5	105	409.5	310	303.5	303.5	106.2
NRD 65/160B	65	65	340	160	543.5	105	438.5	310	303.5	303.5	-
NRD 65/160A	65	65	340	160	543.5	105	438.5	310	303.5	303.5	147.5

TYPE			mm								kg
	DN1	DN2	a	AD	fM	h1	h6	j5	l1	l2	Weight
NRD4 50/160C	50	50	340	130	433.5	90	343.5	310	291.5	291.5	65.5
NRD4 50/160B	50	50	340	130	433.5	90	343.5	310	291.5	291.5	69.2
NRD4 50/160A	50	50	340	130	473.5	90	383.5	310	291.5	291.5	79.5
NRD4 65/125F	65	65	340	130	448.5	105	343.5	310	303.5	303.5	-
NRD4 65/125D	65	65	340	130	448.5	105	343.5	310	303.5	303.5	76.3
NRD4 65/125A	65	65	340	130	488.5	105	383.5	310	303.5	303.5	87.5
NRD4 65/160B	65	65	340	138	514.5	105	409.5	310	303.5	303.5	-
NRD4 65/160A	65	65	340	138	514.5	105	409.5	310	303.5	303.5	-

Flanges EN 1092-2

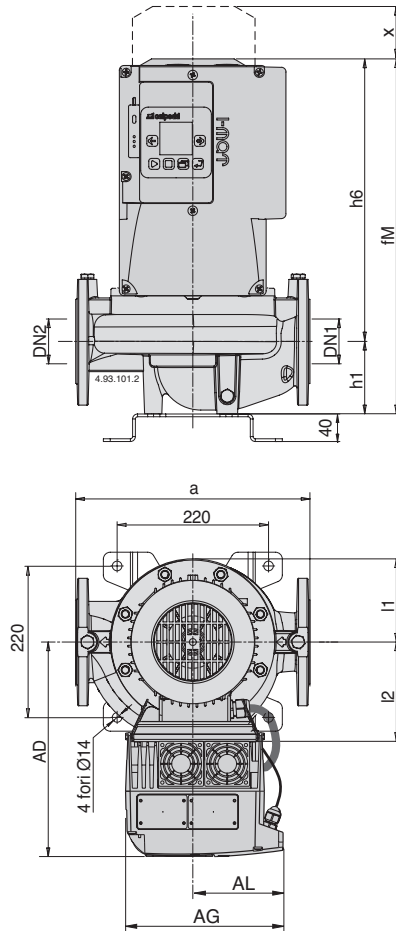


mm							
DN	PN	DG	DK	DE	Holes		W
					N°	ø	
32	10-16	76	100	140	4	19	18
40	10-16	84	110	150	4	19	18
50	10-16	99	125	165	4	19	20
65	10-16	118	145	185	4	19	20
80	10-16	132	160	200	8	19	22
100	10-16	156	180	220	8	19	24
125	10-16	184	210	250	8	19	24

NR

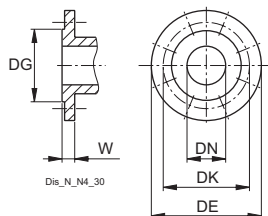


Dimensions and weights



TYPE			mm											kg
	DN1	DN2	a	AD	AG	AL	fM	h1	h6	HD	l1	l2	x	Peso
NR EI 50D/A	50	50	320	111	190	105	363.5	90	273.5	266	93	100	70	29.3
NR EI 50C/B	50	50	320	111	190	105	363.5	90	273.5	266	93	100	70	32.3
NR EI 32/125B	32	32	260	111	190	105	351	80	271	266	86	88	60	24.8
NR EI 32/125A	32	32	260	111	190	105	351	80	271	266	86	88	60	-
NR EI 32/160B/A	32	32	340	130	190	105	421	80	341	285	102	102	60	35
NR EI 32/160A/A	32	32	340	130	190	105	421	80	341	285	102	102	60	36.2
NR EI 32/200B/A	32	32	440	130	210	117.5	469	85	384	285	126	126	60	-
NR EI 32/200A	32	32	440	140	210	117.5	495	85	410	295	126	126	60	-
NR EI 32/200S/A	32	32	440	140	210	117.5	495	85	410	295	126	126	60	-
NR EI 40/125C	40	40	320	130	190	105	423	81	342	285	93	98	70	34
NR EI 40/125B/A	40	40	320	130	190	105	423	81	342	285	93	98	70	36
NR EI 40/125A/A	40	40	320	130	190	105	423	81	342	285	93	98	70	37.4
NR EI 40/160B/A	40	40	320	130	190	105	430	81	349	285	119	119	75	42.4
NR EI 40/160A/A	40	40	320	130	210	117.5	470	81	389	285	119	119	75	47
NR EI 40/200B	40	40	440	140	210	117.5	496	81	415	295	140	140	75	64
NR EI 40/200A/A	40	40	440	140	210	117.5	496	81	415	295	140	140	75	66.7
NR EI 50/125F/A	50	50	340	130	190	105	437	90	347	285	96	115	75	39
NR EI 50/125C/A	50	50	340	130	190	105	437	90	347	285	96	115	75	40.3
NR EI 50/125A/B	50	50	340	130	210	117.5	477	90	387	285	96	115	75	47.5
NR EI 50/160C/B	50	50	340	130	210	117.5	480	90	390	285	120	128	75	49
NR EI 50/160B/A	50	50	340	140	210	117.5	506	90	416	295	120	128	75	55.2
NR EI 50/160A/B	50	50	340	140	210	117.5	506	90	416	295	120	128	75	58.8
NR EI 50/200D/B	50	50	440	140	210	117.5	515	100	415	295	140	140	80	-
NR EI 50/200B/A	50	50	440	167	210	117.5	576	100	476	324	140	140	80	-
NR EI 50/200A/A	50	50	440	167	281	153.5	576	100	476	366	140	140	80	-
NR EI 50/250C/B	50	50	440	190	281	153.5	656	100	556	389	175	175	85	-
NR EI 50/250B/A	50	50	440	190	281	153.5	656	100	556	389	175	175	85	-
NR EI 50/250A/B	50	50	440	190	350	190	731	100	631	469	175	175	85	-
NR EI 65/125F/B	65	65	340	130	210	117.5	494	105	389	285	121	145	95	53.9
NR EI 65/125D/A	65	65	340	140	210	117.5	519	105	414	295	121	145	95	60.8
NR EI 65/125A/B	65	65	340	140	210	117.5	519	105	414	295	121	145	95	64.3
NR EI 65/125S/B	65	65	340	140	210	117.5	519	105	414	295	121	145	95	63.8
NR EI 65/160B/A	65	65	340	167	210	117.5	584	105	479	324	121	142	95	-
NR EI 65/160A/A	65	65	340	167	281	153.5	584	105	479	366	121	142	95	90.3
NR EI 65/200B/B	65	65	475	190	281	153.5	665	105	560	389	140	153	90	125
NR EI 65/200A/A	65	65	475	190	281	153.5	665	105	560	389	140	153	90	-
NR EI 65/200S/B	65	65	475	190	350	190	740	105	635	469	140	153	90	-
NR EI 65/250C/A	65	65	475	190	281	153.5	670	105	565	389	175	175	90	-
NR EI 65/250B/B	65	65	475	190	350	190	745	105	640	469	175	175	90	-
NR EI 65/250A/C	65	65	475	208	350	190	791	105	686	488	175	175	90	-
NR EI 80/125E	80	80	440	140	210	117.5	533	105	428	295	129	152	105	-
NR EI 80/125C	80	80	440	167	210	117.5	595	105	490	324	129	152	105	84
NR EI 80/125A	80	80	440	167	281	153.5	595	105	490	366	129	152	105	-
NR EI 80/160D	80	80	440	167	281	153.5	604.5	120	484.5	366	138	159	105	-
NR EI 80/160C	80	80	440	190	281	153.5	684	120	564	389	138	159	105	-
NR EI 80/160B	80	80	440	190	281	153.5	684	120	564	389	138	159	105	-
NR EI 80/160A	80	80	440	190	350	190	759	120	639	469	138	159	105	-
NR EI 80/160AR	80	80	440	190	350	190	759	120	639	469	138	159	105	-
NR EI 80/200C	80	80	500	190	350	190	792	150	642	469	156	177	105	-
NR EI 80/200B	80	80	500	208	350	190	843	150	693	488	156	177	105	-
NR EI 80/200A	80	80	500	208	350	190	843	150	693	488	156	177	105	-

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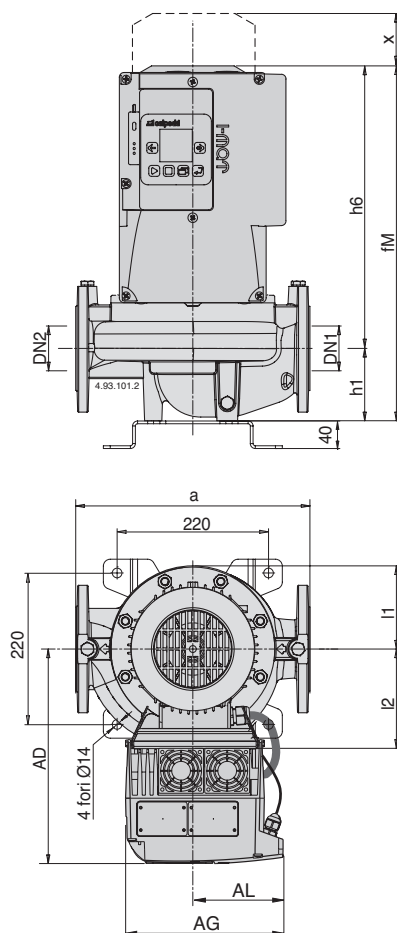


mm							
DN	PN	DG	DK	DE	Holes		W
					N°	ø	
32	10-16	76	100	140	4	19	18
40	10-16	84	110	150	4	19	18
50	10-16	99	125	165	4	19	20
65	10-16	118	145	185	4	19	20
80	10-16	132	160	200	8	19	22
100	10-16	156	180	220	8	19	24
125	10-16	184	210	250	8	19	24

