GRUNDFOS **DATA BOOKLET**

NBG, NBGE, NKG, NKGE

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

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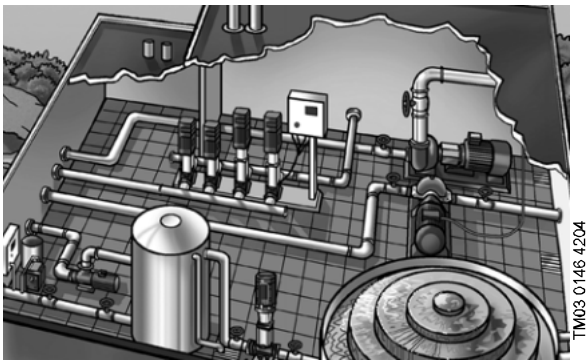
Introduction

NBG and NKG are multi-purpose 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:

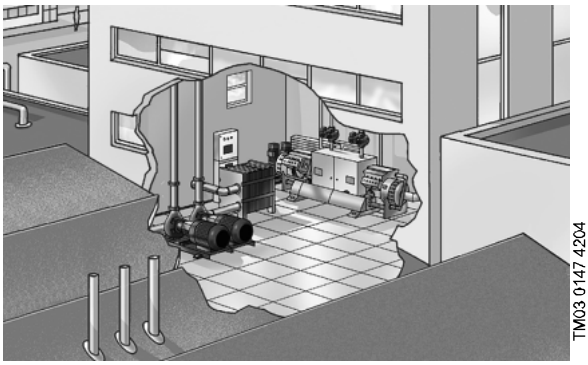
- water supply
- industrial pressure boosting
- industrial liquid transfer
- HVAC
- irrigation.



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:

- industrial washing and cleaning systems
- industrial washdown systems
- vehicle washing tunnels
- fire protection systems.

Industrial liquid transfer

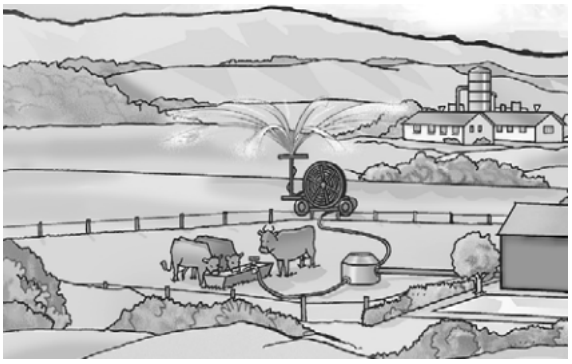
Liquid transfer in:

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

HVAC

Liquid transfer in:

- heating systems
- ventilation systems
- air-conditioning systems



Irrigation

Irrigation covers these applications:

- field irrigation (flooding)
- sprinkler irrigation
- drip-feed irrigation.

Features and benefits

NBG and NKG pumps present these features and benefits:

- All NKG pumps are according to ISO 5199.
- The pumps are non-self-priming, single-stage, centrifugal volute pumps with axial suction port, radial discharge port and horizontal shaft.
- Suction and discharge flanges are PN 16 according to EN 1092-2.
- Dimensions and rated performance are according to ISO 2858 (16 bar).
- The NBG pump is close-coupled with a totally enclosed fan-cooled standard motor with main dimensions to IEC and DIN standards
- 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).
- The mechanical shaft seal has dimensions according to EN 12756.
- NBG and NKG pumps offer flow rates from 2 to 1200 m^3/h and heads from 2 to 160 m. Motor sizes fall in the 0.25 to 355 kW range.
- Pumps with power requirement of 1.1 to 22 kW are available with motors with built-in frequency converter. These pumps are called NBGE and NKGE.
- All pumps are statically balanced according to ISO 1940 class 6.3.
  Impellers are hydraulically balanced.
- The NKG pump and motor are mounted on a common, steel base frame in accordance with EN 23661.
- The NBG and NKG product ranges are available in two product series, "standard range" and "premium range". Premium-range products are available with EFF1 motors; standard-range products with EFF2 motors.
- The pumps are of the back pull-out design enabling removal of the motor, coupling, bearing bracket and impeller without disturbing the pump housing or pipework. Even the largest pumps can thus be serviced by a single person with a crane. See fig. 1 and fig. 2.

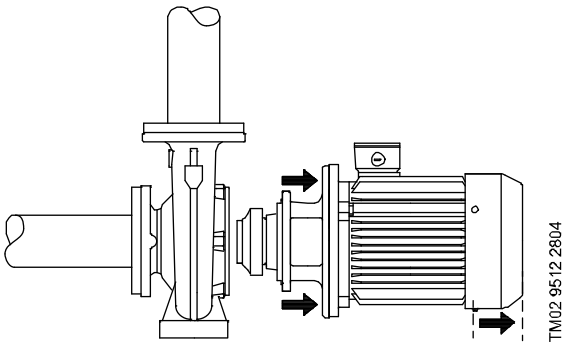


Fig. 1 NBG back pull-out design

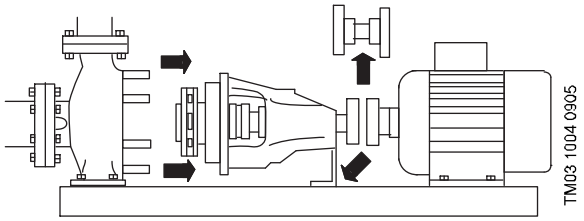


Fig. 2 NKG back pull-out design

High-efficiency motors

Premium range 2- and 4-pole NBG and NKG pumps with motor sizes from 1.1 to 90 kW are fitted with high-efficiency motors (EFF1). EFF1 is the highest efficiency class defined by CEMEP (European Committee of Manufacturers of Electrical Machines and Power Electronics).

Pumps with electronic speed control

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 enable electronic speed control. These pumps are called NBGE and NKGE.

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

The pump materials of NBGE and NKGE pumps are the same as those of the NBG and NKG pump range.

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

- constant pressure
- temperature control
- constant flow.

Why select an NBGE, NKGE pump?

Select an NBGE, NKGE pump if

- controlled operation is required
- constant pressure is required
- communication with the pump is required.

This furthermore gives these obvious advantages:

- energy savings
- increased comfort.

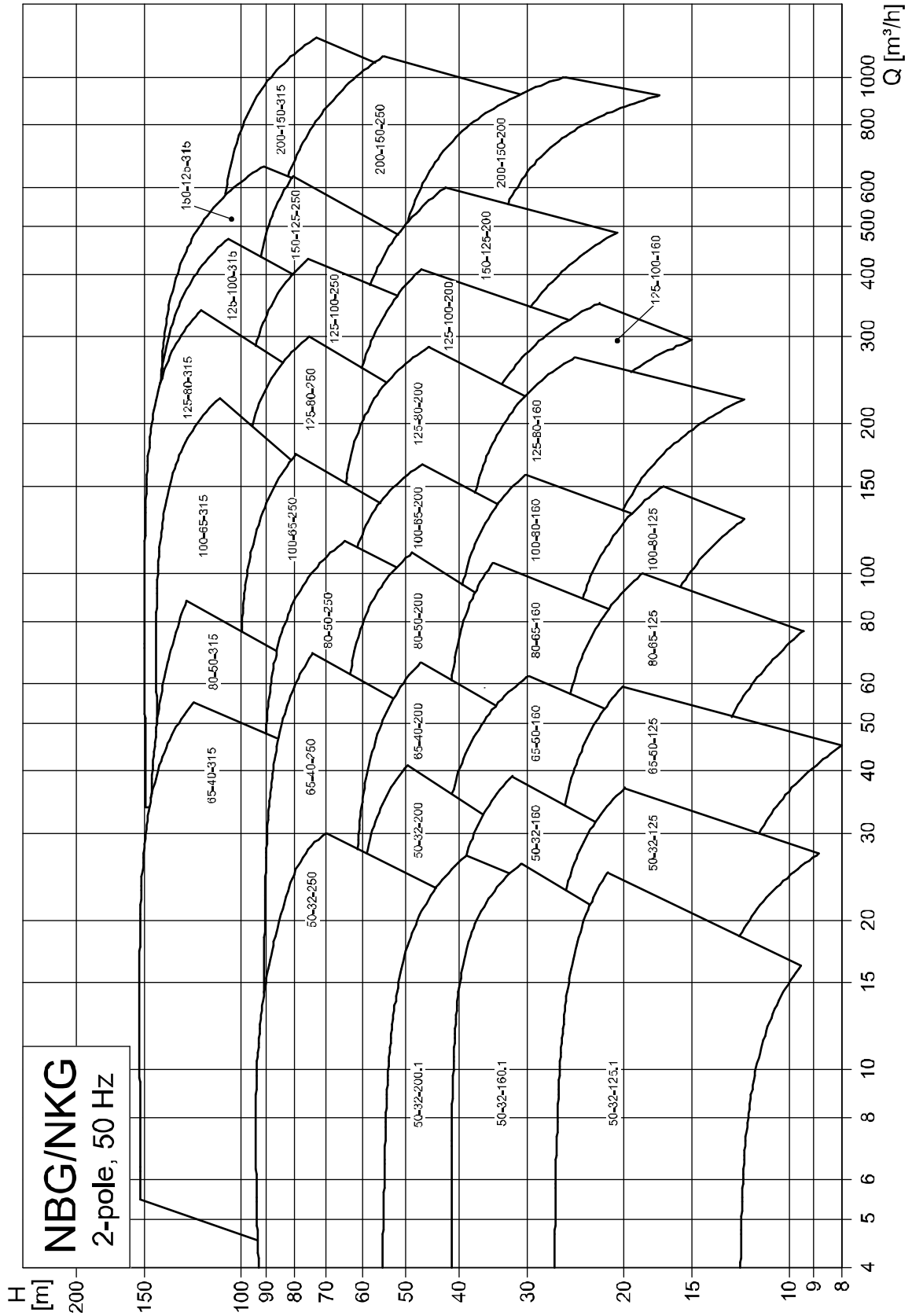
For further information on electronic speed control, see section "Speed-controlled NBG and NKG pumps" on page 33.

ATEX-approved NBG and NKG pumps

On request, Grundfos offers NBG and NKG pumps with ATEX-approval in accordance with Directive 94/9/EC (group II, category 3G and 3D). If an ATEX-approved dry-running protection is installed, the pump can be upgraded to category 2G.

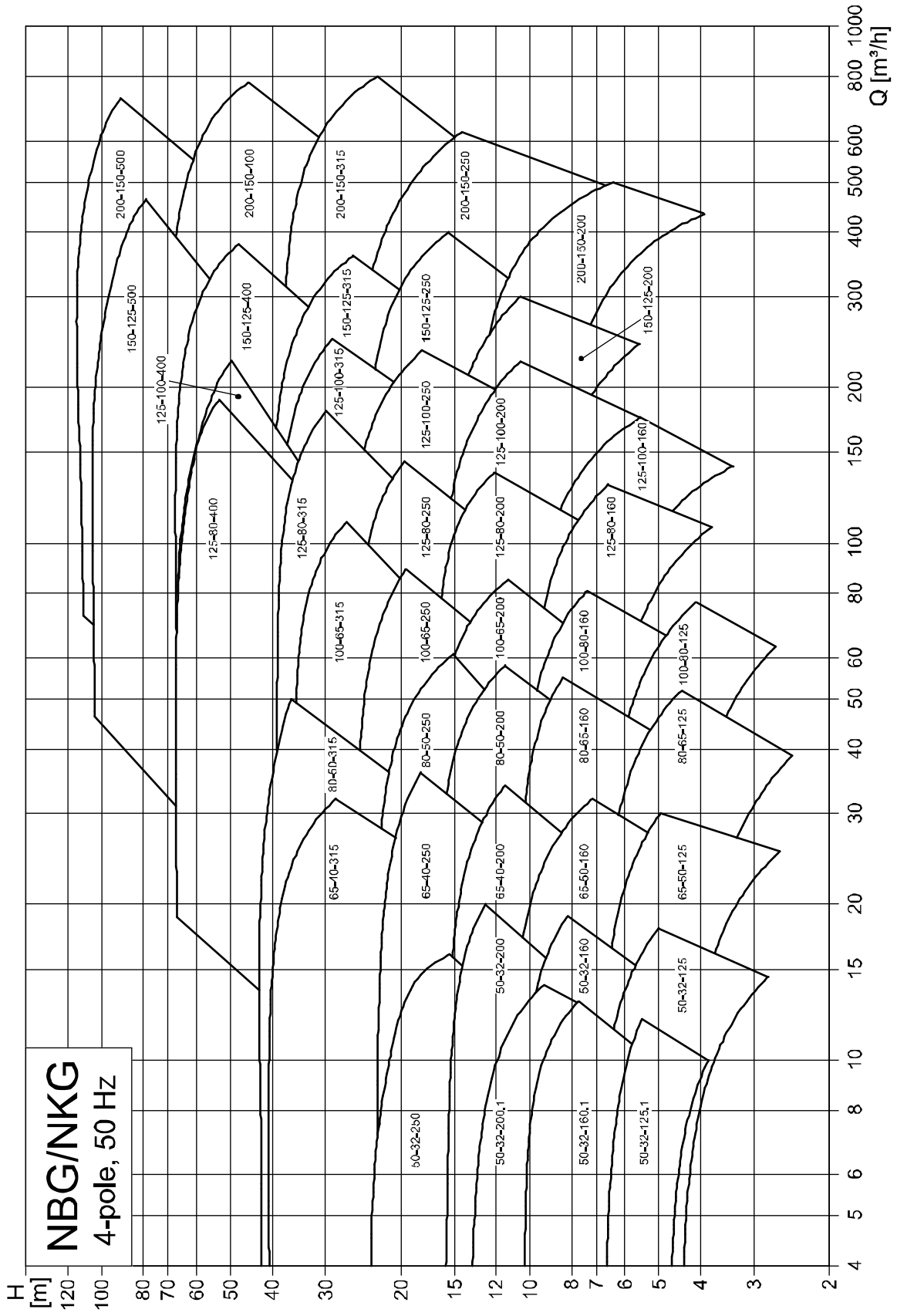
Performance range

NBG, NKG, 2-pole



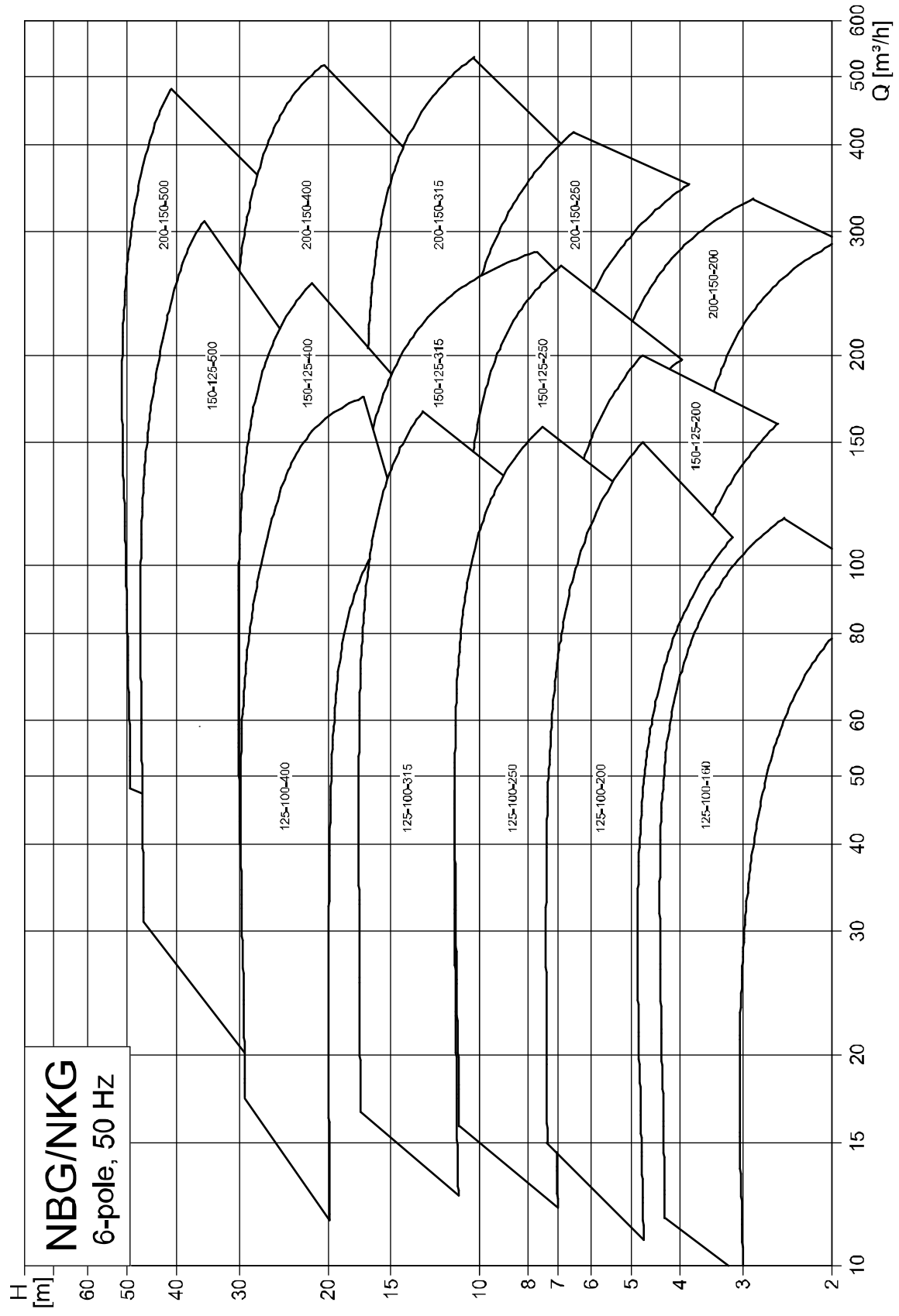
Performance range

NBG, NKG, 4-pole



Performance range

NBG, NKG, 6-pole



Product range

The tables on the following pages show the complete NGB, NBGE and NKG, NKGE product ranges. The product range includes the pumps in WinCAPS.

The standard range has been combined on the basis of the following parameters:

- Pump housings have discharge flanges from DN 32 to DN 150.
- Motors are 50 Hz.
- NBG and NKG pumps are available with 2-, 4- and 6-pole motors, NBGE and NKGE with 2- and 4-pole motors.
- NBG and NKG pumps are available with Premium range and Standard range motors.
- 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".
- The range of pumps with electronically speed-controlled motors (three-phase) covers 2-pole motors from 1.5 to 22 kW and 4-pole motors from 0.75 to 22 kW.

To a great extent the pumps can be adapted to the requirements of the individual customer. For customized solutions, please contact Grundfos.

NBG, NKG, 2-pole

Pump type 50 Hz, 2-pole	NKG model	NBG design	Available in stainless steel	Available as NBGE/NKGE	Pressure stage PN 16	P_2 [kW]
50-32-125.1	B	A			●	0.75
		A			●	1.1
		A		●	●	1.5
		A		●	●	2.2
50-32-160.1	B	A		●	●	1.5
		A		●	●	2.2
		A		●	●	3
		A		●	●	4
50-32-200.1	B	A		●	●	3
		A		●	●	4
		A		●	●	5.5
		A		●	●	7.5
50-32-125	B	A		●	●	1.1
		A		●	●	1.5
		A		●	●	2.2
		A		●	●	3
50-32-160	B	A		●	●	2.2
		A		●	●	3
		A		●	●	4
		A		●	●	5.5
50-32-200	B	A		●	●	4
		A		●	●	5.5
		A		●	●	7.5
		A		●	●	11
50-32-250	B	A	●	●	●	5.5
		A	●	●	●	7.5
		C	●	●	●	11
		C	●	●	●	15
65-50-125	B	A	●	●	●	1.5
		A	●	●	●	2.2
		A	●	●	●	3
		A	●	●	●	4
		A	●	●	●	5.5
65-50-160	B	A	●	●	●	4
		A	●	●	●	5.5
		A	●	●	●	7.5
		C	●	●	●	11
65-40-200	B	A	●	●	●	5.5
		A	●	●	●	7.5
		B	●	●	●	11
		B	●	●	●	15
65-40-250	B	B	●	●	●	11
		B	●	●	●	15
		B	●	●	●	18.5
		B	●	●	●	22
		B	●		●	30
65-40-315	B	C	●	●	●	22
		C	●		●	30
		C	●		●	37
		C	●		●	45
		C	●		●	55

Pump type 50 Hz, 2-pole	NKG model	NBG design	Available in stainless steel	Available as NBGE/NKGE	Pressure stage PN 16	P_2 [kW]
80-65-125	B	A	●	●	●	3
		A	●	●	●	4
		A	●	●	●	5.5
		A	●	●	●	7.5
80-65-160	B	A	●	●	●	5.5
		A	●	●	●	7.5
		B	●	●	●	11
		B	●	●	●	15
80-50-200	B	B	●	●	●	11
		B	●	●	●	15
		B	●	●	●	18.5
		B	●	●	●	22
80-50-250	B	B	●	●	●	15
		B	●	●	●	18.5
		B	●	●	●	22
		B	●		●	30
		B	●		●	37
80-50-315	B	C	●		●	30
		C	●		●	37
		C	●		●	45
		C	●		●	55
		C	●		●	75
		C	●		●	90
100-80-125	B	A	●	●	●	4
		A	●	●	●	5.5
		A	●	●	●	7.5
		C	●	●	●	11
100-80-160	B	A	●	●	●	7.5
		C	●	●	●	11
		C	●	●	●	15
		C	●	●	●	18.5
100-65-200	B	C	●	●	●	11
		C	●	●	●	15
		C	●	●	●	18.5
		C	●	●	●	22
		C	●		●	30
		C	●		●	37
100-65-250	B	C	●		●	30
		C	●		●	37
		C	●		●	45
		C	●		●	55
		C	●		●	75
100-65-315	B	C	●		●	55
		C	●		●	75
		C	●		●	90
		C	●		●	110
125-80-160	B	C	●	●	●	11
		C	●	●	●	15
		C	●	●	●	18.5
		C	●	●	●	22
		C	●		●	30

Product range

Pump type 50 Hz, 2-pole	NKG model	NBG design	Available in stainless steel	Available as NBGE/NKGE	Pressure stage PN 16	P_2 [kW]
125-80-200	B	C	●	●	●	22
		C	●		●	30
		C	●		●	37
		C	●		●	45
		C	●		●	55
125-80-250	B	C	●		●	45
		C	●		●	55
		C	●		●	75
		C	●		●	90
125-80-315	B	C	●		●	90
		C	●		●	110
		C	●		●	132
		C	●		●	160
		C	●		●	200
125-100-160	B	C		●	●	22
		C			●	30
		C			●	37
125-100-200	B	C			●	30
		C			●	37
		C			●	45
		C			●	55
		C			●	75
125-100-250	B	C			●	55
		C			●	75
		C			●	90
		C			●	110
		C			●	132
125-100-315	B	C			●	110
		C			●	132
		C			●	160
		C			●	200
		-			●	250
150-125-200	B	C			●	45
		C			●	55
		C			●	75
		C			●	90
		C			●	110
150-125-315	B	C			●	90
		C			●	110
		C			●	132
		C			●	160
		C			●	200
150-125-315	B	C			●	132
		C			●	160
		C			●	200
		-			●	250
200-150-200	B	C			●	75
		C			●	90
		C			●	110
200-150-250	B	C			●	132
		C			●	160
		C			●	200
		-			●	250
200-150-315	B	-			●	250
		-			●	315
		-			●	355

NBG, NKG, 4-pole

Pump type 50 Hz, 4-pole	NKG model	NBG design	Available in stainless steel	Available as NBGE/NKGE	Pressure stage PN 16	P_2 [kW]
50-32-125.1	B	A			●	0.25
		A			●	0.25
		A			●	0.37
50-32-160.1	B	A			●	0.25
		A			●	0.25
		A			●	0.37
		A			●	0.55
50-32-200.1	B	A			●	0.37
		A			●	0.55
		A		●	●	0.75
50-32-125	B	A			●	0.25
		A			●	0.25
		A			●	0.37
50-32-160	B	A			●	0.25
		A			●	0.37
		A			●	0.55
		A		●	●	0.75
50-32-200	B	A			●	0.55
		A		●	●	0.75
		A		●	●	1.1
		A		●	●	1.5
50-32-250	B	A	●	●	●	0.75
		A	●	●	●	1.1
		A	●	●	●	1.5
		A	●	●	●	2.2
65-50-125	B	A	●		●	0.25
		A	●		●	0.37
		A	●		●	0.55
65-50-160	B	A	●		●	0.37
		A	●		●	0.55
		A	●	●	●	0.75
		A	●	●	●	1.1
65-40-200	B	A	●	●	●	0.75
		A	●	●	●	1.1
		A	●	●	●	1.5
		A	●	●	●	2.2
65-40-250	B	A	●	●	●	1.5
		A	●	●	●	2.2
		A	●	●	●	3
65-40-315	B	A	●	●	●	3
		A	●	●	●	4
		A	●	●	●	5.5
		A	●	●	●	7.5
80-65-125	B	A	●		●	0.37
		A	●		●	0.55
		A	●	●	●	0.75
		A	●	●	●	1.1
80-65-160	B	A	●	●	●	0.55
		A	●	●	●	0.75
		A	●	●	●	1.1
		A	●	●	●	1.5
		A	●	●	●	2.2

Pump type 50 Hz, 4-pole	NKG model	NBG design	Available in stainless steel	Available as NBGE/NKGE	Pressure stage PN 16	P_2 [kW]
80-50-200	B	A	●	●	●	1.1
		A	●	●	●	1.5
		A	●	●	●	2.2
		A	●	●	●	3
80-50-250	B	A	●	●	●	2.2
		A	●	●	●	3
		A	●	●	●	4
80-50-315	B	A	●	●	●	4
		A	●	●	●	5.5
		A	●	●	●	7.5
		C	●	●	●	11
100-80-125	B	A	●		●	0.55
		A	●	●	●	0.75
		A	●	●	●	1.1
100-80-160	B	A	●	●	●	0.75
		A	●	●	●	1.1
		A	●	●	●	1.5
		A	●	●	●	2.2
100-65-200	B	A	●	●	●	1.5
		A	●	●	●	2.2
		A	●	●	●	3
		A	●	●	●	4
100-65-250	B	A	●	●	●	3
		A	●	●	●	4
		A	●	●	●	5.5
		A	●	●	●	7.5
100-65-315	B	A	●	●	●	5.5
		A	●	●	●	7.5
		B	●	●	●	11
		B	●	●	●	15
125-80-160	B	A	●	●	●	1.5
		A	●	●	●	2.2
		A	●	●	●	3
		A	●	●	●	4
125-80-200	B	A	●	●	●	2.2
		A	●	●	●	3
		A	●	●	●	4
		A	●	●	●	5.5
		A	●	●	●	7.5
125-80-250	B	A	●	●	●	5.5
		A	●	●	●	7.5
		B	●	●	●	11
125-80-315	B	C	●	●	●	11
		C	●	●	●	15
		C	●	●	●	18.5
		C	●	●	●	22
125-80-400	B	C	●	●	●	18.5
		C	●	●	●	22
		C	●		●	30
		C	●		●	37
		C	●		●	45

Product range

Pump type 50 Hz, 4-pole	NKG model	NBG design	Available in stainless steel	Available as NBGE/NKGE	Pressure stage PN 16	P_2 [kW]
125-100-160	B	A		●	●	2.2
		A		●	●	3
		A		●	●	4
125-100-200	B	A		●	●	4
		A		●	●	5.5
		A		●	●	7.5
		C		●	●	11
125-100-250	B	A		●	●	7.5
		C		●	●	11
		C		●	●	15
		C		●	●	18.5
125-100-315	B	C		●	●	15
		C		●	●	18.5
		C		●	●	22
		C			●	30
125-100-400	B	C		●	●	22
		C			●	30
		C			●	37
		C			●	45
		C			●	55
150-125-200	B	A		●	●	5.5
		A		●	●	7.5
		C		●	●	11
		C		●	●	15
150-125-250	B	C		●	●	11
		C		●	●	15
		C		●	●	18.5
		C		●	●	22
		C			●	30
150-125-315	B	C		●	●	18.5
		C		●	●	22
		C			●	30
		C			●	37
		C			●	45
150-125-400	B	C			●	37
		C			●	45
		C			●	55
		C			●	75
		C			●	90
150-125-500	B	C			●	55
		C			●	75
		C			●	90
		C			●	110
		C			●	132
		C			●	160
200-150-200	B	A		●	●	7.5
		C		●	●	11
		C		●	●	15
200-150-250	B	C		●	●	15
		C		●	●	18.5
		C		●	●	22
		C			●	30
		C			●	37
		C			●	45

Pump type 50 Hz, 4-pole	NKG model	NBG design	Available in stainless steel	Available as NBGE/NKGE	Pressure stage PN 16	P_2 [kW]
200-150-315	B	C			●	37
		C			●	45
		C			●	55
		C			●	75
		C			●	90
200-150-400	B	C			●	55
		C			●	75
		C			●	90
		C			●	110
		C			●	132
		C			●	160
200-150-500	B	C			●	132
		C			●	160
		C			●	200
		-			●	250
		-			●	315

NBG, NKG, 6-pole

Pump type 50 Hz, 6-pole	NKG model	NBG design	Available in stainless steel	Available as NBGE/NKGE	Pressure stage PN 16	P_2 [kW]
125-100-160	B	A			●	0.55
		A			●	0.75
		A			●	1.1
125-100-200	B	A			●	1.1
		A			●	1.5
		A			●	2.2
		A			●	3
125-100-250	B	A			●	2.2
		A			●	3
		A			●	4
		A			●	5.5
125-100-315	B	A			●	4
		A			●	5.5
		C			●	7.5
		C			●	11
125-100-400	B	C			●	7.5
		C			●	11
		C			●	15
		C			●	18.5
150-125-200	B	A			●	1.5
		A			●	2.2
		A			●	3
		A			●	4
150-125-250	B	A			●	3
		A			●	4
		A			●	5.5
					●	7.5
150-125-315	B	A			●	5.5
		C			●	7.5
		C			●	11
		C			●	15
150-125-400	B	C			●	11
		C			●	15
		C			●	18.5
		C			●	22
		C			●	30
150-125-500	B	C			●	18.5
		C			●	22
		C			●	30
		C			●	37
		C			●	45
		C			●	55
200-150-200	B	A			●	2.2
		A			●	3
		A			●	4
200-150-250	B	A			●	4
		A			●	5.5
		C			●	7.5
		C			●	11
200-150-315	B	C			●	11
		C			●	15
		C			●	18.5
		C			●	22
200-150-400	B	C			●	18.5
		C			●	22
		C			●	30
		C			●	37
		C			●	45
200-150-500	B	C			●	37
		C			●	45
		C			●	55
		C			●	75
		C			●	90

Identification

NBG type key

The example shows an NBG 50-32-125.1, 50 Hz, with a 142 mm impeller, made of cast iron and with a BAQE shaft seal.

Example NBG 50-32 -125 .1 /142 A -F -A -BAQE

- Type range
- Nominal diameter of suction and discharge port (DN)
- Nominal impeller diameter [mm]
- Reduced performance = .1
- Actual impeller diameter [mm]
- Code for pump version (the codes may be combined)
  - A = Basic version
  - B = Oversize
  - C = Without motor
  - D = Pump housing with feet
  - E = With ATEX approval, certificate or test report
  - X = Special version
- Code for pipework connection:
  - F = DIN flange (EN 1092-2)
- Code for materials:
  - A = EN-GJL-250 pump housing, EN-GJL-200 impeller and bronze wear ring
  - B = EN-GJL-250 pump housing and bronze CuSn10 impeller, bronze wear ring
  - S = EN-GJL-250 pump housing and 1.4408 impeller, bronze wear ring
  - N = 1.4408 pump housing and impeller, Graflon wear ring
  - R = 1.4517 pump housing and impeller, Graflon wear ring
  - P = 1.4408 pump housing, 1.4517 impeller, Graflon wear ring
  - K = 1.4408 pump housing and impeller, 1.4517 wear ring
  - L = 1.4517 pump housing, impeller and wear ring
  - M = 1.4408 pump housing, 1.4517 impeller and wear ring
  - X = Special version
- Code for mechanical shaft seal and rubber pump parts

NKG type key

The example shows an NKG 50-32-125.1, 50 Hz, with a 142 mm impeller and a standard coupling, made of cast iron and with a BAQE shaft seal.

Example NKG 50-32 -125 .1 /142 A1 -F -A -BAQE

- Type range
- Nominal diameter of suction and discharge port (DN)
- Nominal impeller diameter [mm]
- Reduced performance = .1
- Actual impeller diameter [mm]
- Code for pump version (the codes may be combined)
  - A1 = Basic version with standard coupling
  - A2 = Basic version with spacer coupling
  - AH = Bare shaft pump
  - C = Without motor
  - E = With ATEX approval, certificate or test report
  - X = Special version
- Code for pipework connection:
  - F = DIN flange (EN 1092-2)
- Code for materials:
  - A = EN-GJL-250 pump housing, EN-GJL-200 impeller and bronze wear ring
  - B = EN-GJL-250 pump housing and bronze CuSn10 impeller, bronze wear ring
  - S = EN-GJL-250 pump housing and 1.4408 impeller, bronze wear ring
  - N = 1.4408 pump housing and impeller, Graflon wear ring
  - R = 1.4517 pump housing and impeller, Graflon wear ring
  - P = 1.4408 pump housing, 1.4517 impeller, Graflon wear ring
  - K = 1.4408 pump housing and impeller, 1.4517 wear ring
  - L = 1.4517 pump housing, impeller and wear ring
  - M = 1.4408 pump housing, 1.4517 impeller and wear ring
  - X = Special version
- Code for mechanical shaft seal and rubber pump parts

Shaft seals

NBG and NKG pumps are available with a BAQE shaft seal as standard. Other shaft seal variants are available on request.

Codes for shaft seals

The positions (1) - (4) cover information about the shaft seal:

Example	(1)	(2)	(3)	(4)
Grundfos type designation				
Material, rotating seal face				
Material, stationary seat				
Material, secondary seal and other rubber and composite parts, except the wear ring				

The following table explains the positions (1), (2), (3) and (4).

Pos.	Type	Short description of seal
(1)	A	O-ring seal with fixed driver
	B	Rubber bellows seal
	G	Bellows seal, type B, with reduced seal faces
	D	O-ring seal, balanced
Pos.	**Type**	**Material**
(2) and (3)		Synthetic carbons:
	A	Carbon, metal-impregnated (antimony; not approved for potable water)
	B	Carbon, resin-impregnated
		Carbides:
	Q	Silicon carbide
Pos.	**Type**	**Material**
(4)	E	EPDM
	V	FKM
	F	FXM

Sectional drawing NBG

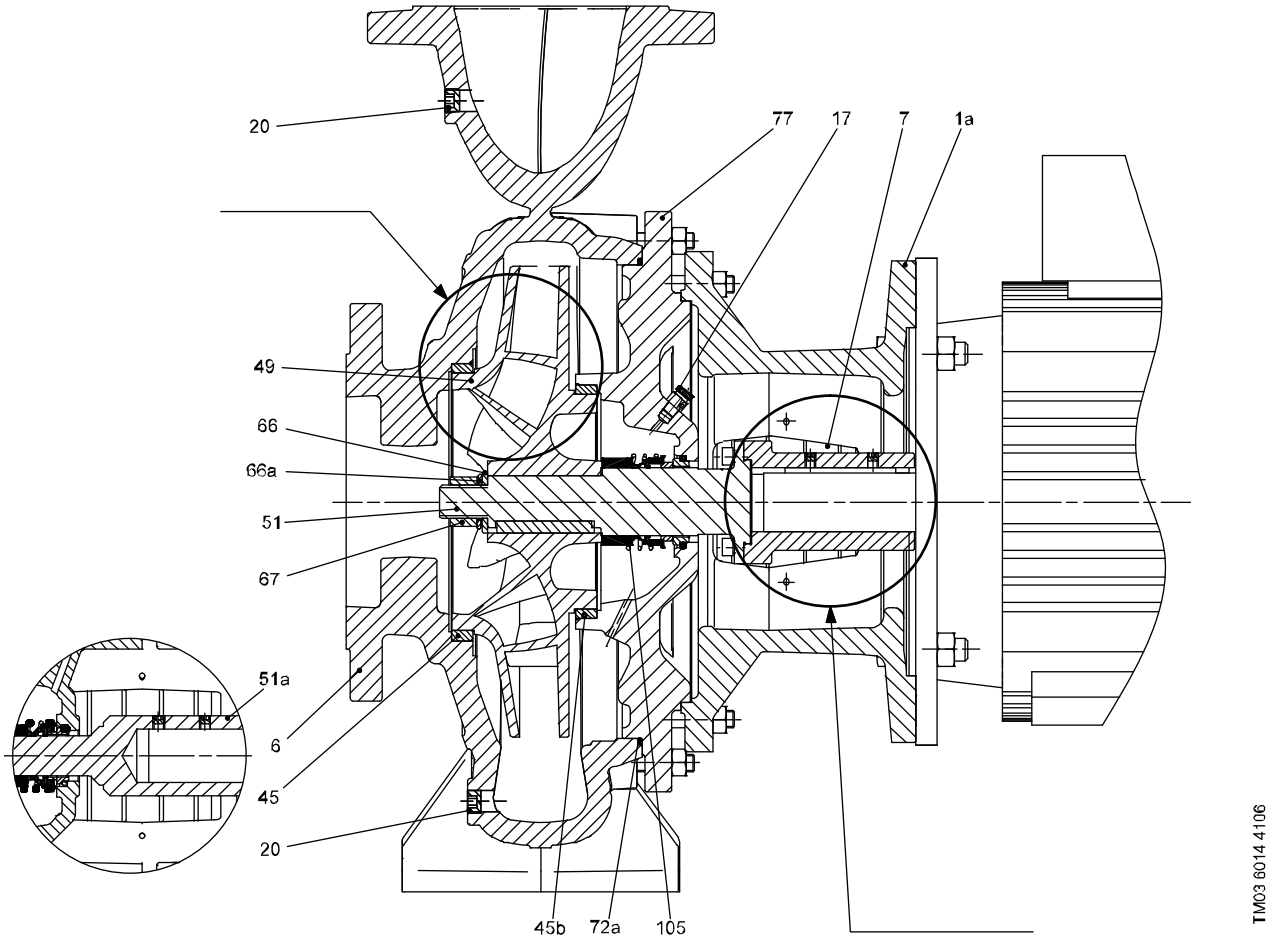
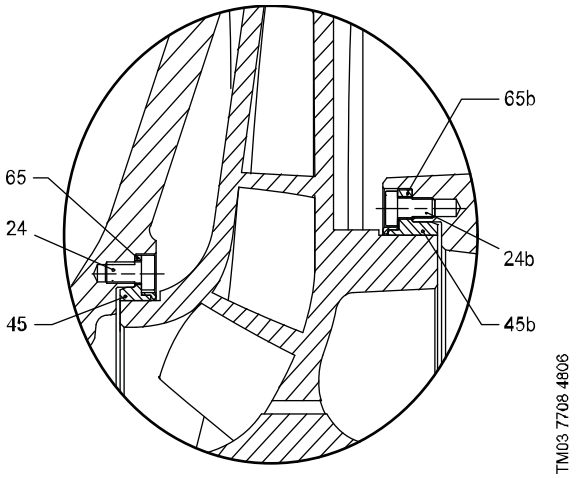


Fig. 3 Sectional drawing NBG

Cast iron pump

Pos.	Component	A-version Cast iron impeller	B-version Bronze impeller	S-version Stainless steel impeller
1a	Motor stool	EN-GJL-250	EN-GJL-250	EN-GJL-250
6	Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
7	Coupling guard	1.4016/AISI 430	1.4016/AISI 430	1.4016/AISI 430
17	Air vent plug	2.0401/CuZn44Pb2	2.0401/CuZn44Pb2	2.0401/CuZn44Pb2
20	Plug	ISO898 8.8 carbon steel	ISO898 8.8 carbon steel	ISO898 8.8 carbon steel
45	Wear ring	CuSn10	CuSn10	CuSn10
45b	Wear ring	CuSn10	CuSn10	CuSn10
49	Impeller	EN-GJL-200	CuSn10	1.4408/CF8M
51	2-part stub shaft	1.4301+1.0301/AISI 304+ carbon steel C10	1.4301+1.0301/AISI 304+ carbon steel C10	1.4401+1.0301/AISI 316+ carbon steel C10
51a	Stub shaft	1.4301/AISI 304	1.4301/AISI 304	1.4401/AISI 316
66	Washer	1.4301/AISI 304	1.4301/AISI 304	1.4401/AISI 316
66a	Spring lock washer	1.4301/AISI 304	1.4301/AISI 304	1.4401/AISI 316
67	Impeller nut	1.4301/AISI 304	1.4301/AISI 304	1.4401/AISI 316
72a	O-ring	EPDM or FKM	EPDM or FKM	EPDM or FKM
77	Cover	EN-GJL-250	EN-GJL-250	EN-GJL-250
105	Shaft seal	Burgmann 1.4401/AISI 316	Burgmann 1.4401/AISI 316	Burgmann 1.4401/AISI 316

Stainless steel pump



Pos.	Component	N-version	R-version
1a	Motor stool	EN-GJL-250	EN-GJL-250
6	Pump housing	1.4408/CF8M	1.4517/CD4MCuN
7	Coupling guard	1.4016/AISI 430	1.4016/AISI 430
17	Air vent plug	1.4401/AISI 316	1.4539/AISI 904L
20	Plug	1.4401/AISI 316	1.4539/AISI 904L
24	Hexagon socket head cap screw	ISO898 1.4401/AISI 316	ISO898 1.4539/AISI 904L
24b	Hexagon socket head cap screw	ISO898 1.4401/AISI 316	ISO898 1.4539/AISI 904L
45	Wear ring	Graflon	Graflon
45b	Wear ring	Graflon	Graflon
49	Impeller	1.4408/CF8M	1.4517/CD4MCuN
51	2-part stub shaft	1.4401+1.0301/AISI 316+ carbon steel C10	1.4462+1.0301/ASTM J92205+ carbon steel C10
65	Wear ring retainer	1.4517/CD4MCuN	1.4517/CD4MCuN
65b	Wear ring retainer	1.4517/CD4MCuN	1.4517/CD4MCuN
66	Washer	1.4401/AISI 316	1.4539/AISI 904L
66a	Spring lock washer	1.4401/AISI 316	1.4539/AISI 904L
67	Impeller nut	1.4401/AISI 316	1.4539/AISI 904L
72a	O-ring	EPDM or FKM	EPDM or FKM
77	Cover	1.4408/CF8M	1.4517/CD4MCuN
105	Shaft seal	Burgmann 1.4401/AISI 316	Burgmann 2.4610/Hastelloy C-4

Sectional drawing NKG

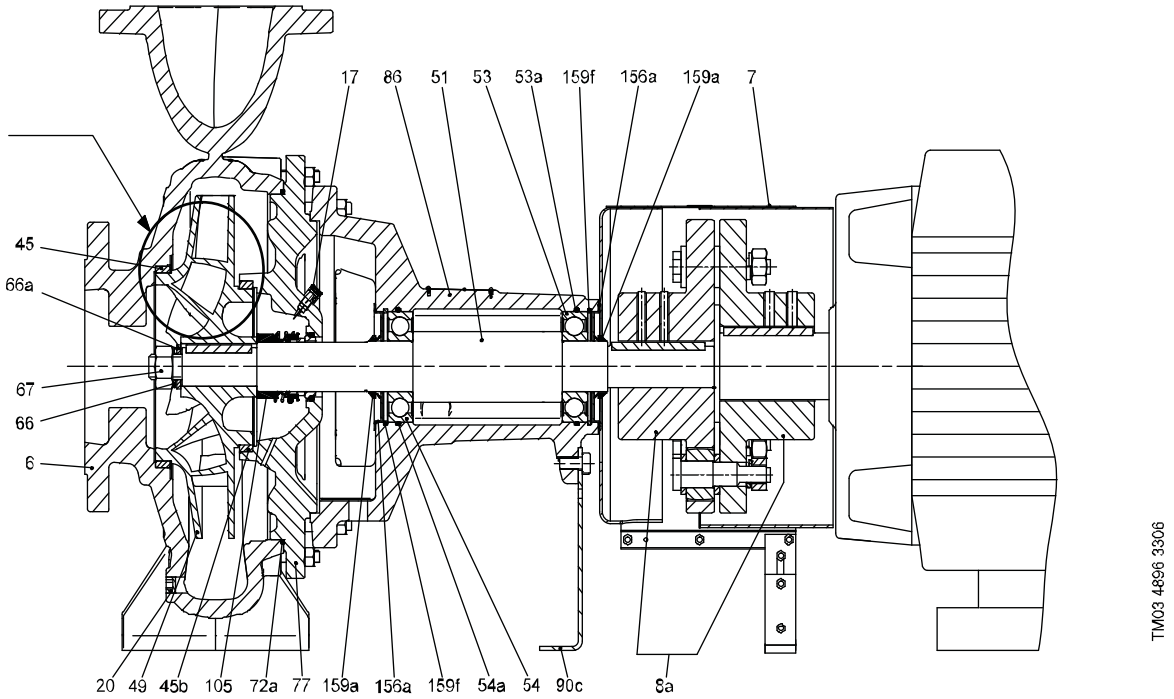


Fig. 4 Sectional drawing NKG, model B

Cast iron pump

Pos.	Component	A-version Cast iron impeller	B-version Bronze impeller	S-version Stainless steel impeller
6	Pump housing	EN-GJL-250	EN-GJL-250	EN-GJL-250
7	Coupling guard	1.4301/AISI 304	1.4301/AISI 304	1.4301/AISI 304
8a	Coupling assembly	★	★	★
17	Air vent plug	2.0401/CuZn44Pb2	2.0401/CuZn44Pb2	2.0401/CuZn44Pb2
20	Plug	ISO898 8.8 carbon steel	ISO898 8.8 carbon steel	ISO898 8.8 carbon steel
45	Wear ring	CuSn10	CuSn10	CuSn10
45b	Wear ring	CuSn10	CuSn10	CuSn10
49	Impeller	EN-GJL-200	CuSn10	1.4408/CF8M
51	Shaft	1.4034+ 1.0301/AISI 420 + carbon steel C10	1.4034+1.0301/AISI 420 + carbon steel C10	1.4401+1.0301/AISI 316 + carbon steel C10
53	Deep-groove ball bearings	2ZR.C3	2ZR.C3	2ZR.C3
53a	O-ring	EPDM	EPDM	EPDM
54	Deep-groove ball bearings	2ZR.C3	2ZR.C3	2ZR.C3
54a	O-ring	EPDM	EPDM	EPDM
66	Washer	1.4301/AISI 304	1.4301/AISI 304	1.4401/AISI 316
66a	Spring lock washer	1.4301/AISI 304	1.4301/AISI 304	1.4401/AISI 316
67	Impeller nut	1.4301/AISI 304	1.4301/AISI 304	1.4401/AISI 316
72a	O-ring	EPDM or FKM	EPDM or FKM	EPDM or FKM
77	Cover	EN-GJL-250	EN-GJL-250	EN-GJL-250
86	Bearing bracket	EN-GJL-250	EN-GJL-250	EN-GJL-250
90c	Foot	EN-GJL-250 / 1.0338/carbon steel DC04	EN-GJL-250 / 1.0338/carbon steel DC04	EN-GJL-250 / 1.0338/carbon steel DC04
105	Shaft seal	Burgmann 1.4401/AISI 316	Burgmann 1.4401/AISI 316	Burgmann 1.4401/AISI 316
156a	Cover (bearing)	1.0338/carbon steel DC04	1.0338/carbon steel DC04	1.0338/carbon steel DC04
159a	Thrower	EPDM	EPDM	EPDM
159f	Lock ring (circlip)	DIN472(C75 DIN17 222)	DIN472(C75 DIN17 222)	DIN472(C75 DIN17 222)

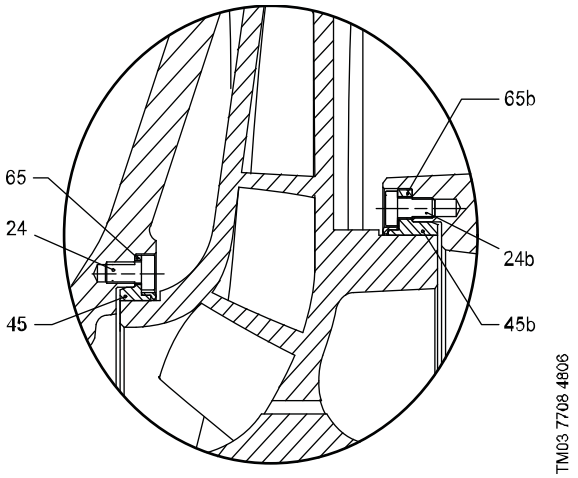
★ Material of male and female part

Standard coupling EN-GJL-250	2-pole	up to 22 kW
	4-pole	up to 30 kW
	6-pole	up to 37 kW

Standard coupling EN-GJS-450-10	2-pole	from 30 kW
	4-pole	from 37 kW
	6-pole	from 45 kW

Spacer coupling (not shown) for all outputs: EN-GJL-250

Stainless steel pump



Pos.	Component	N-version	R-version
6	Pump housing	1.4408/CF8M	1.4517/CD4MCuN
7	Coupling guard	1.4301/AISI 304	1.4301/AISI 304
8a	Coupling assembly	★	★
17	Air vent plug	1.4401/AISI 316	1.4539/AISI 904L
20	Plug	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	Graflon	Graflon
45b	Wear ring	Graflon	Graflon
49	Impeller	1.4408/CF8M	1.4517/CD4MCuN
51	Shaft	1.4401+1.0301/AISI 316 + Carbon steel C10	1.4462+1.0301/ASTM J92205 + Carbon steel C10
53	Deep-groove ball bearings	2ZR.C3	2ZR.C3
53a	O-ring	EPDM	EPDM
54	Deep-groove ball bearings	2ZR.C3	2ZR.C3
54a	O-ring	EPDM	EPDM
65	Wear ring retainer	1.4517/CD4MCuN	1.4517/CD4MCuN
65b	Wear ring retainer	1.4517/CD4MCuN	1.4517/CD4MCuN
66	Washer	1.4401/AISI 316	1.4539/AISI 904L
66a	Spring lock washer	1.4401/AISI 316	1.4539/AISI 904L
67	Impeller nut	1.4401/AISI 316	1.4539/AISI 904L
72a	O-ring	EPDM or FKM	EPDM or FKM
77	Cover	1.4408/CF8M	1.4517/CD4MCuN
86	Bearing bracket	EN-GJL-250	EN-GJL-250
90c	Foot	EN-GJL-250 / 1.0338/carbon steel DC04	EN-GJL-250 / 1.0338/carbon steel DC04
105	Shaft seal	Burgmann 1.4401/AISI 316	Burgmann 2.4610/Hastelloy C-4
156a	Cover (bearing)	1.0338/Carbon steel DC04	1.0338/Carbon steel DC04
159a	Thrower	EPDM	EPDM
159f	Lock ring (circlip)	DIN472(C75 DIN17 222)	DIN472(C75 DIN17 222)

★ Material of male and female part

Standard coupling EN-GJL-250	2-pole	up to 22 kW
	4-pole	up to 30 kW
	6-pole	up to 37 kW

Standard coupling EN-GJS-450-10	2-pole	from 30 kW
	4-pole	from 37 kW
	6-pole	from 45 kW

Spacer coupling (not shown) for all outputs: EN-GJL-250

Mechanical construction

Mounting (NBG)

NBG pumps come in three different designs:

- Design A: Pump housing with feet
- Design B: Motor with feet
- Design C: Pump housing and motor with feet.

See the figures below.

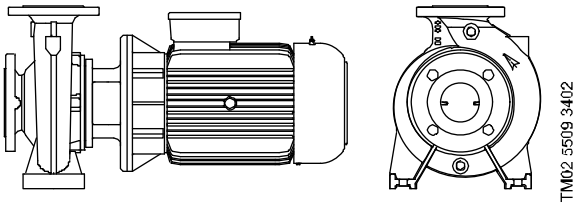


Fig. 5 NBG pump design A

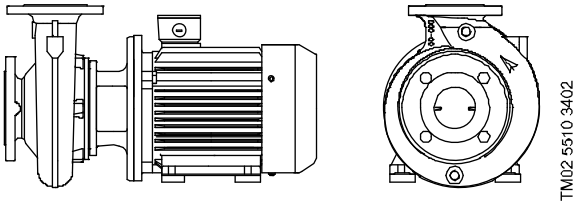


Fig. 6 NBG pump design B

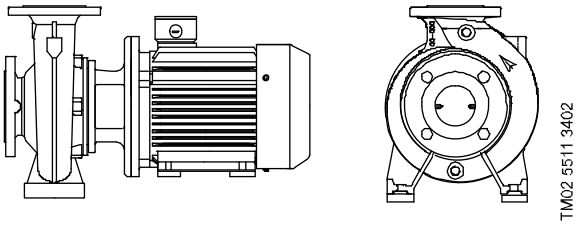


Fig. 7 NBG pump design C

Pump housing

The volute pump housing has an axial suction port and a radial discharge port. Flange dimensions are in accordance with EN 1092-2.

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

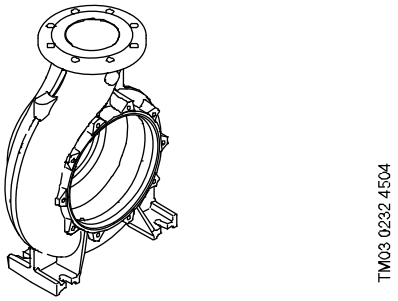


Fig. 8 NBG and NKG pump housing

Bearing bracket and shaft (NKG)

The bearing bracket has two sturdy antifriction, 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 ø24, 32, 42, 48 or 60.

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.

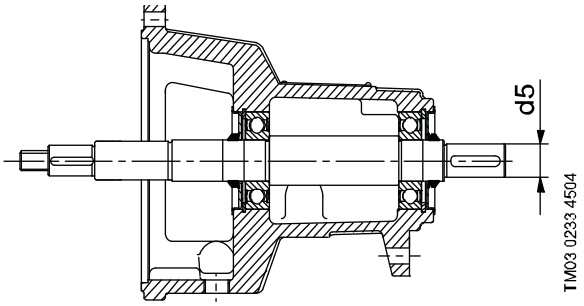


Fig. 9 Bearing bracket and shaft

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.

Motor stool and cover (NBG)

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 (NBG)

The stainless steel shaft is ø28, ø38, ø48, ø55 or ø60.

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

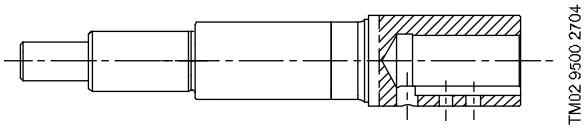


Fig. 10 Stub shaft, NBG pump

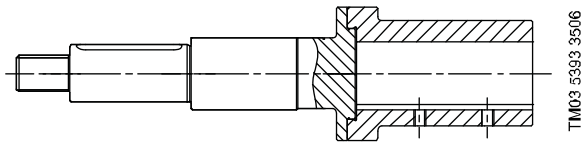


Fig. 11 2-part stub shaft, NBG pump

Coupling (NKG)

NKG pumps are available with two types of coupling:

- standard coupling
- spacer coupling.

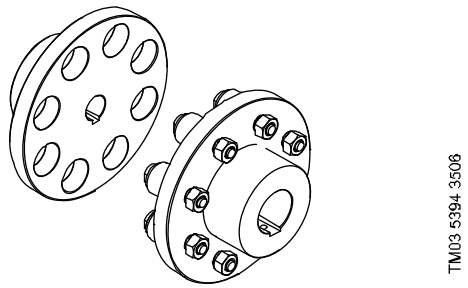


Fig. 12 Standard coupling, NKG pump

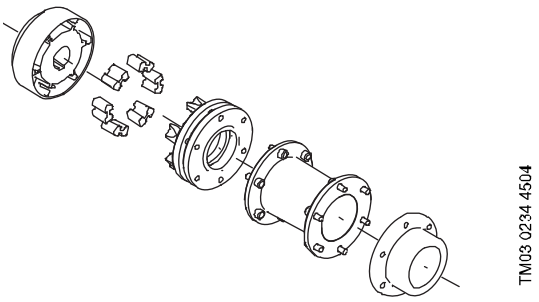


Fig. 13 Spacer coupling

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 pipework. This saves realignment of pump and motor after service.

Impeller

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

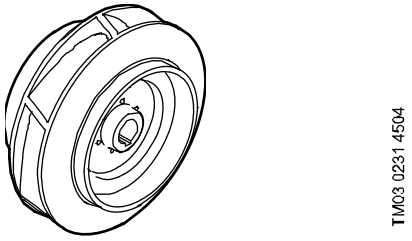


Fig. 14 Impeller, NBG and NKG pumps

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 are adapted to the duty point as requested by the customer.

Base frame (NKG)

Pump and motor are mounted on a common steel base frame in accordance with EN 23661.

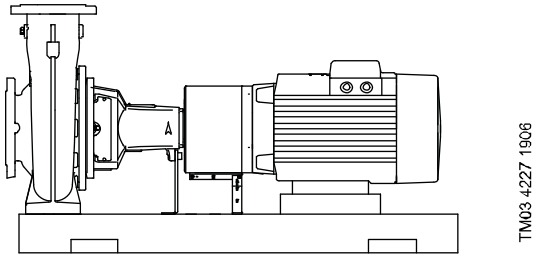


Fig. 15 Schematic view of NKG pump-motor unit mounted on a base frame

A base frame prepared for grouting is available as an option, see "Foundation (NKG)" on page 30.

Surface treatment

NBG and NKG

The cast-iron parts of NBG and NKG 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:

1. Alkaline-based cleaning.
2. Zinc phosphating.
3. Cathodic electro-deposition.
4. Curing to a dry film thickness 18-22 μm.

The colour code for the finished product is NCS 9000/ RAL 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 16	16	1.6	24	2.4

Motor

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

The tables below show the motors available for NBG and NKG.

As appears from the tables you can choose between standard range with EFF2 (efficiency 2) motors and premium range with EFF1 (efficiency 1) motors for NBG and NKG, and E-motor range for NBGE and NKGE.

Standard motor range

<table>
<tr><th colspan="4">Standard range - including EFF2 motors</th></tr>
<tr><th>Output P_2 [kW]</th><th>2-pole</th><th>4-pole</th><th>6-pole</th></tr>
<tr><td>0.25</td><td rowspan="3"></td><td rowspan="4">MG model C</td><td rowspan="3"></td></tr>
<tr><td>0.37</td></tr>
<tr><td>0.55</td></tr>
<tr><td>0.75</td><td>MG model C</td><td rowspan="15">MMG model E</td></tr>
<tr><td>1.1</td><td rowspan="8">MG model C EFF 2</td><td rowspan="8">MG model C EFF 2</td></tr>
<tr><td>1.5</td></tr>
<tr><td>2.2</td></tr>
<tr><td>3</td></tr>
<tr><td>4</td></tr>
<tr><td>5.5</td></tr>
<tr><td>7.5</td></tr>
<tr><td>11</td><td rowspan="9">MMG model E EFF 2</td><td rowspan="9">MMG model E EFF 2</td></tr>
<tr><td>15</td></tr>
<tr><td>18.5</td></tr>
<tr><td>22</td></tr>
<tr><td>30</td></tr>
<tr><td>37</td></tr>
<tr><td>45</td></tr>
<tr><td>55</td></tr>
<tr><td>75</td></tr>
<tr><td>90</td></tr>
<tr><td>110</td><td rowspan="6">MMG model E</td><td rowspan="6">MMG model E</td><td rowspan="6"></td></tr>
<tr><td>132</td></tr>
<tr><td>160</td></tr>
<tr><td>200</td></tr>
<tr><td>250</td></tr>
<tr><td>315</td></tr>
<tr><td>355</td><td></td><td></td></tr>
</table>

EFF1 is the highest efficiency class of the CEMEP efficiency classes.

Note: The CEMEP list of minimum requirements for high-efficiency motors covers the range from 1.1 kW to 90.0 kW, 2-pole and 4-pole motors, see bold frame. Consequently, only the motors within this range may be designated EFF1 and EFF2.

Premium motor range

Premium range - including EFF1 motors			
Output P_2 [kW]	2-pole	4-pole	6-pole
0.25		MG model C	
0.37			
0.55			
0.75	MG model C		
1.1	MG model D EFF1	MG model D EFF1	
1.5			
2.2			
3			
4			
5.5		Siemens EFF1	Siemens
7.5			
11	Siemens EFF1		
15			
18.5			
22			
30			
37			
45			
55			
75			
90			
110	Siemens	Siemens	
132			
160			
200			
250			
315			
355			

E-motor range

Electronically speed-controlled motors		
Output P_2 [kW]	2-pole	4-pole
0.75		MGE
1.1		
1.5	MGE	
2.2		
3		
4		
5.5		
7.5		MMGE
11	MMGE	
15		
18.5		
22		

Pump location

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

The relative air humidity must not exceed 95%.

Sound pressure level

Motor [kW]	Maximum sound pressure level [dB(A)] - ISO 3743		
	Three-phase motors		
	2-pole	4-pole	6-pole
0.25	56	41	-
0.37	56	45	-
0.55	57	42	40
0.75	56	42	43
1.1	59	50	43
1.5	58	50	47
2.2	60	52	52
3	59	52	63
4	63	54	63
5.5	63	62	63
7.5	68	62	66
11	70	66	66
15	70	66	66
18.5	70	63	66
22	70	63	66
30	71	65	59
37	71	66	60
45	71	66	58
55	71	67	58
75	73	70	61
90	73	70	61
110	76	70	61
132	76	70	61
160	76	70	-
200	76	70	-
250	82	73	-
315	82	73	-
355	77	-	-

Ambient temperature and 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.

Ambient temperature must not exceed:

- +40°C for EFF2 motors
- +60°C for EFF1 motors.

If the ambient temperature exceeds +40°C (+60°C) or if the motor is installed more than 1000 m (3500 m) above sea level, 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.

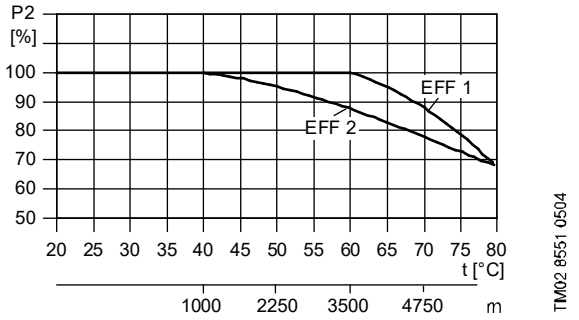


Fig. 16 Motor P2 depends on temperature/altitude

Example:

Fig. 16 shows that the load of an EFF2-motor must be reduced to 88% when installed 3500 m above sea level.

At an ambient temperature of 70°C the load of an EFF2-motor must be reduced to 78% of the rated output.

In such situations an oversize motor can be used.

Pumped liquids

NBG and NKG pumps are suitable for pumping clean, thin and non-explosive liquids, not containing any solid particles.

The effect of viscosity on centrifugal pump performance

A viscous liquid affects a centrifugal pump in several ways.

- The power consumption will be increased, i.e. a larger motor is required.
- Head, flow rate and pump efficiency will be reduced.

The effect of high density on centrifugal pump performance

A high density liquid only affects the power consumption of a centrifugal pump.

- The head, flow rate and pump efficiency will remain unchanged.
- The power consumption will increase at a ratio corresponding to the increase in density. A liquid with a specific gravity of 1.2 will thus require a 20% larger power input.
- An oversize motor will often be required.

WinCAPS can help you select the right pump for liquids with viscosity/density different from those of water.

Liquid temperatures

The NBG and NKG pump range covers the temperature range from –25°C to +140°C. The permissible liquid temperature depends on the mechanical shaft seal type and pump type. See also the table below.

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

The maximum liquid temperature is stamped on the nameplate.

Relationship between mechanical shaft seals and temperature

Shaft seal diameter [mm]	NBG		28, 38	48	55	60
d5 [mm]	NKG		24, 32	42	48	60
	Code	Temperature range	Maximum pressure [bar]			
Rubber bellows seal, metal-impregnated carbon/silicon carbide, EPDM	BAQE	0°C to +120°C	16	16	16	16
Rubber bellows seal, metal-impregnated carbon/silicon carbide, FKM	BAQV	0°C to +90°C	16	16	16	16
Rubber bellows seal, silicon carbide/silicon carbide, EPDM	BQQE	0°C to +90°C	16	16	16	16
Rubber bellows seal, silicon carbide/silicon carbide, FKM	BQQV	0°C to +90°C	16	16	16	16
Bellows seal, type B, with reduced seal faces, silicon carbide/silicon carbide, EPDM	GQQE	–25°C to +90°C	16	16*	16*	16*
Bellows seal, type B, with reduced seal faces, silicon carbide/silicon carbide, FKM	GQQV	–20°C to +90°C	16	16*	16*	16*
O-ring seal with fixed seal driver, silicon carbide/silicon carbide, EPDM	AQQE	0°C to +90°C	25	25	16	16
O-ring seal with fixed seal driver, silicon carbide/silicon carbide, FKM	AQQV	0°C to +90°C	25	25	16	16
O-ring seal with fixed seal driver, silicon carbide/metal-impregnated carbon, EPDM	AQAE	0°C to +120°C	25	25	25	25
O-ring seal with fixed seal driver, silicon carbide/metal-impregnated carbon, FKM	AQAV	0°C to +90°C	25	25	25	25
Rubber bellows seal, silicon carbide/resin-impregnated carbon, EPDM	BQBE	0°C to +140°C	16	-	-	-
O-ring seal, balanced, metal-impregnated carbon/silicon carbide, FXM	DAQF	0°C to +140°C	25	25	25	25
Rubber bellows seal, resin-impregnated carbon/silicon carbide, EPDM	BBQE	0°C to +120°C	16	16	16	16

*) Max. 60 °C

EPDM

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

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

Carbon/silicon carbide

Mechanical shaft seals with carbon/silicon carbide (xAQx) 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 will usually be added to the pumped liquid, and xAQx seals will thus not be suitable.

Silicon carbide/silicon carbide

Mechanical shaft seals with silicon carbide/silicon carbide (xQQx) 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. At higher temperatures, the reduced lubricating properties of the pumped liquid may cause noise problems and limit the life of the seal faces.

Pump speed relative to impeller material and size

The below table shows the relationship between pump speed, impeller material and size.

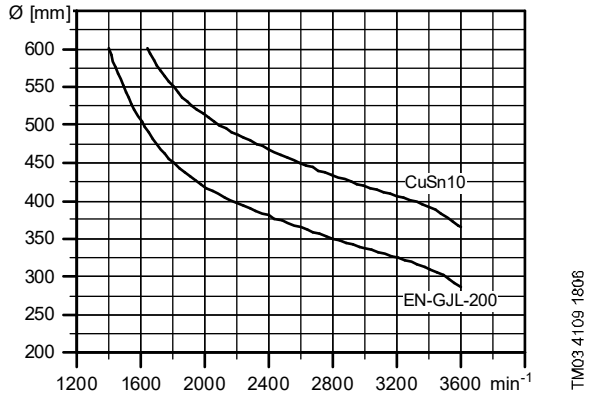


Fig. 17 Maximum permissible speed

For stainless steel impellers (1.4408/1.4517) the limit is 3600 min^{-1} regardless of impeller size.

Inlet pressure

Maximum inlet pressure

The actual inlet pressure + pressure when the pump is running against a closed valve must always be lower than the maximum permissible operating pressure.

Minimum inlet pressure

The minimum inlet pressure must be according to the NPSH curve + a safety margin of at least 0.5 m + correction for vapour pressure. It is, however, advisable to calculate the inlet pressure if:

- 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.

Calculation of maximum suction lift for water in open systems

To avoid cavitation, make sure that there is a minimum pressure on the suction side of the pump. The maximum suction lift "H" in metres head can be calculated as follows:

$H = p_b \times 10.2 - NPSH - H_f - H_v - H_s$ [m]

p_b = Barometric pressure in bar. (Barometric pressure can be set to 1 bar.) In closed systems, p_b indicates the system pressure in bar.

NPSH = Net Positive Suction Head in metres head. (To be read from the NPSH curve at the highest flow the pump will be delivering.)

H_f = Friction loss in suction pipe in metres head. (At the highest flow the pump will be delivering.)

H_v = Vapour pressure in metres head. (To be read from the vapour pressure scale. "H_v" depends on the liquid temperature "T_m".)

H_s = Safety margin = minimum 0.5 metres head.

If the "H" calculated is positive, the pump can operate at a suction lift of maximum "H" metres head.

If the "H" calculated is negative, an inlet pressure of minimum "H" metres head is required.

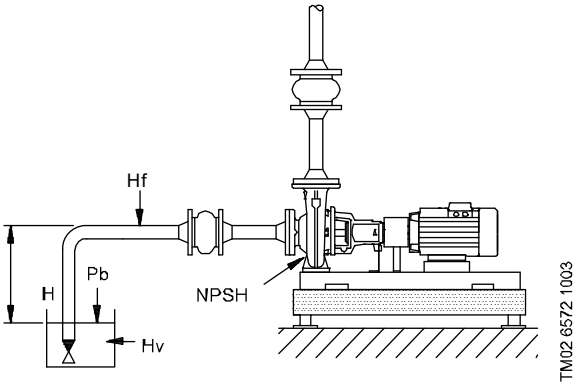


Fig. 18 Schematic view of open system with an NKG pump

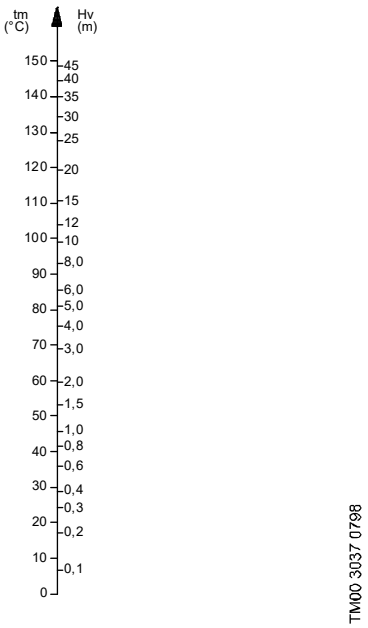


Fig. 19 Relation between liquid temperature and vapour pressure

Foundation (NKG)

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 should be 1.5 times the pump weight. Base frame prepared for grouting is available as an option, see Fig. 23.

The foundation should be 100 mm larger than the base frame on all four sides, see Fig. 20.

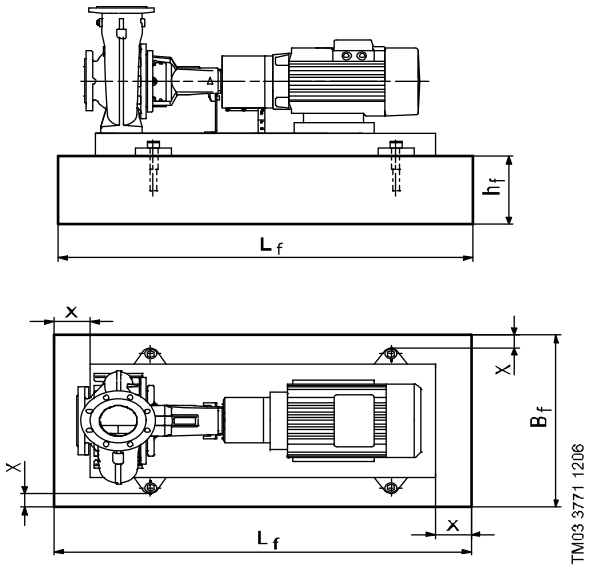


Fig. 20 Foundation

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/m³.

Place the pump on the foundation and fasten it. The base frame must be supported under its entire area, see Fig. 21.

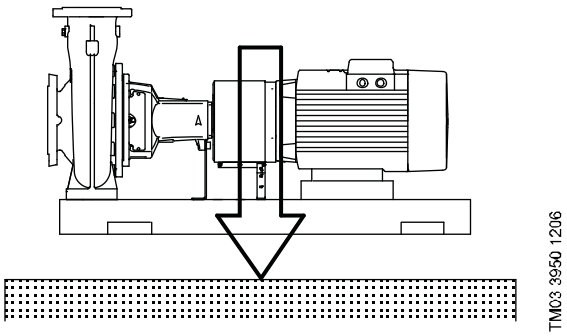


Fig. 21 Correct foundation

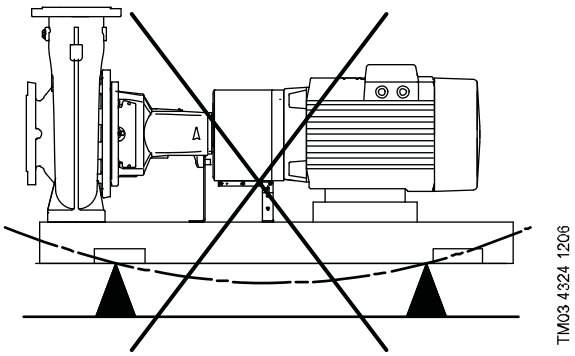


Fig. 22 Incorrect foundation

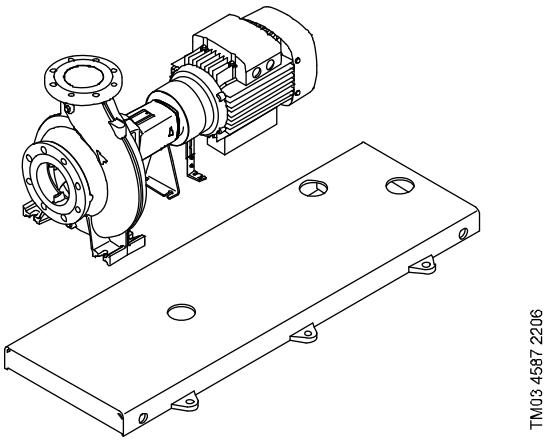


Fig. 23 Base frame prepared for grouting

Piping

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

The suction and discharge 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 suction side of the pump, see Fig. 24

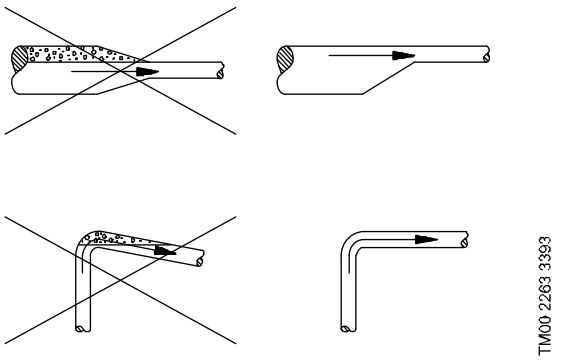


Fig. 24 Pipelines

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 the pipes are adequately supported as close to the pump as possible, both on the suction and the discharge side. The counter flanges should lie true against the pump flanges without being stressed as this will cause damage to the pump.

