NBG, NBGE, NKG, NKGE

Single-stage end-suction pumps according to ISO 2858
60 Hz

GRUNDFOS

Table of contents

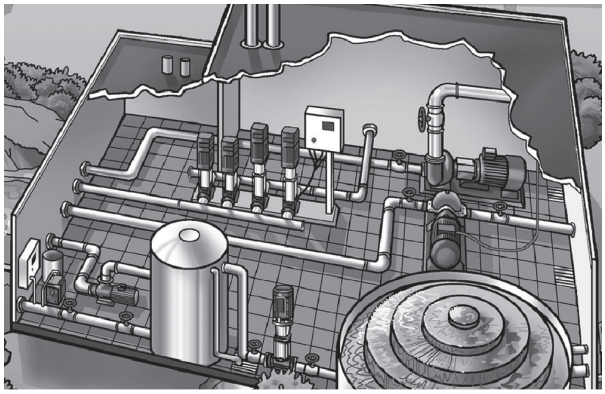
1. Applications

Introduction

NBG and NKG are multipurpose pumps suitable for a variety of different applications demanding reliable and cost-efficient supply.

NBG and NKG pumps are used in five main fields of application:

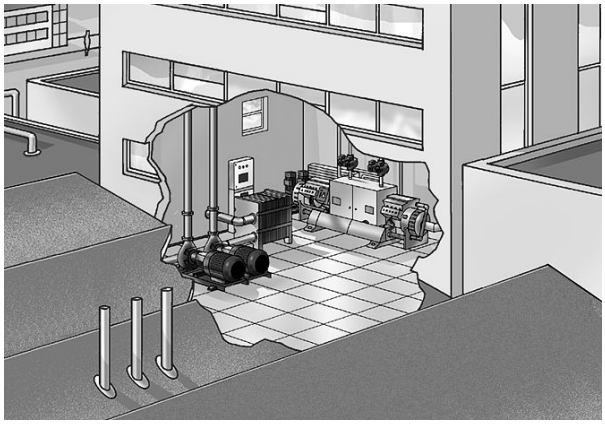
- water supply
- industrial pressure boosting
- industrial liquid transfer
- HVAC
- irrigation.



Water supply

Besides general water supply in municipal and industrial waterworks, the NBG and NKG pumps are used for these specific applications:

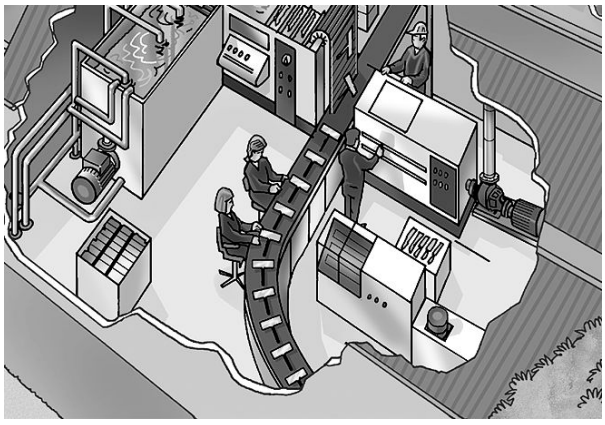
- filtration and transfer at waterworks
- pressure boosting in mains
- pressure boosting in high-rise buildings, hotels, etc.
- pressure boosting in industrial buildings
- various swimming bath applications.



Industrial pressure boosting

Pressure boosting in these applications:

- industrial washing and cleaning systems
- industrial wash-down systems
- vehicle washing tunnels
- firefighting systems.



Industrial liquid transfer

Liquid transfer in these applications:

- cooling and air-conditioning systems, refrigerants
- boiler-feed and condensate systems
- aquafarming
- industrial heating systems
- district heating plants.

HVAC

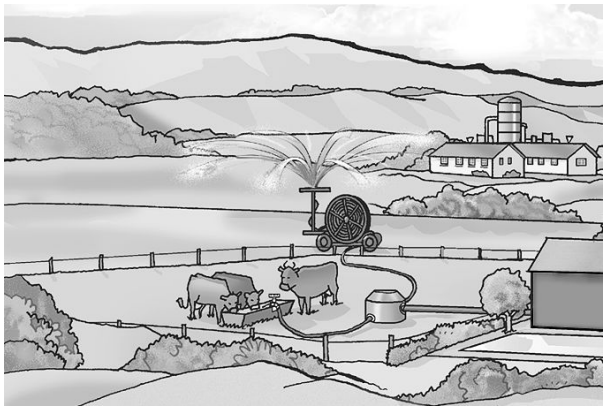
Liquid transfer in these applications:

- heating systems
- ventilation systems
- air-conditioning systems.

Irrigation

Irrigation covers these applications:

- field irrigation, flooding
- sprinkler irrigation
- drip-feed irrigation.



TM030149

2. Features and benefits

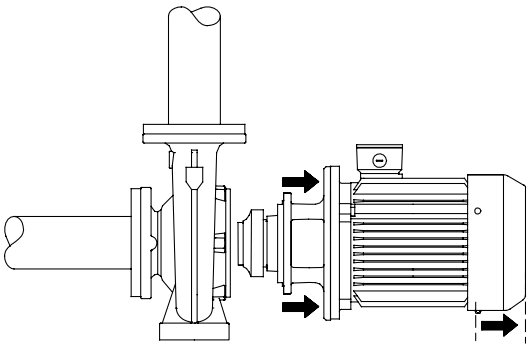
NBG and NKG pumps offer the following features and benefits:

- The pumps are non-self-priming, single-stage, centrifugal volute pumps with axial inlet port, radial outlet port and horizontal shaft.
- All pumps are according to ISO 5199.
- Inlet and outlet flanges are according to EN 1092-2.
- Dimensions and rated performance are according to ISO 2858 (16 bar).
  However, the stainless steel product range is designed for PN 25.
- The mechanical shaft seal has dimensions according to EN 12756.
- The pumps offer flow rates from 2 to 2500 m^3/h and heads from 2 to 250 m.
- The pumps can be equipped with an MGE motor with integrated frequency converter or connected to a Grundfos CUE external frequency converter.
- All pumps are statically balanced according to ISO 1940-1 class 6.3.
  Impellers are hydraulically balanced.

GRA2519

NBG pump

- For NBG pumps the back pull-out design enables removal of the motor, motor stool and impeller without disturbing the pump housing or pipes. Even the largest pumps can thus be serviced by a single person with a crane.



TM029512

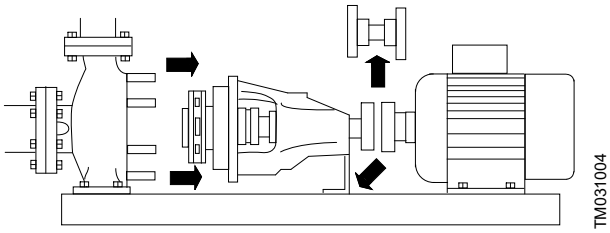
NBG back pull-out design

- The NBG pump is close-coupled with a totally enclosed fan-cooled standard motor with main dimensions to IEC and DIN standards.
- For most of the NBG pumps, a Grundfos-designed base frame is available. For more information, see section NBG base frames.

GRA2514

NK pump

- For NKG pumps the back pull-out design enables removal of the motor, motor stool and impeller without disturbing the pump housing or pipes. Even the largest pumps can thus be serviced by a single person with a crane.



TM031004

NKG back pull-out design

- The NKG pump is long-coupled with a totally enclosed fan-cooled standard motor with main dimensions to IEC and DIN standards and mounting designation B3 (IM 1001).

Related information

NKG base frames

Pumps with standard motors

IE3 IE4 IE5

NBG and NKG pumps are fitted with standard motors with efficiency classes IE3/IE4/IE5 for low-voltage three-phase motors.

Pumps with electronic speed control

IE5

NBGE and NKGE pumps are NBG and NKG pumps equipped with a motor with built-in frequency converter and the necessary application software to achieve an all-in-one solution enabling electronic speed control.

Electronic speed control enables continuously variable control of motor speed which again enables adaptation of the performance to a given requirement.

If a sensor is installed, NBGE and NKGE pumps allow for any of these configurations and control methods:

- constant pressure
- proportional control
- temperature control
- constant flow.

NBGE, NKGE pumps with 2-pole motors up to 22 kW and 4-pole motors up to 22 kW are fitted with Grundfos permanent-magnet MGE motors.

Why select an E-pump

A pump with electronic speed control offers these benefits:

- energy savings
- increased comfort
- control and monitoring of pump performance
- communication with the pump.

For further information on electronic speed control, see section Speed-controlled pumps.

Related information

9. Speed-controlled pumps

Energy-optimised pumps

NBG, NKG pumps are energy-optimised and comply with the EuP Directive, Commission Regulation (EC) No 547/2012, in which most pumps are classified or graduated in an energy efficiency index (MEI). See also section Minimum efficiency index.

Related information

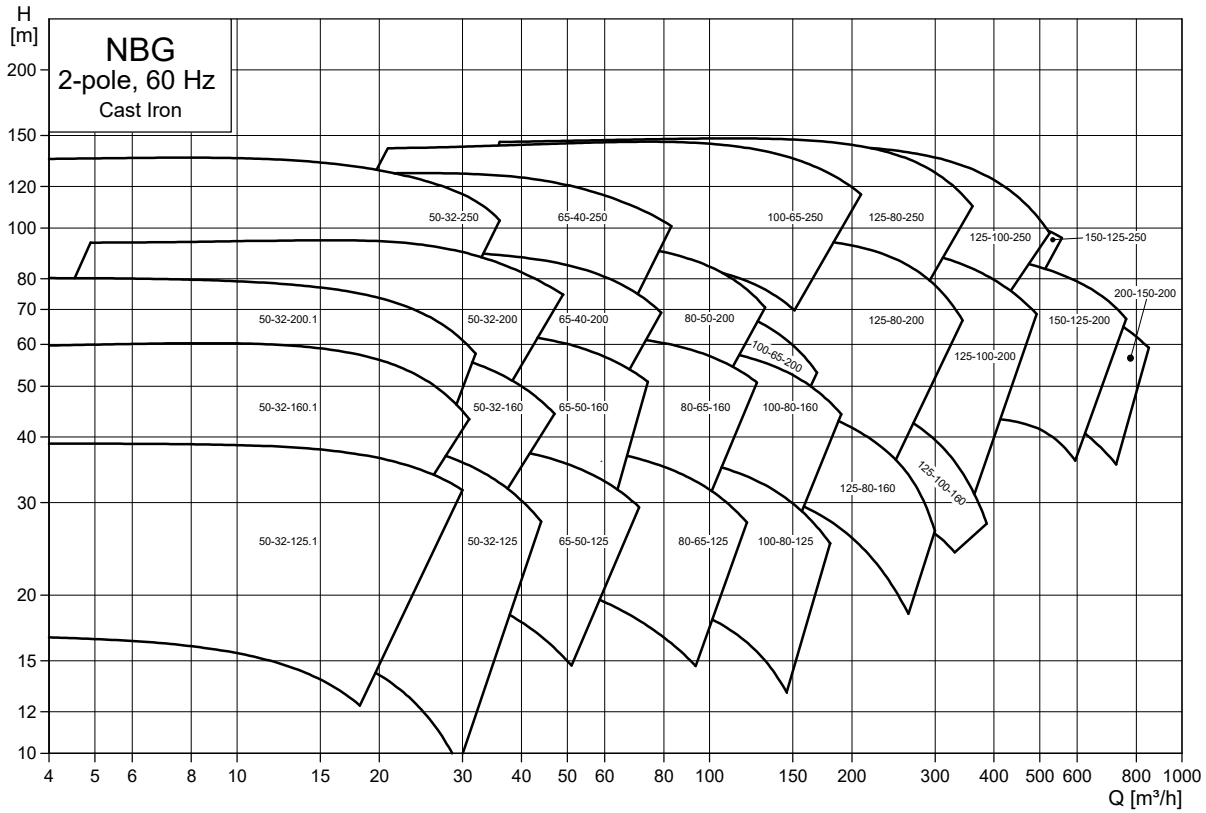
18. Minimum efficiency index

ATEX-approved pumps

On request, Grundfos offers NBG and NKG pumps with ATEX-approval in accordance with Directive 94/9/EC, group II, category 2G/D and 3G/D. For more information on ATEX-approved pumps, see the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858".

3. Performance range

NBG, 2-pole



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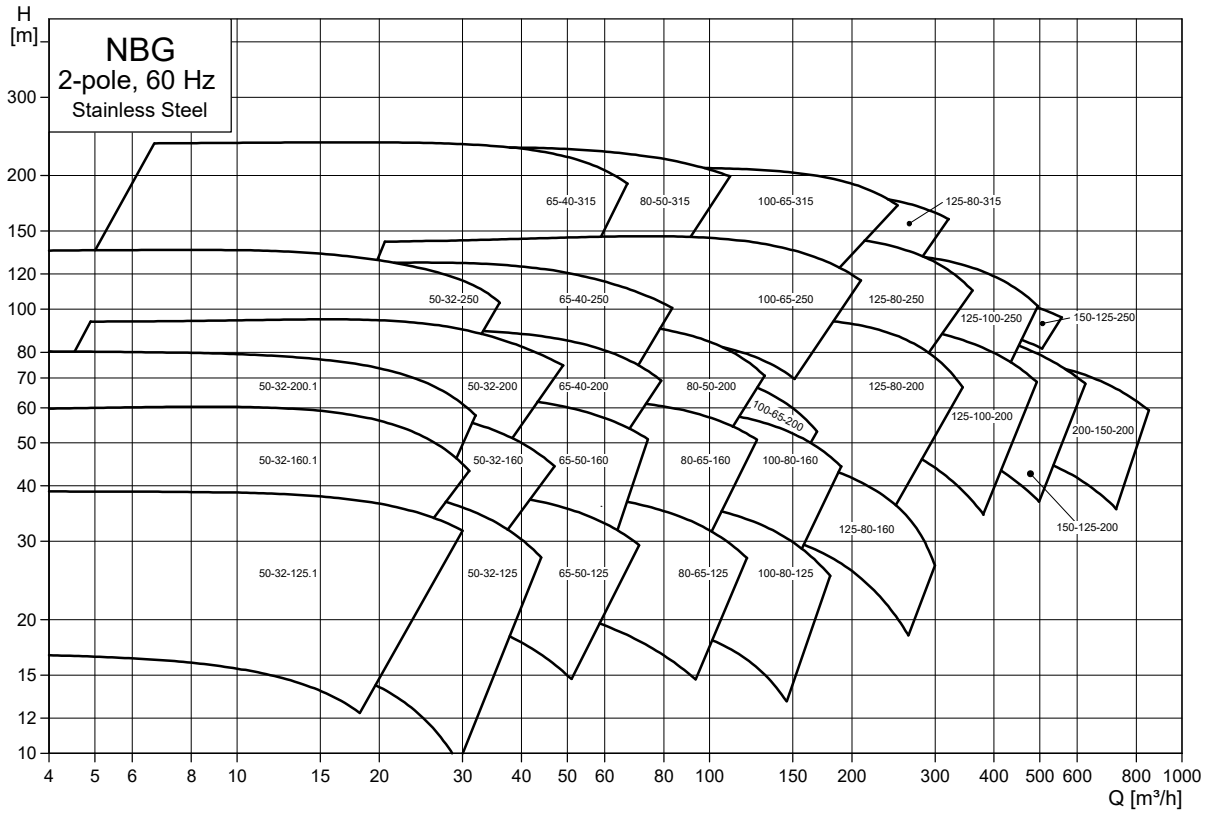
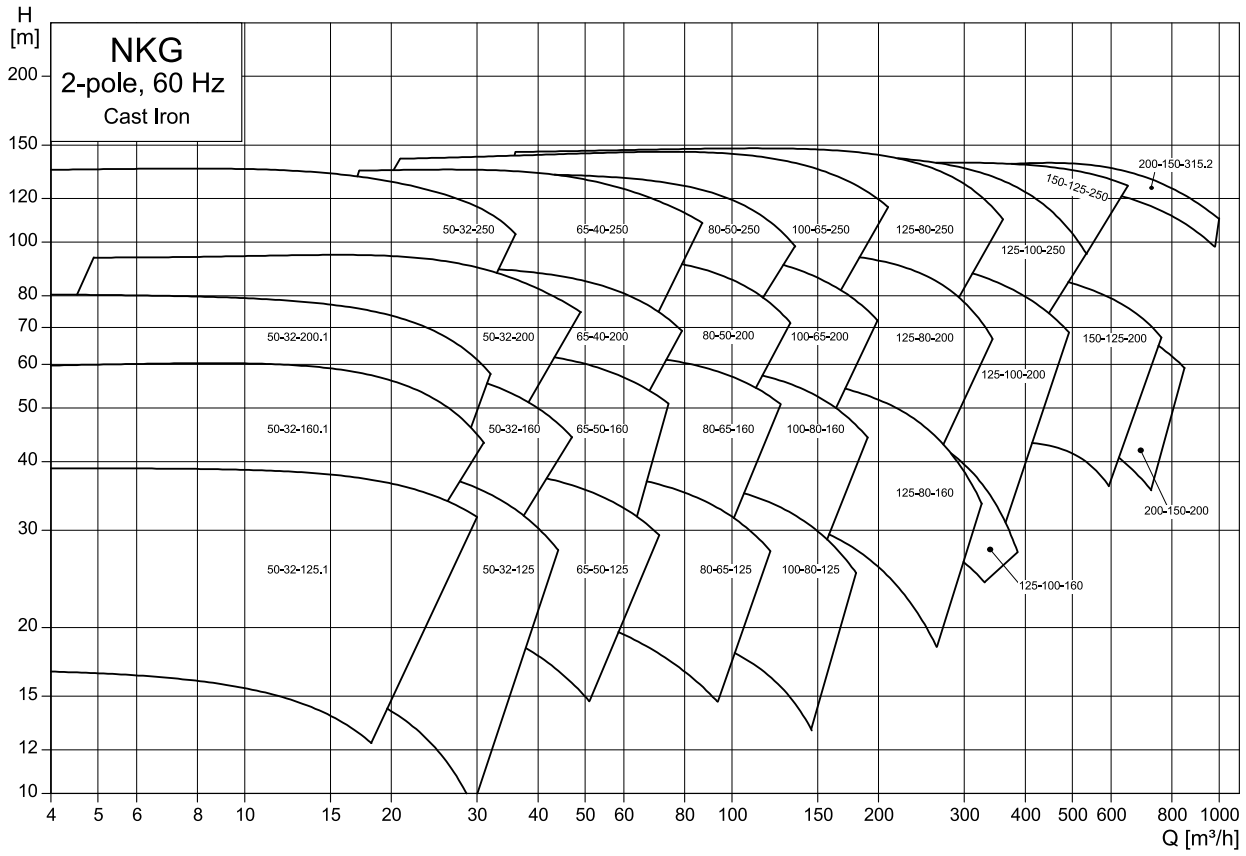


TM067422

NKG, 2-pole



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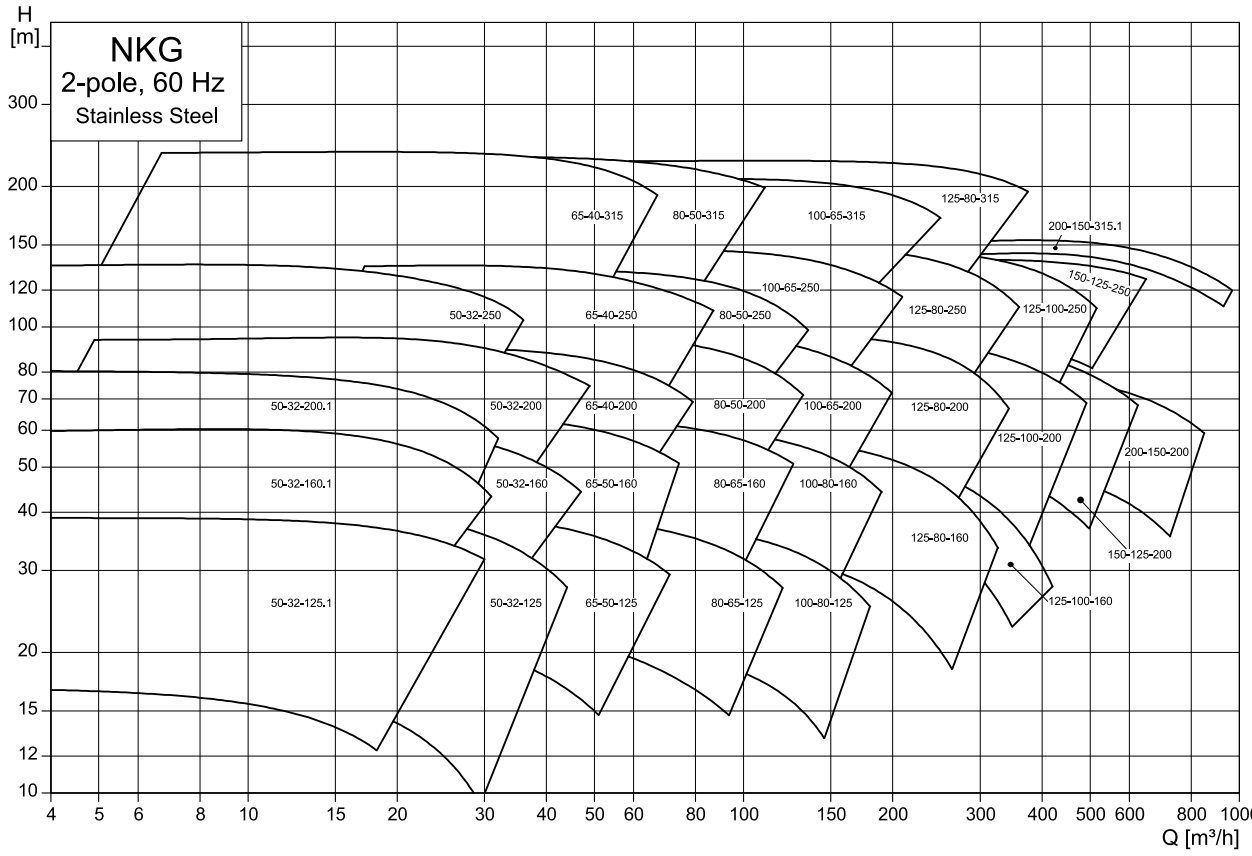

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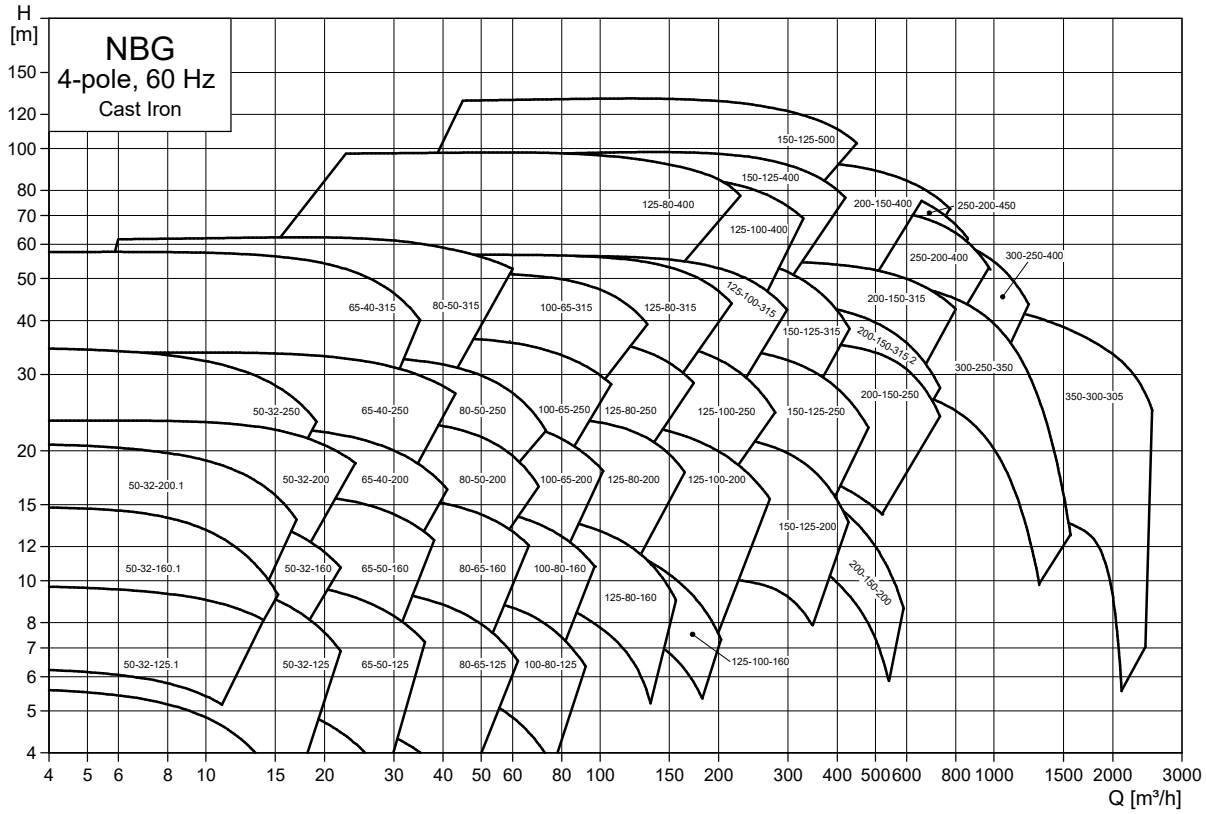
NBG, 4-pole



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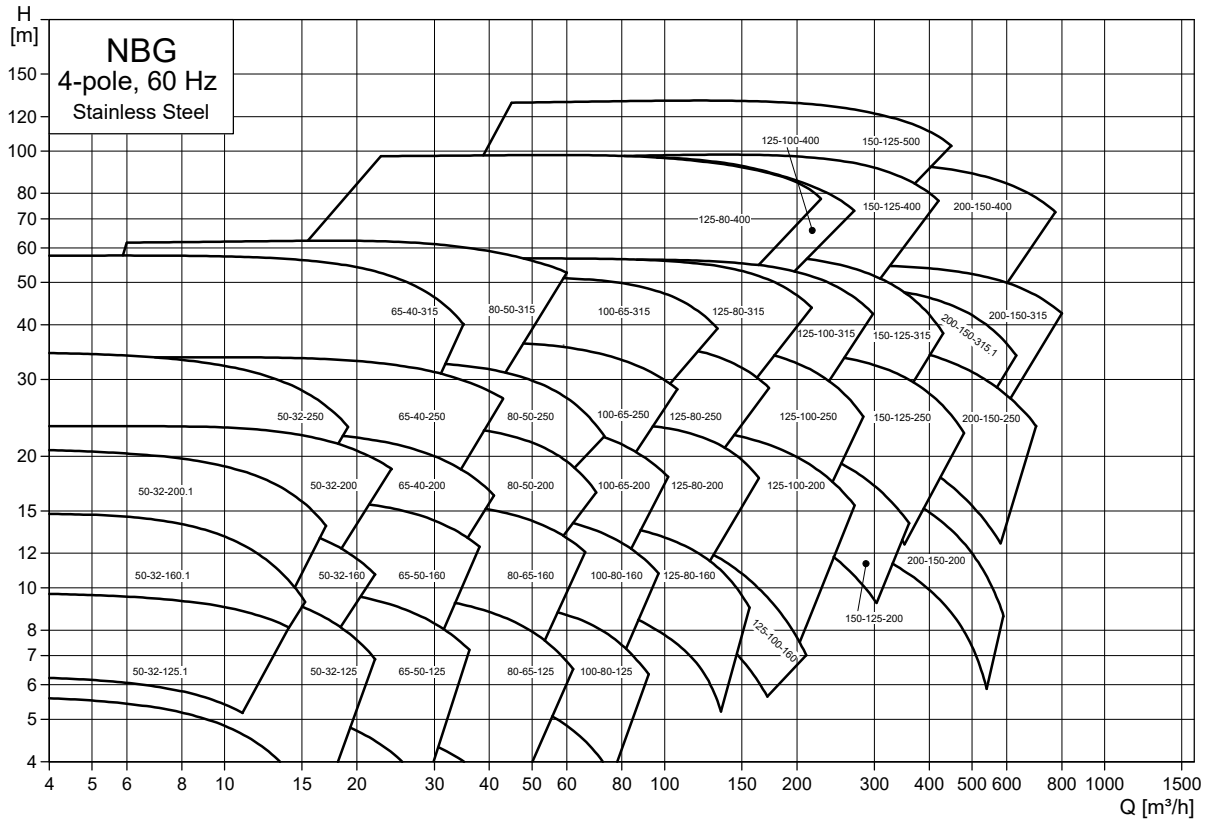
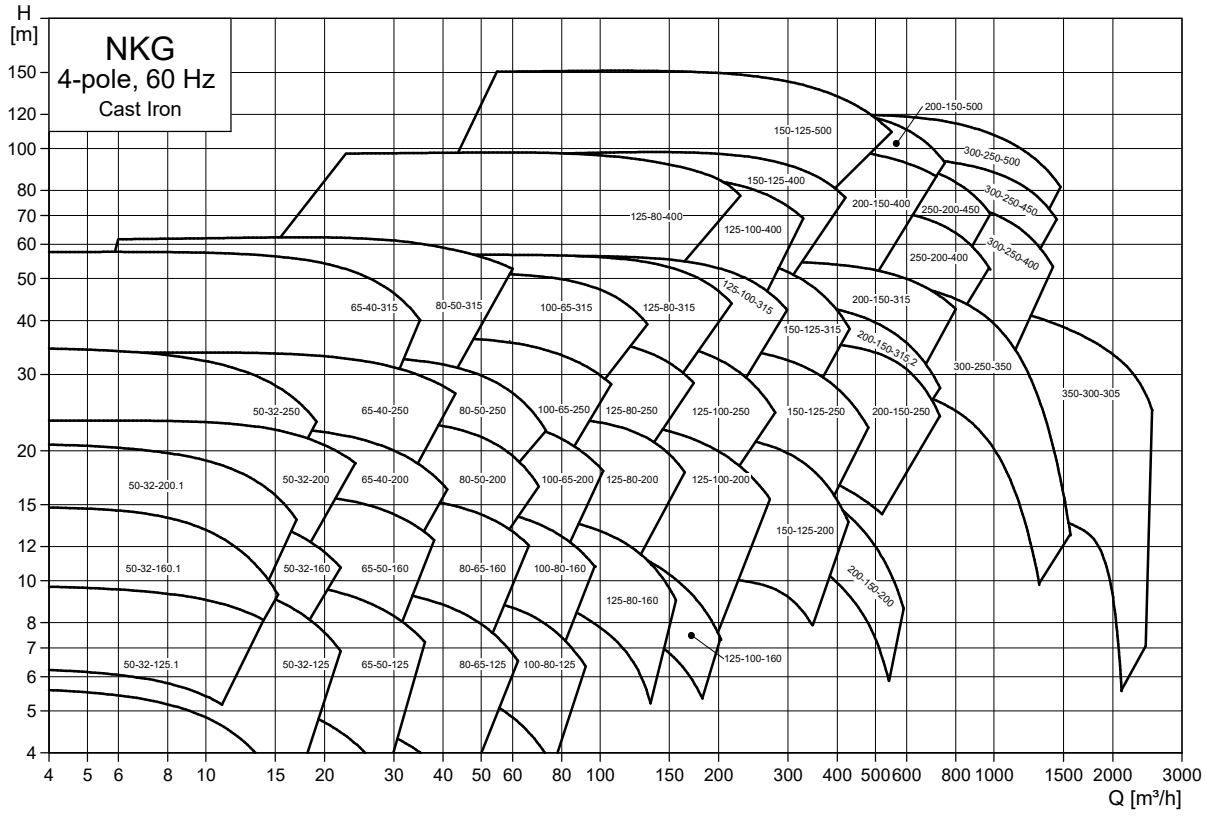


TM067424

NKG, 4-pole



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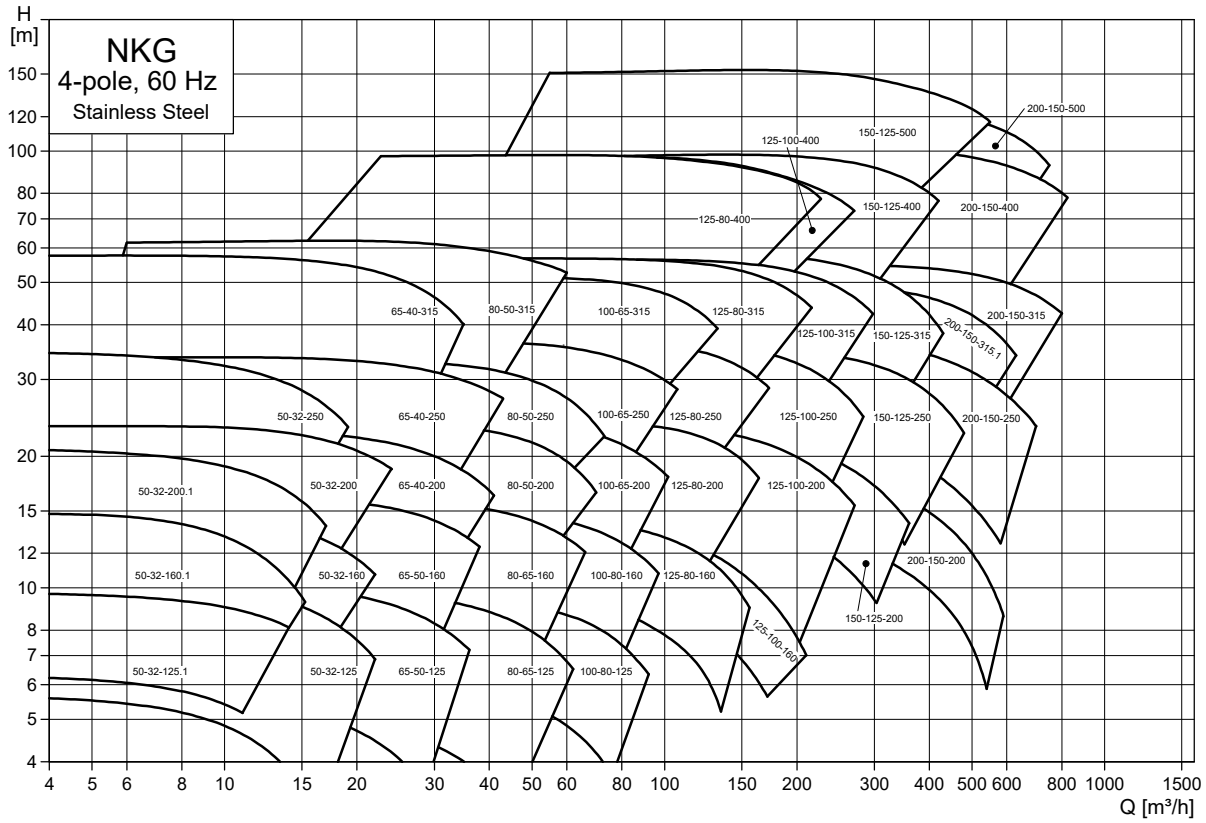
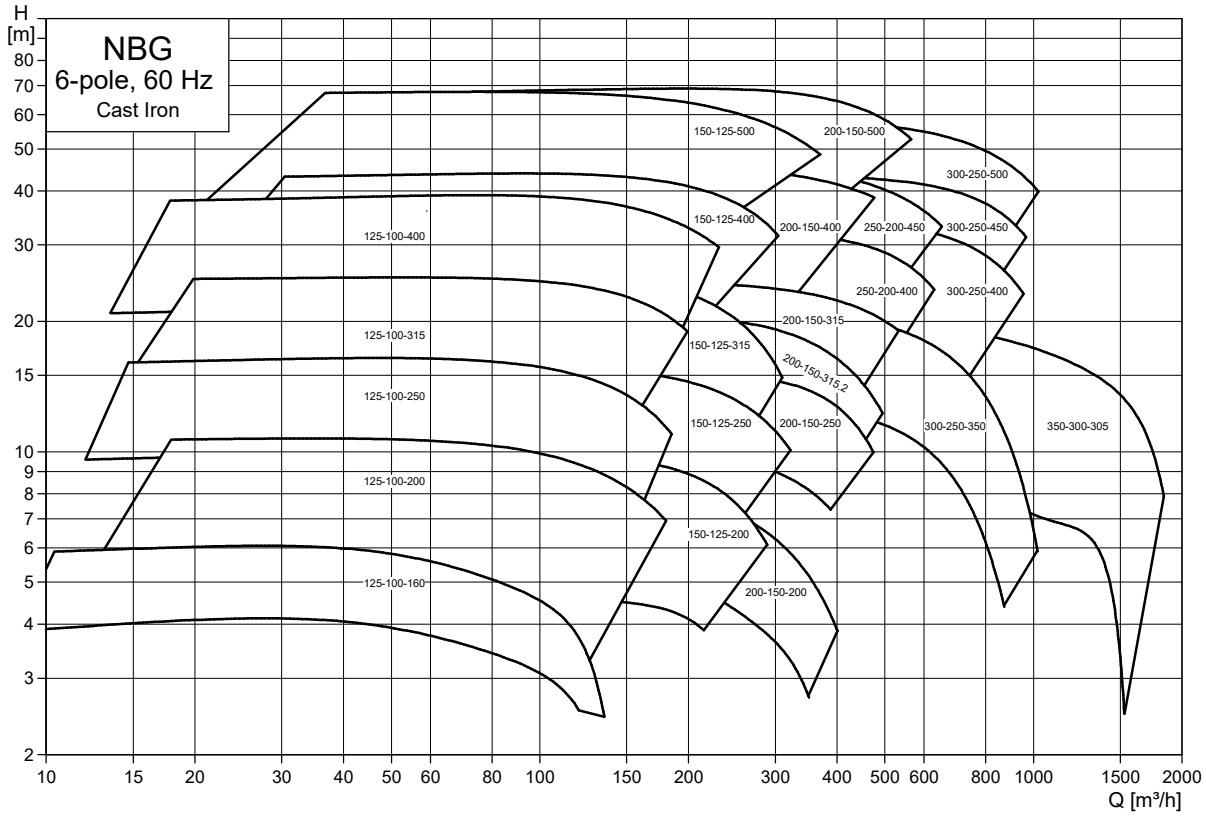


TM067425

NBG, 6-pole



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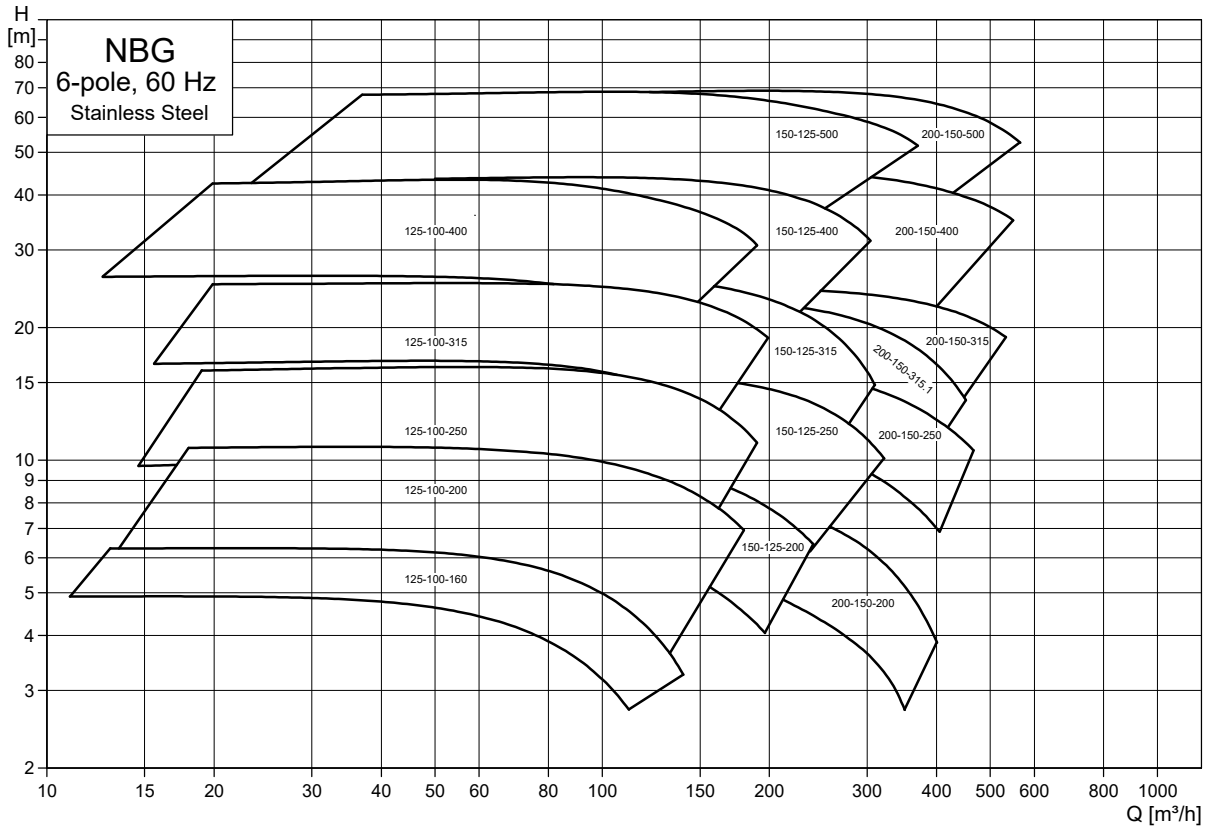
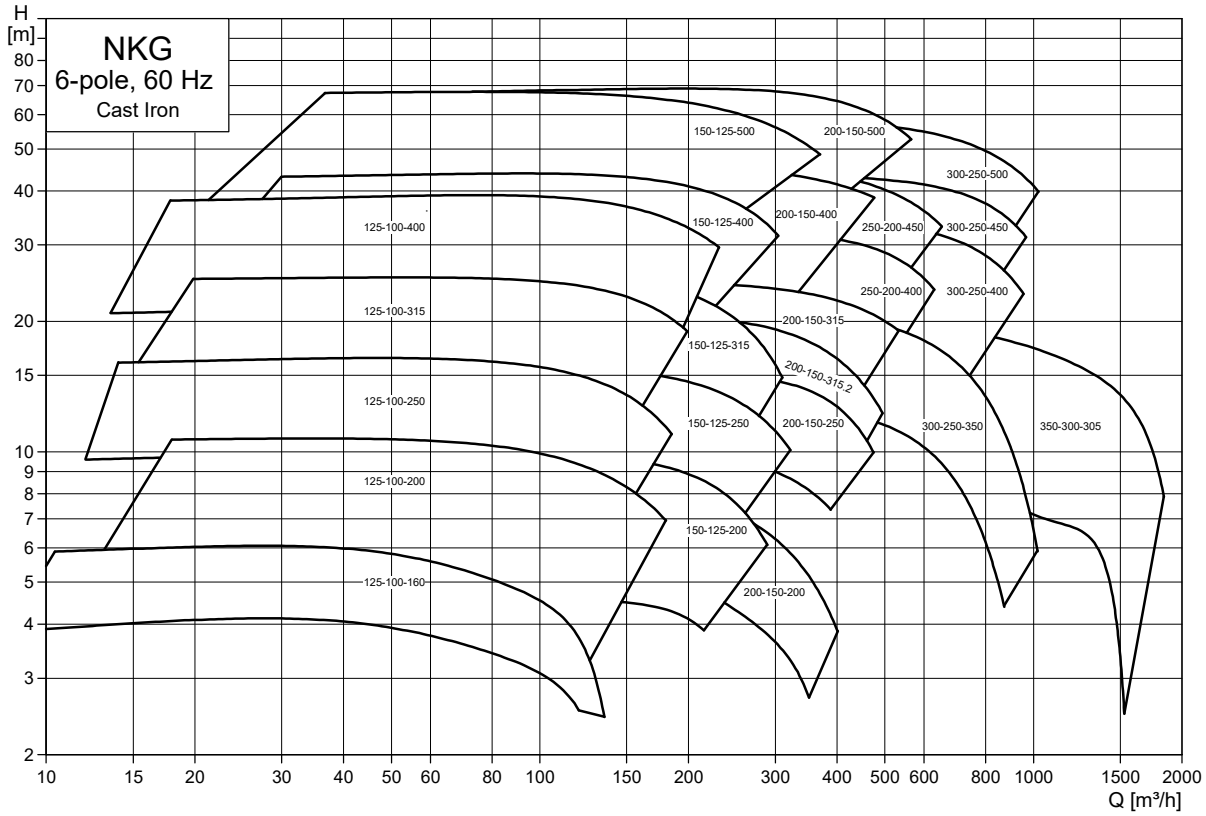


TM067426

NKG, 6-pole



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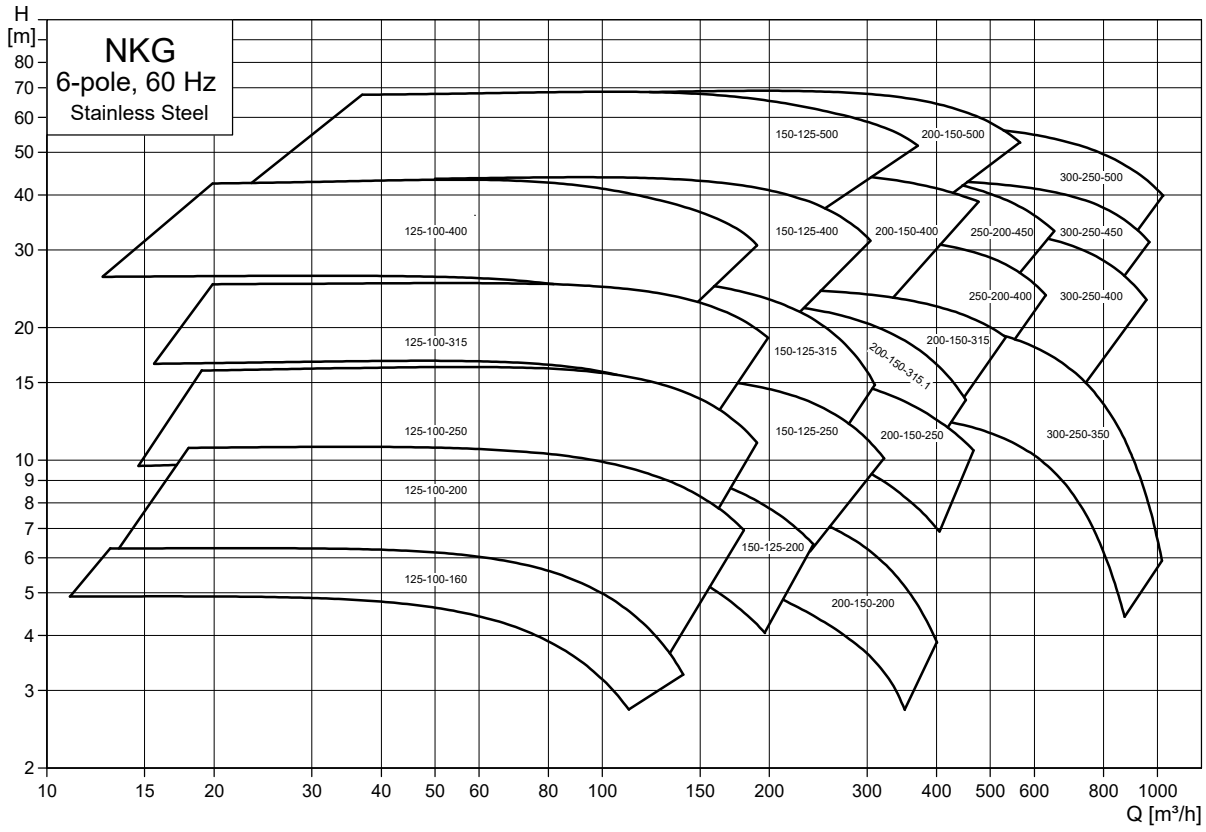
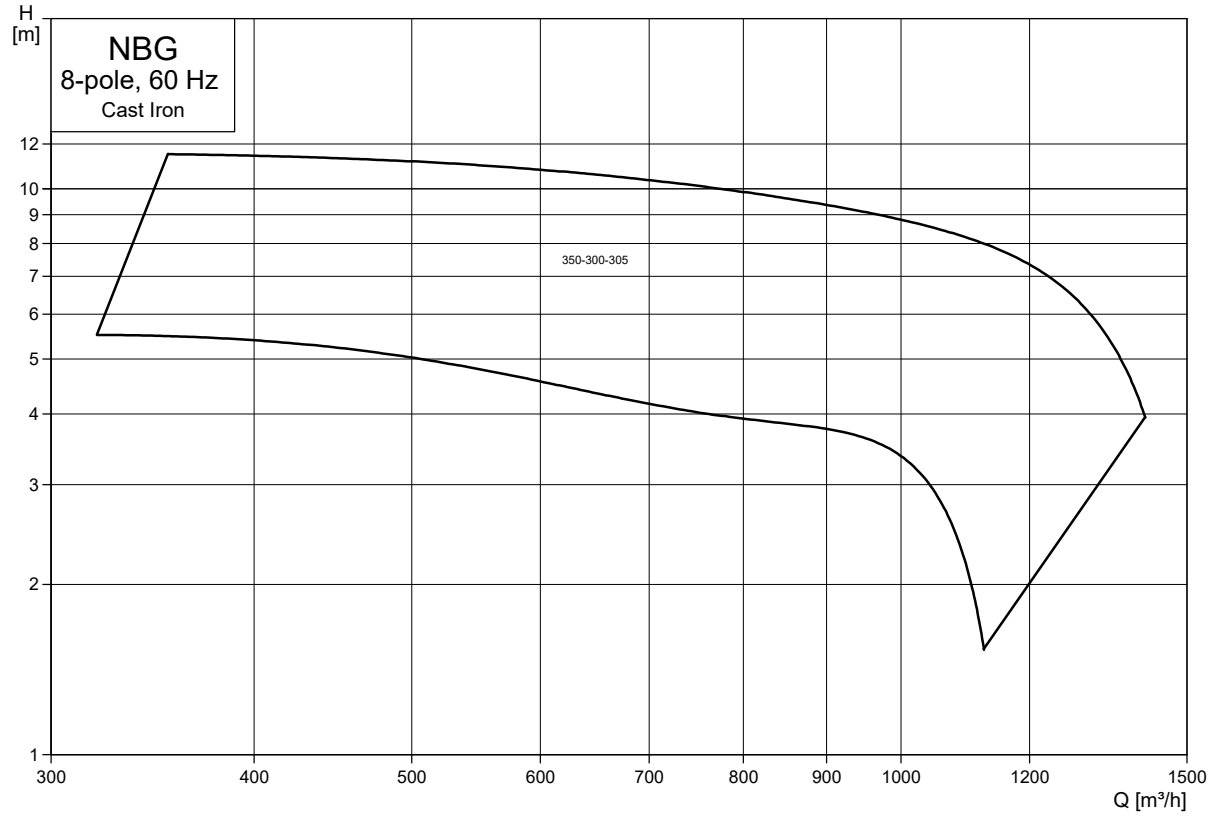


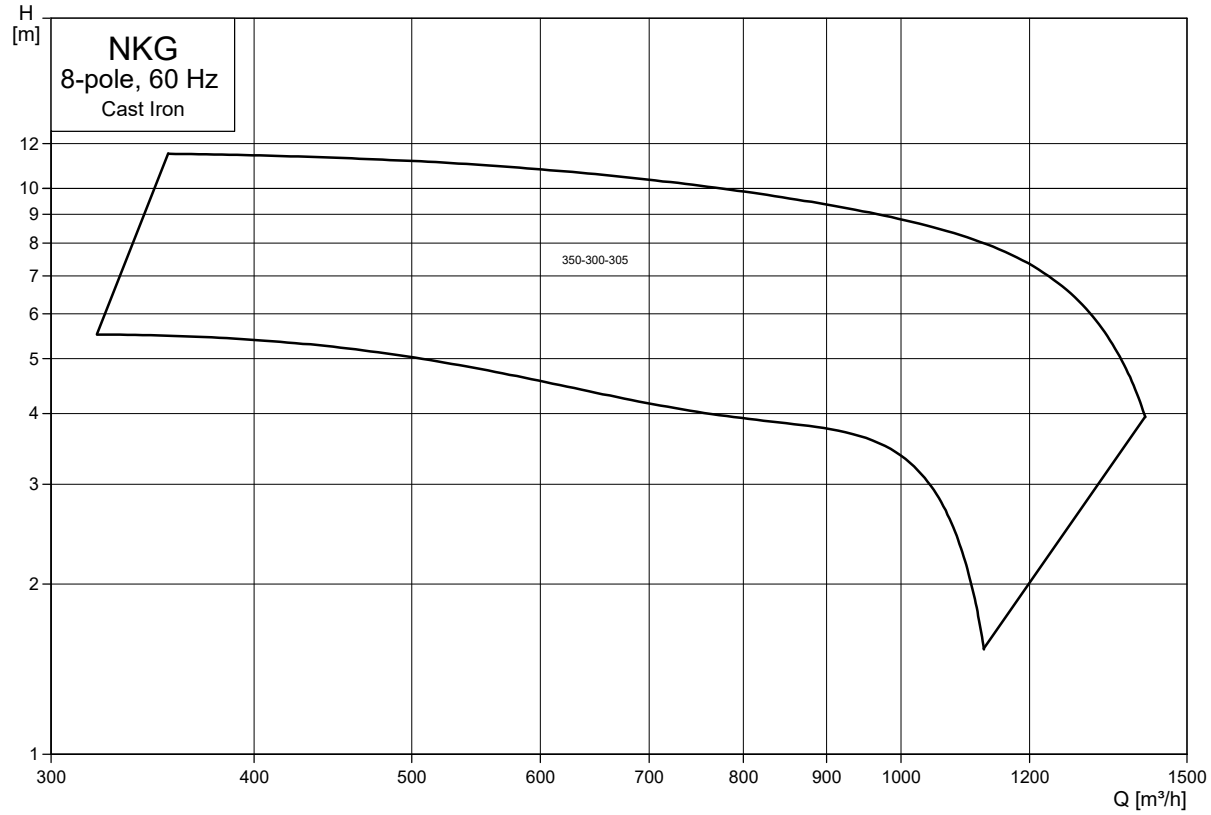
TM067427

NBG, 8-pole



TM071349

NKG, 8-pole



TM071350

4. Product range

The tables on the following pages show the complete product ranges of NBG, NBGE and NKG, NKGE pumps. The standard range has been combined on the basis of the following parameters:

Pump

- Pump housings have outlet flanges from DN 32 to DN 300.
- Some stainless steel pump sizes have loose flanges. All others have fixed flanges.
- NBG pumps are available in mounting design A, B, C and F. The base frame for C is available as accessory. F has base frame. For further information, see section Mechanical construction.
- Support blocks: NB, NBG pumps combine with many motor frame sizes. In some cases, support blocks or support rails are needed in order to level out the height difference between pump and motor. Also the size of the motor flange may necessitate the use of supports. See section Support blocks. The Grundfos Product Configuration System makes it possible to configure the NB, NBG pump and the supports, if needed.

Motor

- Motors are for 60 Hz.
- NBG and NKG pumps are available with 2, 4, 6 and 8 pole motors in IE3 and IE4 efficiency version.
- NBGE and NKGE pump are available with
  - Medium speed (4000 RPM) motors in IE5 version up to 22 kW
  - Low speed (2200/2000 RPM) motors in IE5 version up to 22 kW
- Motors with power rating up to and including 4 kW are available for "low voltage"; motors as from 2.2 kW are available for "high voltage".
- All pumps with non-E-motor can be connected to an external frequency converter (CUE or other brand).

Custom-built pumps

See the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858", or contact Grundfos.

NBG, NKG, 2-pole

60 Hz, 2-pole		NBGE/ NKGE			NBG pumps										NKG pumps										Cast iron pump					Stainless steel pump							
						Material code					Options				Material code					Options					Flange rating [2]			Flange standard		Flange rating [2]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [1]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
50-32-125.1	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
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50-32-125	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
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	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
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65-40-200	11	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
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60 Hz, 2-pole		NBGE/ NKGE			NBG pumps												NKG pumps										Cast iron pump					Stainless steel pump							
						Material code					Options						Material code				Options						Flange rating [2]		Flange standard			Flange rating [2]		Flange standard					
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [1]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
65-40-250	15	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	18.5	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	22	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	30	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	37	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	45	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
65-40-315	37	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	32	38
	45	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	32	38
	55	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	32	38
	75	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	32	38
	90	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	32	38
65-50-125	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
65-50-160	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
80-50-200	15	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	18.5	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	22	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	30	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	37	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	45	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
80-50-250	30	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	37	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	45	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	55	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	75	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
80-50-315	55	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	32	38
	75	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	32	38
	90	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	32	38
	110	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	32	38
80-65-125	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28

60 Hz, 2-pole					NBG pumps											NKG pumps										Cast iron pump					Stainless steel pump						
		NBGE/ NKGE				Material code					Options					Material code					Options					Flange rating [2]			Flange standard			Flange rating [2]			Flange standard			
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [1]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
80-65-160	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	11	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	15	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	18.5	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	22	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
100-65-200	18.5	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	22	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	30	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	37	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	45	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	55	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
100-65-250	45	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	55	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	75	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	90	-	-	-	C	●	-	●	-	●	-	-	-	-	●	-	●	-	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	110	-	-	-	C	●	-	-	-	●	-	-	-	-	●	-	-	-	●	●	●	●	●	●	F	F	●	-	-	-	-	-	-	-	-	32	38
100-65-315	90	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	42	48
	110	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	42	48
	132	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	42	48
	160	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	42	48
	200	-	-	-	C	-	-	-	●	●	-	-	-	-	-	-	-	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	42	48
100-80-125	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
100-80-160	11	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	15	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	18.5	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	22	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	30	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-80-160	22	●	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	30	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	37	-	-	-	B	●	-	●	●	●	-	-	●	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	45	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	55	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-80-200	37	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	45	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	55	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	75	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	90	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38

60 Hz, 2-pole		NBGE/ NKGE			NBG pumps										NKG pumps									Cast iron pump					Stainless steel pump							
						Material code					Options				Material code					Options					Flange rating [2]		Flange standard			Flange rating [2]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [1]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
125-80-250	75	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	90	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	110	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	132	-	-	-	C	●	-	●	-	●	-	-	-	-	●	-	●	-	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	160	-	-	-	C	●	-	-	-	●	-	-	-	-	●	-	-	-	●	●	●	●	●	●	F	F	●	-	-	-	-	-	-	-	-	32	38
125-80-315	132	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	42	48
	160	-	-	-	C	-	-	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	42	48
	200	-	-	-	C	-	-	-	●	●	-	-	-	-	-	-	-	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	42	48
	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	-	-	-	-	-	L	L	L	●	●	●	42	48
125-100-160	30	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	37	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	45	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-100-200	55	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	75	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	90	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	110	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	132	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-100-250	110	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	132	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	160	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	200	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
150-125-250	160	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	200	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	280	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	●	-	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	353	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	●	●	●	F	F	●	-	-	-	-	-	-	-	-	42	48
200-150-200	110	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32	38
	132	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32	38
	160	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32	38
	200	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32	38
200-150-315.2	353	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	398	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55

[1] For information about mounting designs, see section Mounting design.

[2] F = fixed flange. L = loose flange.

Related information

Mounting design

NBG, NKG, 4-pole

60 Hz, 4-pole					NBG pumps												NKG pumps										Cast iron pump					Stainless steel pump							
		NBGE/ NKGE				Material code					Options						Material code					Options					Flange rating [4]		Flange standard			Flange rating [4]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [3]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]		Shaft seal diameter [mm]	
50-32-125.1	0.25	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.37	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.55	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
50-32-125	0.25	-		-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.37	-		-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.55	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.75	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
50-32-160.1	0.37	-		-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.55	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.75	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
50-32-160	0.37	-		-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.55	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.75	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
50-32-200.1	0.55	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	0.75	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
50-32-200	0.75	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	24	28
50-32-250	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	32	38
	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	32	38
	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	32	38
	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	F	F	F	●	●	●	32	38
65-40-200	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
65-40-250	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
65-40-315	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
65-50-125	0.37	-		-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	0.55	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	0.75	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28

60 Hz, 4-pole		NBGE/ NKGE			NBG pumps											NKG pumps										Cast iron pump					Stainless steel pump							
						Material code					Options					Material code					Options					Flange rating [4]		Flange standard			Flange rating [4]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [3]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
65-50-160	0.55	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	0.75	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
80-50-200	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
80-50-250	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
80-50-315	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
80-65-125	0.55	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	0.75	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
80-65-160	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
100-65-200	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
100-65-250	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
100-65-315	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	22	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
100-80-125	1.1	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	24	28
100-80-160	1.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	2.2	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38

60 Hz, 4-pole		NBGE/ NKGE			NBG pumps											NKG pumps										Cast iron pump					Stainless steel pump							
						Material code						Options				Material code						Options				Flange rating [4]		Flange standard			Flange rating [4]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [3]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
125-80-160	3	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-80-200	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-80-250	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-80-315	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	22	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	30	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	37	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	45	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
125-80-400	30	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	37	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	45	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	55	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	75	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	90	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
125-100-160	4	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-100-200	5.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	7.5	●	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-100-250	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	22	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	30	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
125-100-315	22	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	30	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	37	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	45	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	55	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
125-100-400	37	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	45	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	55	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	75	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	90	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48

60 Hz, 4-pole		NBGE/ NKGE			NBG pumps											NKG pumps										Cast iron pump					Stainless steel pump							
						Material code						Options				Material code						Options				Flange rating [4]		Flange standard			Flange rating [4]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [3]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
150-125-200	11	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	22	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
150-125-250	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	22	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	30	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	37	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	45	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
150-125-315	30	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	37	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	45	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	55	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	75	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
150-125-400	55	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	75	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	90	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	110	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	132	-	-	-	C	●	-	●	-	●	-	-	-	-	●	-	●	-	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
150-125-500	110	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60	60
	132	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60	60
	160	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60	60
	200	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60	60
	288	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60	60
	362	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60	60
200-150-200	15	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32	38
	18.5	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32	38
	22	●	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32	38
200-150-250	30	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42	48
	37	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42	48
	45	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42	48
	55	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42	48
	75	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42	48
200-150-315.2	37	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	45	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	55	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	75	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
200-150-315	55	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	75	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	90	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	110	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	132	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55

60 Hz, 4-pole		NBGE/ NKGE			NBG pumps										NKG pumps									Cast iron pump					Stainless steel pump							
						Material code						Options			Material code						Options				Flange rating [4]		Flange standard			Flange rating [4]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [3]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
200-150-400	90	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	110	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	132	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	160	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	200	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	-	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	288	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	●	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
200-150-500	200	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60	60
	288	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60	60
	362	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	●	●	●	-	F	●	-	-	-	-	-	-	-	-	60	60
250-200-400	55	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	75	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	90	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	110	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	132	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	160	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	200	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
250-200-450	75	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	90	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	110	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	132	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	160	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	200	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	288	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
300-250-350	75	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	90	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	110	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	132	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
300-250-400	75	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	90	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	110	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	132	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	160	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	200	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
	288	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48	55
300-250-450	110	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60	60
	132	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60	60
	160	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60	60
	200	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60	60
	288	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48	55
	362	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60	60
300-250-500	288	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60	60
	362	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60	60
	408	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60	60
	460	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60	60

60 Hz, 4-pole		NBGE/ NKGE			NBG pumps								NKG pumps								Cast iron pump					Stainless steel pump							
						Material code				Options				Material code				Options				Flange rating [4]		Flange standard			Flange rating [4]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [3]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
350-300-305	110	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	-	● [5]	F	F	●	-	-	-	-	-	-	-	48	55
	132	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	-	● [5]	F	F	●	-	-	-	-	-	-	-	48	55
	160	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	-	● [5]	F	F	●	-	-	-	-	-	-	-	48	55
	200	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	-	● [5]	F	F	●	-	-	-	-	-	-	-	48	55
	250	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	-	● [5]	F	F	●	-	-	-	-	-	-	-	48	55

3) For information about mounting designs, see section Mounting design.

4) F = fixed flange. L = loose flange.

5) Heavy duty bearing design is required due to the pump design.
Go to section "Selection of pump bearing design" in the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN733 and ISO 2858" to evaluate the service life of the bearing system.

Related information

Mounting design

NBG, NKG, 6-pole

60 Hz, 6-pole						NBG pumps										NKG pumps										Cast iron pump					Stainless steel pump						
		NBGE/ NKGE				Material code						Options				Material code						Options						Flange rating [7]		Flange standard			Flange rating [7]			Flange standard			
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [6]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
125-100-160	1.1	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	1.5	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	2.2	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-100-200	1.5	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	2.2	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	3	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	4	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	5.5	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
125-100-250	4	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	5.5	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	7.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
125-100-315	7.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	11	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	15	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
125-100-400	11	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	15	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	18.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	22	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	30	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
150-125-200	3	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	4	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	5.5	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
	7.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	32	38
150-125-250	5.5	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	7.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	11	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	15	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
150-125-315	7.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	11	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	15	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	18.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	22	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
150-125-400	18.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	22	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	30	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	37	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48
	45	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	42	48

60 Hz, 6-pole		NBGE/ NKGE			NBG pumps										NKG pumps										Cast iron pump					Stainless steel pump						
						Material code					Options				Material code					Options					Flange rating [7]		Flange standard			Flange rating [7]			Flange standard			
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [6]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm] Shaft seal diameter [mm]
150-125-500	37	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60 60
	45	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60 60
	55	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60 60
	75	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60 60
	90	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	F	F	●	-	-	L	L	L	●	●	●	60 60
200-150-200	4	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32 38
	5.5	-	-	-	A	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32 38
	7.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	32 38
200-150-250	11	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42 48
	15	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42 48
	18.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42 48
200-150-315.2	11	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42 48
	15	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42 48
	18.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42 48
	22	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	42 48
200-150-315	18.5	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	22	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	30	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	37	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
200-150-400	22	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	30	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	37	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	45	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	55	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	75	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
200-150-500	55	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
	75	-	-	-	C	●	-	●	●	●	-	-	-	●	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
	90	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
	110	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
	132	-	-	-	C	●	-	●	●	●	-	-	-	-	●	-	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
250-200-400	22	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
	30	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
	37	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
	45	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
	55	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
250-200-450	37	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
	45	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
	55	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
	75	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
	90	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	48 55
300-250-350	22	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	30	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	37	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	45	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55

60 Hz, 6-pole		NBGE/ NKGE			NBG pumps										NKG pumps									Cast iron pump					Stainless steel pump						
						Material code					Options				Material code					Options				Flange rating [7]			Flange standard			Flange rating [7]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [6]	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T	E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket	Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm] Shaft seal diameter [mm]
300-250-400	30	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	37	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	45	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	55	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	75	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
	90	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	48 55
300-250-450	37	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60 60
	45	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60 60
	55	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60 60
	75	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60 60
	90	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60 60
	110	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	●	●	-	F	●	-	-	-	-	-	-	-	-	60 60
300-250-500	75	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
	90	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
	110	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
	132	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
	160	-	-	-	C	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●	●	●	-	F	●	-	-	L	L	L	●	●	●	60 60
350-300-305	37	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	-	● [8]	F	F	●	-	-	-	-	-	-	-	-	48 55
	45	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	-	● [3]	F	F	●	-	-	-	-	-	-	-	-	48 55
	55	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	-	● [3]	F	F	●	-	-	-	-	-	-	-	-	48 55
	75	-	-	-	C	●	●	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-	-	● [3]	F	F	●	-	-	-	-	-	-	-	-	48 55

6) For information about mounting designs, see section Mounting design.

7) F = fixed flange. L = loose flange.

8) Heavy duty bearing design is required due to the pump design.
Go to section ''Selection of pump bearing design'' in the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN733 and ISO 2858" to evaluate the service life of the bearing system.

Related information

Mounting design

NBG, NKG, 8-pole

60 Hz, 8-pole					NBG pumps									NKG pumps								Cast iron pump					Stainless steel pump							
		NBGE/ NKGE				Material code				Options				Material code				Options				Flange rating [10]		Flange standard			Flange rating [10]			Flange standard				
Pump type	P2 [kW]	No sensor	With integrated sensor	Oversize shaft	Mounting design [9]	A, B, C, D, S, T E, F, G, H	K, M	N, P	I, J, L, R, U, W	Double seal arrangement	Cartridge seal, single or double	Pump housing with feet	Pump with base frame	A, B, C, D, S, T E, F, G, H	K, M	N, P	I, J, L, R, U, W	Stuffing box	Double seal arrangement	Cartridge seal, single or double	Standard bearing bracket Heavy duty bearing bracket	PN 10	PN 16	DIN, code F	ANSI, code G	JIS, code J	PN 16	PN 25	PN 40	DIN, code F	ANSI, code G	JIS, code J	d5 [mm]	Shaft seal diameter [mm]
350-300-305	15	-	-	-	C	● ●	-	-	-	-	-	-	●	● ●	-	-	-	●	-	-	- ● [11]	F	F	●	-	-	-	-	-	-	-	-	48	55
	18.5	-	-	-	C	● ●	-	-	-	-	-	-	●	● ●	-	-	-	●	-	-	- ● [11]	F	F	●	-	-	-	-	-	-	-	-	48	55
	22	-	-	-	C	● ●	-	-	-	-	-	-	●	● ●	-	-	-	●	-	-	- ● [11]	F	F	●	-	-	-	-	-	-	-	-	48	55
	30	-	-	-	C	● ●	-	-	-	-	-	-	●	● ●	-	-	-	●	-	-	- ● [11]	F	F	●	-	-	-	-	-	-	-	-	48	55

9) For information about mounting designs, see section Mounting design.

10) F: fixed flange. L: loose flange.

11) Heavy duty bearing design is required due to the pump design.
Go to section "Selection of pump bearing design" in the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN733 and ISO 2858" to evaluate the service life of the bearing system.

Related information

Mounting design

E-pumps

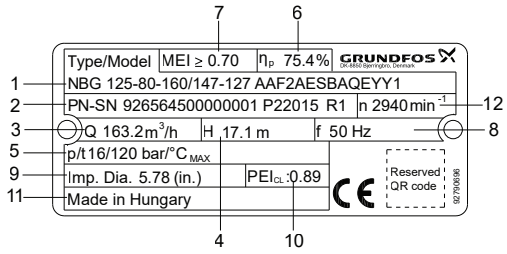
P2, motor [kW]	NBGE, NKGE [12]		NBGE, NKGE Series 2000 [13]	
	2-pole	4-pole	2-pole	4-pole
0.55	-	●	-	●
0.75	-	●	-	●
1.1	●	●	●	●
2.2	●	●	●	●
3	●	●	●	●
4	●	●	●	●
5.5	●	●	●	●
7.5	●	●	●	●
11	●	●	●	-
15	●	●	-	-
18.5	●	●	-	-
22	●	●	-	-

12) For the dimensions of NBGE, NKGE pumps, see sections NB dimensions and section NK dimensions.

13) For the dimensions of NBGE, NKGE Series 2000 pumps with factory-fitted differential-pressure sensor, see section NBE, NKE Series 2000 dimensions.

5. Identification

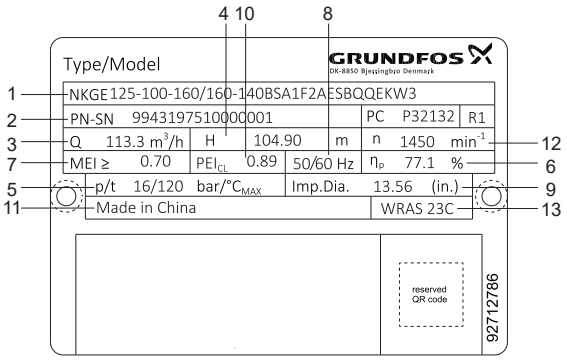
Nameplate, NBG, NKG



TM084300

Example of NBG nameplate

Pos.	Description	
1	Type designation	
2	Identification code	
	92656450	Product number
	00000001	Serial number
	P2	Production site code
	2015	Production year and week (YYWW)
	R1	Range identification (service range code)
3	Nominal flow rate	
4	Nominal pump head	
5	Pressure rating and maximum temperature	
6	Hydraulic efficiency at best efficiency point	
7	Minimum efficiency index	
8	Frequency	
9	Actual impeller diameter	
10	WRAS approval or Pump Energy Index (PEI) PEI_{CL}: constant load PEI_{VL}: variable load	
11	Country of origin	
12	Rated pump speed	



TM083489

Example of NKGE nameplate

Pos.	Description	
1	Type designation	
2	Identification code	
	99431975	Product number
	10000001	Serial number
	P3	Production site code
	2132	Production year and week (YYWW)
	R1	Range identification (service range code)
3	Nominal flow rate	
4	Nominal pump head	
5	Pressure rating and maximum temperature	
6	Hydraulic efficiency at best efficiency point	
7	Minimum efficiency index	
8	Frequency	
9	Actual impeller diameter	
10	Pump Energy Index (PEI) PEI_{CL}: constant load PEI_{VL}: variable load	
11	Country of origin	
12	Rated pump speed	
13	WRAS approval	

Type key, NBG, NBGE

Example 1: NBG 100-65-200/219VAAEF2KESBQQEKX4
Example 2: NBGE 200-150-315.2/317ACAEF3KFSDAQFYW1

Pos.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example 1	NBG	100	-65	-200	/219	V	A		AE	F	2	K	E	S	BQQE	K	X	4
Example 2	NBGE	200	-150	-315.2	/317		A	C	AE	F	3	K	F	S	DAQF	Y	W	1

Pos.	Explanation
1	Type range
2	Nominal diameter of inlet port (DN)
3	Nominal diameter of outlet port (DN)
4	Nominal impeller diameter [mm]
5	Actual impeller diameter [mm]
6	**Impeller type** 'blank': Closed impeller, cylindrical trim. If one dimension is shown, the impeller has a cylindrical trim, for example 219 'blank': Closed impeller, conical trim. If two dimensions are shown, the impeller has a conical trim, for example 160-142 S: Special open impeller V: Super Vortex impeller
7	**Hydraulic version** A: 1st version B: 2nd version C: 3rd version D: 4th version
8	**Sensor/motor version** 'blank': Pump without sensor C: Without built-in sensor, one cable and one pressure sensor are supplied with the pump S: Pump with built-in differential-pressure sensor, Series 2000 G: Non -E pump/ -E pump with semi-integrated VFD/CUE: Motor with Grounding ring: Non drive-end H: Non -E pump/ -E pump with semi-integrated VFD/CUE: Motor with hybrid bearing (HYB): Non drive-end I: Non -E pump/ -E pump with semi-integrated VFD/CUE: Motor with insulated bearing: Non drive-end
9	**Code for pump version; the codes may be combined** A: Basic version B: Oversize motor C: Without motor D: Pump housing with feet (+E): With ATEX approval, certificate or test report, the second character of the code for pump version is an E F: Design with base frame (+S): With support blocks, the second character of the pump version code is an S X: Special version; used in case of further customisation than already listed
10	**Code for pipe connection** E: Table E flange F: DIN flange G: ANSI flange J: JIS flange
11	**Flange pressure rating (PN - rated pressure)** 1: 10 bar 2: 16 bar 3: 25 bar 4: 40 bar 5: Other pressure rating

Pos.	Explanation				
12	**Code for materials**				
	Code	**Pump housing**	**Impeller**	**Wear ring**	**Shaft**
	A	EN-GJL-250	EN-GJL-200	Bronze/brass	1.4301/1.4308
	A1	EN-GJL-250	EN-GJL-200	Bronze/brass	1.4462
	B	EN-GJL-250	Bronze CuSn10	Bronze/brass	1.4301/1.4308
	B1	EN-GJL-250	Bronze CuSn10	Bronze/brass	1.4462
	C	EN-GJL-250	EN-GJL-200	Bronze/brass	1.4401
	D	EN-GJL-250	Bronze CuSn10	Bronze/brass	1.4401
	E	EN-GJL-250	EN-GJL-200	EN-GJL-250	1.4301/1.4308
	E1	EN-GJL-250	EN-GJL-200	EN-GJL-250	1.4462
	F	EN-GJL-250	Bronze CuSn10	EN-GJL-250	1.4301/1.4308
	F1	EN-GJL-250	Bronze CuSn10	EN-GJL-25	1.4462
	G	EN-GJL-250	EN-GJL-200	EN-GJL-250	1.4401
	H	EN-GJL-250	Bronze CuSn10	EN-GJL-250	1.4401
	I	1.4408	1.4408	1.4517	1.4462
	J	1.4408	1.4408	Carbon-graphite-filled PTFE (Graflon®)	1.4462
	K	1.4408	1.4408	1.4517	1.4401
	L	1.4517	1.4517	1.4517	1.4462
	M	1.4408	1.4517	1.4517	1.4401
	N	1.4408	1.4408	Carbon-graphite-filled PTFE (Graflon®)	1.4401
	P	1.4408	1.4517	Carbon-graphite-filled PTFE (Graflon®)	1.4401
	R	1.4517	1.4517	Carbon-graphite-filled PTFE (Graflon®)	1.4462
	S	EN-GJL-250	1.4408	Bronze/brass	1.4401
	S1	EN-GJL-250	1.4408	Bronze/brass	1.4462
	T	EN-GJL-250	1.4517	Bronze/brass	1.4462
	U	1.4408	1.4517	1.4517	1.4462
	W	1.4408	1.4517	Carbon-graphite-filled PTFE (Graflon®)	1.4462
	Z	1.4469	1.4469	1.4410	1.4410
	X	Special version			
13	**Rubber parts in pump** E: EPDM F: FXM (Fluoraz®) K: FFKM (Kalrez®) M: FEPS (PTFE-sheathed silicone O-ring) O: HNBR V: FKM (Viton®)				
14	**Shaft seal arrangement** S: Single seal				
15	**Shaft seal in pump** Letter code for mechanical shaft seal and shaft seal rubber parts. See Letter codes for shaft seals.				
16	Code for rated motor power [kW]. See Codes for rated motor power.				
17	Code for phase and voltage [V] or other information. See Codes for phase and voltage or other information.				
18	Code for speed variant [rpm]. See Codes for speed variant.				

Example 1: NBG
100-65-200/219VAAEF2KESBQQEKX4 shows an NBG 100-65-200 pump with these characteristics:

- Super Vortex impeller
- hydraulic version A
- basic version
- with ATEX approval, certificate or report
- DIN flange to EN 1092-2 pipe connection
- 16 bar flange pressure rating
- stainless steel pump housing, EN 1.4408
- stainless steel impeller, EN 1.4408
- stainless steel wear ring, EN 1.4517
- stainless steel shaft, EN 1.4401
- EPDM O-rings for pump cover
- single shaft seal arrangement
- BQQE shaft seal
- 4 kW (3.7 hp) motor, US DOE regulated motor, 4-pole, 60 Hz.

Example 2: NBGE
200-150-315.2/317ACAEF3KFSDAQFYW1 shows an NBGE 200-150-315.2 pump with these characteristics:

- 317 mm closed impeller, cylindrical trim
- hydraulic version A
- without built-in sensor, one cable and one pressure sensor are supplied with the pump.
- pump with ATEX approval
- DIN flange to EN 1092-2 pipe connection
- 25 bar flange pressure rating
- stainless steel pump housing, EN 1.4408
- stainless steel impeller, EN 1.4408
- stainless steel wear ring, EN 1.4517
- stainless steel shaft, EN 1.4401
- FXM O-rings for pump cover
- single shaft seal arrangement
- DAQF shaft seal
- motor size outside DOE scope, not for sale in North America, 2-pole, 50 Hz.

Related information

Letter codes for shaft seals
Codes for rated motor power
Code for DOE identification
Codes for speed variant

Type key, NKG, NKGE

Example 1: NKG 100-65-200/219VAZ1F2KESBQQEXX4
Example 2: NKGE 125-100-160/160-140BSA1F2AESBAQERW1
Example 3: NKGE 200-150-315.2/317ACA1F3AESDAQFYW4

Pos.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example 1	NKG	100	-65	-200	/219	V	A		Z1	F	2	K	E	S	BQQE	X	X	4
Example 2	NKGE	125	-100	-160	/160-140		B	S	A1	F	2	A	E	S	BAQE	R	W	1
Example 3	NKGE	200	-150	-315.2	/317		A	C	A1	F	3	A	E	S	DAQF	Y	W	4

Pos.	Explanation
1	Type range
2	Nominal diameter of inlet port (DN)
3	Nominal diameter of outlet port (DN)
4	Nominal impeller diameter [mm]
5	Actual impeller diameter [mm]
6	**Impeller type** 'blank': Closed impeller, cylindrical trim. If one dimension is shown, the impeller has a cylindrical trim, for example 219 'blank': Closed impeller, conical trim. If two dimensions are shown, the impeller has a conical trim, for example 160-140 S: Special open impeller V: Super vortex impeller
7	**Hydraulic version** A: 1st version B: 2nd version C: 3rd version D: 4th version
8	**Sensor/motor version** 'blank': Pump without sensor C: Without built-in sensor, one cable and one pressure sensor are supplied with the pump. S: Pump with built-in differential-pressure sensor, Series 2000 G: Non -E pump/ -E pump with semi-integrated VFD/CUE: Motor with Grounding ring: Non drive-end H: Non -E pump/ -E pump with semi-integrated VFD/CUE: Motor with hybrid bearing (HYB): Non drive-end I: Non -E pump/ -E pump with semi-integrated VFD/CUE: Motor with insulated bearing: Non drive-end
9	**Code for pump version; the codes may be combined** A1: Basic version, grease-lubricated standard bearing design, standard coupling A2: Basic version, grease-lubricated standard bearing design, spacer coupling B: Oversize motor (+E): With ATEX approval, certificate or test report, the second character of the pump version code is an E G1: Grease-lubricated heavy-duty bearing design, standard coupling G2: Grease-lubricated heavy-duty bearing design, spacer coupling H1: Oil-lubricated heavy-duty bearing design, standard coupling H2: Oil-lubricated heavy-duty bearing design, spacer coupling I1: Pump without motor, grease-lubricated standard bearing design, standard coupling I2: Pump without motor, grease-lubricated standard bearing design, spacer coupling J1: Pump without motor, grease-lubricated heavy-duty bearing design, standard coupling J2: Pump without motor, grease-lubricated heavy-duty bearing design, spacer coupling K1: Pump without motor, oil-lubricated heavy-duty bearing design, standard coupling K2: Pump without motor, oil-lubricated heavy-duty bearing design, spacer coupling Y1: Bare shaft pump, grease-lubricated standard bearing design W1: Bare shaft pump, grease-lubricated heavy-duty bearing design Z1: Bare shaft pump, oil-lubricated heavy-duty bearing design X: Special version; used in case of further customisation than already listed
10	**Pipe connection** E: Table E flange F: DIN flange G: ANSI flange J: JIS flange
11	**Flange pressure rating (PN - rated pressure)** 1: 10 bar 2: 16 bar 3: 25 bar 4: 40 bar 5: Other pressure rating

Pos.	Explanation				
	Code for materials				
	Code	**Pump housing**	**Impeller**	**Wear ring**	**Shaft**
	A	EN-GJL-250	EN-GJL-200	Bronze/brass	1.4021/1.4034
	A1	EN-GJL-250	EN-GJL-200	Bronze/brass	1.4462
	B	EN-GJL-250	Bronze CuSn10	Bronze/brass	1.4021/1.4034
	B1	EN-GJL-250	Bronze CuSn10	Bronze/brass	1.4462
	C	EN-GJL-250	EN-GJL-200	Bronze/brass	1.4401
	D	EN-GJL-250	Bronze CuSn10	Bronze/brass	1.4401
	E	EN-GJL-250	EN-GJL-200	EN-GJL-250	1.4021/1.4034
	E1	EN-GJL-250	EN-GJL-200	EN-GJL-250	1.4462
	F	EN-GJL-250	Bronze CuSn10	EN-GJL-250	1.4021/1.4034
	F1	EN-GJL-250	Bronze CuSn10	EN-GJL-250	1.4462
	G	EN-GJL-250	EN-GJL-200	EN-GJL-250	1.4401
	H	EN-GJL-250	Bronze CuSn10	EN-GJL-250	1.4401
	I	1.4408	1.4408	1.4517	1.4462
12	J	1.4408	1.4408	Carbon-graphite-filled PTFE (Graflon®)	1.4462
	K	1.4408	1.4408	1.4517	1.4401
	L	1.4517	1.4517	1.4517	1.4462
	M	1.4408	1.4517	1.4517	1.4401
	N	1.4408	1.4408	Carbon-graphite-filled PTFE (Graflon®)	1.4401
	P	1.4408	1.4517	Carbon-graphite-filled PTFE (Graflon®)	1.4401
	R	1.4517	1.4517	Carbon-graphite-filled PTFE (Graflon®)	1.4462
	S	EN-GJL-250	1.4408	Bronze/brass	1.4401
	S1	EN-GJL-250	1.4408	Bronze/brass	1.4462
	T	EN-GJL-250	1.4517	Bronze/brass	1.4462
	U	1.4408	1.4517	1.4517	1.4462
	W	1.4408	1.4517	Carbon-graphite-filled PTFE (Graflon®)	1.4462
	Z	1.4469	1.4469	1.4410	1.4410
	X	Special version			
	Rubber parts in pump E: EE F: FF G: FE H: KE I: KM J: KV K: KK M: MN N: ME O: OO V: VV				
13	• The first letter indicates material of elastomer between pump housing and cover, and elastomer between cover and split cover. • The second letter indicates material of elastomer between split cover and seal housing. See the material description in the table below.				

Code	Material description
E	EPDM
F	FXM (Fluoraz®)
K	FFKM (Kalrez®)
M	FEPS (PTFE-sheathed silicone O-ring)
O	HNBR
V	FKM (Viton®)

Pos.	Explanation
14	**Shaft seal arrangement** B: Stuffing box C: Cartridge seal, single D: Cartridge seal, double O: Back-to-back, double seal P: Tandem, double seal S: Single seal
15	**Shaft seal(s) in pump** Letter or digit code for mechanical shaft seal and shaft seal rubber parts • 4 letters: Single mechanical shaft seal, such as BQQE, or single cartridge seal, such as HBQV • 4 digits: - double seal solution; example 2716, where 27 is DQQV, primary seal, and 16 is BQQV, secondary seal; - double cartridge seal; example 5150, where 51 is HQQU, primary seal, and 50 is HBQV, secondary seal The relation between letters and digits of the shaft seals is described in Codes for shaft seals.
16	Code for rated motor power [kW]. See Codes for rated motor power.
17	Code for phase and voltage [V] or other information. See Codes for phase and voltage or other information.
18	Code for speed variant [rpm]. See Codes for speed variant.

Example 1: NKG 100-65-200/219VAZ1F2KESBQQEXX4 shows an NKG 100-65-200 pump with these characteristics:

- Super Vortex impeller
- hydraulic version A
- bare shaft pump, oil-lubricated heavy-duty bearing design
- DIN flange to EN 1092-2 pipe connection
- 16 bar flange pressure rating
- stainless steel pump housing, EN 1.4408
- stainless steel impeller, EN 1.4408
- stainless steel wear ring, EN 1.4517
- stainless steel shaft, EN 1.4401
- EPDM O-rings for pump cover and seal cover
- single shaft seal arrangement
- BQQE shaft seal
- bare shaft pump without motor, for 4-pole operation, 60 Hz.

Example 2: NKGE 125-100-160/160-140BSA1F2AESBAQERW1 shows an NKGE 125-100-160 pump with these characteristics:

- 160-140 mm closed impeller, conical trim
- hydraulic version B
- with built-in differential-pressure sensor
- grease-lubricated standard bearing design
- standard coupling
- DIN flange to EN 1092-2 pipe connection
- 16 bar flange pressure rating
- cast iron pump housing, EN-GJL-250
- cast iron impeller, EN-GJL-200
- bronze/brass wear ring
- stainless steel shaft, EN 1.4021/1.4034
- EPDM O-rings for pump cover and seal cover
- single shaft seal arrangement
- BAQE shaft seal
- 30 kW motor, not for sale in North America, 2-pole, 50 Hz.

Example 3: NKGE 200-150-315.2/317ACA1F3AESDAQFYW4 shows an NKG 200-150-315.2 pump with these characteristics:

- 317 mm closed impeller, cylindrical trim
- hydraulic version A
- without built-in sensor, one cable and one pressure sensor are supplied with the pump.
- grease-lubricated standard bearing design
- standard coupling
- DIN flange to EN 1092-2 pipe connection
- 25 bar flange pressure rating
- cast iron pump housing, EN-GJL-250
- cast iron impeller, EN-GJL-200
- bronze/brass wear ring
- stainless steel shaft, EN 1.4021/1.4034
- EPDM O-rings for pump cover and seal cover
- single shaft seal arrangement
- DAQF shaft seal
- motor size outside DOE scope, not for sale in North America, 4-pole, 60 Hz.

Related information

Codes for shaft seals
Codes for rated motor power
Code for DOE identification
Codes for speed variant

Codes for shaft seals

The digits are only used for double shaft seal solutions.

Digits	Letters	Description
10	BAQE	Single mechanical shaft seal
12	BBQE	Single mechanical shaft seal
13	BBQV	Single mechanical shaft seal
15	BQQE	Single mechanical shaft seal
16	BQQV	Single mechanical shaft seal
19	AQAE	Single mechanical shaft seal
20	AQAV	Single mechanical shaft seal
21	AQQE	Single mechanical shaft seal
22	AQQV	Single mechanical shaft seal
23	AQQX	Single mechanical shaft seal
24	AQQK	Single mechanical shaft seal
25	DAQF	Single mechanical shaft seal
26	DQQE	Single mechanical shaft seal
27	DQQV	Single mechanical shaft seal
28	DQQX	Single mechanical shaft seal
29	DQQK	Single mechanical shaft seal
50	HBQV	Cartridge seal
51	HQQU	Cartridge seal
52	HAQK	Cartridge seal
	SNEA	Stuffing box
	SNEB	Stuffing box
	SNEC	Stuffing box
	SNED	Stuffing box
	SNOA	Stuffing box
	SNOB	Stuffing box
	SNOC	Stuffing box
	SNOD	Stuffing box
	SNFA	Stuffing box
	SNFB	Stuffing box
	SNFC	Stuffing box
	SNFD	Stuffing box

Letter codes for shaft seals

Pos. 15 in NBG, NBGE, NKG, NKGE type key example.

Code	Description	Explanation
B	Shaft seal type	A: O-ring seal with fixed driver B: Rubber bellows seal D: O-ring seal, balanced H: Cartridge seal, balanced
Q	Material of rotating seal face	A: Carbon, metal-impregnated with antimony which is not approved for potable water B: Carbon, resin-impregnated Q: Silicon carbide
Q	Material of stationary seal	A: Carbon, metal-impregnated with antimony which is not approved for potable water Q: Silicon carbide
E	Material of secondary seal and other rubber and composite parts, except the wear ring	E: EPDM V: FKM (Viton®) F: FXM (Fluoraz®) K: FFKM (Kalrez®) X: HNBR U: Dynamic O-rings in FFKM and static O-rings in PTFE

For a thorough description of shaft seal types and materials, see the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858".

Letter codes for stuffing boxes

Example: SNEA

Code	Description	Explanation
S	Stuffing box type	S: Packing type stuffing box
N	Cooling method	N: Uncooled stuffing box
E	Barrier liquid	E: With internal barrier liquid F: With external barrier liquid O: Without barrier liquid
A	Material	A: PTFE-impregnated fibre packing rings (Buraflon®) and EPDM O-rings in the pump housing B: Graphite-PTFE compound packing rings (Thermoflon®) and EPDM O-ring in the pump housing C: PTFE-impregnated fibre packing rings (Buraflon®) and FKM O-ring in the pump housing D: Graphite-PTFE compound packing rings (Thermoflon®) and FKM O-ring in the pump housing

For a thorough description of stuffing boxes and materials, see the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858".

Codes for rated motor power

Pos. 16 in NBG, NBGE, NKG, NKGE type key example.

Code	Description	
	[hp]	[kW]
A	0.16	0.12
B	0.25	0.18
C	0.33	0.25
D	0.5	0.37
E	0.75	0.55
F	1	0.75
G	1.5	1.1
H	2	1.5
I	3	2.2
J	4	3
K	5 (5.5 [14])	3.7 (4 [14])
L	7.5	5.5
M	10	7.5
N	15	11
O	20	15
P	25	18.5
Q	30	22
R	40	30
S	50	37
T	60	45
U	75	55
V	100	75
W	125	90
X	Bare shaft pump	
Y	> 200 [15]	> 150 [15]
1	150	110
2	175	132
3	200	150
4	215 [16]	160 [16]
5	250 [16]	185 [16]
6	-	26

[14] Value in bracket is for the standard IEC motor size. Value outside bracket is for the motor size according to NEMA standards.

[15] Used for pumps where the pump shaft input power exceeds 200 hp (150 kW) and is not regulated under the DOE pump rule.

[16] Special cases with power sizes above 200 hp (150 kW) which are still regulated under the DOE pump rule. For example: Pump has a P2 value of 198 hp (147.6 kW) in its duty point (in DOE scope) but customer wants the 215 hp (160 kW) motor instead of the 200 hp (150 kW). The pump is in scope of the DOE regulation and requires a PEI value and a motor code.

Code for DOE identification

Pos. 17 in NBG, NBGE, NKG, NKGE type key example.

Code	Description
A	DOE reported with E-motor (ECM [17]), 1 x 200-240 V
B	DOE reported with E-motor (ECM [17]), 3 x 200-240 V
C	DOE reported with E-motor (ECM [17]), 3 x 440-480 V
D	DOE reported with E-motor (ECM [17]), 3 x 380-500 V
W	In DOE scope but not complaint with or not for sale in North America
X	DOE reported, sell as bare shaft pump or DOE regulated Motor (CC marked motor)
Y	Pumps not subject to the DOE regulation
Z	DOE reported with Asynchronous E-Motor

[17] ECM: Electronically Commutated Motor.

Codes for speed variant

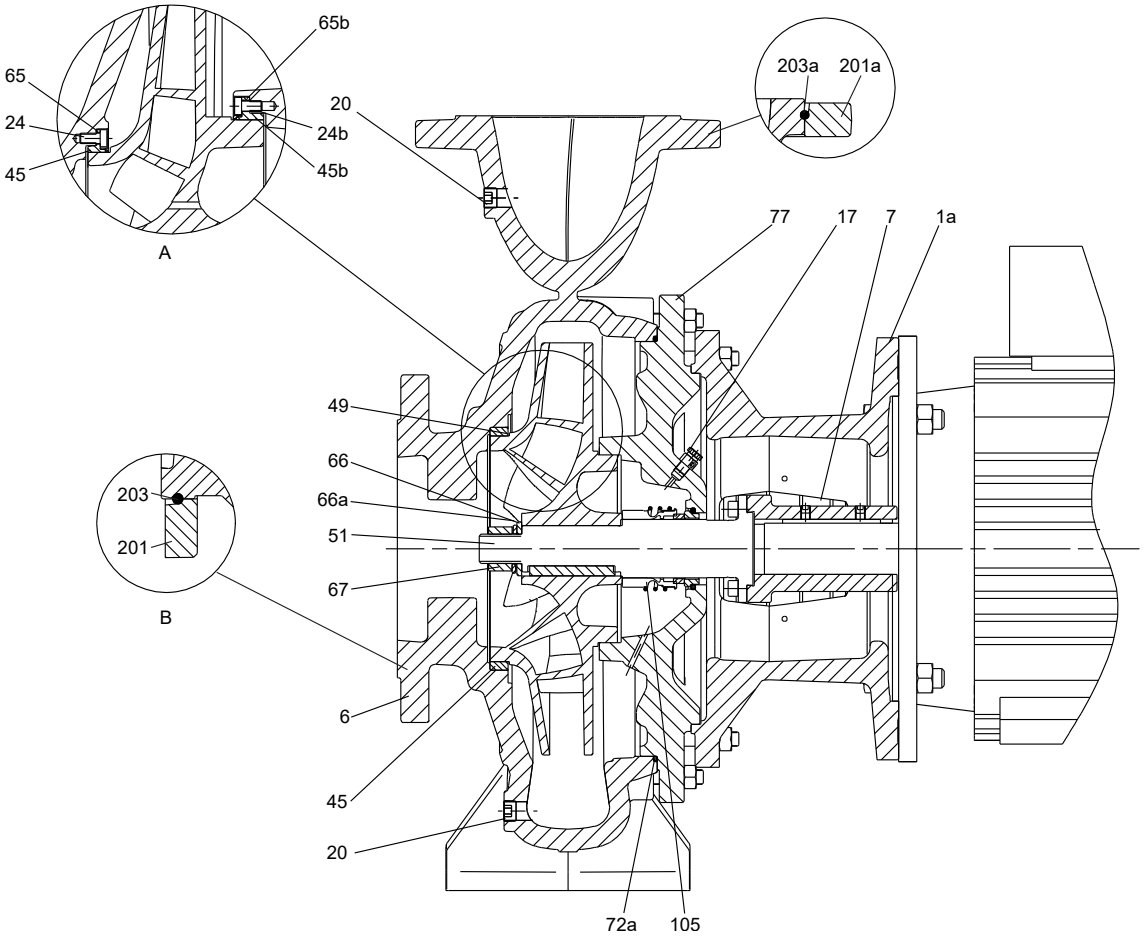
Pos. 18 in NBG, NBGE, NKG, NKGE type key example.

Code	Description
A	1450-2200 RPM, E-motor (ECM [18])
B	2900-4000 RPM, E-motor (ECM [18])
C	4000-5900 RPM, E-motor (ECM [18])
1	2-pole, 50 Hz (Asynchronous motor)
2	2-pole, 60 Hz (Asynchronous motor)
3	4-pole, 50 Hz (Asynchronous motor)
4	4-pole, 60 Hz (Asynchronous motor)
5	6-pole, 50 Hz (Asynchronous motor)
6	6-pole, 60 Hz (Asynchronous motor)
7	8-pole, 50 Hz (Asynchronous motor)
8	8-pole, 60 Hz (Asynchronous motor)

[18] ECM: Electronically Commutated Motor.

6. Construction

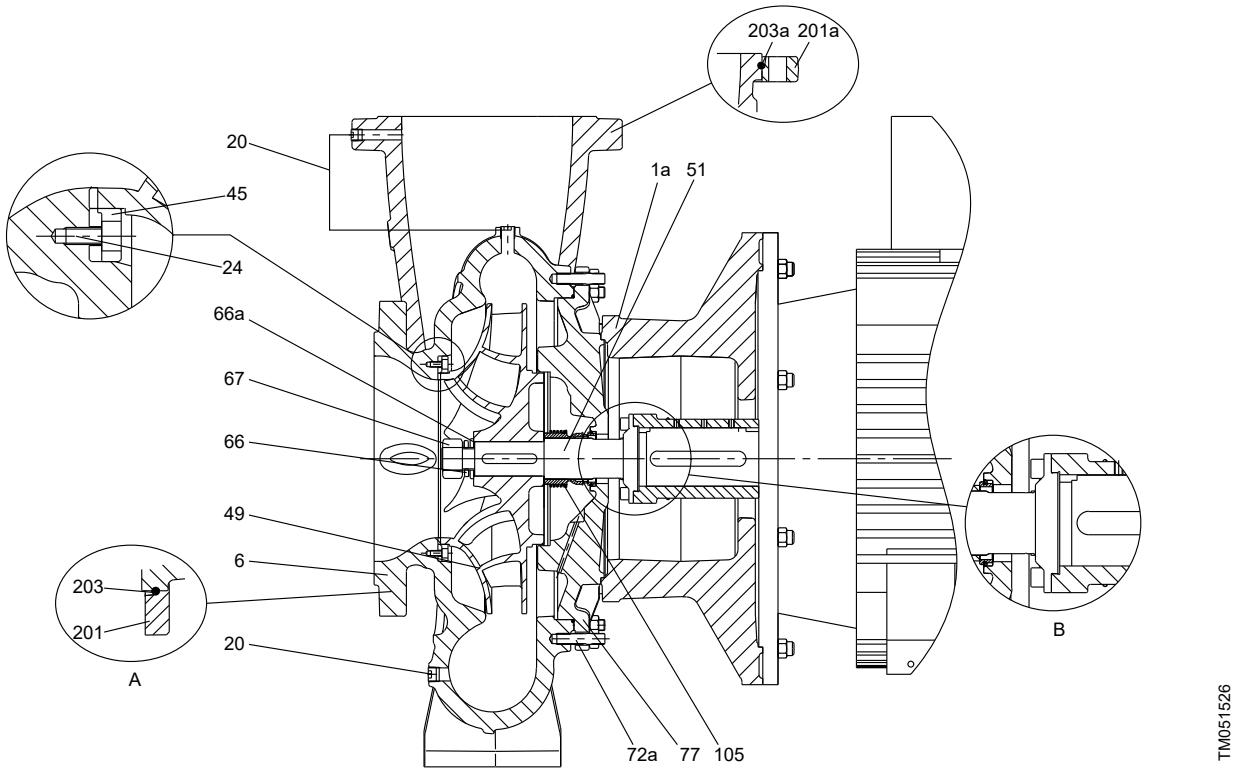
NBG, centre-line outlet



Sectional drawing, centre-line outlet

Pos.	Description
A	For stainless steel versions K, L, M, N, P, R, the wear rings are fitted by means of screws.
B	For some stainless steel versions, loose flanges are available.
C	Stub shaft
D	Two-part shaft

NBG, tangential outlet



Sectional drawing, tangential outlet, DN 200 and DN 250

Pos.	Description
A	Stainless steel versions have loose flanges.
B	Two-part shaft

NBG, material specification

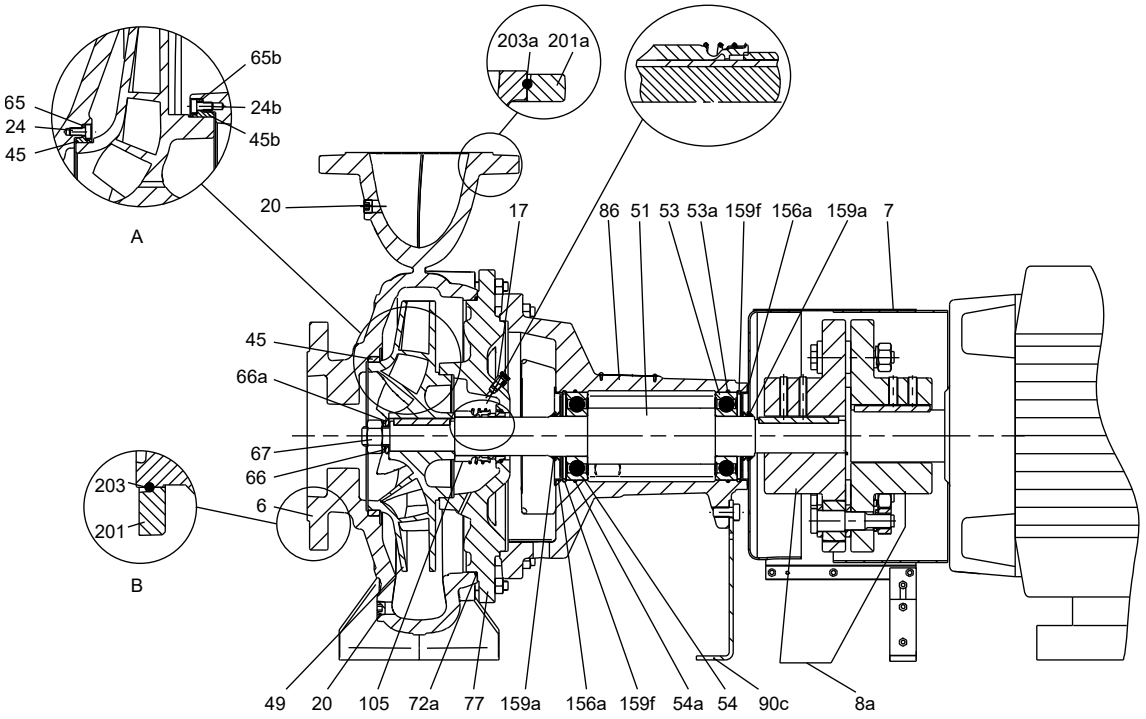
Pos.	Description	Materials	Material code																	
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T	U	W
1a	Motor stool	EN-GJL-250	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6	Pump housing	EN-GJL-250	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	●	●	-	-
		1.4408/CF8M	-	-	-	-	-	-	-	-	●	●	●	-	●	●	●	-	-	-	●	●
		1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
7	Coupling guard	1.4301/AISI 304	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
17	Air vent plug	2.0401/CuZn44Pb2	●	●	●	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-
	Hexagon socket head plug	1.4401/AISI 316	-	-	-	●	-	-	-	-	●	●	●	-	●	●	●	-	●	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	●	-	-
20	Hexagon socket head plug	ISO 898 8.8 carbon steel	●	●	●	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-
		1.4401/AISI 316	-	-	-	●	-	-	-	-	●	●	●	-	●	●	●	-	●	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	●	-	-
24	Hexagon socket head cap screw	1.4401/AISI 316	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
24b	Hexagon socket head cap screw	1.4401/AISI 316	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
45	Wear ring	CuSn10	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-
		CuZn34Mn3Al2Fe1-C	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-
		EN-GJL-250	-	-	-	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-
		1.4517/CD4MCuN	-	-	-	-	-	-	-	-	●	-	●	●	●	-	-	-	-	-	●	-
		Carbon-graphite filled PTFE (Graflon®)	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	-	-	-	●

Pos.	Description	Materials	Material code																			
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T	U	W
45b	Wear ring	1.4517/CD4MCuN	-	-	-	-	-	-	-	-	●	-	●	●	●	-	-	-	-	-	●	-
		Carbon-graphite filled PTFE (Graflon®)	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	-	-	-	●
49	Impeller	EN-GJL-200	●	-	●	-	●	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-
		CuSn10	-	●	-	●	-	●	-	●	-	-	-	-	-	-	-	-	-	-	-	-
		1.4408/CF8M	-	-	-	-	-	-	-	-	●	●	●	-	-	●	-	-	●	-	-	-
		1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	-	-	●	●	-	●	●	-	●	●	●
51/51a	Shaft	1.4301 /AISI 304 [20] + carbon steel	●	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1.4401/AISI 316 [20] + carbon steel	-	-	●	●	-	-	●	●	-	-	●	-	●	●	●	-	●	-	-	-
		1.4462/ASTM J92205/SAF2205 [20]+ carbon steel	-	-	-	-	-	-	-	-	●	●	-	●	-	-	-	●	-	●	●	●
65	Wear ring retainer	1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	-	-	-	●
65b	Wear ring retainer	1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	-	-	-	●
66	Washer	1.4301/AISI 304	●	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1.4401/AISI 316	-	-	●	●	-	-	●	●	●	●	●	-	-	●	-	-	●	-	-	-
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	●	-	●	●	-	●	●	●
66a	Spring lock washer	1.4301/AISI 304	●	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1.4401/AISI 316	-	-	●	●	-	-	●	●	●	●	●	-	-	●	-	-	●	-	-	-
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	●	-	●	●	-	●	●	●
67	Impeller nut	1.4301/AISI 304	●	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1.4401/AISI 316	-	-	●	●	-	-	●	●	●	●	●	-	-	●	-	-	●	-	-	-
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	●	-	●	●	-	●	●	●
72a	O-ring	E / F / K / M / V / X	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
77	Cover	EN-GJL-250	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	●	●	-	-	
		1.4408/CF8M	-	-	-	-	-	-	-	-	●	●	●	-	●	●	●	-	-	-	●	●
		1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
105	Shaft seal	Burgmann 1.4401/AISI 316	●	●	●	●	●	●	●	●	●	●	●	-	●	●	●	-	●	●	●	●
		Burgmann 2.4610/Hastelloy C-4	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
201	Loose flange, inlet	GGG50/1.4408/ASTM CF8M	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
201a	Loose flange, outlet	GGG50/1.4408/ASTM CF8M	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
203	Retainer, inlet	1.4310	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
203a	Retainer, outlet	1.4310	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●

19)

20) At wetted area, up to different models can be stub shaft or two-part shaft per design needs

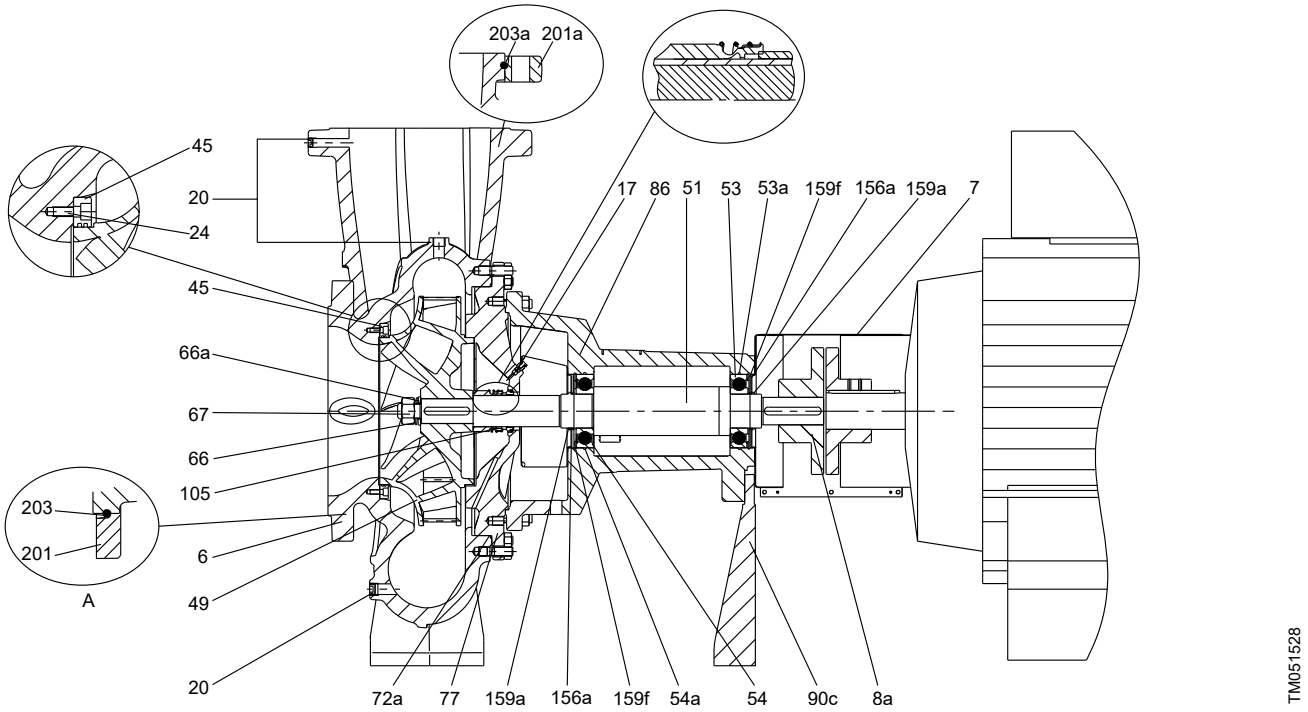
NKG, centre-line outlet



Sectional drawing, centre-line outlet

Pos.	Description
A	For stainless steel versions K, L, M, N, P, R, the wear rings are fitted by means of screws.
B	For some stainless steel versions, loose flanges are available.

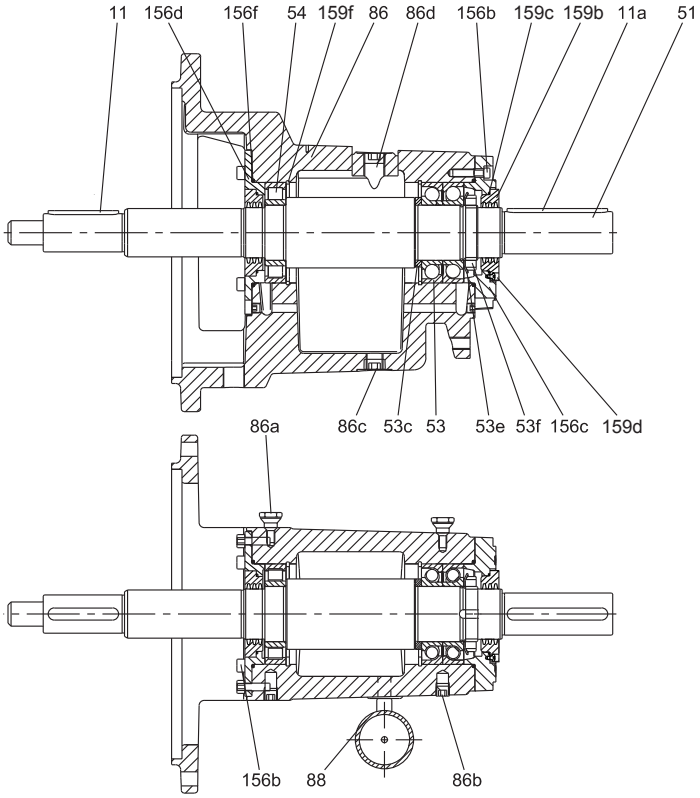
NKG, tangential outlet



Sectional drawing, with tangential outlet, DN 200 and DN 250

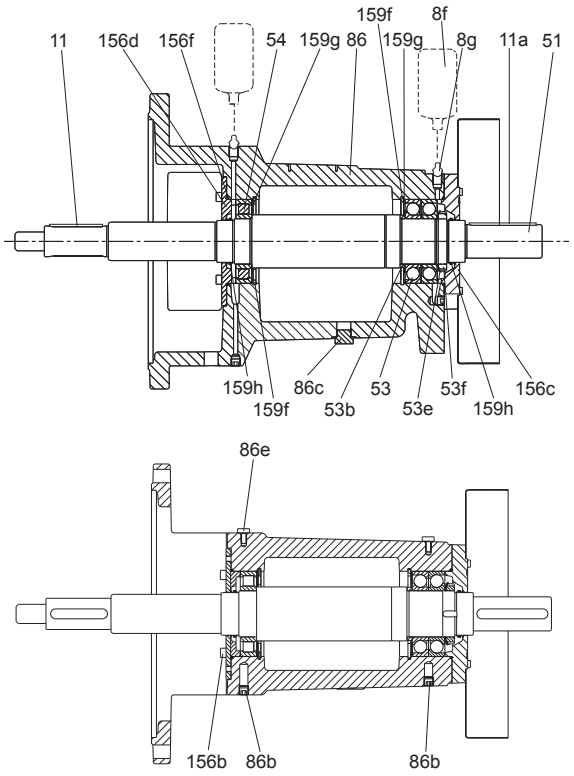
Pos.	Description
A250	Stainless steel versions have loose flanges.