NR

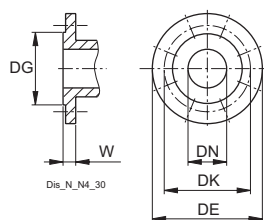


Dimensions and weights



TYPE	mm													kg
	DN1	DN2	a	AD	AG	AL	fM	h1	h6	HD	l1	l2	x	Peso
NR4 EI 50C/A	50	50	320	111	190	105	363.5	90	273.5	266	93	100	70	-
NR4 EI 50B/A	50	50	320	111	190	105	363.5	90	273.5	266	93	100	70	-
NR4 EI 50A/A	50	50	320	111	190	105	363.5	90	273.5	266	93	100	70	-
NR4 EI 65C/A	65	65	360	111	190	105	373.5	100	273.5	266	102	114	70	-
NR4 EI 65B/A	65	65	360	111	190	105	373.5	100	273.5	266	102	114	70	-
NR4 EI 65A/A	65	65	360	111	190	105	373.5	100	273.5	266	102	114	70	-
NR4 EI 100C/B	100	100	500	140	190	105	548	150	398	295	153	173	105	-
NR4 EI 100B/B	100	100	500	140	190	105	548	150	398	295	153	173	105	76
NR4 EI 100A/B	100	100	500	140	190	105	548	150	398	295	153	173	105	-
NR4 EI 125C/B	125	125	600	167	210	117.5	640	170	470	324	172	195	120	-
NR4 EI 125B/A	125	125	600	167	210	117.5	640	170	470	324	172	195	120	112
NR4 EI 125A/A	125	125	600	167	210	117.5	640	170	470	324	172	195	120	-
NR4 EI 32/160B/A	32	32	340	130	190	105	421	80	341	285	102	102	60	34.6
NR4 EI 32/160A/A	32	32	340	130	190	105	421	80	341	285	102	102	60	-
NR4 EI 32/200C/A	32	32	440	130	190	105	426	85	341	285	126	126	60	-
NR4 EI 32/200B/A	32	32	440	130	190	105	426	85	341	285	126	126	60	-
NR4 EI 32/200A/A	32	32	440	130	190	105	466	85	381	285	126	126	60	-
NR4 EI 40/160B/A	40	40	320	130	190	105	430	81	349	285	119	119	75	-
NR4 EI 40/160A/A	40	40	320	130	190	105	430	81	349	285	119	119	75	-
NR4 EI 40/200B/A	40	40	440	130	190	105	430	81	349	285	140	140	75	-
NR4 EI 40/200A/A	40	40	440	130	190	105	470	81	389	285	140	140	75	-
NR4 EI 50/160C/A	50	50	340	130	190	105	440	90	350	285	120	128	75	-
NR4 EI 50/160B/A	50	50	340	130	190	105	440	90	350	285	120	128	75	-
NR4 EI 50/160A/B	50	50	340	130	190	105	480	90	390	285	120	128	75	48.1
NR4 EI 50/200B/B	50	50	440	140	190	105	515	100	415	295	140	140	80	-
NR4 EI 50/200A/B	50	50	440	140	190	105	515	100	415	295	140	140	80	-
NR4 EI 50/250C/B	50	50	440	140	190	105	516	100	416	295	175	175	85	77.3
NR4 EI 50/250B/B	50	50	440	167	210	117.5	577	100	477	324	175	175	85	-
NR4 EI 50/250A/A	50	50	440	167	210	117.5	577	100	477	324	175	175	85	-
NR4 EI 65/125F/A	65	65	340	130	190	105	454	105	349	285	121	145	95	-
NR4 EI 65/125D/A	65	65	340	130	190	105	454	105	349	285	121	145	95	-
NR4 EI 65/125A/B	65	65	340	130	190	105	494	105	389	285	121	145	95	-
NR4 EI 65/125S/B	65	65	340	130	190	105	494	105	389	285	121	145	95	54
NR4 EI 65/160B/B	65	65	340	140	190	105	522	105	417	295	121	142	95	-
NR4 EI 65/160A/B	65	65	340	140	190	105	522	105	417	295	121	142	95	59
NR4 EI 65/200C/B	65	65	475	140	190	105	535	105	430	295	140	153	90	-
NR4 EI 65/200B/B	65	65	475	140	190	105	535	105	430	295	140	153	90	-
NR4 EI 65/200A/B	65	65	475	167	210	117.5	586	105	481	324	140	153	90	-
NR4 EI 65/250D/B	65	65	475	167	210	117.5	586	105	481	324	175	175	90	-
NR4 EI 65/250C/B	65	65	475	167	210	117.5	586	105	481	324	175	175	90	-
NR4 EI 65/250B/A	65	65	475	167	210	117.5	586	105	481	324	175	175	90	-
NR4 EI 65/250A/A	65	65	475	167	210	117.5	586	105	481	324	175	175	90	108
NR4 EI 80/160C	80	80	440	140	190	105	543	120	423	295	138	159	105	-
NR4 EI 80/160B	80	80	440	140	190	105	543	120	423	295	138	159	105	-
NR4 EI 80/160A	80	80	440	140	190	105	543	120	423	295	138	159	105	-
NR4 EI 80/160S	80	80	440	167	210	117.5	604.5	120	484.5	324	138	159	105	-
NR4 EI 80/200B	80	80	500	167	210	117.5	637.5	150	487.5	324	156	177	105	-
NR4 EI 80/200A	80	80	500	167	210	117.5	637.5	150	487.5	324	156	177	105	-

Flanges EN 1092-2

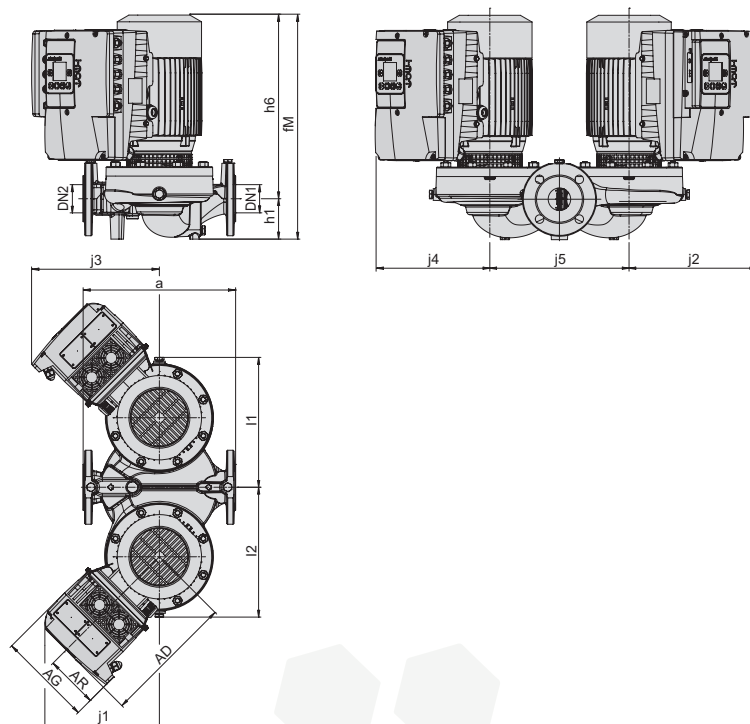


mm							
DN	PN	DG	DK	DE	Holes		W
					N°	ø	
32	10-16	76	100	140	4	19	18
40	10-16	84	110	150	4	19	18
50	10-16	99	125	165	4	19	20
65	10-16	118	145	185	4	19	20
80	10-16	132	160	200	8	19	22
100	10-16	156	180	220	8	19	24
125	10-16	184	210	250	8	19	24

NR



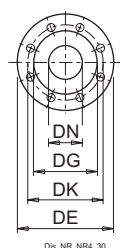
Dimensions and weights



TYPE			mm														kg
	DN1	DN2	a	AD	AG	AR	fM	h1	h6	j1	j2	j3	j4	j5	l1	l2	Weight
NRD EI 50/125F	50	50	340	284	190	105	433.5	90	343.5	243	269	269	243	310	278.5	278.5	78.6
NRD EI 50/125C	50	50	340	284	190	105	433.5	90	343.5	243	269	269	243	310	278.5	278.5	79.5
NRD EI 50/125A	50	50	340	284	210	118	473.5	90	383.5	249	277	277	249	310	278.5	278.5	90.8
NRD EI 50/160C	50	50	340	284	210	118	473.5	90	383.5	249	277	277	249	310	291.5	291.5	94.7
NRD EI 50/160B	50	50	340	293	210	118	499.5	90	409.5	256	283	283	256	310	291.5	291.5	108.5
NRD EI 50/160A	50	50	340	293	210	118	499.5	90	409.5	256	283	283	256	310	291.5	291.5	117
NRD EI 65/125F	65	65	340	284	210	118	488.5	105	383.5	249	277	277	249	310	303.5	303.5	102.3
NRD EI 65/125D	65	65	340	293	210	118	514.5	105	409.5	256	283	283	256	310	303.5	303.5	118.5
NRD EI 65/125A	65	65	340	293	210	118	514.5	105	409.5	256	283	283	256	310	303.5	303.5	122.6
NRD EI 65/160B	65	65	340	364	283	156	543.5	105	438.5	274	304	304	274	310	303.5	303.5	-
NRD EI 65/160A	65	65	340	364	283	156	543.5	105	438.5	331	358	358	331	310	303.5	303.5	-

TYPE			mm														
	DN1	DN2	a	AD	AG	AR	fM	h1	h6	j1	j2	j3	j4	j5	l1	l2	
NRD4 EI 50/160C	50	50	340	284	190	105	433.5	90	343.5	243	269	269	243	310	291.5	291.5	
NRD4 EI 50/160B	50	50	340	284	190	105	433.5	90	343.5	243	269	269	243	310	291.5	291.5	
NRD4 EI 50/160A	50	50	340	284	190	105	473.5	90	383.5	243	269	269	243	310	291.5	291.5	
NRD4 EI 65/125F	65	65	340	284	190	105	448.5	105	343.5	243	269	269	243	310	303.5	303.5	
NRD4 EI 65/125D	65	65	340	284	190	105	448.5	105	343.5	243	269	269	243	310	303.5	303.5	
NRD4 EI 65/125A	65	65	340	284	190	105	488.5	105	383.5	243	269	269	243	310	303.5	303.5	
NRD4 EI 65/160B	65	65	340	293	190	105	514.5	105	409.5	250	75	75	249	310	303.5	303.5	
NRD4 EI 65/160A	65	65	340	293	190	105	514.5	105	409.5	250	75	75	249	310	303.5	303.5	