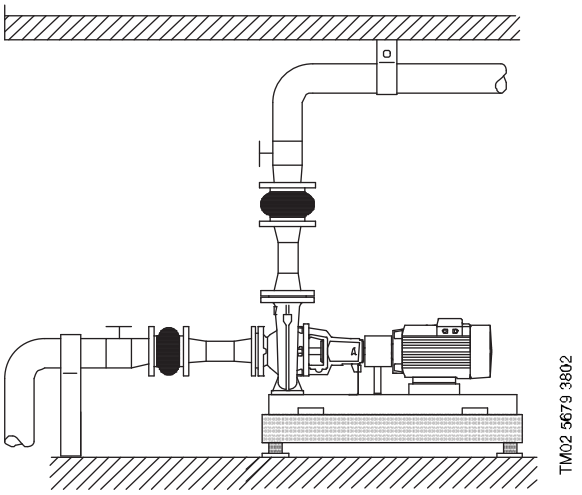


Fig. 25 Pipeline mounting

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 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.

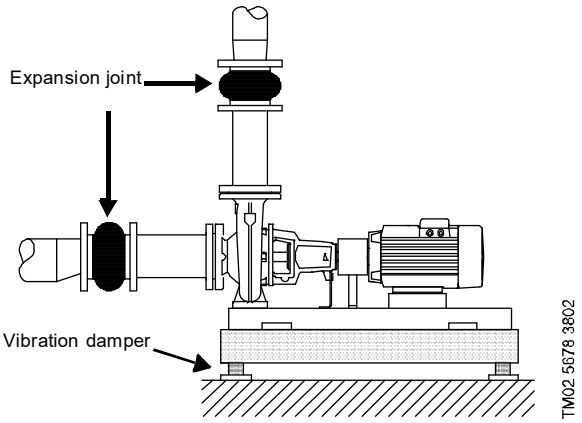


Fig. 26 NKG pump with expansion joints and vibration dampers

Vibration dampers

To prevent the transmission of vibrations to buildings, we recommend you to 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 % (suggested value is 70%).

Which is the right damper varies from installation to installation, and a wrong damper may increase the vibration level. Vibration dampers should therefore be sized by the supplier.

Expansion joints

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.

Install expansion joints to

- absorb expansions/contractions in the pipework caused by changing liquid temperature
- reduce mechanical strains in connection with pressure surges in the pipework
- isolate mechanical structure-borne noise in the pipework (only rubber bellows expansion joints).

Note: Do not install expansion joints to compensate for inaccuracies in the pipework such as centre displacement of flanges.

Fit expansion joints at a distance of minimum 1 to 1½ times the nominal flange diameter away from the pump on the suction as well as on the discharge side. This will prevent the development of turbulence in the expansion joints, resulting in better suction conditions and a minimum pressure loss on the pressure side. At high water velocities (> 5 m/s) we recommend you to install larger expansion joints corresponding to the pipework.

We always recommend expansion joints with limiting rods for flanges larger than DN 100.

Alignment (NKG)

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/removing shims under the feet of the pump or the motor.

Take care to align carefully as this will increase the working lives of the coupling, bearings and shaft seals considerably.
Note: Check the final alignment when the pump has obtained its operating temperature under normal operating conditions.

Speed-controlled pumps

Most NBG and NKG pumps are available with motors with integrated speed control. These pumps are called NBGE and NKGE.

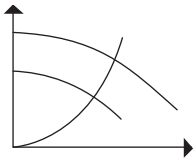
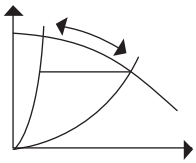
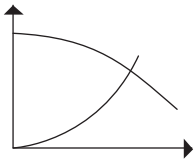
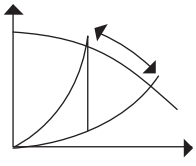
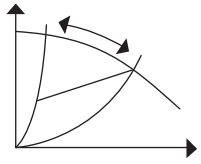
Alternatively, all NBG and NKG pumps with three-phase motors can be connected to an external frequency converter.

NBGE and NKGE pump applications

NBGE and NKGE pumps with integrated speed control enable automatic adaptation of performance to current conditions. This keeps the energy consumption at a minimum.

Depending on the nature of the application, NBGE and NKGE pumps offer energy-savings, increased comfort or improved processing.

The charts below show possible control modes of NBGE and NKGE pumps in different applications.

Control mode	Applications
Constant curve	
	Single-pipe heating systems Systems with three-way valves Heating and cooling surfaces Chiller pumps (Sensor not required)
Constant pressure	
	Pressure boosting systems (Sensor required)
Temperature control	
	Single-pipe heating systems Systems with three-way valves Cooling towers Chiller pumps Domestic hot-water recirculation systems (Sensor required)
Constant flow	
	Heating and cooling surfaces Cooling towers Flow filters (Sensor required)
Proportional differential pressure (measured)	
	System with two-way valves (Differential pressure sensor is located in the system)

Constant curve

In constant curve control mode, the pump will adjust its speed to meet the required flow without using throttle valves.

In this control mode the pump can be set to operate within 12-100% of the maximum performance range.

A sensor is not required for this control mode.

Constant pressure

In constant pressure-control mode, the pump will adjust its speed to keep a constant pressure where the sensor is fitted.

We recommend constant-pressure control mode in pressure-holding systems.

A pressure sensor with a suitable operating range is required.

Temperature control

In the temperature control mode, the pump will adjust its speed to keep a constant temperature or a differential temperature.

We recommend this control mode in systems with three-way valves and systems without control valves.

A temperature sensor or a differential temperature sensor is required for this control mode.

Example

In an industrial cooling system, an NKGE pump continuously adapts its performance to the changing demands reflected in the differences in temperature of the liquid circulating in the cooling system. The lower the demand for cooling, the smaller the quantity of liquid circulated in the system and vice versa.

Constant flow

In the constant-flow control mode, the pump will adjust its speed to keep a constant flow irrespective of variations of the system characteristics.

We recommend this control mode in systems where a constant flow is required.

In this control mode either an electronic flowmeter or a differential pressure sensor is required.

Proportional differential pressure (measured)

In the proportional differential pressure (measured) mode, the pump will adjust its speed to keep the differential pressure in a reference point in the system.

This control mode is recommended in large circulation systems where the NBGE or NKGE pump functions as a secondary pump. A differential pressure sensor is required for this control mode.

Example

In a two-pipe heating system or an air-conditioning system with variable flow, the pressure sensor can be fitted in a reference point away from the NKGE pump.

As the flow increases, the NKGE pump continuously adapts its speed to maintain the same differential pressure in the reference point.

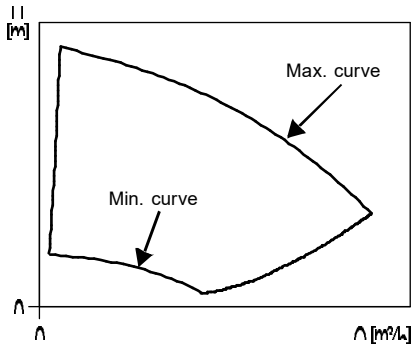
Affinity equations

Normally, NBGE and 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.

In order to achieve optimum operating economy, the pump should be selected on the basis of the following criteria:

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

Between the min. and max. performance curve, NBGE and 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 max. curve.



TM01 4916 4803

Fig. 27 Min. and max. performance curves

In situations where it is not possible to select a duty point close to the max. curve, use the affinity equations below. The head (H), the flow (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 nn and nx and that it is based on the formula H = k x 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.

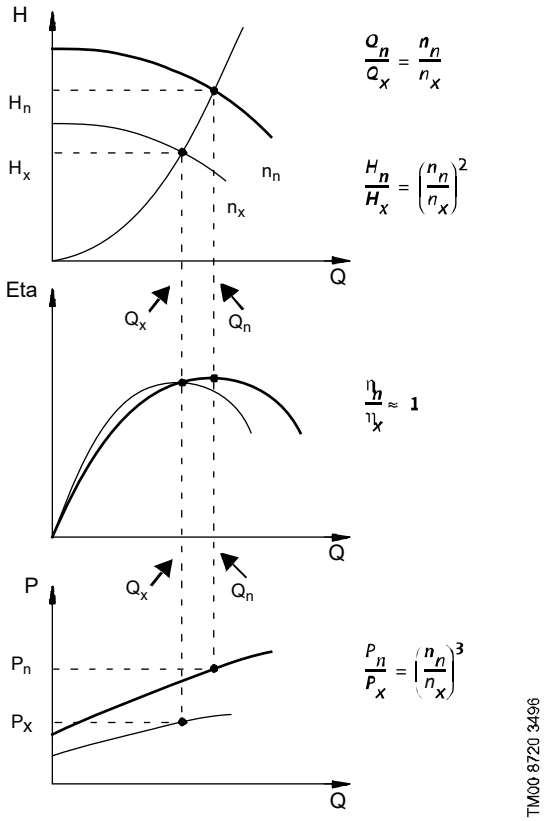


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Fig. 28 Affinity equations

Legend

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

WinCAPS and WebCAPS

WinCAPS and WebCAPS are both 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, WinCAPS and WebCAPS can calculate the exact duty point and energy consumption. For further information, see page 254.

Communication with NBGE/NKGE pumps

Communication with NBGE, NKGE pumps is possible via a central building management system, remote control (Grundfos R100) or a control panel.

Central building management system

The operator can communicate with the NBGE, NKGE pump even though he is not present near the pump. Communication can take place via a central building management system allowing the operator to monitor and change control modes and setpoint settings.

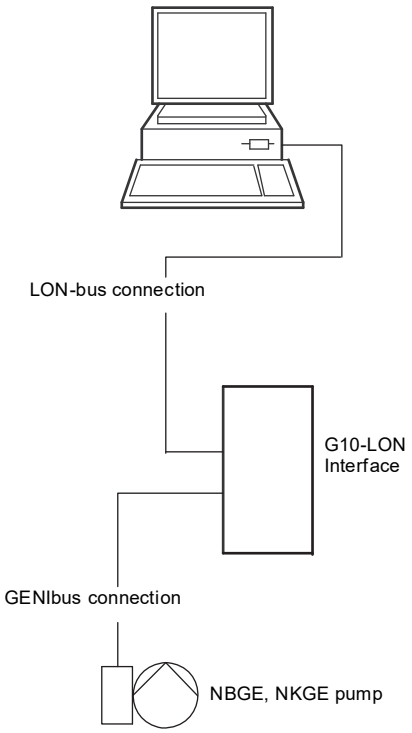


Fig. 29 Structure of a central building management system

Remote control

The R100 remote control produced by Grundfos is available as an accessory.

The operator can communicate with the NBGE, NKGE pump by pointing the IR-signal transmitter at the control panel of the NBGE, NKGE pump terminal box.

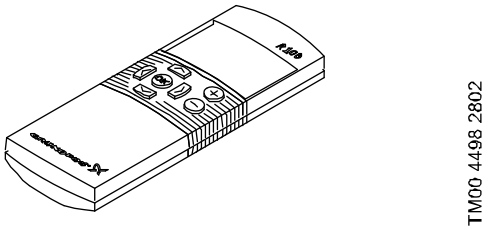


Fig. 30 R100 remote control

The operator can monitor and change control modes and settings of the NBGE, NKGE pump via the R100 display.

Control panel

The operator can change the setpoint settings manually on the control panel of the NBGE, NKGE pump terminal box.

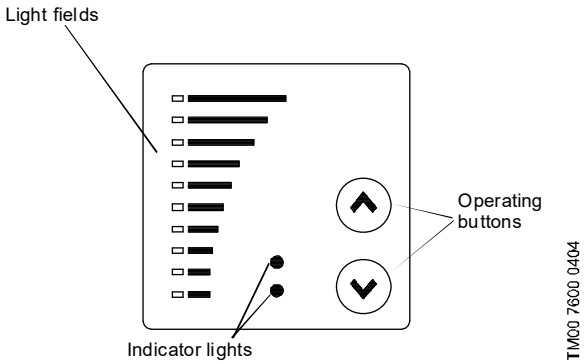


Fig. 31 Control panel of an NBGE, NKGE pump

Pump size

Selection of pump size should be based on:

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

Efficiency

If you expect the pump to always operate in the same duty point, select a pump which is operating in a duty point corresponding to the best efficiency of the pump.

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

Material

The material variant should be selected on the basis of the liquid to be pumped, see "List of pumped liquids", page 37.

Motor size

Selection of motor size should be based on 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 performance curves on page 50 to page 234.

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 P_2 [kW]
322	355
286	315
227	250
181	200
145	160
120	132
100	110
81	90
68	75
49	55
40	45
32.5	37
26	30
19	22
15.9	18.5
12.8	15
9.1	11
6.1	7.5
4.3	5.5
3.2	4
2.3	3
1.7	2.2
1.1	1.5
0.81	1.1
0.55	0.75
0.40	0.55
0.27	0.37
0.18	0.25

Pumped liquids

We recommend NBG and NKG pumps for thin, clean and non-explosive liquids, not containing solid particles or fibres. The liquid must not attack the pump materials chemically or mechanically.

If you pump liquids with a density and/or viscosity higher than those of water, use motors with correspondingly higher outputs. See "List of pumped liquids".

The mechanical shaft seal must be suitable for the liquid.

Water in heating and ventilating systems often contains additives to prevent negative effects, such as system corrosion or calcareous deposits. If you want to use the pump for such liquids, and if the temperature is above 80°C, use special shaft seals to avoid crystallization/ precipitation between the seal faces.

Liquid temperature: –25°C to +140°C.

For heating systems, the water quality should meet VDI 2035.

List of pumped liquids

The list on the following pages gives an overview of liquids which may typically be pumped by NBG and NKG pumps.

The list states the recommended shaft seals. Other shaft seals may be applicable, but we consider those stated in the list to be the best choices.

The list is intended as a general guide only, and it cannot replace actual testing of pumped liquids and pump materials under specific working conditions.

However, use the list with some caution, as factors may affect the chemical resistance of a specific pump version. The factors are

- operating conditions
- solids
- cleaning procedures
- contaminants
- pressure.

Legend for notes in the list

a	To minimize the risk of corrosion, the pump must run continuously, i.e. standstills must not exceed 6-8 hours.
b	May contain additives or impurities which can cause shaft seal problems.
c	The pump should run continuously to prevent discoloration of pool tiles. For intermittent use, the N version should be used.
d	Density and viscosity may differ from those of water. Consider this when calculating motor and pump performance.
e	In order to avoid corrosion, the liquid must be free of oxygen.
f	Flammable or combustible liquid.
g	Risk of crystallization/precipitation at the shaft seal.

Pumped liquids

Pumped liquids	Notes	Additional information	Material version					Shaft seal
			A	B	S	N	R	
Water								
Acidic minewater		Low pH value, high chloride content				x	x	BQQE
Boiler-feed water		<120°C	x					BAQE
		120°C - 140°C	x					BQBE/DAQF [1]
Brackish water	a	30°C, 2000 ppm chloride				x		BQQE
Condensate		<90°C	x					BQQE
		90°C - 120°C	x					BAQE
		120°C - 140°C	x					BQBE/DAQF [1]
Cooling and cutting lubricant			x					BQQV
Demineralized water		<90°C				x		BQQE
District heating water		<120°C						BAQE
		120°C - 140°C	x					BQBE/DAQF [1]
Groundwater		<90°C	x	x	x			BQQE
		>90°C	x	x	x			BAQE [2]/BQBE
Oil containing water		<90°C	x					BQQV
Softened water		<90°C		x	x			BQQE
		90°C - 120°C		x	x			BAQE [2]
Seawater	a	<35°C					x	BQQE
Swimming-pool water, chlorinated	c	40°C, 150 ppm Cl- (< 2 ppm free chlorine)		x	x			BQQE
Coolants								
Calcium chloride	b, d, e, g	<5°C, 30%	x					BQQE/GQQE
Ethylene glycol	b, d	<50°C	x					BQQE/GQQE
Glycerine (glycerol)	b, d	<50°C	x					BQQE/GQQE
Hydrocarbon-based coolant	d, f	50°C	x					BQQV/GQQV
Potassium acetate (inhibited)	b, d, e, g	<20°C	x	x	x			BQQE/GQQE
Potassium formate (inhibited)	b, d, e, g	<20°C	x	x	x			BQQE/GQQE
Propylene glycol	b, d	<50°C	x					BQQE/GQQE
Sodium chloride	b, d, e, g	<5°C, 30%	x					BQQE/GQQE
Fuels								
Biodiesel	f		x					BAQV
Diesel oil	f		x					BAQV
Jet fuel	f		x					BAQV
Kerosene	f		x					BAQV
Naphta	f		x					BAQV
Petrol	f		x					BAQV
Mineral oils								
Crude oil	b, d, f	<20°C			x			BQQV
Mineral lubricating oil	d, f		x					BAQV/BQQV
Mineral motor oil	d, f		x					BAQV/BQQV
Synthetic oils								
Synthetic lubricating oil	d, f		x					BAQV/BQQV
Synthetic motor oil	d, f		x					BAQV/BQQV
Silicone oil	d		x					BAQV/BQQV
Vegetable oils								
Corn oil	b, d		x		x			BAQV/BQQV
Olive oil	b, d		x		x			BAQV/BQQV
Peanut oil	b, d		x		x			BAQV/BQQV
Rape seed oil	b, d		x		x			BAQV/BQQV
Soya oil	b, d		x		x			BAQV/BQQV
Cleaning								
Alkaline degreasing agent	b, h	<80°C	x		x			BQQE/DAQF [4]
Soap (salts of fatty acids)	b	<80°C	x	x	x			BQQV
Organic solvents								
Acetone	f	40°C	x					BAQE [3]/BBQE
Ethyl alcohol (ethanol)	f	40°C	x					BAQE [3]/BBQE
Hydrogen peroxide		20°C, 5%				x		BQQE
Isopropyl alcohol	f	40°C	x					BAQE [3]/BBQE
Methyl alcohol (methanol)	f	40°C	x					BAQE [3]/BBQE

Pumped liquids

Pumped liquids	Notes	Additional information	Material version					Shaft seal
			A	B	S	N	R	
Oxidants								
Sodium hypochlorite		20°C, 0.1%					x	BQQV
Salts								
Ammonium bicarbonate	b, d	20°C, 15%	x					BQQE
		60°C, 20%				x		BQQE
Copper sulphate	b, d, g	60°C, 20%				x	x	BQQE
Ferric sulphate	b, d, g	20°C, 20%				x	x	BQQE
Potassium bicarbonate	b, d	20°C, 20%	x					BQQE
		60°C, 20%				x		BQQE
Sodium carbonate	b, d, g	20°C, 20%			x			BQQE
		60°C, 20%				x		BQQE
Potassium permanganate	b, d	20°C, 1%			x			BQQE
		50°C, 10%				x		BQQE
Sodium nitrate	b, d	20°C, 5%			x			BQQE
		60°C, 20%				x		BQQE
Sodium nitrite	b, d	20°C, 20%	x					BQQE
		60°C, 20%				x		BQQE
Sodium phosphate (mono)	b, d	60°C, 20%				x		BQQE
Sodium phosphate (di)	b, d	30°C, 20%			x			BQQE
		60°C, 20%				x		BQQE
Sodium phosphate (tri)	b, d, g	20°C, 10%			x			BQQE
		70°C, 20%				x		BQQE
Sodium sulphate	b, d, g	60°C, 20%				x		BQQE
Sodium sulphite	b, d, g	20°C, 1%			x			BQQE
		60°C, 20%				x		BQQE
Acids								
Acetic acid		20°C, 15%				x		BQQE
Chromic acid		20°C, 10%					x	BQQE
Citric acid	d	50°C, 20%				x		BQQE
Formic acid	d	20°C, 30%				x		BQQE
Nitric acid	d	20°C, 40%				x		BQQE
Oxalic acid	g	20°C, 10%					x	BQQE
Phosphoric acid	b, d, g	70°C, 40%				x		BQQE
Sulphuric acid	b, d	20°C, 20%					x	BQQV
Sulphurous acid		20°C, 5%					x	BQQV
Alkalies								
Ammonium hydroxide		30°C, 30%	x					BQQE
Calcium hydroxide	b	30°C, 5%			x			BQQE
Potassium hydroxide	d, g	20°C, 20%			x			BQQE
		60°C, 20%				x		BQQE
Sodium hydroxide	d, g	20°C, 20%			x			BQQE
		80°C, 20%				x		BQQE

1) Shaft diameters measured at the shaft end (d5) are either 24, 32, 42, 48 or 60 mm. BQBE shaft seals can be used for shaft end diameter (d5) 24 or 32 mm. DAQF shaft seals can be used for all five shaft diameters.
2) Do not use BAQE for potable water. For potable water, we recommend BBQE shaft seals.
3) If diluted with water, use BBQE.
4) If oil residuals are present, use DAQF.

Electrical data

The tables below give all electrical data for motors for NBG(E) and NKG(E) pumps.

Note: For information about electrical data of MMG model E motors, TECO EFF1 and TECO EFF2, see page 245 to 248.

Electrical data, mains-operated motors

NBG/NKG, standard motor range, 2-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos $\varphi_{1/1}$	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
MG	80A-C	3x220-240D/380-415Y	0.75	3.3/1.9	80-80	0.81-0.71	2840-2870	5.8-6.2
MG	80B-C		1.1	4.5/2.6	81-81	0.81-0.75	2820-2850	5.8-6.3
MG	90SA-C		1.5	5.9/3.4	82-82	0.85-0.79	2860-2890	6.3-6.9
MG	90LA-C		2.2	8.25/4.75	84-84	0.87-0.82	2860-2890	7.0-7.6
MG	100LB-C		3	10.8/6.25	85-85	0.88-0.82	2880-2910	7.8-8.5
MG	112MB-C		4	13.8/8.0	86-86	0.90-0.87	2900-2910	8.7-9.5
MG	90LA-C	3x380-415Δ	2.2	4.75	84-84	0.87-0.82	2860-2890	7.0-7.6
MG	100LB-C		3	6.25	85-85	0.88-0.82	2880-2910	7.8-8.5
MG	112MB-C		4	8.0	86-86	0.90-0.87	2900-2910	8.7-9.5
MG	132SB-C		5.5	11.0	87.5-87.5	0.89-0.86	2890-2910	8.9-9.7
MG	132SC-C		7.5	15.2	88-88	0.87-0.81	2890-2910	9.1-9.9
MMG	160MA-E	3x380-415Δ/660-690Y	11	20.2/11.6	89.3	0.89	2930	5.6
MMG	160MB-E		15	26.5/15.2	91.0	0.87	2940	5.8
MMG	160L-E		18.5	32.5/18.8	91.6	0.89	2940	6.5
MMG	180M-E		22	39.5/22.8	91.0	0.89	2950	7.4
MMG	200LA-E		30	57.5/33.0	92.2	0.88	2960	7.0
MMG	200LB-E		37	65.0/37.5	92.0	0.89	2960	7.6
MMG	225M-E		45	78.0/45.0	93.5	0.89	2980	7.4
MMG	250M-E		55	96.5/55.5	93.0	0.90	2960	7.9
MMG	280S-E		75	130/75.0	94.0	0.89	2970	6.6
MMG	280M-E		90	154/89.0	95.0	0.90	2980	7.2
MMG	315S-E		110	188/108	94.0	0.90	2980	7.2
MMG	315M-E		132	222/128	95.0	0.90	2980	7.5
MMG	315LA-E		160	270/156	95.7	0.91	2980	6.0
MMG	315LB-E		200	330/190	95.0	0.92	2980	5.8
MMG	355M-E		250	435/250	95.5	0.92	2980	6.2
MMG	355L-E		315	525/303	95.5	0.91	2980	6.9
MMG	355L-E		355	630/360	95.4	0.90	2980	7.1

NBG/NKG, standard motor range, 4-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos $\varphi_{1/1}$	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
MG	71A-C	3x220-240D/380-415Y	0.25	1.48/0.85	69-69	0.75-0.65	1400-1420	4.0-4.4
MG	71B-C		0.37	1.9/1.1	71-71	0.77-0.67	1400-1420	4.0-4.4
MG	80A-C		0.55	2.6/1.5	77-77	0.79-0.70	1390-1410	4.3-4.7
MG	80B-C		0.75	3.3/1.9	78-78	0.79-0.70	1390-1410	4.3-4.7
MG	90SA-C		1.1	5.0/2.9	78-78	0.78-0.71	1420-1440	4.3-4.7
MG	90LA-C		1.5	6.4/3.7	80-80	0.80-0.74	1420-1430	5.0-5.5
MG	100LB-C		2.2	9.2/5.3	82-82	0.80-0.73	1420-1440	5.2-5.7
MG	112MA-C		3	12.0/6.9	85-85	0.80-0.74	1440-1450	6.2-6.7
MG	112MB-C		4	15.4/8.9	86.5-87	0.82-0.76	1440-1450	6.6-7.2
MG	100 LA-D	3x380-415λ	2.2	5.3	83.5-84	0.79-0.76	1430-1440	5.4-5.9
MG	112LB-D		3	6.9	85-85	0.80-0.74	1440-1450	6.2-6.7
MG	112MB-C		4	8.9	86.5-87	0.82-0.76	1440-1450	6.6-7.2
MG	132SC-C		5.5	12.6	87-87	0.80-0.74	1430-1450	6.3-6.9

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos $\varphi_{1/1}$	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
MMG	132SB-E	3x380-415Δ/660-690Y	7.5	14.4/8.3	89.1	0.84	1445	7.8
MMG	160MA-E		11	21.0/12.2	89.8	0.84	1460	7.4
MMG	160MB-E		15	28.5/16.4	89.4	0.85	1460	7.8
MMG	180M-E		18.5	33.5/19.4	91.2	0.86	1465	7.6
MMG	180L-E		22	39.0/22.6	91.4	0.86	1465	7.8
MMG	200L-E		30	53.5/31.0	91.5	0.88	1470	7.5
MMG	225S-E		37	71.0/41.0	92.0	0.89	1480	6.9
MMG	225M-E		45	78.0/45.0	92.5	0.89	1480	7.5
MMG	250M-E		55	95.0/55.0	93.0	0.89	1480	7.5
MMG	280S-E		75	128/74.0	94.5	0.87	1480	7.4
MMG	280M-E		90	150/86.5	94.0	0.88	1480	7.5
MMG	315S-E		110	192/110	94.5	0.91	1490	7.3
MMG	315M-E		132	226/130	95.0	0.89	1490	6.7
MMG	315LA-E		160	270/156	95.0	0.89	1490	6.7
MMG	315LB-E		200	340/196	95.5	0.89	1490	5.5
MMG	355M-E		250	410/236	95.5	0.91	1490	6.4
MMG	355L-E		315	525/300	96.0	0.89	1490	6.8

NBG/NKG, standard motor range, 6-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos $\varphi_{1/1}$	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
MMG	80B-E	3x220-240D/380-415Y	0.55	1.7/0.98	66.0	0.72	890	3.0
MMG	90S-E		0.75	2.15/1.24	70.3	0.72	910	3.5
MMG	90L-E		1.1	2.95/1.7	73.0	0.74	910	3.6
MMG	100L-E		1.5	3.7/2.14	76.3	0.77	920	4.3
MMG	112M-E		2.2	5.2/3.0	81.4	0.75	950	5.0
MMG	132S-E		3	6.7/3.85	84.1	0.77	960	6.0
MMG	132MA-E		4	8.85/5.1	84.7	0.77	960	6.4
MMG	112M-E	3x380-415Δ/660-690Y	2.2	3.0/1.73	81.4	0.75	950	5.0
MMG	132S-E		3	3.85/2.2	84.1	0.77	960	6.0
MMG	132MA-E		4	5.1/2.94	84.7	0.77	960	6.4
MMG	132MB-E		5.5	11.4/6.65	86.4	0.80	960	5.9
MMG	160M-E		7.5	16.0/9.2	87.1	0.78	960	5.8
MMG	160L-E		11	22.8/12.2	88.5	0.79	970	7.3
MMG	180L-E		15	31.5/18.2	80.5	0.67	940	5.9
MMG	200LA-E		18.5	35.5/20.4	90.5	0.83	980	7.8
MMG	200LB-E		22	41.5/24.0	91.5	0.84	980	6.6
MMG	225M-E		30	55.0/32.0	91.5	0.85	980	7.0
MMG	250M-E		37	65.5/37.5	92.5	0.88	980	7.0
MMG	280S-E		45	79.0/45.5	92.5	0.87	990	7.3
MMG	280M-E		55	97.0/56.0	93.5	0.87	990	7.2
MMG	315S-E		75	134/77.0	94.0	0.86	990	6.3
MMG	315M-E		90	158/91.0	94.5	0.87	990	5.9
MMG	315L-E		110	192/112	95.0	0.87	990	6.0
MMG	315LB-E		132	250/144	94.2	0.87	990	6.2

NBG/NKG, premium motor range, 2-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos $\varphi_{1/1}$	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
MG	80A-C	3x220-240 Δ/380-415Y	0.75	3.3/1.9	80-80	0.81-0.71	2840-2870	5.8-6.2
MG	90SA-D		1.1	4.1/2.35	84-84	0.87-0.82	2890-2910	7.4-8.0
MG	90SB-D		1.5	5.45/3.15	85.5-85.5	0.87-0.82	2890-2910	8.5-9.3
MG	90LC-D		2.2	7.7/4.45	87.5-87.5	0.89-0.87	2890-2910	8.5-9.5
MG	100LC-D		3	10.9/6.3	87.5-87.5	0.87-0.82	2900-2920	8.4-9.2
MG	112MC-D		4	13.9/8.0	89-89	0.88-0.84	2910-2930	11.2-12.3
MG	90LC-D	3x380-415Y	2.2	4.45	87.5-87.5	0.89-0.87	2890-2910	8.5-9.5
MG	100LC-D		3	6.3	87.5-87.5	0.87-0.82	2900-2920	8.4-9.2
MG	112MC-D		4	8.0	89-89	0.88-0.84	2910-2930	11.2-12.3
MG	132SC-D		5.5	11.2	90-90	0.88-0.84	2910-2930	10.7-11.7
MG	132SD-D		7.5	15.2	89.5-89.5	0.87-0.80	2900-2920	10.0-11.1
Siemens	160M	3x380-415 Δ/660-690Y	11	19.4/11.2	91.0	0.90	2945	7.0
Siemens	160M		15	26.3/15.2	91.5	0.90	2945	7.0
Siemens	160L		18.5	31.5/18.2	92.3	0.92	2940	7.0
Siemens	180M		22	38.0/21.9	93.0	0.89	2945	7.2
Siemens	200L		30	52.0/30.0	93.5	0.89	2950	7.0
Siemens	200L		37	64.0/37.0	94.0	0.89	2950	7.0
Siemens	225M		45	77.0/44.5	94.9	0.89	2965	7.3
Siemens	250M		55	93.0/53.7	95.3	0.90	2975	6.8
Siemens	280S		75	128/73.9	95.2	0.89	2975	7.0
Siemens	280M		90	150/86.6	95.6	0.90	2978	7.6
Siemens	315S		110	182/105	95.8	0.91	2982	6.9
Siemens	315M		132	220/127	96.0	0.91	2982	7.1
Siemens	315L		160	260/150	96.4	0.92	2982	7.1
Siemens	315L		200	320/185	96.5	0.93	2982	6.9
Siemens	315		250	415/240	96.0	0.90	2979	7.0
Siemens	315		315	520/300	96.6	0,91	2980	7.0
Siemens	355		355	590/341	96.6	0,90	2982	6.5

NBG/NKG, premium motor range, 4-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos $\varphi_{1/1}$	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
MG	71A-C	3x220-240 Δ/380-415Y	0.25	1.48/0.85	69-69	0.75-0.65	1400-1420	4.0-4.4
MG	71B-C		0.37	1.9/1.1	71-71	0.77-0.67	1400-1420	4.0-4.4
MG	80A-C		0.55	2.6/1.5	77-77	0.79-0.70	1390-1410	4.3-4.7
MG	80B-C		0.75	3.3/1.9	78-78	0.79-0.70	1390-1410	4.3-4.7
MG	90SB-D		1.1	4.7/2.7	83.8	0.78	1440	7.0
MG	90LC-D		1.5	6.2/3.6	85	0.77	1440	6.0
MG	100LB-D		2.2	8.5/4.9	86.4	0.82	1440	6.5
MG	100LC-D		3	11.8/6.75	87.4	0.81	1450	6.7
MG	112MC-D		4	15.4/8.9	88.3	0.81	1450	7.3
MG	100LB4-D	3x380-415Δ	2.2	5.35	86.4	0.77/0.7	1440	6.2/6.7
MG	100LC4-D		3	7.2	87.4	0.77/0.7	1440	6.1/6.7
MG	112MC4-D		4	8.9	88.3	0.81/0.75	1450	7.3/8.0

Electrical data

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos $\varphi_{1/1}$	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
Siemens	132S	3x380-415Δ/660-690Y	5.5	10.6/6.1	89.5	0.84	1455	7.0
Siemens	132M		7.5	14.3/8.3	90.3	0.84	1455	7.0
Siemens	160M		11	20.5/11.8	91.5	0.85	1460	6.9
Siemens	160L		15	27.5/15.9	92.0	0.86	1460	7.0
Siemens	180M		18.5	34.5/19.9	92.5	0.84	1465	7.0
Siemens	180L		22	40.5/23.4	93.0	0.84	1465	7.3
Siemens	200L		30	53.0/30.6	93.5	0.87	1465	7.0
Siemens	225S		37	67.0/38.7	94.0	0.85	1480	6.8
Siemens	225M		45	81.0/46.8	94.5	0.85	1480	6.9
Siemens	250M		55	96.0/55.4	95.1	0.87	1485	7.5
Siemens	280S		75	130/75.0	95.1	0.87	1485	6.8
Siemens	280M		90	158/91.2	95.4	0.86	1486	7.5
Siemens	315S		110	190/110	95.9	0.87	1488	7.1
Siemens	315MA		132	225/130	96.1	0.88	1488	7.3
Siemens	315MB		160	275/159	96.3	0.88	1490	7.4
Siemens	315L		200	340/196	96.4	0.88	1490	7.6
Siemens	315		250	425/245	96,0	0.88	1488	6.5
Siemens	315		315	540/312	96,3	0.88	1488	6.8

NBG/NKG, premium motor range, 6-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos $\varphi_{1/1}$	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
Siemens	80B	3x220-240 Δ/380-415Y	0.55	2.77/1.60	67.0	0.74	910	3
Siemens	90S		0.75	3.46/2.00	75.5	0.72	925	4
Siemens	90L		1.1	4.85/2.80	82.0	0.70	940	6
Siemens	100L		1.5	6.32/3.65	85.0	0.70	950	6
Siemens	112M		2.2	9.35/5.40	84.0	0.70	955	6
Siemens	132SA		3	10.5/6.10	84.0	0.85	955	7
Siemens	132MA		4	14.7/8.50	84.0	0.81	950	6
Siemens	112M	3x380-415 Δ/660-690Y	2.2	5.40/3.12	84.0	0.70	955	6
Siemens	132SA		3	6.10/3.50	84.0	0.84	955	7
Siemens	132MA		4	8.50/4.91	84.0	0.81	950	6
Siemens	132MB		5.5	12.0/6.93	86.0	0.77	960	7
Siemens	160M		7.5	17.1/9.87	88.0	0.72	965	6
Siemens	160L		11	23.0/13.3	88.5	0.78	960	7
Siemens	180L		15	31.5/18.2	91.0	0.75	970	7
Siemens	200LA		18.5	38.0/21.9	91.0	0.77	975	6
Siemens	200LB		22	45.0/26.0	91.5	0.77	975	6
Siemens	225M		30	56.0/32.3	93.2	0.83	980	7
Siemens	250M		37	69.0/39.8	93.7	0.83	985	7
Siemens	280S		45	81.0/46.8	94.4	0.85	988	7
Siemens	280M		55	99.0/57.2	94.6	0.85	988	7
Siemens	315S		75	138/79.7	95.0	0.83	990	7
Siemens	315MA		90	160/92.4	95.3	0.85	990	7
Siemens	315MB		110	196/113	95.6	0.85	990	7
Siemens	315L		132	235/136	95.8	0.85	990	8

Electrical data, motors with built-in frequency converter

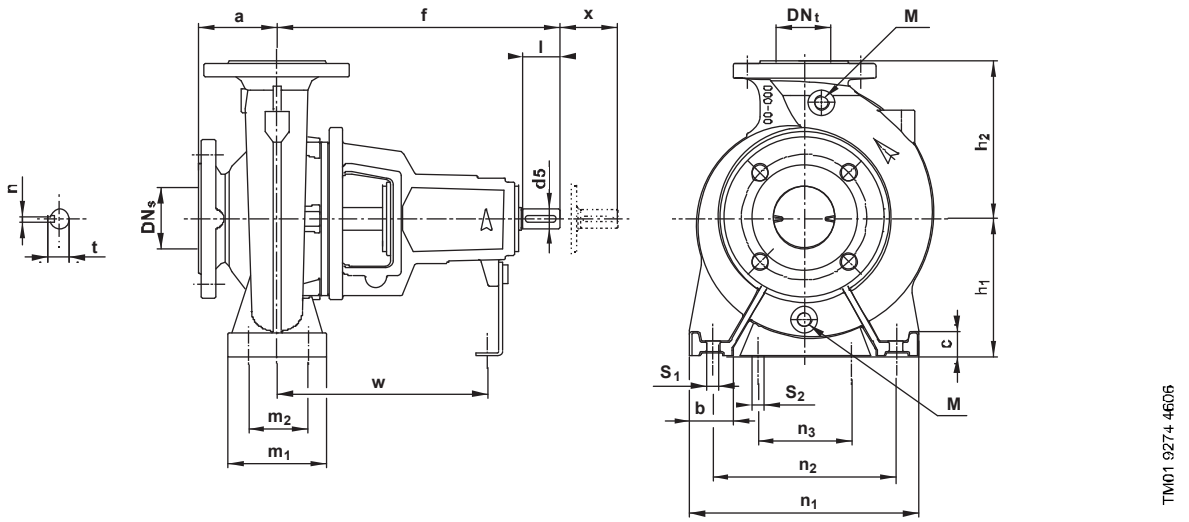
NBGE/NKGE range, 2-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]
MGE	90SB-D	3 x 380-480 V	1.5	3.3 - 2.7
MGE	90LC-D		2.2	4.6 - 3.8
MGE	100LC-D		3	6.2 - 5.0
MGE	112MC-D		4	8.1 - 6.6
MGE	132SC-D		5.5	11.0 - 8.8
MGE	132SD-D		7.5	15.0 - 12.0
MMGE	160M	3 x 380-415 V	11	21.4
MMGE	160MX		15	28.0
MMGE	160L		18.5	34.0
MMGE	180M		22	42.0

NBGE/NKGE range, 4-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]
MGE	90SA-D	3 x 380-480 V	0.75	1.8-1.9
MGE	90SB-D		1.1	2.5 - 2.2
MGE	90LC-D		1.5	3.3 - 2.9
MGE	100LB-D		2.2	4.6 - 3.8
MGE	112LC-D		3	6.2 - 5.0
MGE	112MC-D		4	8.1 - 6.6
MGE	132SC-D	3 x 380-415 V	5.5	11.3 - 10.5
MMGE	160M		7.5	14.7
MMGE	160M		11	21.7
MMGE	160L		15	28.5
MMGE	180M		18.5	34.7
MMGE	180L		22	41.0

NKG model B



M Drain plug/priming plug

Type	Pump [mm]							Supporting feet [mm]										Shaft [mm]					Weight [kg]	
	DNs	DNt	a	f	h1	h2	M	b	m1	m2	n1	n2	n3	w	S1	S2	c	d5	l	x	t	n	CI[1]	SS[2]
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	-
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	-
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	-
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	-
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	-
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	-
NKG 50-32-250	50	32	100	500	180	225	3/8"	65	125	95	320	250	110	370	M12	M12	26	32	80	100	35	8	83	85
NKG 65-50-125	65	40	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	40	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	19	32	80	100	35	8	81	85
NKG 65-40-315	65	40	125	500	200	250	1/2"	65	125	95	345	280	110	370	M12	M12	24	32	80	100	35	8	124	116
NKG 80-65-125	65	50	100	385	132	160	3/8"	50	100	70	240	190	110	385	M12	M12	18	24	50	100	27	8	50	51
NKG 80-65-160	65	50	100	385	160	180	3/8"	50	100	70	265	212	110	385	M12	M12	18	24	50	100	27	8	52	54
NKG 80-50-200	65	50	100	385	160	200	3/8"	50	100	70	265	212	110	385	M12	M12	18	24	50	100	27	8	58	59
NKG 80-50-250	65	50	125	500	180	225	3/8"	65	125	95	320	250	110	370	M12	M12	19	32	80	100	35	8	86	88
NKG 80-50-315	65	50	125	500	225	280	1/2"	65	125	95	345	280	110	370	M12	M12	31	32	80	100	35	8	130	119
NKG 100-80-125	80	65	100	385	160	180	3/8"	65	125	95	280	212	110	385	M12	M12	19	24	50	100	27	8	55	55
NKG 100-80-160	80	65	100	500	160	200	3/8"	65	125	95	280	212	110	370	M12	M12	19	32	80	100	35	8	72	71
NKG 100-65-200	80	65	100	500	180	225	3/8"	65	125	95	320	250	110	370	M12	M12	19	32	80	140	35	8	81	82
NKG 100-65-250	80	65	125	500	200	250	1/2"	80	160	120	360	280	110	370	M16	M12	23	32	80	140	35	10	111	110
NKG 100-65-315	80	65	125	530	225	280	3/8"	80	160	120	400	315	110	370	M16	M12	23	42	110	140	45	10	141	145
NKG 125-80-160	100	80	125	500	180	225	3/8"	65	125	95	320	250	110	370	M12	M12	19	32	80	140	35	8	81	83
NKG 125-80-200	100	80	125	500	180	250	3/8"	65	125	95	345	280	110	370	M12	M12	19	32	80	140	35	8	95	100
NKG 125-80-250	100	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	100	80	125	530	250	315	3/8"	80	160	120	400	315	110	370	M16	M12	23	42	110	140	45	10	152	158
NKG 125-80-400	100	80	125	530	280	355	1/2"	80	160	120	435	355	110	370	M16	M12	31	42	110	140	45	10	225	201
NKG 125-100-160	125	100	125	500	200	280	3/8"	80	160	120	360	280	110	370	M16	M12	21	32	80	140	35	10	99	-
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	-
NKG 125-100-250	125	100	140	530	225	225	1/2"	80	160	120	400	315	110	370	M16	M12	24	42	110	140	45	12	133	-
NKG 125-100-315	125	100	140	530	250	315	1/2"	80	160	120	400	315	110	370	M16	M12	23	42	110	140	45	12	161	-
NKG 125-100-400	125	100	140	530	280	355	1/2"	100	200	150	500	400	110	370	M20	M12	30	42	110	140	45	12	242	-
NKG 150-125-200	150	125	140	500	250	315	1/2"	80	160	120	400	315	110	370	M16	M12	23	42	110	140	45	12	135	-
NKG 150-125-250	150	125	140	530	250	355	1/2"	80	160	120	400	315	110	370	M16	M12	23	42	110	140	45	12	158	-
NKG 150-125-315	150	125	140	530	280	355	1/2"	100	200	150	500	400	110	370	M20	M12	26	42	110	140	45	12	190	-
NKG 150-125-400	150	125	140	530	315	400	1/2"	100	200	150	500	400	110	370	M20	M12	38	42	110	140	45	12	254	-
NKG 150-125-500	150	125	180	670	400	500	1/2"	125	200	150	625	500	140	500	M20	M16	49	60	110	180	64	18	503	-

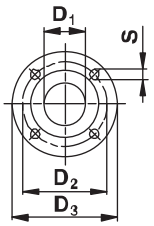
Type	Pump [mm]							Supporting feet [mm]									Shaft [mm]					Weight [kg]	
	DNs	DNt	a	f	h1	h2	M	b	m1	m2	n1	n2	n3	w	S1	S2	c	d5	l	x	t	n	CI(1	SS(2
NKG 200-150-200	200	150	160	500	280	400	1/2”	100	200	150	550	450	110	370	M20	M16	27	32	80	140	35	10	190	-
NKG 200-150-250	200	150	160	530	280	375	1/2”	100	200	150	500	400	110	370	M20	M16	33	42	110	180	45	12	195	-
NKG 200-150-315	200	150	160	670	315	400	1/2”	100	200	150	550	450	140	500	M20	M16	33	48	110	180	51.5	14	324	-
NKG 200-150-400	200	150	160	670	315	450	1/2”	100	200	150	550	450	140	500	M20	M16	28	48	110	180	51.5	14	366	-
NKG 200-150-500	200	150	180	670	400	500	1/2”	125	200	150	625	500	140	500	M20	M16	43	60	110	180	64	18	523	-

(1 CI: Cast iron version

(2 SS: Stainless steel version

Flange dimensions (EN 1092-2)

The flange dimensions are stated in mm.

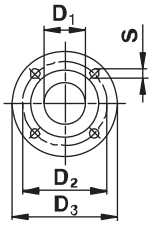


TM02 7720 3803

	EN 1092-2 - PN 16								
	Nominal diameter (DN)								
	32	40	50	65	80	100	125	150	200
D_1	32	40	50	65	80	100	125	150	200
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 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

Flange dimensions (AS 2129, table E)

The flange dimensions are stated in mm.

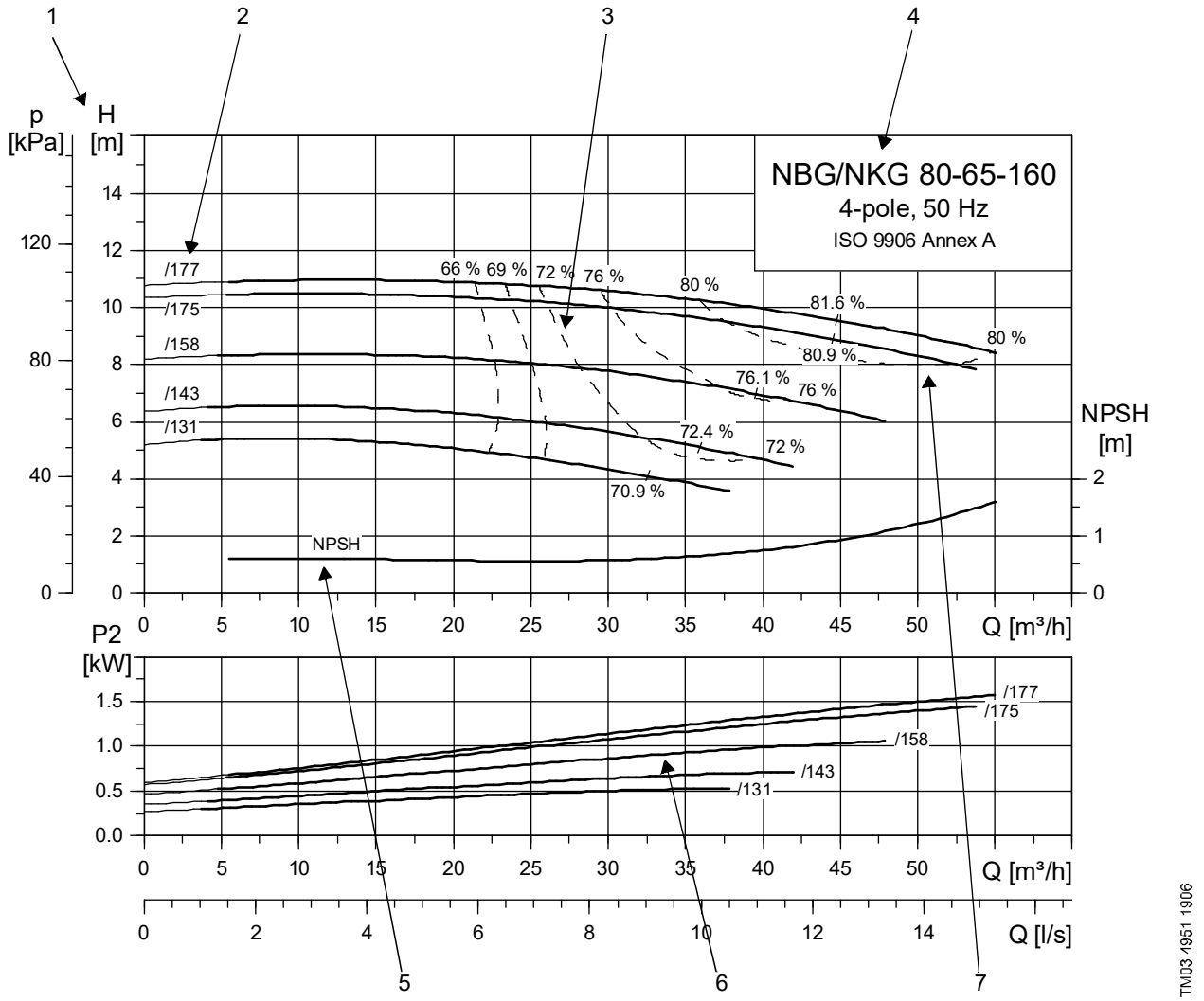


TM02 7720 3803

	AS 2129 - PN 16								
	Nominal diameter (DN)								
	32	40	50	65	80	100	125	150	200
D_1	32	40	50	65	80	100	125	150	200
D_2	87	98	114	127	146	178	210	235	292
D_3	140	150	165	185	200	220	250	285	340
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

Curve charts and technical data

How to read the curve charts



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. When sizing the pumps, add a safety margin of at least 0.5 m.
6	The power curve indicates pump input power P_2 [kW]
7	QH curve for the individual pump. The **bold** curve indicates the **recommended** performance range.

Curve charts and technical data

Curve conditions

The guidelines below apply to the curves shown in the performance charts on page 50 to 235.

- Tolerances according to ISO 9906, Annex A.
- The curves show pump performance with different impeller diameters at the nominal speed.
- The **bold** part of the curves show the **recommended** operating range.
- The thin parts are not recommended as the possible operating range here might suggest the selection of a smaller/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 average values measured under the same conditions as the performance curves.
  When sizing the pump, add a safety margin of at least 0.5 m.
- In case of other densities than 1000 kg/m^3, the discharge 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.

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 suction and discharge side of the pump.
H_{dyn} :	Calculated values based on the velocity of the pumped liquid on the suction and discharge side of the pump.

Performance tests

The requested duty point for every pump is tested according to ISO 9906, Annex A, and without certification.

If the customer requires either more points on the curve to be checked or certain minimum performances or certificates, individual measurements must be made.

Certificates

Certificates have to be confirmed for every order and are available on request as follows:

- Certificate for compliance with the order EN 10204-2.1
- Pump certificate EN 10204-2.2
- Inspection certificate EN 10204-3.1.B
- Inspection certificate EN 10204-3.1.C.

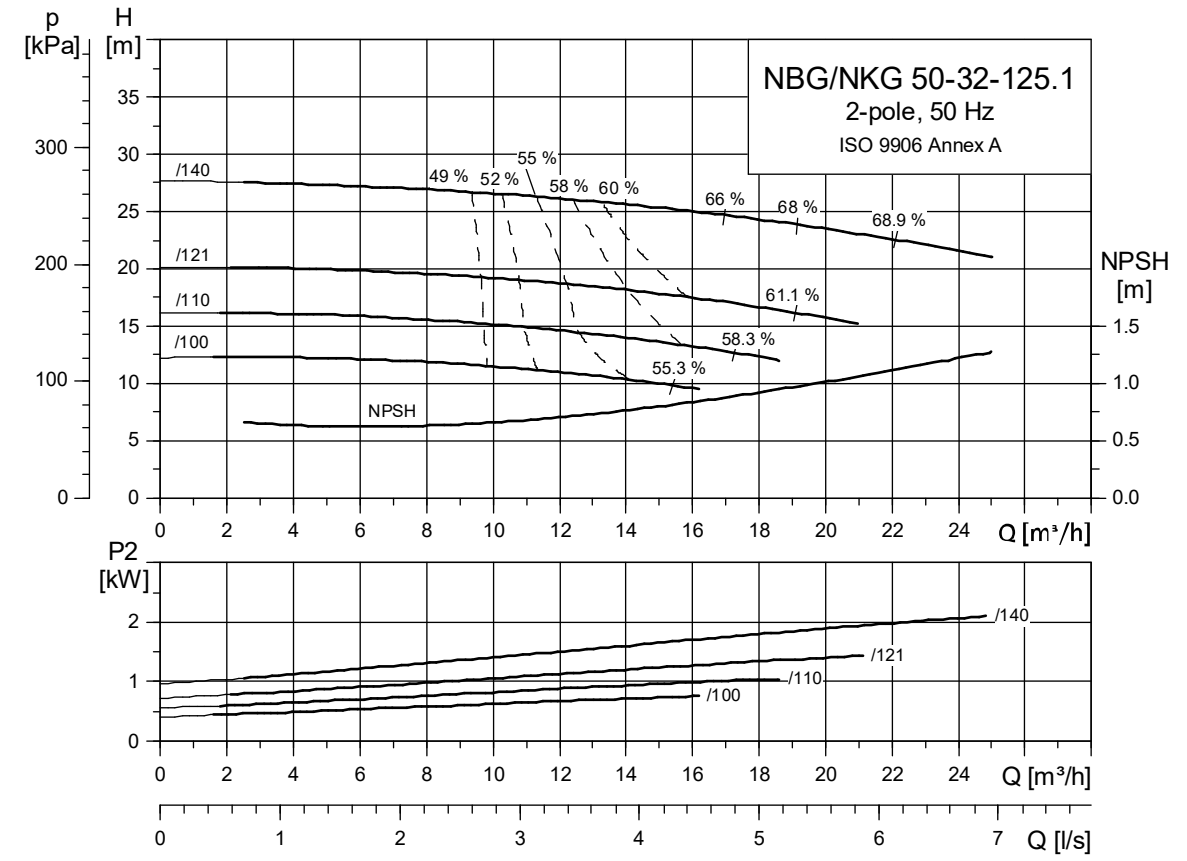
Technical data

The pump dimensions on the following pages include

- NBG/NKG:
  Data based on the NBG/NKG premium range. That is pumps fitted with Grundfos MG (EFF1) or Siemens (EFF1) motors.
  Note: See the correction tables on page 249 and 253 for dimensions of pumps with MMG model E, TECO EFF1 and TECO EFF2 motors.
- NBGE/NKGE:
  Data on pumps fitted with motors with built-in frequenct converter, type MGE/MMGE.

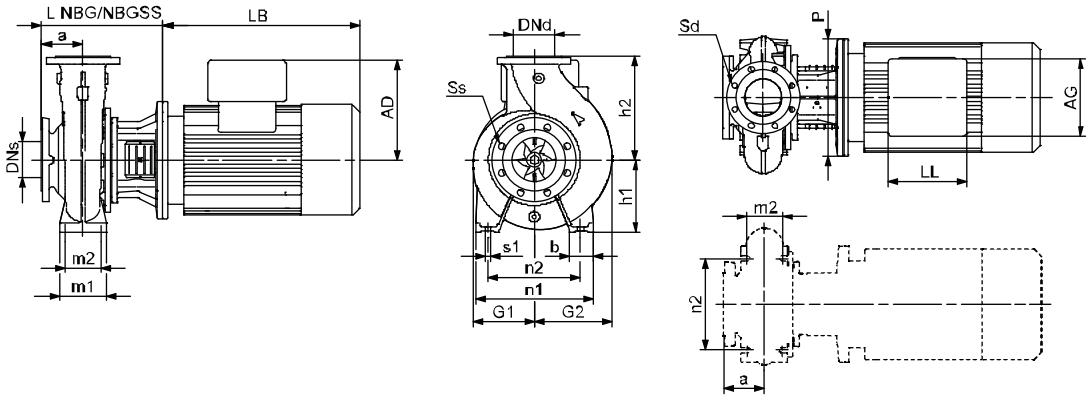
Overview – Curves/ technical data

NBG, NKG 2-pole



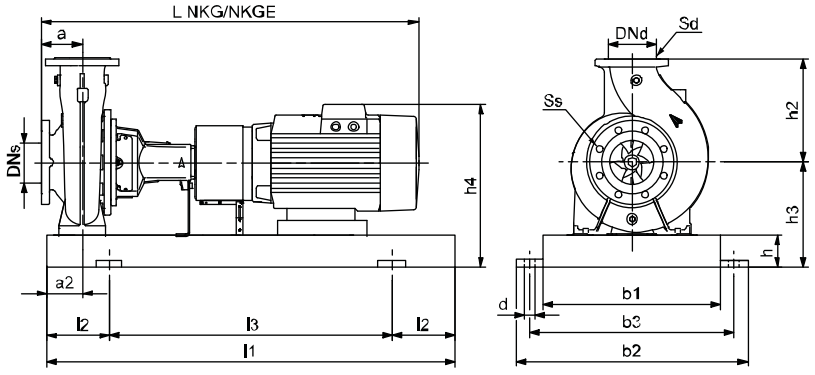
TM03 1902 1106

NBG



TM03 8008 0107

NKG



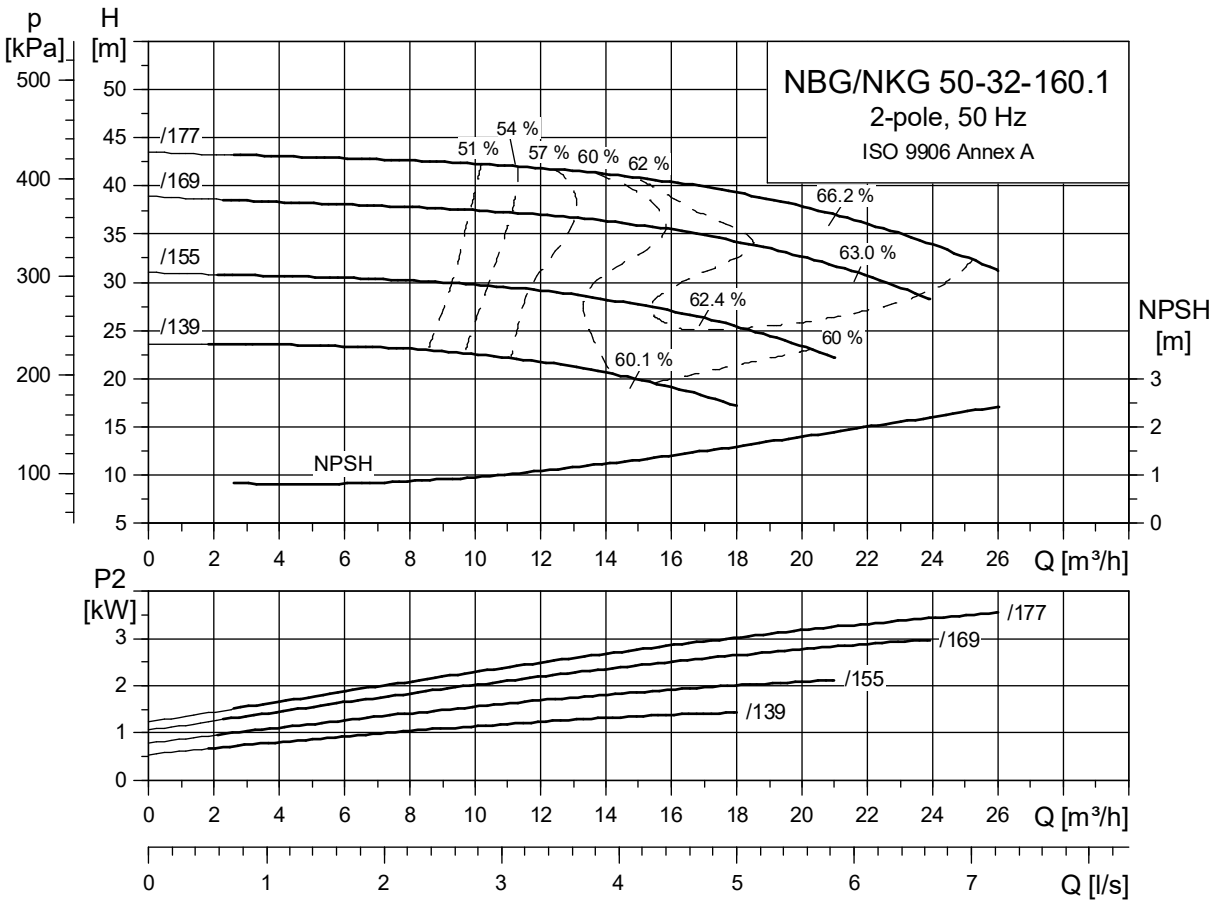
TM03 8011 0107

Pump type			50-32-125.1/100	50-32-125.1/110	50-32-125.1/121	50-32-125.1/140
Motor type	Premium Motor		MG 80A-C	MG 90SA-D	MG 90SB-D	MG 90LC-D
	E-Motor		-	-	MGE 90SB	MGE 90LC
Common data NBG/NKG	P	[kW]	0.75	1.1	1.5	2.2
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	80	80	80	80
	h2	[mm]	140	140	140	140
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	740/836	790/886	800/896	840/936
	L NKGE	[mm]	-/-	-/-	840/936	840/936
	Weight NKG	[mm]	89/89	103/103	103/103	107/107
	Weight NKGE	[kg]	-/-	-/-	111/110	115/114
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	800	900	900	900
	l2	[mm]	130	150	150	150
	l3	[mm]	540	600	600	600
	b1	[mm]	270	300	300	300
	b2	[mm]	360	390	390	390
	b3	[mm]	320	345	345	345
	d	[mm]	19	19	19	19
	a2	[mm]	60	60	60	60
	h	[mm]	65	65	65	65
	h3	[mm]	177	180	180	180
	h4	[mm]	286/-	290/-	290/347	290/347
	Base frame no.		2	3	3	3
NBG data	Design		A	A	A	A
	L NBG	[mm]	226	226	226	226
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	112	112	112	112
	G1	[mm]	117	117	117	117
	G2	[mm]	117	117	117	117
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	190	190	190	190
	n2	[mm]	140	140	140	140
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB	[mm]	231/-	281/-	281/321	321/321
	AD	[mm]	109/-	110/-	110/167	110/167
	AG	[mm]	82/-	162/-	162/264	162/264
	LL	[mm]	82/-	103/-	103/260	103/260
	P	[mm]	200	200	200	200
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG	[kg]	36/-	42/-	43/51	47/55
	Weight NBG SS	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

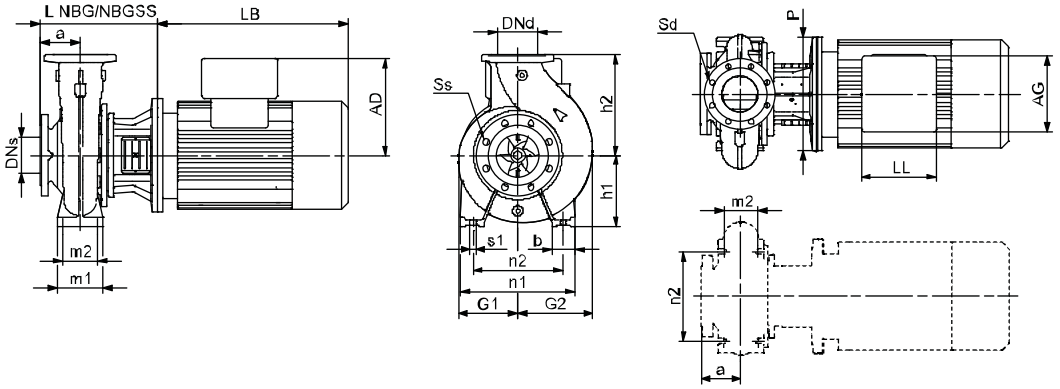
Note: For information about base frames, see page 236.

Performance curves



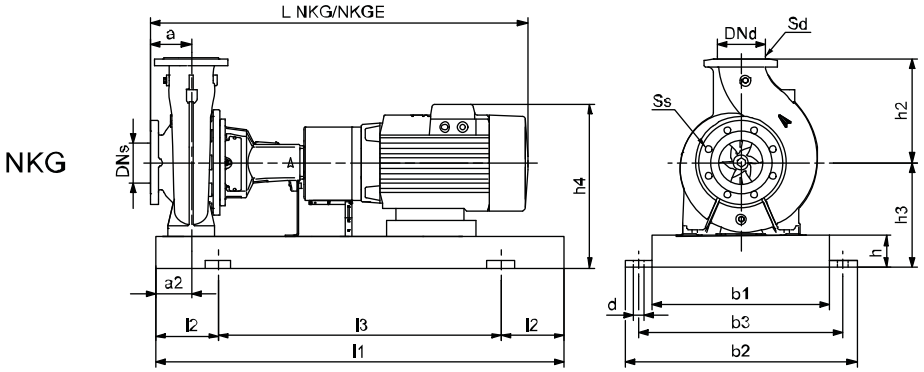
TM03 1903 1106

NBG



TM03 8008 0107

NKG



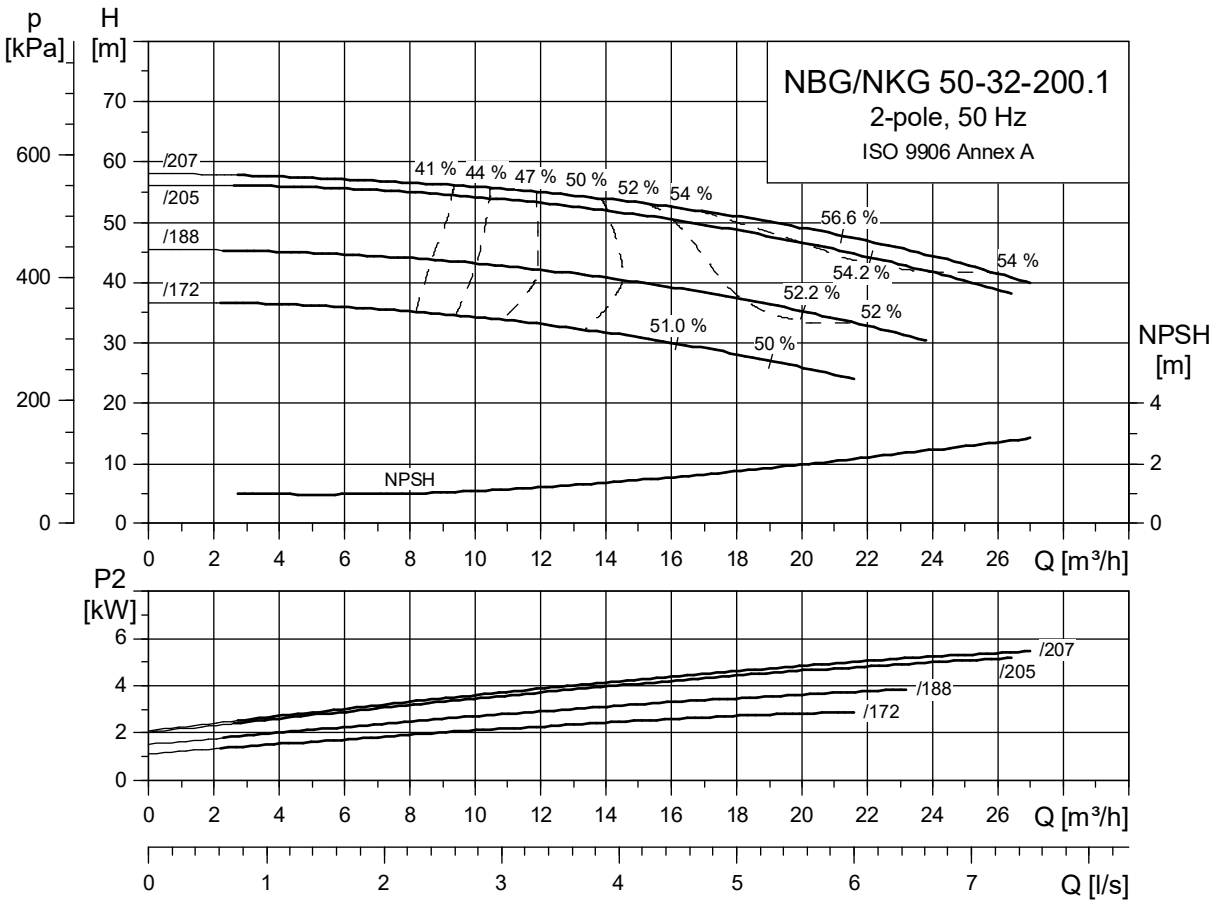
TM03 8011 0107

Pump type			50-32-160.1/139	50-32-160.1/155	50-32-160.1/169	50-32-160.1/177
Motor type	Premium Motor		MG 90SB-D	MG 90LC-D	MG 100LC-D	MG 112MC-D
	E-Motor		MGE 90SB	MGE 90LC	MGE 100LC	MGE 112MC
Common data NBG/NKG	P_2	[kW]	1.5	2.2	3	4
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	80	80	80	80
	h2	[mm]	160	160	160	160
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	800/896	840/936	864/960	901/997
	L NKGE	[mm]	840/936	840/936	864/960	901/997
	Weight NKG	[mm]	119/119	123/123	130/128	146/144
	Weight NKGE	[kg]	127/126	131/130	138/136	146/144
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1000	1000	1000	1000
	l2	[mm]	170	170	170	170
	l3	[mm]	660	660	660	660
	b1	[mm]	340	340	340	340
	b2	[mm]	450	450	450	450
	b3	[mm]	400	400	400	400
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	212	212	212	212
	h4 [1)]	[mm]	110/167	110/167	120/177	134/188
	Base frame no.		4	4	4	4
NBG data	Design		A	A	A	A
	L NBG	[mm]	226	226	254	254
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	132	132	132	132
	G1	[mm]	117	117	117	117
	G2	[mm]	123	123	123	123
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB [1)]	[mm]	281/321	321/321	335/335	372/372
	AD [1)]	[mm]	110/167	110/167	120/177	134/188
	AG [1)]	[mm]	162/264	162/264	162/264	202/290
	LL [1)]	[mm]	103/260	103/260	103/260	103/300
	P	[mm]	200	200	250	250
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG [1)]	[kg]	45/52	49/56	55/62	73/73
	Weight NBG SS [1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

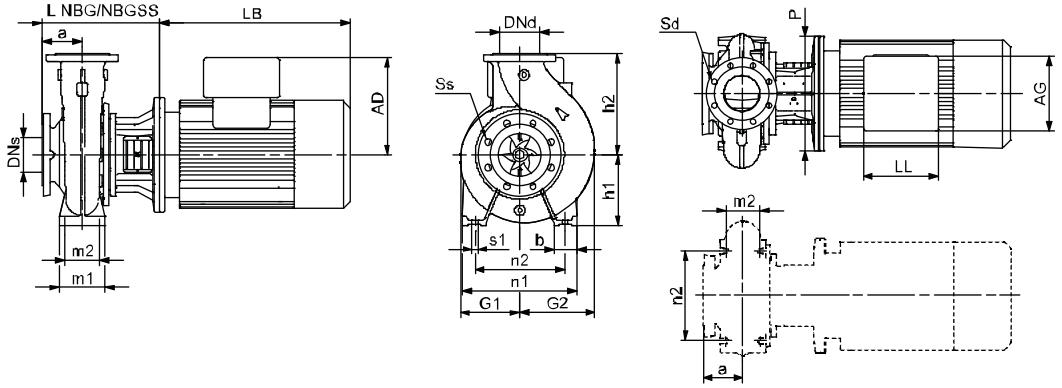
Note: For information about base frames, see page 236.