NKG, bearing bracket, oil-lubricated



Sectional drawing, bearing bracket, oil-lubricated

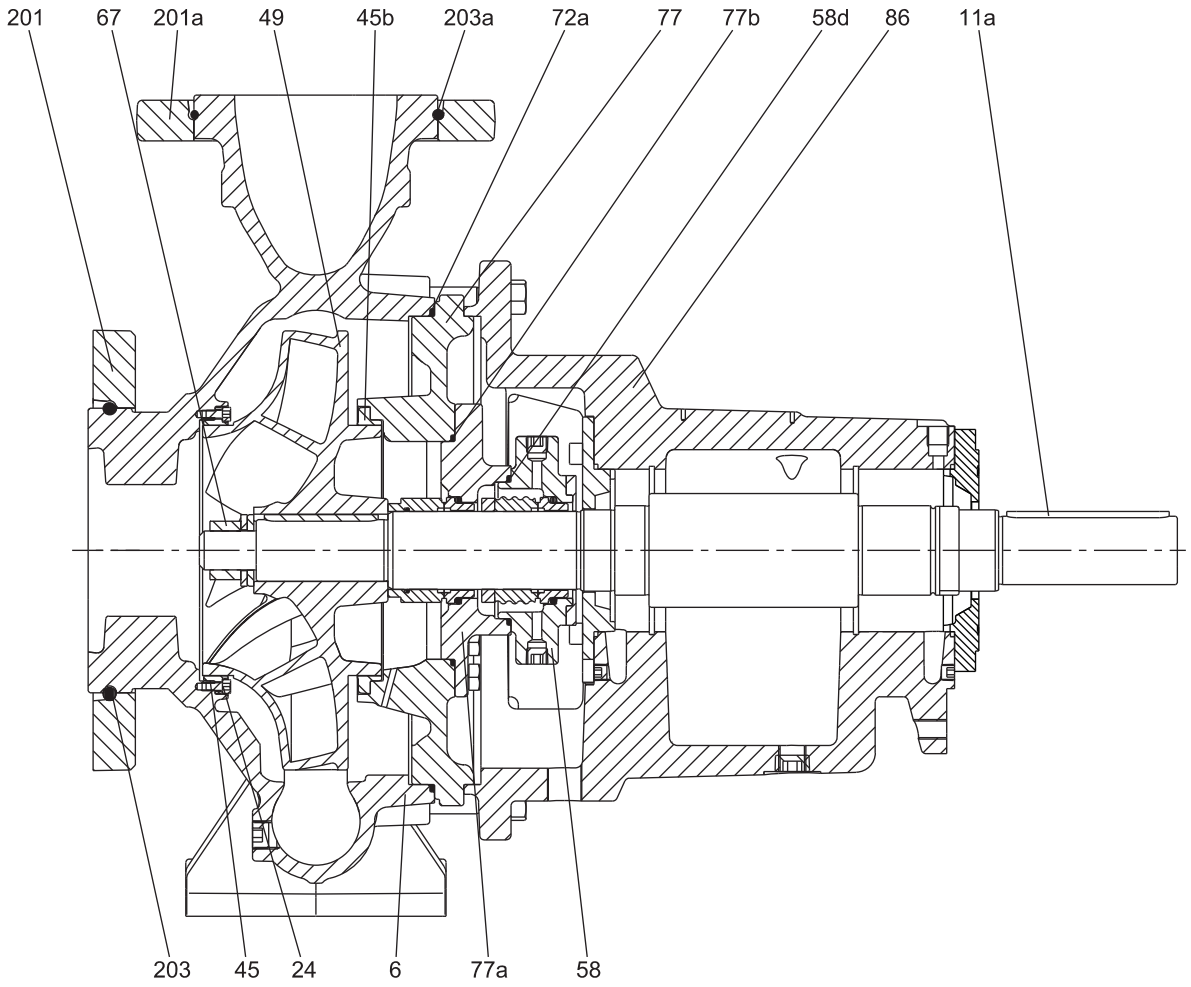
NKG, bearing bracket, grease-lubricated



TM050989

Sectional drawing, bearing bracket, grease-lubricated

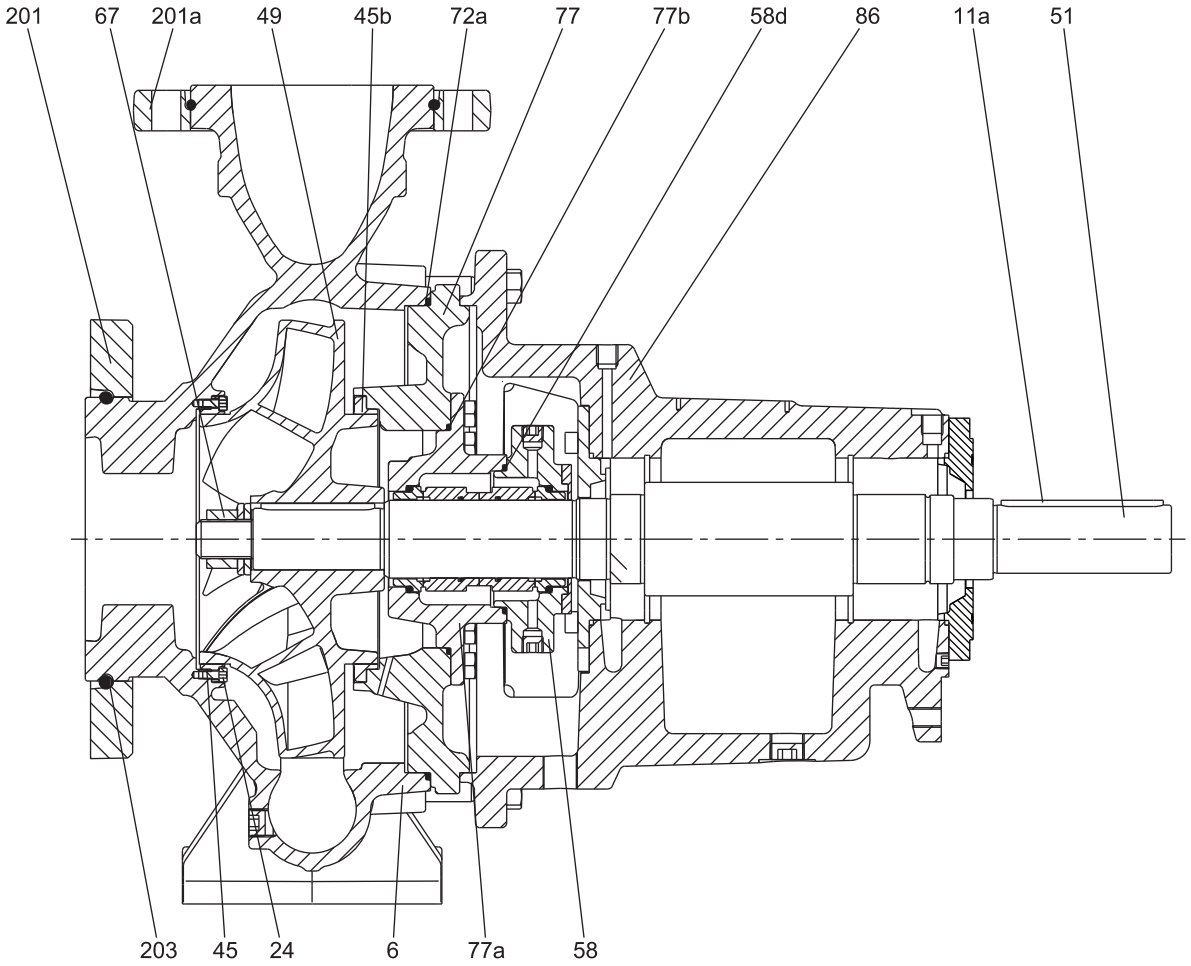
NKG, double seal, tandem



TM050990

Sectional drawing, double tandem seal arrangement

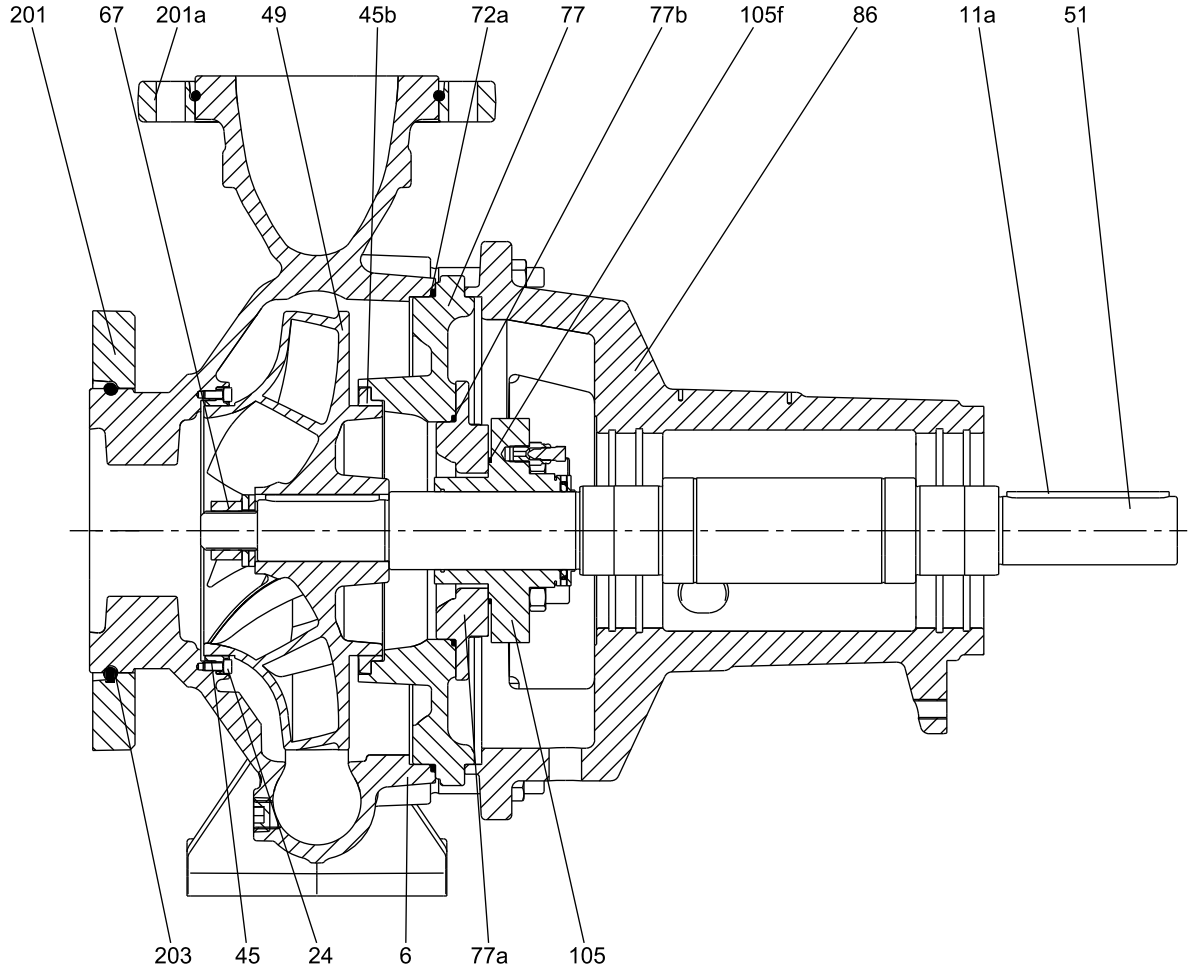
NKG, double seal, back to back



TM050991

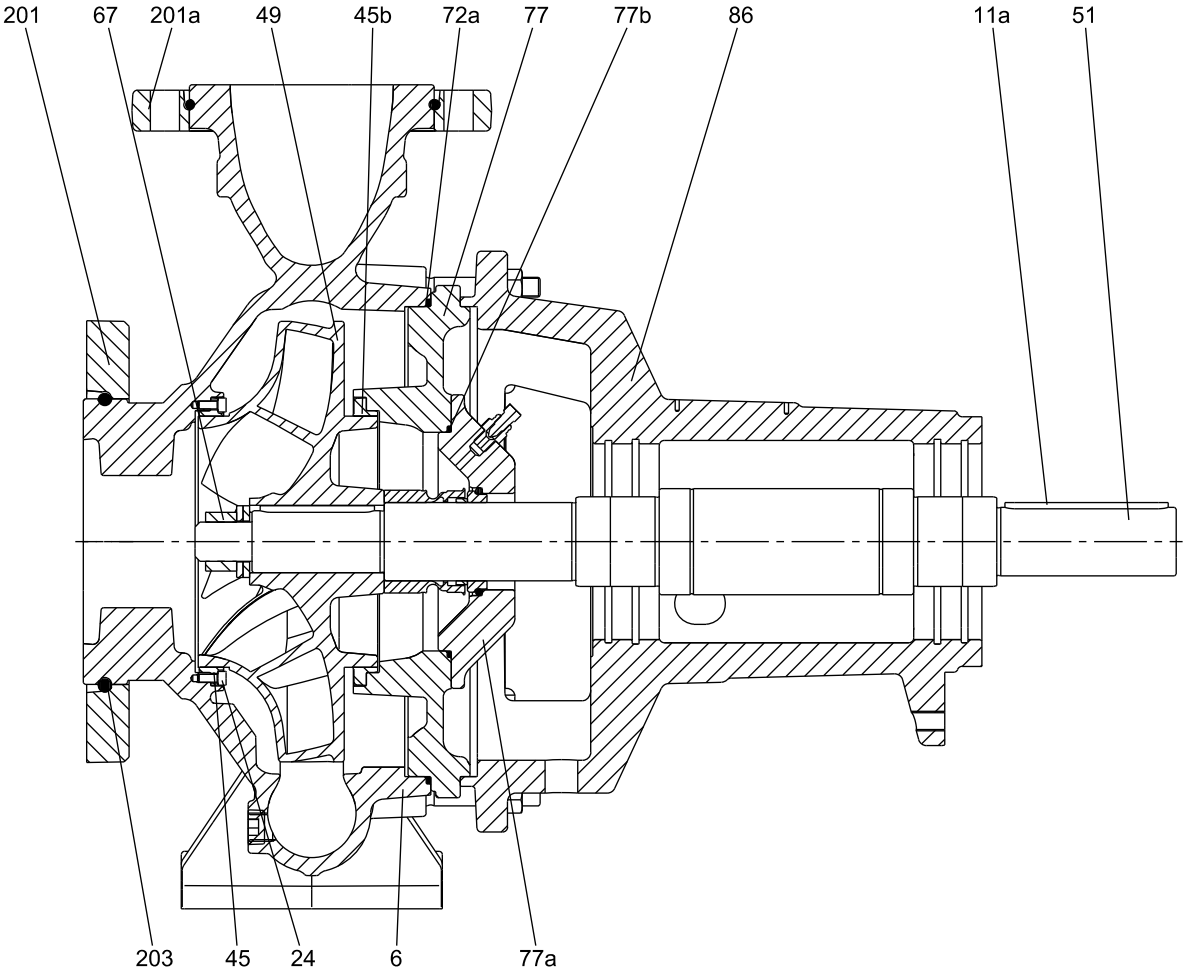
Sectional drawing, double seal, back-to-back seal arrangement

NKG, cartridge solution



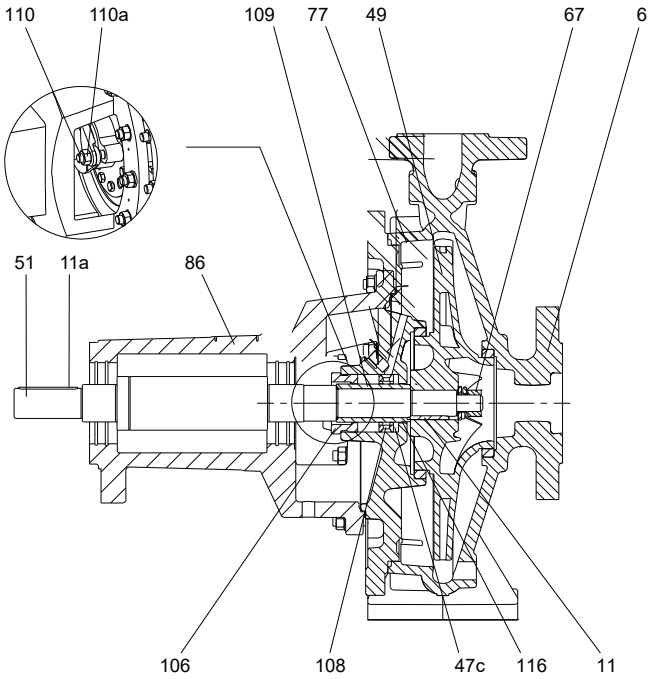
Sectional drawing, cartridge solution

NKG, single seal, split cover



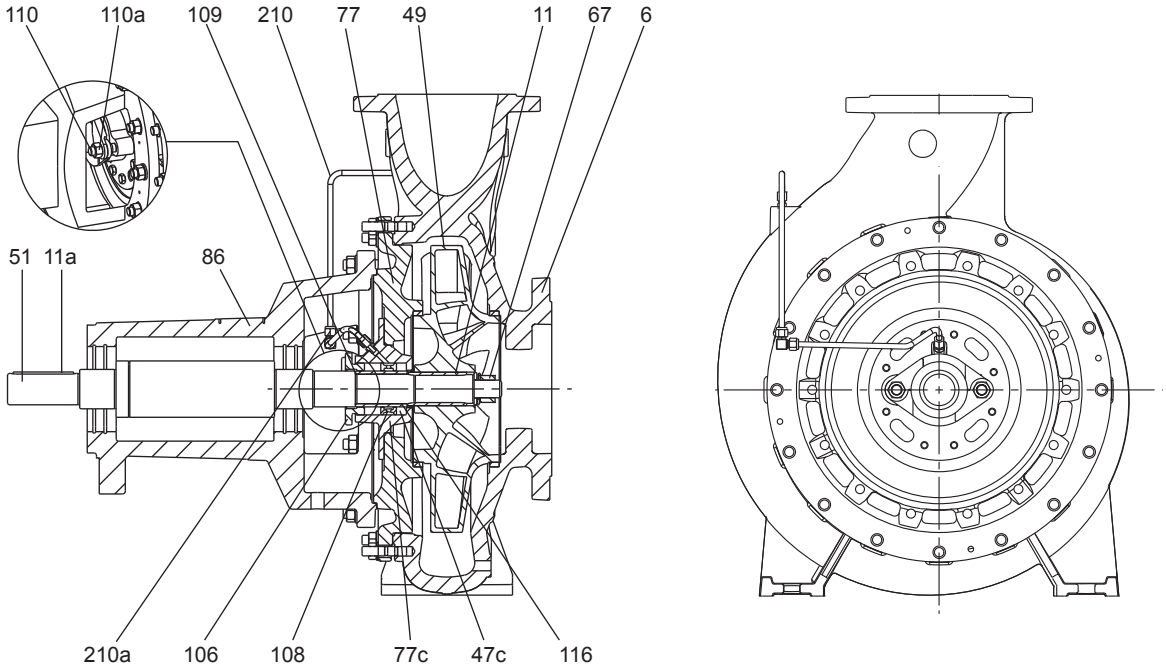
Sectional drawing, single seal, split cover

NKG, stuffing box



TM066931

Sectional drawing, stuffing box, single cover



TM066932

Sectional drawing, stuffing box, split cover

NKG, material specification

Pos.	Description	Materials	Material code																		
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T	U	W
6	Pump housing	EN-GJL-250	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	●	●	-	-
		1.4408/CF8M	-	-	-	-	-	-	-	-	●	●	●	-	●	●	●	-	-	-	●	●
		1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
7	Coupling guard	1.4301/AISI 304	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8a	Coupling	See table below	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8f	Grease cartridge	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8g	Grease nipple	Copper	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
11	Key	1.4401/AISI 316	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
11a	Key	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
17	Air vent plug	2.0401/CuZn44Pb2	●	●	●	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-
	Hexagon socket head plug	1.4401/AISI 316	-	-	-	●	-	-	-	-	●	●	●	-	●	●	●	-	●	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	●	-	-
20	Hexagon socket head plug	ISO 898 8.8 carbon steel	●	●	●	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-
		1.4401/AISI 316	-	-	-	●	-	-	-	-	●	●	●	-	●	●	●	-	●	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	●	-	-
24	Hexagon socket head cap screw	1.4401/AISI 316	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
24b	Hexagon socket head cap screw	1.4401/AISI 316	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
45	Wear ring	CuSn10	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-
		CuZn34Mn3Al2Fe1-C	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-
		EN-GJL-250	-	-	-	-	●	●	●	●	-	-	-	-	-	-	-	-	●	●	-	-
		1.4517/CD4MCuN	-	-	-	-	-	-	-	-	●	-	●	●	●	-	-	-	-	-	●	-
		Carbon-graphite filled PTFE (Graflon®)	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	-	-	-	●
45b	Wear ring	1.4517/CD4MCuN	-	-	-	-	-	-	-	-	●	-	●	●	●	-	-	-	-	-	●	-
		Carbon-graphite-filled PTFE (Graflon®)	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	-	-	-	●
47c	Packing ring	Buraflon®/Thermoflon®	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
49	Impeller	EN-GJL-200	●	-	●	-	●	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-
		CuSn10	-	●	-	●	-	●	-	●	-	-	-	-	-	-	-	-	-	-	-	-
		1.4408/CF8M	-	-	-	-	-	-	-	-	●	●	●	-	-	●	-	-	●	-	-	-
		1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	-	-	●	●	-	●	●	-	●	●	●
51	Shaft + Sleeve	1.0503 + 1.4301	●	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Shaft	1.4401	-	-	●	●	-	-	●	●	-	-	●	-	●	●	●	-	●	-	-	-
		1.4462	-	-	-	-	-	-	-	-	●	●	-	●	-	-	-	●	-	●	●	●
53	Deep-groove ball bearings	2ZR.C3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Angular contact bearing	BECBJ (SKF)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
53a	O-ring	EPDM/FKM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
53b	Spacer ring	1.4301	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
53c	Spacer ring, inner	1.4301	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
53e	Lock washer	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
53f	Lock nut	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
54	Deep-groove ball bearings	2ZR.C3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Roller bearing	ECJ (SKF)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
54a	O-ring	EPDM/FKM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
58	Seal housing	1.4517/CD4MCuN	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●
58d	O-ring	E / F / K / M / V / X	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
65	Wear ring retainer	1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	-	-	-	●
65b	Wear ring retainer	1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	●	-	-	-	●	●	●	-	-	-	●
66	Washer	1.4301/AISI 304	●	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1.4401/AISI 316	-	-	●	●	-	-	●	●	●	●	●	-	●	●	●	-	●	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	●	-	-

Pos.	Description	Materials	Material code																			
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T	U	W
66a	Spring lock washer	1.4301/AISI 304	●	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1.4401/AISI 316	-	-	●	●	-	-	●	●	●	●	●	-	●	●	●	-	●	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	●	-	-
67	Impeller nut	1.4301/AISI 304	●	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1.4401/AISI 316	-	-	●	●	-	-	●	●	●	●	●	-	●	●	●	-	●	-	●	●
		1.4539/AISI 904L	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	●	-	-
72a	O-ring	E / F / K / M / V / X	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
77	Cover	EN-GJL-250	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	●	●	-	-
		1.4408/CF8M	-	-	-	-	-	-	-	-	●	●	●	-	●	●	●	-	-	-	●	●
		1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
77a	Seal cover	1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
		1.4408	-	-	-	-	-	-	-	-	●	●	●	-	●	●	●	-	-	-	●	●
77b	O-ring	E / F / K / M / V / X	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
77c	Packing housing	1.4517/CD4MCuN	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
		Cast iron	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	●	●	-	-
		1.4408	-	-	-	-	-	-	-	-	●	●	●	-	●	●	●	-	-	-	●	●
86	Bearing bracket	EN-GJL-250	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
86a	SPM fitting	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
86b	Plug	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
86c	Plug	Composite	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
86d	Venting plug	Composite	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
86e	Screw	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
88	Constant-level oiler	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
90c	Foot	EN-GJL-250/1.0338/carbon steel DC04	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
105	Shaft seal	Burgmann 1.4401/AISI 316	●	●	●	●	●	●	●	●	●	●	●	-	●	●	●	-	●	●	●	●
		Burgmann 2.4610/Hastelloy C-4	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
105f	Gasket for cartridge seal	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
106	Gland	Cu42Si10	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	●	●	-	-
		1.4408	●	●	●	●	●	●	●	●	●	●	●	-	●	●	●	-	●	●	●	●
		1.4517	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
108	Distribution ring	1.4301	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	●	●	-	-
		1.4462	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
109	O-ring	EPDM/FKM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
110	Bolt	A2-70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
110a	Nut	A2-70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
116	Shaft sleeve	1.4034/1.4021	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	●	●	-	-
		1.4404/1.4401	-	-	-	-	-	-	-	-	●	●	●	-	●	●	●	-	-	-	●	●
		1.4462	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
156a	Cover, bearing	1.0338/carbon steel DC04	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
156b	Screw	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
156c	Cover end, bearing bracket	EN-GJL-250	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
156d	Cover front, bearing bracket	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
156f	O-ring for cover, bearing bracket	FKM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
159a	Thrower	EPDM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
159b	Labyrinth seal	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
159c	O-ring for labyrinth seal	FKM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
159d	Screw	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
159f	Locking ring, circlip	DIN 472 (C75 DIN17 222)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
159g	Sealing spacer	Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
159h	Bearing bracket seal	FKM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
201	Loose flange, inlet	GGG50/1.4408/ASTM CF8M	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
201a	Loose flange, outlet	GGG50/1.4408/ASTM CF8M	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
203	Retainer, inlet	1.4310	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●

Pos.	Description	Materials	Material code																	
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T	U	W
203a	Retainer, outlet	1.4310	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	●	●
210	Flushing pipe	1.4401	●	●	●	●	●	●	●	●	●	●	●	-	●	●	●	-	●	●	●	●
		1.4462	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-
210a	Compression fitting	1.4401	●	●	●	●	●	●	●	●	●	●	●	-	●	●	●	-	●	●	●	●
		1.4462	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-	-

Material of coupling (8a)

Coupling type	Pole	Motor size	Material
Standard coupling	2	Up to 22 kW	EN-GJL-250
		From 30 kW	EN-GJS-450-10
	4	Up to 30 kW	EN-GJL-250
		From 37 kW	EN-GJS-450-10
	6	Up to 37 kW	EN-GJL-250
		From 45 kW	EN-GJS-450-10
Spacer coupling	All	All	EN-GJL-250

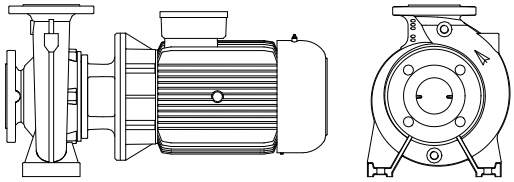
Note: Other configurations are available on request. Please contact Grundfos.

Mechanical construction

Mounting design

NBG pumps come in these mounting designs:

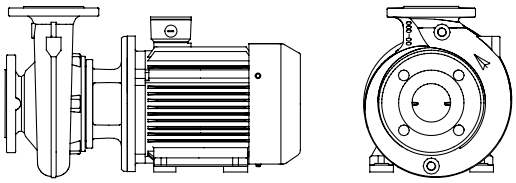
Mounting design A: pump housing with feet



TM025509

Mounting design A

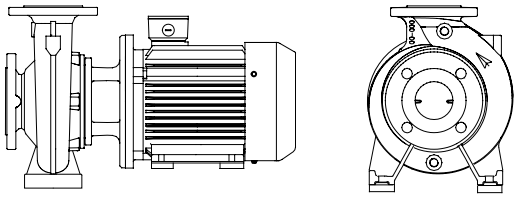
Mounting design B: motor with feet



TM025510

Mounting design B

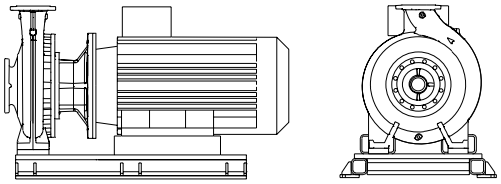
Mounting design C: pump housing and motor with feet



TM025511

Mounting design C

Mounting design F: design C with base frame.



TM040483

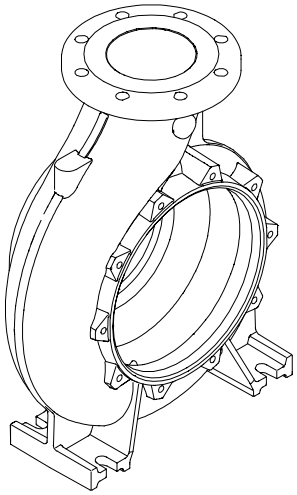
Mounting design F

Pump housing

The volute pump housing has an axial inlet port and a radial outlet centre-line port. Flange dimensions are in accordance with EN 1092-2.

For DN 200 outlet and above, the outlet port is tangential.

The pump houses have both a priming and a drain hole closed by plugs.



TM030232

NBG and NKG pump housing with centre-line outlet

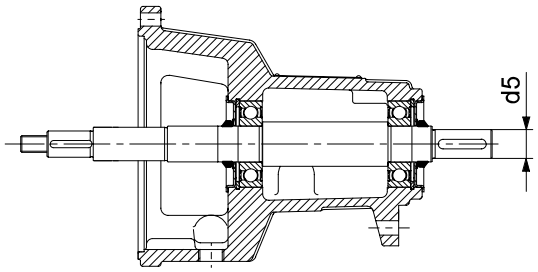
Bearing bracket and shaft

The bearing bracket has two sturdy anti-friction, lubricated-for-life bearings.

The bearing bracket is made of cast iron EN-GJL-250.

The shaft is made of stainless steel. Shaft diameter d5 is either ∅24, ∅32, ∅42, ∅48 or ∅60 where the coupling is mounted.

A thrower on the shaft prevents liquid from entering the bearing bracket. In stuffing box versions, the shaft is protected by a stainless steel sleeve.



TM030233

Bearing bracket and shaft

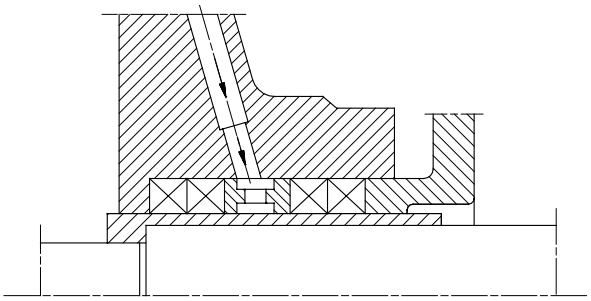
All NKG pumps are fitted with one of five shaft, shaft seal and bearing sizes. As the bearings and shafts are large, the NKG pumps can be driven by a belt drive or a diesel engine, if required.

For prolonged lifetime and to suit high inlet pressure, heavy duty bearing brackets are available. See the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858", or contact Grundfos.

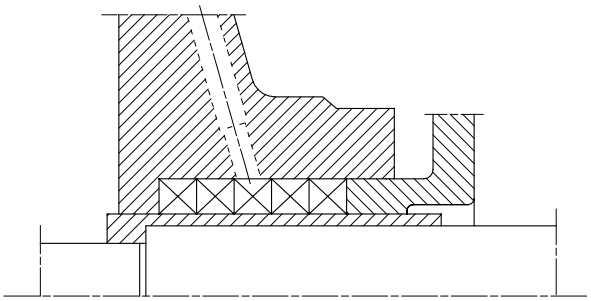
Stuffing boxes

Stuffing boxes are available as pure packing rings or as packing rings with graphite seals. Stuffing box packing rings with graphite seals have proven their qualities in a wide range of applications, especially under extreme conditions, such as high pressure or high temperature, or operation with oils or aggressive liquids.

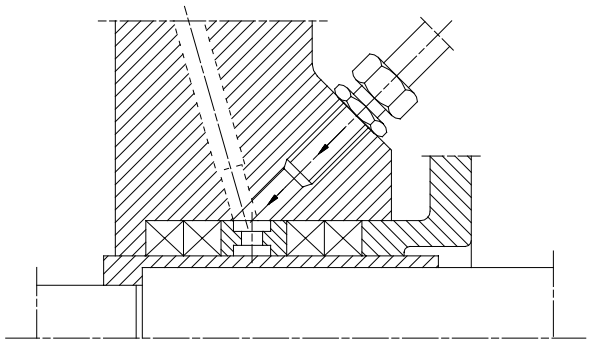
Braided material is effective for ensuring long service life for packing rings while protecting the shaft sleeve when used in pumps. When fitted, these packing rings are symmetrical, having parallel facings that rule out tilting.



Uncooled stuffing box, type SNE(x), with internal barrier liquid for the pumping of clean liquids in suction operation or at inlet pressures up to 4 bar



Uncooled stuffing box, type SNO(x), without internal barrier liquid for the pumping of clean liquids in suction operation or at inlet pressures over 4 bar



Uncooled stuffing box, type SNF(x), with external barrier liquid for the pumping of contaminated and malodorous liquids and for applications with continuous vacuum on the inlet (constant inlet pressure below atmosphere pressure)

Pump cover design

Material code	A/B/C/D/E/F/G/H/S/T	I/J/K/L/M/N/P/R/U/W
Pump shaft diameter d5 [mm]	Pump cover design	
24	Single [21]	Split [22]
32	Single [21]	Split [22]
42	Single [21]	Split [22]
48	Split [22]	Split [22]
60	Split [22]	Split [22]

21) See fig. Sectional drawing, stuffing box, single cover.

22) See fig. Sectional drawing, stuffing box, split cover.

Related information

NKG, stuffing box

Motor stool and cover

The cover is provided with a manual air vent screw for the venting of the pump housing and the shaft seal chamber. An O-ring forms the seal between cover and pump housing.

Coupling guards are fitted to the motor stool.

The mounting designations of motors for NBG, NBGE are as follows:

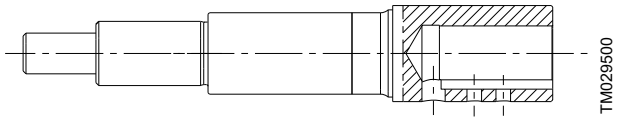
- IM B5: up to and including frame size 132.
- IM B35: as from frame size 160 and upwards.

The flange size of the motor stool is according to IEC 60034.

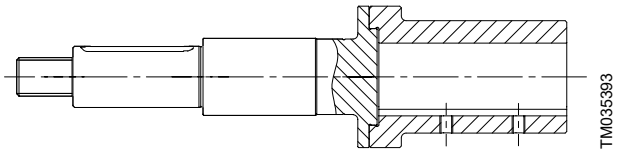
Shaft

The stainless steel shaft is ∅28, ∅38, ∅48, ∅55 or ∅60 where the shaft seal is mounted.

The coupling end of the shaft is cylindrical and has two drilled holes for the set screws of the coupling.



Stub shaft, NBG pump

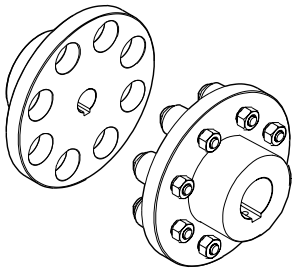


2-part stub shaft, NBG pump

Coupling

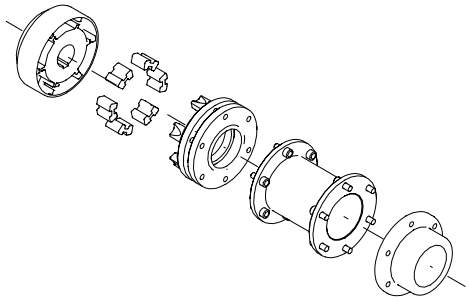
NKG pumps are available with two types of coupling:

- standard coupling
- spacer coupling.



TM035394

Standard coupling



TM030234

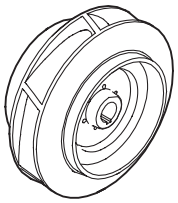
Spacer coupling

Pumps fitted with a spacer coupling can be serviced without dismantling the motor from the base frame and without removing the pump housing from the pipes. This saves realignment of pump and motor after service.

For couplings for ATEX-approved pumps, see the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858".

Impeller

The impeller is a closed impeller with double-curved blades with smooth surfaces. This ensures high efficiency.



TM030231

Impeller, NBG and NKG pumps

All impellers are statically and hydraulically balanced. The hydraulic balancing compensates for axial thrust.

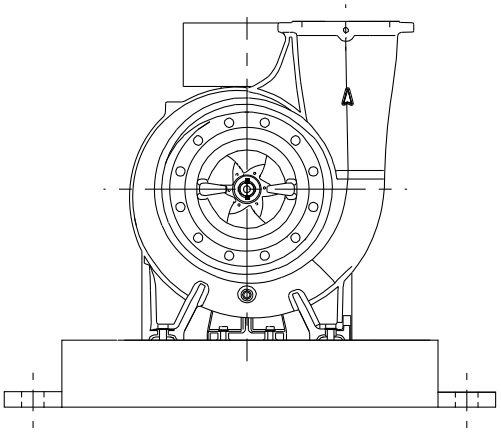
The direction of rotation of the impeller is clockwise when viewed from the motor.

All impellers can be adapted to the duty point as requested by the customer.

Base frame

NKG pumps are available with two types of base frame.

EN/ISO base frame



TM080473

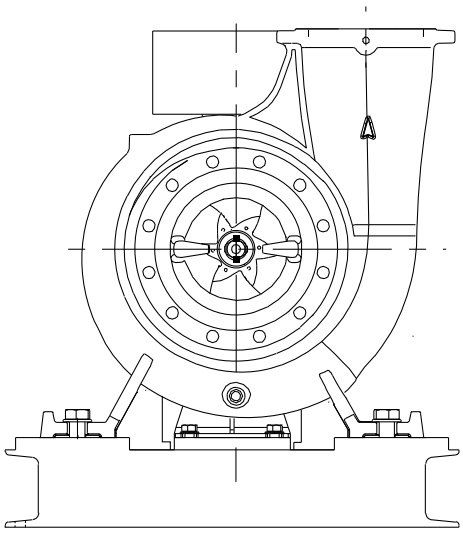
Schematic view of NKG pump mounted on an EN/ISO base frame

Pump and motor are mounted on a common steel base frame in accordance with EN 23661. The largest base frames, larger than size 9, are not described in any standard and therefore not in accordance with EN 23661.

The base frame may be longer than the pump and motor.

An EN/ISO base frame prepared for grouting is available as an option. See fig. Base frame prepared for grouting.

C-channel base frame



TM080474

Schematic view of NKG pump mounted on a C-channel base frame

Pump and motor are mounted on a common steel base frame optimised for the length of the pump and motor.

Dimensions are not in accordance with EN 23661. All C-channel base frames can be grouted.

Related information

Foundation and grouting

Surface treatment

The cast iron parts of NBG and NKG pumps have an epoxy-based coating made in a cathodic electro-deposition CED process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface. An integral part of the process is a pretreatment. The entire process consists of these elements:

- alkaline-based cleaning
- zinc phosphating
- cathodic electro-deposition
- curing to a dry film thickness of 18-22 µm.

The colour code for the finished product is NCS 9000/AL 9005.

For low-temperature applications at high humidity, Grundfos offers NBG and NKG pumps with extra surface treatment to avoid corrosion. These pumps are available on request.

Test pressure

Pressure testing was made with 20 °C water containing corrosion inhibitor.

Pressure stage	Operating pressure		Test pressure	
	[bar]	[MPa]	[bar]	[MPa]
PN 10	10	1.0	15	1.5
PN 16	16	1.6	24	2.4
PN 25	25	2.5	37.5	3.75

Motors and drives

For NBG, NBGE, NKG, NKGE pumps Grundfos can provide a wide range of motors and drives within these two main categories:

- standard motors
- speed-controlled motors.

Standard motors are mains-operated whereas the speed-controlled motors can be started and operated in various ways.

The speed-controlled NBG, NKG pumps can be driven in two ways:

- by a standard motor with an external frequency converter. The frequency converter can be a Grundfos CUE solution or another make.
- by a motor with an integrated frequency converter, a Grundfos MGE motor.

Standard motors

The motor is a totally enclosed, fan-cooled standard motor with main dimensions according to IEC and DIN standards. Electrical tolerances are to IEC 60034.

Motor protection

Three-phase motors must be connected to a motor-protective circuit breaker according to local regulations.

Three-phase Grundfos MG motors as from 3 kW have a built-in PTC thermistor according to DIN 44082 (IEC 34-11: TP 211).

Energy efficiency classification

IE1 IE2 IE3
IE4 IE5

Grundfos does not offer IE1 motors any longer and only offers IE2 motors for 4-pole from 0.25 -0.55 kW.

Standard motor ranges

The table shows the range of standard motors currently used for NBG, NKG pumps. The motors stated in section Dimensional drawings and technical data are MG and Siemens motors.

IE class	Make	Pole	P2 [kW]																																										
			0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	224	230	250	280	288	298	315	353	355	362	400	408	460	500
IE3	MG	2	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Siemens	2	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	●	-	-	-	●	●	-	-	●	●	-	●	-	-
		4	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	●	-	●	●	-	-	-	●	-	●	●	-
		6	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-
		8	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MMG-G	2	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	-	-	●	-	●	-	-	-	-	-	-
		4	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	-	-	●	-	-	-	-	-	-	●	-
		6	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IE4	Siemens	2	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	●	●	-	-	●	●	-	●	-	-	-
		4	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	●	●	-	-	-	●	-	●	●	-
		6	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MMG-G	2	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	-	-	●	-	●	-	-	-	-	-	-
		4	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	-	-	●	-	-	-	-	-	-	●	-
		6	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Not all motor makes are available worldwide. For specific information about the motor makes available in your region, contact your Grundfos Customer Service Unit (CSU).

Speed-controlled standard motors

General considerations

If you connect an external frequency converter to your standard motor, the motor insulation is exposed to higher voltage peaks due to the operation of the frequency converter. This causes the motor to be more noisy than in normal operation. In addition, large motors are exposed to bearing currents caused by the frequency converter.

If you operate the motor via a frequency converter, consider the following:

- In 2-, 4- and 6-pole motors, frame size 225 and up, isolate one of the motor bearings electrically to prevent damaging currents from passing through the motor bearings.
- In noise-sensitive applications, you can reduce the motor noise by fitting a dU/dt filter between the motor and the frequency converter. For particularly noise-sensitive applications, we recommend a sinusoidal filter.
- The length of the cable between motor and frequency converter affects the motor load. Therefore, check that the cable length meets the specifications laid down by the frequency converter supplier.
- For supply voltages between 500 and 690 V, fit a dU/dt filter to reduce voltage peaks, or use a motor with reinforced insulation.
- For supply voltages of 690 V, use a motor with reinforced insulation, and fit a dU/dt filter.

Grundfos CUE

Pumps connected to Grundfos CUE external frequency converters

TM1040611

Grundfos CUE frequency converters

Grundfos CUE is a complete range of wall-mounted frequency converters for pump control in a wide range of applications.

Grundfos CUE provides a variety of benefits to the end-user, such as:

- Grundfos E-pump functionality and user interface
- application- and pump family-related functions
- increased comfort compared to fixed-speed pump solutions
- simple installation and commissioning compared to standard frequency converters
- speed control of pumps up to 250 kW.

Intuitive startup guide

The startup guide enables easy installation and commissioning as well as plug-and-pump convenience. Few settings need to be made by the installer as the rest is done automatically or preset from the factory.

Smart user interface

TM043283

Grundfos CUE user interface

Grundfos CUE features a unique user-friendly operating panel with graphic display and easy-to-use buttons.

Controlling the selected parameter

Grundfos CUE has a built-in PI controller offering closed-loop control of these parameters:

- constant differential pressure
- proportional pressure
- constant temperature
- constant flow rate.

Wide product range

The CUE product range is quite comprehensive, covering five different voltage ranges, enclosure classes IP20/21 (NEMA 1) and IP54/55 (NEMA 12), and a wide range of output powers.

The table below provides a general overview.

Input voltage [V]	Output voltage [V]	Motor [kW]
1 x 200-240	3 x 200-240	1.1 - 7.5
3 x 200-240	3 x 200-240	0.75 - 45
3 x 380-500	3 x 380-500	0.55 - 250
3 x 525-600	3 x 525-600	0.75 - 7.5
3 x 525-690	3 x 525-690	11-250

External communication

Grundfos CUE can communicate by means of LON, PROFIBUS, Modbus or BACnet via Grundfos CIU.

E-solution range

IE5

NBGE, NKGE pumps with a motor with an integrated frequency converter

TM081605

TM084934

The MGE motor is a totally enclosed, fan-cooled, frequency-controlled motor with dimensions according to IEC and DIN standards. Electrical tolerances are to IEC 60034.

Motor protection

The motor requires no external motor protection. MGE motors incorporate thermal protection against steady overload and stalled condition (IEC 34-11: TP 211).

Benefits

Grundfos MGE motors provide a variety of benefits to the end-user, such as:

- Grundfos E-pump functionality and user interface
- a perfect match between pump and frequency drive
- application- and pump family-related functions
- increased comfort compared to fixed-speed pump solutions
- simple installation and commissioning compared to standard frequency converters.

Smart user interface

TM081606

Grundfos MGE motors feature a user-friendly operating panel with easy-to-use buttons.

Controlling the selected parameter

Grundfos MGE has a built-in PI controller offering closed-loop control of these parameters:

- constant differential pressure
- proportional pressure
- constant temperature
- constant flow rate.

IE4

NBGE, NKGE pumps combined with a Grundfos CUE and Siemens IE4 motor.

TM081604

TM081608

Benefits

Grundfos CUE functionality:

- a perfect match between pump and frequency drive
- increased comfort and reduced power consumption compared compared to fixed-speed pump solution
- simple installation and commissioning compared to external mounted frequency drive
- space saving.

E-solution range

		P2 [kW]												
Pole	IE class	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22
2	IE5 [23)]	-	-	•	•	•	•	•	•	•	•	•	•	•
4	IE4 [24)]	-	-	-	-	-	-	-	-	-	-	-	•	•
	IE5 [23)]	•	•	•	•	•	•	•	•	•	•	•	•	•

23) MGE Motor

24) Siemens motor with integrated CUE

External communication

Grundfos MGE can communicate by means of LON, PROFIBUS, Modbus or BACnet as described in section Communication with E-pumps.

Related information

Communication with E-pumps

Optional motors

The Grundfos standard range of motors covers a wide variety of application requirements. However, for special applications or operating conditions, custom-built motor solutions can be provided.

For special applications or operating conditions, Grundfos offers custom-built motors such as:

- ATEX-approved motors
- MG motors with anti-condensation heating unit
- motors with thermal protection.

7. Operating conditions

Pump location

The pump is designed for installation in a non-aggressive and non-explosive atmosphere.

The relative air humidity must not exceed 95 %.

Ambient temperature and installation altitude

The ambient temperature and the installation altitude are important factors for the motor life, as they affect the life of the bearings and the insulation system.

The installation altitude is the height of the installation site above sea level.

If the ambient temperature exceeds the recommended maximum ambient temperature or maximum altitude above sea level, see figure Maximum motor output in relation to ambient temperature and altitude, the motor must not be fully loaded due to the low density and consequently low cooling effect of the air. In such cases, it may be necessary to use a motor with a higher output.

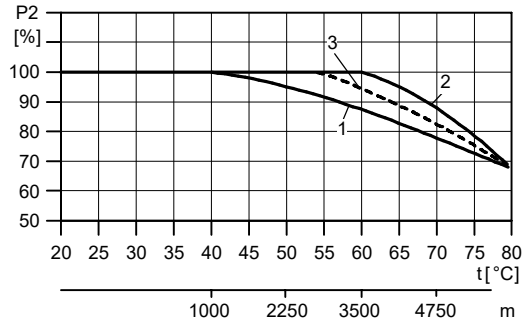
Pump with standard motor

Ambient temperature

Motor make	Motor P2	Permissible ambient temperature
MG	0.25 - 0.55 kW	-20 to +40 °C
	0.75 - 22 kW	-20 to +60 °C
Siemens	0.75 - 462 kW	-20 to +55 °C
MMG	0.75 - 450 kW	-20 to +60 °C

Maximum motor output in relation to ambient temperature and altitude

Motor make	Motor P2	Derating curve
MG	0.25 - 0.55 kW	curve 1
	0.75 - 22 kW	curve 2
Siemens	0.75 - 462 kW	curve 3
MMG	0.75 - 450 kW	curve 2



Maximum motor output in relation to ambient temperature and altitude

Example with a pump with a 1.1 kW IE3 MG motor:

If the pump is installed 4750 m above sea level, the motor must not be loaded more than 88 % of rated output. At an ambient temperature of 75 °C, the motor must not be loaded more that 78 % of rated output. If the pump is installed 4750 m above sea level at an ambient temperature of 75 °C, the motor must not be loaded more than 88 % x 78 % equal to 68.6 % of the rated output.

Pump with Grundfos MGE motor

Ambient temperature

Motor make	Motor P2	Permissible ambient temperature
Grundfos MGE	1.1 - 11 kW, 2-pole	-20 to +50 °C
	15-22 kW, 2-pole	-20 to +40 °C
	0.55 - 7.5 kW, 4-pole	-20 to +50 °C
	11-22 kW, 4-pole	-20 to +40 °C

The motor can operate with the rated power output, P2, at 50 °C, but continuous operation at higher temperatures reduces the expected product life. If the motor is to operate at ambient temperatures between 50 and 60 °C, select an oversize motor.

Contact Grundfos for further information.

Installation altitude

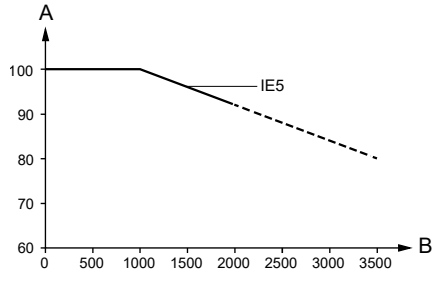
Motors installed up to 1000 metres above sea level can be loaded 100 %.

Motors installed more than 1000 metres above sea level must not be fully loaded due to the low density and consequent low cooling effect of the air.

Installation altitude is the height above sea level of the installation site.

Motors installed up to 1000 m above sea level can be loaded 100 %.

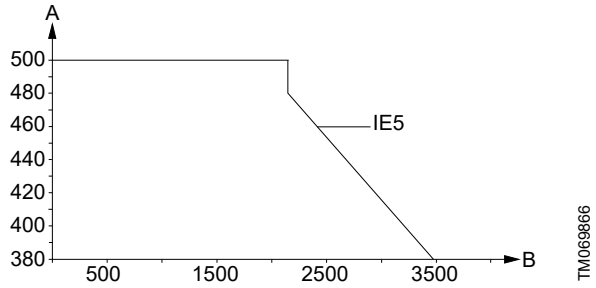
The motors can be installed up to 3500 m above sea level.



Motor output power in relation to altitude

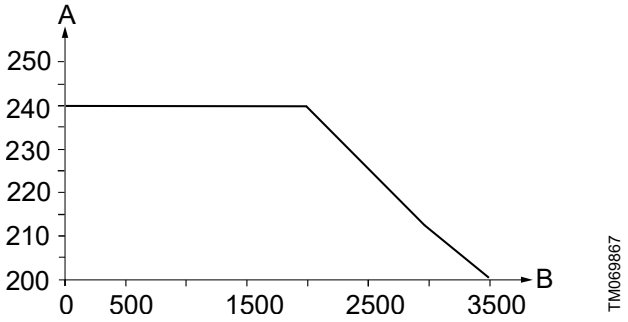
Pos.	Description
A	P2 [%]
B	Altitude [m]

In order to maintain the galvanic isolation and ensure correct clearance according to EN 60664-1:2007, you must adapt the supply voltage to the altitude:



Supply voltage for three-phase motor in relation to altitude

Pos.	Description
A	Supply voltage [V]
B	Altitude [m]



Supply voltage for single-phase motor in relation to altitude

Pos.	Description
A	Supply voltage [V]
B	Altitude [m]

Note:

If the motor is to operate at ambient temperatures between 50 and 60 °C, select an oversized motor. Contact Grundfos.

E-pump with Siemens motor with integrated CUE

Ambient temperature

Siemens motor with integrated CUE	-10 to +50 °C

Installation altitude

Derating must be taken into account when using CUE in these situations:

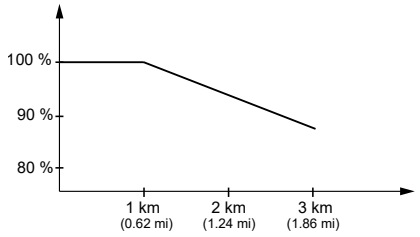
- low air pressure (heights)
- low speeds
- installations with long motor cables
- cables with a large cross-section
- high ambient temperature.

The required action is described in the next sections.

Low air pressure

At low air pressure, the cooling capability of air is reduced.

At altitudes above 1000 m (3280 ft), the maximum output current should be derated in accordance with the diagram in the figure below.



Derating of output current at low air pressure

At altitudes above 2000 m (6561 ft), the PELV requirements cannot be met.

PELV = Protective Extra Low Voltage.

An alternative is to lower the ambient temperature at high altitudes and thereby ensure 100 % output current at high altitudes.

Example

At an altitude of 2000 m (6561 ft), the output current 24.0 A of the selected CUE must be derated to 92 % according to figure Derating of output current at low air pressure. This is equal to 22.1 A and lower than the maximum motor current 23.6 A. The selection is not valid.

Data of the new selected CUE:

Max. output current:	32.0 A
Typical shaft power:	15.0 kW (20 hp)
Product number (IP20):	96754695

Calculation of derated current at an altitude of 2000 m (6561 ft):

Maximum output current = 32.0 x 0.92 = 29.4 A.

This is higher than the maximum motor current 23.6 A.

The new selection is valid.

High ambient temperature

If the output current is reduced to 80 % of the nominal output current of the CUE in question, the ambient temperature may be 5 °C (41 °F) higher.

The other possibility is to use a unit one size bigger. For higher temperature increases, bigger units are required. The efficiency of the CUE will, however, be reduced at higher temperatures.

If the CUE gets too hot, it will reduce the switching frequency.

Note that the nominal temperature rating depends on the enclosure type.

The maximum ambient temperature of the different enclosures can be found in section Technical data.

Flow rates

Minimum flow rate

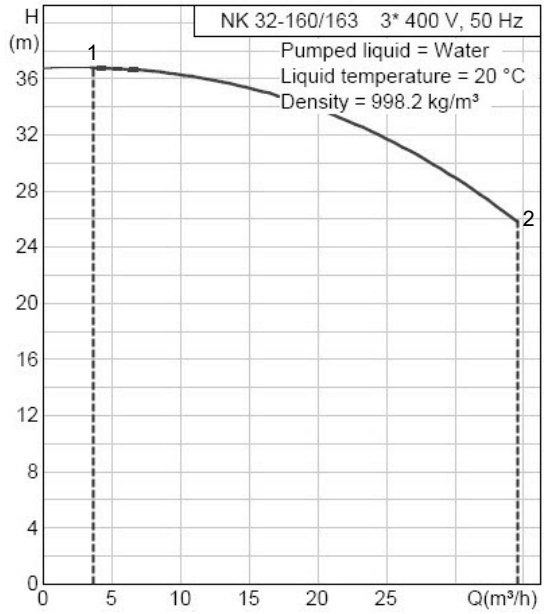
The pump must not run against a closed outlet valve as this causes an increase in temperature or formation of steam in the pump. This may cause shaft damage, impeller erosion, short life of bearings, damage to stuffing boxes or mechanical shaft seals due to stress or vibration.

The continuous flow rate must be at least 10 % of the maximum flow rate.

Maximum flow rate

The maximum flow rate must not be exceeded as otherwise there is a risk of for instance cavitation and overload.

The maximum flow rate can be read either from the performance curve pages or from a curve on a specific pump when selecting it in Grundfos Product Center.



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Example from Grundfos Product Center showing minimum and maximum flow rate

Pos.	Description
1	Minimum flow rate
2	Maximum flow rate

Sound pressure level

Data in this table apply to pump including motor.

Motor [kW]	Maximum sound pressure level [dB(A)] - ISO 3743			
	Three-phase motor			
	2-pole	4-pole	6-pole	8-pole
0.25	-	-	-	-
0.37	-	-	-	-
0.55	-	-	-	-
0.75	-	-	-	-
1.1	64	51	43	-
1.5	64	52	47	-
2.2	65	55	52	-
3	71	62	67	-
4	73	62	67	-
5.5	72	68	67	-
7.5	72	68	70	-
11	77	69	70	-
15	77	69	57	57
18.5	77	60	57	57
22	72	60	59	59
30	72	60	59	59
37	72	60	61	-
45	72	60	64	-
55	75	60	64	-
75	77	69	63	-
90	77	73	63	-
110	77	69	62	-
132	77	70	62	-
160	81	70	66	-
200	81	70	70	-
280	86	-	-	-
288	83	78	72	-
353	86	-	-	-
362	87	78	75	-
398	81	-	-	-
408	81	79	75	-
460	-	79	-	-

Liquid temperatures

Liquids with temperatures ranging from -25 to +140 °C are covered in this data booklet.

For liquids from -40 to +220 °C, see the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858", or contact Grundfos. In that data booklet, you will also find information about the seals being used for other liquids than water and glycols, i.e. oils, chemicals and silicone oil. Further seal types are also described to support more application types and pumped liquids.

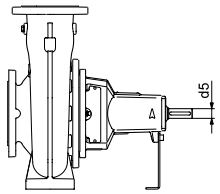
The maximum liquid temperature is stamped on the nameplate.

Note that the maximum liquid temperature limits stated by Grundfos may be overruled by local regulations and various laws.

Operating range of mechanical shaft seals

The temperature range applies to water and coolants.

Seals with a temperature range of 0 °C and up are mainly used for pumping water, while seals for temperatures below 0 °C are mainly intended for coolants.



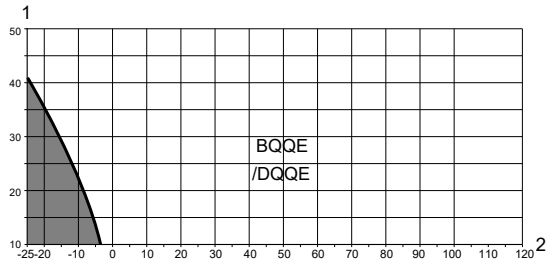
Shaft seal diameter [mm]	NBG, NKG	28, 38	48	55	60
d5 [mm]	NKG	24, 32	42	48	60

Shaft seal type		Code	Temperature range	Maximum pressure [bar]				Seal faces	Rubber
	Bellows seal, type B, unbalanced	BAQE	0-120 °C	16	16	16	16	AQ_7	EPDM
		BBQE [25), 26)]	0-120 °C	16	16	16	16	BQ_7	EPDM
		BBQV	0-90 °C	16	16	16	16	BQ_7	FKM
		BQQE [25)]	-25 to +120 °C	16	16	16	16	Q_7Q_7	EPDM
		BQQV	-10 to +90 °C	16	16	16	16	Q_7Q_7	FKM
	O-ring seal, type A, unbalanced	AQAE	0-120 °C	16	16	16	16	Q_1A	EPDM
		AQAV	0-90 °C	16	16	16	16	Q_1A	FKM
		AQQE	-25 to +90 °C	16	16	16	16	Q_1Q_1	EPDM
		AQQV	-10 to +90 °C	16	16	16	16	Q_1Q_1	FKM
		AQQX	-15 to +90 °C	16	16	16	16	Q_1Q_1	HNBR
		AQQK	0-90 °C	16	16	16	16	Q_1Q_1	FFKM
	O-ring seal, type D, balanced	DAQF	0-140 °C	25	25	25	25	AQ_7	FXM
		DQQE	-20 to +140 °C	25	25	25	25	Q_6Q_7	EPDM
		DQQV	-10 to +75 °C	25	25	25	25	Q_6Q_7	FKM
		DQQX	-15 to +110 °C	25	25	25	25	Q_6Q_7	HNBR
		DQQK	0-140 °C	25	25	25	25	Q_6Q_7	FFKM

25) Shaft seals with drinking water approvals.

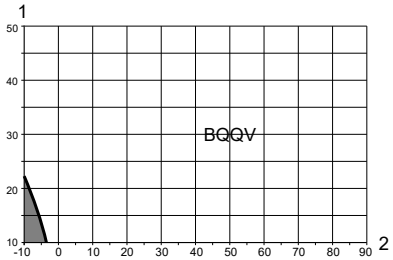
26) For ultra pure water applications having a conductivity lower than 2 microSiemens, contact Grundfos for a special shaft seal version.

Recommended shaft seal for water-glycol mixture



TM061032

Operating range of EPDM shaft seals



TM061034

Operating range of FKM shaft seals

Pos.	Description
1	Glycol content [%]
2	Temperature [°C]

Pos.	Description
1	Glycol content [%]
2	Temperature [°C]

Carbon-silicon carbide (xAQx), (xBQx)

Mechanical shaft seals with carbon-silicon carbide seal faces have a wide range of applications and are especially suitable if there is risk of dry running and/or if the temperature is high. These mechanical shaft seals are not suitable for liquids containing abrasive particles as the carbon parts will be worn. At temperatures below 0 °C, corrosion inhibitors containing abrasive particles are usually added to the pumped liquid, and these seals will thus not be suitable.

Note: The antimony impregnation (A) is not approved for potable water applications.

Silicon carbide-silicon carbide (xQQx)

Mechanical shaft seals with silicon carbide-silicon carbide seal faces also have a very wide range of applications. These seals are very resistant to abrasive particles and well suited at liquid temperatures up to 90 °C for Q_1 types, and up to 120 °C for Q_6 types. At higher temperatures, the reduced lubricating properties of the pumped liquid may cause noise problems and limit the life of the seal faces.

EPDM (xxxE)

Mechanical shaft seals with EPDM (xxxE) rubber are primarily suitable for water.

If the water contains oil or if chemicals or other liquids than water are pumped, you may have to replace the rubber parts of the mechanical shaft seal.

FKM (xxxV)

Mechanical shaft seals with FKM (xxxV) rubber have excellent resistance against oil and a number of chemicals.

Operating range of stuffing boxes

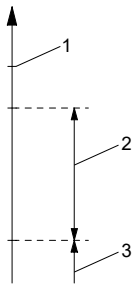
	Stuffing box type	Code for stuffing box	Code for packing material [27]	O-rings in pump	Temperature range [28] [°C]	Max. p [bar]	Pumps	
							NBG	NKG
	Internal barrier liquid	SNEA	B	EPDM	-30 to +140	16	-	•
		SNEB	T	EPDM	-30 to +140	16	-	•
		SNEC	B	FKM	-30 to +90	16	-	•
		SNED	T	FKM	-30 to +90	16	-	•
	Without barrier liquid	SNOA	B	EPDM	-30 to +140	16	-	•
		SNOB	T	EPDM	-30 to +140	16	-	•
		SNOC	B	FKM	-30 to +90	16	-	•
		SNOD	T	FKM	-30 to +90	16	-	•
	External barrier liquid	SNFA	B	EPDM	-30 to +140	16	-	•
		SNFB	T	EPDM	-30 to +140	16	-	•
		SNFC	B	FKM	-30 to +90	16	-	•
		SNFD	T	FKM	-30 to +90	16	-	•

27) B: Buraflon®, PTFE-impregnated fibre packing rings
T: Thermoflon®, graphite-PTFE compound packing rings

28) The temperature range applies to water and coolants.

Pressures in the pump

Maximum operating pressure



TM075513

Pressures in the pump

Pos.	Description
1	Maximum operating pressure (pressure above atmospheric pressure)
2	Pump pressure
3	Inlet pressure

The inlet pressure + pump pressure must be lower than the maximum operating pressure (p) stated on the pump nameplate. The maximum operating pressure can be checked by closing the outlet valve briefly for maximum 30 seconds.

Minimum inlet pressure

The minimum inlet pressure must be according to the NPSH curve + correction for Vapour pressure. We do, however, recommend that you calculate the inlet pressure in these cases:

- The liquid temperature is high.
- The flow rate is considerably higher than the pump's rated flow rate.
- The pump is operating in an open system with suction lift.
- The liquid is sucked through long pipes.
- The inlet conditions are poor.
- The operating pressure is low.

Maximum inlet pressure

The inlet pressure + pump pressure must be lower than the maximum operating pressure (p) stated on the pump nameplate. The maximum operating pressure can be checked by closing the outlet valve briefly for maximum 30 seconds.

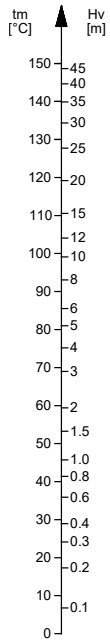
Suction lift in open systems

Calculation of suction lift in open systems (water)

The suction lift "H" in metres head required during operation to avoid cavitation in the pump can be calculated by means of the following formula:

$H = p_b \times 10.2 - NPSH - H_f - H_v$

H	Suction lift
p_b	Barometric pressure in bar. The barometric pressure can be taken as equal to 1 bar. In closed systems, p_b indicates system pressure in bar.
NPSH	Net Positive Suction Head in metres head. The NPSH value can be read from the NPSH curve at the highest flow rate the pump will be delivering. The maximum flow rate must not exceed the maximum flow rate shown on the QH curve. The NPSH curve and QH curve for the individual pump can be found in Grundfos Product Center and in the relevant data booklet.
H_f	Friction loss in the inlet pipe in metres head at the highest flow rate the pump will be delivering.
H_v	Vapour pressure in metres head. See figure below.



TM003037

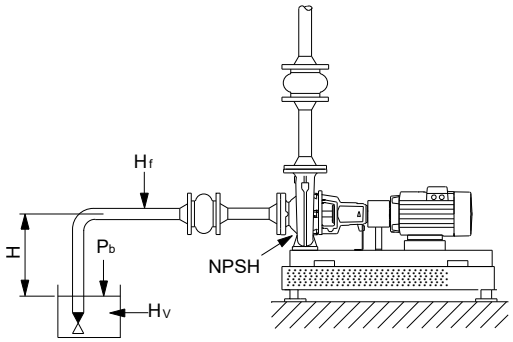
Relation between liquid temperature and vapour pressure

Positive H value

Example:

Liquid temperature:	20 °C
Pump type:	NKG 80-50-200/219, 2-pole, 50 Hz
Flow rate:	70 m^3/h
p_b:	1 bar
NPSH:	2.8 m head
H_f:	3.0 m head
H_v:	0.24 m head
$H = p_b \times 10.2 - NPSH - H_f - H_v$ [m head]	
$H = 1 \times 10.2 - 2.8 - 3.0 - 0.24 =$ **4.16** m head	

If the calculated value of H is positive, the pump can operate with a maximum suction lift of H metres.



TM081003

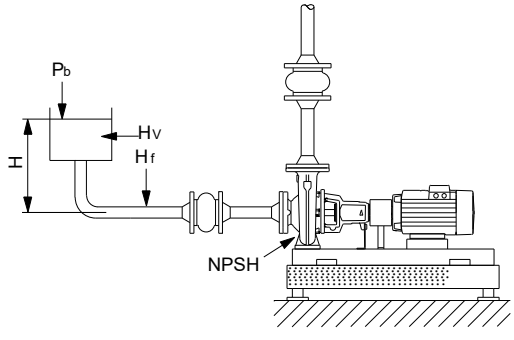
Suction lift with positive H

Negative H value

Example:

Liquid temperature:	90 °C
Pump type:	NKG 80-50-200/219, 2-pole, 50 Hz
Flow rate:	70 m^3/h
p_b:	1 bar
NPSH:	2.8 m head
H_f:	3.0 m head
H_v:	7.2 m head
$H = p_b \times 10.2 - NPSH - H_f - H_v$ [m head]	
$H = 1 \times 10.2 - 2.8 - 3.0 - 7.2 =$ **-2.8** m head	

If the calculated value of H is negative, a minimum suction head of H metres is required. The calculated H must be present during operation.



TM081004

Suction lift with negative H

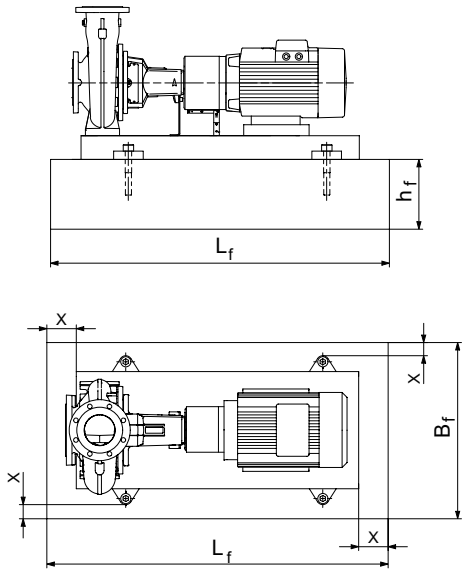
8. Mechanical installation

Foundation and grouting

Foundation

We recommend that you install the pump on a plane and rigid concrete foundation which is heavy enough to provide permanent support for the entire pump. The foundation must be capable of absorbing any vibration, normal strain or shock. As a rule of thumb, the weight of the concrete foundation must be 1.5 times the weight of the pump.

The foundation must be 100 mm larger than the base frame on all four sides. See figure below.



TM033771

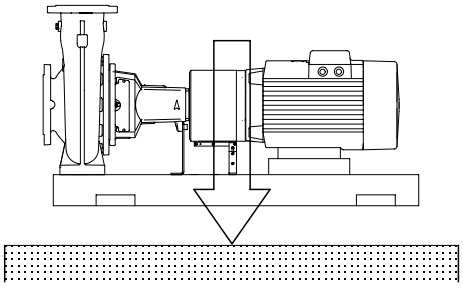
Foundation, X is equal to minimum 100 mm

The minimum height of the foundation (h_f) can then be calculated:

$$h_f = \frac{m_{pump} \times 1.5}{L_f \times B_f \times \delta_{concrete}}$$

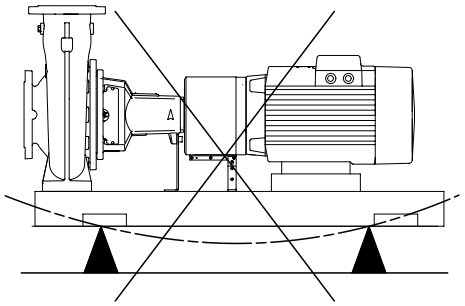
The density (δ) of concrete is usually taken as 2200 kg/m^3.

Place the pump on the foundation, and fasten it. The base frame must be supported under its entire area. See figure below.



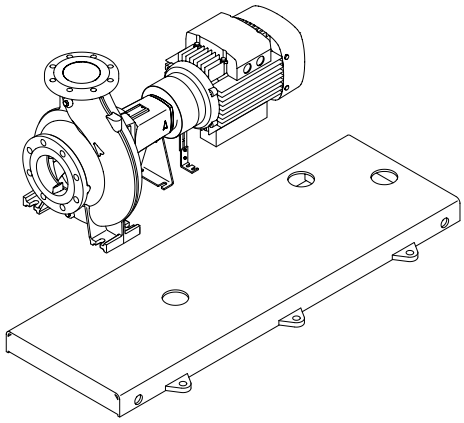
TM033950

Correct foundation



TM034324

Incorrect foundation



TM034587

Base frame prepared for grouting

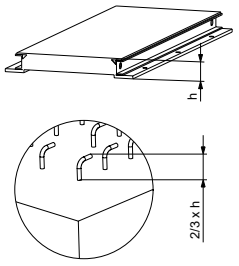
Grouting

Grouting compensates for uneven foundation, distributes the weight of the unit, dampens vibrations and prevents shifting.

All NKG pumps can be delivered with base frames prepared for grouting as an option. NBG pumps with base frames are always prepared for grouting.

For 2-pole NKG and NBG pumps with motors as from 55 kW, grouting of the base frame is mandatory in order to prevent vibration energy from the rotating motor and the liquid flow.

Use an approved, non-shrinking grout. If in doubt, contact your grout supplier.



TM040490

Reinforcing steel bars embedded in foundation

Use reinforcing steel bars embedded in the foundation to ensure proper grouting.

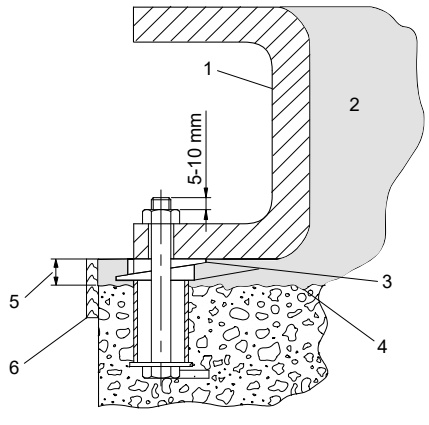
Build a strong formwork around the foundation.

Soak the top of the concrete foundation thoroughly, and remove surface water.

Fill the formwork with grout up to the base frame top level. See figure below. Allow the grout to dry thoroughly before attaching pipes to the pump. 24 hours is sufficient time with approved grouting procedure.

When the grout has thoroughly hardened, check the anchor bolt nuts and tighten, if necessary.

Approximately two weeks after the grout has been poured, or when the grout has thoroughly dried, apply an oil-based paint to the exposed edges of the grout to prevent air and moisture from getting into contact with the grout.



Sectional view of foundation with anchor bolt, grouting and base frame

Pos.	Description
1	Base frame
2	Grout
3	Levelling wedges or shims left in place
4	Top of foundation (rough)
5	19 to 32 mm grout
6	Formwork

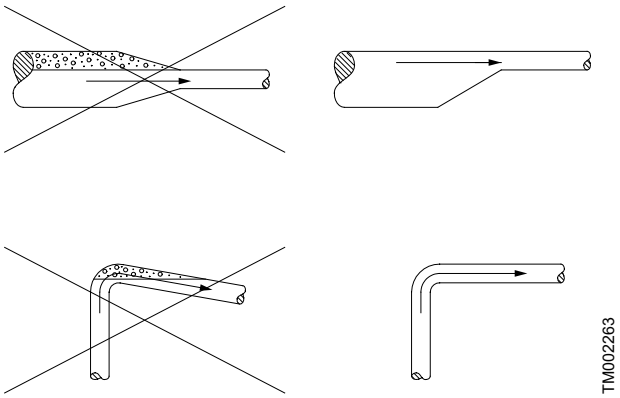
Pipes

Pipes

When installing the pipes, make sure that the pump housing is not stressed by the pipes.

The inlet and outlet pipes must be of an adequate size, taking the pump inlet pressure into account.

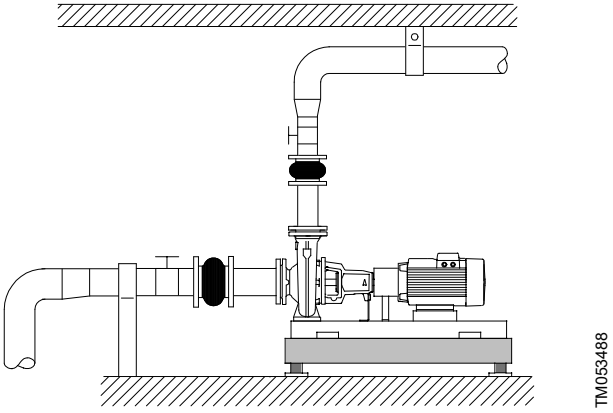
Install the pipes so that air locks are avoided, especially on the inlet side of the pump. See figure below.



Pipelines

Fit isolating valves on either side of the pump to avoid having to drain the system if the pump needs to be cleaned or repaired.

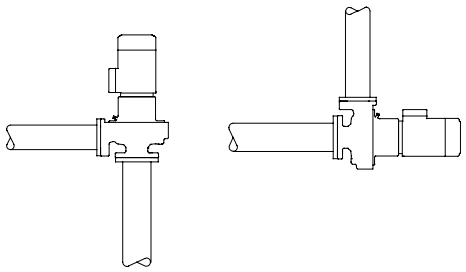
Make sure that the pipes are adequately supported as close to the pump as possible, both on the inlet and the outlet side. The counterflanges must lie true against the pump flanges without being stressed as this would cause damage to the pump.



Pipeline mounting

Direct mounting in pipes

NBG pumps of mounting design A are suitable for direct mounting in supported pipes.



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Direct mounting in pipes

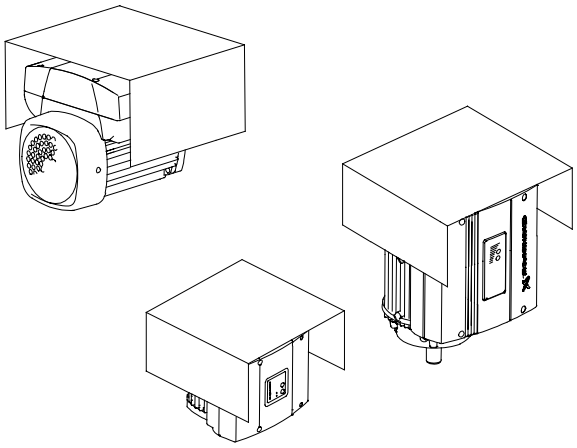
This type of installation does not allow the use of expansion joints.

Note: To ensure quiet operation, the pipes must be suspended from suitable pipe hangers.

Condensation cover

When installing the pumps outdoors, provide the motor with a suitable cover to protect the pump and motor against the direct effects of the elements.

When mounting the condensation cover on top of the motor, make sure to leave enough space for the air to cool the motor.



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Motors with condensation cover

Elimination of noise and vibrations

In order to achieve optimum operation and minimum noise and vibration, consider vibration dampening of the pump. Generally, always consider this for pumps with motors above 15 hp (11 kW). Smaller motor sizes, however, may also cause undesirable noise and vibration.

Noise and vibration are generated by the revolutions of the motor and pump and by the flow in pipes and fittings. The effect on the environment is subjective and depends on correct installation and the state of the remaining system.

Elimination of noise and vibrations is best achieved by means of vibration dampers and expansion joints. See figure Pipeline mounting.

Vibration dampers

To prevent the transmission of vibrations to buildings, we recommend that you isolate the pump foundation from building parts by means of vibration dampers.

The selection of the right vibration damper requires the following data:

- forces transmitted through the damper
- motor speed considering speed control, if any
- required dampening in %; the suggested value is 70 %.

The selection of vibration damper differs from installation to installation. In certain cases, a wrong damper may increase the vibration level. Vibration dampers must therefore be sized by the supplier of the vibration dampers.

If you install the pump on a foundation with vibration dampers, always fit expansion joints on the pump flanges. This is important to prevent the pump from "hanging" in the flanges.

Expansion joints

Install expansion joints for these purposes:

- to absorb expansions or contractions in the pipes caused by changing liquid temperature
- to reduce mechanical strains in connection with pressure surges in the pipes
- to isolate mechanical structure-borne noise in the pipes; this applies only to rubber bellows expansion joints.

Note: Do not install expansion joints to make up for inaccuracies in the pipes, such as centre displacement or misalignment of flanges.

Fit the expansion joints at a minimum distance of 1 to 1 1/2 pipe diameters (DN) away from the pump on the inlet and the outlet side. This prevents turbulence in the joints, thus ensuring optimum suction conditions and minimum pressure loss on the outlet side. At flow velocities greater than 5 m/s, we recommend that you fit larger expansion joints matching the pipes.

The illustration below shows examples of rubber bellows expansion joints with or without limiting rods.

TM024979

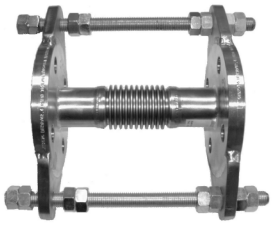
TM024981

Rubber bellows expansion joints with and without limiting rods

Expansion joints with limiting rods can be used to reduce the effects of the expansion or contraction forces on the pipes. We always recommend expansion joints with limiting rods for flanges larger than DN 100.

Anchor the pipes in such a way that they do not stress the expansion joints and the pump. Follow the supplier's instructions and pass them on to advisers or pipe installers.

The illustration below shows an example of a metal bellows expansion joint with limiting rods.



TM024980

Metal bellows expansion joint with limiting rods

Due to the risk of rupture of the rubber bellows, metal bellows expansion joints may be preferred at temperatures above 100 °C combined with high pressure.

Related information

Pipes

Alignment

Alignment applies only to NKG, NKGE pumps.

In a complete pump unit assembled and supplied from factory, the coupling halves have been accurately aligned. Alignment is made by inserting shims under the pump and motor mounting surfaces as required.

The pump-motor alignment may be affected during transport. Always check alignment after the pump has been installed.

If misalignment has occurred due to radial or angular shifting, realign by inserting or removing shims under the feet of the pump or the motor.

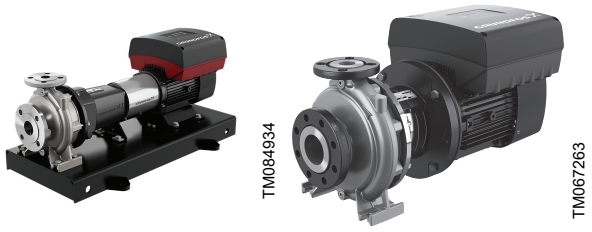
Take care to align carefully, as this increases the lives of the coupling, bearings and shaft seal considerably.

Note: Check the final alignment when the pump has obtained its operating temperature under normal operating conditions.

9. Speed-controlled pumps

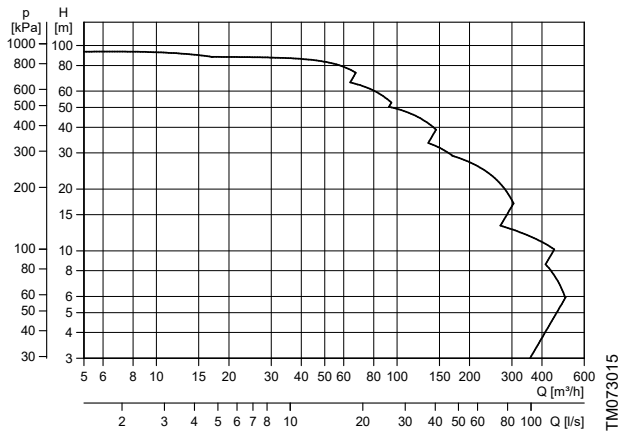
NBG and NKG pumps are available with MGE motors with integrated speed control. These pumps are also called E-pumps and the pump designation is NBGE and NKGE.

E-pumps are suitable for applications where the pressure, temperature, flow rate or another parameter is to be controlled on the basis of signals from a sensor at some point in the system.



NBGE, NKGE pumps without sensors from the factory

E-pump type	4000 RPM	2000/2200 RPM
NBGE, NKGE	1.1 - 22 kW	0.55 - 22 kW

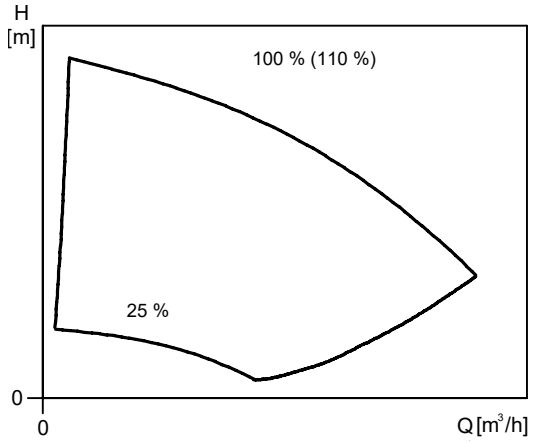


E-pumps performance range

Pumps larger than 22 kW, 2-pole and 22 kW, 4-pole, and 6- and 8-pole can be connected to an external frequency converter.

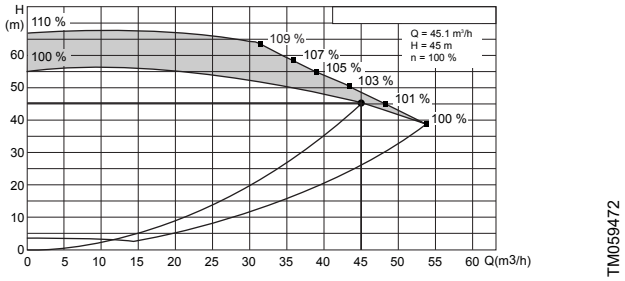
The integrated speed control enables the pump to operate at any duty point between 25 % and 100 % speed. The performance adapts to current conditions and keeps the energy consumption at a minimum.

The 100 % curve corresponds to the curve of a pump with a mains-operated motor.



Duty range of E-pumps

As a part of the duty range as shown in the figure below, the pumps with MGE motor can operate at speeds up to 110 %.



Example on extended performance range up to 110 % as a part of the operation range

The extended range is achieved by means of optimised software which utilises the MGE motor to its maximum in an optimum way. As a result, the E-pump is able to deliver higher head and flow rate with the same motor size. The curve sheets in this data booklet only show the nominal 100 % Q-H curve of pumps with standard motors. You may find information on the extended performance range in Grundfos Product Center.

Why select an E-pump

The main reasons for choosing the Grundfos E-motor instead of a conventional standard motor and separate frequency converter are the following:

1. Unique product
    - The motor and frequency converter are perfectly matched. The customer will not experience the same problems which may occur when using a standard motor with separate frequency converter, such as noise due to switch frequency.
    - Predefined intelligent control modes, such as constant pressure and constant level. These predefined control modes make it easy to fit the pump into any application.
2. Full application adaptation
    - Functionality is matched to the specific pump application.
    - Grundfos makes a customised configuration file to suit the customer's requirements.
    - Full adaptation to any control management system by means of various interfaces.
3. Simple and easy installation
    - Reduced installation and wiring costs compared to standard frequency converters.
    - No further programming required. An E-motor is a plug-and-pump product.
    - On-site customisation of the software configuration file to adapt to changed operating parameters.
    - Control, monitor, install, commission, and email reports all from your smart device via the Grundfos GO technology.
4. One supplier
    - Complete product is supplied by one sole supplier. This gives the customer security as only one supplier needs to be contacted in case of problems or complaints.

For more information on the E-pumps for NBGE and NKGE and detailed functionalities, see the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858".

Maximum speed of the impeller

For stainless steel impellers, the limit is 4000 RPM regardless of impeller size.

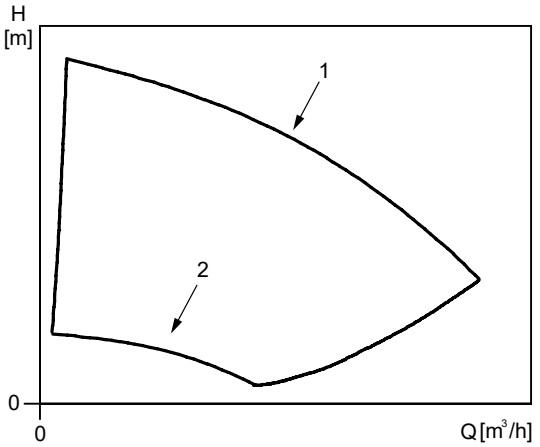
Affinity equations

Normally, NBGE, NKGE pumps are used in applications characterised by a variable flow. Consequently, it is not possible to select a pump that is constantly operating at its optimum efficiency.

To achieve optimum operating economy, select the pump on the basis of the following criteria:

- The maximum duty point required must be as close as possible to the QH curve of the pump.
- The flow rate at the duty point required must be close to the optimum efficiency (eta) for most operating hours

Between the minimum and maximum performance curve, NBGE, NKGE pumps have an infinite number of performance curves each representing a specific speed. It may therefore not be possible to select a duty point close to the maximum curve.



Minimum and maximum performance curves

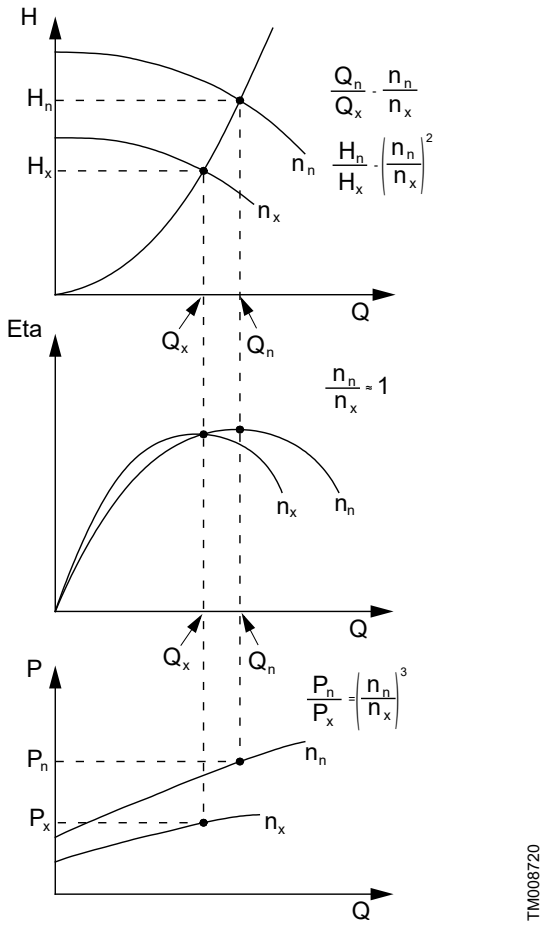
Pos.	Description
1	Maximum curve
2	Minimum curve

In situations where it is not possible to select a duty point close to the maximum curve, use the affinity equations below. The head (H), the flow rate (Q) and the input power (P) are the appropriate variables you need to be able to calculate the motor speed (n).

Note: The approximated formulas apply on condition that the system characteristic remains unchanged for n_n and n_x and that it is based on the formula H = k × Q2, where k is a constant.

The power equation implies that the pump efficiency is unchanged at the two speeds. In practice, this is not quite correct.

Finally, it is worth noting that the efficiencies of the frequency converter and the motor must be taken into account if a precise calculation of the power saving resulting from a reduction of the pump speed is wanted.



Affinity equations

H_n	Rated head in m
H_x	Actual head in m
Q_n	Rated flow rate in m^3/h
Q_x	Actual flow rate in m^3/h
P_n	Rated input power in kW
P_x	Actual input power in kW
n_n	Rated motor speed in min^{-1}
n_x	Actual motor speed in min^{-1}
η_n	Rated efficiency in %
η_x	Actual efficiency in %

Grundfos Product Center

Grundfos Product Center are selection programs offered by Grundfos.

The two programs make it possible to calculate the specific duty point and energy consumption of an NBGE or NKGE pump.

When you enter the pump data, Grundfos Product Center can calculate the exact duty point and energy consumption. For further information, see section Grundfos Product Center.

Related information

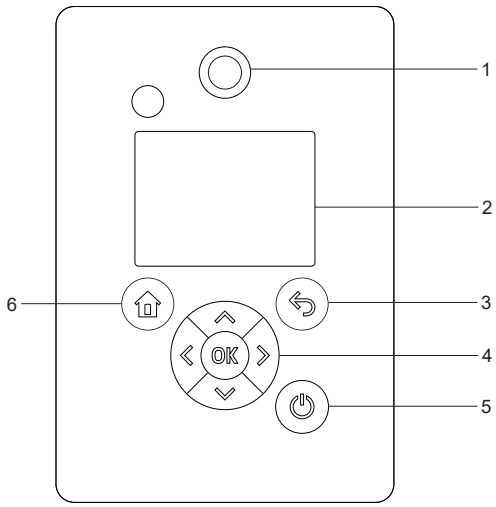
24. Grundfos Product Center

Communication with the E-solution

	E-solution	
	MGE	CUE
Operating panel on unit	x	x
Grundfos GO control	x	-
Central building management system	x	x

Operating panel

Operating panel for 1.1 - 22 kW, 2-pole and 0.55 - 22 kW 4-pole motors



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Pos.	Symbol	Description
1		**Grundfos Eye:** The indicator light shows the operating status of the product.
2	-	Graphical colour display.
3		**Back**: Press the button to go one step back.
4		**Left/Right**: Press the buttons to navigate between main menus, displays and digits. When you change the menu, the display shows the top display of the new menu.
		Up/Down: Press the buttons to navigate between submenus or change the value settings. If you have disabled the possibility to make settings with the **Enable/disable settings** function, you can enable it again temporarily by pressing these buttons simultaneously for at least 5 seconds.
	OK	**OK**: Press the button to do as follows: • save changed values, reset alarms and expand the value field • enable communication with Grundfos GO and other products of the same type. When you try to establish radio communication between the product and Grundfos GO or another product, the green indicator light in Grundfos Eye flashes. In the controller display, a note states that a device wants to connect to the product. Press **OK** on the product operating panel to allow communication with Grundfos GO or Grundfos GO Link and other products of the same type.
5		**Start/Stop**: Press the button to make the product ready for operation or to start and stop the product. **Start**: If you press the button when the product is stopped, the product starts if no other functions with higher priority have been enabled. **Stop**: If you press the button when the product is running, the product always stops. When you press the button, the stop icon appears at the bottom of the display.
6		**Home**: Press the button to go to the **Home** menu.

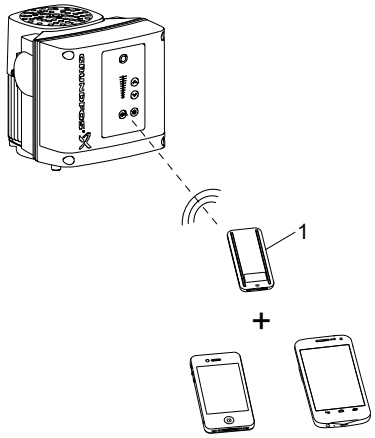
Grundfos GO

Grundfos GO, up to 11 kW medium speed and 7.5 kW low speed

The pump is designed for wireless radio or infrared communication with Grundfos GO.

Grundfos GO enables setting of functions and gives access to status overviews, technical product information and actual operating parameters.

Grundfos GO offers the following mobile interface, MI.



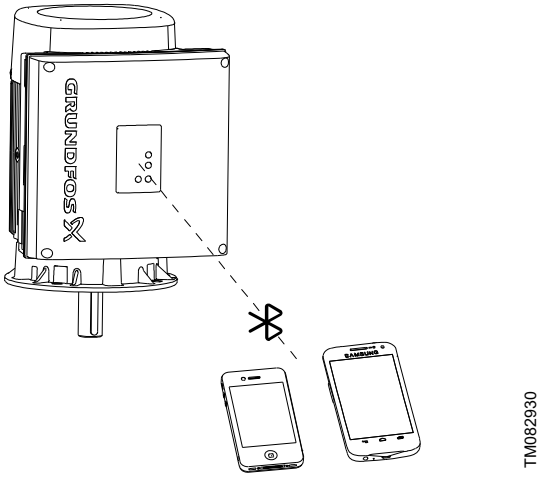
Grundfos GO communicating with the pump via radio or infrared connection, IR

Pos.	Description
1	Grundfos MI 301: Separate module enabling radio or infrared communication. You can use the module in conjunction with an Android or iOS-based smart device with Bluetooth connection.

Grundfos GO, from 15-26 kW medium speed and 11-22 kW low speed

The product is designed for wireless communication with Grundfos GO using Bluetooth (BLE).

Grundfos GO enables you to set functions and gives you access to status overviews, technical product information and current operating parameters.



Communication

When Grundfos GO initiates communication with the pump, the indicator light in the middle of Grundfos Eye flashes green. See section Priority of settings.

Furthermore, on pumps fitted with an advanced control panel a text appears in the display saying that a wireless device is trying to establish connection. Press **OK** on the pump in order to establish connection with Grundfos GO or press **Home** to reject connection.

Establish communication using one of these communication types:

- radio communication
- infrared communication
- Bluetooth communication

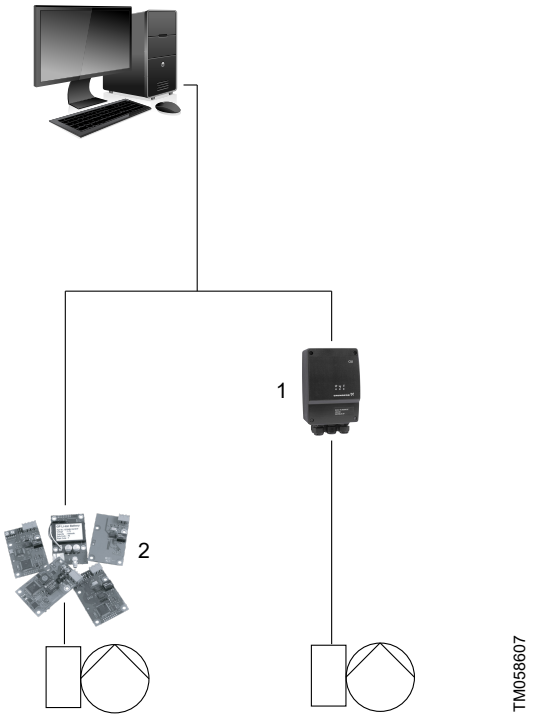
Communication with E-pumps

Communication with E-pumps is possible via a central building management system, remote control (Grundfos GO) or operating panel.

Central building management system

The operator can communicate with an E-pump at a distance by means of the CIU or CIM. Communication can take place via a central building management system allowing the operator to monitor and change control modes and setpoint settings.

The CIU unit can be used for all E-pumps and CIM module can only be used for pumps with MGE/MLE motors. Both can be ordered as accessory. For ordering details, see section CIU communication interface units and CIM communication interface modules.



Structure of a central building management system

Pos.	Description
1	CIU 100: LonWorks CIU 150: PROFIBUS DP CIU 200: Modbus RTU CIU 250: GSM CIU 270: GRM CIU 300: BACnet MS/TP CIU 500: Modbus TCP CIU 500: PROFINET IO
2	CIM 100: LONWorks CIM 150: PROFIBUS DP CIM 200: Modbus RTU CIM 260: 3G/4G cellular CIM 280: GRM GiC 3G/4G CIM 300: BACnet MS/TP CIM 500: PROFINET CIM 500: Modbus TCP CIM 500: BACnet IP CIM 500: EtherNet/IP CIM 500: GRM IP

10. Pumps connected in parallel

Control of pumps connected in parallel

In some applications, parallel pump operation is required for one or more of the following reasons:

- One pump cannot achieve the required performance or flow rate.
- Standby capacity is required to ensure reliability of supply.
- Overall efficiency needs to be improved in case of big variations in the flow rate demand.

NB, NBE, NK, NKE pumps connected in parallel can be controlled by Control MPC.

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Control MPC

Pumps connected to Control MPC

NBG, NBGE, NKG, NKGE pumps can be connected directly to Grundfos Control MPC.

Control MPC incorporates, among others, a CU 352 controller that can control up to six pumps.

By means of an external sensor, Control MPC can ensure optimum adaptation of the performance to the demand by closed-loop control of these parameters:

- proportional differential pressure
- constant differential pressure
- differential pressure, remote
- flow rate
- temperature.

CU 352 incorporates features such as those below:

Startup wizard

Correct installation and commissioning is a prerequisite for attaining optimum performance of the system and trouble-free operation year in and year out.

During commissioning of the system, a startup wizard is shown on the display of the CU 352. The wizard guides the operator through the various steps via a series of dialogue boxes to ensure that all settings are done in the correct sequence.

Application-optimised software

CU 352 incorporates application-optimised software which helps you set your system to the application in question.

Furthermore, you can easily navigate through the menus of the controller. You do not need any training to be able to set and monitor the system.

Ethernet connection

CU 352 incorporates an Ethernet connection which makes it possible to get full and unlimited access to the setting and monitoring of the system via a remote PC.

Service port, GENI TTL

The service port of the CU 352 enables easy access to updating software and data logging in service situations.

External communication

Control MPC enables communication with other fieldbus protocols. In order to communicate with other fieldbus protocols, a GENIbus module and a gateway is needed.

Control MPC can communicate with LON, PROFIBUS, Modbus or BACnet via Grundfos CIM or CIU.

Note: For further information about Control MPC, see the "Control MPC" data booklet. The data booklet is available in Grundfos Product Center on www.grundfos.com.
For further information on Grundfos Product Center, see section Grundfos Product Center.

11. Selection of product

Key application data sheet

Our "Key application data sheet" can be used to gather the information typically needed in order to make the most suitable pump configuration.

Consider the following aspects when configuring a pump:

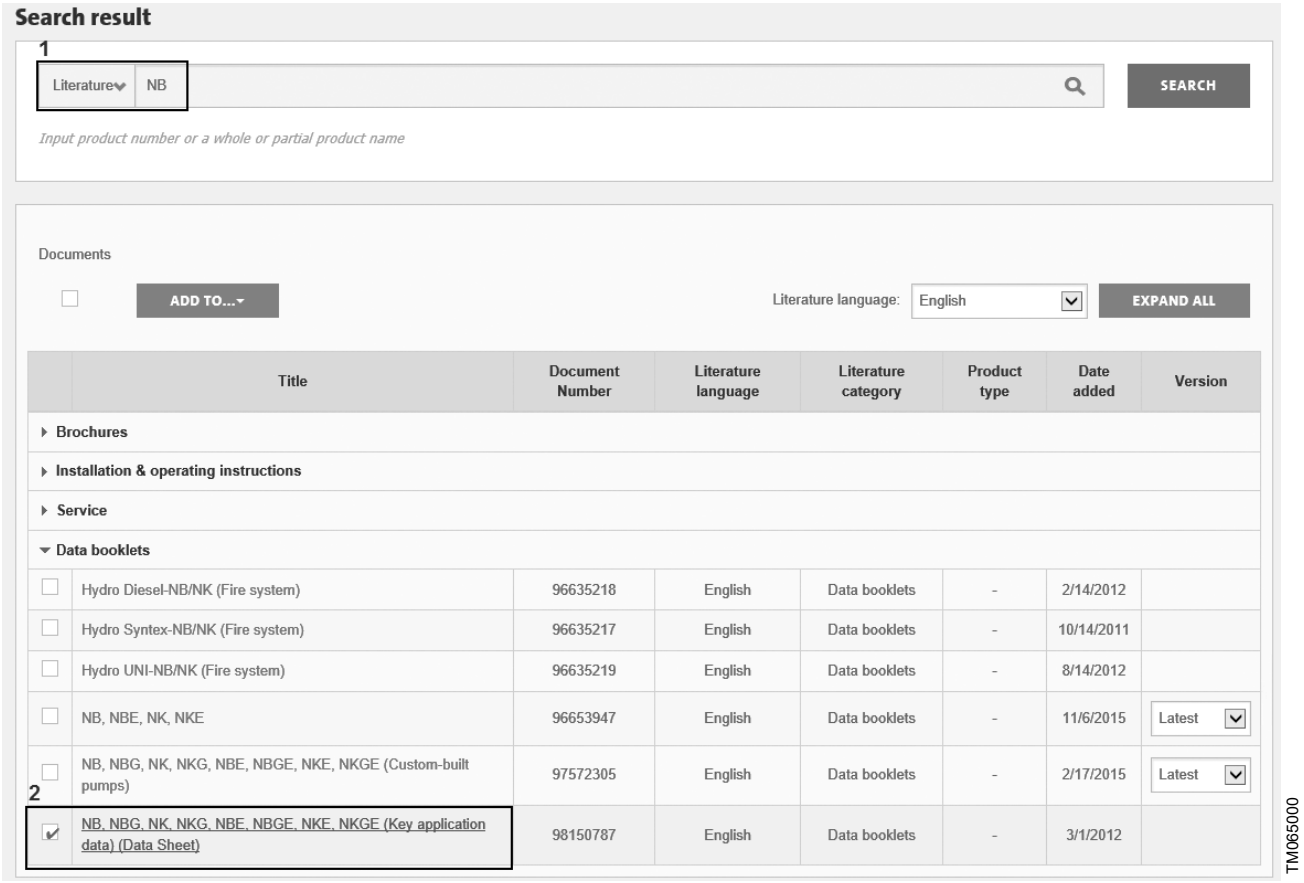
- the pumped liquid
- viscosity and density
- solids in the liquid
- operating temperatures and pressures
- customer-specific requirements.

These and other operating conditions listed in the data sheet are important for choosing the right pump material, shaft seal and shaft seal arrangement.

The data sheet can be seen as a check list and can be filled in by the customer alone or together with a Grundfos representative.

We recommend that you always fill in this data sheet as it saves a lot of time for the customer and for Grundfos.

The "Key application data sheet" can be found in Grundfos Product Center.



How to find the "Key application data sheet" in Grundfos Product Center

Pump size

Select the pump size on the basis of these conditions:

- required flow rate and pressure at the draw-off point
- pressure loss as a result of height differences
- friction loss in the pipes. It may be necessary to account for pressure loss in connection with long pipes, bends or valves, etc.
- optimum efficiency at the estimated duty point.

Efficiency

If you expect the pump to always operate at the same duty point, select a pump which operates at a duty point corresponding to the optimum efficiency of the pump.

In case of controlled operation or varying consumption, select a pump whose optimum efficiency falls within the duty range covering the greater part of the duty time.

Material

Select the material variant on the basis of the liquid to be pumped. See section Pumped liquids.

Related information

General recommendations

Motor size

Select the motor size on the basis of the power required to achieve the duty point of the chosen pump. This information can be found in the power chart below each performance chart. See section Performance curves. When a pump is fitted with a stuffing box, select the motor size according to ISO 5199.

Find the power curve corresponding to the required QH-value or interpolate between curves.

To select the motor size, read the value of the P2 curve at the duty point and add a 5 % safety margin.

If the motor size must be selected according to ISO 5199, see the table below.

Safety margins according to ISO 5199

Required pump power up to [kW]	Motor power P2 [kW]
0.18	0.25
0.27	0.37
0.40	0.55
0.55	0.75
0.81	1.1
1.1	1.5
1.7	2.2
2.3	3
3.2	4
4.3	5.5
6.1	7.5
9.1	11
12.8	15
15.9	18.5
19	22
26	30
32.5	37
40	45
49	55
68	75
81	90
100	110
120	132
145	160
181	200
227	250
286	315
322	355
364	400

Related information

Overview

12. Pumped liquids

General recommendations

We recommend NBG and NKG pumps for thin, clean and non-explosive liquids not containing solid particles or fibres.

Liquids with temperatures ranging from -25 to +140 °C are covered in this data booklet.

For liquids ranging from -40 to +220 °C, see the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858", or contact Grundfos.

Water in heating and ventilating systems often contains additives to prevent negative effects, such as system corrosion or calcareous deposits. In these cases, we recommend special shaft seals to avoid crystallisation/ precipitation between the seal faces.

For heating systems, the water quality must meet VDI2035.

"Liquids" in Grundfos.com

Via 'Solutions' on the Grundfos.com webpage a "liquids" module is accessible. This is based on the type and properties of the pumped liquid and gives recommendations with regard to materials for the wetted parts of the pump, i.e. recommend suitable and durable materials for pump housing, impeller, shaft, mechanical shaft seal and O-rings.

The "Liquids" module covers more than 170 widely used liquids.

Please note that other factors also affect the chemical resistance of the pump materials:

- solids
- contaminants
- pressure
- cleaning procedures.

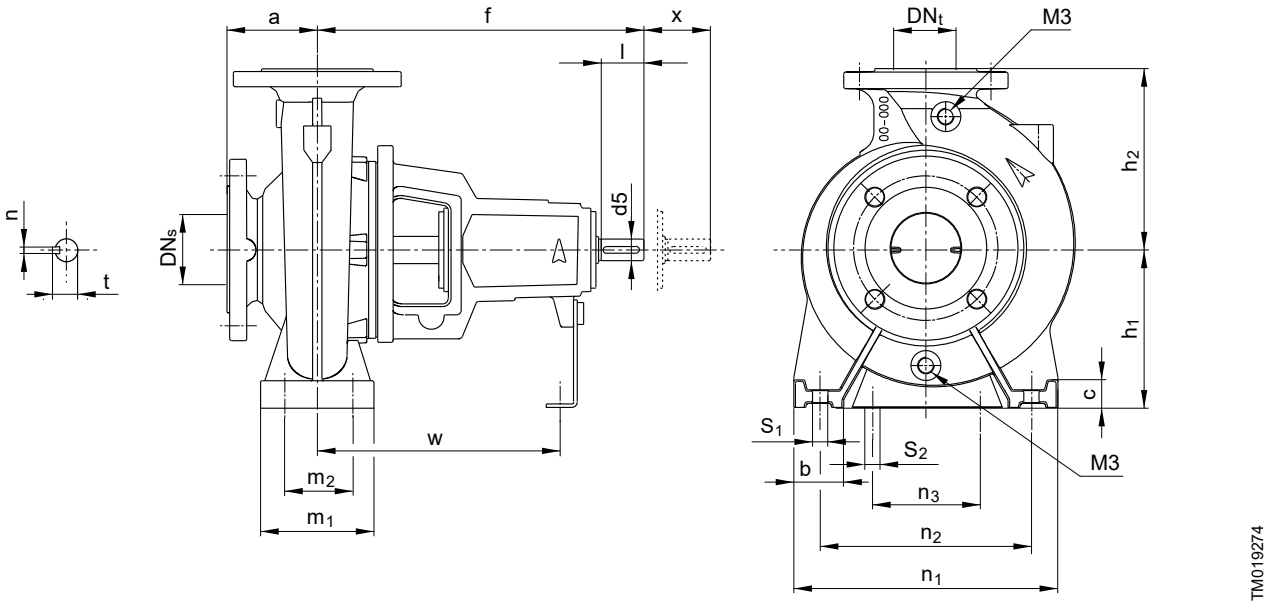
These factors are NOT considered in this tool, and the suitability of the pump material configuration can only be proved through a test.

When selecting the shaft seal and the shaft seal arrangement, we recommend that you consult the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps" for further information.

For pumped liquids with a density and/or viscosity higher than those of water, use motors with correspondingly higher outputs.

13. NKG bare shaft pumps

NKG, centre-line outlet



M3	Drain plug or priming plug

Type	Pump [mm]							Supporting feet [mm]										Shaft [mm]					Weight [kg]	
	DNs	DNt	a	f	h1	h2	M3	b	m1	m2	n1	n2	n3	w	S1	S2	c	d5	l	X [29]	t	n	CI [30]	SS [31]
NKG 50-32-125.1	50	32	80	385	112	140	3/8"	50	100	70	190	140	110	285	M12	M12	14	24	50	100	27	8	44	47
NKG 50-32-125	50	32	80	385	112	140	3/8"	50	100	70	190	140	110	285	M12	M12	14	24	50	100	27	8	44	47
NKG 50-32-160.1	50	32	80	385	132	160	3/8"	50	100	70	240	190	110	285	M12	M12	18	24	50	100	27	8	45	48
NKG 50-32-160	50	32	80	385	132	160	3/8"	50	100	70	240	190	110	285	M12	M12	18	24	50	100	27	8	46	49
NKG 50-32-200.1	50	32	80	385	160	180	3/8"	50	100	70	240	190	110	285	M12	M12	18	24	50	100	27	8	54	57
NKG 50-32-200	50	32	80	385	160	180	3/8"	50	100	70	240	190	110	285	M12	M12	18	24	50	100	27	8	54	57
NKG 50-32-250	50	32	100	500	180	225	3/8"	65	125	95	320	250	110	370	M12	M12	12	32	80	100	35	10	83	85
NKG 65-50-125	65	50	80	385	112	140	3/8"	50	100	70	210	160	110	285	M12	M12	18	24	50	100	27	8	47	49
NKG 65-50-160	65	50	80	385	132	160	3/8"	50	100	70	240	190	110	285	M12	M12	18	24	50	100	27	8	48	48
NKG 65-40-200	65	40	100	385	160	180	3/8"	50	100	70	265	212	110	285	M12	M12	18	24	50	100	27	8	55	57
NKG 65-40-250	65	40	100	500	180	225	3/8"	65	125	95	320	250	110	370	M12	M12	18	32	80	100	35	10	81	85
NKG 65-40-315	65	40	125	500	200	250	3/8"	65	125	95	345	280	110	370	M12	M12	16	32	80	100	35	10	124	116
NKG 80-65-125	80	65	100	385	132	160	3/8"	50	100	70	240	190	110	285	M12	M12	18	24	50	100	27	8	50	51
NKG 80-65-160	80	65	100	385	160	180	3/8"	50	100	70	265	212	110	285	M12	M12	18	24	50	100	27	8	52	54
NKG 80-50-200	80	50	100	385	160	200	3/8"	50	100	70	265	212	110	285	M12	M12	17	24	50	100	27	8	58	59
NKG 80-50-250	80	50	125	500	180	225	3/8"	65	125	95	320	250	110	370	M12	M12	18	32	80	100	35	10	86	88
NKG 80-50-315	80	50	125	500	225	280	1/2"	65	125	95	345	280	110	370	M12	M12	17	32	80	100	35	10	130	119
NKG 100-80-125	100	80	100	385	160	180	3/8"	65	125	95	280	212	110	285	M12	M12	18	24	50	100	27	8	55	55
NKG 100-80-160	100	80	100	500	160	200	3/8"	65	125	95	280	212	110	370	M12	M12	18	32	80	100	35	10	72	71
NKG 100-65-200	100	65	100	500	180	225	3/8"	65	125	95	320	250	110	370	M12	M12	18	32	80	140	35	10	81	82
NKG 100-65-250	100	65	125	500	200	250	1/2"	80	160	120	360	280	110	370	M16	M12	22	32	80	140	35	10	111	110
NKG 100-65-315	100	65	125	530	225	280	3/8"	80	160	120	400	315	110	370	M16	M12	22	42	110	140	45	12	141	145
NKG 125-80-160	125	80	125	500	180	225	3/8"	65	125	95	320	250	110	370	M12	M12	18	32	80	140	35	10	81	83
NKG 125-80-200	125	80	125	500	180	250	3/8"	65	125	95	345	280	110	370	M12	M12	18	32	80	140	35	10	95	100
NKG 125-80-250	125	80	125	500	225	280	3/8"	80	160	120	400	315	110	370	M16	M12	23	32	80	140	35	10	115	119
NKG 125-80-315	125	80	125	530	250	315	3/8"	80	160	120	400	315	110	370	M16	M12	22	42	110	140	45	12	152	158

Type	Pump [mm]							Supporting feet [mm]										Shaft [mm]					Weight [kg]	
	DNs	DNt	a	f	h1	h2	M3	b	m1	m2	n1	n2	n3	w	S1	S2	c	d5	l	X [29]	t	n	CI [30]	SS [31]
NKG 125-80-400	125	80	125	530	280	355	1/2"	80	160	120	435	355	110	370	M16	M12	22	42	110	140	45	12	225	201
NKG 125-80-400 [32]	125	80	125	530	280	355	1/2"	80	160	120	435	355	110	370	M16	M12	22	42	110	140	45	12	225	201
NKG 125-100-160	125	100	125	500	200	280	1/2"	80	160	120	360	280	110	370	M16	M12	17	32	80	140	35	10	100	110
NKG 125-100-200	125	100	125	500	200	280	1/2"	80	160	120	360	280	110	370	M16	M12	23	32	80	140	35	10	107	110
NKG 125-100-250	125	100	140	530	225	280	1/2"	80	160	120	400	315	110	370	M16	M12	24	42	110	140	45	12	137	143
NKG 125-100-315	125	100	140	530	250	315	1/2"	80	160	120	400	315	110	370	M16	M12	22	42	110	140	45	12	161	167
NKG 125-100-400	125	100	140	530	280	355	1/2"	100	200	150	500	400	110	370	M20	M12	22	42	110	140	45	12	236	233
NKG 150-125-200	150	125	140	500	250	315	1/2"	80	160	120	400	315	110	370	M16	M12	19	32	80	140	35	10	141	139
NKG 150-125-250	150	125	140	530	250	355	1/2"	80	160	120	400	315	110	370	M16	M12	22	42	110	140	45	12	158	158
NKG 150-125-315	150	125	140	530	280	355	1/2"	100	200	150	500	400	110	370	M20	M12	17	42	110	140	45	12	190	194
NKG 150-125-400	150	125	140	530	315	400	1/2"	100	200	150	500	400	110	370	M20	M12	22	42	110	140	45	12	254	247
NKG 150-125-500	150	125	180	670	400	500	1/2"	125	200	150	625	500	140	500	M20	M16	28	60	110	180	64	18	503	494
NKG 200-150-200	200	150	160	500	280	400	1/2"	100	200	150	550	450	110	370	M20	M12	26	32	80	180	35	10	190	185
NKG 200-150-250	200	150	160	530	280	375	1/2"	100	200	150	500	400	110	370	M20	M12	20	42	110	180	45	12	199	208
NKG 200-150-315.2	200	150	160	670	315	400	1/2"	100	200	150	550	450	140	500	M20	M16	21	48	110	180	51.5	14	326	330
NKG 200-150-315	200	150	160	670	315	400	1/2"	100	200	150	550	450	140	500	M20	M16	21	48	110	180	51.5	14	324	327
NKG 200-150-400	200	150	160	670	315	450	1/2"	100	200	150	550	450	140	500	M20	M16	19	48	110	180	51.5	14	366	369
NKG 200-150-500	200	150	180	670	400	500	1/2"	125	200	150	625	500	140	500	M20	M16	29	60	110	180	64	18	523	535

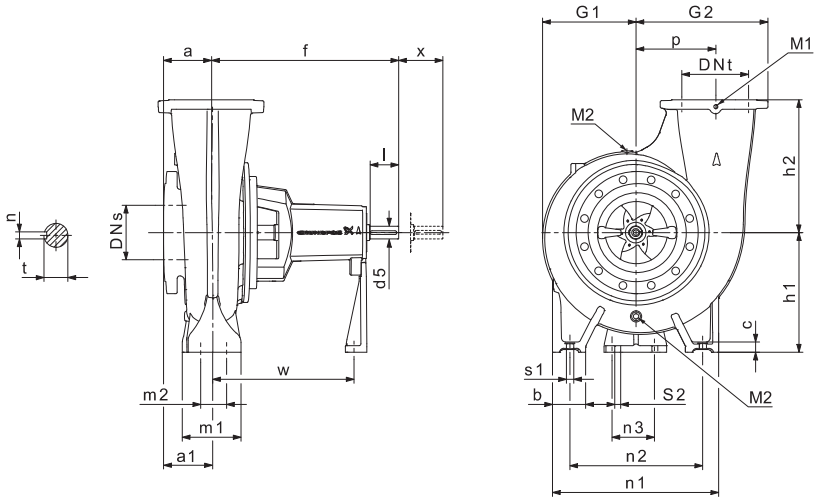
29) X is the minimum pull-back length of the bearing bracket required for service of impeller and shaft seal.

30) CI: Cast iron version

31) SS: Stainless steel version

32) Oversize shaft

NKG, tangential outlet



TM043857

M1/M2	Drain plug or priming plug

Type	Pump [mm]												Supporting feet [mm]										Shaft [mm]					Weight [kg]
	DNs	DNt	a	a1	f	h1	h2	M1	M2	G1	G2	p	b	m1	m2	n1	n2	n3	w	S1	S2	c	d5	l	X [33]	t	n	CI [34]
NKG 250-200-400	250	200	170	180	698	400	400	3/8"	1/2"	331	485	315	125	200	150	625	500	140	519	M20	M16	33	48	110	180	51.5	14	428
NKG 250-200-450	250	200	150	154	691	400	450	3/8"	1/2"	355	525	355	125	200	150	625	500	140	519	M20	M16	33	48	110	180	51.5	14	443
NKG 300-250-350	300	250	175	185	739	450	400	3/8"	1/2"	379	523	320	125	200	150	625	500	140	559	M20 [35]	M16	33	48	110	180	51.5	14	528
NKG 300-250-400	300	250	160	173	714	450	500	3/8"	1/2"	350	498	295	125	200	150	625	500	140	532	M20 [35]	M16	33	48	110	180	51.5	14	479
NKG 300-250-450	300	250	165	173	704	450	500	3/8"	1/2"	374	563	360	125	200	150	625	500	140	515	M20	M16	33	60	110	180	64	18	557
NKG 300-250-500	300	250	165	170	709	450	500	3/8"	1/2"	441	598	395	125	200	150	725	600	140	528	M20 [35]	M16	33	60	110	180	64	18	670
NKG 350-300-305	350	300	201	253	780	480	400	3/8"	1/2"	416	560	330	140	215	180	640	500	140	558	M20	M16	33	48	110	180	51.5	14	595

[33] X is the minimum pull-back length of the bearing bracket required for service of impeller and shaft seal.

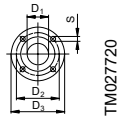
[34] CI: Cast iron version

[35] For stainless steel and duplex steel versions, S1 is M24.

14. Pump flange dimensions

Fixed pump flanges, EN 1092-2

EN 1092-2 is the standard used for cast iron pump flanges. The flange dimensions are stated in mm.

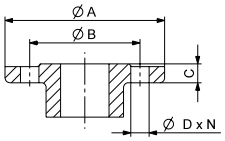


TM027720

		EN 1092-2											
		Nominal diameter											
		DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300	DN 350
	D_1	32	40	50	65	80	100	125	150	200	250	300	350
PN 10	D_2	100	110	125	145	160	180	210	240	295	350	400	460
	D_3	140	150	165	185	200	220	250	285	340	395	445	505
	S	4 x ∅19	4 x ∅19	4 x ∅19	4 x ∅19	8 x ∅19	8 x ∅19	8 x ∅19	8 x ∅23	8 x ∅23	12 x ∅23	12 x ∅23	16 x ∅23
PN 16	D_2	100	110	125	145	160	180	210	240	295	355	410	470
	D_3	140	150	165	185	200	220	250	285	340	405	460	520
	S	4 x ∅19	4 x ∅19	4 x ∅19	4 x ∅19	8 x ∅19	8 x ∅19	8 x ∅19	8 x ∅23	12 x ∅23	12 x ∅28	12 x ∅28	16 x ∅28

Fixed pump flanges, AS2129 table E

AS2129 table E is the Australian standard for cast iron pump flanges. The flanges are available on request.
The flange dimensions are stated in mm.

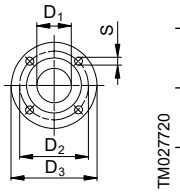


TM042242

Nominal flange size		32	40	50	65	80	100	125	150	200
Flange diameter	A	140	150	165	185	200	220	250	285	340
Pitch circle diameter	B	87	98	114	127	146	178	210	235	292
Flange thickness	C	18	18	20	20	22	24	26	26	30
Hole diameter	D	14	14	18	18	18	18	18	22	22
Number of holes	N	4	4	4	4	4	8	8	8	8

Fixed pump flanges, EN 1092-1

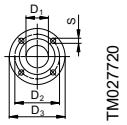
EN 1092-1 is the standard used for steel pump flanges. The flange dimensions are stated in mm.



		EN 1092-1								
		Nominal diameter								
		DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
	D_1	32	40	50	65	80	100	125	150	200
PN 10	D_2	100	110	125	145	160	180	210	240	295
	D_3	140	150	165	185	200	220	250	285	340
	S	4 x ∅18	4 x ∅18	4 x ∅18	4 x ∅18	8 x ∅18	8 x ∅18	8 x ∅18	8 x ∅22	8 x ∅22
PN 16	D_2	100	110	125	145	160	180	210	240	295
	D_3	140	150	165	185	200	220	250	285	340
	S	4 x ∅18	4 x ∅18	4 x ∅18	4 x ∅18	8 x ∅18	8 x ∅18	8 x ∅18	8 x ∅22	12 x ∅22
PN 25	D_2	100	110	125	145	160	190	220	250	310
	D_3	140	150	165	185	200	235	270	300	360
	S	4 x ∅18	4 x ∅18	4 x ∅18	4 x ∅18	8 x ∅18	8 x ∅18	8 x ∅26	8 x ∅26	12 x ∅26
PN 40	D_2	100	110	125	145	160	190	220	250	320
	D_3	140	150	165	185	200	235	270	300	375
	S	4 x ∅18	4 x ∅18	4 x ∅18	8 x ∅18	8 x ∅18	8 x ∅26	8 x ∅26	8 x ∅26	12 x ∅30

Loose pump flanges, EN 1092-1

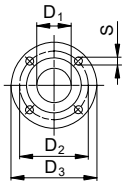
EN 1092-1 is the standard used for stainless steel pump flanges. The flange dimensions are stated in mm.



		EN 1092-1										
		Nominal diameter										
		DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300
	D_1	32	40	50	65	80	100	125	150	200	250	300
PN 10	D_2	100	110	125	145	160	180	210	240	295	350	400
	D_3	140	150	165	185	200	220	250	285	340	395	445
	S	4 x ∅19	4 x ∅19	4 x ∅19	4 x ∅19	8 x ∅19	8 x ∅19	8 x ∅19	8 x ∅23	8 x ∅23	12 x ∅23	12 x ∅23
PN 16	D_2	100	110	125	145	160	180	210	240	295	355	410
	D_3	140	150	165	185	200	220	250	285	340	405	460
	S	4 x ∅19	4 x ∅19	4 x ∅19	4 x ∅19	8 x ∅19	8 x ∅19	8 x ∅19	8 x ∅23	12 x ∅23	12 x ∅28	12 x ∅28
PN 25	D_2	100	110	125	145	160	190	220	250	310	370	430
	D_3	140	150	165	185	200	235	270	300	360	425	485
	S	4 x ∅19	4 x ∅19	4 x ∅19	8 x ∅19	8 x ∅19	8 x ∅23	8 x ∅28	8 x ∅28	12 x ∅28	12 x ∅30	16 x ∅30
PN 40	D_2	100	110	125	145	160	190	220	250	320	385	450
	D_3	140	150	165	185	200	235	270	300	375	450	515
	S	4 x ∅19	4 x ∅19	4 x ∅19	8 x ∅19	8 x ∅19	8 x ∅23	8 x ∅28	8 x ∅28	12 x ∅31	12 x ∅33	16 x ∅33

Loose pump flanges, ASME B16.5

ASME B16.5 is the standard used for stainless steel pump flanges. Material of flange: AISI 316/A105.