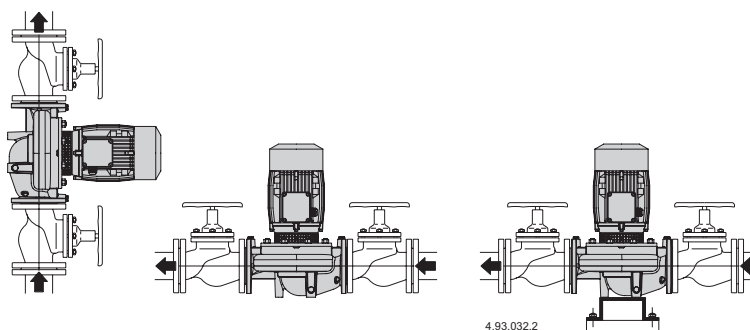
Flanges EN 1092-2



Dis_NR_NRA_30

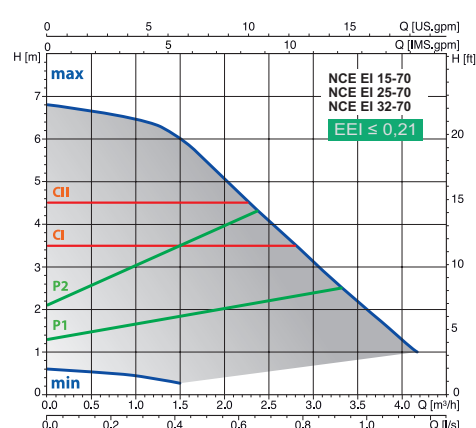
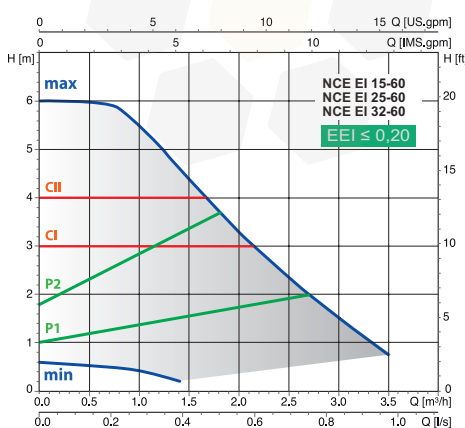
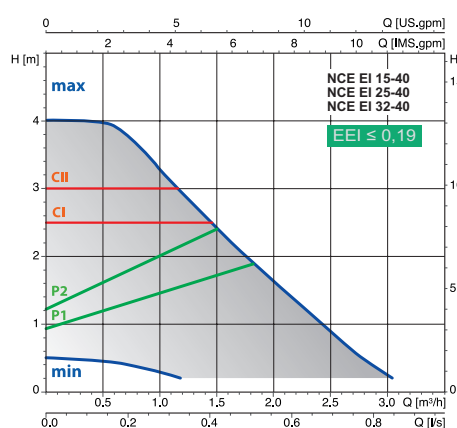
		mm						
DN	PN	DG	DK	DE	Holes			
					N°	ø	W	
32	10-16	76	100	140	4	19	18	
40	10-16	84	110	150	4	19	18	
50	10-16	99	125	165	4	19	20	
65	10-16	118	145	185	4	19	20	
80	10-16	132	160	200	8	19	22	
100	10-16	156	180	220	8	19	24	
125	10-16	184	210	250	8	19	24	

Installation



4.93.032.2

NCE EI

Coverage chart $n \approx 2900$ rpm

CI-CII constant curve P1-P2 proportional curve

min-max n fixed curves

Energy saving Circulating Pumps with frequency converter


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Construction

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

Applications

Small domestic heating systems.
Floor heating systems.

Operating conditions

- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,3 bar at 50 °C 1,0 bar at 95 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1, G 1 1/2, G 2
- The benchmark for most efficient circulators is EEI ≤ 0,20.
- Minimum power: 3 W.

Motor

- Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50-60 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (integrated).
 - 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.
EPP thermal insulation shell.

Designation

NCE EI 32 - 60 / 180

NCE = Series

EI = Version

32 = DN ports in mm

60 = Max. head in dm

180 = connection size mm

Features

Compact design

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

Easy to install and to adjust

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

Reliable

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

Ceramic shaft

Hydraulics components are completely painted with cataphoresis.

Program for automatic venting and unblocking routines.

Easy use

Operating range with fixed curves from 0,5 m to 7 m; possibility to choose 2 (1-2) proportional pressure curves and 2 (I-II) constant pressure curves.

Materials

Component	Material
Pump casing	Cast iron GJL 200 EN 1561
Impeller	Composite
Shaft	Ceramic
Ball bearings	Carbon
Thrust bearing	Ceramic
Rotor	Composite / Ferrite
Winding	Copper wire
Electronic card	-
Gasket	EPDM

NCE EI



Operating modes



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

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



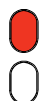
CONSTANT CURVE PROGRAMMING $\Delta p-c$
(ORANGE LED)

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



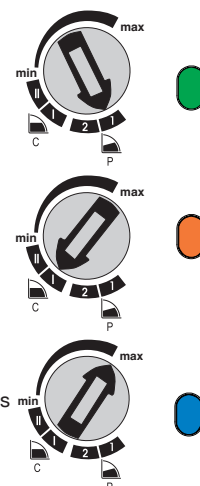
MANUAL PROGRAMMING
(BLUE LED)

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

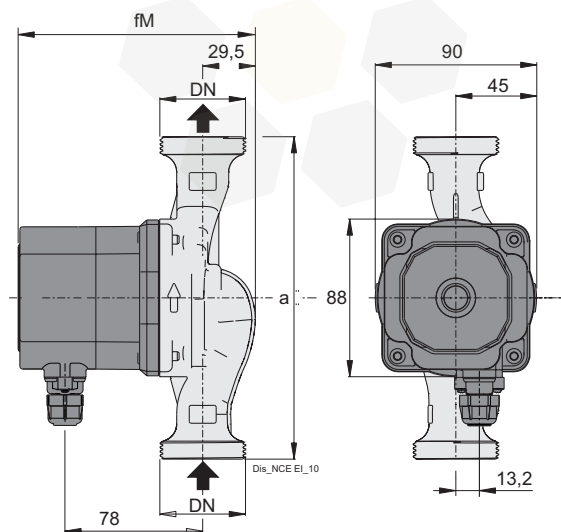


WARNING!

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

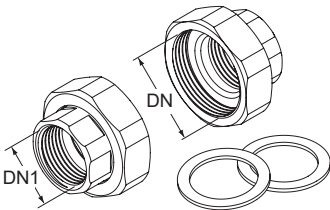


Dimensions and weights



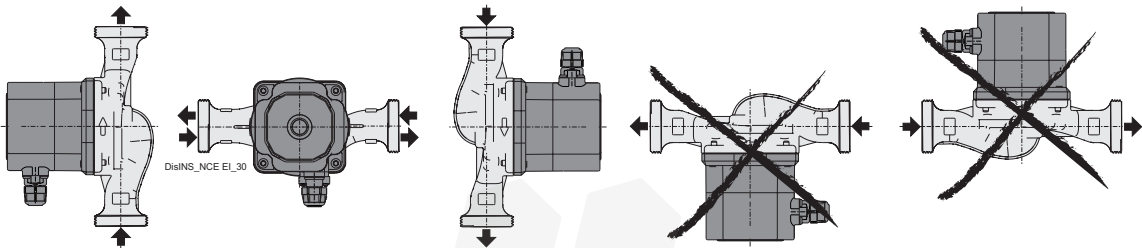
TYPE	DN	230V A max	230V A min	P1 W max	P1 W min	mm fM	mm a	kg
NCE EI 15-40/130	G 1	0,17	0,03	22	3	134	130	1,67
NCE EI 25-40/130	G 1 1/2	0,17	0,03	22	3	134	130	1,81
NCE EI 25-40/180	G 1 1/2	0,17	0,03	22	3	134	180	1,96
NCE EI 32-40/180	G 2	0,17	0,03	22	3	134	180	2,10
NCE EI 15-60/130/A	G 1	0,33	0,03	42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

Unions (on request)

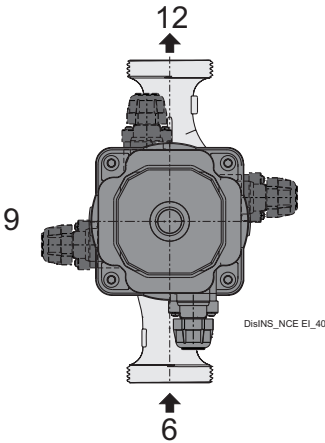


TYPE	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/4
KIT G 1 1/2 - G 1 (NCE . 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NCE . 32..)	G 2	G 1 1/4

Examples of installations



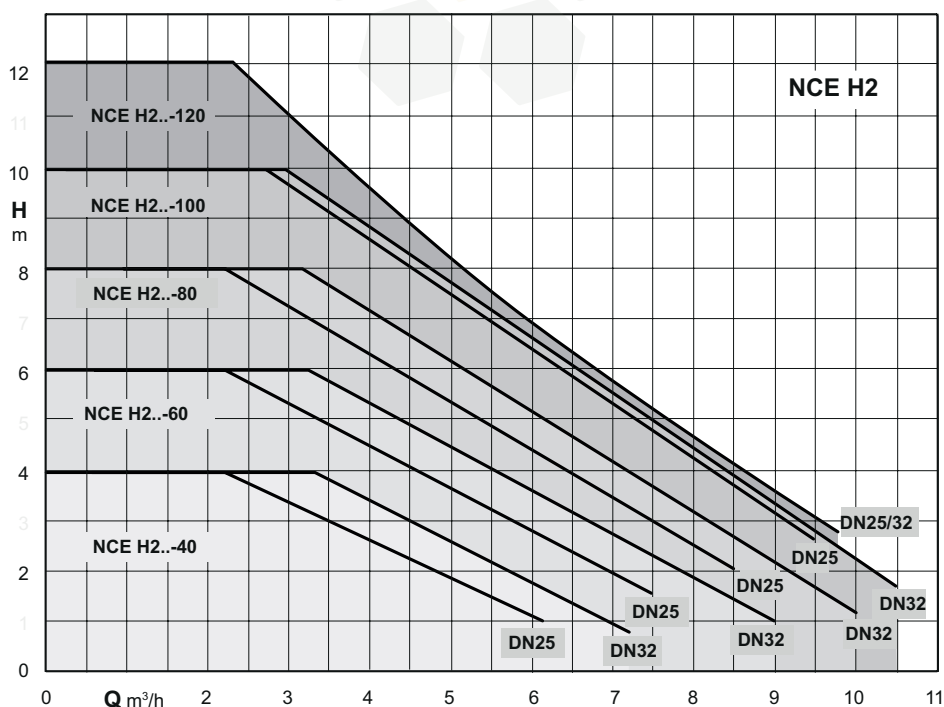
Terminal box arrangement (on request)



NCE H2



Coverage chart



Energy saving Circulating Pumps
with frequency converter



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NCE H2



Construction

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

Standard with steel unions with cataphoresis treatment.

Applications

The energy-efficient circulation pump is designed for water circulation in heating systems.