Performance curves



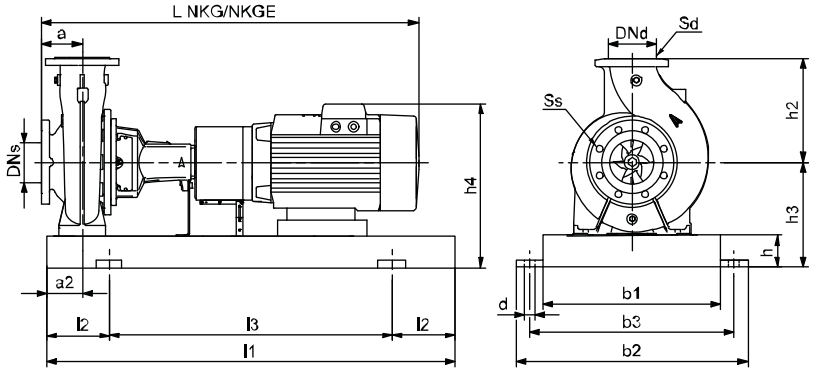
TM03 4904 1106

NBG



TM03 8008 0107

NKG



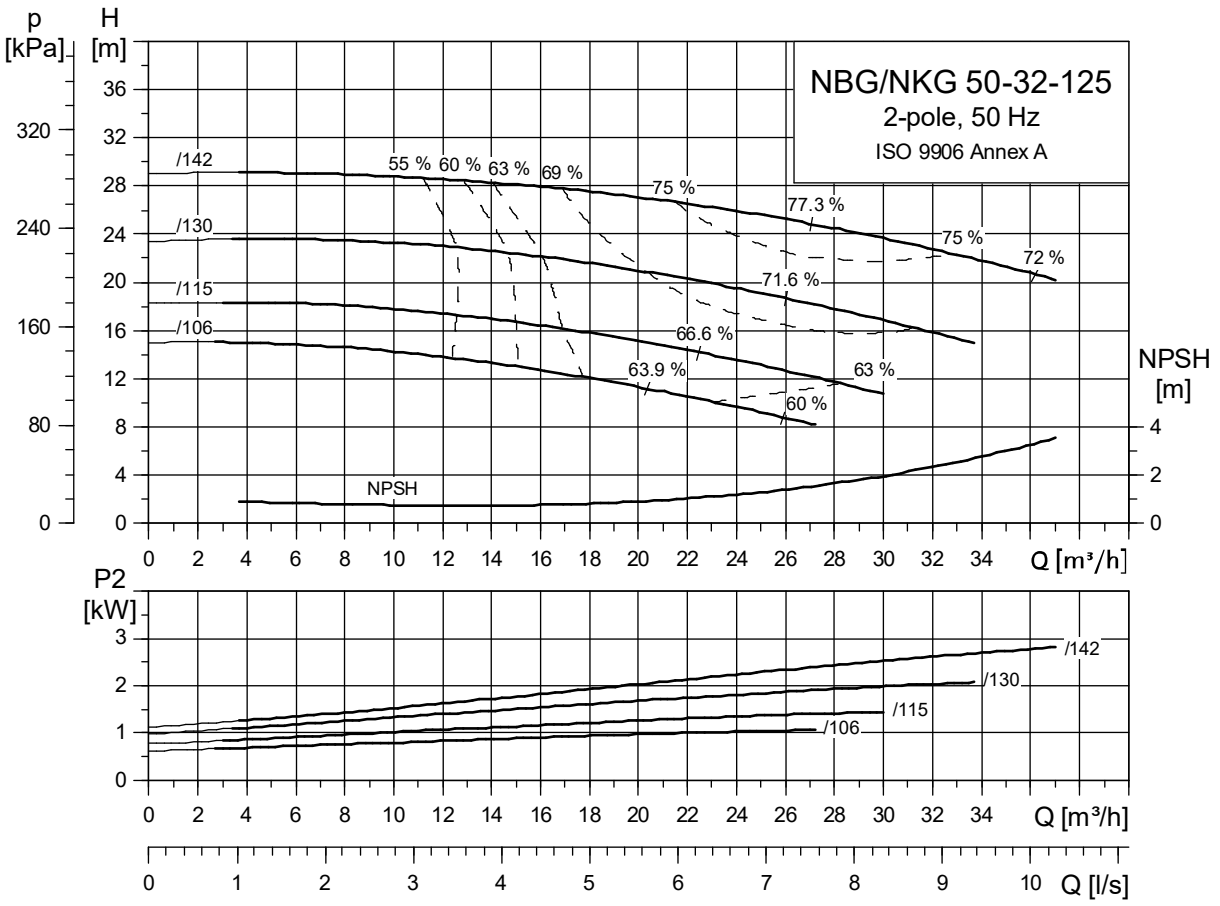
TM03 8011 0107

Pump type			50-32-200.1/172	50-32-200.1/188	50-32-200.1/205	50-32-200.1/207
Motor type	Premium Motor		MG 100LC-D	MG 112MC-D	MG 132SC-D	MG 132SD-D
	E-Motor		MGE 100LC	MGE 112MC	MGE 132SC	MGE 132SD
Common data NBG/NKG	P_2	[kW]	3	4	5.5	7.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	80	80	80	80
	h2	[mm]	180	180	180	180
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	864/960	901/997	946/1036	946/1036
	L NKGE	[mm]	864/960	901/997	946/1036	946/1036
	Weight NKG	[mm]	136/134	162/160	170/166	170/166
	Weight NKGE	[kg]	144/142	162/160	176/173	180/176
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1000	1000	1120	1120
	l2	[mm]	170	170	190	190
	l3	[mm]	660	660	740	740
	b1	[mm]	340	340	380	380
	b2	[mm]	450	450	490	490
	b3	[mm]	400	400	440	440
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	240	240	240	240
	h4[1)]	[mm]	120/177	134/188	134/188	134/188
	Base frame no.		4	4	5	5
NBG data	Design		A	A	A	A
	L NBG	[mm]	254	254	293	293
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	160	160	160	160
	G1	[mm]	135	135	135	135
	G2	[mm]	137	137	137	137
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB[1)]	[mm]	335/335	372/372	391/391	391/391
	AD[1)]	[mm]	120/177	134/188	134/188	134/188
	AG[1)]	[mm]	162/264	202/290	202/290	202/290
	LL[1)]	[mm]	103/260	103/300	103/300	103/300
	P	[mm]	250	250	300	300
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG[1)]	[kg]	62/69	80/80	85/92	85/95
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

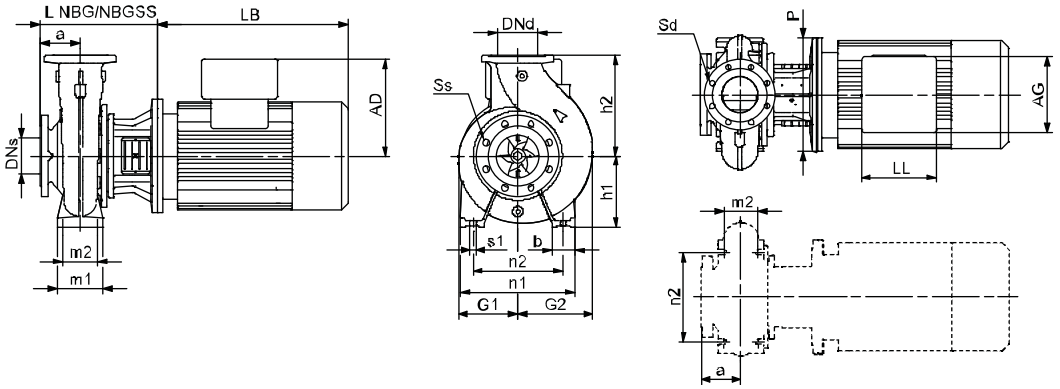
Note: For information about base frames, see page 236.

Performance curves



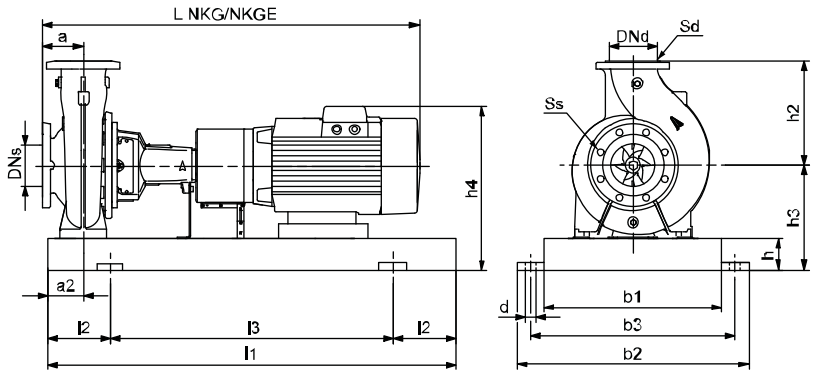
TM03 4905 4106

NBG



TM03 8008 0107

NKG



TM03 8011 0107

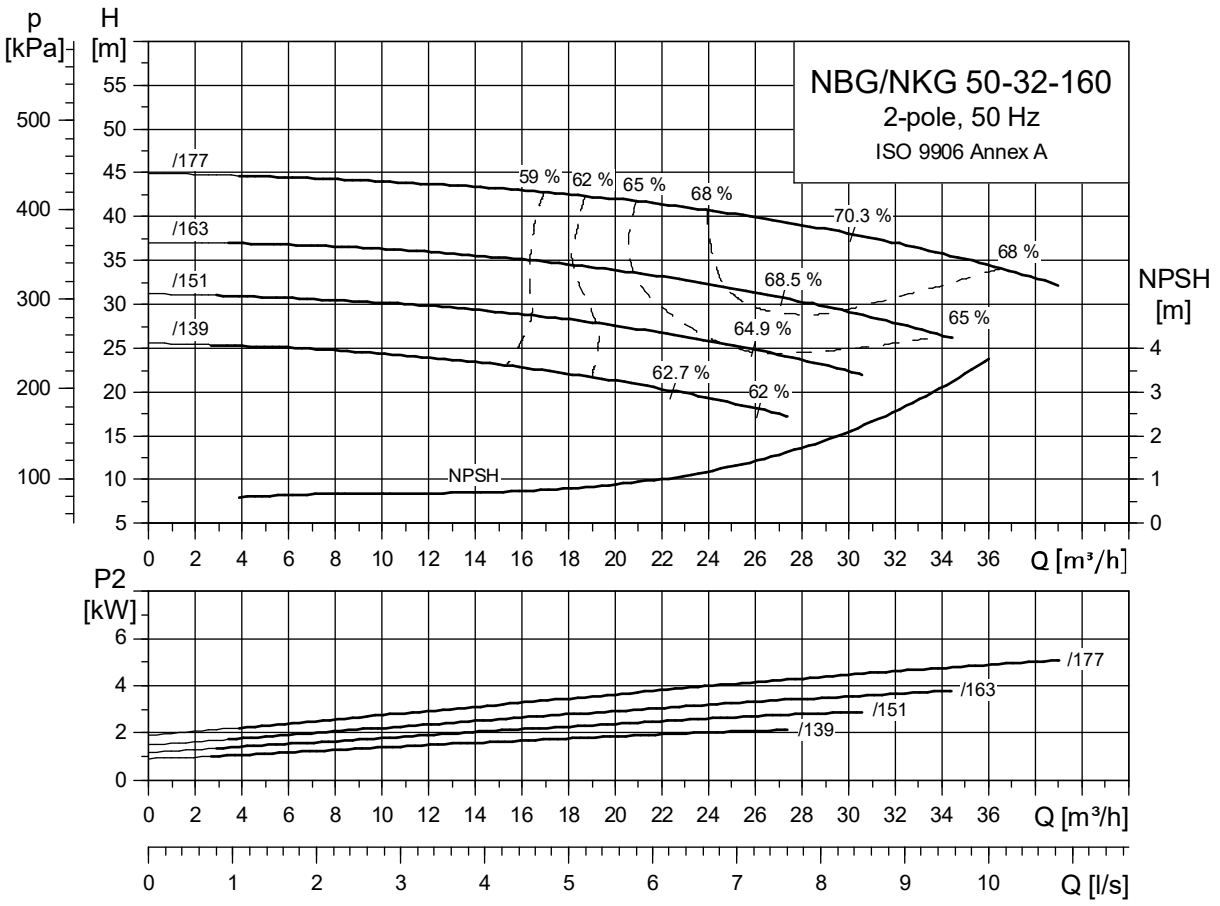
Pump type			50-32-125/106	50-32-125/115	50-32-125/130	50-32-125/142
Motor type	Premium Motor		MG 90SA-D	MG 90SB-D	MG 90LC-D	MG 100LC-D
	E-Motor		-	MGE 90SB	MGE 90LC	MGE 100LC
Common data NBG/NKG	P_2	[kW]	1.1	1.5	2.2	3
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	80	80	80	80
	h2	[mm]	140	140	140	140
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	790/886	800/896	840/936	864/960
	L NKGE	[mm]	-/-	840/936	840/936	864/960
	Weight NKG	[mm]	104/103	104/103	108/107	111/109
	Weight NKGE	[kg]	-/-	111/111	115/115	119/117
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	900	900	900	900
	l2	[mm]	150	150	150	150
	l3	[mm]	600	600	600	600
	b1	[mm]	300	300	300	300
	b2	[mm]	390	390	390	390
	b3	[mm]	345	345	345	345
	d	[mm]	19	19	19	19
	a2	[mm]	60	60	60	60
	h	[mm]	65	65	65	65
	h3	[mm]	180	180	180	177
	h4[1)]	[mm]	110/-	110/167	110/167	120/177
	Base frame no.		3	3	3	3
NBG data	Design		A	A	A	A[2)]
	L NBG	[mm]	226	226	226	254
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	112	112	112	112
	G1	[mm]	117	117	117	117
	G2	[mm]	117	117	117	117
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	190	190	190	190
	n2	[mm]	140	140	140	140
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB[1)]	[mm]	281/-	281/321	321/321	335/335
	AD[1)]	[mm]	110/-	110/167	110/167	120/177
	AG[1)]	[mm]	162/-	162/264	162/264	162/264
	LL[1)]	[mm]	103/-	103/260	103/260	103/260
	P	[mm]	200	200	200	250
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG[1)]	[kg]	43/-	44/51	48/55	54/62
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

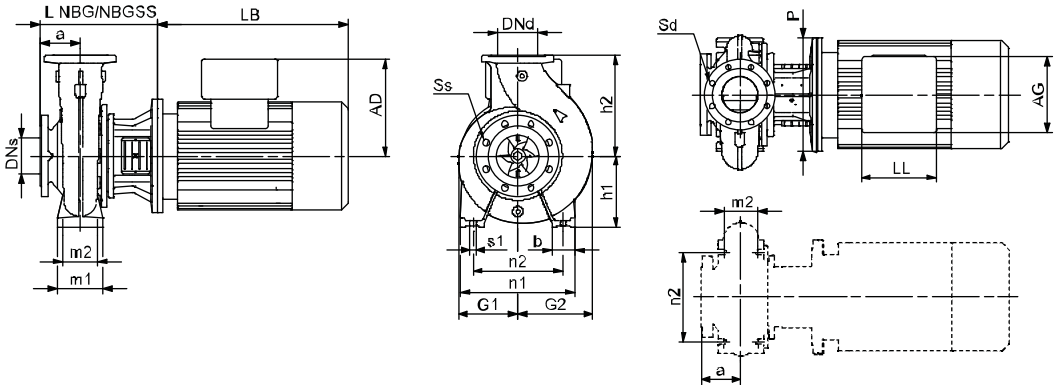
Note: For information about base frames, see page 236.

Performance curves



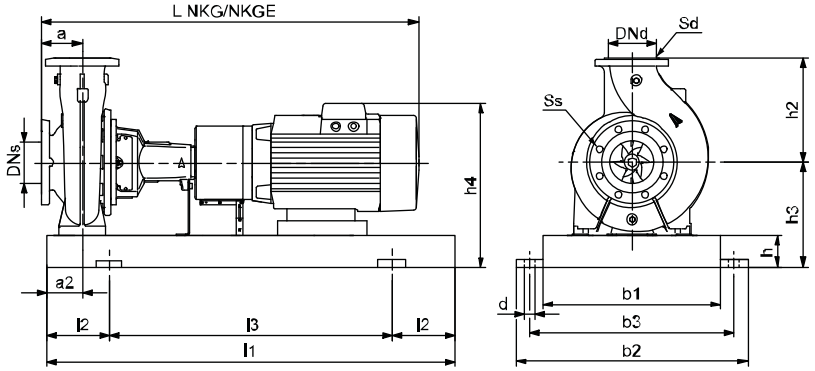
TM03 4906 4106

NBG



TM03 8008 0107

NKG



TM03 8011 0107

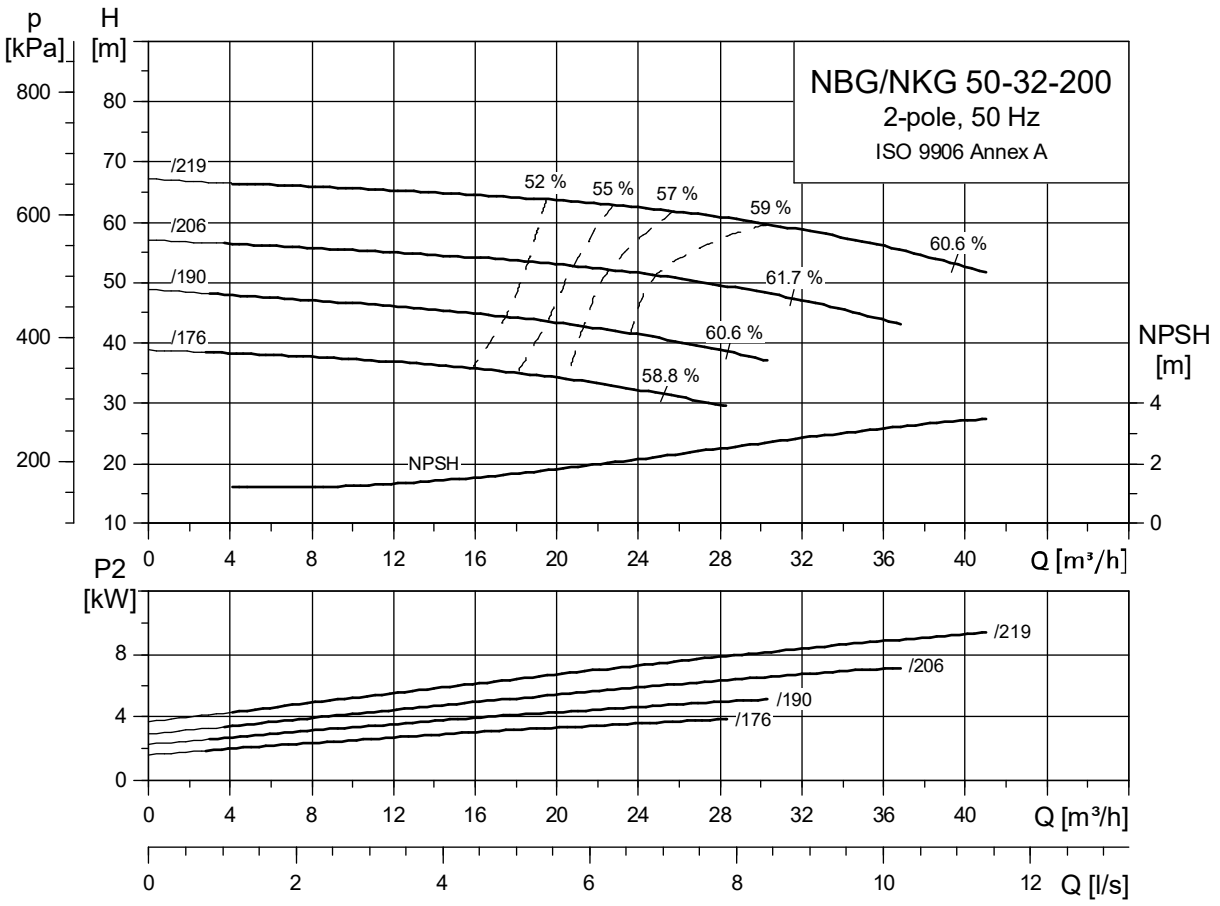
Pump type			50-32-160/139	50-32-160/151	50-32-160/163	50-32-160/177
Motor type	Premium Motor		MG 90LC-D	MG 100LC-D	MG 112MC-D	MG 132SC-D
	E-Motor		MGE 90LC	MGE 100LC	MGE 112MC	MGE 132SC
Common data NBG/NKG	P_2	[kW]	2.2	3	4	5.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	80	80	80	80
	h2	[mm]	160	160	160	160
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	840/936	864/960	901/997	946/1036
	L NKGE	[mm]	840/936	864/960	901/997	946/1036
	Weight NKG	[mm]	124/124	131/129	147/145	156/153
	Weight NKGE	[kg]	132/131	139/137	147/145	163/160
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1000	1000	1000	1120
	l2	[mm]	170	170	170	190
	l3	[mm]	660	660	660	740
	b1	[mm]	340	340	340	380
	b2	[mm]	450	450	450	490
	b3	[mm]	400	400	400	440
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	212	212	212	215
	h4[1)]	[mm]	110/167	120/177	134/188	134/188
	Base frame no.		4	4	4	5
NBG data	Design		A	A	A	A[2)]
	L NBG	[mm]	226	254	254	293
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	132	132	132	132
	G1	[mm]	117	117	117	117
	G2	[mm]	125	125	125	125
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB[1)]	[mm]	321/321	335/335	372/372	391/391
	AD[1)]	[mm]	110/167	120/177	134/188	134/188
	AG[1)]	[mm]	162/264	162/264	202/290	202/290
	LL[1)]	[mm]	103/260	103/260	103/300	103/300
	P	[mm]	200	250	250	300
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG[1)]	[kg]	50/57	56/63	74/74	79/86
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

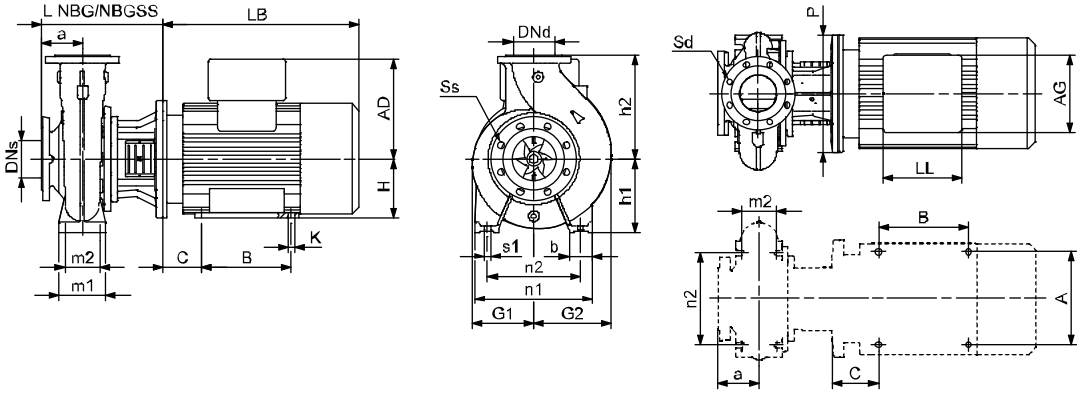
Note: For information about base frames, see page 236.

Performance curves



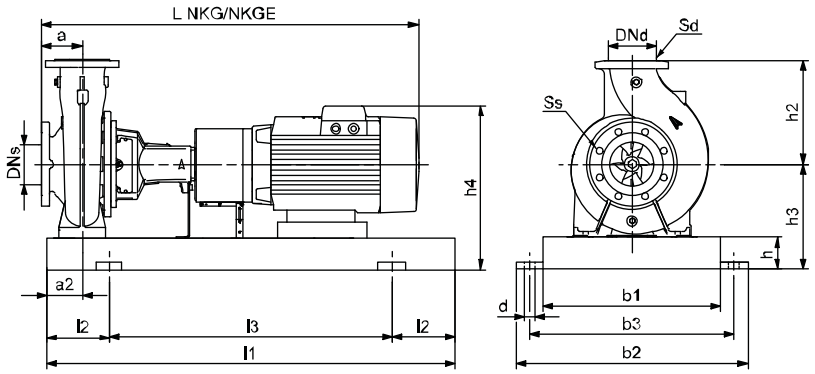
TM03 4907 4106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

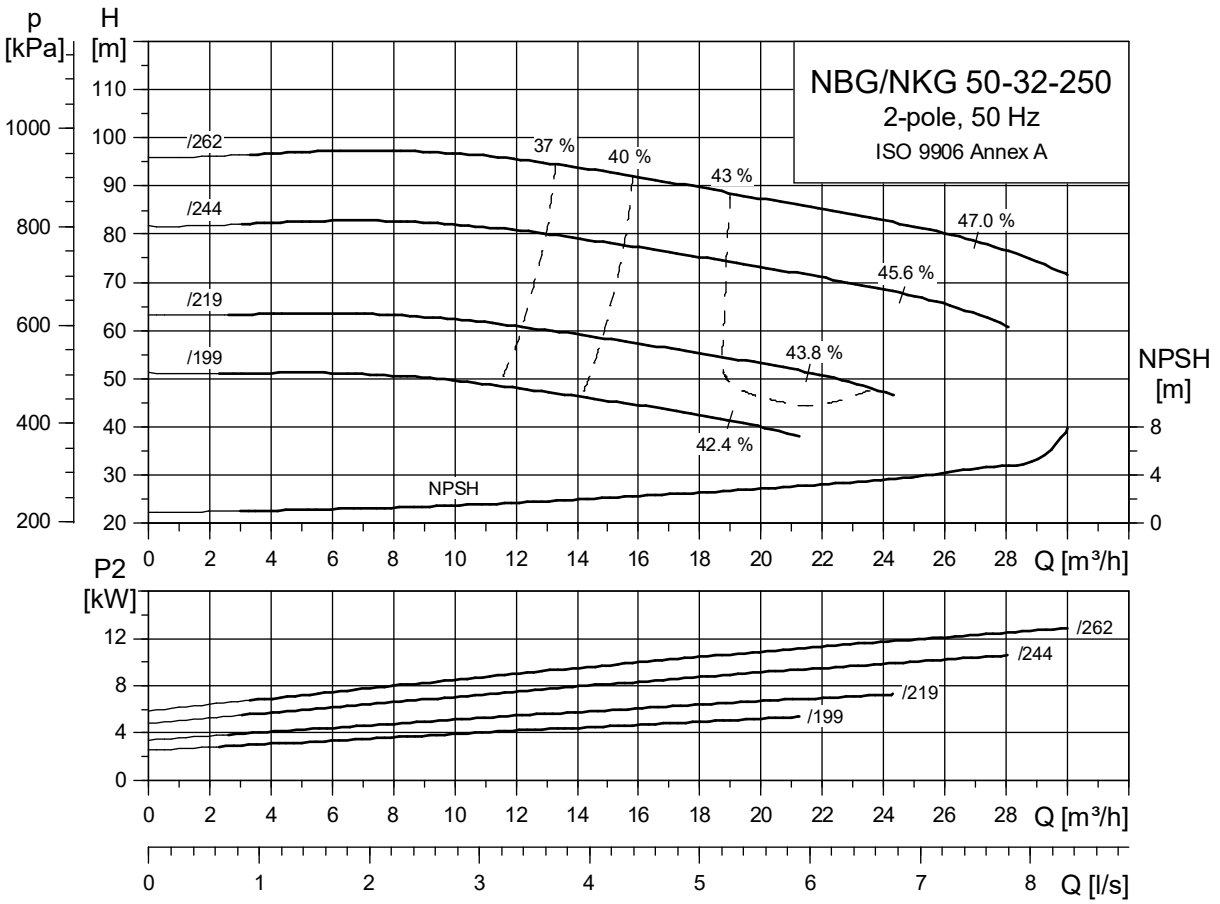
Pump type			50-32-200/176	50-32-200/190	50-32-200/206	50-32-200/219
Motor type	Premium Motor		MG 112MC-D	MG 132SC-D	MG 132SD-D	Siemens 160M
	E-Motor		MGE 112MC	MGE 132SC	MGE 132SD	MMGE 160M
Common data NBG/NKG	P_2	[kW]	4	5.5	7.5	11
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	80	80	80	80
	h2	[mm]	180	180	180	180
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	901/997	946/1036	946/1036	1070/1153
	L NKGE	[mm]	901/997	946/1036	946/1036	1041/1124
	Weight NKG	[mm]	162/160	170/167	170/167	215/209
	Weight NKGE	[kg]	163/161	177/173	180/176	263/257
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1000	1120	1120	1250
	l2	[mm]	170	190	190	205
	l3	[mm]	660	740	740	840
	b1	[mm]	340	380	380	430
	b2	[mm]	450	490	490	540
	b3	[mm]	400	440	440	490
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	240	240	240	245
	h4[1)]	[mm]	134/188	134/188	134/188	197/359
	Base frame no.		4	5	5	6
NBG data	Design		A	A	A	C[2)]
	L NBG	[mm]	254	293	293	323
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	160	160	160	160
	G1	[mm]	124	124	124	124
	G2	[mm]	145	145	145	145
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	160
	LB[1)]	[mm]	372/372	391/391	391/391	478/449
	AD[1)]	[mm]	134/188	134/188	134/188	197/359
	AG[1)]	[mm]	202/290	202/290	202/290	165/296
	LL[1)]	[mm]	103/300	103/300	103/300	165/410
	P	[mm]	250	300	300	350
	C	[mm]	-	-	-	108
	B	[mm]	-	-	-	210
	A	[mm]	-	-	-	254
	K	[mm]	-	-	-	15
	Weight NBG[1)]	[kg]	80/80	85/92	85/95	123/171
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

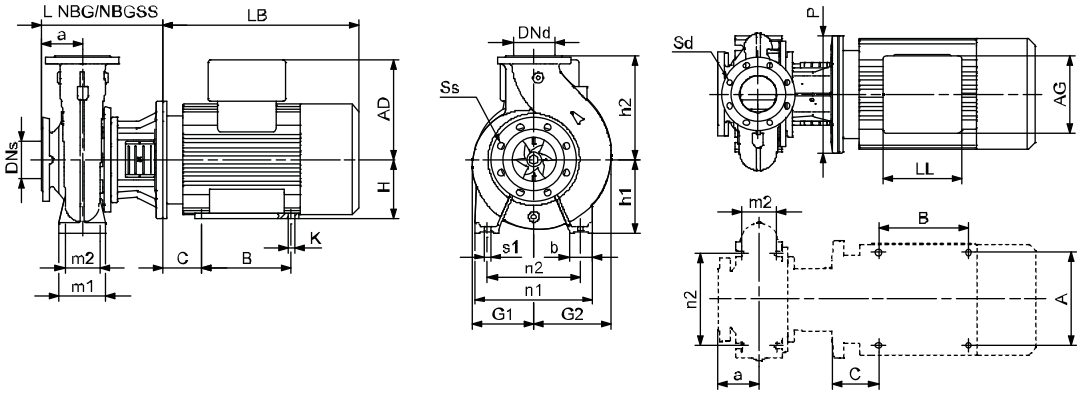
Note: For information about base frames, see page 236.

Performance curves



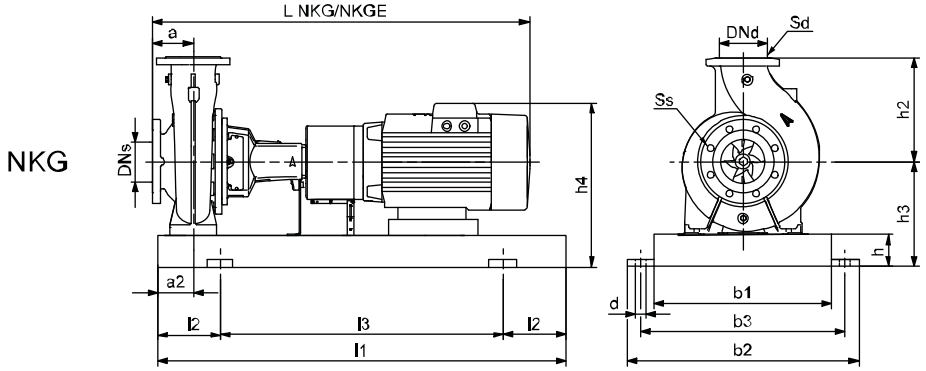
TM03 4908 4106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

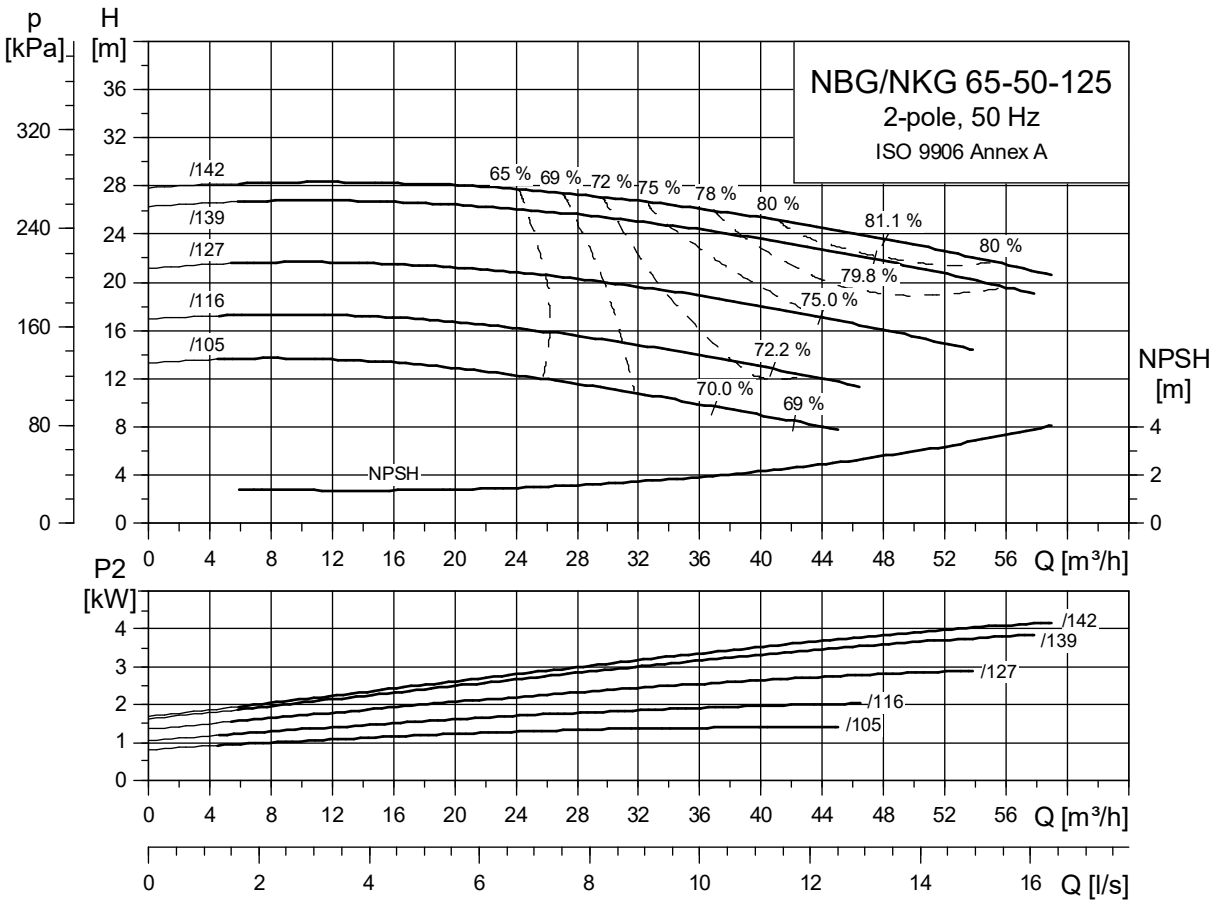
Pump type			50-32-250/199	50-32-250/219	50-32-250/244	50-32-250/262
Motor type	Premium Motor		MG 132SC-D	MG 132SD-D	Siemens 160M	Siemens 160M
	E-Motor		MGE 132SC	MGE 132SD	MMGE 160M	MMGE 160MX
Common data NBG/NKG	P_2	[kW]	5.5	7.5	11	15
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	100	100	100	100
	h2	[mm]	225	225	225	225
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	1075/1171	1075/1171	1192/1288	1192/1288
	L NKGE	[mm]	1075/1171	1075/1171	1163/1259	1175/1271
	Weight NKG	[mm]	202/199	202/199	246/241	255/250
	Weight NKGE	[kg]	209/206	212/209	294/289	323/318
	Weight NKG SS	[kg]	206/203	206/203	250/245	259/254
	Weight NKGE SS	[kg]	213/210	216/213	298/293	327/322
NKG data	l1	[kg]	1120	1120	1250	1250
	l2	[mm]	190	190	205	205
	l3	[mm]	740	740	840	840
	b1	[mm]	380	380	430	430
	b2	[mm]	490	490	540	540
	b3	[mm]	440	440	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	75	75	75	75
	h	[mm]	80	80	80	80
	h3	[mm]	260	260	260	260
	h4[1)]	[mm]	134/188	134/188	197/359	197/377
	Base frame no.		5	5	6	6
NBG data	Design		A	A	C[2)]	C[2)]
	L NBG	[mm]	313	313	343	343
	L NBG SS	[mm]	313	313	343	343
	h1	[mm]	180	180	180	180
	G1	[mm]	162	162	162	162
	G2	[mm]	164	164	164	164
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	320	320	320	320
	n2	[mm]	250	250	250	250
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	160	160
	LB[1)]	[mm]	391/391	391/391	478/449	478/461
	AD[1)]	[mm]	134/188	134/188	197/359	197/377
	AG[1)]	[mm]	202/290	202/290	165/296	165/296
	LL[1)]	[mm]	103/300	103/300	165/410	165/410
	P	[mm]	300	300	350	350
	C	[mm]	-	-	108	108
	B	[mm]	-	-	210	210
	A	[mm]	-	-	254	254
	K	[mm]	-	-	15	15
	Weight NBG[1)]	[kg]	100/107	100/110	139/187	148/216
	Weight NBG SS[1)]	[kg]	104/111	104/114	143/191	152/220

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

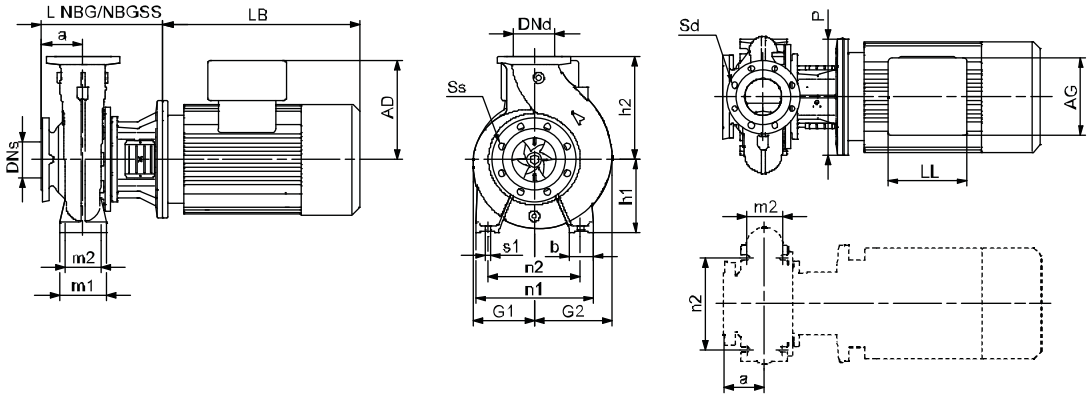
Note: For information about base frames, see page 236.

Performance curves



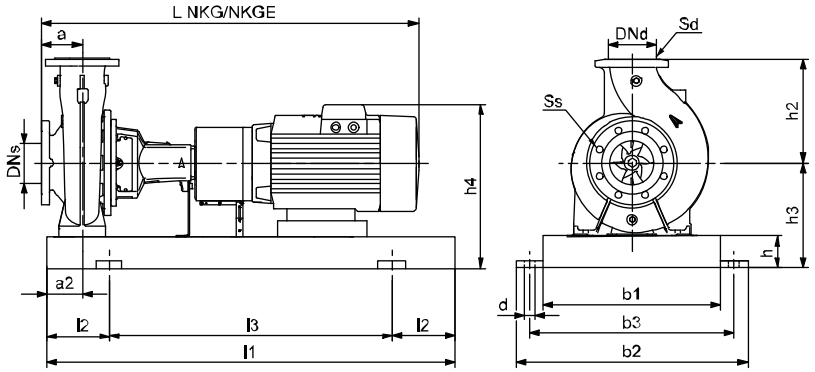
TM03 4909 4106

NBG



TM03 8008 0107

NKG



TM03 8011 0107

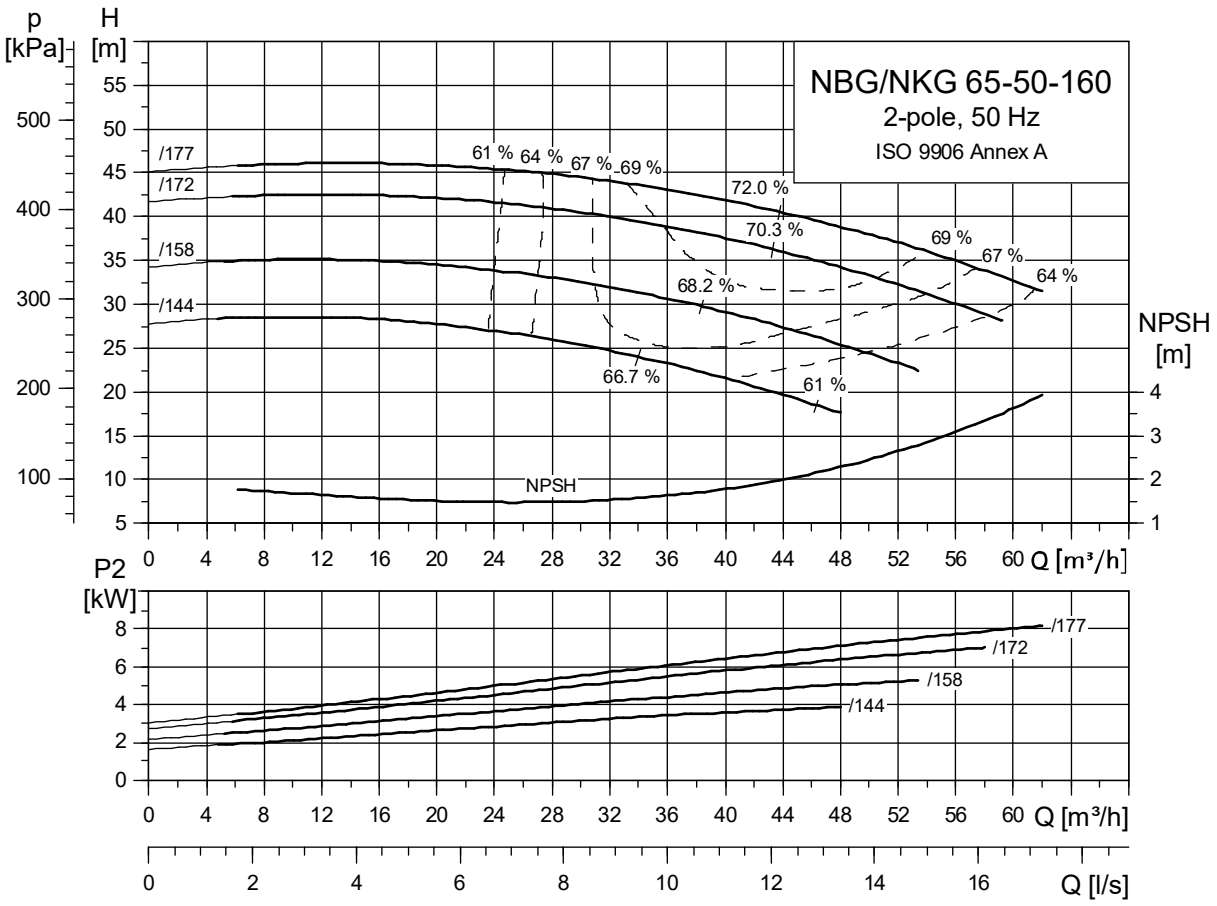
Pump type			65-50-125/105	65-50-125/116	65-50-125/127	65-50-125/139	65-50-125/142
Motor type	Premium Motor		MG 90SB-D	MG 90LC-D	MG 100LC-D	MG 112MC-D	MG 132SC-D
	E-Motor		MGE 90SB	MGE 90LC	MGE 100LC	MGE 112MC	MGE 132SC
Common data NBG/NKG	P_2	[kW]	1.5	2.2	3	4	5.5
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	65	65	65	65	65
	DNd	[mm]	50	50	50	50	50
	a	[mm]	80	80	80	80	80
	h2	[mm]	140	140	140	140	140
	Ss		4x19	4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	800/896	840/936	864/960	901/997	946/1036
	L NKGE	[mm]	840/936	840/936	864/960	901/997	946/1036
	Weight NKG	[mm]	109/108	113/112	116/114	146/144	164/160
	Weight NKGE	[kg]	116/115	120/119	124/122	147/144	170/167
	Weight NKG SS	[kg]	107/107	111/111	115/113	145/143	162/159
	Weight NKGE SS	[kg]	115/114	119/118	123/121	145/143	169/166
NKG data	l1	[kg]	900	900	900	1000	1120
	l2	[mm]	150	150	150	170	190
	l3	[mm]	600	600	600	660	740
	b1	[mm]	300	300	300	340	380
	b2	[mm]	390	390	390	450	490
	b3	[mm]	345	345	345	400	440
	d	[mm]	19	19	19	24	24
	a2	[mm]	60	60	60	60	60
	h	[mm]	65	65	65	80	80
	h3	[mm]	180	180	177	195	217
	h4[1)]	[mm]	110/167	110/167	120/177	134/188	134/188
	Base frame no.		3	3	3	4	5
NBG data	Design		A	A	A[2)]	A[2)]	A[2)]
	L NBG	[mm]	226	226	254	254	293
	L NBG SS	[mm]	253	253	273	273	293
	h1	[mm]	112	112	112	112	112
	G1	[mm]	117	117	117	117	117
	G2	[mm]	118	118	118	118	118
	m1	[mm]	100	100	100	100	100
	m2	[mm]	70	70	70	70	70
	n1	[mm]	210	210	210	210	210
	n2	[mm]	160	160	160	160	160
	b	[mm]	50	50	50	50	50
	s1	[mm]	M12	M12	M12	M12	M12
	H	[mm]	-	-	-	-	-
	LB[1)]	[mm]	281/321	321/321	335/335	372/372	391/391
	AD[1)]	[mm]	110/167	110/167	120/177	134/188	134/188
	AG[1)]	[mm]	162/264	162/264	162/264	202/290	202/290
	LL[1)]	[mm]	103/260	103/260	103/260	103/300	103/300
	P	[mm]	200	200	250	250	300
	C	[mm]	-	-	-	-	-
	B	[mm]	-	-	-	-	-
	A	[mm]	-	-	-	-	-
	K	[mm]	-	-	-	-	-
	Weight NBG[1)]	[kg]	49/56	53/60	59/66	77/77	82/89
	Weight NBG SS[1)]	[kg]	50/57	54/61	61/68	79/79	82/89

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

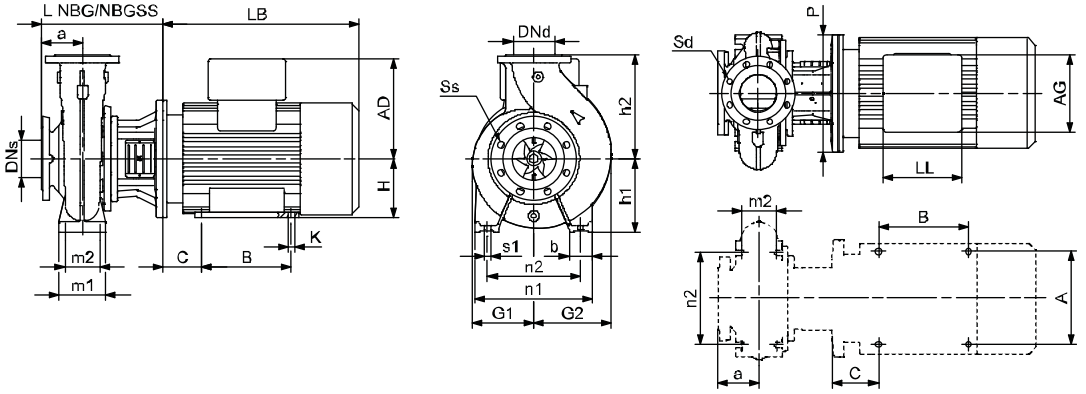
Note: For information about base frames, see page 236.

Performance curves



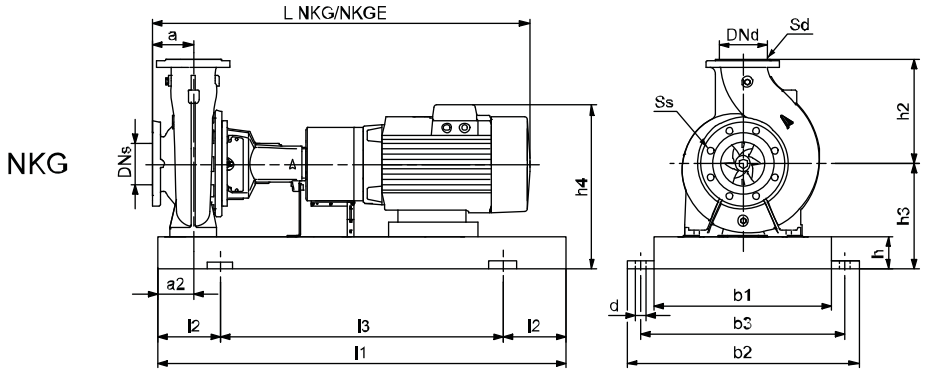
TM03 1910 1106

NBG



TM03 8010 0107

NKG



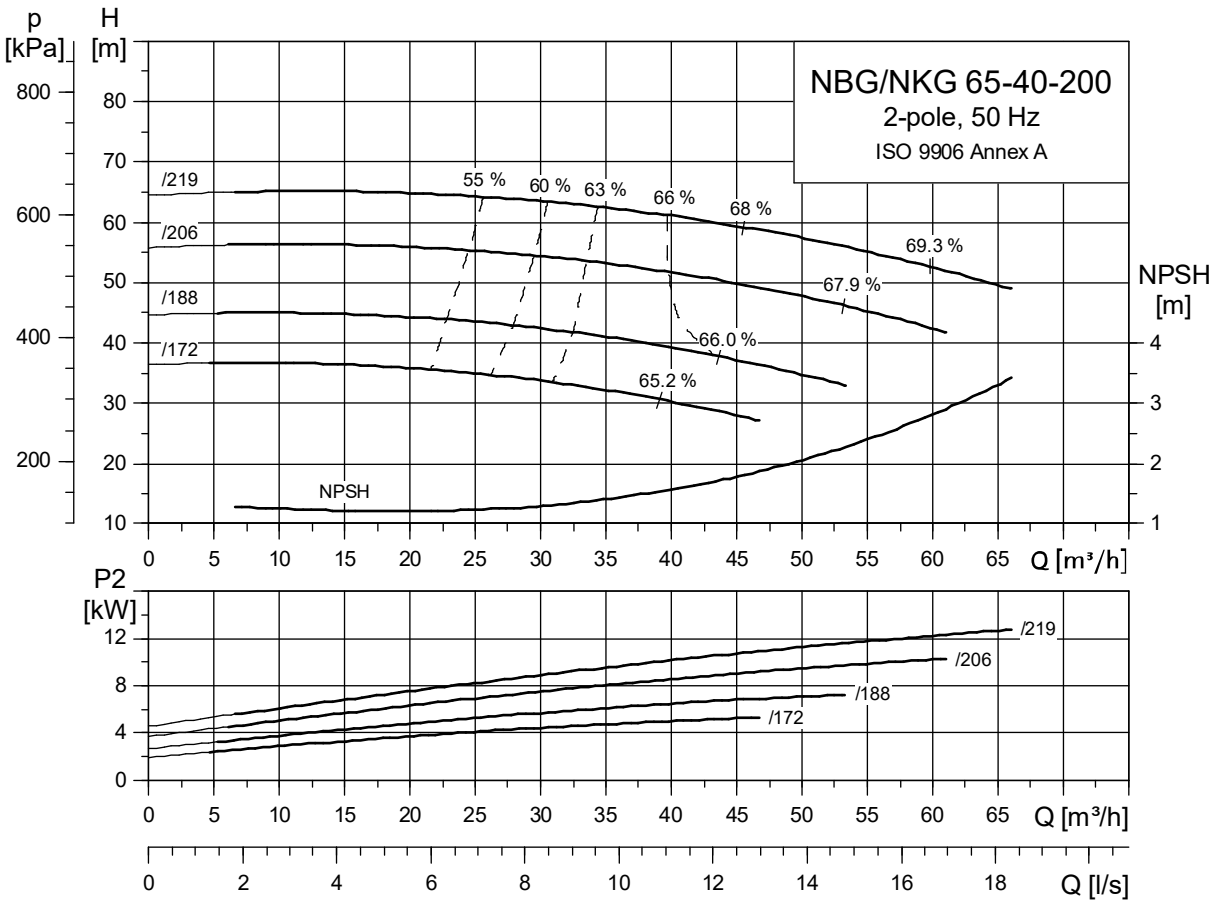
TM03 8011 0107

Pump type			65-50-160/144	65-50-160/158	65-50-160/172	65-50-160/177
Motor type	Premium Motor		MG 112MC-D	MG 132SC-D	MG 132SD-D	Siemens 160M
	E-Motor		MGE 112MC	MGE 132SC	MGE 132SD	MMGE 160M
Common data NBG/NKG	P_2	[kW]	4	5.5	7.5	11
	PN	[bar]	16	16	16	16
	DNs	[mm]	65	65	65	65
	DNd	[mm]	50	50	50	50
	a	[mm]	80	80	80	80
	h2	[mm]	160	160	160	160
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	901/997	946/1036	946/1036	1070/1153
	L NKGE	[mm]	901/997	946/1036	946/1036	1041/1124
	Weight NKG	[mm]	151/149	161/157	161/157	216/210
	Weight NKGE	[kg]	151/149	167/164	170/167	264/258
	Weight NKG SS	[kg]	151/148	160/157	160/157	215/209
	Weight NKGE SS	[kg]	151/149	167/164	170/167	263/257
NKG data	l1	[kg]	1000	1120	1120	1250
	l2	[mm]	170	190	190	205
	l3	[mm]	660	740	740	840
	b1	[mm]	340	380	380	430
	b2	[mm]	450	490	490	540
	b3	[mm]	400	440	440	490
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	212	215	215	245
	h4 [1]	[mm]	134/188	134/188	134/188	197/359
	Base frame no.		4	5	5	6
NBG data	Design		A	A [2]	A [2]	C [2]
	L NBG	[mm]	254	293	293	323
	L NBG SS	[mm]	273	293	293	323
	h1	[mm]	132	132	132	132
	G1	[mm]	117	117	117	117
	G2	[mm]	134	134	134	134
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	160
	LB [1]	[mm]	372/372	391/391	391/391	478/449
	AD [1]	[mm]	134/188	134/188	134/188	197/359
	AG [1]	[mm]	202/290	202/290	202/290	165/296
	LL [1]	[mm]	103/300	103/300	103/300	165/410
	P	[mm]	250	300	300	350
	C	[mm]	-	-	-	108
	B	[mm]	-	-	-	210
	A	[mm]	-	-	-	254
	K	[mm]	-	-	-	15
	Weight NBG [1]	[kg]	78/78	84/90	84/93	121/169
	Weight NBG SS [1]	[kg]	80/81	84/91	84/94	123/171

1) Dimension of pump with premium range motor/built-in frequency converter.

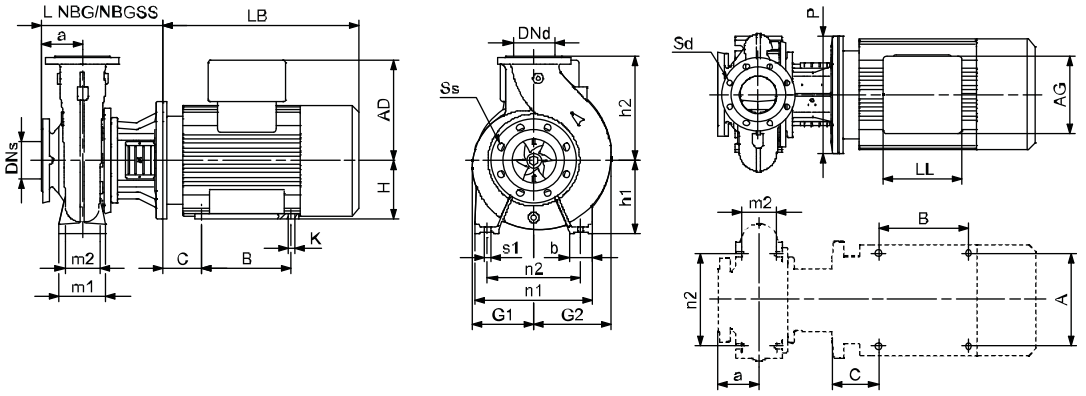
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.



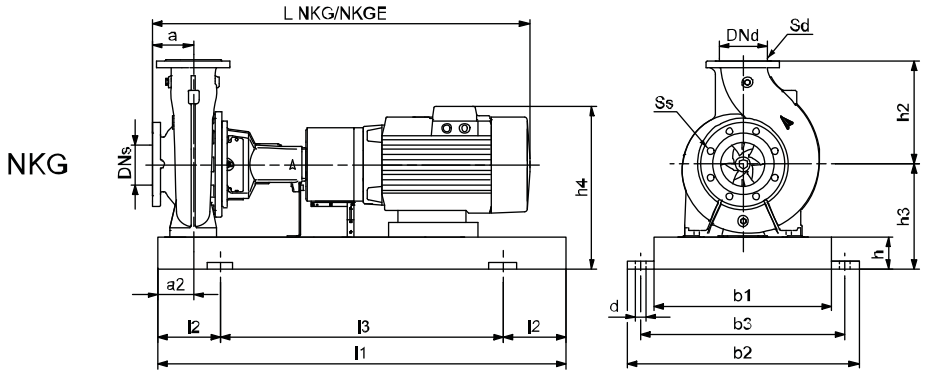
TM03 1911 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

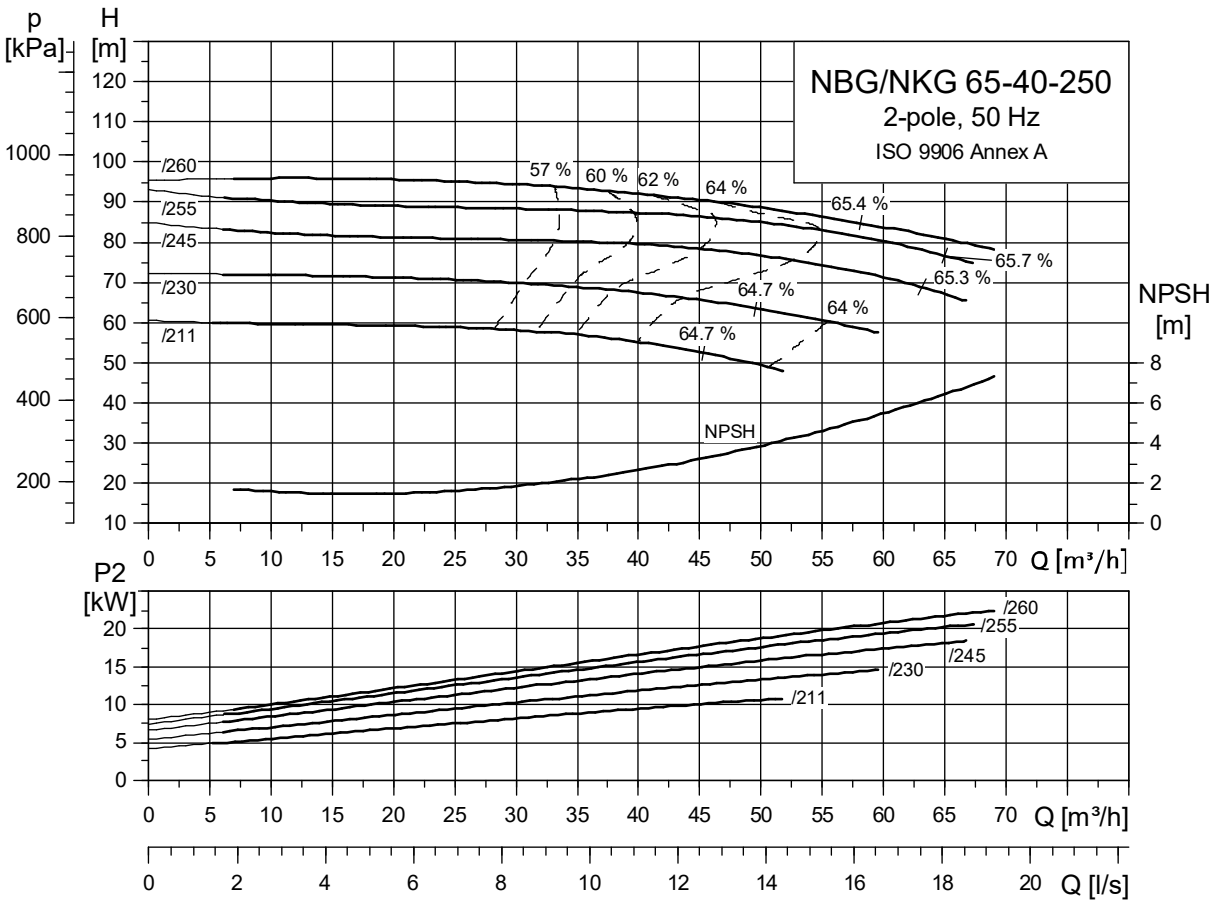
Pump type			65-40-200/172	65-40-200/188	65-40-200/206	65-40-200/219
Motor type	Premium Motor		MG 132SC-D	MG 132SD-D	Siemens 160M	Siemens 160M
	E-Motor		MGE 132SC	MGE 132SD	MMGE 160M	MMGE 160MX
Common data NBG/NKG	P_2	[kW]	5.5	7.5	11	15
	PN	[bar]	16	16	16	16
	DNs	[mm]	65	65	65	65
	DNd	[mm]	40	40	40	40
	a	[mm]	100	100	100	100
	h2	[mm]	180	180	180	180
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	966/1056	966/1056	1090/1173	1090/1173
	L NKGE	[mm]	966/1056	966/1056	1061/1144	1073/1156
	Weight NKG	[mm]	171/168	171/168	216/210	225/219
	Weight NKGE	[kg]	178/175	181/178	264/258	293/287
	Weight NKG SS	[kg]	175/171	175/171	220/214	229/223
	Weight NKGE SS	[kg]	181/178	184/181	268/262	297/291
NKG data	l1	[kg]	1120	1120	1250	1250
	l2	[mm]	190	190	205	205
	l3	[mm]	740	740	840	840
	b1	[mm]	380	380	430	430
	b2	[mm]	490	490	540	540
	b3	[mm]	440	440	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	240	240	245	245
	h4[1)]	[mm]	134/188	134/188	197/359	197/377
	Base frame no.		5	5	6	6
NBG data	Design		A	A	B[2)]	B[2)]
	L NBG	[mm]	313	313	343	343
	L NBG SS	[mm]	313	313	343	343
	h1	[mm]	160	160	-	-
	G1	[mm]	140	140	140	140
	G2	[mm]	157	157	157	157
	m1	[mm]	100	100	-	-
	m2	[mm]	70	70	-	-
	n1	[mm]	265	265	-	-
	n2	[mm]	212	212	-	-
	b	[mm]	50	50	-	-
	s1	[mm]	M12	M12	-	-
	H	[mm]	-	-	160	160
	LB[1)]	[mm]	391/391	391/391	478/449	478/461
	AD[1)]	[mm]	134/188	134/188	197/359	197/377
	AG[1)]	[mm]	202/290	202/290	165/296	165/296
	LL[1)]	[mm]	103/300	103/300	165/410	165/410
	P	[mm]	300	300	350	350
	C	[mm]	-	-	108	108
	B	[mm]	-	-	210	210
	A	[mm]	-	-	254	254
	K	[mm]	-	-	15	15
	Weight NBG[1)]	[kg]	86/93	86/96	124/172	133/201
	Weight NBG SS[1)]	[kg]	93/100	93/103	130/178	139/207

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

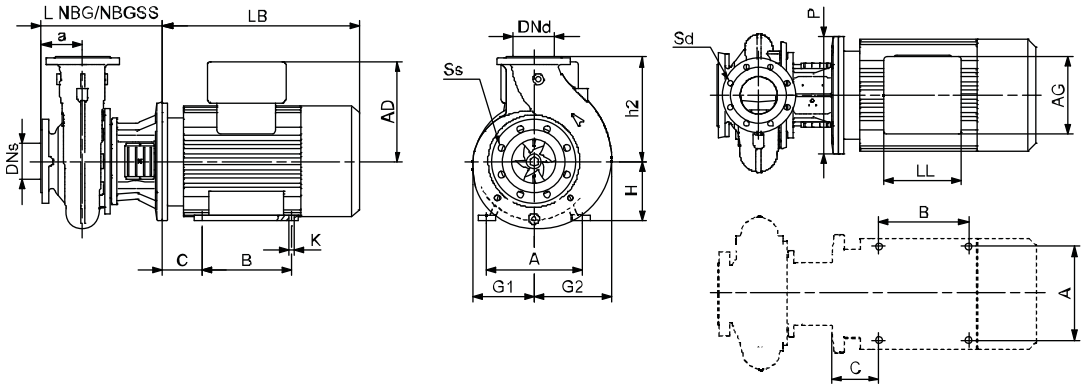
Note: For information about base frames, see page 236.

Performance curves



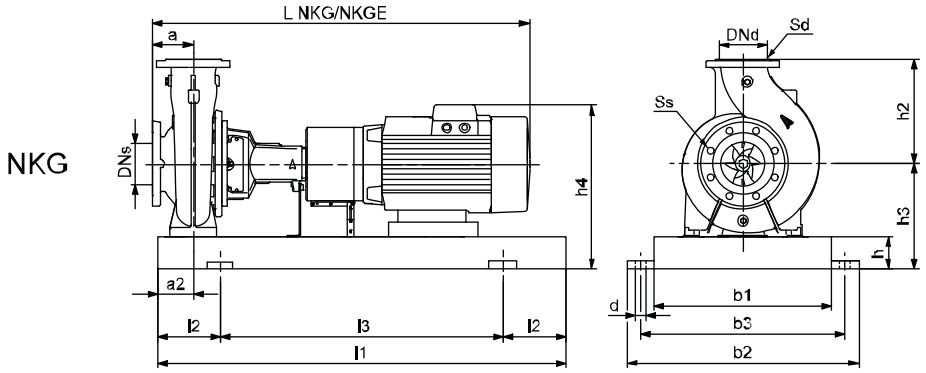
TM03 1912 1106

NBG



TM03 8009 0107

NKG



TM03 8011 0107

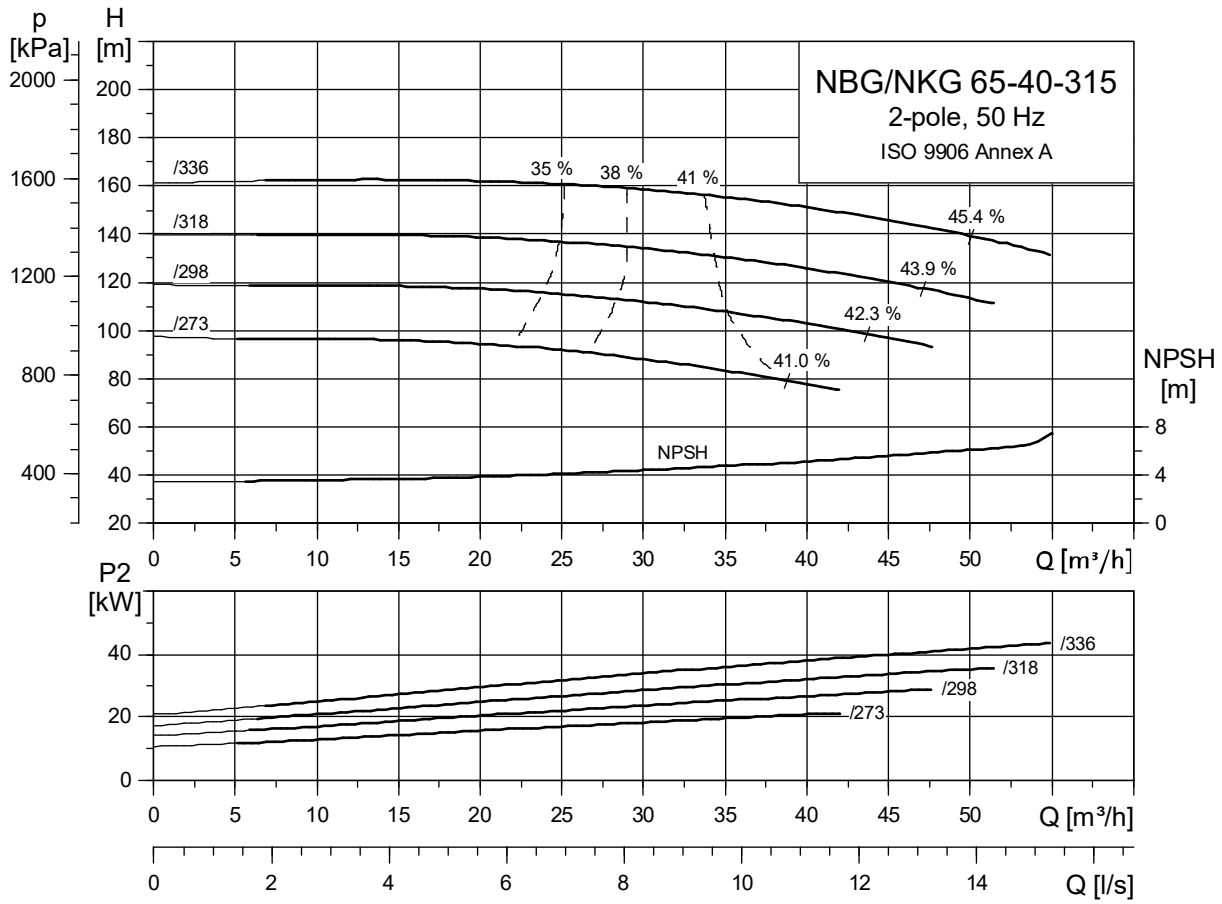
Pump type			65-40-250/211	65-40-250/230	65-40-250/245	65-40-250/255	65-40-250/260
Motor type	Premium Motor		Siemens 160M	Siemens 160M	Siemens 160L	Siemens 180M	Siemens 200L
	E-Motor		MMGE 160M	MMGE 160MX	MMGE 160L	MMGE 180M	-
Common data NBG/NKG	P_2	[kW]	11	15	18.5	22	30
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	65	65	65	65	65
	DNd	[mm]	40	40	40	40	40
	a	[mm]	100	100	100	100	100
	h2	[mm]	225	225	225	225	225
	Ss		4x19	4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	1192/1288	1192/1288	1232/1328	1316/1412	1373/1469
	L NKGE	[mm]	1163/1259	1175/1271	1213/1309	1239/1335	-/-
	Weight NKG	[mm]	244/239	253/248	273/268	302/294	447/441
	Weight NKGE	[kg]	292/287	321/316	352/347	383/375	-/-
	Weight NKG SS	[kg]	250/245	259/254	279/274	308/300	452/447
	Weight NKGE SS	[kg]	298/293	327/322	358/353	389/381	-/-
NKG data	l1	[kg]	1250	1250	1250	1250	1600
	l2	[mm]	205	205	205	205	270
	l3	[mm]	840	840	840	840	1060
	b1	[mm]	430	430	430	430	530
	b2	[mm]	540	540	540	540	660
	b3	[mm]	490	490	490	490	600
	d	[mm]	24	24	24	24	28
	a2	[mm]	75	75	75	75	75
	h	[mm]	80	80	80	80	100
	h3	[mm]	260	260	260	265	305
	h4[1)]	[mm]	197/359	197/377	197/377	258/399	305/-
	Base frame no.		6	6	6	6	8
NBG data	Design		B[2)]	B[2)]	B[2)]	B	B[2)]
	L NBG	[mm]	343	343	343	343	343
	L NBG SS	[mm]	343	343	343	343	343
	h1	[mm]	-	-	-	-	-
	G1	[mm]	164	164	164	164	164
	G2	[mm]	172	172	172	172	172
	m1	[mm]	-	-	-	-	-
	m2	[mm]	-	-	-	-	-
	n1	[mm]	-	-	-	-	-
	n2	[mm]	-	-	-	-	-
	b	[mm]	-	-	-	-	-
	s1	[mm]	-	-	-	-	-
	H	[mm]	160	160	160	180	200
	LB[1)]	[mm]	478/449	478/461	518/499	602/525	659/-
	AD[1)]	[mm]	197/359	197/377	197/377	258/399	305/-
	AG[1)]	[mm]	165/296	165/296	165/296	152/328	260/-
	LL[1)]	[mm]	165/410	165/410	165/410	132/456	192/-
	P	[mm]	350	350	350	350	400
	C	[mm]	108	108	108	121	133
	B	[mm]	210	210	254	241	305
	A	[mm]	254	254	254	279	318
	K	[mm]	15	15	15	15	19
	Weight NBG[1)]	[kg]	137/185	146/214	166/245	194/275	281/-
	Weight NBG SS[1)]	[kg]	139/187	148/216	168/247	197/278	284/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

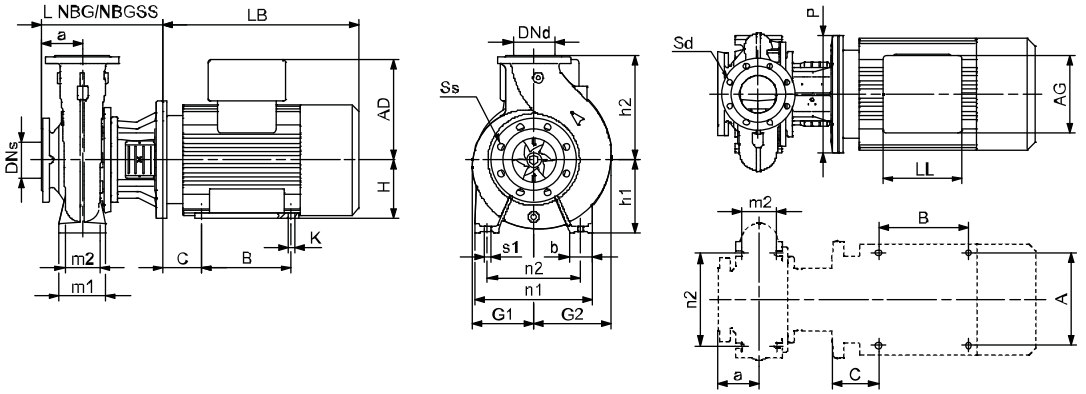
Note: For information about base frames, see page 236.