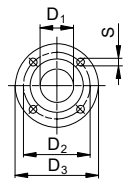


		ASME B16.5								
		Nominal diameter								
		1 1/4" [36]	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
	D_1 [mm]	32.0	40.0	50.0	65.0	80.0	100.0	125.0	150.0	200.0
Class 300	D_2 [mm]	98.4	114.3	127.0	149.2	168.3	200.0	235.0	269.9	330.2
	D_3 [mm]	135.0	155.0	165.0	190.0	210.0	255.0	280.0	320.0	380.0
	S [inch]	4 x ∅3/4"	4 x ∅7/8"	8 x ∅3/4"	8 x ∅7/8"	8 x ∅7/8"	8 x ∅7/8"	8 x ∅7/8"	12 x ∅7/8"	12 x ∅1"

36) 1 1/4" is only available as fixed flange.

Loose pump flanges, JIS B 2220

JIS B 2220 is the standard used for stainless steel pump flanges. The flange dimensions are stated in mm.
Material of flange: EN 1.4408/GGG50.

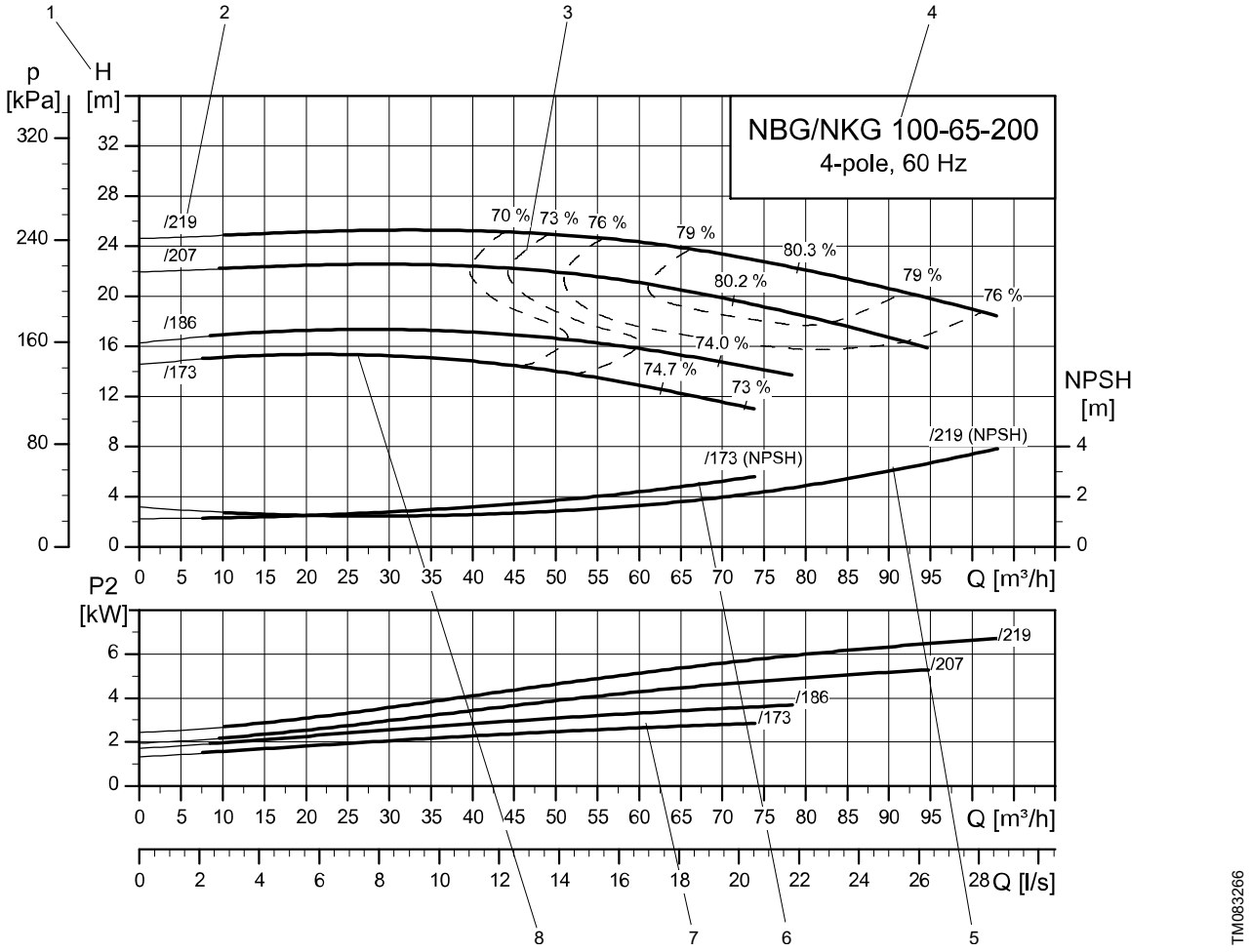


		JIS B 2220								
		Nominal diameter								
		DN 32 [37]	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
	D_1	32.0	40.0	50.0	65.0	80.0	100.0	125.0	150.0	200.0
20K	D_2	100.0	105.0	120.0	140.0	160.0	185.0	225.0	260.0	305.0
	D_3	135.0	140.0	155.0	175.0	200.0	225.0	270.0	305.0	350.0
	S	4 x ∅19.0	4 x ∅19.0	8 x ∅19.0	8 x ∅19.0	8 x ∅23.0	8 x ∅23.0	8 x ∅25.0	12 x ∅25.0	12 x ∅25.0

37) DN 32 is only available as fixed flange.

15. Introduction to curves and technical data

How to read the curve charts



Pos.	Description
1	Total pump head, p [kPa] or H [m] = H_{total}
2	Impeller diameter [mm]
3	Hydraulic efficiency curves are shown as dashed lines, eta [%]
4	Pump type, pole number and frequency
5	The NPSH curve is shown for maximum impeller size.
6	The NPSH curve is shown for minimum impeller size.
7	The power curve indicates pump input power P2 [kW]
8	QH curve for the individual pump. The bold curve shows the recommended performance range.

The shown pump performance curves in section Performance curves represent the pump in combination with an IE3 motor.

- 2-pole: P2 less than or equal to 22 kW, pump with MG motor; P2 greater than or equal to 30 kW, pump with Siemens motor.
- 4-pole: P2 less than or equal to 15 kW, pump with MG motor; P2 greater than or equal to 18.5 kW, pump with Siemens motor.
- 6-pole: Pump with Siemens motor.
- 8-pole: Pump with Siemens motor.

Related information

Overview

Curve conditions

The guidelines below apply to the curves shown in the section Performance curves.

- Tolerances are according to ISO 9906:2012 Grade 3B.
- The curves show pump performance with different impeller diameters at the nominal speed.
- The bold part of the curves show the recommended operating range.
- We do not recommend the thin parts as the possible operating range here might suggest the selection of a smaller or larger pump type.
- Do not use the pumps at minimum flow rates below 0.1 x Q_{max} because of the danger of overheating the pump.
- The curves apply to the pumping of water at a temperature of 20 °C and a kinematic viscosity of 1 mm^2/s (1 cSt).
- **Eta:** The dashed lines show values of the hydraulic efficiency of the pump.
- **NPSH:** The curves show maximum values measured under the same conditions as the performance curves.
- In case of other densities than 1000 kg/m^3, the outlet pressure is proportional to the density.
- When pumping liquids with a density higher than 1000 kg/m^3, motors with correspondingly higher outputs must be used.
- When a pump is fitted with a stuffing box, select the motor size according to ISO 5199.

Calculation of total head

The total pump head consists of the height difference between the measuring points + the differential head + the dynamic head.

$H_{total} = H_{geo} + H_{stat} + H_{dyn}$

H_{geo}	Height difference between measuring points.
H_{stat}	Differential head between the inlet and outlet sides of the pump.
H_{dyn}	Calculated values based on the velocity of the pumped liquid on the inlet and outlet sides of the pump.

Pump performance testing

NB, NBG, NK and NKG testers are all capable of performing hydraulic performance tests according to ISO 9906:2012 requirements.

The standard ISO 9906:2012 sets standards for "rotodynamic pumps, Hydraulic performance acceptance tests, Grades 1, 2 and 3".

Performance acceptance grades

Six pump-performance-test acceptance grades, 3B, 2B, 2U, 1B, 1E and 1U are defined in ISO 9906:2012.

Acceptance grade	Mandatory measurements		Optional measurements	
	Q	H	P1	Eta-tot
3B	± 9 %	± 7 %	+ 9 %	- 7 %
2B	± 8 %	± 5 %	+ 8 %	- 5 %
2U	+ 16 %	+ 10 %	+ 16 %	
1B	± 5 %	± 3 %	+ 4 %	- 3 %
1E	± 5 %	± 3 %	+ 4 %	≥0 %
1U	+ 10 %	+ 6 %	+ 10 %	

Q:	Flow
H:	Head
P1:	Total consumed power
Eta-tot:	Total efficiency

These tolerance grades can be used in the contract between the pump manufacturer and the purchaser, or they can be used in a default tolerance factor which will apply if no specific tolerance grade has been agreed between the manufacturer and the customer.

The performance acceptance grades are explained in section Specifying acceptance grades, showing the performance grades related to an ordinary pump curve.

Related information

Specifying acceptance grades

Acceptance grades and tolerances

The guarantee point

According to ISO 9906:2012 the acceptance-grade tolerance applies to one guarantee point.

A guarantee point is defined by a guaranteed flow and a guaranteed head.

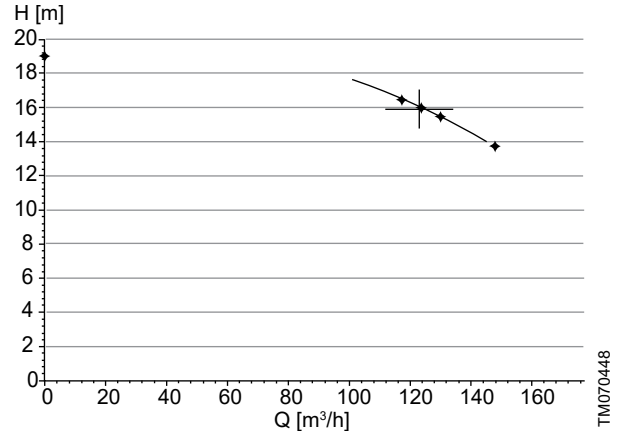
In addition either minimum total efficiency or maximum total input power may be guaranteed at the specified conditions.

This means that the standard sets guidelines for a duty point guaranteed for the following:

- Q and H - or
- Q, H and total efficiency (Eta-total) - or
- Q, H and total consumed power (P1).

The guarantee point is defined by a minimum of five measured test points.

Example on a duty point test living up to ISO 9906:2012 requirements

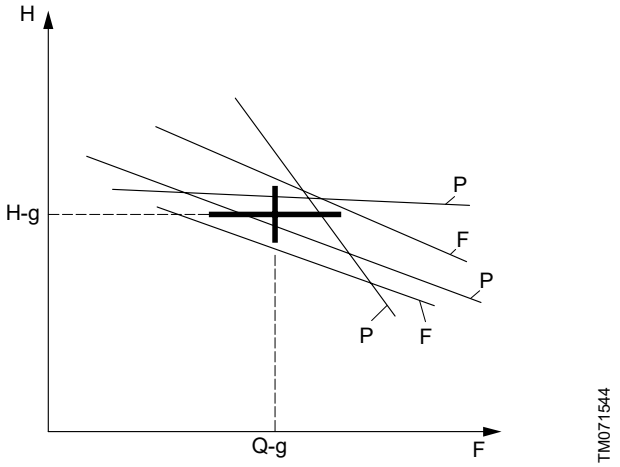


Five measured test points are used to verify one guarantee point

Evaluation of performance

The test must show that the measured pump curve touches or passes through a tolerance surrounding the guarantee point, as defined by the selected acceptance grade.

Guarantee-point evaluation must be made at the rated speed, which for NB, NBG, NK, NKG pumps means 50 Hz or 60 Hz.



Pump curves that either pass or fail to cross the tolerance cross of the guarantee point

Pos.	Description
H	Head
H-g	H-guaranteed
Q-g	Q-guaranteed
F	Flow
P	Pass
F	Fail

Performance-test types for end-suction pumps

Two types of performance tests are available for NBG, NBGE, NKG, NKGE pumps:

- duty-point-verification test
- curve test.

Tests carried out on pumps

- Tests are saved for at least five years and can be traced using the pump's unique serial number.
- It is not possible to change acceptance grade on an already tested and supplied pump - if this should be required a re-test of the pump is needed.
- Witness testing can be arranged.

Duty-point-verification test, Grades 3B, 2B, 2U, 1B, 1E and 1U

This test method offers the possibility to perform a duty-point verification of the following:

- Q and H - or
- Q, H and total efficiency (Eta-tot) - or
- Q, H and total consumed power (P1).

Acceptance grade	Mandatory measurements		Optional measurements	
	Q	H	P1	Eta-tot
3B	Standard		On request	
2B	On request		On request	
2U				
1B	On request		On request	
1E				
1U				

What Grundfos is able to guarantee for the different acceptance grades will be evaluated case by case. Contact your local sales company on this.

Grundfos makes duty-point verification according to ISO 9906:2012 for one guarantee point at full speed, 50 or 60 Hz. The customer must tell Grundfos which duty point to verify.

The requested duty point is verified by five measured points.

Grade 1U duty-point verification

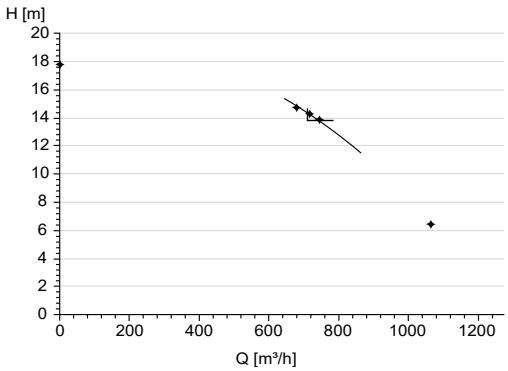
The following example illustrates performance testing according to Grade 1U.

Flow and head are mandatory and efficiency or power consumption, P1, is optional.

Tolerances for a Grade 1U test are as follows:

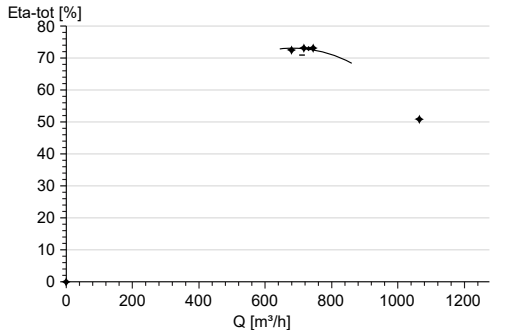
- Flow: + 10 %
- Head: + 6 %
- Efficiency: 0 %, only equal to or better than the guaranteed value
- P1: + 10 %

1. Q, H and Eta-tot is tested and verified



TM071542

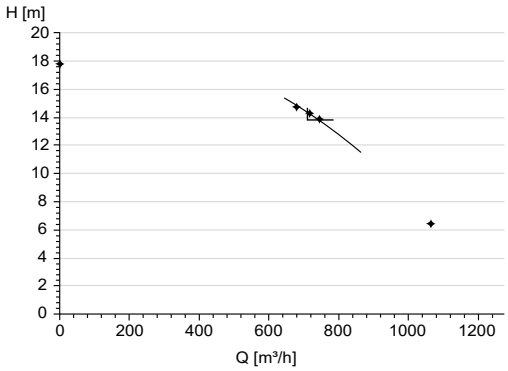
Measured values for flow and head



TM071543

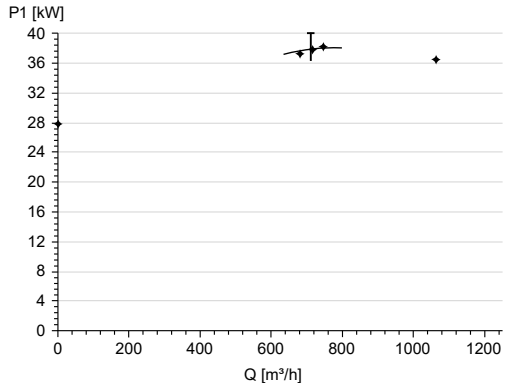
Measured values for total efficiency

2. Q, H and P1 is tested and verified



TM071542

Measured values for flow and head



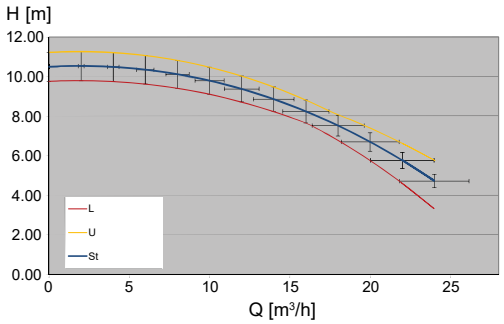
TM071545

Measured values for consumed power

Note that other points than the guarantee point can be measured and displayed in a curve-test report according to Grade 3B tolerances.

Curve test, Grade 3B

This test method is developed by Grundfos and is based on ISO 9906:2012 performance acceptance grade 3B tolerances: Q = ± 9 %, H = ± 7 %.



TM071515

Q-H curve with tolerance crosses on complete performance range

Pos.	Description
L	Lower limit
U	Upper limit
St	Standard curve

On figure above tolerance crosses according to Grade 3B have been distributed across the complete performance range of a pump. We generate the upper and lower limit of the performance curve by drawing two curves at the outlines of these crosses.

When the pump is tested and the measured point is located within the range between upper and lower limit, it is qualified to ISO 9906:2012 Grade 3B tolerances. This way of qualifying the pump performance is stricter than a duty-point-verification test for Grade 3B.

How does Grundfos make curve testing for pumps

Grundfos makes the curve test in one of the following two ways:

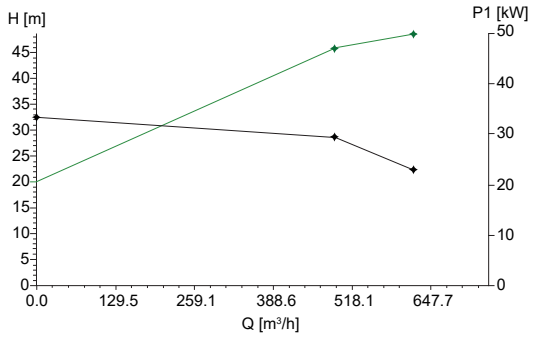
- a reference-curve test
- a performance-curve test.

Reference-curve test, Grade 3B

A reference test is made when no curve-test report is specified with the order. Three or four test points are measured depending on production site, and no curve-test report is supplied with the pump.

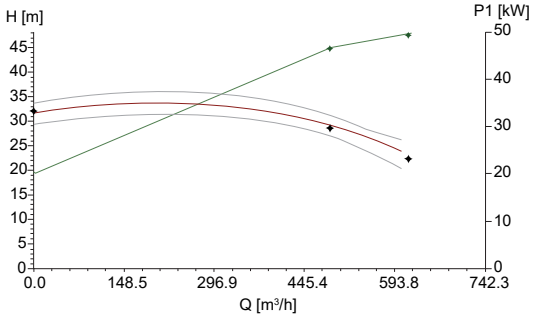
Measurements are made to maintain and observe continuous quality and to ensure that the supplied pump is within test-grade tolerances. Test-grade tolerances are set as for Grade 3B but without certification.

Example of a reference-curve test



TM070445

Measured values for tested pump



TM070444

The values in fig. Measured values for tested pump calculated to a reference speed for comparison to a reference performance curve

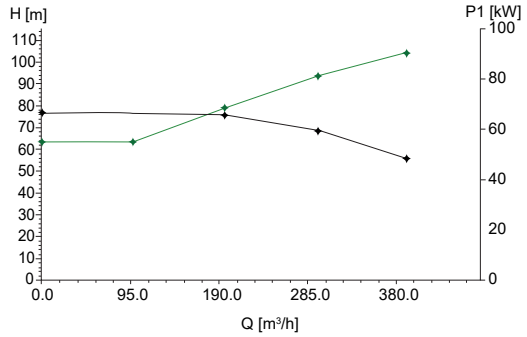
If a pump-performance report is requested at a later stage only reference-test data are available.

Performance-curve test, Grade 3B

A performance-curve test is made when a curve test report is specified with the order.

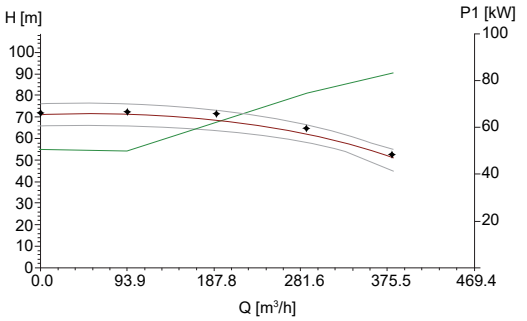
The pump is tested at pre-specified flows, distributed over the full pump curve - minimum five points, and test grade tolerances are set as for Grade 3B but without certification.

Example of a performance curve test



TM070447

Measured values for tested pump



TM070446

The values in fig. Measured values for tested pump calculated to a reference speed for comparison to a reference performance

If the customer requires more points on the curve to be checked, individual measurements must be made and this is not part of the performance curve test.

Static high pressure test

All produced pumps undergo a static high pressure test of 1.5 x PN (pressure rating of the pump).

Specifying acceptance grades

The graphs in section Acceptance grades and tolerances show the tolerances as stated in the standard, related to an ordinary pump curve. The graphs also show which pump performance to expect if the customer, having the same pump to start with, orders a pump with the same guarantee point for different tolerances (B, E or U) within the acceptance grades.

In some cases it will not be possible to fulfil the same guarantee point for a unilateral tolerance as it will for a bilateral tolerance. This is indicated by the lowered curve for "E" and "U" grades.

If the requested guarantee point is the same for a Grade U pump as for a Grade B pump, the consequence of the production tolerances could result in a larger pump being required to obtain the requested duty point.

What Grundfos is able to guarantee for the different acceptance grades will be evaluated case by case. Contact your local sales company on this.

Related information

Acceptance grades and tolerances

Acceptance grades and tolerances

Acceptance grade B

This acceptance grade refers to grades with a bilateral tolerance on flow and head and with a tolerance on efficiency.

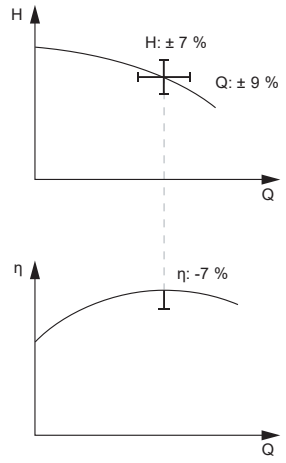
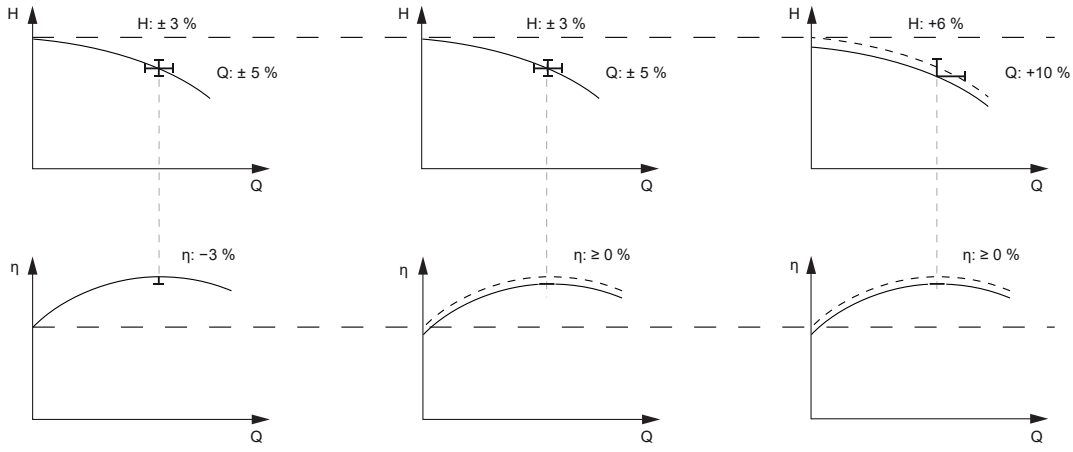
Acceptance grade E

This acceptance grade refers to a grade with a bilateral tolerance on flow and head but without tolerance on efficiency.

Acceptance grade U

This acceptance grade refers to a grade with a unilateral tolerance on flow and head. For the 2U grade there is a tolerance on efficiency. For the 1U grade there is no tolerance on efficiency.

Note that if the acceptance grade changes from Grade 1B to 1U, the customer does not necessarily get a better pump with a higher efficiency. More likely, he gets a pump where the performance is always to the positive side of the guarantee point.

	Acceptance grade		
	B	E	U
Grade 3			TM071546
Grade 2			TM071547
Grade 1			TM071548

16. Performance curves

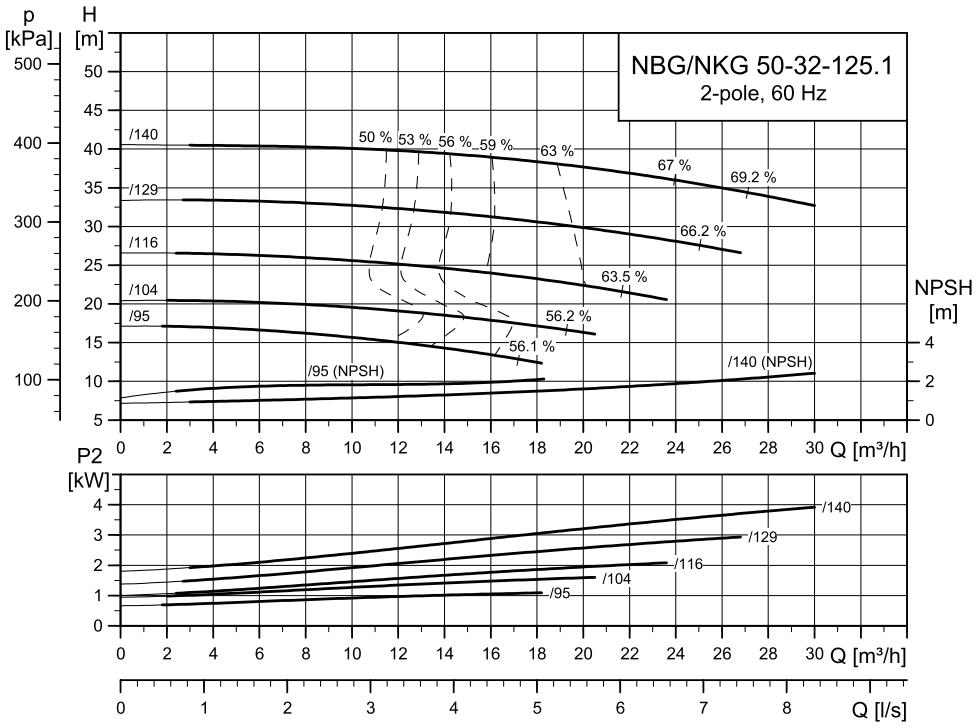
Overview

Pump type	2-pole	4-pole	6-pole	8-pole
NBG, NKG 50-32-125.1	*NBG, NKG 50-32-125.1*	*NBG, NKG 50-32-125.1*	-	-
NBG, NKG 50-32-125	*NBG, NKG 50-32-125*	*NBG, NKG 50-32-125*	-	-
NBG, NKG 50-32-160.1	*NBG, NKG 50-32-160.1*	*NBG, NKG 50-32-160.1*	-	-
NBG, NKG 50-32-160	*NBG, NKG 50-32-160*	*NBG, NKG 50-32-160*	-	-
NBG, NKG 50-32-200.1	*NBG, NKG 50-32-200.1*	*NBG, NKG 50-32-200.1*	-	-
NBG, NKG 50-32-200	*NBG, NKG 50-32-200*	*NBG, NKG 50-32-200*	-	-
NBG, NKG 50-32-250	*NBG, NKG 50-32-250*	*NBG, NKG 50-32-250*	-	-
NBG, NKG 65-50-125	*NBG, NKG 65-50-125*	*NBG, NKG 65-50-125*	-	-
NBG, NKG 65-50-160	*NBG, NKG 65-50-160*	*NBG, NKG 65-50-160*	-	-
NBG, NKG 65-40-200	*NBG, NKG 65-40-200*	*NBG, NKG 65-40-200*	-	-
NBG, NKG 65-40-250	*NBG, NKG 65-40-250*	*NBG, NKG 65-40-250*	-	-
NBG, NKG 65-40-315	*NBG, NKG 65-40-315*	*NBG, NKG 65-40-315*	-	-
NBG, NKG 80-65-125	*NBG, NKG 80-65-125*	*NBG, NKG 80-65-125*	-	-
NBG, NKG 80-65-160	*NBG, NKG 80-65-160*	*NBG, NKG 80-65-160*	-	-
NBG, NKG 80-50-200	*NBG, NKG 80-50-200*	*NBG, NKG 80-50-200*	-	-
NBG, NKG 80-50-250	*NBG, NKG 80-50-250*	*NBG, NKG 80-50-250*	-	-
NBG, NKG 80-50-315	*NBG, NKG 125-80-315*	*NBG, NKG 80-50-315*	-	-
NBG, NKG 100-80-125	*NBG, NKG 100-80-125*	*NBG, NKG 100-80-125*	-	-
NBG, NKG 100-80-160	*NBG, NKG 100-80-160*	*NBG, NKG 100-80-160*	-	-
NBG, NKG 100-65-200	*NBG, NKG 100-65-200*	*NBG, NKG 100-65-200*	-	-
NBG, NKG 100-65-250	*NBG, NKG 100-65-250*	*NBG, NKG 100-65-250*	-	-
NBG, NKG 100-65-315	*NBG, NKG 100-65-315*	*NBG, NKG 100-65-315*	-	-
NBG, NKG 125-80-160	*NBG, NKG 125-80-160*	*NBG, NKG 125-80-160*	-	-
NBG, NKG 125-80-200	*NBG, NKG 125-80-200*	*NBG, NKG 125-80-200*	-	-
NBG, NKG 125-80-250	*NBG, NKG 125-80-250*	*NBG, NKG 125-80-250*	-	-
NBG, NKG 125-80-315	*NBG, NKG 125-80-315*	*NBG, NKG 125-80-315*		-
NBG, NKG 125-80-400	-	*NBG, NKG 125-80-400*	-	-
NBG, NKG 125-100-160	*NBG, NKG 125-100-160*	*NBG, NKG 125-100-160*	*NBG, NKG 125-100-160*	-
NBG, NKG 125-100-200	*NBG, NKG 125-100-200*	*NBG, NKG 125-100-200*	*NBG, NKG 125-100-200*	-
NBG, NKG 125-100-250	*NBG, NKG 125-100-250*	*NBG, NKG 125-100-250*	*NBG, NKG 125-100-250*	-
NBG, NKG 125-100-315	-	*NBG, NKG 125-100-315*	*NBG, NKG 125-100-315*	-
NBG, NKG 125-100-400	-	*NBG, NKG 125-100-400*	*NBG, NKG 125-100-400*	-
NBG, NKG 150-125-200	-	*NBG, NKG 150-125-200*	*NBG, NKG 150-125-200*	-
NBG, NKG 150-125-250	*NBG, NKG 150-125-250*	*NBG, NKG 150-125-250*	*NBG, NKG 150-125-250*	-
NBG, NKG 150-125-315	-	*NBG, NKG 150-125-315*	*NBG, NKG 150-125-315*	-
NBG, NKG 150-125-400	-	*NBG, NKG 150-125-400*	*NBG, NKG 150-125-400*	-
NBG, NKG 150-125-500	-	*NBG, NKG 150-125-500*	*NBG, NKG 150-125-500*	-
NBG, NKG 200-150-200	*NBG, NKG 200-150-200*	*NBG, NKG 200-150-200*	*NBG, NKG 200-150-200*	-
NBG, NKG 200-150-250	-	*NBG, NKG 200-150-250*	*NBG, NKG 200-150-250*	-
NBG, NKG 200-150-315.2	*NBG, NKG 200-150-315.2*	*NBG, NKG 200-150-315.2*	*NBG, NKG 200-150-315.2*	-
NBG, NKG 200-150-315	-	*NBG, NKG 200-150-315*	*NBG, NKG 200-150-315*	-
NBG, NKG 200-150-400	-	*NBG, NKG 200-150-400*	*NBG, NKG 200-150-400*	-
NBG, NKG 200-150-500	-	*NBG, NKG 200-150-500*	*NBG, NKG 200-150-500*	-
NBG, NKG 250-200-400	-	*NBG, NKG 250-200-400*	*NBG, NKG 250-200-400*	-
NBG, NKG 250-200-450	-	*NBG, NKG 250-200-450*	*NBG, NKG 250-200-450*	-
NBG, NKG 300-250-350	-	*NBG, NKG 300-250-350*	*NBG, NKG 300-250-350*	-
NBG, NKG 300-250-400	-	*NBG, NKG 300-250-400*	*NBG, NKG 300-250-400*	-

Pump type	2-pole	4-pole	6-pole	8-pole
NBG, NKG 300-250-450	-	*NBG, NKG 300-250-450*	*NBG, NKG 300-250-450*	-
NBG, NKG 300-250-500	-	*NBG, NKG 300-250-500*	*NBG, NKG 300-250-500*	-
NBG, NKG 350-300-305	-	*NBG, NKG 350-300-305*	*NBG, NKG 350-300-305*	*NBG, NKG 350-300-305*

2-pole

NBG, NKG 50-32-125.1



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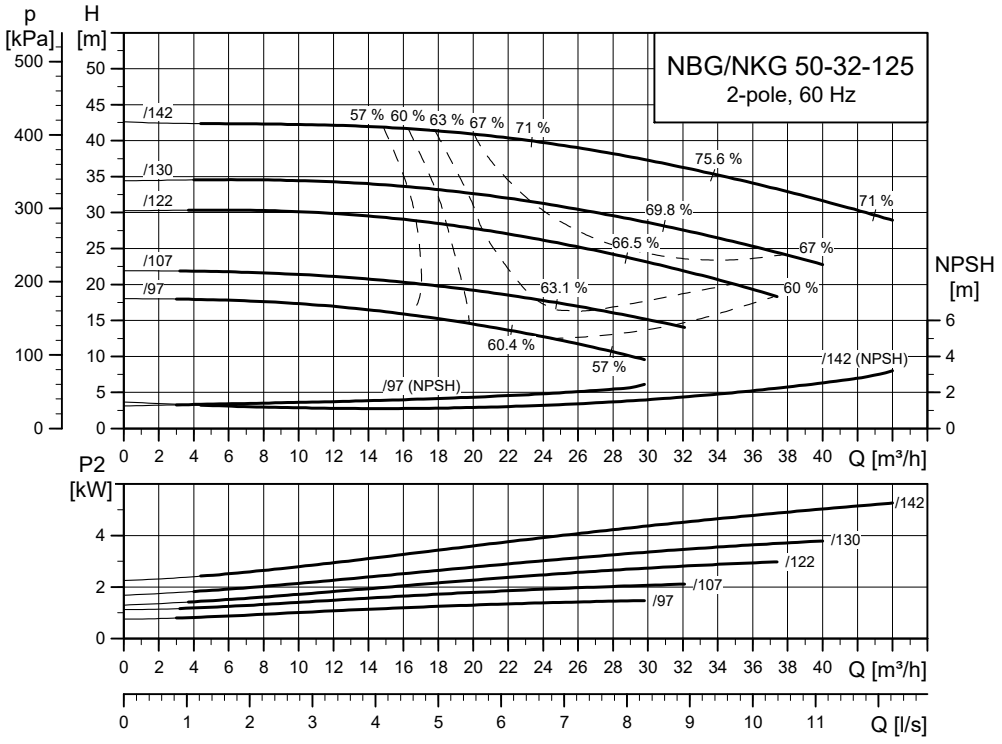
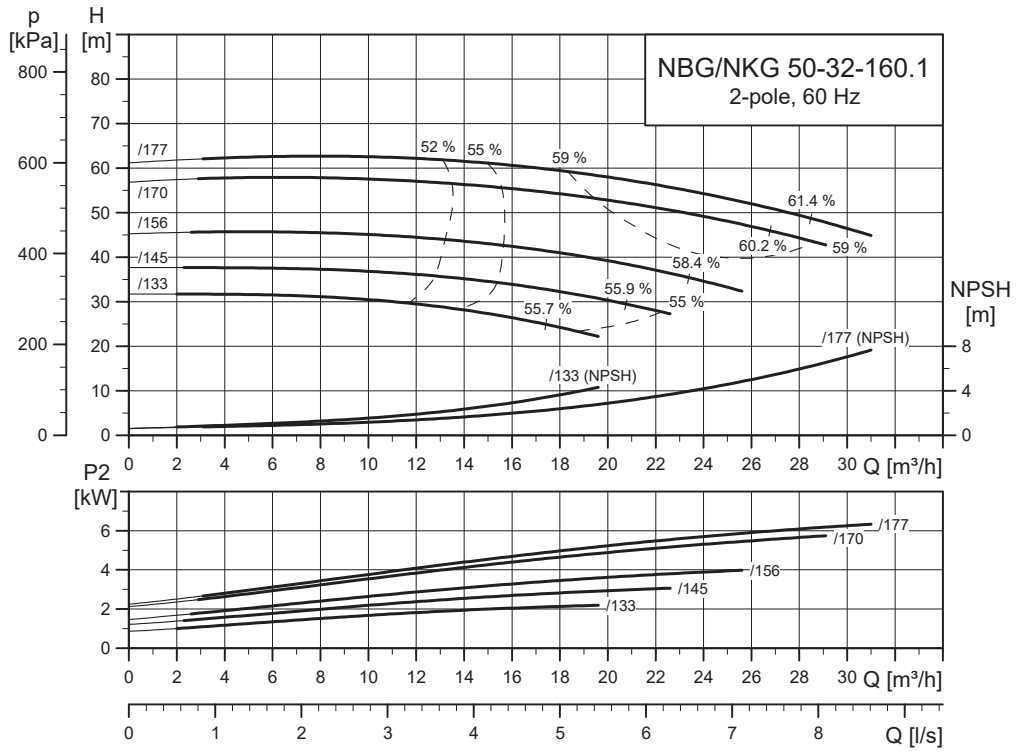
NBG, NKG 50-32-125



TM034995

NBG, NKG 50-32-160.1



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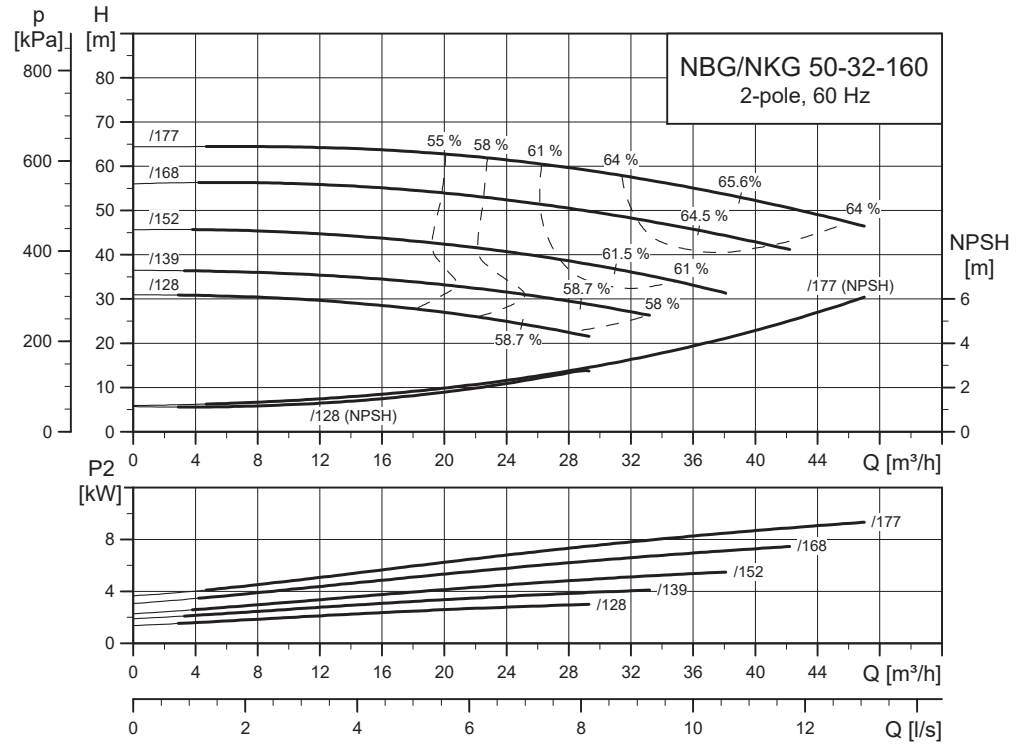
NBG, NKG 50-32-160



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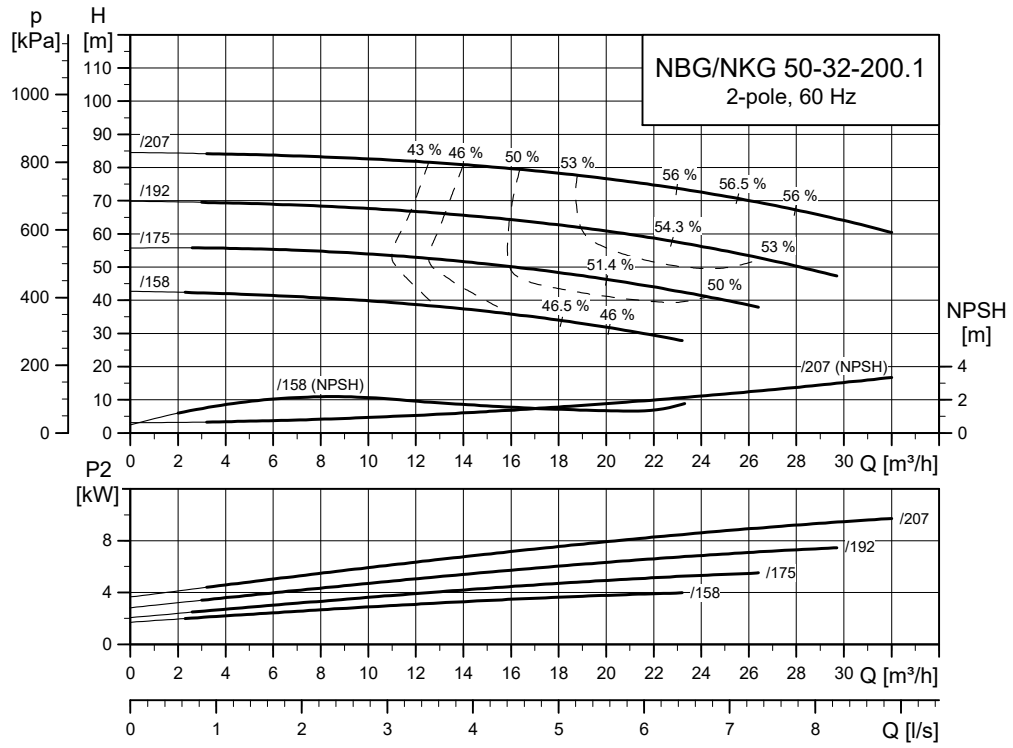
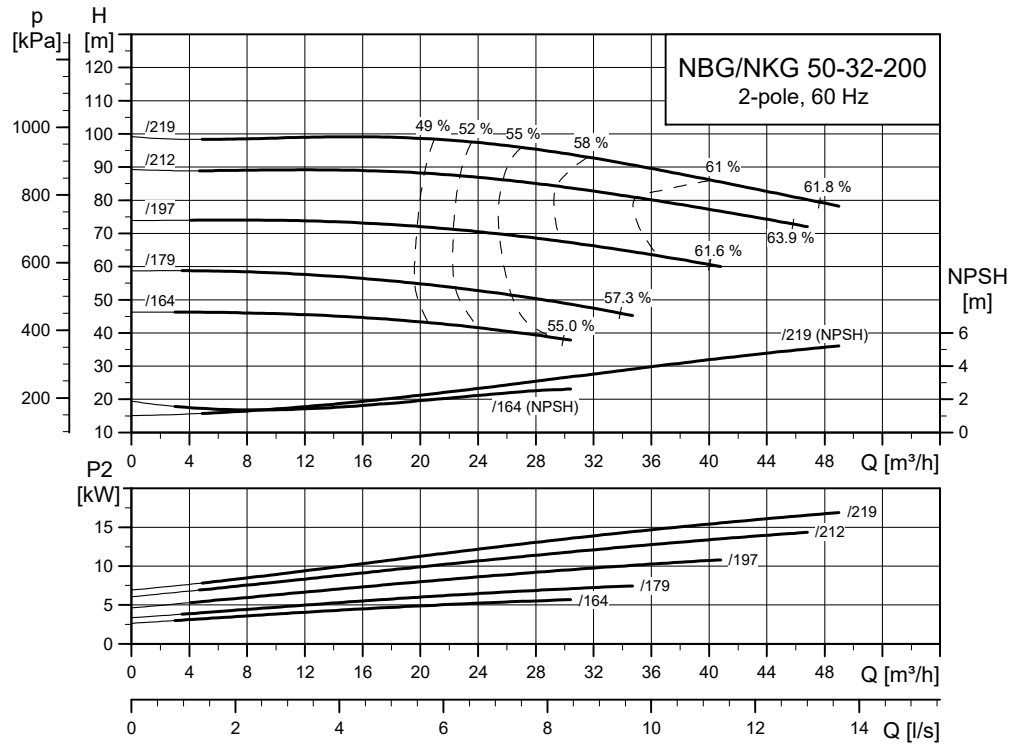
NBG, NKG 50-32-200.1



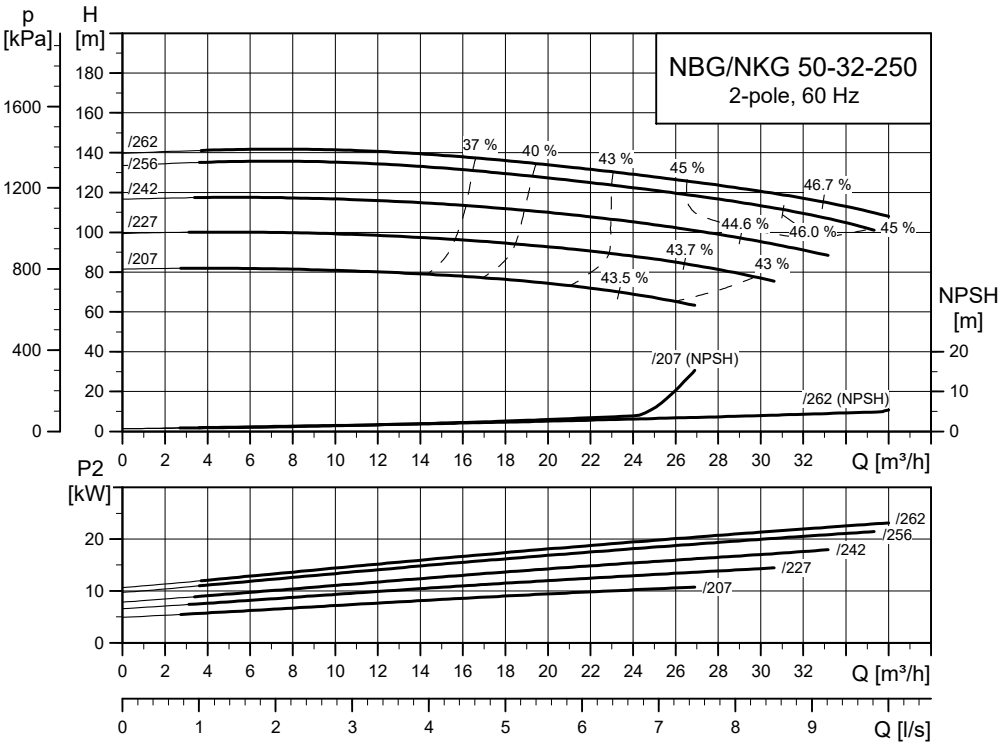
TM035000

NBG, NKG 50-32-200



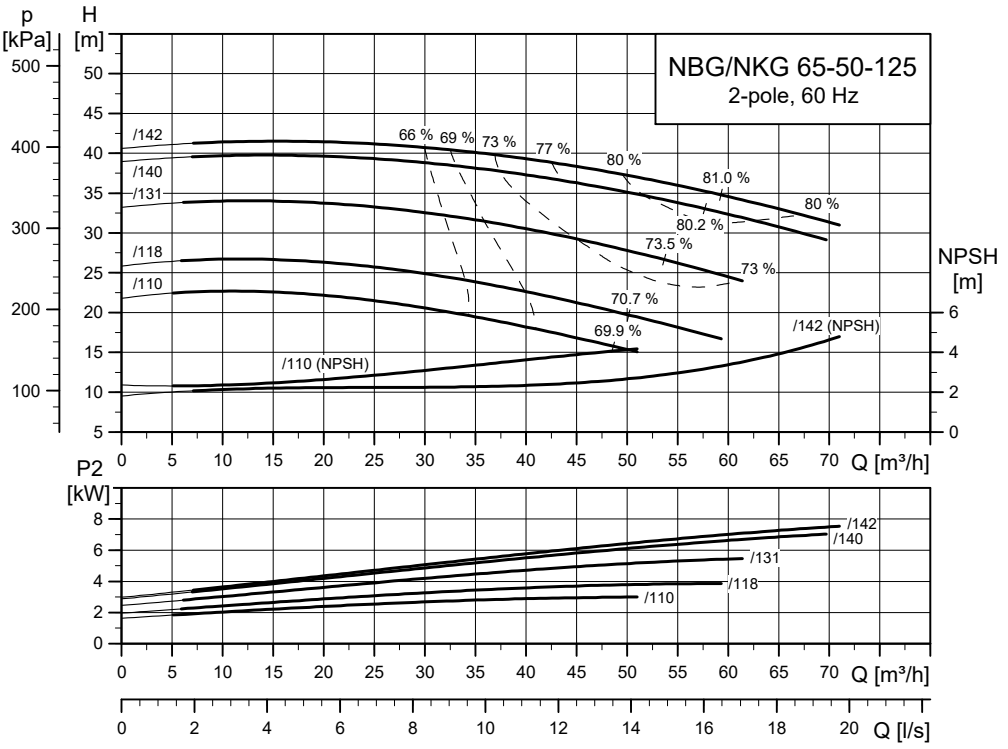
TM034999

NBG, NKG 50-32-250



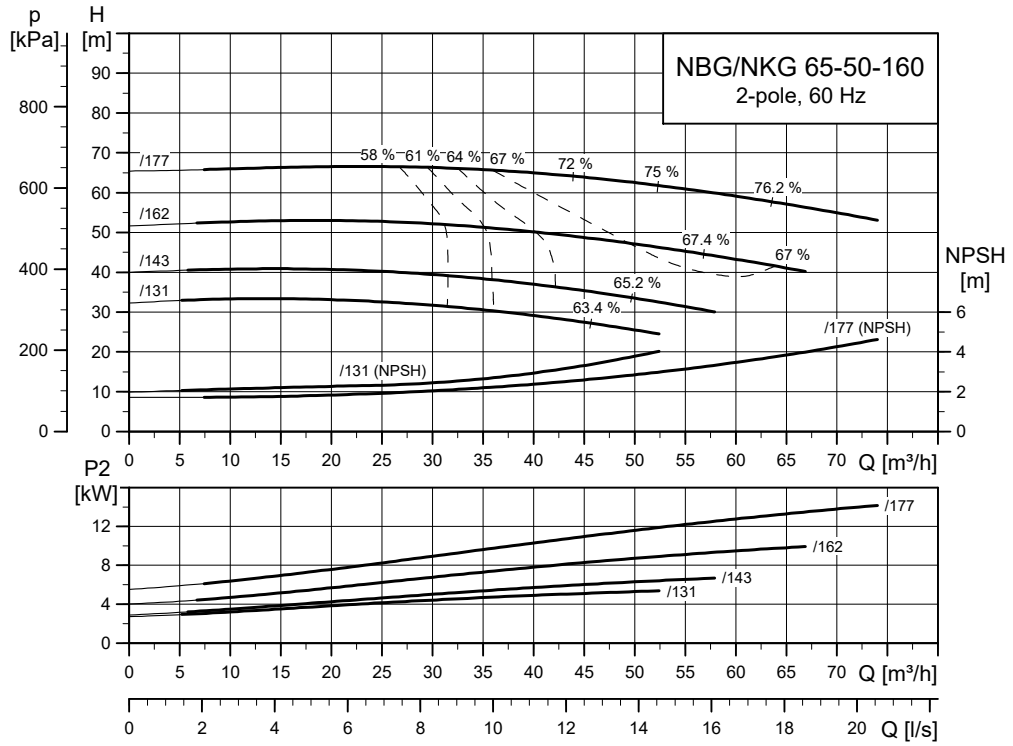
TM035001

NBG, NKG 65-50-125



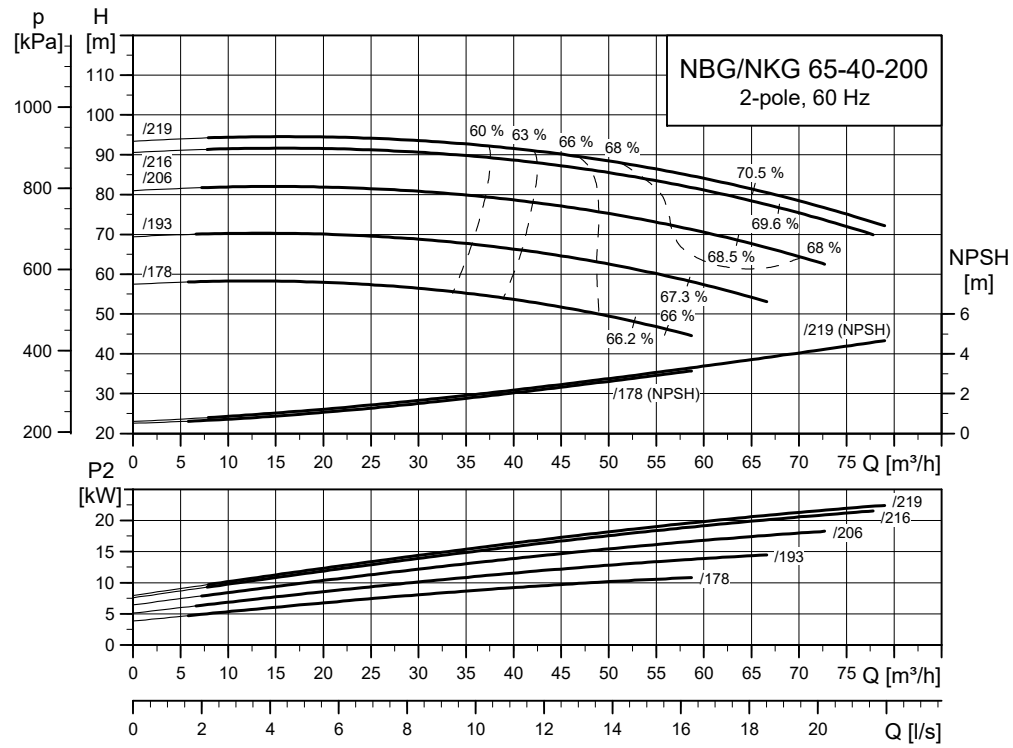
TM035002

NBG, NKG 65-50-160



TM035003

NBG, NKG 65-40-200



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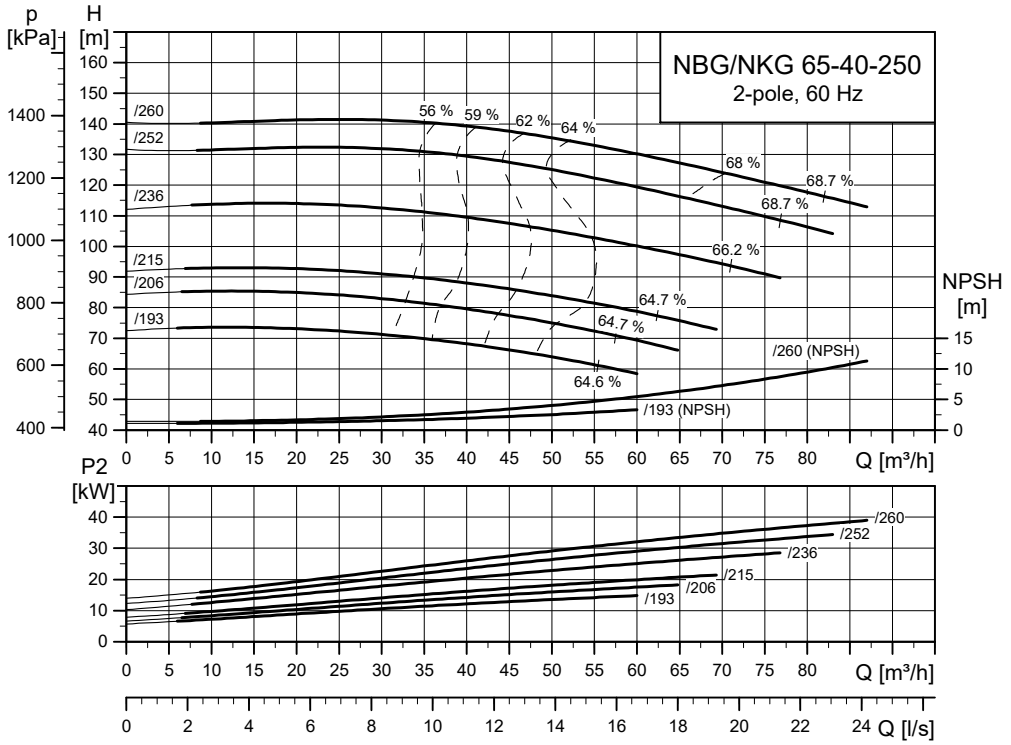
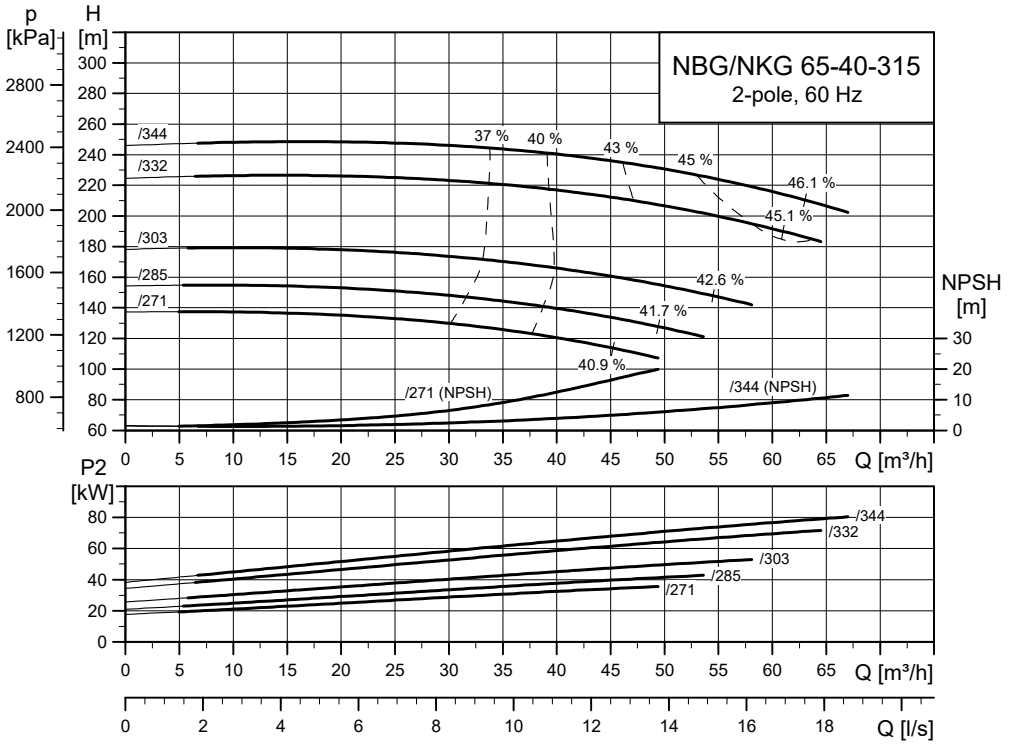
NBG, NKG 65-40-250



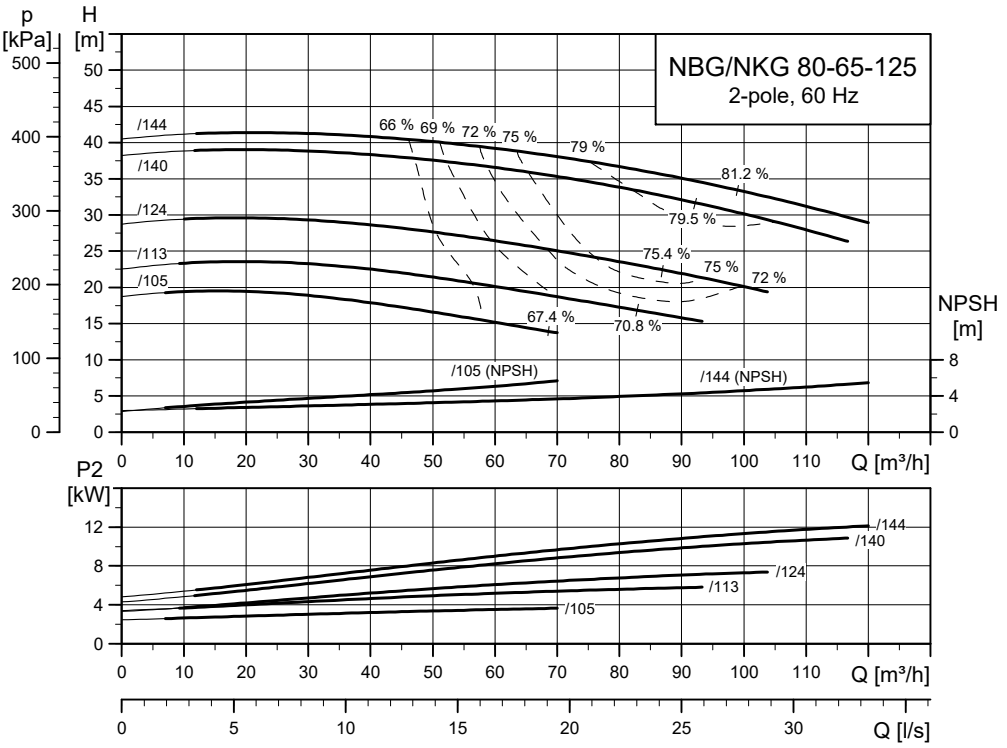
TM035005

NBG, NKG 65-40-315



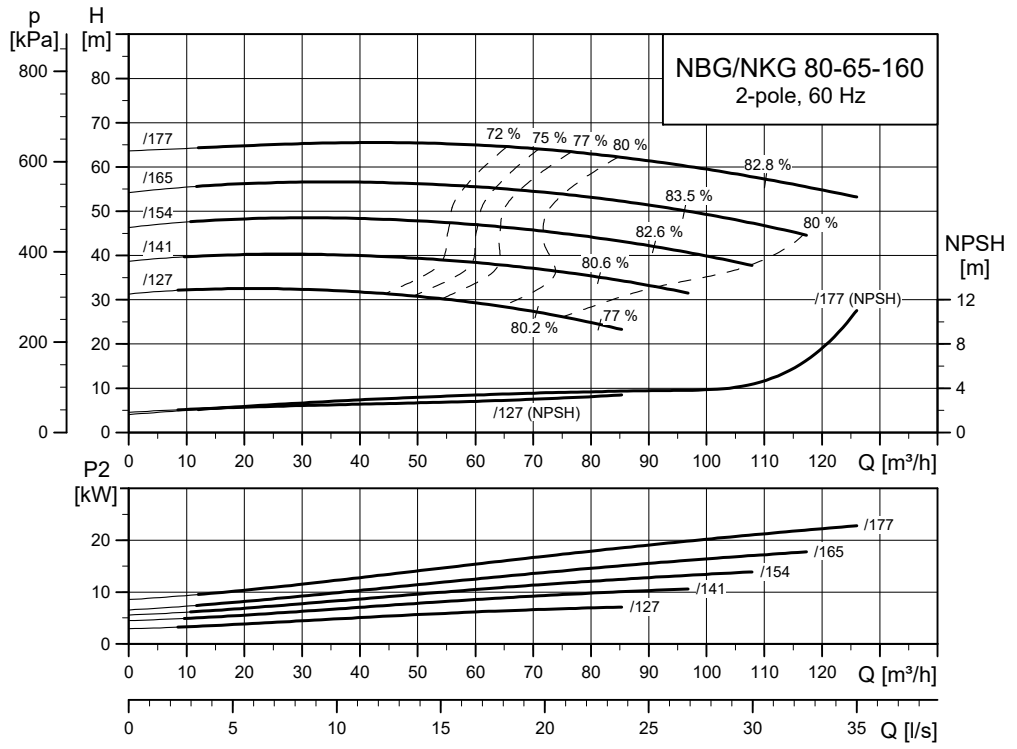
TM056045

NBG, NKG 80-65-125



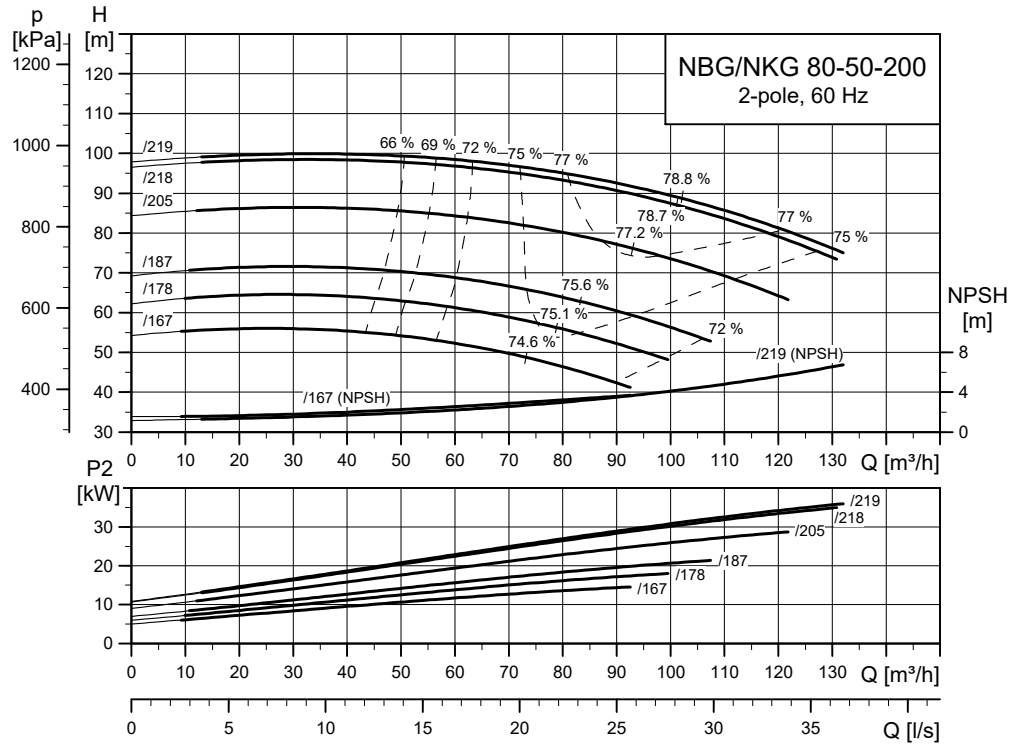
TM035006

NBG, NKG 80-65-160



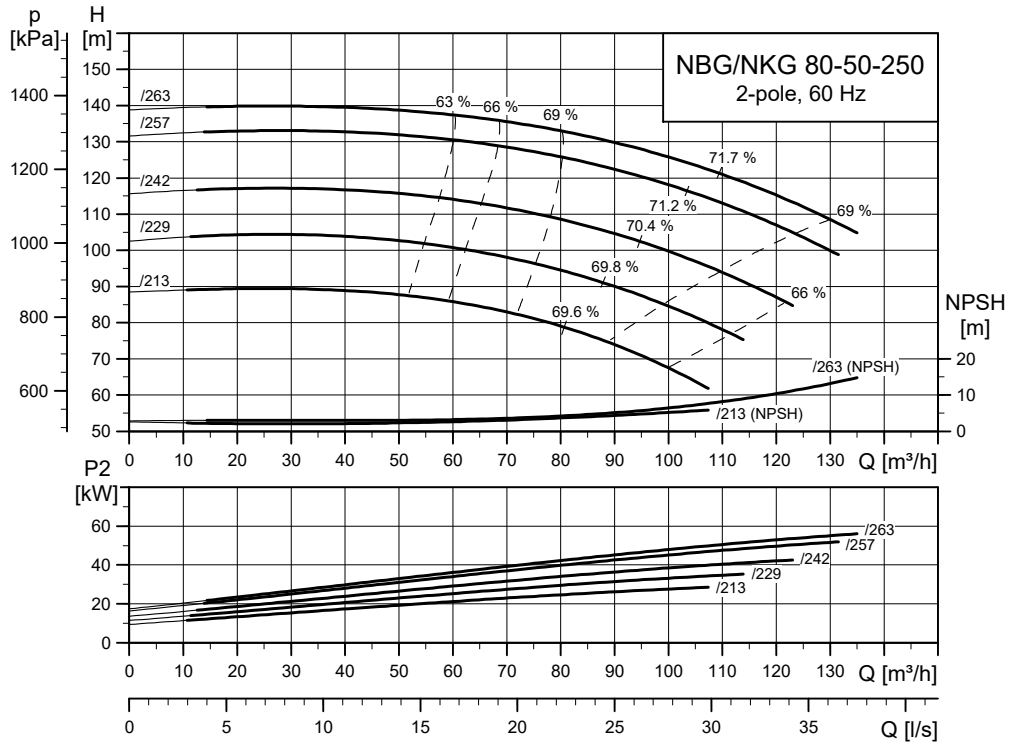
TM035007

NBG, NKG 80-50-200



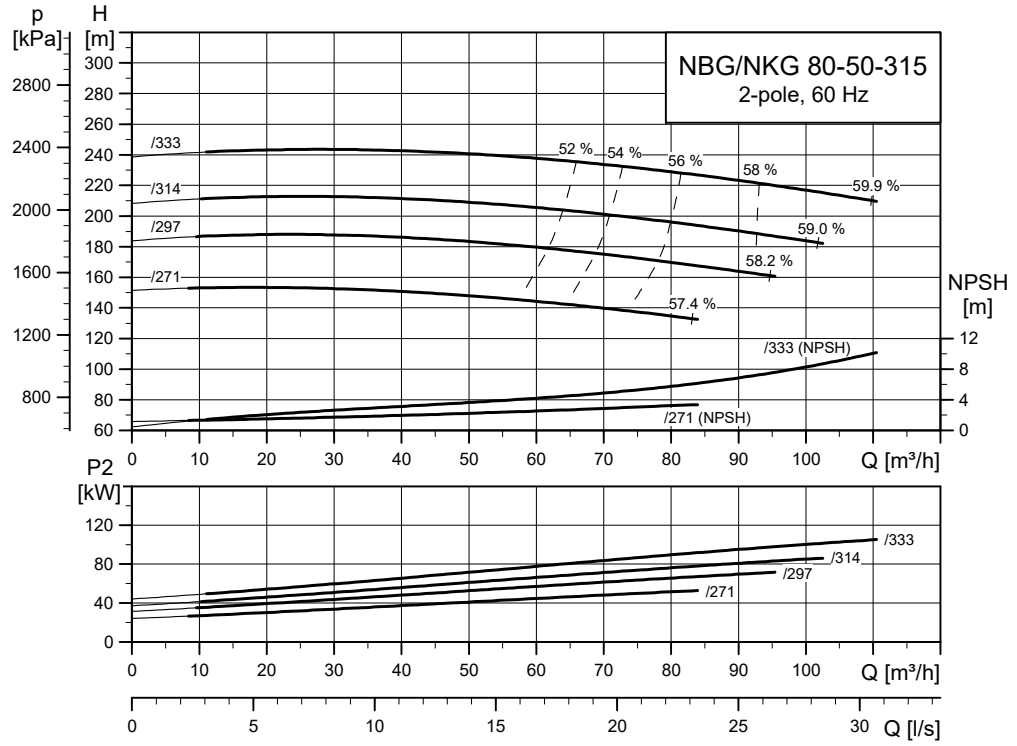
TM035008

NBG, NKG 80-50-250



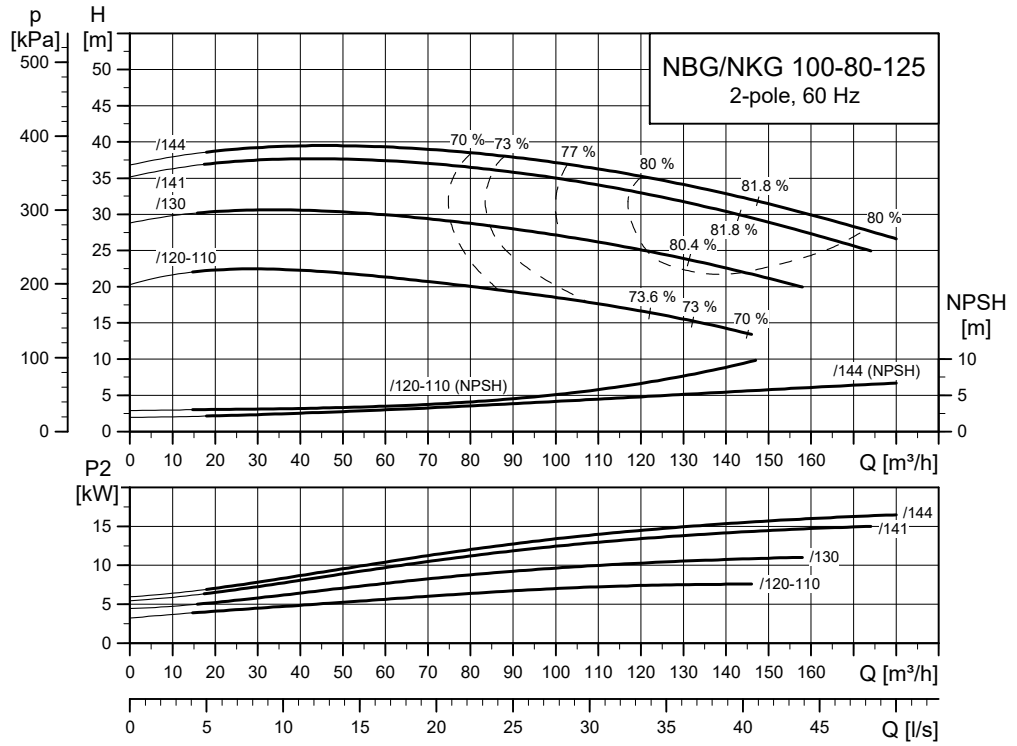
TM035009

NBG, NKG 80-50-315



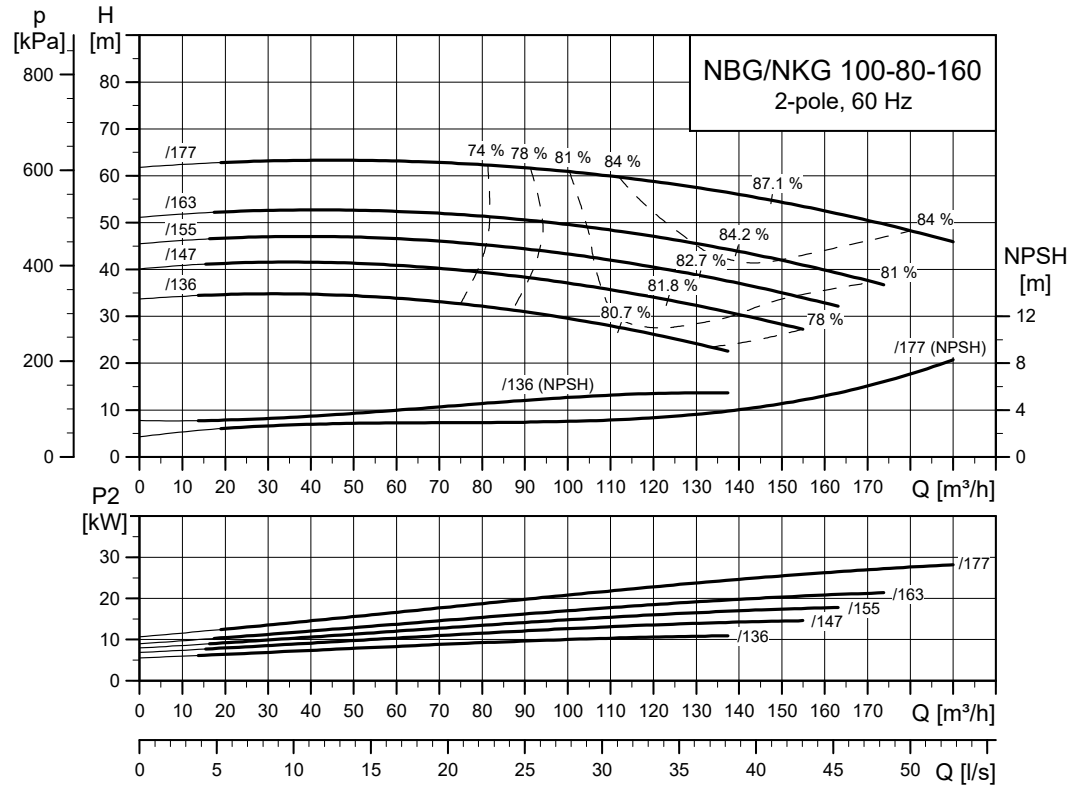
TM056047

NBG, NKG 100-80-125



TM035010

NBG, NKG 100-80-160



TM035011

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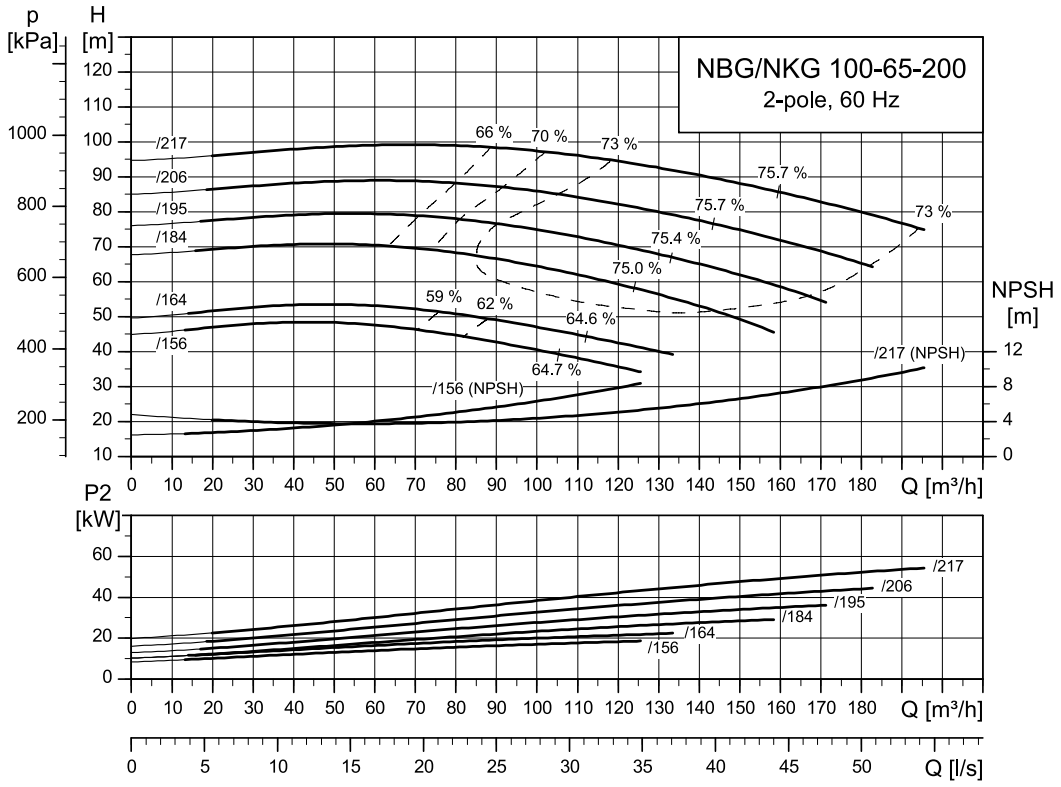

TM035012

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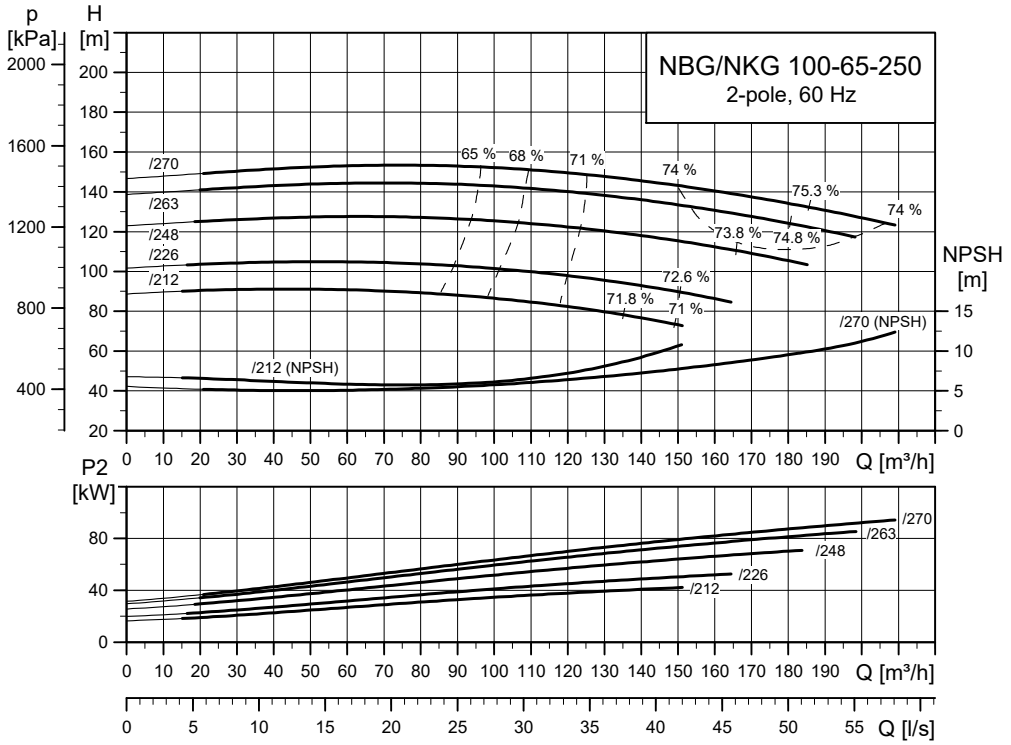
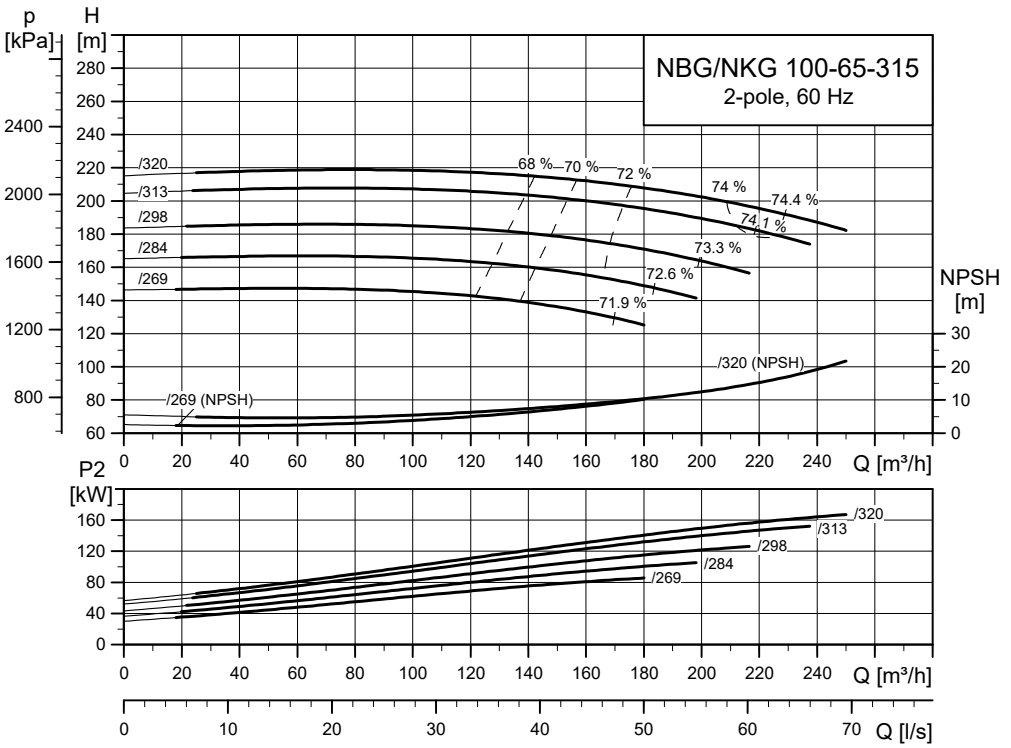


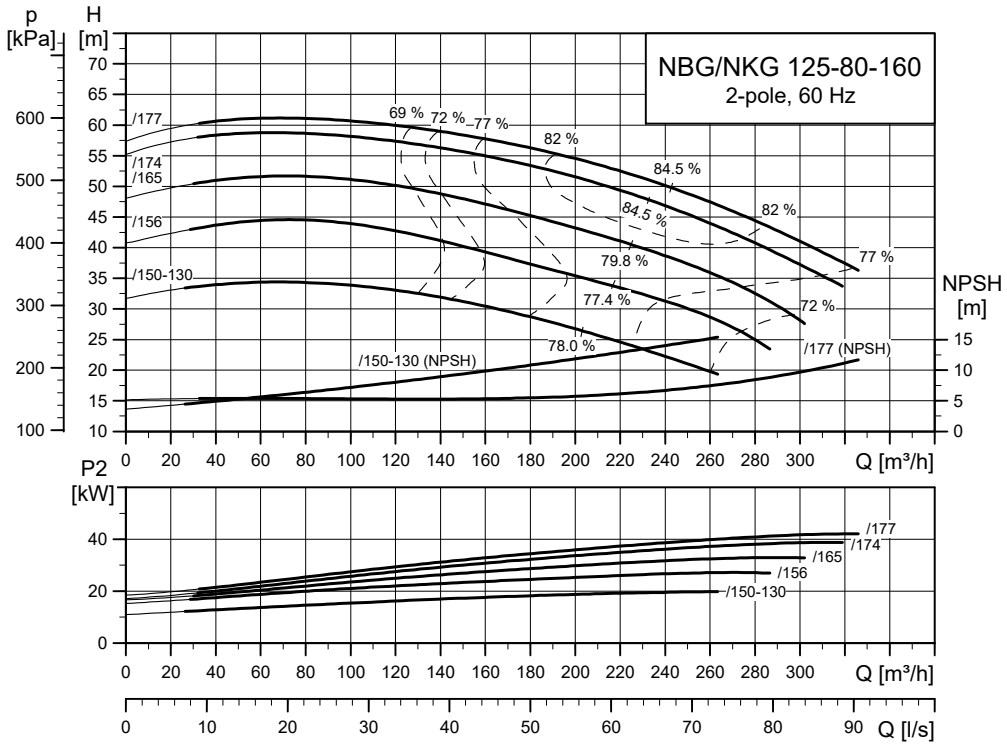
TM035013

NBG, NKG 100-65-315



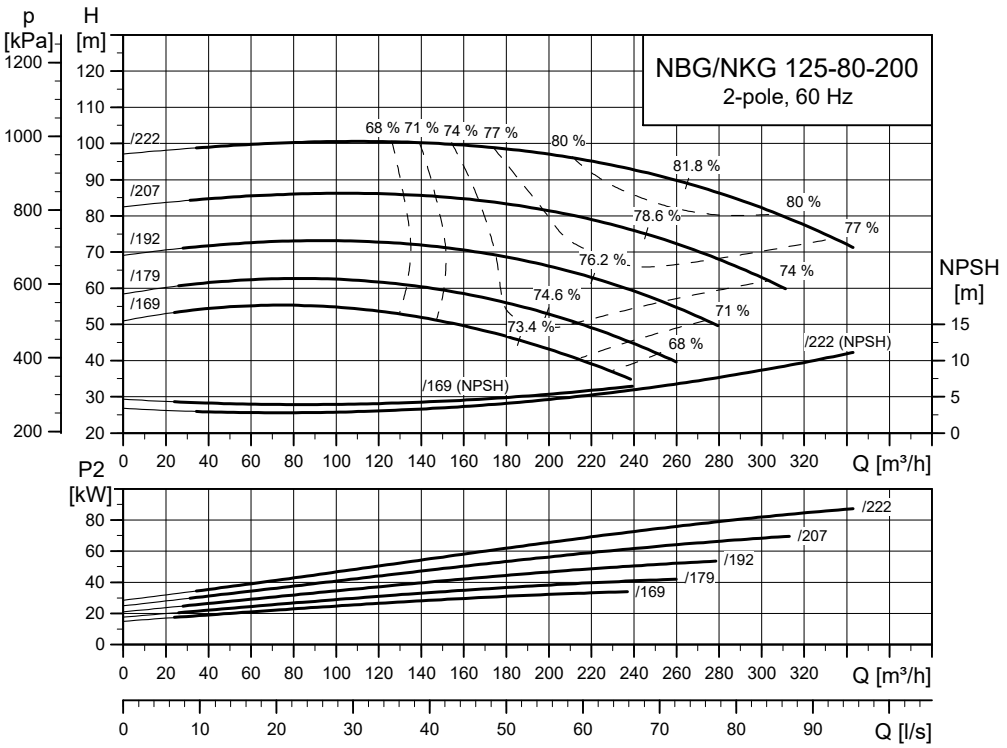
TM056049

NBG, NKG 125-80-160



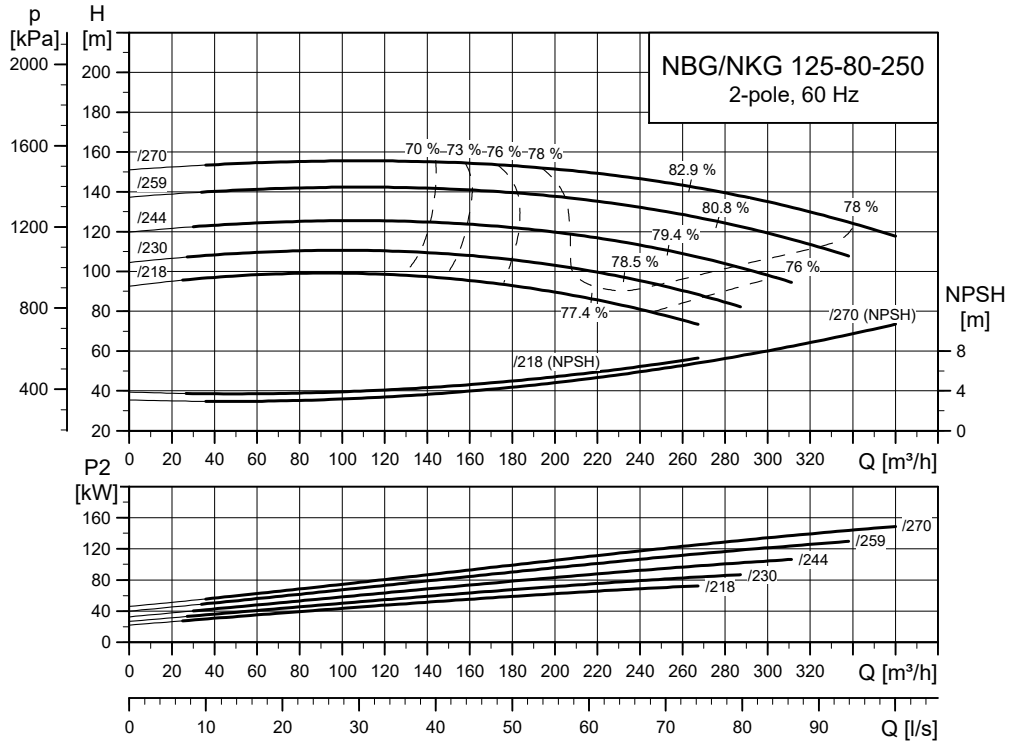
TM035014

NBG, NKG 125-80-200



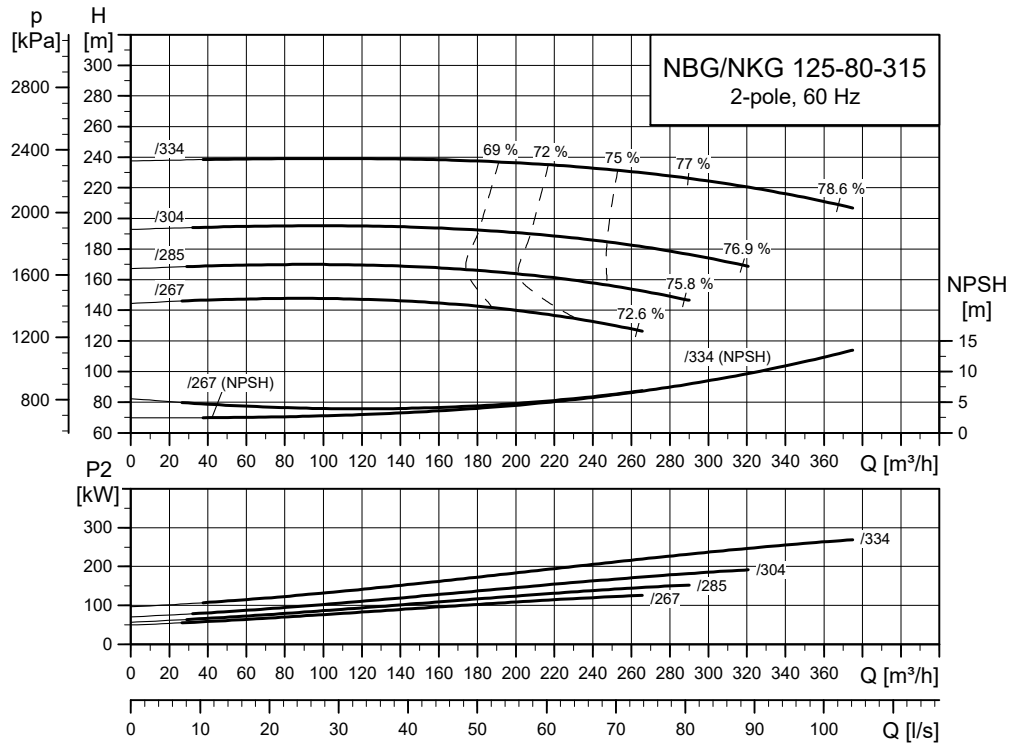
TM035015

NBG, NKG 125-80-250



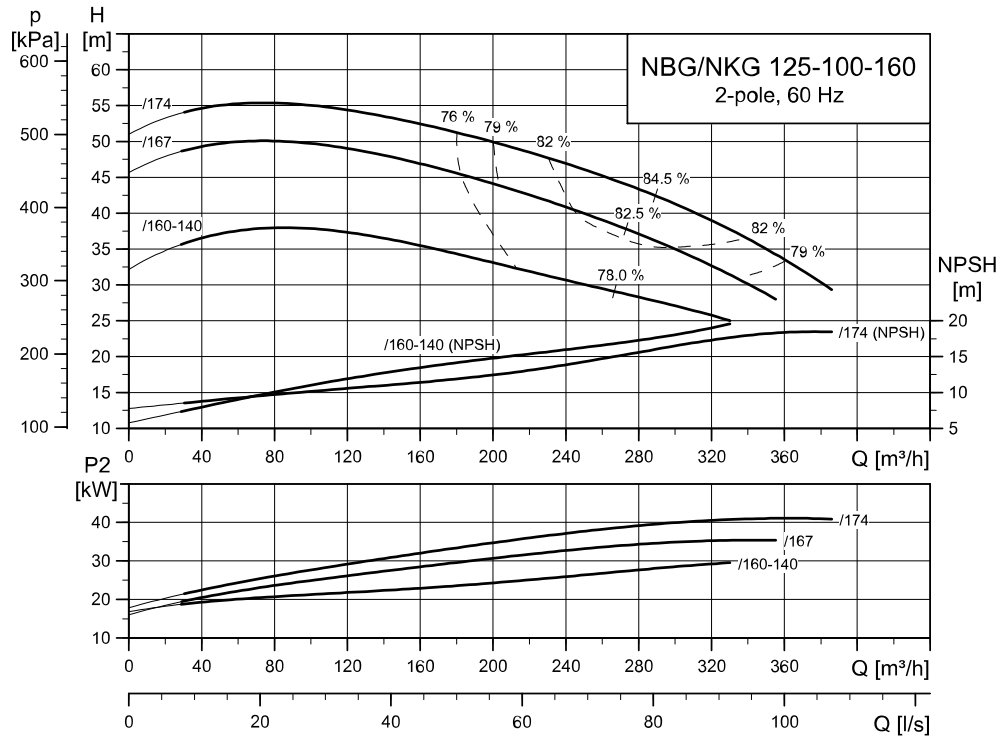
TM035016

NBG, NKG 125-80-315



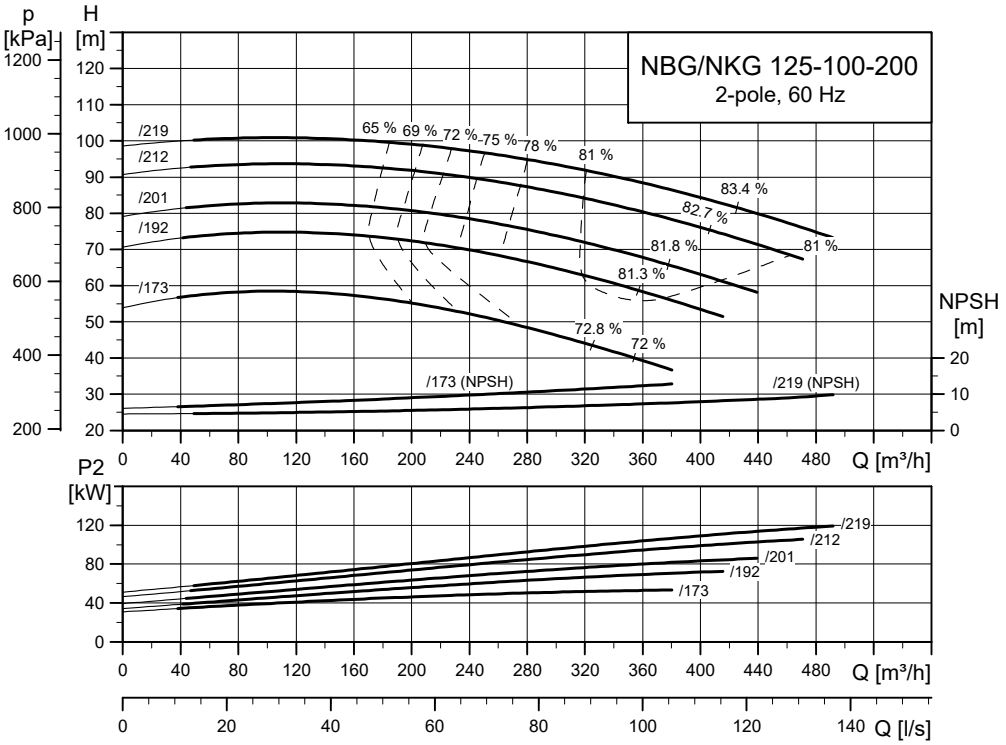
TM056051

NBG, NKG 125-100-160



TM035017

NBG, NKG 125-100-200



TM035018

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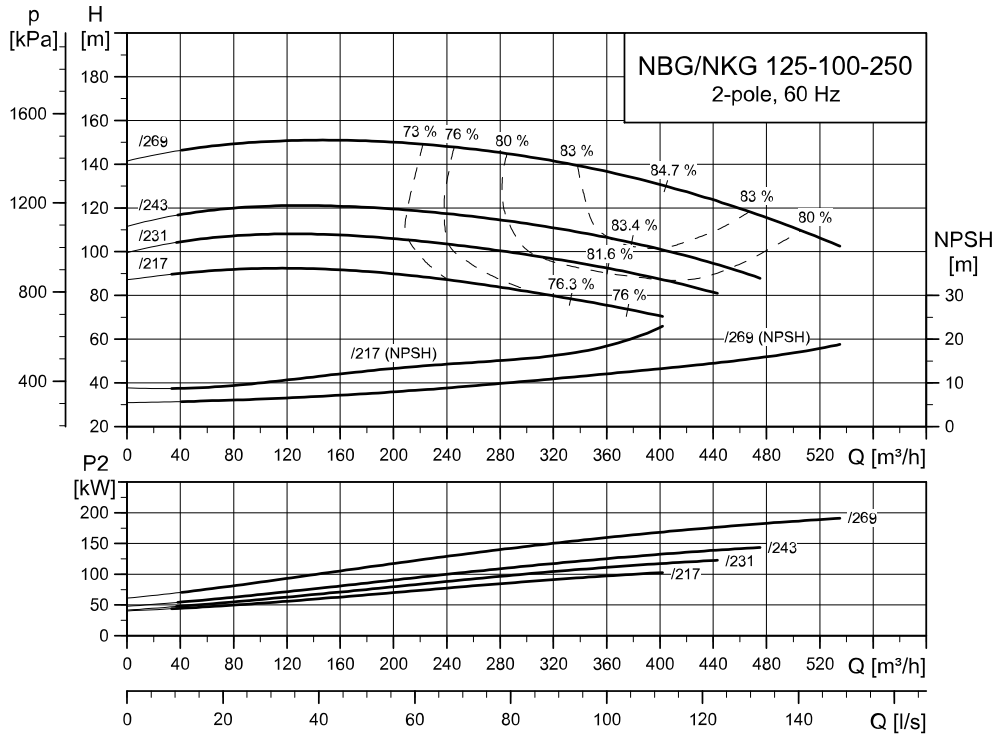
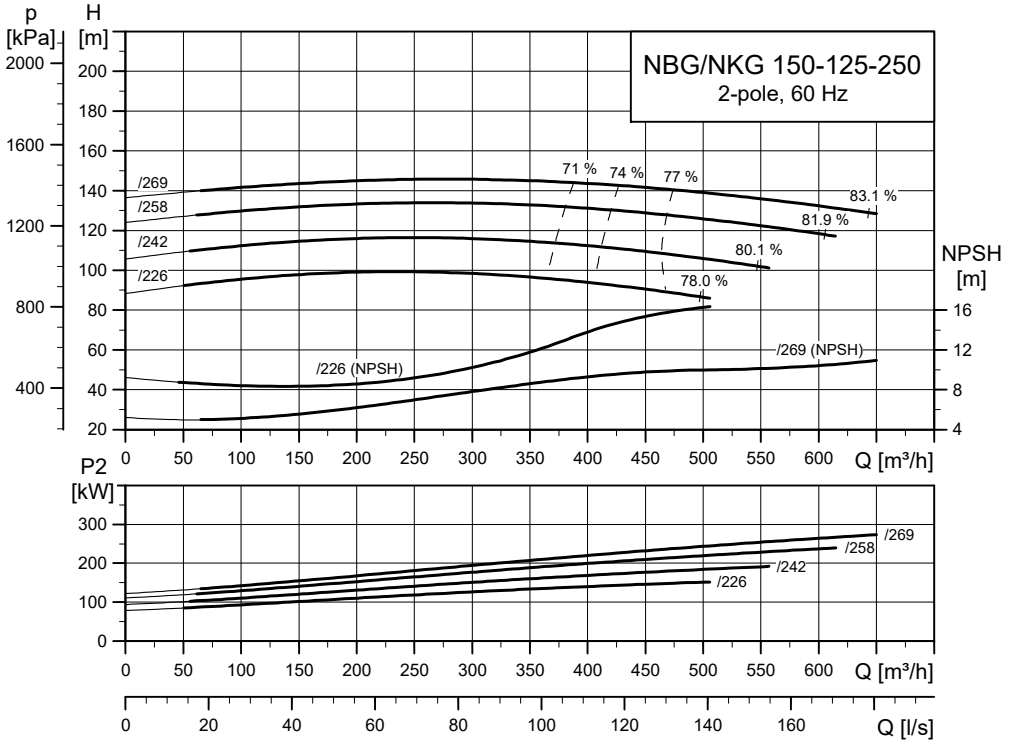