Underfloor heating systems

Single-pipe systems

Two-pipe systems

Pumping liquid:

Clean, non-aggressive and non-explosive liquids, not containing solid particles, fibers or mineral/vegetable oil

In heating systems, water must meet the requirements of accepted standards of water quality in heating systems.

Operating conditions

- Liquid temperature from -10 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -10°C/+50°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 45 dB (A).
- Max. quantity of ethylene glycol: 40%
- EMC according to: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- Connections: threaded ports ISO 228: G 1 1/2, G 2.
- Flanged connection DN 32 PN 10
- The energy efficiency index of circulators is $IEE \leq 0.23$.
- The benchmark for most efficient circulators is $EEL \leq 0.20$.

Motor

- Synchronous motor with permanent magnet.

Motor: variable speed

- Standard voltage: single-phase 230 V (-10%;+6%)

- Frequency: 50-60 Hz

- Protection: IP 44

- Insulation class: F

- Overload protection (integrated).

- Cable: phases and neutral.

- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Designation

NCE H2 32 F - 100 / 180

NCE = Series

H2 = Version

32 = DN ports in mm

F = Flanged connection

100 = Max. head in dm

180 = connection size mm

Materials

Component	Material
Pump casing	Cast iron with cataphoresis coating
Impeller	Composite PES
Shaft	Ceramic
Ball bearings	Ceramic
Thrust bearing	Graphite carbon
Rotor	Stainless steel jacket
Electronic card	..

Operating modes



Automatic mode
(factory setting):

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



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow.
The pressure value can be adjusted on three curves.



Constant pressure mode:

The circulator maintains the pressure constant when the reference flow changes.
The pressure value can be adjusted on three curves.



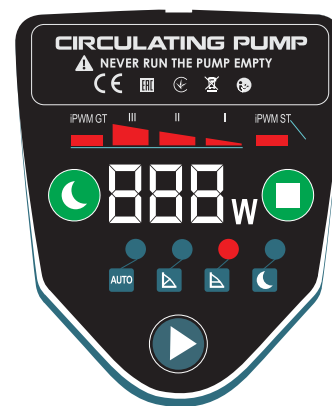
Fixed speed mode:

The circulator works with constant curve and the curve could be changed over three curves.



Night mode:

The pump is changed to an automatic deceleration curve at night, so that it runs at low performance and low energy consumption.



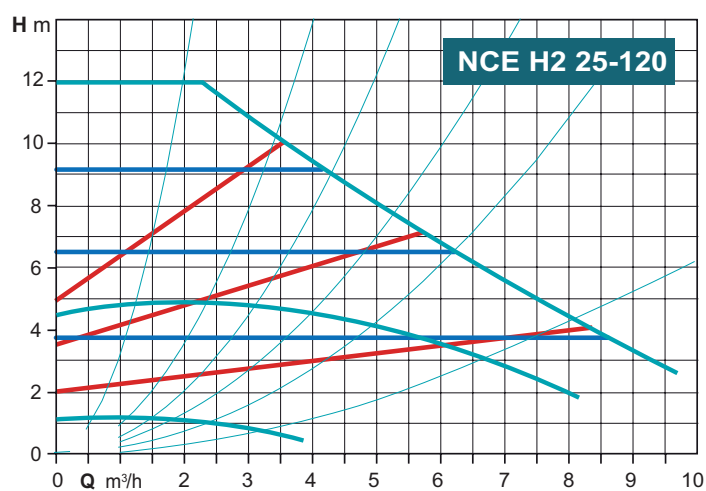
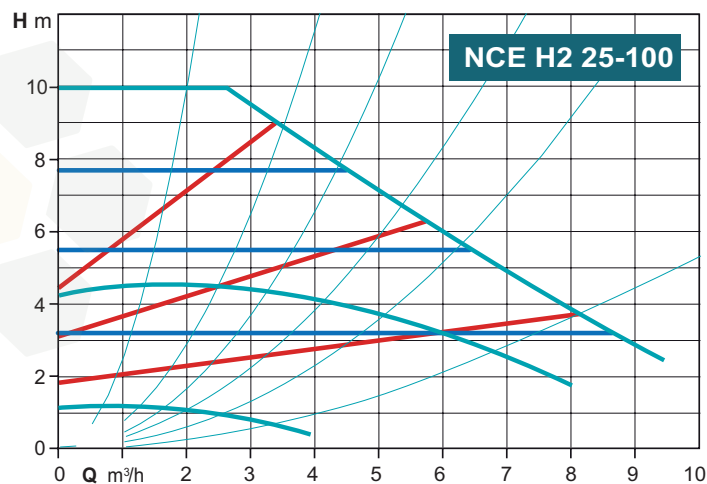
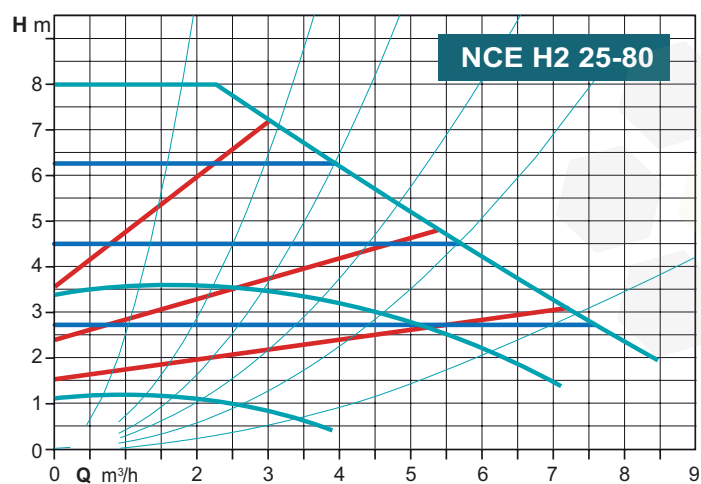
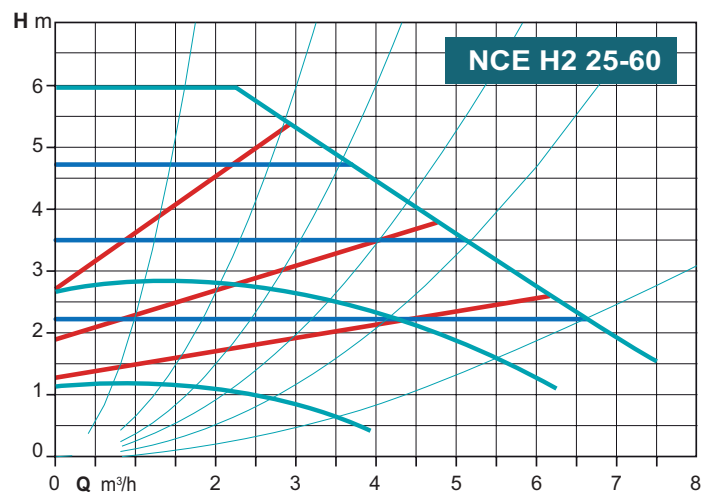
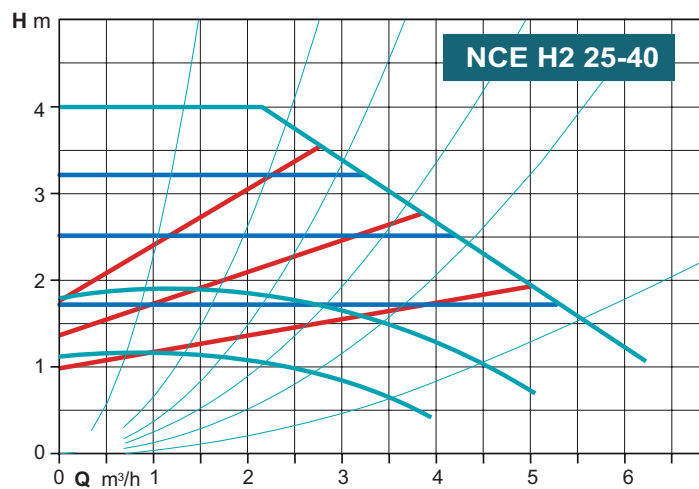
The circulator can operate in:

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

NCE H2



Characteristic curves

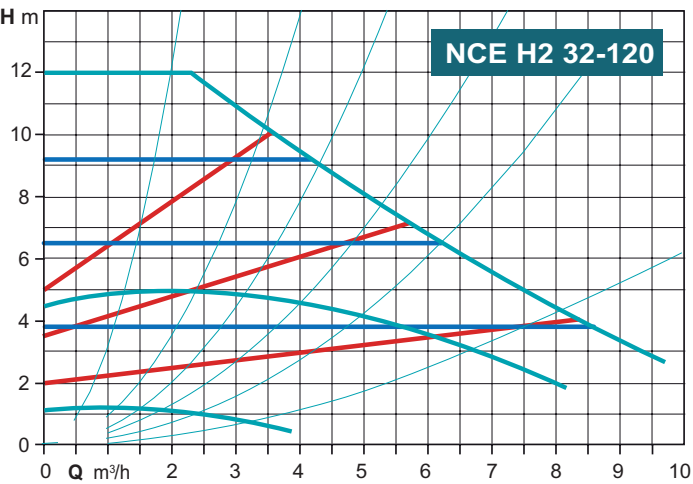
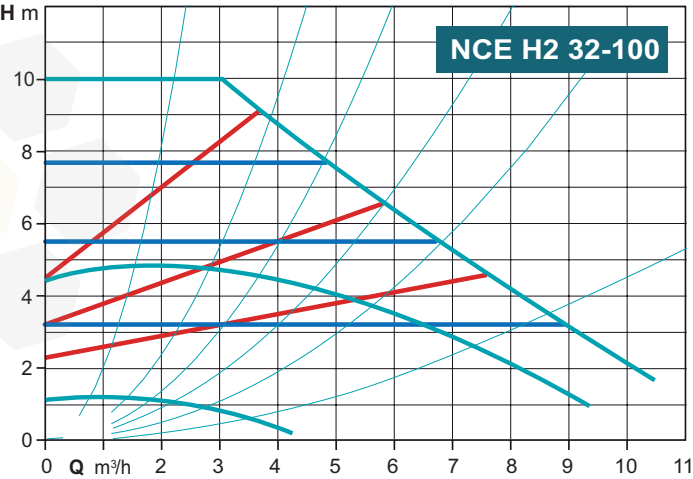
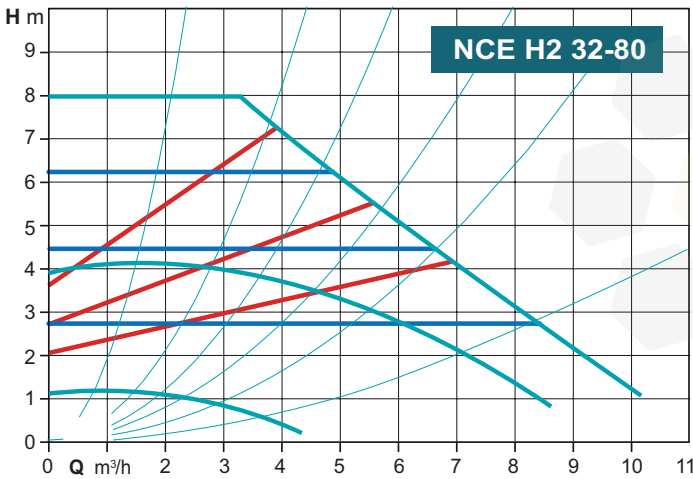
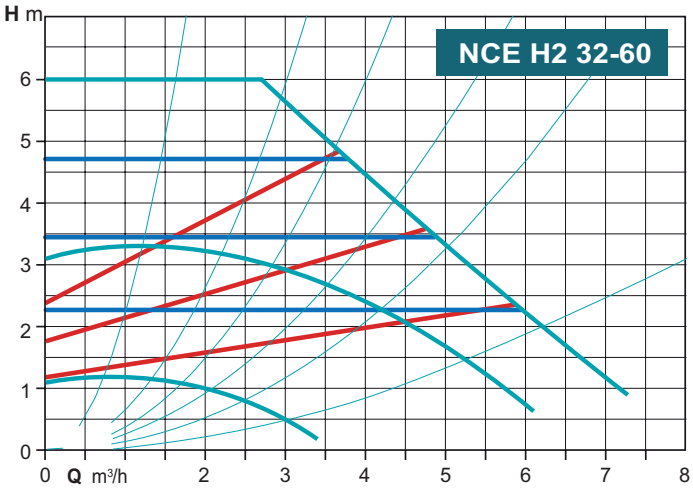
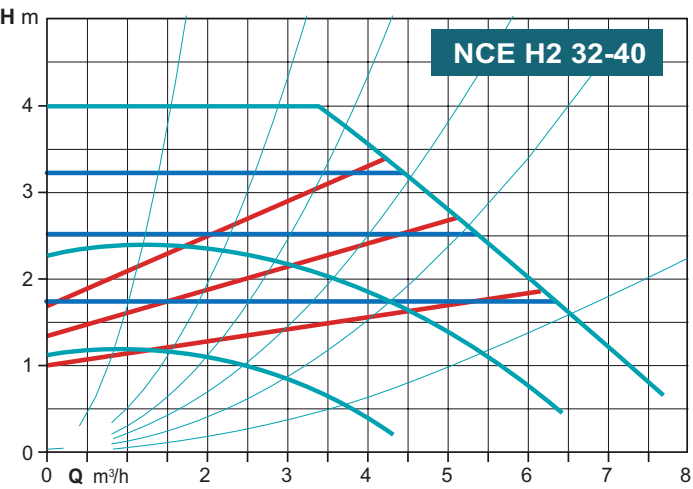


■ Proportional pressure ■ Constant pressure ■ Constant speed

NCE H2



Characteristic curves

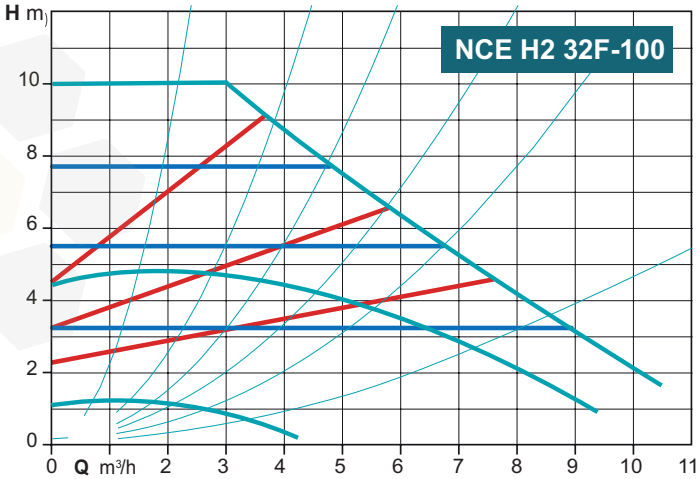
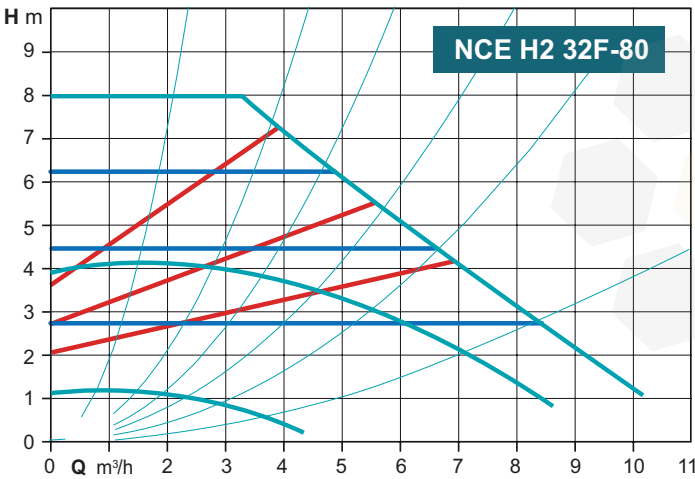
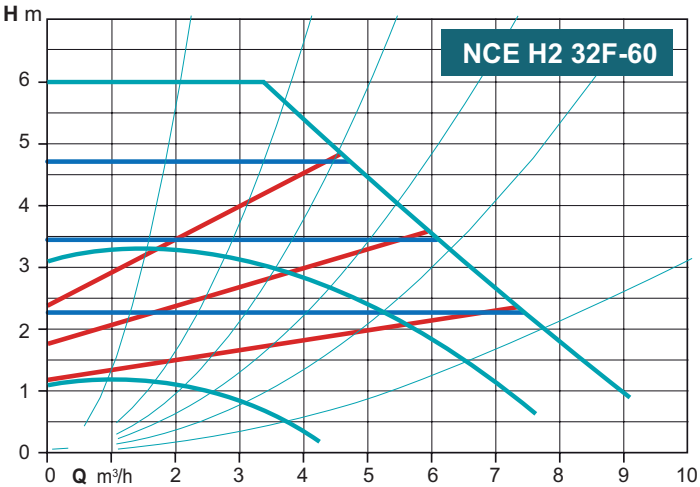
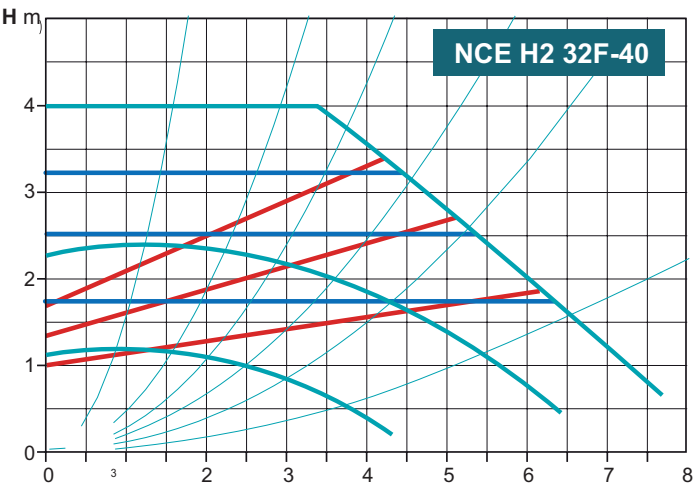


■ Proportional pressure ■ Constant pressure ■ Constant speed

NCE H2



Characteristic curves

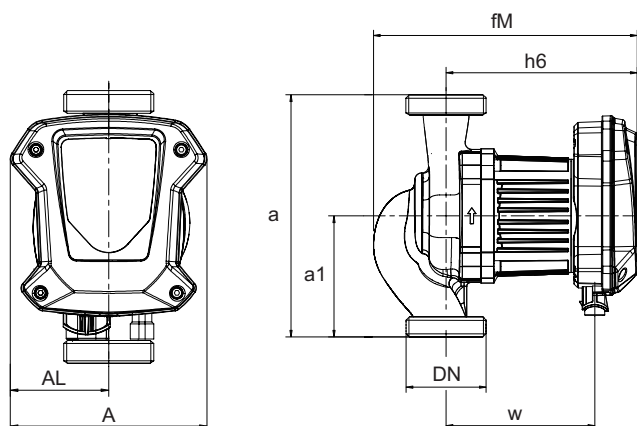


■ Proportional pressure ■ Constant pressure ■ Constant speed

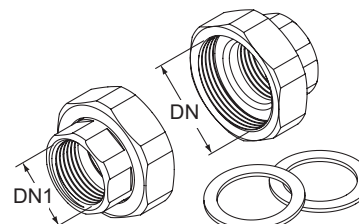
NCE H2



Dimensions and weights

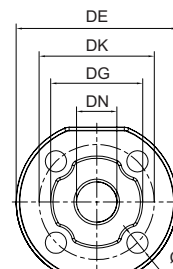
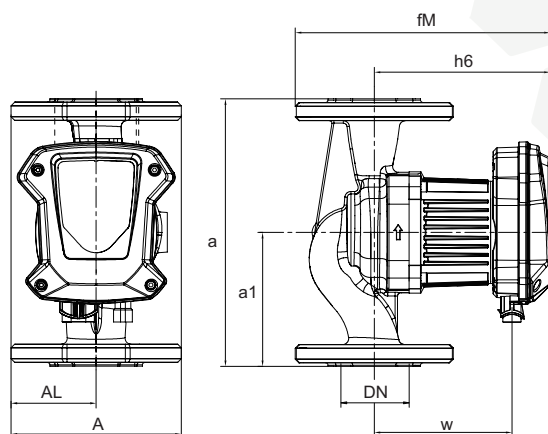