Performance curves



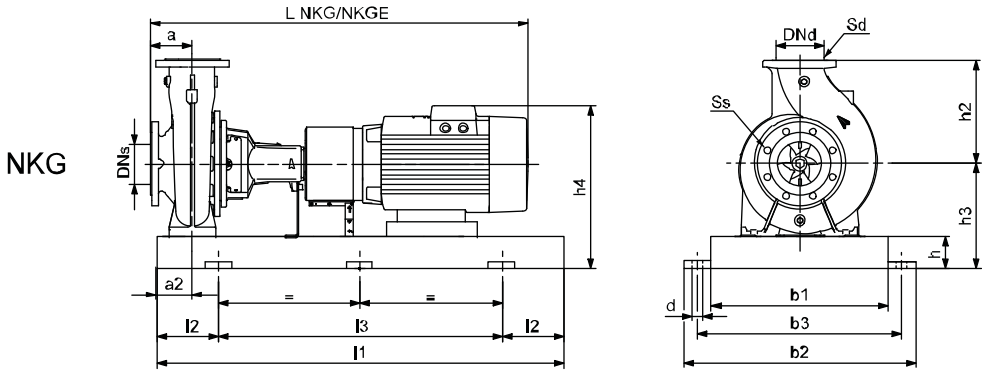
TM03 4913 4106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

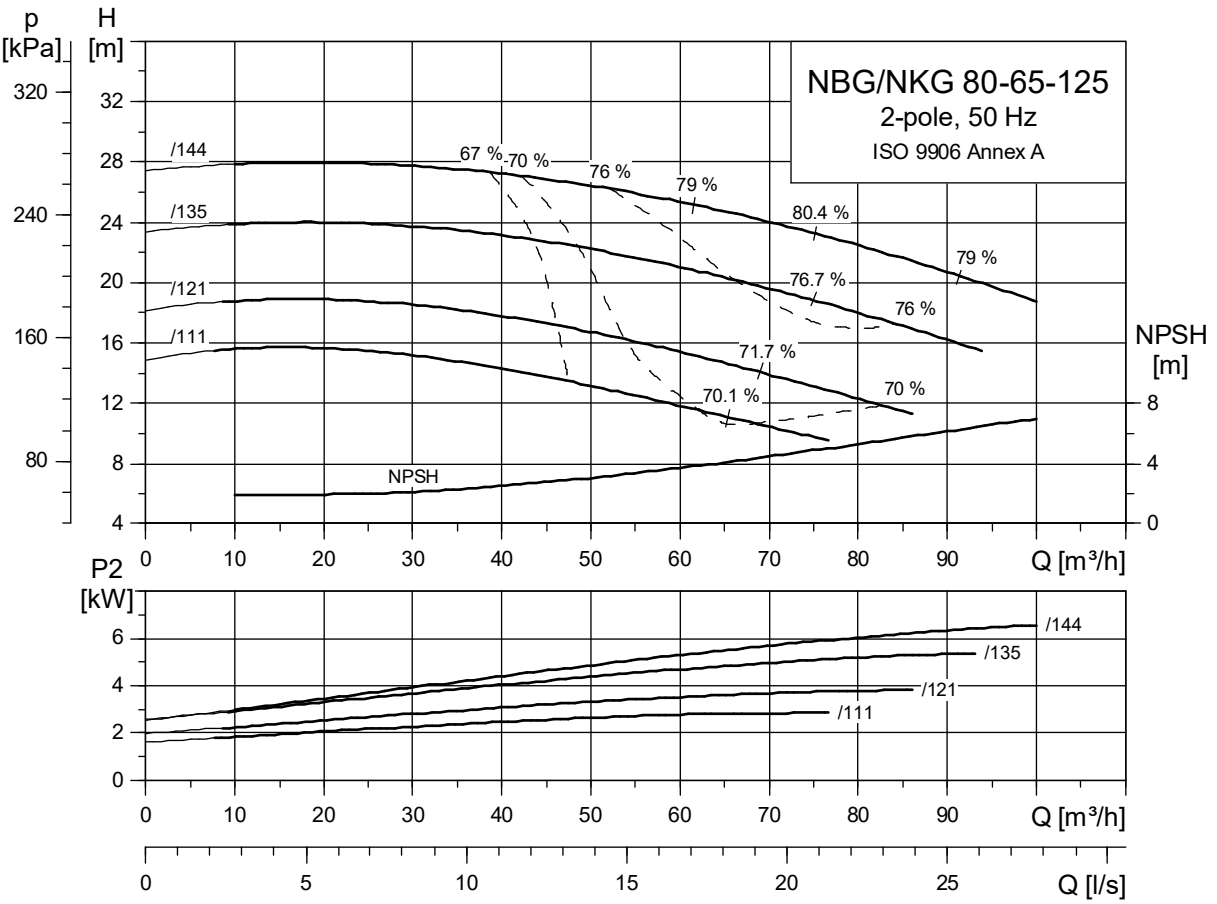
Pump type			65-40-315/273	65-40-315/298	65-40-315/318	65-40-315/336
Motor type	Premium Motor		Siemens 180M	Siemens 200L	Siemens 200L	Siemens 225M
	E-Motor		MMGE 180M	-	-	-
Common data NBG/NKG	P_2	[kW]	22	30	37	45
	PN	[bar]	16	16	16	16
	DNs	[mm]	65	65	65	65
	DNd	[mm]	40	40	40	40
	a	[mm]	125	125	125	125
	h2	[mm]	250	250	250	250
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	1341/1437	1398/1494	1398/1494	1448/1544
	L NKGE	[mm]	1264/1360	-/-	-/-	-/-
	Weight NKG	[mm]	352/344	487/482	487/482	608/603
	Weight NKGE	[kg]	433/425	-/-	-/-	-/-
	Weight NKG SS	[kg]	348/340	483/477	483/477	604/598
	Weight NKGE SS	[kg]	429/421	-/-	-/-	-/-
NKG data	l1	[kg]	1250	1600	1600	1600
	l2	[mm]	205	270	270	270
	l3	[mm]	840	1060	1060	1060
	b1	[mm]	430	530	530	530
	b2	[mm]	540	660	660	660
	b3	[mm]	490	600	600	600
	d	[mm]	24	28	28	28
	a2	[mm]	75	75	75	75
	h	[mm]	80	100	100	100
	h3	[mm]	280	305	305	330
	h4[1)]	[mm]	258/399	305/-	305/-	325/-
	Base frame no.		6	8	8	8
NBG data	Design		C[2)]	C[2)]	C[2)]	C[2)]
	L NBG	[mm]	398	398	398	428
	L NBG SS	[mm]	398	398	398	428
	h1	[mm]	200	200	200	200
	G1	[mm]	200	200	200	200
	G2	[mm]	206	206	206	206
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	345	345	345	345
	n2	[mm]	280	280	280	280
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	180	200	200	225
	LB[1)]	[mm]	602/525	659/-	659/-	709/-
	AD[1)]	[mm]	258/399	305/-	305/-	325/-
	AG[1)]	[mm]	152/328	260/-	260/-	260/-
	LL[1)]	[mm]	132/456	192/-	192/-	192/-
	P	[mm]	350	400	400	450
	C	[mm]	121	133	133	149
	B	[mm]	241	305	305	311
	A	[mm]	279	318	318	356
	K	[mm]	15	19	19	19
	Weight NBG[1)]	[kg]	238/319	328/-	328/-	453/-
	Weight NBG SS[1)]	[kg]	238/319	328/-	328/-	452/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

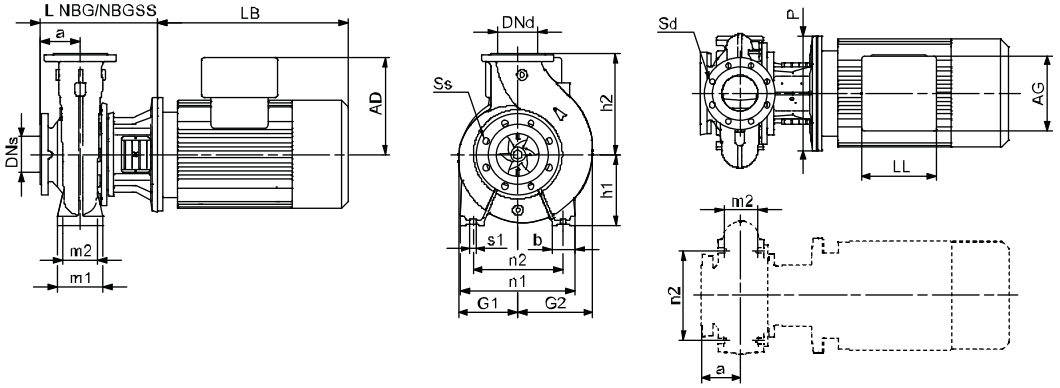
Note: For information about base frames, see page 236.

Performance curves



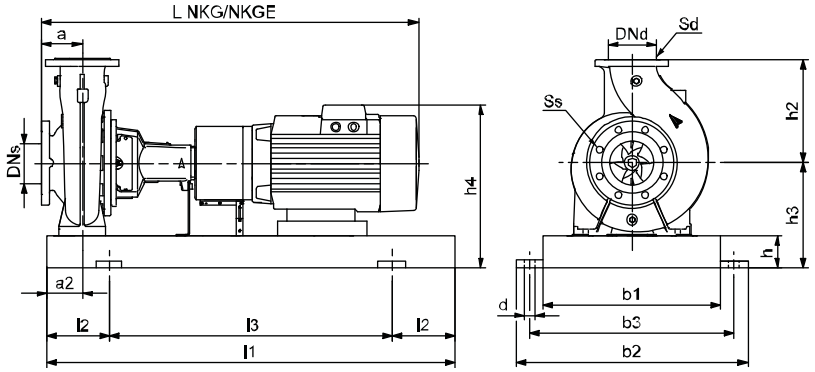
TM03 1911 1106

NBG



TM03 8008 0107

NKG



TM03 8011 0107

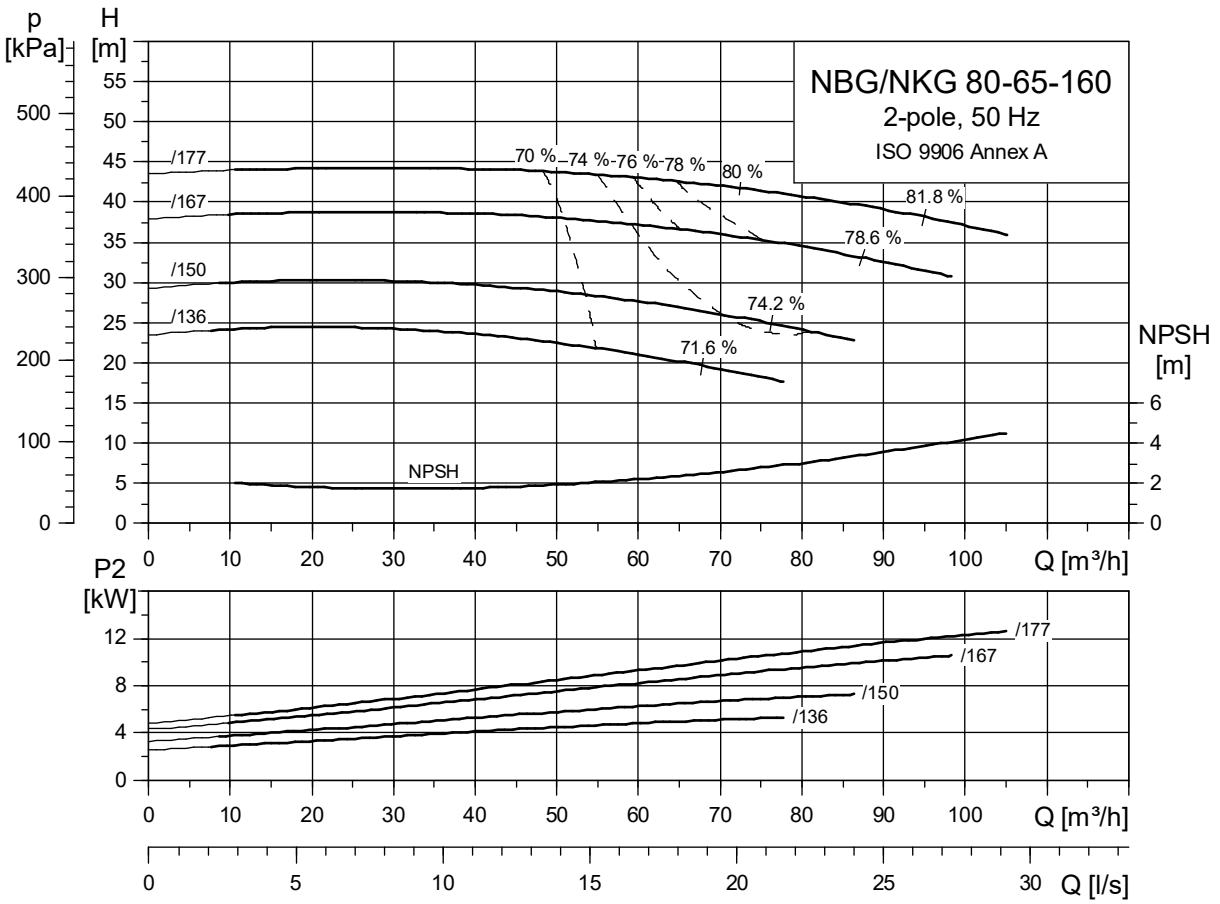
Pump type			80-65-125/111	80-65-125/121	80-65-125/135	80-65-125/144
Motor type	Premium Motor		MG 100LC-D	MG 112MC-D	MG 132SC-D	MG 132SD-D
	E-Motor		MGE 100LC	MGE 112MC	MGE 132SC	MGE 132SD
Common data NBG/NKG	P_2	[kW]	3	4	5.5	7.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	80	80	80	80
	DNd	[mm]	65	65	65	65
	a	[mm]	100	100	100	100
	h2	[mm]	160	160	160	160
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	884/980	921/1017	966/1056	966/1056
	L NKGE	[mm]	884/980	921/1017	966/1056	966/1056
	Weight NKG	[mm]	137/135	153/151	163/159	163/159
	Weight NKGE	[kg]	145/143	153/151	169/166	172/169
	Weight NKG SS	[kg]	138/136	153/151	163/160	163/160
	Weight NKGE SS	[kg]	146/144	154/152	170/166	173/170
NKG data	l1	[kg]	1000	1000	1120	1120
	l2	[mm]	170	170	190	190
	l3	[mm]	660	660	740	740
	b1	[mm]	340	340	380	380
	b2	[mm]	450	450	490	490
	b3	[mm]	400	400	440	440
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	212	212	215	215
	h4[1)]	[mm]	120/177	134/188	134/188	134/188
	Base frame no.		4	4	5	5
NBG data	Design		A	A	A[2)]	A[2)]
	L NBG	[mm]	274	274	313	313
	L NBG SS	[mm]	293	293	313	313
	h1	[mm]	132	132	132	132
	G1	[mm]	117	117	117	117
	G2	[mm]	131	131	131	131
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB[1)]	[mm]	335/335	372/372	391/391	391/391
	AD[1)]	[mm]	120/177	134/188	134/188	134/188
	AG[1)]	[mm]	162/264	202/290	202/290	202/290
	LL[1)]	[mm]	103/260	103/300	103/300	103/300
	P	[mm]	250	250	300	300
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG[1)]	[kg]	62/70	80/80	85/92	85/95
	Weight NBG SS[1)]	[kg]	65/73	83/84	87/93	87/97

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

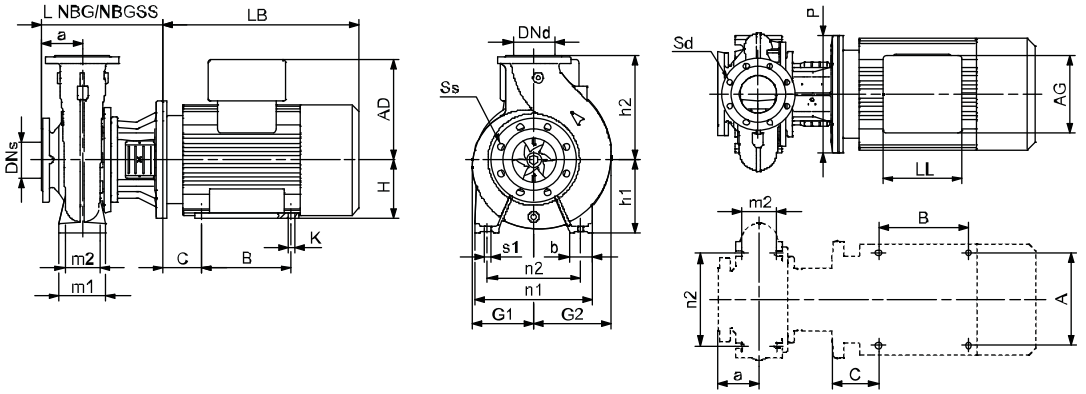
Note: For information about base frames, see page 236.

Performance curves



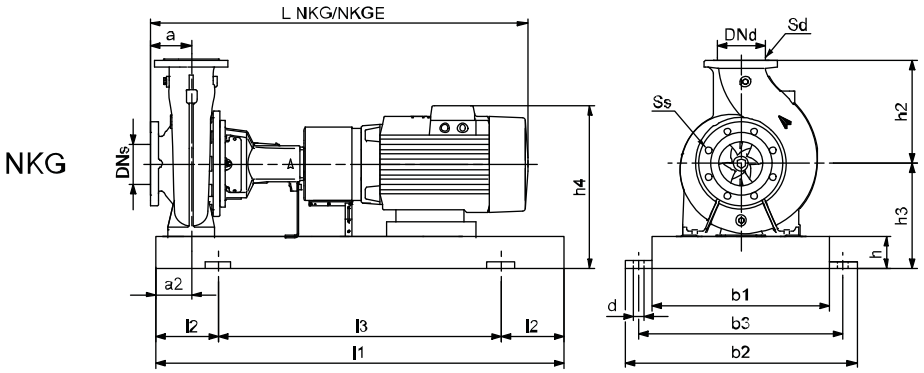
TM03 4915 4106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

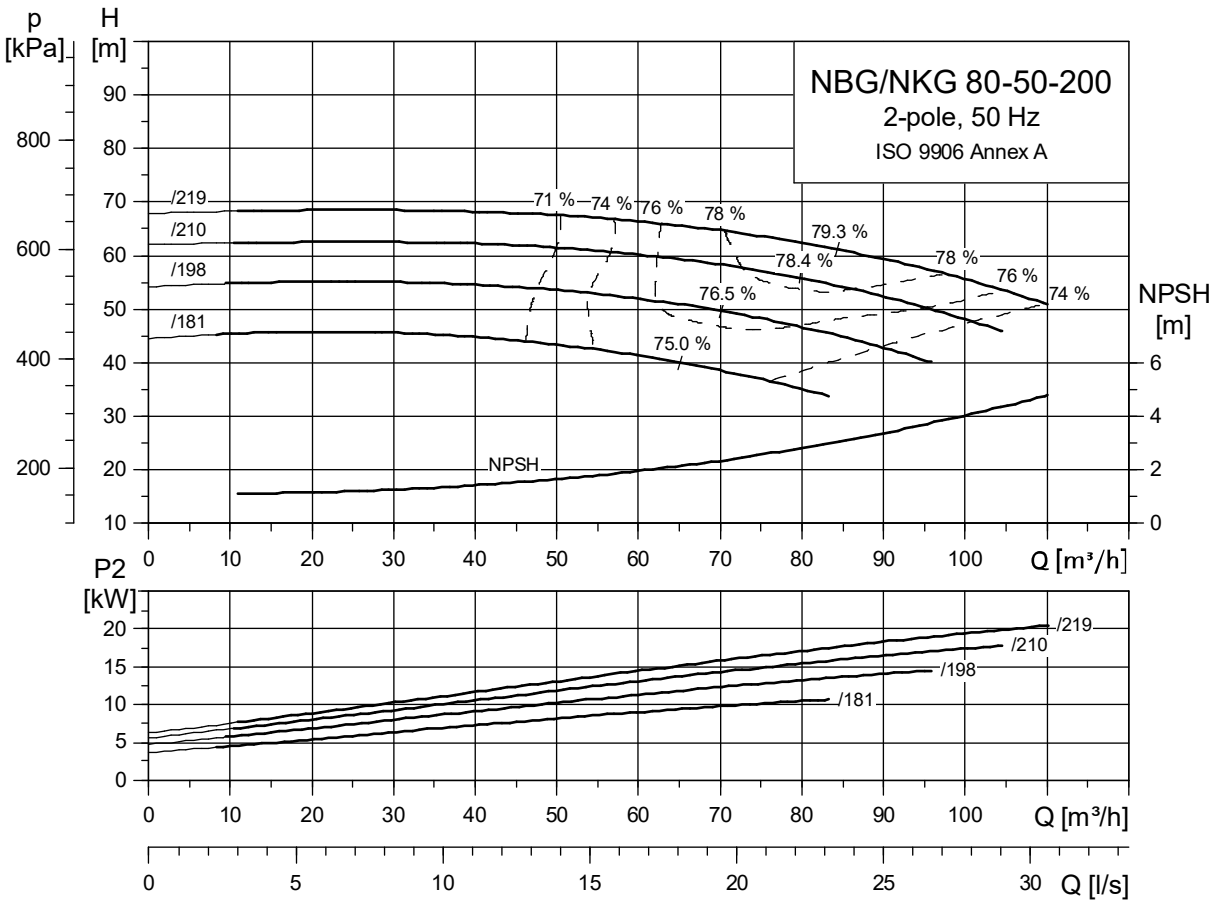
Pump type			80-65-160/136	80-65-160/150	80-65-160/167	80-65-160/177
Motor type	Premium Motor		MG 132SC-D	MG 132SD-D	Siemens 160M	Siemens 160M
	E-Motor		MGE 132SC	MGE 132SD	MMGE 160M	MMGE 160MX
Common data NBG/NKG	P_2	[kW]	5.5	7.5	11	15
	PN	[bar]	16	16	16	16
	DNs	[mm]	80	80	80	80
	DNd	[mm]	65	65	65	65
	a	[mm]	100	100	100	100
	h2	[mm]	180	180	180	180
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	966/1056	966/1056	1090/1173	1090/1173
	L NKGE	[mm]	966/1056	966/1056	1061/1144	1073/1156
	Weight NKG	[mm]	171/167	171/167	215/210	224/219
	Weight NKGE	[kg]	177/174	180/177	263/258	292/287
	Weight NKG SS	[kg]	172/168	172/168	216/211	225/220
	Weight NKGE SS	[kg]	178/175	181/178	264/259	293/288
NKG data	l1	[kg]	1120	1120	1250	1250
	l2	[mm]	190	190	205	205
	l3	[mm]	740	740	840	840
	b1	[mm]	380	380	430	430
	b2	[mm]	490	490	540	540
	b3	[mm]	440	440	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	240	240	245	245
	h4 [1]	[mm]	134/188	134/188	197/359	197/377
	Base frame no.		5	5	6	6
NBG data	Design		A	A	B [2]	B [2]
	L NBG	[mm]	313	313	343	343
	L NBG SS	[mm]	313	313	343	343
	h1	[mm]	160	160	-	-
	G1	[mm]	125	125	125	125
	G2	[mm]	151	151	151	151
	m1	[mm]	100	100	-	-
	m2	[mm]	70	70	-	-
	n1	[mm]	264	264	-	-
	n2	[mm]	212	212	-	-
	b	[mm]	50	50	-	-
	s1	[mm]	M12	M12	-	-
	H	[mm]	-	-	160	160
	LB [1]	[mm]	391/391	391/391	478/449	478/461
	AD [1]	[mm]	134/188	134/188	197/359	197/377
	AG [1]	[mm]	202/290	202/290	165/296	165/296
	LL [1]	[mm]	103/300	103/300	165/410	165/410
	P	[mm]	300	300	350	350
	C	[mm]	-	-	108	108
	B	[mm]	-	-	210	210
	A	[mm]	-	-	254	254
	K	[mm]	-	-	15	15
	Weight NBG [1]	[kg]	88/94	88/98	123/171	132/200
	Weight NBG SS [1]	[kg]	90/96	90/100	125/173	134/202

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

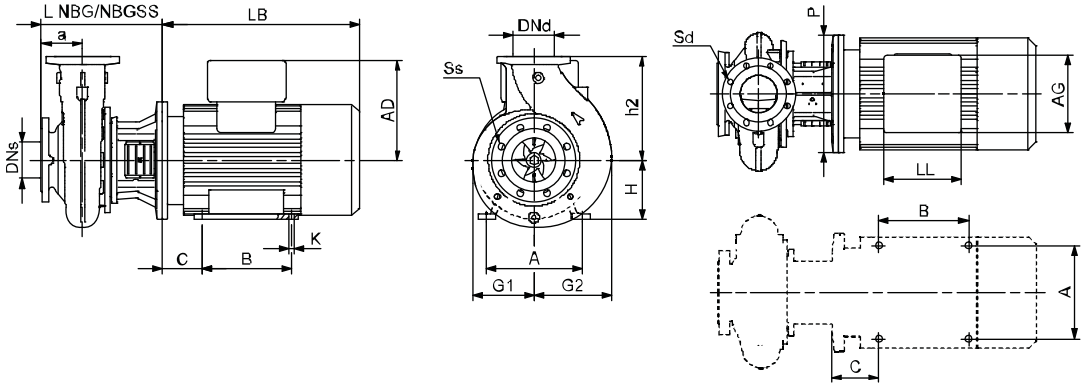
Note: For information about base frames, see page 236.

Performance curves



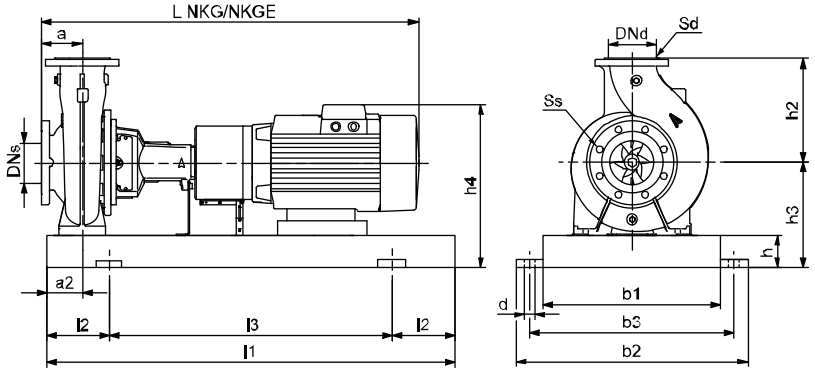
TM03 1916 1106

NBG



TM03 8009 0107

NKG



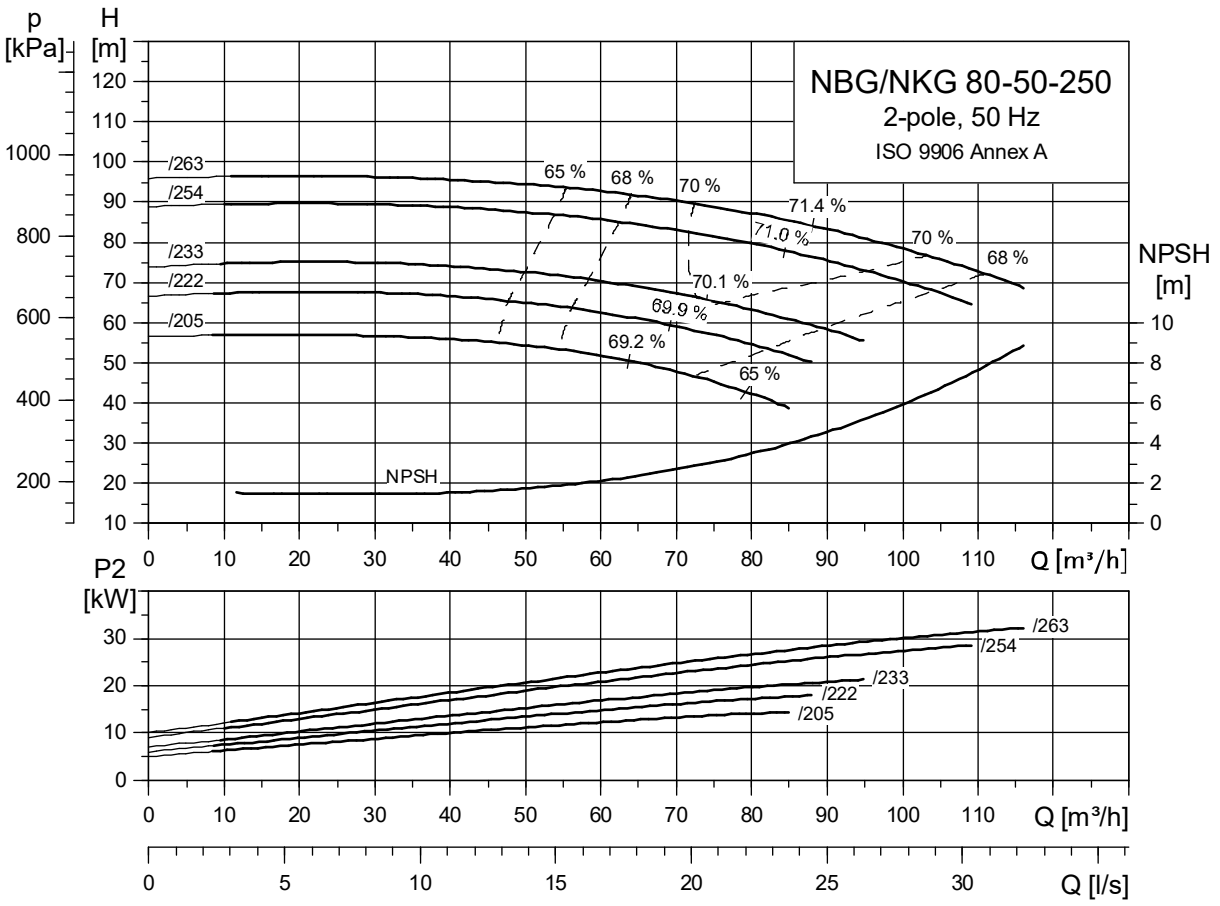
TM03 8011 0107

Pump type			80-50-200/181	80-50-200/198	80-50-200/210	80-50-200/219
Motor type	Premium Motor		Siemens 160M	Siemens 160M	Siemens 160L	Siemens 180M
	E-Motor		MMGE 160M	MMGE 160MX	MMGE 160L	MMGE 180M
Common data NBG/NKG	P_2	[kW]	11	15	18.5	22
	PN	[bar]	16	16	16	16
	DNs	[mm]	80	80	80	80
	DNd	[mm]	50	50	50	50
	a	[mm]	100	100	100	100
	h2	[mm]	200	200	200	200
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	1090/1173	1090/1173	1130/1213	1222/1297
	L NKGE	[mm]	1061/1144	1073/1156	1111/1194	1145/1220
	Weight NKG	[mm]	221/215	230/224	250/244	287/278
	Weight NKGE	[kg]	269/263	298/292	329/323	368/359
	Weight NKG SS	[kg]	222/216	231/225	251/245	288/280
	Weight NKGE SS	[kg]	270/264	299/293	330/324	369/361
NKG data	l1	[kg]	1250	1250	1250	1250
	l2	[mm]	205	205	205	205
	l3	[mm]	840	840	840	840
	b1	[mm]	430	430	430	430
	b2	[mm]	540	540	540	540
	b3	[mm]	490	490	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	245	245	245	265
	h4[1)]	[mm]	197/359	197/377	197/377	258/399
	Base frame no.		6	6	6	6
NBG data	Design		B[2)]	B[2)]	B[2)]	B
	L NBG	[mm]	343	343	343	343
	L NBG SS	[mm]	343	343	343	343
	h1	[mm]	-	-	-	-
	G1	[mm]	142	142	142	142
	G2	[mm]	163	163	163	163
	m1	[mm]	-	-	-	-
	m2	[mm]	-	-	-	-
	n1	[mm]	-	-	-	-
	n2	[mm]	-	-	-	-
	b	[mm]	-	-	-	-
	s1	[mm]	-	-	-	-
	H	[mm]	160	160	160	180
	LB[1)]	[mm]	478/449	478/461	518/499	602/525
	AD[1)]	[mm]	197/359	197/377	197/377	258/399
	AG[1)]	[mm]	165/296	165/296	165/296	152/328
	LL[1)]	[mm]	165/410	165/410	165/410	132/456
	P	[mm]	350	350	350	350
	C	[mm]	108	108	108	121
	B	[mm]	210	210	254	241
	A	[mm]	254	254	254	279
	K	[mm]	15	15	15	15
	Weight NBG[1)]	[kg]	128/176	137/205	157/236	186/267
	Weight NBG SS[1)]	[kg]	132/180	141/209	161/240	190/271

1) Dimension of pump with premium range motor/built-in frequency converter.

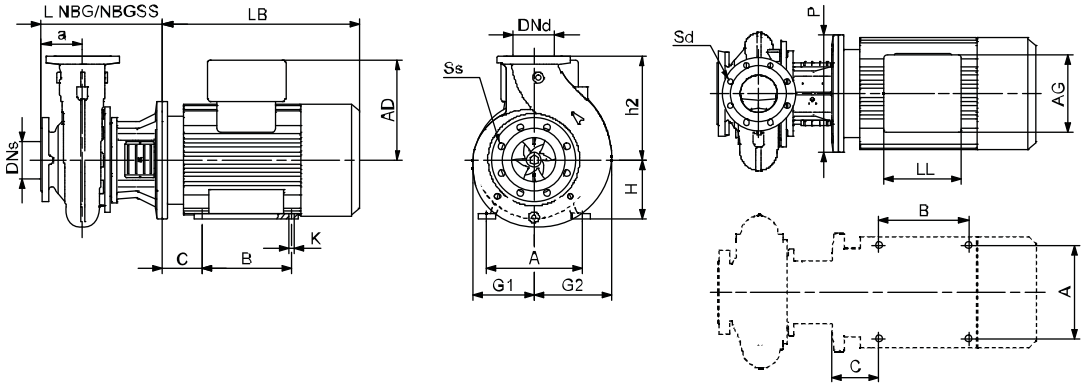
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.



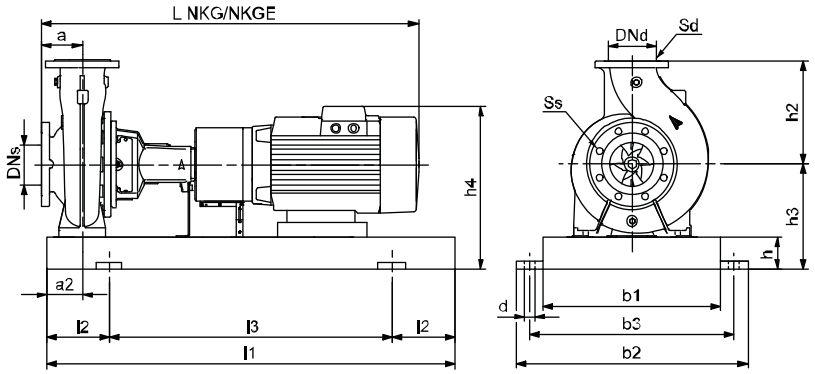
TM03 1917 1106

NBG



TM03 8009 0107

NKG



TM03 8011 0107

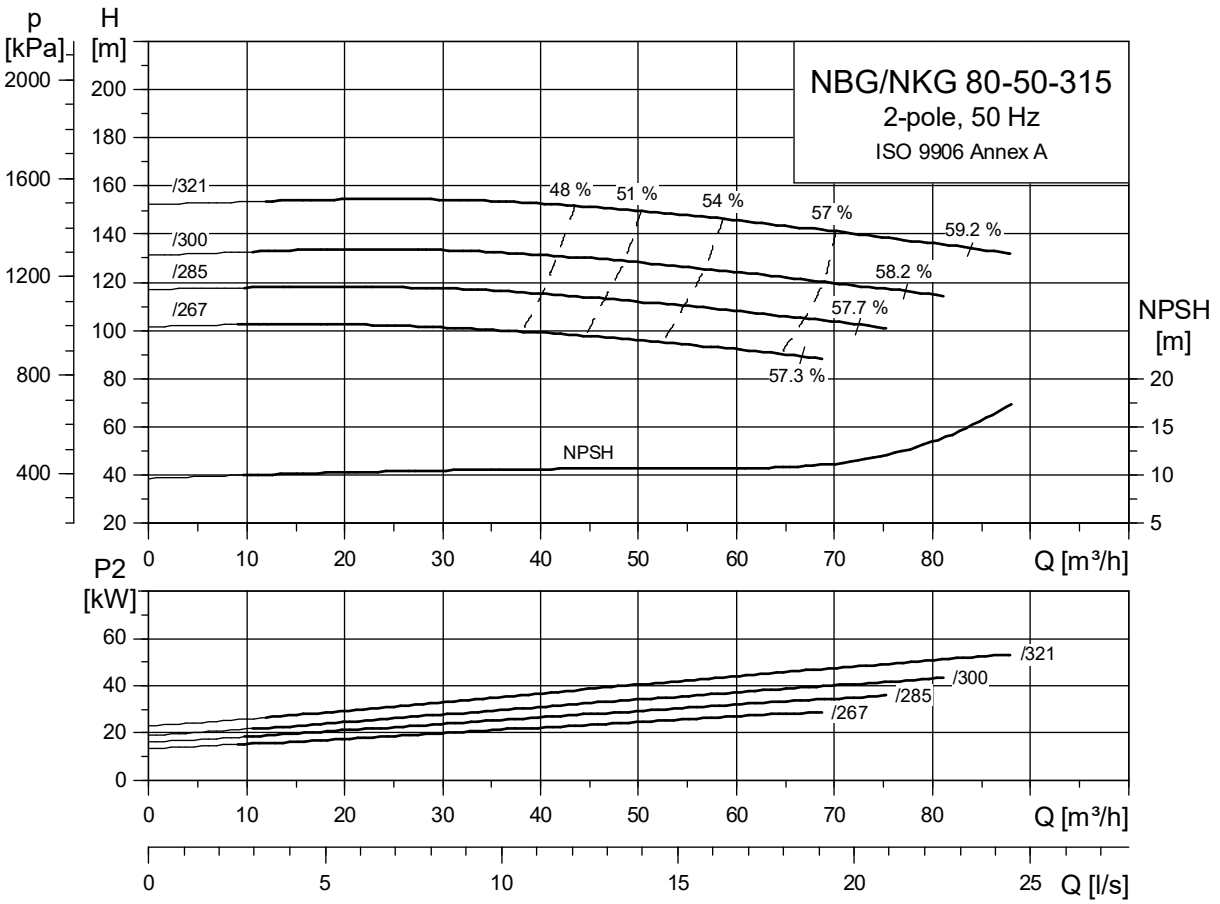
Pump type			80-50-250/205	80-50-250/222	80-50-250/233	80-50-250/254	80-50-250/263
Motor type	Premium Motor		Siemens 160M	Siemens 160L	Siemens 180M	Siemens 200L	Siemens 200L
	E-Motor		MMGE 160MX	MMGE 160L	MMGE 180M	-	-
Common data NBG/NKG	P_2	[kW]	15	18.5	22	30	37
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	80	80	80	80	80
	DNd	[mm]	50	50	50	50	50
	a	[mm]	125	125	125	125	125
	h2	[mm]	225	225	225	225	225
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	1217/1313	1257/1353	1341/1437	1398/1494	1398/1494
	L NKGE	[mm]	1200/1296	1238/1334	1264/1360	-/-	-/-
	Weight NKG	[mm]	263/258	283/278	312/304	456/451	456/451
	Weight NKGE	[kg]	331/326	362/357	393/385	-/-	-/-
	Weight NKG SS	[kg]	267/262	287/282	316/308	461/455	461/455
	Weight NKGE SS	[kg]	335/330	366/361	397/389	-/-	-/-
NKG data	l1	[kg]	1250	1250	1250	1600	1600
	l2	[mm]	205	205	205	270	270
	l3	[mm]	840	840	840	1060	1060
	b1	[mm]	430	430	430	530	530
	b2	[mm]	540	540	540	660	660
	b3	[mm]	490	490	490	600	600
	d	[mm]	24	24	24	28	28
	a2	[mm]	75	75	75	75	75
	h	[mm]	80	80	80	100	100
	h3	[mm]	260	260	265	305	305
	h4[1)]	[mm]	197/377	197/377	258/399	305/-	305/-
	Base frame no.		6	6	6	8	8
NBG data	Design		B[2)]	B[2)]	B	B[2)]	B[2)]
	L NBG	[mm]	368	368	368	368	368
	L NBG SS	[mm]	368	368	368	368	368
	h1	[mm]	-	-	-	-	-
	G1	[mm]	164	164	164	164	164
	G2	[mm]	180	180	180	180	180
	m1	[mm]	-	-	-	-	-
	m2	[mm]	-	-	-	-	-
	n1	[mm]	-	-	-	-	-
	n2	[mm]	-	-	-	-	-
	b	[mm]	-	-	-	-	-
	s1	[mm]	-	-	-	-	-
	H	[mm]	160	160	180	200	200
	LB[1)]	[mm]	478/461	518/499	602/525	659/-	659/-
	AD[1)]	[mm]	197/377	197/377	258/399	305/-	305/-
	AG[1)]	[mm]	165/296	165/296	152/328	260/-	260/-
	LL[1)]	[mm]	165/410	165/410	132/456	192/-	192/-
	P	[mm]	350	350	350	400	400
	C	[mm]	108	108	121	133	133
	B	[mm]	210	254	241	305	305
	A	[mm]	254	254	279	318	318
	K	[mm]	15	15	15	19	19
	Weight NBG[1)]	[kg]	153/221	173/252	201/282	289/-	289/-
	Weight NBG SS[1)]	[kg]	156/224	176/255	205/286	292/-	292/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

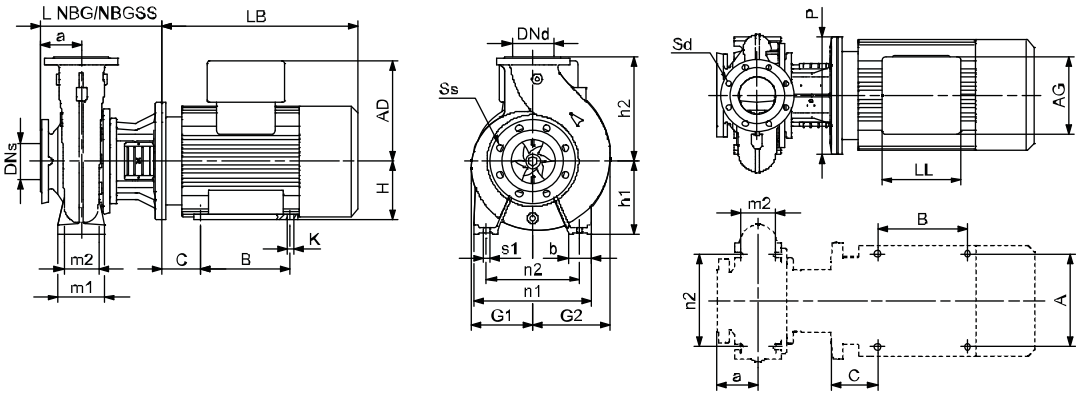
Note: For information about base frames, see page 236.

Performance curves



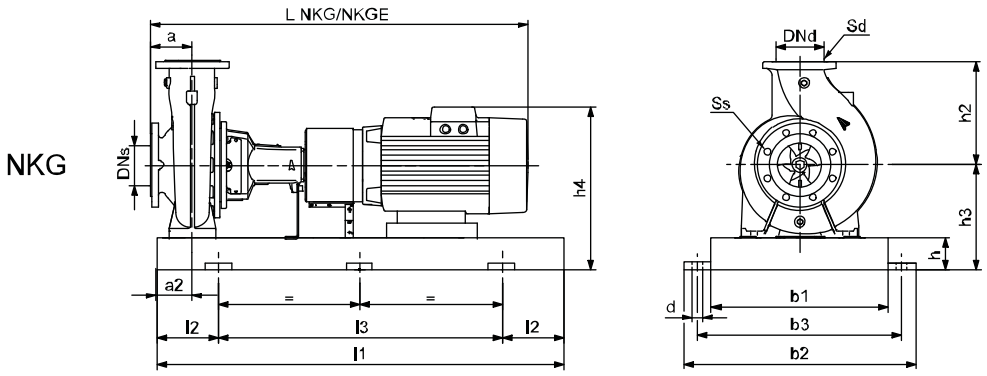
TM03 1918 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

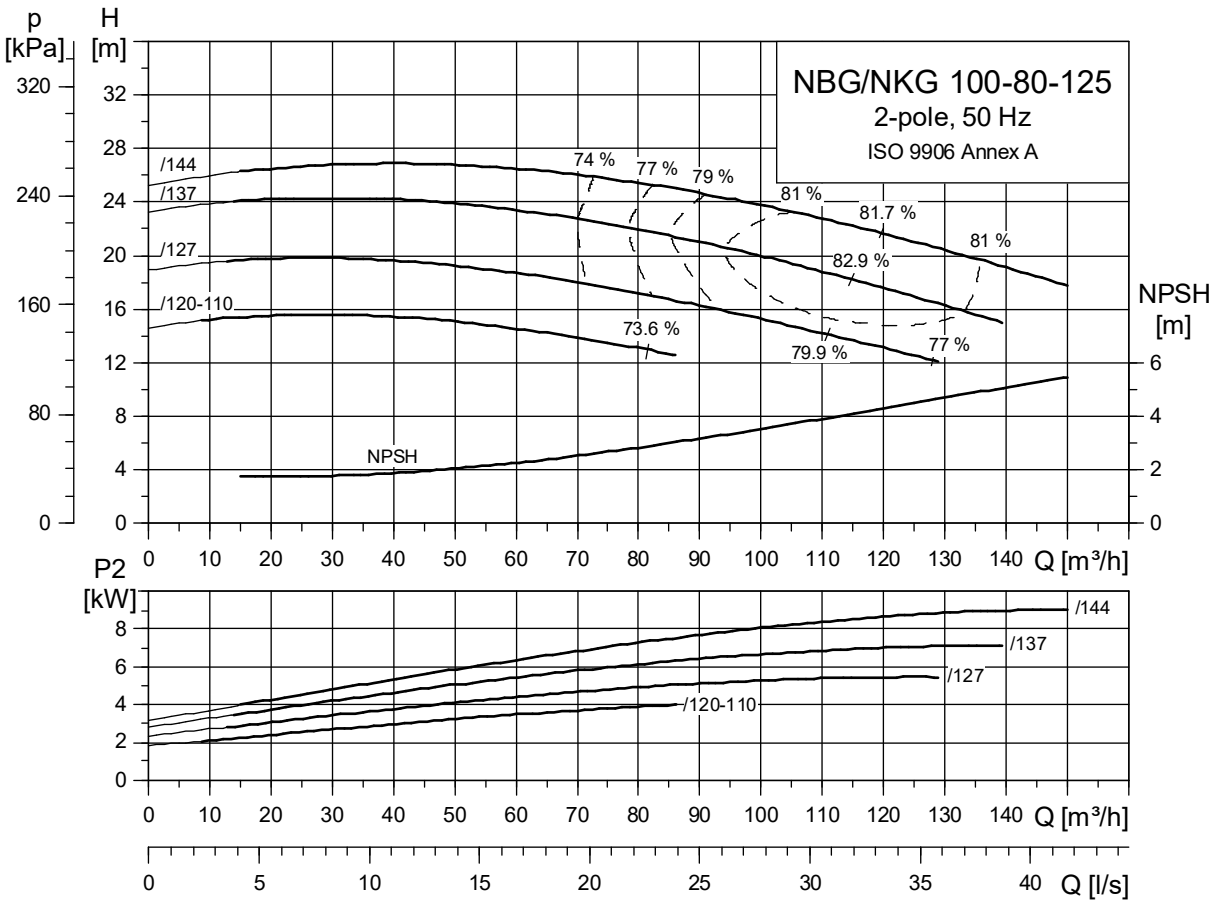
Pump type			80-50-315/267	80-50-315/285	80-50-315/300	80-50-315/321
Motor type	Premium Motor		Siemens 200L	Siemens 200L	Siemens 225M	Siemens 250M
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	30	37	45	55
	PN	[bar]	16	16	16	16
	DNs	[mm]	80	80	80	80
	DNd	[mm]	50	50	50	50
	a	[mm]	125	125	125	125
	h2	[mm]	280	280	280	280
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	1398/1494	1398/1494	1448/1544	1516/1612
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	508/502	508/502	610/605	741/736
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	502/496	502/496	604/599	735/730
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1600	1600	1600	1800
	l2	[mm]	270	270	270	300
	l3	[mm]	1060	1060	1060	1200
	b1	[mm]	530	530	530	600
	b2	[mm]	660	660	660	730
	b3	[mm]	600	600	600	670
	d	[mm]	28	28	28	28
	a2	[mm]	75	75	75	75
	h	[mm]	100	100	100	100
	h3	[mm]	325	325	330	355
	$h4^{1)}$	[mm]	305/-	305/-	325/-	392/-
	Base frame no.		8	8	8	9
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	398	398	428	428
	L NBG SS	[mm]	398	398	428	428
	h1	[mm]	225	225	225	225
	G1	[mm]	203	203	203	203
	G2	[mm]	214	214	214	214
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	345	345	345	345
	n2	[mm]	280	280	280	280
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	200	200	225	250
	$LB^{1)}$	[mm]	659/-	659/-	709/-	747/-
	$AD^{1)}$	[mm]	305/-	305/-	325/-	392/-
	$AG^{1)}$	[mm]	260/-	260/-	260/-	300/-
	$LL^{1)}$	[mm]	192/-	192/-	192/-	236/-
	P	[mm]	400	400	450	550
	C	[mm]	133	133	149	168
	B	[mm]	305	305	311	349
	A	[mm]	318	318	356	406
	K	[mm]	19	19	19	24
	Weight $NBG^{1)}$	[kg]	336/-	336/-	460/-	566/-
	Weight NBG $SS^{1)}$	[kg]	334/-	334/-	457/-	559/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

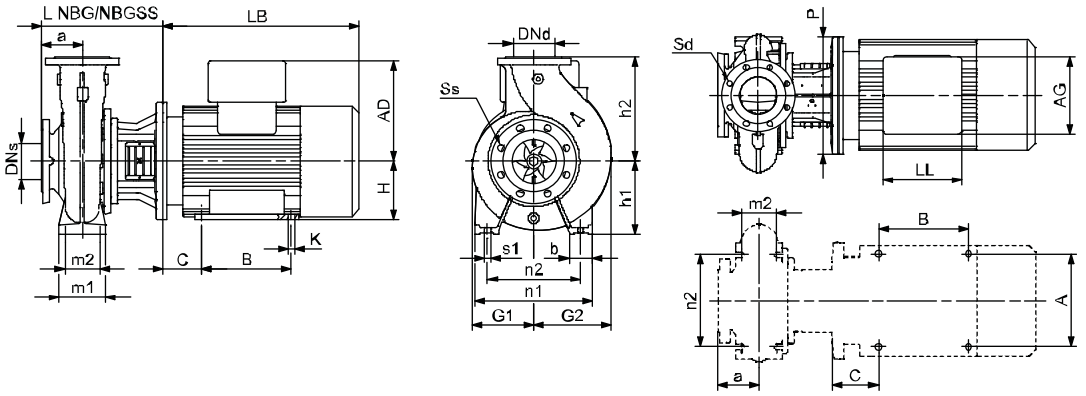
Note: For information about base frames, see page 236.

Performance curves



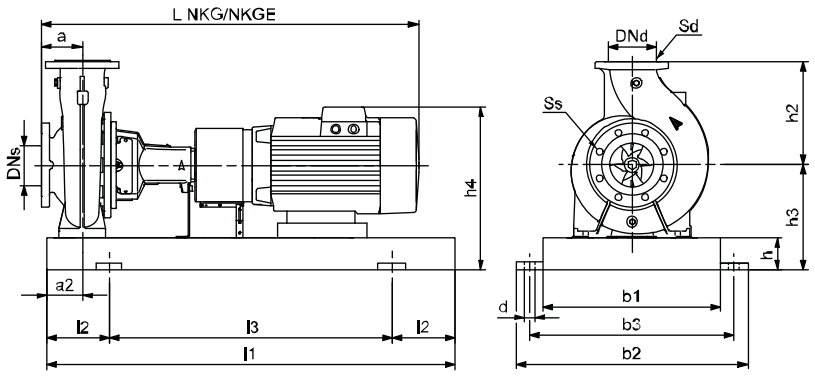
TM03 1919 1106

NBG



TM03 8010 0107

NKG



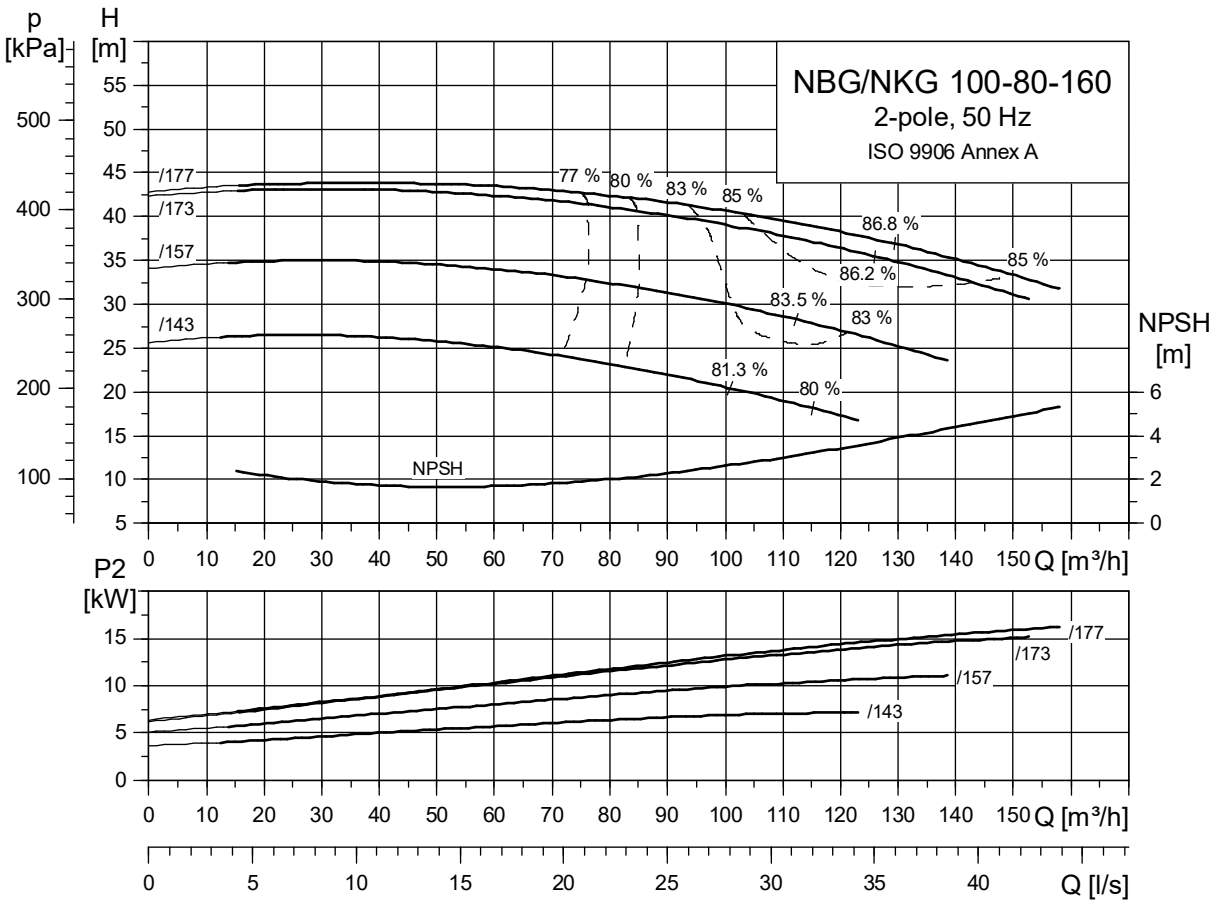
TM03 8011 0107

Pump type			100-80-125/120-110	100-80-125/127	100-80-125/137	100-80-125/144
Motor type	Premium Motor		MG 112MC-D	MG 132SC-D	MG 132SD-D	Siemens 160M
	E-Motor		MGE 112MC	MGE 132SC	MGE 132SD	MMGE 160M
Common data NBG/NKG	P_2	[kW]	4	5.5	7.5	11
	PN	[bar]	16	16	16	16
	DNs	[mm]	100	100	100	100
	DNd	[mm]	80	80	80	80
	a	[mm]	100	100	100	100
	h2	[mm]	180	180	180	180
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	921/1017	966/1056	966/1056	1090/1173
	L NKGE	[mm]	921/1017	966/1056	966/1056	1061/1144
	Weight NKG	[mm]	165/163	173/169	173/169	218/212
	Weight NKGE	[kg]	165/163	179/176	183/179	266/260
	Weight NKG SS	[kg]	165/163	173/170	173/170	218/212
	Weight NKGE SS	[kg]	166/164	180/177	183/180	266/260
NKG data	l1	[kg]	1000	1120	1120	1250
	l2	[mm]	170	190	190	205
	l3	[mm]	660	740	740	840
	b1	[mm]	340	380	380	430
	b2	[mm]	450	490	490	540
	b3	[mm]	400	440	440	490
	d	[mm]	24	24	24	24
	a2	[mm]	75	75	75	75
	h	[mm]	80	80	80	80
	h3	[mm]	240	240	240	245
	h4[1)]	[mm]	134/188	134/188	134/188	197/359
	Base frame no.		4	5	5	6
NBG data	Design		A	A	A	C[2)]
	L NBG	[mm]	274	313	313	343
	L NBG SS	[mm]	293	313	313	343
	h1	[mm]	160	160	160	160
	G1	[mm]	117	117	117	117
	G2	[mm]	146	146	146	146
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	280	280	280	280
	n2	[mm]	212	212	212	212
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	160
	LB[1)]	[mm]	372/372	391/391	391/391	478/449
	AD[1)]	[mm]	134/188	134/188	134/188	197/359
	AG[1)]	[mm]	202/290	202/290	202/290	165/296
	LL[1)]	[mm]	103/300	103/300	103/300	165/410
	P	[mm]	250	300	300	350
	C	[mm]	-	-	-	108
	B	[mm]	-	-	-	210
	A	[mm]	-	-	-	254
	K	[mm]	-	-	-	15
	Weight NBG[1)]	[kg]	84/85	90/97	90/100	127/175
	Weight NBG SS[1)]	[kg]	88/88	91/98	91/101	130/178

1) Dimension of pump with premium range motor/built-in frequency converter.

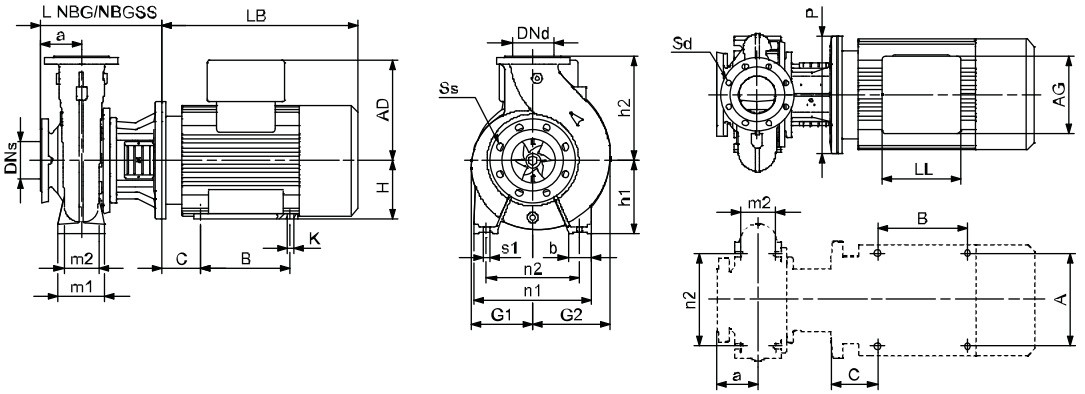
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.



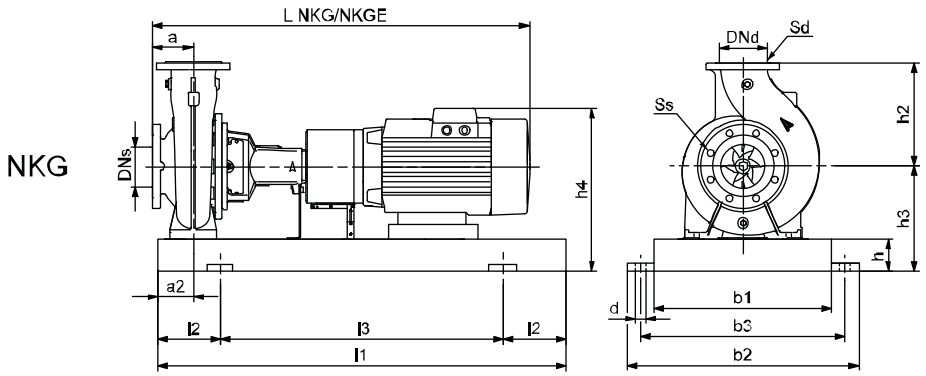
TM03 1920 1106

NBG



TM03 8010 0107

NKG



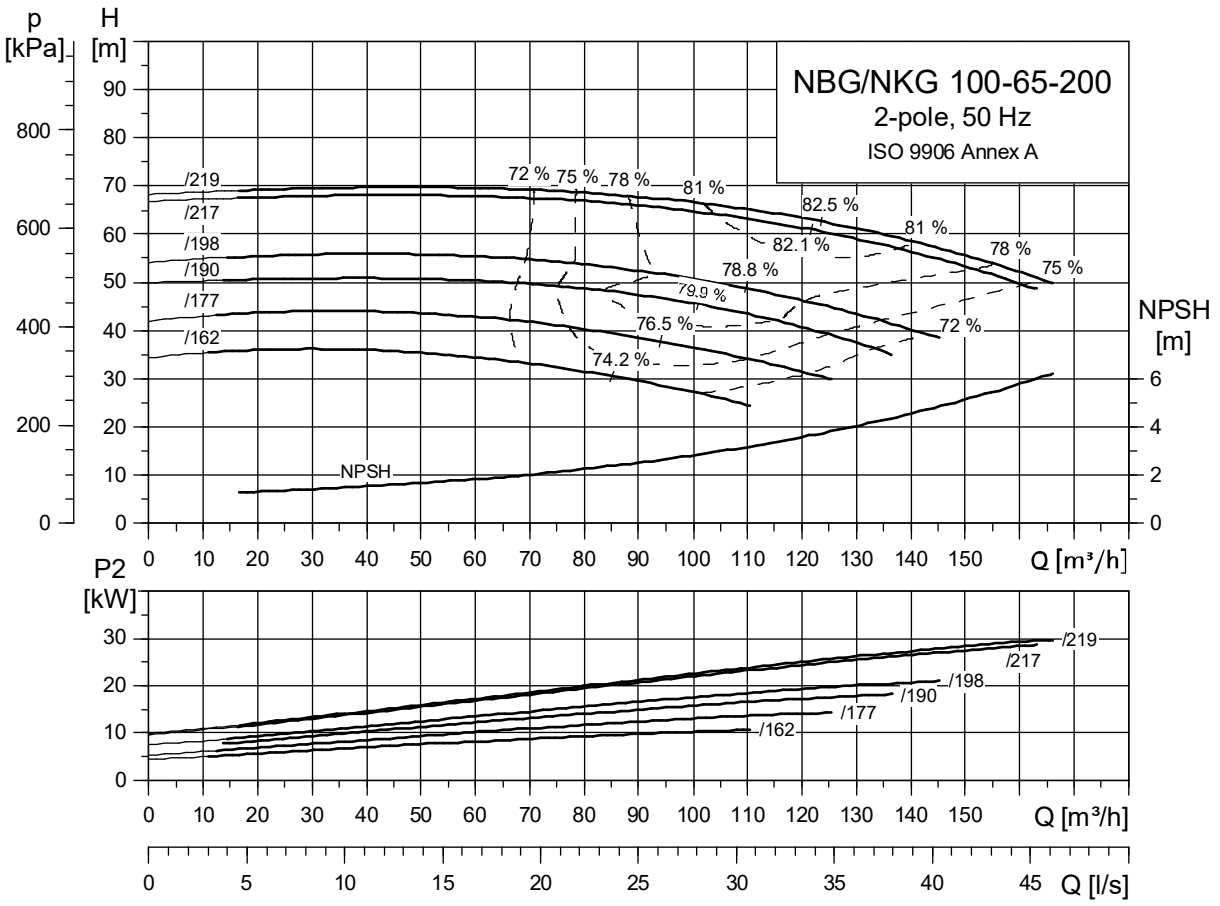
TM03 8011 0107

Pump type			100-80-160/143	100-80-160/157	100-80-160/173	100-80-160/177
Motor type	Premium Motor		MG 132SD-D	Siemens 160M	Siemens 160M	Siemens 160L
	E-Motor		MGE 132SD	MMGE 160M	MMGE 160MX	MMGE 160L
Common data NBG/NKG	P_2	[kW]	7.5	11	15	18.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	100	100	100	100
	DNd	[mm]	80	80	80	80
	a	[mm]	100	100	100	100
	h2	[mm]	200	200	200	200
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1075/1171	1192/1288	1192/1288	1232/1328
	L NKGE	[mm]	1075/1171	1163/1259	1175/1271	1213/1309
	Weight NKG	[mm]	192/189	236/231	245/240	265/260
	Weight NKGE	[kg]	201/198	284/279	313/308	344/339
	Weight NKG SS	[kg]	192/189	237/232	246/241	266/261
	Weight NKGE SS	[kg]	202/199	285/280	314/309	345/340
NKG data	l1	[kg]	1120	1250	1250	1250
	l2	[mm]	190	205	205	205
	l3	[mm]	740	840	840	840
	b1	[mm]	380	430	430	430
	b2	[mm]	490	540	540	540
	b3	[mm]	440	490	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	75	75	75	75
	h	[mm]	80	80	80	80
	h3	[mm]	240	245	245	245
	h4 [1]	[mm]	134/188	197/359	197/377	197/377
	Base frame no.		5	6	6	6
NBG data	Design		A	B [2]	B [2]	B [2]
	L NBG	[mm]	313	343	343	343
	L NBG SS	[mm]	313	343	343	343
	h1	[mm]	160	-	-	-
	G1	[mm]	127	127	127	127
	G2	[mm]	161	161	161	161
	m1	[mm]	125	-	-	-
	m2	[mm]	95	-	-	-
	n1	[mm]	280	-	-	-
	n2	[mm]	212	-	-	-
	b	[mm]	65	-	-	-
	s1	[mm]	M12	-	-	-
	H	[mm]	-	160	160	160
	LB [1]	[mm]	391/391	478/449	478/461	518/499
	AD [1]	[mm]	134/188	197/359	197/377	197/377
	AG [1]	[mm]	202/290	165/296	165/296	165/296
	LL [1]	[mm]	103/300	165/410	165/410	165/410
	P	[mm]	300	350	350	350
	C	[mm]	-	108	108	108
	B	[mm]	-	210	210	254
	A	[mm]	-	254	254	254
	K	[mm]	-	15	15	15
	Weight NBG [1]	[kg]	96/105	131/179	140/208	160/239
	Weight NBG SS [1]	[kg]	96/105	133/181	142/210	162/241

1) Dimension of pump with premium range motor/built-in frequency converter.

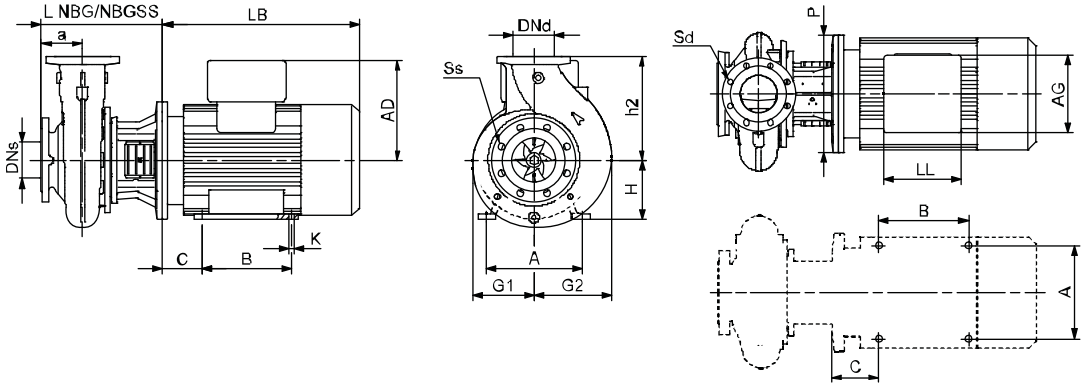
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.



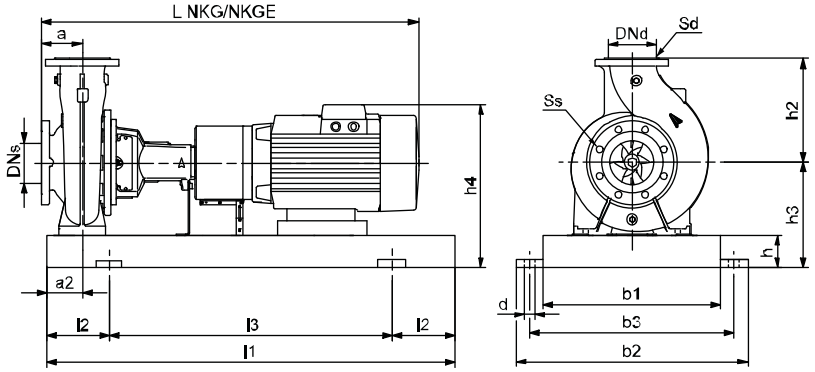
TM03 1921 1106

NBG



TM03 8009 0107

NKG



TM03 8011 0107

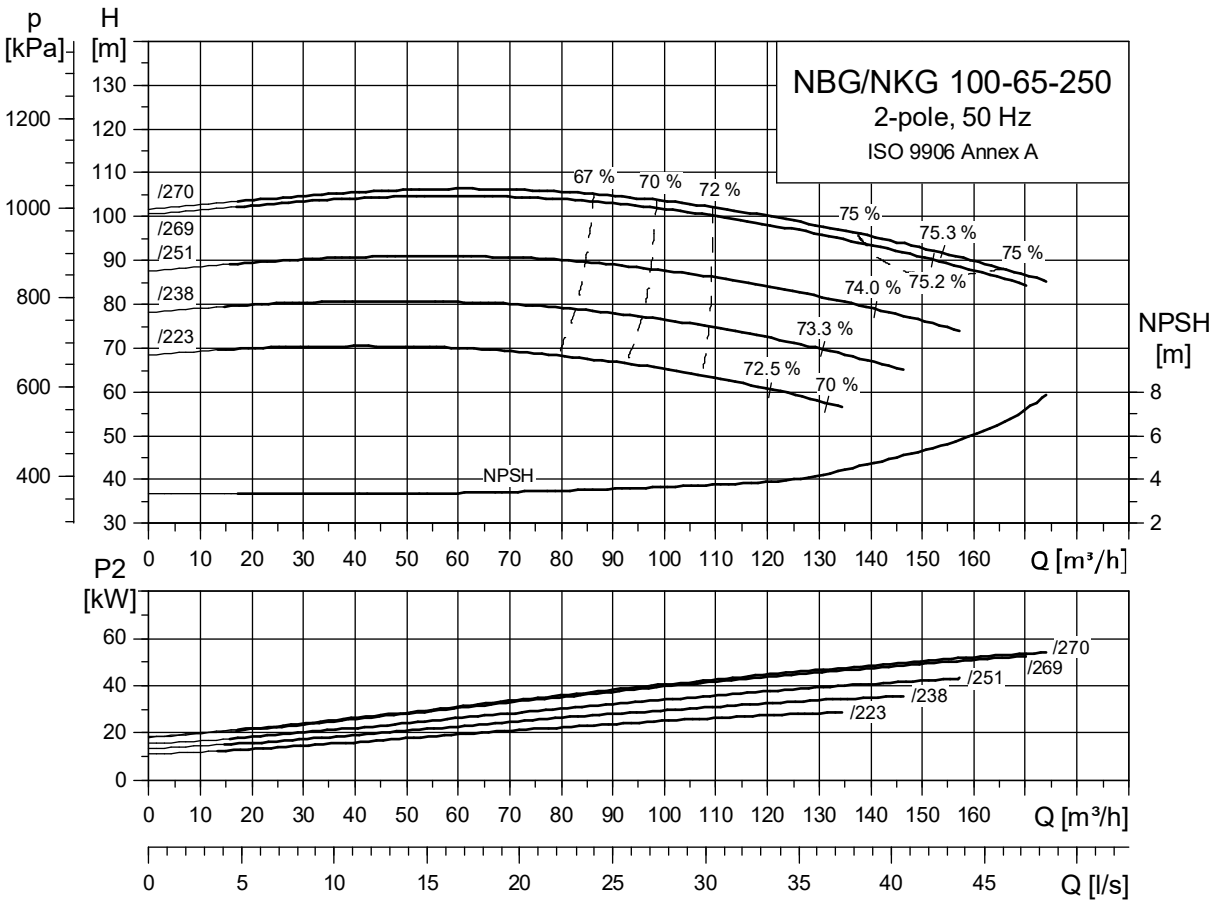
Pump type			100-65-200/162	100-65-200/177	100-65-200/190	100-65-200/198	100-65-200/217	100-65-200/219
Motor type	Premium Motor		Siemens 160M	Siemens 160M	Siemens 160L	Siemens 180M	Siemens 200L	Siemens 200L
	E-Motor		MMGE 160M	MMGE 160MX	MMGE 160L	MMGE 180M	-	-
Common data NBG/NKG	P_2	[kW]	11	15	18.5	22	30	37
	PN	[bar]	16	16	16	16	16	16
	DNs	[mm]	100	100	100	100	100	100
	DNd	[mm]	65	65	65	65	65	65
	a	[mm]	100	100	100	100	100	100
	h2	[mm]	225	225	225	225	225	225
	Ss		8x19	8x19	8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	1192/1328	1192/1328	1232/1368	1316/1452	1373/1509	1373/1509
	L NKGE	[mm]	1163/1299	1175/1311	1213/1349	1239/1375	-/-	-/-
	Weight NKG	[mm]	249/244	258/253	308/303	337/329	451/446	451/446
	Weight NKGE	[kg]	297/292	326/321	387/382	418/410	-/-	-/-
	Weight NKG SS	[kg]	252/247	261/256	311/306	340/332	454/449	454/449
	Weight NKGE SS	[kg]	300/295	329/324	390/385	421/413	-/-	-/-
NKG data	l1	[kg]	1250	1250	1400	1400	1600	1600
	l2	[mm]	205	205	230	230	270	270
	l3	[mm]	840	840	940	940	1060	1060
	b1	[mm]	430	430	480	480	530	530
	b2	[mm]	540	540	610	610	660	660
	b3	[mm]	490	490	560	560	600	600
	d	[mm]	24	24	28	28	28	28
	a2	[mm]	75	75	75	75	75	75
	h	[mm]	80	80	100	100	100	100
	h3	[mm]	260	260	280	285	305	305
	h4 [1]	[mm]	197/359	197/377	197/377	258/399	305/-	305/-
	Base frame no.		6	6	7	7	8	8
NBG data	Design		B [2]	B [2]	B [2]	B	B [2]	B [2]
	L NBG	[mm]	343	343	343	343	343	343
	L NBG SS	[mm]	343	343	343	343	343	343
	h1	[mm]	-	-	-	-	-	-
	G1	[mm]	149	149	149	149	149	149
	G2	[mm]	173	173	173	173	173	173
	m1	[mm]	-	-	-	-	-	-
	m2	[mm]	-	-	-	-	-	-
	n1	[mm]	-	-	-	-	-	-
	n2	[mm]	-	-	-	-	-	-
	b	[mm]	-	-	-	-	-	-
	s1	[mm]	-	-	-	-	-	-
	H	[mm]	160	160	160	180	200	200
	LB [1]	[mm]	478/449	478/461	518/499	602/525	659/-	659/-
	AD [1]	[mm]	197/359	197/377	197/377	258/399	305/-	305/-
	AG [1]	[mm]	165/296	165/296	165/296	152/328	260/-	260/-
	LL [1]	[mm]	165/410	165/410	165/410	132/456	192/-	192/-
	P	[mm]	350	350	350	350	400	400
	C	[mm]	108	108	108	121	133	133
	B	[mm]	210	210	254	241	305	305
	A	[mm]	254	254	254	279	318	318
	K	[mm]	15	15	15	15	19	19
	Weight NBG [1]	[kg]	139/187	148/216	168/247	196/277	283/-	283/-
	Weight NBG SS [1]	[kg]	141/189	150/218	170/249	199/280	286/-	286/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

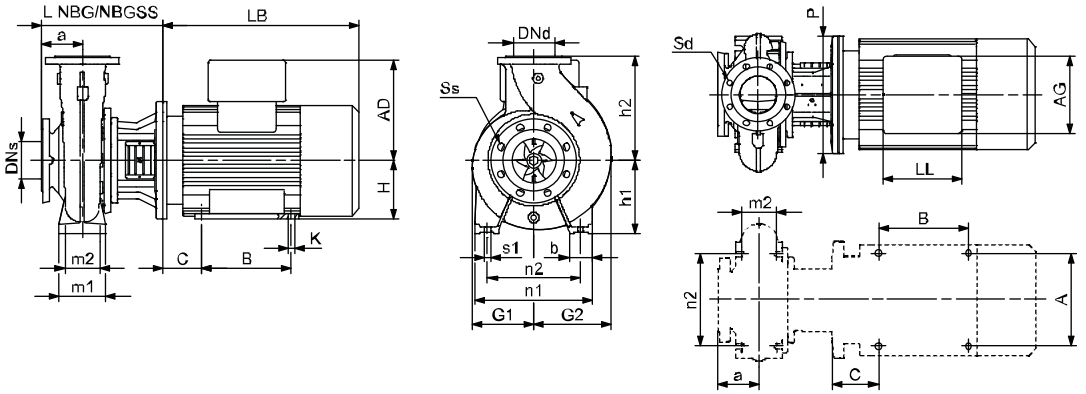
Note: For information about base frames, see page 236.