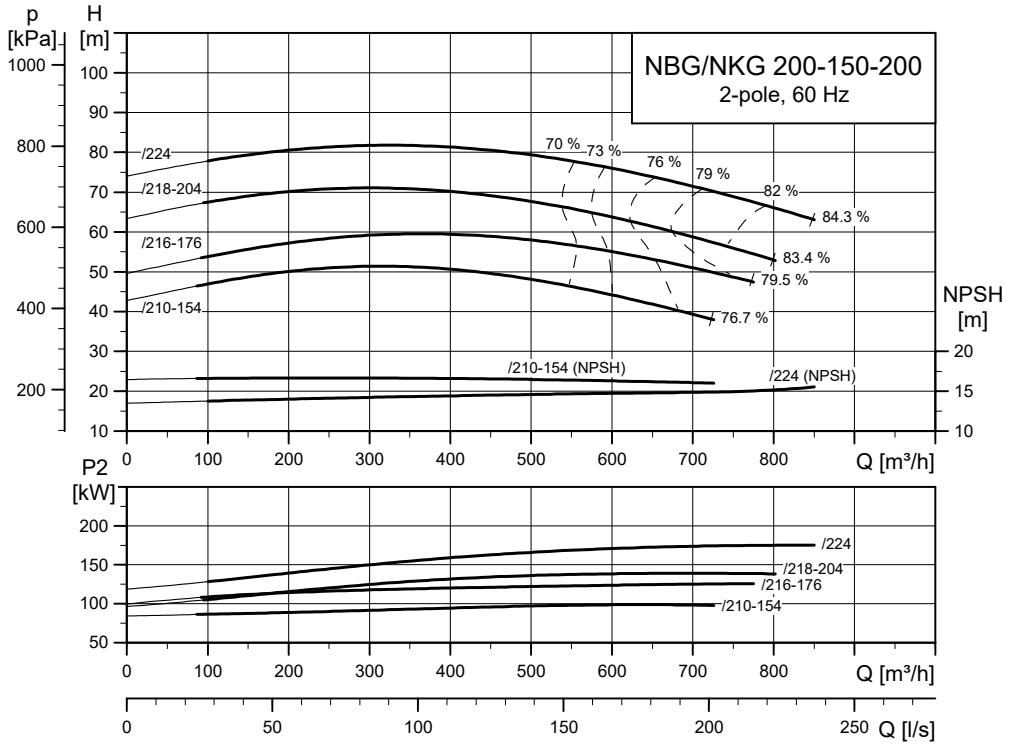
TM035019

NBG, NKG 150-125-250



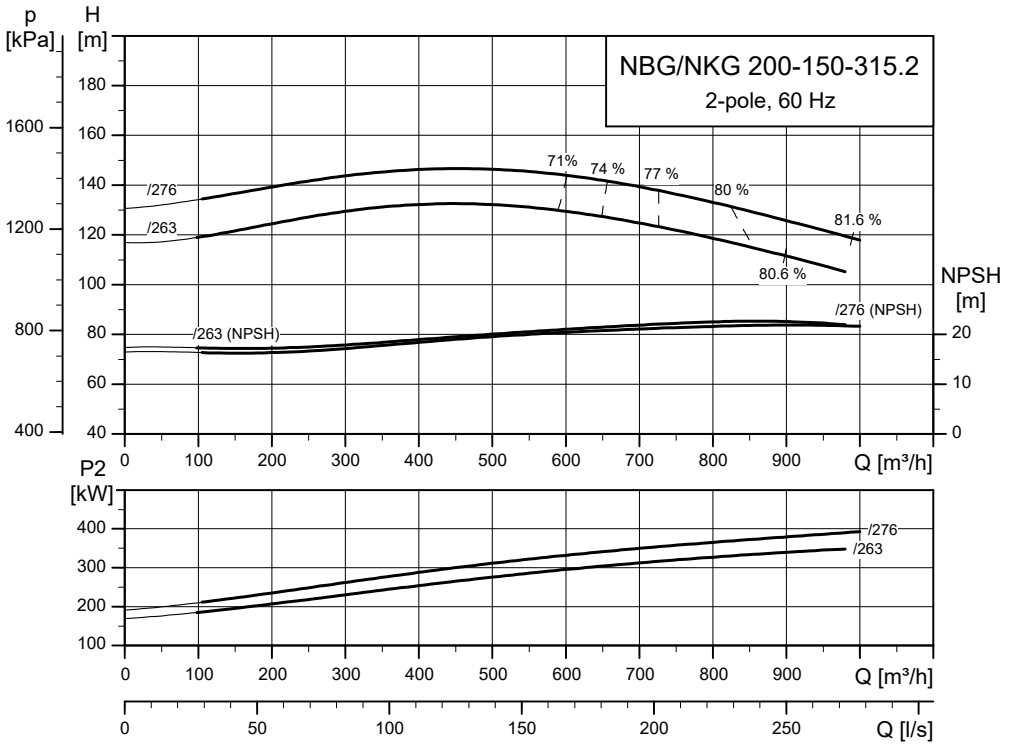
TM035021

NBG, NKG 200-150-200



TM035022

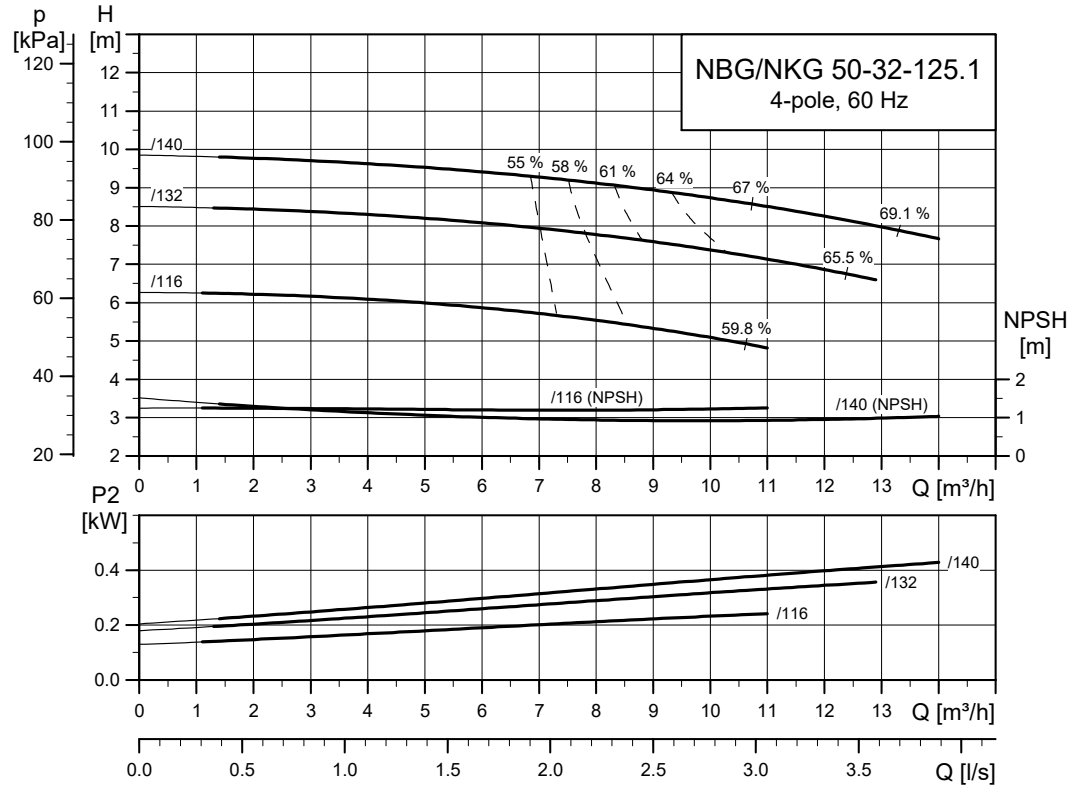
NBG, NKG 200-150-315.2



TM064758

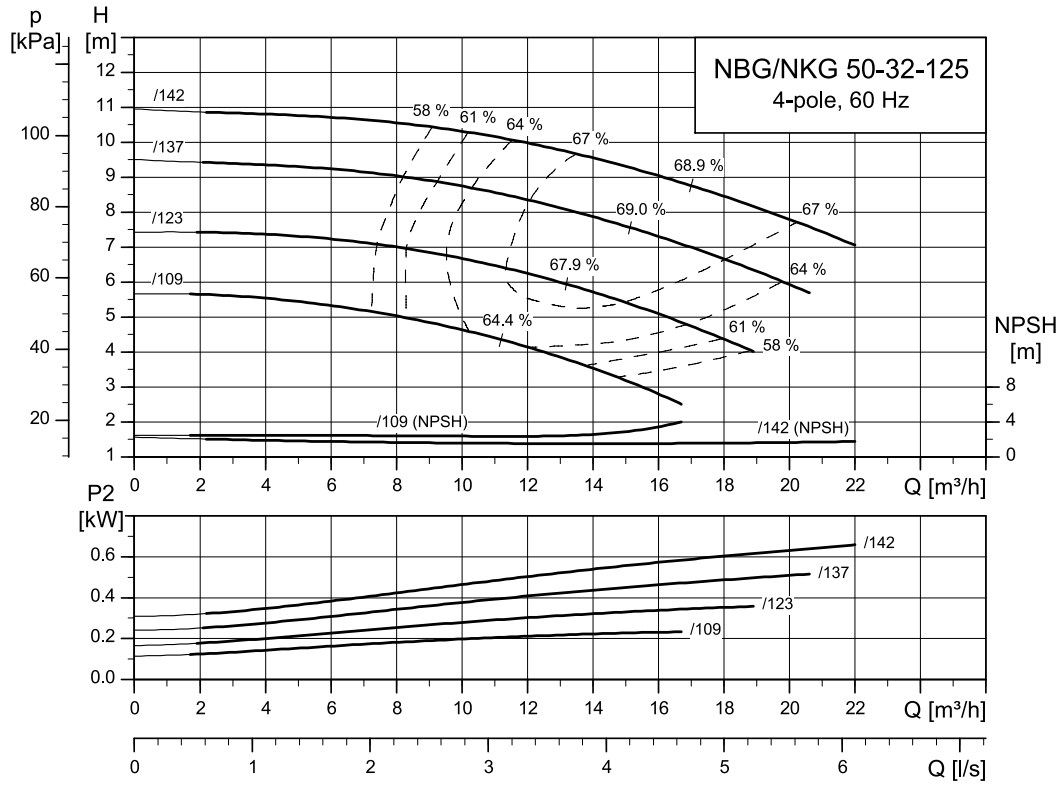
4-pole

NBG, NKG 50-32-125.1



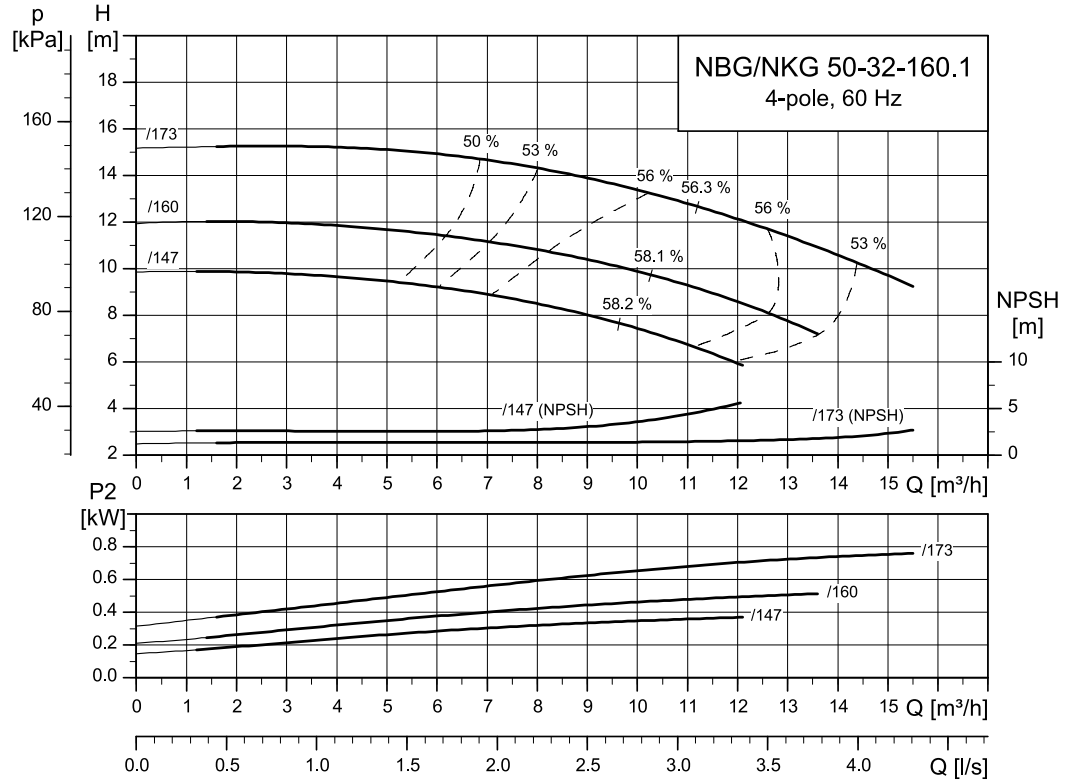
TM035024

NBG, NKG 50-32-125



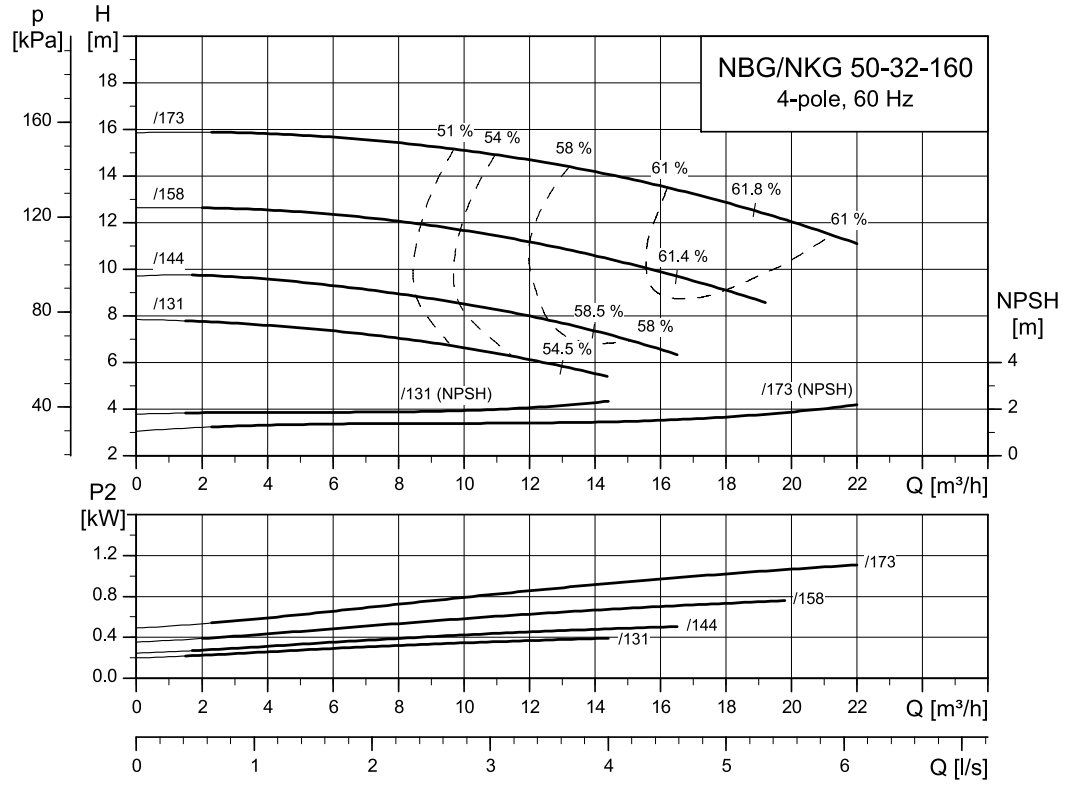
TM035027

NBG, NKG 50-32-160.1



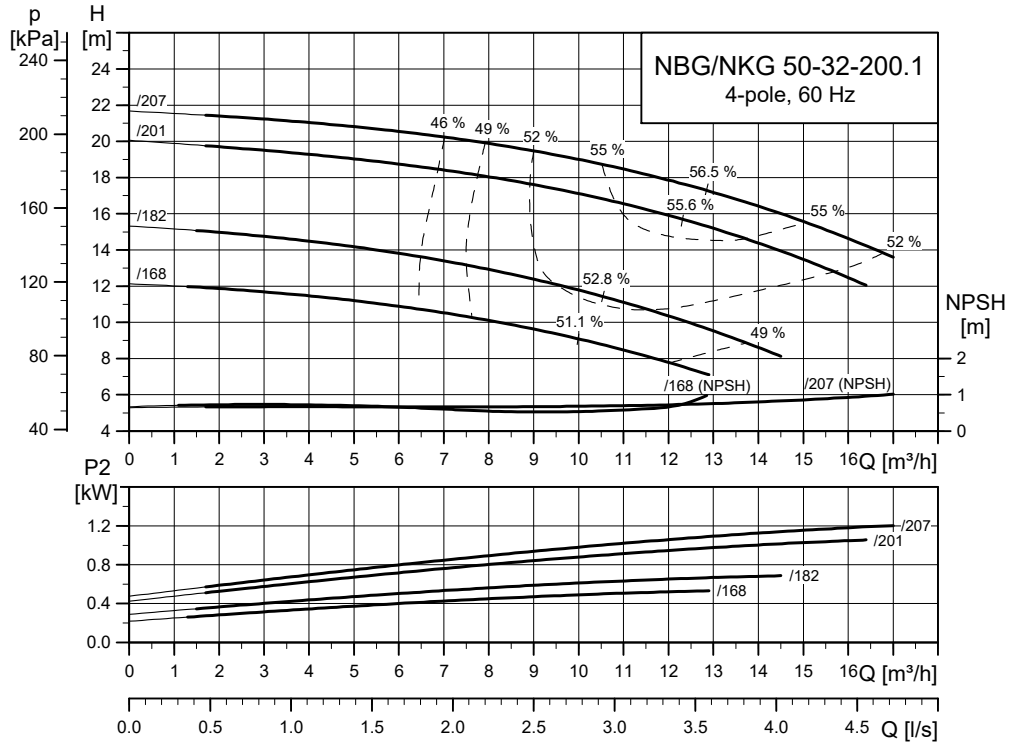
TM035025

NBG, NKG 50-32-160



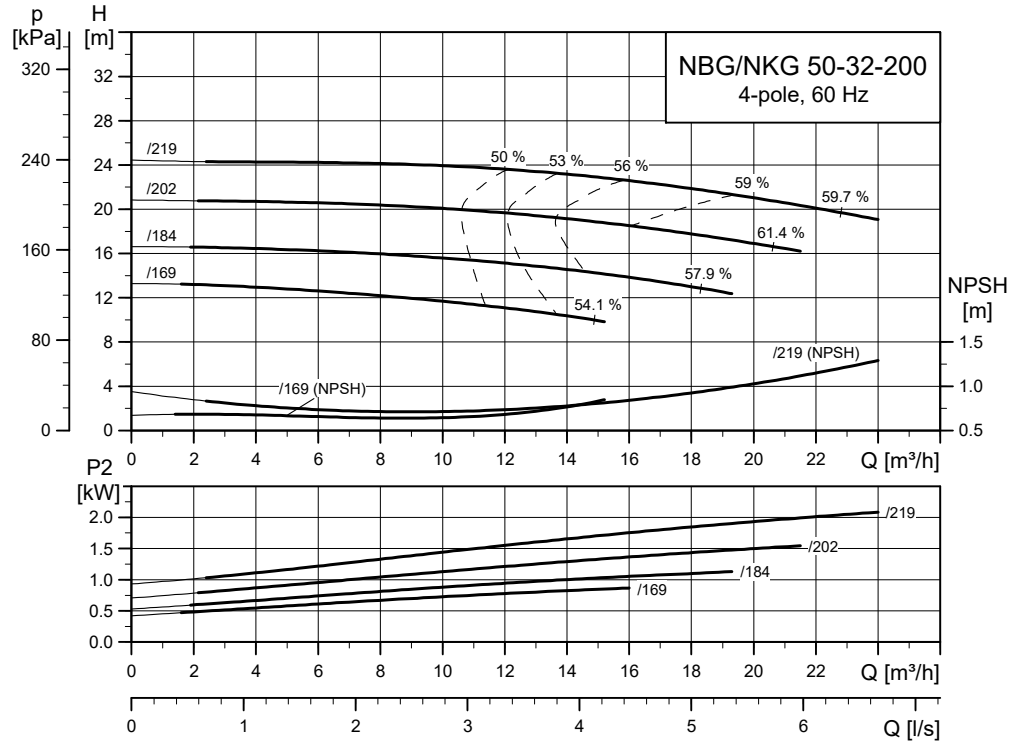
TM035028

NBG, NKG 50-32-200.1



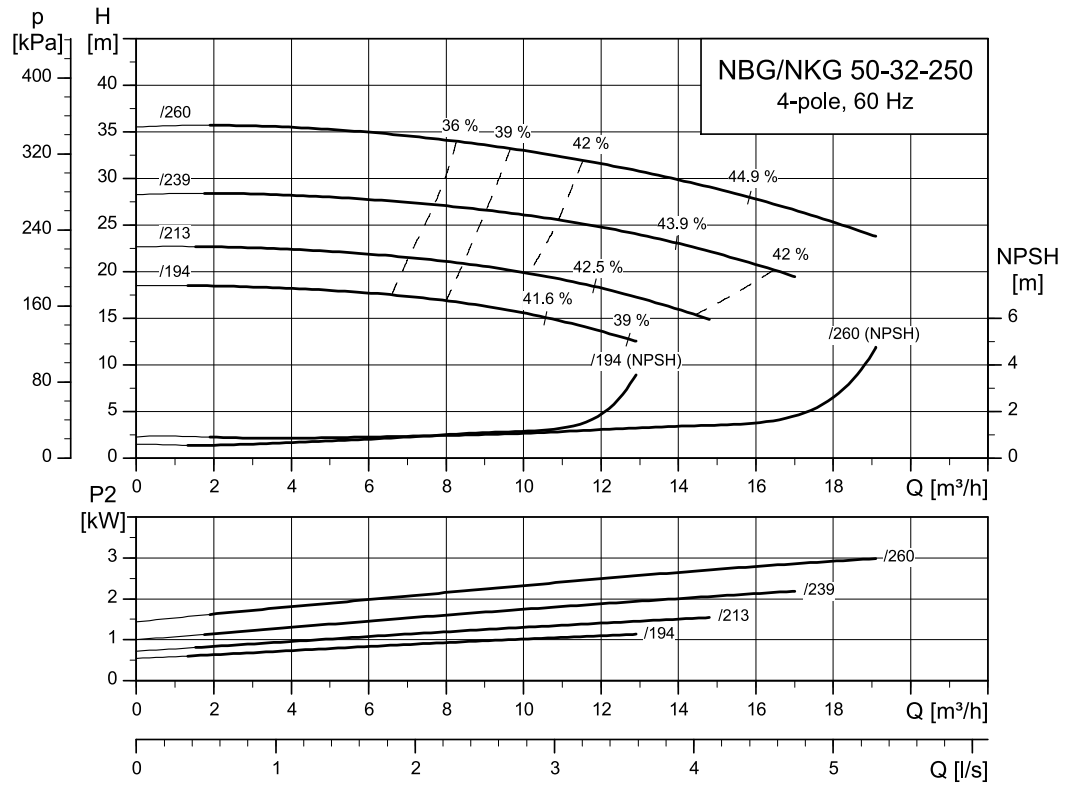
TM035026

NBG, NKG 50-32-200



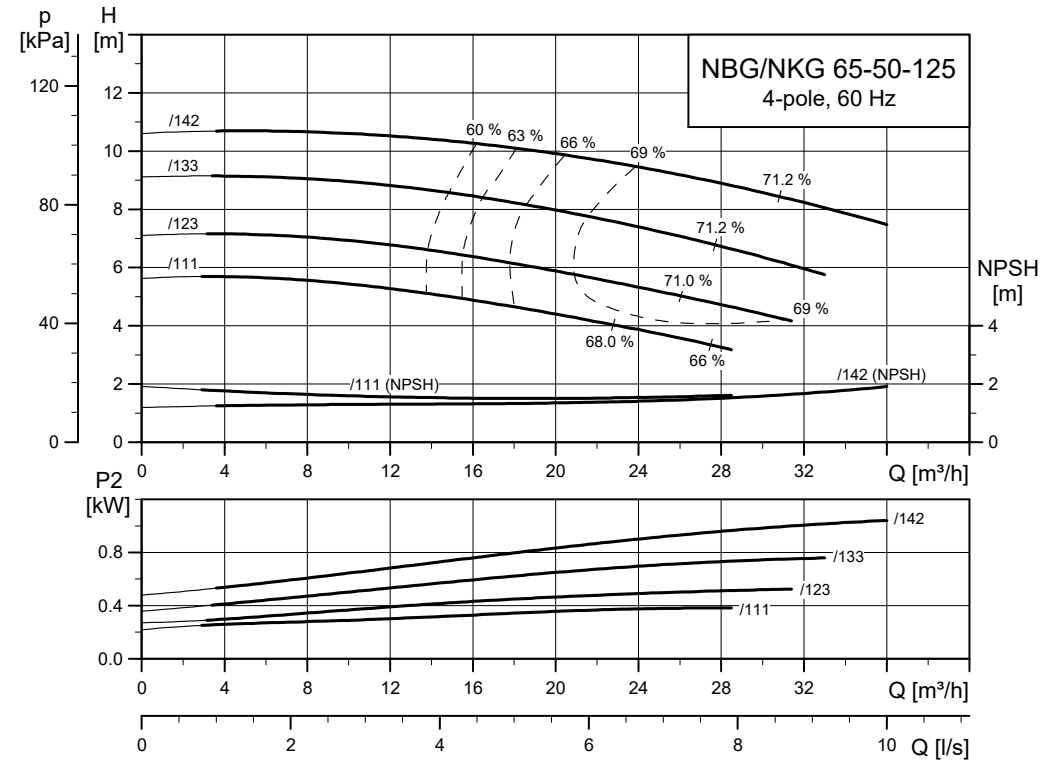
TM035029

NBG, NKG 50-32-250



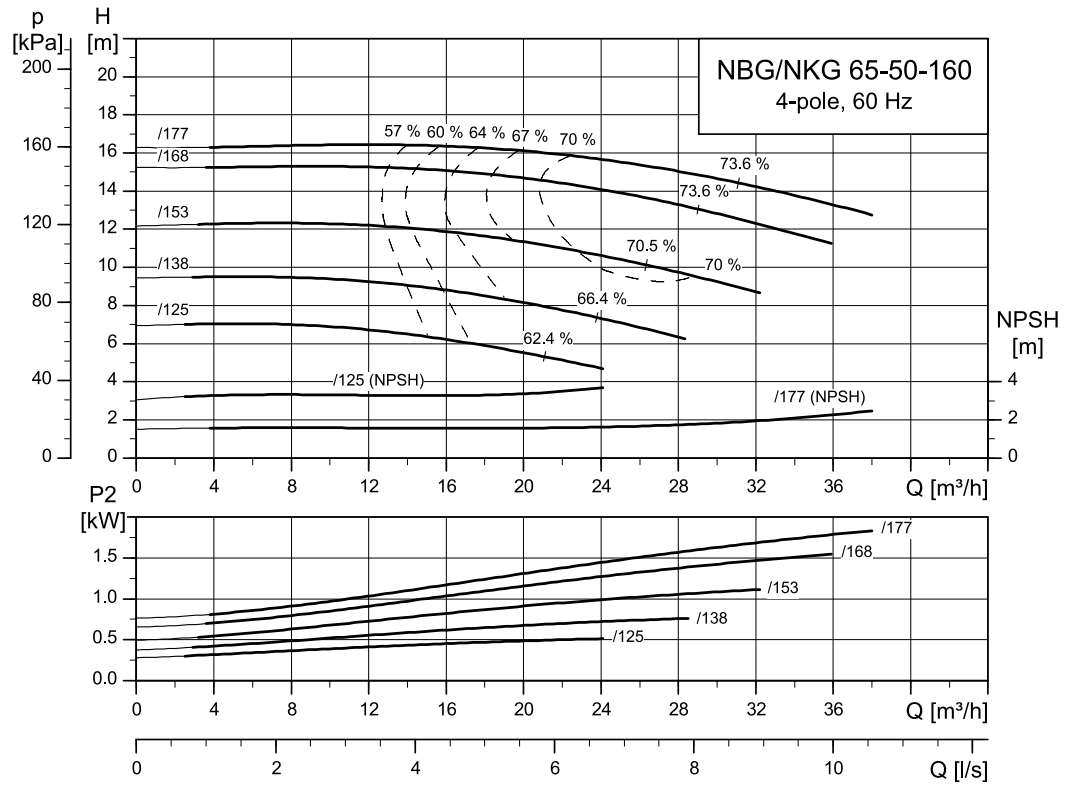
TM035030

NBG, NKG 65-50-125



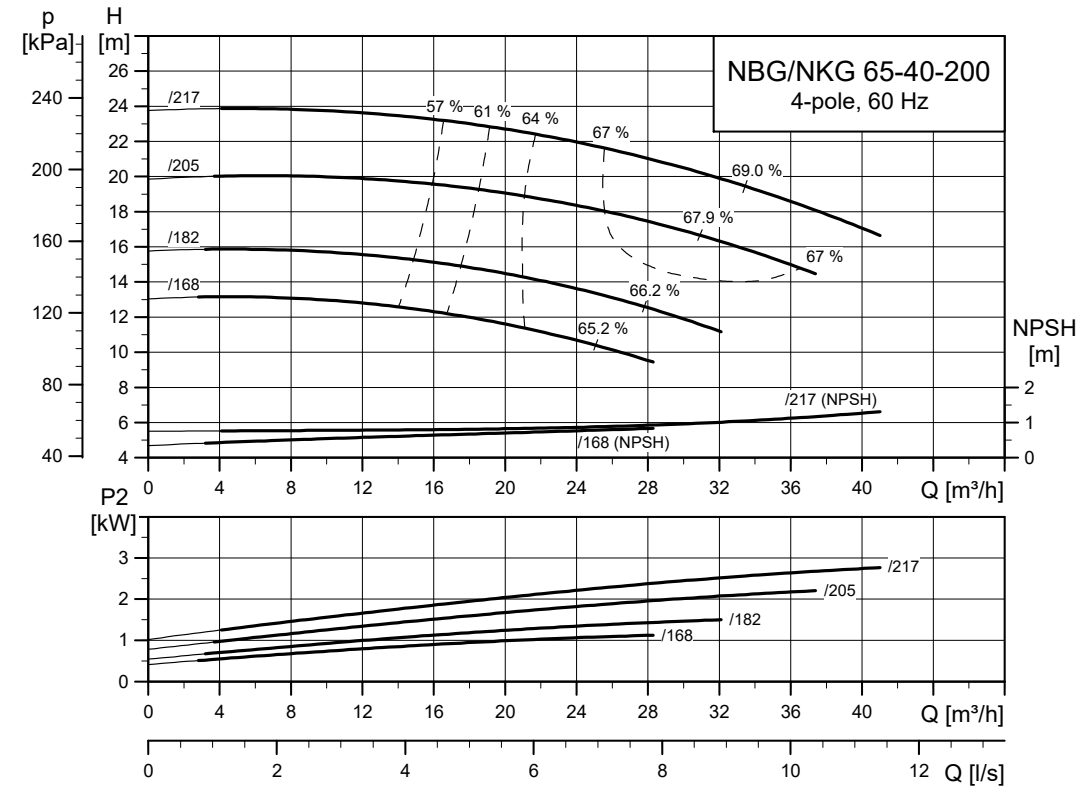
TM035031

NBG, NKG 65-50-160



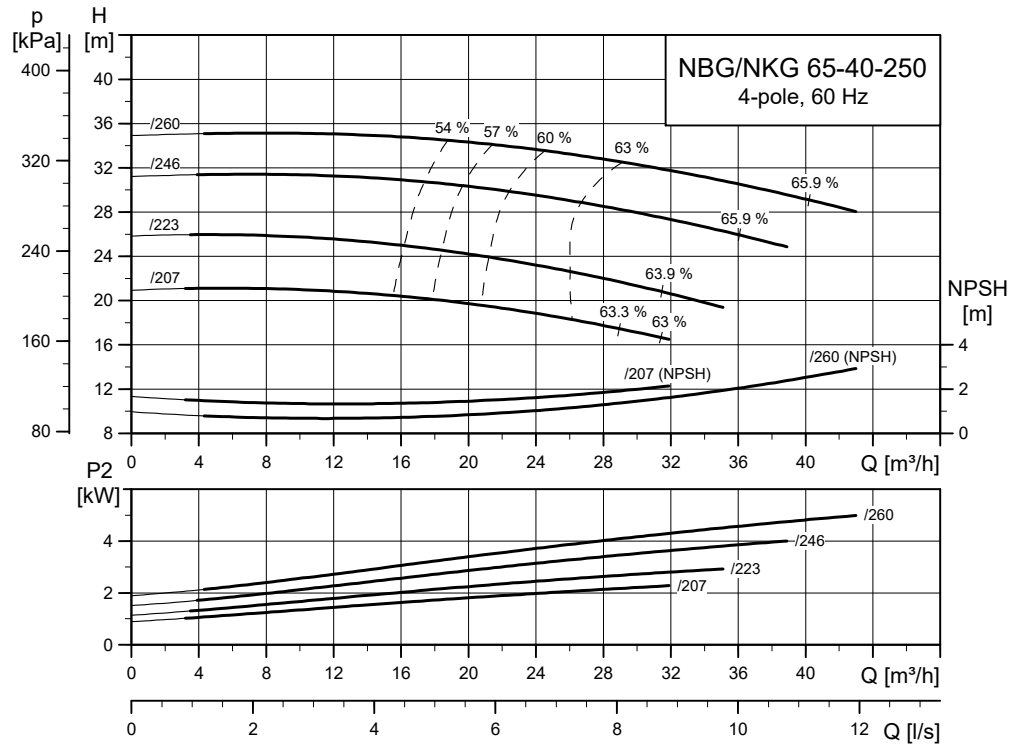
TM035032

NBG, NKG 65-40-200



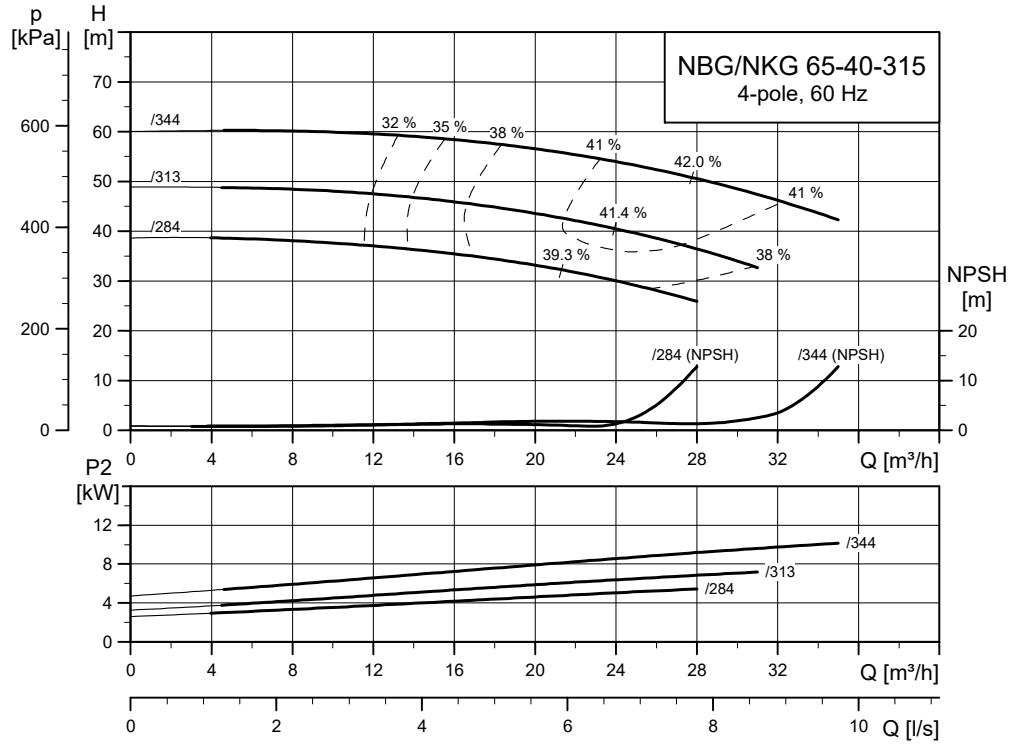
TM035033

NBG, NKG 65-40-250



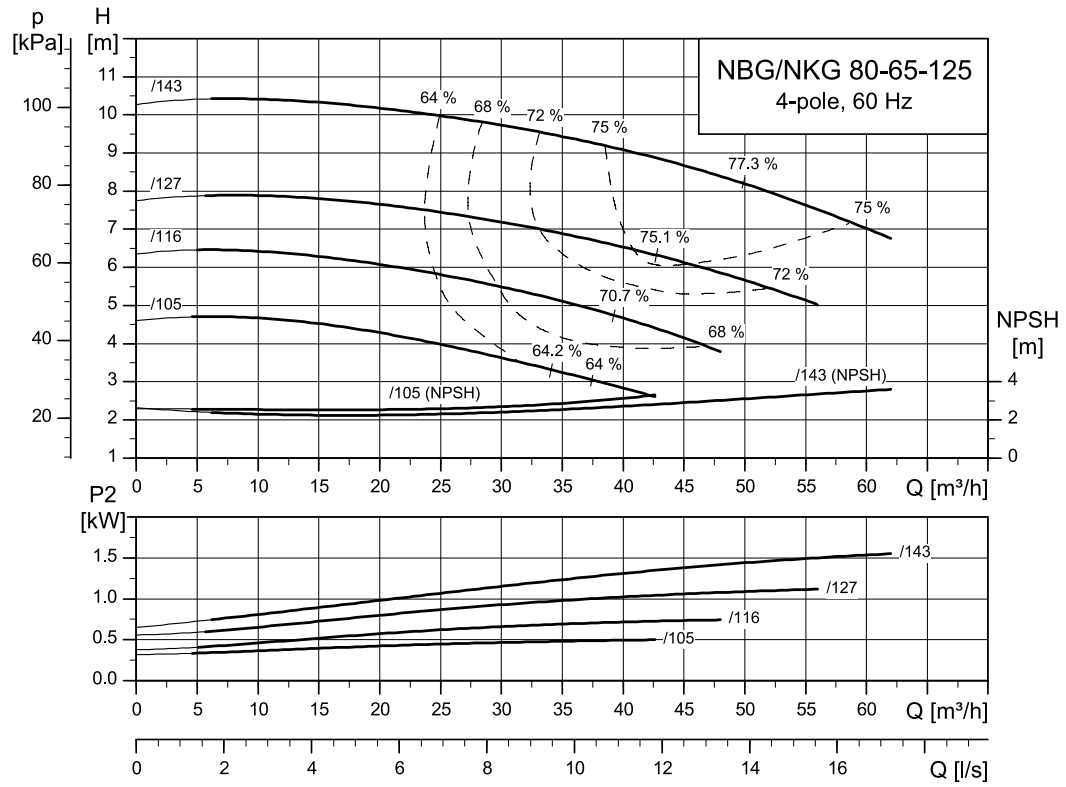
TM035034

NBG, NKG 65-40-315



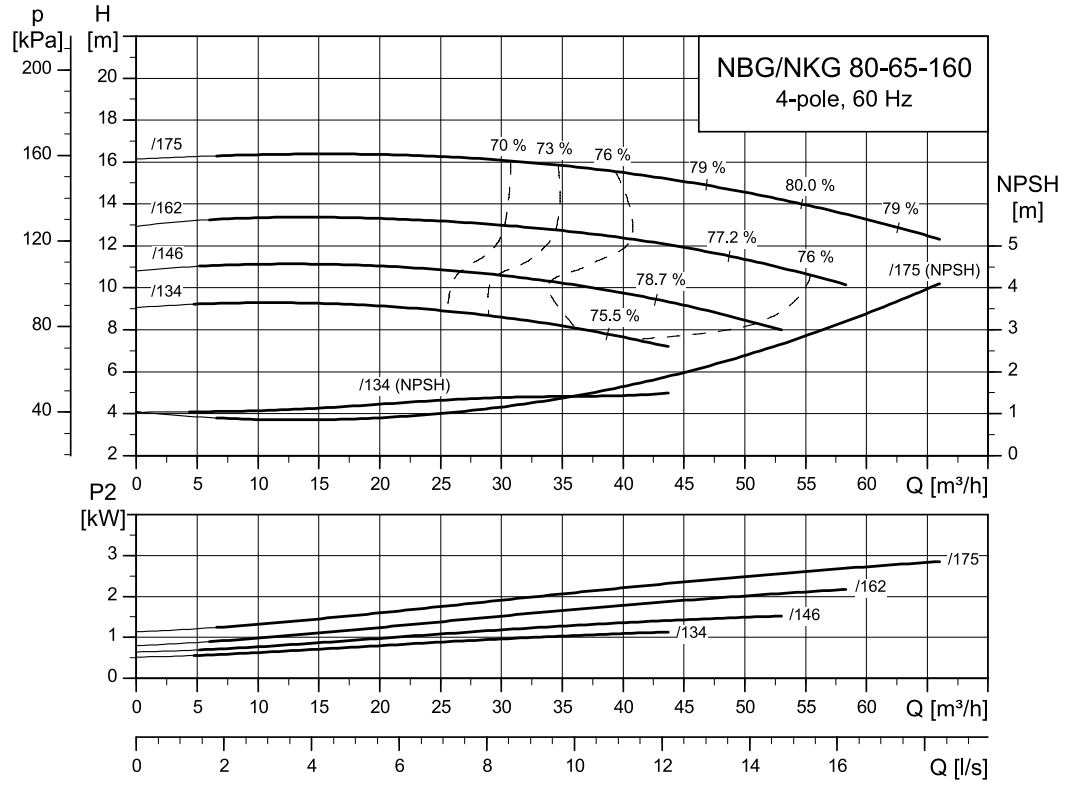
TM035035

NBG, NKG 80-65-125



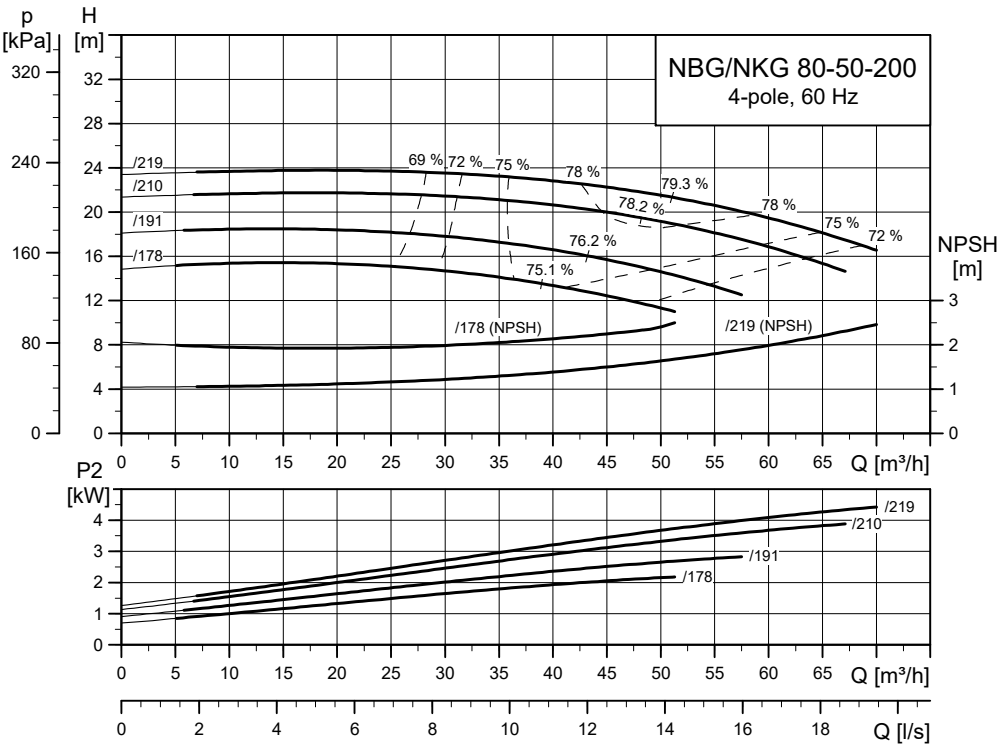
TM035036

NBG, NKG 80-65-160



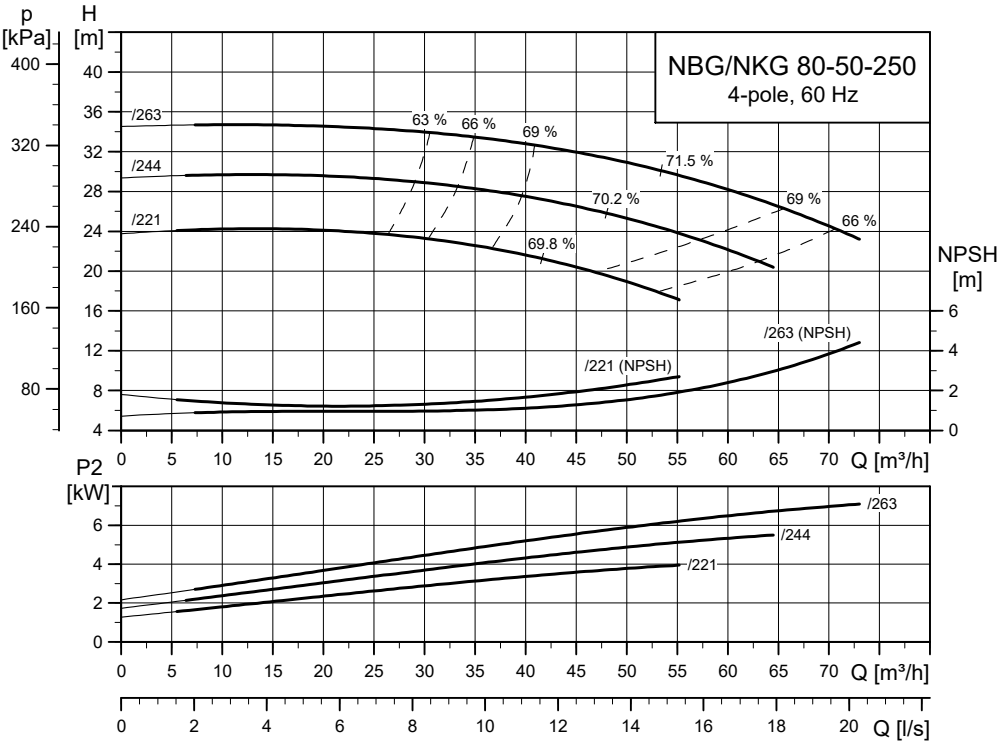
TM035037

NBG, NKG 80-50-200



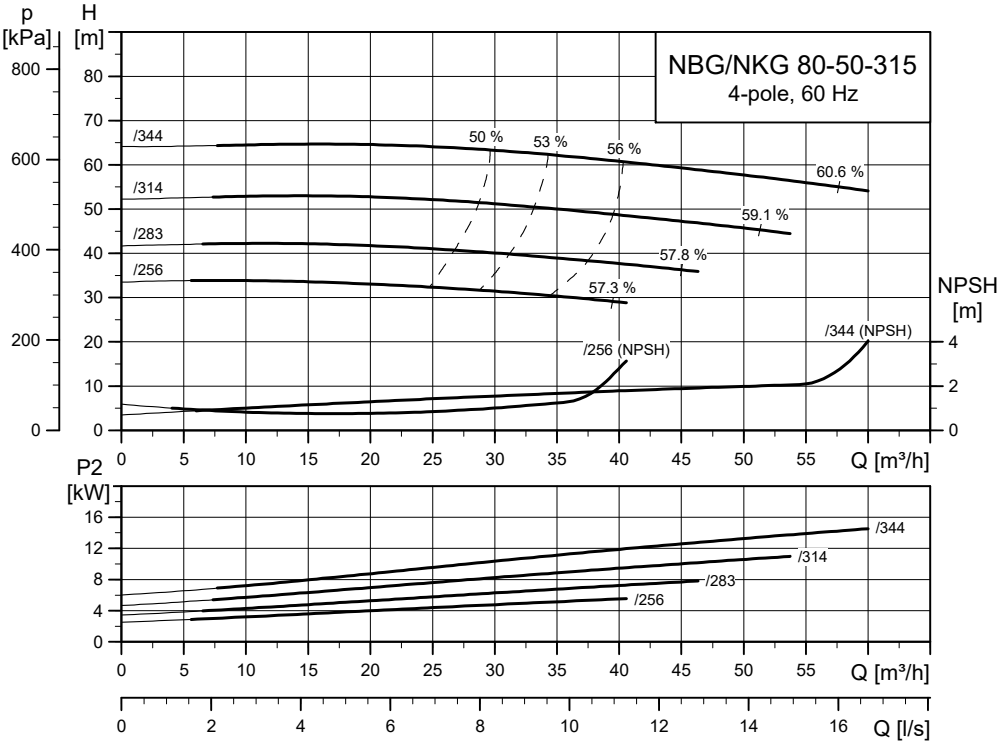
TM035038

NBG, NKG 80-50-250



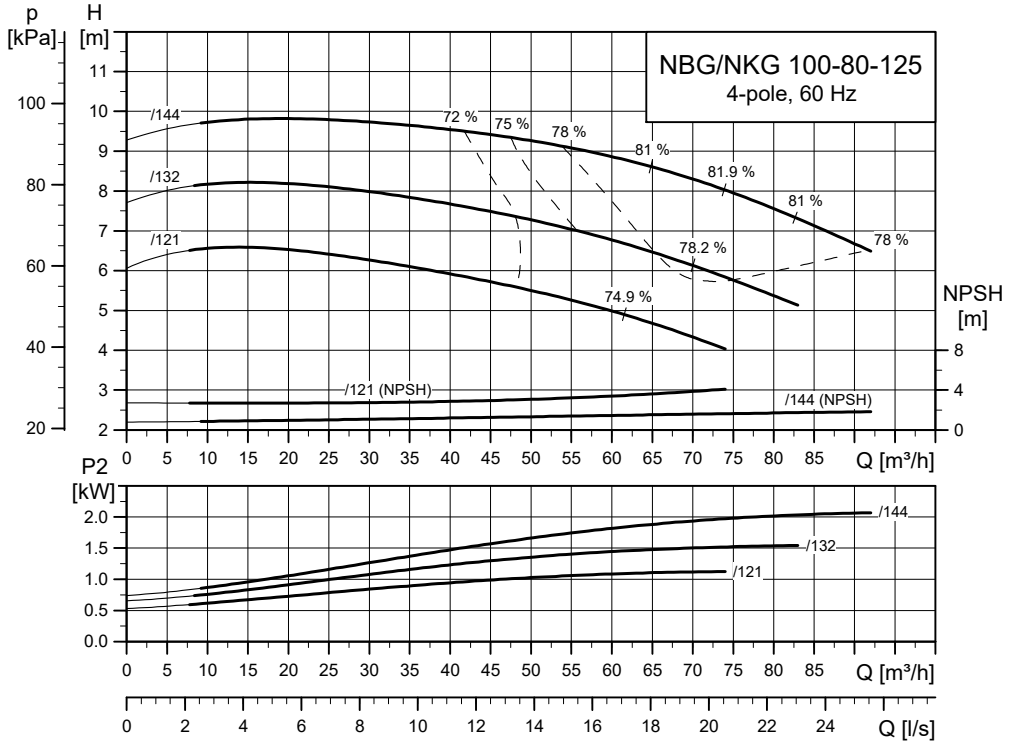
TM035039

NBG, NKG 80-50-315



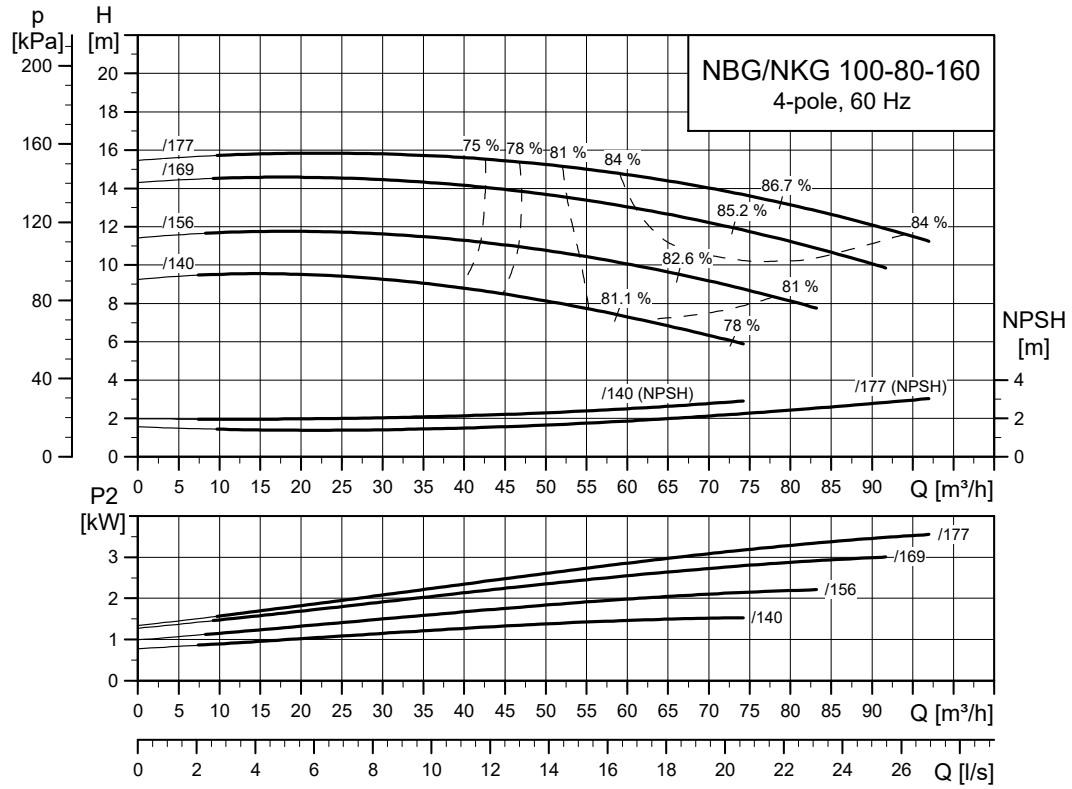
TM035040

NBG, NKG 100-80-125



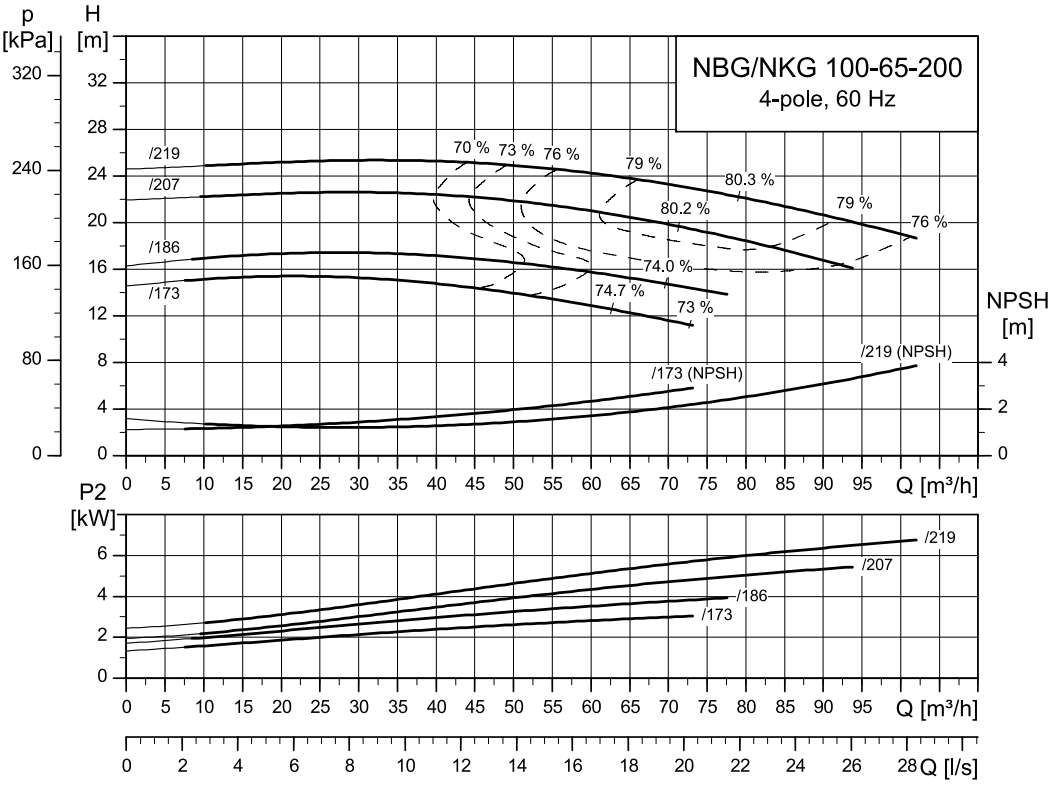
TM035041

NBG, NKG 100-80-160



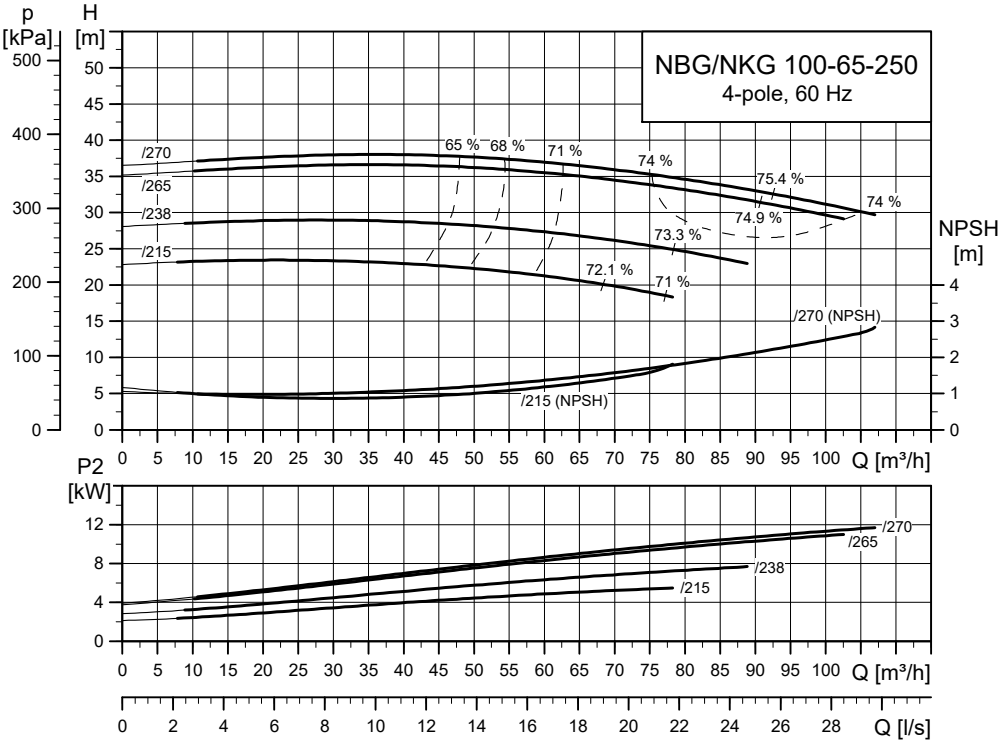
TM035042

NBG, NKG 100-65-200



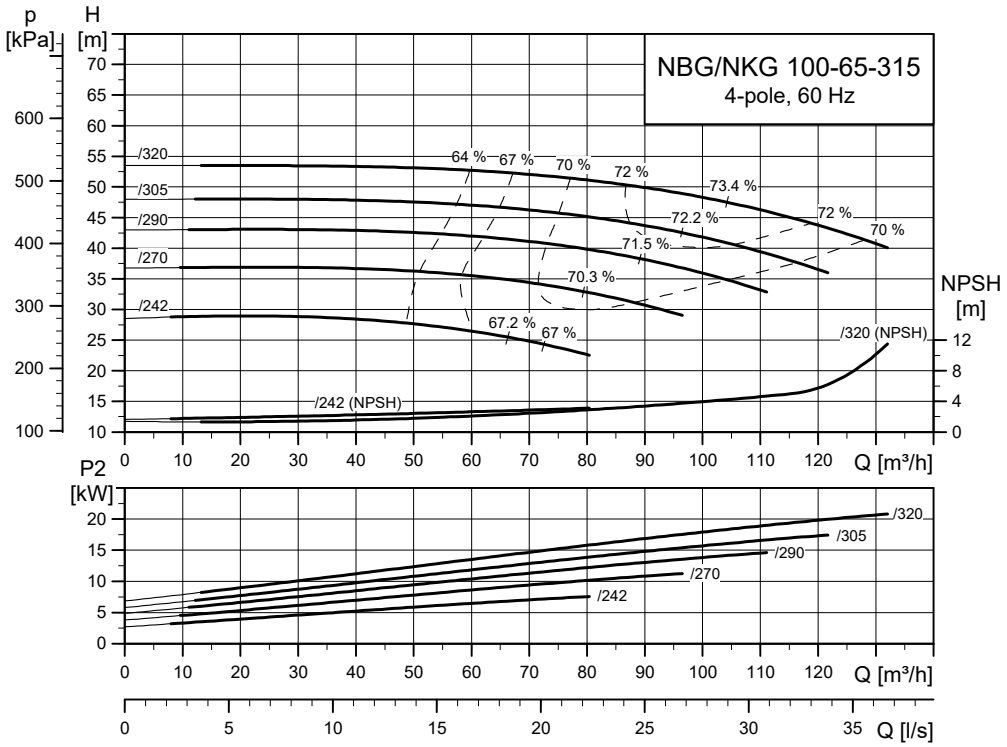
TM035043

NBG, NKG 100-65-250



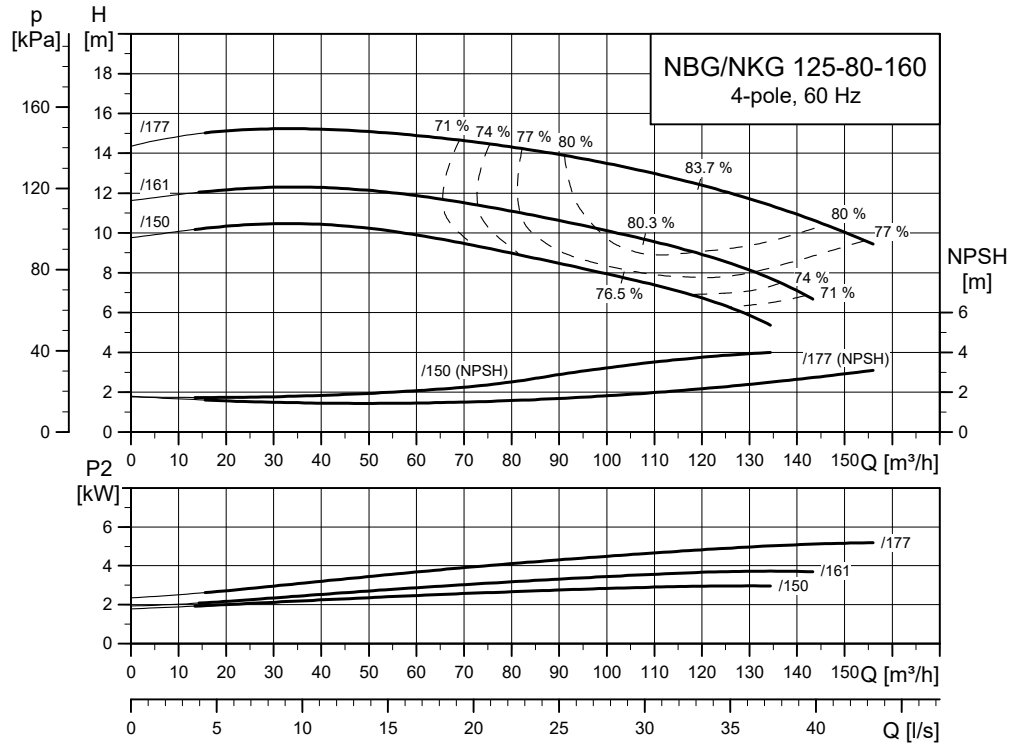
TM035044

NBG, NKG 100-65-315



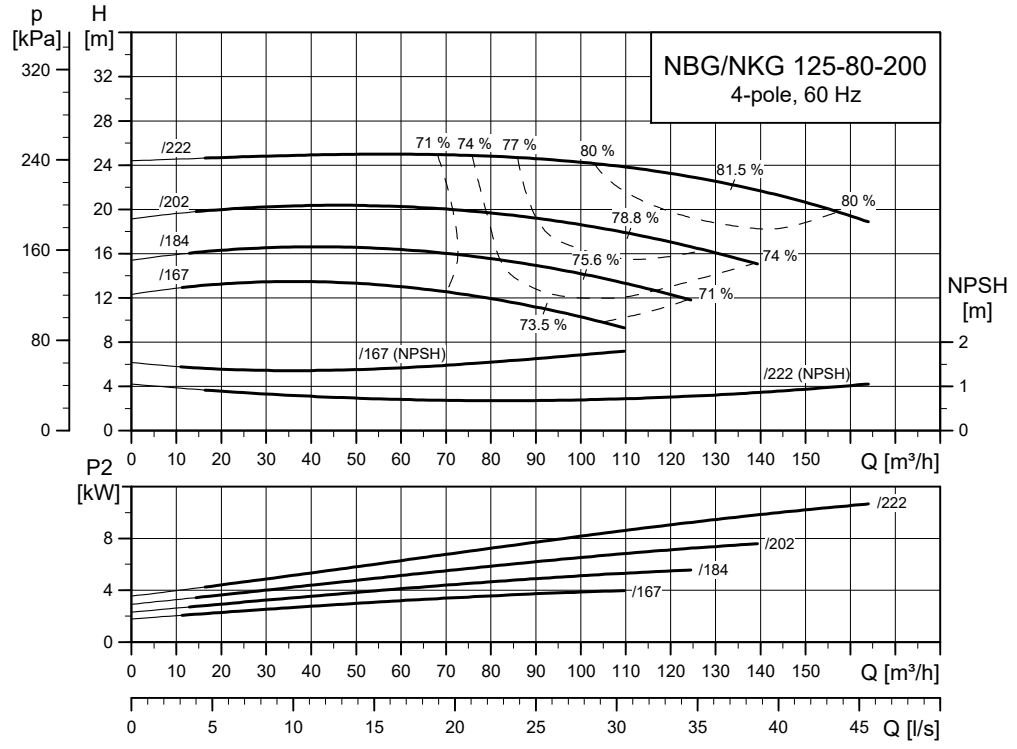
TM035045

NBG, NKG 125-80-160



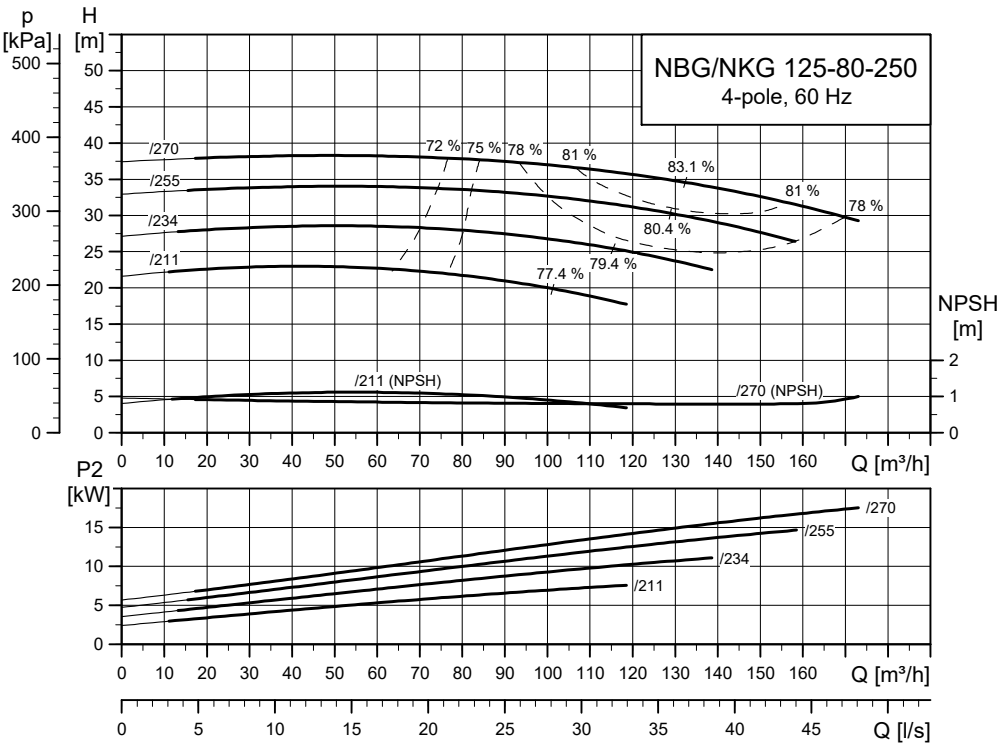
TM035046

NBG, NKG 125-80-200



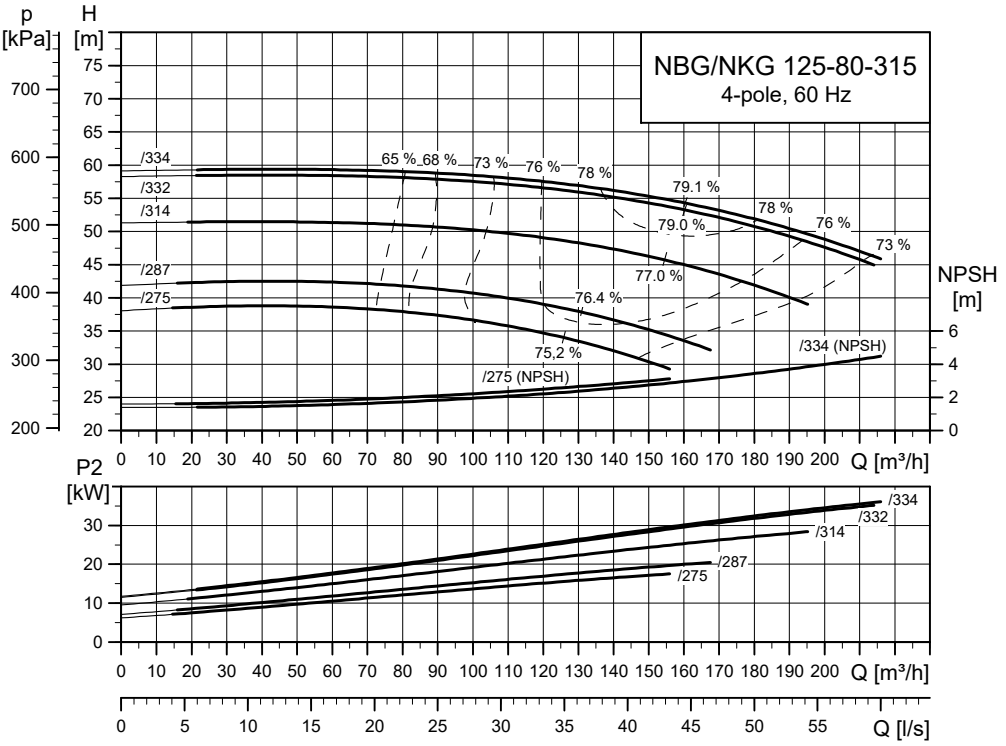
TM035047

NBG, NKG 125-80-250



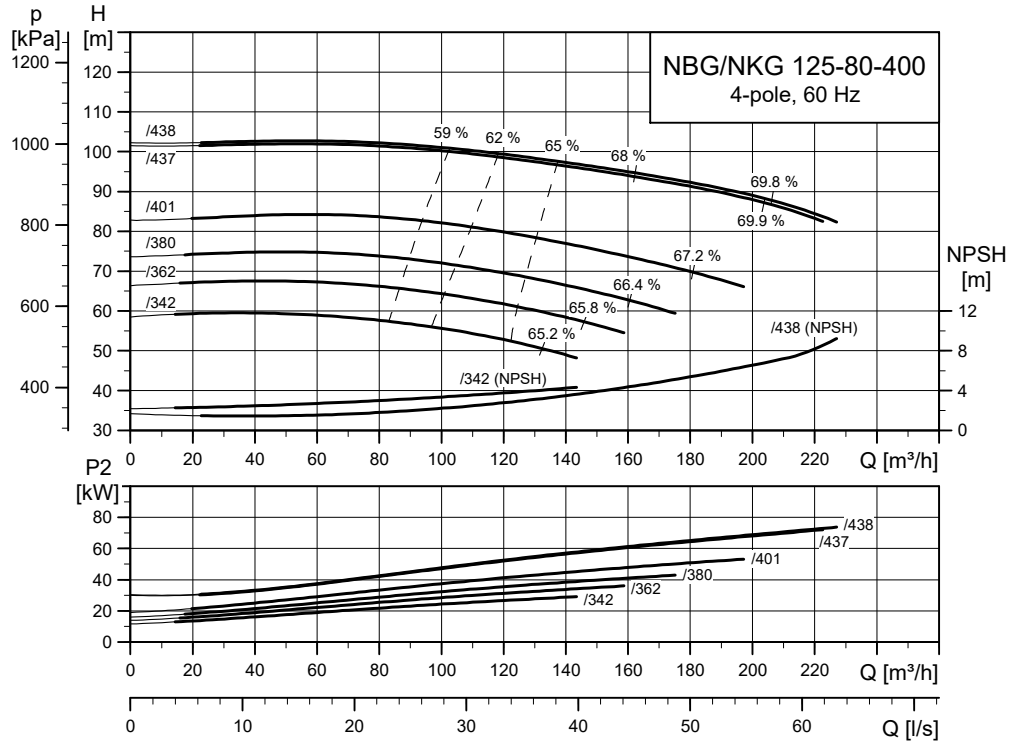
TM035048

NBG, NKG 125-80-315



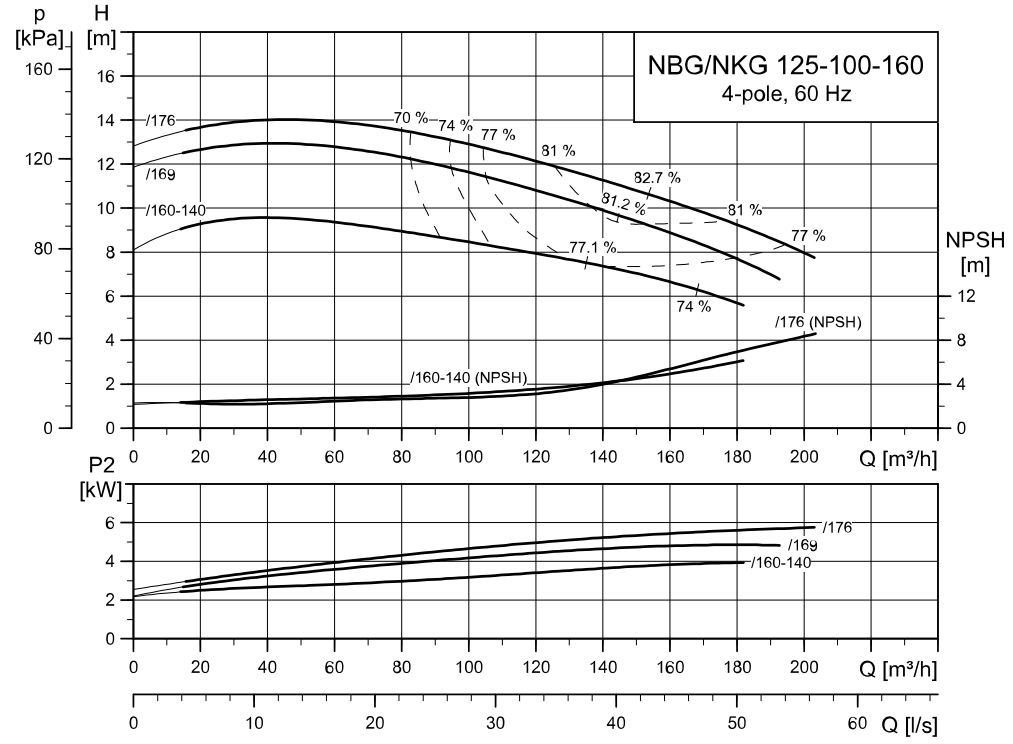
TM035049

NBG, NKG 125-80-400



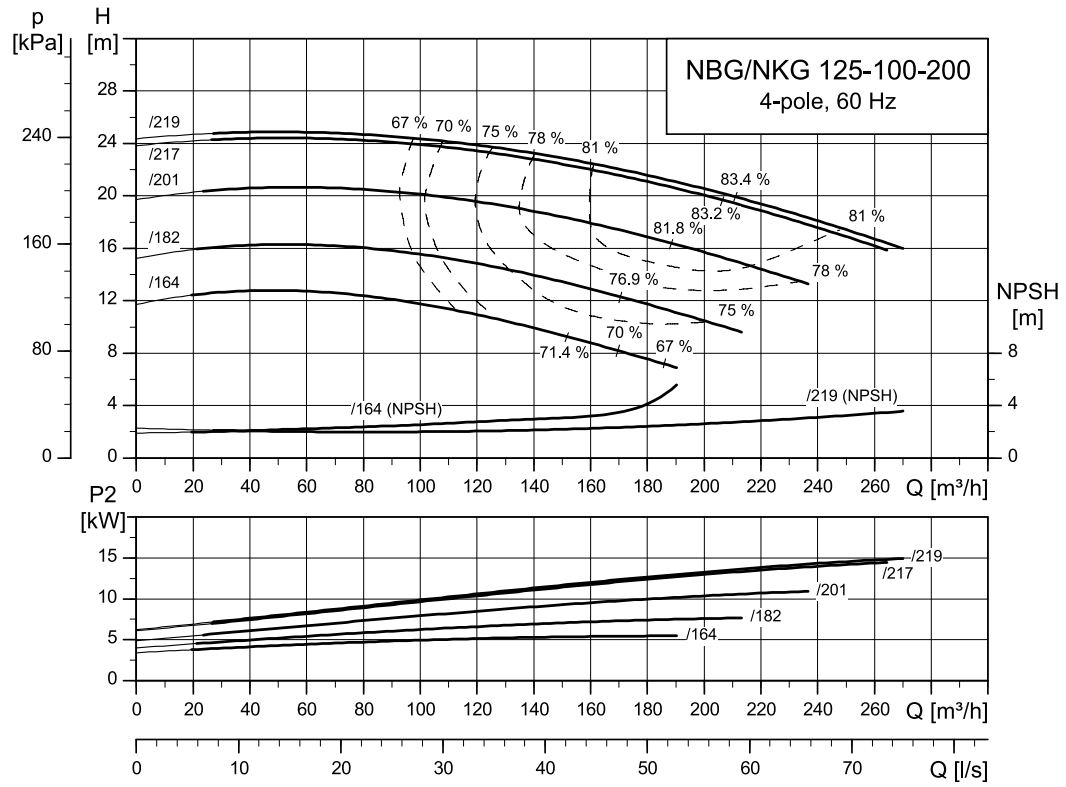
TM035050

NBG, NKG 125-100-160



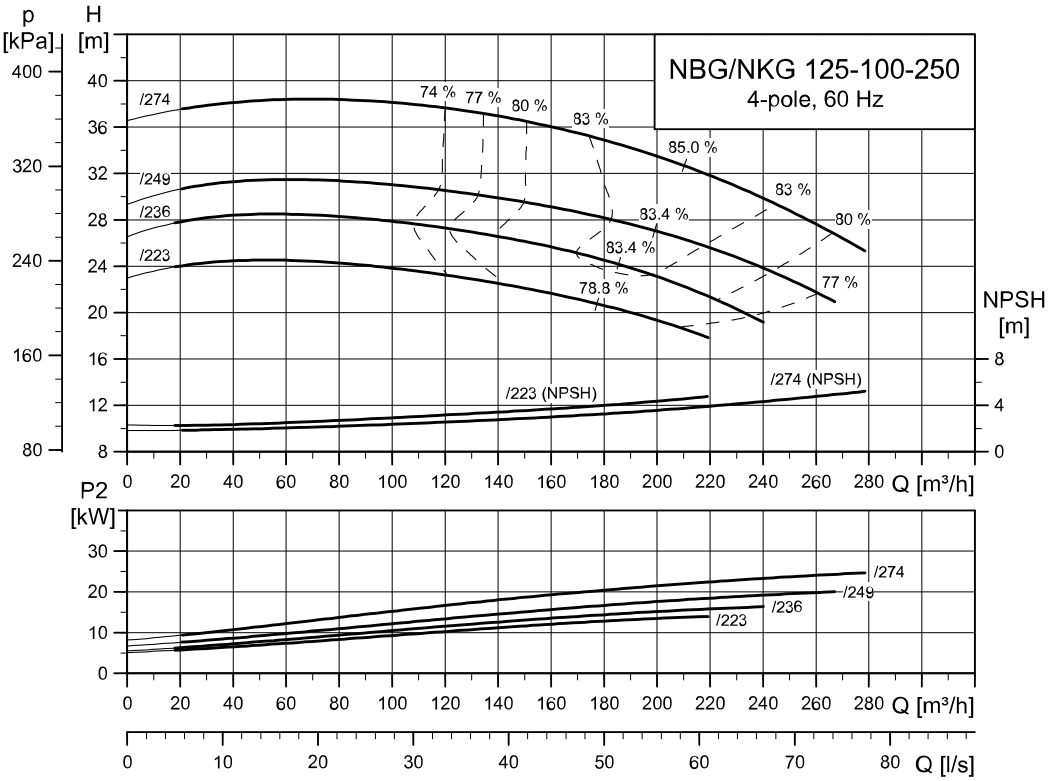
TM035051

NBG, NKG 125-100-200



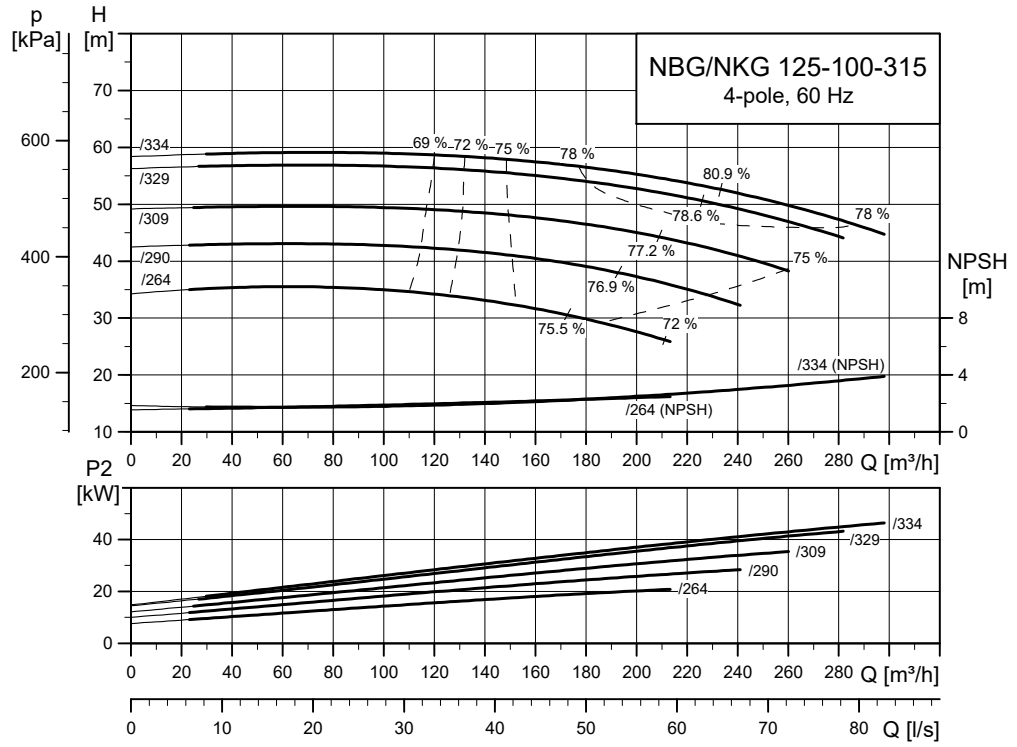
TM035052

NBG, NKG 125-100-250



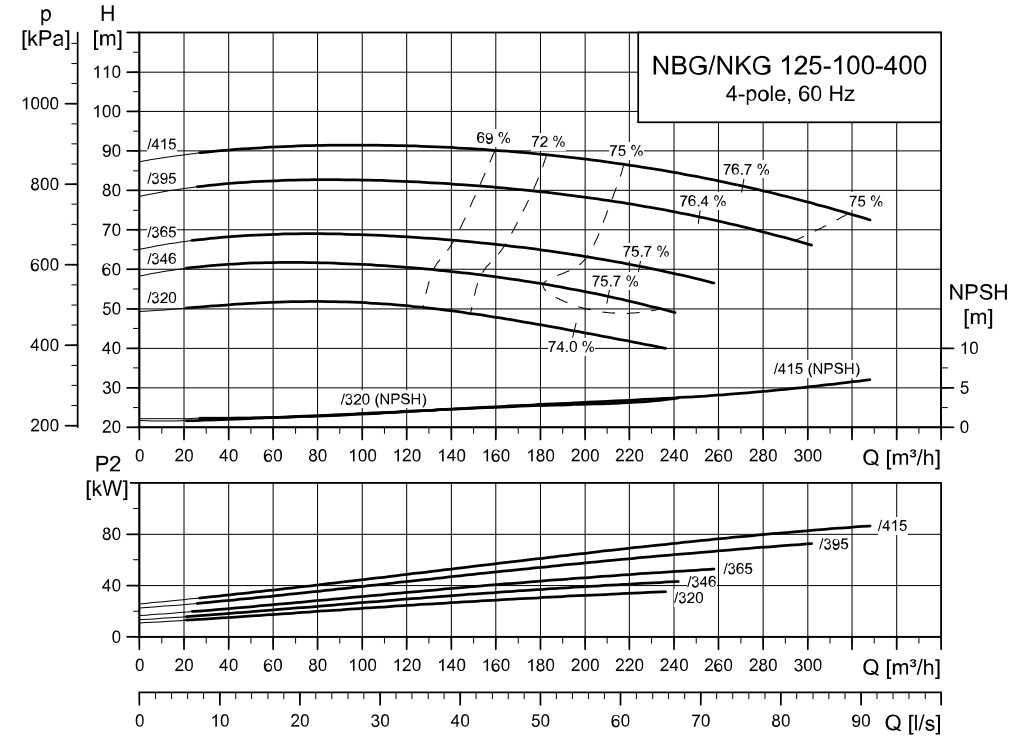
TM035053

NBG, NKG 125-100-315



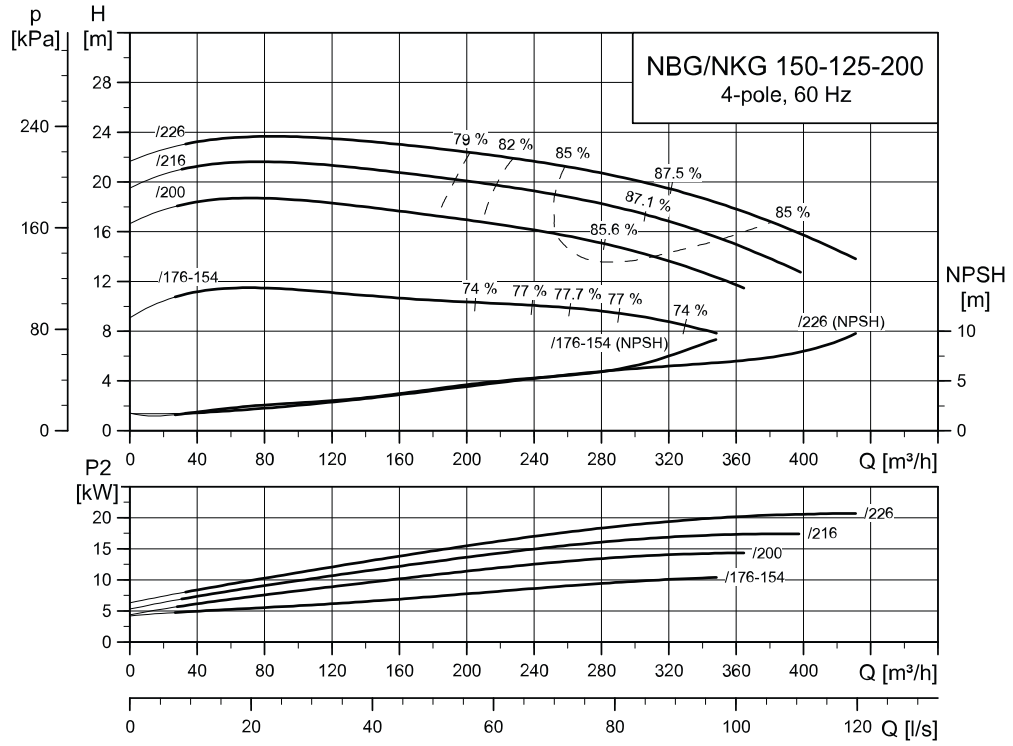
TM035054

NBG, NKG 125-100-400



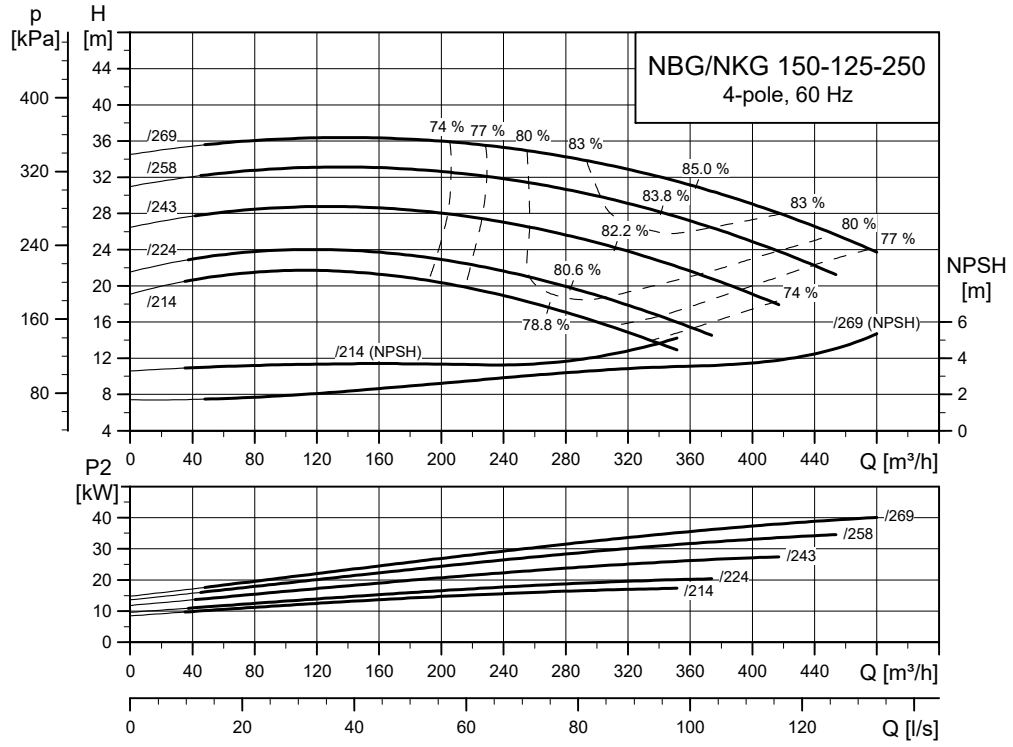
TM035055

NBG, NKG 150-125-200



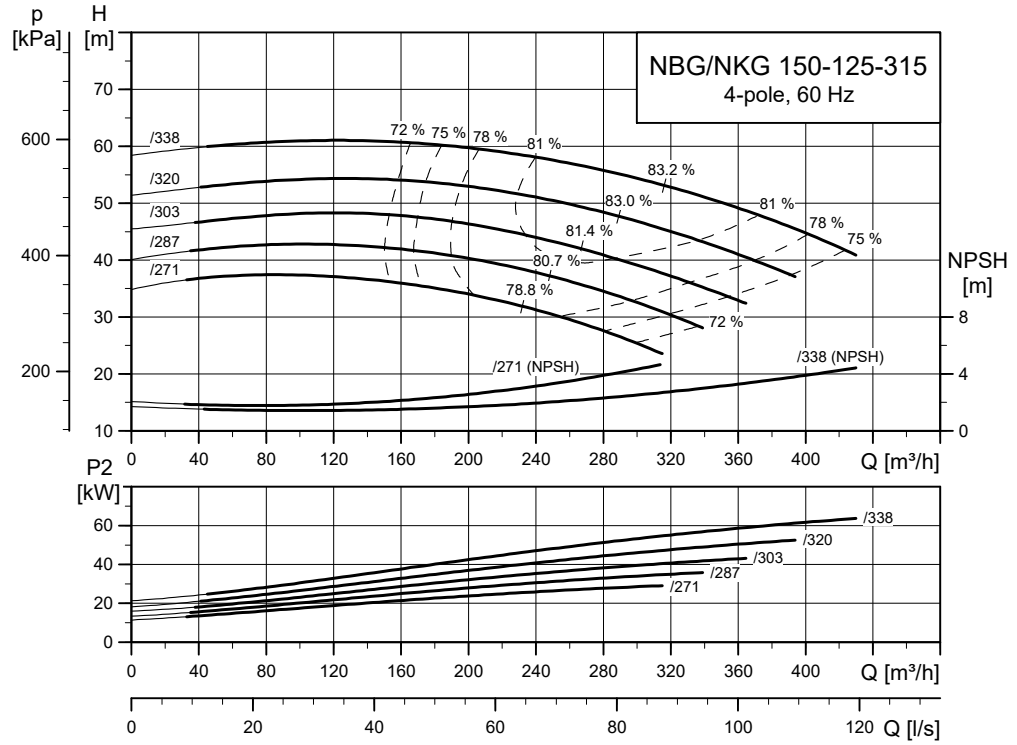
TM035056

NBG, NKG 150-125-250



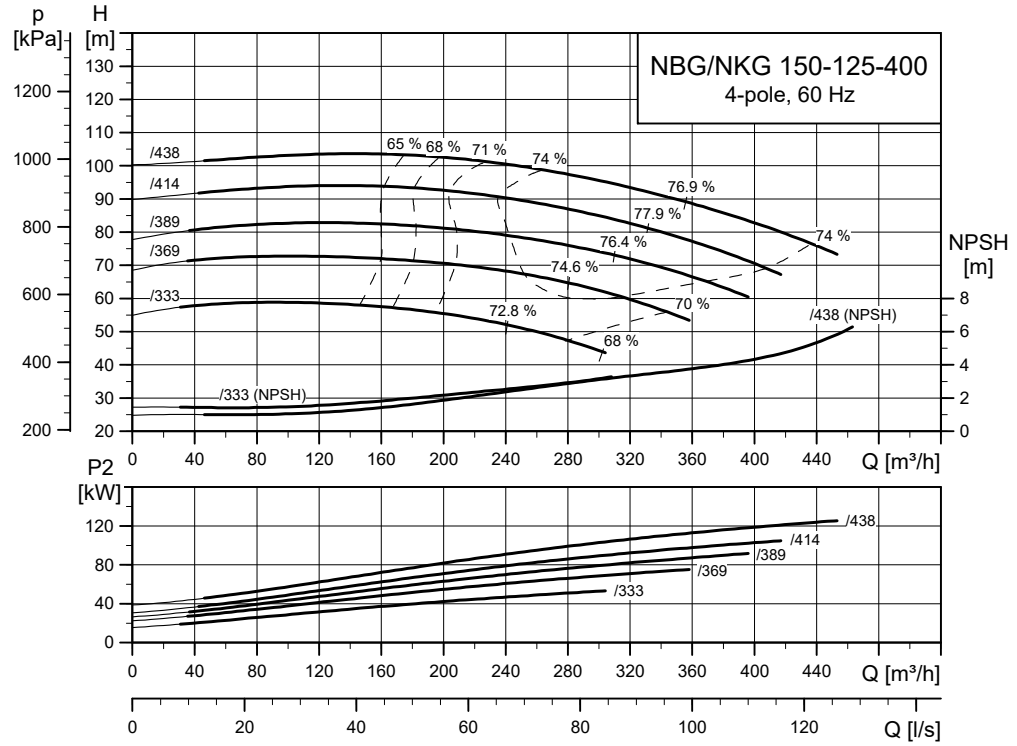
TM035057

NBG, NKG 150-125-315



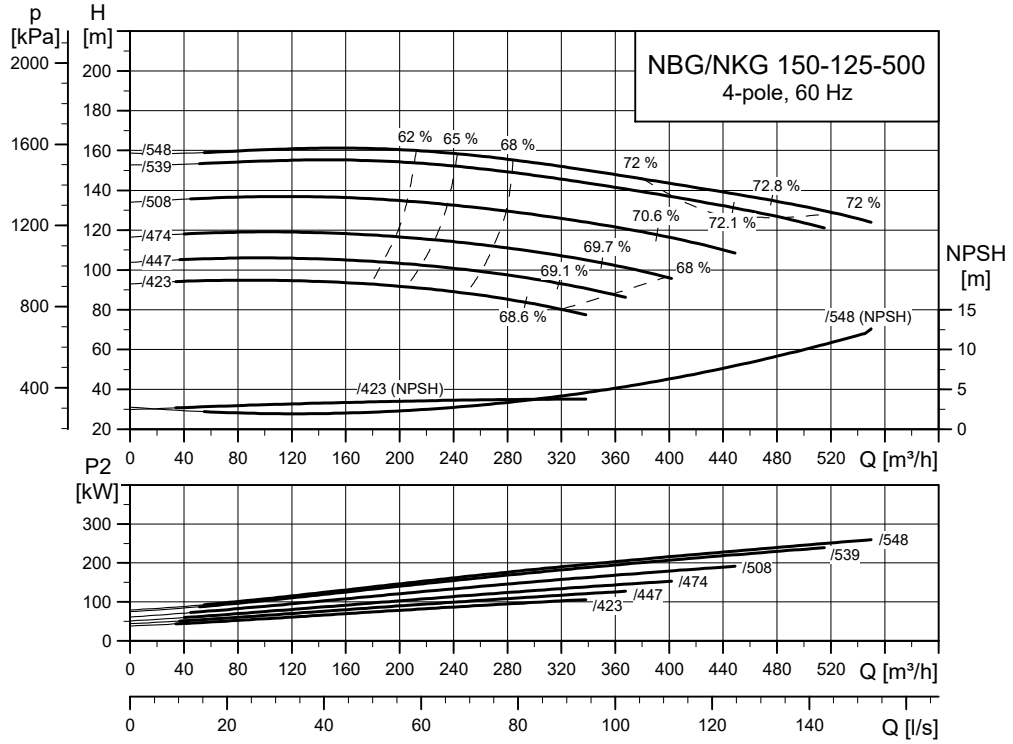
TM035058

NBG, NKG 150-125-400



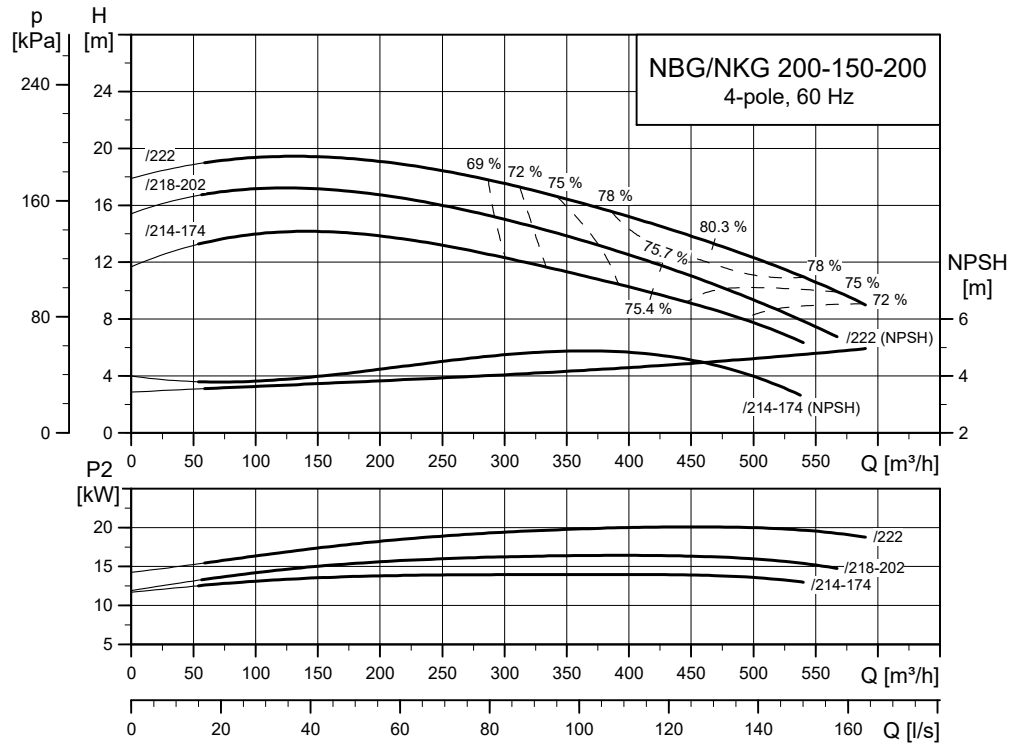
TM052345

NBG, NKG 150-125-500



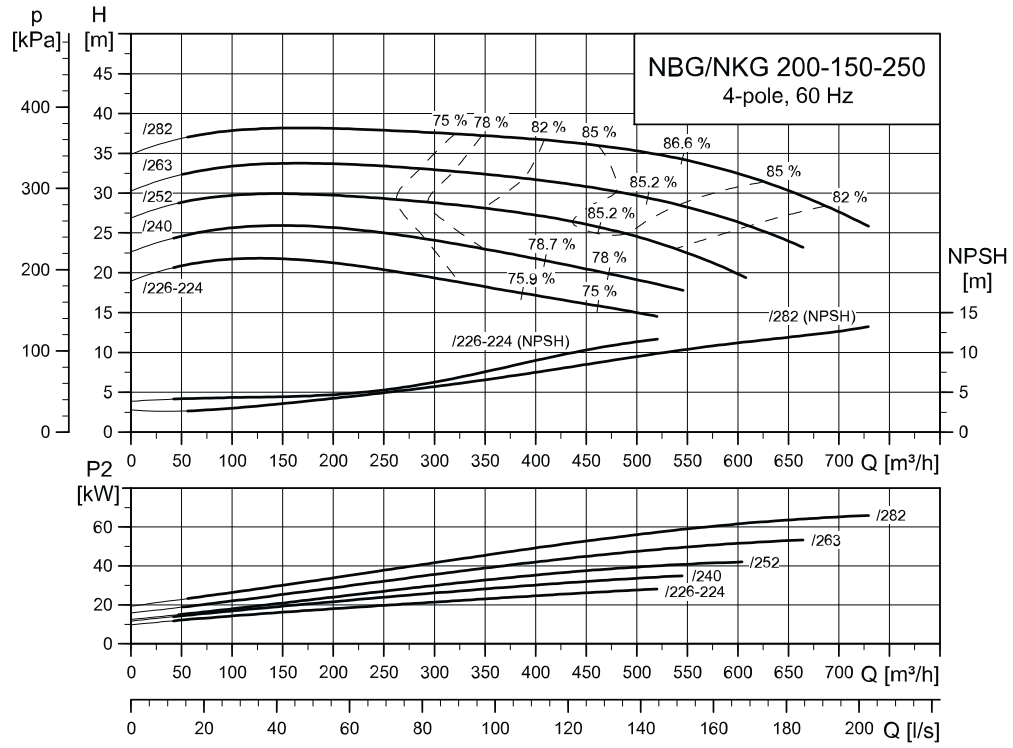
TM035060

NBG, NKG 200-150-200



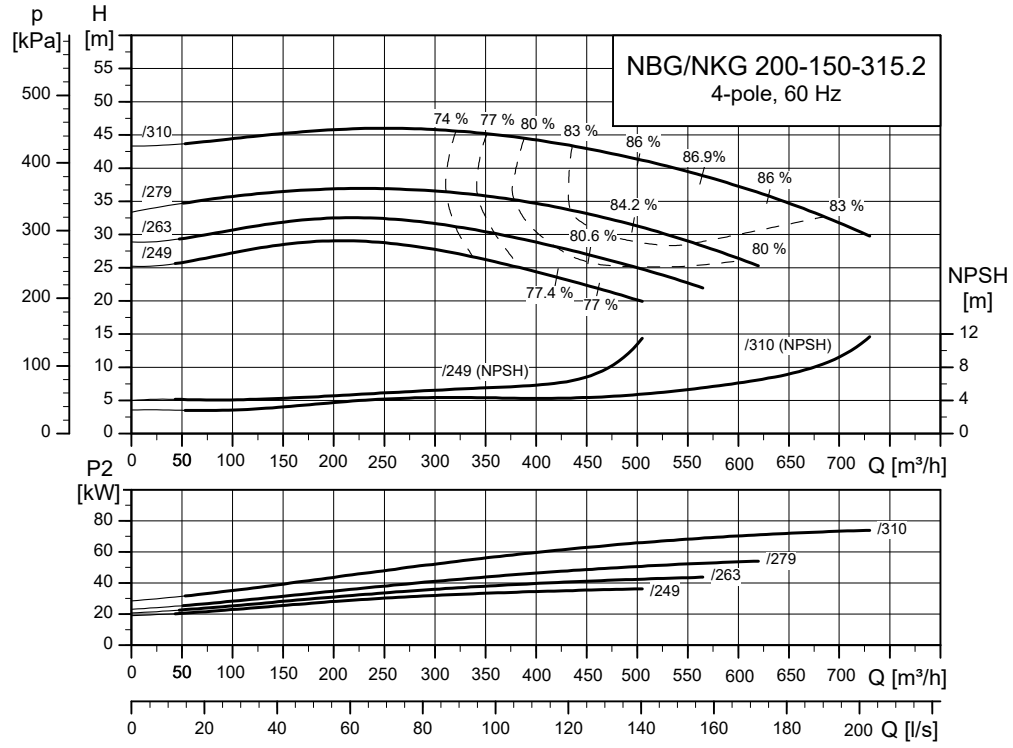
TM035061

NBG, NKG 200-150-250



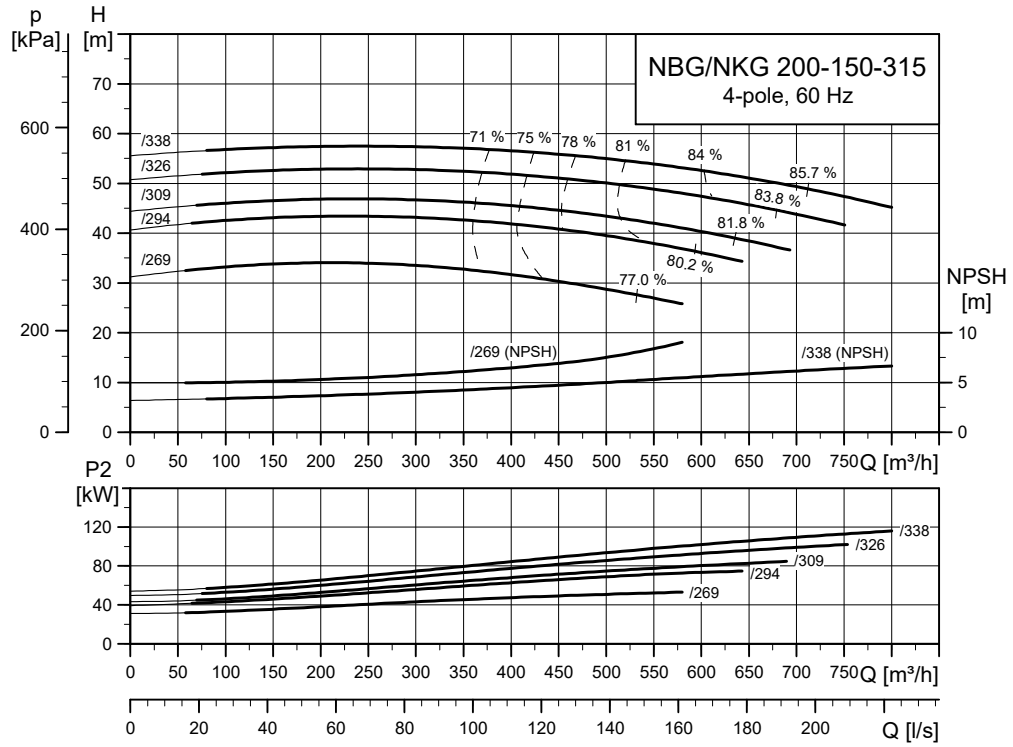
TM035062

NBG, NKG 200-150-315.2



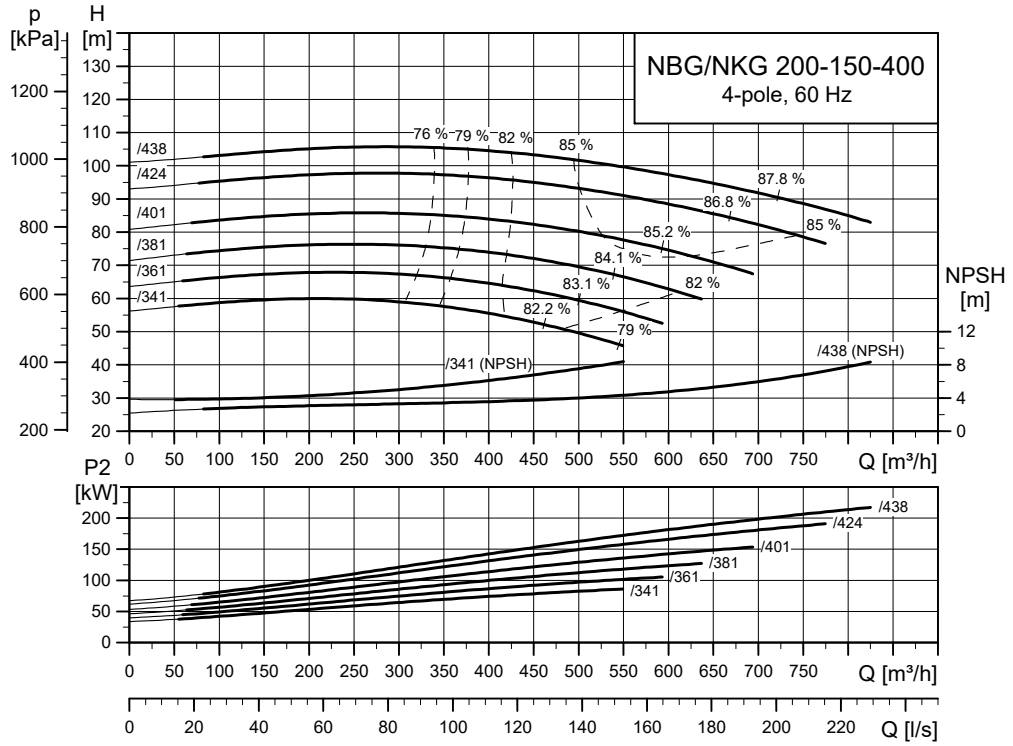
TM064759

NBG, NKG 200-150-315



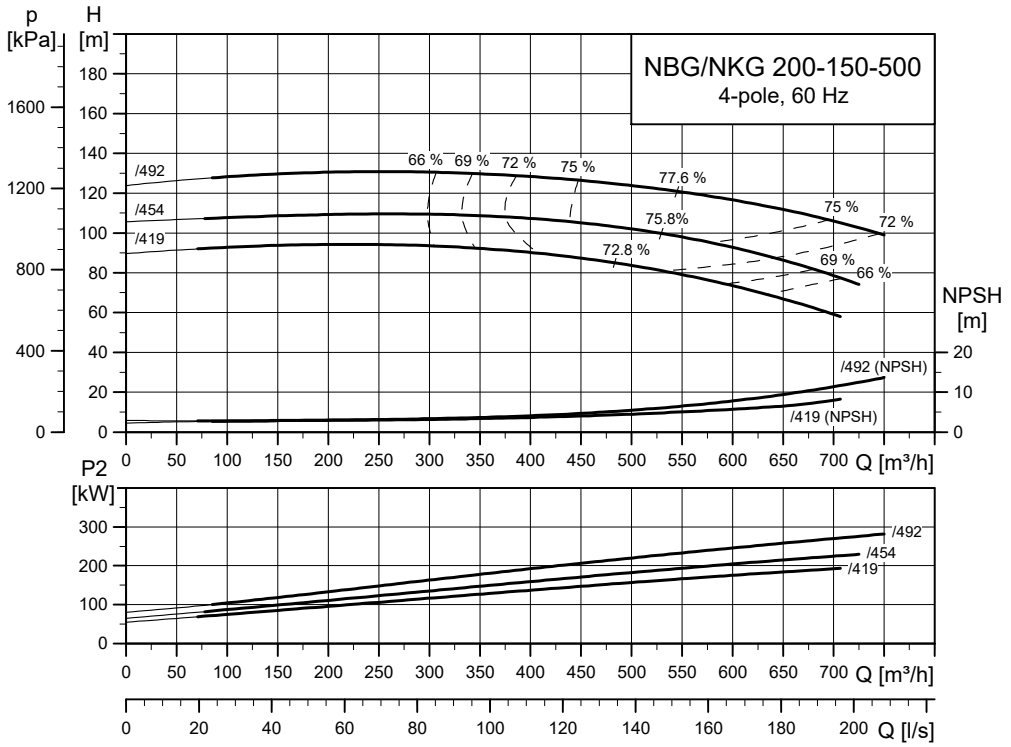
TM035063

NBG, NKG 200-150-400



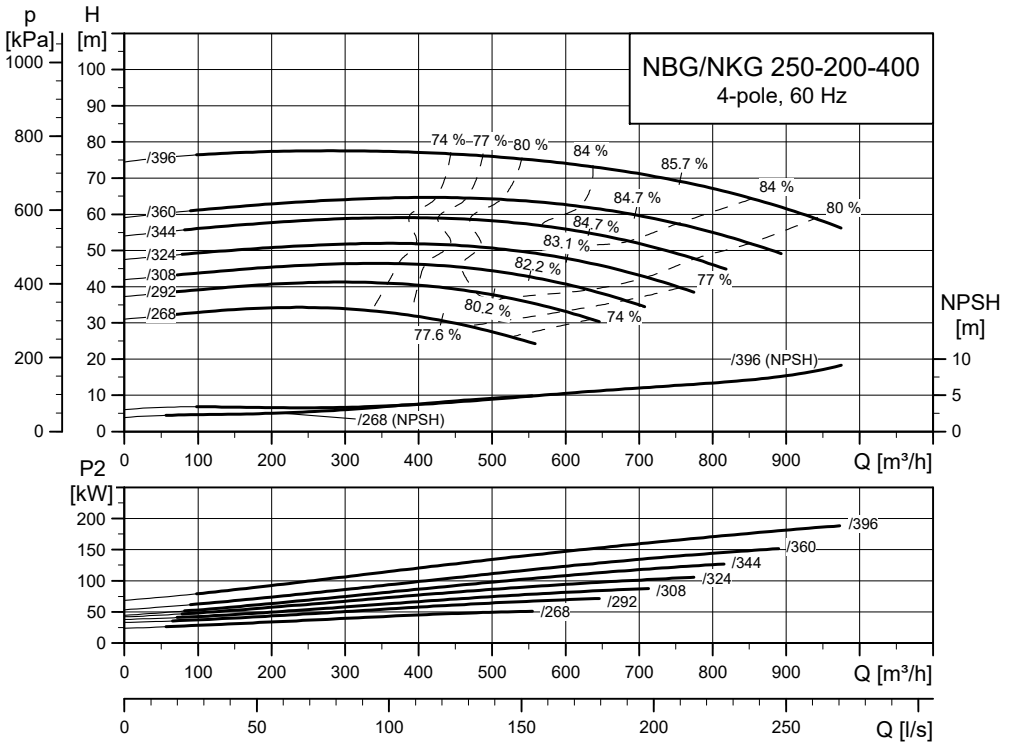
TM035064

NBG, NKG 200-150-500



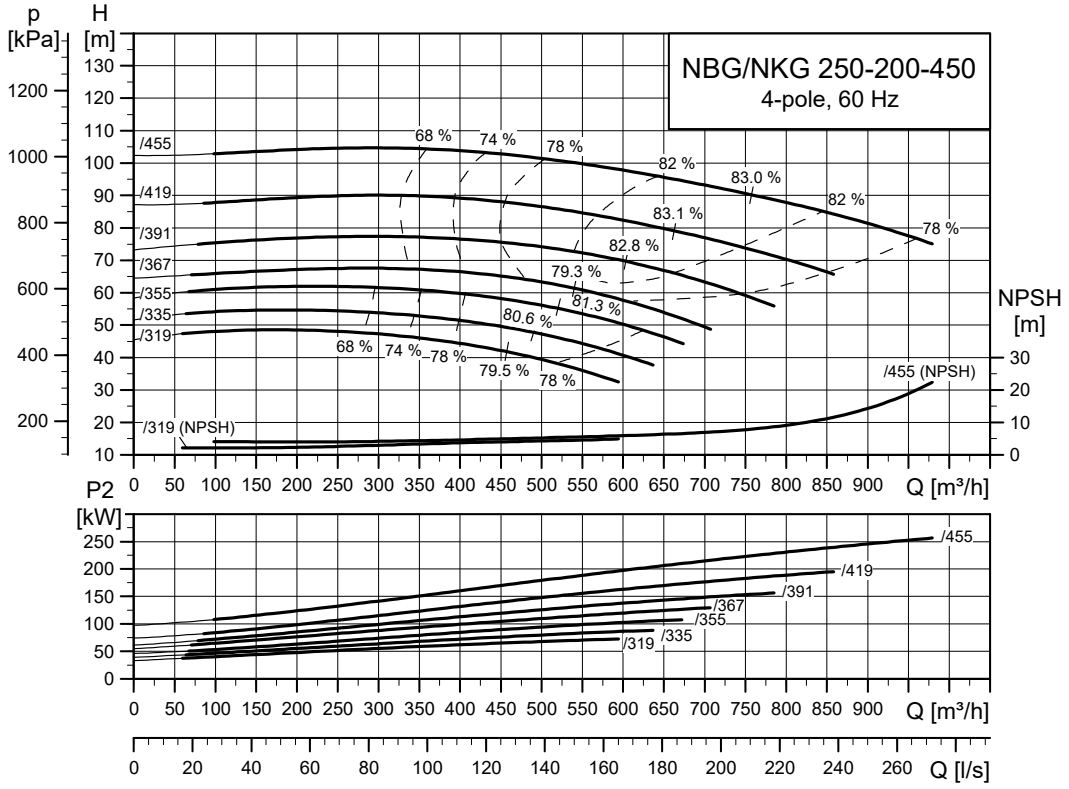
TM035065

NBG, NKG 250-200-400



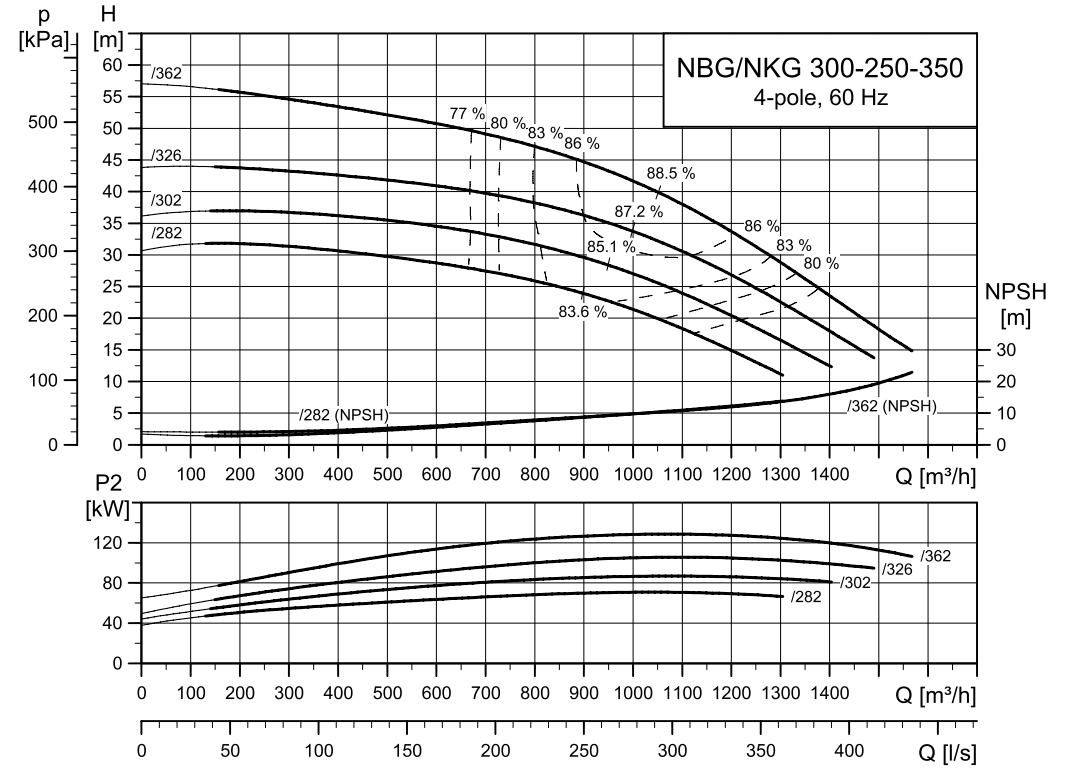
TM044945

NBG, NKG 250-200-450



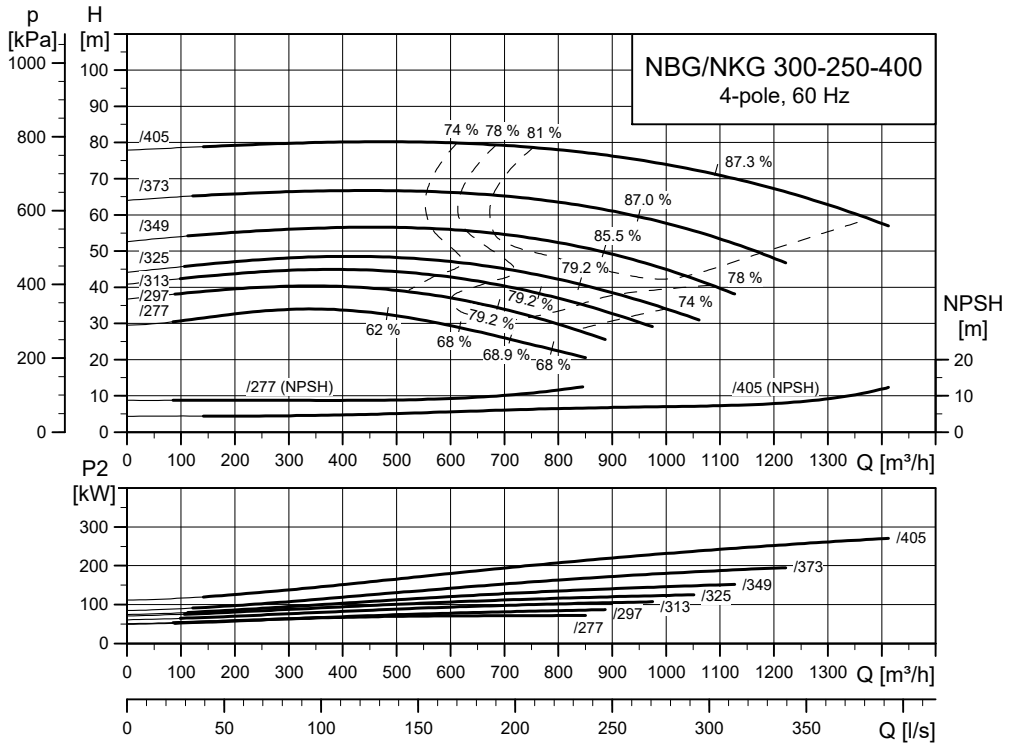
TM043965

NBG, NKG 300-250-350



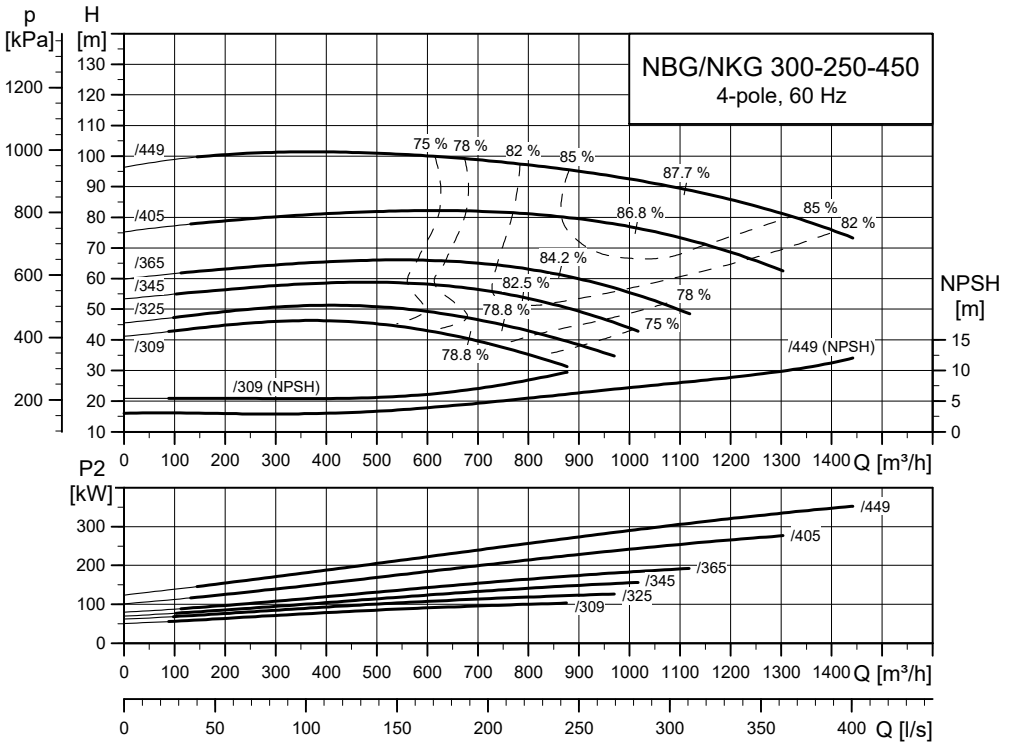
TM045964

NBG, NKG 300-250-400



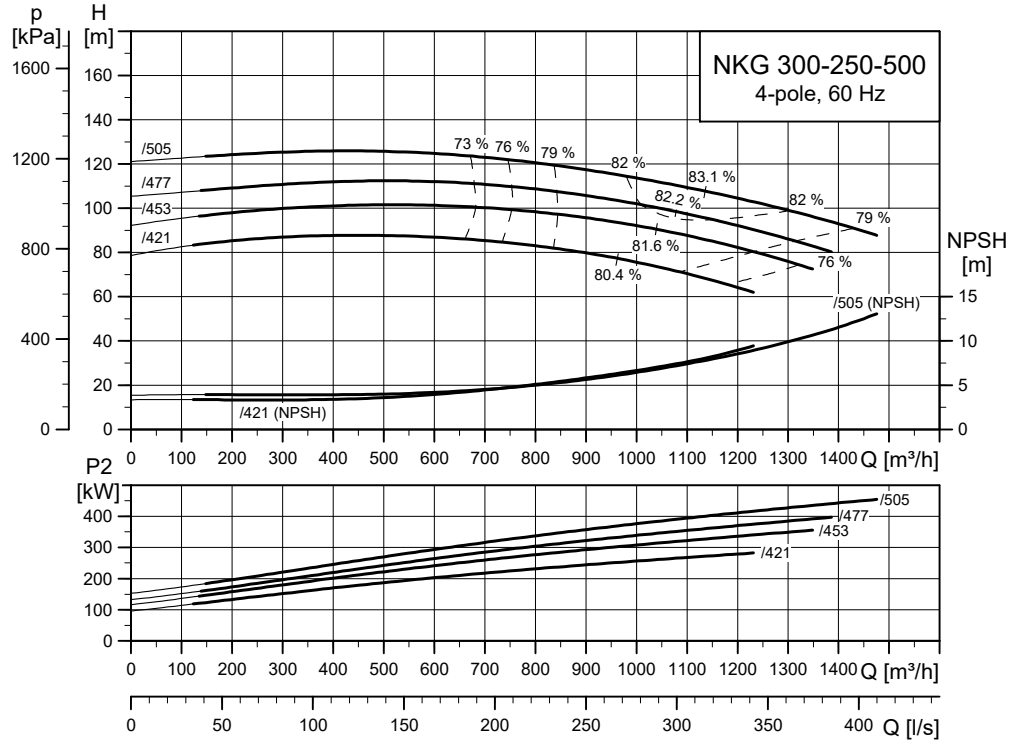
TM044020

NBG, NKG 300-250-450



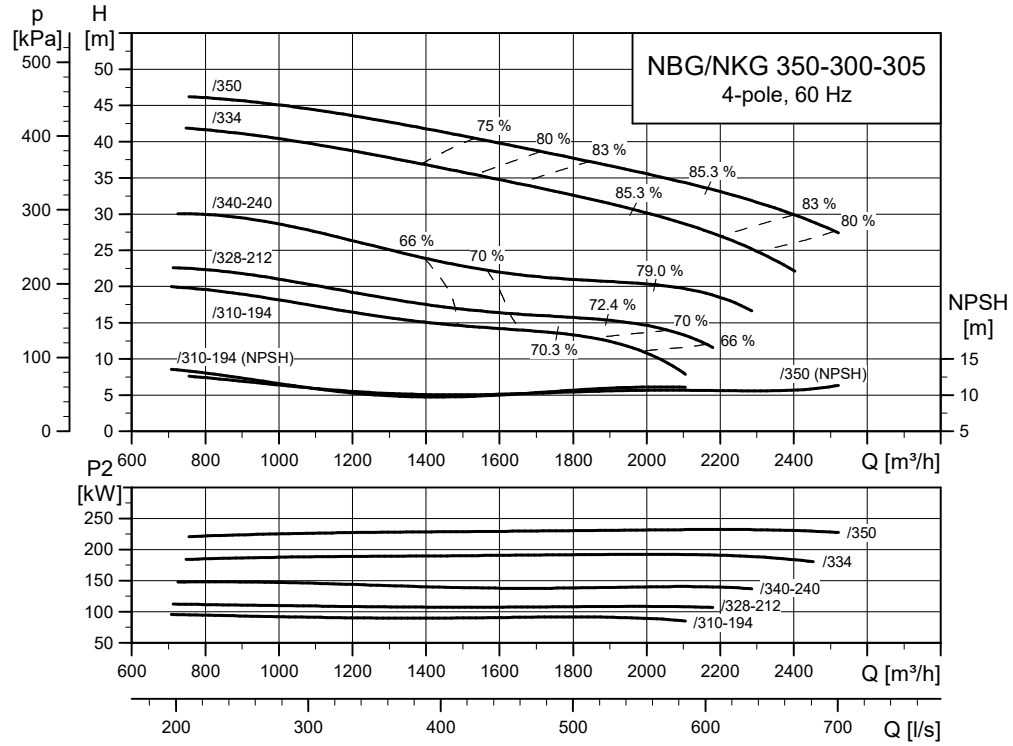
TM044949

NBG, NKG 300-250-500



TM045968

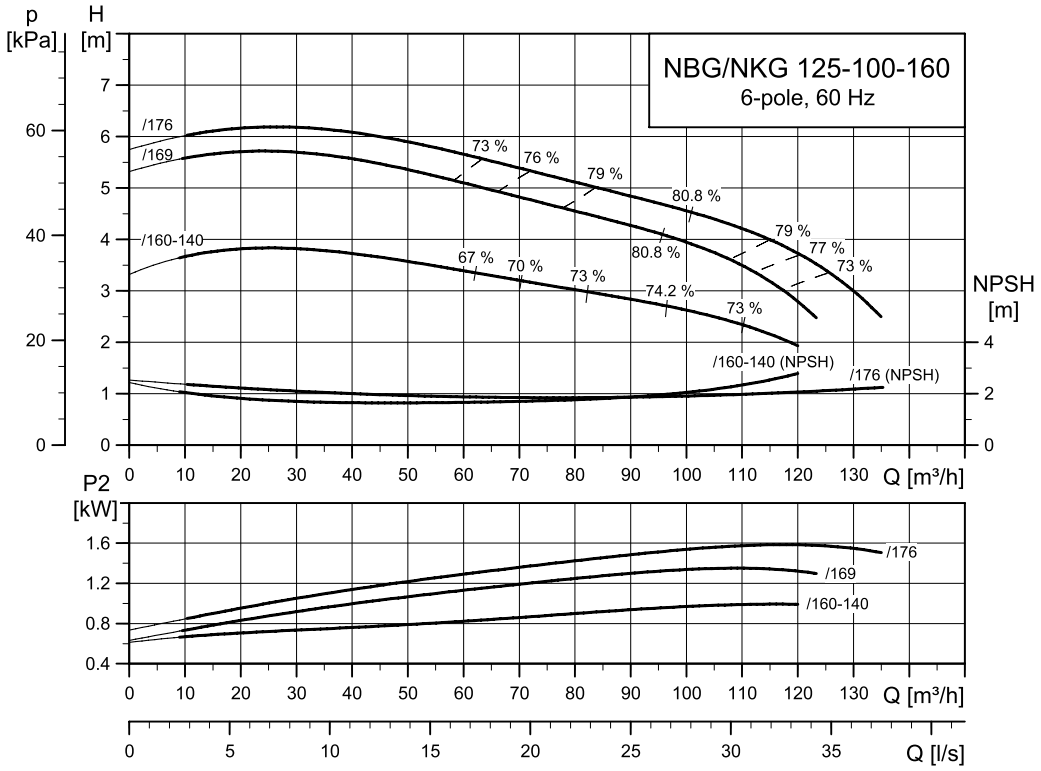
NBG, NKG 350-300-305



TM071267

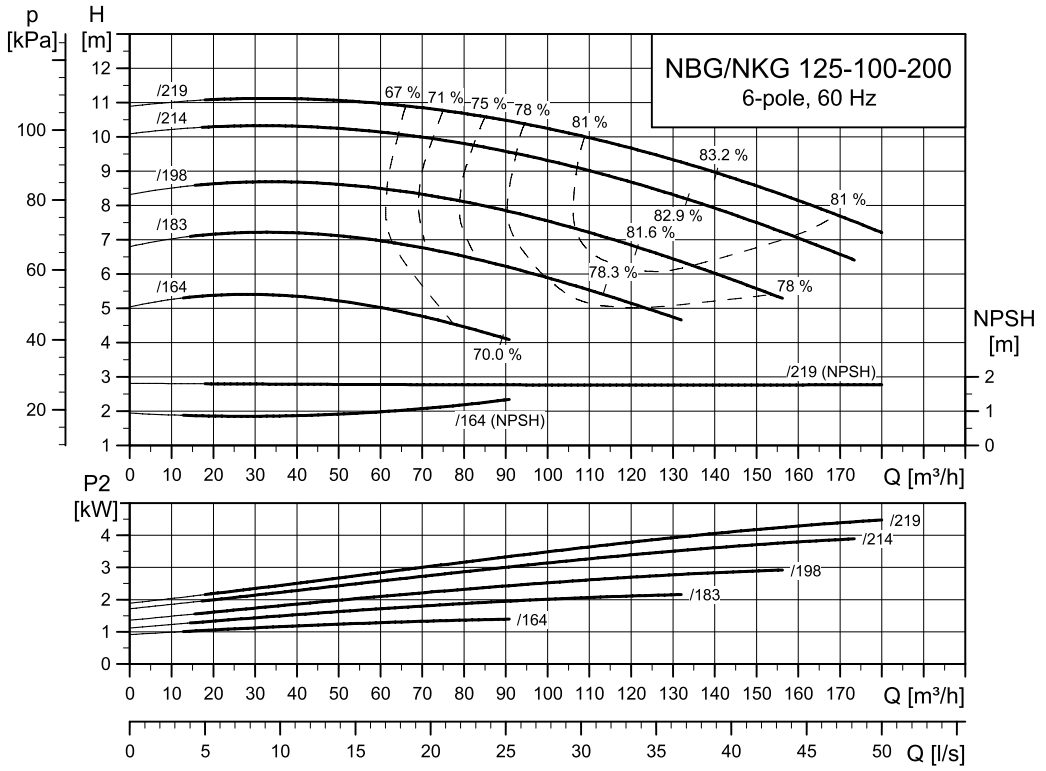
6-pole

NBG, NKG 125-100-160



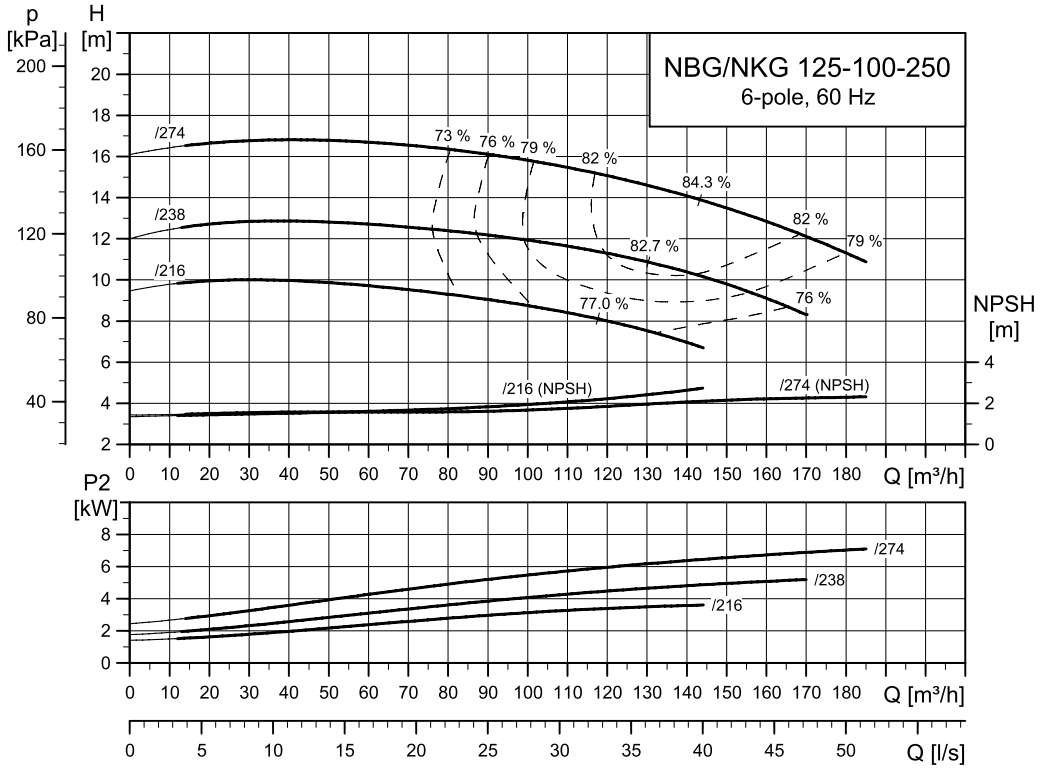
TM035066

NBG, NKG 125-100-200



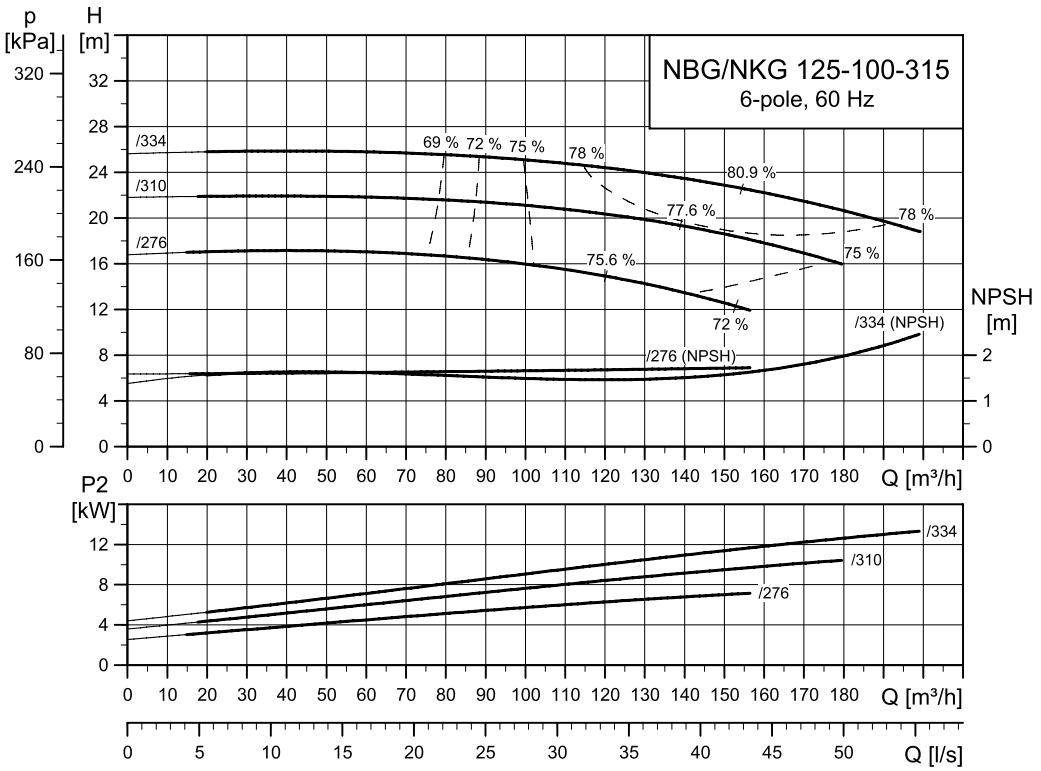
TM035067

NBG, NKG 125-100-250



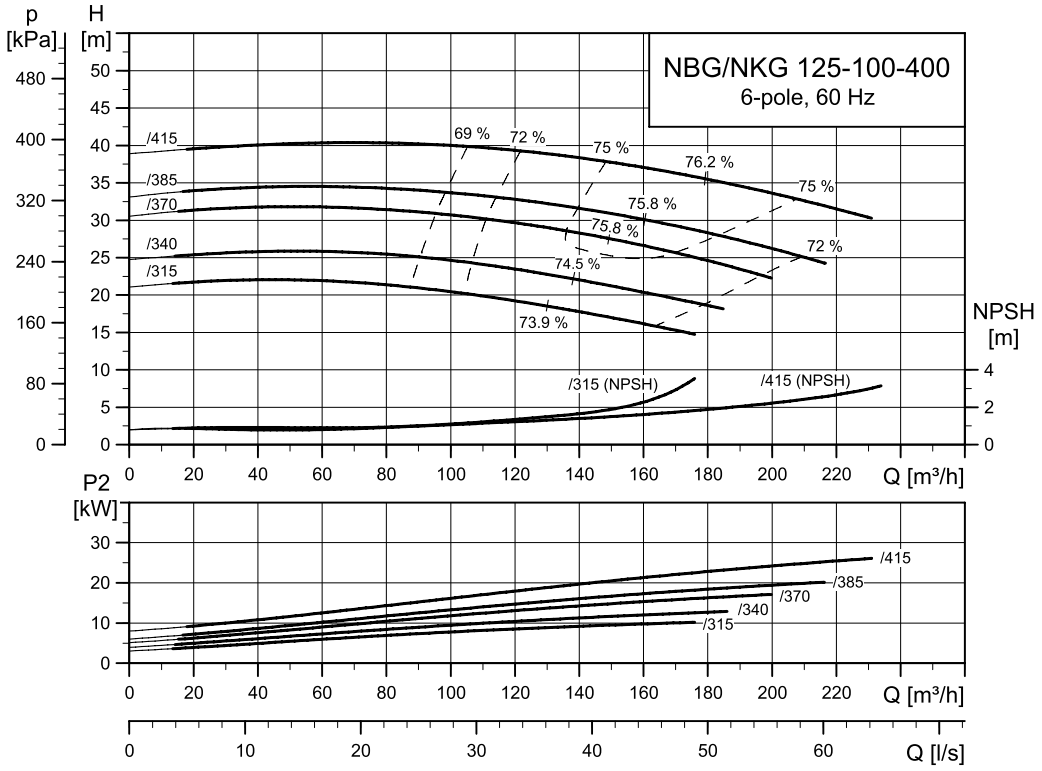
TM035068

NBG, NKG 125-100-315



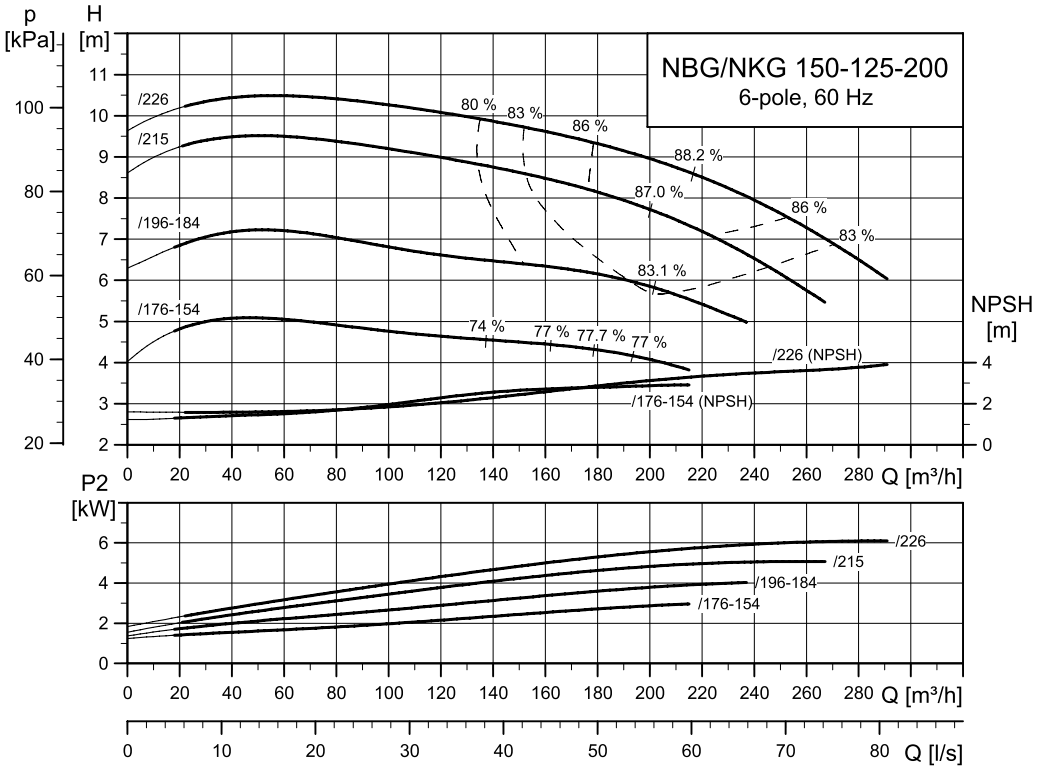
TM035069

NBG, NKG 125-100-400



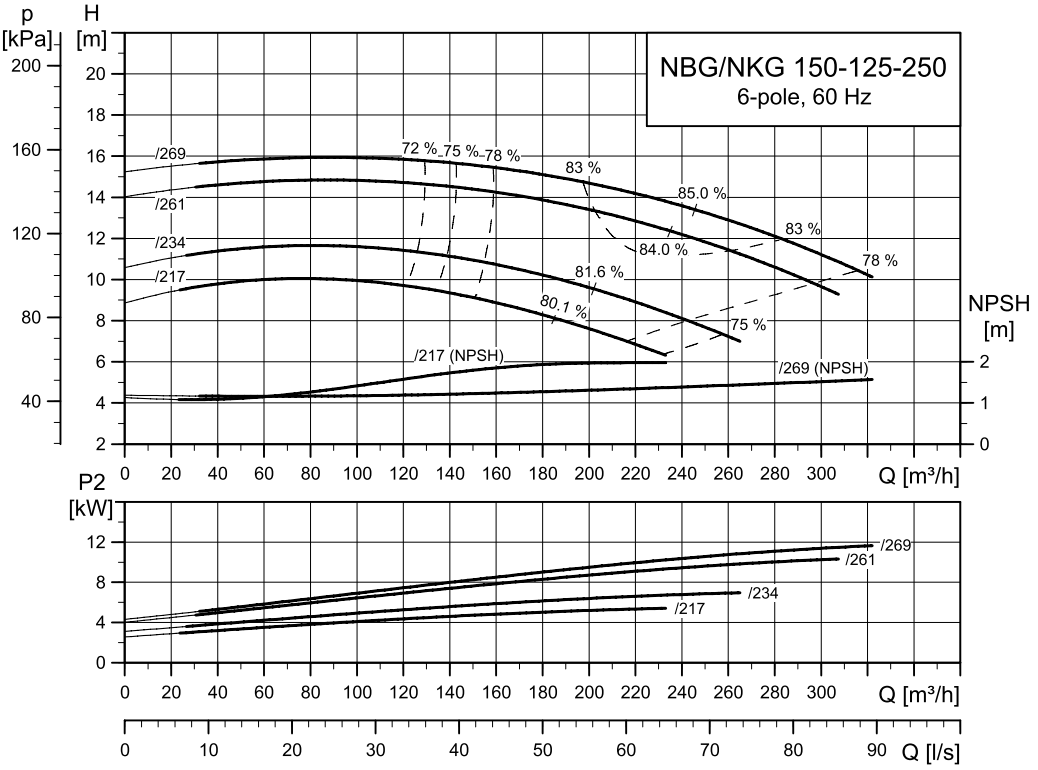
TM035070

NBG, NKG 150-125-200



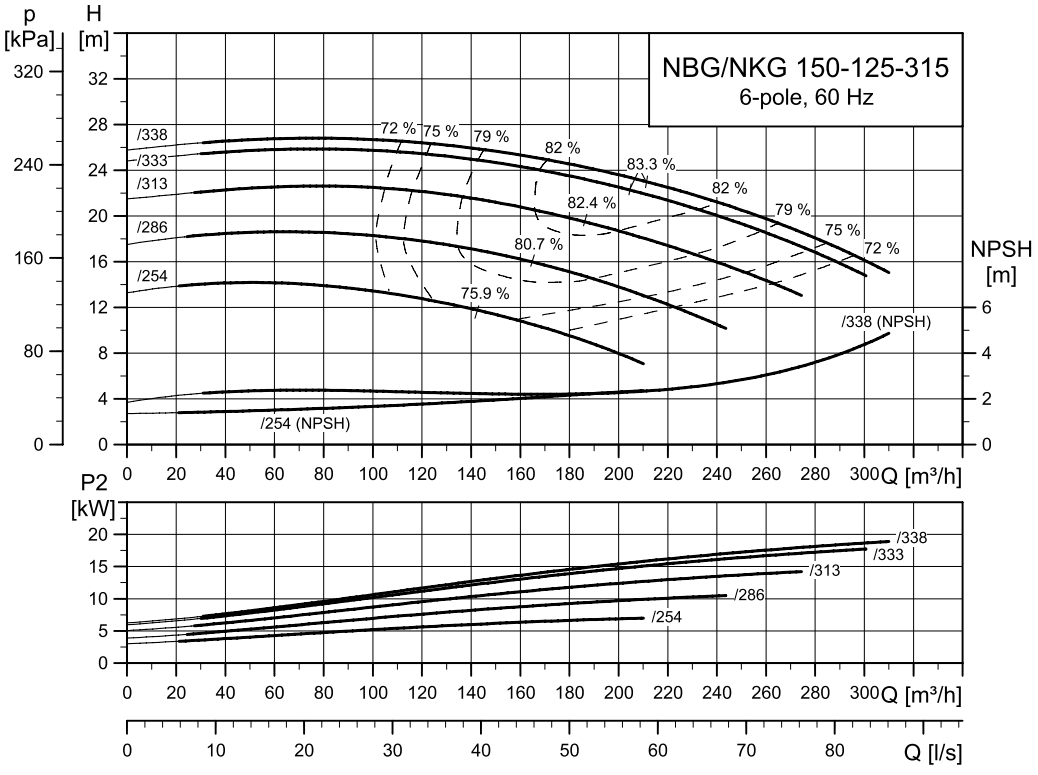
TM035071

NBG, NKG 150-125-250



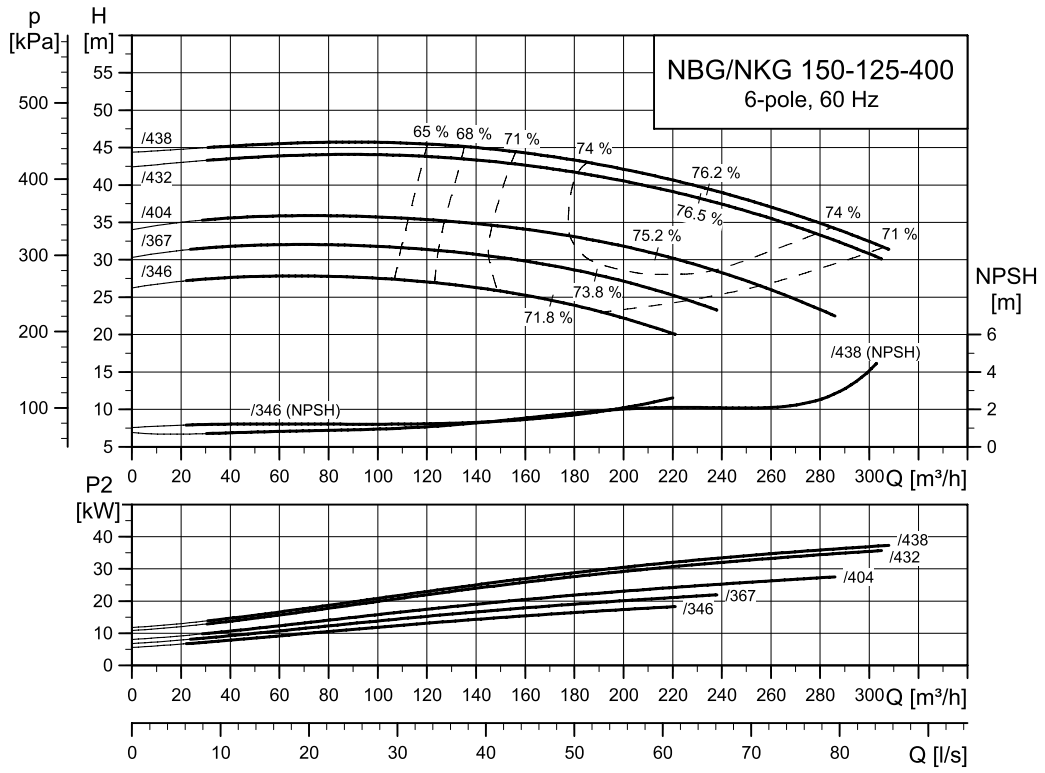
TM035072

NBG, NKG 150-125-315



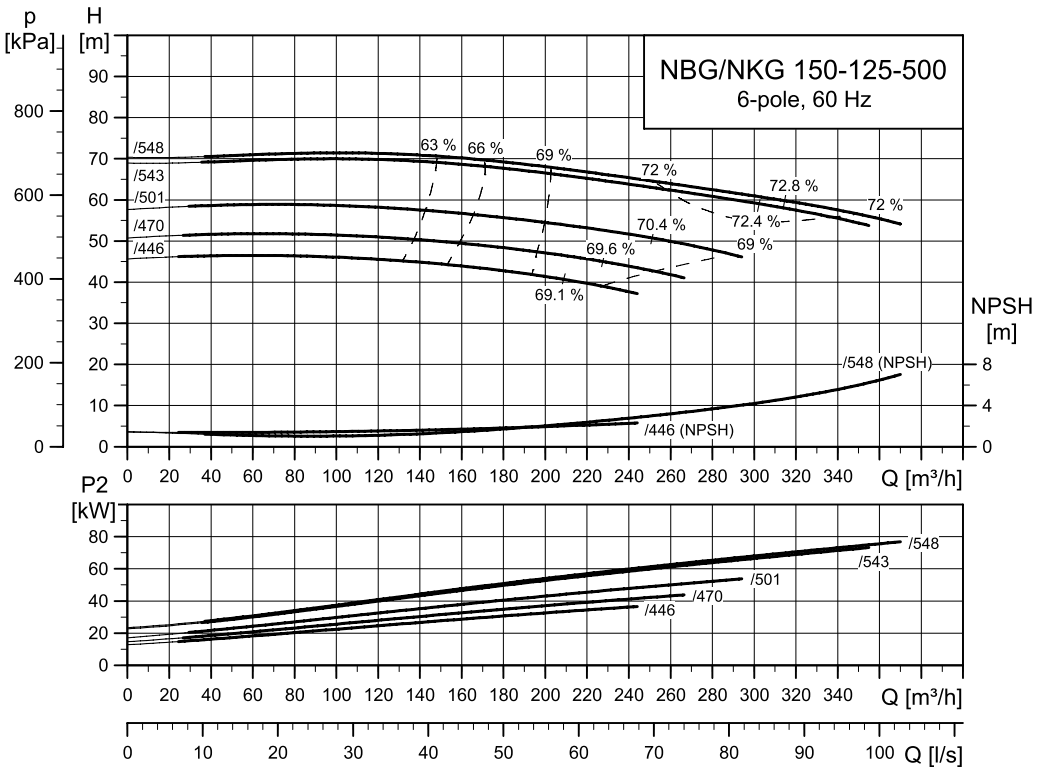
TM035073

NBG, NKG 150-125-400



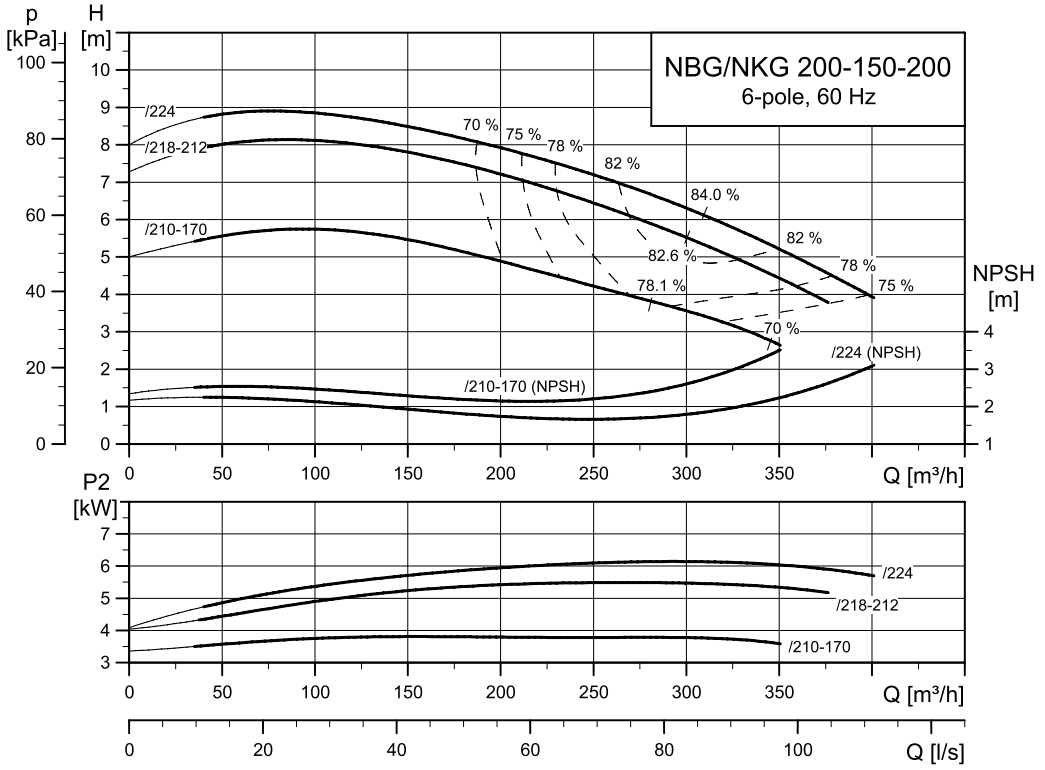
TM052346

NBG, NKG 150-125-500



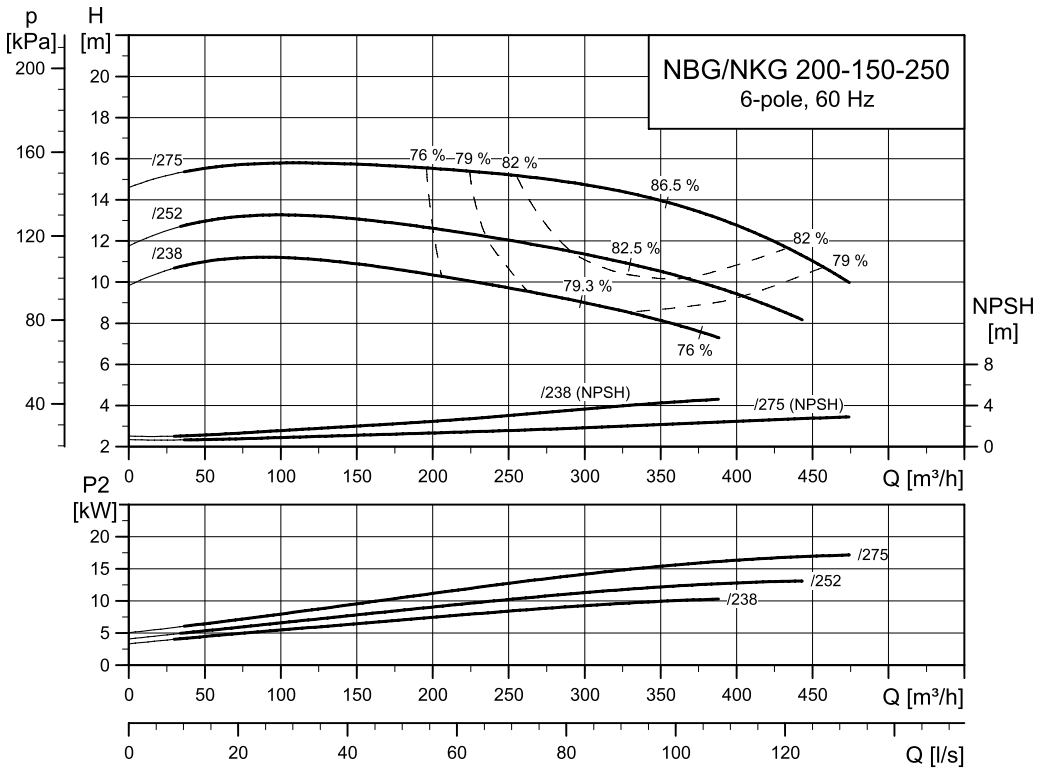
TM035075

NBG, NKG 200-150-200



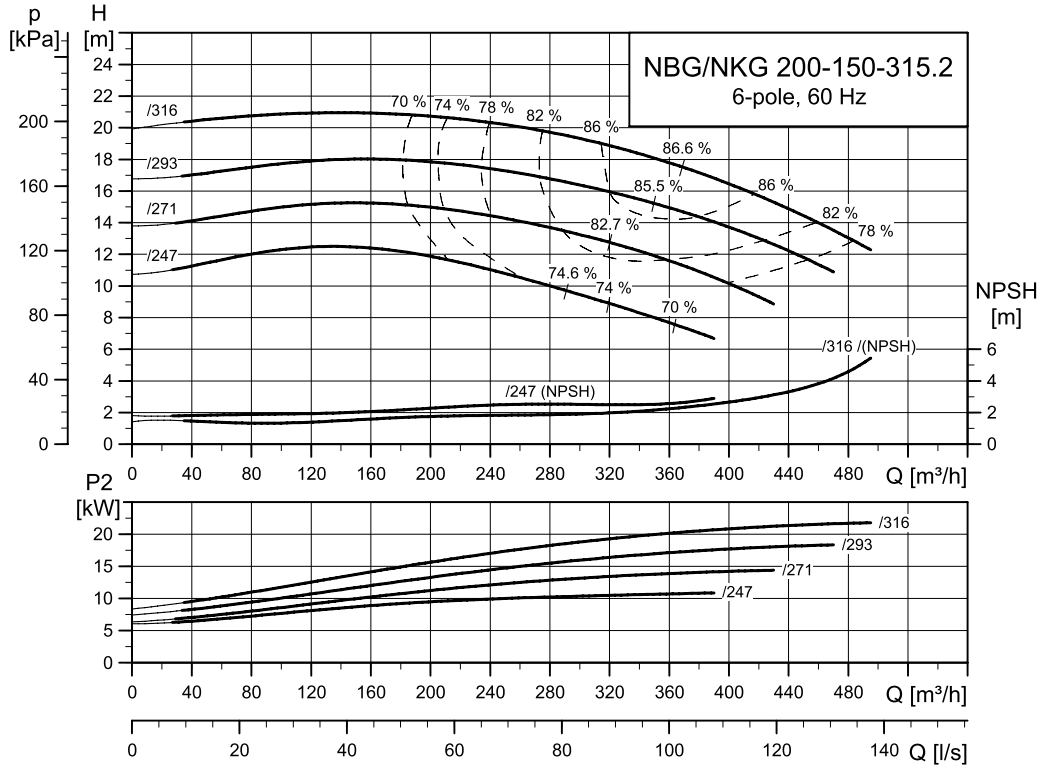
TM035076

NBG, NKG 200-150-250



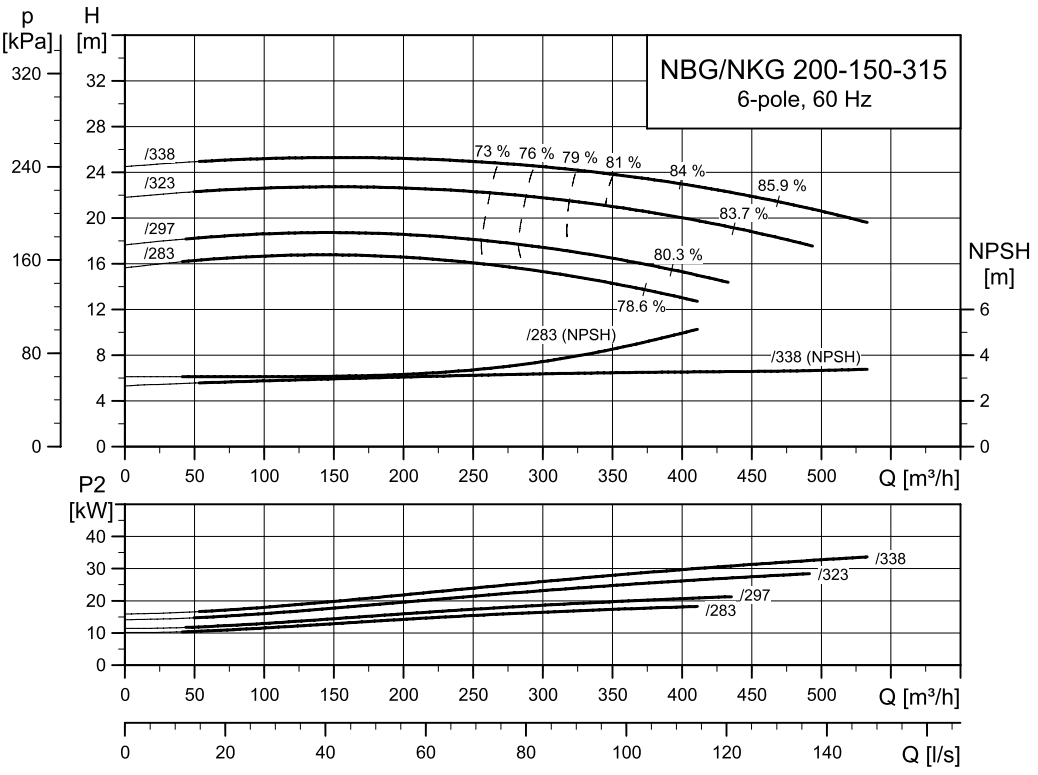
TM035077

NBG, NKG 200-150-315.2



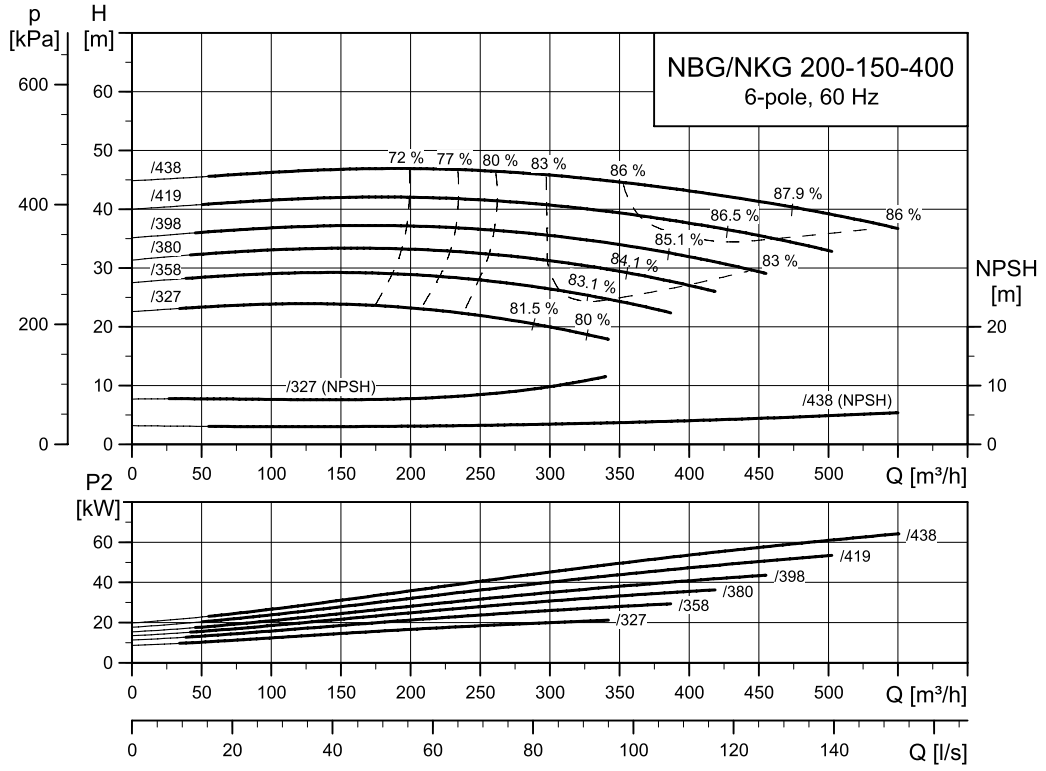
TM064760

NBG, NKG 200-150-315



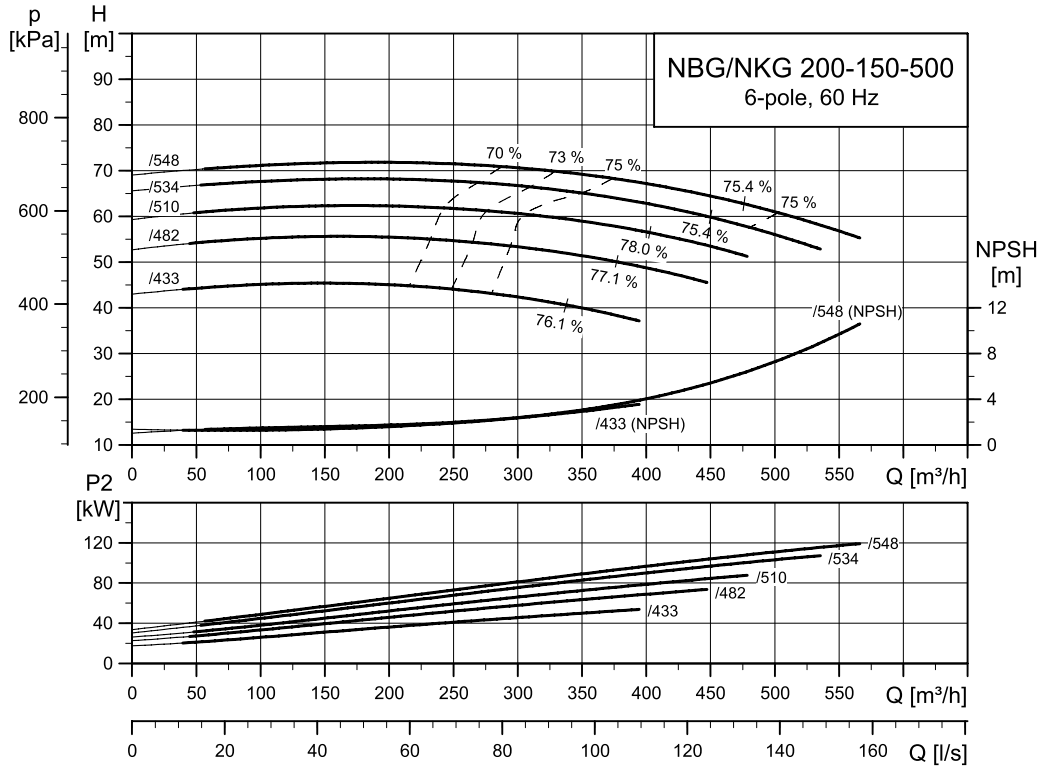
TM035078

NBG, NKG 200-150-400



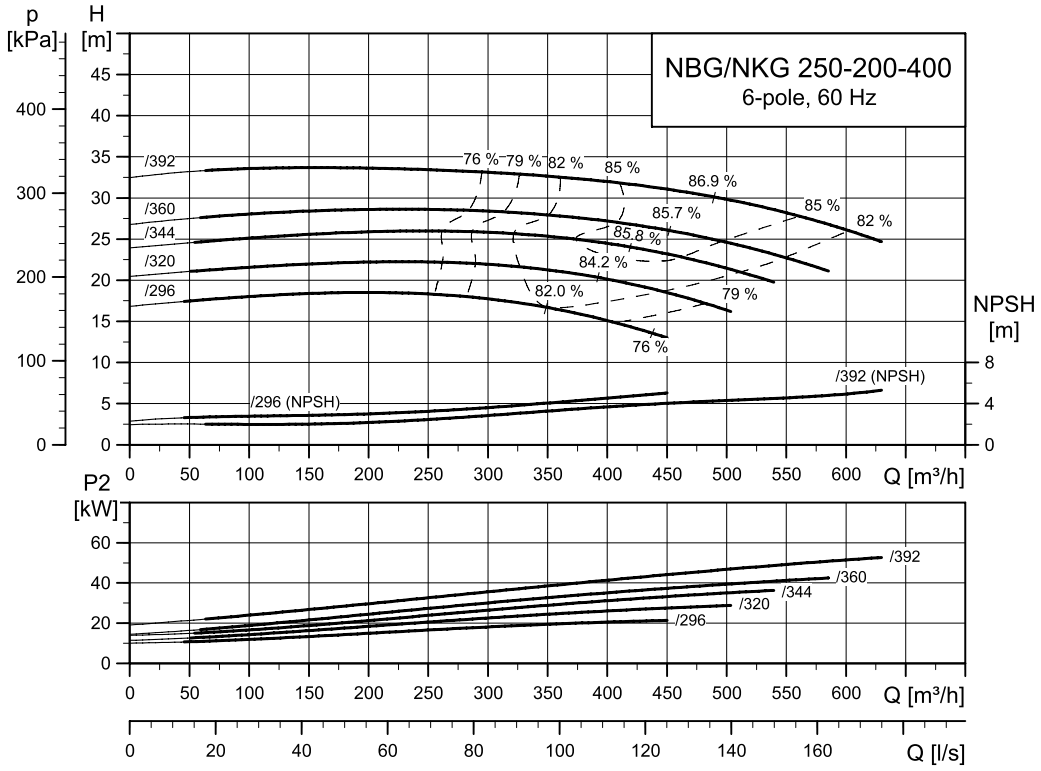
TM035079

NBG, NKG 200-150-500



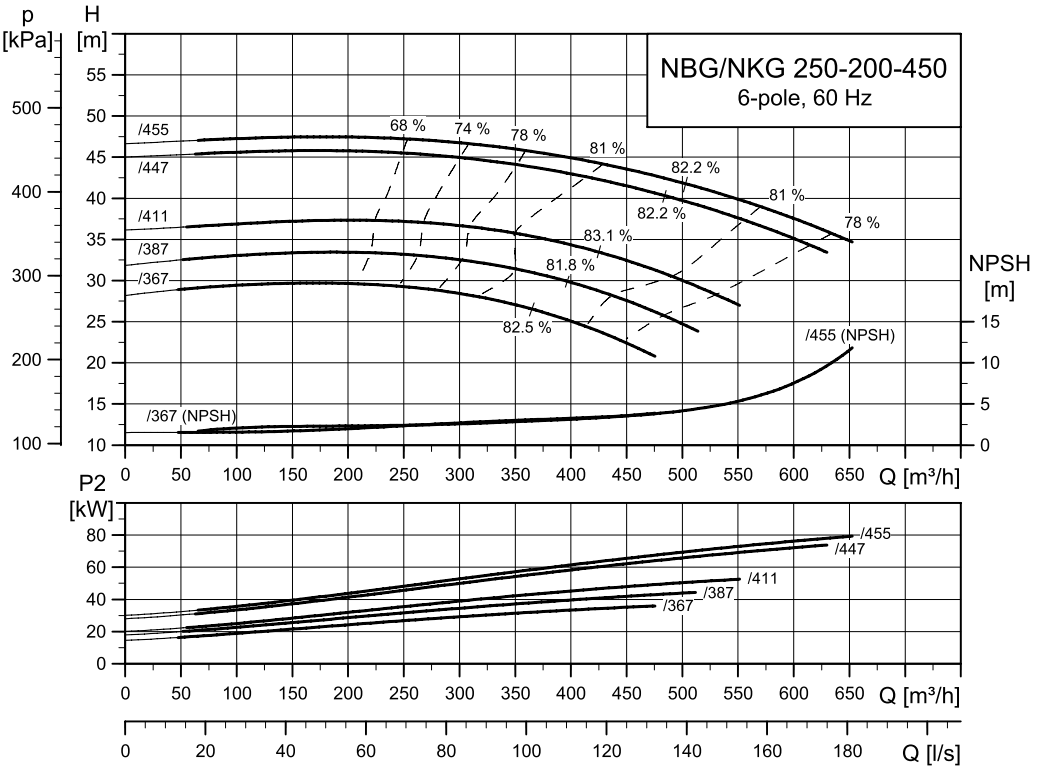
TM035080

NBG, NKG 250-200-400



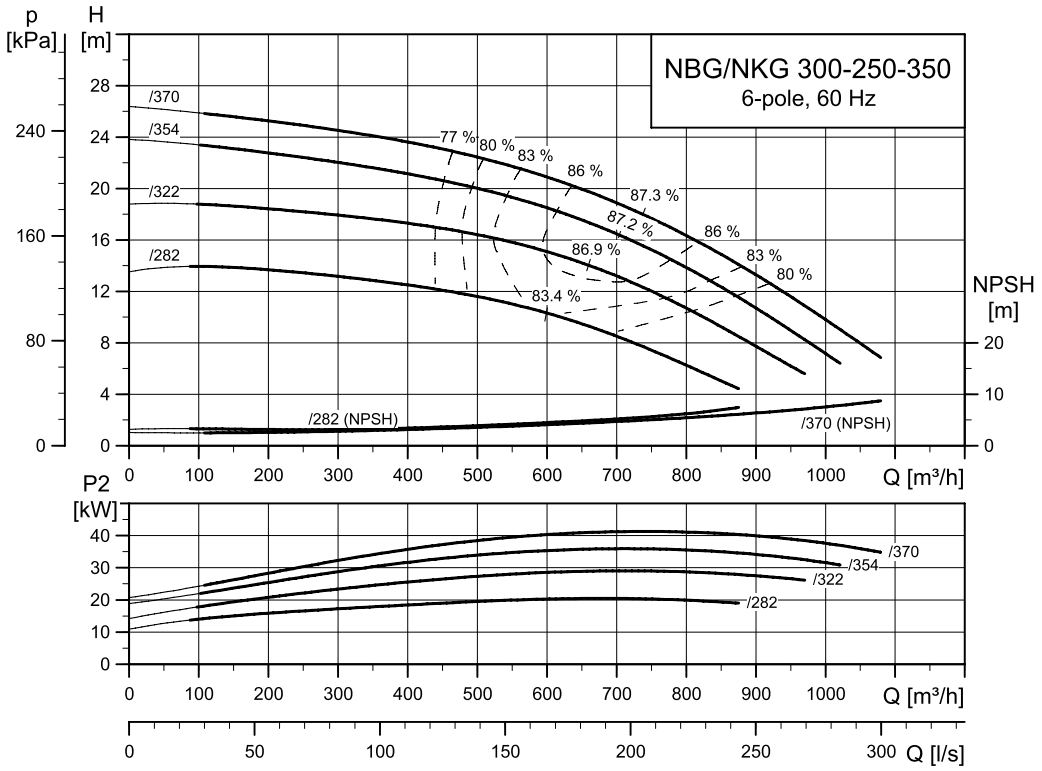
TM044946

NBG, NKG 250-200-450



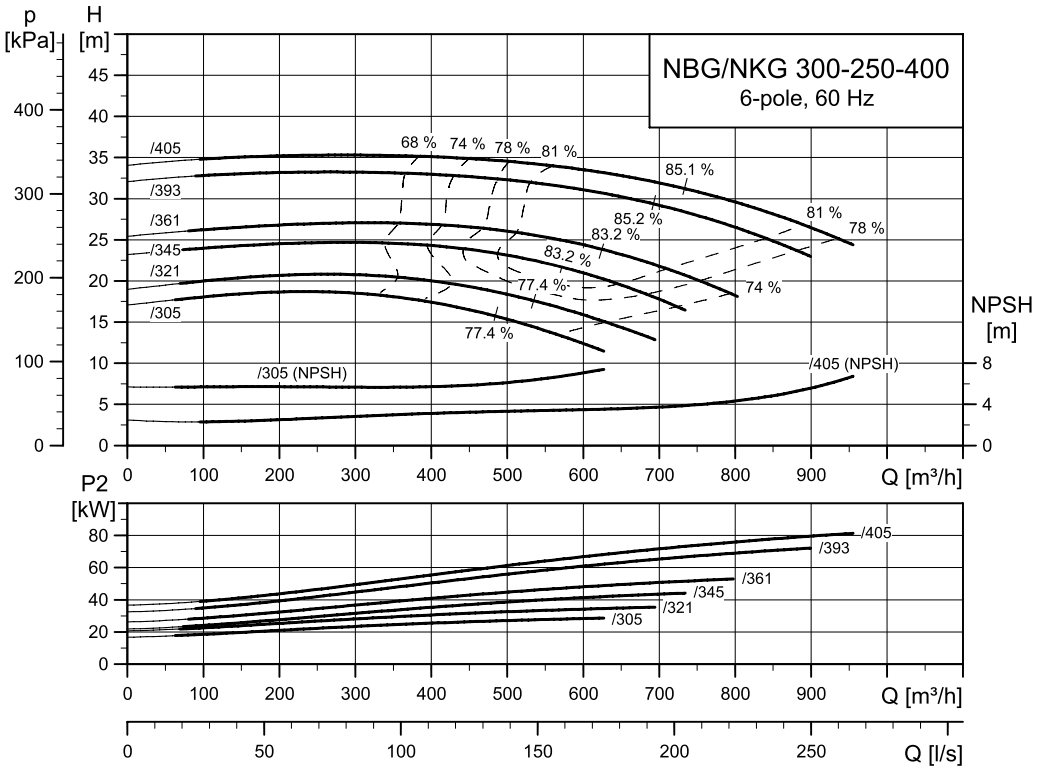
TM043966

NBG, NKG 300-250-350



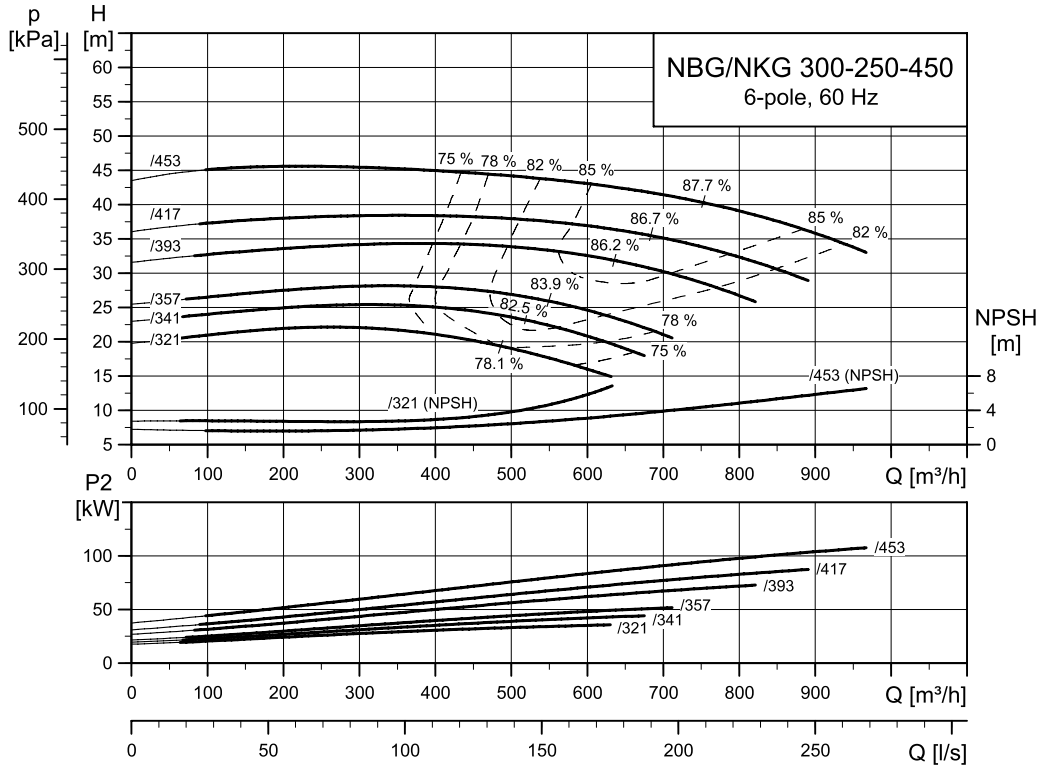
TM045965

NBG, NKG 300-250-400



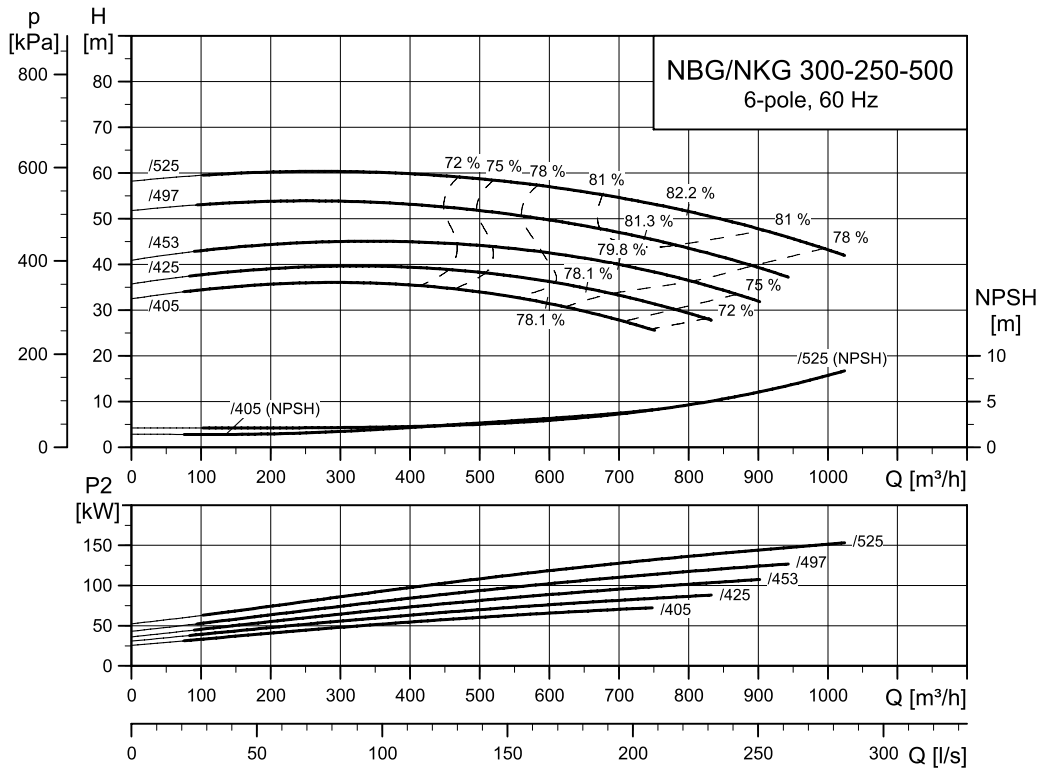
TM044021

NBG, NKG 300-250-450



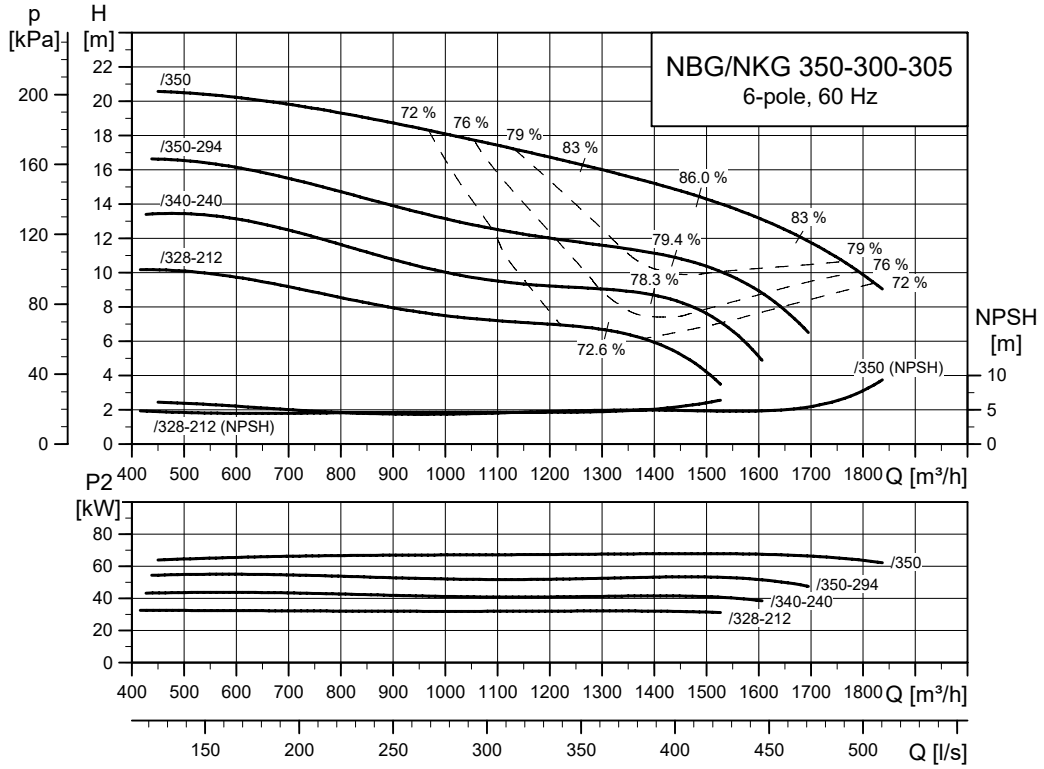
TM044950

NBG, NKG 300-250-500



TM045969

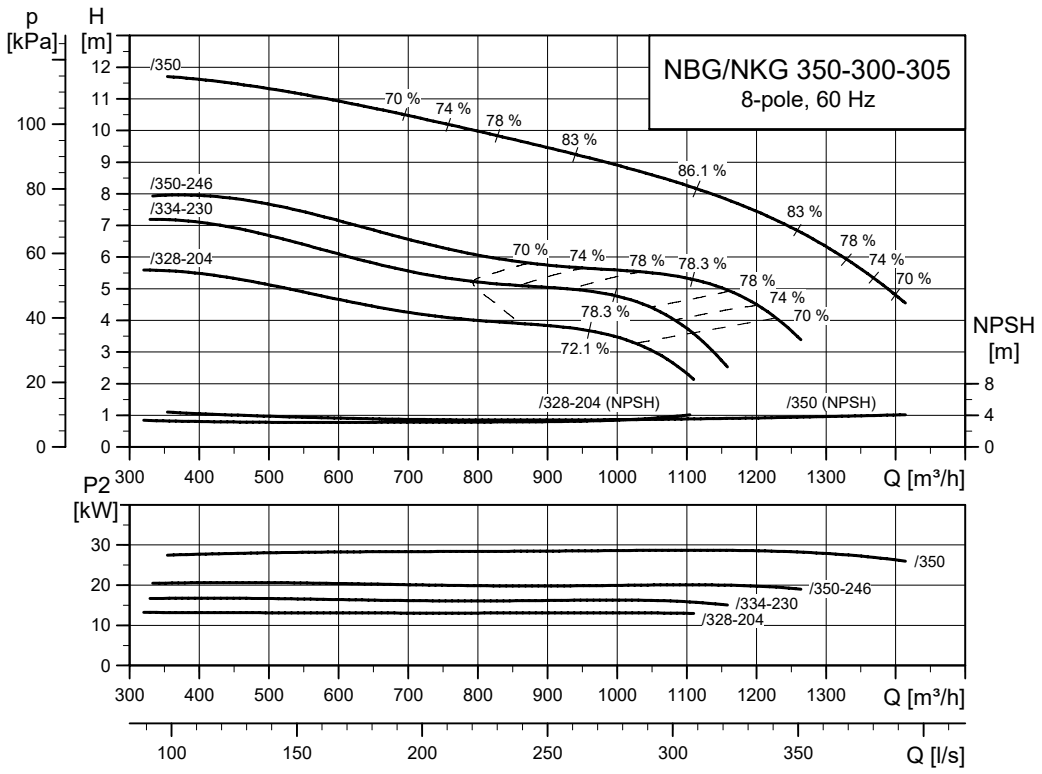
NBG, NKG 350-300-305



TM071268

8-pole

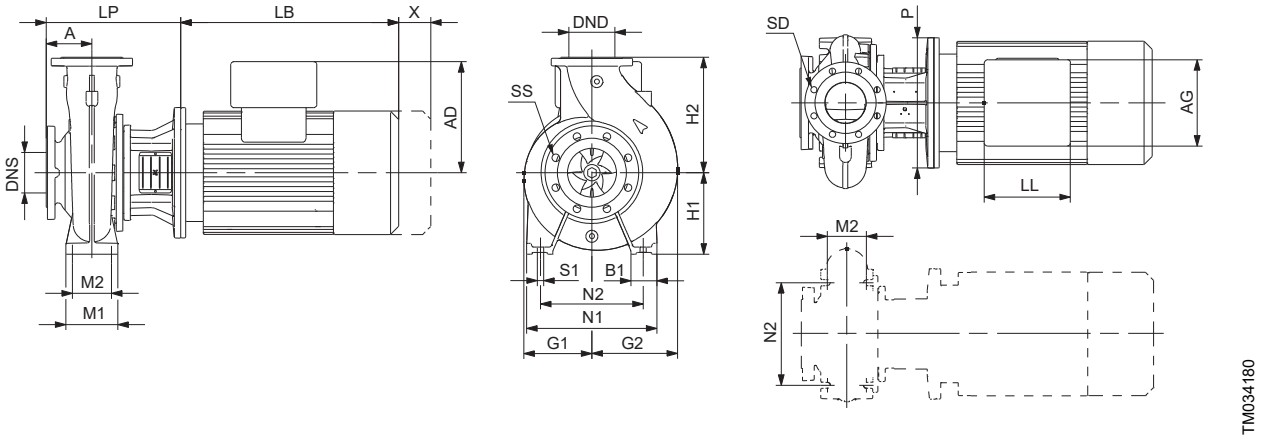
NBG, NKG 350-300-305



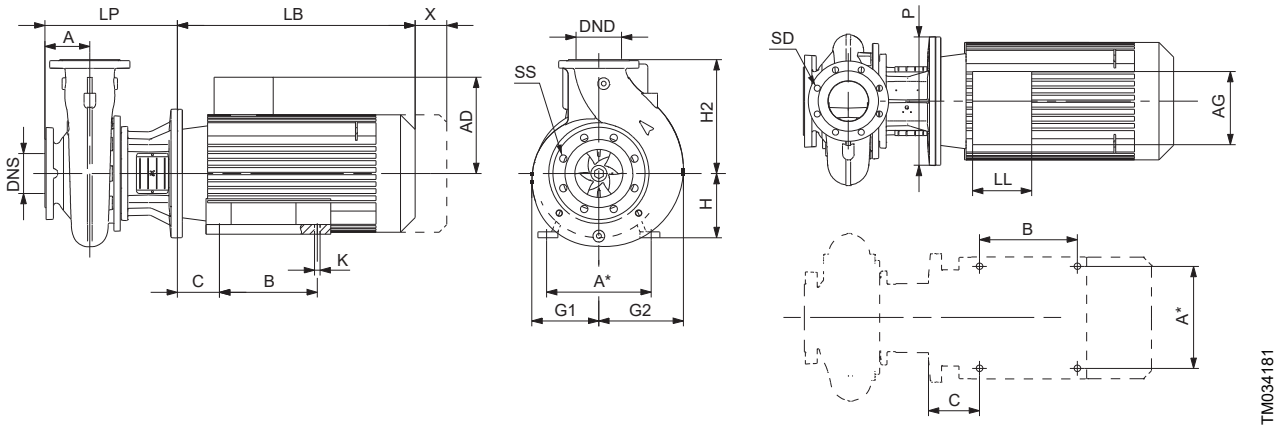
TM071269

17. Dimensional drawings and technical data

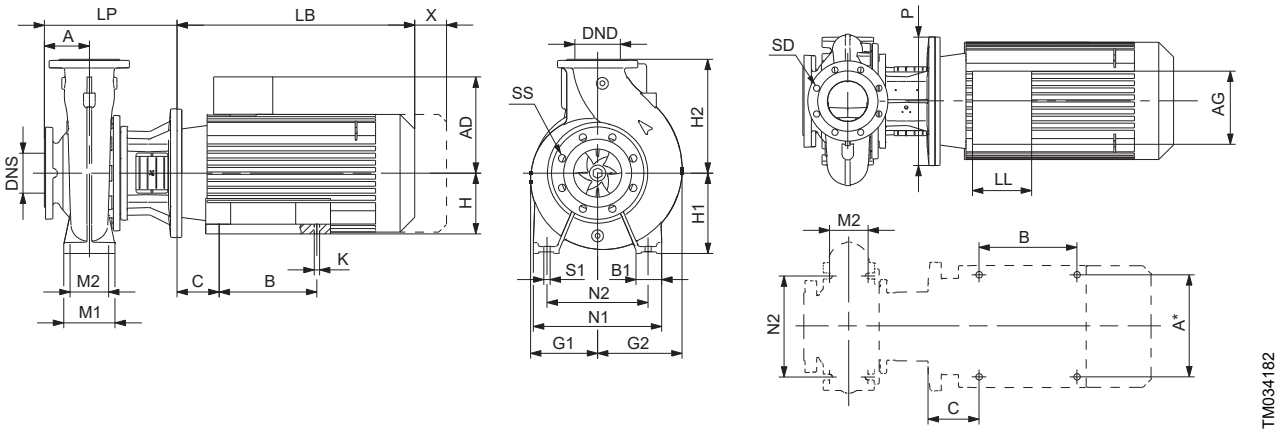
NBG, dimensional drawings



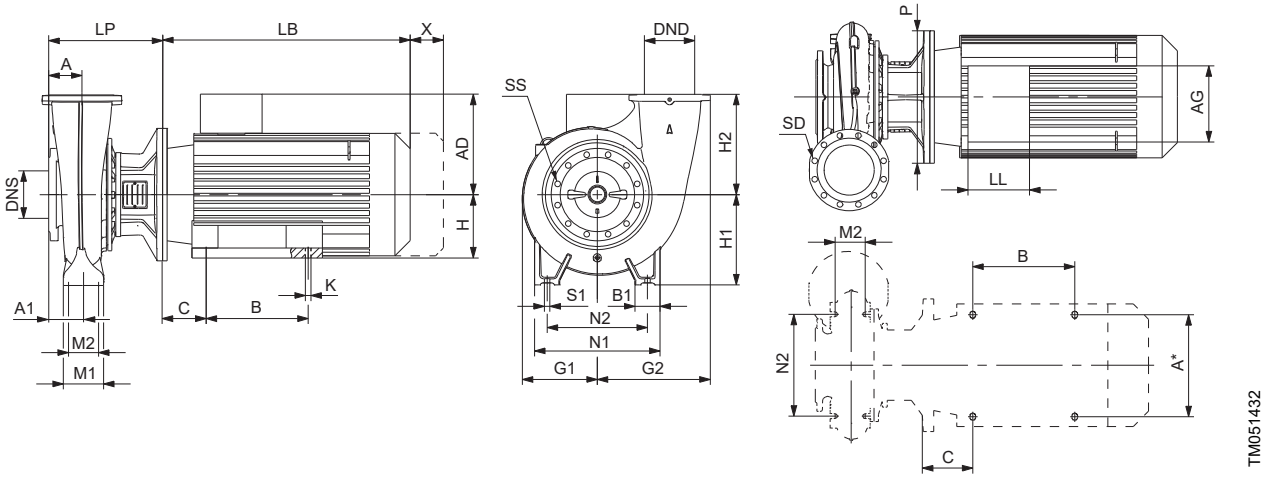
Mounting design A



Mounting design B



Mounting design C1, centre outlet



Mounting design C2, tangential outlet

NBG dimensions

Standard motors in this table are IE3 motors:
E-motors in this table:

- 2-pole: P2 less than or equal to 22 kW, pump with MGE motor.
- 4-pole: P2 less than or equal to 22 kW, pump with MGE motor.

Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	Flanges					NBG dimensions [mm]																								
					PN	DNS	DND	SS	SD	A	A*	AD [38)]	AG [38)]	B1	B	C	H1	H2	H	G1	G2	K	LP		LB [38)]	LL [38)]	M1	M2	N1	N2	P	S1	X [39)]
																							CI	SS										
50-32-125.1	2	1.1	95	A	16	50	32	4x19	4x19	80	-	109/158	82/268	50	-	-	112	140	-	117	117	-	226	226	251/274	82/232	100	70	190	140	200	12	100
		1.5	104	A	16	50	32	4x19	4x19	80	-	106/181	166/181	50	-	-	112	140	-	117	117	-	226	226	234/274	131/260	100	70	190	140	200	12	100
		2.2	116	A	16	50	32	4x19	4x19	80	-	106/181	166/181	50	-	-	112	140	-	117	117	-	226	226	274/261	131/260	100	70	190	140	200	12	100
		3	129	A	16	50	32	4x19	4x19	80	-	120/201	162/222	50	-	-	112	140	-	117	117	-	254	254	335/334	103/280	100	70	190	140	250	12	100
		4	140	A	16	50	32	4x19	4x19	80	-	134/201	202/208	50	-	-	112	140	-	117	117	-	254	254	372/334	103/280	100	70	190	140	250	12	100
		0.25	116	A	16	50	32	4x19	4x19	80	-	109/-	82/-	50	-	-	112	140	-	117	117	-	201	201	191/-	82/-	100	70	190	140	160	12	100
	4	0.37	132	A	16	50	32	4x19	4x19	80	-	109/-	82/-	50	-	-	112	140	-	117	117	-	201	201	191/-	82/-	100	70	190	140	160	12	100
		0.55	140	A	16	50	32	4x19	4x19	80	-	109/158	82/268	50	-	-	112	140	-	117	117	-	226	226	231/274	82/232	100	70	190	140	200	12	100
50-32-125		1.5	97	A	16	50	32	4x19	4x19	80	-	106/181	166/181	50	-	-	112	140	-	117	117	-	226	226	234/274	131/260	100	70	190	140	200	12	100
		2.2	107	A	16	50	32	4x19	4x19	80	-	106/181	166/181	50	-	-	112	140	-	117	117	-	226	226	274/261	131/260	100	70	190	140	200	12	100
	2	3	122	A	16	50	32	4x19	4x19	80	-	120/201	162/222	50	-	-	112	140	-	117	117	-	254	254	335/334	103/280	100	70	190	140	250	12	100
		4	130	A	16	50	32	4x19	4x19	80	-	134/201	202/208	50	-	-	112	140	-	117	117	-	254	254	372/334	103/280	100	70	190	140	250	12	100
		5.5	142	A	16	50	32	4x19	4x19	80	-	134/201	202/228	50	-	-	112	140	-	117	117	-	293	293	391/365	103/280	100	70	190	140	300	12	100
		0.25	109	A	16	50	32	4x19	4x19	80	-	109/-	82/-	50	-	-	112	140	-	117	117	-	201	201	191/-	82/-	100	70	190	140	160	12	100
		0.37	123	A	16	50	32	4x19	4x19	80	-	109/-	82/-	50	-	-	112	140	-	117	117	-	201	201	191/-	82/-	100	70	190	140	160	12	100
	4	0.55	137	A	16	50	32	4x19	4x19	80	-	109/158	82/268	50	-	-	112	140	-	117	117	-	226	226	231/274	82/232	100	70	190	140	200	12	100
		0.75	142	A	16	50	32	4x19	4x19	80	-	106/174	166/261	50	-	-	112	140	-	117	117	-	226	226	234/312	131/281	100	70	190	140	200	12	100
50-32-160.1		2.2	133	A	16	50	32	4x19	4x19	80	-	106/181	166/181	50	-	-	132	160	-	117	123	-	226	226	274/261	131/260	100	70	240	190	200	12	100
		3	145	A	16	50	32	4x19	4x19	80	-	120/201	162/222	50	-	-	132	160	-	117	123	-	254	254	335/334	103/280	100	70	240	190	250	12	100
	2	4	156	A	16	50	32	4x19	4x19	80	-	134/201	202/208	50	-	-	132	160	-	117	123	-	254	254	372/334	103/280	100	70	240	190	250	12	100
		5.5	170	A	16	50	32	4x19	4x19	80	-	134/201	202/228	50	-	-	132	160	-	117	123	-	293	293	391/365	103/280	100	70	240	190	300	12	100
		7.5	177	A	16	50	32	4x19	4x19	80	-	159/237	203/227	50	-	-	132	160	-	117	123	-	293	293	379/389	135/317	100	70	240	190	300	12	100
		0.37	147	A	16	50	32	4x19	4x19	80	-	109/-	82/-	50	-	-	132	160	-	117	123	-	201	201	191/-	82/-	100	70	240	190	160	12	100
	4	0.55	160	A	16	50	32	4x19	4x19	80	-	109/158	82/268	50	-	-	132	160	-	117	123	-	226	226	231/274	82/232	100	70	240	190	200	12	100
		0.75	173	A	16	50	32	4x19	4x19	80	-	106/174	166/261	50	-	-	132	160	-	117	123	-	226	226	234/312	131/281	100	70	240	190	200	12	100
50-32-160		3	128	A	16	50	32	4x19	4x19	80	-	120/201	162/222	50	-	-	132	160	-	117	125	-	254	254	335/334	103/280	100	70	240	190	250	12	100
		4	139	A	16	50	32	4x19	4x19	80	-	134/201	202/208	50	-	-	132	160	-	117	125	-	254	254	372/334	103/280	100	70	240	190	250	12	100
	2	5.5	152	A	16	50	32	4x19	4x19	80	-	134/201	202/228	50	-	-	132	160	-	117	125	-	293	293	391/365	103/280	100	70	240	190	300	12	100
		7.5	168	A	16	50	32	4x19	4x19	80	-	159/237	203/227	50	-	-	132	160	-	117	125	-	293	293	379/389	135/317	100	70	240	190	300	12	100
		11	177	C1	16	50	32	4x19	4x19	80	254	204/237	243/420	50	210	108	132	160	160	117	125	15	323	323	471/406	213/317	100	70	240	190	350	12	100
		0.37	131	A	16	50	32	4x19	4x19	80	-	109/-	82/-	50	-	-	132	160	-	117	125	-	201	201	191/-	82/-	100	70	240	190	160	12	100
		0.55	144	A	16	50	32	4x19	4x19	80	-	109/158	82/268	50	-	-	132	160	-	117	125	-	226	226	231/274	82/232	100	70	240	190	200	12	100
	4	0.75	158	A	16	50	32	4x19	4x19	80	-	106/174	166/261	50	-	-	132	160	-	117	125	-	226	226	234/312	131/281	100	70	240	190	200	12	100
		1.1	173	A	16	50	32	4x19	4x19	80	-	106/181	166/181	50	-	-	132	160	-	117	125	-	226	226	234/274	131/260	100	70	240	190	200	12	100
50-32-200.1		4	158	A	16	50	32	4x19	4x19	80	-	134/201	202/208	50	-	-	160	180	-	135	137	-	254	254	372/334	103/280	100	70	240	190	250	12	100
		5.5	175	A	16	50	32	4x19	4x19	80	-	134/201	202/228	50	-	-	160	180	-	135	137	-	293	293	391/365	103/280	100	70	240	190	300	12	100
	2	7.5	192	A	16	50	32	4x19	4x19	80	-	159/237	203/227	50	-	-	160	180	-	135	137	-	293	293	379/389	135/317	100	70	240	190	300	12	100
		11	207	C1	16	50	32	4x19	4x19	80	254	204/237	243/420	50	210	108	160	180	160	135	137	15	323	323	471/406	213/317	100	70	240	190	350	12	100
		0.55	168	A	16	50	32	4x19	4x19	80	-	109/158	82/268	50	-	-	160	180	-	135	137	-	226	226	231/274	82/232	100	70	240	190	200	12	100
	4	0.75	182	A	16	50	32	4x19	4x19	80	-	106/174	166/261	50	-	-	160	180	-	135	137	-	226	226	234/312	131/281	100	70	240	190	200	12	100
		1.1	201	A	16	50	32	4x19	4x19	80	-	106/181	166/181	50	-	-	160	180	-	135	137	-	226	226	234/274	131/260	100	70	240	190	200	12	100
		1.5	207	A	16	50	32	4x19	4x19	80	-	110/158	162/177	50	-	-	160	180	-	135	137	-	226	226	321/274	103/232	100	70	240	190	200	12	100

Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	Flanges					NBG dimensions [mm]																						
					PN	DNS	DND	SS	SD	A	A*	AD [38]	AG [38]	B1	B	C	H1	H2	H	G1	G2	K	LP		LB [38]	LL [38]	M1	M2	N1	N2	P	S1	X [39]
																							CI	SS									
50-32-200	2	5.5	164	A	16	50	32	4x19	4x19	80	-	134/201	202/228	50	-	-	160	180	-	124	145	-	293	293	391/365	103/280	100	70	240	190	300	12	100
		7.5	179	A	16	50	32	4x19	4x19	80	-	159/237	203/227	50	-	-	160	180	-	124	145	-	293	293	379/389	135/317	100	70	240	190	300	12	100
		11	197	C1	16	50	32	4x19	4x19	80	254	204/237	243/420	50	210	108	160	180	160	124	145	15	323	323	471/406	213/317	100	70	240	190	350	12	100
		15	212	C1	16	50	32	4x19	4x19	80	254	204/308	243/420	50	210	108	160	180	160	124	145	15	323	323	471/471	213/400	100	70	240	190	350	12	100
		18.5	219	C1	16	50	32	4x19	4x19	80	254	204/308	243/420	50	254	108	160	180	160	124	145	15	323	323	515/515	213/400	100	70	240	190	350	12	100
		0.75	169	A	16	50	32	4x19	4x19	80	-	106/174	166/261	50	-	-	160	180	-	124	145	-	226	226	234/312	131/281	100	70	240	190	200	12	100
		1.1	184	A	16	50	32	4x19	4x19	80	-	106/181	166/181	50	-	-	160	180	-	124	145	-	226	226	234/274	131/260	100	70	240	190	200	12	100
	4	1.5	202	A	16	50	32	4x19	4x19	80	-	110/158	162/177	50	-	-	160	180	-	124	145	-	226	226	321/274	103/232	100	70	240	190	200	12	100
		2.2	219	A	16	50	32	4x19	4x19	80	-	120/201	162/222	50	-	-	160	180	-	124	145	-	254	254	335/334	103/280	100	70	240	190	250	12	100
		11	207	C1	16	50	32	4x19	4x19	100	254	204/237	243/420	65	210	108	180	225	160	162	164	15	343	343	471/406	213/317	125	95	320	250	350	12	100
		15	227	C1	16	50	32	4x19	4x19	100	254	204/308	243/420	65	210	108	180	225	160	162	164	15	343	343	471/471	213/400	125	95	320	250	350	12	100
50-32-250	2	18.5	242	C1	16	50	32	4x19	4x19	100	254	204/308	243/420	65	254	108	180	225	160	162	164	15	343	343	515/515	213/400	125	95	320	250	350	12	100
		22	256	C1	16	50	32	4x19	4x19	100	279	204/308	243/420	65	241	121	180	225	180	162	164	15	343	343	541/541	213/400	125	95	320	250	350	12	100
		30	262	C1	16	50	32	4x19	4x19	100	318	315/-	265/-	65	305	133	180	225	200	162	164	19	343	343	611/-	197/-	125	95	320	250	400	12	100
		1.1	194	A	16	50	32	4x19	4x19	100	-	106/181	166/181	65	-	-	180	225	-	162	164	-	273	273	234/274	131/260	125	95	320	250	200	12	100
	4	1.5	213	A	16	50	32	4x19	4x19	100	-	110/158	162/177	65	-	-	180	225	-	162	164	-	273	273	321/274	103/232	125	95	320	250	200	12	100
		2.2	239	A	16	50	32	4x19	4x19	100	-	120/201	162/222	65	-	-	180	225	-	162	164	-	293	293	335/334	103/280	125	95	320	250	250	12	100
		3	260	A	16	50	32	4x19	4x19	100	-	120/201	162/222	65	-	-	180	225	-	162	164	-	293	293	335/334	103/280	125	95	320	250	250	12	100
		11	178	B	16	65	40	4x19	4x19	100	254	204/237	243/420	-	210	108	-	180	160	140	157	15	343	343	471/406	213/317	-	-	-	-	350	-	100
		15	193	B	16	65	40	4x19	4x19	100	254	204/308	243/420	-	210	108	-	180	160	140	157	15	343	343	471/471	213/400	-	-	-	-	350	-	100
65-40-200	2	18.5	206	B	16	65	40	4x19	4x19	100	254	204/308	243/420	-	254	108	-	180	160	140	157	15	343	343	515/515	213/400	-	-	-	-	350	-	100
		22	216	B	16	65	40	4x19	4x19	100	279	204/308	243/420	-	241	121	-	180	180	140	157	15	343	343	541/541	213/400	-	-	-	-	350	-	100
		30	219	B	16	65	40	4x19	4x19	100	318	315/-	265/-	-	305	133	-	180	200	140	157	19	343	343	611/-	197/-	-	-	-	-	400	-	100
		1.1	168	A	16	65	40	4x19	4x19	100	-	106/181	166/181	50	-	-	160	180	-	140	157	-	246	273	234/274	131/260	100	70	265	212	200	12	100
	4	1.5	182	A	16	65	40	4x19	4x19	100	-	110/158	162/177	50	-	-	160	180	-	140	157	-	246	273	321/274	103/232	100	70	265	212	200	12	100
		2.2	205	A	16	65	40	4x19	4x19	100	-	120/201	162/222	50	-	-	160	180	-	140	157	-	274	293	335/334	103/280	100	70	265	212	250	12	100
		3	217	A	16	65	40	4x19	4x19	100	-	120/201	162/222	50	-	-	160	180	-	140	157	-	274	293	335/334	103/280	100	70	265	212	250	12	100
		15	193	B	16	65	40	4x19	4x19	100	254	204/308	243/420	-	210	108	-	225	160	164	172	15	343	343	471/471	213/400	-	-	-	-	350	-	100
		18.5	206	B	16	65	40	4x19	4x19	100	254	204/308	243/420	-	254	108	-	225	160	164	172	15	343	343	515/515	213/400	-	-	-	-	350	-	100
	2	22	215	B	16	65	40	4x19	4x19	100	279	204/308	243/420	-	241	121	-	225	180	164	172	15	343	343	541/541	213/400	-	-	-	-	350	-	100
		30	236	B	16	65	40	4x19	4x19	100	318	315/-	265/-	-	305	133	-	225	200	164	172	19	343	343	611/-	197/-	-	-	-	-	400	-	100
65-40-250		37	252	B	16	65	40	4x19	4x19	100	318	315/-	265/-	-	305	133	-	225	200	164	172	19	343	343	636/-	197/-	-	-	-	-	400	-	100
		45	260	-	16	65	40	4x19	4x19	100	-	-/-	-/-	-	-	-	-	225	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	100
		2.2	207	A	16	65	40	4x19	4x19	100	-	120/201	162/222	65	-	-	180	225	-	164	172	-	293	293	335/334	103/280	125	95	320	250	250	12	100
		3	223	A	16	65	40	4x19	4x19	100	-	120/201	162/222	65	-	-	180	225	-	164	172	-	293	293	335/334	103/280	125	95	320	250	250	12	100
	4	4	246	A	16	65	40	4x19	4x19	100	-	134/201	202/208	65	-	-	180	225	-	164	172	-	293	293	372/334	103/280	125	95	320	250	250	12	100
		5.5	260	A	16	65	40	4x19	4x19	100	-	159/237	203/227	65	-	-	180	225	-	164	172	-	313	313	379/389	135/317	125	95	320	250	300	12	100
		37	271	C1	16	65	40	4x19	4x19	125	318	315/-	265/-	65	305	133	200	250	200	200	206	19	398	398	636/-	197/-	125	95	345	280	400	12	100
		45	285	C1	16	65	40	4x19	4x19	125	356	338/-	266/-	65	286	149	200	250	225	200	206	19	398	398	708/-	197/-	125	95	345	280	450	12	100
	2	55	303	C1	25	65	40	4x19	4x19	125	406	410/-	319/-	65	349	168	200	250	250	200	206	24	428	428	747/-	233/-	125	95	345	280	550	12	100
		75	332	C1	25	65	40	4x19	4x19	125	457	433/-	319/-	65	368	190	200	250	280	200	206	24	428	428	820/-	233/-	125	95	345	280	550	12	100
65-40-315		90	344	C1	25	65	40	4x19	4x19	125	457	433/-	319/-	65	368	190	200	250	280	200	206	24	428	428	930/-	233/-	125	95	345	280	550	12	100
		5.5	284	A	16	65	40	4x19	4x19	125	-	159/237	203/227	65	-	-	200	250	-	200	206	-	368	368	379/389	135/317	125	95	345	280	300	12	100
	4	7.5	313	A	16	65	40	4x19	4x19	125	-	159/237	203/227	65	-	-	200	250	-	200	206	-	368	368	429/389	135/317	125	95	345	280	300	12	100
		11	344	C1	16	65	40	4x19	4x19	125	254	204/308	243/420	65	210	108	200	250	160	200	206	15	398	398	545/471	213/400	125	95	345	280	350	12	100
		3	110	A	16	65	50	4x19	4x19	80	-	120/201	162/222	50	-	-	112	140	-	117	118	-	254	273	335/334	103/280	100	70	210	160	250	12	100
		4	118	A	16	65	50	4x19	4x19	80	-	134/201	202/208	50	-	-	112	140	-	117	118	-	254	273	372/334	103/280	100	70	210	160	250	12	100
	2	5.5	131	A	16	65	50	4x19	4x19	80	-	134/201	202/228	50	-	-	112	140	-	117	118	-	293	293	391/365	103/280	100	70	210	160	300	12	100
		7.5	140	A	16	65	50	4x19	4x19	80	-	159/237	203/227	50	-	-	112	140	-	117	118	-	293	293	379/389	135/317	100	70	210	160	300	12	100
		11	142	C1	16	65	50	4x19	4x19	80	254	204/237	243/420	50	210	108	112	140	160	117	118	15	325	325	471/406	213/317	100	70	210	160	350	12	100
65-50-125		0.37	111	A	16	65	50	4x19	4x19	80	-	109/-	82/-	50	-	-	112	140	-	117	118	-	201	243	191/-	82/-	100	70	210	160	160	12	100
		0.55	123	A	16	65	50	4x19	4x19	80	-	109/158	82/268	50	-	-	112	140	-	117	118	-	226	253	231/274	82/232	100	70	210	160	200	12	100
	4	0.75	133	A	16	65	50	4x19	4x19	80	-	106/174	166/261	50	-	-	112	140	-	117	118	-	226	253	234/312	131/281	100	70	210	160	200	12	100
		1.1	142	A	16	65	50	4x19	4x19	80	-	106/181	166/181	50	-	-	112	140	-	117	118	-	226	253	234/274	131/260	100	70	210	160	200	12	100

Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	Flanges					NBG dimensions [mm]																						
					PN	DNS	DND	SS	SD	A	A*	AD [38]	AG [38]	B1	B	C	H1	H2	H	G1	G2	K	LP		LB [38]	LL [38]	M1	M2	N1	N2	P	S1	X [39]
																							CI	SS									
65-50-160	2	5.5	131	A	16	65	50	4x19	4x19	80	-	134/201	202/228	50	-	-	132	160	-	117	134	-	293	293	391/365	103/280	100	70	240	190	300	12	100
		7.5	143	A	16	65	50	4x19	4x19	80	-	159/237	203/227	50	-	-	132	160	-	117	134	-	293	293	379/389	135/317	100	70	240	190	300	12	100
		11	162	C1	16	65	50	4x19	4x19	80	254	204/237	243/420	50	210	108	132	160	160	117	134	15	323	323	471/406	213/317	100	70	240	190	350	12	100
		15	177	C1	16	65	50	4x19	4x19	80	254	204/308	243/420	50	210	108	132	160	160	117	134	15	323	323	471/471	213/400	100	70	240	190	350	12	100
	4	0.55	125	A	16	65	50	4x19	4x19	80	-	109/158	82/268	50	-	-	132	160	-	117	134	-	226	253	231/274	82/232	100	70	240	190	200	12	100
		0.75	138	A	16	65	50	4x19	4x19	80	-	106/174	166/261	50	-	-	132	160	-	117	134	-	226	253	234/312	131/281	100	70	240	190	200	12	100
		1.1	153	A	16	65	50	4x19	4x19	80	-	106/181	166/181	50	-	-	132	160	-	117	134	-	226	253	234/274	131/260	100	70	240	190	200	12	100
		1.5	168	A	16	65	50	4x19	4x19	80	-	110/158	162/177	50	-	-	132	160	-	117	134	-	226	253	321/274	103/232	100	70	240	190	200	12	100
		2.2	177	A	16	65	50	4x19	4x19	80	-	120/201	162/222	50	-	-	132	160	-	117	134	-	254	273	335/334	103/280	100	70	240	190	250	12	100