Unions



TYPE	DN	DN1
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

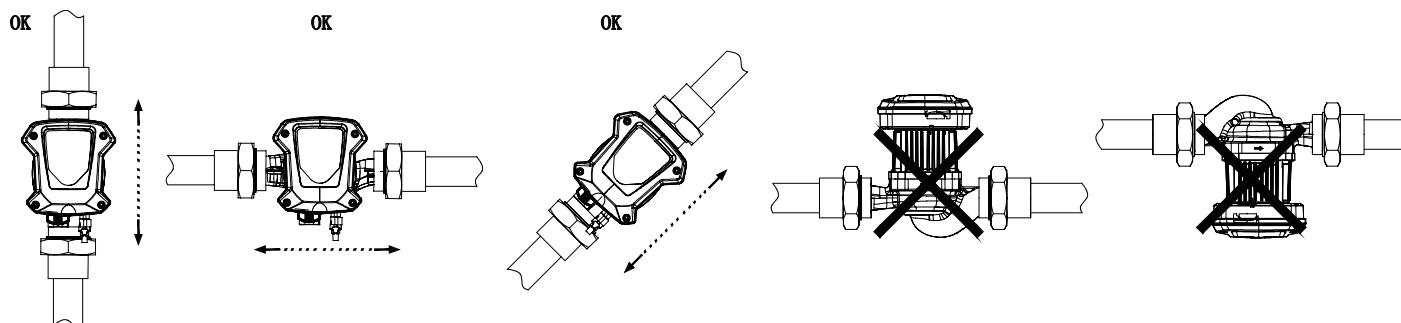
TYPE	DN	H max	Q max	1~ 230 V	P1	P1	mm	mm	mm	mm	mm	mm	mm	kg
		m	m3/h	A max	W min	W max	a	a1	fM	A	AL	h6	w	kg
NCE H2 25-40/180	G 1 1/2	4	6.2	0.23	9	60	180	90	196	130	65	142	110.5	4
NCE H2 32-40/180	G 2	4	7.7	0.3	9	78	180	90	196	130	65	142	110.5	4.4
NCE H2 25-60/180	G 1 1/2	6	7.5	0.41	9	105	180	90	196	130	65	142	110.5	4
NCE H2 32-60/180	G 2	6	9.1	0.46	9	120	180	90	196	130	65	142	110.5	4.4
NCE H2 25-80/180	G 1 1/2	8	8.5	0.58	9	150	180	90	196	130	65	142	110.5	4
NCE H2 32-80/180	G 2	8	10.1	0.65	9	168	180	90	196	130	65	142	110.5	4.4
NCE H2 25-100/180	G 1 1/2	10	9.4	0.78	9	200	180	90	196	130	65	142	110.5	4
NCE H2 32-100/180	G 2	10	10.5	0.76	9	200	180	90	196	130	65	142	110.5	4.4
NCE H2 25-120/180	G 1 1/2	12	9.7	0.86	9	220	180	90	196	130	65	142	110.5	4
NCE H2 32-120/180	G 2	12	9.7	0.84	9	220	180	90	196	130	65	142	110.5	4.4



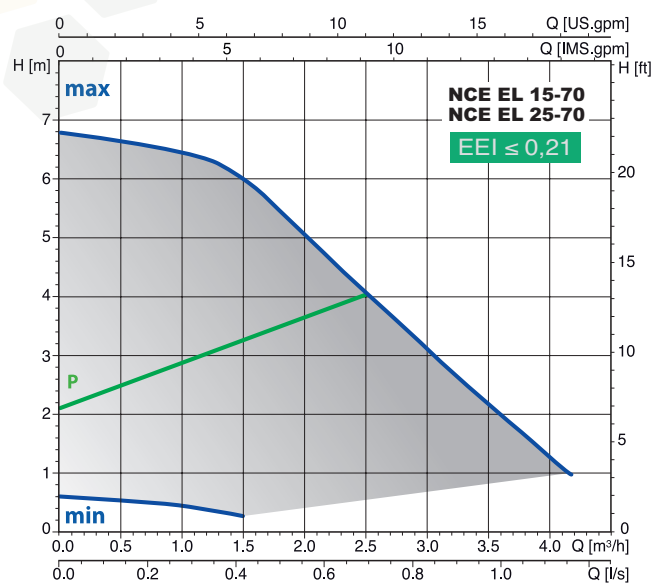
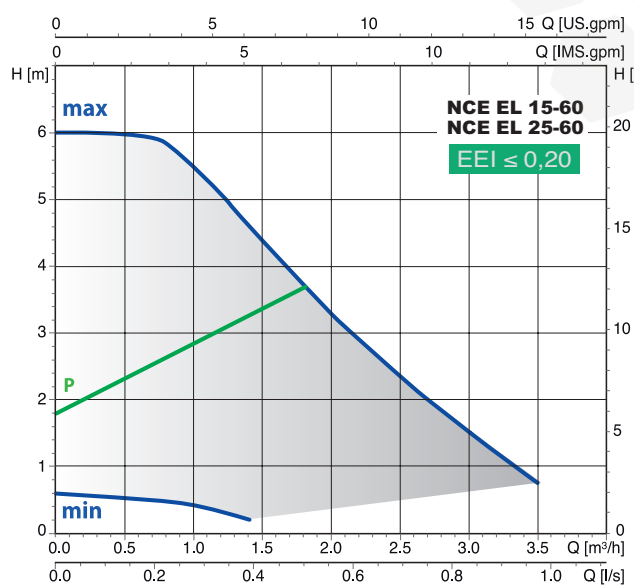
mm					
DN	DE	DK	DG	Holes	
				N°	Ø
32	140	100	80	4	19

TYPE	DN	H max	Q max	1~ 230 V	P1	P1	mm	mm	mm	mm	mm	mm	mm	kg
		m	m3/h	A max	W min	W max	a	a1	fM	A	AL	h6	w	kg
NCE H2 32F-40/220	32	4	7.7	0.3	9	78	220	110	210	140	70	145	113	7.3
NCE H2 32F-60/220	32	6	9.1	0.46	9	120	220	110	210	140	70	145	113	7.3
NCE H2 32F-80/220	32	8	10.1	0.65	9	168	220	110	210	140	70	145	113	7.3
NCE H2 32F-100/220	32	10	10.5	0.79	9	200	220	110	210	140	70	145	113	7.3

Examples of installations



NCE EL

Coverage chart n $\approx$ 2900 rpm

Energy saving circulating pumps for solar systems with frequency converter



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Construction

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

Applications

Solar thermal systems.

Operating conditions

- Liquid temperature from +2 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0.3 bar at 50°C, 1.0 bar at 95°C, 1.5 bar at 110°C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1, G 1 1/2, G 2
- The benchmark for most efficient circulators is EEI ≤ 0,20.
- Minimum power: 3 W.

Motor

- Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50/60 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (integrated).
 - 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.
EPP thermal insulation shell.

Designation

NCE EL 25 - 60 / 180
NCE = Series
EL = Version
32 = DN ports in mm
60 = Max. head in dm
180 = connection size mm

Materials

Component	Material
Pump casing	Cast iron GJL 200 EN 1561
Impeller	Composite
Shaft	Ceramic
Ball bearings	Carbon
Thrust bearing	Ceramic
Rotor	Composite / Ferrite
Winding	Copper wire
Electronic card	-
Gasket	EPDM

Operating modes

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

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



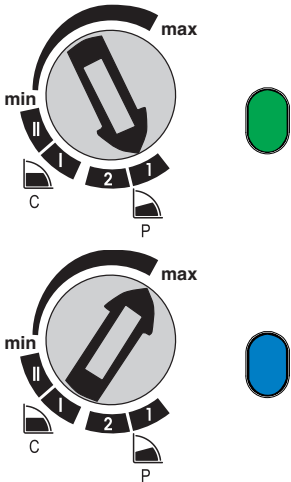
MANUAL PROGRAMMING
(BLUE LED)

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

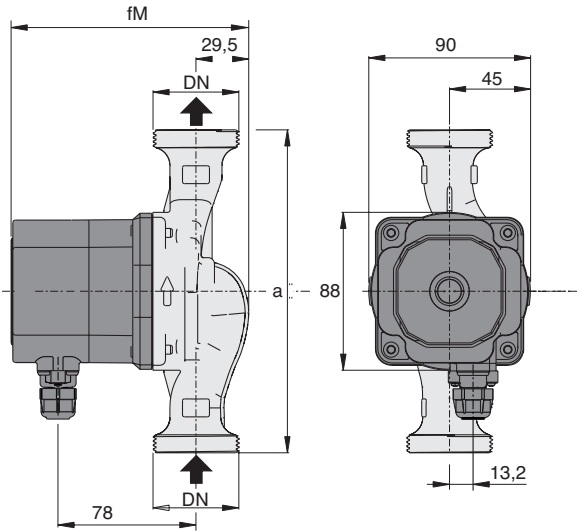


WARNING!

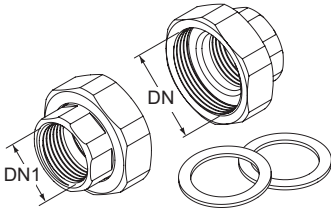
- The red LED indicates that the pump is not rotating but is still under tension.
- White flashing LED : plant degassing requirement, air in the system.



Dimensions and weights



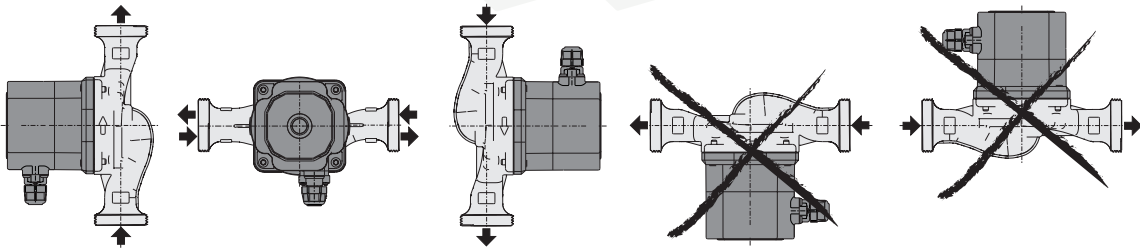
Unions (on request)



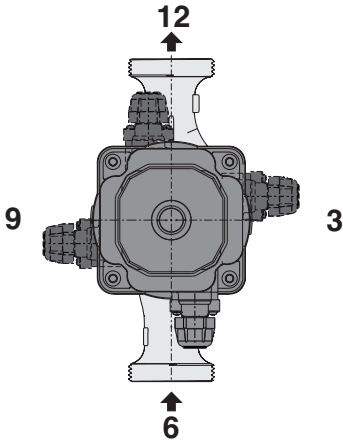
TYPE	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/4
KIT G 1 1/2 - G 1 (NCE . 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NCE . 32..)	G 2	G 1 1/4

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

Examples of installations



Terminal box arrangement (on request)





High efficiency energy circulating pumps for sanitary hot water

NCE ES



Construction

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

Applications

Domestic hot water circulation systems.

Operating conditions

- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from +2 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0.3 bar at 50°C, 1.0 bar at 95°C
- EMC secondo: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- Threaded ports ISO 228: G 1, G 1 1/4, G 1 1/2.