Performance curves



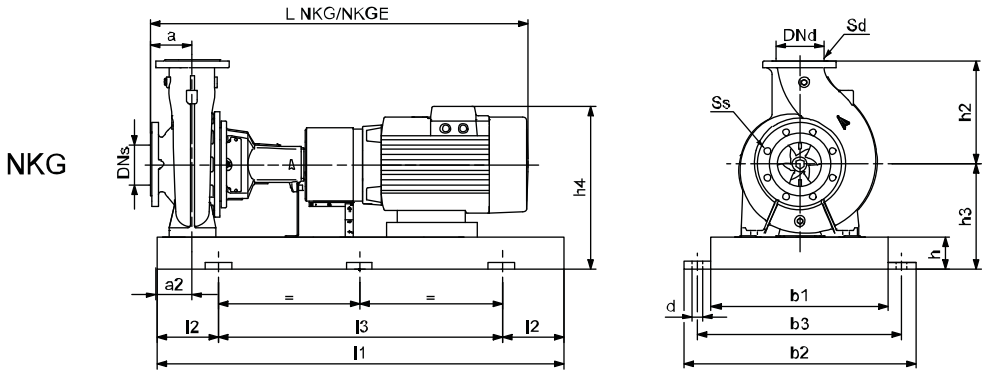
TM03 1922 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

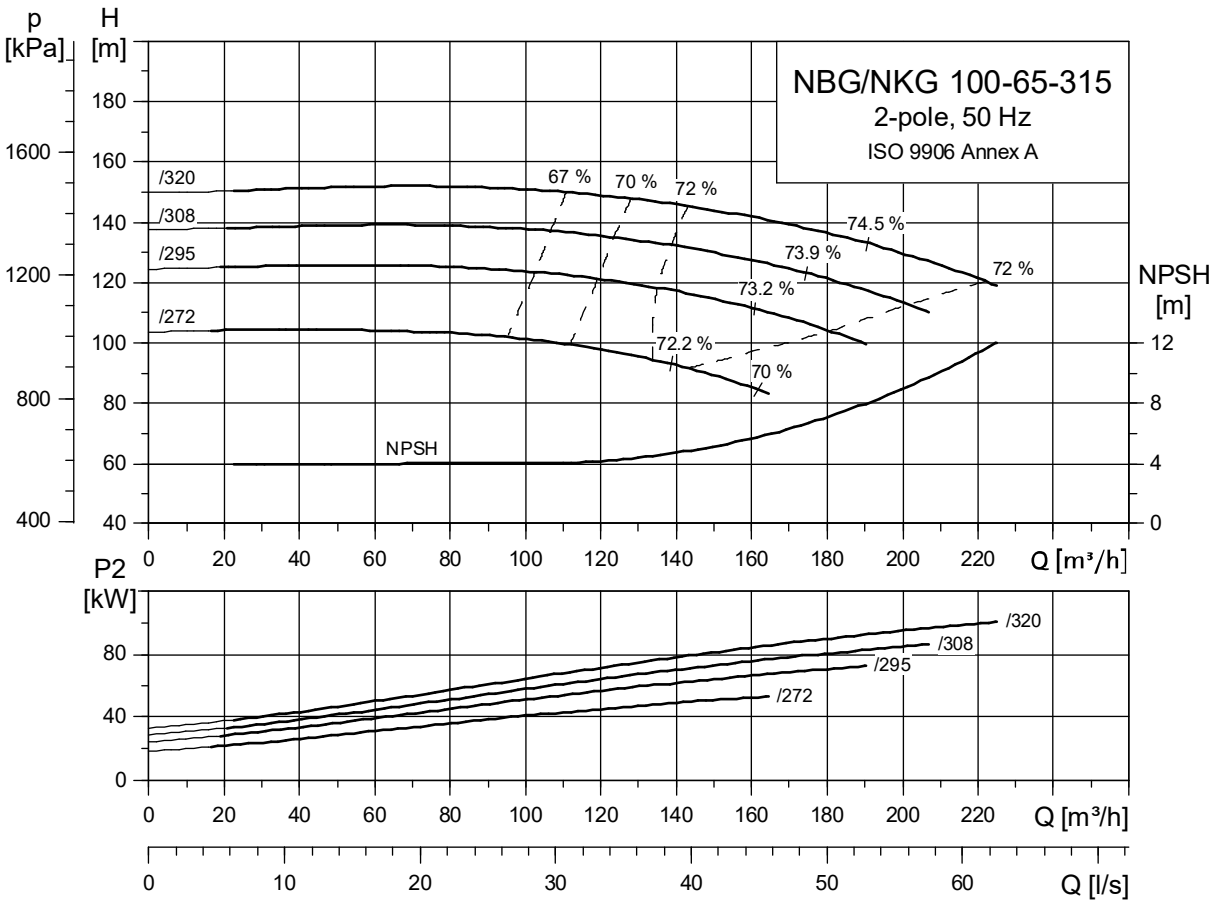
Pump type			100-65-250/223	100-65-250/238	100-65-250/251	100-65-250/269	100-65-250/270
Motor type	Premium Motor		Siemens 200L	Siemens 200L	Siemens 225M	Siemens 250M	Siemens 280S
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	30	37	45	55	75
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	100	100	100	100	100
	DNd	[mm]	65	65	65	65	65
	a	[mm]	125	125	125	125	125
	h2	[mm]	250	250	250	250	250
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	1398/1534	1398/1534	1448/1584	1516/1652	1589/1725
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	480/475	480/475	603/597	733/728	991/989
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	479/474	479/474	601/596	732/727	989/988
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1600	1600	1600	1800	2000
	l2	[mm]	270	270	270	300	330
	l3	[mm]	1060	1060	1060	1200	1340
	b1	[mm]	530	530	530	600	750
	b2	[mm]	660	660	660	730	890
	b3	[mm]	600	600	600	670	830
	d	[mm]	28	28	28	28	28
	a2	[mm]	90	90	90	90	90
	h	[mm]	100	100	100	100	130
	h3	[mm]	305	305	330	360	415
	$h4^{1)}$	[mm]	305/-	305/-	325/-	392/-	432/-
	Base frame no.		8	8	8	9	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	398	398	428	428	428
	L NBG SS	[mm]	398	398	428	428	428
	h1	[mm]	200	200	200	200	200
	G1	[mm]	183	183	183	183	183
	G2	[mm]	200	200	200	200	200
	m1	[mm]	160	160	160	160	160
	m2	[mm]	120	120	120	120	120
	n1	[mm]	360	360	360	360	360
	n2	[mm]	280	280	280	280	280
	b	[mm]	80	80	80	80	80
	s1	[mm]	M16	M16	M16	M16	M16
	H	[mm]	200	200	225	250	280
	$LB^{1)}$	[mm]	659/-	659/-	709/-	747/-	820/-
	$AD^{1)}$	[mm]	305/-	305/-	325/-	392/-	432/-
	$AG^{1)}$	[mm]	260/-	260/-	260/-	300/-	300/-
	$LL^{1)}$	[mm]	192/-	192/-	192/-	236/-	236/-
	P	[mm]	400	400	450	550	550
	C	[mm]	133	133	149	168	190
	B	[mm]	305	305	311	349	368
	A	[mm]	318	318	356	406	457
	K	[mm]	19	19	19	24	24
	Weight $NBG^{1)}$	[kg]	321/-	321/-	446/-	551/-	662/-
	Weight NBG $SS^{1)}$	[kg]	324/-	324/-	448/-	550/-	660/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

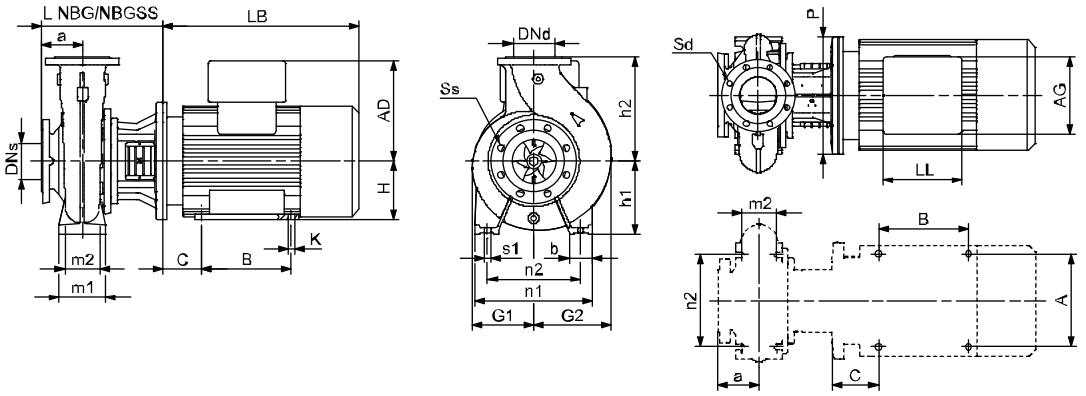
Note: For information about base frames, see page 236.

Performance curves



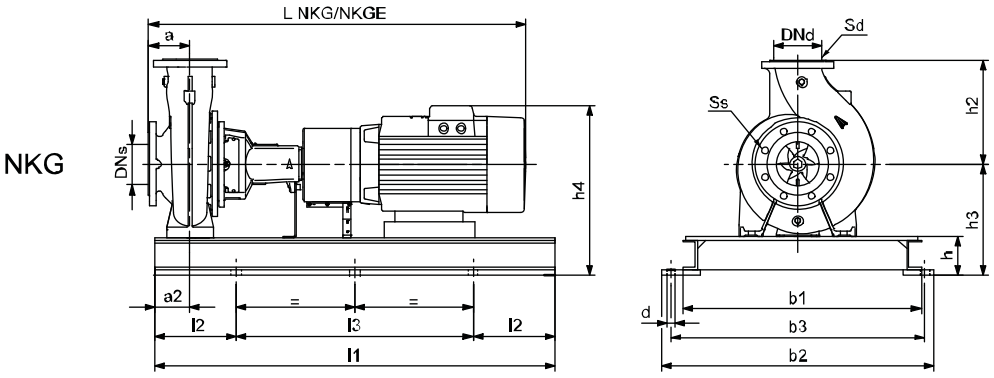
TM03 1973 1106

NBG



TM03 8010 0107

NKG



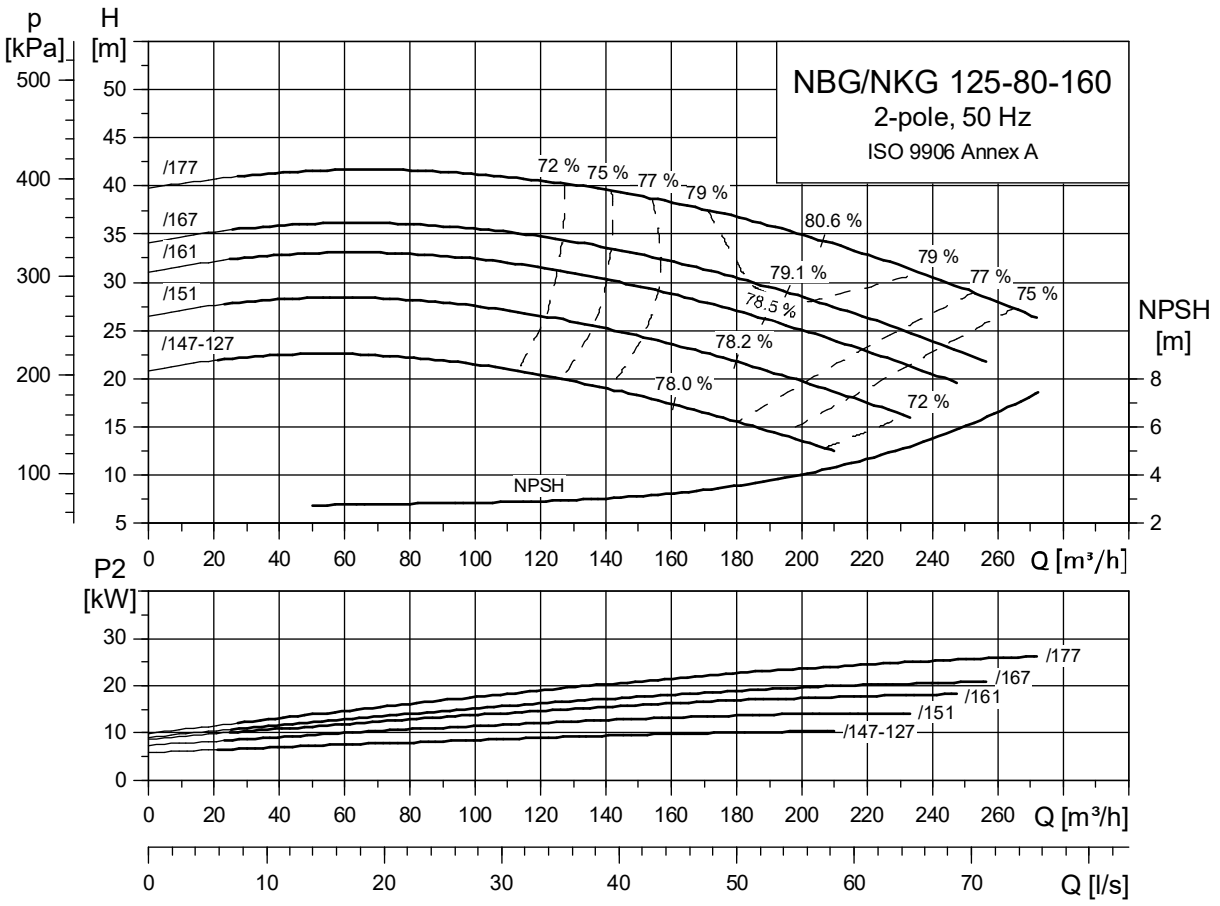
TM03 8013 0107

Pump type			100-65-315/272	100-65-315/295	100-65-315/308	100-65-315/320
Motor type	Premium Motor		Siemens 250M	Siemens 280S	Siemens 280M	Siemens 315S
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	55	75	90	110
	PN	[bar]	16	16	16	16
	DNs	[mm]	100	100	100	100
	DNd	[mm]	65	65	65	65
	a	[mm]	125	125	125	125
	h2	[mm]	280	280	280	280
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG std./spacer coupling	L NKG	[mm]	1546/1682	1619/1755	1729/1865	1731/1867
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	758/754	1020/1019	1106/1105	1293/1292
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	766/761	1028/1027	1113/1112	1300/1299
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	2000	2000	2000
	l2	[mm]	300	330	330	330
	l3	[mm]	1200	1340	1340	1340
	b1	[mm]	600	750	750	750
	b2	[mm]	730	890	890	890
	b3	[mm]	670	830	830	830
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	130	130	130
	h3	[mm]	355	415	415	455
	$h4^{1)}$	[mm]	392/-	432/-	432/-	495/-
	Base frame no.		9	10	10	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	426	426	426	456
	L NBG SS	[mm]	426	426	426	456
	h1	[mm]	225	225	225	225
	G1	[mm]	211	211	211	211
	G2	[mm]	219	219	219	219
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	250	280	280	315
	$LB^{1)}$	[mm]	747/-	820/-	930/-	932/-
	$AD^{1)}$	[mm]	392/-	432/-	432/-	495/-
	$AG^{1)}$	[mm]	300/-	300/-	300/-	379/-
	$LL^{1)}$	[mm]	236/-	236/-	236/-	307/-
	P	[mm]	550	550	550	660
	C	[mm]	168	190	190	216
	B	[mm]	349	368	419	406
	A	[mm]	406	457	457	508
	K	[mm]	24	24	24	28
	Weight $NBG^{1)}$	[kg]	573/-	684/-	769/-	985/-
	Weight NBG $SS^{1)}$	[kg]	581/-	691/-	776/-	992/-

1) Dimension of pump with premium range motor/built-in frequency converter.

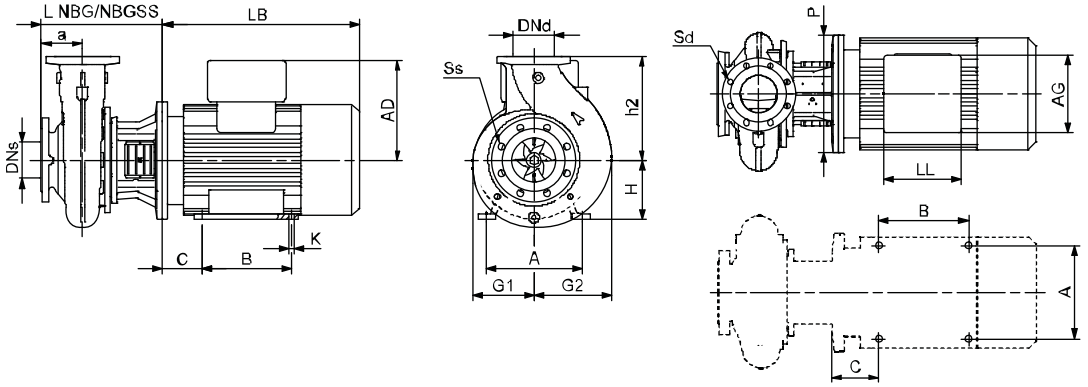
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.



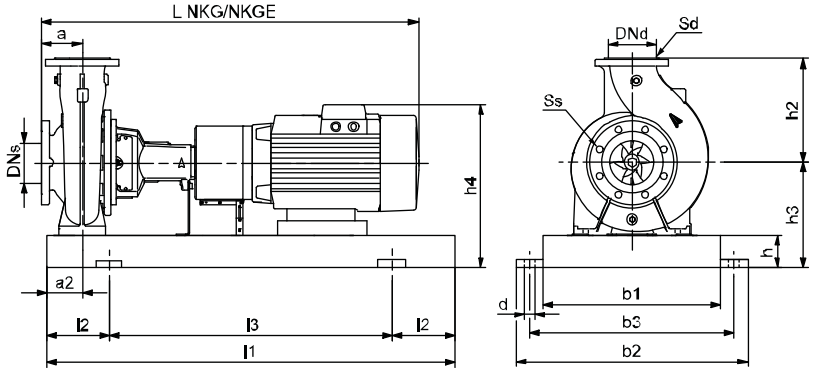
TM03 1921 1106

NBG



TM03 8009 0107

NKG



TM03 8011 0107

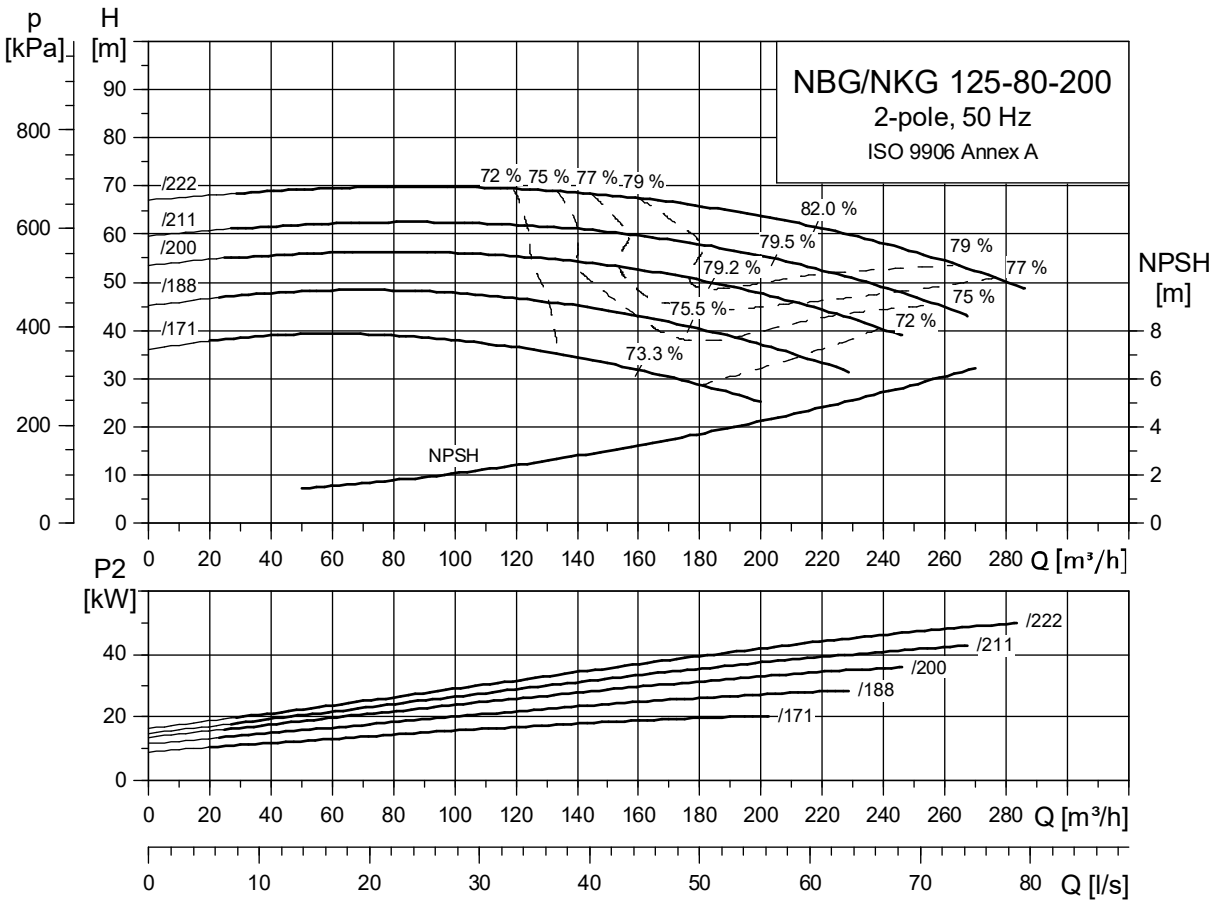
Pump type			125-80-160/147-127	125-80-160/151	125-80-160/161	125-80-160/167	125-80-160/177
Motor type	Premium Motor		Siemens 160M	Siemens 160M	Siemens 160L	Siemens 180M	Siemens 200L
	E-Motor		MMGE 160M	MMGE 160MX	MMGE 160L	MMGE 180M	-
Common data NBG/NKG	P_2	[kW]	11	15	18.5	22	30
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	125	125	125	125	125
	DNd	[mm]	80	80	80	80	80
	a	[mm]	125	125	125	125	125
	h2	[mm]	225	225	225	225	225
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1217/1353	1217/1353	1257/1393	1341/1477	1398/1534
	L NKGE	[mm]	1188/1324	1200/1336	1238/1374	1264/1400	-/-
	Weight NKG	[mm]	250/245	259/254	309/304	338/330	452/447
	Weight NKGE	[kg]	298/293	327/322	388/383	419/411	-/-
	Weight NKG SS	[kg]	254/249	263/258	313/308	342/334	456/450
	Weight NKGE SS	[kg]	302/297	331/326	392/387	423/415	-/-
NKG data	l1	[kg]	1250	1250	1400	1400	1600
	l2	[mm]	205	205	230	230	270
	l3	[mm]	840	840	940	940	1060
	b1	[mm]	430	430	480	480	530
	b2	[mm]	540	540	610	610	660
	b3	[mm]	490	490	560	560	600
	d	[mm]	24	24	28	28	28
	a2	[mm]	75	75	75	75	75
	h	[mm]	80	80	100	100	100
	h3	[mm]	260	260	280	285	305
	$h4^{1)}$	[mm]	197/359	197/377	197/377	258/399	305/-
	Base frame no.		6	6	7	7	8
NBG data	Design		$B^{2)}$	$B^{2)}$	$B^{2)}$	B	$B^{2)}$
	L NBG	[mm]	368	368	368	368	368
	L NBG SS	[mm]	368	368	368	368	368
	h1	[mm]	-	-	-	-	-
	G1	[mm]	139	139	139	139	139
	G2	[mm]	182	182	182	182	182
	m1	[mm]	-	-	-	-	-
	m2	[mm]	-	-	-	-	-
	n1	[mm]	-	-	-	-	-
	n2	[mm]	-	-	-	-	-
	b	[mm]	-	-	-	-	-
	s1	[mm]	-	-	-	-	-
	H	[mm]	160	160	160	180	200
	$LB^{1)}$	[mm]	478/449	478/461	518/499	602/525	659/-
	$AD^{1)}$	[mm]	197/359	197/377	197/377	258/399	305/-
	$AG^{1)}$	[mm]	165/296	165/296	165/296	152/328	260/-
	$LL^{1)}$	[mm]	165/410	165/410	165/410	132/456	192/-
	P	[mm]	350	350	350	350	400
	C	[mm]	108	108	108	121	133
	B	[mm]	210	210	254	241	305
	A	[mm]	254	254	254	279	318
	K	[mm]	15	15	15	15	19
	Weight $NBG^{1)}$	[kg]	140/188	149/217	169/248	197/278	284/-
	Weight NBG $SS^{1)}$	[kg]	143/191	152/220	172/251	200/281	287/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

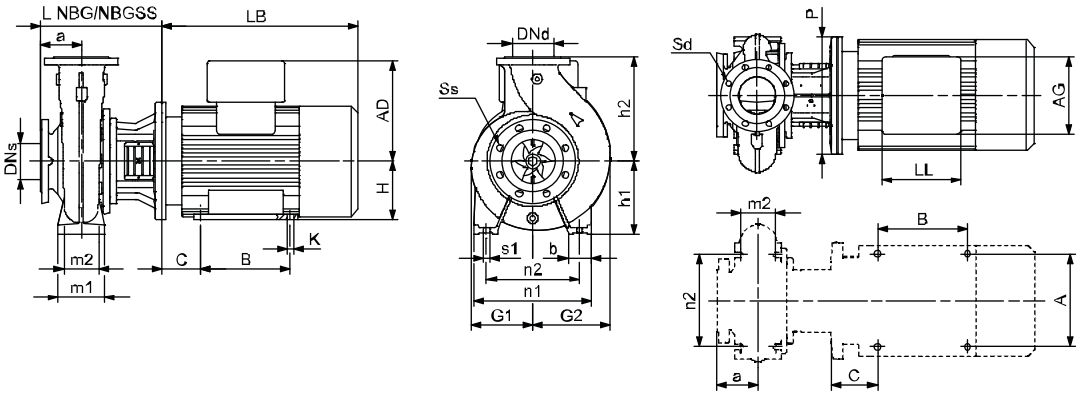
Note: For information about base frames, see page 236.

Performance curves



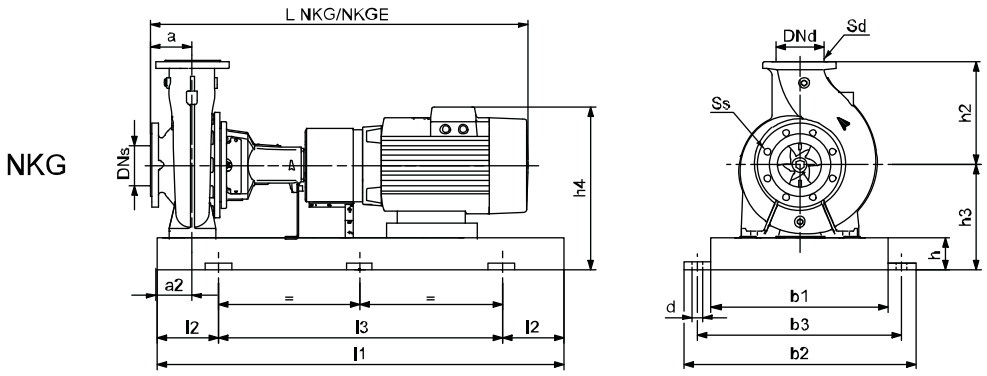
TM03 1975 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

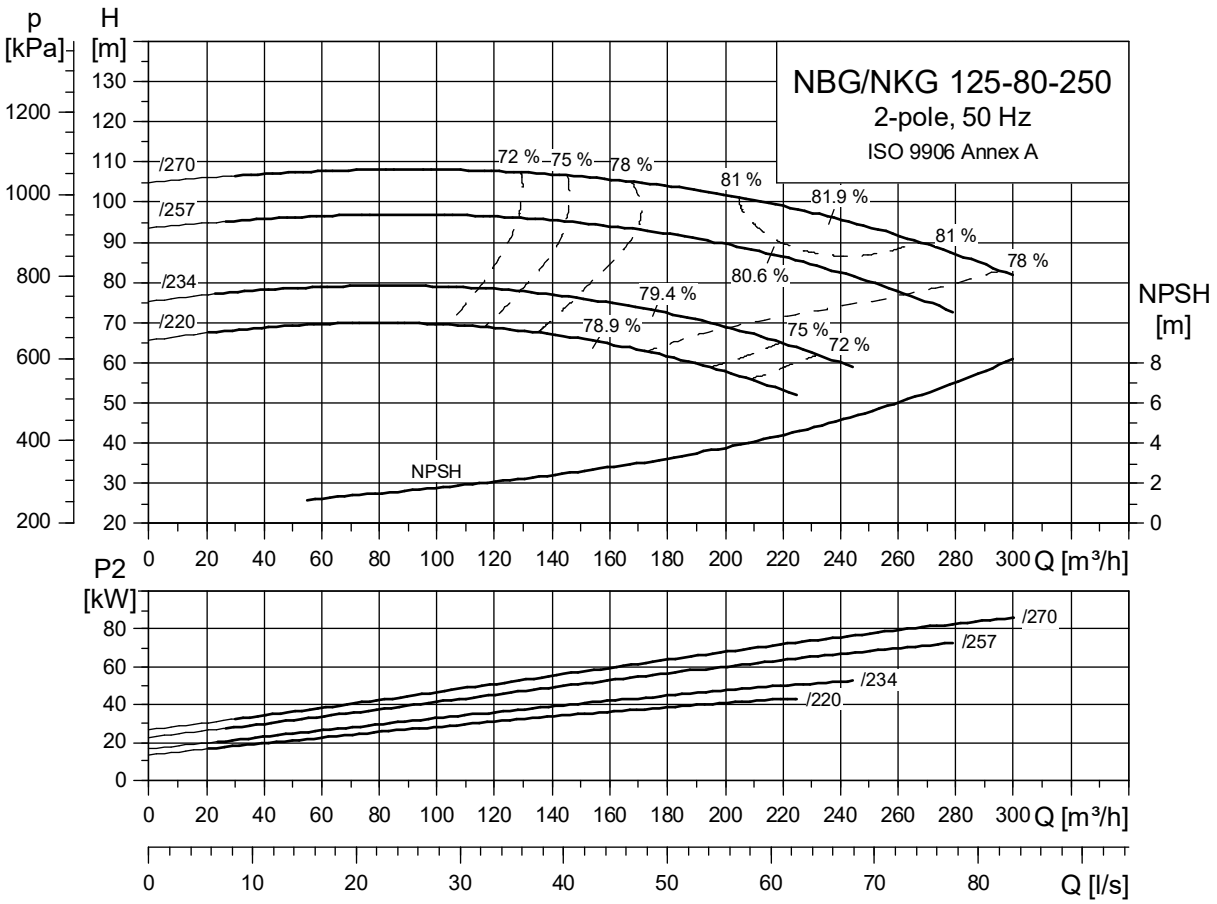
Pump type			125-80-200/171	125-80-200/188	125-80-200/200	125-80-200/211	125-80-200/222
Motor type	Premium Motor		Siemens 180M	Siemens 200L	Siemens 200L	Siemens 225M	Siemens 250M
	E-Motor		MMGE 180M	-	-	-	-
Common data NBG/NKG	P_2	[kW]	22	30	37	45	55
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	125	125	125	125	125
	DNd	[mm]	80	80	80	80	80
	a	[mm]	125	125	125	125	125
	h2	[mm]	250	250	250	250	250
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1341/1477	1398/1534	1398/1534	1448/1584	1516/1652
	L NKGE	[mm]	1264/1400	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	354/345	468/462	468/462	583/577	711/706
	Weight NKGE	[kg]	435/426	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	359/351	473/467	473/467	588/582	716/711
	Weight NKGE SS	[kg]	440/432	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1600	1600	1600	1800
	l2	[mm]	230	270	270	270	300
	l3	[mm]	940	1060	1060	1060	1200
	b1	[mm]	480	530	530	530	600
	b2	[mm]	610	660	660	660	730
	b3	[mm]	560	600	600	600	670
	d	[mm]	28	28	28	28	28
	a2	[mm]	75	75	75	75	75
	h	[mm]	100	100	100	100	100
	h3	[mm]	285	305	305	330	355
	$h4^{1)}$	[mm]	258/399	305/-	305/-	325/-	392/-
	Base frame no.		7	8	8	8	9
NBG data	Design		C	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	398	398	398	428	428
	L NBG SS	[mm]	398	398	398	428	428
	h1	[mm]	180	180	180	180	180
	G1	[mm]	161	161	161	161	161
	G2	[mm]	193	193	193	193	193
	m1	[mm]	125	125	125	125	125
	m2	[mm]	95	95	95	95	95
	n1	[mm]	345	345	345	345	345
	n2	[mm]	280	280	280	280	280
	b	[mm]	65	65	65	65	65
	s1	[mm]	M12	M12	M12	M12	M12
	H	[mm]	180	200	200	225	250
	$LB^{1)}$	[mm]	602/525	659/-	659/-	709/-	747/-
	$AD^{1)}$	[mm]	258/399	305/-	305/-	325/-	392/-
	$AG^{1)}$	[mm]	152/328	260/-	260/-	260/-	300/-
	$LL^{1)}$	[mm]	132/456	192/-	192/-	192/-	236/-
	P	[mm]	350	400	400	450	550
	C	[mm]	121	133	133	149	168
	B	[mm]	241	305	305	311	349
	A	[mm]	279	318	318	356	406
	K	[mm]	15	19	19	19	24
	Weight $NBG^{1)}$	[kg]	215/296	306/-	306/-	430/-	536/-
	Weight NBG $SS^{1)}$	[kg]	224/305	315/-	315/-	439/-	541/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

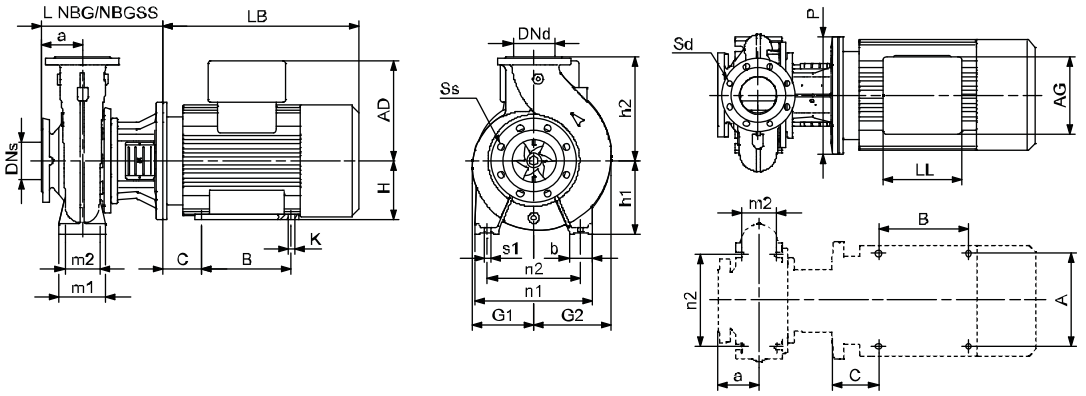
Note: For information about base frames, see page 236.

Performance curves



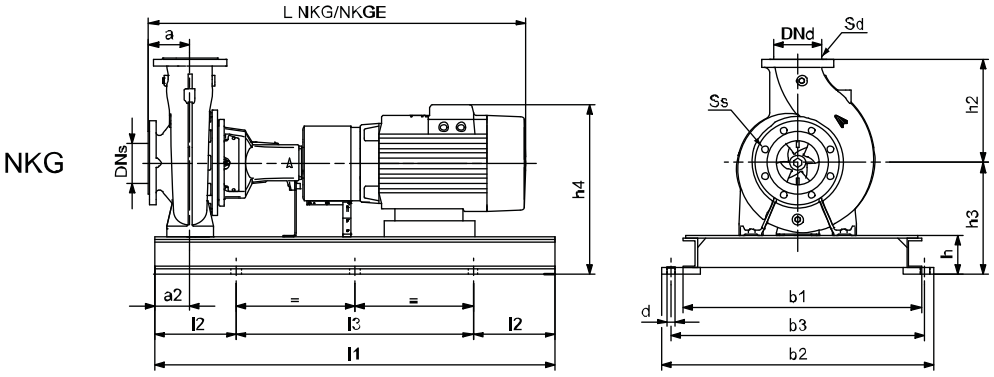
TM03 1926 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

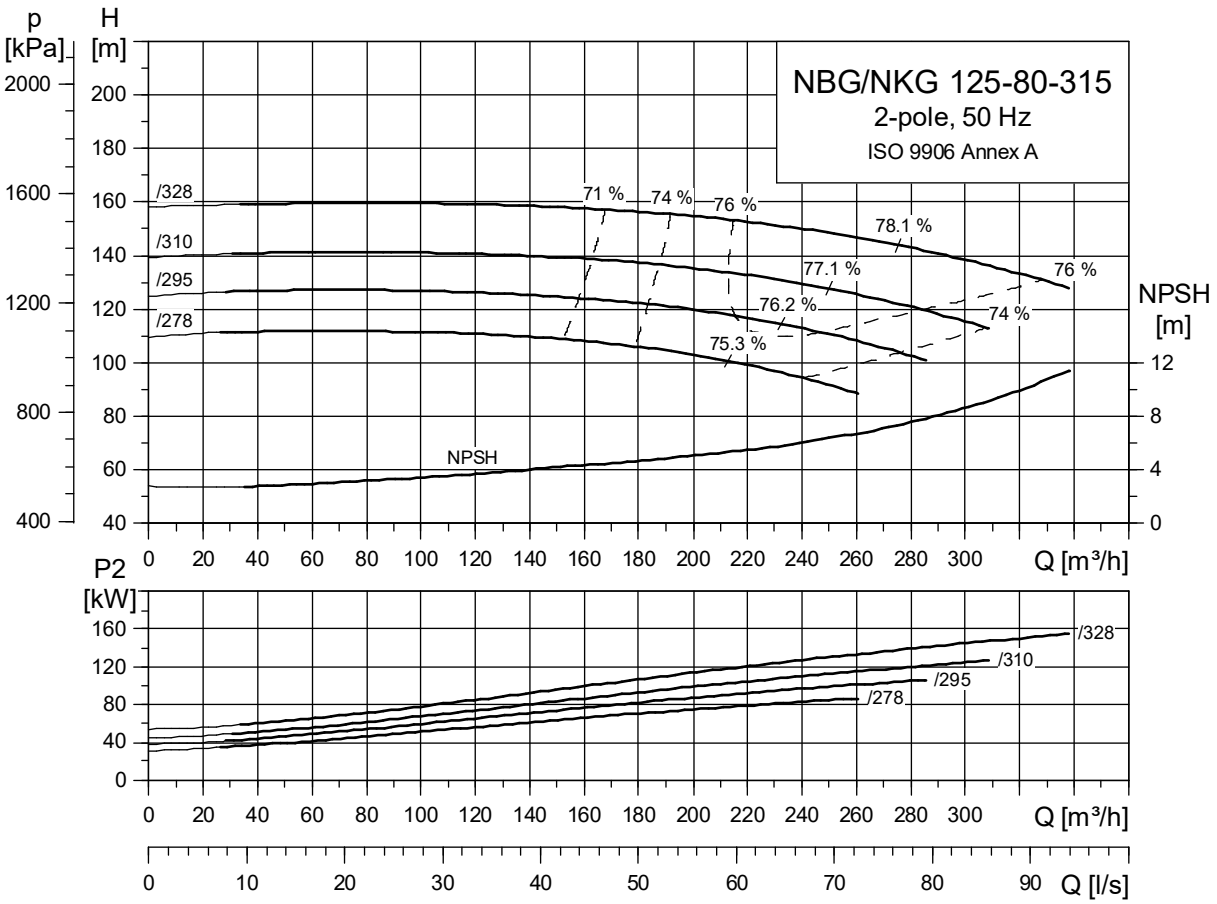
Pump type			125-80-250/220	125-80-250/234	125-80-250/257	125-80-250/270
Motor type	Premium Motor		Siemens 225M	Siemens 250M	Siemens 280S	Siemens 280M
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	45	55	75	90
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	80	80	80	80
	a	[mm]	125	125	125	125
	h2	[mm]	280	280	280	280
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1448/1584	1516/1652	1589/1725	1699/1835
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	600/595	733/728	995/993	1080/1079
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	604/599	737/732	999/998	1085/1083
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1600	1800	2000	2000
	l2	[mm]	270	300	330	330
	l3	[mm]	1060	1200	1340	1340
	b1	[mm]	530	600	750	750
	b2	[mm]	660	730	890	890
	b3	[mm]	600	670	830	830
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	130	130
	h3	[mm]	330	355	415	415
	$h4^{1)}$	[mm]	325/-	392/-	432/-	432/-
	Base frame no.		8	9	10	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	428	428	428	428
	L NBG SS	[mm]	428	428	428	428
	h1	[mm]	225	225	225	225
	G1	[mm]	182	182	182	182
	G2	[mm]	210	210	210	210
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	225	250	280	280
	$LB^{1)}$	[mm]	709/-	747/-	820/-	930/-
	$AD^{1)}$	[mm]	325/-	392/-	432/-	432/-
	$AG^{1)}$	[mm]	260/-	300/-	300/-	300/-
	$LL^{1)}$	[mm]	192/-	236/-	236/-	236/-
	P	[mm]	450	550	550	550
	C	[mm]	149	168	190	190
	B	[mm]	311	349	368	419
	A	[mm]	356	406	457	457
	K	[mm]	19	24	24	24
	Weight $NBG^{1)}$	[kg]	449/-	555/-	665/-	750/-
	Weight NBG $SS^{1)}$	[kg]	457/-	559/-	670/-	755/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

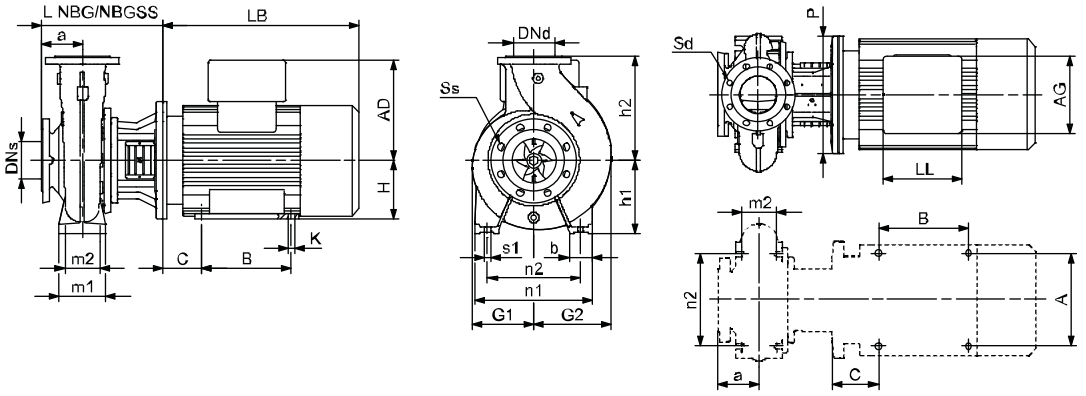
Note: For information about base frames, see page 236.

Performance curves



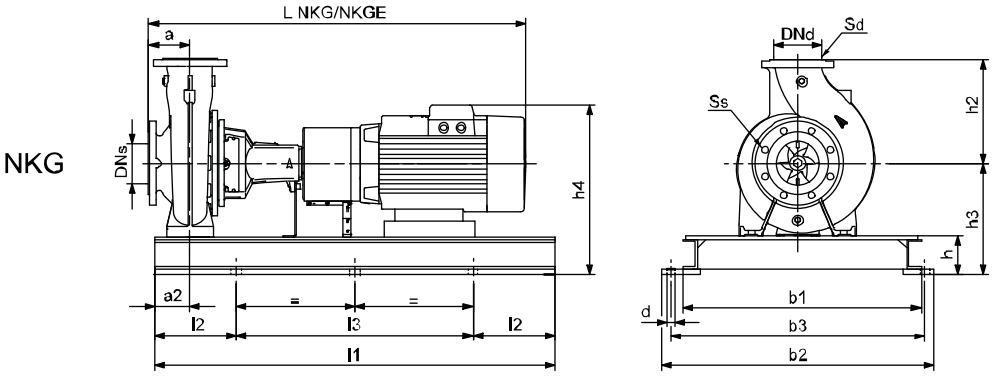
TM03 1927 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

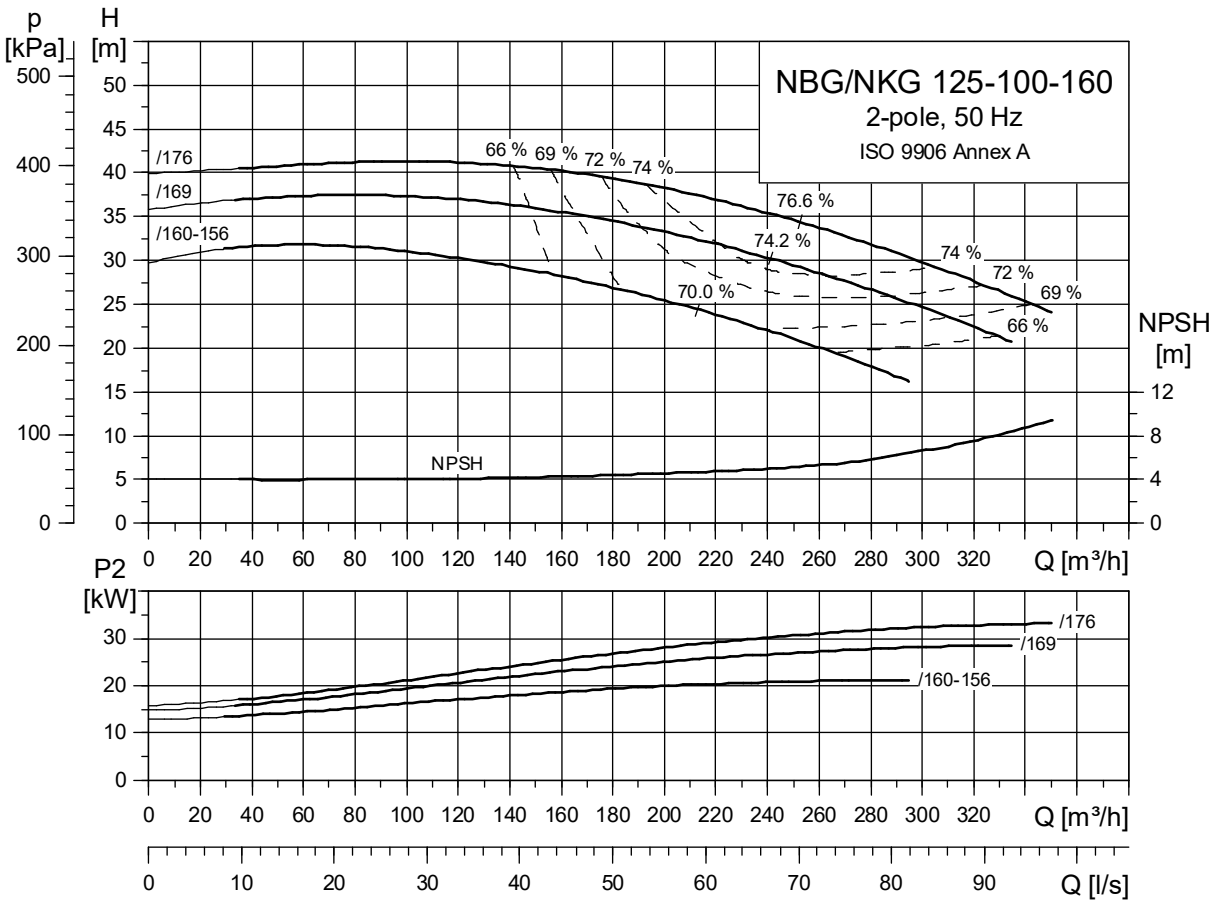
Pump type			125-80-315/278	125-80-315/295	125-80-315/310	125-80-315/328
Motor type	Premium Motor		Siemens 280M	Siemens 315S	Siemens 315M	Siemens 315L
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	90	110	132	160
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	80	80	80	80
	a	[mm]	125	125	125	125
	h2	[mm]	315	315	315	315
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1729/1865	1731/1867	1891/2027	1891/2027
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	1120/1119	1295/1294	1421/1420	1560/1559
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	1129/1128	1304/1303	1430/1429	1569/1568
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	2000	2000	2000	2000
	l2	[mm]	330	330	330	330
	l3	[mm]	1340	1340	1340	1340
	b1	[mm]	750	750	750	750
	b2	[mm]	890	890	890	890
	b3	[mm]	830	830	830	830
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	130	130	130	130
	h3	[mm]	415	450	450	450
	$h4^{1)}$	[mm]	432/-	495/-	495/-	495/-
	Base frame no.		10	10	10	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	426	456	456	456
	L NBG SS	[mm]	426	456	456	456
	h1	[mm]	250	250	250	250
	G1	[mm]	217	217	217	217
	G2	[mm]	243	243	243	243
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	280	315	315	315
	$LB^{1)}$	[mm]	930/-	932/-	1092/-	1092/-
	$AD^{1)}$	[mm]	432/-	495/-	495/-	495/-
	$AG^{1)}$	[mm]	300/-	379/-	379/-	379/-
	$LL^{1)}$	[mm]	236/-	307/-	307/-	307/-
	P	[mm]	550	660	660	660
	C	[mm]	190	216	216	216
	B	[mm]	419	406	457	508
	A	[mm]	457	508	508	508
	K	[mm]	24	28	28	28
	Weight $NBG^{1)}$	[kg]	780/-	996/-	1121/-	1261/-
	Weight NBG $SS^{1)}$	[kg]	789/-	1005/-	1130/-	1270/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

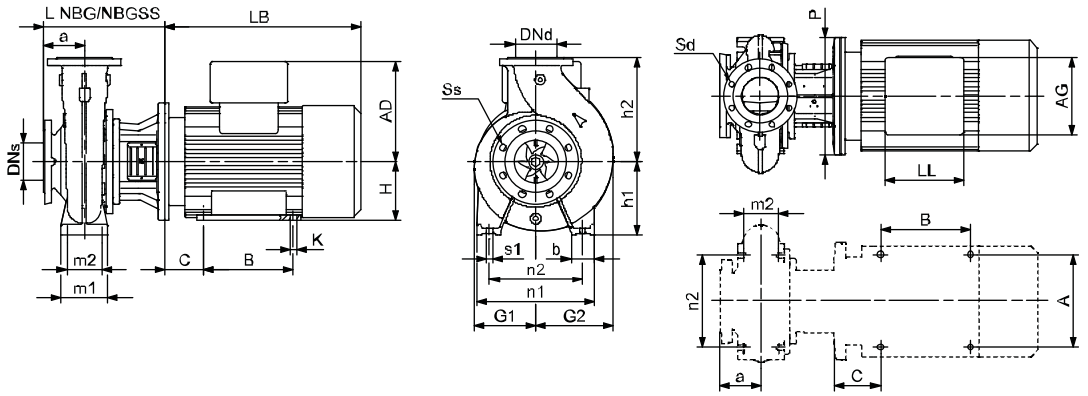
Note: For information about base frames, see page 236.

Performance curves



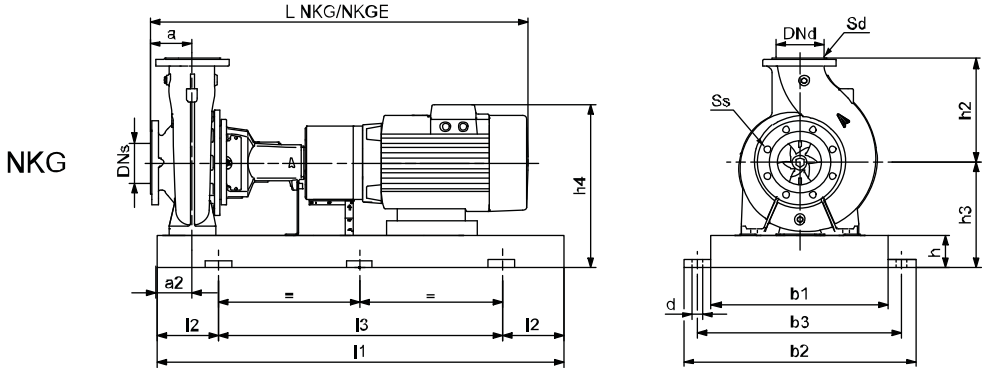
TM03 1978 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

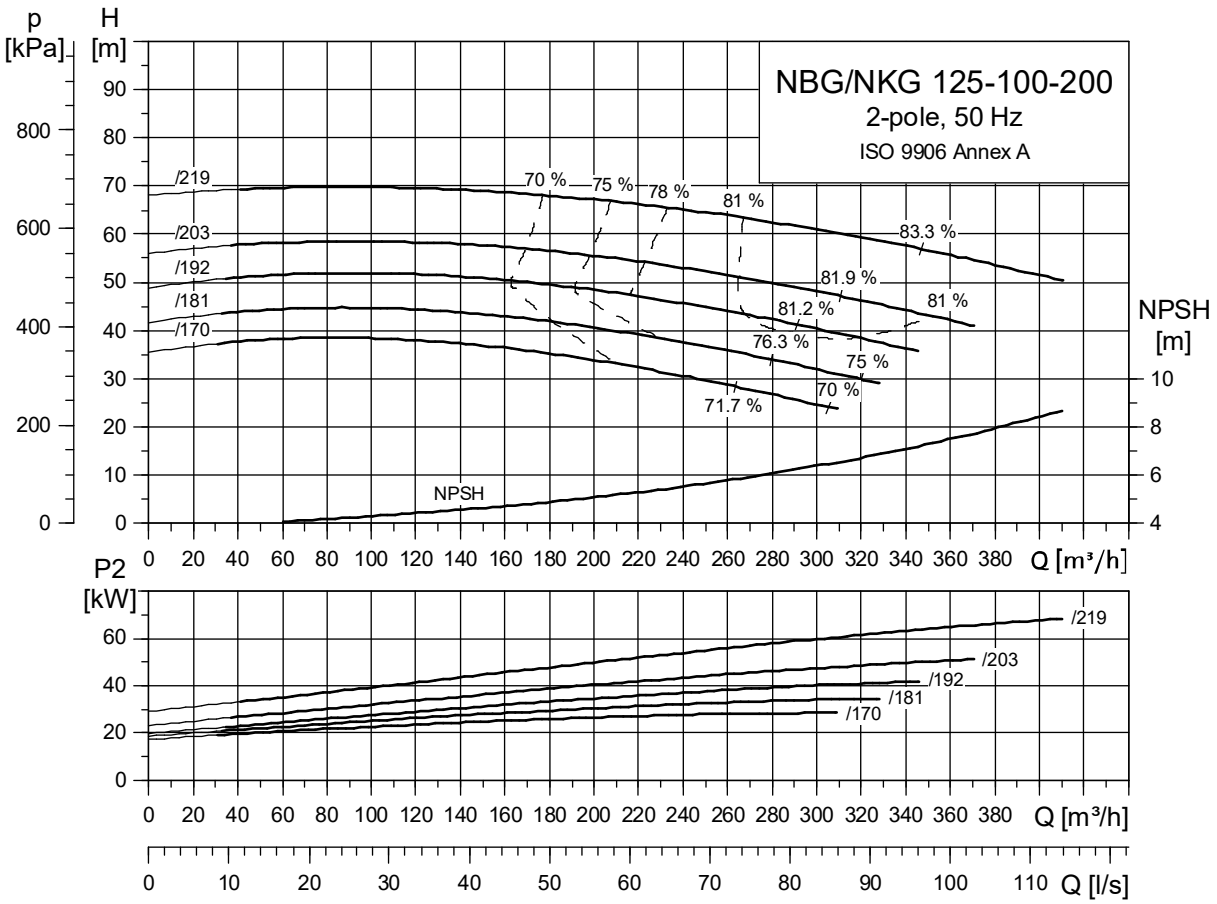
Pump type			125-100-160/160-156	125-100-160/169	125-100-160/176
Motor type	Premium Motor		Siemens 180M	Siemens 200L	Siemens 200L
	E-Motor		MMGE 180M	-	-
Common data NBG/NKG	P_2	[kW]	22	30	37
	PN	[bar]	16	16	16
	DNs	[mm]	125	125	125
	DNd	[mm]	100	100	100
	a	[mm]	125	125	125
	h2	[mm]	280	280	280
	Ss		8x19	8x19	8x19
	Sd		8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1341/1477	1398/1534	1398/1534
	L NKGE	[mm]	1264/1400	-/-	-/-
	Weight NKG	[mm]	357/349	462/457	462/457
	Weight NKGE	[kg]	438/430	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1600	1600
	l2	[mm]	230	270	270
	l3	[mm]	940	1060	1060
	b1	[mm]	480	530	530
	b2	[mm]	610	660	660
	b3	[mm]	560	600	600
	d	[mm]	28	28	28
	a2	[mm]	90	90	90
	h	[mm]	100	100	100
	h3	[mm]	300	305	305
	$h4^{1)}$	[mm]	558/699	610/-	610/-
	Base frame no.		7	8	8
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	368	368	368
	L NBG SS	[mm]	-	-	-
	h1	[mm]	200	200	200
	G1	[mm]	146	146	146
	G2	[mm]	187	187	187
	m1	[mm]	160	160	160
	m2	[mm]	120	120	120
	n1	[mm]	360	360	360
	n2	[mm]	280	280	280
	b	[mm]	80	80	80
	s1	[mm]	M16	M16	M16
	H	[mm]	180	200	200
	$LB^{1)}$	[mm]	602/525	659/-	659/-
	$AD^{1)}$	[mm]	258/399	305/-	305/-
	$AG^{1)}$	[mm]	152/328	260/-	260/-
	$LL^{1)}$	[mm]	132/456	192/-	192/-
	P	[mm]	350	400	400
	C	[mm]	121	133	133
	B	[mm]	241	305	305
	A	[mm]	279	318	318
	K	[mm]	15	19	19
	Weight $NBG^{1)}$	[kg]	213/294	301/-	301/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

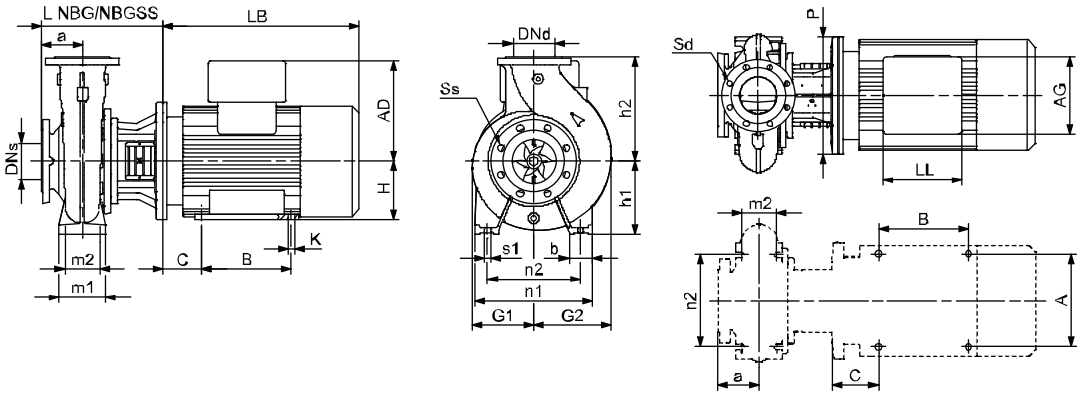
Note: For information about base frames, see page 236.

Performance curves



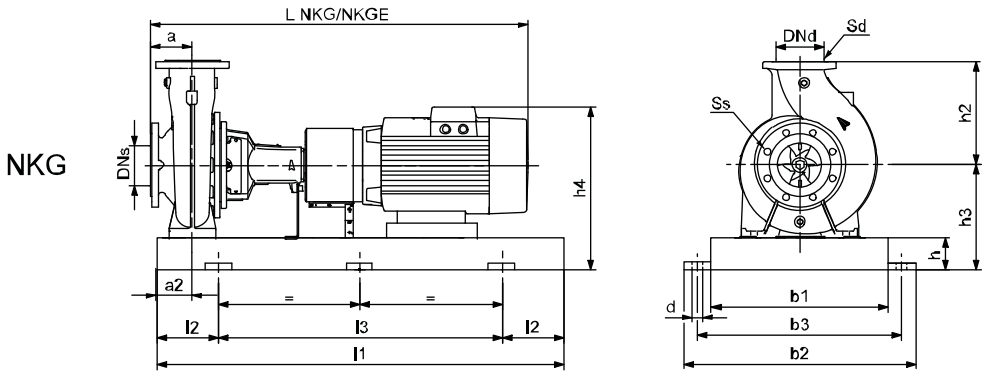
TM03 1979 1106

NBG



TM03 8010 0107

NKG



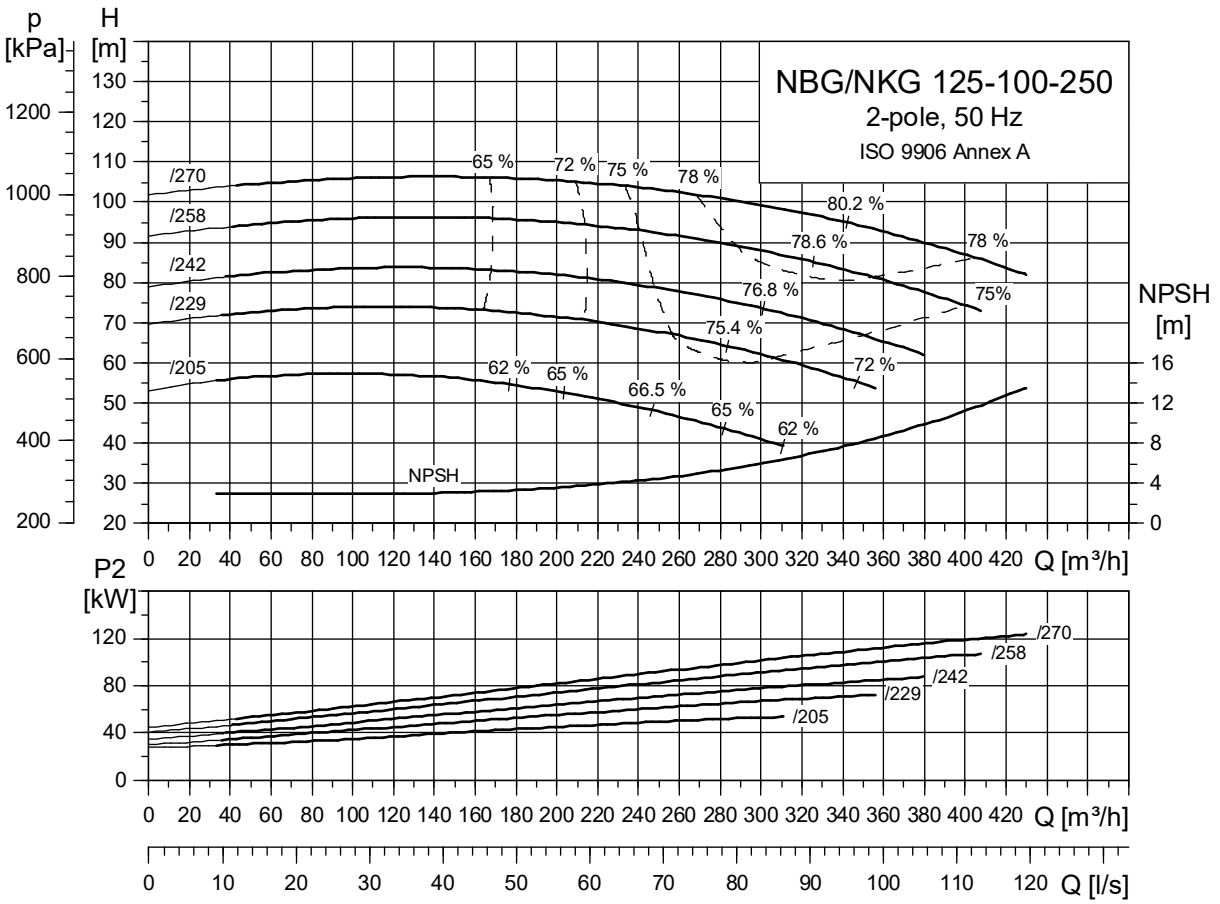
TM03 8012 0107

Pump type			125-100-200/170	125-100-200/181	125-100-200/192	125-100-200/203	125-100-200/219
Motor type	Premium Motor		Siemens 200L	Siemens 200L	Siemens 225M	Siemens 250M	Siemens 280S
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	30	37	45	55	75
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	125	125	125	125	125
	DNd	[mm]	100	100	100	100	100
	a	[mm]	125	125	125	125	125
	h2	[mm]	280	280	280	280	280
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1398/1534	1398/1534	1448/1584	1516/1652	1589/1725
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	474/469	474/469	597/591	727/722	985/983
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1600	1600	1600	1800	2000
	l2	[mm]	270	270	270	300	330
	l3	[mm]	1060	1060	1060	1200	1340
	b1	[mm]	530	530	530	600	750
	b2	[mm]	660	660	660	730	890
	b3	[mm]	600	600	600	670	830
	d	[mm]	28	28	28	28	28
	a2	[mm]	90	90	90	90	90
	h	[mm]	100	100	100	100	130
	h3	[mm]	305	305	330	360	415
	h4 [1]	[mm]	305/-	305/-	325/-	392/-	432/-
	Base frame no.		8	8	8	9	10
NBG data	Design		C [2]	C [2]	C [2]	C [2]	C [2]
	L NBG	[mm]	398	398	428	428	428
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	200	200	200	200	200
	G1	[mm]	169	169	169	169	169
	G2	[mm]	212	212	212	212	212
	m1	[mm]	160	160	160	160	160
	m2	[mm]	120	120	120	120	120
	n1	[mm]	360	360	360	360	360
	n2	[mm]	280	280	280	280	280
	b	[mm]	80	80	80	80	80
	s1	[mm]	M16	M16	M16	M16	M16
	H	[mm]	200	200	225	250	280
	LB [1]	[mm]	659/-	659/-	709/-	747/-	820/-
	AD [1]	[mm]	305/-	305/-	325/-	392/-	432/-
	AG [1]	[mm]	260/-	260/-	260/-	300/-	300/-
	LL [1]	[mm]	192/-	192/-	192/-	236/-	236/-
	P	[mm]	400	400	450	550	550
	C	[mm]	133	133	149	168	190
	B	[mm]	305	305	311	349	368
	A	[mm]	318	318	356	406	457
	K	[mm]	19	19	19	24	24
	Weight NBG [1]	[kg]	315/-	315/-	439/-	545/-	656/-
	Weight NBG SS [1]	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

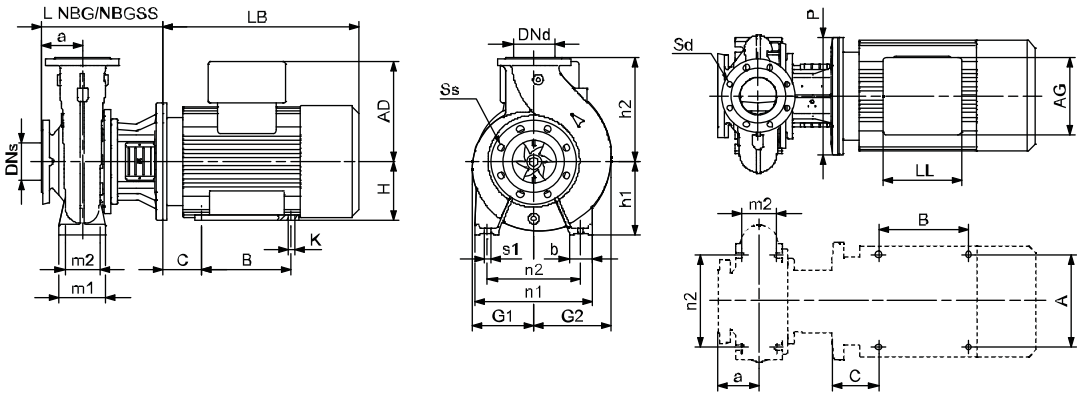
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.