80-50-200	2	15	167	B	16	80	50	8x19	4x19	100	254	204/308	243/420	-	210	108	-	200	160	142	163	15	343	343	471/471	213/400	-	-	-	-	350	-	100
		18.5	178	B	16	80	50	8x19	4x19	100	254	204/308	243/420	-	254	108	-	200	160	142	163	15	343	343	515/515	213/400	-	-	-	-	350	-	100
		22	187	B	16	80	50	8x19	4x19	100	279	204/308	243/420	-	241	121	-	200	180	142	163	15	343	343	541/541	213/400	-	-	-	-	350	-	100
		30	205	B	16	80	50	8x19	4x19	100	318	315/-	265/-	-	305	133	-	200	200	142	163	19	343	343	611/-	197/-	-	-	-	-	400	-	100
		37	218	B	16	80	50	8x19	4x19	100	318	315/-	265/-	-	305	133	-	200	200	142	163	19	343	343	636/-	197/-	-	-	-	-	400	-	100
		45	219	-	16	80	50	8x19	4x19	100	-	-/-	-/-	-	-	-	-	200	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	100
	4	2.2	178	A	16	80	50	8x19	4x19	100	-	120/201	162/222	50	-	-	160	200	-	142	163	-	274	293	335/334	103/280	100	70	265	212	250	12	100
		3	191	A	16	80	50	8x19	4x19	100	-	120/201	162/222	50	-	-	160	200	-	142	163	-	274	293	335/334	103/280	100	70	265	212	250	12	100
		4	210	A	16	80	50	8x19	4x19	100	-	134/201	202/208	50	-	-	160	200	-	142	163	-	274	293	372/334	103/280	100	70	265	212	250	12	100
		5.5	219	A	16	80	50	8x19	4x19	100	-	159/237	203/227	50	-	-	160	200	-	142	163	-	313	313	379/389	135/317	100	70	265	212	300	12	100
80-50-250	2	30	213	B	16	80	50	8x19	4x19	125	318	315/-	265/-	-	305	133	-	225	200	164	180	19	368	368	611/-	197/-	-	-	-	-	400	-	100
		37	229	B	16	80	50	8x19	4x19	125	318	315/-	265/-	-	305	133	-	225	200	164	180	19	368	368	636/-	197/-	-	-	-	-	400	-	100
		45	242	-	16	80	50	8x19	4x19	125	-	-/-	-/-	-	-	-	-	225	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	100
		55	257	-	16	80	50	8x19	4x19	125	-	-/-	-/-	-	-	-	-	225	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	100
		75	263	-	16	80	50	8x19	4x19	125	-	-/-	-/-	-	-	-	-	225	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	100
	4	4	221	A	16	80	50	8x19	4x19	125	-	134/201	202/208	65	-	-	180	225	-	164	180	-	318	318	372/334	103/280	125	95	320	250	250	12	100
		5.5	244	A	16	80	50	8x19	4x19	125	-	159/237	203/227	65	-	-	180	225	-	164	180	-	338	338	379/389	135/317	125	95	320	250	300	12	100
		7.5	263	A	16	80	50	8x19	4x19	125	-	159/237	203/227	65	-	-	180	225	-	164	180	-	338	338	429/389	135/317	125	95	320	250	300	12	100
80-50-315	2	55	271	C1	16	80	50	8x19	8x19	125	406	410/-	319/-	65	349	168	225	280	250	203	214	24	428	428	747/-	233/-	125	95	345	280	550	12	100
		75	297	C1	25	80	50	8x19	8x19	125	457	433/-	319/-	65	368	190	225	280	280	203	214	24	428	428	820/-	233/-	125	95	345	280	550	12	100
		90	314	C1	25	80	50	8x19	8x19	125	457	433/-	319/-	65	368	190	225	280	280	203	214	24	428	428	930/-	233/-	125	95	345	280	550	12	100
		110	333	C1	25	80	50	8x19	8x19	125	508	515/-	374/-	65	406	216	225	280	315	203	214	28	458	458	912/-	299/-	125	95	345	280	660	12	100
	4	5.5	256	A	16	80	50	8x19	4x19	125	-	159/237	203/227	65	-	-	225	280	-	203	214	-	368	368	379/389	135/317	125	95	345	280	300	12	100
		7.5	283	A	16	80	50	8x19	4x19	125	-	159/237	203/227	65	-	-	225	280	-	203	214	-	368	368	429/389	135/317	125	95	345	280	300	12	100
		11	314	C1	16	80	50	8x19	4x19	125	254	204/308	243/420	65	210	108	225	280	160	203	214	15	398	398	545/471	213/400	125	95	345	280	350	12	100
		15	344	C1	16	80	50	8x19	4x19	125	254	204/308	243/420	65	254	108	225	280	160	203	214	15	398	398	575/515	213/400	125	95	345	280	350	12	100
80-65-125	2	4	105	A	16	80	65	8x19	4x19	100	-	134/201	202/208	50	-	-	132	160	-	117	131	-	274	293	372/334	103/280	100	70	240	190	250	12	100
		5.5	113	A	16	80	65	8x19	4x19	100	-	134/201	202/228	50	-	-	132	160	-	117	131	-	313	313	391/365	103/280	100	70	240	190	300	12	100
		7.5	124	A	16	80	65	8x19	4x19	100	-	159/237	203/227	50	-	-	132	160	-	117	131	-	313	313	379/389	135/317	100	70	240	190	300	12	100
		11	140	C1	16	80	65	8x19	4x19	100	254	204/237	243/420	50	210	108	132	160	160	117	131	15	343	343	471/406	213/317	100	70	240	190	350	12	100
		15	144	C1	16	80	65	8x19	4x19	100	254	204/308	243/420	50	210	108	132	160	160	117	131	15	343	343	471/471	213/400	100	70	240	190	350	12	100
	4	0.55	105	A	16	80	65	8x19	4x19	100	-	109/158	82/268	50	-	-	132	160	-	117	131	-	246	273	231/274	82/232	100	70	240	190	200	12	100
		0.75	116	A	16	80	65	8x19	4x19	100	-	106/174	166/261	50	-	-	132	160	-	117	131	-	246	273	234/312	131/281	100	70	240	190	200	12	100
		1.1	127	A	16	80	65	8x19	4x19	100	-	106/181	166/181	50	-	-	132	160	-	117	131	-	246	273	234/274	131/260	100	70	240	190	200	12	100
		1.5	143	A	16	80	65	8x19	4x19	100	-	110/158	162/177	50	-	-	132	160	-	117	131	-	246	273	321/274	103/232	100	70	240	190	200	12	100
80-65-160	2	7.5	127	A	16	80	65	8x19	4x19	100	-	159/237	203/227	50	-	-	160	180	-	125	151	-	313	313	379/389	135/317	100	70	264	212	300	12	100
		11	141	B	16	80	65	8x19	4x19	100	254	204/237	243/420	-	210	108	-	180	160	125	151	15	343	343	471/406	213/317	-	-	-	-	350	-	100
		15	154	B	16	80	65	8x19	4x19	100	254	204/308	243/420	-	210	108	-	180	160	125	151	15	343	343	471/471	213/400	-	-	-	-	350	-	100
		18.5	165	B	16	80	65	8x19	4x19	100	254	204/308	243/420	-	254	108	-	180	160	125	151	15	343	343	515/515	213/400	-	-	-	-	350	-	100
		22	177	B	16	80	65	8x19	4x19	100	279	204/308	243/420	-	241	121	-	180	180	125	151	15	343	343	541/541	213/400	-	-	-	-	350	-	100
	4	1.1	134	A	16	80	65	8x19	4x19	100	-	106/181	166/181	50	-	-	160	180	-	125	151	-	246	273	234/274	131/260	100	70	264	212	200	12	100
		1.5	146	A	16	80	65	8x19	4x19	100	-	110/158	162/177	50	-	-	160	180	-	125	151	-	246	273	321/274	103/232	100	70	264	212	200	12	100
		2.2	162	A	16	80	65	8x19	4x19	100	-	120/201	162/222	50	-	-	160	180	-	125	151	-	274	293	335/334	103/280	100	70	264	212	250	12	100
		3	175	A	16	80	65	8x19	4x19	100	-	120/201	162/222	50	-	-	160	180	-	125	151	-	274	293	335/334	103/280	100	70	264	212	250	12	100

Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	Flanges					NBG dimensions [mm]																								
					PN	DNS	DND	SS	SD	A	A*	AD [38]	AG [38]	B1	B	C	H1	H2	H	G1	G2	K	LP		LB [38]	LL [38]	M1	M2	N1	N2	P	S1	X [39]
																							Cl	SS										
100-65-200	2	18.5	156	B	16	100	65	8x19	4x19	100	254	204/308	243/420	-	254	108	-	225	160	149	173	15	343	343	515/515	213/400	-	-	-	-	350	-	140
		22	164	B	16	100	65	8x19	4x19	100	279	204/308	243/420	-	241	121	-	225	180	149	173	15	343	343	541/541	213/400	-	-	-	-	350	-	140
		30	184	B	16	100	65	8x19	4x19	100	318	315/-	265/-	-	305	133	-	225	200	149	173	19	343	343	611/-	197/-	-	-	-	-	400	-	140
		37	195	B	16	100	65	8x19	4x19	100	318	315/-	265/-	-	305	133	-	225	200	149	173	19	343	343	636/-	197/-	-	-	-	-	400	-	140
		45	206	-	16	100	65	8x19	4x19	100	-	-/-	-/-	-	-	-	-	225	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	140
		55	217	-	16	100	65	8x19	4x19	100	-	-/-	-/-	-	-	-	-	225	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	140
	4	3	173	A	16	100	65	8x19	4x19	100	-	120/201	162/222	65	-	-	180	225	-	149	173	-	293	293	335/334	103/280	125	95	320	250	250	12	140
		4	186	A	16	100	65	8x19	4x19	100	-	134/201	202/208	65	-	-	180	225	-	149	173	-	293	293	372/334	103/280	125	95	320	250	250	12	140
		5.5	207	A	16	100	65	8x19	4x19	100	-	159/237	203/227	65	-	-	180	225	-	149	173	-	313	313	379/389	135/317	125	95	320	250	300	12	140
		7.5	219	A	16	100	65	8x19	4x19	100	-	159/237	203/227	65	-	-	180	225	-	149	173	-	313	313	429/389	135/317	125	95	320	250	300	12	140
100-65-250	2	45	212	C1	16	100	65	8x19	4x19	125	356	338/-	266/-	80	286	149	200	250	225	183	200	19	428	428	708/-	197/-	160	120	360	280	450	16	140
		55	226	C1	16	100	65	8x19	4x19	125	406	410/-	319/-	80	349	168	200	250	250	183	200	24	428	428	747/-	233/-	160	120	360	280	550	16	140
		75	248	C1	16	100	65	8x19	4x19	125	457	433/-	319/-	80	368	190	200	250	280	183	200	24	428	428	820/-	233/-	160	120	360	280	550	16	140
		90	263	C1	16	100	65	8x19	4x19	125	457	433/-	319/-	80	368	190	200	250	280	183	200	24	428	428	930/-	233/-	160	120	360	280	550	16	140
		110	270	C1	16	100	65	8x19	4x19	125	508	515/-	374/-	80	406	216	200	250	315	183	200	28	458	458	912/-	299/-	160	120	360	280	660	16	140
	4	5.5	215	A	16	100	65	8x19	4x19	125	-	159/237	203/227	80	-	-	200	250	-	183	200	-	368	368	379/389	135/317	160	120	360	280	300	16	140
		7.5	238	A	16	100	65	8x19	4x19	125	-	159/237	203/227	80	-	-	200	250	-	183	200	-	368	368	429/389	135/317	160	120	360	280	300	16	140
		11	265	C1	16	100	65	8x19	4x19	125	254	204/308	243/420	80	210	108	200	250	160	183	200	15	398	398	545/471	213/400	160	120	360	280	350	16	140
		15	270	C1	16	100	65	8x19	4x19	125	254	204/308	243/420	80	254	108	200	250	160	183	200	15	398	398	575/515	213/400	160	120	360	280	350	16	140
100-65-315	2	90	269	C1	25	100	65	8x19	4x19	125	457	433/-	319/-	80	368	190	225	280	280	211	219	24	426	426	930/-	233/-	160	120	400	315	550	16	140
		110	284	C1	25	100	65	8x19	4x19	125	508	515/-	374/-	80	406	216	225	280	315	211	219	28	456	456	912/-	299/-	160	120	400	315	660	16	140
		132	298	C1	25	100	65	8x19	4x19	125	508	515/-	374/-	80	457	216	225	280	315	211	219	28	460	460	1077/-	299/-	160	120	400	315	660	16	140
		160	313	C1	25	100	65	8x19	4x19	125	508	515/-	374/-	80	457	216	225	280	315	211	219	28	460	460	1077/-	299/-	160	120	400	315	660	16	140
		200	320	C1	25	100	65	8x19	4x19	125	508	515/-	374/-	80	457	216	225	280	315	211	219	28	460	460	1232/-	299/-	160	120	400	315	660	16	140
	4	7.5	242	A	16	100	65	8x19	4x19	125	-	159/237	203/227	80	-	-	225	280	-	211	219	-	366	366	429/389	135/317	160	120	400	315	300	16	140
		11	270	C1	16	100	65	8x19	4x19	125	254	204/308	243/420	80	210	108	225	280	160	211	219	15	396	396	545/471	213/400	160	120	400	315	350	16	140
		15	290	C1	16	100	65	8x19	4x19	125	254	204/308	243/420	80	254	108	225	280	160	211	219	15	396	396	575/515	213/400	160	120	400	315	350	16	140
		18.5	305	C1	16	100	65	8x19	4x19	125	279	286/-	189/-	80	241	121	225	280	180	211	219	15	396	396	558/-	164/-	160	120	400	315	350	16	140
		22	320	C1	16	100	65	8x19	4x19	125	279	286/-	189/-	80	241	121	225	280	180	211	219	15	396	396	588/-	164/-	160	120	400	315	350	16	140
100-80-125	2	7.5	120-110	A	16	100	80	8x19	8x19	100	-	159/237	203/227	65	-	-	160	180	-	117	146	-	313	313	379/389	135/317	125	95	280	212	300	12	100
		11	130	C1	16	100	80	8x19	8x19	100	254	204/237	243/420	65	210	108	160	180	160	117	146	15	343	343	471/406	213/317	125	95	280	212	350	12	100
		15	141	C1	16	100	80	8x19	8x19	100	254	204/308	243/420	65	210	108	160	180	160	117	146	15	343	343	471/471	213/400	125	95	280	212	350	12	100
		18.5	144	C1	16	100	80	8x19	8x19	100	254	204/308	243/420	65	254	108	160	180	160	117	146	15	343	343	515/515	213/400	125	95	280	212	350	12	100
	4	1.1	121	A	16	100	80	8x19	8x19	100	-	106/181	166/181	65	-	-	160	180	-	117	146	-	246	273	234/274	131/260	125	95	280	212	200	12	100
		1.5	132	A	16	100	80	8x19	8x19	100	-	110/158	162/177	65	-	-	160	180	-	117	146	-	246	273	321/274	103/232	125	95	280	212	200	12	100
		2.2	144	A	16	100	80	8x19	8x19	100	-	120/201	162/222	65	-	-	160	180	-	117	146	-	274	293	335/334	103/280	125	95	280	212	250	12	100
100-80-160	2	11	136	B	16	100	80	8x19	8x19	100	254	204/237	243/420	-	210	108	-	200	160	127	161	15	343	343	471/406	213/317	-	-	-	-	350	-	100
		15	147	B	16	100	80	8x19	8x19	100	254	204/308	243/420	-	210	108	-	200	160	127	161	15	343	343	471/471	213/400	-	-	-	-	350	-	100
		18.5	155	B	16	100	80	8x19	8x19	100	254	204/308	243/420	-	254	108	-	200	160	127	161	15	343	343	515/515	213/400	-	-	-	-	350	-	100
		22	163	B	16	100	80	8x19	8x19	100	279	204/308	243/420	-	241	121	-	200	180	127	161	15	343	343	541/541	213/400	-	-	-	-	350	-	100
		30	177	B	16	100	80	8x19	8x19	100	318	315/-	265/-	-	305	133	-	200	200	127	161	19	343	343	611/-	197/-	-	-	-	-	400	-	100
	4	1.5	140	A	16	100	80	8x19	8x19	100	-	110/158	162/177	65	-	-	160	200	-	127	161	-	273	273	321/274	103/232	125	95	280	212	200	12	100
		2.2	156	A	16	100	80	8x19	8x19	100	-	120/201	162/222	65	-	-	160	200	-	127	161	-	293	293	335/334	103/280	125	95	280	212	250	12	100
		3	169	A	16	100	80	8x19	8x19	100	-	120/201	162/222	65	-	-	160	200	-	127	161	-	293	293	335/334	103/280	125	95	280	212	250	12	100
		4	177	A	16	100	80	8x19	8x19	100	-	134/201	202/208	65	-	-	160	200	-	127	161	-	293	293	372/334	103/280	125	95	280	212	250	12	100
125-80-160	2	22	150-130	B	16	125	80	8x19	8x19	125	279	204/308	243/420	-	241	121	-	225	180	139	182	15	368	368	541/541	213/400	-	-	-	-	350	-	140
		30	156	B	16	125	80	8x19	8x19	125	318	315/-	265/-	-	305	133	-	225	200	139	182	19	368	368	611/-	197/-	-	-	-	-	400	-	140
		37	165	B	16	125	80	8x19	8x19	125	318	315/-	265/-	-	305	133	-	225	200	139	182	19	368	368	636/-	197/-	-	-	-	-	400	-	140
		45	174	-	16	125	80	8x19	8x19	125	-	-/-	-/-	-	-	-	-	225	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	140
		55	177	-	16	125	80	8x19	8x19	125	-	-/-	-/-	-	-	-	-	225	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	140
	4	3	150	A	16	125	80	8x19	8x19	125	-	120/201	162/222	65	-	-	180	225	-	139	182	-	318	318	335/334	103/280	125	95	320	250	250	12	140
		4	161	A	16	125	80	8x19	8x19	125	-	134/201	202/208	65	-	-	180	225	-	139	182	-	318	318	372/334	103/280	125	95	320	250	250	12	140
		5.5	177	A	16	125	80	8x19	8x19	125	-	159/237	203/227	65	-	-	180	225	-	139	182	-	338	338	379/389	135/317	125	95	320	250	300	12	140

Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	Flanges					NBG dimensions [mm]																								
					PN	DNS	DND	SS	SD	A	A*	AD [38]	AG [38]	B1	B	C	H1	H2	H	G1	G2	K	LP		LB [38]	LL [38]	M1	M2	N1	N2	P	S1	X [39]
																							CI	SS										
125-80-200	2	37	169	C1	16	125	80	8x19	8x19	125	318	315/-	265/-	65	305	133	180	250	200	161	193	19	398	398	636/-	197/-	125	95	345	280	400	12	140
		45	179	C1	16	125	80	8x19	8x19	125	356	338/-	266/-	65	286	149	180	250	225	161	193	19	428	428	708/-	197/-	125	95	345	280	450	12	140
		55	192	C1	16	125	80	8x19	8x19	125	406	410/-	319/-	65	349	168	180	250	250	161	193	24	428	428	747/-	233/-	125	95	345	280	550	12	140
		75	207	C1	16	125	80	8x19	8x19	125	457	433/-	319/-	65	368	190	180	250	280	161	193	24	428	428	820/-	233/-	125	95	345	280	550	12	140
		90	222	C1	16	125	80	8x19	8x19	125	457	433/-	319/-	65	368	190	180	250	280	161	193	24	428	428	930/-	233/-	125	95	345	280	550	12	140
	4	4	167	A	16	125	80	8x19	8x19	125	-	134/201	202/208	65	-	-	180	250	-	161	193	-	348	348	372/334	103/280	125	95	345	280	250	12	140
		5.5	184	A	16	125	80	8x19	8x19	125	-	159/237	203/227	65	-	-	180	250	-	161	193	-	368	368	379/389	135/317	125	95	345	280	300	12	140
		7.5	202	A	16	125	80	8x19	8x19	125	-	159/237	203/227	65	-	-	180	250	-	161	193	-	368	368	429/389	135/317	125	95	345	280	300	12	140
		11	222	C1	16	125	80	8x19	8x19	125	254	204/308	243/420	65	210	108	180	250	160	161	193	15	398	398	545/471	213/400	125	95	345	280	350	12	140
125-80-250	2	75	218	C1	16	125	80	8x19	8x19	125	457	433/-	319/-	80	368	190	225	280	280	182	210	24	428	428	820/-	233/-	160	120	400	315	550	16	140
		90	230	C1	16	125	80	8x19	8x19	125	457	433/-	319/-	80	368	190	225	280	280	182	210	24	428	428	930/-	233/-	160	120	400	315	550	16	140
		110	244	C1	16	125	80	8x19	8x19	125	508	515/-	374/-	80	406	216	225	280	315	182	210	28	458	458	912/-	299/-	160	120	400	315	660	16	140
		132	259	C1	16	125	80	8x19	8x19	125	508	515/-	374/-	80	457	216	225	280	315	182	210	28	458	458	1077/-	299/-	160	120	400	315	660	16	140
		160	270	C1	16	125	80	8x19	8x19	125	508	515/-	374/-	80	457	216	225	280	315	182	210	28	458	458	1077/-	299/-	160	120	400	315	660	16	140
	4	7.5	211	A	16	125	80	8x19	8x19	125	-	159/237	203/227	80	-	-	225	280	-	182	210	-	368	368	429/389	135/317	160	120	400	315	300	16	140
		11	234	C1	16	125	80	8x19	8x19	125	254	204/308	243/420	80	210	108	225	280	160	182	210	15	398	398	545/471	213/400	160	120	400	315	350	16	140
		15	255	C1	16	125	80	8x19	8x19	125	254	204/308	243/420	80	254	108	225	280	160	182	210	15	398	398	575/515	213/400	160	120	400	315	350	16	140
		18.5	270	C1	16	125	80	8x19	8x19	125	279	286/-	189/-	80	241	121	225	280	180	182	210	15	398	398	558/-	164/-	160	120	400	315	350	16	140
125-80-315	2	132	267	C1	16	125	80	8x19	8x19	125	508	515/-	374/-	80	457	216	250	315	315	217	243	28	456	456	1077/-	299/-	160	120	400	315	660	16	140
		160	285	C1	16	125	80	8x19	8x19	125	508	515/-	374/-	80	457	216	250	315	315	217	243	28	456	456	1077/-	299/-	160	120	400	315	660	16	140
		200	304	C1	25	125	80	8x19	8x19	125	508	515/-	374/-	80	457	216	250	315	315	217	243	28	460	460	1232/-	299/-	160	120	400	315	660	16	140
	4	18.5	275	C1	16	125	80	8x19	8x19	125	279	286/-	189/-	80	241	121	250	315	180	217	243	15	396	396	558/-	164/-	160	120	400	315	350	16	140
		22	287	C1	16	125	80	8x19	8x19	125	279	286/-	189/-	80	241	121	250	315	180	217	243	15	396	396	588/-	164/-	160	120	400	315	350	16	140
		30	314	C1	16	125	80	8x19	8x19	125	318	315/-	265/-	80	305	133	250	315	200	217	243	19	396	396	636/-	197/-	160	120	400	315	400	16	140
		37	332	C1	16	125	80	8x19	8x19	125	356	338/-	266/-	80	286	149	250	315	225	217	243	19	426	426	648/-	197/-	160	120	400	315	450	16	140
		45	334	C1	16	125	80	8x19	8x19	125	356	338/-	266/-	80	286	149	250	315	225	217	243	19	426	426	708/-	197/-	160	120	400	315	450	16	140
125-80-400	4	30	342	C1	16	125	80	8x19	8x19	125	318	315/-	265/-	80	305	133	280	355	200	266	288	19	396	398	636/-	197/-	160	120	435	355	400	16	140
		37	362	C1	16	125	80	8x19	8x19	125	356	338/-	266/-	80	286	149	280	355	225	266	288	19	426	428	648/-	197/-	160	120	435	355	450	16	140
		45	380	C1	16	125	80	8x19	8x19	125	356	338/-	266/-	80	286	149	280	355	225	266	288	19	426	428	708/-	197/-	160	120	435	355	450	16	140
		55	401	C1	16	125	80	8x19	8x19	125	406	410/-	319/-	80	349	168	280	355	250	266	288	24	426	428	747/-	233/-	160	120	435	355	550	16	140
		75	437	C1	16	125	80	8x19	8x19	125	457	433/-	319/-	80	368	190	280	355	280	266	288	24	426	428	820/-	233/-	160	120	435	355	550	16	140
		90	438	C1	16	125	80	8x19	8x19	125	457	433/-	319/-	80	368	190	280	355	280	266	288	24	426	428	930/-	233/-	160	120	435	355	550	16	140
125-100-160	2	30	160-140	C1	16	125	100	8x19	8x19	125	318	315/-	265/-	80	305	133	200	280	200	146	187	19	368	368	611/-	197/-	160	120	360	280	400	16	140
		37	167	C1	16	125	100	8x19	8x19	125	318	315/-	265/-	80	305	133	200	280	200	146	187	19	368	368	636/-	197/-	160	120	360	280	400	16	140
		45	174	-	16	125	100	8x19	8x19	125	-	-/-	-/-	-	-	-	-	280	-	-	-	-	-	-	-/-	-/-	-	-	-	-	-	-	140
	4	4	160-140	A	16	125	100	8x19	8x19	125	-	134/201	202/208	80	-	-	200	280	-	146	187	-	318	318	372/334	103/280	160	120	360	280	250	16	140
		5.5	169	A	16	125	100	8x19	8x19	125	-	159/237	203/227	80	-	-	200	280	-	146	187	-	338	338	379/389	135/317	160	120	360	280	300	16	140
		7.5	176	A	16	125	100	8x19	8x19	125	-	159/237	203/227	80	-	-	200	280	-	146	187	-	338	338	429/389	135/317	160	120	360	280	300	16	140
	6	1.1	160-140	A	16	125	100	8x19	8x19	125	-	128/-	75/-	80	-	-	200	280	-	146	187	-	298	298	326/-	75/-	160	120	360	280	200	16	140
		1.5	169	A	16	125	100	8x19	8x19	125	-	166/-	135/-	80	-	-	200	280	-	146	187	-	318	318	336/-	112/-	160	120	360	280	250	16	140
		2.2	176	A	16	125	100	8x19	8x19	125	-	177/-	135/-	80	-	-	200	280	-	146	187	-	318	318	354/-	112/-	160	120	360	280	250	16	140
125-100-200	2	55	173	C1	16	125	100	8x19	8x19	125	406	410/-	319/-	80	349	168	200	280	250	169	212	24	428	428	747/-	233/-	160	120	360	280	550	16	140
		75	192	C1	16	125	100	8x19	8x19	125	457	433/-	319/-	80	368	190	200	280	280	169	212	24	428	428	820/-	233/-	160	120	360	280	550	16	140
		90	201	C1	16	125	100	8x19	8x19	125	457	433/-	319/-	80	368	190	200	280	280	169	212	24	428	428	930/-	233/-	160	120	360	280	550	16	140
		110	212	C1	16	125	100	8x19	8x19	125	508	515/-	374/-	80	406	216	200	280	315	169	212	28	458	458	912/-	299/-	160	120	360	280	660	16	140
		132	219	C1	16	125	100	8x19	8x19	125	508	515/-	374/-	80	457	216	200	280	315	169	212	28	458	458	1077/-	299/-	160	120	360	280	660	16	140
	4	5.5	164	A	16	125	100	8x19	8x19	125	-	159/237	203/227	80	-	-	200	280	-	169	212	-	368	368	379/389	135/317	160	120	360	280	300	16	140
		7.5	182	A	16	125	100	8x19	8x19	125	-	159/237	203/227	80	-	-	200	280	-	169	212	-	368	368	429/389	135/317	160	120	360	280	300	16	140
		11	201	C1	16	125	100	8x19	8x19	125	254	204/308	243/420	80	210	108	200	280	160	169	212	15	398	398	545/471	213/400	160	120	360	280	350	16	140
		15	217	C1	16	125	100	8x19	8x19	125	254	204/308	243/420	80	254	108	200	280	160	169	212	15	398	398	575/515	213/400	160	120	360	280	350	16	140
		18.5	219	C1	16	125	100	8x19	8x19	125	279	286/-	189/-	80	241	121	200	280	180	169	212	15	398	398	558/-	164/-	160	120	360	280	350	16	140
	6	1.5	164	A	16	125	100	8x19	8x19	125	-	166/-	135/-	80	-	-	200	280	-	169	212	-	348	348	336/-	112/-	160	120	360	280	250	16	140
		2.2	183	A	16	125	100	8x19	8x19	125	-	177/-	135/-	80	-	-	200	280	-	169	212	-	348	348	354/-	112/-	160	120	360	280	250	16	140
		3	198	A	16	125	100	8x19	8x19	125	-	202/-	155/-	80	-	-	200	280	-	169	212	-	368	368	385/-	130/-	160	120	360	280	300	16	140
		4	214	A	16	125	100	8x19	8x19	125	-	202/-	155/-	80	-	-	200	280	-	169	212	-	368	368	385/-	130/-	160	120	360	280	300	16	140
		5.5	219	A	16	125	100	8x19	8x19	125	-	202/-	155/-	80	-	-	200	280	-	169	212	-	368	368	435/-	130/-	160	120	360	280	300	16	140

Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	Flanges					NBG dimensions [mm]																								
					PN	DNS	DND	SS	SD	A	A*	AD [38]	AG [38]	B1	B	C	H1	H2	H	G1	G2	K	LP		LB [38]	LL [38]	M1	M2	N1	N2	P	S1	X [39]
																							CI	SS										
125-100-250	2	110	217	C1	16	125	100	8x19	8x19	140	508	515/-	374/-	80	406	216	225	280	315	200	232	28	471	471	912/-	299/-	160	120	400	315	660	16	140
		132	231	C1	16	125	100	8x19	8x19	140	508	515/-	374/-	80	457	216	225	280	315	200	232	28	471	471	1077/-	299/-	160	120	400	315	660	16	140
		160	243	C1	16	125	100	8x19	8x19	140	508	515/-	374/-	80	457	216	225	280	315	200	232	28	471	471	1077/-	299/-	160	120	400	315	660	16	140
		200	269	C1	16	125	100	8x19	8x19	140	508	515/-	374/-	80	457	216	225	280	315	200	232	28	471	471	1232/-	299/-	160	120	400	315	660	16	140
	4	15	223	C1	16	125	100	8x19	8x19	140	254	204/308	243/420	80	254	108	225	280	160	200	232	15	411	411	575/515	213/400	160	120	400	315	350	16	140
		18.5	236	C1	16	125	100	8x19	8x19	140	279	286/-	189/-	80	241	121	225	280	180	200	232	15	411	411	558/-	164/-	160	120	400	315	350	16	140
		22	249	C1	16	125	100	8x19	8x19	140	279	286/-	189/-	80	241	121	225	280	180	200	232	15	411	411	588/-	164/-	160	120	400	315	350	16	140
		30	274	C1	16	125	100	8x19	8x19	140	318	315/-	265/-	80	305	133	225	280	200	200	232	19	411	411	636/-	197/-	160	120	400	315	400	16	140
	6	4	216	A	16	125	100	8x19	8x19	140	-	202/-	155/-	80	-	-	225	280	-	200	232	-	381	381	385/-	130/-	160	120	400	315	300	16	140
		5.5	238	A	16	125	100	8x19	8x19	140	-	202/-	155/-	80	-	-	225	280	-	200	232	-	381	381	435/-	130/-	160	120	400	315	300	16	140
		7.5	274	C1	16	125	100	8x19	8x19	140	254	237/-	175/-	80	210	108	225	280	160	200	232	15	411	411	494/-	145/-	160	120	400	315	350	16	140
125-100-315	4	22	264	C1	16	125	100	8x19	8x19	140	279	286/-	189/-	80	241	121	250	315	180	208	264	15	411	411	588/-	164/-	160	120	400	315	350	16	140
		30	290	C1	16	125	100	8x19	8x19	140	318	315/-	265/-	80	305	133	250	315	200	208	264	19	411	411	636/-	197/-	160	120	400	315	400	16	140
		37	309	C1	16	125	100	8x19	8x19	140	356	338/-	266/-	80	286	149	250	315	225	208	264	19	441	441	648/-	197/-	160	120	400	315	450	16	140
		45	329	C1	16	125	100	8x19	8x19	140	356	338/-	266/-	80	286	149	250	315	225	208	264	19	441	441	708/-	197/-	160	120	400	315	450	16	140
		55	334	C1	16	125	100	8x19	8x19	140	406	410/-	319/-	80	349	168	250	315	250	208	264	24	441	441	747/-	233/-	160	120	400	315	550	16	140
	6	7.5	276	C1	16	125	100	8x19	8x19	140	254	237/-	175/-	80	210	108	250	315	160	208	264	15	411	411	494/-	145/-	160	120	400	315	350	16	140
		11	310	C1	16	125	100	8x19	8x19	140	254	237/-	175/-	80	254	108	250	315	160	208	264	15	411	411	554/-	145/-	160	120	400	315	350	16	140
		15	334	C1	16	125	100	8x19	8x19	140	279	286/-	189/-	80	241	121	250	315	180	208	264	15	411	411	588/-	164/-	160	120	400	315	350	16	140
125-100-400	4	37	320	C1	16	125	100	8x19	8x19	140	356	338/-	266/-	100	286	149	280	355	225	270	296	19	441	441	648/-	197/-	200	150	500	400	450	20	140
		45	346	C1	16	125	100	8x19	8x19	140	356	338/-	266/-	100	286	149	280	355	225	270	296	19	441	441	708/-	197/-	200	150	500	400	450	20	140
		55	365	C1	16	125	100	8x19	8x19	140	406	410/-	319/-	100	349	168	280	355	250	270	296	24	441	441	747/-	233/-	200	150	500	400	550	20	140
		75	395	C1	16	125	100	8x19	8x19	140	457	433/-	319/-	100	368	190	280	355	280	270	296	24	441	441	820/-	233/-	200	150	500	400	550	20	140
		90	415	C1	16	125	100	8x19	8x19	140	457	433/-	319/-	100	368	190	280	355	280	270	296	24	441	441	930/-	233/-	200	150	500	400	550	20	140
	6	11	315	C1	16	125	100	8x19	8x19	140	254	237/-	175/-	100	254	108	280	355	160	270	296	15	411	411	554/-	145/-	200	150	500	400	350	20	140
		15	340	C1	16	125	100	8x19	8x19	140	279	286/-	189/-	100	241	121	280	355	180	270	296	15	411	411	588/-	164/-	200	150	500	400	350	20	140
		18.5	370	C1	16	125	100	8x19	8x19	140	318	315/-	265/-	100	305	133	280	355	200	270	296	19	411	411	611/-	197/-	200	150	500	400	400	20	140
		22	385	C1	16	125	100	8x19	8x19	140	318	315/-	265/-	100	305	133	280	355	200	270	296	19	411	411	636/-	197/-	200	150	500	400	400	20	140
		30	415	C1	16	125	100	8x19	8x19	140	356	338/-	266/-	100	286	149	280	355	225	270	296	19	441	441	708/-	197/-	200	150	500	400	450	20	140
150-125-200	4	11	176-154	C1	16	150	125	8x23	8x19	140	254	204/308	243/420	80	210	108	250	315	160	200	252	15	413	413	545/471	213/400	160	120	400	315	350	16	140
		15	200	C1	16	150	125	8x23	8x19	140	254	204/308	243/420	80	254	108	250	315	160	200	252	15	413	413	575/515	213/400	160	120	400	315	350	16	140
		18.5	216	C1	16	150	125	8x23	8x19	140	279	286/-	189/-	80	241	121	250	315	180	200	252	15	413	413	558/-	164/-	160	120	400	315	350	16	140
		22	226	C1	16	150	125	8x23	8x19	140	279	286/-	189/-	80	241	121	250	315	180	200	252	15	413	413	588/-	164/-	160	120	400	315	350	16	140
	6	3	176-154	A	16	150	125	8x23	8x19	140	-	202/-	155/-	80	-	-	250	315	-	200	252	-	383	383	385/-	130/-	160	120	400	315	300	16	140
		4	196-184	A	16	150	125	8x23	8x19	140	-	202/-	155/-	80	-	-	250	315	-	200	252	-	383	383	385/-	130/-	160	120	400	315	300	16	140
		5.5	215	A	16	150	125	8x23	8x19	140	-	202/-	155/-	80	-	-	250	315	-	200	252	-	383	383	435/-	130/-	160	120	400	315	300	16	140
		7.5	226	C1	16	150	125	8x23	8x19	140	254	237/-	175/-	80	210	108	250	315	160	200	252	15	413	413	494/-	145/-	160	120	400	315	350	16	140
150-125-250	2	160	226	C1	16	150	125	8x23	8x19	140	508	515/-	374/-	80	457	216	250	355	315	208	264	28	471	471	1077/-	299/-	160	120	400	315	660	16	140
		200	242	C1	16	150	125	8x23	8x19	140	508	515/-	374/-	80	457	216	250	355	315	208	264	28	471	471	1232/-	299/-	160	120	400	315	660	16	140
	4	18.5	214	C1	16	150	125	8x23	8x19	140	279	286/-	189/-	80	241	121	250	355	180	208	264	15	411	411	558/-	164/-	160	120	400	315	350	16	140
		22	224	C1	16	150	125	8x23	8x19	140	279	286/-	189/-	80	241	121	250	355	180	208	264	15	411	411	588/-	164/-	160	120	400	315	350	16	140
		30	243	C1	16	150	125	8x23	8x19	140	318	315/-	265/-	80	305	133	250	355	200	208	264	19	411	411	636/-	197/-	160	120	400	315	400	16	140
		37	258	C1	16	150	125	8x23	8x19	140	356	338/-	266/-	80	286	149	250	355	225	208	264	19	441	441	648/-	197/-	160	120	400	315	450	16	140
		45	269	C1	16	150	125	8x23	8x19	140	356	338/-	266/-	80	286	149	250	355	225	208	264	19	441	441	708/-	197/-	160	120	400	315	450	16	140
	6	5.5	217	A	16	150	125	8x23	8x19	140	-	202/-	155/-	80	-	-	250	355	-	208	264	-	381	381	435/-	130/-	160	120	400	315	300	16	140
		7.5	234	C1	16	150	125	8x23	8x19	140	254	237/-	175/-	80	210	108	250	355	160	208	264	15	411	411	494/-	145/-	160	120	400	315	350	16	140
		11	261	C1	16	150	125	8x23	8x19	140	254	237/-	175/-	80	254	108	250	355	160	208	264	15	411	411	554/-	145/-	160	120	400	315	350	16	140
		15	269	C1	16	150	125	8x23	8x19	140	279	286/-	189/-	80	241	121	250	355	180	208	264	15	411	411	588/-	164/-	160	120	400	315	350	16	140

Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	Flanges					NBG dimensions [mm]																						
					PN	DNS	DND	SS	SD	A	A*	AD [38]	AG [38]	B1	B	C	H1	H2	H	G1	G2	K	LP		LB [38]	LL [38]	M1	M2	N1	N2	P	S1	X [39]
																							CI	SS									
150-125-315	4	30	271	C1	16	150	125	8x23	8x19	140	318	315/-	265/-	100	305	133	280	355	200	231	268	19	411	411	636/-	197/-	200	150	500	400	400	20	140
		37	287	C1	16	150	125	8x23	8x19	140	356	338/-	266/-	100	286	149	280	355	225	231	268	19	441	441	648/-	197/-	200	150	500	400	450	20	140
		45	303	C1	16	150	125	8x23	8x19	140	356	338/-	266/-	100	286	149	280	355	225	231	268	19	441	441	708/-	197/-	200	150	500	400	450	20	140
		55	320	C1	16	150	125	8x23	8x19	140	406	410/-	319/-	100	349	168	280	355	250	231	268	24	441	441	747/-	233/-	200	150	500	400	550	20	140
		75	338	C1	16	150	125	8x23	8x19	140	457	433/-	319/-	100	368	190	280	355	280	231	268	24	441	441	820/-	233/-	200	150	500	400	550	20	140
		7.5	254	C1	16	150	125	8x23	8x19	140	254	237/-	175/-	100	210	108	280	355	160	231	268	15	411	411	494/-	145/-	200	150	500	400	350	20	140
		11	286	C1	16	150	125	8x23	8x19	140	254	237/-	175/-	100	254	108	280	355	160	231	268	15	411	411	554/-	145/-	200	150	500	400	350	20	140
	6	15	313	C1	16	150	125	8x23	8x19	140	279	286/-	189/-	100	241	121	280	355	180	231	268	15	411	411	588/-	164/-	200	150	500	400	350	20	140
		18.5	333	C1	16	150	125	8x23	8x19	140	318	315/-	265/-	100	305	133	280	355	200	231	268	19	411	411	611/-	197/-	200	150	500	400	400	20	140
		22	338	C1	16	150	125	8x23	8x19	140	318	315/-	265/-	100	305	133	280	355	200	231	268	19	411	411	636/-	197/-	200	150	500	400	400	20	140
150-125-400		55	333	C1	16	150	125	8x23	8x19	140	406	410/-	319/-	100	349	168	315	400	250	284	320	24	441	441	747/-	233/-	200	150	500	400	550	20	140
		75	369	C1	16	150	125	8x23	8x19	140	457	433/-	319/-	100	368	190	315	400	280	284	320	24	441	441	820/-	233/-	200	150	500	400	550	20	140
	4	90	389	C1	16	150	125	8x23	8x19	140	457	433/-	319/-	100	368	190	315	400	280	284	320	24	441	441	930/-	233/-	200	150	500	400	550	20	140
		110	414	C1	16	150	125	8x23	8x19	140	508	515/-	374/-	100	406	216	315	400	315	284	320	28	471	471	912/-	299/-	200	150	500	400	660	20	140
		132	438	C1	16	150	125	8x23	8x19	140	508	515/-	374/-	100	457	216	315	400	315	284	320	28	471	471	1077/-	299/-	200	150	500	400	660	20	140
		18.5	346	C1	16	150	125	8x23	8x19	140	318	315/-	265/-	100	305	133	315	400	200	284	320	19	411	411	611/-	197/-	200	150	500	400	400	20	140
		22	367	C1	16	150	125	8x23	8x19	140	318	315/-	265/-	100	305	133	315	400	200	284	320	19	411	411	636/-	197/-	200	150	500	400	400	20	140
	6	30	404	C1	16	150	125	8x23	8x19	140	356	338/-	266/-	100	286	149	315	400	225	284	320	19	441	441	708/-	197/-	200	150	500	400	450	20	140
		37	432	C1	16	150	125	8x23	8x19	140	406	410/-	319/-	100	349	168	315	400	250	284	320	24	441	441	747/-	233/-	200	150	500	400	550	20	140
		45	438	C1	16	150	125	8x23	8x19	140	457	433/-	319/-	100	368	190	315	400	280	284	320	24	441	441	820/-	233/-	200	150	500	400	550	20	140
150-125-500		110	423	C1	16	150	125	8x23	8x19	180	508	515/-	374/-	125	406	216	400	500	315	344	377	28	554	554	912/-	299/-	200	150	625	500	660	20	180
		132	447	C1	16	150	125	8x23	8x19	180	508	515/-	374/-	125	457	216	400	500	315	344	377	28	554	554	1077/-	299/-	200	150	625	500	660	20	180
	4	160	474	C1	16	150	125	8x23	8x19	180	508	515/-	374/-	125	457	216	400	500	315	344	377	28	554	554	1077/-	299/-	200	150	625	500	660	20	180
		200	508	C1	16	150	125	8x23	8x19	180	508	515/-	374/-	125	457	216	400	500	315	344	377	28	554	554	1232/-	299/-	200	150	625	500	660	20	180
		37	446	C1	16	150	125	8x23	8x19	180	406	410/-	319/-	125	349	168	400	500	250	344	377	24	524	524	747/-	233/-	200	150	625	500	550	20	180
		45	470	C1	16	150	125	8x23	8x19	180	457	433/-	319/-	125	368	190	400	500	280	344	377	24	524	524	820/-	233/-	200	150	625	500	550	20	180
	6	55	501	C1	16	150	125	8x23	8x19	180	457	433/-	319/-	125	368	190	400	500	280	344	377	24	524	524	820/-	233/-	200	150	625	500	550	20	180
		75	543	C1	16	150	125	8x23	8x19	180	508	515/-	374/-	125	406	216	400	500	315	344	377	28	554	554	912/-	299/-	200	150	625	500	660	20	180
		90	548	C1	16	150	125	8x23	8x19	180	508	515/-	374/-	125	457	216	400	500	315	344	377	28	554	554	1077/-	299/-	200	150	625	500	660	20	180
200-150-200		110	210-154	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	406	216	280	400	315	230	319	28	493	493	912/-	299/-	200	150	550	450	660	20	180
		132	216-176	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	457	216	280	400	315	230	319	28	493	493	1077/-	299/-	200	150	550	450	660	20	180
	2	160	218-204	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	457	216	280	400	315	230	319	28	493	493	1077/-	299/-	200	150	550	450	660	20	180
		200	224	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	457	216	280	400	315	230	319	28	493	493	1232/-	299/-	200	150	550	450	660	20	180
		15	214-174	C1	16	200	150	12x23	8x23	160	254	204/308	243/420	100	254	108	280	400	160	230	319	15	433	433	575/515	213/400	200	150	550	450	350	20	180
	4	18.5	218-202	C1	16	200	150	12x23	8x23	160	279	286/-	189/-	100	241	121	280	400	180	230	319	15	433	433	558/-	164/-	200	150	550	450	350	20	180
		22	222	C1	16	200	150	12x23	8x23	160	279	286/-	189/-	100	241	121	280	400	180	230	319	15	433	433	588/-	164/-	200	150	550	450	350	20	180
		4	210-170	A	16	200	150	12x23	8x23	160	-	202/-	155/-	100	-	-	280	400	-	230	319	-	403	403	385/-	130/-	200	150	550	450	300	20	180
	6	5.5	218-212	A	16	200	150	12x23	8x23	160	-	202/-	155/-	100	-	-	280	400	-	230	319	-	403	403	435/-	130/-	200	150	550	450	300	20	180
		7.5	224	C1	16	200	150	12x23	8x23	160	254	237/-	175/-	100	210	108	280	400	160	230	319	15	433	433	494/-	145/-	200	150	550	450	350	20	180
200-150-250		30	226-224	C1	16	200	150	12x23	8x23	160	318	315/-	265/-	100	305	133	280	375	200	250	297	19	431	431	636/-	197/-	200	150	500	400	400	20	180
		37	240	C1	16	200	150	12x23	8x23	160	356	338/-	266/-	100	286	149	280	375	225	250	297	19	461	461	648/-	197/-	200	150	500	400	450	20	180
	4	45	252	C1	16	200	150	12x23	8x23	160	356	338/-	266/-	100	286	149	280	375	225	250	297	19	461	461	708/-	197/-	200	150	500	400	450	20	180
		55	263	C1	16	200	150	12x23	8x23	160	406	410/-	319/-	100	349	168	280	375	250	250	297	24	461	461	747/-	233/-	200	150	500	400	550	20	180
		75	282	C1	16	200	150	12x23	8x23	160	457	433/-	319/-	100	368	190	280	375	280	250	297	24	461	461	820/-	233/-	200	150	500	400	550	20	180
		11	238	C1	16	200	150	12x23	8x23	160	254	237/-	175/-	100	254	108	280	375	160	250	297	15	431	431	554/-	145/-	200	150	500	400	350	20	180
	6	15	252	C1	16	200	150	12x23	8x23	160	279	286/-	189/-	100	241	121	280	375	180	250	297	15	431	431	588/-	164/-	200	150	500	400	350	20	180
		18.5	275	C1	16	200	150	12x23	8x23	160	318	315/-	265/-	100	305	133	280	375	200	250	297	19	431	431	611/-	197/-	200	150	500	400	400	20	180
200-150-315		55	269	C1	16	200	150	12x23	8x23	160	406	410/-	319/-	100	349	168	315	400	250	264	331	24	474	474	747/-	233/-	200	150	550	450	550	20	180
		75	294	C1	16	200	150	12x23	8x23	160	457	433/-	319/-	100	368	190	315	400	280	264	331	24	474	474	820/-	233/-	200	150	550	450	550	20	180
	4	90	309	C1	16	200	150	12x23	8x23	160	457	433/-	319/-	100	368	190	315	400	280	264	331	24	474	474	930/-	233/-	200	150	550	450	550	20	180
		110	326	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	406	216	315	400	315	264	331	28	504	504	912/-	299/-	200	150	550	450	660	20	180
		132	338	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	457	216	315	400	315	264	331	28	504	504	1077/-	299/-	200	150	550	450	660	20	180
		18.5	283	C1	16	200	150	12x23	8x23	160	318	315/-	265/-	100	305	133	315	400	200	264	331	19	444	444	611/-	197/-	200	150	550	450	400	20	180
		22	297	C1	16	200	150	12x23	8x23	160	318	315/-	265/-	100	305	133	315	400	200	264	331	19	444	444	636/-	197/-	200	150	550	450	400	20	180
	6	30	323	C1	16	200	150	12x23	8x23	160	356	338/-	266/-	100	286	149	315	400	225	264	331	19	474	474	708/-	197/-	200	150	550	450	450	20	180
		37	338	C1	16	200	150	12x23	8x23	160	406	410/-	319/-	100	349	168	315	400	250	264	331	24	474	474	747/-	233/-	200	150	550	450	550	20	180

Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	Flanges					NBG dimensions [mm]																								
					PN	DNS	DND	SS	SD	A	A*	AD [38]	AG [38]	B1	B	C	H1	H2	H	G1	G2	K	LP		LB [38]	LL [38]	M1	M2	N1	N2	P	S1	X [39]
																							CI	SS										
200-150-315.2	4	37	249	C1	16	200	150	12x23	8x23	160	356	338/-	266/-	100	286	149	315	400	225	264	331	19	474	474	648/-	197/-	200	150	550	450	450	20	180
		45	263	C1	16	200	150	12x23	8x23	160	356	338/-	266/-	100	286	149	315	400	225	264	331	19	474	474	708/-	197/-	200	150	550	450	450	20	180
		55	279	C1	16	200	150	12x23	8x23	160	406	410/-	319/-	100	349	168	315	400	250	264	331	24	474	474	747/-	233/-	200	150	550	450	550	20	180
		75	310	C1	16	200	150	12x23	8x23	160	457	433/-	319/-	100	368	190	315	400	280	264	331	24	474	474	820/-	233/-	200	150	550	450	550	20	180
		11	247	C1	16	200	150	12x23	8x23	160	254	237/-	175/-	100	254	108	315	400	160	264	331	15	444	444	554/-	145/-	200	150	550	450	350	20	180
	6	15	271	C1	16	200	150	12x23	8x23	160	279	286/-	189/-	100	241	121	315	400	180	264	331	15	444	444	588/-	164/-	200	150	550	450	350	20	180
		18.5	293	C1	16	200	150	12x23	8x23	160	318	315/-	265/-	100	305	133	315	400	200	264	331	19	444	444	611/-	197/-	200	150	550	450	400	20	180
		22	316	C1	16	200	150	12x23	8x23	160	318	315/-	265/-	100	305	133	315	400	200	264	331	19	444	444	636/-	197/-	200	150	550	450	400	20	180
200-150-400		90	341	C1	16	200	150	12x23	8x23	160	457	433/-	319/-	100	368	190	315	450	280	291	339	24	474	474	930/-	233/-	200	150	550	450	550	20	180
		110	361	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	406	216	315	450	315	291	339	28	504	504	912/-	299/-	200	150	550	450	660	20	180
	4	132	381	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	457	216	315	450	315	291	339	28	504	504	1077/-	299/-	200	150	550	450	660	20	180
		160	401	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	457	216	315	450	315	291	339	28	504	504	1077/-	299/-	200	150	550	450	660	20	180
		200	424	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	457	216	315	450	315	291	339	28	504	504	1232/-	299/-	200	150	550	450	660	20	180
		22	327	C1	16	200	150	12x23	8x23	160	318	315/-	265/-	100	305	133	315	450	200	291	339	19	444	444	636/-	197/-	200	150	550	450	400	20	180
		30	358	C1	16	200	150	12x23	8x23	160	356	338/-	266/-	100	286	149	315	450	225	291	339	19	474	474	708/-	197/-	200	150	550	450	450	20	180
		37	380	C1	16	200	150	12x23	8x23	160	406	410/-	319/-	100	349	168	315	450	250	291	339	24	474	474	747/-	233/-	200	150	550	450	550	20	180
	6	45	398	C1	16	200	150	12x23	8x23	160	457	433/-	319/-	100	368	190	315	450	280	291	339	24	474	474	820/-	233/-	200	150	550	450	550	20	180
		55	419	C1	16	200	150	12x23	8x23	160	457	433/-	319/-	100	368	190	315	450	280	291	339	24	474	474	820/-	233/-	200	150	550	450	550	20	180
		75	438	C1	16	200	150	12x23	8x23	160	508	515/-	374/-	100	406	216	315	450	315	291	339	28	504	504	912/-	299/-	200	150	550	450	660	20	180
200-150-500	4	200	419	C1	16	200	150	12x23	8x23	180	508	515/-	374/-	125	457	216	400	500	315	353	396	28	554	554	1232/-	299/-	200	150	625	500	660	20	180
		55	433	C1	16	200	150	12x23	8x23	180	457	433/-	319/-	125	368	190	400	500	280	353	396	24	524	524	820/-	233/-	200	150	625	500	550	20	180
		75	482	C1	16	200	150	12x23	8x23	180	508	515/-	374/-	125	406	216	400	500	315	353	396	28	554	554	912/-	299/-	200	150	625	500	660	20	180
	6	90	510	C1	16	200	150	12x23	8x23	180	508	515/-	374/-	125	457	216	400	500	315	353	396	28	554	554	1077/-	299/-	200	150	625	500	660	20	180
		110	534	C1	16	200	150	12x23	8x23	180	508	515/-	374/-	125	457	216	400	500	315	353	396	28	554	554	1077/-	299/-	200	150	625	500	660	20	180
		132	548	C1	16	200	150	12x23	8x23	180	508	515/-	374/-	125	457	216	400	500	315	353	396	28	554	554	1232/-	299/-	200	150	625	500	660	20	180
250-200-400		55	268	C2	16	250	200	12x28	12x23	170	406	410/-	319/-	125	349	168	400	400	250	331	485	24	512	-	747/-	233/-	200	150	625	500	550	20	180
		75	292	C2	16	250	200	12x28	12x23	170	457	433/-	319/-	125	368	190	400	400	280	331	485	24	512	-	820/-	233/-	200	150	625	500	550	20	180
		90	308	C2	16	250	200	12x28	12x23	170	457	433/-	319/-	125	368	190	400	400	280	331	485	24	512	-	930/-	233/-	200	150	625	500	550	20	180
	4	110	324	C2	16	250	200	12x28	12x23	170	508	515/-	374/-	125	406	216	400	400	315	331	485	28	542	-	912/-	299/-	200	150	625	500	660	20	180
		132	344	C2	16	250	200	12x28	12x23	170	508	515/-	374/-	125	457	216	400	400	315	331	485	28	542	-	1077/-	299/-	200	150	625	500	660	20	180
		160	360	C2	16	250	200	12x28	12x23	170	508	515/-	374/-	125	457	216	400	400	315	331	485	28	542	-	1077/-	299/-	200	150	625	500	660	20	180
		200	396	C2	16	250	200	12x28	12x23	170	508	515/-	374/-	125	457	216	400	400	315	331	485	28	542	-	1232/-	299/-	200	150	625	500	660	20	180
		22	296	C2	16	250	200	12x28	12x23	170	318	315/-	265/-	125	305	133	400	400	200	331	485	19	482	-	636/-	197/-	200	150	625	500	400	20	180
		30	320	C2	16	250	200	12x28	12x23	170	356	338/-	266/-	125	286	149	400	400	225	331	485	19	512	-	708/-	197/-	200	150	625	500	450	20	180
	6	37	344	C2	16	250	200	12x28	12x23	170	406	410/-	319/-	125	349	168	400	400	250	331	485	24	512	-	747/-	233/-	200	150	625	500	550	20	180
		45	360	C2	16	250	200	12x28	12x23	170	457	433/-	319/-	125	368	190	400	400	280	331	485	24	512	-	820/-	233/-	200	150	625	500	550	20	180
		55	392	C2	16	250	200	12x28	12x23	170	457	433/-	319/-	125	368	190	400	400	280	331	485	24	512	-	820/-	233/-	200	150	625	500	550	20	180
250-200-450		75	319	C2	16	250	200	12x28	12x23	150	457	433/-	319/-	125	368	190	400	450	280	355	525	24	487	-	820/-	233/-	200	150	625	500	550	20	180
		90	335	C2	16	250	200	12x28	12x23	150	457	433/-	319/-	125	368	190	400	450	280	355	525	24	487	-	930/-	233/-	200	150	625	500	550	20	180
		110	355	C2	16	250	200	12x28	12x23	150	508	515/-	374/-	125	406	216	400	450	315	355	525	28	517	-	912/-	299/-	200	150	625	500	660	20	180
	4	132	367	C2	16	250	200	12x28	12x23	150	508	515/-	374/-	125	457	216	400	450	315	355	525	28	517	-	1077/-	299/-	200	150	625	500	660	20	180
		160	391	C2	16	250	200	12x28	12x23	150	508	515/-	374/-	125	457	216	400	450	315	355	525	28	517	-	1077/-	299/-	200	150	625	500	660	20	180
		200	419	C2	16	250	200	12x28	12x23	150	508	515/-	374/-	125	457	216	400	450	315	355	525	28	517	-	1232/-	299/-	200	150	625	500	660	20	180
		37	367	C2	16	250	200	12x28	12x23	150	406	410/-	319/-	125	349	168	400	450	250	355	525	24	487	-	747/-	233/-	200	150	625	500	550	20	180
		45	387	C2	16	250	200	12x28	12x23	150	457	433/-	319/-	125	368	190	400	450	280	355	525	24	487	-	820/-	233/-	200	150	625	500	550	20	180
	6	55	411	C2	16	250	200	12x28	12x23	150	457	433/-	319/-	125	368	190	400	450	280	355	525	24	487	-	820/-	233/-	200	150	625	500	550	20	180
		75	447	C2	16	250	200	12x28	12x23	150	508	515/-	374/-	125	406	216	400	450	315	355	525	28	517	-	912/-	299/-	200	150	625	500	660	20	180
		90	455	C2	16	250	200	12x28	12x23	150	508	515/-	374/-	125	457	216	400	450	315	355	525	28	517	-	1077/-	299/-	200	150	625	500	660	20	180
300-250-350		75	282	C2	16	300	250	12x28	12x28	180	457	433/-	319/-	125	368	190	450	400	280	379	523	24	566	-	820/-	233/-	200	150	625	500	550	20	180
		90	302	C2	16	300	250	12x28	12x28	180	457	433/-	319/-	125	368	190	450	400	280	379	523	24	566	-	930/-	233/-	200	150	625	500	550	20	180
	4	110	326	C2	16	300	250	12x28	12x23	180	508	515/-	374/-	125	406	216	450	400	315	379	523	28	596	-	912/-	299/-	200	150	625	500	660	20	180
		132	362	C2	16	300	250	12x28	12x28	180	508	515/-	374/-	125	457	216	450	400	315	379	523	28	596	-	1077/-	299/-	200	150	625	500	660	20	180
		22	282	C2	16	300	250	12x28	12x28	180	318	315/-	265/-	125	305	133	450	400	200	379	523	19	536	-	636/-	197/-	200	150	625	500	400	20	180
		30	322	C2	16	300	250	12x28	12x28	180	356	338/-	266/-	125	286	149	450	400	225	379	523	19	566	-	708/-	197/-	200	150	625	500	450	20	180
	6	37	354	C2	16	300	250	12x28	12x28	180	406	410/-	319/-	125	349	168	450	400	250	379	523	24	566	-	747/-	233/-	200	150	625	500	550	20	180
		45	370	C2	16	300	250	12x28	12x28	180	457	433/-	319/-	125	368	190	450	400	280	379	523	24	566	-	820/-	233/-	200	150	625	500	550	20	180

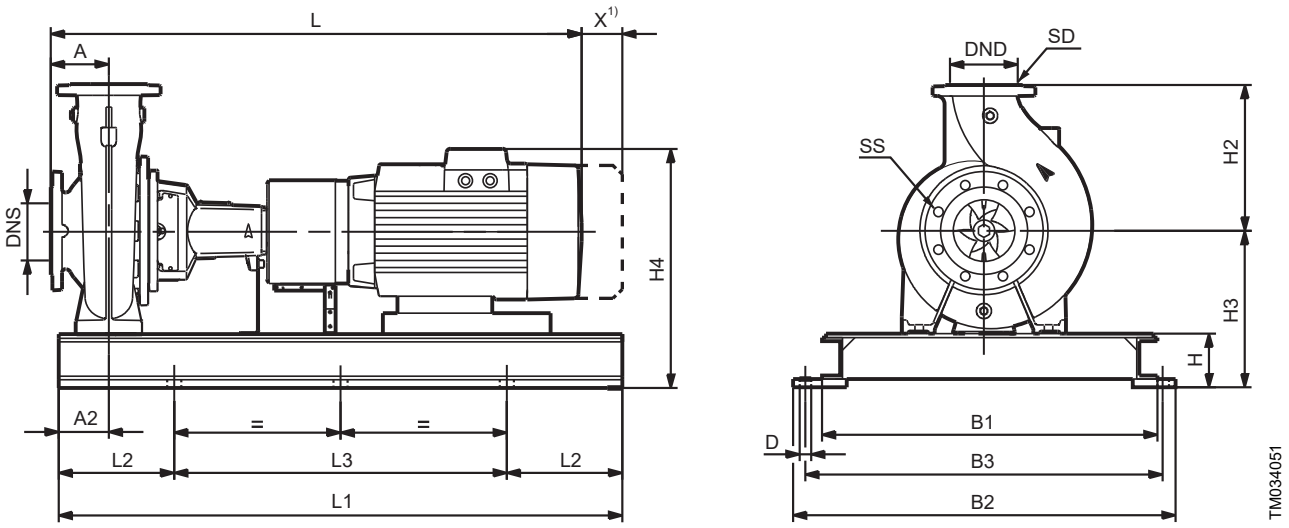
Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	Flanges					NBG dimensions [mm]																								
					PN	DNS	DND	SS	SD	A	A*	AD [38]	AG [38]	B1	B	C	H1	H2	H	G1	G2	K	LP		LB [38]	LL [38]	M1	M2	N1	N2	P	S1	X [39]
																							CI	SS										
300-250-400	4	75	277	C2	16	300	250	12x28	12x28	160	457	433/-	319/-	125	368	190	450	500	280	350	498	24	518	-	820/-	233/-	200	150	625	500	550	20	180
		90	297	C2	16	300	250	12x28	12x28	160	457	433/-	319/-	125	368	190	450	500	280	350	498	24	518	-	930/-	233/-	200	150	625	500	550	20	180
		110	313	C2	16	300	250	12x28	12x28	160	508	515/-	374/-	125	406	216	450	500	315	350	498	28	548	-	912/-	299/-	200	150	625	500	660	20	180
		132	325	C2	16	300	250	12x28	12x28	160	508	515/-	374/-	125	457	216	450	500	315	350	498	28	548	-	1077/-	299/-	200	150	625	500	660	20	180
		160	349	C2	16	300	250	12x28	12x28	160	508	515/-	374/-	125	457	216	450	500	315	350	498	28	548	-	1077/-	299/-	200	150	625	500	660	20	180
		200	373	C2	16	300	250	12x28	12x28	160	508	515/-	374/-	125	457	216	450	500	315	350	498	28	548	-	1232/-	299/-	200	150	625	500	660	20	180
		30	305	C2	16	300	250	12x28	12x28	160	356	338/-	266/-	125	286	149	450	500	225	350	498	19	518	-	708/-	197/-	200	150	625	500	450	20	180
		37	321	C2	16	300	250	12x28	12x28	160	406	410/-	319/-	125	349	168	450	500	250	350	498	24	518	-	747/-	233/-	200	150	625	500	550	20	180
		45	345	C2	16	300	250	12x28	12x28	160	457	433/-	319/-	125	368	190	450	500	280	350	498	24	518	-	820/-	233/-	200	150	625	500	550	20	180
	6	55	361	C2	16	300	250	12x28	12x28	160	457	433/-	319/-	125	368	190	450	500	280	350	498	24	518	-	820/-	233/-	200	150	625	500	550	20	180
		75	393	C2	16	300	250	12x28	12x28	160	508	515/-	374/-	125	406	216	450	500	315	350	498	28	548	-	912/-	299/-	200	150	625	500	660	20	180
		90	405	C2	16	300	250	12x28	12x28	160	508	515/-	374/-	125	457	216	450	500	315	350	498	28	548	-	1077/-	299/-	200	150	625	500	660	20	180
300-250-450	4	110	309	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	406	216	450	500	315	374	563	28	551	-	912/-	299/-	200	150	625	500	660	20	180
		132	325	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	457	216	450	500	315	374	563	28	551	-	1077/-	299/-	200	150	625	500	660	20	180
		160	345	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	457	216	450	500	315	374	563	28	551	-	1077/-	299/-	200	150	625	500	660	20	180
		200	365	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	457	216	450	500	315	374	563	28	551	-	1232/-	299/-	200	150	625	500	660	20	180
		37	321	C2	16	300	250	12x28	12x28	165	406	410/-	319/-	125	349	168	450	500	250	374	563	24	521	-	747/-	233/-	200	150	625	500	550	20	180
		45	341	C2	16	300	250	12x28	12x28	165	457	433/-	319/-	125	368	190	450	500	280	374	563	24	521	-	820/-	233/-	200	150	625	500	550	20	180
	6	55	357	C2	16	300	250	12x28	12x28	165	457	433/-	319/-	125	368	190	450	500	280	374	563	24	521	-	820/-	233/-	200	150	625	500	550	20	180
		75	393	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	406	216	450	500	315	374	563	28	551	-	912/-	299/-	200	150	625	500	660	20	180
		90	417	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	457	216	450	500	315	374	563	28	551	-	1077/-	299/-	200	150	625	500	660	20	180
		110	453	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	457	216	450	500	315	374	563	28	551	-	1077/-	299/-	200	150	625	500	660	20	180
300-250-500	6	75	405	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	406	216	450	500	315	441	598	28	574	-	912/-	299/-	200	150	725	600	660	20	180
		90	425	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	457	216	450	500	315	441	598	28	574	-	1077/-	299/-	200	150	725	600	660	20	180
		110	453	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	457	216	450	500	315	441	598	28	574	-	1077/-	299/-	200	150	725	600	660	20	180
		132	497	C2	16	300	250	12x28	12x28	165	508	515/-	374/-	125	457	216	450	500	315	441	598	28	574	-	1232/-	299/-	200	150	725	600	660	20	180
		160	525	C2	16	300	250	12x28	12x28	165	-	-/-	-/-	125	-	-	450	500	-	441	598	-	574	-	-/-	-/-	200	150	725	600	-	20	180
350-300-305	4	110	310-194	C2	16	350	300	16x28	12x28	280	508	515/-	374/-	140	406	216	480	400	315	416	560	28	653	-	912/-	299/-	215	180	640	500	660	24	280
		132	328-212	C2	16	350	300	16x28	12x28	280	508	515/-	374/-	140	457	216	480	400	315	416	560	28	653	-	1077/-	299/-	215	180	640	500	660	24	280
		160	340-240	C2	16	350	300	16x28	12x28	280	508	515/-	374/-	140	457	216	480	400	315	416	560	28	653	-	1077/-	299/-	215	180	640	500	660	24	280
		200	334	C2	16	350	300	16x28	12x28	280	508	515/-	374/-	140	508	216	480	400	315	416	560	28	653	-	1232/-	299/-	215	180	640	500	660	24	280
		250	350	C2	16	350	300	16x28	12x28	280	508	500/-	226/-	140	508	216	480	400	315	416	560	35	653	-	1232/-	307/-	215	180	640	500	800	24	280
		37	328-212	C2	16	350	300	16x28	12x28	280	406	410/-	319/-	140	349	168	480	400	250	416	560	24	623	-	747/-	233/-	215	180	640	500	550	24	280
	6	45	340-240	C2	16	350	300	16x28	12x28	280	457	433/-	319/-	140	368	190	480	400	280	416	560	24	623	-	820/-	233/-	215	180	640	500	550	24	280
		55	350-294	C2	16	350	300	16x28	12x28	280	457	433/-	319/-	140	368	190	480	400	280	416	560	24	623	-	820/-	233/-	215	180	640	500	550	24	280
		75	350	C2	16	350	300	16x28	12x28	280	508	515/-	374/-	140	406	216	480	400	315	416	560	28	653	-	912/-	299/-	215	180	640	500	660	24	280
		15	328-204	C2	16	350	300	16x28	12x28	280	318	315/-	266/-	140	305	133	480	400	200	416	560	19	593	-	636/-	197/-	215	180	640	500	400	24	280
	8	18.5	334-230	C2	16	350	300	16x28	12x28	280	356	338/-	266/-	140	286	149	480	400	225	416	560	19	623	-	648/-	197/-	215	180	640	500	450	24	280
		22	350-246	C2	16	350	300	16x28	12x28	280	356	338/-	266/-	140	286	149	480	400	225	416	560	19	623	-	648/-	197/-	215	180	640	500	450	24	280
		30	350	C2	16	350	300	16x28	12x28	280	406	410/-	319/-	140	349	168	480	400	250	416	560	24	623	-	747/-	233/-	215	180	640	500	550	24	280

Note: NBG 350-300-305 is available with PN 10 pump flanges, the PN 10 flange dimensions of Ss is 16x23, Sd is 12x23.

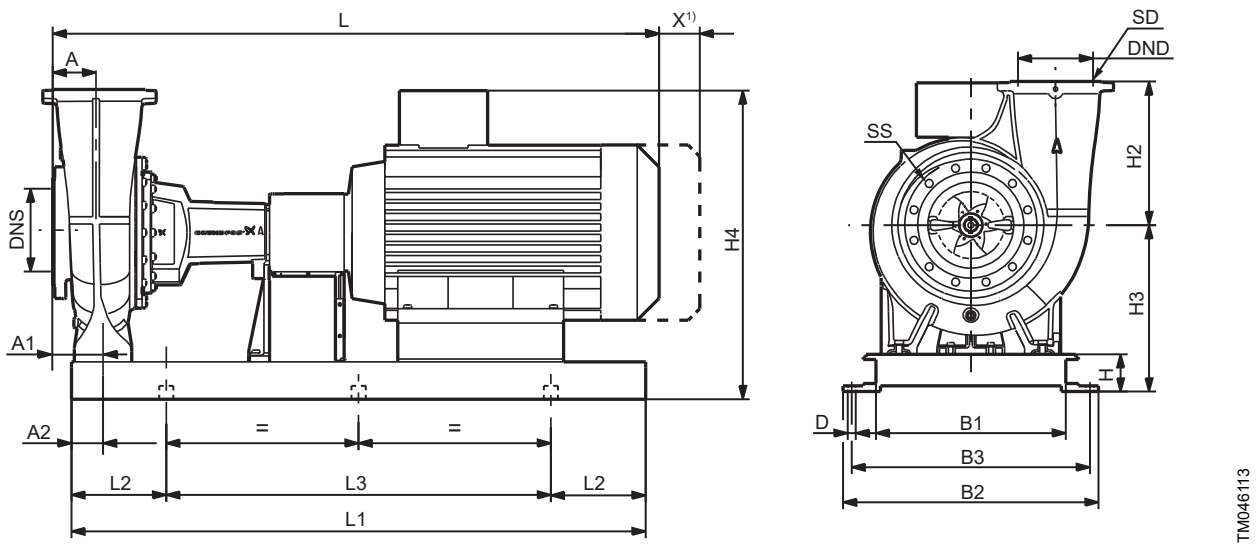
38) Pump with standard motor / pump with E-motor.

39) X: Service dimension.

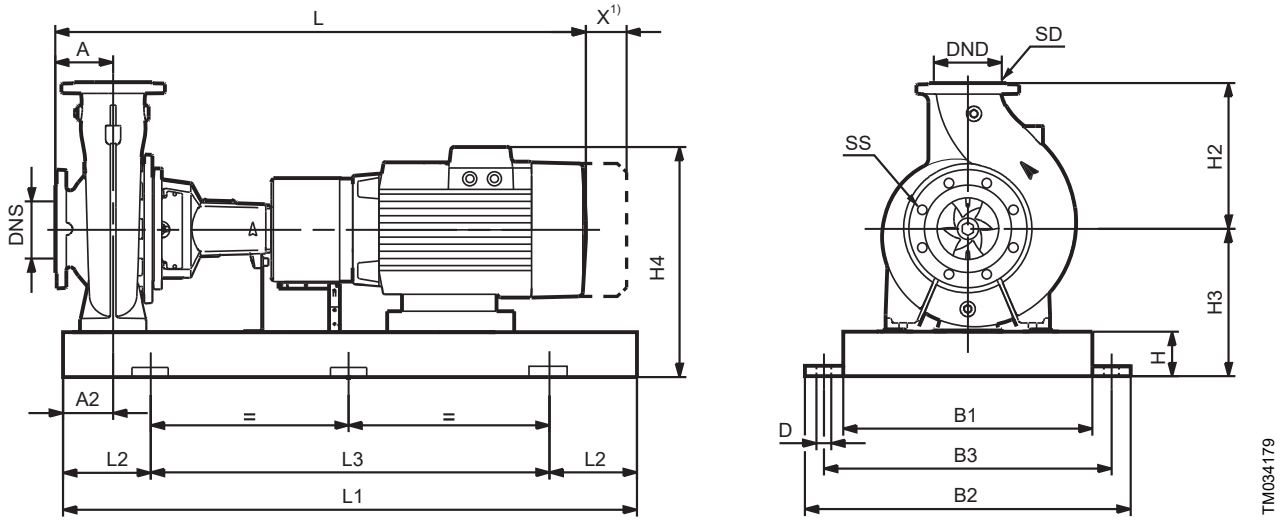
NKG, dimensional drawings



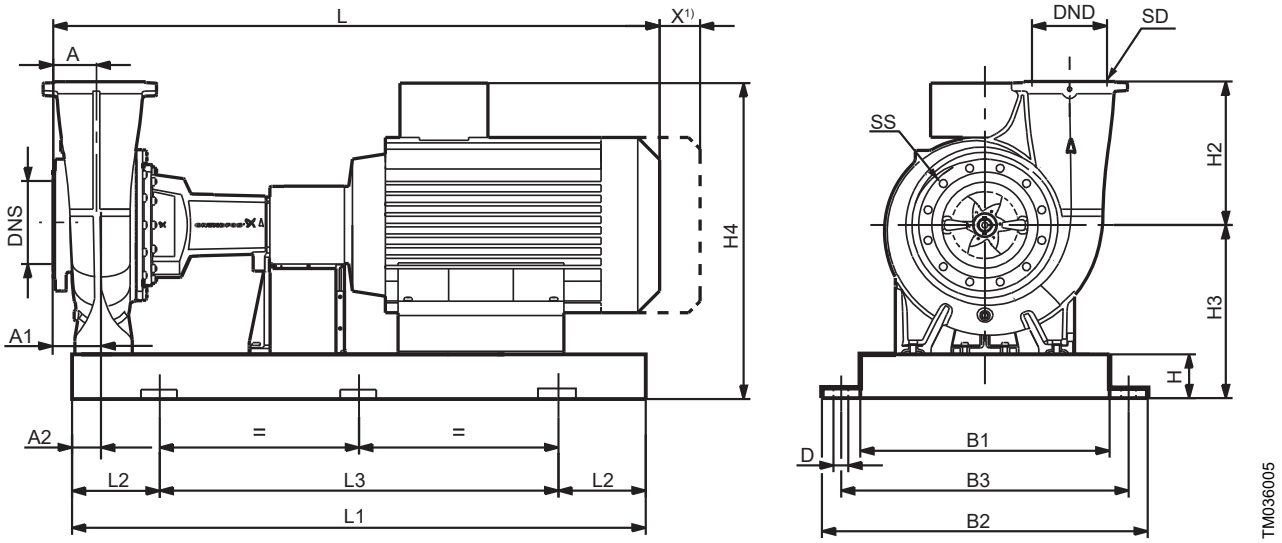
C-channel base frame, center outlet



C-channel base frame, tangential outlet

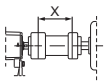


EN/ISO base frame, center outlet



EN/ISO base frame, tangential outlet

[1] X: Service dimension. This dimension can be found in section NKG bare-shaft pumps, it equals to the length of the spacer coupling.



Related information

NKG, centre-line outlet

NKG dimensions

Standard motors in this table are IE3 motors:
E-motors in this table:

- 2-pole: P2 less than or equal to 22 kW, pump with MGE motor.
- 4-pole: P2 less than or equal to 22 kW, pump with MGE motor.

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42] NKG	L [42] NKGE	EN/ISO Standard coupling	EN/ISO Spacer coupling	C- channel Standard coupling	C- channel Spacer coupling
50-32-125.1	2	1.1	95	16	50	32	4x19	4x19	80	60	140	177	286/335	760/856	783/879	2 ST	2	2	2s
		1.5	104	16	50	32	4x19	4x19	80	60	140	180	286/361	800/896	793/889	3B ST	3	5	5s
		2.2	116	16	50	32	4x19	4x19	80	60	140	180	286/361	840/936	793/889	3B ST	3	5	5s
		3	129	16	50	32	4x19	4x19	80	60	140	177	297/378	864/960	795/891	3 ST	3	9	9s
		4	140	16	50	32	4x19	4x19	80	60	140	195	329/396	901/997	795/891	4B ST	4	14	14s
	4	0.25	116	16	50	32	4x19	4x19	80	60	140	177	286/-	700/786	-/-	2 ST	2	1	1s
		0.37	132	16	50	32	4x19	4x19	80	60	140	177	286/-	700/786	-/-	2 ST	2	1	1s
		0.55	140	16	50	32	4x19	4x19	80	60	140	177	286/335	740/836	783/879	2 ST	2	2	2s
50-32-125	2	1.5	97	16	50	32	4x19	4x19	80	60	140	180	286/361	800/896	793/889	3B ST	3	5	5s
		2.2	107	16	50	32	4x19	4x19	80	60	140	180	286/361	840/936	793/889	3B ST	3	5	5s
		3	122	16	50	32	4x19	4x19	80	60	140	177	297/378	864/960	795/891	3 ST	3	9	9s
		4	130	16	50	32	4x19	4x19	80	60	140	195	329/396	901/997	795/891	4B ST	4	14	14s
		5.5	142	16	50	32	4x19	4x19	80	60	140	217	351/418	946/1036	832/922	5 ST	5	19	19s
	4	0.25	109	16	50	32	4x19	4x19	80	60	140	177	286/-	700/786	-/-	2 ST	2	1	1s
		0.37	123	16	50	32	4x19	4x19	80	60	140	177	286/-	700/786	-/-	2 ST	2	1	1s
		0.55	137	16	50	32	4x19	4x19	80	60	140	177	286/335	740/836	783/879	2 ST	2	2	2s
		0.75	142	16	50	32	4x19	4x19	80	60	140	177	283/351	790/886	743/839	3B ST	2	5	5s
50-32-160.1	2	2.2	133	16	50	32	4x19	4x19	80	60	160	212	318/393	840/936	793/889	4B ST	4	5	5s
		3	145	16	50	32	4x19	4x19	80	60	160	212	332/413	864/960	795/891	4B ST	4	9	9s
		4	156	16	50	32	4x19	4x19	80	60	160	212	346/413	901/997	795/891	4B ST	4	14	14s
		5.5	170	16	50	32	4x19	4x19	80	60	160	215	349/416	946/1036	832/922	5 ST	5	19	19s
		7.5	177	16	50	32	4x19	4x19	80	60	160	215	374/452	934/1024	856/946	5 ST	5	19	19s
	4	0.37	147	16	50	32	4x19	4x19	80	60	160	212	321/-	700/786	-/-	4B ST	4	1	1s
		0.55	160	16	50	32	4x19	4x19	80	60	160	212	321/370	740/836	783/879	4B ST	4	2	2s
		0.75	173	16	50	32	4x19	4x19	80	60	160	212	318/386	790/886	743/839	4B ST	4	5	5s
50-32-160	2	3	128	16	50	32	4x19	4x19	80	60	160	212	332/413	864/960	795/891	4B ST	4	9	9s
		4	139	16	50	32	4x19	4x19	80	60	160	212	346/413	901/997	795/891	4B ST	4	14	14s
		5.5	152	16	50	32	4x19	4x19	80	60	160	215	349/416	946/1036	832/922	5 ST	5	19	19s
		7.5	168	16	50	32	4x19	4x19	80	60	160	215	374/452	934/1024	856/946	5 ST	5	19	19s
		11	177	16	50	32	4x19	4x19	80	60	160	245	449/482	1063/1146	880/963	6B ST	6	31	31s
	4	0.37	131	16	50	32	4x19	4x19	80	60	160	212	321/-	700/786	-/-	4B ST	4	1	1s
		0.55	144	16	50	32	4x19	4x19	80	60	160	212	321/370	740/836	783/879	4B ST	4	2	2s
		0.75	158	16	50	32	4x19	4x19	80	60	160	212	318/386	790/886	743/839	4B ST	4	5	5s
		1.1	173	16	50	32	4x19	4x19	80	60	160	212	318/393	800/896	793/889	4B ST	4	5	5s
50-32-200.1	2	4	158	16	50	32	4x19	4x19	80	60	180	240	374/441	901/997	795/891	4B ST	4	14	14s
		5.5	175	16	50	32	4x19	4x19	80	60	180	240	374/441	946/1036	832/922	5 ST	5	19	19s
		7.5	192	16	50	32	4x19	4x19	80	60	180	240	399/477	934/1024	856/946	5 ST	5	19	19s
		11	207	16	50	32	4x19	4x19	80	60	180	245	449/482	1063/1146	880/963	6B ST	6	32	32s
	4	0.55	168	16	50	32	4x19	4x19	80	60	180	240	349/398	740/836	783/879	4B ST	4	3	3s
		0.75	182	16	50	32	4x19	4x19	80	60	180	240	346/414	790/886	743/839	4B ST	4	6	6s
		1.1	201	16	50	32	4x19	4x19	80	60	180	240	346/421	800/896	793/889	4B ST	4	6	6s
		1.5	207	16	50	32	4x19	4x19	80	60	180	240	350/398	840/936	735/831	4B ST	4	6	6s

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
50-32-200	2	5.5	164	16	50	32	4x19	4x19	80	60	180	240	374/441	946/1036	832/922	5 ST	5	19	19s
		7.5	179	16	50	32	4x19	4x19	80	60	180	240	399/477	934/1024	856/946	5 ST	5	19	19s
		11	197	16	50	32	4x19	4x19	80	60	180	245	449/482	1063/1146	880/963	6B ST	6	32	32s
		15	212	16	50	32	4x19	4x19	80	60	180	245	449/546	1063/1146	1063/1146	6B ST	6	32	32s
		18.5	219	16	50	32	4x19	4x19	80	60	180	245	449/546	1107/1190	1107/1190	6B ST	6	32	32s
	4	0.75	169	16	50	32	4x19	4x19	80	60	180	240	346/414	790/886	743/839	4B ST	4	6	6s
		1.1	184	16	50	32	4x19	4x19	80	60	180	240	346/421	800/896	793/889	4B ST	4	6	6s
		1.5	202	16	50	32	4x19	4x19	80	60	180	240	350/398	840/936	735/831	4B ST	4	6	6s
		2.2	219	16	50	32	4x19	4x19	80	60	180	240	360/441	864/960	795/891	4B ST	4	9	9s
50-32-250	2	11	207	16	50	32	4x19	4x19	100	75	225	260	464/497	1185/1281	1002/1098	6 ST	6	27	27s
		15	227	16	50	32	4x19	4x19	100	75	225	260	464/561	1185/1281	1185/1281	6 ST	6	27	27s
		18.5	242	16	50	32	4x19	4x19	100	75	225	260	464/561	1229/1325	1229/1325	6 ST	6	27	27s
		22	256	16	50	32	4x19	4x19	100	75	225	265	469/627	1258/1354	1255/1351	6 ST	6	34	34s
		30	262	16	50	32	4x19	4x19	100	75	225	305	620/-	1325/1421	-/-	8 ST	8	111	111s
	4	1.1	194	16	50	32	4x19	4x19	100	75	225	260	366/441	935/1031	928/1024	5 ST	5	7	7s
		1.5	213	16	50	32	4x19	4x19	100	75	225	260	370/418	975/1071	870/966	5 ST	5	7	7s
		2.2	239	16	50	32	4x19	4x19	100	75	225	260	380/461	999/1095	930/1026	5 ST	5	11	11s
		3	260	16	50	32	4x19	4x19	100	75	225	260	380/461	999/1095	930/1026	5 ST	5	11	11s
65-40-200	2	11	178	16	65	40	4x19	4x19	100	60	180	245	449/482	1083/1166	900/983	6 ST	6	32	32s
		15	193	16	65	40	4x19	4x19	100	60	180	245	449/546	1083/1166	1083/1166	6 ST	6	32	32s
		18.5	206	16	65	40	4x19	4x19	100	60	180	245	449/546	1127/1210	1127/1210	6 ST	6	32	32s
		22	216	16	65	40	4x19	4x19	100	60	180	265	469/627	1164/1239	1161/1236	6 ST	6	33	33s
		30	219	16	65	40	4x19	4x19	100	60	180	310	625/-	1231/1306	-/-	8 ST	8	41	41s
	4	1.1	168	16	65	40	4x19	4x19	100	60	180	240	346/421	820/916	813/909	4B ST	4	6	6s
		1.5	182	16	65	40	4x19	4x19	100	60	180	240	350/398	860/956	755/851	4B ST	4	6	6s
		2.2	205	16	65	40	4x19	4x19	100	60	180	240	360/441	884/980	815/911	4B ST	4	9	9s
		3	217	16	65	40	4x19	4x19	100	60	180	240	360/441	884/980	815/911	4B ST	4	9	9s
65-40-250	2	15	193	16	65	40	4x19	4x19	100	75	225	260	464/561	1185/1281	1185/1281	6 ST	6	27	27s
		18.5	206	16	65	40	4x19	4x19	100	75	225	260	464/561	1229/1325	1229/1325	6 ST	6	27	27s
		22	215	16	65	40	4x19	4x19	100	75	225	265	469/627	1258/1354	1255/1351	6 ST	6	34	34s
		30	236	16	65	40	4x19	4x19	100	75	225	305	620/-	1325/1421	-/-	8 ST	8	111	111s
		37	252	16	65	40	4x19	4x19	100	75	225	305	620/-	1350/1446	-/-	8 ST	8	111	111s
		45	260	16	65	40	4x19	4x19	100	75	225	330	668/-	1422/1518	-/-	8B ST	8	51	51s
	4	2.2	207	16	65	40	4x19	4x19	100	75	225	260	380/461	999/1095	930/1026	5 ST	5	11	11s
		3	223	16	65	40	4x19	4x19	100	75	225	260	380/461	999/1095	930/1026	5 ST	5	11	11s
		4	246	16	65	40	4x19	4x19	100	75	225	260	394/461	1036/1132	930/1026	5B ST	5	16	16s
		5.5	260	16	65	40	4x19	4x19	100	75	225	260	419/497	1063/1159	985/1081	5B ST	5	21	21s
65-40-315	2	37	271	16	65	40	4x19	4x19	125	75	250	305	620/-	1375/1471	-/-	8 ST	8	111	111s
		45	285	16	65	40	4x19	4x19	125	75	250	330	668/-	1447/1543	-/-	8B ST	8	52	52s
		55	303	25	65	40	4x19	4x19	125	75	250	360	770/-	1516/1612	-/-	9C ST	9C	60	60s
		75	332	25	65	40	4x19	4x19	125	75	250	420	853/-	1589/1685	-/-	10C ST	10	73	73s
		90	344	25	65	40	4x19	4x19	125	75	250	415	848/-	1699/1795	-/-	10C ST	10	69	69s
	4	5.5	284	16	65	40	4x19	4x19	125	75	250	280	439/517	1088/1184	1009/1105	6 ST	6	21	21s
		7.5	313	16	65	40	4x19	4x19	125	75	250	280	439/517	1138/1234	1009/1105	6 ST	6	21	21s
		11	344	16	65	40	4x19	4x19	125	75	250	280	484/581	1284/1380	1210/1306	6 ST	6	27	27s

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
65-50-125	2	3	110	16	65	50	4x19	4x19	80	60	140	177	297/378	864/960	797/893	3 ST	3	9	9s
		4	118	16	65	50	4x19	4x19	80	60	140	195	329/396	901/997	797/893	4B ST	4	14	14s
		5.5	131	16	65	50	4x19	4x19	80	60	140	217	351/418	946/1036	834/924	5 ST	5	19	19s
		7.5	140	16	65	50	4x19	4x19	80	60	140	217	376/454	934/1024	858/948	5 ST	5	19	19s
		11	142	16	65	50	4x19	4x19	80	60	140	245	449/482	1063/1146	882/965	6B ST	6	31	31s
	4	0.37	111	16	65	50	4x19	4x19	80	60	140	177	286/-	700/786	-/-	3B ST	3	1	1s
		0.55	123	16	65	50	4x19	4x19	80	60	140	177	286/335	740/836	783/879	3B ST	3	2	2s
		0.75	133	16	65	50	4x19	4x19	80	60	140	177	283/351	790/886	743/839	3B ST	3	5	5s
		1.1	142	16	65	50	4x19	4x19	80	60	140	180	286/361	800/896	793/889	3B ST	3	5	5s
65-50-160	2	5.5	131	16	65	50	4x19	4x19	80	60	160	215	349/416	946/1036	834/924	5 ST	5	19	19s
		7.5	143	16	65	50	4x19	4x19	80	60	160	215	374/452	934/1024	858/948	5 ST	5	19	19s
		11	162	16	65	50	4x19	4x19	80	60	160	245	449/482	1063/1146	882/965	6B ST	6	31	31s
		15	177	16	65	50	4x19	4x19	80	60	160	245	449/546	1063/1146	1063/1146	6B ST	6	31	31s
	4	0.55	125	16	65	50	4x19	4x19	80	60	160	212	321/370	740/836	783/879	4B ST	4	2	2s
		0.75	138	16	65	50	4x19	4x19	80	60	160	212	318/386	790/886	743/839	4B ST	4	5	5s
		1.1	153	16	65	50	4x19	4x19	80	60	160	212	318/393	800/896	793/889	4B ST	4	5	5s
		1.5	168	16	65	50	4x19	4x19	80	60	160	212	322/370	840/936	737/833	4B ST	4	5	5s
		2.2	177	16	65	50	4x19	4x19	80	60	160	212	332/413	864/960	797/893	4B ST	4	9	9s
80-50-200	2	15	167	16	80	50	8x19	4x19	100	60	200	245	449/546	1083/1166	1083/1166	6 ST	6	32	32s
		18.5	178	16	80	50	8x19	4x19	100	60	200	245	449/546	1127/1210	1127/1210	6 ST	6	32	32s
		22	187	16	80	50	8x19	4x19	100	60	200	265	469/627	1164/1239	1161/1236	6 ST	6	33	33s
		30	205	16	80	50	8x19	4x19	100	60	200	310	625/-	1231/1306	-/-	8 ST	8	41	41s
		37	218	16	80	50	8x19	4x19	100	60	200	310	625/-	1256/1331	-/-	8 ST	8	41	41s
		45	219	16	80	50	8x19	4x19	100	60	200	330	668/-	1328/1403	-/-	8B ST	8	55	55s
	4	2.2	178	16	80	50	8x19	4x19	100	60	200	240	360/441	884/980	815/911	4B ST	4	9	9s
		3	191	16	80	50	8x19	4x19	100	60	200	240	360/441	884/980	815/911	4B ST	4	9	9s
		4	210	16	80	50	8x19	4x19	100	60	200	240	374/441	921/1017	815/911	4B ST	4	14	14s
		5.5	219	16	80	50	8x19	4x19	100	60	200	240	399/477	954/1044	876/966	5 ST	5	19	19s
80-50-250	2	30	213	16	80	50	8x19	4x19	125	75	225	305	620/-	1350/1446	-/-	8 ST	8	111	111s
		37	229	16	80	50	8x19	4x19	125	75	225	305	620/-	1375/1471	-/-	8 ST	8	111	111s
		45	242	16	80	50	8x19	4x19	125	75	225	330	668/-	1447/1543	-/-	8B ST	8	51	51s
		55	257	16	80	50	8x19	4x19	125	75	225	355	765/-	1516/1612	-/-	9C ST	9	59	59s
		75	263	16	80	50	8x19	4x19	125	75	225	415	848/-	1589/1685	-/-	10C ST	10	72	72s
	4	4	221	16	80	50	8x19	4x19	125	75	225	260	394/461	1061/1157	955/1051	5B ST	5	16	16s
		5.5	244	16	80	50	8x19	4x19	125	75	225	260	419/497	1088/1184	1010/1106	5B ST	5	21	21s
		7.5	263	16	80	50	8x19	4x19	125	75	225	260	419/497	1138/1234	1010/1106	5B ST	5	21	21s
80-50-315	2	55	271	16	80	50	8x19	8x19	125	75	280	355	765/-	1516/1612	-/-	9C ST	9	60	60s
		75	297	25	80	50	8x19	8x19	125	75	280	415	848/-	1589/1685	-/-	10C ST	10	73	73s
		90	314	25	80	50	8x19	8x19	125	75	280	415	848/-	1699/1795	-/-	10C ST	10	69	69s
		110	333	25	80	50	8x19	8x19	125	75	280	450	965/-	1681/1777	-/-	10C ST	10	76	76s
	4	5.5	256	16	80	50	8x19	4x19	125	75	280	305	464/542	1088/1184	1009/1105	6 ST	6	22	22s
		7.5	283	16	80	50	8x19	4x19	125	75	280	305	464/542	1138/1234	1009/1105	6 ST	6	22	22s
		11	314	16	80	50	8x19	4x19	125	75	280	305	509/606	1284/1380	1210/1306	6 ST	6	28	28s
		15	344	16	80	50	8x19	4x19	125	75	280	305	509/606	1314/1410	1254/1350	6 ST	6	28	28s

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
80-65-125	2	4	105	16	80	65	8x19	4x19	100	60	160	212	346/413	921/1017	815/911	4B ST	4	14	14s
		5.5	113	16	80	65	8x19	4x19	100	60	160	215	349/416	966/1056	852/942	5 ST	5	19	19s
		7.5	124	16	80	65	8x19	4x19	100	60	160	215	374/452	954/1044	876/966	5 ST	5	19	19s
		11	140	16	80	65	8x19	4x19	100	60	160	245	449/482	1083/1166	900/983	6B ST	6	31	31s
		15	144	16	80	65	8x19	4x19	100	60	160	245	449/546	1083/1166	1083/1166	6B ST	6	31	31s
	4	0.55	105	16	80	65	8x19	4x19	100	60	160	212	321/370	760/856	803/899	4B ST	4	2	2s
		0.75	116	16	80	65	8x19	4x19	100	60	160	212	318/386	810/906	763/859	4B ST	4	5	5s
		1.1	127	16	80	65	8x19	4x19	100	60	160	212	318/393	820/916	813/909	4B ST	4	5	5s
		1.5	143	16	80	65	8x19	4x19	100	60	160	212	322/370	860/956	755/851	4B ST	4	5	5s
80-65-160	2	7.5	127	16	80	65	8x19	4x19	100	60	180	240	399/477	954/1044	876/966	5 ST	5	19	19s
		11	141	16	80	65	8x19	4x19	100	60	180	245	449/482	1083/1166	900/983	6 ST	6	32	32s
		15	154	16	80	65	8x19	4x19	100	60	180	245	449/546	1083/1166	1083/1166	6 ST	6	32	32s
		18.5	165	16	80	65	8x19	4x19	100	60	180	245	449/546	1127/1210	1127/1210	6 ST	6	32	32s
		22	177	16	80	65	8x19	4x19	100	60	180	265	469/627	1164/1239	1161/1236	6 ST	6	33	33s
	4	1.1	134	16	80	65	8x19	4x19	100	60	180	240	346/421	820/916	813/909	4B ST	4	6	6s
		1.5	146	16	80	65	8x19	4x19	100	60	180	240	350/398	860/956	755/851	4B ST	4	6	6s
		2.2	162	16	80	65	8x19	4x19	100	60	180	240	360/441	884/980	815/911	4B ST	4	9	9s
		3	175	16	80	65	8x19	4x19	100	60	180	240	360/441	884/980	815/911	4B ST	4	9	9s
100-65-200	2	18.5	156	16	100	65	8x19	4x19	100	75	225	280	484/581	1229/1365	1229/1365	7B ST	7	27	27s
		22	164	16	100	65	8x19	4x19	100	75	225	285	489/647	1258/1394	1255/1391	7B ST	7	34	34s
		30	184	16	100	65	8x19	4x19	100	75	225	305	620/-	1325/1461	-/-	8 ST	8	111	111s
		37	195	16	100	65	8x19	4x19	100	75	225	305	620/-	1350/1486	-/-	8 ST	8	111	111s
		45	206	16	100	65	8x19	4x19	100	75	225	330	668/-	1422/1558	-/-	8B ST	8	51	51s
		55	217	16	100	65	8x19	4x19	100	75	225	355	765/-	1491/1627	-/-	9C ST	9	59	59s
	4	3	173	16	100	65	8x19	4x19	100	75	225	260	380/461	999/1135	930/1066	5 ST	5	11	11s
		4	186	16	100	65	8x19	4x19	100	75	225	260	394/461	1036/1172	930/1066	5B ST	5	16	16s
		5.5	207	16	100	65	8x19	4x19	100	75	225	260	419/497	1063/1199	985/1121	5B ST	5	21	21s
		7.5	219	16	100	65	8x19	4x19	100	75	225	260	419/497	1113/1249	985/1121	6 ST	6	21	21s
100-65-250	2	45	212	16	100	65	8x19	4x19	125	90	250	330	668/-	1447/1583	-/-	8 ST	8	52	52s
		55	226	16	100	65	8x19	4x19	125	90	250	360	770/-	1516/1652	-/-	9C ST	9	60	60s
		75	248	16	100	65	8x19	4x19	125	90	250	415	848/-	1589/1725	-/-	10C ST	10	73	73s
		90	263	16	100	65	8x19	4x19	125	90	250	415	848/-	1699/1835	-/-	10C ST	10	69	69s
		110	270	16	100	65	8x19	4x19	125	90	250	450	965/-	1681/1817	-/-	10C ST	10	76	76s
	4	5.5	215	16	100	65	8x19	4x19	125	90	250	280	439/517	1088/1224	1009/1145	6 ST	6	21	21s
		7.5	238	16	100	65	8x19	4x19	125	90	250	280	439/517	1138/1274	1009/1145	6 ST	6	21	21s
		11	265	16	100	65	8x19	4x19	125	90	250	280	484/581	1284/1420	1210/1346	7B ST	6	27	27s
		15	270	16	100	65	8x19	4x19	125	90	250	300	504/601	1314/1450	1254/1390	7B ST	7	27	27s
100-65-315	2	90	269	25	100	65	8x19	4x19	125	90	280	415	848/-	1729/1865	-/-	10C ST	10	69	69s
		110	284	25	100	65	8x19	4x19	125	90	280	455	970/-	1711/1847	-/-	10C ST	10	76	76s
		132	298	25	100	65	8x19	4x19	125	90	280	455	970/-	1876/2012	-/-	10C ST	10	76	76s
		160	313	25	100	65	8x19	4x19	125	90	280	455	970/-	1876/2012	-/-	10C ST	10	82	82s
		200	320	25	100	65	8x19	4x19	125	90	280	455	970/-	2031/2167	-/-	10C ST	10	82	82s
	4	7.5	242	16	100	65	8x19	4x19	125	90	280	325	484/562	1168/1304	1039/1175	7 ST	7	22	22As
		11	270	16	100	65	8x19	4x19	125	90	280	325	529/626	1314/1450	1240/1376	7B ST	7	28	28As
		15	290	16	100	65	8x19	4x19	125	90	280	325	529/626	1344/1480	1284/1420	7B ST	7	28	28As
		18.5	305	16	100	65	8x19	4x19	125	90	280	325	611/- [43]	1327/1463	-/- [43]	7B ST	7	35	35As
		22	320	16	100	65	8x19	4x19	125	90	280	325	611/- [43]	1357/1493	-/- [43]	7B ST	7	35	35As

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
100-80-125	2	7.5	120-110	16	100	80	8x19	8x19	100	75	180	240	399/477	954/1044	876/966	5 ST	5	19	19s
		11	130	16	100	80	8x19	8x19	100	75	180	245	449/482	1083/1166	900/983	6 ST	6	32	32s
		15	141	16	100	80	8x19	8x19	100	75	180	245	449/546	1083/1166	1083/1166	6 ST	6	32	32s
		18.5	144	16	100	80	8x19	8x19	100	75	180	245	449/546	1127/1210	1127/1210	6 ST	6	32	32s
	4	1.1	121	16	100	80	8x19	8x19	100	75	180	240	346/421	820/916	813/909	4B ST	4	6	6s
		1.5	132	16	100	80	8x19	8x19	100	75	180	240	350/398	860/956	755/851	4B ST	4	6	6s
		2.2	144	16	100	80	8x19	8x19	100	75	180	240	360/441	884/980	815/911	4B ST	4	9	9s
100-80-160	2	11	136	16	100	80	8x19	8x19	100	75	200	245	449/482	1185/1281	1002/1098	6 ST	6	27	27s
		15	147	16	100	80	8x19	8x19	100	75	200	245	449/546	1185/1281	1185/1281	6 ST	6	27	27s
		18.5	155	16	100	80	8x19	8x19	100	75	200	245	449/546	1229/1325	1229/1325	6 ST	6	27	27s
		22	163	16	100	80	8x19	8x19	100	75	200	265	469/627	1258/1354	1255/1351	6 ST	6	34	34s
		30	177	16	100	80	8x19	8x19	100	75	200	310	625/-	1325/1421	-/-	8 ST	8	111	111s
	4	1.5	140	16	100	80	8x19	8x19	100	75	200	240	350/398	975/1071	870/966	4B ST	4	7	7s
		2.2	156	16	100	80	8x19	8x19	100	75	200	240	360/441	999/1095	930/1026	5 ST	5	11	11s
		3	169	16	100	80	8x19	8x19	100	75	200	240	360/441	999/1095	930/1026	5 ST	5	11	11s
		4	177	16	100	80	8x19	8x19	100	75	200	240	374/441	1036/1132	930/1026	5B ST	5	16	16s
125-80-160	2	22	150-130	16	125	80	8x19	8x19	125	75	225	285	489/647	1283/1419	1280/1416	7B ST	7	34	34s
		30	156	16	125	80	8x19	8x19	125	75	225	305	620/-	1350/1486	-/-	8 ST	8	111	111s
		37	165	16	125	80	8x19	8x19	125	75	225	305	620/-	1375/1511	-/-	8 ST	8	111	111s
		45	174	16	125	80	8x19	8x19	125	75	225	330	668/-	1447/1583	-/-	8B ST	8	51	51s
		55	177	16	125	80	8x19	8x19	125	75	225	355	765/-	1516/1652	-/-	9C ST	9	59	59s
	4	3	150	16	125	80	8x19	8x19	125	75	225	260	380/461	1024/1160	955/1091	5 ST	5	11	11s
		4	161	16	125	80	8x19	8x19	125	75	225	260	394/461	1061/1197	955/1091	5B ST	5	16	16s
		5.5	177	16	125	80	8x19	8x19	125	75	225	260	419/497	1088/1224	1010/1146	5B ST	5	21	21s
125-80-200	2	37	169	16	125	80	8x19	8x19	125	75	250	305	620/-	1375/1511	-/-	8 ST	8	111	111s
		45	179	16	125	80	8x19	8x19	125	75	250	330	668/-	1447/1583	-/-	8B ST	8	51	51s
		55	192	16	125	80	8x19	8x19	125	75	250	355	765/-	1516/1652	-/-	9C ST	9	59	59s
		75	207	16	125	80	8x19	8x19	125	75	250	415	848/-	1589/1725	-/-	10C ST	10	72	72s
		90	222	16	125	80	8x19	8x19	125	75	250	415	848/-	1699/1835	-/-	10C ST	10	70	70s
	4	4	167	16	125	80	8x19	8x19	125	75	250	260	394/461	1061/1197	954/1090	6 ST	6	16	16s
		5.5	184	16	125	80	8x19	8x19	125	75	250	260	419/497	1088/1224	1009/1145	6 ST	6	21	21s
		7.5	202	16	125	80	8x19	8x19	125	75	250	260	419/497	1138/1274	1009/1145	6 ST	6	21	21s
		11	222	16	125	80	8x19	8x19	125	75	250	260	464/561	1284/1420	1210/1346	7B ST	6	27	27s
125-80-250	2	75	218	16	125	80	8x19	8x19	125	90	280	415	848/-	1589/1725	-/-	10C ST	10	73	73s
		90	230	16	125	80	8x19	8x19	125	90	280	415	848/-	1699/1835	-/-	10C ST	10	69	69s
		110	244	16	125	80	8x19	8x19	125	90	280	455	970/-	1681/1817	-/-	10C ST	10	76	76s
		132	259	16	125	80	8x19	8x19	125	90	280	455	970/-	1846/1982	-/-	10C ST	10	76	76s
		160	270	16	125	80	8x19	8x19	125	90	280	455	970/-	1846/1982	-/-	10C ST	10	76	76s
	4	7.5	211	16	125	80	8x19	8x19	125	90	280	325	484/562	1138/1274	1009/1145	7 ST	7	22	22As
		11	234	16	125	80	8x19	8x19	125	90	280	325	529/626	1284/1420	1210/1346	7B ST	7	28	28s
		15	255	16	125	80	8x19	8x19	125	90	280	325	529/626	1314/1450	1254/1390	7B ST	7	28	28s
		18.5	270	16	125	80	8x19	8x19	125	90	280	325	611/- [43]	1297/1433	-/- [43]	7B ST	7	35	35s

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
125-80-315	2	132	267	16	125	80	8x19	8x19	125	90	315	450	965/-	1876/2012	-/-	10C ST	10	76	76s
		160	285	16	125	80	8x19	8x19	125	90	315	450	965/-	1876/2012	-/-	10C ST	10	82	82s
		200	304	25	125	80	8x19	8x19	125	90	315	450	965/-	2031/2167	-/-	10C ST	10	82	82s
		280	334	25	125	80	8x19	8x19	125	90	315	460	1030/-	2031/2167	-/-	10C ST	-	97	97s
	4	18.5	275	16	125	80	8x19	8x19	125	90	315	350	636/- [43]	1327/1463	-/- [43]	7B ST	7	35	35As
		22	287	16	125	80	8x19	8x19	125	90	315	350	636/- [43]	1357/1493	-/- [43]	7B ST	7	35	35As
		30	314	16	125	80	8x19	8x19	125	90	315	355	670/-	1405/1541	-/-	8 ST	8	42	42As
		37	332	16	125	80	8x19	8x19	125	90	315	350	688/-	1447/1583	-/-	8B ST	8	52	52s
		45	334	16	125	80	8x19	8x19	125	90	315	350	688/-	1507/1643	-/-	8B ST	8	52	52s
125-80-400	4	30	342	16	125	80	8x19	8x19	125	90	355	380	695/-	1405/1541	-/-	8 ST	8	43	43s
		37	362	16	125	80	8x19	8x19	125	90	355	380	718/-	1447/1583	-/-	8B ST	8	53	53s
		45	380	16	125	80	8x19	8x19	125	90	355	380	718/-	1507/1643	-/-	8B ST	8	53	53s
		55	401	16	125	80	8x19	8x19	125	90	355	380	790/-	1546/1682	-/-	9B ST	9	61	61s
		75	437	16	125	80	8x19	8x19	125	90	355	415	848/-	1619/1755	-/-	10A ST	10	68	68s
		90	438	16	125	80	8x19	8x19	125	90	355	415	848/-	1729/1865	-/-	10A ST	10	68	68s
125-100-160	2	30	160-140	16	125	100	8x19	8x19	125	90	280	305	620/-	1231/1346	-/-	8 ST	8	111	111s
		37	167	16	125	100	8x19	8x19	125	90	280	305	620/-	1256/1371	-/-	8 ST	8	111	111s
		45	174	16	125	100	8x19	8x19	125	90	280	305	668/-	1328/1443	-/-	8 ST	8	52	52s
	4	4	160-140	16	125	100	8x19	8x19	125	90	280	280	414/481	1061/1197	955/1091	6 ST	6	16	16s
		5.5	169	16	125	100	8x19	8x19	125	90	280	280	439/517	1088/1224	1010/1146	6 ST	6	21	21s
		7.5	176	16	125	100	8x19	8x19	125	90	280	280	439/517	1138/1274	1010/1146	6 ST	6	21	21s
	6	1.1	160-140	16	125	100	8x19	8x19	125	90	280	280	408/-	1005/1141	-/-	6 ST	6	110	110s
		1.5	169	16	125	100	8x19	8x19	125	90	280	280	446/-	1025/1161	-/-	6 ST	6	11	11s
		2.2	176	16	125	100	8x19	8x19	125	90	280	280	457/-	1043/1179	-/-	6 ST	6	16	16s
125-100-200	2	55	173	16	125	100	8x19	8x19	125	90	280	360	770/-	1516/1652	-/-	9C ST	9	60	60s
		75	192	16	125	100	8x19	8x19	125	90	280	415	848/-	1589/1725	-/-	10C ST	10	73	73s
		90	201	16	125	100	8x19	8x19	125	90	280	415	848/-	1699/1835	-/-	10C ST	10	69	69s
		110	212	16	125	100	8x19	8x19	125	90	280	450	965/-	1681/1817	-/-	10C ST	10	76	76s
		132	219	16	125	100	8x19	8x19	125	90	280	450	965/-	1846/1982	-/-	10C ST	10	76	76s
	4	5.5	164	16	125	100	8x19	8x19	125	90	280	280	439/517	1088/1224	1009/1145	6 ST	6	21	21s
		7.5	182	16	125	100	8x19	8x19	125	90	280	280	439/517	1138/1274	1009/1145	6 ST	6	21	21s
		11	201	16	125	100	8x19	8x19	125	90	280	280	484/581	1284/1420	1210/1346	7B ST	6	27	27s
		15	217	16	125	100	8x19	8x19	125	90	280	300	504/601	1314/1450	1254/1390	7B ST	7	27	27s
		18.5	219	16	125	100	8x19	8x19	125	90	280	300	586/- [43]	1297/1433	-/- [43]	7B ST	7	34	34s
	6	1.5	164	16	125	100	8x19	8x19	125	90	280	280	446/-	1025/1161	-/-	6 ST	6	11	11s
		2.2	183	16	125	100	8x19	8x19	125	90	280	280	457/-	1043/1179	-/-	6 ST	6	16	16s
		3	198	16	125	100	8x19	8x19	125	90	280	280	482/-	1094/1230	-/-	6 ST	6	21	21s
		4	214	16	125	100	8x19	8x19	125	90	280	280	482/-	1094/1230	-/-	6 ST	6	21	21s
		5.5	219	16	125	100	8x19	8x19	125	90	280	280	482/-	1144/1280	-/-	6 ST	6	21	21s
125-100-250	2	110	217	16	125	100	8x19	8x19	140	90	280	455	970/-	1726/1862	-/-	10C ST	10	76	76s
		132	231	16	125	100	8x19	8x19	140	90	280	455	970/-	1891/2027	-/-	10C ST	10	76	76s
		160	243	16	125	100	8x19	8x19	140	90	280	455	970/-	1891/2027	-/-	10C ST	10	82	82s
		200	269	16	125	100	8x19	8x19	140	90	280	455	970/-	2046/2182	-/-	10C ST	10	82	82s
	4	15	223	16	125	100	8x19	8x19	140	90	280	325	529/626	1359/1495	1299/1435	7B ST	7	28	28As
		18.5	236	16	125	100	8x19	8x19	140	90	280	325	611/- [43]	1342/1478	-/- [43]	7B ST	7	35	35As
		22	249	16	125	100	8x19	8x19	140	90	280	325	611/- [43]	1372/1508	-/- [43]	7B ST	7	35	35As
		30	274	16	125	100	8x19	8x19	140	90	280	325	640/-	1420/1556	-/-	8 ST	8	42	42As
	6	4	216	16	125	100	8x19	8x19	140	90	280	325	527/-	1139/1275	-/-	7 ST	7	22	22As
		5.5	238	16	125	100	8x19	8x19	140	90	280	325	527/-	1189/1325	-/-	7 ST	7	22	22As
		7.5	274	16	125	100	8x19	8x19	140	90	280	325	562/-	1278/1414	-/-	7B ST	7	28	28As

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
125-100-315	4	22	264	16	125	100	8x19	8x19	140	90	315	350	636/- [43]	1372/1508	-/- [43]	7B ST	7	35	35As
		30	290	16	125	100	8x19	8x19	140	90	315	355	670/-	1420/1556	-/-	8 ST	8	42	42As
		37	309	16	125	100	8x19	8x19	140	90	315	350	688/-	1462/1598	-/-	8B ST	8	52	52s
		45	329	16	125	100	8x19	8x19	140	90	315	350	688/-	1522/1658	-/-	8B ST	8	52	52s
		55	334	16	125	100	8x19	8x19	140	90	315	355	765/-	1561/1697	-/-	9B ST	9	60	60s
	6	7.5	276	16	125	100	8x19	8x19	140	90	315	350	587/-	1278/1414	-/-	7B ST	7	28	28As
		11	310	16	125	100	8x19	8x19	140	90	315	350	587/-	1338/1474	-/-	7B ST	7	28	28As
		15	334	16	125	100	8x19	8x19	140	90	315	350	636/-	1372/1508	-/-	7B ST	7	35	35As
125-100-400	4	37	320	16	125	100	8x19	8x19	140	110	355	380	718/-	1462/1598	-/-	9B ST	9	53	53s
		45	346	16	125	100	8x19	8x19	140	110	355	380	718/-	1522/1658	-/-	9B ST	9	53	53s
		55	365	16	125	100	8x19	8x19	140	110	355	380	790/-	1561/1697	-/-	9B ST	9	61	61s
		75	395	16	125	100	8x19	8x19	140	110	355	415	848/-	1634/1770	-/-	10A ST	10	68	68s
		90	415	16	125	100	8x19	8x19	140	110	355	415	848/-	1744/1880	-/-	10A ST	10	68	68s
	6	11	315	16	125	100	8x19	8x19	140	110	355	380	617/-	1338/1474	-/-	9 ST	9	29	29s
		15	340	16	125	100	8x19	8x19	140	110	355	380	669/-	1372/1508	-/-	9 ST	9	36	36s
		18.5	370	16	125	100	8x19	8x19	140	110	355	380	695/-	1395/1531	-/-	9 ST	9	43	43s
		22	385	16	125	100	8x19	8x19	140	110	355	380	695/-	1420/1556	-/-	9 ST	9	43	43s
		30	415	16	125	100	8x19	8x19	140	110	355	380	718/-	1522/1658	-/-	9B ST	9	53	53s
150-125-200	4	11	176-154	16	150	125	8x23	8x19	140	90	315	350	554/651	1299/1435	1225/1361	7B ST	7	28	28s
		15	200	16	150	125	8x23	8x19	140	90	315	350	554/651	1329/1465	1269/1405	7B ST	7	28	28s
		18.5	216	16	150	125	8x23	8x19	140	90	315	350	636/- [43]	1312/1448	-/- [43]	7B ST	7	35	35s
		22	226	16	150	125	8x23	8x19	140	90	315	350	636/- [43]	1342/1478	-/- [43]	7B ST	7	35	35s
	6	3	176-154	16	150	125	8x23	8x19	140	90	315	350	552/-	1109/1245	-/-	7 ST	7	22	22As
		4	196-184	16	150	125	8x23	8x19	140	90	315	350	552/-	1109/1245	-/-	7 ST	7	22	22As
		5.5	215	16	150	125	8x23	8x19	140	90	315	350	552/-	1159/1295	-/-	7 ST	7	22	22As
		7.5	226	16	150	125	8x23	8x19	140	90	315	350	587/-	1248/1384	-/-	7B ST	7	28	28s
150-125-250	2	160	226	16	150	125	8x23	8x19	140	90	355	450	965/-	1891/2027	-/-	10C ST	10	82	82s
		200	242	16	150	125	8x23	8x19	140	90	355	450	965/-	2046/2182	-/-	10C ST	10	82	82s
		280	258	16	150	125	8x23	8x19	140	90	355	460	960/-	2046/2182	-/-	10C ST	-	97	97s
		353	269	16	150	125	8x23	8x19	140	90	355	460	960/-	2046/2182	-/-	10C ST	-	97	97s
	4	18.5	214	16	150	125	8x23	8x19	140	90	355	350	636/- [43]	1342/1478	-/- [43]	7B ST	7	35	35As
		22	224	16	150	125	8x23	8x19	140	90	355	350	636/- [43]	1372/1508	-/- [43]	7B ST	7	35	35As
		30	243	16	150	125	8x23	8x19	140	90	355	355	670/-	1420/1556	-/-	8 ST	8	42	42As
		37	258	16	150	125	8x23	8x19	140	90	355	350	688/-	1462/1598	-/-	8B ST	8	52	52s
		45	269	16	150	125	8x23	8x19	140	90	355	350	688/-	1522/1658	-/-	8B ST	8	52	52s
	6	5.5	217	16	150	125	8x23	8x19	140	90	355	350	552/-	1189/1325	-/-	7 ST	7	22	22As
		7.5	234	16	150	125	8x23	8x19	140	90	355	350	587/-	1278/1414	-/-	7B ST	7	28	28As
		11	261	16	150	125	8x23	8x19	140	90	355	350	587/-	1338/1474	-/-	7B ST	7	28	28As
		15	269	16	150	125	8x23	8x19	140	90	355	350	636/-	1372/1508	-/-	7B ST	7	35	35As
150-125-315	4	30	271	16	150	125	8x23	8x19	140	110	355	380	695/-	1420/1556	-/-	9 ST	9	43	43s
		37	287	16	150	125	8x23	8x19	140	110	355	380	718/-	1462/1598	-/-	9B ST	9	53	53s
		45	303	16	150	125	8x23	8x19	140	110	355	380	718/-	1522/1658	-/-	9B ST	9	53	53s
		55	320	16	150	125	8x23	8x19	140	110	355	380	790/-	1561/1697	-/-	9B ST	9	61	61s
		75	338	16	150	125	8x23	8x19	140	110	355	415	848/-	1634/1770	-/-	10A ST	10	68	68s
	6	7.5	254	16	150	125	8x23	8x19	140	110	355	380	617/-	1278/1414	-/-	9 ST	9	29	29s
		11	286	16	150	125	8x23	8x19	140	110	355	380	617/-	1338/1474	-/-	9 ST	9	29	29s
		15	313	16	150	125	8x23	8x19	140	110	355	380	669/-	1372/1508	-/-	9 ST	9	36	36s
		18.5	333	16	150	125	8x23	8x19	140	110	355	380	695/-	1395/1531	-/-	9 ST	9	43	43s
		22	338	16	150	125	8x23	8x19	140	110	355	380	695/-	1420/1556	-/-	9 ST	9	43	43s

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
150-125-400	4	55	333	16	150	125	8x23	8x19	140	110	400	415	825/-	1561/1697	-/-	9B ST	9	62	62s
		75	369	16	150	125	8x23	8x19	140	110	400	445	878/-	1634/1770	-/-	10A ST	10	67	67s
		90	389	16	150	125	8x23	8x19	140	110	400	445	878/-	1744/1880	-/-	10A ST	10	67	67s
		110	414	16	150	125	8x23	8x19	140	110	400	450	965/-	1756/1892	-/-	10A ST	10	74	74s
		132	438	16	150	125	8x23	8x19	140	110	400	450	965/-	1921/2057	-/-	10A ST	10	80	80s
	6	18.5	346	16	150	125	8x23	8x19	140	110	400	415	730/-	1395/1531	-/-	9 ST	9	44	44s
		22	367	16	150	125	8x23	8x19	140	110	400	415	730/-	1420/1556	-/-	9 ST	9	44	44s
		30	404	16	150	125	8x23	8x19	140	110	400	415	753/-	1522/1658	-/-	9B ST	9	54	54s
		37	432	16	150	125	8x23	8x19	140	110	400	415	825/-	1561/1697	-/-	9B ST	9	62	62s
		45	438	16	150	125	8x23	8x19	140	110	400	445	878/-	1634/1770	-/-	10A ST	10	67	67s
150-125-500	4	110	423	16	150	125	8x23	8x19	180	110	500	530	1045/-	1936/2112	-/-	10A ST	10	79	79s
		132	447	16	150	125	8x23	8x19	180	110	500	530	1045/-	2101/2277	-/-	10A ST	10	84	84s
		160	474	16	150	125	8x23	8x19	180	110	500	530	1045/-	2101/2277	-/-	10A ST	10	84	84s
		200	508	16	150	125	8x23	8x19	180	110	500	530	1045/-	2256/2432	-/-	10A ST	10	84	84s
		288	539	16	150	125	8x23	8x19	180	110	500	530	1030/-	2256/2432	-/-	10A ST	10	99	99s
		362	548	16	150	125	8x23	8x19	180	110	500	530	1030/-	2400/2576	-/-	10A ST	10	99	99s
	6	37	446	16	150	125	8x23	8x19	180	110	500	530	940/-	1741/1917	-/-	10-B st	10	57	57s
		45	470	16	150	125	8x23	8x19	180	110	500	530	963/-	1814/1990	-/-	10A ST	10	65	65s
		55	501	16	150	125	8x23	8x19	180	110	500	530	963/-	1814/1990	-/-	10A ST	10	65	65s
		75	543	16	150	125	8x23	8x19	180	110	500	530	1045/-	1936/2112	-/-	10A ST	10	79	79s
		90	548	16	150	125	8x23	8x19	180	110	500	530	1045/-	2101/2277	-/-	10A ST	10	84	84s
200-150-200	2	110	210-154	16	200	150	12x23	8x23	160	110	400	450	965/-	1716/1892	-/-	10C ST	10	75	75s
		132	216-176	16	200	150	12x23	8x23	160	110	400	450	965/-	1881/2057	-/-	10C ST	10	75	75s
		160	218-204	16	200	150	12x23	8x23	160	110	400	450	965/-	1881/2057	-/-	10C ST	10	81	81s
		200	224	16	200	150	12x23	8x23	160	110	400	450	965/-	2036/2212	-/-	10C ST	10	81	81s
	4	15	214-174	16	200	150	12x23	8x23	160	110	400	380	584/681	1349/1525	1289/1465	9 ST	9	29	29s
		18.5	218-202	16	200	150	12x23	8x23	160	110	400	380	669/- [43]	1332/1508	-/- [43]	9 ST	9	36	36s
		22	222	16	200	150	12x23	8x23	160	110	400	380	669/- [43]	1362/1538	-/- [43]	9 ST	9	36	36s
	6	4	210-170	16	200	150	12x23	8x23	160	110	400	385	587/-	1129/1305	-/-	9 ST	9	23	23s
		5.5	218-212	16	200	150	12x23	8x23	160	110	400	385	587/-	1179/1355	-/-	9 ST	9	23	23s
		7.5	224	16	200	150	12x23	8x23	160	110	400	380	617/-	1268/1444	-/-	9 ST	9	29	29s
200-150-250	4	30	226-224	16	200	150	12x23	8x23	160	110	375	380	695/-	1440/1616	-/-	9 ST	9	43	43s
		37	240	16	200	150	12x23	8x23	160	110	375	380	718/-	1482/1658	-/-	9B ST	9	53	53s
		45	252	16	200	150	12x23	8x23	160	110	375	380	718/-	1542/1718	-/-	9B ST	9	53	53s
		55	263	16	200	150	12x23	8x23	160	110	375	380	790/-	1581/1757	-/-	9B ST	9	61	61s
		75	282	16	200	150	12x23	8x23	160	110	375	415	848/-	1654/1830	-/-	10A ST	10	68	68s
	6	11	238	16	200	150	12x23	8x23	160	110	375	380	617/-	1358/1534	-/-	9 ST	9	29	29s
		15	252	16	200	150	12x23	8x23	160	110	375	380	669/-	1392/1568	-/-	9 ST	9	36	36s
		18.5	275	16	200	150	12x23	8x23	160	110	375	380	695/-	1415/1591	-/-	9 ST	9	43	43s
200-150-315	4	55	269	16	200	150	12x23	8x23	160	110	400	415	825/-	1721/1897	-/-	9B ST	9	62	62s
		75	294	16	200	150	12x23	8x23	160	110	400	445	878/-	1794/1970	-/-	10A ST	10	67	67s
		90	309	16	200	150	12x23	8x23	160	110	400	445	878/-	1904/2080	-/-	10A ST	10	67	67s
		110	326	16	200	150	12x23	8x23	160	110	400	450	965/-	1916/2092	-/-	10A ST	10	74	74s
		132	338	16	200	150	12x23	8x23	160	110	400	450	965/-	2081/2257	-/-	10A ST	10	80	80s
	6	18.5	283	16	200	150	12x23	8x23	160	110	400	415	730/-	1555/1731	-/-	9 ST	9	44	44s
		22	297	16	200	150	12x23	8x23	160	110	400	415	730/-	1580/1756	-/-	9 ST	9	44	44s
		30	323	16	200	150	12x23	8x23	160	110	400	415	753/-	1682/1858	-/-	9B ST	9	54	54s
		37	338	16	200	150	12x23	8x23	160	110	400	415	825/-	1721/1897	-/-	9B ST	9	62	62s

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
200-150-315.2	2	353	263	16	200	150	12x23	8x23	160	110	400	460	1030/-	2198/-	-/-	#N/A	-	100	100s
		398	276	16	200	150	12x23	8x23	160	110	400	500	1190/-	2449/-	-/-	#N/A	-	108	108s
	4	37	249	16	200	150	12x23	8x23	160	110	400	415	753/-	1620/1796	-/-	9B ST	9	48	48s
		45	263	16	200	150	12x23	8x23	160	110	400	415	753/-	1682/1858	-/-	9B ST	9	48	48s
		55	279	16	200	150	12x23	8x23	160	110	400	415	825/-	1721/1897	-/-	9B ST	9	56	56s
		75	310	16	200	150	12x23	8x23	160	110	400	445	878/-	1794/1970	-/-	10A ST	10	64	64s
	6	11	247	16	200	150	12x23	8x23	160	110	400	415	652/-	1498/1674	-/-	9 ST	9	24	24s
		15	271	16	200	150	12x23	8x23	160	110	400	415	701/-	1532/1708	-/-	9 ST	9	38	38s
		18.5	293	16	200	150	12x23	8x23	160	110	400	415	730/-	1555/1731	-/-	9 ST	9	45	45s
		22	316	16	200	150	12x23	8x23	160	110	400	415	730/-	1580/1756	-/-	9 ST	9	45	45s
200-150-400	4	90	341	16	200	150	12x23	8x23	160	110	450	445	878/-	1904/2080	-/-	10A ST	10	64	64s
		110	361	16	200	150	12x23	8x23	160	110	450	450	965/-	1916/2092	-/-	10A ST	10	80	80s
		132	381	16	200	150	12x23	8x23	160	110	450	450	965/-	2081/2257	-/-	10A ST	10	85	85s
		160	401	16	200	150	12x23	8x23	160	110	450	450	965/-	2081/2257	-/-	10A ST	10	85	85s
		200	424	16	200	150	12x23	8x23	160	110	450	450	965/-	2236/2412	-/-	10A ST	10	85	85s
		288	438	16	200	150	12x23	8x23	160	110	450	450	950/-	2236/2412	-/-	10A ST	10	100	100s
	6	22	327	16	200	150	12x23	8x23	160	110	450	415	730/-	1580/1756	-/-	9 ST	9	45	45s
		30	358	16	200	150	12x23	8x23	160	110	450	415	753/-	1682/1858	-/-	9B ST	9	48	48s
		37	380	16	200	150	12x23	8x23	160	110	450	415	825/-	1721/1897	-/-	9B ST	9	56	56s
		45	398	16	200	150	12x23	8x23	160	110	450	445	878/-	1794/1970	-/-	10A ST	10	64	64s
		55	419	16	200	150	12x23	8x23	160	110	450	445	878/-	1794/1970	-/-	10A ST	10	64	64s
		75	438	16	200	150	12x23	8x23	160	110	450	450	965/-	1916/2092	-/-	10A ST	10	80	80s
200-150-500	4	200	419	16	200	150	12x23	8x23	180	110	500	530	1045/-	2256/2432	-/-	10A ST	10	84	84s
		288	454	16	200	150	12x23	8x23	180	110	500	450	1030/-	2256/2432	-/-	10A ST	10	99	99s
		362	492	16	200	150	12x23	8x23	180	110	500	450	1030/-	2400/2576	-/-	10A ST	10	99	99s
	6	55	433	16	200	150	12x23	8x23	180	110	500	530	963/-	1814/1990	-/-	10A ST	10	65	65s
		75	482	16	200	150	12x23	8x23	180	110	500	530	1045/-	1936/2112	-/-	10A ST	10	79	79s
		90	510	16	200	150	12x23	8x23	180	110	500	530	1045/-	2101/2277	-/-	10A ST	10	84	84s
		110	534	16	200	150	12x23	8x23	180	110	500	530	1045/-	2101/2277	-/-	10A ST	10	84	84s
		132	548	16	200	150	12x23	8x23	180	110	500	530	1045/-	2256/2432	-/-	10A ST	10	84	84s
250-200-400	4	55	268	16	250	200	12x28	12x23	170	110	400	530	940/-	1759/1935	-/-	10E	10F	57	57s
		75	292	16	250	200	12x28	12x23	170	110	400	530	963/-	1832/2008	-/-	10E	10D	65	65s
		90	308	16	250	200	12x28	12x23	170	110	400	530	963/-	1942/2118	-/-	10F	10D	65	65s
		110	324	16	250	200	12x28	12x23	170	110	400	530	1050/-	1954/2130	-/-	10F	10D	79	79s
		132	344	16	250	200	12x28	12x23	170	110	400	530	1050/-	2119/2295	-/-	10D	10D	84	84s
		160	360	16	250	200	12x28	12x23	170	110	400	530	1050/-	2119/2295	-/-	10D	10D	84	84s
		200	396	16	250	200	12x28	12x23	170	110	400	530	1050/-	2274/2450	-/-	10D	10D	84	84s
	6	22	296	16	250	200	12x28	12x23	170	110	400	530	845/-	1618/1794	-/-	10E	10F	46	46s
		30	320	16	250	200	12x28	12x23	170	110	400	530	868/-	1720/1896	-/-	10E	10F	49	49s
		37	344	16	250	200	12x28	12x23	170	110	400	530	940/-	1759/1935	-/-	10E	10F	57	57s
		45	360	16	250	200	12x28	12x23	170	110	400	530	963/-	1832/2008	-/-	10E	10D	65	65s
		55	392	16	250	200	12x28	12x23	170	110	400	530	963/-	1722/1898	-/-	10E	10D	65	65s

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
250-200-450	4	75	319	16	250	200	12x28	12x23	150	110	450	530	963/-	1805/1981	-/-	10E	10D	65	65s
		90	335	16	250	200	12x28	12x23	150	110	450	530	963/-	1915/2091	-/-	10F	10D	65	65s
		110	355	16	250	200	12x28	12x23	150	110	450	530	1050/-	1927/2103	-/-	10F	10D	79	79s
		132	367	16	250	200	12x28	12x23	150	110	450	530	1050/-	2092/2268	-/-	10D	10D	84	84s
		160	391	16	250	200	12x28	12x23	150	110	450	530	1050/-	2092/2268	-/-	10D	10D	84	84s
		200	419	16	250	200	12x28	12x23	150	110	450	530	1050/-	2247/2423	-/-	10D	10D	84	84s
		288	455	16	250	200	12x28	12x23	150	110	450	530	1030/-	2247/2423	-/-	10D	10G	99	99s
	6	37	367	16	250	200	12x28	12x23	150	110	450	530	940/-	1732/1908	-/-	10E	10F	57	57s
		45	387	16	250	200	12x28	12x23	150	110	450	530	963/-	1805/1981	-/-	10E	10D	65	65s
		55	411	16	250	200	12x28	12x23	150	110	450	530	963/-	1695/1871	-/-	10F	10D	65	65s
		75	447	16	250	200	12x28	12x23	150	110	450	530	1050/-	1927/2103	-/-	10F	10D	79	79s
		90	455	16	250	200	12x28	12x23	150	110	450	530	1050/-	2092/2268	-/-	10D	10D	84	84s
300-250-350	4	75	282	16	300	250	12x28	12x28	180	110	400	580	1013/-	1883/2059	-/-	10F	10D	66	66s
		90	302	16	300	250	12x28	12x28	180	110	400	580	1013/-	1993/2169	-/-	10F	10D	66	66s
		110	326	16	300	250	12x28	12x23	180	110	400	580	1100/-	2005/2181	-/-	10F	10D	83	83s
		132	362	16	300	250	12x28	12x28	180	110	400	580	1100/-	2170/2346	-/-	10F	10D	83	83s
	6	22	282	16	300	250	12x28	12x28	180	110	400	580	895/-	1669/1845	-/-	10E	10F	47	47s
		30	322	16	300	250	12x28	12x28	180	110	400	580	918/-	1771/1947	-/-	10E	10F	50	50s
		37	354	16	300	250	12x28	12x28	180	110	400	580	990/-	1810/1986	-/-	10E	10F	58	58s
		45	370	16	300	250	12x28	12x28	180	110	400	580	1013/-	1883/2059	-/-	10F	10D	66	66s
300-250-400	4	75	277	16	300	250	12x28	12x28	160	110	500	580	1013/-	1838/2014	-/-	10F	10D	66	66s
		90	297	16	300	250	12x28	12x28	160	110	500	580	1013/-	1948/2124	-/-	10F	10D	66	66s
		110	313	16	300	250	12x28	12x28	160	110	500	580	1100/-	1960/2136	-/-	10F	10D	78	78s
		132	325	16	300	250	12x28	12x28	160	110	500	580	1100/-	2125/2301	-/-	10F	10D	83	83s
		160	349	16	300	250	12x28	12x28	160	110	500	580	1100/-	2125/2301	-/-	10F	10D	83	83s
		200	373	16	300	250	12x28	12x28	160	110	500	580	1100/-	2280/2456	-/-	10F	10D	83	83s
		288	405	16	300	250	12x28	12x28	160	110	500	580	1080/-	2280/2456	-/-	10D	10G	98	98s
	6	30	305	16	300	250	12x28	12x28	160	110	500	580	918/-	1726/1902	-/-	10E	10F	50	50s
		37	321	16	300	250	12x28	12x28	160	110	500	580	990/-	1765/1941	-/-	10E	10F	58	58s
		45	345	16	300	250	12x28	12x28	160	110	500	580	1013/-	1838/2014	-/-	10F	10D	66	66s
		55	361	16	300	250	12x28	12x28	160	110	500	580	1013/-	1728/1904	-/-	10F	10D	66	66s
		75	393	16	300	250	12x28	12x28	160	110	500	580	1100/-	1960/2136	-/-	10F	10D	78	78s
		90	405	16	300	250	12x28	12x28	160	110	500	580	1100/-	2125/2301	-/-	10F	10D	83	83s
300-250-450	4	110	309	16	300	250	12x28	12x28	165	110	500	580	1100/-	1955/2131	-/-	10F	10D	78	78s
		132	325	16	300	250	12x28	12x28	165	110	500	580	1100/-	2120/2296	-/-	10F	10D	83	83s
		160	345	16	300	250	12x28	12x28	165	110	500	580	1100/-	2120/2296	-/-	10F	10D	83	83s
		200	365	16	300	250	12x28	12x28	165	110	500	580	1100/-	2275/2451	-/-	10F	10D	83	83s
		288	405	16	300	250	12x28	12x28	165	110	500	580	1080/-	2275/2451	-/-	10D	10G	98	98s
		362	449	16	300	250	12x28	12x28	165	110	500	580	1080/-	2419/2595	-/-	10D	10G	98	98s
	6	37	321	16	300	250	12x28	12x28	165	110	500	580	990/-	1760/1936	-/-	10E	10F	58	58s
		45	341	16	300	250	12x28	12x28	165	110	500	580	1013/-	1833/2009	-/-	10F	10D	66	66s
		55	357	16	300	250	12x28	12x28	165	110	500	580	1013/-	1723/1899	-/-	10F	10D	66	66s
		75	393	16	300	250	12x28	12x28	165	110	500	580	1100/-	1955/2131	-/-	10F	10D	78	78s
		90	417	16	300	250	12x28	12x28	165	110	500	580	1100/-	2120/2296	-/-	10F	10D	83	83s
		110	453	16	300	250	12x28	12x28	165	110	500	580	1100/-	2120/2296	-/-	10F	10D	83	83s

Pump size	Poles	P2 [kW]	Actual impeller size	Flanges					NKG dimensions [mm]							Base frame code [40]			
				PN	DNS	DND	SS	SD	A	A2	H2	H3	H4 [41]	L [42]		EN/ISO		C- channel	
														NKG	NKGE	Standard coupling	Spacer coupling	Standard coupling	Spacer coupling
300-250-500	4	288	421	16	300	250	12x28	12x28	165	110	500	580	1080/-	2280/2456	-/-	10F	10D	98	98s
		362	453	16	300	250	12x28	12x28	165	110	500	580	1080/-	2424/2600	-/-	10F	10D	98	98s
		408	477	16	300	250	12x28	12x28	165	110	500	580	1073/-	2513/2689	-/-	-	-	109	109s
		460	505	16	300	250	12x28	12x28	165	110	500	580	1073/-	2513/2689	-/-	-	-	109	109s
	6	75	405	16	300	250	12x28	12x28	165	110	500	580	1100/-	1960/2136	-/-	10F	10D	78	78s
		90	425	16	300	250	12x28	12x28	165	110	500	580	1100/-	2125/2301	-/-	10F	10D	83	83s
		110	453	16	300	250	12x28	12x28	165	110	500	580	1100/-	2125/2301	-/-	10F	10D	83	83s
		132	497	16	300	250	12x28	12x28	165	110	500	580	1100/-	2280/2456	-/-	10F	10D	83	83s
		160	525	16	300	250	12x28	12x28	165	110	500	580	1080/-	2280/2456	-/-	10D	10D	83	83s
350-300-305	4	110	310-194	16	350	300	16x28	12x28	This model is only available as bare shaft pump.										
		132	328-212	16	350	300	16x28	12x28											
		160	340-240	16	350	300	16x28	12x28											
		200	334	16	350	300	16x28	12x28											
		250	350	16	350	300	16x28	12x28											
	6	37	328-212	16	350	300	16x28	12x28											
		45	340-240	16	350	300	16x28	12x28											
		55	350-294	16	350	300	16x28	12x28											
		75	350	16	350	300	16x28	12x28											
	8	15	328-204	16	350	300	16x28	12x28											
		18.5	334-230	16	350	300	16x28	12x28											
		22	350-246	16	350	300	16x28	12x28											
		30	350	16	350	300	16x28	12x28											

Note: NKG 350-300-305 is available with PN 10 pump flanges, the PN 10 flange dimensions of Ss is 16x23, Sd is 12x23.

40) EN/ISO base frame, see section NKG with EN/ISO base frames, dimensional sketches. C-channel base frame, see section NKG with C-channel base frames, dimensional sketches.

41) Pump with standard motor or pump with E-motor.

42) Pump with standard coupling or pump with spacer coupling.

43) Pump with Siemens motor with integrated CUE, see section Dimensional drawings, NKGE (Siemens motor with integrated CUE).

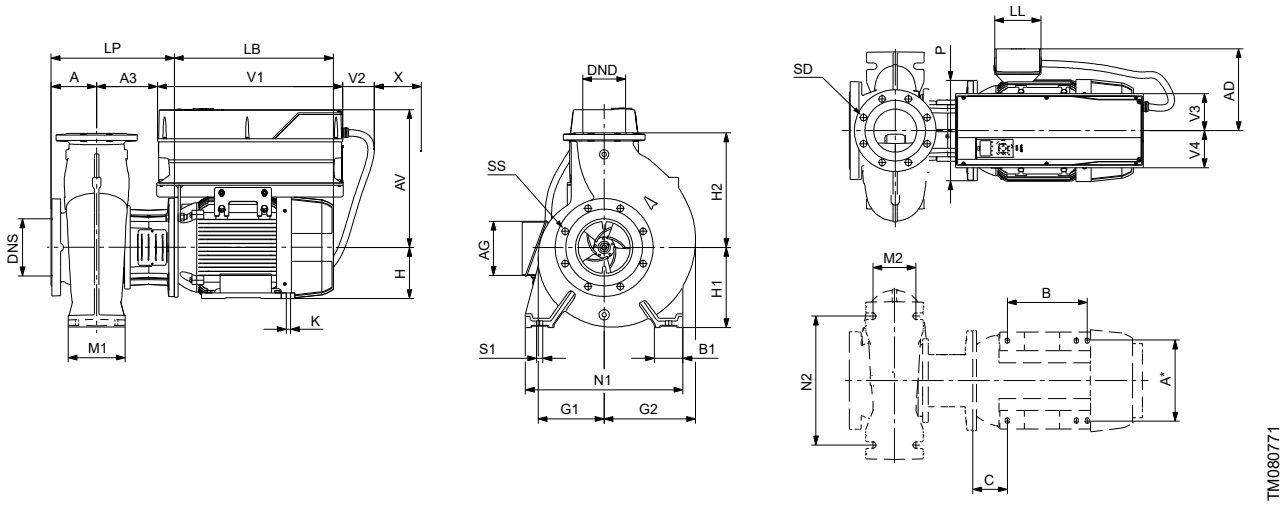
Related information

NKGE (Siemens motor with integrated CUE), dimensional drawings

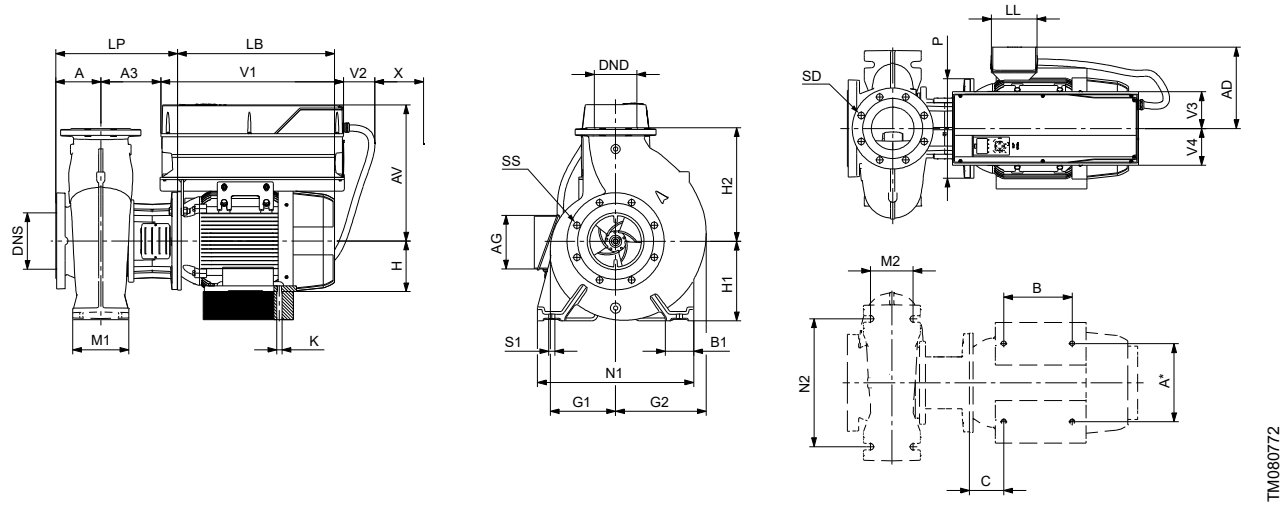
NKG with EN/ISO base frames, dimensional sketches

C-channel base frame with 4 mounting holes

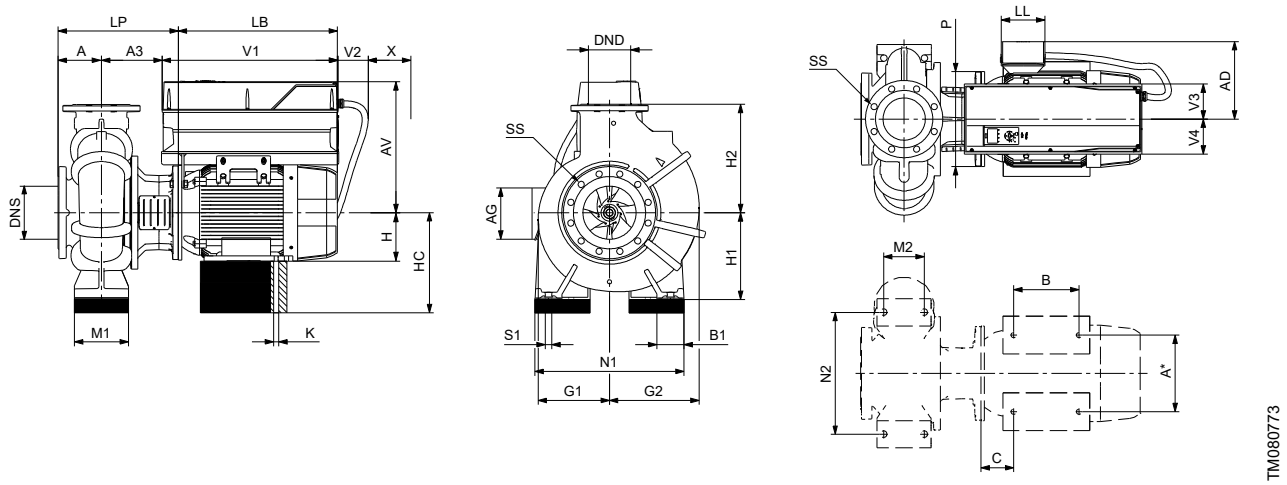
NBGE (Siemens motor with integrated CUE), dimensional drawings



Mounting design C1



Mounting design C1 with support blocks under the motor (Variant 1b in section Support blocks)

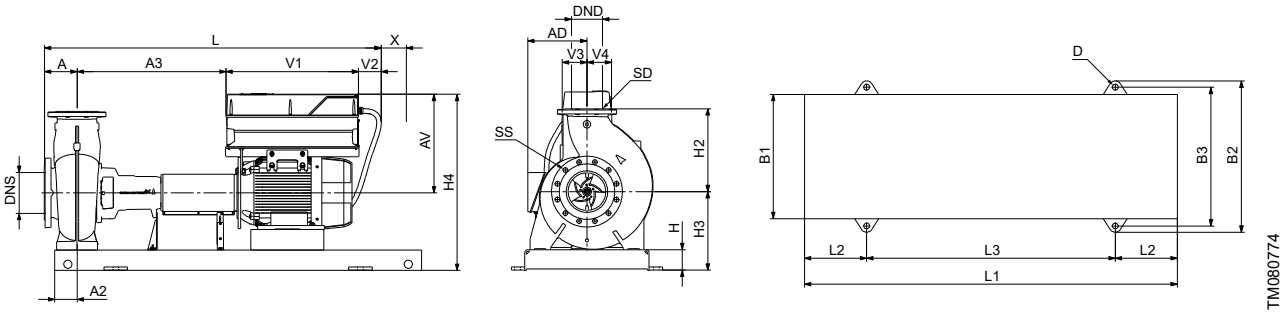


Mounting design C1 with support blocks under the motor and pump housing (Variant 3 in section Support blocks)

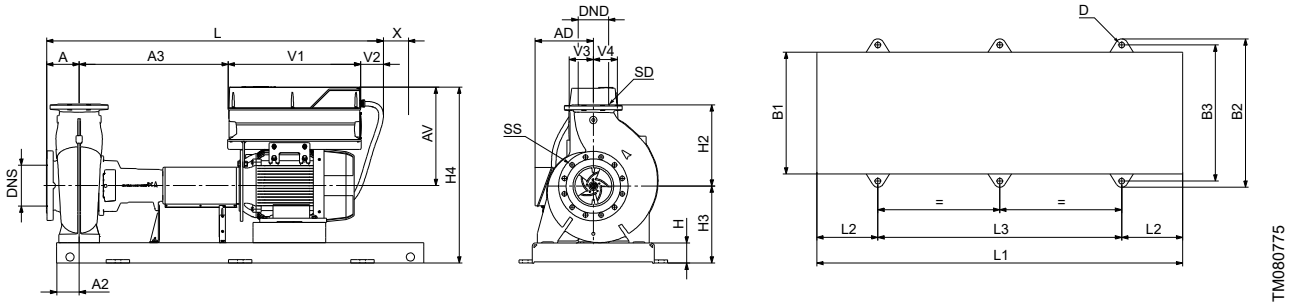
NBGE (Siemens motor with integrated CUE) dimensions, in mm

Pump size	Poles	P2 [kW]	Actual impeller size	Mounting design	AD	HC	LB	LL	V1	V2	V3	V4	AV	A3
100-65-315	4	18.5	305	C1	190	240	558	165	650	200	126	126	486	198
		22	320	C1	286	240	588	165	650	200	126	126	486	198
125-80-250	4	18.5	270	C1	190	225	558	165	650	200	126	126	486	200
125-80-315	4	18.5	275	C1	190	260	558	165	650	200	126	126	486	198
		22	287	C1	286	260	588	165	650	200	126	126	486	198
125-100-200	4	18.5	219	C1	190	200	558	165	650	200	126	126	486	200
125-100-250	4	18.5	236	C1	190	240	558	165	650	200	126	126	486	200
		22	249	C1	286	240	588	165	650	200	126	126	486	198
125-100-315	4	22	264	C1	286	260	588	165	650	200	126	126	486	198
150-125-200	4	18.5	216	C1	190	260	558	165	650	200	126	126	486	200
		22	226	C1	286	260	588	165	650	200	126	126	486	200
150-125-250	4	18.5	214	C1	190	260	558	165	650	200	126	126	486	198
		22	224	C1	286	260	588	165	650	200	126	126	486	198
200-150-200	4	18.5	218-202	C1	190	280	558	165	650	200	126	126	486	200
		22	222	C1	286	280	588	165	650	200	126	126	486	200

NKGE (Siemens motor with integrated CUE), dimensional drawings



EN/ISO base frame with 4 mounting holes



EN/ISO base frame with 6 mounting holes

NKGE (Siemens motor with integrated CUE) dimensions, in mm

Pump size	Poles	P2 [kW]	Actual impeller size	H4	L	AD	V1	V2	V3	V4	AV	A3
100-65-315	4	18.5	305	811	1537/1673	190	650	200	126	126	486	562/698
		22	320	811	1537/1673	286	650	200	126	126	486	562/698
125-80-250	4	18.5	270	811	1507/1643	190	650	200	126	126	486	532/668
125-80-315	4	18.5	275	836	1537/1673	190	650	200	126	126	486	562/698
		22	287	836	1537/1673	286	650	200	126	126	486	562/698
125-100-200	4	18.5	219	786	1507/1643	190	650	200	126	126	486	532/668
125-100-250	4	18.5	236	811	1552/1688	190	650	200	126	126	486	562/698
		22	249	811	1552/1688	286	650	200	126	126	486	562/698
125-100-315	4	22	264	836	1552/1688	286	650	200	126	126	486	562/698
150-125-200	4	18.5	216	836	1552/1658	190	650	200	126	126	486	532/668
		22	226	836	1552/1658	286	650	200	126	126	486	532/668
150-125-250	4	18.5	214	836	1552/1688	190	650	200	126	126	486	562/698
		22	224	836	1552/1688	286	650	200	126	126	486	562/698
200-150-200	4	18.5	218-202	869	1542/1718	190	650	200	126	126	486	532/708
		22	222	869	1542/1678	286	650	200	126	126	486	532/668

44) Pump with standard coupling / pump with spacer coupling.

Related information

Support blocks

Key to support block number

18. Minimum efficiency index

Minimum efficiency index (MEI) means the dimensionless scale unit for hydraulic pump efficiency at best efficiency point (BEP), part load (PL) and overload (OL). The Commission Regulation (EU) sets efficiency requirements to MEI greater than or equal to 0.10 as from 1 January 2013 and MEI greater than or equal to 0.40 as from 1 January 2015. An indicative benchmark for best performing water pump available on the market as from 1 January 2013 is determined in the Regulation.

- The benchmark for most efficient water pumps is MEI greater than or equal to 0.70.
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example by using a variable-speed drive that matches the pump duty to the system.

Information on benchmark efficiency is available at http://europump.eu/efficiencycharts.