Motor

- Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50/60 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (integrated).
 - 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.

Designation

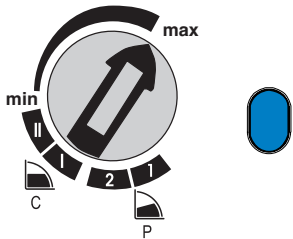
NCE ES 25 - 40 / 130
NCE = Series
ES = Version for sanitary hot water
32 = DN ports in mm
60 = Max. head in dm
180 = connection size mm

Materials

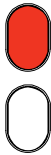
Component	Material
Pump casing	Bronze
Impeller	Composite
Shaft	Ceramic
Ball bearings	Carbon
Thrust bearing	Ceramic
Rotor	Composite / Ferrite
Winding	Copper wire
Electronic card	-
Gasket	EPDM

Operating modes

MANUAL PROGRAMMING
(BLUE LED)
Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.



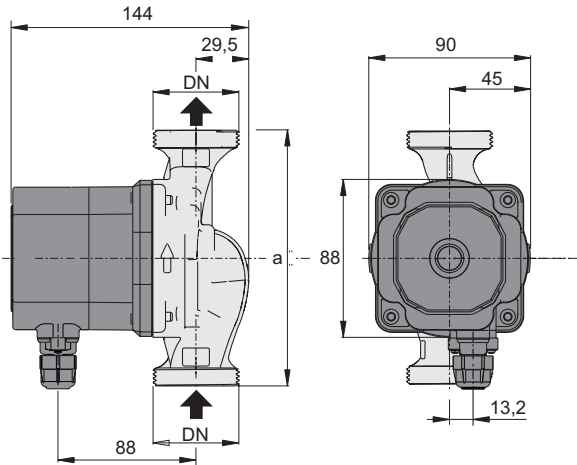
WARNING!
- The red LED indicates that the pump is not rotating but is still under tension.
- White flashing LED : plant degassing requirement, air in the system.



NCE ES



Dimensions and weights



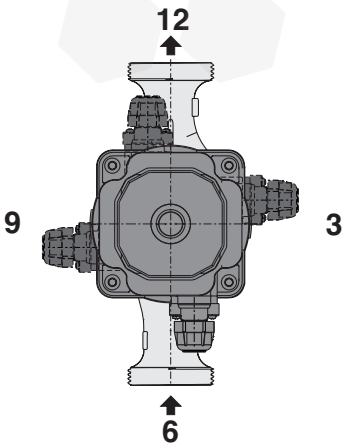
Disegno_NCE_ES_10

Unions (on request)

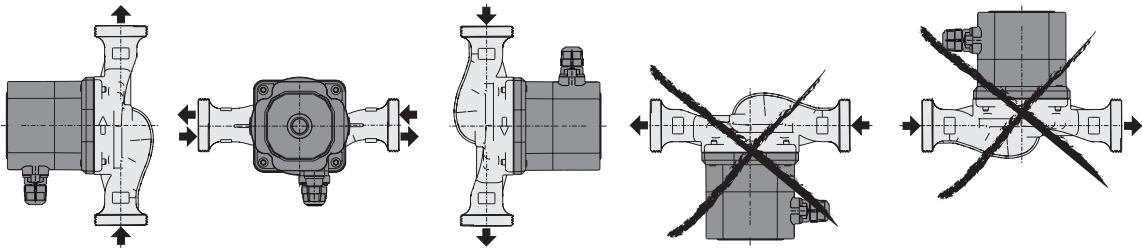
TYPE	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/4
KIT G 1 1/2 - G 1 (NCE . 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NCE . 32..)	G 2	G 1 1/4

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

Examples of installations



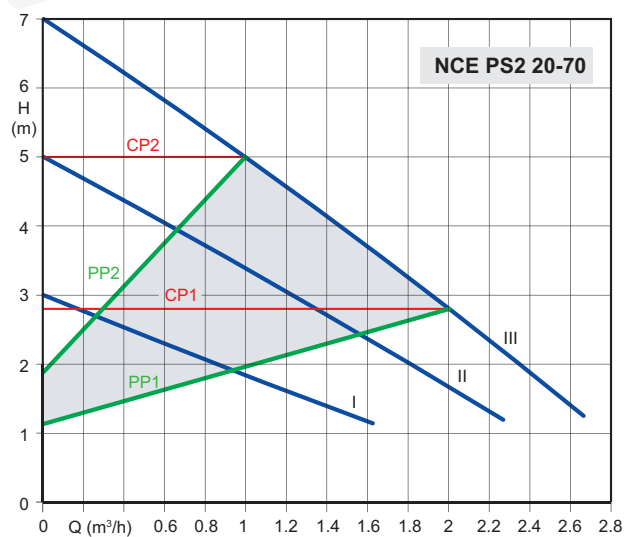
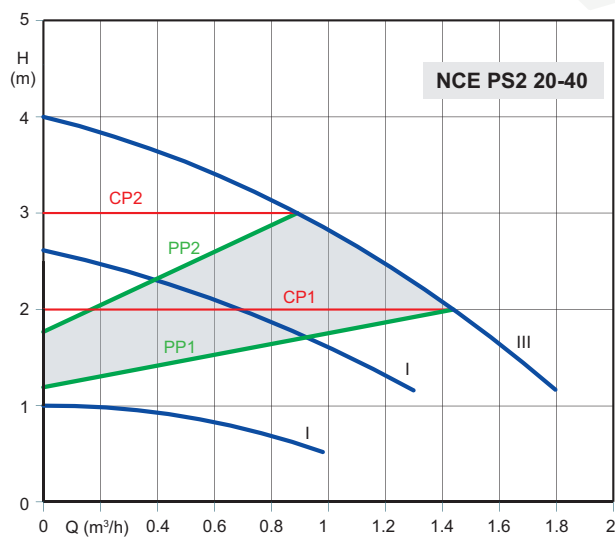
Terminal box arrangement (on request)



NCE PS2



Coverage chart



High efficiency energy circulating pumps
for sanitary hot water



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NCE PS2



Construction

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

Applications

Domestic hot water circulation systems.

Operating conditions

- Liquid temperature from +5 °C to +65 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 3 bar
- Storage: -10°C/+50°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 45 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C 0,28 bar a 90 °C.
- EMC secondo: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- Connections: threaded ports ISO 228: G 1.

Motor

- Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50-60 Hz
- Protection: IP 44
- Insulation class: F
- Class II appliance
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with EN 60335-1, EN 60335-2-51.

Designation

NCE PS2 20 - 40 / 130

NCE = Series

PS2 = Version for sanitary hot water

20 = DN ports in mm

40 = Max. head in dm

130 = connection size mm

Materials

Component	Material
Pump casing	Bronze
Impeller	Composite PES
Shaft	Ceramic
Ball bearings	Ceramic
Thrust bearing	Ceramic
Rotor	jacket
Winding	Copper wire
Gasket	EPDM

Operating modes



Proportional pressure mode:

PP1 Lowest proportional pressure curve

PP2 Highest proportional pressure curve

The duty point of the pump will move up or down on the higher proportional pressure curve, depending on the heating demand.

The head (pressure) is reduced as the heating demand decreases and increases as the heating demand increases



Constant pressure mode:

(CP1 Lowest constant pressure curve)

(CP2 Highest constant pressure curve)

The duty point of the pump will move outwards or along a constant pressure curve, depending on the heating demand.

The head (pressure) is kept constant, regardless of the heating demand.



Fixed speed mode:

(III) Pump runs at a constant speed and consequently on a constant curve.

In speed III, the pump is set to run on the Max. curve under all operating conditions. Quick venting of the pump can be obtained by setting the pump to speed III for a short period.

(II) Pump runs at a constant speed and consequently on a constant curve. In speed II, the pump is set to run on the Medium curve under all operating conditions.

(I) Pump runs at a constant speed and consequently on a constant curve. In speed I, the pump is set to run on the Min. curve under all operating conditions.



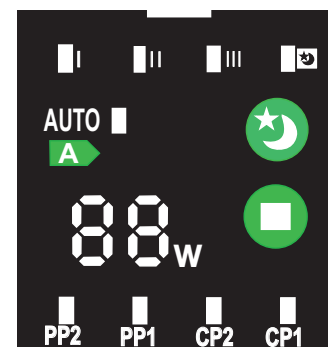
Automatic mode

In "AUTO" mode, pump power automatically increases or decreases based on system flow under certain conditions.



Night mode:

The pump works by selecting the night mode, after one hour the power turns off automatically, after two hours it will drop to a minimum between 5 and 10 watts, after seven hours the automatic mode of the pump is eliminated and restored to the original conditions.



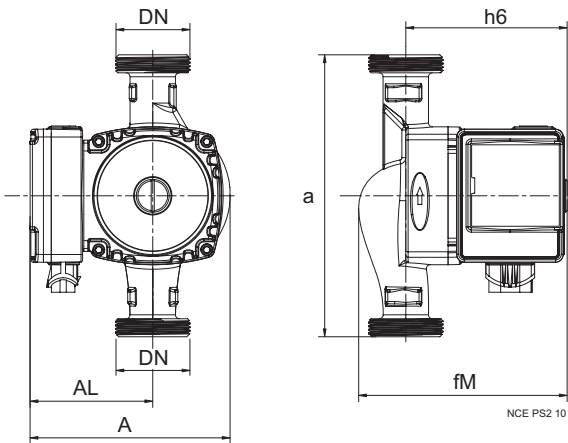
Operating functions - control buttons.