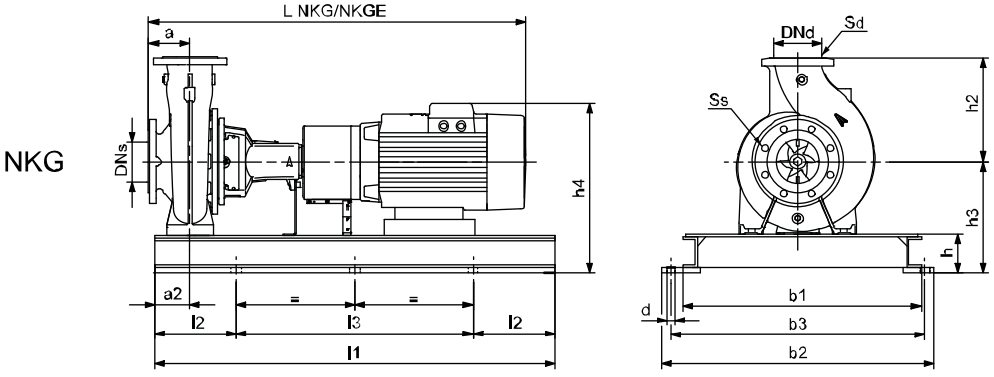
TM03 1930 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

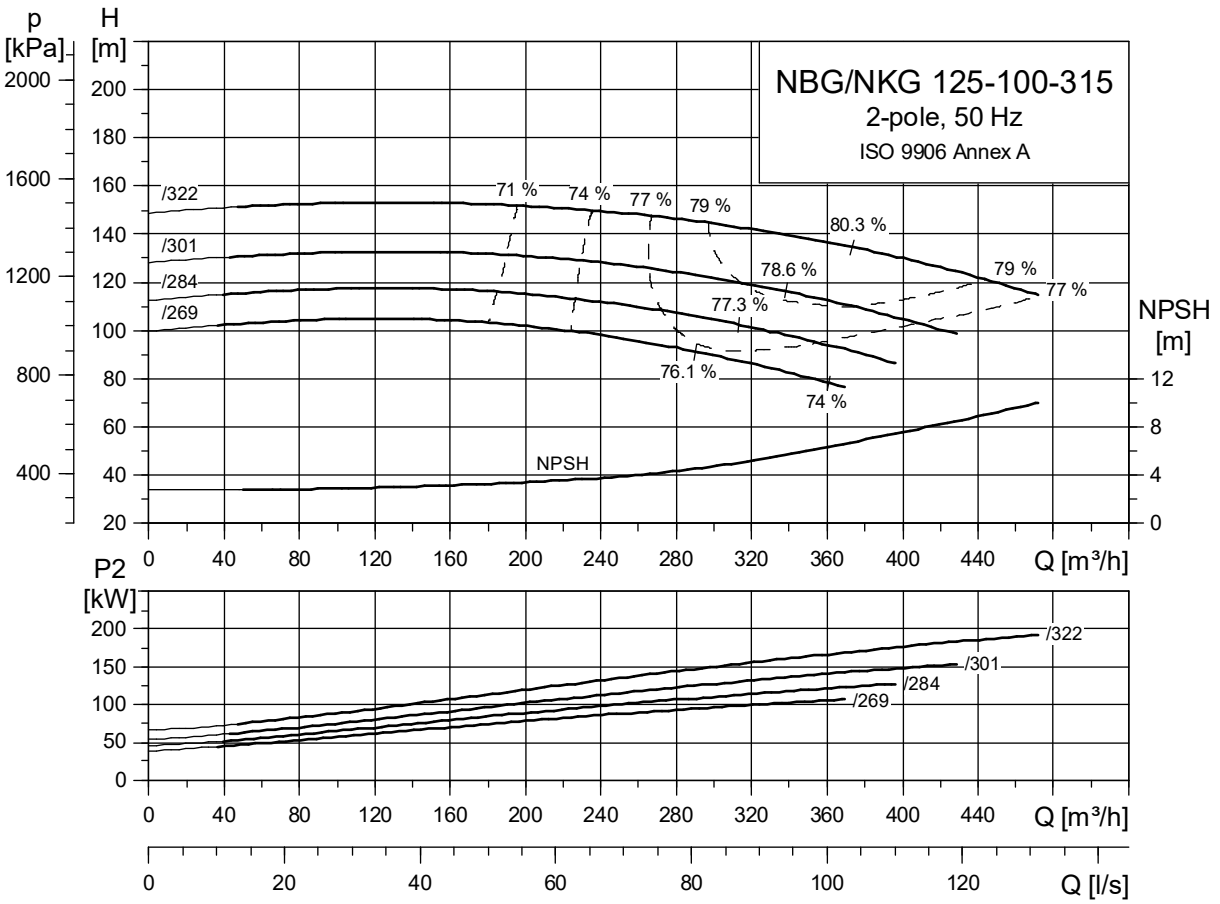
Pump type			125-100-250/205	125-100-250/229	125-100-250/242	125-100-250/258	125-100-250/270
Motor type	Premium Motor		Siemens 250M	Siemens 280S	Siemens 280M	Siemens 315S	Siemens 315M
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	55	75	90	110	132
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	125	125	125	125	125
	DNd	[mm]	100	100	100	100	100
	a	[mm]	140	140	140	140	140
	h2	[mm]	280	280	280	280	280
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1561/1697	1634/1770	1744/1880	1746/1882	1906/2042
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	745/741	1008/1006	1093/1092	1280/1279	1406/1405
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	2000	2000	2000	2000
	l2	[mm]	300	330	330	330	330
	l3	[mm]	1200	1340	1340	1340	1340
	b1	[mm]	600	750	750	750	750
	b2	[mm]	730	890	890	890	890
	b3	[mm]	670	830	830	830	830
	d	[mm]	28	28	28	28	28
	a2	[mm]	90	90	90	90	90
	h	[mm]	100	130	130	130	130
	h3	[mm]	355	415	415	455	455
	h4[1)]	[mm]	392/-	432/-	432/-	495/-	495/-
	Base frame no.		9	10	10	10	10
NBG data	Design		C[2)]	C[2)]	C[2)]	C[2)]	C[2)]
	L NBG	[mm]	441	441	441	471	471
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	225	225	225	225	225
	G1	[mm]	188	188	188	188	188
	G2	[mm]	224	224	224	224	224
	m1	[mm]	160	160	160	160	160
	m2	[mm]	120	120	120	120	120
	n1	[mm]	400	400	400	400	400
	n2	[mm]	315	315	315	315	315
	b	[mm]	80	80	80	80	80
	s1	[mm]	M16	M16	M16	M16	M16
	H	[mm]	250	280	280	315	315
	LB[1)]	[mm]	747/-	820/-	930/-	932/-	1092/-
	AD[1)]	[mm]	392/-	432/-	432/-	495/-	495/-
	AG[1)]	[mm]	300/-	300/-	300/-	379/-	379/-
	LL[1)]	[mm]	236/-	236/-	236/-	307/-	307/-
	P	[mm]	550	550	550	660	660
	C	[mm]	168	190	190	216	216
	B	[mm]	349	368	419	406	457
	A	[mm]	406	457	457	508	508
	K	[mm]	24	24	24	28	28
	Weight NBG[1)]	[kg]	560/-	671/-	756/-	972/-	1097/-
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

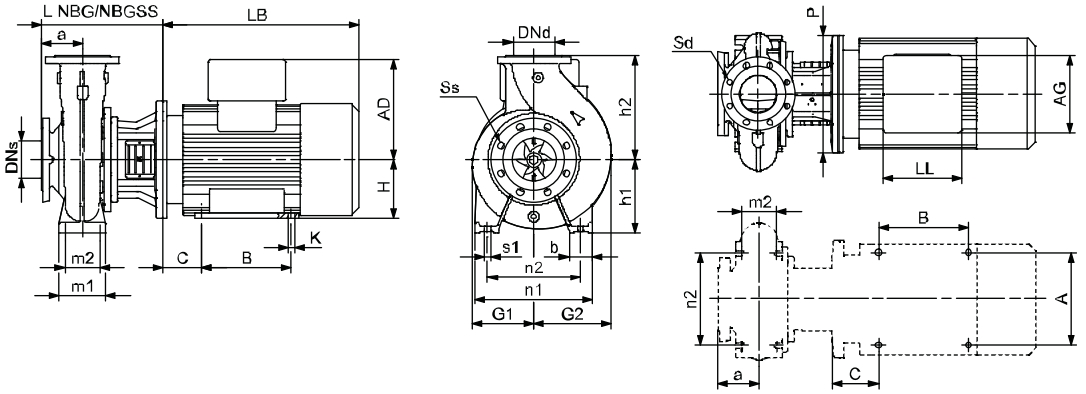
Note: For information about base frames, see page 236.

Performance curves



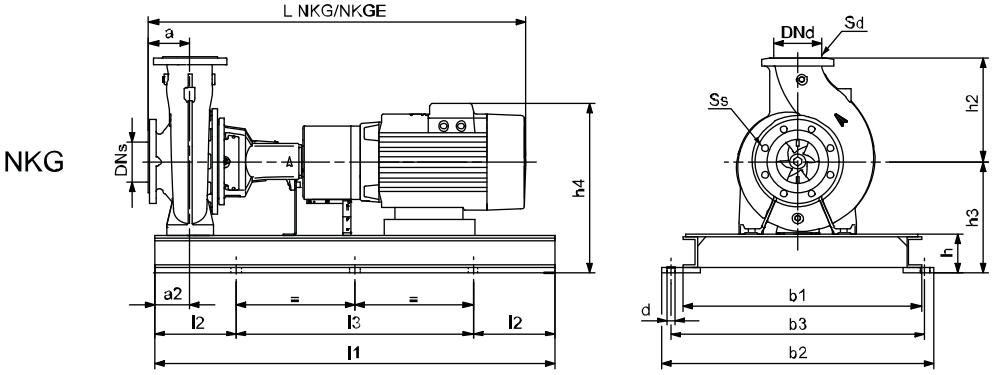
TM03 1931 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107112

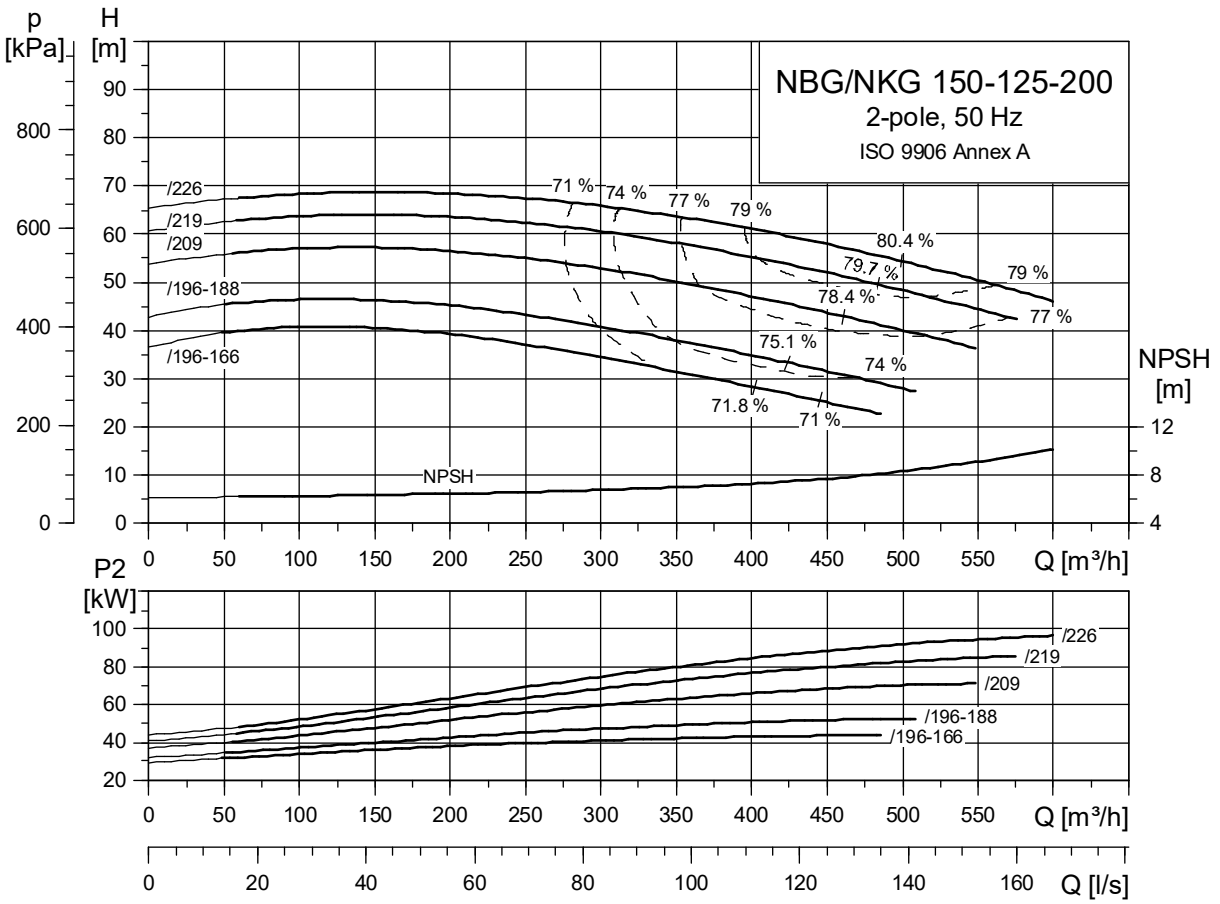
Pump type			125-100-315/269	125-100-315/284	125-100-315/301	125-100-315/322
Motor type	Premium Motor		Siemens 315S	Siemens 315M	Siemens 315L	Siemens 315L
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	110	132	160	200
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	100	100	100	100
	a	[mm]	140	140	140	140
	h2	[mm]	315	315	315	315
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1746/1882	1906/2042	1260/1906	1400/2046
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	1299/1298	1424/1423	1233/1232	1423/1422
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	2000	2000	132	133
	l2	[mm]	330	330	2000	2000
	l3	[mm]	1340	1340	330	330
	b1	[mm]	750	750	1340	1340
	b2	[mm]	890	890	750	750
	b3	[mm]	830	830	890	890
	d	[mm]	28	28	830	830
	a2	[mm]	90	90	810	810
	h	[mm]	130	130	90	90
	h3	[mm]	450	450	130	130
	h4[1)]	[mm]	495/-	495/-	495/-	495/-
	Base frame no.		10	10	10	10
NBG data	Design		C[2)]	C[2)]	C[2)]	C[2)]
	L NBG	[mm]	471	471	471	471
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	250	250	250	250
	G1	[mm]	208	208	208	208
	G2	[mm]	264	264	264	264
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	315	315	315	315
	LB[1)]	[mm]	932/-	1092/-	1092/-	1232/-
	AD[1)]	[mm]	495/-	495/-	495/-	495/-
	AG[1)]	[mm]	379/-	379/-	379/-	379/-
	LL[1)]	[mm]	307/-	307/-	307/-	307/-
	P	[mm]	660	660	660	660
	C	[mm]	216	216	216	216
	B	[mm]	406	457	508	508
	A	[mm]	508	508	508	508
	K	[mm]	28	28	28	28
	Weight NBG[1)]	[kg]	1000/-	1125/-	1265/-	1455/-
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

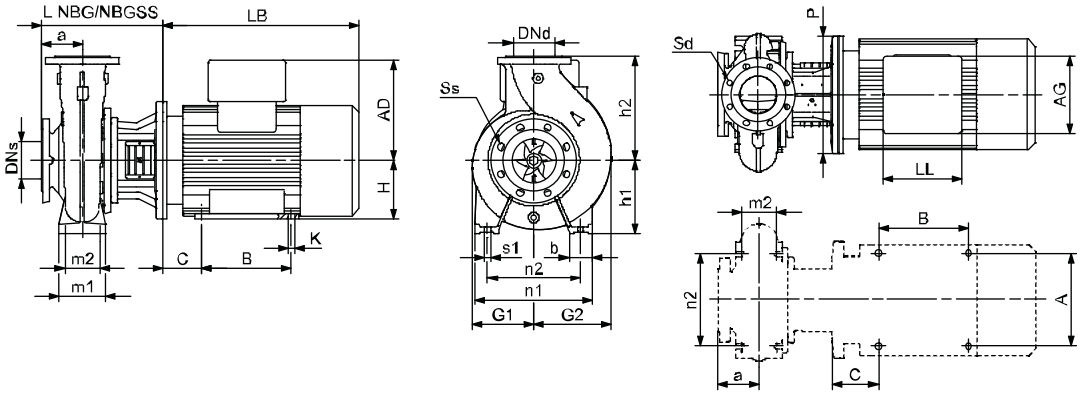
Note: For information about base frames, see page 236.

Performance curves



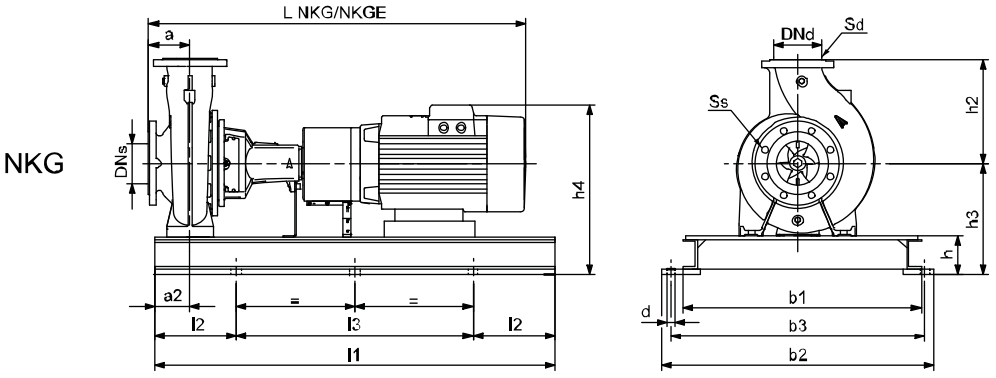
TM03 1932 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

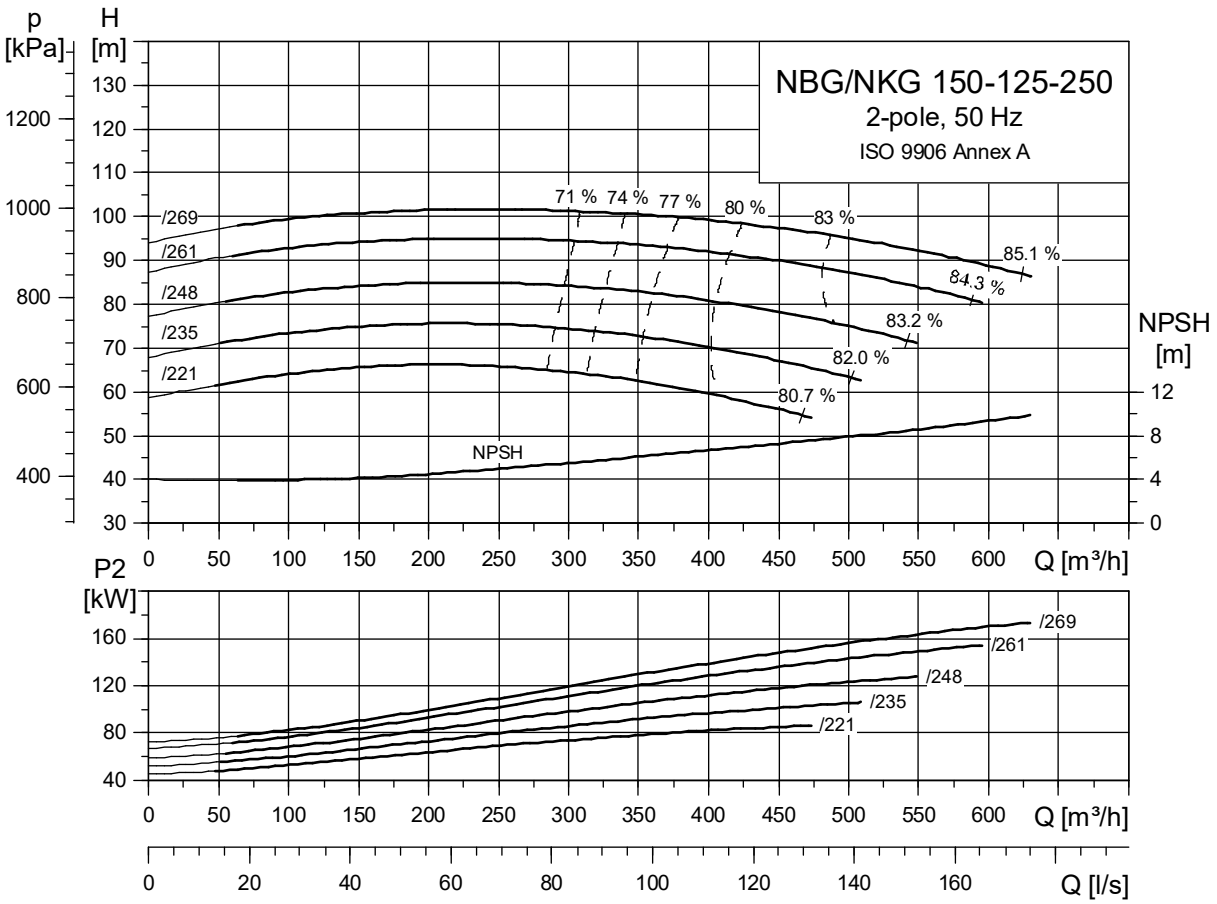
Pump type			150-125-200/196-166	150-125-200/196-188	150-125-200/209	150-125-200/219	150-125-200/226
Motor type	Premium Motor		Siemens 225M	Siemens 250M	Siemens 280S	Siemens 280M	Siemens 315S
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	45	55	75	90	110
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	150	150	150	150	150
	DNd	[mm]	125	125	125	125	125
	a	[mm]	140	140	140	140	140
	h2	[mm]	315	315	315	315	315
	Ss		8x23	8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1463/1599	1531/1667	1604/1740	1714/1850	1716/1852
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	632/626	745/740	1016/1014	1101/1100	1277/1275
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1600	1800	2000	2000	2000
	l2	[mm]	270	300	330	330	330
	l3	[mm]	1060	1200	1340	1340	1340
	b1	[mm]	530	600	750	750	750
	b2	[mm]	660	730	890	890	890
	b3	[mm]	600	670	830	830	830
	d	[mm]	28	28	28	28	28
	a2	[mm]	90	90	90	90	90
	h	[mm]	100	100	130	130	130
	h3	[mm]	350	355	415	415	450
	$h4^{1)}$	[mm]	325/-	392/-	432/-	432/-	495/-
	Base frame no.		8	9	10	10	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	443	443	443	443	473
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	250	250	250	250	250
	G1	[mm]	183	183	183	183	183
	G2	[mm]	234	234	234	234	234
	m1	[mm]	160	160	160	160	160
	m2	[mm]	120	120	120	120	120
	n1	[mm]	400	400	400	400	400
	n2	[mm]	315	315	315	315	315
	b	[mm]	80	80	80	80	80
	s1	[mm]	M16	M16	M16	M16	M16
	H	[mm]	225	250	280	280	315
	$LB^{1)}$	[mm]	709/-	747/-	820/-	930/-	932/-
	$AD^{1)}$	[mm]	325/-	392/-	432/-	432/-	495/-
	$AG^{1)}$	[mm]	260/-	300/-	300/-	300/-	379/-
	$LL^{1)}$	[mm]	192/-	236/-	236/-	236/-	307/-
	P	[mm]	450	550	550	550	660
	C	[mm]	149	168	190	190	216
	B	[mm]	311	349	368	419	406
	A	[mm]	356	406	457	457	508
	K	[mm]	19	24	24	24	28
	Weight $NBG^{1)}$	[kg]	468/-	573/-	684/-	769/-	982/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

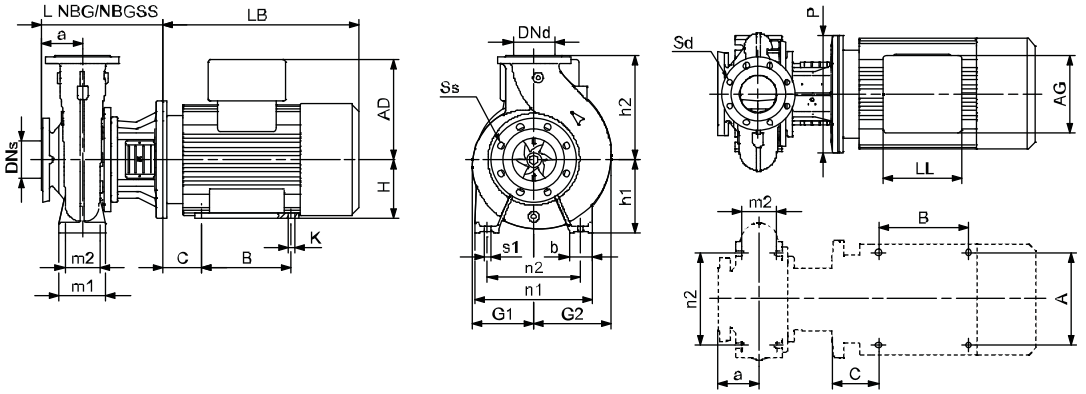
Note: For information about base frames, see page 236.

Performance curves



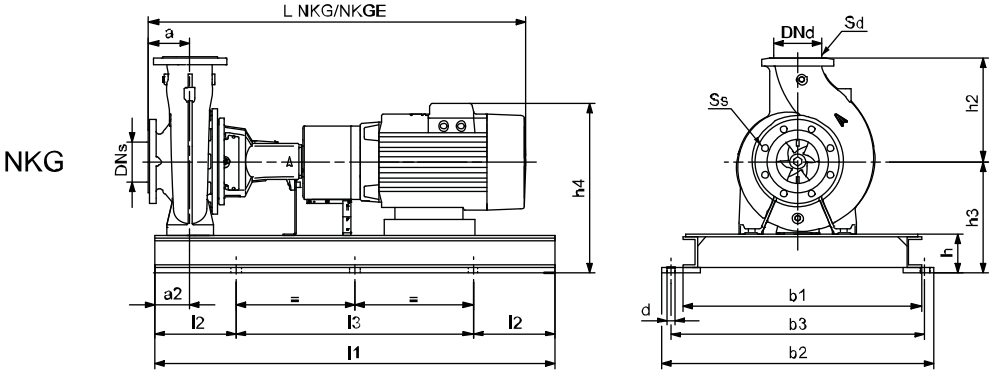
TM03 1933 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

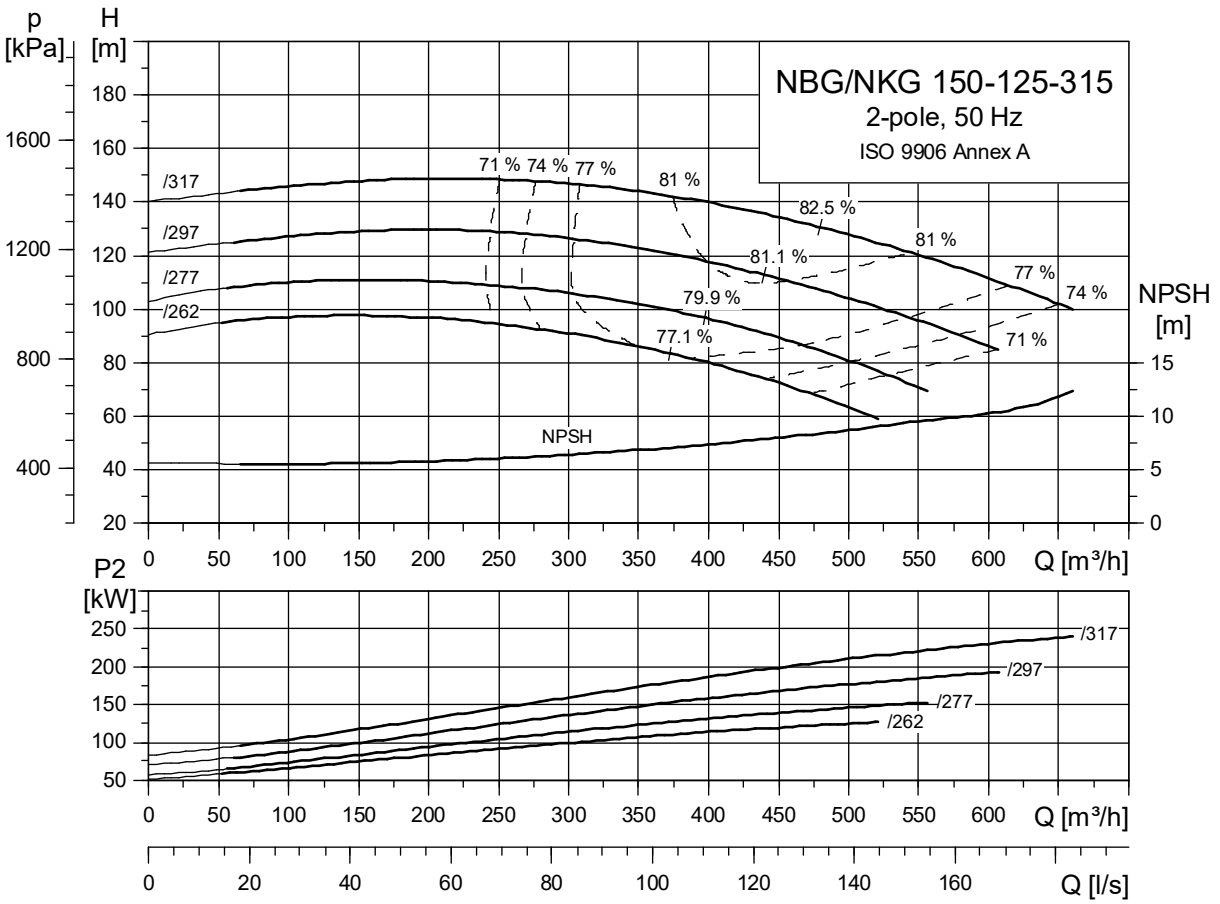
Pump type			150-125-250/221	150-125-250/235	150-125-250/248	150-125-250/261	150-125-250/269
Motor type	Premium Motor		Siemens 280M	Siemens 315S	Siemens 315M	Siemens 315L	Siemens 315L
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	90	110	132	160	200
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	150	150	150	150	150
	DNd	[mm]	125	125	125	125	125
	a	[mm]	140	140	140	140	140
	h2	[mm]	355	355	355	355	355
	Ss		8x23	8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1098/1744	1100/1746	1260/1906	1260/1906	1400/2046
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	788/787	963/962	1088/1087	1228/1227	1418/1417
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	140	141	142	143	144
	l2	[mm]	2000	2000	2000	2000	2000
	l3	[mm]	330	330	330	330	330
	b1	[mm]	1340	1340	1340	1340	1340
	b2	[mm]	750	750	750	750	750
	b3	[mm]	890	890	890	890	890
	d	[mm]	830	830	830	830	830
	a2	[mm]	810	810	810	810	810
	h	[mm]	90	90	90	90	90
	h3	[mm]	130	130	130	130	130
	$h4^{1)}$	[mm]	432/-	495/-	495/-	495/-	495/-
	Base frame no.		10	10	10	10	10
NBG data	Design		C[2)]	C[2)]	C[2)]	C[2)]	C[2)]
	L NBG	[mm]	441	471	471	471	471
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	250	250	250	250	250
	G1	[mm]	208	208	208	208	208
	G2	[mm]	264	264	264	264	264
	m1	[mm]	160	160	160	160	160
	m2	[mm]	120	120	120	120	120
	n1	[mm]	400	400	400	400	400
	n2	[mm]	315	315	315	315	315
	b	[mm]	80	80	80	80	80
	s1	[mm]	M16	M16	M16	M16	M16
	H	[mm]	280	315	315	315	315
	$LB^{1)}$	[mm]	930/-	932/-	1092/-	1092/-	1232/-
	$AD^{1)}$	[mm]	432/-	495/-	495/-	495/-	495/-
	$AG^{1)}$	[mm]	300/-	379/-	379/-	379/-	379/-
	$LL^{1)}$	[mm]	236/-	307/-	307/-	307/-	307/-
	P	[mm]	550	660	660	660	660
	C	[mm]	190	216	216	216	216
	B	[mm]	419	406	457	508	508
	A	[mm]	457	508	508	508	508
	K	[mm]	24	28	28	28	28
	Weight $NBG^{1)}$	[kg]	778/-	995/-	1120/-	1260/-	1450/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

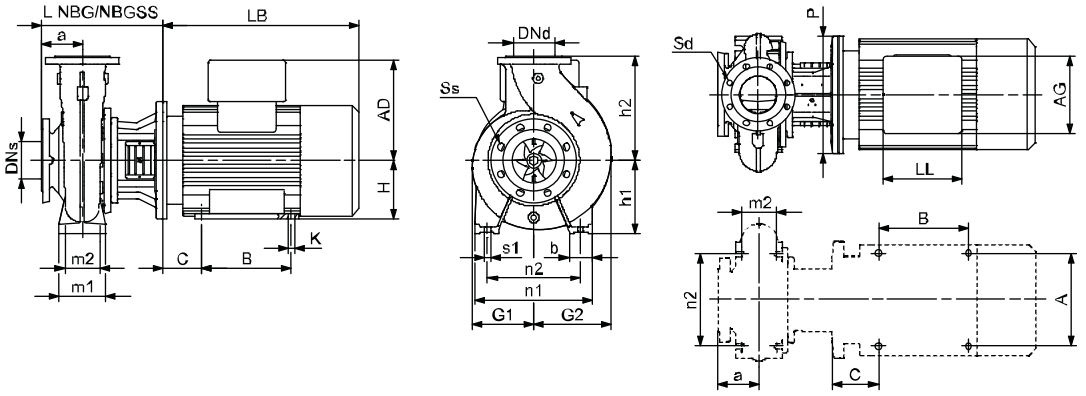
Note: For information about base frames, see page 236.

Performance curves



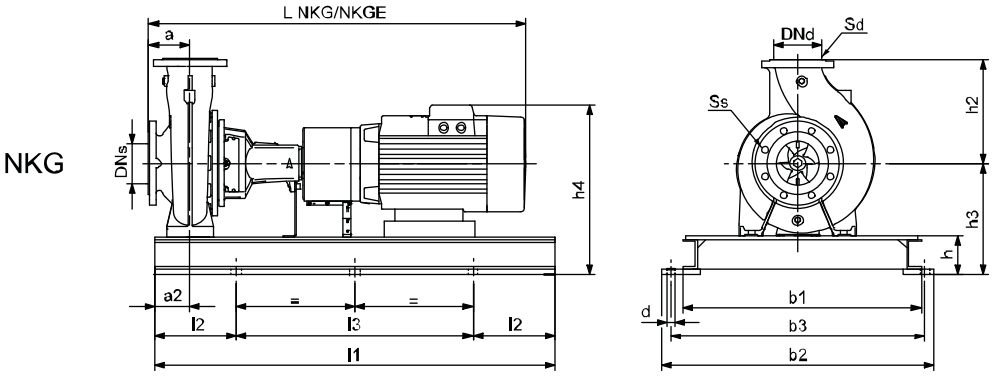
TM03 1934 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

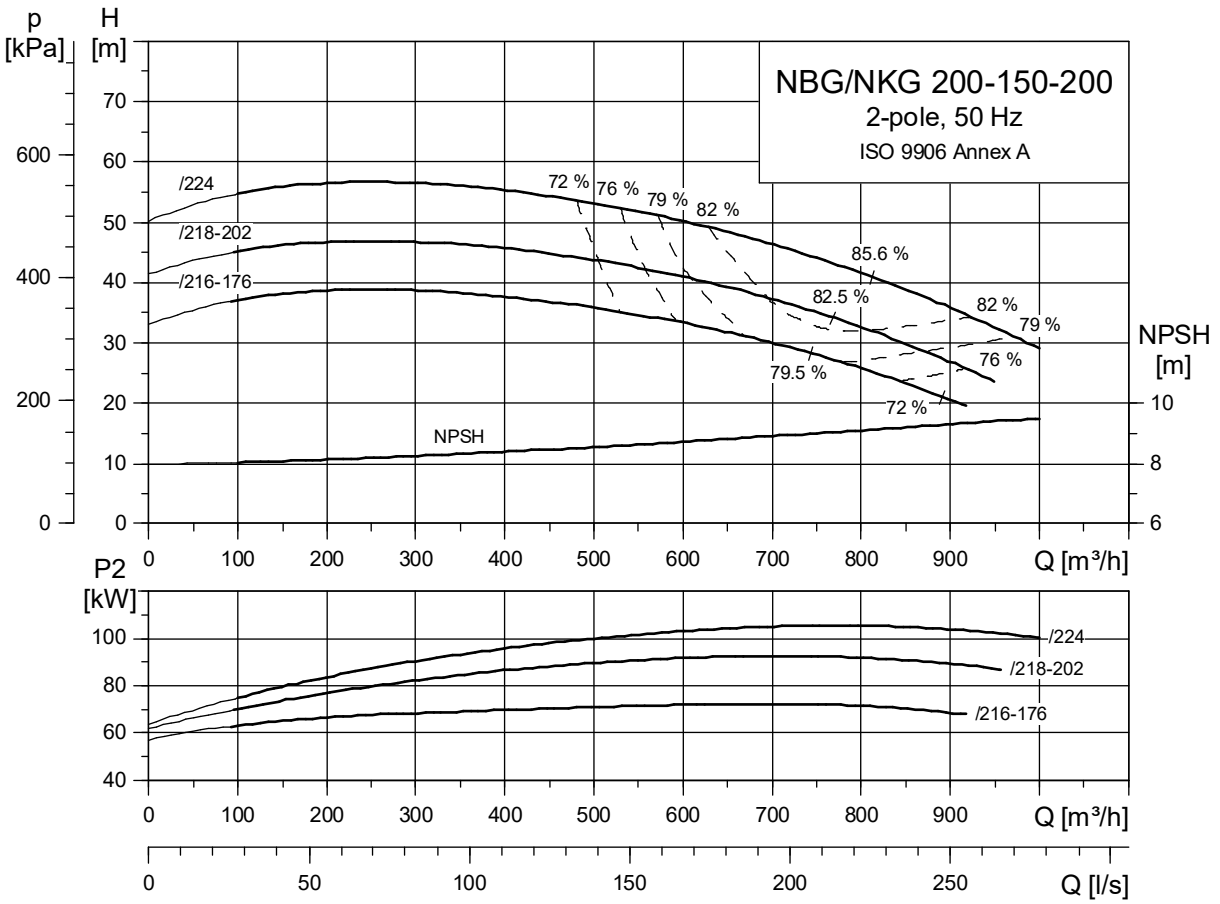
Pump type			150-125-315/262	150-125-315/277	150-125-315/297	150-125-315/317
Motor type	Premium Motor		Siemens 315M	Siemens 315L	Siemens 315L	Siemens 315
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	132	160	200	250
	PN	[bar]	16	16	16	16
	DNs	[mm]	150	150	150	150
	DNd	[mm]	125	125	125	125
	a	[mm]	140	140	140	140
	h2	[mm]	355	355	355	355
	Ss		8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19
Common data NKG std./spacer coupling	L NKG	[mm]	1906/2042	1906/2042	2046/2182	2054/2190
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	1466/1464	1605/1604	1795/1794	1852/1850
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	2000	2000	2000	2000
	l2	[mm]	330	330	330	330
	l3	[mm]	1340	1340	1340	1340
	b1	[mm]	750	750	750	750
	b2	[mm]	890	890	890	890
	b3	[mm]	830	830	830	830
	d	[mm]	28	28	28	28
	a2	[mm]	110	110	110	110
	h	[mm]	130	130	130	130
	h3	[mm]	450	450	450	450
	h4 [1]	[mm]	495/-	495/-	495/-	468/-
	Base frame no.		10	10	10	10
NBG data	Design		C [2]	C [2]	C [2]	-
	L NBG	[mm]	471	471	471	-
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	280	280	280	-
	G1	[mm]	231	231	231	-
	G2	[mm]	268	268	268	-
	m1	[mm]	200	200	200	-
	m2	[mm]	150	150	150	-
	n1	[mm]	500	500	500	-
	n2	[mm]	400	400	400	-
	b	[mm]	100	100	100	-
	s1	[mm]	M20	M20	M20	-
	H	[mm]	315	315	315	-
	LB [1]	[mm]	1092/-	1092/-	1232/-	-/-
	AD [1]	[mm]	495/-	495/-	495/-	-/-
	AG [1]	[mm]	379/-	379/-	379/-	-/-
	LL [1]	[mm]	307/-	307/-	307/-	-/-
	P	[mm]	660	660	660	-
	C	[mm]	216	216	216	-
	B	[mm]	457	508	508	-
	A	[mm]	508	508	508	-
	K	[mm]	28	28	28	-
	Weight NBG [1]	[kg]	1158/-	1298/-	1488/-	-/-
	Weight NBG SS [1]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

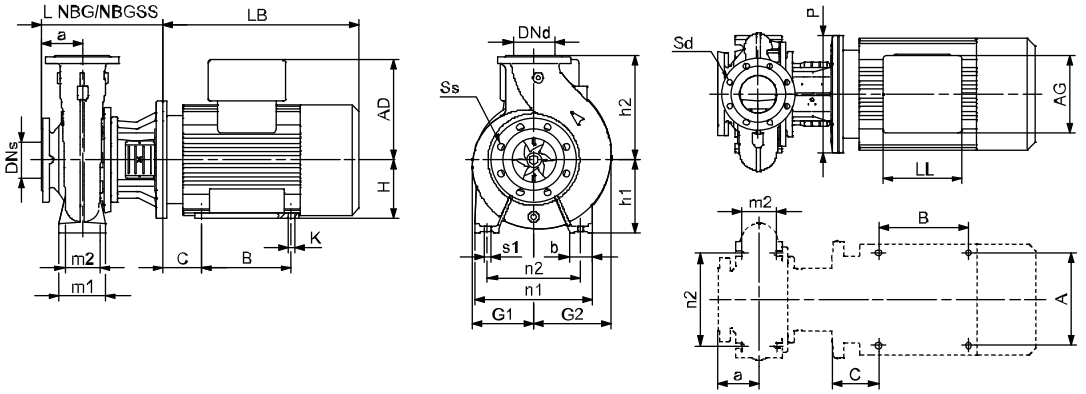
Note: For information about base frames, see page 236.

Performance curves



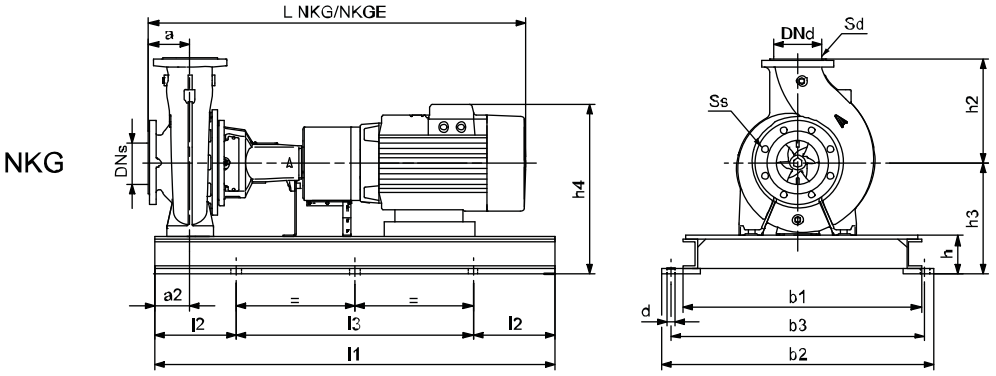
TM03 1935 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

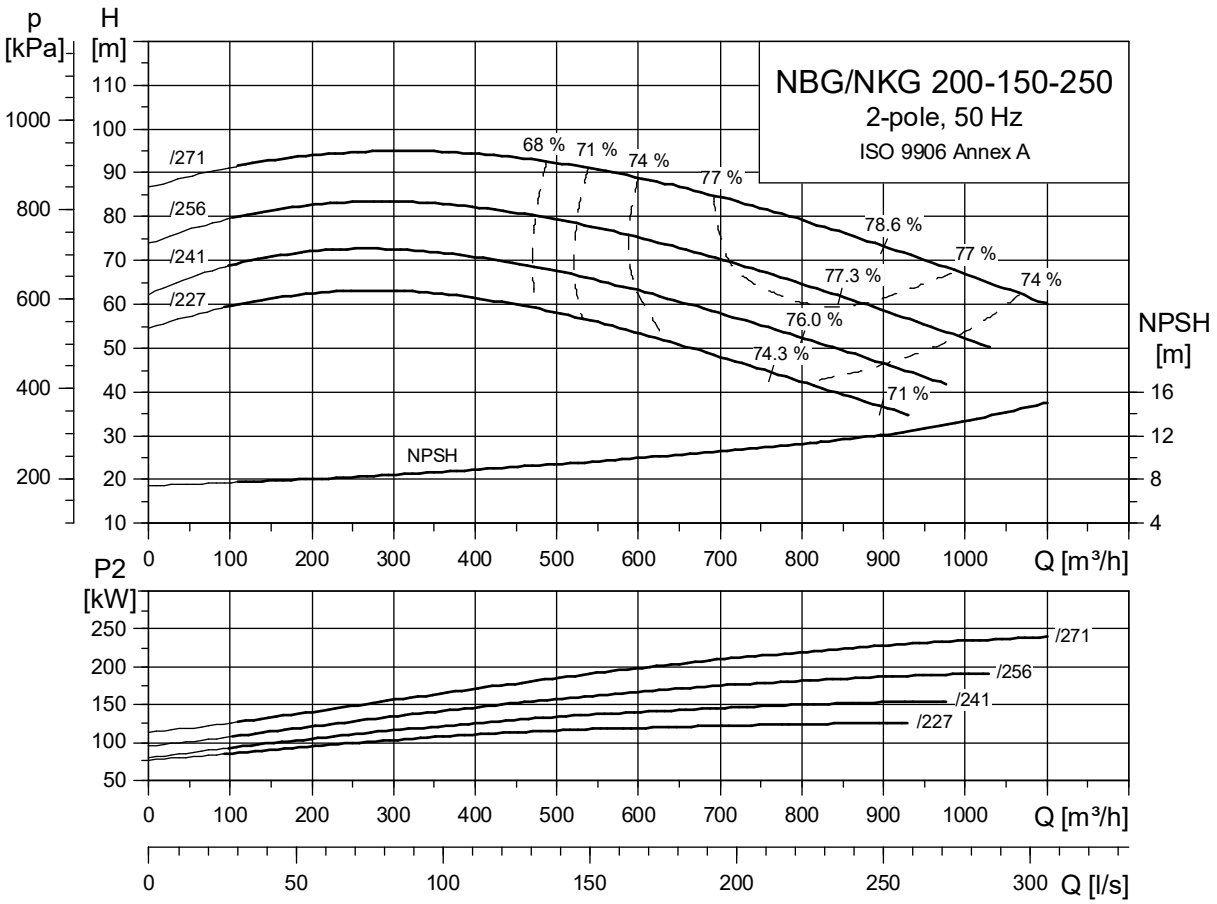
Pump type			200-150-200/216-176	200-150-200/218-202	200-150-200/224
Motor type	Premium Motor		Siemens 280S	Siemens 280M	Siemens 315S
	E-Motor		-	-	-
Common data NBG/NKG	P_2	[kW]	75	90	110
	PN	[bar]	16	16	16
	DNs	[mm]	200	200	200
	DNd	[mm]	150	150	150
	a	[mm]	160	160	160
	h2	[mm]	400	400	400
	Ss		12x23	12x23	12x23
	Sd		8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1624/1800	1734/1910	1736/1912
	L NKGE	[mm]	-/-	-/-	-/-
	Weight NKG	[mm]	1063/1062	1149/1147	1339/1338
	Weight NKGE	[kg]	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	2000	2000	2000
	l2	[mm]	330	330	330
	l3	[mm]	1340	1340	1340
	b1	[mm]	750	750	750
	b2	[mm]	890	890	890
	b3	[mm]	830	830	830
	d	[mm]	28	28	28
	a2	[mm]	110	110	110
	h	[mm]	130	130	130
	h3	[mm]	415	415	450
	$h4^{1)}$	[mm]	847/-	847/-	945/-
	Base frame no.		10	10	10
NBG data	Design		C	C	$C^{2)}$
	L NBG	[mm]	463	463	493
	L NBG SS	[mm]	-	-	-
	h1	[mm]	280	280	280
	G1	[mm]	230	230	230
	G2	[mm]	319	319	319
	m1	[mm]	200	200	200
	m2	[mm]	150	150	150
	n1	[mm]	550	550	550
	n2	[mm]	450	450	450
	b	[mm]	100	100	100
	s1	[mm]	M20	M20	M20
	H	[mm]	280	280	315
	$LB^{1)}$	[mm]	820/-	930/-	932/-
	$AD^{1)}$	[mm]	432/-	432/-	495/-
	$AG^{1)}$	[mm]	300/-	300/-	379/-
	$LL^{1)}$	[mm]	236/-	236/-	307/-
	P	[mm]	550	550	660
	C	[mm]	190	190	216
	B	[mm]	368	419	406
	A	[mm]	457	457	508
	K	[mm]	24	24	28
	Weight $NBG^{1)}$	[kg]	738/-	823/-	1037/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

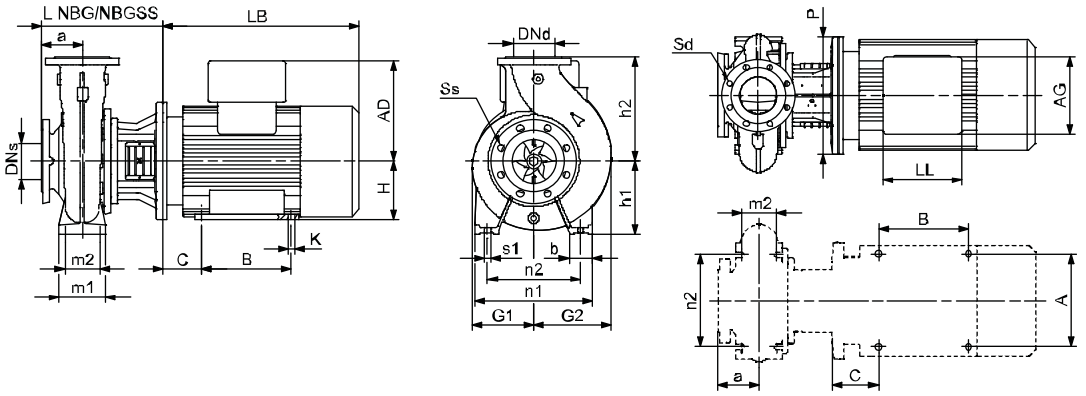
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.

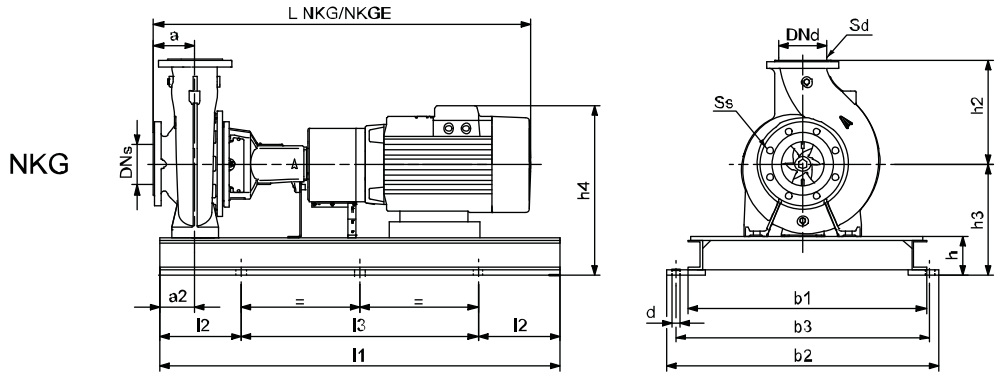
Performance curves



NBG



NKG



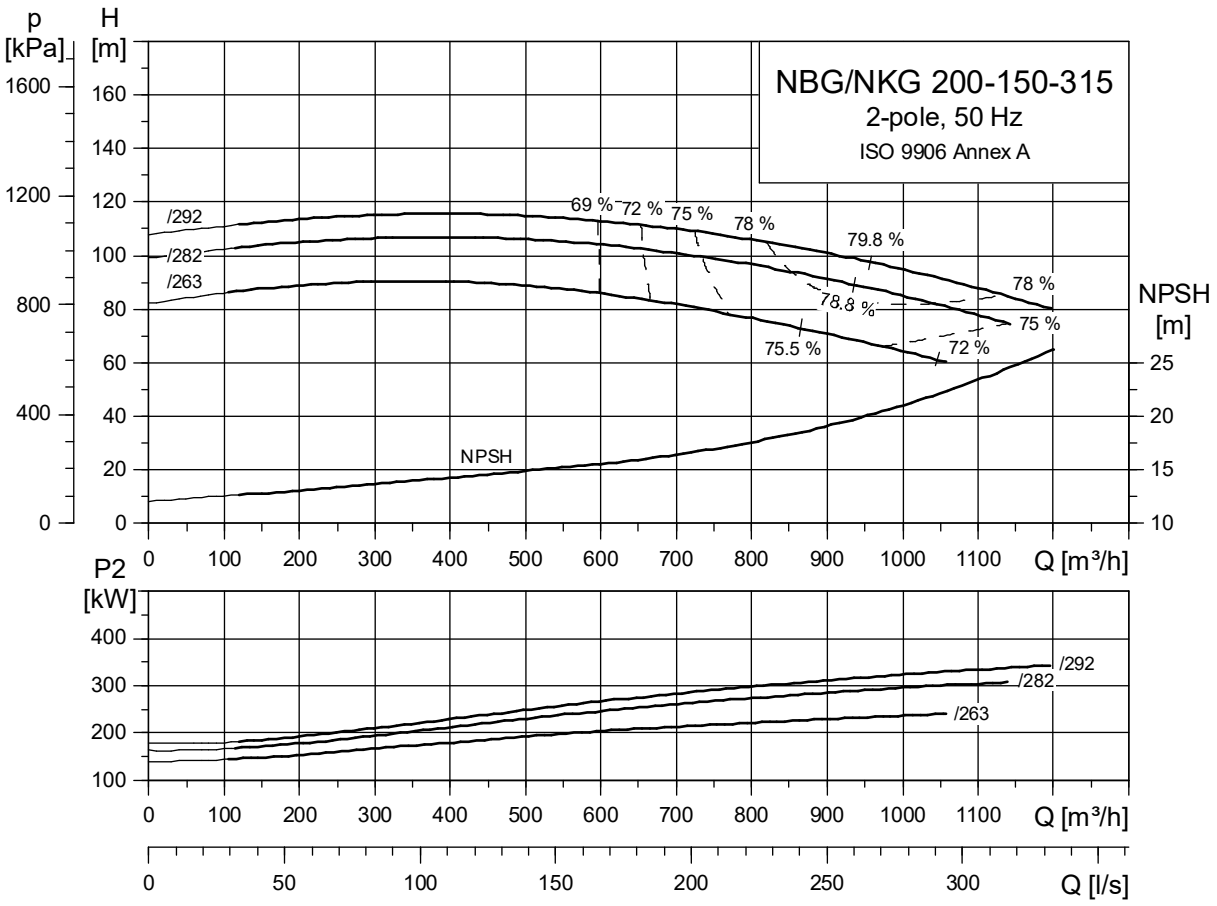
Pump type			200-150-250/227	200-150-250/241	200-150-250/256	200-150-250/271
Motor type	Premium Motor		Siemens 315M	Siemens 315L	Siemens 315L	Siemens 315
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	132	160	200	250
	PN	[bar]	16	16	16	16
	DNs	[mm]	200	200	200	200
	DNd	[mm]	150	150	150	150
	a	[mm]	160	160	160	160
	h2	[mm]	375	375	375	375
	Ss		12x23	12x23	12x23	12x23
	Sd		8x23	8x23	8x23	8x23
Common data NKG std./spacer coupling	L NKG	[mm]	1926/2102	1926/2102	2066/2242	2074/2250
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	1469/1468	1608/1607	1798/1797	1855/1854
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	2000	2000	2000	2000
	l2	[mm]	330	330	330	330
	l3	[mm]	1340	1340	1340	1340
	b1	[mm]	750	750	750	750
	b2	[mm]	890	890	890	890
	b3	[mm]	830	830	830	830
	d	[mm]	28	28	28	28
	a2	[mm]	110	110	110	110
	h	[mm]	130	130	130	130
	h3	[mm]	450	450	450	450
	h4 [1]	[mm]	495/-	495/-	495/-	468/-
	Base frame no.		10	10	10	10
NBG data	Design		C [2]	C [2]	C [2]	-
	L NBG	[mm]	491	491	491	-
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	280	280	280	-
	G1	[mm]	221	221	221	-
	G2	[mm]	287	287	287	-
	m1	[mm]	200	200	200	-
	m2	[mm]	150	150	150	-
	n1	[mm]	500	500	500	-
	n2	[mm]	400	400	400	-
	b	[mm]	100	100	100	-
	s1	[mm]	M20	M20	M20	-
	H	[mm]	315	315	315	-
	LB [1]	[mm]	1092/-	1092/-	1232/-	-/-
	AD [1]	[mm]	495/-	495/-	495/-	-/-
	AG [1]	[mm]	379/-	379/-	379/-	-/-
	LL [1]	[mm]	307/-	307/-	307/-	-/-
	P	[mm]	660	660	660	-
	C	[mm]	216	216	216	-
	B	[mm]	457	508	508	-
	A	[mm]	508	508	508	-
	K	[mm]	28	28	28	-
	Weight NBG [1]	[kg]	1162/-	1302/-	1492/-	-/-
	Weight NBG SS [1]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

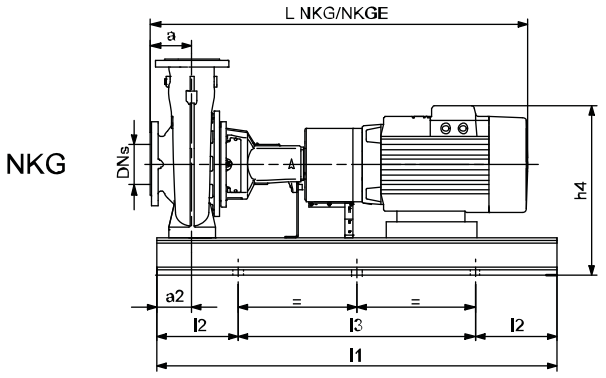
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.

Performance curves



TM03 1937 1106



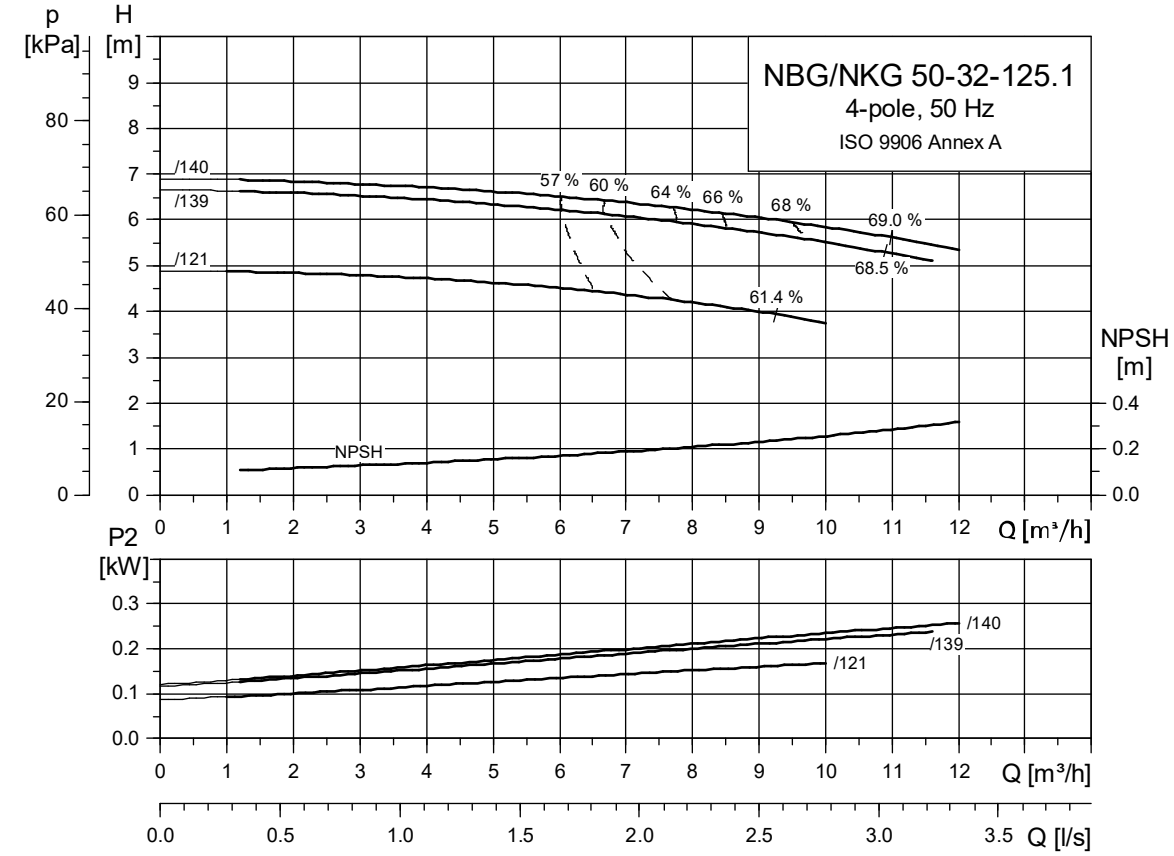
TM03 8013 0107

Pump type			200-150-315/263	200-150-315/282	200-150-315/292
Motor type	Premium Motor		Siemens 315	Siemens 315	Siemens 355
	E-Motor		-	-	-
Common data NBG/NKG	P_2	[kW]	250	315	355
	PN	[bar]	16	16	16
	DNs	[mm]	200	200	200
	DNd	[mm]	150	150	150
	a	[mm]	160	160	160
	h2	[mm]	400	400	400
	Ss		12x23	12x23	12x23
	Sd		8x23	8x23	8x23
Common data NKG std./spacer coupling	L NKG	[mm]	2214/2390	2214/2390	2439/2615
	L NKGE	[mm]	-/-	-/-	-/-
	Weight NKG	[mm]	2010/2010	2210/2210	2644/2640
	Weight NKGE	[kg]	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	2250	2250	2250
	l2	[mm]	375	375	375
	l3	[mm]	1500	1500	1500
	b1	[mm]	840	840	840
	b2	[mm]	980	980	980
	b3	[mm]	920	920	920
	d	[mm]	28	28	28
	a2	[mm]	110	110	110
	h	[mm]	130	130	130
	h3	[mm]	445	445	490
	$h4^{1)}$	[mm]	468/-	468/-	541/-
	Base frame no.		11	11	11
NBG data	Design		-	-	-
	L NBG	[mm]	-	-	-
	L NBG SS	[mm]	-	-	-
	h1	[mm]	-	-	-
	G1	[mm]	-	-	-
	G2	[mm]	-	-	-
	m1	[mm]	-	-	-
	m2	[mm]	-	-	-
	n1	[mm]	-	-	-
	n2	[mm]	-	-	-
	b	[mm]	-	-	-
	s1	[mm]	-	-	-
	H	[mm]	-	-	-
	$LB^{1)}$	[mm]	-/-	-/-	-/-
	$AD^{1)}$	[mm]	-/-	-/-	-/-
	$AG^{1)}$	[mm]	-/-	-/-	-/-
	$LL^{1)}$	[mm]	-/-	-/-	-/-
	P	[mm]	-	-	-
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight $NBG^{1)}$	[kg]	-/-	-/-	-/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-

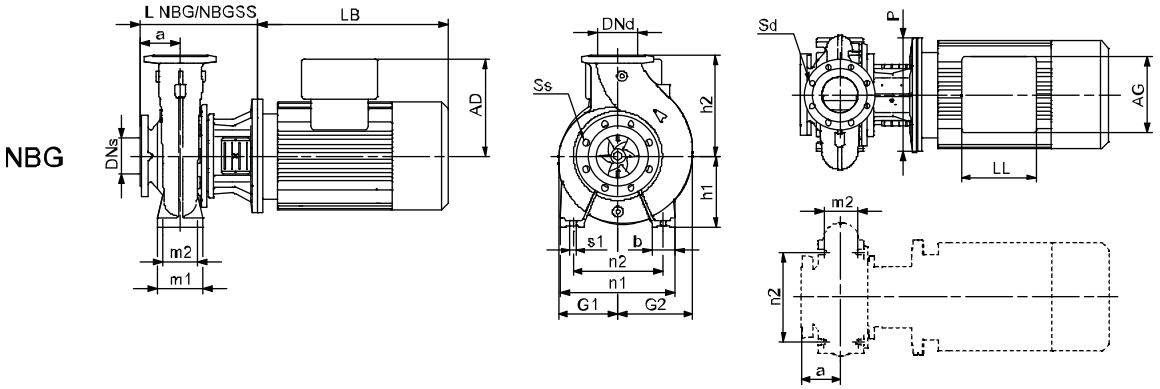
1) Dimension of pump with premium range motor/built-in frequency converter

Note: For information about base frames, see page 236.

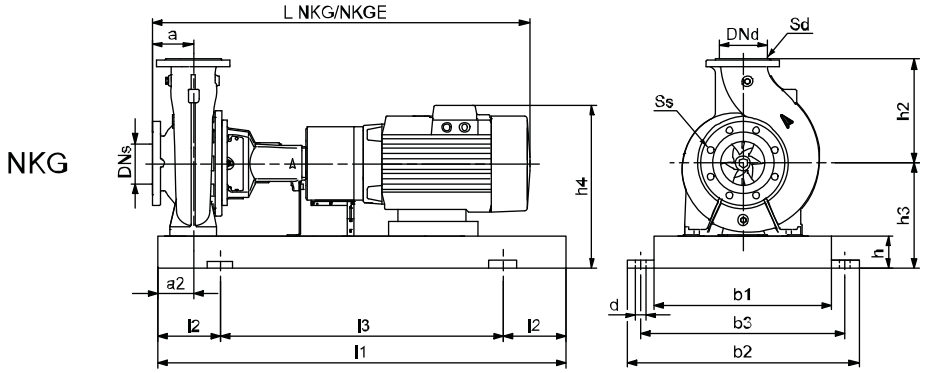
NBG, NKG 4-pole



TM03 1931 1106



TM03 8008 0107



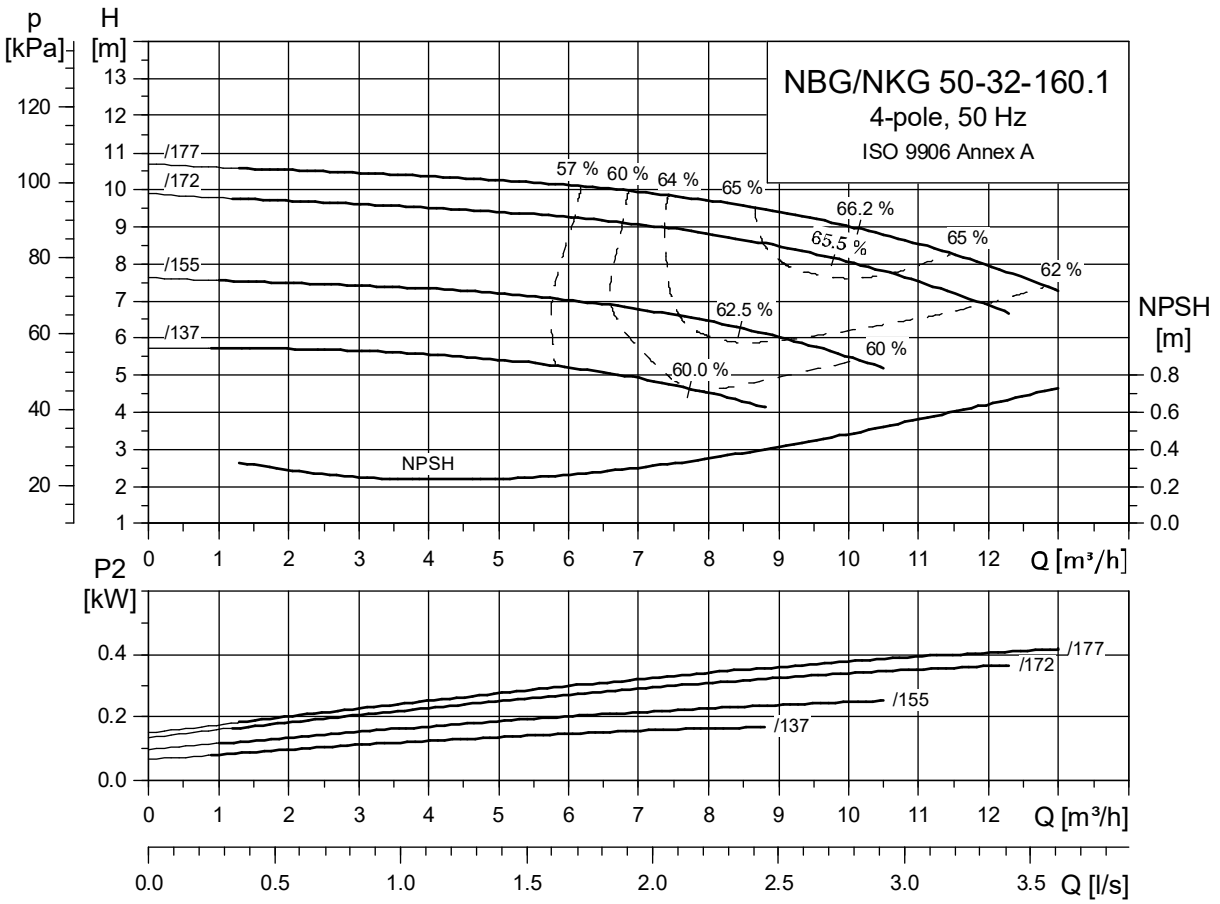
TM03 8011 0107

Pump type			50-32-125.1/121	50-32-125.1/139	50-32-125.1/140
Motor type	Premium Motor		MG 71A-C	MG 71A-C	MG 71B-C
	E-Motor		-	-	-
Common data NBG/NKG	P_2	[kW]	0.25	0.25	0.37
	PN	[bar]	16	16	16
	DNs	[mm]	50	50	50
	DNd	[mm]	32	32	32
	a	[mm]	80	80	80
	h2	[mm]	140	140	140
	Ss		4x19	4x19	4x19
	Sd		4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	700/786	700/786	700/786
	L NKGE	[mm]	-/-	-/-	-/-
	Weight NKG	[mm]	87/87	87/87	88/88
	Weight NKGE	[kg]	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	800	800	800
	l2	[mm]	130	130	130
	l3	[mm]	540	540	540
	b1	[mm]	270	270	270
	b2	[mm]	360	360	360
	b3	[mm]	320	320	320
	d	[mm]	19	19	19
	a2	[mm]	60	60	60
	h	[mm]	65	65	65
	h3	[mm]	177	177	177
	$h4^{1)}$	[mm]	286/-	286/-	286/-
	Base frame no.		2	2	2
NBG data	Design		A	A	A
	L NBG	[mm]	201	201	201
	L NBG SS	[mm]	-	-	-
	h1	[mm]	112	112	112
	G1	[mm]	117	117	117
	G2	[mm]	117	117	117
	m1	[mm]	100	100	100
	m2	[mm]	70	70	70
	n1	[mm]	190	190	190
	n2	[mm]	140	140	140
	b	[mm]	50	50	50
	s1	[mm]	M12	M12	M12
	H	[mm]	-	-	-
	$LB^{1)}$	[mm]	191/-	191/-	191/-
	$AD^{1)}$	[mm]	109/-	109/-	109/-
	$AG^{1)}$	[mm]	82/-	82/-	82/-
	$LL^{1)}$	[mm]	82/-	82/-	82/-
	P	[mm]	160	160	160
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight $NBG^{1)}$	[kg]	32/-	32/-	32/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

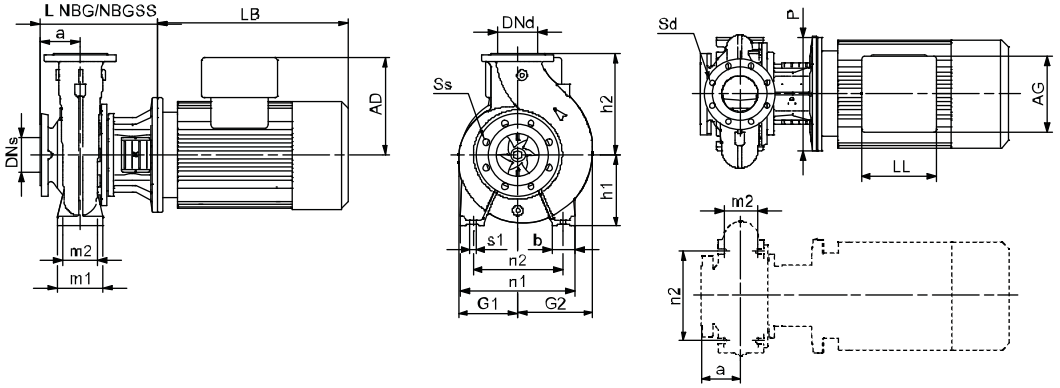
Note: For information about base frames, see page 236.