	2-pole	
Pump size	**NBG MEI**	**NKG MEI**
50-32-125.1/140	0.70	0.70
50-32-125/142	0.70	0.70
50-32-160.1/177	0.70	0.70
50-32-160/177	0.59	0.52
50-32-200.1/207	0.65	0.59
50-32-200/219	0.62	0.55
50-32-250/262	0.70	0.65
65-40-200/219	0.65	0.59
65-40-250/260	0.70	0.70
65-40-315/344	0.70	0.70
65-50-125/142	0.70	0.70
65-50-160/177	0.70	0.70
80-50-200/219	0.70	0.70
80-50-250/263	0.67	0.61
80-50-315/333	0.65	0.59
80-65-125/144	0.70	0.66
80-65-160/177	0.70	0.70
100-65-200/219	0.70	0.70
100-65-250/270	0.57	0.51
100-65-315/320	0.70	0.65
100-80-125/144	0.70	0.66
100-80-160/177	0.70	0.70
125-80-160/177	0.70	0.70
125-80-200/222	0.70	0.68
125-80-250/270	0.70	0.70
125-80-315/334	0.70	0.70
125-100-160/176	0.70	0.70
125-100-200/219	0.68	0.62
125-100-250/269	0.70	0.70
150-125-250/269	0.70	0.69
200-150-200/224	0.70	0.70
200-150-315.2/276	0.70	0.70

4-pole		
Pump size	**NBG MEI**	**NKG MEI**
50-32-125.1/140	0.70	0.70
50-32-125/142	0.70	0.70
50-32-160.1/173	0.70	0.70
50-32-160/173	0.65	0.60
50-32-200.1/207	0.70	0.70
50-32-200/219	0.69	0.64
50-32-250/260	0.53	0.48
65-40-200/217	0.70	0.70
65-40-250/260	0.70	0.70
65-40-315/344	0.64	0.60
65-50-125/142	0.70	0.70
65-50-160/177	0.70	0.70
80-50-200/219	0.70	0.70
80-50-250/263	0.70	0.70
80-50-315/344	0.70	0.70
80-65-125/143	0.70	0.70
80-65-160/175	0.70	0.70
100-65-200/219	0.70	0.70
100-65-250/270	0.70	0.67
100-65-315/320	0.70	0.70
100-80-125/144	0.70	0.70
100-80-160/177	0.70	0.70
125-80-160/177	0.70	0.70
125-80-200/222	0.70	0.70
125-80-250/270	0.70	0.70
125-80-315/334	0.70	0.70
125-80-400/438	0.44	0.41
125-100-160/176	0.70	0.70
125-100-200/219	0.65	0.61
125-100-250/274	0.70	0.70
125-100-315/334	0.70	0.70
125-100-400/415	0.70	0.70
150-125-200/226	0.70	0.70
150-125-250/269	0.62	0.57
150-125-315/338	0.68	0.63
150-125-400/438	0.55	0.50
150-125-500/548	0.50	0.46
200-150-200/222	0.70	0.70
200-150-250/282	0.64	0.60
200-150-315.2/310	0.68	0.63
200-150-315/338	0.53	0.48
200-150-400/438	0.70	0.70
200-150-500/492	0.44	0.41
250-200-400/396	0.56	0.51
250-200-450/455	0.44	0.40
300-250-350/362	0.70	0.70
300-250-400/405	0.68	0.63
300-250-450/449	0.70	0.67
300-250-500/505	-	-
350-300-305/350	0.68	0.63

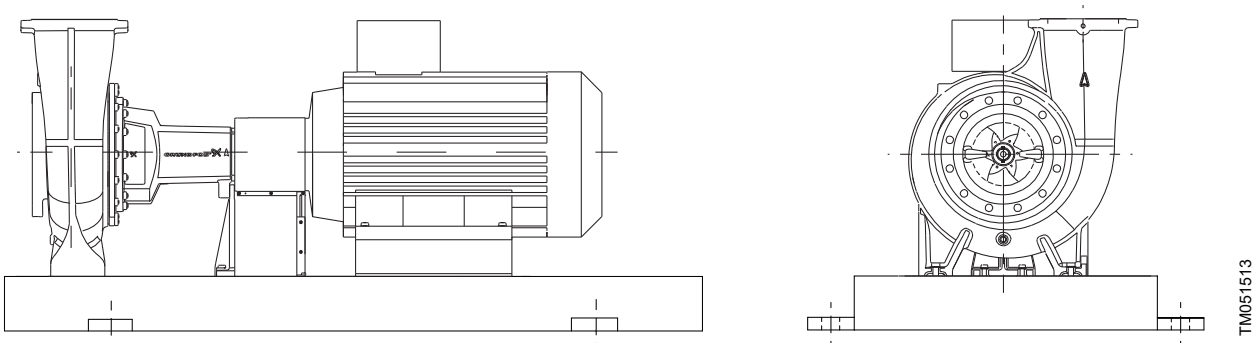
6-pole		
Pump size	**NBG MEI**	**NKG MEI**
125-100-160/176	0.70	0.70
125-100-200/219	0.70	0.68
125-100-250/274	0.70	0.70
125-100-315/334	0.70	0.70
125-100-400/415	0.70	0.70
150-125-200/226	0.70	0.70
150-125-250/269	0.68	0.63
150-125-315/338	0.70	0.70
150-125-400/438	0.55	0.50
150-125-500/548	0.50	0.46
200-150-200/224	0.70	0.70
200-150-250/275	0.70	0.65
200-150-315.2/316	0.70	0.70
200-150-315/338	0.57	0.52
200-150-400/438	0.70	0.70
200-150-500/548	0.66	0.61
250-200-400/392	0.70	0.67
250-200-450/455	0.44	0.40
300-250-350/370	0.70	0.70
300-250-400/405	0.50	0.46
300-250-450/453	0.70	0.66
300-250-500/525	0.48	0.45
350-300-305/350	0.70	0.70

8-pole		
Pump size	**NBG MEI**	**NKG MEI**
350-300-305/350	0.70	0.70

19. Base frames

NKG base frames

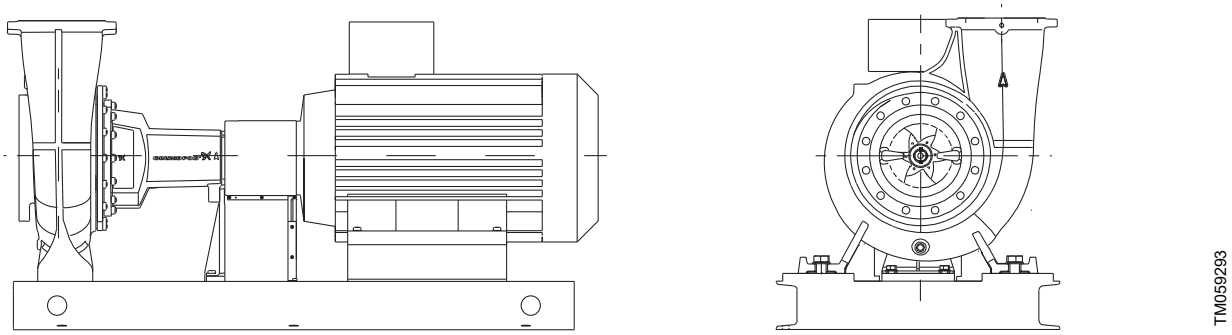
The EN/ISO base frame code is stated for each pump mentioned in section Dimension drawings and dimensions.



TM051513

NKG pump with EN/ISO base frame

The C-channel base frame code is stated for each pump mentioned in section NKG with C-channel base frames, dimensional sketches.



TM059293

NKG pump with C-channel base frame

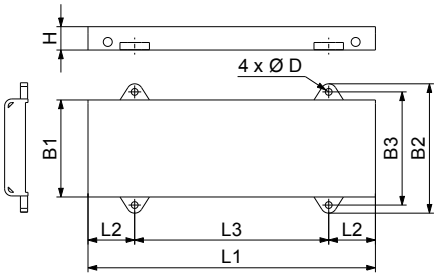
Related information

C-channel base frame with 4 mounting holes

NKG with EN/ISO base frames, dimensional sketches

The EN/ISO base frame number is stated for each pump mentioned in section NKG, dimensional drawings.

EN/ISO base frame with 4 mounting holes

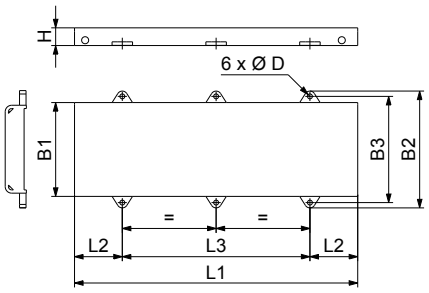


TM070506

EN/ISO base frame with 4 mounting holes

Base frame code	Dimensions [mm]							
	L1	L2	L3	B1	B2	B3	D	H
2	800	130	540	270	360	315	19	65
2 ST	704	130	444	270	360	315	19	65
3	900	150	600	300	390	345	19	65
3 ST	804	150	504	300	390	345	19	65
3B ST	804	150	504	300	390	345	19	65
4	1000	170	660	340	450	400	24	80
4B ST	929	170	589	340	450	400	24	80
5	1120	190	740	380	490	440	24	80
5 ST	978	190	598	380	490	440	24	80
5B ST	978	190	598	380	490	440	24	80
6	1250	205	840	430	540	490	24	80
6 ST	1143	205	733	430	540	490	24	80
6B ST	1175	205	765	430	540	490	24	80
7	1400	230	940	480	610	560	28	100
7 ST	1101	230	641	480	610	560	28	100
7B ST	1294	230	834	480	610	560	28	100

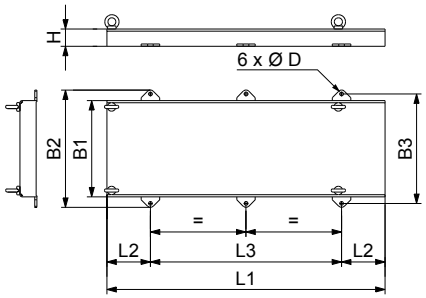
EN/ISO base frame with 6 mounting holes



TM070504

EN/ISO base frame with 6 mounting holes

Base frame code	Dimensions [mm]							
	L1	L2	L3	B1	B2	B3	D	H
8	1600	270	1060	530	660	600	28	100
8 ST	1464	270	924	530	660	600	28	100
8B ST	1464	270	924	530	660	600	28	100
9	1800	300	1200	600	730	670	28	100
9 ST	1624	300	1024	600	730	670	28	100
9B ST	1624	300	1024	600	730	670	28	100
9C ST	1634	300	1024	600	730	670	28	100
10	2000	330	1340	730	890	830	28	130
10A ST	1824	330	1164	730	890	830	28	130
10B ST	1824	330	1164	730	890	830	28	130
10C ST	1824	330	1164	730	890	830	28	130

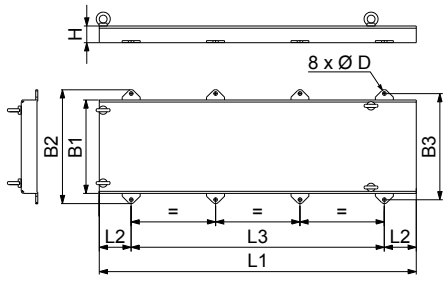


TM070505

EN/ISO base frame with lifting eyes and 6 mounting holes

Base frame code	Dimensions [mm]							
	L1	L2	L3	B1	B2	B3	D	H
10D	2110	330	1450	730	890	830	28	130
10E	1690	330	1030	730	890	830	28	130
10F	1880	330	1220	730	890	830	28	130
10G	2290	330	1630	730	890	830	28	130

EN/ISO base frame with 8 mounting holes



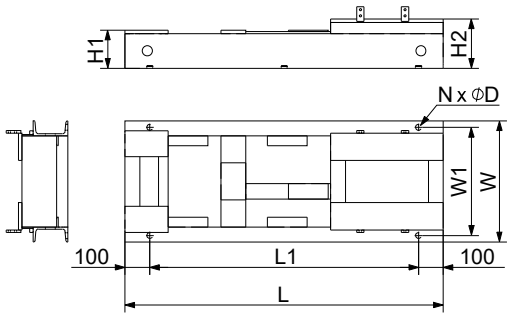
TM070507

EN/ISO base frame with 8 mounting holes

Base frame code	Dimensions [mm]							
	L1	L2	L3	B1	B2	B3	D	H
10H	2480	250	1980	730	890	830	28	130

NKG with C-channel base frames, dimensional sketches

C-channel base frame with 4 mounting holes

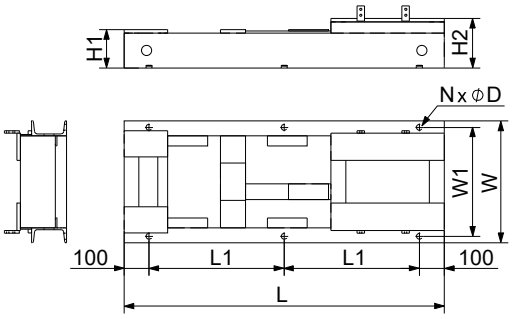


TM057709

C-channel base frame with 4 mounting holes

Base frame code	Dimensions [mm]							
	L	L1	W	W1	H1	H2	N	D
1	645	445	330	295	73	134	4	14
1s	731	531	330	295	73	134	4	14
2	700	500	300	265	73	105	4	14
2s	796	596	300	265	73	105	4	14
3	685	485	400	365	77	177	4	14
3s	781	581	400	365	77	177	4	14
3As	800	600	400	365	77	197	4	14
4	805	605	400	365	77	177	4	14
4s	941	741	400	365	77	177	4	14
5	710	510	312	277	73	105	4	14
5s	806	606	312	277	73	105	4	14
6	730	530	400	365	77	167	4	14
6s	826	626	360	325	77	167	4	14
6As	850	650	400	365	77	167	4	14
7	840	640	400	365	77	167	4	14
7s	976	776	400	365	77	167	4	14
8	860	660	430	395	77	237	4	14
8s	996	796	430	395	77	237	4	14
9	750	550	346	303	110	142	4	19
9s	846	646	346	303	110	142	4	19
10	740	540	416	373	114	194	4	19
10s	876	676	416	373	114	194	4	19
11	900	700	416	373	114	194	4	19
12	920	720	446	403	114	239	4	19
13	910	710	596	553	116	296	4	19
14	765	565	346	303	114	134	4	19
14s	855	655	346	303	114	134	4	19
15	755	555	416	373	114	182	4	19
15s	885	685	416	373	114	182	4	19
16	900	700	446	403	114	182	4	19
17	930	730	456	413	114	227	4	19
18	920	720	596	553	116	284	4	19
19	850	650	341	298	114	114	4	19
19s	940	740	341	298	114	114	4	19
20	850	650	416	373	114	162	4	19
20s	980	780	416	373	114	162	4	19
21	980	780	447	404	114	162	4	19
31	970	770	386	343	138	110	4	19
32	990	790	416	373	114	134	4	19
110	860	660	400	365	77	187	4	14

C-channel base frame with 6 mounting holes



TM057710

C-channel base frame with 6 mounting holes

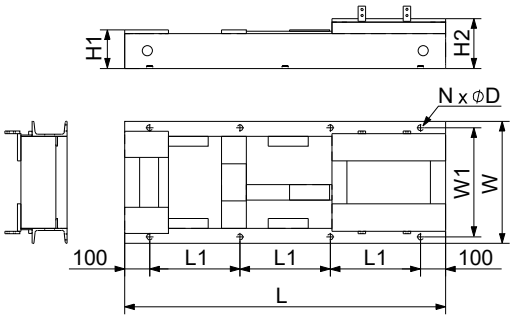
Base frame code	Dimensions [mm]							
	L	L1	W	W1	H1	H2	N	D
11s	1036	418	416	373	114	194	6	19
12s	1030	415	446	403	114	239	6	19
12As	1050	425	446	403	114	239	6	19
13s	1020	410	596	553	116	296	6	19
13As	1080	440	596	553	116	296	6	19
16s	1036	418	446	403	114	182	6	19
17s	1030	415	456	413	114	227	6	19
17As	1060	430	456	413	114	227	6	19
18s	1096	448	596	553	116	284	6	19
21s	1116	458	447	404	114	162	6	19
21As	1030	415	406	363	110	178	6	19
22	1010	405	446	403	114	207	6	19
22s	1080	440	446	403	114	207	6	19
22As	1150	475	446	403	114	207	6	19
23	1030	415	591	548	116	264	6	19

Base frame code	Dimensions [mm]							
	L	L1	W	W1	H1	H2	N	D
23s	1180	490	591	548	116	264	6	19
23As	1210	505	546	503	116	264	6	19
24	1300	550	586	543	116	271	6	19
24s	1476	638	586	543	116	271	6	19
25	1315	557.5	636	593	116	356	6	19
25s	1491	645.5	636	593	116	356	6	19
26	1350	575	636	593	116	406	6	19
26s	1526	663	636	593	116	406	6	19
27	1140	470	446	403	114	134	6	19
27s	1270	535	446	403	114	134	6	19
28	1140	470	446	403	114	179	6	19
28s	1250	525	446	403	114	179	6	19
28As	1280	540	446	403	114	179	6	19
29	1160	480	586	543	116	236	6	19
29s	1336	568	586	543	116	236	6	19
30	1156	478	596	553	116	271	6	19
30s	1292	546	596	553	116	271	6	19
31s	1053	426.5	386	343	138	110	6	19
32s	1100	450	416	373	114	134	6	19
33	1012	406	440	388	154	154	6	24
33s	1126	463	440	388	154	154	6	24
34	1150	475	470	418	154	154	6	24
34s	1286	543	470	418	154	154	6	24
35	1180	490	489	437	154	199	6	24
35s	1285	542.5	489	437	154	199	6	24
35As	1315	557.5	489	437	154	199	6	24
36	1200	500	610	558	160	260	6	24
36s	1370	585	610	558	160	260	6	24
37	1200	500	620	568	156	291	6	24
37s	1336	568	620	568	156	291	6	24
38	1340	570	620	568	156	291	6	24
38s	1516	658	620	568	156	291	6	24
39	1365	582.5	670	618	156	376	6	24
39s	1541	670.5	670	618	156	376	6	24
40	1403	601.5	660	610	156	426	6	24
40s	1579	689.5	660	610	156	426	6	24
41	1110	455	470	418	170	150	6	24
41s	1220	510	470	418	170	150	6	24
42	1216	508	500	448	154	179	6	24
42s	1352	576	500	448	154	179	6	24
42As	1350	575	500	448	154	179	6	24
43	1240	520	610	558	156	236	6	24
43s	1420	610	610	558	156	236	6	24
44	1240	520	610	558	156	271	6	24
44s	1376	588	610	558	156	271	6	24
45	1380	590	610	558	156	271	6	24
45s	1556	678	610	558	156	271	6	24
46	1400	600	660	608	156	356	6	24
46s	1576	688	660	608	156	356	6	24
47	1438	619	660	608	156	406	6	24
47s	1614	707	660	608	156	406	6	24
48	1438	619	610	558	156	246	6	24
48s	1614	707	610	558	156	246	6	24
49	1460	630	660	608	156	331	6	24

Base frame code	Dimensions [mm]							
	L	L1	W	W1	H1	H2	N	D
49s	1636	718	660	608	156	331	6	24
50	1504	652	660	608	156	381	6	24
50s	1680	740	660	608	156	381	6	24
51	1230	515	520	468	197	152	6	24
51s	1366	583	520	468	197	152	6	24
52	1300	550	510	458	154	154	6	24
52s	1436	618	510	458	154	154	6	24
53	1310	555	610	558	160	215	6	24
53s	1486	643	610	558	160	215	6	24
54	1305	552.5	610	558	160	250	6	24
54s	1440	620	610	558	160	250	6	24
55	1120	460	520	468	197	152	6	24
55s	1240	520	520	468	197	152	6	24
56	1500	650	630	569	196	261	6	28
56s	1676	738	630	569	196	261	6	28
57	1530	665	680	619	196	346	6	28
57s	1706	753	680	619	196	346	6	28
58	1568	684	780	719	196	396	6	28
58s	1744	772	780	719	196	396	6	28
59	1330	565	596	535	266	196	6	28
59s	1466	633	596	535	266	196	6	28
60	1370	585	596	535	219	194	6	28
60s	1506	653	596	535	219	194	6	28
61	1390	595	644	583	196	226	6	28
61s	1566	683	644	583	196	226	6	28
62	1370	585	630	569	196	261	6	28
62s	1506	653	630	569	196	261	6	28
63	1230	515	596	535	264	194	6	28
63s	1336	568	596	535	264	194	6	28
64	1660	730	680	619	196	231	6	28
64s	1836	818	680	619	196	231	6	28
65	1660	730	690	629	196	316	6	28
65s	1836	818	690	629	196	316	6	28
66	1700	750	780	719	196	366	6	28
66s	1876	838	780	719	196	366	6	28
67	1520	660	660	599	196	231	6	28
67s	1656	728	660	599	196	231	6	28
68	1520	660	637	576	196	196	6	28
68s	1660	730	637	576	196	196	6	28
69	1460	630	647	586	251	196	6	28
69s	1596	698	647	586	251	196	6	28
70	1420	610	647	586	296	196	6	28
70s	1556	678	647	586	296	196	6	28
71	1370	585	637	576	196	196	6	28
71s	1506	653	637	576	196	196	6	28
72	1390	595	647	586	296	196	6	28
72s	1526	663	647	586	296	196	6	28
73	1380	590	650	589	251	196	6	28
73s	1516	658	650	589	251	196	6	28
74	1540	670	698	637	196	196	6	28
74s	1676	738	698	637	196	196	6	28
75	1600	700	700	639	231	196	6	28
75s	1776	788	700	639	231	196	6	28
76	1600	700	702	641	288	198	6	28

Base frame code	Dimensions [mm]							
	L	L1	W	W1	H1	H2	N	D
76s	1736	768	702	641	288	198	6	28
77	1440	620	702	641	333	198	6	28
77s	1576	688	702	641	333	198	6	28
78	1710	755	780	719	196	331	6	28
78s	1886	843	780	719	196	331	6	28
79	1700	750	690	629	196	281	6	28
79s	1876	838	690	629	196	281	6	28
80	1750	775	690	629	196	196	6	28
80s	1926	863	690	629	196	196	6	28
81	1688	744	690	629	231	196	6	28
81s	1830	815	690	629	231	196	6	28
82	1580	690	690	629	265	200	6	28
82s	1716	758	690	629	265	200	6	28
83	1900	850	780	719	196	331	6	28
84	1850	825	690	629	196	281	6	28
85	1830	815	690	629	196	196	6	28
86	1820	810	710	649	231	196	6	28
86s	1996	898	710	649	231	196	6	28
87	1800	800	710	649	265	200	6	28
87s	1936	868	710	649	265	200	6	28
90	1980	890	710	649	196	196	6	28
96	1800	800	750	689	235	200	6	28
96s	1976	888	750	689	235	200	6	28
97	1675	737.5	750	689	265	200	6	28
97s	1810	805	750	689	265	200	6	28
98	1900	850	790	729	196	331	6	28
99	1880	840	750	689	196	281	6	28
100	1860	830	750	689	200	200	6	28
101	1800	800	800	739	275	200	6	28
101s	1976	888	800	739	275	200	6	28
102	1790	795	800	739	305	200	6	28
102s	1926	863	800	739	305	200	6	28
104	1990	895	800	739	196	241	6	28
110s	996	398	400	365	77	187	6	14
111	1225	512.5	480	428	172	152	6	24
111s	1360	580	480	428	172	152	6	24
112	1170	485	591	548	116	299	6	19
112s	1346	573	591	548	116	299	6	19
113	1890	845	800	739	275	200	6	28
114	1030	415	591	548	116	299	6	19
114s	1166	483	591	548	116	299	6	19
115	1768	784	690	629	231	196	6	28
115s	1944	872	690	629	231	196	6	28
116	1920	860	710	649	231	196	6	28

C-channel base frame with 8 mounting holes

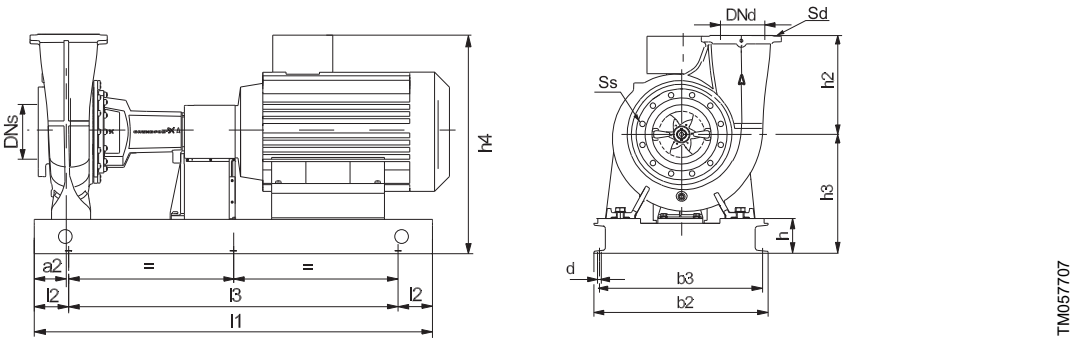


TM057711

C-channel base frame with 8 mounting holes

Base frame code	Dimensions [mm]							
	L	L1	W	W1	H1	H2	N	D
83s	2076	625	780	719	196	331	8	28
84s	2027	609	690	629	196	281	8	28
85s	2006	602	690	629	196	196	8	28
88	2015	605	790	729	196	331	8	28
88s	2192	664	790	729	196	331	8	28
89	2000	600	710	649	196	281	8	28
89s	2180	660	710	649	196	281	8	28
90s	2156	652	710	649	196	196	8	28
91	2120	640	710	649	235	200	8	28
91s	2300	700	710	649	235	200	8	28
92	2000	600	710	649	265	200	8	28
92s	2135	645	710	649	265	200	8	28
93	2210	670	790	729	196	331	8	28
93s	2390	730	790	729	196	331	8	28
94	2180	660	710	649	196	281	8	28
94s	2360	720	710	649	196	281	8	28
95	2150	650	710	649	200	200	8	28
95s	2330	710	710	649	200	200	8	28
98s	2075	625	790	729	196	331	8	28
99s	2060	620	750	689	196	281	8	28
100s	2036	612	750	689	200	200	8	28
103	2030	610	810	749	245	205	8	28
103s	2210	670	810	749	245	205	8	28
104s	2156	652	800	739	196	241	8	28
105	2024	608	800	739	196	291	8	28
105s	2204	668	800	739	196	291	8	28
106	2069	623	810	739	196	291	8	28
106s	2249	683	810	739	196	291	8	28
107	2264	688	810	739	196	291	8	28
107s	2444	748	810	739	196	291	8	28
108	2030	610	840	769	245	205	8	28
108s	2210	670	840	769	245	205	8	28
109	2099	633	840	779	196	291	8	28
109s	2279	693	840	779	196	291	8	28
113s	2066	622	800	739	275	200	8	28
116s	2105	635	710	649	231	196	8	28

NKG pump dimensions with C-channel base frames



NKG pump with C-channel base frame

NKG pumps, 2-pole

Pump type	Motor data							Base frame code [45]	Dimensions [mm]										Pump with E-motor [46]
	P2 [kW]	Frame size	Make						a2	l1 [45]	l2	l3 [45]	b2 [45]	b3 [45]	d	h	h3	h4 [47]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
50-32-125.1	1.1	80	•	•	•	•	•	2/2s	60	700/796	100	500/596	300/300	265/265	14	73	185	294	
	1.5	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	195	305	
	2.2	90L	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	195	305	
	3	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	242	362	
	4	112M	•	•	•	•	•	14/14s	60	765/855	100	565/655	346/346	303/303	19	114	246	380	
50-32-125	1.5	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	195	305	
	2.2	90L	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	195	305	
	3	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	242	362	
	4	112M	•	•	•	•	•	14/14s	60	765/855	100	565/655	346/346	303/303	19	114	246	380	
	5.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	380	
50-32-160.1	2.2	90L	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	315	
	3	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	242	362	
	4	112M	•	•	•	•	•	14/14s	60	765/855	100	565/655	346/346	303/303	19	114	246	380	
	5.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	380	
	7.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	371	
50-32-160	3	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	242	362	
	4	112M	•	•	•	•	•	14/14s	60	765/855	100	565/655	346/346	303/303	19	114	246	380	
	5.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	380	
	7.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	371	
	11	160M	•	•	•	•	•	31/31s	60	970/1053	100	770/853	386/386	343/343	19	138	270	430	
50-32-200.1	4	112M	•	•	•	•	•	14/14s	60	765/855	100	565/655	346/346	303/303	19	114	274	408	
	5.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	274	408	
	7.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	274	399	
	11	160M	•	•	•	•	•	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	

Pump type	Motor data							Base frame code [45]	Dimensions [mm]										Pump with E-motor [46]
	P2 [kW]	Frame size	Make						a2	l1 [45]	l2	l3 [45]	b2 [45]	b3 [45]	d	h	h3	h4 [47]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
50-32-200	5.5	132S	●	●	●	●	●	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	274	408	
	7.5	132S	●	●	●	●	●	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	274	399	
	11	160M	●	●	●	●	●	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	15	160M	●	●	●	●	●	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	18.5	160L	●	●	●	●	●	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
50-32-250	11	160M	●	●	●	●	●	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
	15	160M	●	●	●	●	●	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
	18.5	160L	●	●	●	●	●	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
	22	180M	●	●	●	●	●	34/34s	75	1150/1286	100	950/1086	470/470	418/418	24	154	334	494	
	30	200L	-	●	●	●	●	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
65-40-200	11	160M	●	●	●	●	●	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	15	160M	●	●	●	●	●	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	18.5	160L	●	●	●	●	●	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	22	180M	●	●	●	●	●	33/33s	60	1005/1105	100	805/905	440/440	388/388	24	154	334	494	
	30	200L	-	●	●	●	●	41/41s	60	1110/1220	100	910/1020	470/470	418/418	24	170	350	655	
65-40-250	15	160M	●	●	●	●	●	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
	18.5	160L	●	●	●	●	●	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
	22	180M	●	●	●	●	●	34/34s	75	1150/1286	100	950/1086	470/470	418/418	24	154	334	494	
	30	200L	-	●	●	●	●	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
	37	200L	-	●	●	●	●	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
	45	225M	-	●	●	●	●	51/51s	75	1230/1366	100	1030/1166	520/520	468/468	24	197	377	702	
65-40-315	37	200L	-	●	●	●	●	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	372	677	
	45	225M	-	●	●	●	●	52/52s	75	1300/1436	100	1100/1236	510/510	458/458	24	154	379	704	
	55	250M	-	●	●	●	●	60/60s	75	1370/1506	100	1170/1306	596/596	535/535	28	219	444	836	
	75	280S	-	●	●	●	●	73/73s	75	1380/1516	100	1180/1316	650/650	589/589	28	251	476	908	
	90	280M	-	●	●	●	●	69/69s	75	1460/1596	100	1260/1396	647/647	586/586	28	251	476	908	
65-50-125	3	100L	●	●	●	●	●	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	242	362	
	4	112M	●	●	●	●	●	14/14s	60	765/855	100	565/655	346/346	303/303	19	114	246	380	
	5.5	132S	●	●	●	●	●	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	380	
	7.5	132S	●	●	●	●	●	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	371	
	11	160M	●	●	●	●	●	31/31s	60	970/1053	100	770/853	386/386	343/343	19	138	270	430	
65-50-160	5.5	132S	●	●	●	●	●	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	380	
	7.5	132S	●	●	●	●	●	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	371	
	11	160M	●	●	●	●	●	31/31s	60	970/1053	100	770/853	386/386	343/343	19	138	270	430	
	15	160M	●	●	●	●	●	31/31s	60	970/1053	100	770/853	386/386	343/343	19	138	270	430	
80-50-200	15	160M	●	●	●	●	●	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	18.5	160L	●	●	●	●	●	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	22	180M	●	●	●	●	●	33/33s	60	1005/1105	100	805/905	440/440	388/388	24	154	334	494	
	30	200L	-	●	●	●	●	41/41s	60	1110/1220	100	910/1020	470/470	418/418	24	170	350	655	
	37	200L	-	●	●	●	●	41/41s	60	1110/1220	100	910/1020	470/470	418/418	24	170	350	655	
	45	225M	-	●	●	●	●	55/55s	60	1120/1240	100	920/1040	520/520	468/468	24	197	377	702	
80-50-250	30	200L	-	●	●	●	●	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
	37	200L	-	●	●	●	●	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
	45	225M	-	●	●	●	●	51/51s	75	1230/1366	100	1030/1166	520/520	468/468	24	197	377	702	
	55	250M	-	●	●	●	●	59/59s	75	1330/1466	100	1130/1266	596/596	535/535	28	266	446	838	
	75	280S	-	●	●	●	●	72/72s	75	1390/1526	100	1190/1326	647/647	586/586	28	296	476	908	
80-50-315	55	250M	-	●	●	●	●	60/60s	75	1370/1506	100	1170/1306	596/596	535/535	28	219	444	836	
	75	280S	-	●	●	●	●	73/73s	75	1380/1516	100	1180/1316	650/650	589/589	28	251	476	908	
	90	280M	-	●	●	●	●	69/69s	75	1460/1596	100	1260/1396	647/647	586/586	28	251	476	908	
	110	315S	-	●	●	●	●	76/76s	75	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	

Pump type	Motor data							Base frame code [45]	Dimensions [mm]										Pump with E-motor [46]
	P2 [kW]	Frame size	Make						a2	l1 [45]	l2	l3 [45]	b2 [45]	b3 [45]	d	h	h3	h4 [47]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
80-65-125	4	112M	•	•	•	•	•	14/14s	60	765/855	100	565/655	346/346	303/303	19	114	246	380	
	5.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	380	
	7.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	246	371	
	11	160M	•	•	•	•	•	31/31s	60	970/1053	100	770/853	386/386	343/343	19	138	270	430	
	15	160M	•	•	•	•	•	31/31s	60	970/1053	100	770/853	386/386	343/343	19	138	270	430	
80-65-160	7.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	274	399	
	11	160M	•	•	•	•	•	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	15	160M	•	•	•	•	•	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	18.5	160L	•	•	•	•	•	32/32s	60	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	22	180M	•	•	•	•	•	33/33s	60	1005/1105	100	805/905	440/440	388/388	24	154	334	494	
100-65-200	18.5	160L	•	•	•	•	•	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
	22	180M	•	•	•	•	•	34/34s	75	1150/1286	100	950/1086	470/470	418/418	24	154	334	494	
	30	200L	-	•	•	•	•	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
	37	200L	-	•	•	•	•	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
	45	225M	-	•	•	•	•	51/51s	75	1230/1366	100	1030/1166	520/520	468/468	24	197	377	702	
	55	250M	-	•	•	•	•	59/59s	75	1330/1466	100	1130/1266	596/596	535/535	28	266	446	838	
100-65-250	45	225M	-	•	•	•	•	52/52s	90	1300/1436	100	1100/1236	510/510	458/458	24	154	379	704	
	55	250M	-	•	•	•	•	60/60s	90	1370/1506	100	1170/1306	596/596	535/535	28	219	444	836	
	75	280S	-	•	•	•	•	73/73s	90	1380/1516	100	1180/1316	650/650	589/589	28	251	476	908	
	90	280M	-	•	•	•	•	69/69s	90	1460/1596	100	1260/1396	647/647	586/586	28	251	476	908	
	110	315S	-	•	•	•	•	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	
100-65-315	90	280M	-	•	•	•	•	69/69s	90	1460/1596	100	1260/1396	647/647	586/586	28	251	476	908	
	110	315S	-	•	•	•	•	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	
	132	315M	-	•	•	•	•	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	
	160	315L	-	•	•	•	•	82/82s	90	1580/1716	100	1380/1516	690/690	629/629	28	265	515	1010	
	200	315L	-	•	•	•	•	82/82s	90	1580/1716	100	1380/1516	690/690	629/629	28	265	515	1010	
100-80-125	7.5	132S	•	•	•	•	•	19/19s	75	850/940	100	650/740	341/341	298/298	19	114	274	399	
	11	160M	•	•	•	•	•	32/32s	75	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	15	160M	•	•	•	•	•	32/32s	75	990/1100	100	790/900	416/416	373/373	19	114	294	454	
	18.5	160L	•	•	•	•	•	32/32s	75	990/1100	100	790/900	416/416	373/373	19	114	294	454	
100-80-160	11	160M	•	•	•	•	•	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
	15	160M	•	•	•	•	•	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
	18.5	160L	•	•	•	•	•	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
	22	180M	•	•	•	•	•	34/34s	75	1150/1286	100	950/1086	470/470	418/418	24	154	334	494	
	30	200L	-	•	•	•	•	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
125-80-160	22	180M	•	•	•	•	•	34/34s	75	1150/1286	100	950/1086	470/470	418/418	24	154	334	494	
	30	200L	-	•	•	•	•	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
	37	200L	-	•	•	•	•	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
	45	225M	-	•	•	•	•	51/51s	75	1230/1366	100	1030/1166	520/520	468/468	24	197	377	702	
	55	250M	-	•	•	•	•	59/59s	75	1330/1466	100	1130/1266	596/596	535/535	28	266	446	838	
125-80-200	37	200L	-	•	•	•	•	111/111s	75	1225/1360	100	1025/1160	480/480	428/428	24	172	352	657	
	45	225M	-	•	•	•	•	51/51s	75	1230/1366	100	1030/1166	520/520	468/468	24	197	377	702	
	55	250M	-	•	•	•	•	59/59s	75	1330/1466	100	1130/1266	596/596	535/535	28	266	446	838	
	75	280S	-	•	•	•	•	72/72s	75	1390/1526	100	1190/1326	647/647	586/586	28	296	476	908	
	90	280M	-	•	•	•	•	70/70s	75	1420/1556	100	1220/1356	647/647	586/586	28	296	476	908	
125-80-250	75	280S	-	•	•	•	•	73/73s	90	1380/1516	100	1180/1316	650/650	589/589	28	251	476	908	
	90	280M	-	•	•	•	•	69/69s	90	1460/1596	100	1260/1396	647/647	586/586	28	251	476	908	
	110	315S	-	•	•	•	•	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	
	132	315M	-	•	•	•	•	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	
	160	315L	-	•	•	•	•	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	

Pump type	Motor data							Base frame code [45]	Dimensions [mm]										Pump with E-motor [46]
	P2 [kW]	Frame size	Make						a2	l1 [45]	l2	l3 [45]	b2 [45]	b3 [45]	d	h	h3	h4 [47]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
125-80-315	132	315M	-	●	●	●	●	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	538	1033	
	160	315L	-	●	●	●	●	82/82s	90	1580/1716	100	1380/1516	690/690	629/629	28	265	515	1010	
	200	315L	-	●	●	●	●	82/82s	90	1580/1716	100	1380/1516	690/690	629/629	28	265	515	1010	
	280	315	-	●	●	●	●	97/97s	90	1675/1810	100	1475/1610	750/750	689/689	28	265	515	983	
125-100-160	30	200L	-	●	●	●	●	111/111s	90	1225/1360	100	1025/1160	480/480	428/428	24	172	372	677	
	37	225S	-	●	●	●	●	111/111s	90	1225/1360	100	1025/1160	480/480	428/428	24	172	372	677	
	45	225M	-	●	●	●	●	52/52s	90	1300/1436	100	1100/1236	510/510	458/458	24	154	379	704	
125-100-200	55	250M	-	●	●	●	●	60/60s	90	1370/1506	100	1170/1306	596/596	535/535	28	219	444	836	
	75	280S	-	●	●	●	●	73/73s	90	1380/1516	100	1180/1316	650/650	589/589	28	251	476	908	
	90	280M	-	●	●	●	●	69/69s	90	1460/1596	100	1260/1396	647/647	586/586	28	251	476	908	
	110	315S	-	●	●	●	●	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	
	132	315M	-	●	●	●	●	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	
125-100-250	110	315S	-	●	●	●	●	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	
	132	315M	-	●	●	●	●	76/76s	90	1600/1736	100	1400/1536	702/702	641/641	28	288	513	1008	
	160	315L	-	●	●	●	●	82/82s	90	1580/1716	100	1380/1516	690/690	629/629	28	265	515	1010	
	200	315L	-	●	●	●	●	82/82s	90	1580/1716	100	1380/1516	690/690	629/629	28	265	515	1010	
150-125-250	160	315L	-	●	●	●	●	82/82s	90	1580/1716	100	1380/1516	690/690	629/629	28	265	515	1010	
	200	315L	-	●	●	●	●	82/82s	90	1580/1716	100	1380/1516	690/690	629/629	28	265	515	1010	
	280	315	-	●	●	●	●	97/97s	90	1675/1810	100	1475/1610	750/750	689/689	28	265	515	983	
	353	315	-	●	●	●	●	97/97s	90	1675/1810	100	1475/1610	750/750	689/689	28	265	515	983	
200-150-200	110	315S	-	●	●	●	●	75/75s	110	1600/1776	100	1400/1576	700/700	639/639	28	231	511	1006	
	132	315M	-	●	●	●	●	75/75s	110	1600/1776	100	1400/1576	700/700	639/639	28	231	511	1006	
	160	315L	-	●	●	●	●	81/81s	110	1688/1830	100	1488/1630	690/690	629/629	28	231	511	1006	
	200	315L	-	●	●	●	●	81/81s	110	1688/1830	100	1488/1630	690/690	629/629	28	231	511	1006	
200-150-315.2	353	315	-	●	●	●	●	100/100s	110	1860/2036	100	1660/1836	750/750	689/689	28	200	515	983	
	398	355	-	●	●	●	●	108/108s	110	2030/2210	100	1830/2010	840/840	769/769	28	245	560	1101	

45) Pump with standard coupling or pump with spacer coupling.

46) For pump dimensions with E-motors, see the relevant pages in section Dimensional drawings and technical data.

47) P2 less than or equal to 22 kW, pump with MG motor; P2 greater than or equal to 30 kW, pump with Siemens motor.

Related information

NBG, dimensional drawings

NKG pumps, 4-pole

Pump type	Motor data							Base frame code [48]	Dimensions [mm]										Pump with E-motor [49]
	P2 [kW]	Frame size	Make						a2	l1 [48]	l2	l3 [48]	b2 [48]	b3 [48]	d	h	h3	h4 [50]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
50-32-125.1	0.25	71A	•	•	•	•	•	1/1s	60	645/731	100	445/531	330/330	295/295	14	73	205	314	
	0.37	71B	•	•	•	•	•	1/1s	60	645/731	100	445/531	330/330	295/295	14	73	205	314	
	0.55	80A	•	•	•	•	•	2/2s	60	700/796	100	500/596	300/300	265/265	14	73	185	294	
50-32-125	0.25	71A	•	•	•	•	•	1/1s	60	645/731	100	445/531	330/330	295/295	14	73	205	314	
	0.37	71B	•	•	•	•	•	1/1s	60	645/731	100	445/531	330/330	295/295	14	73	205	314	
	0.55	80A	•	•	•	•	•	2/2s	60	700/796	100	500/596	300/300	265/265	14	73	185	294	
	0.75	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	185	305	
50-32-160.1	0.37	71B	•	•	•	•	•	1/1s	60	645/731	100	445/531	330/330	295/295	14	73	205	314	
	0.55	80A	•	•	•	•	•	2/2s	60	700/796	100	500/596	300/300	265/265	14	73	205	314	
	0.75	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	325	
50-32-160	0.37	71B	•	•	•	•	•	1/1s	60	645/731	100	445/531	330/330	295/295	14	73	205	314	
	0.55	80A	•	•	•	•	•	2/2s	60	700/796	100	500/596	300/300	265/265	14	73	205	314	
	0.75	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	325	
	1.1	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	315	
50-32-200.1	0.55	80A	•	•	•	•	•	3/3s	60	685/781	100	485/581	400/400	365/365	14	77	257	366	
	0.75	90S	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	247	367	
	1.1	90S	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	257	367	
	1.5	90L	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	257	367	
50-32-200	0.75	90S	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	247	367	
	1.1	90S	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	257	367	
	1.5	90L	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	257	367	
	2.2	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	270	390	
50-32-250	1.1	90S	•	•	•	•	•	7/7s	75	840/976	100	640/776	400/400	365/365	14	77	257	367	
	1.5	90L	•	•	•	•	•	7/7s	75	840/976	100	640/776	400/400	365/365	14	77	257	367	
	2.2	100L	•	•	•	•	•	11/11s	75	900/1036	100	700/836	416/416	373/373	19	114	294	414	
	3	100L	•	•	•	•	•	11/11s	75	900/1036	100	700/836	416/416	373/373	19	114	294	414	
65-40-200	1.1	90S	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	257	367	
	1.5	90L	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	257	367	
	2.2	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	270	390	
	3	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	270	390	
65-40-250	2.2	100L	•	•	•	•	•	11/11s	75	900/1036	100	700/836	416/416	373/373	19	114	294	414	
	3	100L	•	•	•	•	•	11/11s	75	900/1036	100	700/836	416/416	373/373	19	114	294	414	
	4	112M	•	•	•	•	•	16/16s	75	900/1036	100	700/836	446/446	403/403	19	114	294	428	
	5.5	132S	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	294	419	
65-40-315	5.5	132S	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	314	439	
	7.5	132M	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	314	439	
	11	160MA	•	•	•	•	•	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	314	474	
65-50-125	0.37	71B	•	•	•	•	•	1/1s	60	645/731	100	445/531	330/330	295/295	14	73	205	314	
	0.55	80A	•	•	•	•	•	2/2s	60	700/796	100	500/596	300/300	265/265	14	73	185	294	
	0.75	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	185	305	
	1.1	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	195	305	
65-50-160	0.55	80A	•	•	•	•	•	2/2s	60	700/796	100	500/596	300/300	265/265	14	73	205	314	
	0.75	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	325	
	1.1	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	315	
	1.5	90L	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	315	
	2.2	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	242	362	

Pump type	Motor data							Base frame code [48]	Dimensions [mm]										Pump with E-motor [49]
	P2 [kW]	Frame size	Make						a2	l1 [48]	l2	l3 [48]	b2 [48]	b3 [48]	d	h	h3	h4 [50]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
80-50-200	2.2	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	270	390	
	3	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	270	390	
	4	112M	•	•	•	•	•	14/14s	60	765/855	100	565/655	346/346	303/303	19	114	274	408	
	5.5	132S	•	•	•	•	•	19/19s	60	850/940	100	650/740	341/341	298/298	19	114	274	399	
80-50-250	4	112M	•	•	•	•	•	16/16s	75	900/1036	100	700/836	446/446	403/403	19	114	294	428	
	5.5	132S	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	294	419	
	7.5	132M	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	294	419	
80-50-315	5.5	132S	•	•	•	•	•	22/22s	75	1010/1080	100	810/880	446/446	403/403	19	114	339	464	
	7.5	132M	•	•	•	•	•	22/22s	75	1010/1080	100	810/880	446/446	403/403	19	114	339	464	
	11	160MA	•	•	•	•	•	28/28s	75	1140/1250	100	940/1050	446/446	403/403	19	114	339	499	
	15	160L	•	•	•	•	•	28/28s	75	1140/1250	100	940/1050	446/446	403/403	19	114	339	499	
80-65-125	0.55	80A	•	•	•	•	•	2/2s	60	700/796	100	500/596	300/300	265/265	14	73	205	314	
	0.75	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	325	
	1.1	90S	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	315	
	1.5	90L	•	•	•	•	•	5/5s	60	710/806	100	510/606	312/312	277/277	14	73	205	315	
80-65-160	1.1	90S	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	257	367	
	1.5	90L	•	•	•	•	•	6/6s	60	730/826	100	530/626	400/360	365/325	14	77	257	367	
	2.2	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	270	390	
	3	100L	•	•	•	•	•	9/9s	60	750/846	100	550/646	346/346	303/303	19	110	270	390	
100-65-200	3	100L	•	•	•	•	•	11/11s	75	900/1036	100	700/836	416/416	373/373	19	114	294	414	
	4	112M	•	•	•	•	•	16/16s	75	900/1036	100	700/836	446/446	403/403	19	114	294	428	
	5.5	132S	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	294	419	
	7.5	132M	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	294	419	
100-65-250	5.5	132S	•	•	•	•	•	21/21s	90	980/1116	100	780/916	447/447	404/404	19	114	314	439	
	7.5	132M	•	•	•	•	•	21/21s	90	980/1116	100	780/916	447/447	404/404	19	114	314	439	
	11	160MA	•	•	•	•	•	27/27s	90	1140/1270	100	940/1070	446/446	403/403	19	114	314	474	
	15	160L	•	•	•	•	•	27/27s	90	1140/1270	100	940/1070	446/446	403/403	19	114	314	474	
100-65-315	7.5	132M	•	•	•	•	•	22/22As	90	1010/1150	100	810/950	446/446	403/403	19	114	339	464	
	11	160MA	•	•	•	•	•	28/28As	90	1140/1280	100	940/1080	446/446	403/403	19	114	339	499	
	15	160L	•	•	•	•	•	28/28As	90	1140/1280	100	940/1080	446/446	403/403	19	114	339	499	
	18.5	180M	-	•	•	•	•	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	379	686	
	22	180L	-	•	•	•	•	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	379	637	
100-80-125	1.1	90S	•	•	•	•	•	6/6s	75	730/826	100	530/626	400/360	365/325	14	77	257	367	
	1.5	90L	•	•	•	•	•	6/6s	75	730/826	100	530/626	400/360	365/325	14	77	257	367	
	2.2	100L	•	•	•	•	•	9/9s	75	750/846	100	550/646	346/346	303/303	19	110	270	390	
100-80-160	1.5	90L	•	•	•	•	•	7/7s	75	840/976	100	640/776	400/400	365/365	14	77	257	367	
	2.2	100L	•	•	•	•	•	11/11s	75	900/1036	100	700/836	416/416	373/373	19	114	294	414	
	3	100L	•	•	•	•	•	11/11s	75	900/1036	100	700/836	416/416	373/373	19	114	294	414	
	4	112M	•	•	•	•	•	16/16s	75	900/1036	100	700/836	446/446	403/403	19	114	294	428	
125-80-160	3	100L	•	•	•	•	•	11/11s	75	900/1036	100	700/836	416/416	373/373	19	114	294	414	
	4	112M	•	•	•	•	•	16/16s	75	900/1036	100	700/836	446/446	403/403	19	114	294	428	
	5.5	132S	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	294	419	
125-80-200	4	112M	•	•	•	•	•	16/16s	75	900/1036	100	700/836	446/446	403/403	19	114	294	428	
	5.5	132S	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	294	419	
	7.5	132M	•	•	•	•	•	21/21s	75	980/1116	100	780/916	447/447	404/404	19	114	294	419	
	11	160MA	•	•	•	•	•	27/27s	75	1140/1270	100	940/1070	446/446	403/403	19	114	294	454	
125-80-250	7.5	132M	•	•	•	•	•	22/22As	90	1010/1150	100	810/950	446/446	403/403	19	114	339	464	
	11	160MA	•	•	•	•	•	28/28s	90	1140/1250	100	940/1050	446/446	403/403	19	114	339	499	
	15	160L	•	•	•	•	•	28/28s	90	1140/1250	100	940/1050	446/446	403/403	19	114	339	499	
	18.5	180M	-	•	•	•	•	35/35s	90	1180/1285	100	980/1085	489/489	437/437	24	154	379	686	

Pump type	Motor data							Base frame code [48]	Dimensions [mm]										Pump with E-motor [49]
	P2 [kW]	Frame size	Make						a2	l1 [48]	l2	l3 [48]	b2 [48]	b3 [48]	d	h	h3	h4 [50]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
125-80-315	18.5	180M	-	●	●	●	●	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	404	711	
	22	180L	-	●	●	●	●	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	404	662	
	30	200L	-	●	●	●	●	42/42As	90	1216/1350	100	1016/1150	500/500	448/448	24	154	404	709	
	37	225S	-	●	●	●	●	52/52s	90	1300/1436	100	1100/1236	510/510	458/458	24	154	404	729	
	45	225M	-	●	●	●	●	52/52s	90	1300/1436	100	1100/1236	510/510	458/458	24	154	404	729	
125-80-400	30	200L	-	●	●	●	●	43/43s	90	1240/1420	100	1040/1220	610/610	558/558	24	156	436	741	
	37	225S	-	●	●	●	●	53/53s	90	1310/1486	100	1110/1286	610/610	558/558	24	160	440	765	
	45	225M	-	●	●	●	●	53/53s	90	1310/1486	100	1110/1286	610/610	558/558	24	160	440	765	
	55	250M	-	●	●	●	●	61/61s	90	1390/1566	100	1190/1366	644/644	583/583	28	196	476	868	
	75	280S	-	●	●	●	●	68/68s	90	1520/1660	100	1320/1460	637/637	576/576	28	196	476	908	
	90	280M	-	●	●	●	●	68/68s	90	1520/1660	100	1320/1460	637/637	576/576	28	196	476	908	
125-100-160	4	112M	●	●	●	●	●	16/16s	90	900/1036	100	700/836	446/446	403/403	19	114	314	448	
	5.5	132S	●	●	●	●	●	21/21s	90	980/1116	100	780/916	447/447	404/404	19	114	314	439	
	7.5	132M	●	●	●	●	●	21/21s	90	980/1116	100	780/916	447/447	404/404	19	114	314	439	
125-100-200	5.5	132S	●	●	●	●	●	21/21s	90	980/1116	100	780/916	447/447	404/404	19	114	314	439	
	7.5	132M	●	●	●	●	●	21/21s	90	980/1116	100	780/916	447/447	404/404	19	114	314	439	
	11	160MA	●	●	●	●	●	27/27s	90	1140/1270	100	940/1070	446/446	403/403	19	114	314	474	
	15	160L	●	●	●	●	●	27/27s	90	1140/1270	100	940/1070	446/446	403/403	19	114	314	474	
	18.5	180M	-	●	●	●	●	34/34s	90	1150/1286	100	950/1086	470/470	418/418	24	154	354	661	
125-100-250	15	160L	●	●	●	●	●	28/28As	90	1140/1280	100	940/1080	446/446	403/403	19	114	339	499	
	18.5	180M	-	●	●	●	●	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	379	686	
	22	180L	-	●	●	●	●	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	379	637	
	30	200L	-	●	●	●	●	42/42As	90	1216/1350	100	1016/1150	500/500	448/448	24	154	379	684	
125-100-315	22	180L	-	●	●	●	●	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	404	662	
	30	200L	-	●	●	●	●	42/42As	90	1216/1350	100	1016/1150	500/500	448/448	24	154	404	709	
	37	225S	-	●	●	●	●	52/52s	90	1300/1436	100	1100/1236	510/510	458/458	24	154	404	729	
	45	225M	-	●	●	●	●	52/52s	90	1300/1436	100	1100/1236	510/510	458/458	24	154	404	729	
	55	250M	-	●	●	●	●	60/60s	90	1370/1506	100	1170/1306	596/596	535/535	28	219	469	861	
125-100-400	37	225S	-	●	●	●	●	53/53s	110	1310/1486	100	1110/1286	610/610	558/558	24	160	440	765	
	45	225M	-	●	●	●	●	53/53s	110	1310/1486	100	1110/1286	610/610	558/558	24	160	440	765	
	55	250M	-	●	●	●	●	61/61s	110	1390/1566	100	1190/1366	644/644	583/583	28	196	476	868	
	75	280S	-	●	●	●	●	68/68s	110	1520/1660	100	1320/1460	637/637	576/576	28	196	476	908	
	90	280M	-	●	●	●	●	68/68s	110	1520/1660	100	1320/1460	637/637	576/576	28	196	476	908	
150-125-200	11	160MA	●	●	●	●	●	28/28s	90	1140/1250	100	940/1050	446/446	403/403	19	114	364	524	
	15	160L	●	●	●	●	●	28/28s	90	1140/1250	100	940/1050	446/446	403/403	19	114	364	524	
	18.5	180M	-	●	●	●	●	35/35s	90	1180/1285	100	980/1085	489/489	437/437	24	154	404	711	
	22	180L	-	●	●	●	●	35/35s	90	1180/1285	100	980/1085	489/489	437/437	24	154	404	662	
150-125-250	18.5	180M	-	●	●	●	●	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	404	711	
	22	180L	-	●	●	●	●	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	404	662	
	30	200L	-	●	●	●	●	42/42As	90	1216/1350	100	1016/1150	500/500	448/448	24	154	404	709	
	37	225S	-	●	●	●	●	52/52s	90	1300/1436	100	1100/1236	510/510	458/458	24	154	404	729	
	45	225M	-	●	●	●	●	52/52s	90	1300/1436	100	1100/1236	510/510	458/458	24	154	404	729	
150-125-315	30	200L	-	●	●	●	●	43/43s	110	1240/1420	100	1040/1220	610/610	558/558	24	156	436	741	
	37	225S	-	●	●	●	●	53/53s	110	1310/1486	100	1110/1286	610/610	558/558	24	160	440	765	
	45	225M	-	●	●	●	●	53/53s	110	1310/1486	100	1110/1286	610/610	558/558	24	160	440	765	
	55	250M	-	●	●	●	●	61/61s	110	1390/1566	100	1190/1366	644/644	583/583	28	196	476	868	
	75	280S	-	●	●	●	●	68/68s	110	1520/1660	100	1320/1460	637/637	576/576	28	196	476	908	

Pump type	Motor data							Base frame code [48]	Dimensions [mm]										Pump with E-motor [49]
	P2 [kW]	Frame size	Make						a2	l1 [48]	l2	l3 [48]	b2 [48]	b3 [48]	d	h	h3	h4 [50]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
150-125-400	55	250M	-	●	●	●	●	62/62s	110	1370/1506	100	1170/1306	630/630	569/569	28	196	511	903	
	75	280S	-	●	●	●	●	67/67s	110	1520/1656	100	1320/1456	660/660	599/599	28	196	511	943	
	90	280M	-	●	●	●	●	67/67s	110	1520/1656	100	1320/1456	660/660	599/599	28	196	511	943	
	110	315S	-	●	●	●	●	74/74s	110	1540/1676	100	1275/1411	698/698	637/637	28	196	511	1006	
	132	315M	-	●	●	●	●	80/80s	110	1750/1926	100	1550/1726	690/690	629/629	28	196	511	1006	
150-125-500	110	315S	-	●	●	●	●	79/79s	110	1700/1876	100	1500/1676	690/690	629/629	28	196	596	1091	
	132	315M	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	160	315L	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	200	315L	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	288	315	-	●	●	●	●	99/99s	110	1880/2060	100	1680/1860	750/750	689/689	28	196	596	1064	
	362	315	-	●	●	●	●	99/99s	110	1880/2060	100	1680/1860	750/750	689/689	28	196	596	1064	
200-150-200	15	160L	●	●	●	●	●	29/29s	110	1160/1336	100	960/1136	586/586	543/543	19	116	396	556	
	18.5	180M	-	●	●	●	●	36/36s	110	1200/1370	100	1000/1170	610/610	558/558	24	160	440	747	
	22	180L	-	●	●	●	●	36/36s	110	1200/1370	100	1000/1170	610/610	558/558	24	160	440	698	
200-150-250	30	200L	-	●	●	●	●	43/43s	110	1240/1420	100	1040/1220	610/610	558/558	24	156	436	741	
	37	225S	-	●	●	●	●	53/53s	110	1310/1486	100	1110/1286	610/610	558/558	24	160	440	765	
	45	225M	-	●	●	●	●	53/53s	110	1310/1486	100	1110/1286	610/610	558/558	24	160	440	765	
	55	250M	-	●	●	●	●	61/61s	110	1390/1566	100	1190/1366	644/644	583/583	28	196	476	868	
	75	280S	-	●	●	●	●	68/68s	110	1520/1660	100	1320/1460	637/637	576/576	28	196	476	908	
200-150-315.2	37	225S	-	●	●	●	●	48/48s	110	1438/1614	100	1238/1414	610/610	558/558	24	156	471	796	
	45	225M	-	●	●	●	●	48/48s	110	1438/1614	100	1238/1414	610/610	558/558	24	156	471	796	
	55	250M	-	●	●	●	●	56/56s	110	1500/1676	100	1300/1476	630/630	569/569	28	196	511	903	
	75	280S	-	●	●	●	●	64/64s	110	1660/1836	100	1460/1636	680/680	619/619	28	196	511	943	
200-150-315	55	250M	-	●	●	●	●	62/62s	110	1370/1506	100	1170/1306	630/630	569/569	28	196	511	903	
	75	280S	-	●	●	●	●	67/67s	110	1520/1656	100	1320/1456	660/660	599/599	28	196	511	943	
	90	280M	-	●	●	●	●	67/67s	110	1520/1656	100	1320/1456	660/660	599/599	28	196	511	943	
	110	315S	-	●	●	●	●	74/74s	110	1540/1676	100	1275/1411	698/698	637/637	28	196	511	1006	
	132	315M	-	●	●	●	●	80/80s	110	1750/1926	100	1550/1726	690/690	629/629	28	196	511	1006	
200-150-400	90	280M	-	●	●	●	●	64/64s	110	1660/1836	100	1460/1636	680/680	619/619	28	196	511	943	
	110	315S	-	●	●	●	●	80/80s	110	1750/1926	100	1550/1726	690/690	629/629	28	196	511	1006	
	132	315M	-	●	●	●	●	85/85s	110	1830/2006	100	1630/1806	690/690	629/629	28	196	511	1006	
	160	315L	-	●	●	●	●	85/85s	110	1830/2006	100	1630/1806	690/690	629/629	28	196	511	1006	
	200	315L	-	●	●	●	●	85/85s	110	1830/2006	100	1630/1806	690/690	629/629	28	196	511	1006	
	288	315	-	●	●	●	●	100/100s	110	1860/2036	100	1660/1836	750/750	689/689	28	200	515	983	
200-150-500	200	315L	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	288	315	-	●	●	●	●	99/99s	110	1880/2060	100	1680/1860	750/750	689/689	28	196	596	1064	
	362	315	-	●	●	●	●	99/99s	110	1880/2060	100	1680/1860	750/750	689/689	28	196	596	1064	
250-200-400	55	250M	-	●	●	●	●	57/57s	110	1530/1706	100	1330/1506	680/680	619/619	28	196	596	988	
	75	280S	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	90	280M	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	110	315S	-	●	●	●	●	79/79s	110	1700/1876	100	1500/1676	690/690	629/629	28	196	596	1091	
	132	315M	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	160	315L	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	200	315L	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	

Pump type	Motor data							Base frame code [48]	Dimensions [mm]										Pump with E-motor [49]
	P2 [kW]	Frame size	Make						a2	l1 [48]	l2	l3 [48]	b2 [48]	b3 [48]	d	h	h3	h4 [50]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
250-200-450	75	280S	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	90	280M	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	110	315S	-	●	●	●	●	79/79s	110	1700/1876	100	1500/1676	690/690	629/629	28	196	596	1091	
	132	315M	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	160	315L	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	200	315L	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	288	315	-	●	●	●	●	99/99s	110	1880/2060	100	1680/1860	750/750	689/689	28	196	596	1064	
300-250-350	75	280S	-	●	●	●	●	66/66s	110	1700/1876	100	1500/1676	780/780	719/719	28	196	646	1078	
	90	280M	-	●	●	●	●	66/66s	110	1700/1876	100	1500/1676	780/780	719/719	28	196	646	1078	
	110	315S	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	132	315M	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
300-250-400	75	280S	-	●	●	●	●	66/66s	110	1700/1876	100	1500/1676	780/780	719/719	28	196	646	1078	
	90	280M	-	●	●	●	●	66/66s	110	1700/1876	100	1500/1676	780/780	719/719	28	196	646	1078	
	110	315S	-	●	●	●	●	78/78s	110	1710/1886	100	1510/1686	780/780	719/719	28	196	646	1141	
	132	315M	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	160	315L	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	200	315L	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	288	315	-	●	●	●	●	98/98s	110	1900/2075	100	1700/1875	790/790	729/729	28	196	646	1114	
300-250-450	110	315S	-	●	●	●	●	78/78s	110	1710/1886	100	1510/1686	780/780	719/719	28	196	646	1141	
	132	315M	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	160	315L	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	200	315L	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	288	315	-	●	●	●	●	98/98s	110	1900/2075	100	1700/1875	790/790	729/729	28	196	646	1114	
	362	315	-	●	●	●	●	98/98s	110	1900/2075	100	1700/1875	790/790	729/729	28	196	646	1114	
300-250-500	288	315	-	●	●	●	●	98/98s	110	1900/2075	100	1700/1875	790/790	729/729	28	196	646	1114	
	362	315	-	●	●	●	●	98/98s	110	1900/2075	100	1700/1875	790/790	729/729	28	196	646	1114	
	408	355	-	●	●	●	●	109/109s	110	2090/2270	100	1890/2070	840/840	779/779	28	196	646	1187	
	460	355	-	●	●	●	●	109/109s	110	2090/2270	100	1890/2070	840/840	779/779	28	196	646	1187	

48) Pump with standard coupling or pump with spacer coupling.

49) For pump dimensions with E-motors, see the relevant pages in section Dimensional drawings and technical data.

50) P2 less than or equal to 15 kW, pump with MG motor; P2 greater than or equal to 18.5 kW, pump with Siemens motor.

Related information

NBG, dimensional drawings

NKG pumps, 6-pole

Pump type	Motor data							Base frame code [51]	Dimensions [mm]										Pump with E-motor [52]
	P2 [kW]	Frame size	Make						a2	l1 [51]	l2	l3 [51]	b2 [51]	b3 [51]	d	h	h3	h4 [53]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
125-100-160	1.1	90L	-	●	●	●	●	110/110s	90	860/996	100	660/796	400/400	365/365	14	77	277	405	
	1.5	100L	-	●	●	●	●	11/11s	90	900/1036	100	700/836	416/416	373/373	19	114	314	449	
	2.2	112M	-	●	●	●	●	16/16s	90	900/1036	100	700/836	446/446	403/403	19	114	314	462	
125-100-200	1.5	100L	-	●	●	●	●	11/11s	90	900/1036	100	700/836	416/416	373/373	19	114	314	449	
	2.2	112M	-	●	●	●	●	16/16s	90	900/1036	100	700/836	446/446	403/403	19	114	314	462	
	3	132M	-	●	●	●	●	21/21s	90	980/1116	100	780/916	447/447	404/404	19	114	314	481	
	4	132M	-	●	●	●	●	21/21s	90	980/1116	100	780/916	447/447	404/404	19	114	314	481	
	5.5	132M	-	●	●	●	●	21/21s	90	980/1116	100	780/916	447/447	404/404	19	114	314	481	
125-100-250	4	132M	-	●	●	●	●	22/22As	90	1010/1150	100	810/950	446/446	403/403	19	114	339	506	
	5.5	132M	-	●	●	●	●	22/22As	90	1010/1150	100	810/950	446/446	403/403	19	114	339	506	
	7.5	160M	-	●	●	●	●	28/28As	90	1140/1280	100	940/1080	446/446	403/403	19	114	339	536	
125-100-315	7.5	160M	-	●	●	●	●	28/28As	90	1140/1280	100	940/1080	446/446	403/403	19	114	364	561	
	11	160L	-	●	●	●	●	28/28As	90	1140/1280	100	940/1080	446/446	403/403	19	114	364	561	
	15	180L	-	●	●	●	●	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	404	662	
125-100-400	11	160L	-	●	●	●	●	29/29s	110	1160/1336	100	960/1136	586/586	543/543	19	116	396	593	
	15	180L	-	●	●	●	●	36/36s	110	1200/1370	100	1000/1170	610/610	558/558	24	160	440	698	
	18.5	200L	-	●	●	●	●	43/43s	110	1240/1420	100	1040/1220	610/610	558/558	24	156	436	741	
	22	200L	-	●	●	●	●	43/43s	110	1240/1420	100	1040/1220	610/610	558/558	24	156	436	741	
	30	225M	-	●	●	●	●	53/53s	110	1310/1486	100	1110/1286	610/610	558/558	24	160	440	765	
150-125-200	3	132M	-	●	●	●	●	22/22As	90	1010/1150	100	810/950	446/446	403/403	19	114	364	531	
	4	132M	-	●	●	●	●	22/22As	90	1010/1150	100	810/950	446/446	403/403	19	114	364	531	
	5.5	132M	-	●	●	●	●	22/22As	90	1010/1150	100	810/950	446/446	403/403	19	114	364	531	
	7.5	160M	-	●	●	●	●	28/28s	90	1140/1250	100	940/1050	446/446	403/403	19	114	364	561	
150-125-250	5.5	132M	-	●	●	●	●	22/22As	90	1010/1150	100	810/950	446/446	403/403	19	114	364	531	
	7.5	160M	-	●	●	●	●	28/28As	90	1140/1280	100	940/1080	446/446	403/403	19	114	364	561	
	11	160L	-	●	●	●	●	28/28As	90	1140/1280	100	940/1080	446/446	403/403	19	114	364	561	
	15	180L	-	●	●	●	●	35/35As	90	1180/1315	100	980/1115	489/489	437/437	24	154	404	662	
150-125-315	7.5	160M	-	●	●	●	●	29/29s	110	1160/1336	100	960/1136	586/586	543/543	19	116	396	593	
	11	160L	-	●	●	●	●	29/29s	110	1160/1336	100	960/1136	586/586	543/543	19	116	396	593	
	15	180L	-	●	●	●	●	36/36s	110	1200/1370	100	1000/1170	610/610	558/558	24	160	440	698	
	18.5	200L	-	●	●	●	●	43/43s	110	1240/1420	100	1040/1220	610/610	558/558	24	156	436	741	
	22	200L	-	●	●	●	●	43/43s	110	1240/1420	100	1040/1220	610/610	558/558	24	156	436	741	
150-125-400	18.5	200L	-	●	●	●	●	44/44s	110	1240/1376	100	1040/1176	610/610	558/558	24	156	471	776	
	22	200L	-	●	●	●	●	44/44s	110	1240/1376	100	1040/1176	610/610	558/558	24	156	471	776	
	30	225M	-	●	●	●	●	54/54s	110	1305/1440	100	1105/1240	610/610	558/558	24	160	475	800	
	37	250M	-	●	●	●	●	62/62s	110	1370/1506	100	1170/1306	630/630	569/569	28	196	511	903	
	45	280S	-	●	●	●	●	67/67s	110	1520/1656	100	1320/1456	660/660	599/599	28	196	511	943	
150-125-500	37	250M	-	●	●	●	●	57/57s	110	1530/1706	100	1330/1506	680/680	619/619	28	196	596	988	
	45	280S	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	55	280M	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	75	315S	-	●	●	●	●	79/79s	110	1700/1876	100	1500/1676	690/690	629/629	28	196	596	1091	
	90	315M	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
200-150-200	4	132M	-	●	●	●	●	23/23s	110	1030/1180	100	830/980	591/591	548/548	19	116	396	563	
	5.5	132M	-	●	●	●	●	23/23s	110	1030/1180	100	830/980	591/591	548/548	19	116	396	563	
	7.5	160M	-	●	●	●	●	29/29s	110	1160/1336	100	960/1136	586/586	543/543	19	116	396	593	

Pump type	Motor data							Base frame code [51]	Dimensions [mm]										Pump with E-motor [52]
	P2 [kW]	Frame size	Make						a2	l1 [51]	l2	l3 [51]	b2 [51]	b3 [51]	d	h	h3	h4 [53]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
200-150-250	11	160L	-	●	●	●	●	29/29s	110	1160/1336	100	960/1136	586/586	543/543	19	116	396	593	
	15	180L	-	●	●	●	●	36/36s	110	1200/1370	100	1000/1170	610/610	558/558	24	160	440	698	
	18.5	200L	-	●	●	●	●	43/43s	110	1240/1420	100	1040/1220	610/610	558/558	24	156	436	741	
200-150-315.2	11	160L	-	●	●	●	●	24/24s	110	1300/1476	100	1100/1276	586/586	543/543	19	116	431	628	
	15	180L	-	●	●	●	●	38/38s	110	1340/1516	100	1140/1316	620/620	568/568	24	156	471	729	
	18.5	200L	-	●	●	●	●	45/45s	110	1380/1556	100	1180/1356	610/610	558/558	24	156	471	776	
	22	200L	-	●	●	●	●	45/45s	110	1380/1556	100	1180/1356	610/610	558/558	24	156	471	776	
200-150-315	18.5	200L	-	●	●	●	●	44/44s	110	1240/1376	100	1040/1176	610/610	558/558	24	156	471	776	
	22	200L	-	●	●	●	●	44/44s	110	1240/1376	100	1040/1176	610/610	558/558	24	156	471	776	
	30	225M	-	●	●	●	●	54/54s	110	1305/1440	100	1105/1240	610/610	558/558	24	160	475	800	
	37	250M	-	●	●	●	●	62/62s	110	1370/1506	100	1170/1306	630/630	569/569	28	196	511	903	
200-150-400	22	200L	-	●	●	●	●	45/45s	110	1380/1556	100	1180/1356	610/610	558/558	24	156	471	776	
	30	225M	-	●	●	●	●	48/48s	110	1438/1614	100	1238/1414	610/610	558/558	24	156	471	796	
	37	250M	-	●	●	●	●	56/56s	110	1500/1676	100	1300/1476	630/630	569/569	28	196	511	903	
	45	280S	-	●	●	●	●	64/64s	110	1660/1836	100	1460/1636	680/680	619/619	28	196	511	943	
	55	280M	-	●	●	●	●	64/64s	110	1660/1836	100	1460/1636	680/680	619/619	28	196	511	943	
	75	315S	-	●	●	●	●	80/80s	110	1750/1926	100	1550/1726	690/690	629/629	28	196	511	1006	
200-150-500	55	280M	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	75	315S	-	●	●	●	●	79/79s	110	1700/1876	100	1500/1676	690/690	629/629	28	196	596	1091	
	90	315M	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	110	315L	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
	132	315L	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
250-200-400	22	200L	-	●	●	●	●	46/46s	110	1400/1576	100	1200/1376	660/660	608/608	24	156	556	861	
	30	225M	-	●	●	●	●	49/49s	110	1460/1636	100	1260/1436	660/660	608/608	24	156	556	881	
	37	250M	-	●	●	●	●	57/57s	110	1530/1706	100	1330/1506	680/680	619/619	28	196	596	988	
	45	280S	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	55	280M	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
250-200-450	37	250M	-	●	●	●	●	57/57s	110	1530/1706	100	1330/1506	680/680	619/619	28	196	596	988	
	45	280S	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	55	280M	-	●	●	●	●	65/65s	110	1660/1836	100	1460/1636	690/690	629/629	28	196	596	1028	
	75	315S	-	●	●	●	●	79/79s	110	1700/1876	100	1500/1676	690/690	629/629	28	196	596	1091	
	90	315M	-	●	●	●	●	84/84s	110	1850/2027	100	1650/1827	690/690	629/629	28	196	596	1091	
300-250-350	22	200L	-	●	●	●	●	47/47s	110	1438/1614	100	1238/1414	660/660	608/608	24	156	606	911	
	30	225M	-	●	●	●	●	50/50s	110	1504/1680	100	1304/1480	660/660	608/608	24	156	606	931	
	37	250M	-	●	●	●	●	58/58s	110	1568/1744	100	1368/1544	780/780	719/719	28	196	646	1038	
	45	280S	-	●	●	●	●	66/66s	110	1700/1876	100	1500/1676	780/780	719/719	28	196	646	1078	
300-250-400	30	225M	-	●	●	●	●	50/50s	110	1504/1680	100	1304/1480	660/660	608/608	24	156	606	931	
	37	250M	-	●	●	●	●	58/58s	110	1568/1744	100	1368/1544	780/780	719/719	28	196	646	1038	
	45	280S	-	●	●	●	●	66/66s	110	1700/1876	100	1500/1676	780/780	719/719	28	196	646	1078	
	55	280M	-	●	●	●	●	66/66s	110	1700/1876	100	1500/1676	780/780	719/719	28	196	646	1078	
	75	315S	-	●	●	●	●	78/78s	110	1710/1886	100	1510/1686	780/780	719/719	28	196	646	1141	
	90	315M	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
300-250-450	37	250M	-	●	●	●	●	58/58s	110	1568/1744	100	1368/1544	780/780	719/719	28	196	646	1038	
	45	280S	-	●	●	●	●	66/66s	110	1700/1876	100	1500/1676	780/780	719/719	28	196	646	1078	
	55	280M	-	●	●	●	●	66/66s	110	1700/1876	100	1500/1676	780/780	719/719	28	196	646	1078	
	75	315S	-	●	●	●	●	78/78s	110	1710/1886	100	1510/1686	780/780	719/719	28	196	646	1141	
	90	315M	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	110	315L	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	

Pump type	Motor data							Base frame code [51]	Dimensions [mm]										Pump with E-motor [52]
	P2 [kW]	Frame size	Make						a2	l1 [51]	l2	l3 [51]	b2 [51]	b3 [51]	d	h	h3	h4 [53]	
			MG	Siemens	MMG-E	MMG-G	MMG-H												
300-250-500	75	315S	-	●	●	●	●	78/78s	110	1710/1886	100	1510/1686	780/780	719/719	28	196	646	1141	
	90	315M	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	110	315L	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	132	315L	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1141	
	160	315L	-	●	●	●	●	83/83s	110	1900/2076	100	1700/1875	780/780	719/719	28	196	646	1146	

51) Pump with standard coupling or pump with spacer coupling.

52) For pump dimensions with E-motors, see the relevant pages in section Dimensional drawings and technical data.

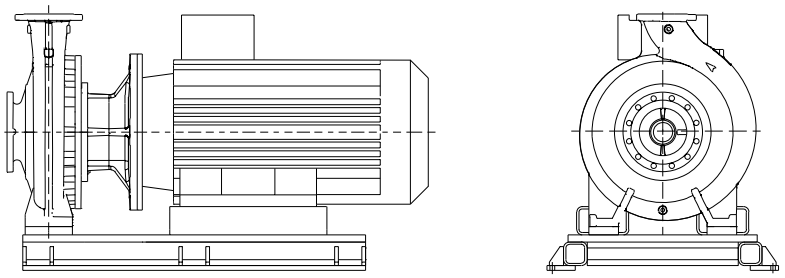
53) Pump with Siemens motor.

Related information

NBG, dimensional drawings

NBG base frames

Some NBG pumps are available with base frame as an option. The pump is mounted on the base frame when produced, and therefore the base frame should be ordered together with the pump.



TM051514

NBG pump with base frame

20. Motor data

Standard motor ranges

The table shows the range of standard motors currently used for NBG, NKG pumps. The motors stated in section Dimensional drawings and technical data are MG and Siemens motors.

IE class	Make	Pole	P2 [kW]																																						
			0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	224	230	250	280	288	298	315	353	355	362	400	408	460	500
IE3	MG	2	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Siemens	2	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	●	-	-	-	●	●	-	-	●	●	-	●	-	-
		4	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	●	-	●	●	-	-	-	●	-	●	●	-
		6	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-
		8	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MMG-G	2	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	-	-	●	-	●	-	-	-	-	-
		4	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	-	-	●	-	-	-	-	-	-	●
		6	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IE4	Siemens	2	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	●	●	-	-	●	●	-	●	-	-
		4	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	●	●	-	-	-	●	-	●	●	-
		6	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MMG-G	2	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	-	-	●	-	●	-	-	-	-	-
		4	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	-	-	●	-	-	-	-	-	-	●
		6	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Not all motor makes are available worldwide. For specific information about the motor makes available in your region, contact your Grundfos Customer Service Unit (CSU).

E-solution range

Pole	IE class	P2 [kW]												
		0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22
2	IE5 [23)]	-	-	●	●	●	●	●	●	●	●	●	●	●
4	IE4 [24)]	-	-	-	-	-	-	-	-	-	-	-	●	●
	IE5 [23)]	●	●	●	●	●	●	●	●	●	●	●	●	●

23) MGE Motor

24) Siemens motor with integrated CUE

Electrical data, IE3 motors

MG, 2-pole

Motor	Frame size	IE class	Voltage [V]	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ 1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
MG-C	71A	IE3	3 x 220-255 Δ / 380-440 Y	0.37	1.50 - 1.44 / 0.87 - 0.83	80.0	0.85 - 0.76	3410-3470	5.5 - 6.5
MG-C	71B	IE3		0.55	2.15 - 2.05 / 1.25 - 1.20	83.0	0.85 - 0.76	3390-3460	5.0 - 6.0
MG-H3	80A	IE3	3 x 220-277 Δ / 380-480 Y	0.75	2.95 - 2.75 / 1.70 - 1.60	83.0 - 85.0	0.86 - 0.77	3410-3470	7.4 - 6.0
MG-H3	80C	IE3		1.1	4.15 - 4.00 / 2.40 - 2.30	82.0 - 84.5	0.88 - 0.82	3420-3470	5.0 - 4.3
MG-H3	90SB	IE3		1.5	5.35 - 4.70 / 3.10 - 2.70	84.0 - 85.5	0.90 - 0.81	3470-3530	7.8 - 10.5
MG-H3	90LC	IE3		2.2	7.70 - 6.35 / 4.45 - 3.70	85.5 - 86.5	0.91 - 0.85	3470-3530	7.8 - 11.0
MG-H3	100LC	IE3		3	10.8 - 9.35 / 6.20 - 5.40	87.5 - 88.5	0.91 - 0.84	3480-3530	8.6 - 11.0
MG-H3	112MC	IE3		4	13.6 - 11.8 / 7.80 - 6.80	88.5	0.91 - 0.82	3510-3540	10.0 - 14.7
MG-H3	90LC	IE3	3 x 380-480 Δ	2.2	445-370	85.5 - 86.5	0.91 - 0.85	3470-3530	7.8 - 11.0
MG-H3	100LC	IE3		3	620-540	87.5 - 88.5	0.91 - 0.84	3480-3530	8.6 - 11.0
MG-H3	112MC	IE3		4	780-680	88.5	0.91 - 0.82	3510-3540	10.0 - 14.7
MG-H3	132SC	IE3		5.5	106-930	89.5	0.90 - 0.80	3510-3550	10.2 - 14.8
MG-H3	132SB	IE3	3 x 380-480 Δ / 660-690 Y	7.5	142-120 / 820-810	89.5 - 90.2	0.90 - 0.82	3490-3530	6.8 - 10.5
MG-H3	160MB	IE3		11	208-172 / 120-116	90.2 - 91.0	0.89 - 0.83	3520-3550	5.8 - 8.90
MG-H3	160MD	IE3		15	280-224 / 162-156	90.2 - 91.0	0.90 - 0.86	3520-3550	5.8 - 8.9
MG-H3	160LB	IE3		18	345-280 / 200-166	91.0 - 91.7	0.89 - 0.84	3520-3560	6.7 - 11.0
MG-H3	180MB	IE3		22	400-325 / 230-222	91.7	0.91	3520-3560	6.5 - 10.4

Siemens, 2-pole

Motor	Frame size	IE class	Voltage [V]	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ 1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
Siemens	80M	IE3	3 x 220-240 Δ / 380-420 Y	0.75	3.02 - 2.81 / 1.74 - 1.62	74.4	0.90	3420	4.7
Siemens	80M	IE3		1.1	4.00 - 3.66 / 2.31 - 2.11	82.1	0.90	3455	5.5
Siemens	90S	IE3		1.5	5.33 - 4.86 / 3.08 - 2.81	83.7	0.90	3495	6.6
Siemens	90L	IE3		2.2	7.42 - 6.81 / 4.28 - 3.93	84.3	0.90	3495	6.3
Siemens	100L	IE3		3	10.0 - 9.00 / 5.80 - 5.20	87.5	0.90	3505	7.4
Siemens	112M	IE3		4	13.2 - 12.0 / 7.60 - 6.90	88.5	0.90	3550	7.1
Siemens	100L	IE3	3 x 255-277 Δ / 440-480 Y	3	10.0 - 9.00 / 5.80 - 5.20	88.5	0.90	3520	8.5
Siemens	112M	IE3		4	13.2 - 12.0 / 7.60 - 6.90	88.5	0.90	3555	8.2
Siemens	100L	IE3	3 x 380-420 Δ / 660-725 Y	3	5.80 - 5.20 / 3.40 - 3.00	87.5	0.90	3505	7.4
Siemens	112M	IE3		4	7.60 - 6.90 / 4.40 - 4.00	88.5	0.90	3550	7.1
Siemens	132S	IE3		5.5	10.4 - 9.30 / 6.00 - 5.40	88.5	0.90	3535	6.5
Siemens	132S	IE3		7.5	14.0 - 12.6 / 8.00 - 7.30	89.5	0.90	3540	7.2
Siemens	160M	IE3		11	21.0 - 18.8 / 12.2 - 10.8	90.2	0.90	3550	6.5
Siemens	160M	IE3		15	28.0 - 25.0 / 16.0 - 14.6	91.0	0.90	3550	8.1
Siemens	160L	IE3		18.5	34.0 - 31.0 / 19.6 - 18.0	91.0	0.90	3550	7.4
Siemens	180M	IE3		22	40.5 - 36.5 / 23.6 - 21.0	91.7	0.90	3540	6.6
Siemens	200L	IE3		30	56.0 - 50.0 / 32.0 - 29.0	92.4	0.89	3545	6.1
Siemens	200L	IE3		37	69.0 - 62.0 / 38.5 - 35.0	93.0	0.90	3540	5.8
Siemens	225M	IE3		45	81.0 - 73.0 / 47.0 - 42.0	94.2	0.90	3555	7.6
Siemens	250M	IE3		55	96.0 - 89.0 / 55.0 - 51.0	94.0	0.90	3570	7.3
Siemens	315L	IE3		224	390-355 / 226-206	95.7	0.90	3585	8.5
Siemens	315L	IE3		298	530-475 / 305-275	95.8	0.90	3585	8.4
Siemens	100L	IE3	3 x 440-480 D	3.40	5.80 - 5.20	88.5	0.9	3520	8.5
Siemens	112M	IE3		4.55	7.60 - 6.90	88.5	0.9	3555	8.2
Siemens	132S	IE3		6.30	10.2 - 9.20	89.5	0.9	3545	7.5
Siemens	132S	IE3		8.60	13.8 - 12.4	90.2	0.9	3550	8.4
Siemens	160M	IE3		12.50	20.6 - 18.6	91.0	0.9	3555	7.6
Siemens	160M	IE3		17.00	28.5 - 25.5	91.7	0.9	3555	8.1
Siemens	160L	IE3		21.00	33.5 - 30.5	91.7	0.9	3560	8.4
Siemens	180M	IE3		25.0	39.5 - 36.0	91.7	0.89	3550	8.2
Siemens	200L	IE3		34.5	54.0 - 50.0	93.0	0.87	3550	6.6
Siemens	200L	IE3		42.5	67.0 - 61.0	93.6	0.87	3550	6.7
Siemens	225M	IE3	3 x 440-480 Δ / 760-830 Y	51.5	79.0 - 74.0 / 45.5 - 42.5	93.6	0.89	3560	6.8
Siemens	250M	IE3		63.0	96.0 - 89.0 / 55.0 - 51.0	93.6	0.90	3575	6.7
Siemens	280S	IE3		86.0	130-122 / 75.0 - 70.0	94.5	0.89	3575	6.8
Siemens	280M	IE3		103.5	156-144 / 90.0 - 83.0	94.5	0.90	3575	7.2
Siemens	315S	IE3		126.5	186-172 / 108 - 99.0	95.0	0.91	3580	7.2
Siemens	315M	IE3		151.8	226-206 / 130-118	95.4	0.91	3580	7.1
Siemens	315L	IE3		184	270-250 / 156-144	95.4	0.92	3580	7.7
Siemens	315L	IE3		230	335-305 / 194-176	95.8	0.92	3580	7.1
Siemens	315L	IE3	3 x 440-480 Δ	288	420-385	95.4	0.9	3585	8.7
Siemens	315L	IE3		362	540-510	95.4	0.9	3585	8.9
Siemens	355L	IE3		408	610-550	95.9	0.9	3585	6.5

Siemens, 4-pole

Motor	Frame size	IE class	Voltage [V]	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ 1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
Siemens	80	IE3	3 x 220-240 Δ / 380-420 Y	0.75	2.97 - 2.81 / 1.71 - 1.62	83.2	0.78	1740	6.8
Siemens	90S	IE3		1.1	4.22 - 3.90 / 2.44 - 2.25	86.4	0.81	1725	6.4
Siemens	90L	IE3		1.5	5.60 - 5.20 / 3.25 - 3.00	86.5	0.83	1735	6.6
Siemens	100L	IE3		2.2	7.60 - 7.00 / 4.40 - 4.00	89.5	0.84	1760	7.3
Siemens	100L	IE3		3	10.4 - 9.35 / 6.00 - 5.40	89.5	0.85	1750	7.1
Siemens	112M	IE3		4	13.8 - 12.6 / 8.00 - 7.30	89.5	0.84	1755	5.4
Siemens	80	IE3	3 x 255-277 Δ / 440-480 Y	0.86	2.95 - 2.88 / 1.70 - 1.66	85.5	0.75	1750	7.7
Siemens	90S	IE3		1.25	4.16 - 4.04 / 2.40 - 2.33	86.5	0.79	1740	6.9
Siemens	90L	IE3		1.75	5.58 - 5.39 / 3.22 - 3.11	86.5	0.80	1740	7.5
Siemens	100L	IE3		2.5	7.60 - 7.10 / 4.40 - 4.10	89.5	0.84	1765	8.5
Siemens	100L	IE3		3.40	10.2 - 9.35 / 5.90 - 5.40	89.5	0.84	1755	8.4
Siemens	112M	IE3		4.55	14.0 - 12.8 / 8.10 - 7.40	89.5	0.83	1760	7.3
Siemens	100L	IE3	3 x 380-420 Δ / 660-725 Y	3	6.00 - 5.40 / 3.50 - 3.10	89.5	0.85	1750	7.1
Siemens	112M	IE3		4	8.00 - 7.30 / 4.60 - 4.20	89.5	0.84	1755	5.4
Siemens	132S	IE3		5.5	11.0 - 10.0 / 6.30 - 5.80	89.5	0.85	1770	7.1
Siemens	132M	IE3		7.5	14.6 - 13.2 / 8.40 - 7.60	91.7	0.85	1760	7.3
Siemens	160M	IE3		11	21.0 - 19.0 / 12.2 - 11.0	92.4	0.86	1770	6.6
Siemens	160L	IE3		15	28.5 - 26.0 / 16.4 - 15.0	93.0	0.86	1775	7.2
Siemens	180M	IE3		18.5	36.5 - 33.0 / 21.0 - 19.0	92.4	0.84	1765	6.2
Siemens	180L	IE3		22	42.5 - 40.5 / 24.6 - 23.6	92.4	0.84	1765	6.0
Siemens	200L	IE3		30	57.5 - 54.0 / 33.5 - 31.5	93.0	0.85	1765	6.1
Siemens	225S	IE3		37	69.0 - 63.0 / 40.0 - 36.5	94.0	0.86	1775	5.4
Siemens	225M	IE3		45	85.0 - 76.0 / 49.0 - 44.0	94.3	0.86	1775	5.3
Siemens	250M	IE3		55	102 - 92.0 / 59.0 - 53.0	94.7	0.87	1780	5.4
Siemens	315L	IE3		250	415-370 / 240-216	95.9	0.86	1790	7.7
Siemens	315L	IE3		298	560-500 / 320-290	95.9	0.85	1790	7.9
Siemens	100L	IE3	3 x 440-480 Δ	3.40	5.90 - 5.40	89.5	0.84	1755	8.4
Siemens	112M	IE3		4.55	8.10 - 7.40	89.5	0.83	1760	7.3
Siemens	132S	IE3		6.30	10.8 - 9.80	91.7	0.84	1775	8.4
Siemens	132M	IE3		8.60	14.6 - 13.0	91.7	0.85	1765	8.4
Siemens	160M	IE3		12.50	21.0 - 19.0	92.4	0.85	1770	7.9
Siemens	160L	IE3		17.00	29.0 - 27.0	93.6	0.83	1775	8.5
Siemens	180M	IE3		21.0	36.0 - 33.0	93.6	0.83	1770	7.0
Siemens	180L	IE3		25.0	43.0 - 40.5	93.6	0.83	1770	6.9
Siemens	200L	IE3		34.5	57.0 - 53.5	93.0	0.85	1770	7.2
Siemens	225S	IE3		42.5	69.0 - 64.0	93.6	0.86	1780	6.7
Siemens	225M	IE3		51.5	84.0 - 79.0	94.1	0.86	1780	6.6
Siemens	250M	IE3		63.0	102 - 94.0	94.1	0.87	1780	6.7
Siemens	280S	IE3		86.0	136-128	94.5	0.87	1785	6.8
Siemens	280M	IE3		103.5	166-154	95.0	0.87	1785	7.0
Siemens	315S	IE3		126.5	200-186	95.8	0.87	1790	6.9
Siemens	315M	IE3		151.8	236-220	96.2	0.88	1790	7.2
Siemens	315L	IE3		184	285-265	96.2	0.88	1790	7.2
Siemens	315L	IE3		230	360-335	95.4	0.88	1790	7.5
Siemens	315L	IE3		288	445-410	96.2	0.88	1790	7.5
Siemens	315L	IE3		362	570-540	96.2	0.86	1790	8.4
Siemens	355L	-		408	650-610	96.2	0.85	1790	6.5

Siemens, 6-pole

Motor	Frame size	IE class	Voltage [V]	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ 1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
Siemens	80A	-	3 x 220-240 Δ / 380-420 Y	0.37	1.81 - 1.71 / 1.05 - 0.99	77.1	0.69	1125	4.1
Siemens	80B	-		0.55	2.62 - 2.43 / 1.51 - 1.43	79.6	0.70	1120	4.3
Siemens	80A	-	3 x 255-277 Δ / 440-480 Y	0.43	1.8 - 1.82 / 1.04 - 1.05	78.5	0.66	1140	4.6
Siemens	80B	-		0.63	2.51 - 2.5 / 1.45 - 1.44	81.7	0.67	1135	5.0
Siemens	90S	IE3	3 x 220-240 Δ / 380-420 Y	075	3.50 - 3.20 / 2.03 - 1.85	79.9	0.71	1130	4.2
Siemens	90L	IE3		1.1	5.55 - 5.05 / 3.20 - 2.92	72.8	0.72	1125	3.9
Siemens	100L	IE3		1.5	5.80 - 5.30 / 3.35 - 3.05	86.5	0.78	1165	5.2
Siemens	112M	IE3		2.2	8.50 - 7.60 / 4.90 - 4.40	87.5	0.78	1165	6.2
Siemens	132S	IE3		3	11.4 - 10.4 / 6.60 - 6.00	87.5	0.78	1170	6.0
Siemens	132M	IE3		4	15.4 - 13.8 / 8.90 - 8.00	87.5	0.78	1165	5.6
Siemens	90S	IE3	3 x 255-277 Δ / 440-480 Y	0.86	3.29 - 3.22 / 1.9 - 1.86	82.5	0.70	1140	4.9
Siemens	90L	IE3		1.25	5.32 - 5.3 / 3.07 - 3.05	75.0	0.70	1140	4.6
Siemens	100L	IE3		1.75	6.35 - 5.65 / 3.65 - 3.25	86.5	0.74	1170	6.2
Siemens	112M	IE3		2.5	8.50 - 7.80 / 4.90 - 4.50	87.5	0.77	1170	7.0
Siemens	132S	IE3		3.4	11.40 - 10.4 / 6.60 - 6.00	89.5	0.77	1175	7.0
Siemens	132M	IE3		4.55	15.0 - 13.8 / 8.60 - 7.90	89.5	0.78	1170	6.6
Siemens	132S	IE3	3 x 380-420 Δ / 660-725 Y	3	6.60 - 6.00 / 3.80 - 3.45	87.5	0.78	1170	6.0
Siemens	132M	IE3		4	8.90 - 8.00 / 5.10 - 4.60	87.5	0.78	1165	5.6
Siemens	132M	IE3		5.5	11.8 - 10.6 / 6.70 - 6.10	89.5	0.80	1165	5.7
Siemens	160M	IE3		7.5	16.0 - 14.6 / 9.20 - 8.40	89.5	0.80	1170	5.2
Siemens	160L	IE3		11	23.0 - 20.8 / 13.2 - 12.0	90.2	0.81	1170	5.8
Siemens	180L	IE3		15	31.0 - 28.0 / 18.0 - 16.2	90.2	0.82	1165	5.2
Siemens	200L	IE3		18.5	37.5 - 34.0 / 21.6 - 19.6	91.7	0.82	1170	5.4
Siemens	200L	IE3		22	44.5 - 40.0 / 25.5 - 23.4	91.7	0.82	1170	5.3
Siemens	225M	IE3		30	58.0 - 53.0 / 33.5 - 30.5	93.3	0.84	1180	5.9
Siemens	250M	IE3		37.0	71.0 - 64.0 / 41.0 - 37.0	93.1	0.85	1180	6.2
Siemens	280S	IE3		45	85.0 - 77.0 / 49.0 - 44.5	93.4	0.86	1185	6.2
Siemens	280M	IE3		55	104 - 94.0 / 60.0 - 54.0	93.8	0.86	1185	6.3
Siemens	132S	IE3	3 x 440-480 Δ	3.40	6.60 - 6.00	89.5	0.77	1175	7.0
Siemens	132M	IE3		4.60	8.60 - 7.90	89.5	0.78	1170	6.6
Siemens	132M	IE3		6.30	11.8 - 10.8	91.0	0.78	1170	6.7
Siemens	160M	IE3		8.60	15.4 - 14.2	91.0	0.81	1175	6.3
Siemens	160L	IE3		12.50	22.4 - 20.6	91.7	0.80	1175	6.6
Siemens	180L	IE3	3 x 440-480 Δ / 760-830 Y	17.0	32.0 - 29.5 / 18.4 - 17.0	91.7	0.81	1170	5.8
Siemens	200L	IE3		21.0	39.0 - 36.5 / 22.8 - 21.0	91.7	0.80	1175	5.6
Siemens	200L	IE3		25.0	46.0 - 43.0 / 27.5 - 25.5	93.0	0.81	1175	5.5
Siemens	225M	IE3	3 x 440-480 Δ	34.5	60.0 - 56.0	93.0	0.84	1180	6.5
Siemens	250M	IE3		42.5	72.0 - 67.0	93.6	0.86	1180	6.8
Siemens	280S	IE3		51.5	88.0 - 81.0	93.6	0.86	1185	6.7
Siemens	280M	IE3		63	108-102	94.1	0.85	1185	6.9
Siemens	315S	IE3		86	148-138	95.0	0.84	1190	7.2
Siemens	315M	IE3		103.5	178-164	95.0	0.84	1190	6.6
Siemens	315L	IE3		126.5	216-200	95.0	0.85	1190	7.0
Siemens	315L	IE3		151.8	255-240	95.0	0.85	1190	7.0
Siemens	315L	IE3		184	310-295	95.0	0.84	1190	7.7
Siemens	315L	IE3		230	395-370	95.8	0.83	1190	7.4

Siemens, 8-pole

The electrical data is available on request.

Electrical data, MGE motors

Electrical data for motors with built-in frequency converter

Medium speed, 4000 RPM

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]
MGE	80B-IA	3 × 380-480 V	1.1	2.2 - 1.9
MGE	90SC-IA		1.5	2.9 - 2.4
MGE	90LD-IA		2.2	4.15 - 3.4
MGE	100LA-JA		3	5.8 - 4.8
MGE	112MC-JA		4	7.6 - 6.2
MGE	132SE-JA		5.5	10.3 - 8.2
MGE	132SF-JA		7.5	14.1 - 11.2
MGE	160MH-JA		11	20.3 - 16.0
MGE	160MA-K		15	26.7 - 22.0
MGE	160LB-K		18.5	33.0 - 27.8
MGE	180MC-K		22	39.2 - 31.5

Low speed, 2000/2200 RPM

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]
MGE	80B-IA	3 × 380-480 V	0.55	1.2 - 1.1
MGE	80C-IA		0.75	1.55 - 1.4
MGE	90SD-IA		1.1	2.2 - 1.9
MGE	90LD-IA		1.5	2.9 - 2.5
MGE	100LB-JA		2.2	4.3 - 3.6
MGE	100LD-JA		3	5.8 - 4.6
MGE	112ME-JA		4	7.7 - 6.0
MGE	132SG-JA		5.5	10.5 - 8.40
MGE	132MH-JA		7.5	14.1 - 11.1
MGE	160MD-K		11	20.2 - 16.4
MGE	160LE-K		15	26.7 - 21.8
MGE	180MF-K		18.5	33.2 - 26.9
MGE	180LG-K		22	39.2 - 31.5

Pump dimensions with other motors

The tables below show changes of pump dimensions when using other motors than the standard motors listed in section Dimensional drawings and technical data.

IE class	Motor
IE3/IE4	Siemens

Example

If a 2-pole, 3 kW Siemens motor, class IE3, is selected, the LL dimension will be 9 mm bigger.

IE3

IE3, Siemens, 2-pole

P2 [kW]		Motors on data pages		Other motors		L/LB	H	h4/AD	AG	LL	P	A	B	C	K	Weight [kg]	
50 Hz	60 Hz	Motor	Frame size	Motor	Frame size					[mm]						NK	NB
0.75	0.75	MG-H3	80A	Siemens IE3	80M	21	0	12	11	-3	0	0	0	0	-0.5	3	
1.1	1.1	MG-H3	80C	Siemens IE3	80M	1	0	12	11	-3	0	0	0	0	-0.5	3	
1.5	1.5	MG-H3	90S	Siemens IE3	90S	16	0	16	-69	-24	0	0	0	0	0	-1	
2.2	2.2	MG-H3	90L	Siemens IE3	90L	-24	0	16	-69	-24	0	0	25	0	0	0	
3	3	MG-H3	100L	Siemens IE3	100L	35.5	0	46	-27	9	0	0	0	0	0	3	2
4	4	MG-H3	112M	Siemens IE3	112M	-18	0	43	-67	9	0	0	0	0	0	-8	-8
5.5	5.5	MG-H3	132S	Siemens IE3	132S	-6	0	68	-47	27	0	0	0	0	0	3	6
7.5	7.5	MG-H3	132S	Siemens IE3	132S	56	0	43	-48	-5	0	0	0	0	0	6	8
11	11	MG-H3	160M	Siemens IE3	160M	23	0	32.5	-68	-68	0	0	0	0	0	-11	-8
15	15	MG-H3	160M	Siemens IE3	160M	23	0	32.5	-68	-68	0	0	0	0	0	-14	-12
18.5	18.5	MG-H3	160L	Siemens IE3	160L	39	0	32.5	-68	-68	0	0	0	0	0	-18	-15
22	22	MG-H3	180M	Siemens IE3	180M	17	0	82	-54	-49	0	0	0	0	0	43	35

Note: The dimensions L and h4 refer to NKG pumps, LB and AD to NBG pumps.

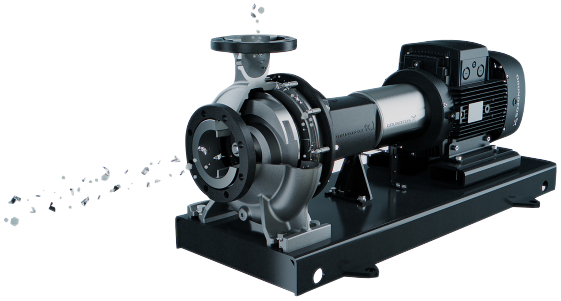
IE3, Siemens, 4-pole

P2 [kW]		Motors on data pages		Other motors		L/LB	H	h4/AD	AG	LL	P	A	B	C	K	Weight [kg]	
50 Hz	60 Hz	Motor	Frame size	Motor	Frame size					[mm]						NK	NB
0.75	0.75	MG-H3	90S	Siemens IE3	80	-29	-10	11	-69	-24	0	-15	0	-6	-0.5	-4	
1.1	1.1	MG-H3	90S	Siemens IE3	90S	16	0	16	-69	-24	0	0	0	0	0	-4.3	
1.5	1.5	MG-H3	90L	Siemens IE3	90L	-24	0	16	-69	-24	0	0	0	0	0	-3.7	
2.2	2.2	MG-H3	100L	Siemens IE3	100L	35.5	0	46	-27	9	0	0	0	0	0	8	4
3	3	MG-H3	100L	Siemens IE3	100L	35.5	0	46	-27	9	0	0	0	0	0	3	2
4	4	MG-H3	112M	Siemens IE3	112M	-18	0	43	-67	9	0	0	0	0	0	-9	-9
5.5	5.5	MG-H3	132S	Siemens IE3	132S	56	0	43	-48	-5	0	0	0	0	0	8	-2
7.5	7.5	MG-H3	132M	Siemens IE3	132M	6	0	43	-48	-5	0	0	-38	0	0	-4	-3
11	11	MG-H3	160M	Siemens IE3	160M	-51	0	32.5	-68	-68	0	0	-44	0	0	-12	-10
15	15	MG-H3	160L	Siemens IE3	160L	-21	0	32.5	-68	-68	0	0	0	0	0	-17	-14

Note: The dimensions L and h4 refer to NKG pumps, LB and AD to NBG pumps.

21. Vortex impeller range

Super Vortex impellers in NBG, NKG pumps



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This section describes technical details on where the NBG, NKG pump with Super Vortex impeller differs from the standard NBG, NKG pump with a closed impeller. Other technical details which are not mentioned in this section are shared with those for the NBG, NKG with a closed impeller.

Applications

Introduction

The NBG/NKG Super Vortex impeller pump is designed for dry installation with the purpose to minimize the risk of blocking when handling wastewater, process water and swarf and thereby covers most applications containing dirty liquids.

The Super Vortex impeller provides passage for long fibres and solids up to 25 mm and is suitable for wastewater with a dry matter content of up to 5 %.

The Super Vortex design is suitable for these application types:

- washing and cleaning in Automotive and Food &Beverage industry (F&B)
- machining in Automotive and Metal industry
- processing in oils and fat application in F&B
- textile industry
- wastewater treatment in Textile, Automotive, Pulp &Paper
- industrial water reuse.

ATEX

The NKG pumps with SuperVortex impeller is suited for ATEX (Ex) applications when combined with either Grundfos Back to Back Double seal, or Burgman Cartex double seal solution.

The pump must be installed with the shaft seal arrangement containing pressurized barrier fluid to enable the protection of the shaft seal from getting in contact with hazards from the pumped liquid.

The NBG pumps with SuperVortex impeller is **not** suited for ATEX (Ex) applications.

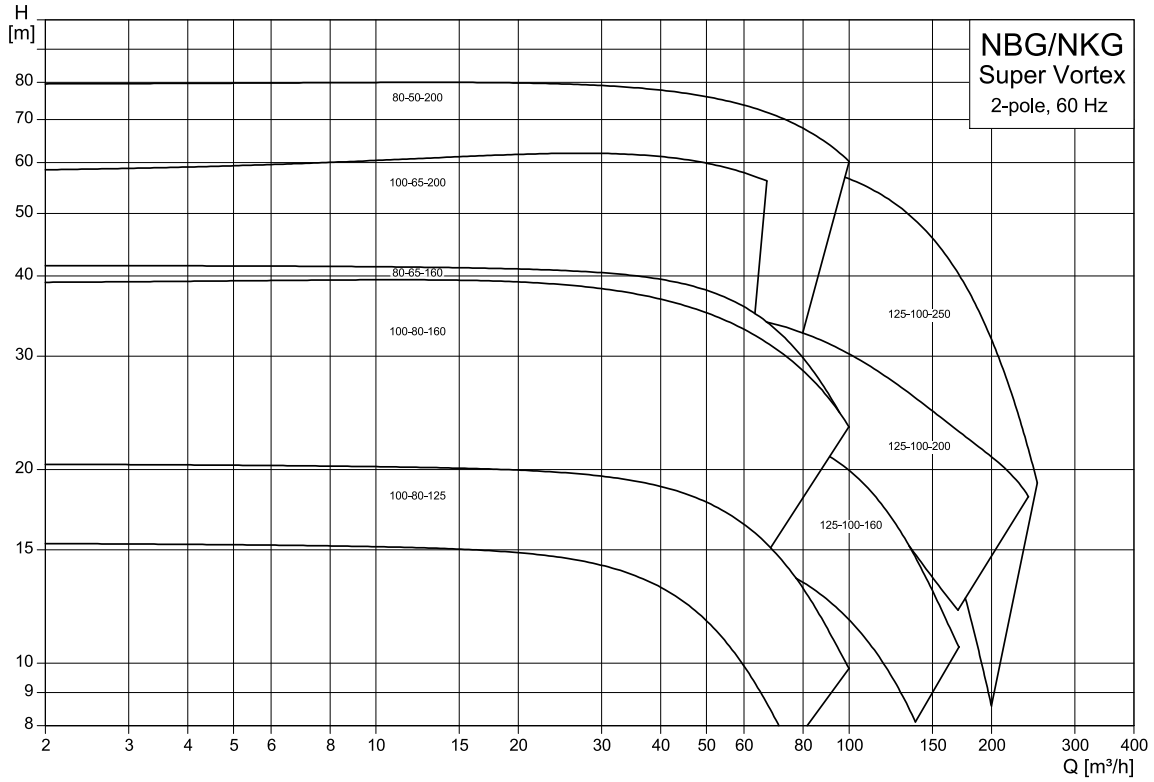
Features and benefits

NBG and NKG pumps with Super Vortex impellers offer the following features and benefits:

- The pumps are non-self-priming, single-stage, centrifugal volute pumps with axial inlet port, radial outlet port and horizontal shaft.
- Design is according to ISO 5199.
- Inlet and outlet flanges are according to EN 1092-2.
- Dimensions are according to ISO 2858 (16 bar).
- PN 16 (16 bar) & PN 25 (25 bar) range available in 1.4408 and 1.4517 execution.
- The mechanical shaft seal has dimensions according to EN 12756.
- The pumps offer flow rates from 2 to 250 m^3/h and heads from 2 to 60 m.
- The pumps can be equipped with an MGE motor with integrated frequency converter or connected to a Grundfos CUE external frequency converter.
- All pumps are statically balanced according to ISO 1940-1 class 6.3.
- Impellers are hydraulically balanced.

NBG/NKG Super vortex, Performance range

NBG/NKG, 2-pole



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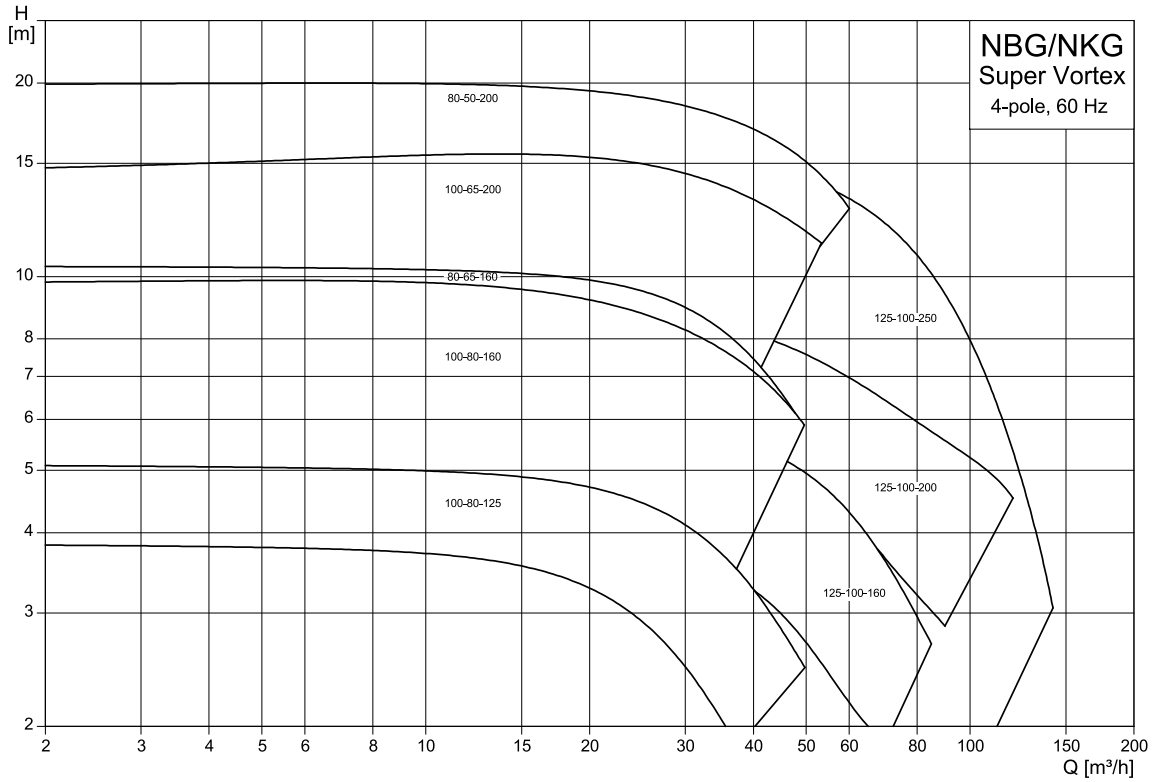
NBG/NKG, 4-pole



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Product range

The tables on the following pages show the complete product ranges of NBG/E and NKG/E pumps with Super Vortex impellers. The standard range has been combined on the basis of the following parameters:

Pump

- Pump housings have outlet flanges from DN 65 to DN 100.
- Cast iron pumps have fixed flanges.
- Stainless 1.4408 & Duplex Stainless 1.4517 pumps have loose flanges.

Standard Grundfos motor

- Motors are for 60Hz.
- NBG and NKG pumps are available with IE3, 2- and 4-pole motors as standard.
- Motor with power rating up to and including 4 kW are available for “low voltage” execution; motors from 2.2 kW are available for “ high voltage”.
- All pumps with standard motor can be connected to an external frequency converter either Grundfos CUE or other external drives.

Grundfos MGE motor

- NBGE and NKGE pumps are available with Grundfos IE5 MGE motor with integrated frequency converter.
- MGE motors are available in 3 speed versions:
  - Low speed up to 2000 RPM (0.55 - 1.5 kW)
  - Low speed up to 2200 RPM (2.2 - 22 kW)
  - Medium speed up to 4000 RPM (1.1 - 22 kW)

Maximum particle size

Depending on pump model the Vortex impeller pumps can handle different maximum sizes of particles.