NCE PS circulator could work:
with curves at proportional pressure
with curves at constant pressure
with curves at fixed speed
- automatic mode
- night mode

NCE PS2

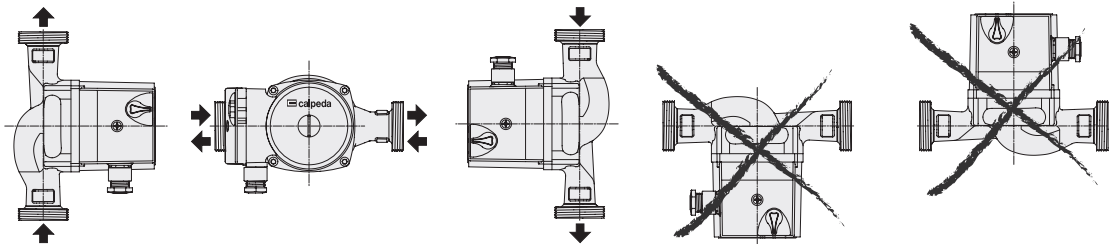


Dimensions and weights

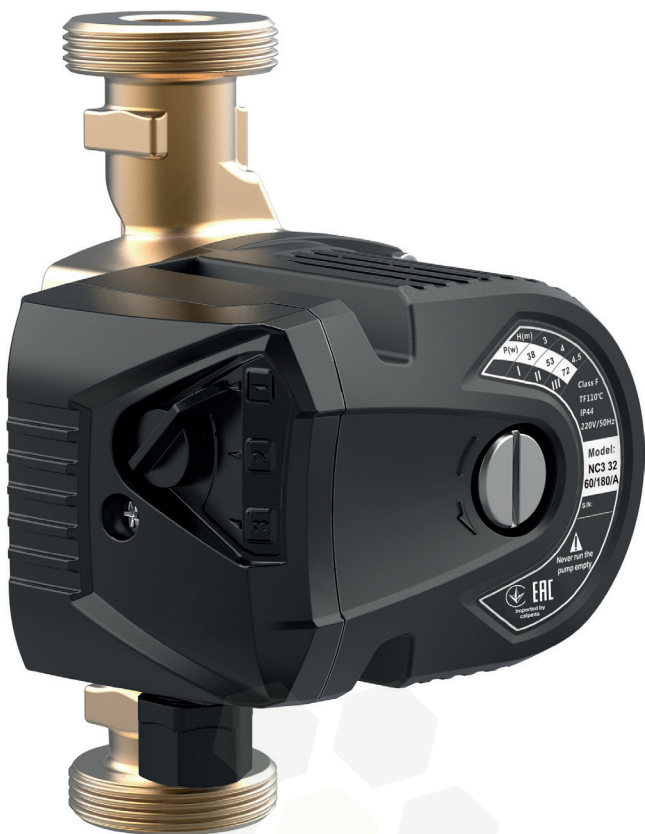


TYPE	DN	H	Q	P1	a	fM	h6	A	AL	kg
		m	m3/h	W max	mm	mm	mm	mm	mm	kg
NCE PS2 20-40/130	G 1	4	1.8	22	130	129	101	128	78	2.1
NCE PS2 20-70/130	G 1	7	2.7	47	130	129	101	128	78	2.1

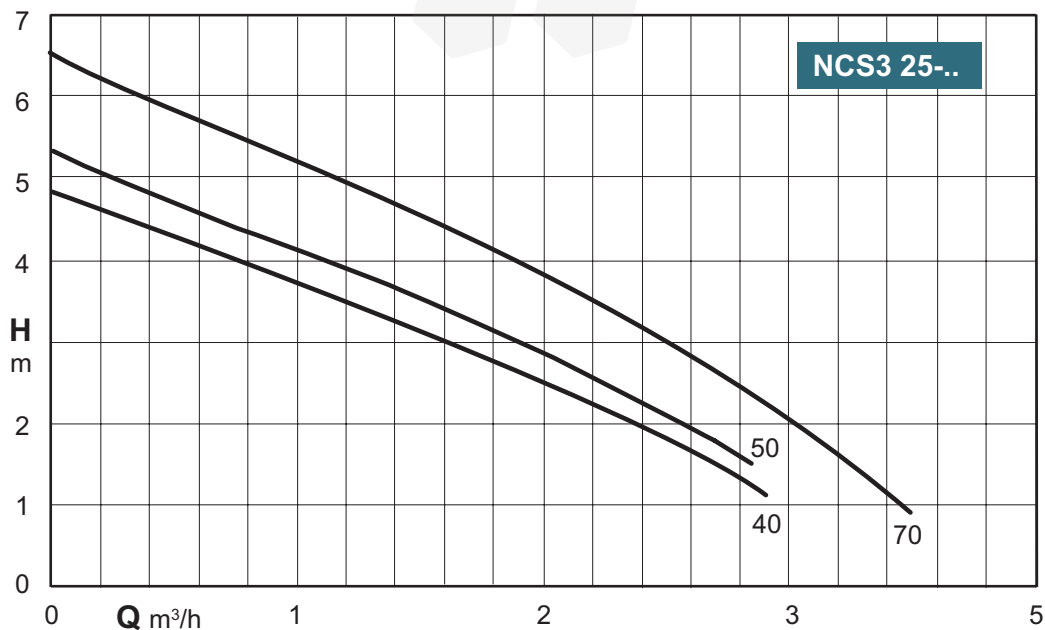
Examples of installations



NCS3



Coverage chart



Circulating pumps for sanitary hot water



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NCS3



Construction

3-speed circulator.
Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Bronze pump casing.
Standard with brass unions.

Applications

Impianti di circolazione di acqua calda sanitaria.

Operating conditions

Liquid temperature from +5 °C to +65 °C.
Ambient temperature up to 40 °C.
Sound pressure ≤ 45 dB (A)
Minimum suction pressure: 0,05 bar at 50 °C
- Maximum permissible working pressure: 10 bar
Storage: -10°C/+50°C max. relative humidity 95% at 40 °C
Connections: threaded ports ISO 228: G 1 1/2.

Motor

2-pole induction motor, 50 Hz.
Three adjustable speeds.
NCS3: single-phase 230 V.
Insulation class H.
- Protection: IP 44
Overload protection (integrated).
- Cable: phases and neutral.
Constructed in accordance with EN 60335-1, EN 60335-2-51.

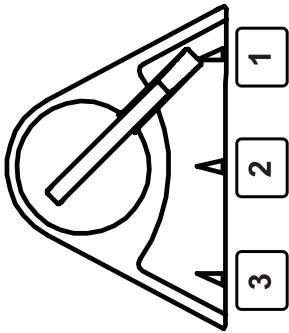
Designation

NCS3 25 - 40 / 130
NCS3 = Series
25 = DN ports in mm
40 = Max. head in dm
130 = connection size mm

Materials

Component	Material
Pump casing	Bronze
Impeller	Composite PES
Shaft	Ceramic
Ball bearings	Ceramic
Thrust bearing	Ceramic
Rotor	jacket
Winding	Copper wire
Gasket	EPDM

Operating modes

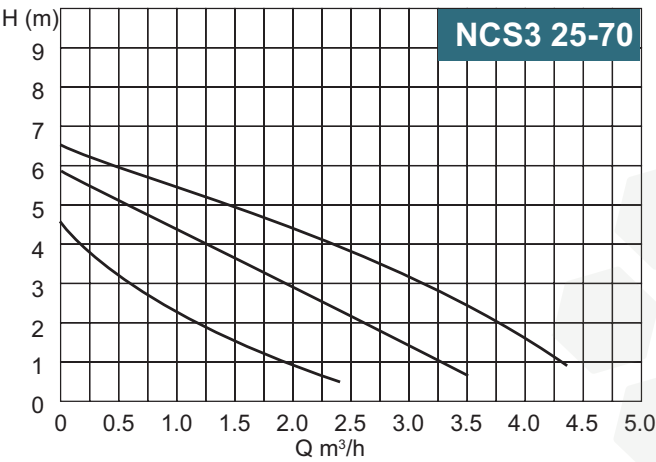
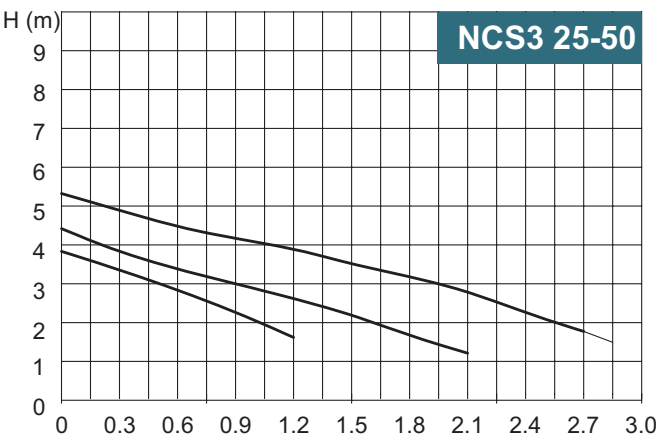
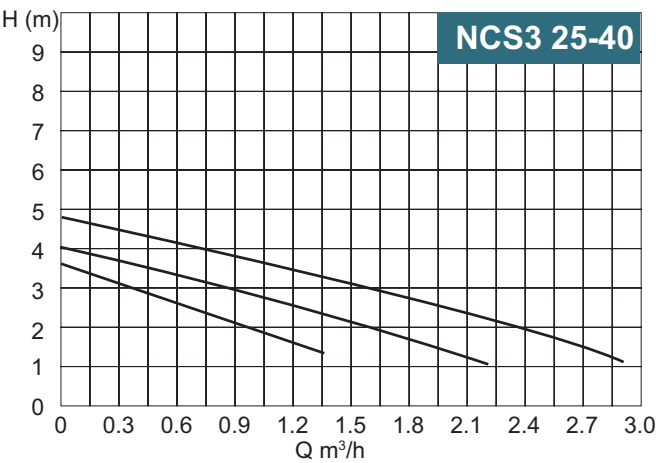


MANUAL PROGRAMMING
By positioning the selector at any point between 1,2 and 3, the most suitable operating curve for the system is manually chosen.

NCS3



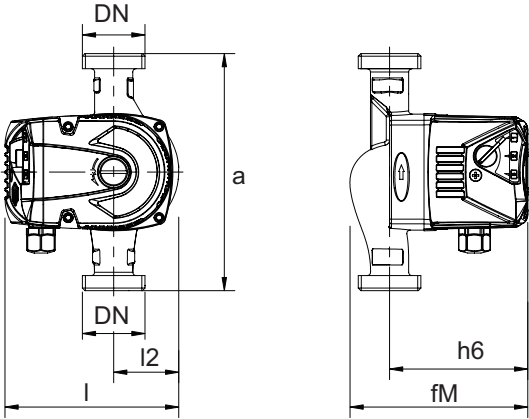
Characteristic curves n ≈ 2900 rpm



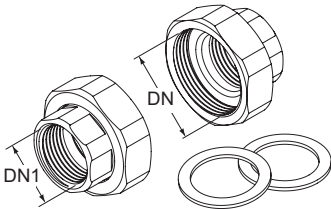
NCS3



Dimensions and weights



Unions



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

TYPE	DN	Pos.	P1 (W)	a	FM	l2	l	h6	kg
NCS3 25-40/130/A	G 1 1/2	3	72	130	135	49	132	105	2.5
		2	53						
		1	38						
NCS3 25-50/130/A	G 1 1/2	3	81	130	135	49	132	105	2.6
		2	67						
		1	46						
NCS3 25-70/130/A	G 1 1/2	3	122	130	135	49	132	105	2.7
		2	95						
		1	66						

Examples of installations