Performance curves



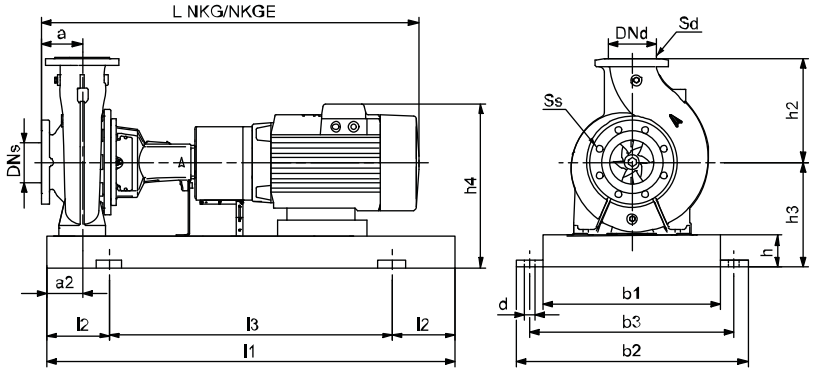
TM03 1939 1106

NBG



TM03 8008 0107

NKG

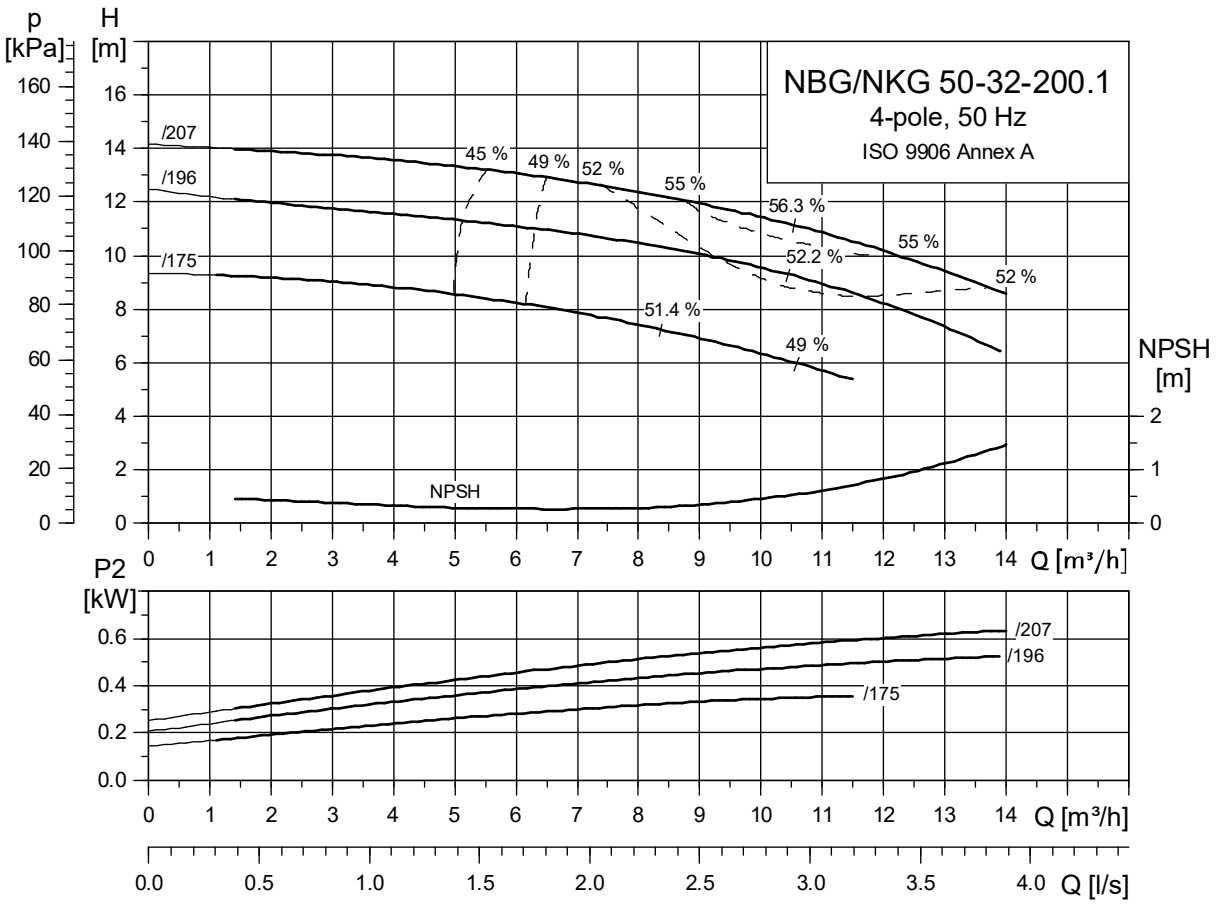


TM03 8011 0107

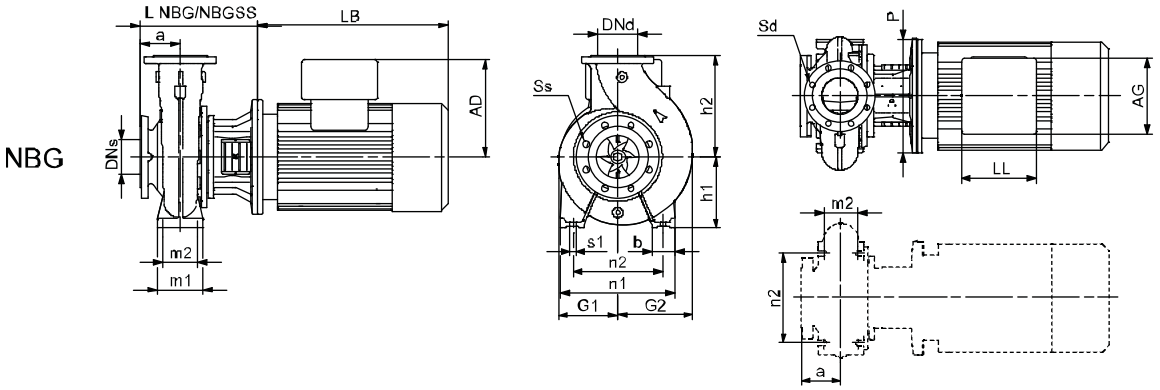
Pump type			50-32-160.1/137	50-32-160.1/155	50-32-160.1/172	50-32-160.1/177
Motor type	Premium Motor		MG 71A-C	MG 71A-C	MG 71B-C	MG 80A-C
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	0.25	0.25	0.37	0.55
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	80	80	80	80
	h2	[mm]	160	160	160	160
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	700/786	700/786	700/786	740/836
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	106/106	106/106	107/107	110/110
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1000	1000	1000	1000
	l2	[mm]	170	170	170	170
	l3	[mm]	660	660	660	660
	b1	[mm]	340	340	340	340
	b2	[mm]	450	450	450	450
	b3	[mm]	400	400	400	400
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	212	212	212	212
	$h4^{1)}$	[mm]	321/-	321/-	321/-	321/-
	Base frame no.		4	4	4	4
NBG data	Design		A	A	A	A
	L NBG	[mm]	201	201	201	226
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	132	132	132	132
	G1	[mm]	117	117	117	117
	G2	[mm]	123	123	123	123
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	$LB^{1)}$	[mm]	191/-	191/-	191/-	231/-
	$AD^{1)}$	[mm]	109/-	109/-	109/-	109/-
	$AG^{1)}$	[mm]	82/-	82/-	82/-	82/-
	$LL^{1)}$	[mm]	82/-	82/-	82/-	82/-
	P	[mm]	160	160	160	200
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight $NBG^{1)}$	[kg]	33/-	33/-	33/-	37/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

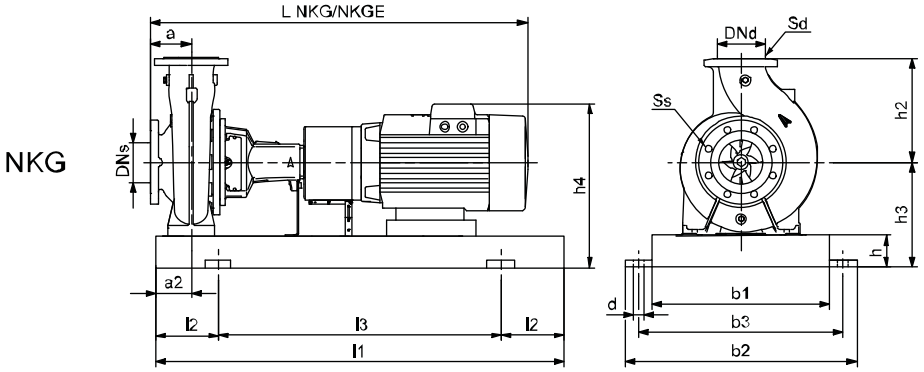
Note: For information about base frames, see page 236.



TM03 1940 1106



TM03 8008 0107



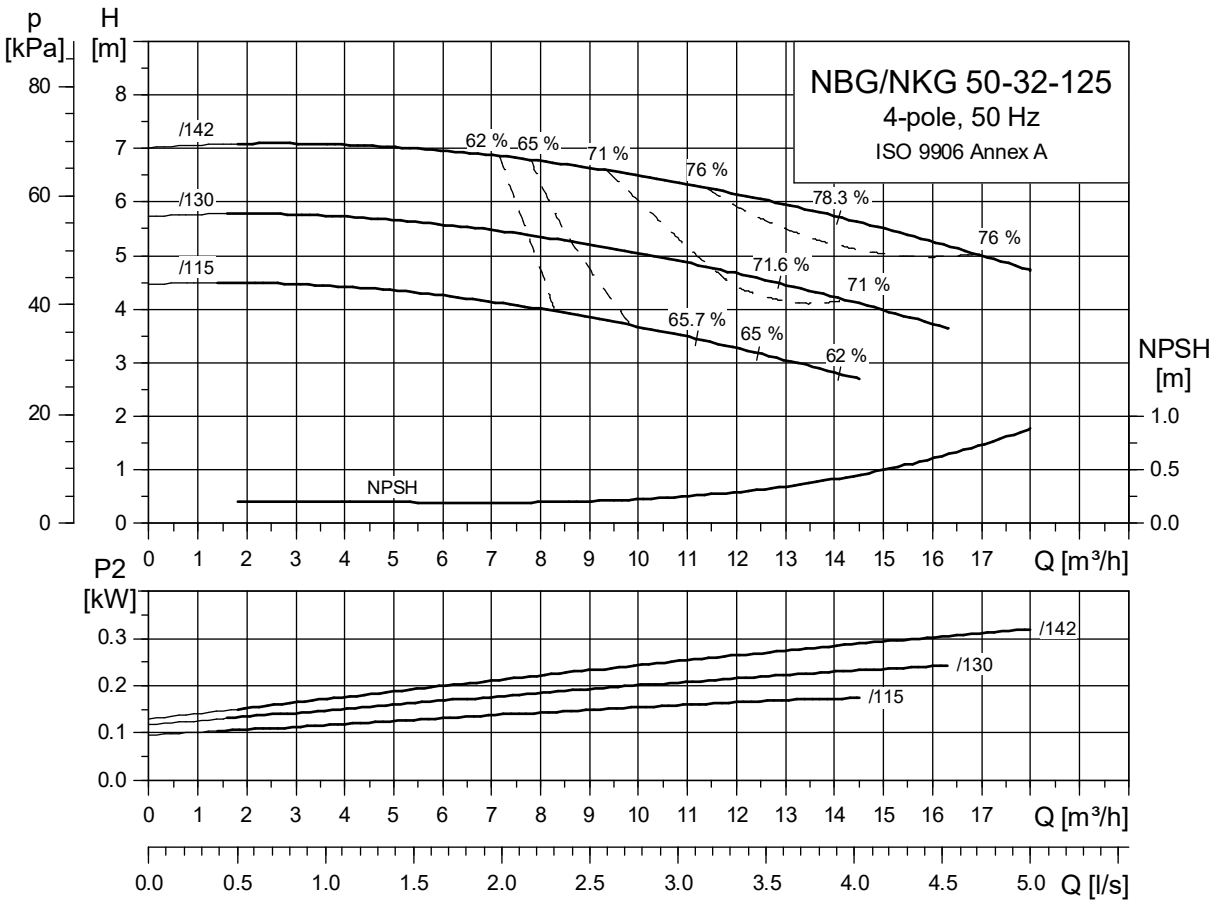
TM03 8011 0107

Pump type			50-32-200.1/175	50-32-200.1/196	50-32-200.1/207
Motor type	Premium Motor		MG 71B-C	MG 80A-C	MG 80B-C
	E-Motor		-	-	MGE 90SA
Common data NBG/NKG	P_2	[kW]	0.37	0.55	0.75
	PN	[bar]	16	16	16
	DNs	[mm]	50	50	50
	DNd	[mm]	32	32	32
	a	[mm]	80	80	80
	h2	[mm]	180	180	180
	Ss		4x19	4x19	4x19
	Sd		4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	700/786	740/836	740/836
	L NKGE	[mm]	-/-	-/-	830/926
	Weight NKG	[mm]	116/116	118/118	119/119
	Weight NKGE	[kg]	-/-	-/-	130/129
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	1000	1000	1000
	l2	[mm]	170	170	170
	l3	[mm]	660	660	660
	b1	[mm]	340	340	340
	b2	[mm]	450	450	450
	b3	[mm]	400	400	400
	d	[mm]	24	24	24
	a2	[mm]	60	60	60
	h	[mm]	80	80	80
	h3	[mm]	240	240	240
	$h4^{1)}$	[mm]	349/-	349/-	349/407
	Base frame no.		4	4	4
NBG data	Design		A	A	A
	L NBG	[mm]	243	226	226
	L NBG SS	[mm]	-	-	-
	h1	[mm]	160	160	160
	G1	[mm]	135	135	135
	G2	[mm]	137	137	137
	m1	[mm]	100	100	100
	m2	[mm]	70	70	70
	n1	[mm]	240	240	240
	n2	[mm]	190	190	190
	b	[mm]	50	50	50
	s1	[mm]	M12	M12	M12
	H	[mm]	-	-	-
	$LB^{1)}$	[mm]	191/-	231/-	231/321
	$AD^{1)}$	[mm]	109/-	109/-	109/167
	$AG^{1)}$	[mm]	82/-	82/-	82/264
	$LL^{1)}$	[mm]	82/-	82/-	82/260
	P	[mm]	160	200	200
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight $NBG^{1)}$	[kg]	45/-	44/-	45/56
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

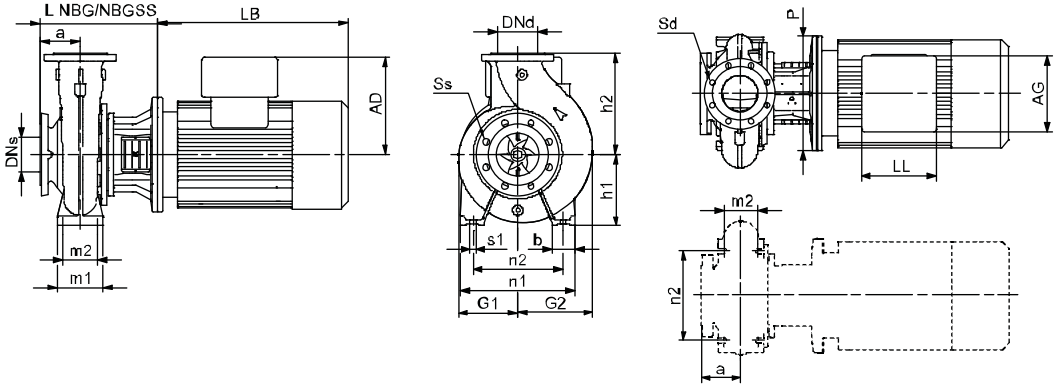
Note: For information about base frames, see page 236.

Performance curves



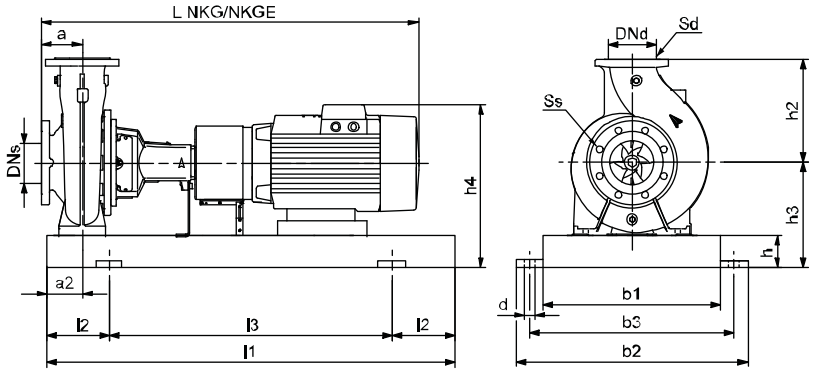
TM03 1911 1106

NBG



TM03 8008 0107

NKG



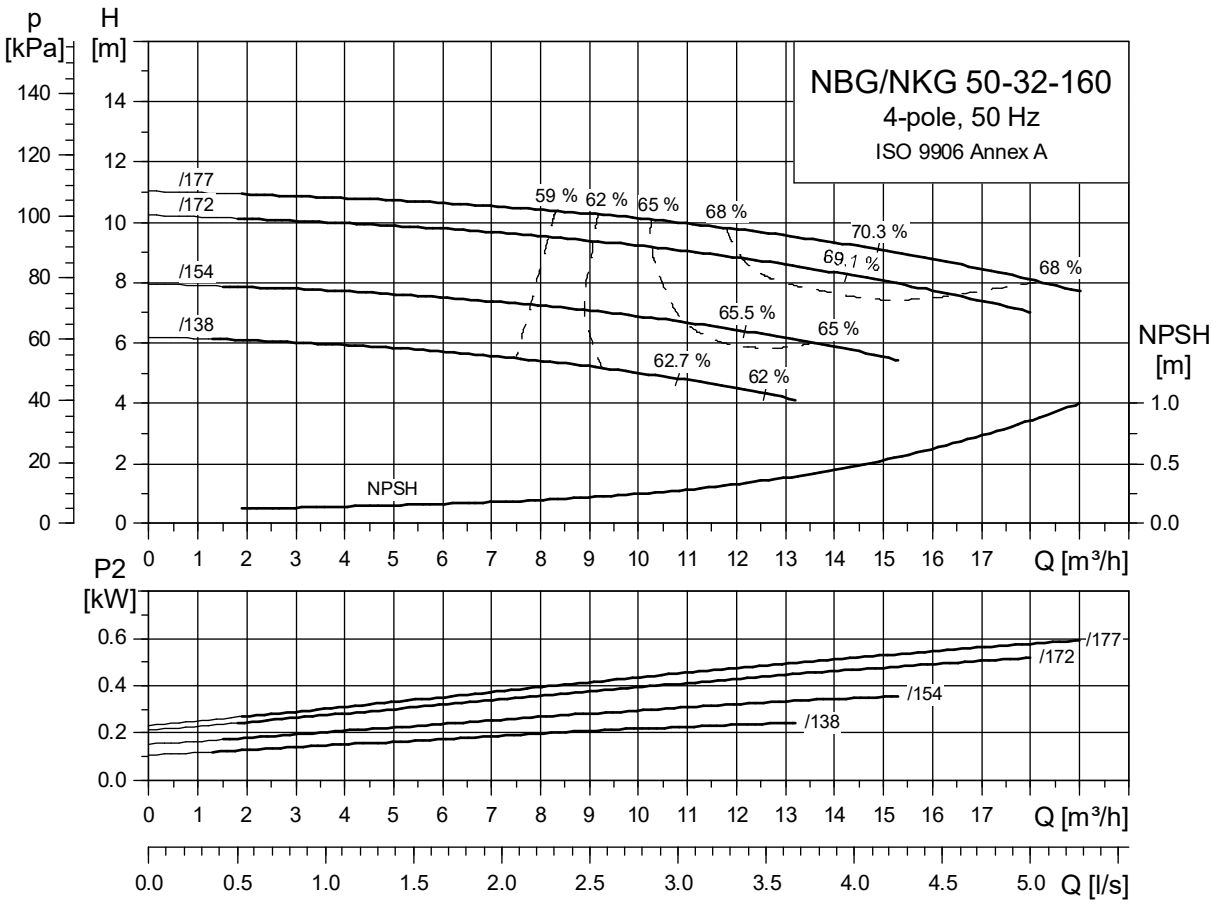
TM03 8011 0107

Pump type			50-32-125/115	50-32-125/130	50-32-125/142
Motor type	Premium Motor		MG 71A-C	MG 71A-C	MG 71B-C
	E-Motor		-	-	-
Common data NBG/NKG	P_2	[kW]	0.25	0.25	0.37
	PN	[bar]	16	16	16
	DNs	[mm]	50	50	50
	DNd	[mm]	32	32	32
	a	[mm]	80	80	80
	h2	[mm]	140	140	140
	Ss		4x19	4x19	4x19
	Sd		4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	700/786	700/786	700/786
	L NKGE	[mm]	-/-	-/-	-/-
	Weight NKG	[mm]	88/88	88/88	88/88
	Weight NKGE	[kg]	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	800	800	800
	l2	[mm]	130	130	130
	l3	[mm]	540	540	540
	b1	[mm]	270	270	270
	b2	[mm]	360	360	360
	b3	[mm]	320	320	320
	d	[mm]	19	19	19
	a2	[mm]	60	60	60
	h	[mm]	65	65	65
	h3	[mm]	177	177	177
	$h4^{1)}$	[mm]	286/-	286/-	286/-
	Base frame no.		2	2	2
NBG data	Design		A	A	A
	L NBG	[mm]	201	201	201
	L NBG SS	[mm]	-	-	-
	h1	[mm]	112	112	112
	G1	[mm]	117	117	117
	G2	[mm]	117	117	117
	m1	[mm]	100	100	100
	m2	[mm]	70	70	70
	n1	[mm]	190	190	190
	n2	[mm]	140	140	140
	b	[mm]	50	50	50
	s1	[mm]	M12	M12	M12
	H	[mm]	-	-	-
	$LB^{1)}$	[mm]	191/-	191/-	191/-
	$AD^{1)}$	[mm]	109/-	109/-	109/-
	$AG^{1)}$	[mm]	82/-	82/-	82/-
	$LL^{1)}$	[mm]	82/-	82/-	82/-
	P	[mm]	160	160	160
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight $NBG^{1)}$	[kg]	32/-	32/-	33/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

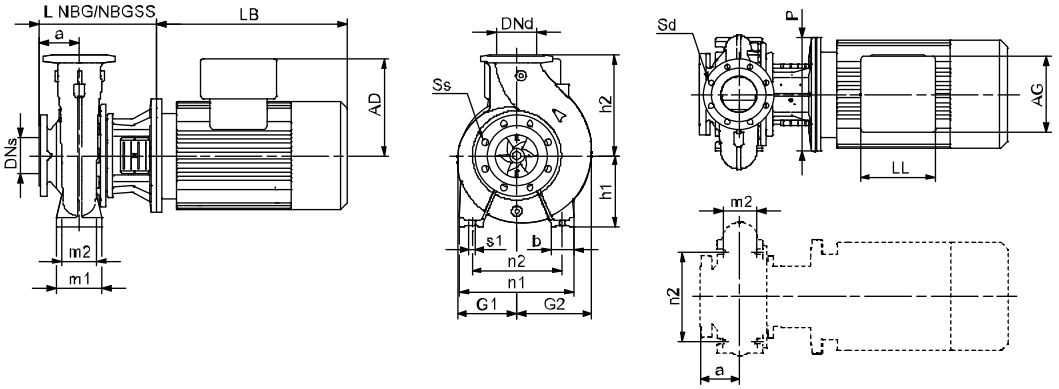
Note: For information about base frames, see page 236.

Performance curves



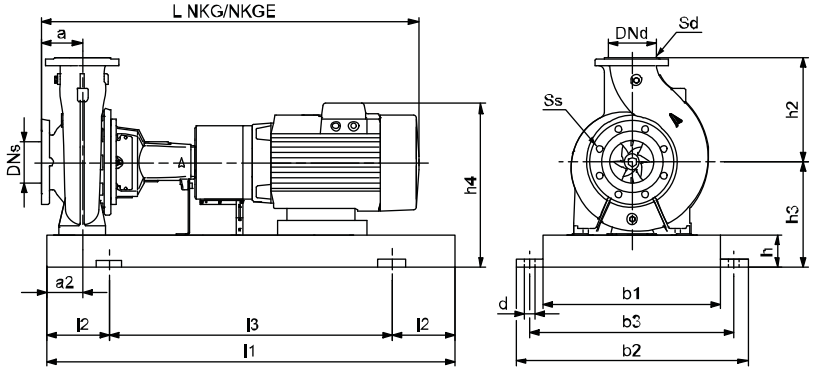
TM03 1942 1106

NBG



TM03 8008 0107

NKG



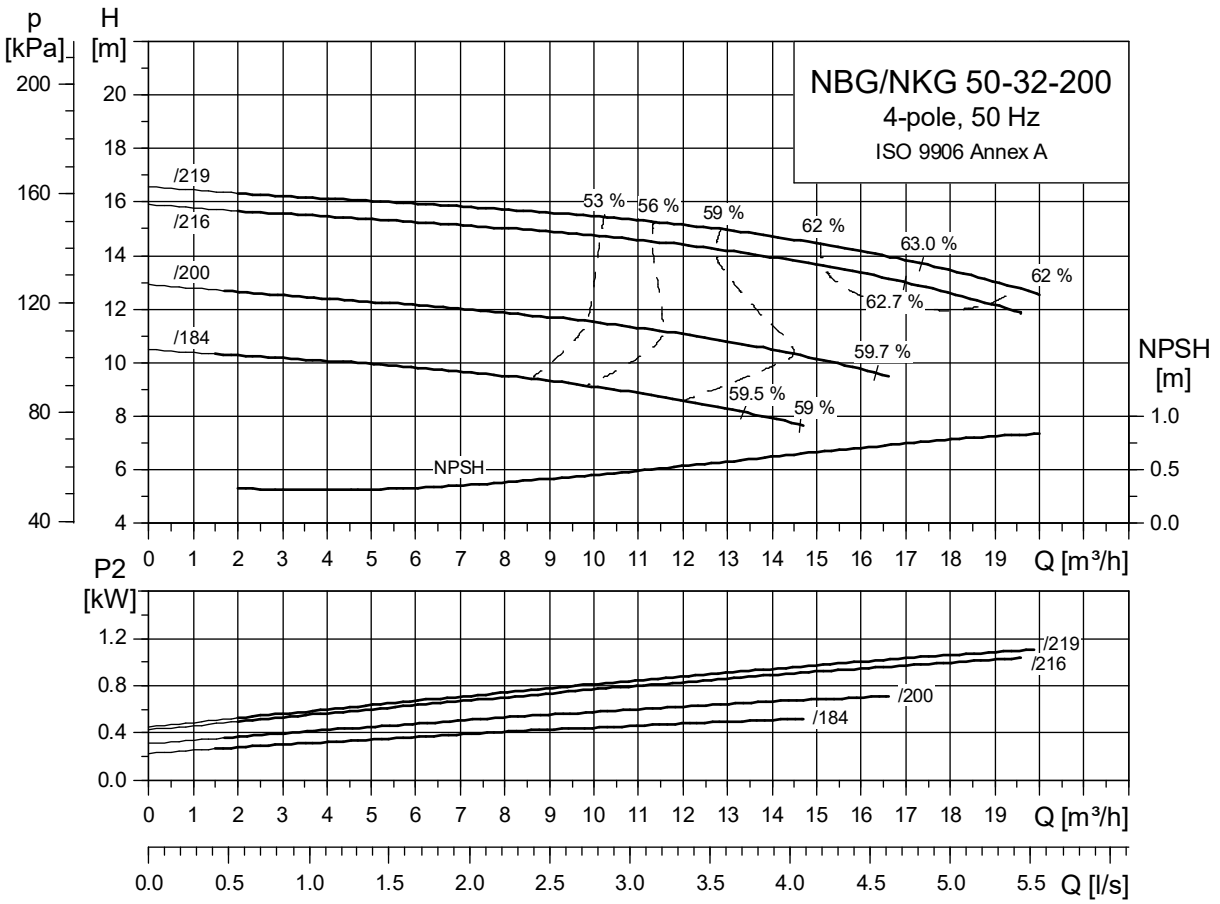
TM03 8011 0107

Pump type			50-32-160/138	50-32-160/154	50-32-160/172	50-32-160/177
Motor type	Premium Motor		MG 71A-C	MG 71B-C	MG 80A-C	MG 80B-C
	E-Motor		-	-	-	MGE 90SA
Common data NBG/NKG	P_2	[kW]	0.25	0.37	0.55	0.75
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	80	80	80	80
	h2	[mm]	160	160	160	160
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	700/786	700/786	740/836	740/836
	L NKGE	[mm]	-/-	-/-	-/-	830/926
	Weight NKG	[mm]	107/107	108/108	111/111	112/112
	Weight NKGE	[kg]	-/-	-/-	-/-	125/124
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1000	1000	1000	1000
	l2	[mm]	170	170	170	170
	l3	[mm]	660	660	660	660
	b1	[mm]	340	340	340	340
	b2	[mm]	450	450	450	450
	b3	[mm]	400	400	400	400
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	212	212	212	212
	h4 1)	[mm]	321/-	321/-	321/-	321/379
	Base frame no.		4	4	4	4
NBG data	Design		A	A	A	A
	L NBG	[mm]	201	201	226	226
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	132	132	132	132
	G1	[mm]	117	117	117	117
	G2	[mm]	125	125	125	125
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB 1)	[mm]	191/-	191/-	231/-	231/321
	AD 1)	[mm]	109/-	109/-	109/-	109/167
	AG 1)	[mm]	82/-	82/-	82/-	82/264
	LL 1)	[mm]	82/-	82/-	82/-	82/260
	P	[mm]	160	160	200	200
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG 1)	[kg]	34/-	34/-	38/-	39/50
	Weight NBG SS 1)	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

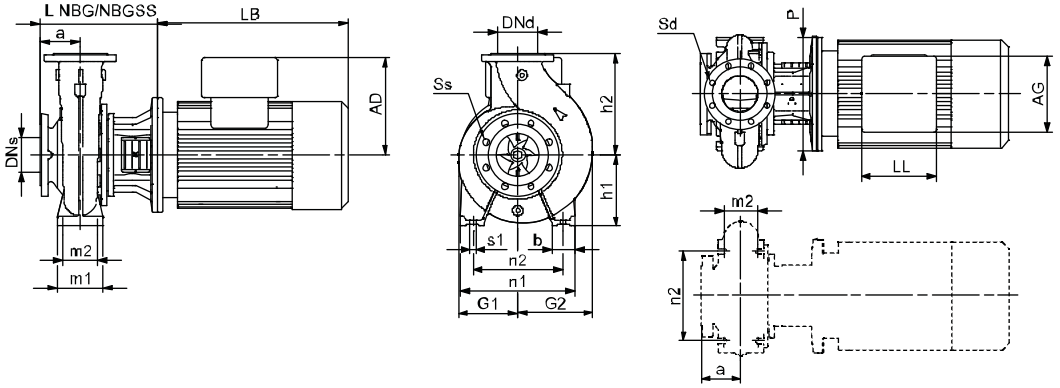
Note: For information about base frames, see page 236.

Performance curves



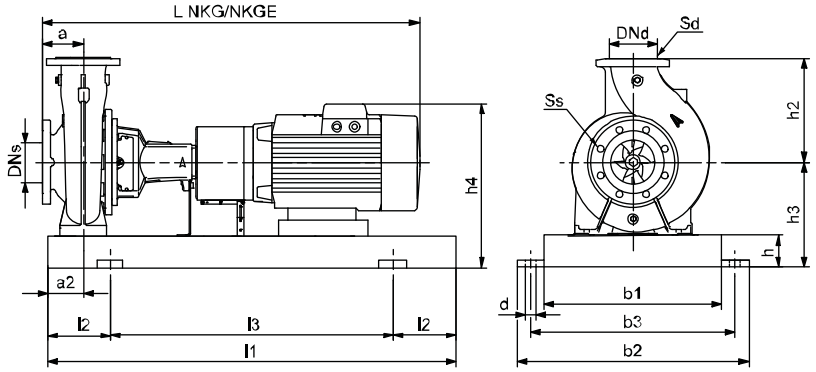
TM03 1943 1106

NBG



TM03 8008 0107

NKG



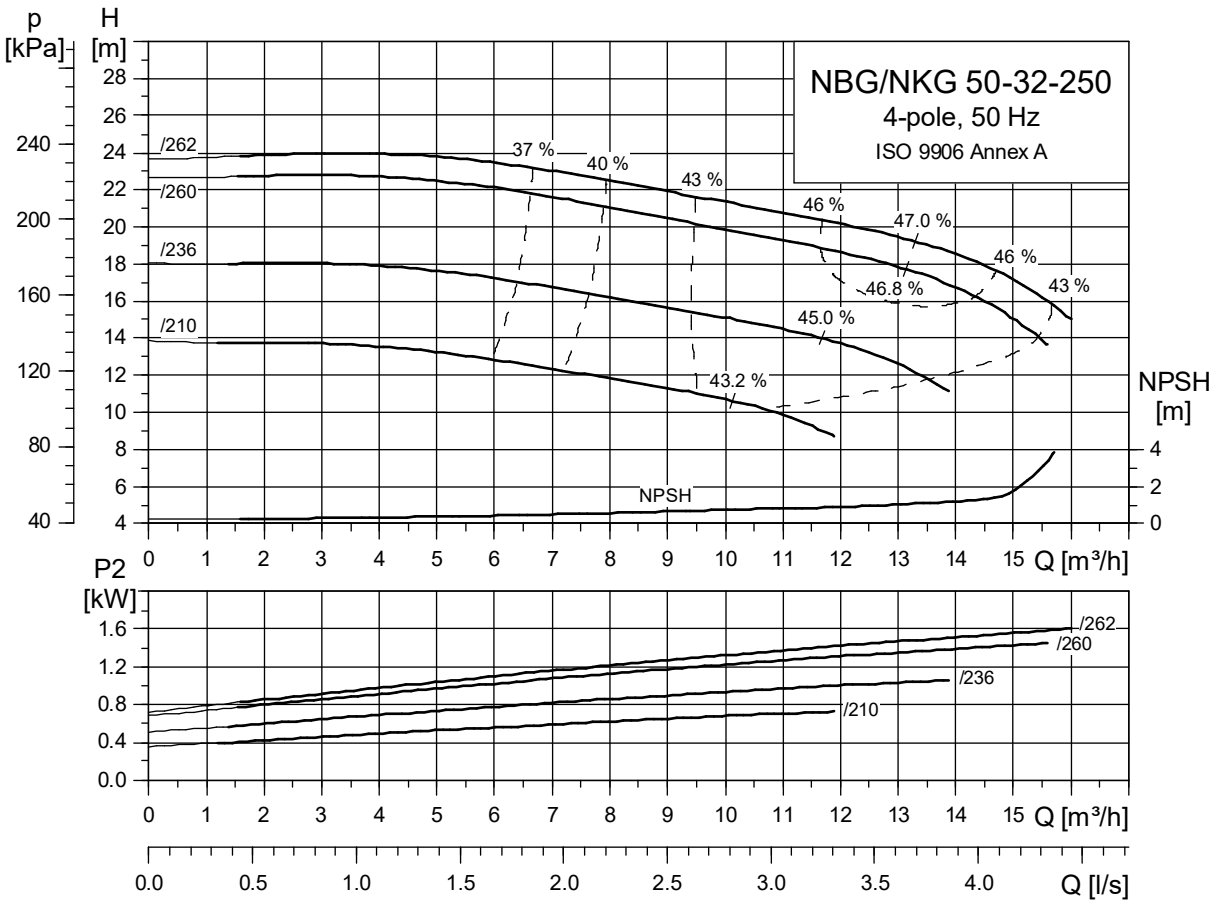
TM03 8011 0107

Pump type			50-32-200/184	50-32-200/200	50-32-200/216	50-32-200/219
Motor type	Premium Motor		MG 80A-C	MG 80B-C	MG 90SB-D	MG 90LC-D
	E-Motor		-	MGE 90SA	MGE 90SB	MGE 90LC
Common data NBG/NKG	P_2	[kW]	0.55	0.75	1.1	1.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	80	80	80	80
	h2	[mm]	180	180	180	180
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	740/836	740/836	800/896	840/936
	L NKGE	[mm]	-/-	830/926	840/936	840/936
	Weight NKG	[mm]	118/118	120/120	129/129	130/130
	Weight NKGE	[kg]	-/-	130/129	136/135	137/136
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1000	1000	1000	1000
	l2	[mm]	170	170	170	170
	l3	[mm]	660	660	660	660
	b1	[mm]	340	340	340	340
	b2	[mm]	450	450	450	450
	b3	[mm]	400	400	400	400
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	240	240	240	240
	$h4^{1)}$	[mm]	349/-	349/407	350/407	350/407
	Base frame no.		4	4	4	4
NBG data	Design		A	A	A	A
	L NBG	[mm]	226	226	226	226
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	160	160	160	160
	G1	[mm]	124	124	124	124
	G2	[mm]	145	145	145	145
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	$LB^{1)}$	[mm]	231/-	231/321	281/321	321/321
	$AD^{1)}$	[mm]	109/-	109/167	110/167	110/167
	$AG^{1)}$	[mm]	82/-	82/264	162/264	162/264
	$LL^{1)}$	[mm]	82/-	82/260	103/260	103/260
	P	[mm]	200	200	200	200
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight $NBG^{1)}$	[kg]	44/-	45/56	56/62	57/63
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

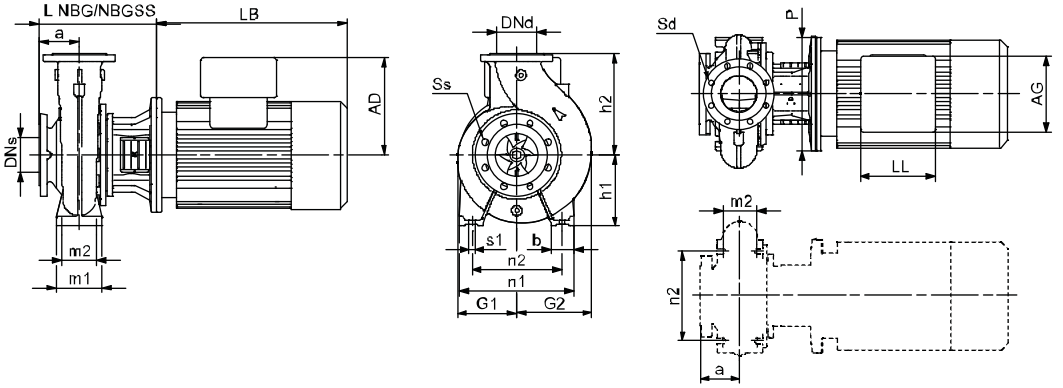
Note: For information about base frames, see page 236.

Performance curves



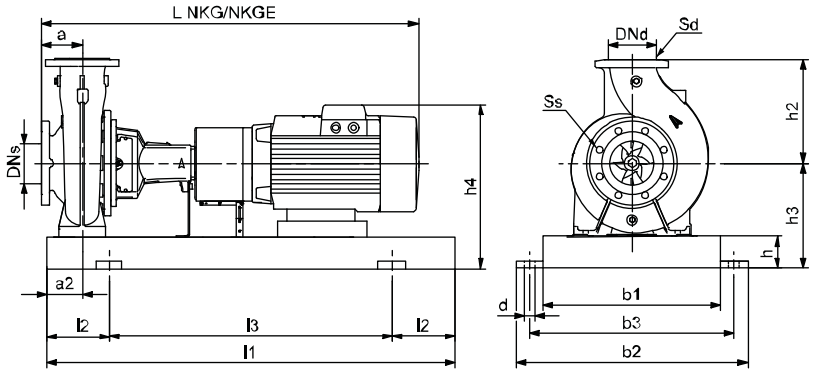
TM03 1911 1106

NBG



TM03 8008 0107

NKG



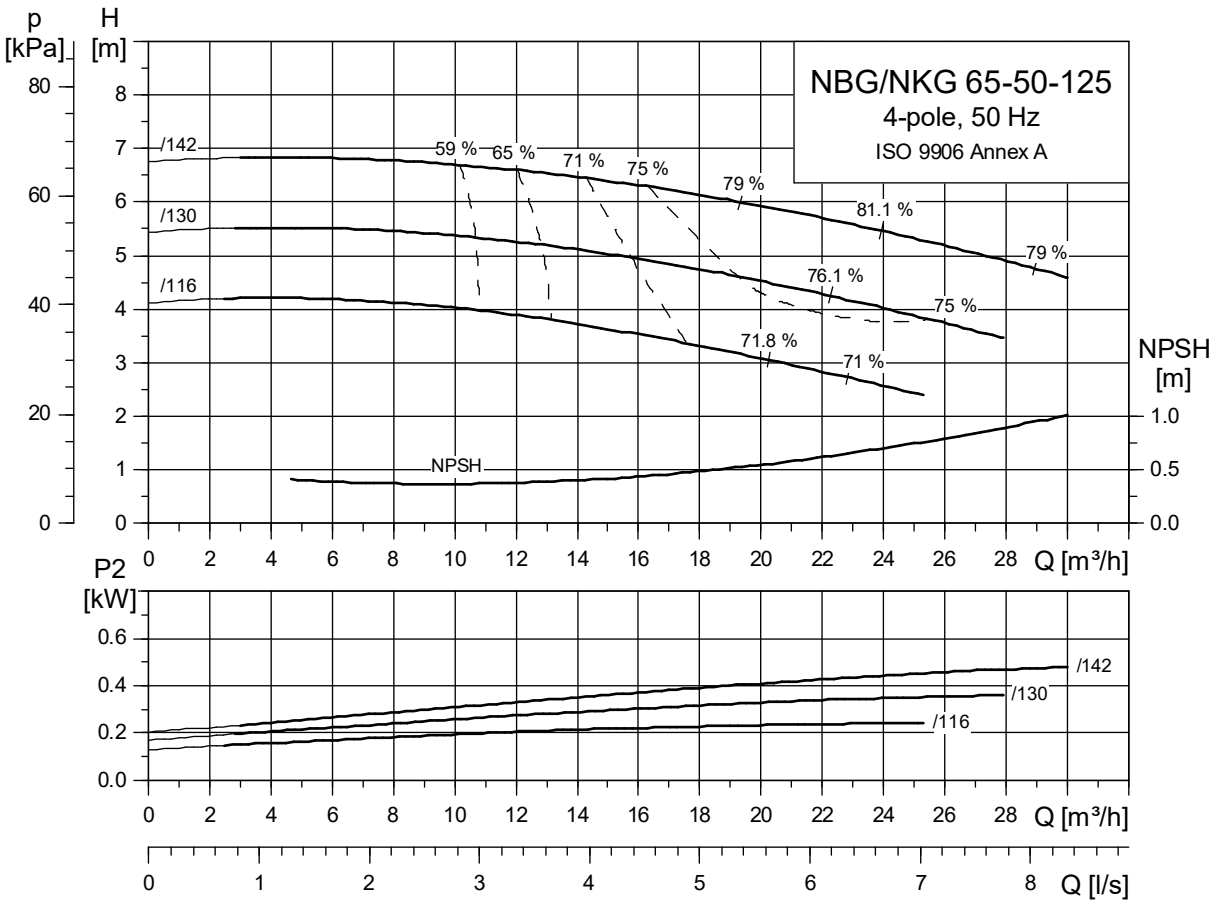
TM03 8011 0107

Pump type			50-32-250/210	50-32-250/236	50-32-250/260	50-32-250/262
Motor type	Premium Motor		MG 80B-C	MG 90SB-D	MG 90LC-D	MG 100LB-D
	E-Motor		MGE 90SA	MGE 90SB	MGE 90LC	MGE 100LB
Common data NBG/NKG	P_2	[kW]	0.75	1.1	1.5	2.2
	PN	[bar]	16	16	16	16
	DNs	[mm]	50	50	50	50
	DNd	[mm]	32	32	32	32
	a	[mm]	100	100	100	100
	h2	[mm]	225	225	225	225
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	875/971	935/1031	975/1071	999/1095
	L NKGE	[mm]	965/1061	975/1071	975/1071	999/1095
	Weight NKG	[mm]	159/159	171/170	172/171	176/174
	Weight NKGE	[kg]	171/171	177/177	178/178	187/185
	Weight NKG SS	[kg]	164/163	175/174	176/175	180/179
	Weight NKGE SS	[kg]	176/175	182/181	183/182	191/190
NKG data	l1	[kg]	1120	1120	1120	1120
	l2	[mm]	190	190	190	190
	l3	[mm]	740	740	740	740
	b1	[mm]	380	380	380	380
	b2	[mm]	490	490	490	490
	b3	[mm]	440	440	440	440
	d	[mm]	24	24	24	24
	a2	[mm]	75	75	75	75
	h	[mm]	80	80	80	80
	h3	[mm]	260	260	260	260
	$h4^{1)}$	[mm]	369/427	370/427	370/427	380/437
	Base frame no.		5	5	5	5
NBG data	Design		A	A	A	A
	L NBG	[mm]	273	273	273	293
	L NBG SS	[mm]	273	273	273	293
	h1	[mm]	180	180	180	180
	G1	[mm]	162	162	162	162
	G2	[mm]	164	164	164	164
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	320	320	320	320
	n2	[mm]	250	250	250	250
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	$LB^{1)}$	[mm]	231/321	281/321	321/321	335/335
	$AD^{1)}$	[mm]	109/167	110/167	110/167	120/177
	$AG^{1)}$	[mm]	82/264	162/264	162/264	162/264
	$LL^{1)}$	[mm]	82/260	103/260	103/260	103/260
	P	[mm]	200	200	200	250
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight $NBG^{1)}$	[kg]	61/72	72/78	73/79	81/89
	Weight NBG $SS^{1)}$	[kg]	65/76	76/82	77/83	84/92

1) Dimension of pump with premium range motor/built-in frequency converter.

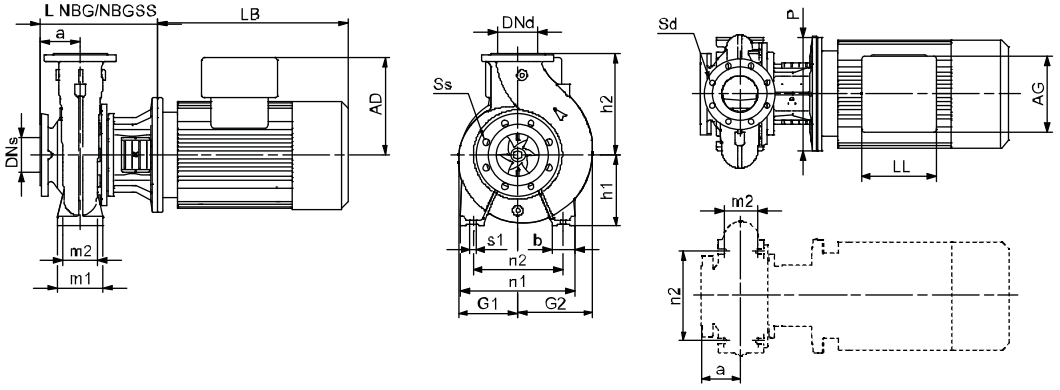
Note: For information about base frames, see page 236.

Performance curves



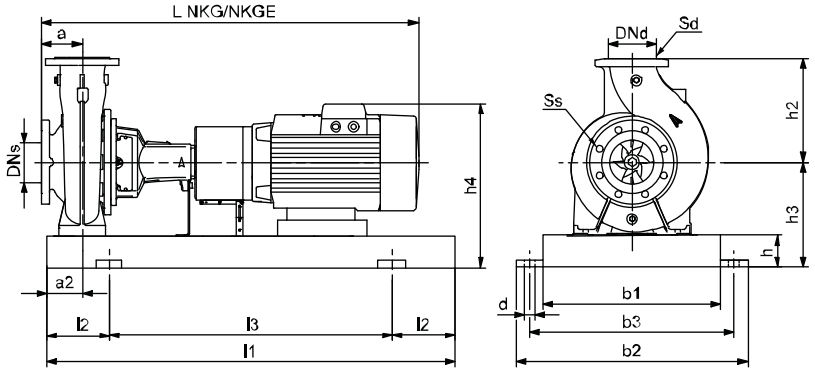
TM03 1945 1106

NBG



TM03 8008 0107

NKG



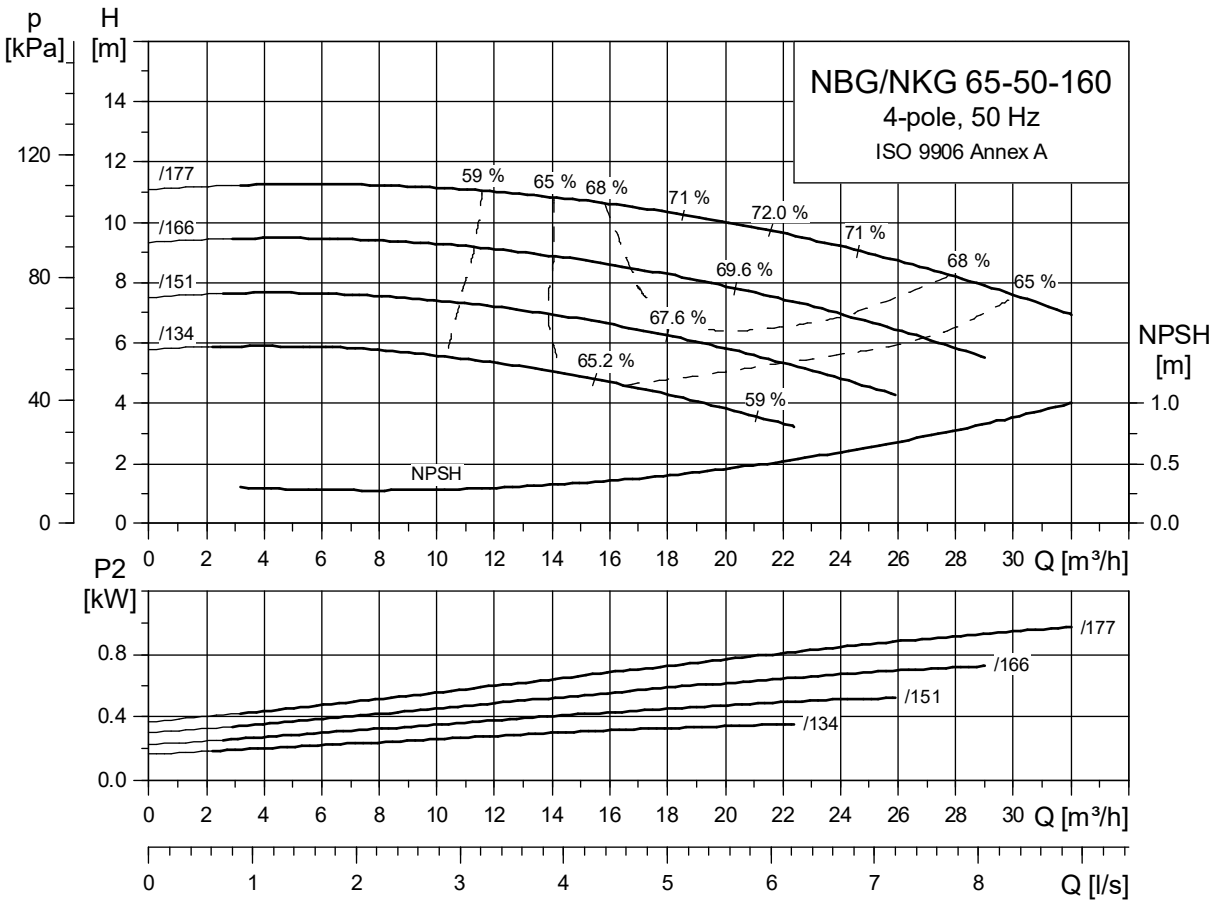
TM03 8011 0107

Pump type			65-50-125/116	65-50-125/130	65-50-125/142
Motor type	Premium Motor		MG 71A-C	MG 71B-C	MG 80A-C
	E-Motor		-	-	-
Common data NBG/NKG	P_2	[kW]	0.25	0.37	0.55
	PN	[bar]	16	16	16
	DNs	[mm]	65	65	65
	DNd	[mm]	50	50	50
	a	[mm]	80	80	80
	h2	[mm]	140	140	140
	Ss		4x19	4x19	4x19
	Sd		4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	700/786	700/786	740/836
	L NKGE	[mm]	-/-	-/-	-/-
	Weight NKG	[mm]	100/100	100/100	101/101
	Weight NKGE	[kg]	-/-	-/-	-/-
	Weight NKG SS	[kg]	98/98	99/98	100/99
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	900	900	900
	l2	[mm]	150	150	150
	l3	[mm]	600	600	600
	b1	[mm]	300	300	300
	b2	[mm]	390	390	390
	b3	[mm]	345	345	345
	d	[mm]	19	19	19
	a2	[mm]	60	60	60
	h	[mm]	65	65	65
	h3	[mm]	177	177	177
	$h4^{1)}$	[mm]	286/-	286/-	286/-
	Base frame no.		3	3	3
NBG data	Design		A	A	A
	L NBG	[mm]	201	201	226
	L NBG SS	[mm]	243	243	253
	h1	[mm]	112	112	112
	G1	[mm]	117	117	117
	G2	[mm]	118	118	118
	m1	[mm]	100	100	100
	m2	[mm]	70	70	70
	n1	[mm]	210	210	210
	n2	[mm]	160	160	160
	b	[mm]	50	50	50
	s1	[mm]	M12	M12	M12
	H	[mm]	-	-	-
	$LB^{1)}$	[mm]	191/-	191/-	231/-
	$AD^{1)}$	[mm]	109/-	109/-	109/-
	$AG^{1)}$	[mm]	82/-	82/-	82/-
	$LL^{1)}$	[mm]	82/-	82/-	82/-
	P	[mm]	160	160	200
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight $NBG^{1)}$	[kg]	37/-	37/-	41/-
	Weight NBG $SS^{1)}$	[kg]	39/-	39/-	42/-

1) Dimension of pump with premium range motor/built-in frequency converter.

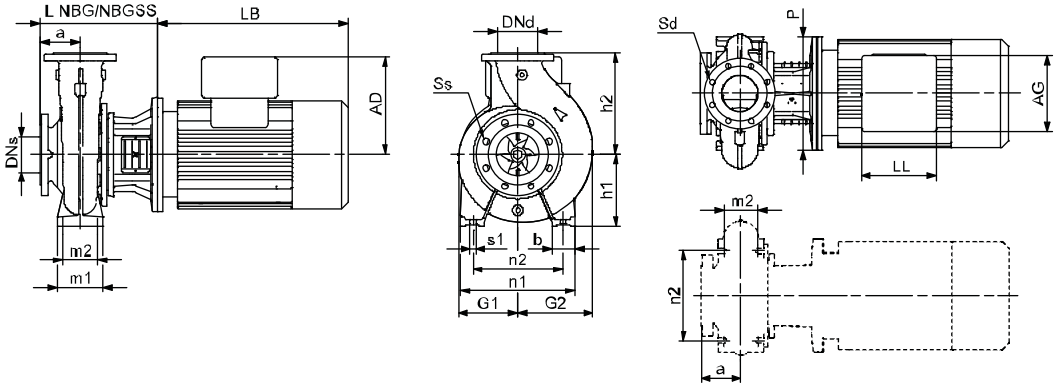
Note: For information about base frames, see page 236.

Performance curves



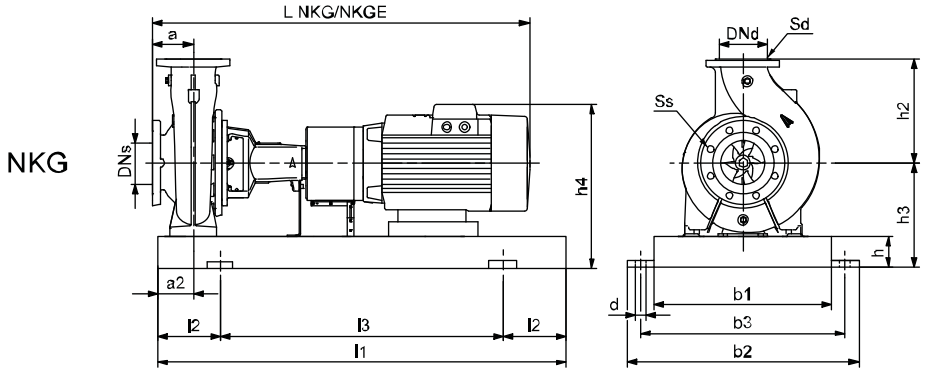
TM03 1946 1106

NBG



TM03 8008 0107

NKG



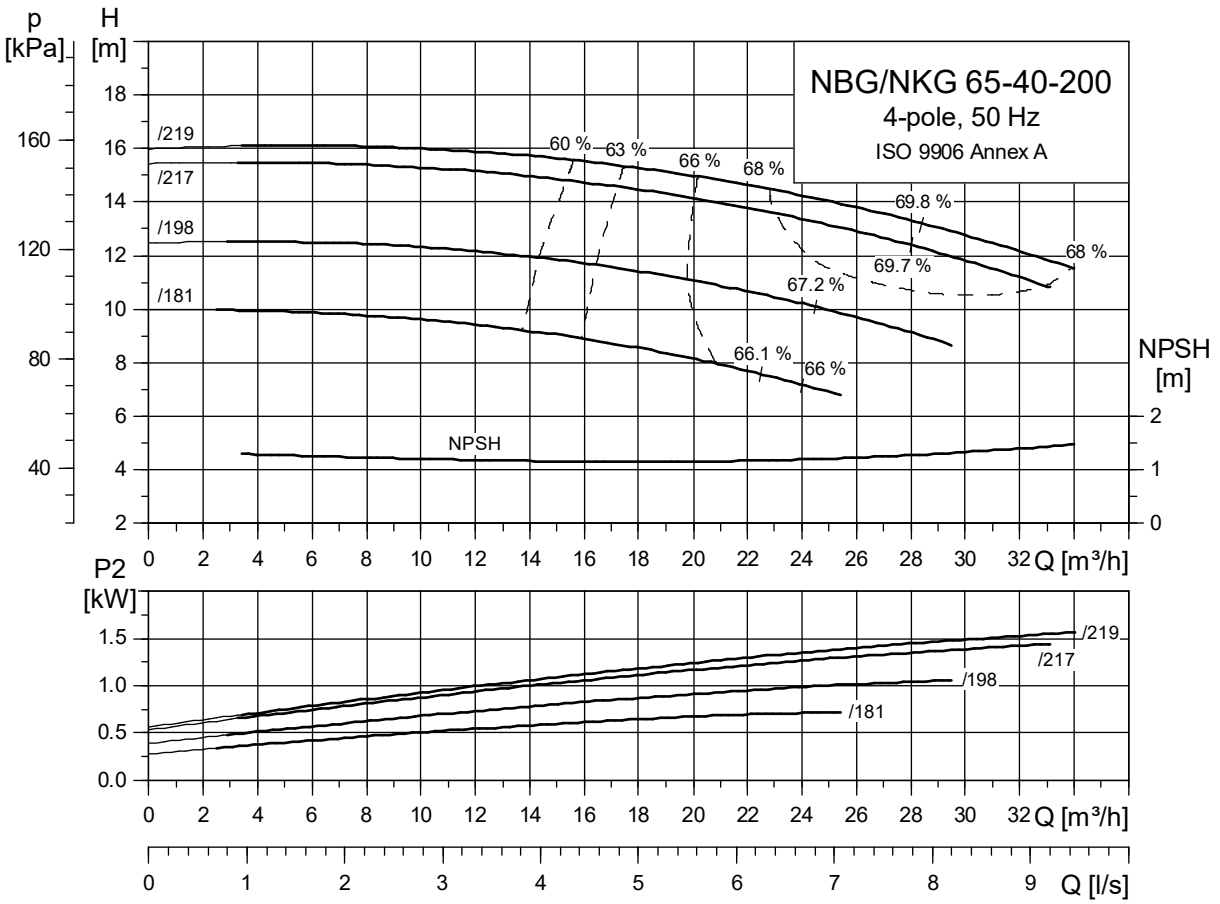
TM03 8011 0107

Pump type			65-50-160/134	65-50-160/151	65-50-160/166	65-50-160/177
Motor type	Premium Motor		MG 71B-C	MG 80A-C	MG 80B-C	MG 90SB-D
	E-Motor		-	-	MGE 90SA	MGE 90SB
Common data NBG/NKG	P_2	[kW]	0.37	0.55	0.75	1.1
	PN	[bar]	16	16	16	16
	DNs	[mm]	65	65	65	65
	DNd	[mm]	50	50	50	50
	a	[mm]	80	80	80	80
	h2	[mm]	160	160	160	160
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	700/786	740/836	740/836	800/896
	L NKGE	[mm]	-/-	-/-	830/926	840/936
	Weight NKG	[mm]	112/112	115/115	116/116	129/128
	Weight NKGE	[kg]	-/-	-/-	129/128	135/134
	Weight NKG SS	[kg]	112/111	114/114	116/115	128/127
	Weight NKGE SS	[kg]	-/-	-/-	129/128	135/134
NKG data	l1	[kg]	1000	1000	1000	1000
	l2	[mm]	170	170	170	170
	l3	[mm]	660	660	660	660
	b1	[mm]	340	340	340	340
	b2	[mm]	450	450	450	450
	b3	[mm]	400	400	400	400
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	212	212	212	212
	h4 1)	[mm]	321/-	321/-	321/379	322/379
	Base frame no.		4	4	4	4
NBG data	Design		A	A	A	A
	L NBG	[mm]	201	226	226	226
	L NBG SS	[mm]	243	253	253	253
	h1	[mm]	132	132	132	132
	G1	[mm]	117	117	117	117
	G2	[mm]	134	134	134	134
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB 1)	[mm]	191/-	231/-	231/321	281/321
	AD 1)	[mm]	109/-	109/-	109/167	110/167
	AG 1)	[mm]	82/-	82/-	82/264	162/264
	LL 1)	[mm]	82/-	82/-	82/260	103/260
	P	[mm]	160	200	200	200
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG 1)	[kg]	39/-	42/-	43/54	54/60
	Weight NBG SS 1)	[kg]	41/-	44/-	45/56	56/62

1) Dimension of pump with premium range motor/built-in frequency converter.

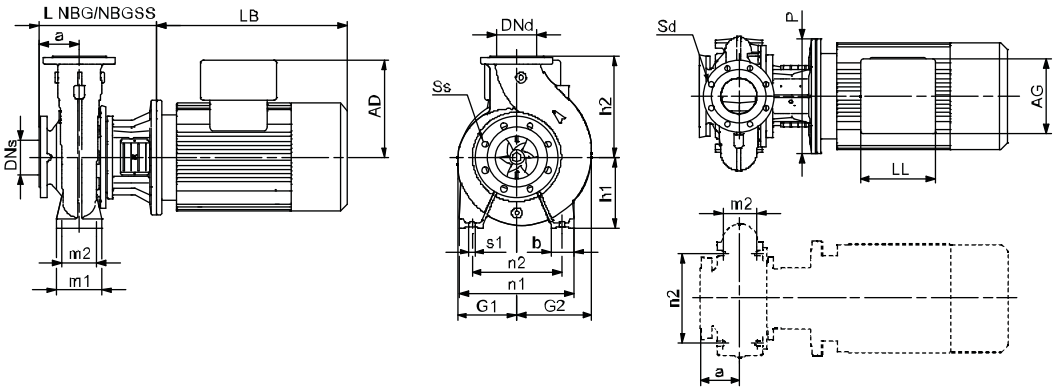
Note: For information about base frames, see page 236.

Performance curves



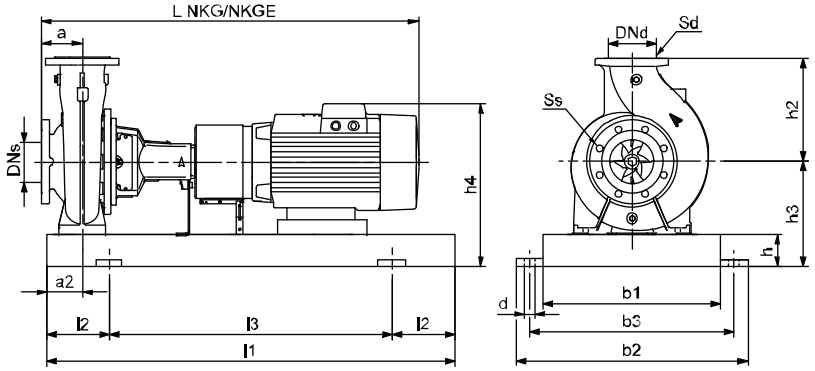
TM03 1947 1106

NBG



TM03 8008 0107

NKG



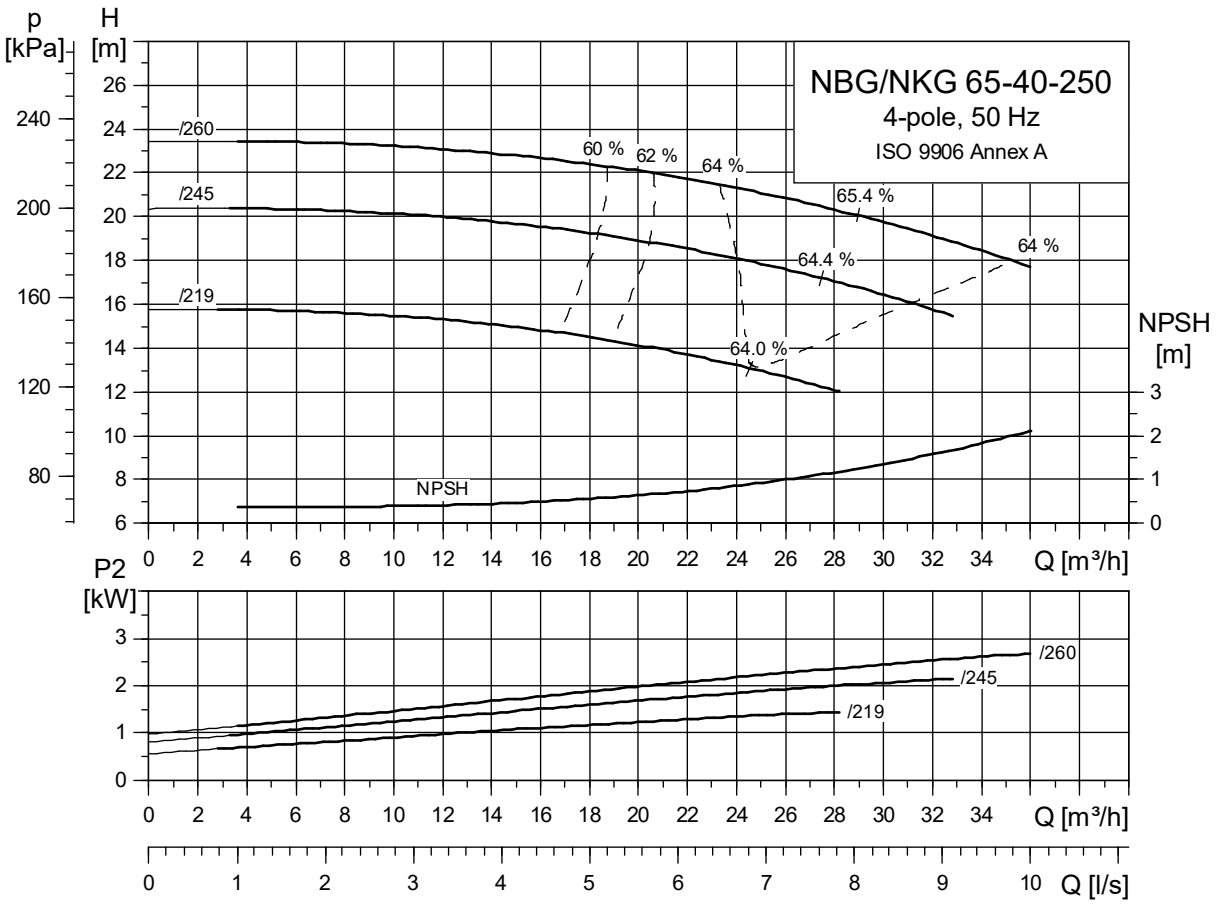
TM03 8011 0107

Pump type			65-40-200/181	65-40-200/198	65-40-200/217	65-40-200/219
Motor type	Premium Motor		MG 80B-C	MG 90SB-D	MG 90LC-D	MG 100LB-D
	E-Motor		MGE 90SA	MGE 90SB	MGE 90LC	MGE 100LB
Common data NBG/NKG	P_2	[kW]	0.75	1.1	1.5	2.2
	PN	[bar]	16	16	16	16
	DNs	[mm]	65	65	65	65
	DNd	[mm]	40	40	40	40
	a	[mm]	100	100	100	100
	h2	[mm]	180	180	180	180
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	760/856	820/916	860/956	884/980
	L NKGE	[mm]	850/946	860/956	860/956	884/980
	Weight NKG	[mm]	121/121	131/130	132/131	137/135
	Weight NKGE	[kg]	131/130	137/136	138/137	148/146
	Weight NKG SS	[kg]	124/124	134/133	135/134	140/138
	Weight NKGE SS	[kg]	135/134	141/140	142/141	151/149
NKG data	l1	[kg]	1000	1000	1000	1000
	l2	[mm]	170	170	170	170
	l3	[mm]	660	660	660	660
	b1	[mm]	340	340	340	340
	b2	[mm]	450	450	450	450
	b3	[mm]	400	400	400	400
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	240	240	240	240
	$h4^{1)}$	[mm]	349/407	350/407	350/407	360/417
	Base frame no.		4	4	4	4
NBG data	Design		A	A	A	A
	L NBG	[mm]	246	246	246	274
	L NBG SS	[mm]	273	273	273	293
	h1	[mm]	160	160	160	160
	G1	[mm]	140	140	140	140
	G2	[mm]	157	157	157	157
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	265	265	265	265
	n2	[mm]	212	212	212	212
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	$LB^{1)}$	[mm]	231/321	281/321	321/321	335/335
	$AD^{1)}$	[mm]	109/167	110/167	110/167	120/177
	$AG^{1)}$	[mm]	82/264	162/264	162/264	162/264
	$LL^{1)}$	[mm]	82/260	103/260	103/260	103/260
	P	[mm]	200	200	200	250
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight $NBG^{1)}$	[kg]	46/57	57/63	58/64	65/73
	Weight NBG $SS^{1)}$	[kg]	54/65	65/71	66/72	73/81

1) Dimension of pump with premium range motor/built-in frequency converter.

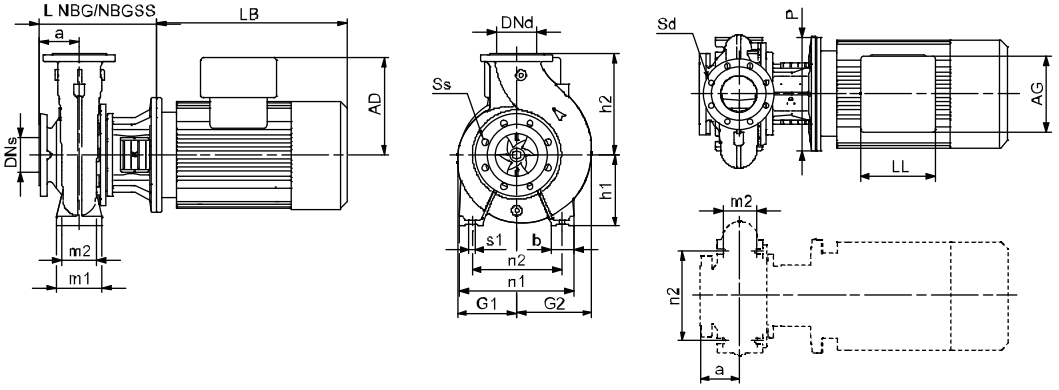
Note: For information about base frames, see page 236.

Performance curves



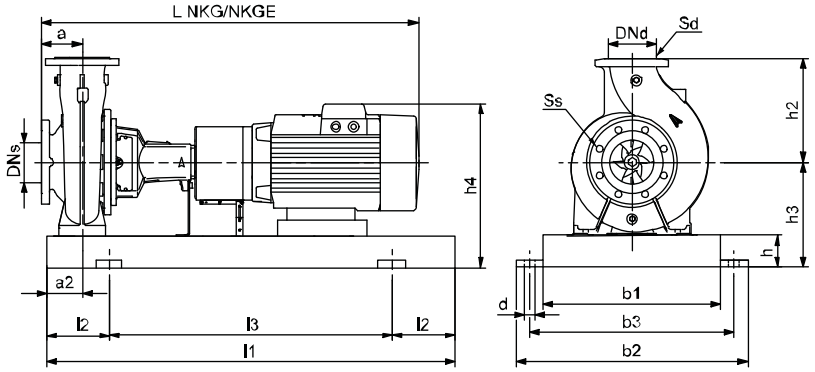
TM03 1918 1106

NBG



TM03 8008 0107

NKG



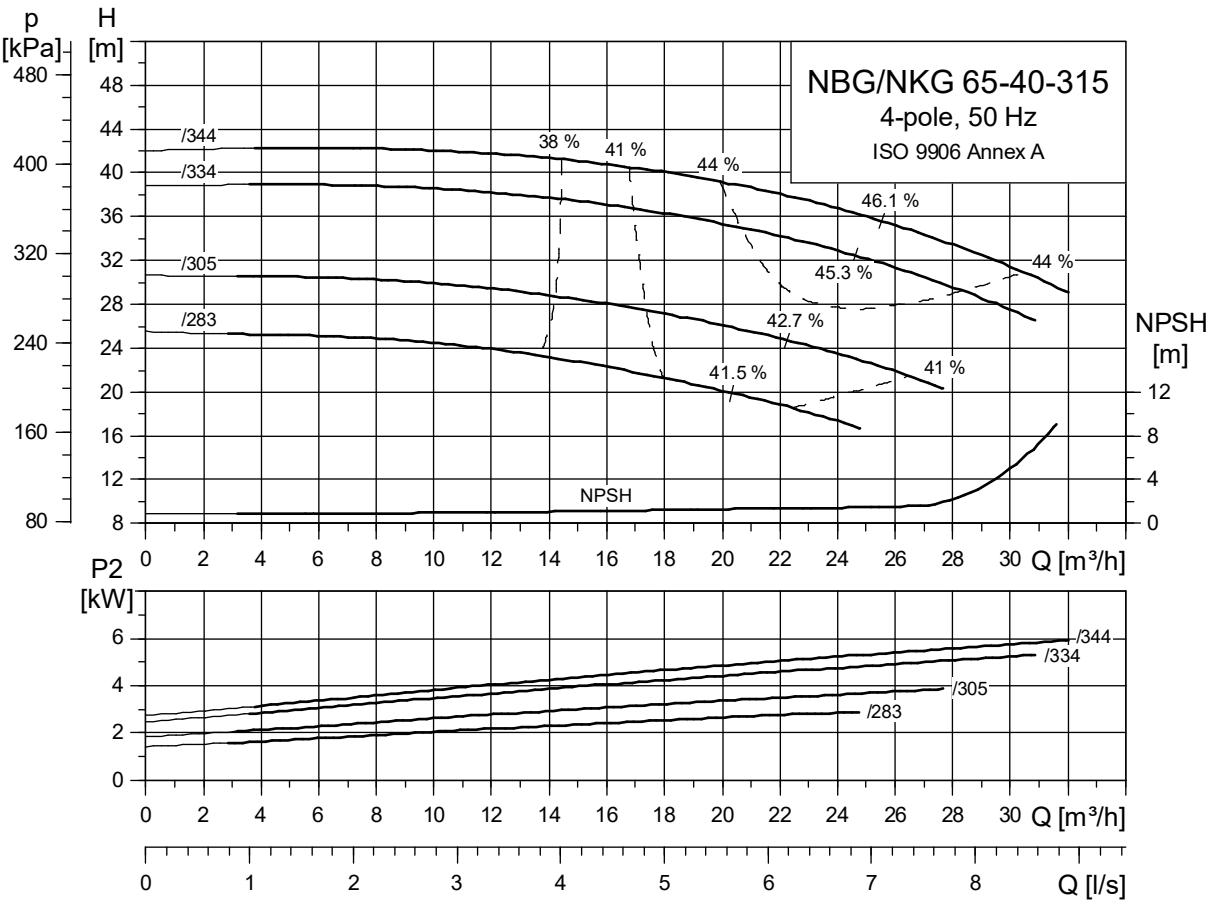
TM03 8011 0107

Pump type			65-40-250/219	65-40-250/245	65-40-250/260
Motor type	Premium Motor		MG 90LC-D	MG 100LB-D	MG 100LC-D
	E-Motor		MGE 90LC	MGE 100LB	MGE 100LC
Common data NBG/NKG	P_2	[kW]	1.5	2.2	3
	PN	[bar]	16	16	16
	DNs	[mm]	65	65	65
	DNd	[mm]	40	40	40
	a	[mm]	100	100	100
	h2	[mm]	225	225	225
	Ss		4x19	4x19	4x19
	Sd		4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	975/1071	999/1095	999/1095
	L NKGE	[mm]	975/1071	999/1095	999/1095
	Weight NKG	[mm]	170/169	174/173	179/178
	Weight NKGE	[kg]	177/176	185/184	187/186
	Weight NKG SS	[kg]	176/175	180/178	185/183
	Weight NKGE SS	[kg]	182/182	191/189	193/191
NKG data	l1	[kg]	1120	1120	1120
	l2	[mm]	190	190	190
	l3	[mm]	740	740	740
	b1	[mm]	380	380	380
	b2	[mm]	490	490	490
	b3	[mm]	440	440	440
	d	[mm]	24	24	24
	a2	[mm]	75	75	75
	h	[mm]	80	80	80
	h3	[mm]	260	260	260
	h4 1)	[mm]	370/427	380/437	380/437
	Base frame no.		5	5	5
NBG data	Design		A	A	A
	L NBG	[mm]	273	293	293
	L NBG SS	[mm]	273	293	293
	h1	[mm]	180	180	180
	G1	[mm]	164	164	164
	G2	[mm]	172	172	172
	m1	[mm]	125	125	125
	m2	[mm]	95	95	95
	n1	[mm]	320	320	320
	n2	[mm]	250	250	250
	b	[mm]	65	65	65
	s1	[mm]	M12	M12	M12
	H	[mm]	-	-	-
	LB 1)	[mm]	321/321	335/335	335/335
	AD 1)	[mm]	110/167	120/177	120/177
	AG 1)	[mm]	162/264	162/264	162/264
	LL 1)	[mm]	103/260	103/260	103/260
	P	[mm]	200	250	250
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight NBG 1)	[kg]	71/78	79/87	81/89
	Weight NBG SS 1)	[kg]	77/83	84/92	86/94

1) Dimension of pump with premium range motor/built-in frequency converter.