Model	d5	Trim	Particle size diameter
100-80-125	24	144	20
80-65-160	24	158; 171	20
80-50-200	24	183; 199; 215	20
100-65-200	32	183; 199	20
100-80-160	32	158; 171	20
125-100-160	32	144; 158; 171	20
125-100-200	32	183; 199; 215	25
125-100-250	42	230; 255; 267; 275	25

2-pole

60Hz, 2-pole		NBGE/ NKGE		NBG, NKG - Standard range														Options							
				NBG						NKG								Bearing bracket		Pump	Motor				
				Cast iron			Duplex Stainless steel			Cast iron			Duplex Stainless steel			Bearing bracket design		Heavy duty (HD) bearing design							
																		Lubrication type							
																		Re-grease		Oil					
Pump type	P2 [kW]	No sensor	Integrated sensor	Flange mounting [54]	Flange standard [55]	Pump material codes	Flange mounting [54]	Flange standard [55]	Pump material codes	Flange mounting [54]	Flange standard [55]	Pump material codes	Flange mounting [54]	Flange standard [55]	Pump material codes	Standard [56]	Heavy duty (HD) [57]	SPM fittings [58]	Pt100 sensors [58]	SPM fittings [58]	Pt100 sensors [58]	Special seals	Special motor brand	Special voltage	Insulated bearings for VFD operation
				PN16		C, S, T	PN16, PN25		I, K, L, M, U	PN16		G, S, T	PN16, PN25		I, K, L, M, U										
80-65-160/158	11	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
80-65-160/171	15	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
80-50-200/183	18.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
80-50-200/199	30	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
80-50-200/215	37	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
100-65-200/183	18.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
100-65-200/199	22	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
100-80-125/144	7.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
100-80-160/158	11	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
100-80-160/171	15	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
80-50-200/199	30	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
80-50-200/215	37	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
125-100-160/158	11	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
125-100-160/171	15	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
125-100-200/183	22	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
125-100-200/199	30	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
125-100-200/215	37	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
125-100-250/230	30	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
125-100-250/255	45	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
125-100-250/267	55	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●
125-100-250/275	75	-	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	■	□	●	●	●	●

54) F = Fixed flange; L = Loose flange

55) DIN flange machining; G = ANSI flange machining; J = JIS flange machining

56) Standard bearing bracket with greased for life bearings

57) Heavy duty bearing bracket, re-greaseable or oil lubricated bearings

58) □ = Optional; ■ = Standard

4-pole

60Hz, 4-pole		NBG, NKG - Standard range																Options						
		NBGE/ NKGE		NBG						NKG								Bearing bracket		Pump	Motor			
				Cast iron			Duplex Stainless steel			Cast iron			Duplex Stainless steel			Bearing bracket design		Heavy duty (HD) bearing design					
																		Lubrication type						
																		Re-grease		Oil				
Pump type	P2 [kW]	No sensor	Integrated sensor	Flange mounting [59]	Flange standard [60]	Pump material codes	Flange mounting [59]	Flange standard [60]	Pump material codes	Flange mounting [59]	Flange standard [60]	Pump material codes	Flange mounting [59]	Flange standard [60]	Pump material codes	Standard [61]	Heavy duty (HD) [62]	SPM fittings [63]	Pt100 sensors [63]	SPM fittings [63]	Pt100 sensors [63]	Special seals	Special motor brand	Special voltage	Insulated bearings for VFD operation
				PN16		C, S, T	PN16, PN25		I, K, L, M, U	PN16		G, S, T	PN16, PN25		I, K, L, M, U										
80-65-160/158	1.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
80-65-160/171	2.2	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
80-50-200/183	2.2	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
80-50-200/199	3	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
80-50-200/215	5.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
100-80-125/144	1.1	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
100-80-160/158	1.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
100-80-160/171	2.2	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
100-65-200/183	3	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
100-65-200/199	4	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
125-100-160/158	1.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
125-100-160/171	2.2	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
125-100-200/183	3	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
125-100-200/199	3	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
125-100-200/215	5.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
125-100-250/230	3	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
125-100-250/255	5.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●
125-100-250/275	7.5	●	-	F	F	●	L	F/G/J	●	F	F	●	L	F/G/J	●	●	-	□	□	●	□	●	●	●	●

59) F = Fixed flange; L = Loose flange

60) DIN flange machining; G = ANSI flange machining; J = JIS flange machining

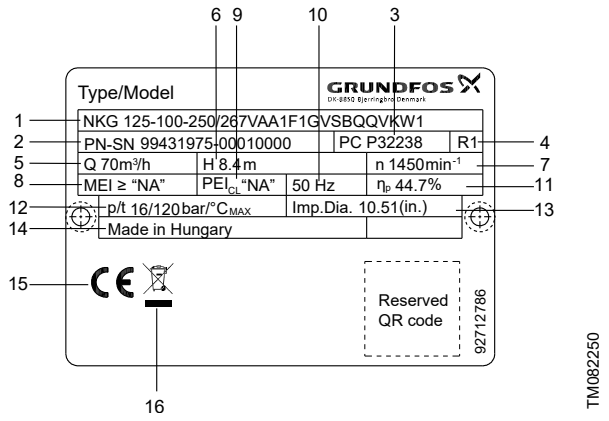
61) Standard bearing bracket with greased for life bearings

62) Heavy duty bearing bracket, re-greaseable or oil lubricated bearings

63) □ = Optional; ■ = Standard

Identification

Nameplate

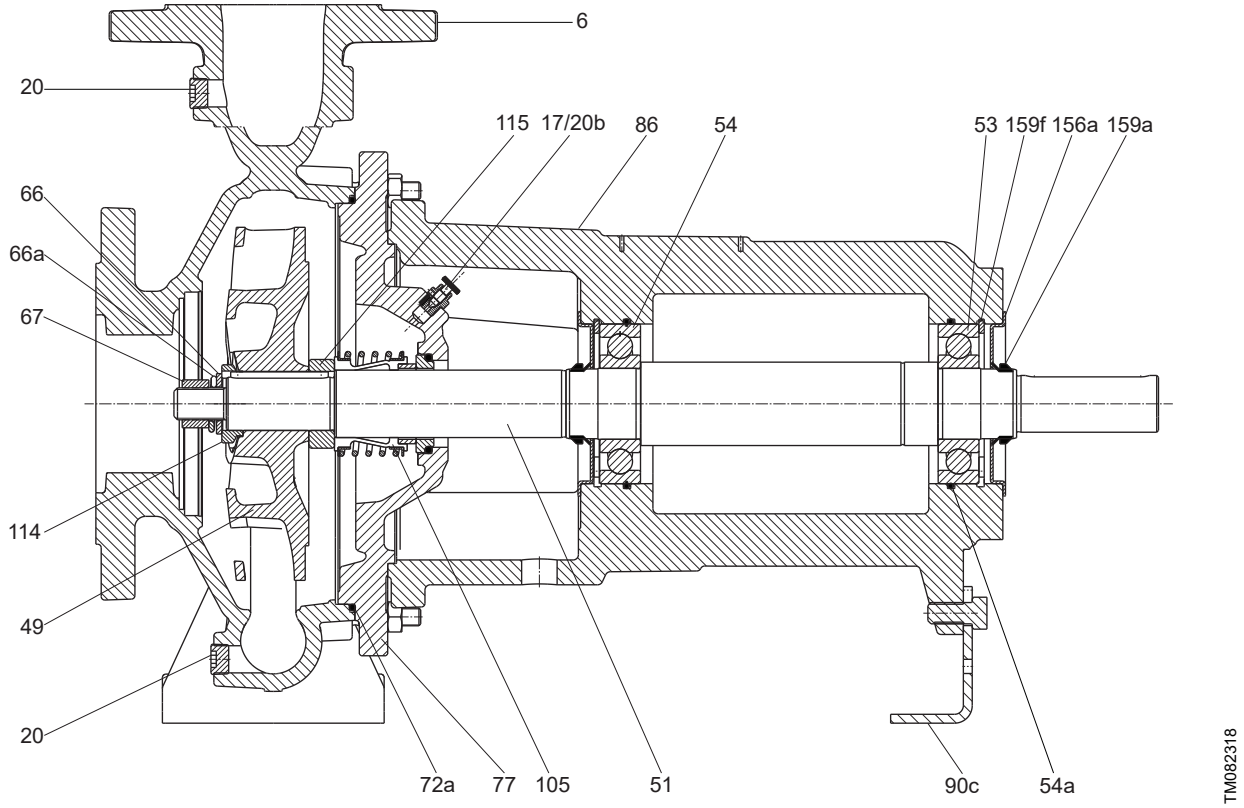


Example of NKG pump with Super Vortex impeller

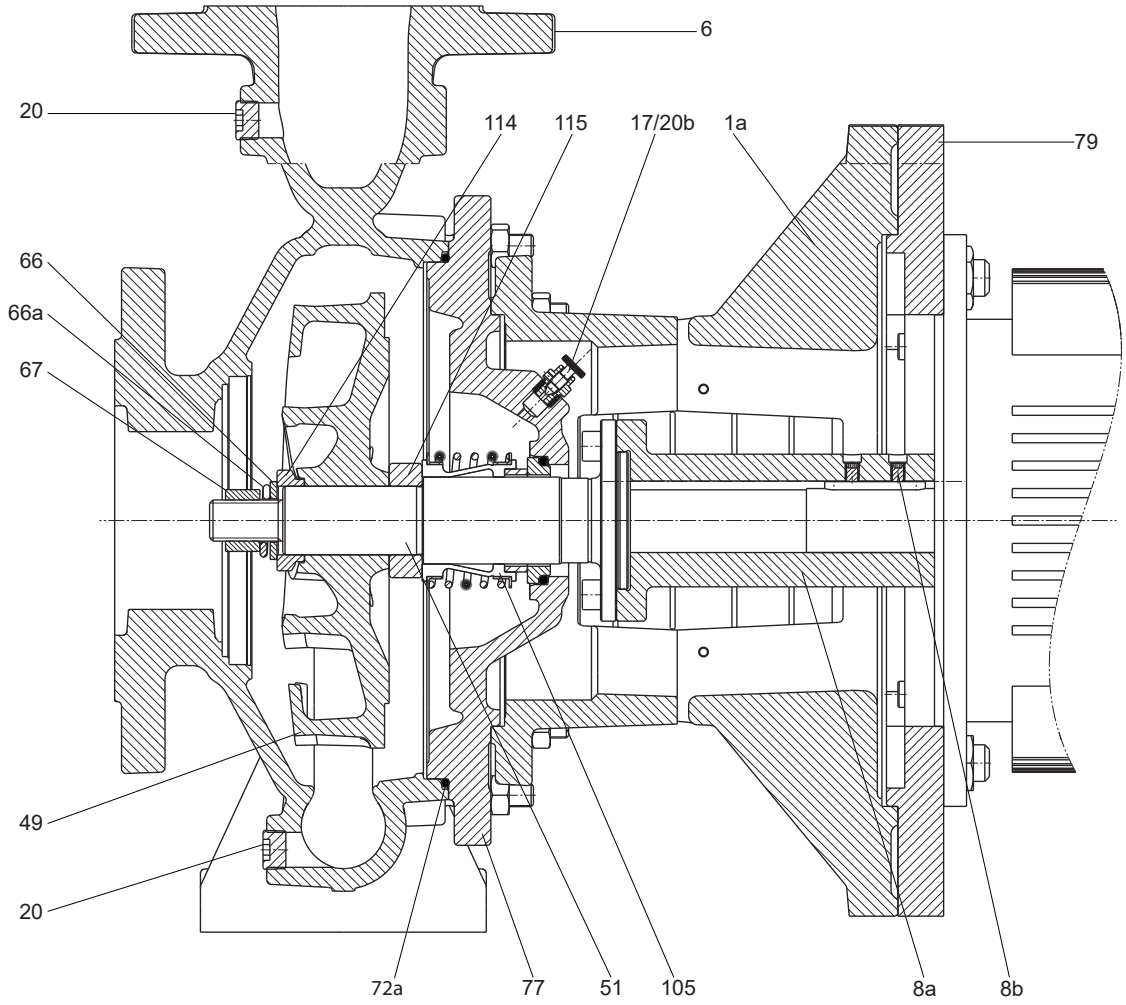
Pos.	Description	
1	Type designation	
2	Identification code	
	99431975	Product number
	00010000	Serial number
3	Production code - production site, year and week	
4	Range identification (service range code)	
5	Nominal flow rate	
6	Nominal pump head	
7	Rated pump speed	
8	Minimum efficiency index (MEI)	
9	Pump Energy Index (PEI), constant load	
10	Frequency	
11	Hydraulic pump efficiency	
12	Pressure rating and maximum temperature	
13	Actual impeller diameter	
14	Country of origin	
15	CE mark	
16	EU/WEEE mark	

Construction

NKG-Vortex



NBG-Vortex



Pos.	Description
1a	Motor stool
6	Pump housing
8a	Motor shaft bushing
8b	Set screw - motor shaft bushing
17	Air vent
20	Plug
20b	Plug
49	Impeller
51	Shaft
53	Bearing, NED
54	Bearing, DE
54a	O-ring
66	Washer
66a	Lock washer
67	Impeller nut
72a	O-ring
77	Cover
79	Adapter flange
86	Bearing bracket
90c	Bearing bracket foot

Pos.	Description
105	Shaft seal
114	Front side spacer ring
115	Back side spacer ring
156a	Cover, bearing bracket
159a	V-ring
159f	Retaining ring

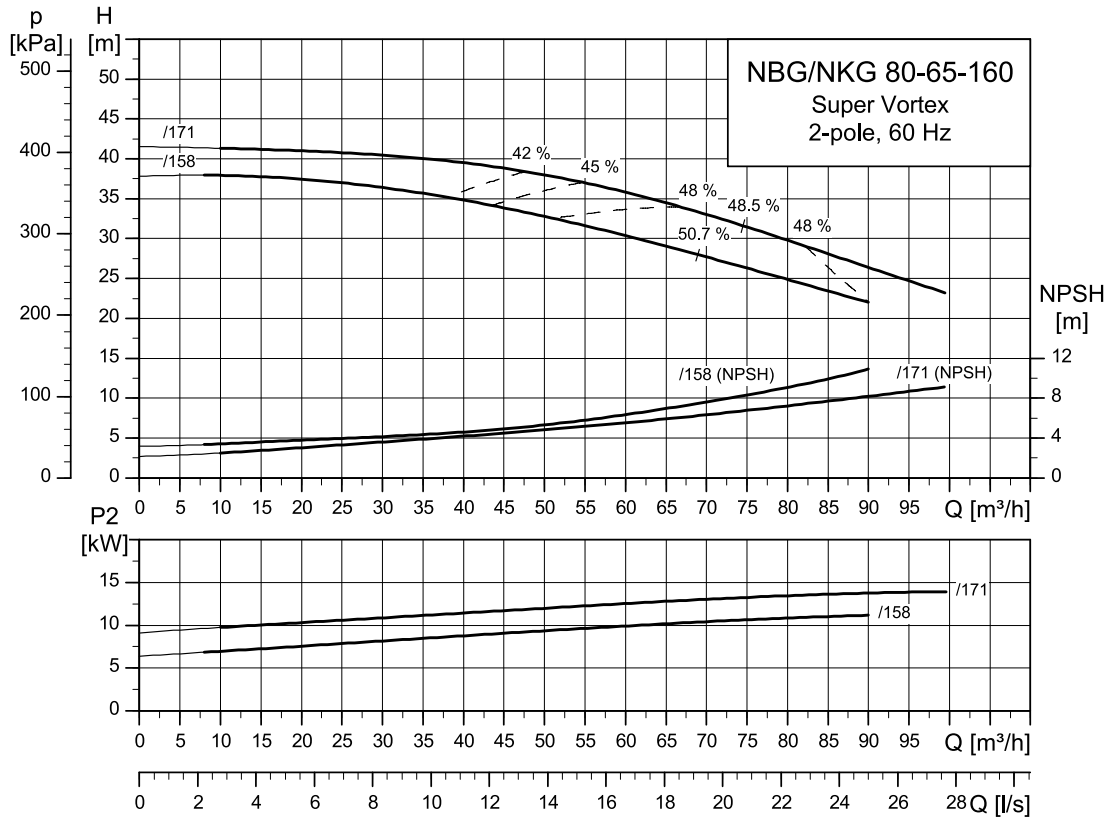
NBG/NKG Super vortex, Performance curve

Overview

Pump size	2-pole	4-pole
NBG/NKG 80-65-160	See *80-65-160*	See *80-65-160*
NBG/NKG 80-50-200	See *80-50-200*	See *80-50-200*
NBG/NKG 100-80-125	See *100-80-125*	See *100-80-125*
NBG/NKG 100-80-160	See *100-80-160*	See *100-80-160*
NBG/NKG 100-65-200	See *100-65-200*	See *100-65-200*
NBG/NKG 125-100-160	See *125-100-160*	See *125-100-160*
NBG/NKG 125-100-200	See *125-100-200*	See *125-100-200*
NBG/NKG 125-100-250	See *125-100-250*	See *125-100-250*

2-pole

80-65-160



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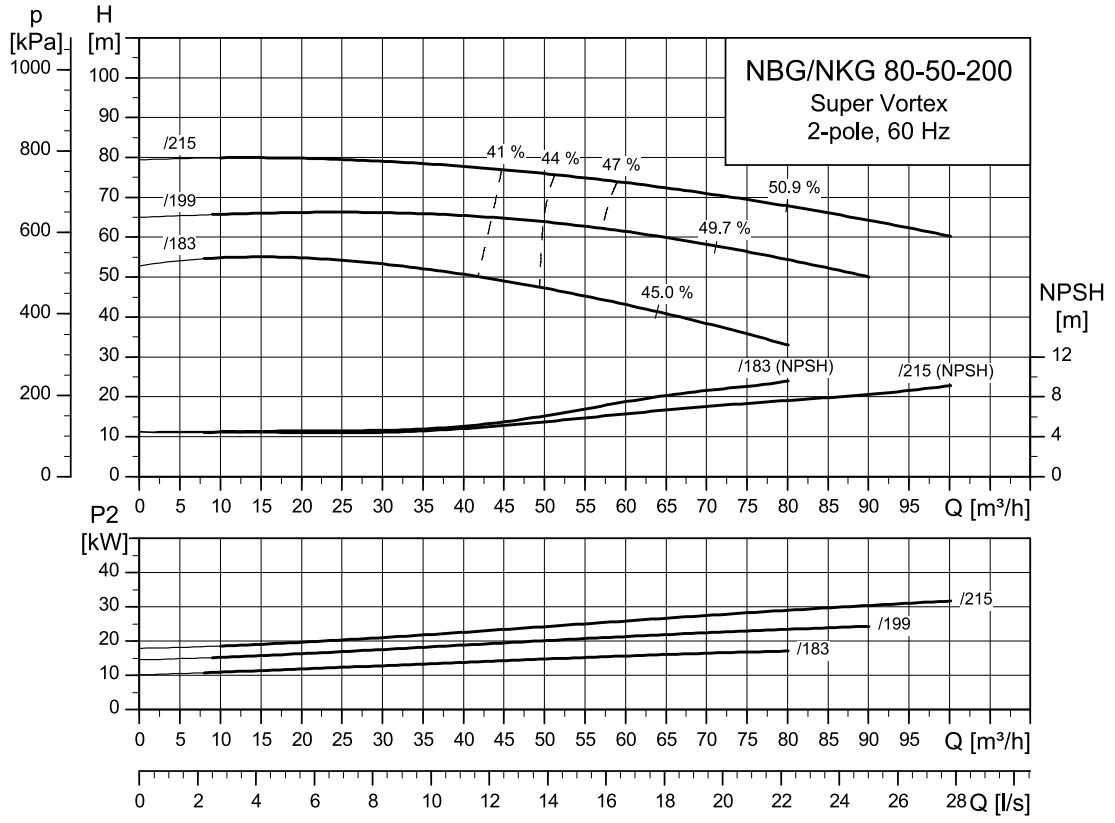
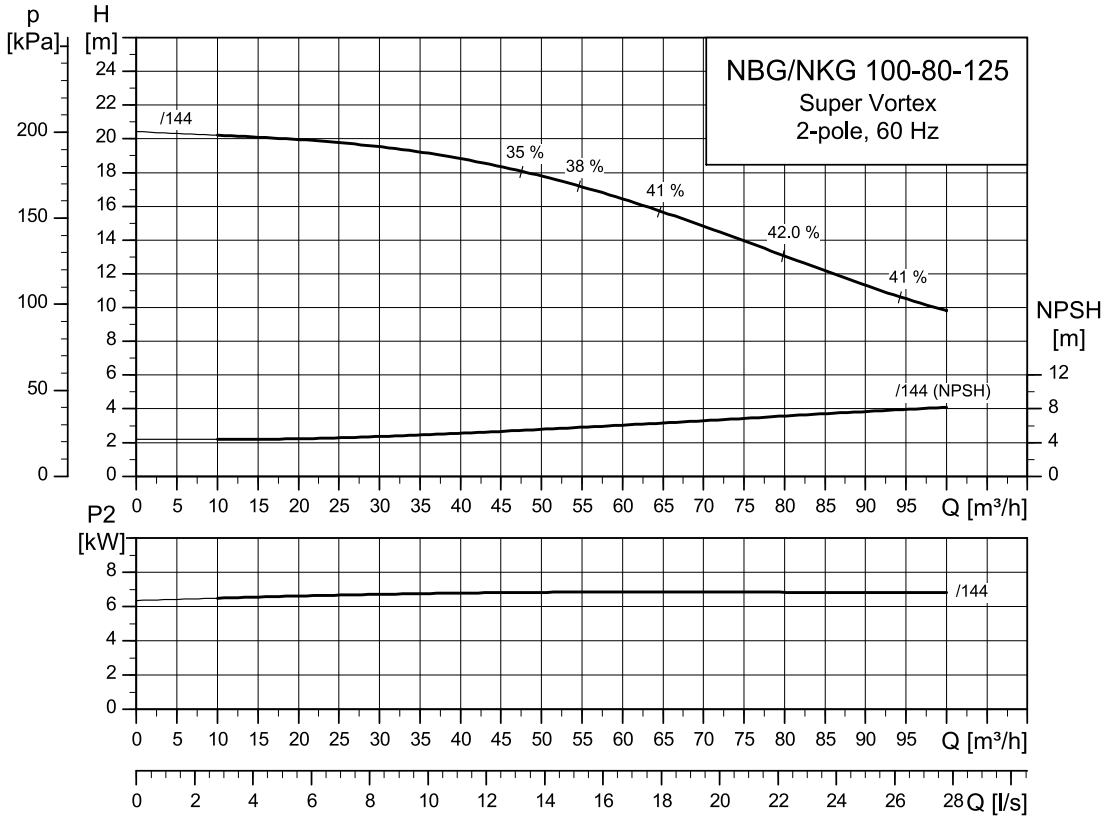
80-50-200



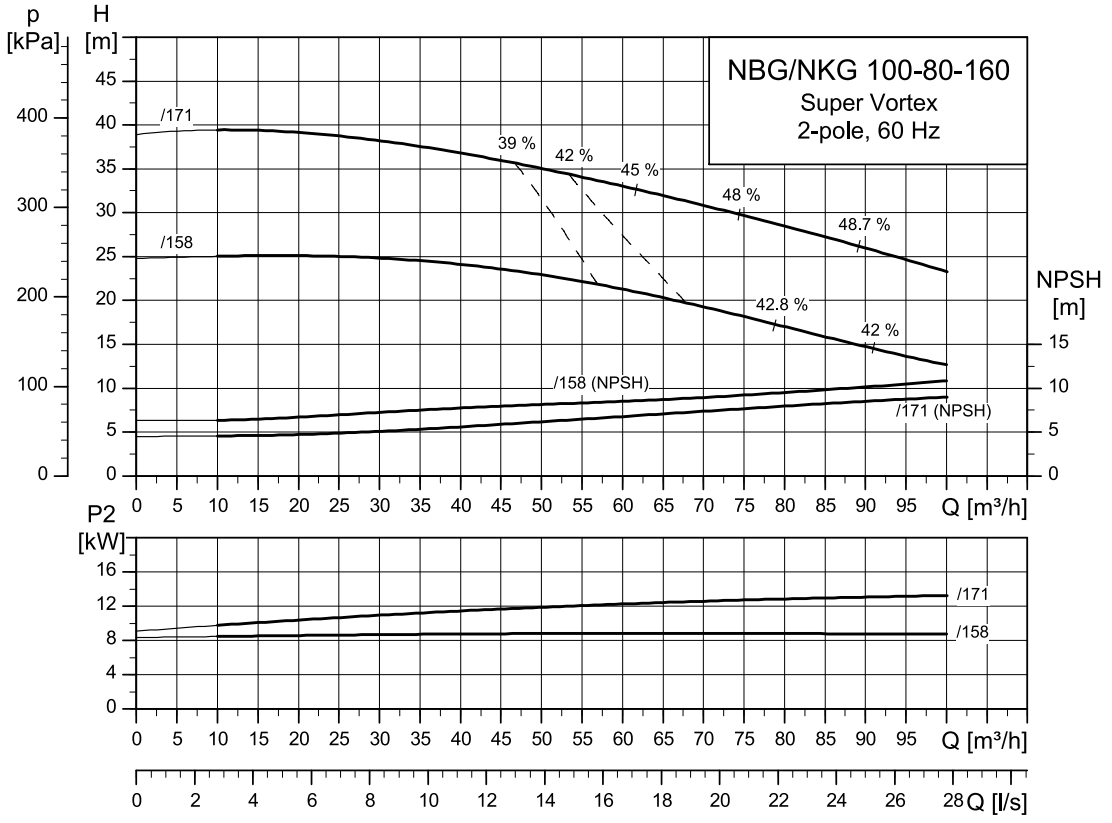
TM1040555

100-80-125



TM1040557

100-80-160



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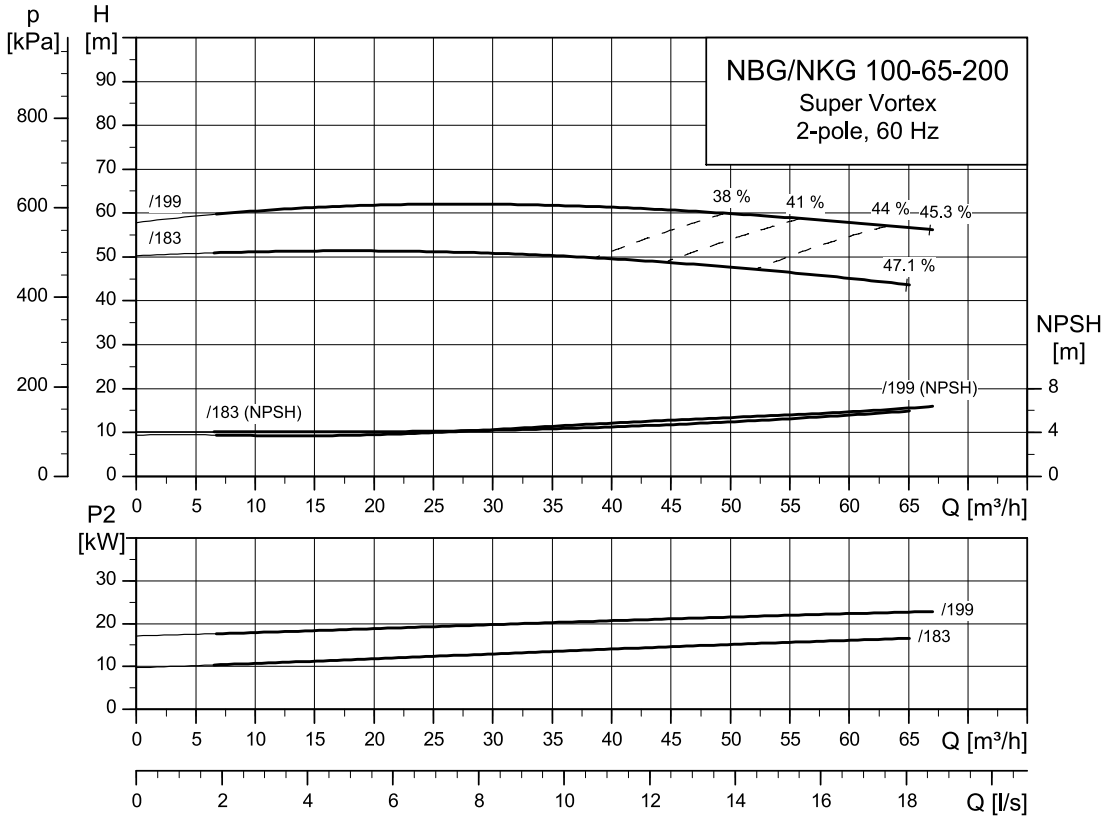
100-65-200



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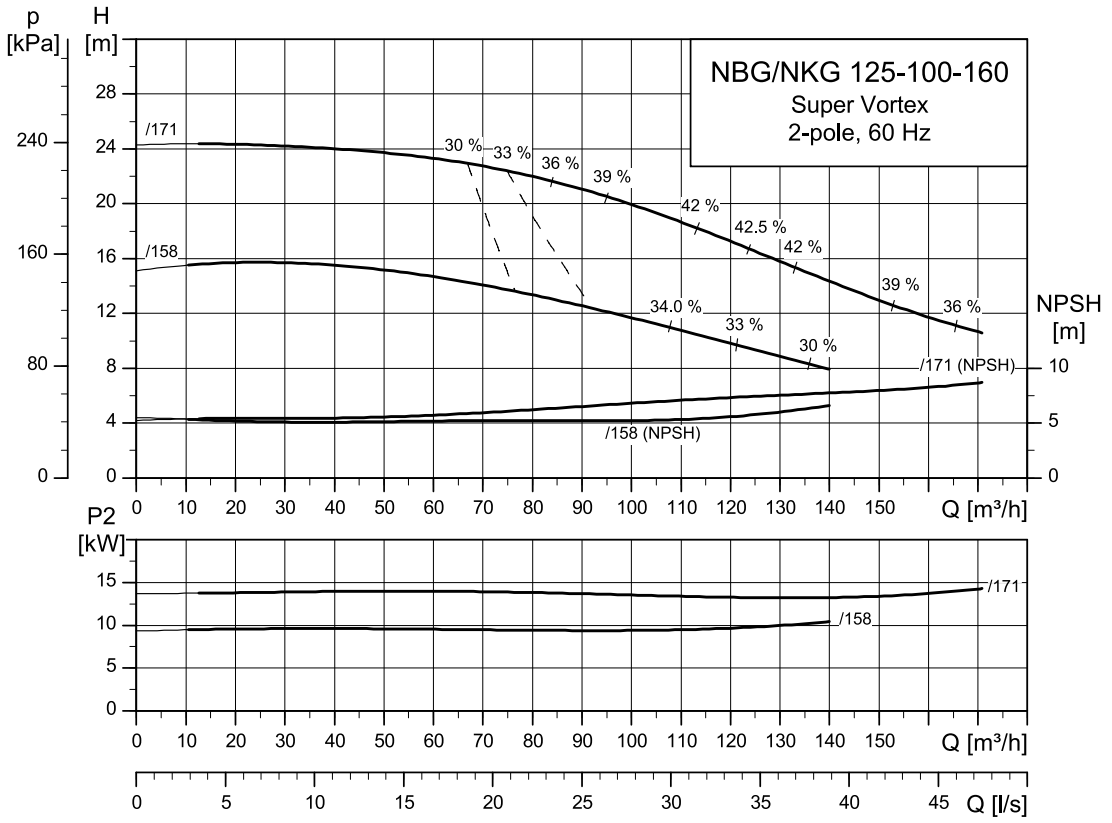
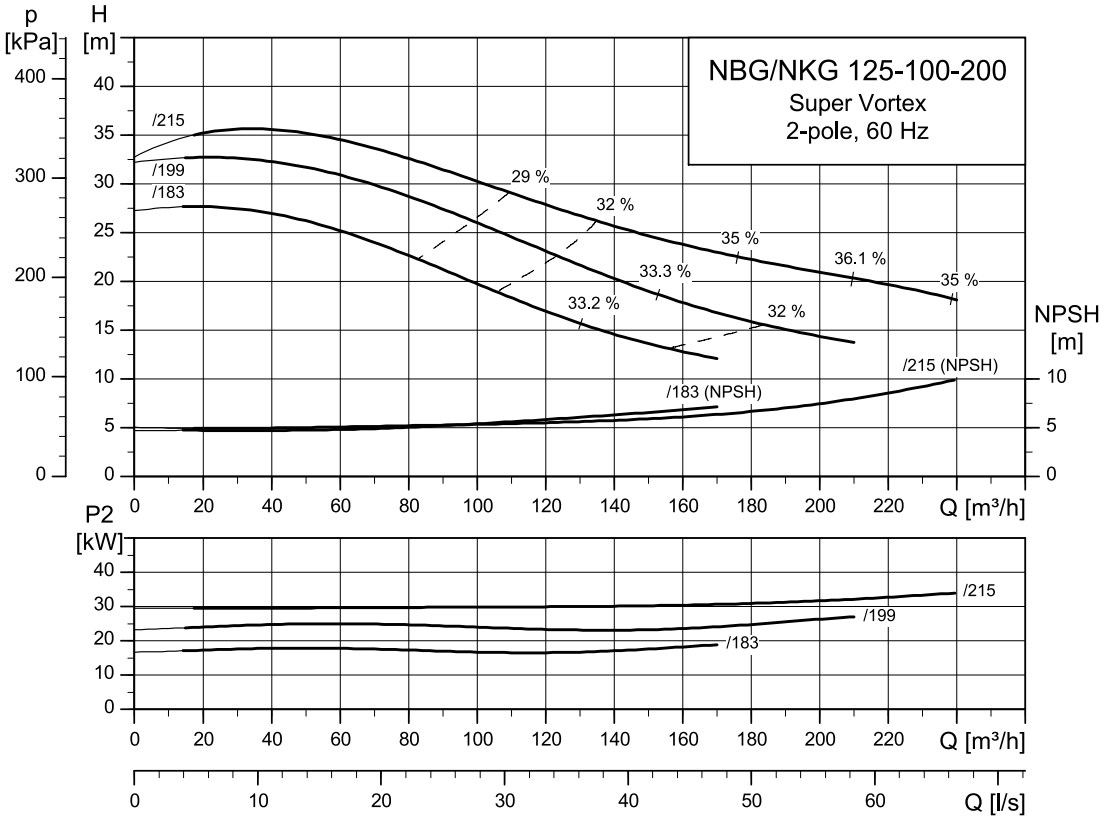
125-100-160



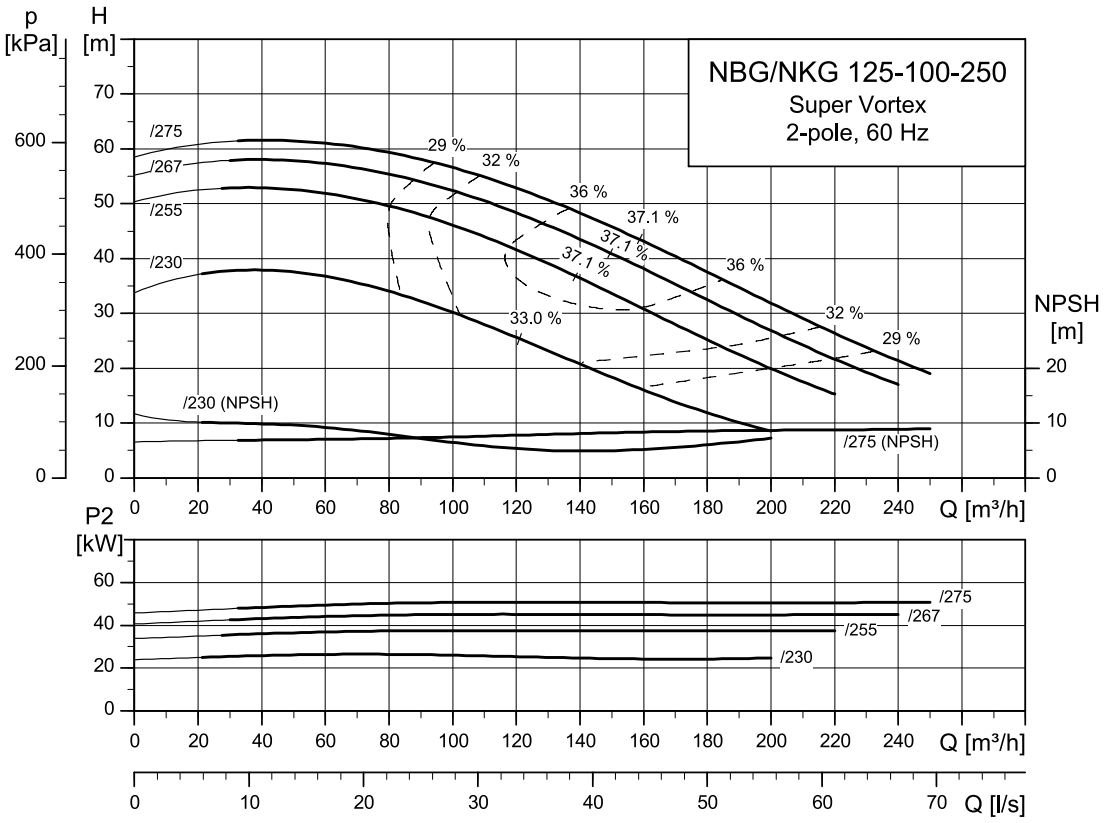
TM082713

125-100-200



TM082714

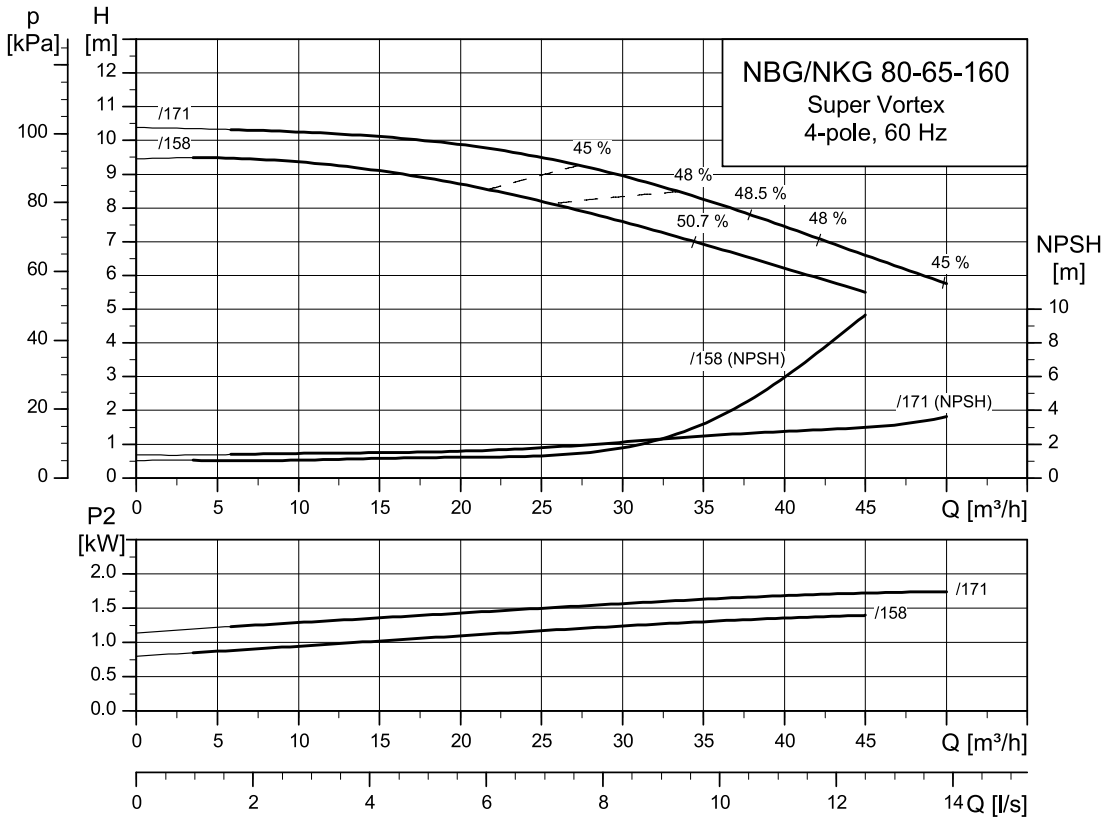
125-100-250



TM1040559

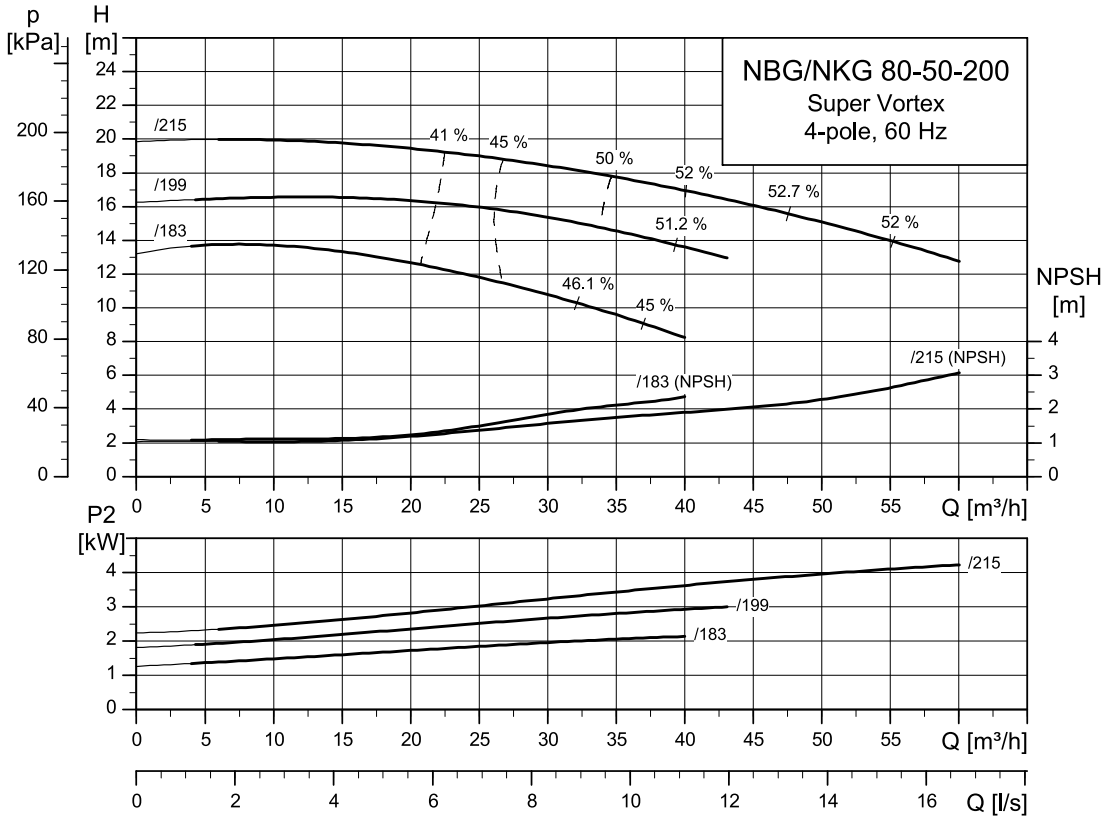
4-pole

80-65-160



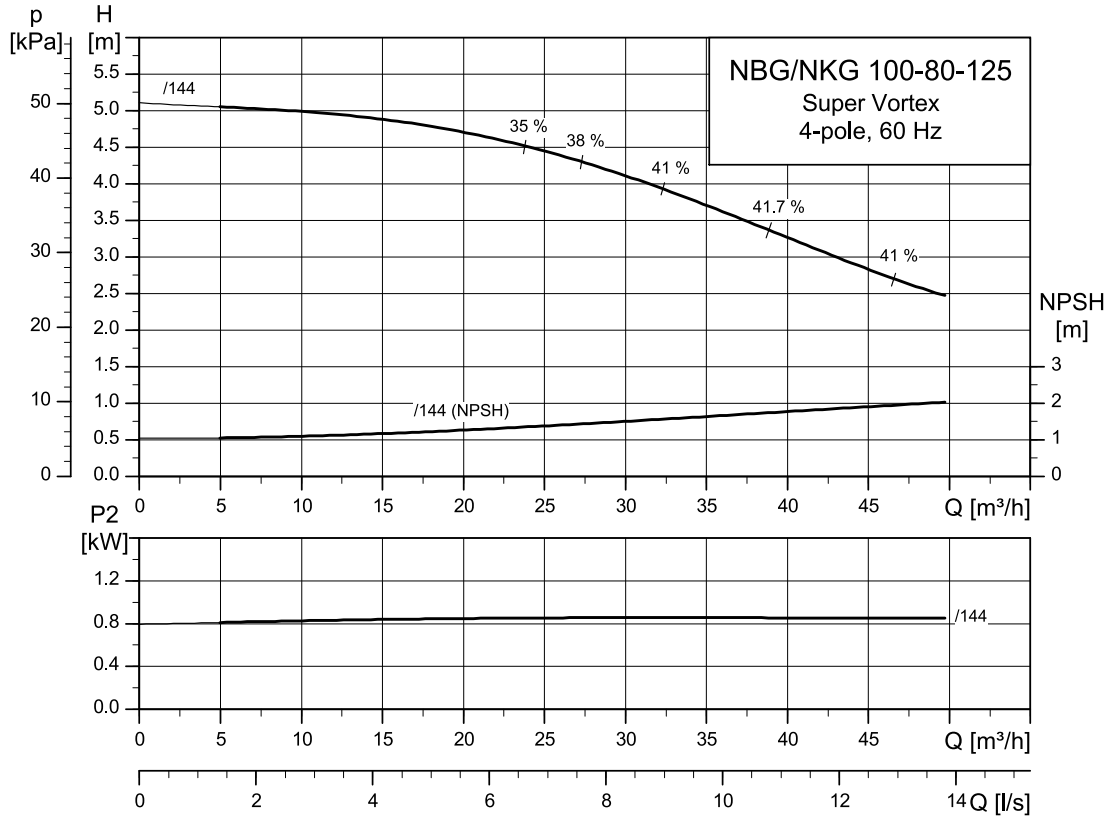
TM1040560

80-50-200



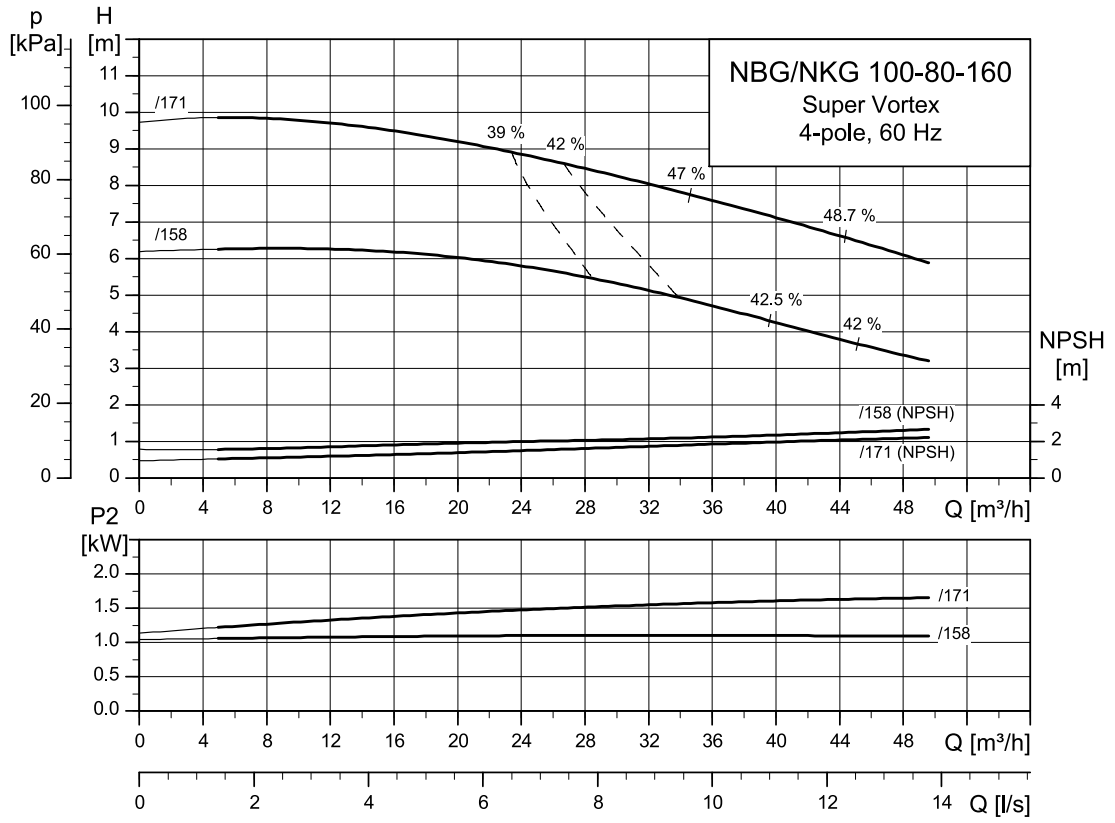
TM1040561

100-80-125



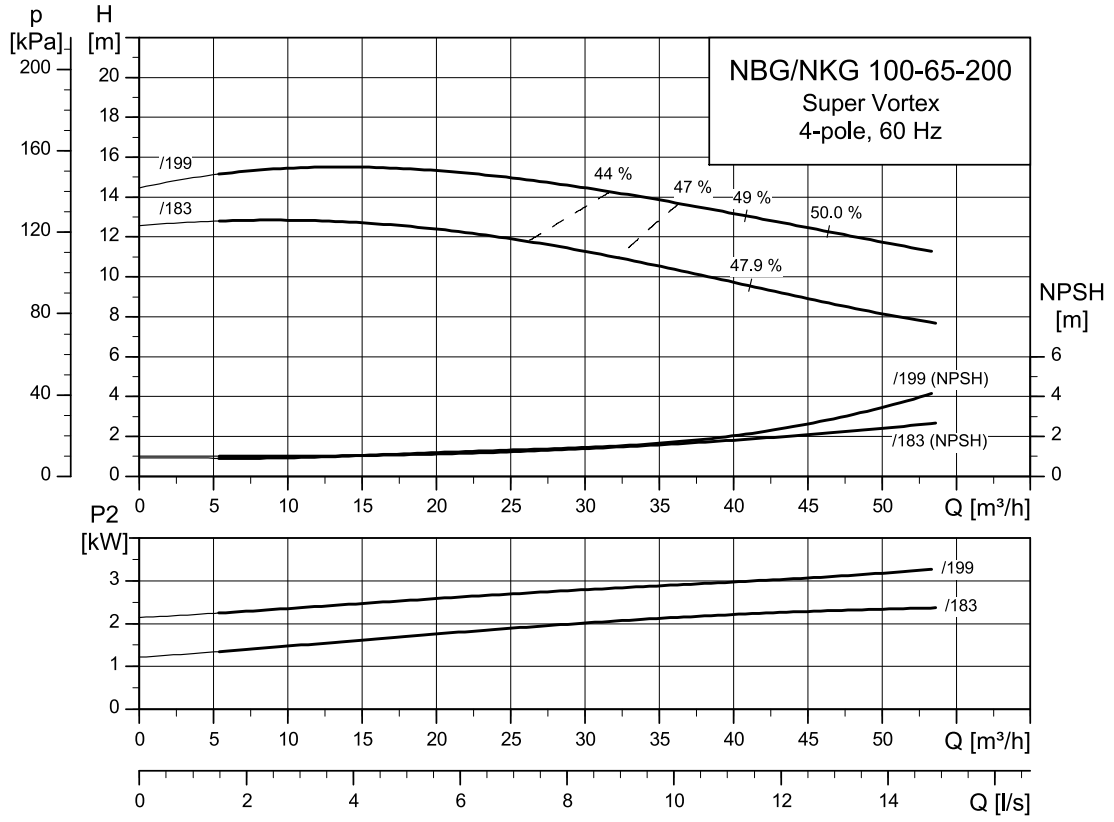
TM1040563

100-80-160



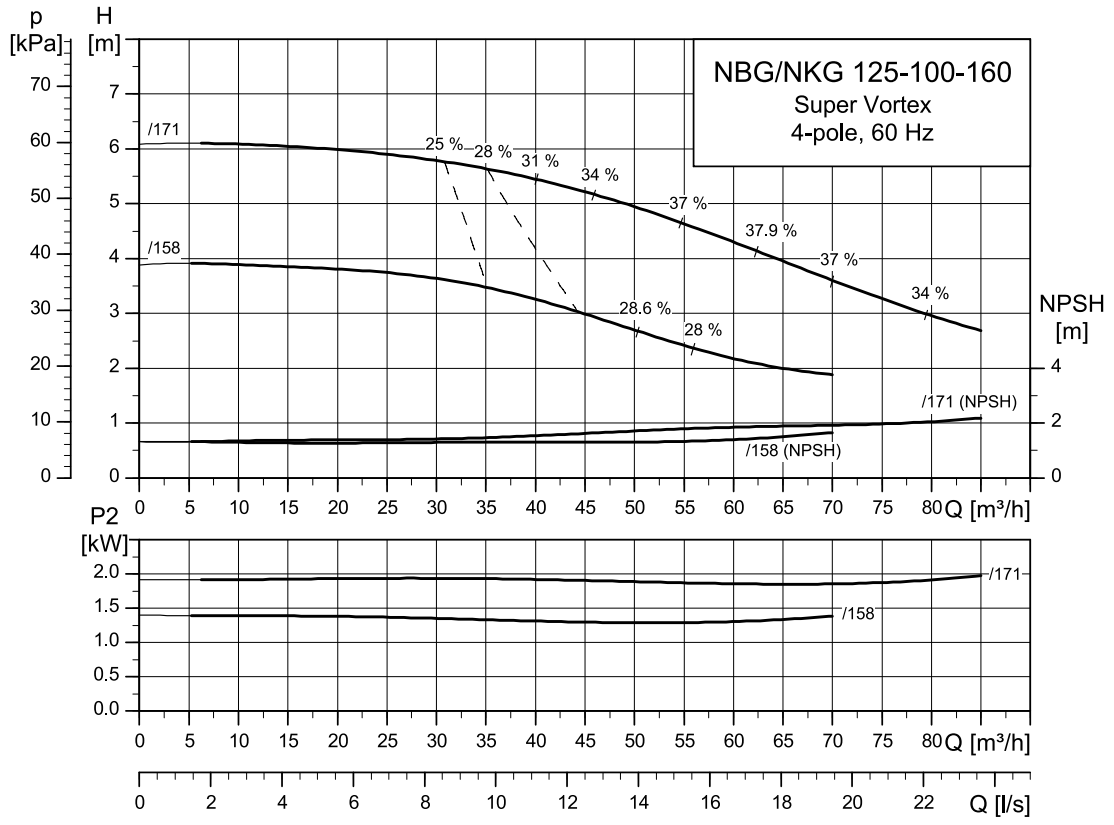
TM1040564

100-65-200



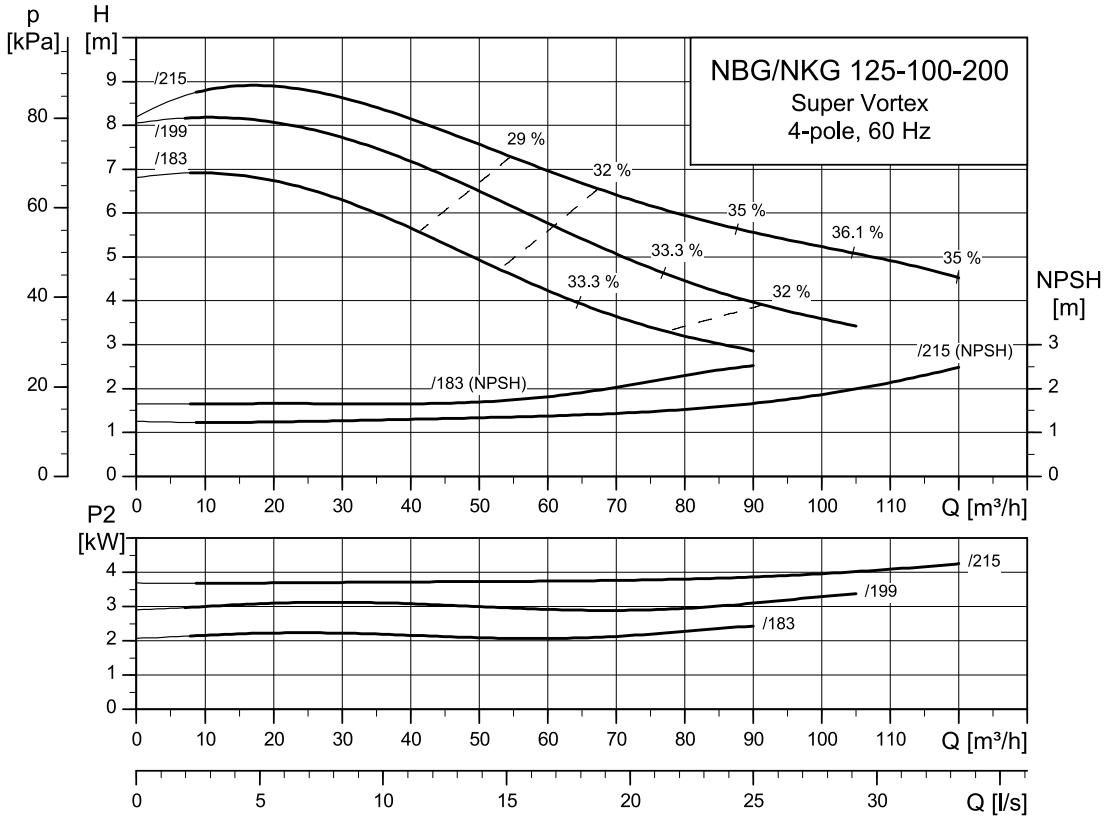
TM1040562

125-100-160



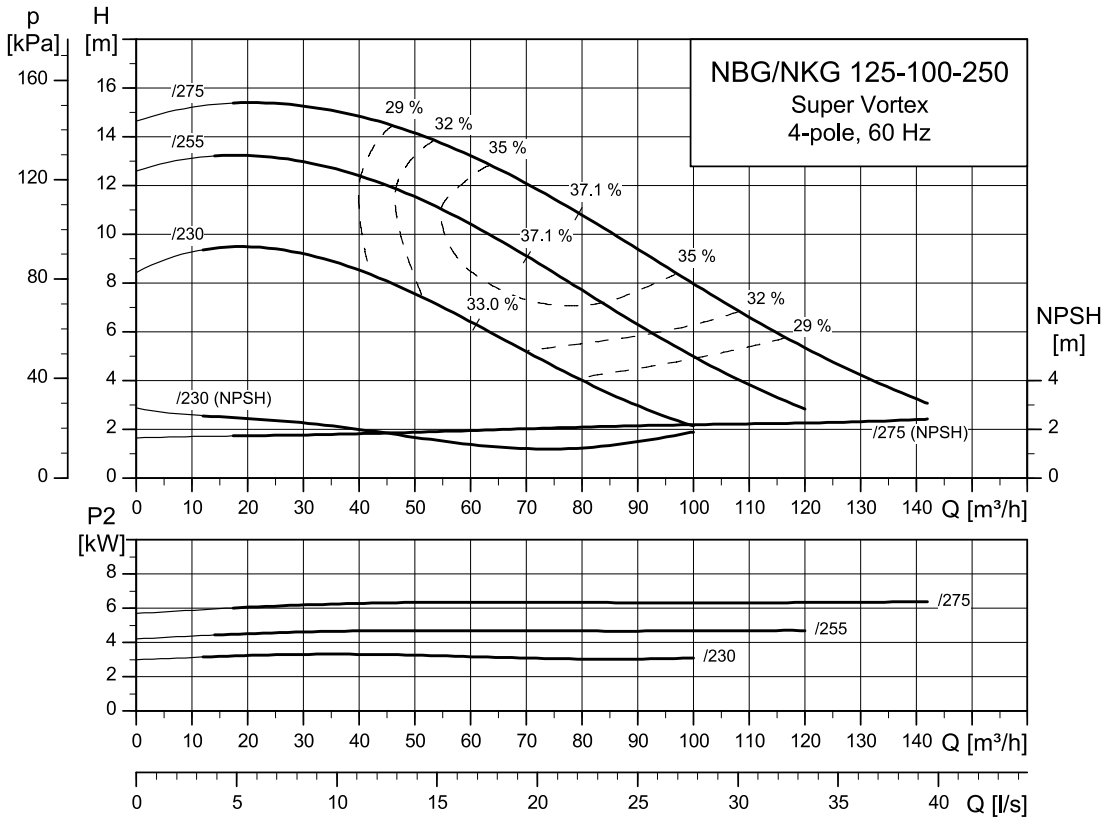
TM082715

125-100-200



TM082716

125-100-250



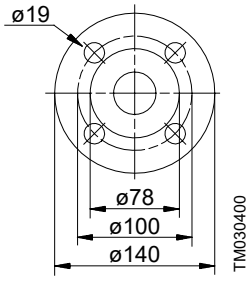
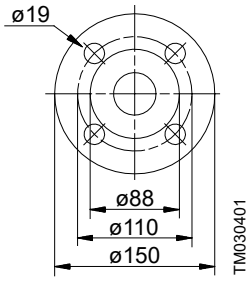
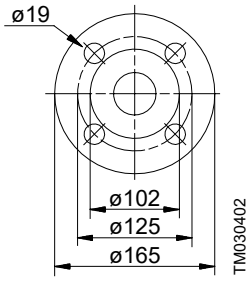
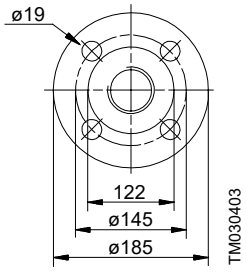
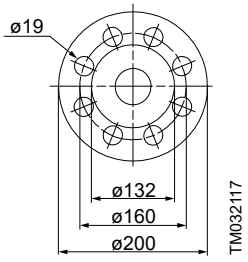
TM1040565

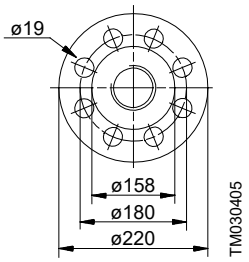
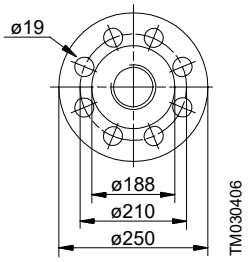
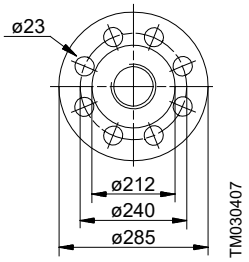
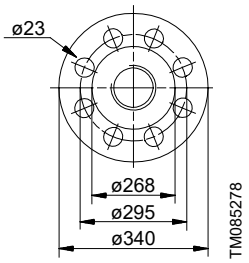
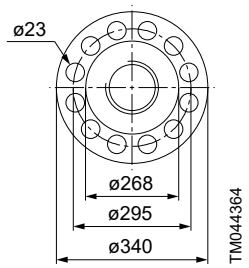
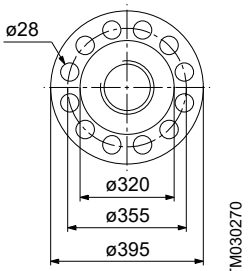
22. Accessories

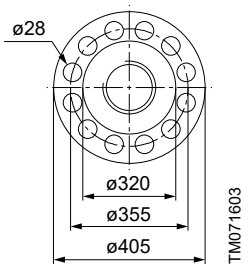
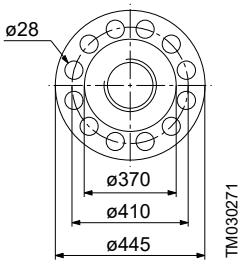
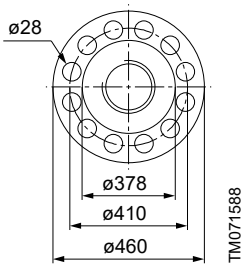
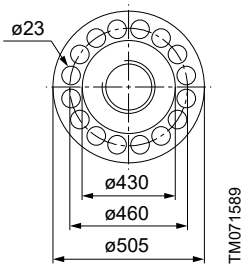
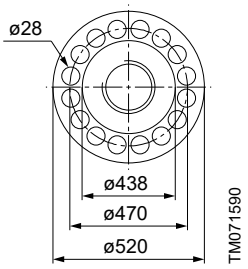
Counter-flange

Cast iron pumps

Counter-flanges for cast iron NBG, NBGE and NKG, NKGE pumps are made of steel.
A set consists of one counter-flange, one gasket of asbestos-free material and the requisite number of bolts and nuts.

Counter-flange	Flange size	Description	Rated pressure [bar] EN 1092-2	Pipe connection	Product number
	DN 32	Threaded	10/16	Rp 1 1/4	419901
		For welding	10/16	32 mm	419902
	DN 40	Threaded	10/16	Rp 1 1/2	429902
		For welding	10/16	40 mm	429901
	DN 50	Threaded	10/16	Rp 2	339903
		For welding	10/16	50 mm	339901
	DN 65	Threaded	10/16	Rp 2 1/2	349902
		For welding	10/16	65 mm	349904
	DN 80	Threaded	10/16	Rp 3	350540
		For welding	10/16	80 mm	350541

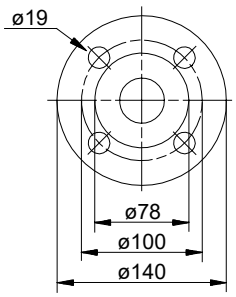
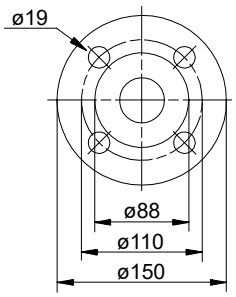
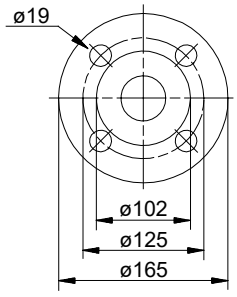
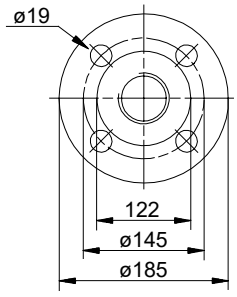
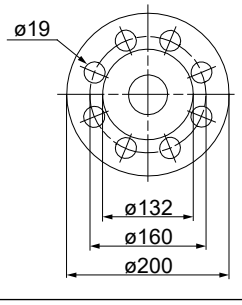
Counter-flange	Flange size	Description	Rated pressure [bar] EN 1092-2	Pipe connection	Product number
	DN 100	Threaded	10/16	Rp 4	369901
		For welding	10/16	100 mm	369902
	DN 125	For welding	10/16	125 mm	96414677
	DN 150	For welding	10/16	150 mm	96414676
	DN 200	For welding	10	200 mm	96413358
	DN 200	For welding	16	200 mm	96691093
	DN 250	For welding	10	250 mm	99457575

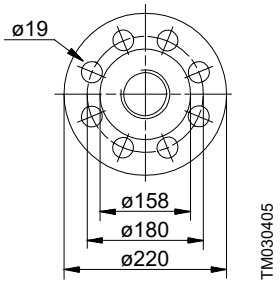
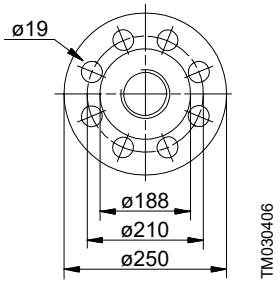
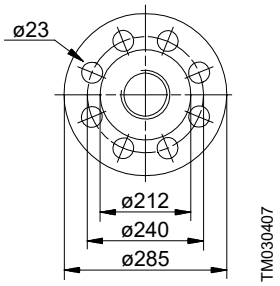
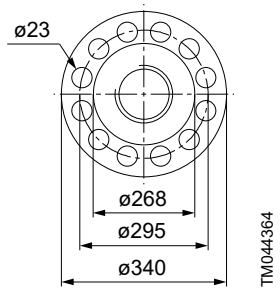
Counter-flange	Flange size	Description	Rated pressure [bar] EN 1092-2	Pipe connection	Product number
	DN 250	For welding	16	250 mm	96890361
	DN 300	For welding	10	300 mm	99457580
	DN 300	For welding	16	300 mm	96890401
	DN 350	For welding	10	350 mm	99457581
	DN 350	For welding	16	350 mm	99457633

Stainless steel pumps

Counter-flanges for stainless steel NBG, NBGE and NKG, NKGE pumps are made of stainless steel according to EN 1.4401 (AISI 316).

A set consists of one counter-flange, one gasket of asbestos-free material and the requisite number of bolts and nuts.

Counter-flange	Flange size	Description	Rated pressure [bar] EN 1092-2	Pipe connection	Product number
	DN 32	Threaded	10/16	Rp 1 1/4	415304
		For welding	10/16	32 mm	415305
	DN 40	Threaded	10/16	Rp 1 1/2	425245
		For welding	10/16	40 mm	425246
	DN 50	Threaded	10/16	Rp 2	335254
		For welding	10/16	50 mm	335255
	DN 65	Threaded	10/16	Rp 2 1/2	349910
		For welding	10/16	65 mm	349906
	DN 80	Threaded	10/16	Rp 3	350543
		For welding	10/16	80 mm	350544

Counter-flange	Flange size	Description	Rated pressure [bar] EN 1092-2	Pipe connection	Product number
	DN 100	Threaded	10/16	Rp 4	369904
		For welding	10/16	100 mm	369903
	DN 125	For welding	16	125 mm	96694017
	DN 150	For welding	10/16	150 mm	98052936
	DN 200	For welding	16	200 mm	98052931

Sensors

Grundfos vortex flow sensor, VFI[64]	Type	Flow range [m^3/h]	Pipe connection	O-ring		Connection type		Product number
				EPDM	FKM	Cast iron flange	Stainless steel flange	
	VFI 1.3-25 DN32 020 E	1.3 - 25	DN 32	•		•		97686141
	VFI 1.3-25 DN32 020 F				•	•		97686142
	VFI 1.3-25 DN32 020 E			•			•	97688297
	VFI 1.3-25 DN32 020 F				•		•	97688298
	VFI 2-40 DN40 020 E	2-40	DN 40	•		•		97686143
	VFI 2-40 DN40 020 F				•	•		97686144
	VFI 2-40 DN40 020 E			•			•	97688299
	VFI 2-40 DN40 020 F				•		•	97688300
	VFI 3.2-64 DN50 020 E	2-64	DN 50	•		•		97686145
	VFI 3.2-64 DN50 020 F				•	•		97686146
	VFI 3.2-64 DN50 020 E			•			•	97688301
	VFI 3.2-64 DN50 020 F				•		•	97688302
	VFI 5.2-104 DN65 020 E	5.2 - 104	DN 65	•		•		97686147
	VFI 5.2-104 DN65 020 F				•	•		97686148
	VFI 5.2-104 DN65 020 E			•			•	97688303
	VFI 5.2-104 DN65 020 F				•		•	97688304
	VFI 8-160 DN80 020 E	8-160	DN 80	•		•		97686149
	VFI 8-160 DN80 020 F				•	•		97686150
	VFI 8-160 DN80 020 E			•			•	97688305
	VFI 8-160 DN80 020 F				•		•	97688306
	VFI 12-240 DN100 020 E	12-240	DN 100	•		•		97686151
	VFI 12-240 DN100 020 F				•	•		97686152
	VFI 12-240 DN100 020 E			•			•	97688308
	VFI 12-240 DN100 020 F				•		•	97688309

- Sensor tube with sensor
  Sensor tube of 1.4408 and sensor of 1.4404
- 2 flanges
- 5 m cable with M12 connection in one end
- Quick guide

64) For more information about the VFI sensor, see the "Grundfos direct sensors" data booklet, publication number 97790189.

Grundfos differential pressure sensor, DPI	Content of sensor kit	Data sheet product number[65]	Pressure range [bar]	Product number
	1 sensor (7/16" connections), including 0.9 m screened cable 1 original DPI bracket, for wall mounting 1 Grundfos bracket, for mounting on motor screws for mounting of sensor on bracket and motor 3 capillary tubes, short or long 2 fittings (1/4" - 7/16") 5 cable clips, black installation and operating instructions service kit instruction	96985439	0 - 0.6	96611522
		96985440	0 - 1.0	96611523
		96985441	0 - 1.6	96611524
		96985463	0 - 2.5	96611525
		96985464	0 - 4.0	96611526
		96985465	0 - 6.0	96611527
		96985466	0-10	96611550

65) Enter the product number of the data sheet into Grundfos Product Center to view data for the sensor.

Note: Select the differential pressure sensor so that the maximum pressure of the sensor is higher than the maximum differential pressure of the pump.

External Grundfos sensors

Sensor	Type	Supplier	Measuring range [bar]	Transmitter output [mA]	Power supply [VDC]	Process connection	Product number
Pressure transmitter	RPI	Grundfos	0 - 0.6	4-20	12-30	G 1/2	97748907
			0 - 1.0				97748908
			0 - 1.6				97748909
			0 - 2.5				97748910
			0 - 4.0				97748921
			0 - 6.0				97748922
			0-12				97748923
			0-16				97748924

Sensor interface, SI 001 PSU [66]	Description	Product number
 TM044194	Grundfos Direct Sensors™, type SI 001 PSU, is an external power supply for the VFI, DPI and other transmitters with 24 VDC supply voltage. It is used when the cable between transmitter and controller is more than (30 metres) long.	96915820

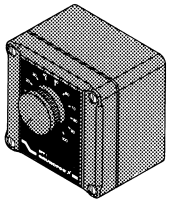
66) For more information about the PSU sensor interface, see the Installation and operating instructions "SI 001 PSU - sensor interface", publication number 96944355, or Quick guide, publication number 96944356.

Danfoss pressure sensor kit	Pressure range [bar]	Product number
• Connection: G 1/2 A (DIN 16288 - B6kt) • Electrical connection: Plug (DIN 43650)	0 - 2.5	96478188
	0-4	91072075
	0-6	91072076
	0-10	91072077
	0-16	91072078
• Pressure sensor, type MBS 3000, with 2 m screened cable • Connection: G 1/4 A (DIN 16288 - B6kt) • 5 cable clips, black • Fitting instructions PT (00400212)	0 - 2.5	405159
	0-4	405160
	0-6	405161
	0-10	405162
	0-16	405163

	Type	Supplier	Measuring range	Product number
Flowmeter	SITRANS F M MAGFLO MAG 5100 W	Siemens	1-5 m^3/h (DN 25)	ID8285
Flowmeter	SITRANS F M MAGFLO MAG 5100 W	Siemens	3-10 m^3/h (DN 40)	ID8286
Flowmeter	SITRANS F M MAGFLO MAG 5100 W	Siemens	6-30 m^3/h (DN 65)	ID8287
Flowmeter	SITRANS F M MAGFLO MAG 5100 W	Siemens	20-75 m^3/h (DN 100)	ID8288
Temperature sensor	TTA (0) 25	Carlo Gavazzi	0-25 °C	96432591
Temperature sensor	TTA (-25) 25	Carlo Gavazzi	-25 to +25 °C	96430194
Temperature sensor	TTA (50) 100	Carlo Gavazzi	50-100 °C	96432592
Temperature sensor	TTA (0) 150	Carlo Gavazzi	0-150 °C	96430195
Accessory for temperature sensor. All with 1/2 RG connection.	Protecting tube ∅9 x 50 mm	Carlo Gavazzi		96430201
	Protecting tube ∅9 x 100 mm	Carlo Gavazzi		96430202
	Cutting ring bush	Carlo Gavazzi		96430203
Temperature sensor, ambient temperature	WR 52	tmg (DK: Plesner)	-50 to +50 °C	ID8295
Differential temperature sensor	ETSD	Honsberg	0-20 °C	96409362
Differential temperature sensor	ETSD	Honsberg	0-50 °C	96409363

Note: All sensors have 4-20 mA output signal.

Potentiometer



TM021630

Potentiometer for setpoint setting and start/stop of the pump.

Product	Product number
External potentiometer with cabinet for wall mounting	625468

Grundfos GO

Grundfos GO is used for wireless infrared or radio communication with the pumps.

MI 301

MI 301 is a module with built-in infrared and radio communication. Use MI 301 in conjunction with an Android or iOS-based smart devices with a Bluetooth connection. MI 301 has a rechargeable Li-ion battery and you must charge it separately.

TM053890

MI 301

Supplied with the product:

- Grundfos MI 301
- sleeve
- battery charger
- quick guide.

Product numbers

Grundfos GO variant	Product number
Grundfos MI 301	98046408

Supported units

Make	Model	Operating system	MI 301
Apple	iPod touch 4G	iOS 5.0 or later	•
	iPhone 4, 4S		•
	iPod touch 5G	iOS 6.0 or later	•
	iPhone 5		•
HTC	Desire S	Android 2.3.3 or later	•
	Sensation	Android 2.3.4 or later	•
Samsung	Galaxy S II		•
	Galaxy Nexus	Android 4.0 or later	•
LG	Google Nexus 4	Android 4.2 or later	•

Note: Similar Android and iOS-based devices may work as well, but are not supported by Grundfos.

CIU communication interface units

TM1040612

Grundfos CIU communication interface unit

The CIU units enable communication of operating data, such as measured values and setpoints, between E-pumps and a building management system. The CIU unit incorporates a 24-240 VAC/VDC power supply module and a CIM module. It can either be mounted on a DIN rail or on a wall.

We offer the following CIU units:

Description	Fieldbus protocol	Product number
CIU 100	LONWorks for pumps	96753735
CIU 150	PROFIBUS DP	96753081
CIU 200	Modbus RTU	96753082
CIU 250 [67)]	GSM	96787106
CIU 270 [67)]	GRM	96898819
CIU 300	BACnet MS/TP	96893769
CIU 500	Ethernet, BACnet IP	96753894
CIU 500	Ethernet, Modbus TCP	
CIU 500	Ethernet, PROFINET IO	
CIU 500	Ethernet, GRM IP	
CIU 500	Ethernet, EtherNet/IP	
CIU 900	CIU box without CIM	99448387
CIU 901	CIU box with IO 270 only	99448389

67) Antenna not included. See section Antennas and battery.

For further information about data communication via CIU units and fieldbus protocols, see the CIU documentation available in Grundfos Product Center.

Related information

Antennas and battery

CIM communication interface modules

TM1040613

Grundfos CIM communication interface module

The CIM modules enable communication of operating data, such as measured values and setpoints, between E-pumps of up to 22 kW and a building management system. The CIM modules are add-on communication modules which are installed in the MGE terminal box.

Note: CIM modules must be installed by authorised personnel.

We offer the following CIM modules:

Product	Description	Product number
CIM 100	LONWorks for pumps	96824797
CIM 110	LONWorks for multipump	96824798
CIM 150	PROFIBUS DP	96824793
CIM 200	Modbus RTU	96824796
CIM 250 [68)]	GSM	96824795
CIM 260-EU [68)]	3G/4G cellular	99439302
CIM 260-US [68)]	3G/4G cellular	99439306
CIM 270 [68)]	GRM	96898815
CIM 280-EU [68)]	GiC/GRM 3G/4G	99439724
CIM 280-US [68)]	GiC/GRM 3G/4G	99439725
CIM 300	BACnet MS/TP	96893770
CIM 500	Ethernet, BACnet IP	98301408
CIM 500	Ethernet, Modbus TCP	
CIM 500	Ethernet, PROFINET IO	
CIM 500	Ethernet, GRM IP	
CIM 500	Ethernet, EtherNet/IP	

68) Antenna not included. See section Antennas and battery.

For further information about data communication via CIM modules and fieldbus protocols, see the CIM documentation available in Grundfos Product Center.

Related information

Antennas and battery

Antennas and battery

Description	Product number
Antenna for roof for CIM/CIU 250/270	97631956
Antenna for desk for CIM/CIU 250/270	97631957
Antenna (rod) 3G/4G for CIM 260/280	99043061
Antenna (puc) 3G/4G for CIM 260/280	99518079
CIM 250 battery	99499908

EMC filter

EMC (electromagnetic compatibility to EN 61800-3)

Motor [kW]		Emission/immunity
2-pole	4-pole	
0.37	0.37	Emission Motors may be installed in residential areas (first environment), unrestricted distribution, corresponding to CISPR11, group 1, class B. Immunity Motors fulfil the requirements for both the first and second environment.
0.55	0.55	
0.75	0.75	
1.1	1.1	
1.5	1.5	
2.2	2.2	
3.0	3.0	
4.0	4.0	
5.5	-	
7.5	-	
-	5.5	Emission The motors are category C3, corresponding to CISPR11, group 2, class A, and may be installed in industrial areas (second environment). If equipped with an external Grundfos EMC filter, the motors are category C2, corresponding to CISPR11, group 1, class A, and may be installed in residential areas (first environment).
-	7.5	
11	11	
15	15	
18.5	18.5	
22	-	

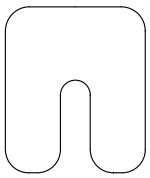
TM029198

EMC filter

The EMC filter for residential areas is available as a complete kit ready for installation.

Product	Product number
EMC filter (5.5 kW and 7.5 kW, 4-pole)	96041047
EMC filter (11-22 kW)	96478309

Shims



TM043264

Shim

Shims to adjust motor height when aligning pump and motor.

Product	Product number
Small case (180 pcs)	96659156
Large case (360 pcs)	96659157

Each case contains three types of shims:

Type 1: 55 x 50 mm (2.17 x 1.97 in), 15 mm (0.59 in) slot.

Type 2: 75 x 70 mm (2.95 x 2.76 in), 23 mm (0.91 in) slot.

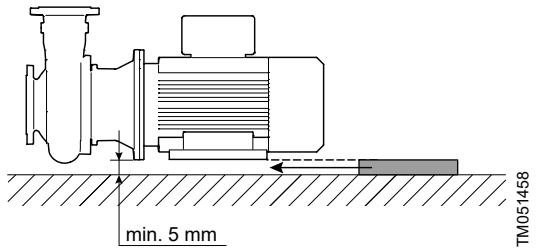
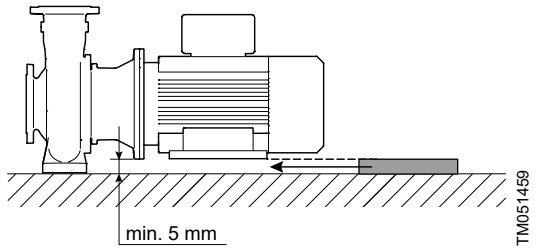
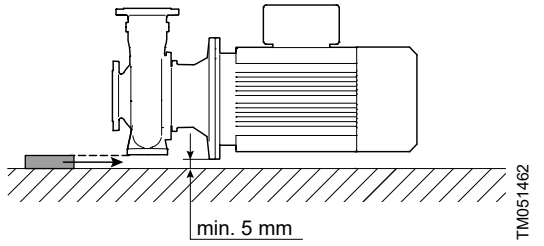
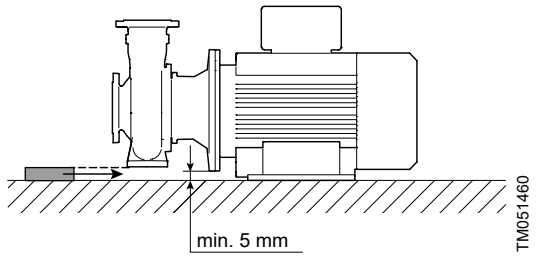
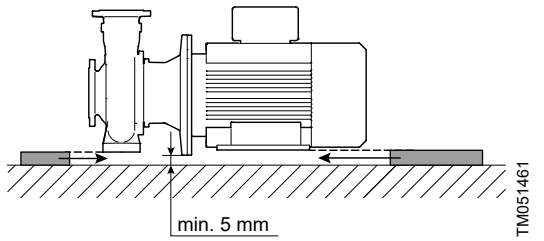
Type 3: 90 x 80 mm (3.54 x 3.15 in), 32 mm (1.26 in) slot.

Each type has ten of each of three sizes: 0.02; 0.028; 0.039 inch (0.5; 0.7; 1 mm).

A large case contains 20 of each of the above-mentioned shims. Refills can be found via service.

Support blocks

Steel support blocks are used to compensate for dimensional differences between pump housing and motor frame sizes. The support blocks can be fitted under the motor or pump housing feet during installation thus enabling horizontal alignment of the pump.

Support blocks	
No	**Position**
1a	
1b	
2a	
2b	
3	

Key to support block number

No	Description
1a	Support blocks to be fitted under motor feet
1b	
2a	Support blocks to be fitted under pump housing feet
2b	
3	Support blocks to be fitted under both motor and pump housing feet

Base frames

As an additional feature a base frame for improving the installation is available. The base frame is placed between the foundation and the support blocks.

When ordering a base frame as an accessory, the relevant support blocks, bolts, nuts and washers for mounting of the pump on the base frame are always included. Bolts for mounting the base frame on the foundation are not included.

Product numbers

Information on the pump nameplate will indicate which support block number to choose.

The product numbers in the tables on the following pages refer to one support block. Therefore always order two of the product numbers in the list as the pump/motor needs to be supported on both sides.

Note: Bolts, washers and nuts are not supplied together with support blocks.

If the pump housing of your pump has feet and two options are indicated, choose the one with support blocks for the pump.

If your pump/motor combination is not in the list, contact your Grundfos Customer Service Unit (CSU).

NBG, 60 Hz, 2-pole

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [69]		Support blocks for pump and/or motor are available for motors marked with X						
					Standard motor						
					MG		Siemens	MMG-G		MMG-H	
			Support block under pump	Support block under motor	IE2-IE3	IE3	IE3	IE1	IE1-IE2	IE1-IE2	IE2
50-32-125	3	137	95921105	-	x		x	x		x	
50-32-125	4	137	95921105	-		x	x	x		x	
50-32-125	5.5	162	99715184	-		x	x	x		x	
50-32-160	5.5	157	95921105	-		x	x	x		x	
50-32-160	7.5	157	95921105	-	x		x	x		x	
50-32-160	11	182	99715184	99715186	x		x	x	x	x	
50-32-200	11	185	95921105	95921003	x		x	x	x	x	
50-32-200	15	185	95921105	95921003	x		x	x	x		
50-32-200	15	185	95921105	95921006						x	
50-32-200	18.5	185	95921105	95921003							
50-32-200	18.5	185	95921105	95921006	x		x	x	x		x
50-32-250	11	185	95921107	95921003	x		x	x	x	x	
50-32-250	15	185	95921107	95921003	x		x	x	x		
50-32-250	15	185	95921107	95921006						x	
50-32-250	18.5	185	95921107	95921003							
50-32-250	18.5	185	95921107	95921006	x		x	x	x		x
50-32-250	30	205	95921109	93196903			x	x	x		x
65-40-200	11	185	-	95921003	x		x	x	x	x	
65-40-200	15	185	-	95921003	x		x	x	x		
65-40-200	15	185	-	95921006						x	
65-40-200	18.5	185	-	95921003							
65-40-200	18.5	185	-	95921006	x		x	x	x		x
65-40-200	30	205	-	93196903			x	x	x		x
65-40-200	30	210	99715184	95921007			x				
65-40-250	15	185	-	95921003	x		x	x	x		
65-40-250	15	185	-	95921006						x	
65-40-250	18.5	185	-	95921003							
65-40-250	18.5	185	-	95921006	x		x	x	x		x
65-40-250	30	205	95921109	93196903			x				
65-40-250	30	205	-	93196903			x	x	x		x
65-40-250	37	205	95921109	93196903			x				
65-40-250	37	205	-	93196903			x	x	x		x
65-50-125	3	137	95921105	-	x		x	x		x	
65-50-125	4	137	95921105	-		x	x	x		x	
65-50-125	5.5	162	99715184	-		x	x	x		x	
65-50-125	7.5	162	99715184	-	x		x	x		x	
65-50-160	5.5	157	95921105	-		x	x	x		x	
65-50-160	7.5	157	95921105	-	x		x	x		x	
65-50-160	11	182	99715184	99715186	x		x	x	x	x	
65-50-160	15	182	99715184	99715186	x		x	x	x		
65-50-160	15	182	99715184	-						x	
80-50-200	15	185	-	95921003	x		x	x	x		
80-50-200	15	185	-	95921006						x	
80-50-200	18.5	185	-	95921003							
80-50-200	18.5	185	-	95921006	x		x	x	x		x
80-50-200	30	205	-	93196903			x	x	x		x
80-50-200	30	210	99715184	95921007			x				
80-50-200	37	205	-	93196903			x	x	x		x
80-50-200	37	210	99715184	95921007			x				

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [69]		Support blocks for pump and/or motor are available for motors marked with X						
					Standard motor						
					MG		Siemens	MMG-G		MMG-H	
			Support block under pump	Support block under motor	IE2-IE3	IE3	IE3	IE1	IE1-IE2	IE1-IE2	IE2
80-50-250	30	205	95921109	93196903			x				
80-50-250	30	205	-	93196903			x	x	x		x
80-50-250	37	205	95921109	93196903			x				
80-50-250	37	205	-	93196903			x	x	x		x
80-65-125	5.5	157	95921105	-		x	x	x		x	
80-65-125	7.5	157	95921105	-	x		x	x		x	
80-65-125	11	182	99715184	99715186	x		x	x	x	x	
80-65-125	15	182	99715184	99715186	x		x	x	x		
80-65-125	15	182	99715184	-						x	
80-65-160	11	185	-	95921003	x		x	x	x	x	
80-65-160	15	185	-	95921003	x		x	x	x		
80-65-160	15	185	-	95921006						x	
80-65-160	18.5	185	-	95921003							
80-65-160	18.5	185	-	95921006	x		x	x	x		x
100-65-200	18.5	185	-	95921003							
100-65-200	18.5	185	-	95921006	x		x	x	x		x
100-65-200	30	205	95921109	93196903			x				
100-65-200	30	205	-	93196903			x	x	x		x
100-65-200	37	205	95921109	93196903			x				
100-65-200	37	205	-	93196903			x	x	x		x
100-65-250	45	235	95921113	99715187							
100-65-250	45	235	95921113	95921010			x	x	x		x
100-65-250	55	300	98271139	95921014			x				x
100-65-250	55	300	98271139	-				x	x		
100-65-250	75	300	98271139	95921014				x	x		
100-65-250	75	300	98271139	95921016			x				x
100-65-250	90	300	98271139	95921016				x	x		
100-65-250	90	300	98271139	95921091			x				x
100-65-250	110	300	98271139	95921091				x	x		
100-80-125	11	185	95921109	95921003	x		x	x	x	x	
100-80-125	15	185	95921109	95921003	x		x	x	x		
100-80-125	15	185	95921109	95921006						x	
100-80-125	18.5	185	95921109	95921003							
100-80-125	18.5	185	95921109	95921006	x		x	x	x		x
100-80-160	11	185	-	95921003	x		x	x	x	x	
100-80-160	15	185	-	95921003	x		x	x	x		
100-80-160	15	185	-	95921006						x	
100-80-160	18.5	185	-	95921003							
100-80-160	18.5	185	-	95921006	x		x	x	x		x
100-80-160	30	205	-	93196903			x	x	x		x
100-80-160	30	210	95921122	95921007			x				
125-80-160	30	205	95921109	93196903			x				
125-80-160	30	205	-	93196903			x	x	x		x
125-80-160	37	205	95921109	93196903			x				
125-80-160	37	205	-	93196903			x	x	x		x
125-80-200	37	205	95921109	93196903			x	x	x		x
125-80-200	45	230	95921122	93196903			x	x	x		x
125-80-200	55	280	98271153	95921012			x				x
125-80-200	55	280	98271153	-				x	x		
125-80-200	75	280	98271153	95921012				x	x		
125-80-200	75	280	98271153	-			x				x

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [69]		Support blocks for pump and/or motor are available for motors marked with X						
					Standard motor						
					MG		Siemens	MMG-G		MMG-H	
			Support block under pump	Support block under motor	IE2-IE3	IE3	IE3	IE1	IE1-IE2	IE1-IE2	IE2
125-80-200	90	280	98271153	-			x	x	x		x
125-80-250	75	285	98271151	95921013				x	x		
125-80-250	75	285	98271151	95921015			x				x
125-80-250	90	285	98271151	95921015				x	x		
125-80-250	90	285	98271151	95921017			x				x
125-80-250	110	285	98271151	95921017				x	x		
125-80-250	110	345	98271152	95921019			x				x
125-80-250	132	345	98271152	95921022			x				x
125-80-250	132	345	98271152	-				x	x		
125-80-250	160	345	98271152	95921022							x
125-80-250	160	345	98271152	98271156							
125-80-250	160	345	98271152	-			x	x	x		
125-100-160	37	205	95921117	93196903			x	x	x		x
125-100-200	55	300	98271139	95921014			x				x
125-100-200	55	300	98271139	-				x	x		
125-100-200	75	300	98271139	95921014				x	x		
125-100-200	75	300	98271139	95921016			x				x
125-100-200	90	300	98271139	95921016				x	x		
125-100-200	90	300	98271139	95921091			x				x
125-100-200	110	300	98271139	95921091				x	x		
125-100-250	110	285	98271151	95921017				x	x		
125-100-250	110	345	98271152	95921019			x				x
125-100-250	132	345	98271152	95921022			x				x
125-100-250	132	345	98271152	-				x	x		
125-100-250	160	345	98271152	95921022							x
125-100-250	160	345	98271152	98271156							
125-100-250	160	345	98271152	-			x	x	x		
125-100-250	200	345	98271152	95921022							x
125-100-250	200	345	98271152	98271156							
125-100-250	200	345	98271152	-			x	x	x		
150-125-200	75	285	95921113	95921015			x				
150-125-200	90	285	95921113	95921015				x	x		
150-125-200	90	285	95921113	95921017			x				x
150-125-200	110	285	95921113	95921017				x	x		
150-125-200	110	350	98271139	95921020			x				x
150-125-200	132	350	98271139	95921023			x				x
150-125-200	132	350	98271139	-				x	x		
150-125-200	160	350	98271139	95921023							x
150-125-200	160	350	98271139	95921025			x				
150-125-200	160	350	98271139	-				x	x		
150-125-200	200	350	98271139	95921023							x
150-125-200	200	350	98271139	95921025			x				
150-125-200	200	350	98271139	-				x	x		
150-125-250	160	350	98271139	95921023							x
150-125-250	160	350	98271139	95921025			x				
150-125-250	160	350	98271139	-				x	x		
150-125-250	200	350	98271139	95921023							x
150-125-250	200	350	98271139	95921025			x				
150-125-250	200	350	98271139	-				x	x		
200-150-200	110	340	99715185	95921018			x				x
200-150-200	132	340	99715185	95921021			x				x

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [69]		Support blocks for pump and/or motor are available for motors marked with X						
					Standard motor						
			Support block under pump	Support block under motor	MG		Siemens	MMG-G		MMG-H	
					IE2-IE3	IE3	IE3	IE1	IE1-IE2	IE1-IE2	IE2
200-150-200	132	340	99715185	-				x	x		
200-150-200	160	340	99715185	95921021							x
200-150-200	160	340	99715185	95921024			x				
200-150-200	160	340	99715185	-				x	x		
200-150-200	200	340	99715185	95921021							x
200-150-200	200	340	99715185	95921024			x				
200-150-200	200	340	99715185	-				x	x		

[69] Always order two of the product numbers in the list as the pump/motor needs to be supported on both sides.

NBG, 60 Hz, 4-pole

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [70]		Support blocks for pump and/or motor are available for motors marked with X						
					Standard motor						
			Support block under pump	Support block under motor	MG	Siemens		MMG-G		MMG-H	
					IE2-IE3	IE2	IE3	IE1	IE1-IE2	IE1-IE2	IE2
65-40-315	11	200	-	95921046		x	x	x	x	x	
65-40-315	11	200	-	99715188	x						
80-50-315	11	240	95921116	92659430		x	x	x	x	x	
80-50-315	11	240	95921116	95921053	x						
80-50-315	15	240	95921116	95921053	x	x	x	x	x	x	
100-65-250	11	200	-	95921046		x	x	x	x	x	
100-65-250	11	200	-	99715188	x						
100-65-250	15	200	-	99715188	x	x	x	x	x	x	
100-65-315	11	240	95921118	92659430		x	x	x	x	x	
100-65-315	11	240	95921118	95921053	x						
100-65-315	15	240	95921118	95921053	x	x	x	x	x	x	
100-65-315	18.5	240	95921118	95921050		x	x	x	x	x	
100-65-315	22	240	95921118	95921050			x				
100-65-315	22	260	95921113	95921056		x		x	x	x	
125-80-200	11	185	95921107	95921003		x	x	x	x	x	
125-80-200	11	185	95921107	95921006	x						
125-80-250	11	240	95921118	92659430		x	x	x	x	x	
125-80-250	11	240	95921118	95921053	x						
125-80-250	15	240	95921118	95921053	x	x	x	x	x	x	
125-80-250	18.5	240	95921118	95921050		x	x	x	x	x	
125-80-315	18.5	260	95921112	95921051		x	x	x	x	x	
125-80-315	22	260	95921112	95921051			x				
125-80-315	22	260	95921112	95921056		x		x	x	x	
125-80-315	30	260	95921112	95921062		x	x	x	x	x	
125-80-315	37	285	95921113	95921060		x	x	x	x		x
125-80-315	45	250	-	95921009		x		x	x	x	
125-80-315	45	285	95921113	95921060			x				
125-80-400	30	300	95921115	95921063		x	x	x	x	x	
125-80-400	37	285	95921117	95921060		x	x	x	x		x
125-80-400	45	280	-	92659431		x		x	x	x	
125-80-400	45	285	95921117	95921060			x				
125-80-400	55	280	-	95921012		x	x				x
125-80-400	55	305	-	92659431				x	x		
125-80-400	75	280	-	95921012				x	x		
125-100-200	11	200	-	95921046		x	x	x	x	x	
125-100-200	11	200	-	99715188	x						
125-100-200	15	200	-	99715188	x	x	x	x	x	x	
125-100-200	18.5	200	-	95921005		x	x	x	x	x	
125-100-250	15	240	95921118	95921053	x	x	x	x	x	x	
125-100-250	18.5	240	95921118	95921050		x	x	x	x	x	
125-100-250	22	240	95921118	95921050			x				
125-100-250	22	260	95921113	95921056		x		x	x	x	
125-100-250	30	225	-	95921008		x	x	x	x	x	
125-100-315	22	260	95921112	95921051			x				
125-100-315	22	260	95921112	95921056		x		x	x	x	
125-100-315	30	260	95921112	95921062		x	x	x	x	x	
125-100-315	37	285	95921113	95921060		x	x	x	x		x
125-100-315	45	250	-	95921009		x		x	x	x	

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [70]		Support blocks for pump and/or motor are available for motors marked with X						
					Standard motor						
			Support block under pump	Support block under motor	MG	Siemens		MMG-G		MMG-H	
					IE2-IE3	IE2	IE3	IE1	IE1-IE2	IE1-IE2	IE2
125-100-315	45	285	95921113	95921060			x				
125-100-315	55	285	95921113	95921013		x	x				x
125-100-315	55	285	95921113	95921026				x	x		
125-100-400	37	285	95921119	95921060		x	x	x	x		x
125-100-400	45	280	-	92659431		x		x	x	x	
125-100-400	45	285	95921119	95921060			x				
125-100-400	55	280	-	95921012		x	x				x
125-100-400	55	305	95921099	92659431				x	x		
125-100-400	75	280	-	95921012				x	x		
150-125-200	11	260	95921112	95921049		x	x	x	x	x	
150-125-200	11	260	95921112	95921055	x						
150-125-200	15	260	95921112	95921055	x	x	x	x	x	x	
150-125-200	18.5	260	95921112	95921051		x	x	x	x	x	
150-125-200	22	260	95921112	95921051			x				
150-125-200	22	260	95921112	95921056		x		x	x	x	
150-125-250	18.5	260	95921112	95921051		x	x	x	x	x	
150-125-250	22	260	95921112	95921051			x				
150-125-250	22	260	95921112	95921056		x		x	x	x	
150-125-250	30	260	95921112	95921062		x	x	x	x	x	
150-125-250	37	285	95921113	95921060		x	x	x	x		x
150-125-250	45	250	-	95921009		x		x	x	x	
150-125-250	45	285	95921113	95921060			x				
150-125-315	30	300	95921121	95921063		x	x	x	x	x	
150-125-315	37	285	95921119	95921060		x	x	x	x		x
150-125-315	45	280	-	92659431		x		x	x	x	
150-125-315	45	285	95921119	95921060			x				
150-125-315	55	280	-	95921012		x	x				x
150-125-315	55	305	95921099	92659431				x	x		
150-125-315	75	280	-	95921012				x	x		
150-125-400	55	315	-	99716002		x	x				x
150-125-400	55	350	95921101	95921073				x	x		
150-125-400	75	315	-	95921065		x	x			x	
150-125-400	75	315	-	99716002				x	x		
150-125-400	90	315	-	95921065			x	x			
150-125-400	90	315	-	95921068		x				x	
150-125-400	110	315	-	95921068				x			
150-125-400	110	335	95921121	98271155		x	x				x
150-125-400	132	335	95921121	98189151		x					x
150-125-400	132	335	95921121	-			x	x	x		
150-125-500	110	400	-	95921083				x			
150-125-500	110	400	-	92659433		x	x				x
150-125-500	132	400	-	92659434		x					x
150-125-500	132	435	95921101	95921070			x				
150-125-500	160	400	-	92659434		x	x				x
150-125-500	200	400	-	92659434		x	x				x
200-150-200	15	300	95921121	95921054	x	x	x	x	x	x	
200-150-200	18.5	280	-	95921052		x	x	x	x	x	
200-150-200	22	280	-	95921052			x				
200-150-200	22	280	-	95921057		x		x	x	x	
200-150-250	30	300	95921121	95921063		x	x	x	x	x	
200-150-250	37	285	95921119	95921060		x	x	x	x		x

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [70]		Support blocks for pump and/or motor are available for motors marked with X						
					Standard motor						
			Support block under pump	Support block under motor	MG	Siemens		MMG-G		MMG-H	
					IE2-IE3	IE2	IE3	IE1	IE1-IE2	IE1-IE2	IE2
200-150-250	45	280	-	92659431		x		x	x	x	
200-150-250	45	285	95921119	95921060			x				
200-150-250	55	280	-	95921012		x	x				x
200-150-250	55	305	95921099	92659431				x	x		
200-150-250	75	280	-	95921012				x	x		
200-150-315.2	37	325	95921120	95921061		x	x	x	x		x
200-150-315.2	45	325	95921120	95921061			x				
200-150-315.2	45	325	95921120	95921073		x		x	x	x	
200-150-315.2	55	315	-	99716002		x	x				x
200-150-315.2	55	350	95921101	95921073				x	x		
200-150-315.2	75	315	-	95921065		x	x			x	
200-150-315.2	75	315	-	99716002				x	x		
200-150-315	55	315	-	99716002		x	x				x
200-150-315	55	350	95921101	95921073				x	x		
200-150-315	75	315	-	95921065		x	x			x	
200-150-315	75	315	-	99716002				x	x		
200-150-315	90	315	-	95921065			x	x			
200-150-315	90	315	-	95921068		x				x	
200-150-315	110	315	-	95921068				x			
200-150-315	110	335	95921121	98271155		x	x				x
200-150-315	132	335	95921121	98189151		x					x
200-150-315	132	335	95921121	-			x	x	x		
200-150-400	90	315	-	95921065			x	x			
200-150-400	90	315	-	95921068		x				x	
200-150-400	110	315	-	95921068				x			
200-150-400	110	335	95921121	98271155		x	x				x
200-150-400	132	335	95921121	98189151		x					x
200-150-400	132	335	95921121	-			x	x	x		
200-150-400	160	335	95921121	98189151		x	x				x
200-150-400	160	335	95921121	-				x	x		
200-150-400	200	335	95921121	98189151		x	x				x
200-150-400	200	335	95921121	-				x	x		
200-150-500	200	400	-	92659434		x	x				x
250-200-400	55	400	-	92659432		x	x				x
250-200-400	55	400	-	92659448				x	x		
250-200-400	75	400	-	95921082		x	x			x	
250-200-400	75	400	-	92659432				x	x		
250-200-400	90	400	-	95921082			x	x			
250-200-400	90	400	-	95921083		x				x	
250-200-400	110	400	-	95921083				x			
250-200-400	110	400	-	92659433		x	x				x
250-200-400	132	400	-	92659434		x					x
250-200-400	132	435	95921101	95921070			x				
250-200-400	160	400	-	92659434		x	x				x
250-200-400	200	400	-	92659434		x	x				x
250-200-450	75	400	-	95921082		x	x			x	
250-200-450	75	400	-	92659432				x	x		
250-200-450	90	400	-	95921082			x	x			
250-200-450	90	400	-	95921083		x				x	
250-200-450	110	400	-	95921083				x			
250-200-450	110	400	-	92659433		x	x				x

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [70]		Support blocks for pump and/or motor are available for motors marked with X						
					Standard motor						
			Support block under pump	Support block under motor	MG	Siemens		MMG-G		MMG-H	
					IE2-IE3	IE2	IE3	IE1	IE1-IE2	IE1-IE2	IE2
250-200-450	132	400	-	92659434		x					x
250-200-450	132	435	95921101	95921070			x				
250-200-450	160	400	-	92659434		x	x				x
250-200-450	200	400	-	92659434		x	x				x
300-250-350	75	450	-	92659438				x	x		
300-250-350	75	450	-	92659439		x	x			x	
300-250-350	90	450	-	92659439			x	x			
300-250-350	90	450	-	92659440		x				x	
300-250-350	110	450	-	92659441		x	x				x
300-250-350	110	450	-	92659440				x			
300-250-350	132	450	-	92659442		x					x
300-250-400	75	450	-	92659438				x	x		
300-250-400	75	450	-	92659439		x	x			x	
300-250-400	90	450	-	92659439			x	x			
300-250-400	90	450	-	92659440		x				x	
300-250-400	110	450	-	92659441		x	x				x
300-250-400	110	450	-	92659440				x			
300-250-400	132	450	-	92659442		x					x
300-250-400	160	450	-	92659442		x	x				x
300-250-400	200	450	-	92659442		x	x				x
300-250-450	110	450	-	92659441		x	x				x
300-250-450	110	450	-	92659440				x			
300-250-450	132	450	-	92659442		x					x
300-250-450	160	450	-	92659442		x	x				x
300-250-450	200	450	-	92659442		x	x				x
350-300-305	110	480	-	99715191			x				
350-300-305	132	480	-	99715192			x				
350-300-305	160	480	-	99715192			x				

70) Always order two of the product numbers in the list as the pump/motor needs to be supported on both sides.

NBG, 60 Hz, 6-pole

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [71]		Support blocks for pump and/or motor are available for motors marked with X			
					Standard motor			
					Siemens		MMG-G	
			Support block under pump	Support block under motor	IE2	IE3	IE1	IE1-IE2
125-100-250	7.5	240	95921118	92659430	x	x	x	x
125-100-315	7.5	260	95921112	95921049	x	x	x	x
125-100-315	11	260	95921112	95921055	x	x	x	x
125-100-315	15	260	95921112	95921051		x		
125-100-315	15	260	95921112	95921056	x		x	x
125-100-400	11	300	95921121	95921054	x	x	x	x
125-100-400	15	280	-	95921052		x		
125-100-400	15	280	-	95921057	x		x	x
125-100-400	18.5	300	95921121	95921063	x	x	x	x
125-100-400	22	300	95921121	95921063	x	x	x	x
125-100-400	30	280	-	92659431	x		x	x
125-100-400	30	285	95921119	95921060		x		
150-125-200	7.5	260	95921112	95921049	x	x	x	x
150-125-250	7.5	260	95921112	95921049	x	x	x	x
150-125-250	11	260	95921112	95921055	x	x	x	x
150-125-250	15	260	95921112	95921051		x		
150-125-250	15	260	95921112	95921056	x		x	x
150-125-315	7.5	300	95921121	95921048	x	x	x	x
150-125-315	11	300	95921121	95921054	x	x	x	x
150-125-315	15	280	-	95921052		x		
150-125-315	15	280	-	95921057	x		x	x
150-125-315	18.5	300	95921121	95921063	x	x	x	x
150-125-315	22	300	95921121	95921063	x	x	x	x
150-125-400	18.5	320	95921119	95921087	x	x	x	x
150-125-400	22	320	95921119	95921087	x	x	x	x
150-125-400	30	325	95921120	95921061		x		
150-125-400	30	325	95921120	95921073	x		x	x
150-125-400	37	315	-	99716002	x	x		
150-125-400	37	350	95921101	95921073			x	x
150-125-400	45	315	-	95921065	x	x		
150-125-400	45	315	-	99716002			x	x
150-125-500	37	400	-	92659432	x	x		
150-125-500	37	400	-	92659448			x	x
150-125-500	45	400	-	95921082	x	x		
150-125-500	45	400	-	92659432			x	x
150-125-500	55	400	-	95921082		x	x	
150-125-500	55	400	-	95921083	x			
150-125-500	75	400	-	95921083			x	
150-125-500	75	400	-	92659433	x	x		
150-125-500	90	400	-	92659434	x			
150-125-500	90	435	95921101	95921070		x		
200-150-200	7.5	300	95921121	95921048	x	x	x	x
200-150-250	11	300	95921121	95921054	x	x	x	x
200-150-250	15	280	-	95921052		x		
200-150-250	15	280	-	95921057	x		x	x
200-150-250	18.5	300	95921121	95921063	x	x	x	x
200-150-315.2	11	320	95921119	95921084	x	x		x
200-150-315.2	15	320	95921119	95921085	x			x

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [71]		Support blocks for pump and/or motor are available for motors marked with X			
					Standard motor			
					Siemens		MMG-G	
			Support block under pump	Support block under motor	IE2	IE3	IE1	IE1-IE2
200-150-315.2	15	320	95921119	92659443		x		
200-150-315.2	18.5	320	95921119	95921087	x	x	x	x
200-150-315.2	22	320	95921119	95921087	x	x	x	x
200-150-315	18.5	320	95921119	95921087	x	x	x	x
200-150-315	22	320	95921119	95921087	x	x	x	x
200-150-315	30	325	95921120	95921061		x		
200-150-315	30	325	95921120	95921073	x		x	x
200-150-315	37	315	-	99716002	x	x		
200-150-315	37	350	95921101	95921073			x	x
200-150-400	22	320	95921119	95921087	x	x	x	x
200-150-400	30	325	95921120	95921061		x		
200-150-400	30	325	95921120	95921073	x		x	x
200-150-400	37	315	-	99716002	x	x		
200-150-400	37	350	95921101	95921073			x	x
200-150-400	45	315	-	95921065	x	x		
200-150-400	45	315	-	99716002			x	x
200-150-400	55	315	-	95921065		x	x	
200-150-400	55	315	-	95921068	x			
200-150-400	75	315	-	95921068			x	
200-150-400	75	335	95921121	98271155	x	x		
200-150-500	55	400	-	95921082		x	x	
200-150-500	55	400	-	95921083	x			
200-150-500	75	400	-	95921083			x	
200-150-500	75	400	-	92659433	x	x		
200-150-500	90	400	-	92659434	x			
200-150-500	90	435	95921101	95921070		x		
200-150-500	110	400	-	92659434	x			
200-150-500	110	435	95921101	95921070		x		
200-150-500	132	435	95921101	95921070	x	x		
250-200-400	22	400	-	99715189	x	x	x	x
250-200-400	30	400	-	92659419		x		
250-200-400	30	400	-	92659435	x		x	x
250-200-400	37	400	-	92659432	x	x		
250-200-400	37	400	-	92659448			x	x
250-200-400	45	400	-	95921082	x	x		
250-200-400	45	400	-	92659432			x	x
250-200-400	55	400	-	95921082		x	x	
250-200-400	55	400	-	95921083	x			
250-200-450	37	400	-	92659432	x	x		
250-200-450	37	400	-	92659448			x	x
250-200-450	45	400	-	95921082	x	x		
250-200-450	45	400	-	92659432			x	x
250-200-450	55	400	-	95921082		x	x	
250-200-450	55	400	-	95921083	x			
250-200-450	75	400	-	95921083			x	
250-200-450	75	400	-	92659433	x	x		
250-200-450	90	400	-	92659434	x			
250-200-450	90	435	95921101	95921070		x		
300-250-350	22	450	-	92659447	x	x	x	x
300-250-350	30	450	-	92659436		x		
300-250-350	30	450	-	92659437	x		x	x

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [71]		Support blocks for pump and/or motor are available for motors marked with X			
					Standard motor			
					Siemens		MMG-G	
			Support block under pump	Support block under motor	IE2	IE3	IE1	IE1-IE2
300-250-350	37	450	-	92659438	x	x		
300-250-350	37	450	-	92659449			x	x
300-250-350	45	450	-	92659438			x	x
300-250-350	45	450	-	92659439	x	x		
300-250-400	30	450	-	92659436		x		
300-250-400	30	450	-	92659437	x		x	x
300-250-400	37	450	-	92659438	x	x		
300-250-400	37	450	-	92659449			x	x
300-250-400	45	450	-	92659438			x	x
300-250-400	45	450	-	92659439	x	x		
300-250-400	55	450	-	92659439		x	x	
300-250-400	55	450	-	92659440	x			
300-250-400	75	450	-	92659441	x	x		
300-250-400	75	450	-	92659440			x	
300-250-400	90	450	-	92659442	x			
300-250-450	37	450	-	92659438	x	x		
300-250-450	37	450	-	92659449			x	x
300-250-450	45	450	-	92659438			x	x
300-250-450	45	450	-	92659439	x	x		
300-250-450	55	450	-	92659439		x	x	
300-250-450	55	450	-	92659440	x			
300-250-450	75	450	-	92659441	x	x		
300-250-450	75	450	-	92659440			x	
300-250-450	90	450	-	92659442	x			
300-250-450	110	450	-	92659442	x			
300-250-500	75	450	-	92659441		x		
300-250-500	75	450	-	92659440			x	
350-300-305	37	480	-	99715195		x		
350-300-305	45	480	-	99715190		x		
350-300-305	55	480	-	99715190		x		
350-300-305	75	480	-	99715191		x		

[71] Always order two of the product numbers in the list as the pump/motor needs to be supported on both sides.

NBG, 8-pole, 60 Hz

Pump type	P2 [kW]	Axial height with support blocks	Product number of support block [72]		Support blocks for pump and/or motor are available for motors with X			
					Standard motor			
					Siemens		MMG-G	
			Support block under pump	Support block under motor	IE2	IE3	IE1	IE1-IE2
350-300-305	15	480	-	99715193		x		
350-300-305	18.5	480	-	99715194		x		
350-300-305	22	480	-	99715194		x		
350-300-305	30	480	-	99715195		x		

[72] Always order two of the product numbers in the list as the pump/motor needs to be supported on both sides.

Certificates and reports

Grundfos offers a number of certificates and reports.

When a customer wants a certificate or a report, the request must be stated on the order.

The certificate or report will then be put onto the bill of materials and thus included in the product number of the pump.

Certificates or reports have to be confirmed for every order.

For more information on certificates and reports, see the data booklet "NB, NBG, NK, NKG, NBE, NBGE, NKE, NKGE - Custom-built pumps according to EN 733 and ISO 2858".

Short description	Standard
Certificate of compliance with the order	EN 10204 - 2.1
Grundfos document certifying that the pump supplied is in compliance with the order specifications.	
Test certificate - Non-specific inspection and testing	EN 10204 - 2.2
Certificate with inspection and test results of a non-specific pump	
Inspection certificate - Grundfos authorized department	EN 10204 - 3.1
Grundfos document certifying that the pump supplied is in compliance with the order specifications. Inspection and test results are mentioned in the certificate.	
Inspection certificate - External classifying society	EN 10204 - 3.2
Grundfos document certifying that the pump supplied is in compliance with the order specifications. Inspection and test results are mentioned in the certificate. Certificate from the surveyor is included:	
Lloyds Register EMEA (LR)	3.2
Inspection certificate DNV-GL	3.2
Bureau Veritas (BV)	3.2
American Bureau of Shipping (ABS)	3.2
Registro Italiano Navale Agenture (RINA)	3.2
China Class. Society (CCS)	3.2
Russian Maritime Register (RS)	3.2
Biro Klas. Indonesia (BKI)	3.2
United States Coast Guard (USCG)	3.2
Nippon Kaiji Koykai (NKK)	3.2
Pump performance - Curve test report	ISO 9906:2012
Performance curve test report - Grade 3B	
Pump performance - Duty point verification report	ISO 9906:2012
Duty point verification report - Grade 3B, Q&H	
Duty point verification report - Grade 3B, Q&H + Eta total	
Duty point verification report - Grade 3B, Q&H + P1	
Duty point verification report - Grade 2B, Q&H	
Duty point verification report - Grade 2B, Q&H + Eta total	
Duty point verification report - Grade 2B, Q&H + P1	
Duty point verification report - Grade 2U, Q&H	
Duty point verification report - Grade 2U, Q&H + Eta total	
Duty point verification report - Grade 2U, Q&H + P1	
Duty point verification report - Grade 1B, Q&H	
Duty point verification report - Grade 1B, Q&H + Eta total	
Duty point verification report - Grade 1B, Q&H + P1	
Duty point verification report - Grade 1E, Q&H	
Duty point verification report - Grade 1E, Q&H + Eta total	
Duty point verification report - Grade 1E, Q&H + P1	
Duty point verification report - Grade 1U, Q&H	
Duty point verification report - Grade 1U, Q&H + Eta total	
Duty point verification report - Grade 1U, Q&H + P1	
Other certificates/Reports	
Material specification report	
Material specification report + certificate from raw material supplier	
ATEX approved pump report	
PWIS-free certificate	
Vibration report	ISO 5199
Vibration report	ISO 10816
Impeller balancing report Grade 6.3	ISO 1940

23. Service

Some pump parts will become worn over time and need to be replaced. These parts can be ordered as service kits.

Service recommendations

To avoid unnecessary downtime, we recommend that you stock certain service parts. These service parts should be ordered together with the pump.

Information about service kits and recommended service parts can be found in the service kit catalogue.

In Grundfos Product Center, you can also search for the "Service offerings" data booklet, which gives relevant information about service issues.

24. Grundfos Product Center

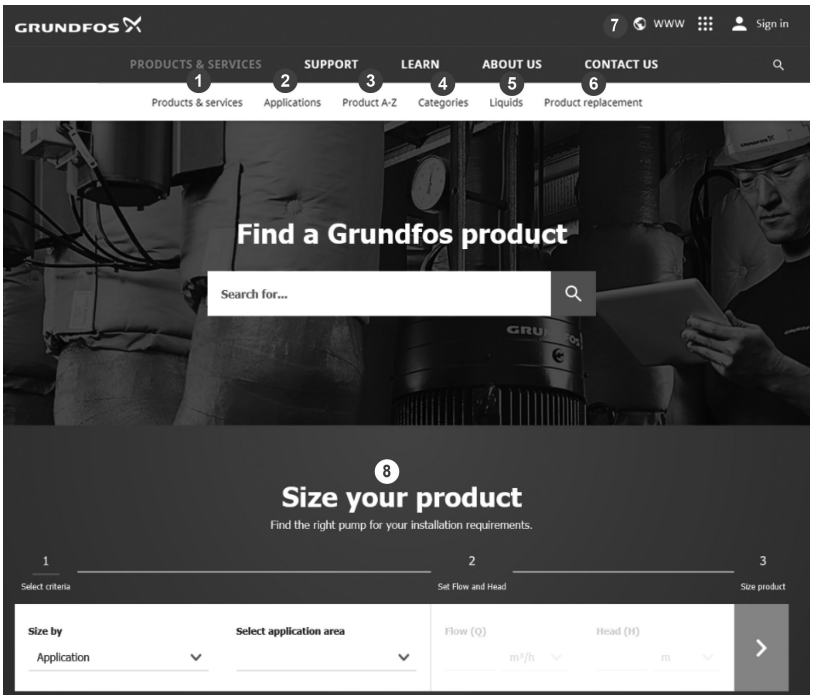
Online search and sizing tool to help you make the right choice.
From the international view, you can select your specific country to view the product range available to you.
International view: *https://product-selection.grundfos.com*

All the information you need in one place

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items - including complete projects - right on the main page.

Downloads

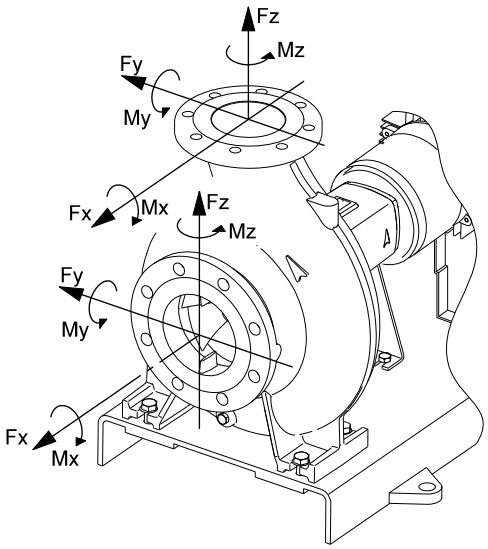
On the product pages, you can download installation and operating instructions, data booklets, service instructions, etc., in PDF format.



When you select your country, you will see the menus below. Note that some menus may not be available depending on the country.
Example: *https://product-selection.grundfos.com/uk*

Pos.	Description
1	**Products & services** enables you to find products and documents by typing a product number or name into the search field.
2	**Applications** enables you to choose an application to see how Grundfos can help you design and optimise your system.
3	**Products A-Z** enables you to look through a list of all the Grundfos products.
4	**Categories** enables you to look for a product category.
5	**Liquids** enables you to find pumps designed for aggressive, flammable or other special liquids.
6	**Product replacement** enables you to find a suitable replacement.
7	**WWW** enables you to select the country, which changes the language, the available product range and the structure of the website.
8	**Sizing** enables you to size a product based on your application and operating conditions.

A.1. Flange forces and torques



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Flange forces and torques

Cast iron flanges	Diameter DN	Force [N]				Torque [N-m]			
		Fy	Fz	Fx	ΣF 1)	My	Mz	Mx	ΣM 1)
Horizontal pump, x-axis, inlet port	25	245	298	263	455	210	245	315	455
	32	298	368	315	578	263	298	385	560
	40	350	438	385	683	315	368	455	665
	50	473	578	525	910	350	403	490	718
	65	595	735	648	1155	385	420	525	770
	80	718	875	788	1383	403	455	560	823
	100	945	1173	1050	1838	438	508	613	910
	125	1120	1383	1243	2170	525	665	735	1068
	150	1418	1750	1575	2643	613	718	875	1278
	200	1890	2345	2100	3658	805	928	1138	1680
	250	2700	3460	2980	5220	1260	1460	1780	2620
	300	3220	4000	3580	6260	1720	1980	2420	3560
	350	3760	4660	4180	7300	2200	2540	3100	4560
	400	4300	5320	4780	8340	2760	3180	3880	5720
	450	4840	5980	5380	9380	3400	3920	4780	7040
	500	5380	6640	5980	10420	4100	4720	5780	8520

Cast iron flanges	Diameter DN	Force [N]				Torque [N-m]			
		Fy	Fz	Fx	ΣF [1]	My	Mz	Mx	ΣM [1]
Horizontal pump, x-axis, outlet port	32	315	298	368	578	263	298	385	560
	40	385	350	438	683	315	368	455	665
	50	525	473	578	910	350	403	490	718
	65	648	595	735	1155	385	420	525	770
	80	788	718	875	1383	403	455	560	823
	100	1050	945	1173	1838	438	508	613	910
	125	1243	1120	1383	2170	525	665	735	1068
	150	1575	1418	1750	2748	613	718	875	1278
	200	2100	1890	2345	3658	805	928	1138	1680
	250	2980	2700	3340	5220	1260	1460	1780	2620
	300	3580	3220	4000	6260	1720	1980	2420	3920
	350	4180	3760	4660	7300	2200	2540	3100	4560
	400	4780	4300	5320	8340	2760	3180	3880	5720
	450	5380	5080	5980	9380	3400	3920	4780	7040
	500	5980	5380	6640	10420	4100	4720	5780	8520

1) ΣF and ΣM are vector sums of the forces and torques

Stainless steel flanges	Diameter DN	Force [N]				Torque [N-m]			
		Fy	Fz	Fx	ΣF [2]	My	Mz	Mx	ΣM [2]
Horizontal pump, x-axis, inlet port	25	490	595	525	910	420	490	630	910
	32	595	735	630	1155	525	595	770	1120
	40	700	875	770	1365	630	735	910	1330
	50	945	1155	1050	1820	700	805	980	1435
	65	1190	1470	1295	2310	770	840	1050	1540
	80	1435	1750	1575	2765	805	910	1120	1645
	100	1890	2345	2100	3675	875	1015	1225	1820
	125	2240	2765	2485	4340	1050	1330	1470	2135
	150	2835	3500	3150	5285	1225	1435	1750	2555
	200	3780	4690	4200	7315	1610	1855	2275	3360
	250	4725	6055	5215	9135	2205	2555	3115	4585
	300	5635	7000	6265	10955	3010	3465	4235	6230
	350	6580	8155	7315	12775	3850	4445	5425	7980
	400	7525	9310	8365	14595	4830	5565	6790	10010
	450	8470	10465	9415	16415	5950	6860	8365	12320
	500	9415	11620	10465	18235	7175	8260	10115	14910
Horizontal pump, x-axis, outlet port	32	630	595	735	1155	525	595	770	1120
	40	770	700	875	1365	630	735	910	1330
	50	1050	945	1155	1820	700	805	980	1435
	65	1295	1190	1470	2310	770	840	1050	1540
	80	1575	1435	1750	2765	805	910	1120	1645
	100	2100	1890	2345	3675	875	1015	1225	1820
	125	2485	2240	2765	4340	1050	1330	1470	2135
	150	3150	2835	3500	5495	1225	1435	1750	2555
	200	4200	3780	4690	7315	1610	1855	2275	3360
	250	5215	4725	5845	9135	2205	2555	3115	4585
	300	6265	5635	7000	10955	3010	3465	4235	6860
	350	7315	6580	8155	12775	3850	4445	5425	7980
	400	8365	7525	9310	14595	4830	5565	6790	10010
	450	9415	8890	10465	16415	5950	6860	8365	12320
	500	10465	9415	11620	18235	7175	8260	10115	14910

2) ΣF and ΣM are vector sums of the forces and torques

If not all loads reach the maximum permissible value, one of the values is allowed to exceed the normal limit. Contact Grundfos for further information.

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