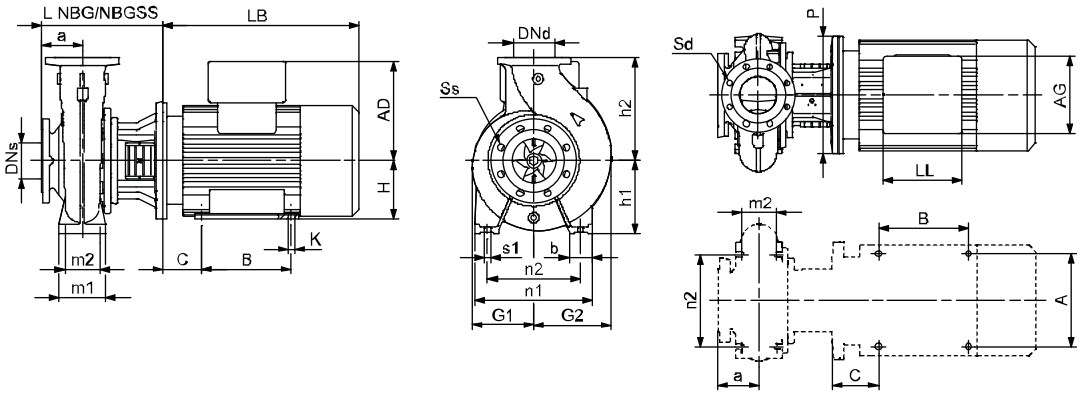
Note: For information about base frames, see page 236.

Performance curves



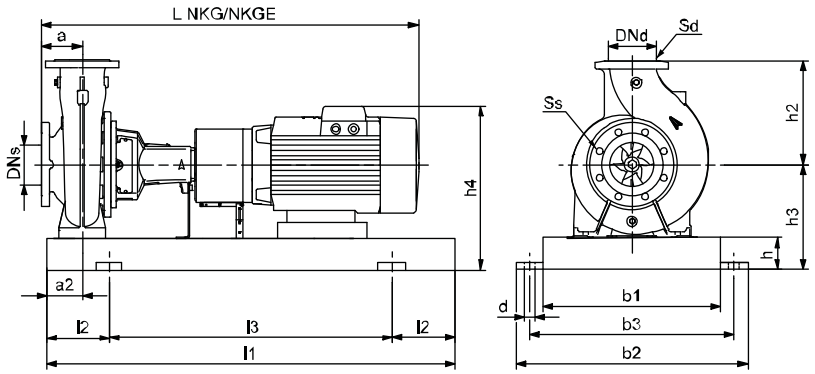
TM03 1919 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

Pump type			65-40-315/283	65-40-315/305	65-40-315/334	65-40-315/344
Motor type	Premium Motor		MG 100LC-D	MG 112MC-D	Siemens 132S	Siemens 132M
	E-Motor		MGE 100LC	MGE 112MC	MGE 132SC	MMGE 132M[3)]
Common data NBG/NKG	P_2	[kW]	3	4	5.5	7.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	65	65	65	65
	DNd	[mm]	40	40	40	40
	a	[mm]	125	125	125	125
	h2	[mm]	250	250	250	250
	Ss		4x19	4x19	4x19	4x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1024/1120	1061/1157	1082/1178	1120/1216
	L NKGE	[mm]	1024/1120	1061/1157	1100/1196	1188/1284
	Weight NKG	[mm]	240/238	253/251	258/255	273/270
	Weight NKGE	[kg]	248/246	257/255	268/265	325/320
	Weight NKG SS	[kg]	235/234	248/247	254/251	269/266
	Weight NKGE SS	[kg]	243/242	253/251	263/260	321/315
NKG data	l1	[kg]	1250	1250	1250	1250
	l2	[mm]	205	205	205	205
	l3	[mm]	840	840	840	840
	b1	[mm]	430	430	430	430
	b2	[mm]	540	540	540	540
	b3	[mm]	490	490	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	75	75	75	75
	h	[mm]	80	80	80	80
	h3	[mm]	280	280	280	280
	h4[1)]	[mm]	400/457	414/468	447/468	447/639
	Base frame no.		6	6	6	6
NBG data	Design		A	A	A	A[2)]
	L NBG	[mm]	348	348	368	368
	L NBG SS	[mm]	348	348	368	368
	h1	[mm]	200	200	200	200
	G1	[mm]	200	200	200	200
	G2	[mm]	206	206	206	206
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	345	345	345	345
	n2	[mm]	280	280	280	280
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	132
	LB[1)]	[mm]	335/335	372/372	373/391	411/449
	AD[1)]	[mm]	120/177	134/188	167/188	167/333
	AG[1)]	[mm]	162/264	202/290	140/290	140/246
	LL[1)]	[mm]	103/260	103/300	140/300	140/410
	P	[mm]	250	250	300	300
	C	[mm]	-	-	-	89
	B	[mm]	-	-	-	178
	A	[mm]	-	-	-	216
	K	[mm]	-	-	-	12
	Weight NBG[1)]	[kg]	124/132	139/143	146/158	161/202
	Weight NBG SS[1)]	[kg]	124/132	139/143	146/158	161/202

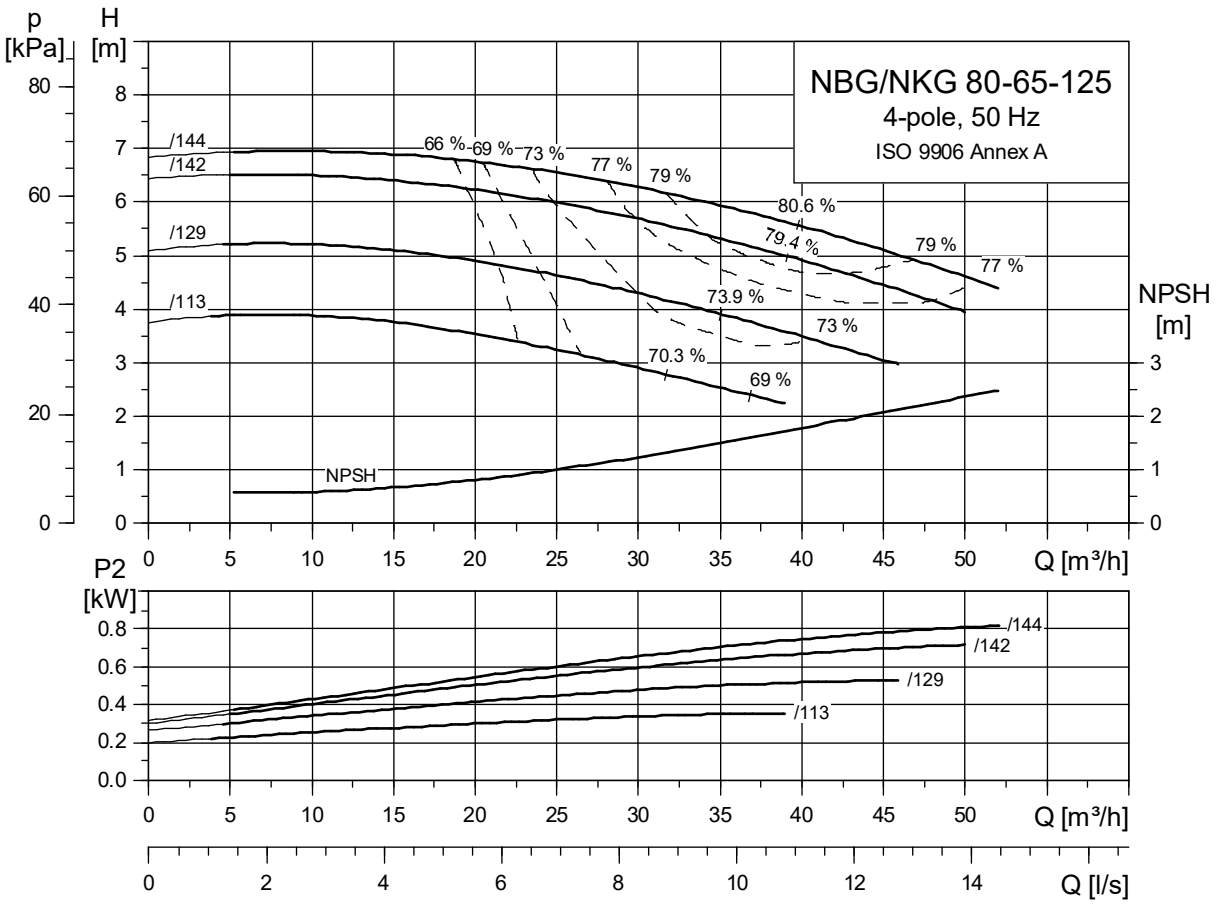
1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

3) NBGE 65-40-315/344 is fitted with an MMGE 132M motor with motor feet; NKGE 65-40-315/344 is fitted with an MMGE 160M motor.

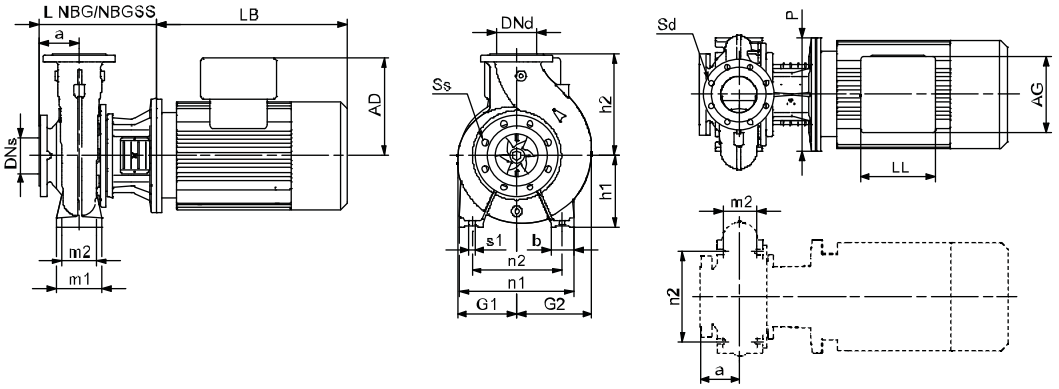
Note: For information about base frames, see page 236.

Performance curves



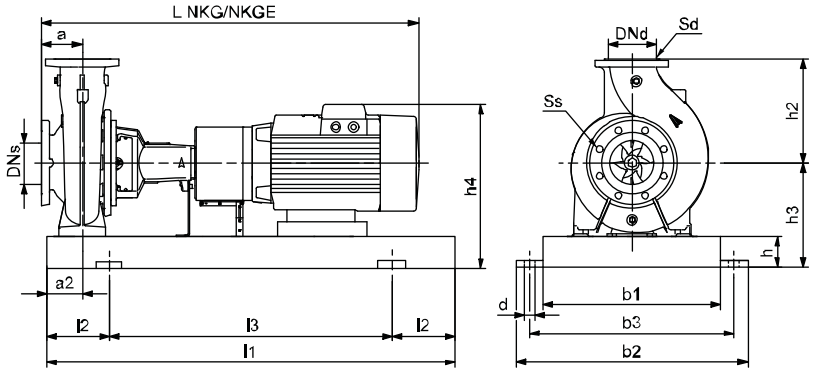
TM03 1950 1106

NBG



TM03 8008 0107

NKG



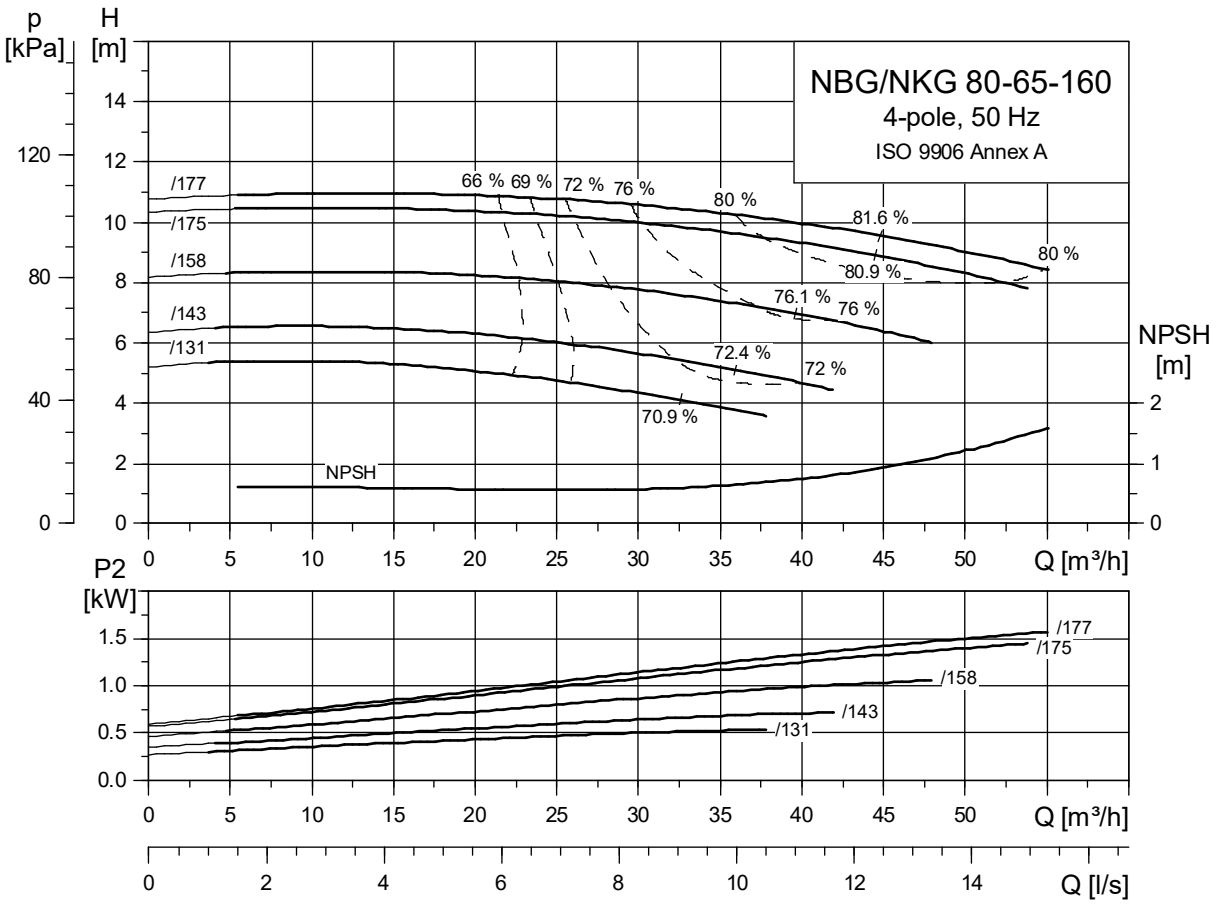
TM03 8011 0107

Pump type			80-65-125/113	80-65-125/129	80-65-125/142	80-65-125/144
Motor type	Premium Motor		MG 71B-C	MG 80A-C	MG 80B-C	MG 90SB-D
	E-Motor		-	-	MGE 90SA	MGE 90SB
Common data NBG/NKG	P_2	[kW]	0.37	0.55	0.75	1.1
	PN	[bar]	16	16	16	16
	DNs	[mm]	80	80	80	80
	DNd	[mm]	65	65	65	65
	a	[mm]	100	100	100	100
	h2	[mm]	160	160	160	160
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	720/806	760/856	760/856	820/916
	L NKGE	[mm]	-/-	-/-	850/946	860/956
	Weight NKG	[mm]	114/114	117/117	118/118	130/130
	Weight NKGE	[kg]	-/-	-/-	131/130	137/136
	Weight NKG SS	[kg]	114/114	117/116	118/118	131/130
	Weight NKGE SS	[kg]	-/-	-/-	132/131	138/137
NKG data	l1	[kg]	1000	1000	1000	1000
	l2	[mm]	170	170	170	170
	l3	[mm]	660	660	660	660
	b1	[mm]	340	340	340	340
	b2	[mm]	450	450	450	450
	b3	[mm]	400	400	400	400
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	212	212	212	212
	$h4^{1)}$	[mm]	321/-	321/-	321/379	322/379
	Base frame no.		4	4	4	4
NBG data	Design		A	A	A	A
	L NBG	[mm]	221	246	246	246
	L NBG SS	[mm]	263	273	273	273
	h1	[mm]	132	132	132	132
	G1	[mm]	117	117	117	117
	G2	[mm]	131	131	131	131
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	240	240	240	240
	n2	[mm]	190	190	190	190
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	$LB^{1)}$	[mm]	191/-	231/-	231/321	281/321
	$AD^{1)}$	[mm]	109/-	109/-	109/167	110/167
	$AG^{1)}$	[mm]	82/-	82/-	82/264	162/264
	$LL^{1)}$	[mm]	82/-	82/-	82/260	103/260
	P	[mm]	160	200	200	200
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight $NBG^{1)}$	[kg]	40/-	44/-	45/56	56/62
	Weight NBG $SS^{1)}$	[kg]	44/-	47/-	48/59	59/65

1) Dimension of pump with premium range motor/built-in frequency converter.

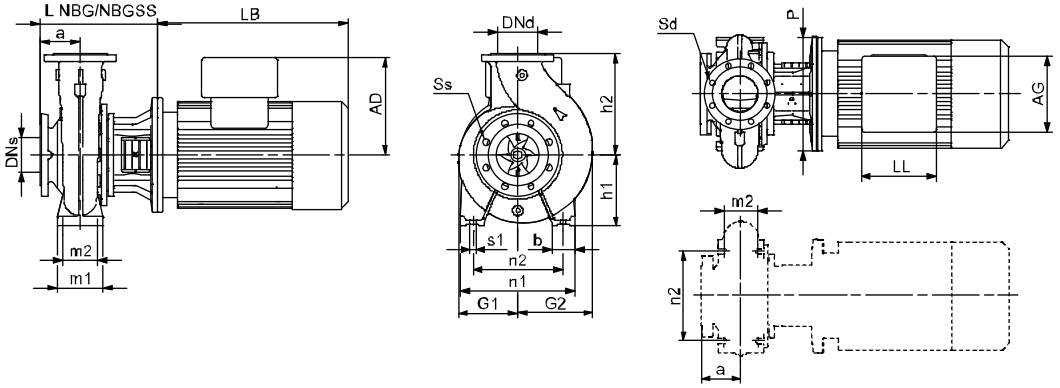
Note: For information about base frames, see page 236.

Performance curves



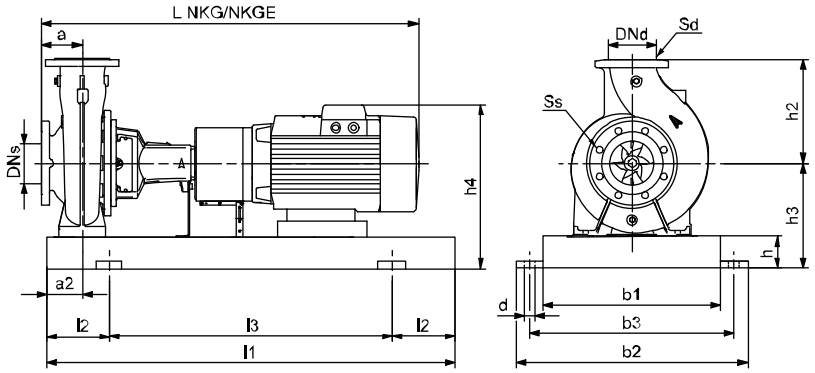
TM03 1951 1106

NBG



TM03 8008 0107

NKG



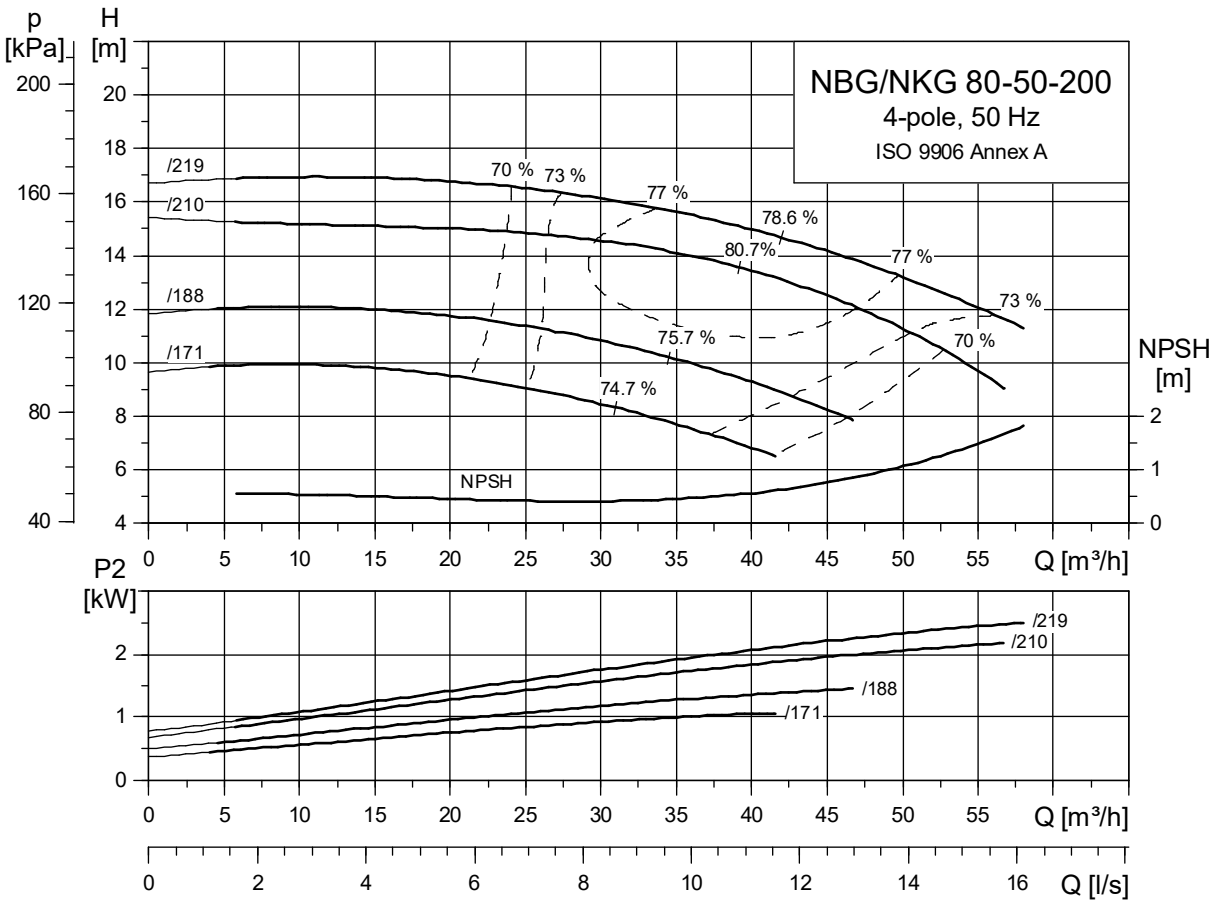
TM03 8011 0107

Pump type			80-65-160/131	80-65-160/143	80-65-160/158	80-65-160/175	80-65-160/177
Motor type	Premium Motor		MG 80A-C	MG 80B-C	MG 90SB-D	MG 90LC-D	MG 100LB-D
	E-Motor		-	MGE 90SA	MGE 90SB	MGE 90LC	MGE 100LB
Common data NBG/NKG	P_2	[kW]	0.55	0.75	1.1	1.5	2.2
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	80	80	80	80	80
	DNd	[mm]	65	65	65	65	65
	a	[mm]	100	100	100	100	100
	h2	[mm]	180	180	180	180	180
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	760/856	760/856	820/916	860/956	884/980
	L NKGE	[mm]	-/-	850/946	860/956	860/956	884/980
	Weight NKG	[mm]	119/119	120/120	130/129	131/130	136/134
	Weight NKGE	[kg]	-/-	131/130	137/136	138/137	147/145
	Weight NKG SS	[kg]	120/119	121/121	131/130	132/131	137/135
	Weight NKGE SS	[kg]	-/-	132/131	138/137	139/138	148/146
NKG data	l1	[kg]	1000	1000	1000	1000	1000
	l2	[mm]	170	170	170	170	170
	l3	[mm]	660	660	660	660	660
	b1	[mm]	340	340	340	340	340
	b2	[mm]	450	450	450	450	450
	b3	[mm]	400	400	400	400	400
	d	[mm]	24	24	24	24	24
	a2	[mm]	60	60	60	60	60
	h	[mm]	80	80	80	80	80
	h3	[mm]	240	240	240	240	240
	$h4^{1)}$	[mm]	349/-	349/407	350/407	350/407	360/417
	Base frame no.		4	4	4	4	4
NBG data	Design		A	A	A	A	A
	L NBG	[mm]	246	246	246	246	274
	L NBG SS	[mm]	273	273	273	273	293
	h1	[mm]	160	160	160	160	160
	G1	[mm]	125	125	125	125	125
	G2	[mm]	151	151	151	151	151
	m1	[mm]	100	100	100	100	100
	m2	[mm]	70	70	70	70	70
	n1	[mm]	264	264	264	264	264
	n2	[mm]	212	212	212	212	212
	b	[mm]	50	50	50	50	50
	s1	[mm]	M12	M12	M12	M12	M12
	H	[mm]	-	-	-	-	-
	$LB^{1)}$	[mm]	231/-	231/321	281/321	321/321	335/335
	$AD^{1)}$	[mm]	109/-	109/167	110/167	110/167	120/177
	$AG^{1)}$	[mm]	82/-	82/264	162/264	162/264	162/264
	$LL^{1)}$	[mm]	82/-	82/260	103/260	103/260	103/260
	P	[mm]	200	200	200	200	250
	C	[mm]	-	-	-	-	-
	B	[mm]	-	-	-	-	-
	A	[mm]	-	-	-	-	-
	K	[mm]	-	-	-	-	-
	Weight $NBG^{1)}$	[kg]	46/-	47/58	58/64	59/65	66/74
	Weight NBG $SS^{1)}$	[kg]	50/-	51/62	62/68	63/69	70/78

1) Dimension of pump with premium range motor/built-in frequency converter.

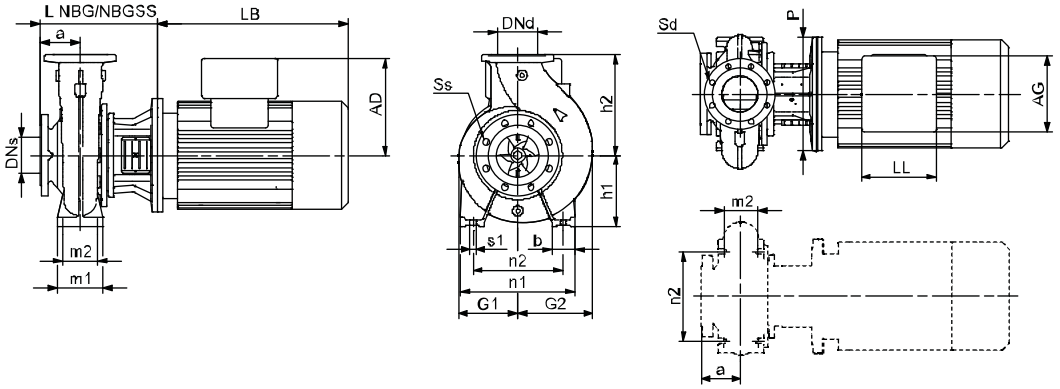
Note: For information about base frames, see page 236.

Performance curves



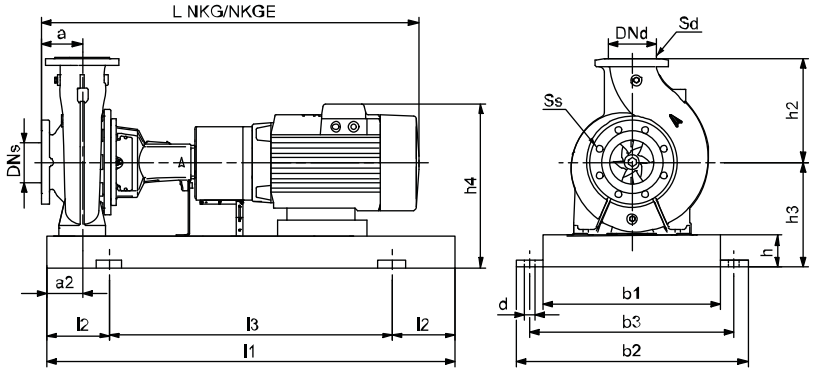
TM03 1952 1106

NBG



TM03 8008 0107

NKG



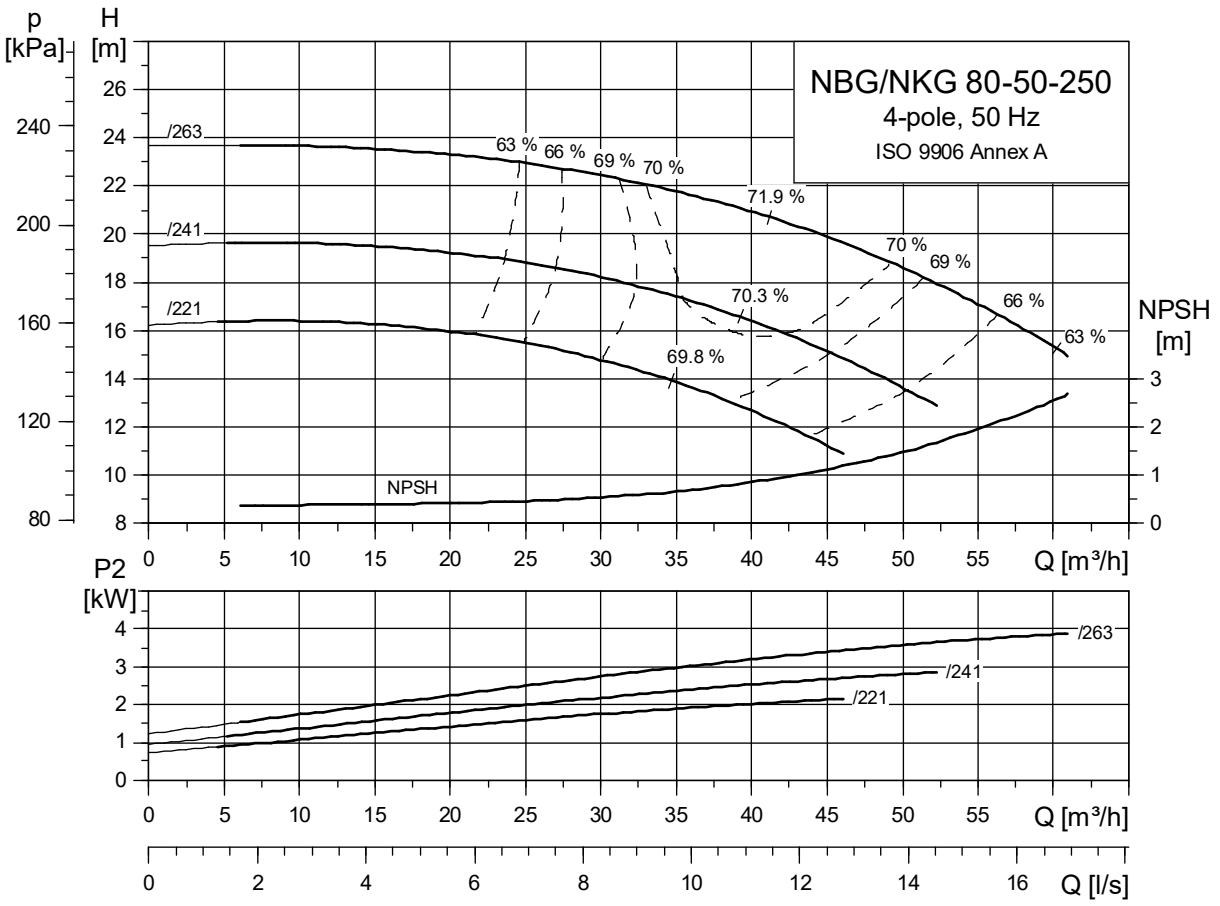
TM03 8011 0107

Pump type			80-50-200/171	80-50-200/188	80-50-200/210	80-50-200/219
Motor type	Premium Motor		MG 90SB-D	MG 90LC-D	MG 100LB-D	MG 100LC-D
	E-Motor		MGE 90SB	MGE 90LC	MGE 100LB	MGE 100LC
Common data NBG/NKG	P_2	[kW]	1.1	1.5	2.2	3
	PN	[bar]	16	16	16	16
	DNs	[mm]	80	80	80	80
	DNd	[mm]	50	50	50	50
	a	[mm]	100	100	100	100
	h2	[mm]	200	200	200	200
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	820/916	860/956	884/980	884/980
	L NKGE	[mm]	860/956	860/956	884/980	884/980
	Weight NKG	[mm]	136/135	137/136	142/139	147/144
	Weight NKGE	[kg]	142/141	143/142	153/150	155/152
	Weight NKG SS	[kg]	137/136	138/137	143/141	148/146
	Weight NKGE SS	[kg]	143/143	144/144	154/152	156/154
NKG data	l1	[kg]	1000	1000	1000	1000
	l2	[mm]	170	170	170	170
	l3	[mm]	660	660	660	660
	b1	[mm]	340	340	340	340
	b2	[mm]	450	450	450	450
	b3	[mm]	400	400	400	400
	d	[mm]	24	24	24	24
	a2	[mm]	60	60	60	60
	h	[mm]	80	80	80	80
	h3	[mm]	240	240	240	240
	$h4^{1)}$	[mm]	350/407	350/407	360/417	360/417
	Base frame no.		4	4	4	4
NBG data	Design		A	A	A	A
	L NBG	[mm]	246	246	274	274
	L NBG SS	[mm]	273	273	293	293
	h1	[mm]	160	160	160	160
	G1	[mm]	142	142	142	142
	G2	[mm]	163	163	163	163
	m1	[mm]	100	100	100	100
	m2	[mm]	70	70	70	70
	n1	[mm]	265	265	265	265
	n2	[mm]	212	212	212	212
	b	[mm]	50	50	50	50
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	$LB^{1)}$	[mm]	281/321	321/321	335/335	335/335
	$AD^{1)}$	[mm]	110/167	110/167	120/177	120/177
	$AG^{1)}$	[mm]	162/264	162/264	162/264	162/264
	$LL^{1)}$	[mm]	103/260	103/260	103/260	103/260
	P	[mm]	200	200	250	250
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight $NBG^{1)}$	[kg]	62/68	63/69	70/78	72/80
	Weight NBG $SS^{1)}$	[kg]	67/74	68/75	76/84	78/86

1) Dimension of pump with premium range motor/built-in frequency converter.

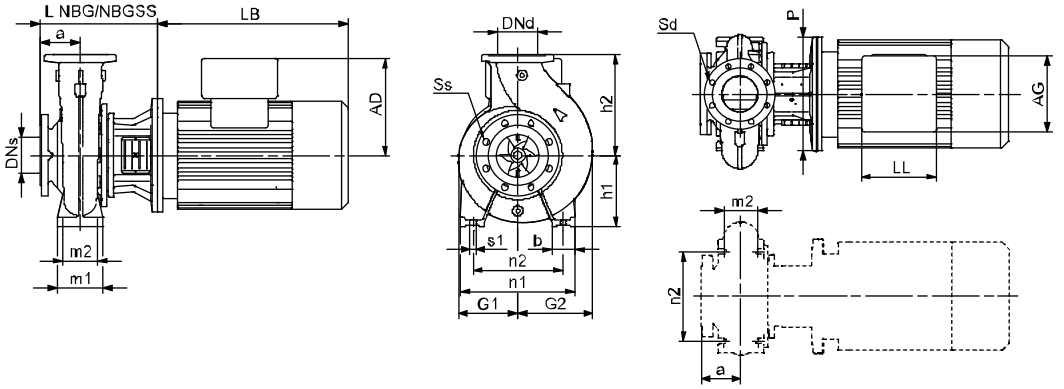
Note: For information about base frames, see page 236.

Performance curves



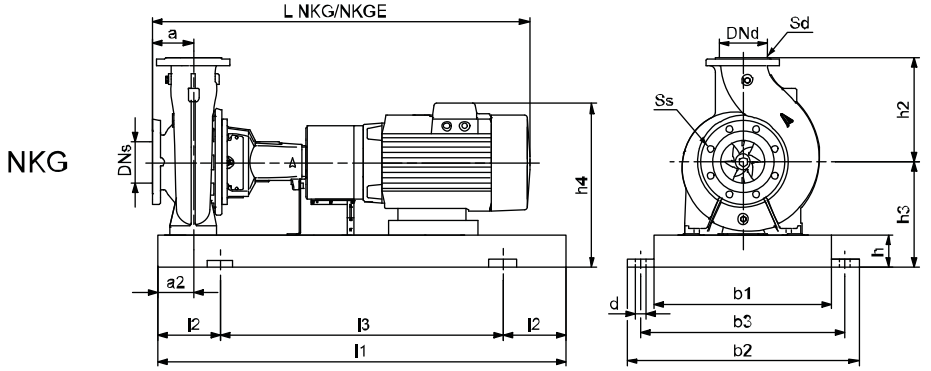
TM03 1953 1106

NBG



TM03 8008 0107

NKG



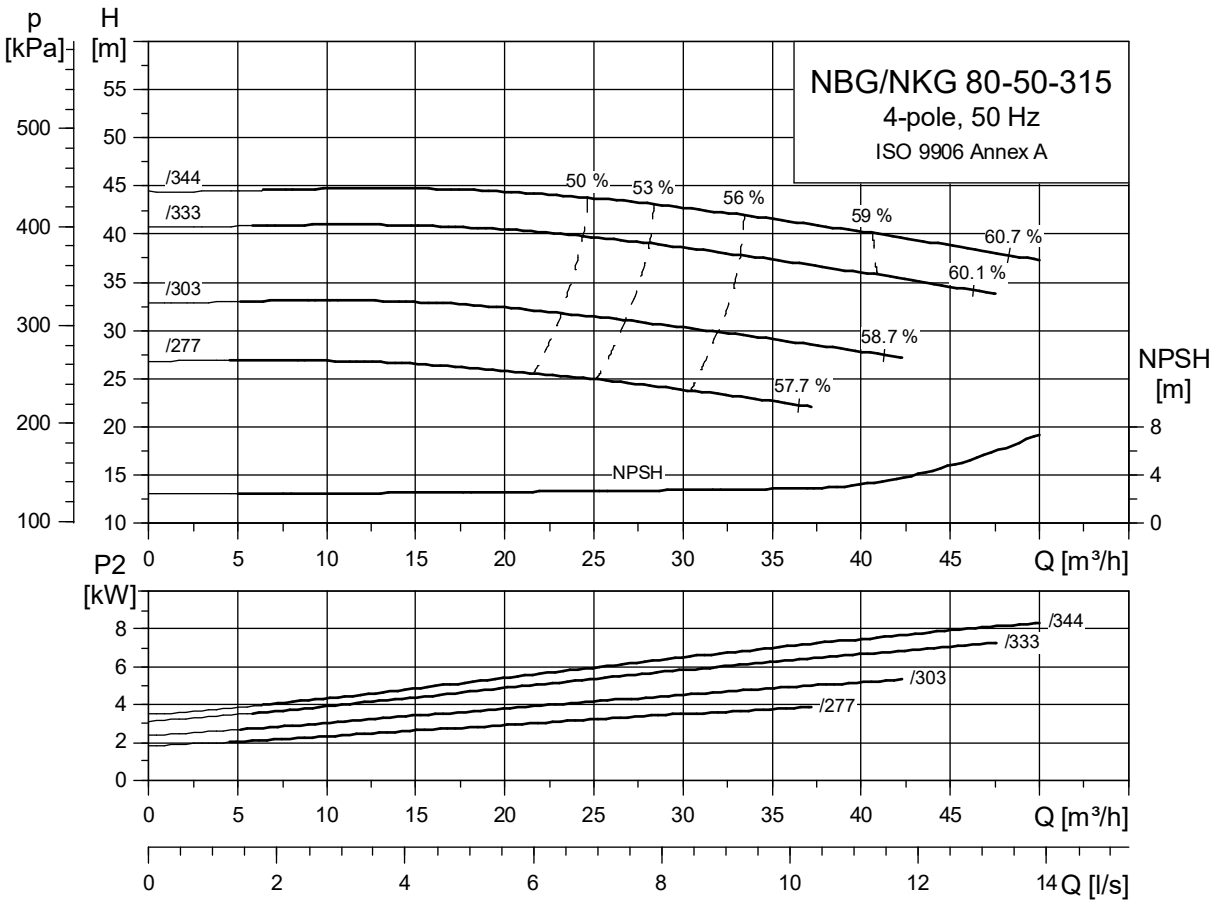
TM03 8011 0107

Pump type			80-50-250/221	80-50-250/241	80-50-250/263
Motor type	Premium Motor		MG 100LB-D	MG 100LC-D	MG 112MC-D
	E-Motor		MGE 100LB	MGE 100LC	MGE 112MC
Common data NBG/NKG	P_2	[kW]	2.2	3	4
	PN	[bar]	16	16	16
	DNs	[mm]	80	80	80
	DNd	[mm]	50	50	50
	a	[mm]	125	125	125
	h2	[mm]	225	225	225
	Ss		8x19	8x19	8x19
	Sd		4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1024/1120	1024/1120	1061/1157
	L NKGE	[mm]	1024/1120	1024/1120	1061/1157
	Weight NKG	[mm]	184/182	189/187	205/204
	Weight NKGE	[kg]	195/193	197/195	210/208
	Weight NKG SS	[kg]	188/186	193/191	210/208
	Weight NKGE SS	[kg]	199/197	201/199	214/212
NKG data	l1	[kg]	1120	1120	1120
	l2	[mm]	190	190	190
	l3	[mm]	740	740	740
	b1	[mm]	380	380	380
	b2	[mm]	490	490	490
	b3	[mm]	440	440	440
	d	[mm]	24	24	24
	a2	[mm]	75	75	75
	h	[mm]	80	80	80
	h3	[mm]	260	260	260
	$h4^{1)}$	[mm]	380/437	380/437	394/448
	Base frame no.		5	5	5
NBG data	Design		A	A	A
	L NBG	[mm]	318	318	318
	L NBG SS	[mm]	318	318	318
	h1	[mm]	180	180	180
	G1	[mm]	164	164	164
	G2	[mm]	180	180	180
	m1	[mm]	125	125	125
	m2	[mm]	95	95	95
	n1	[mm]	320	320	320
	n2	[mm]	250	250	250
	b	[mm]	65	65	65
	s1	[mm]	M12	M12	M12
	H	[mm]	-	-	-
	$LB^{1)}$	[mm]	335/335	335/335	372/372
	$AD^{1)}$	[mm]	120/177	120/177	134/188
	$AG^{1)}$	[mm]	162/264	162/264	202/290
	$LL^{1)}$	[mm]	103/260	103/260	103/300
	P	[mm]	250	250	250
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight $NBG^{1)}$	[kg]	89/96	91/98	106/110
	Weight NBG $SS^{1)}$	[kg]	92/100	94/102	109/114

1) Dimension of pump with premium range motor/built-in frequency converter.

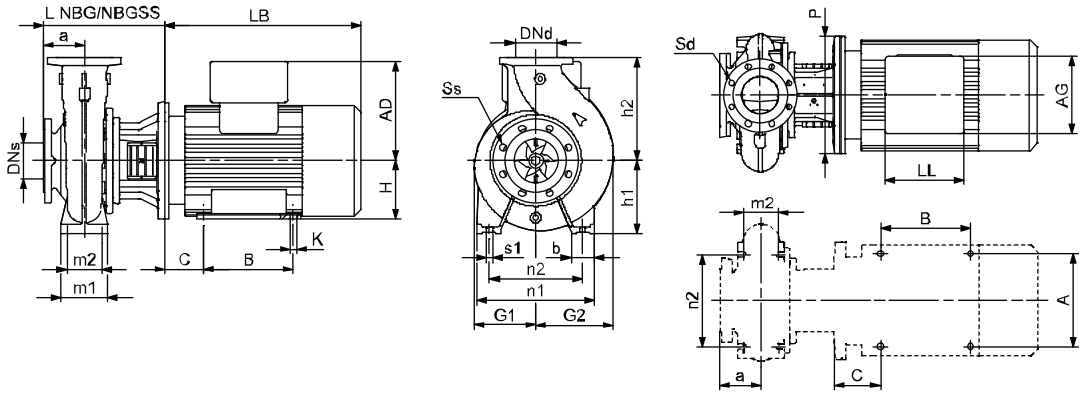
Note: For information about base frames, see page 236.

Performance curves



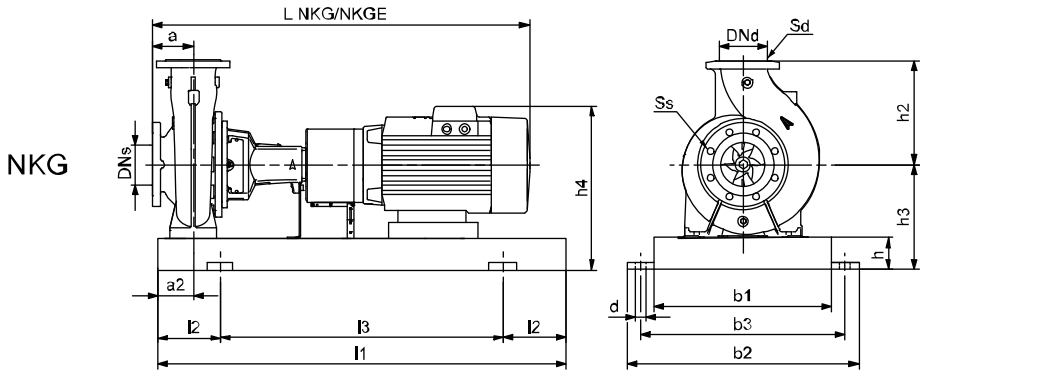
TM03 1954 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

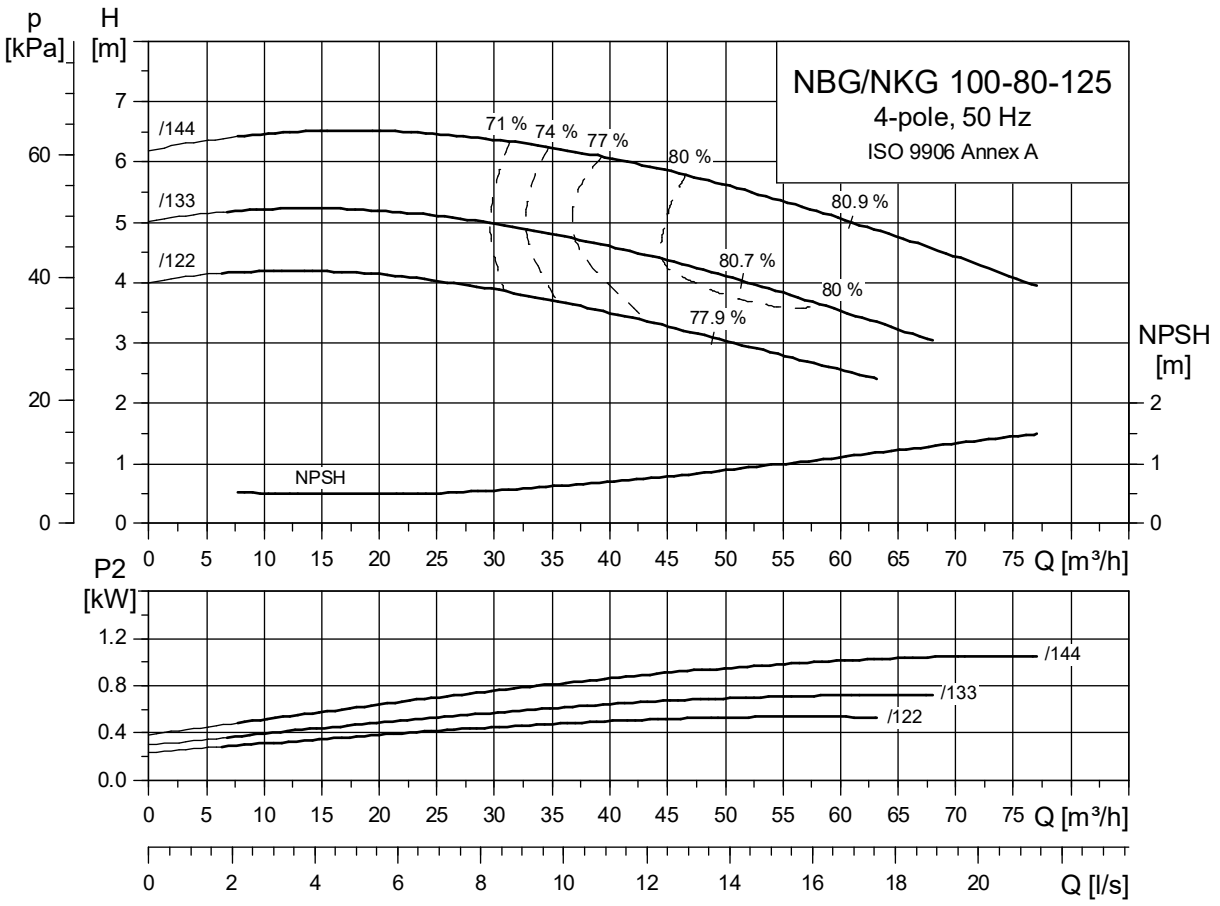
Pump type			80-50-315/277	80-50-315/303	80-50-315/333	80-50-315/344
Motor type	Premium Motor		MG 112MC-D	Siemens 132S	Siemens 132M	Siemens 160M
	E-Motor		MGE 112MC	MGE 132SC	MMGE 132M[3)]	MMGE 160M
Common data NBG/NKG	P_2	[kW]	4	5.5	7.5	11
	PN	[bar]	16	16	16	16
	DNs	[mm]	80	80	80	80
	DNd	[mm]	50	50	50	50
	a	[mm]	125	125	125	125
	h2	[mm]	280	280	280	280
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1061/1157	1082/1178	1120/1216	1217/1313
	L NKGE	[mm]	1061/1157	1100/1196	1188/1284	1188/1284
	Weight NKG	[mm]	261/259	266/263	281/278	305/299
	Weight NKGE	[kg]	266/264	275/272	325/319	356/350
	Weight NKG SS	[kg]	255/253	259/256	274/271	298/293
	Weight NKGE SS	[kg]	259/258	269/266	318/313	349/344
NKG data	l1	[kg]	1250	1250	1250	1250
	l2	[mm]	205	205	205	205
	l3	[mm]	840	840	840	840
	b1	[mm]	430	430	430	430
	b2	[mm]	540	540	540	540
	b3	[mm]	490	490	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	75	75	75	75
	h	[mm]	80	80	80	80
	h3	[mm]	305	305	305	305
	$h4^{1)}$	[mm]	439/493	472/493	472/664	502/664
	Base frame no.		6	6	6	6
NBG data	Design		A	A	A[2)]	C
	L NBG	[mm]	348	368	368	398
	L NBG SS	[mm]	348	368	368	398
	h1	[mm]	225	225	225	225
	G1	[mm]	203	203	203	203
	G2	[mm]	214	214	214	214
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	345	345	345	345
	n2	[mm]	280	280	280	280
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	132	160
	$LB^{1)}$	[mm]	372/372	373/391	411/449	478/449
	$AD^{1)}$	[mm]	134/188	167/188	167/333	197/359
	$AG^{1)}$	[mm]	202/290	140/290	140/246	165/296
	$LL^{1)}$	[mm]	103/300	140/300	140/410	165/410
	P	[mm]	250	300	300	350
	C	[mm]	-	-	89	108
	B	[mm]	-	-	178	210
	A	[mm]	-	-	216	254
	K	[mm]	-	-	12	15
	Weight $NBG^{1)}$	[kg]	146/150	153/165	168/209	194/245
	Weight NBG $SS^{1)}$	[kg]	144/149	151/163	166/207	194/245

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

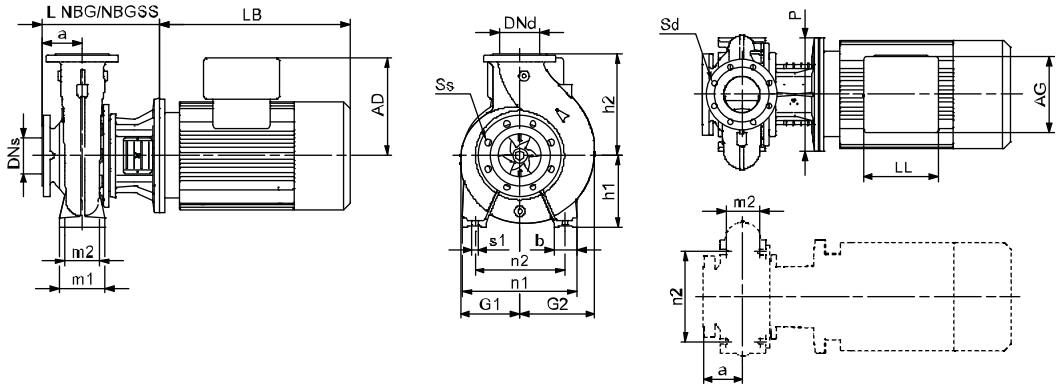
3) NBGE 80-50-315/333 is fitted with an MMGE 132M motor with motor feet; NKGE 80-50-315/333 is fitted with an MMGE 160M motor.

Note: For information about base frames, see page 236.



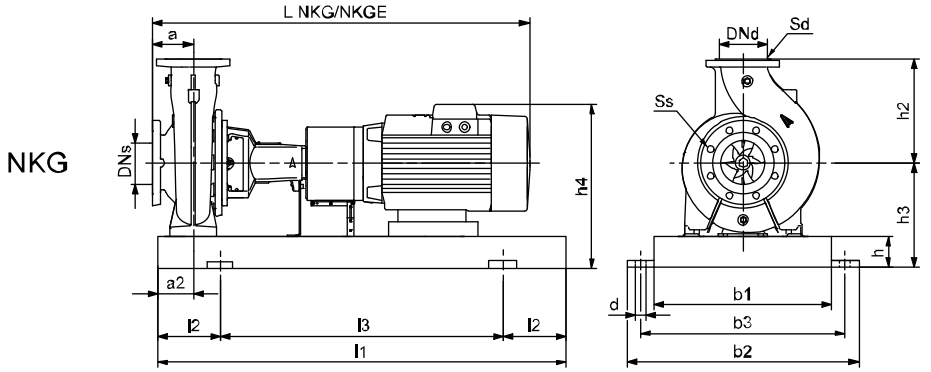
TM03 1955 1106

NBG



TM03 8008 0107

NKG



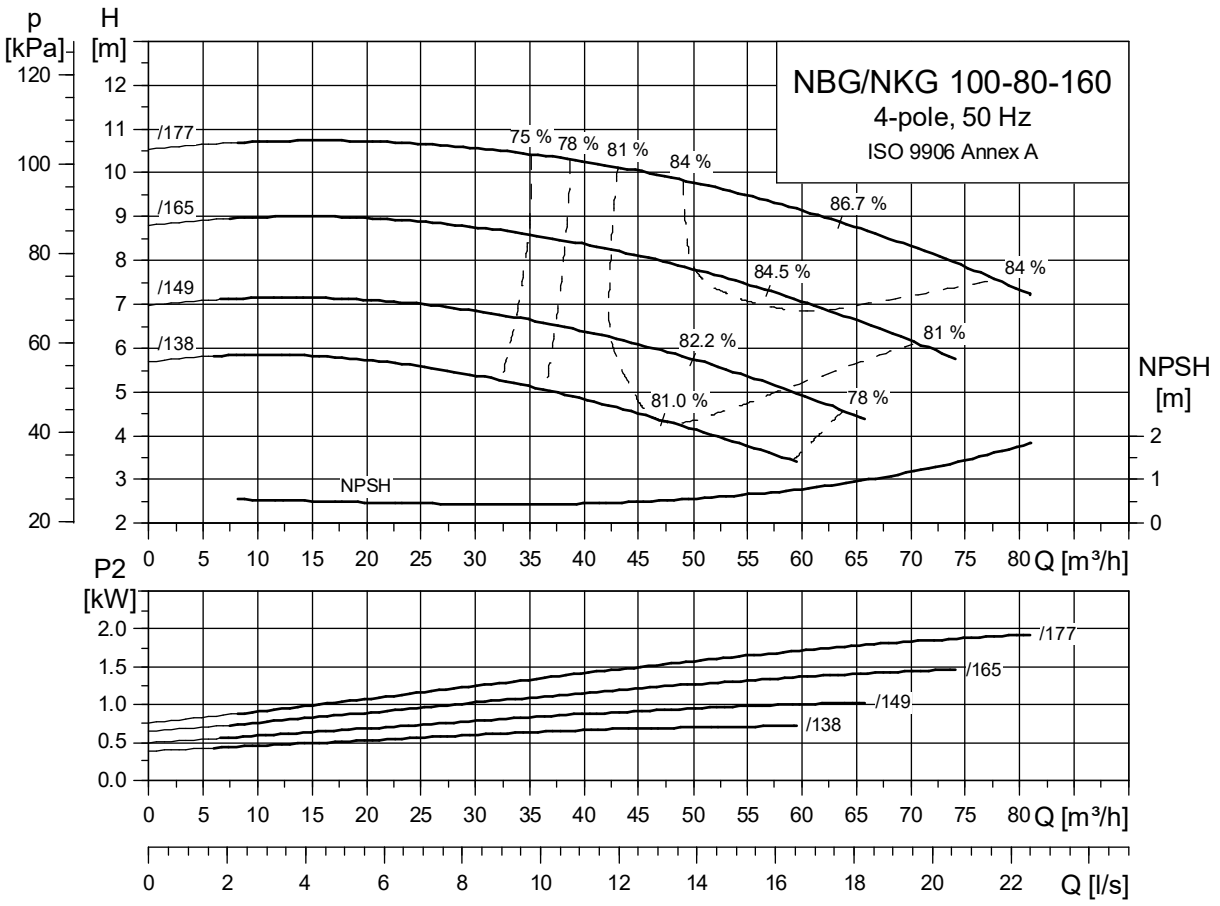
TM03 8011 0107

Pump type			100-80-125/122	100-80-125/133	100-80-125/144
Motor type	Premium Motor		MG 80A-C	MG 80B-C	MG 90SB-D
	E-Motor		-	MGE 90SA	MGE 90SB
Common data NBG/NKG	P_2	[kW]	0.55	0.75	1.1
	PN	[bar]	16	16	16
	DNs	[mm]	100	100	100
	DNd	[mm]	80	80	80
	a	[mm]	100	100	100
	h2	[mm]	180	180	180
	Ss		8x19	8x19	8x19
	Sd		8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	760/856	760/856	820/916
	L NKGE	[mm]	-/-	850/946	860/956
	Weight NKG	[mm]	121/121	123/123	132/132
	Weight NKGE	[kg]	-/-	133/132	139/138
	Weight NKG SS	[kg]	122/121	123/122	133/132
	Weight NKGE SS	[kg]	-/-	133/133	139/139
NKG data	l1	[kg]	1000	1000	1000
	l2	[mm]	170	170	170
	l3	[mm]	660	660	660
	b1	[mm]	340	340	340
	b2	[mm]	450	450	450
	b3	[mm]	400	400	400
	d	[mm]	24	24	24
	a2	[mm]	75	75	75
	h	[mm]	80	80	80
	h3	[mm]	240	240	240
	$h4^{1)}$	[mm]	349/-	349/407	350/407
	Base frame no.		4	4	4
NBG data	Design		A	A	A
	L NBG	[mm]	246	246	246
	L NBG SS	[mm]	273	273	273
	h1	[mm]	160	160	160
	G1	[mm]	117	117	117
	G2	[mm]	146	146	146
	m1	[mm]	125	125	125
	m2	[mm]	95	95	95
	n1	[mm]	280	280	280
	n2	[mm]	212	212	212
	b	[mm]	65	65	65
	s1	[mm]	M12	M12	M12
	H	[mm]	-	-	-
	$LB^{1)}$	[mm]	231/-	231/321	281/321
	$AD^{1)}$	[mm]	109/-	109/167	110/167
	$AG^{1)}$	[mm]	82/-	82/264	162/264
	$LL^{1)}$	[mm]	82/-	82/260	103/260
	P	[mm]	200	200	200
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight $NBG^{1)}$	[kg]	48/-	49/61	60/67
	Weight NBG $SS^{1)}$	[kg]	51/-	52/64	63/70

1) Dimension of pump with premium range motor/built-in frequency converter.

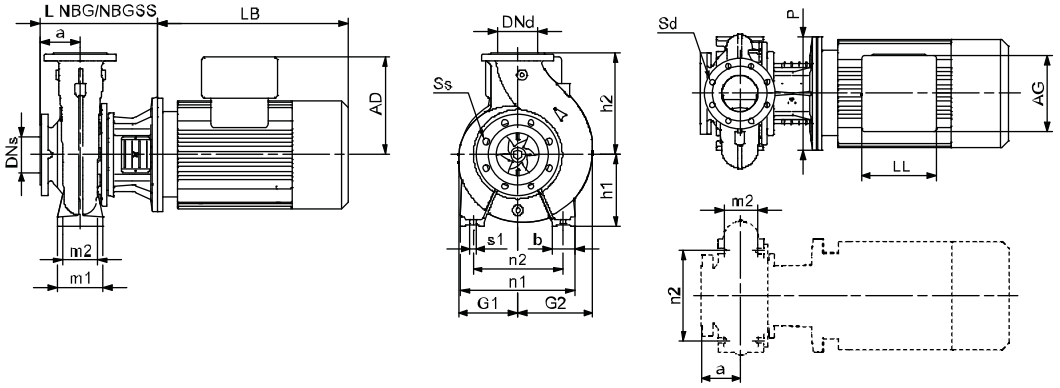
Note: For information about base frames, see page 236.

Performance curves



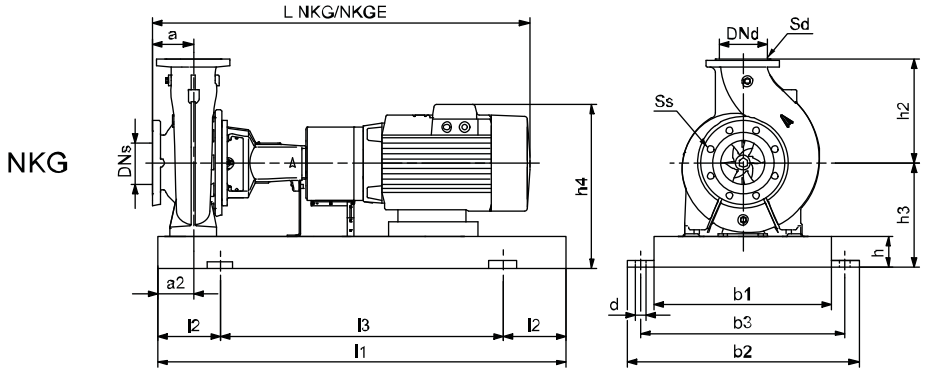
TM03 1956 1106

NBG



TM03 8008 0107

NKG



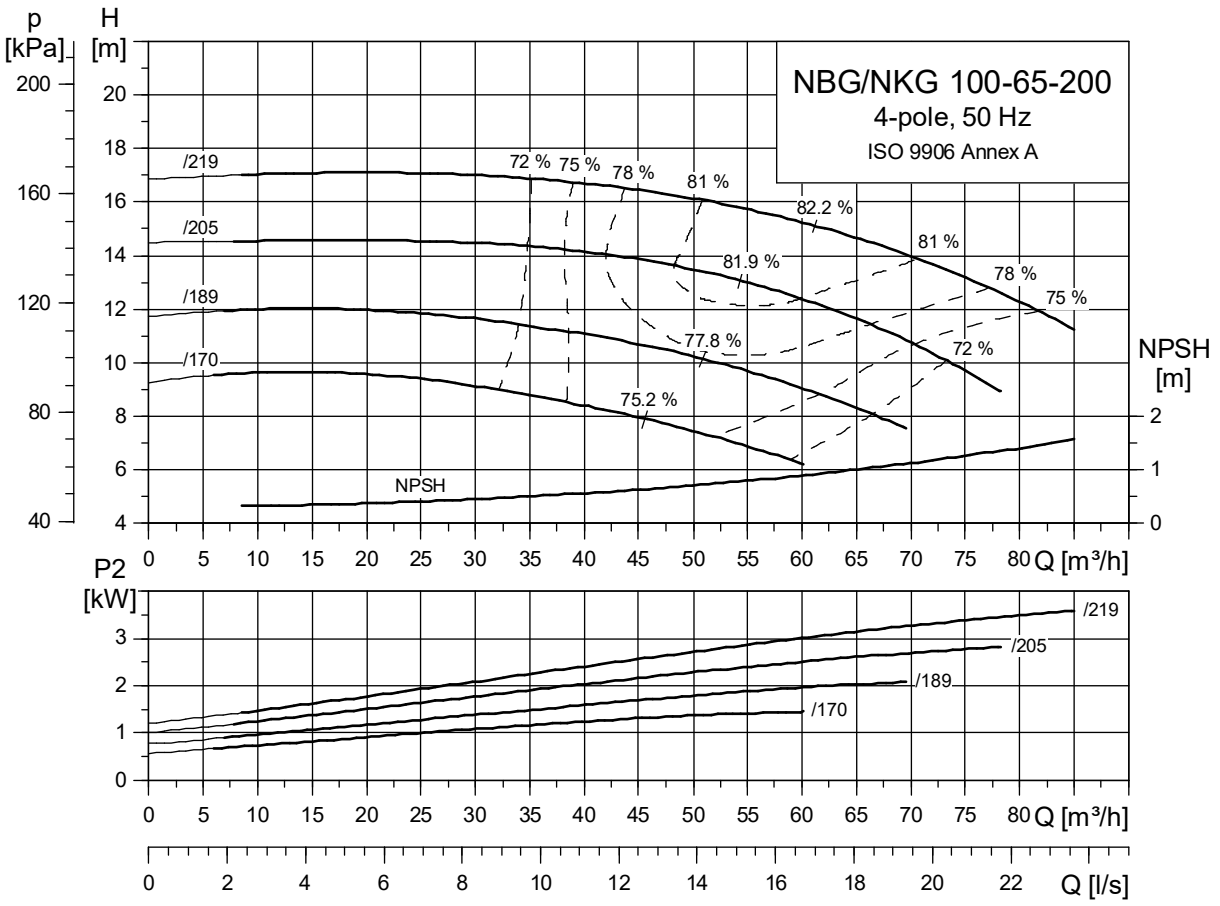
TM03 8011 0107

Pump type			100-80-160/138	100-80-160/149	100-80-160/165	100-80-160/177
Motor type	Premium Motor		MG 80B-C	MG 90SB-D	MG 90LC-D	MG 100LB-D
	E-Motor		MGE 90SA	MGE 90SB	MGE 90LC	MGE 100LB
Common data NBG/NKG	P_2	[kW]	0.75	1.1	1.5	2.2
	PN	[bar]	16	16	16	16
	DNs	[mm]	100	100	100	100
	DNd	[mm]	80	80	80	80
	a	[mm]	100	100	100	100
	h2	[mm]	200	200	200	200
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	875/971	935/1031	975/1071	999/1095
	L NKGE	[mm]	965/1061	975/1071	975/1071	999/1095
	Weight NKG	[mm]	141/141	151/150	152/151	170/168
	Weight NKGE	[kg]	152/151	158/157	159/158	181/179
	Weight NKG SS	[kg]	142/141	152/151	153/152	170/169
	Weight NKGE SS	[kg]	152/151	158/157	159/158	181/180
NKG data	l1	[kg]	1000	1000	1000	1120
	l2	[mm]	170	170	170	190
	l3	[mm]	660	660	660	740
	b1	[mm]	340	340	340	380
	b2	[mm]	450	450	450	490
	b3	[mm]	400	400	400	440
	d	[mm]	24	24	24	24
	a2	[mm]	75	75	75	75
	h	[mm]	80	80	80	80
	h3	[mm]	240	240	240	240
	h4 1)	[mm]	349/407	350/407	350/407	360/417
	Base frame no.		4	4	4	5
NBG data	Design		A	A	A	A
	L NBG	[mm]	273	273	273	293
	L NBG SS	[mm]	273	273	273	293
	h1	[mm]	160	160	160	160
	G1	[mm]	127	127	127	127
	G2	[mm]	161	161	161	161
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	280	280	280	280
	n2	[mm]	212	212	212	212
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB 1)	[mm]	231/321	281/321	321/321	335/335
	AD 1)	[mm]	109/167	110/167	110/167	120/177
	AG 1)	[mm]	82/264	162/264	162/264	162/264
	LL 1)	[mm]	82/260	103/260	103/260	103/260
	P	[mm]	200	200	200	250
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG 1)	[kg]	56/68	67/74	68/75	76/84
	Weight NBG SS 1)	[kg]	56/68	67/74	68/75	76/84

1) Dimension of pump with premium range motor/built-in frequency converter.

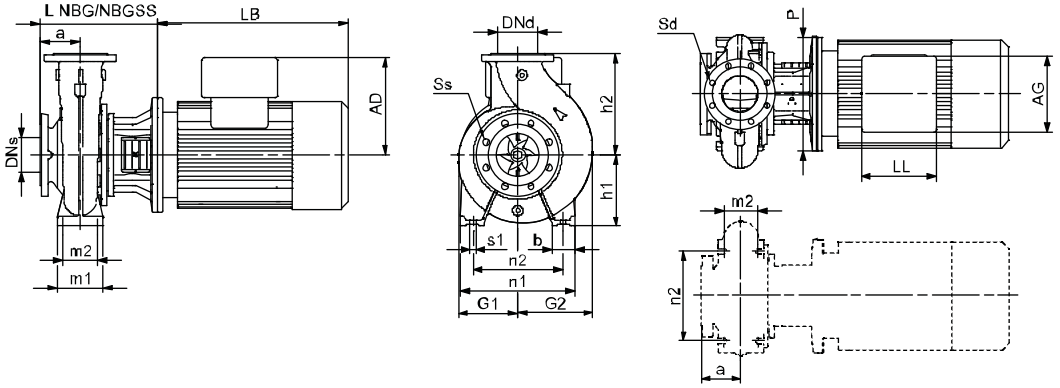
Note: For information about base frames, see page 236.

Performance curves



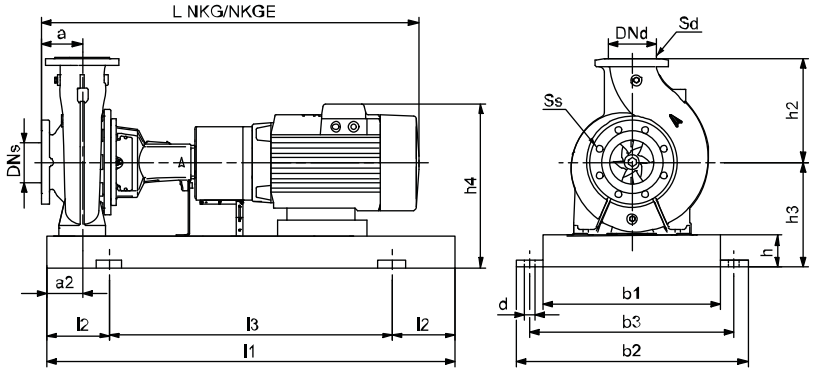
TM03 1957 1106

NBG



TM03 8008 0107

NKG

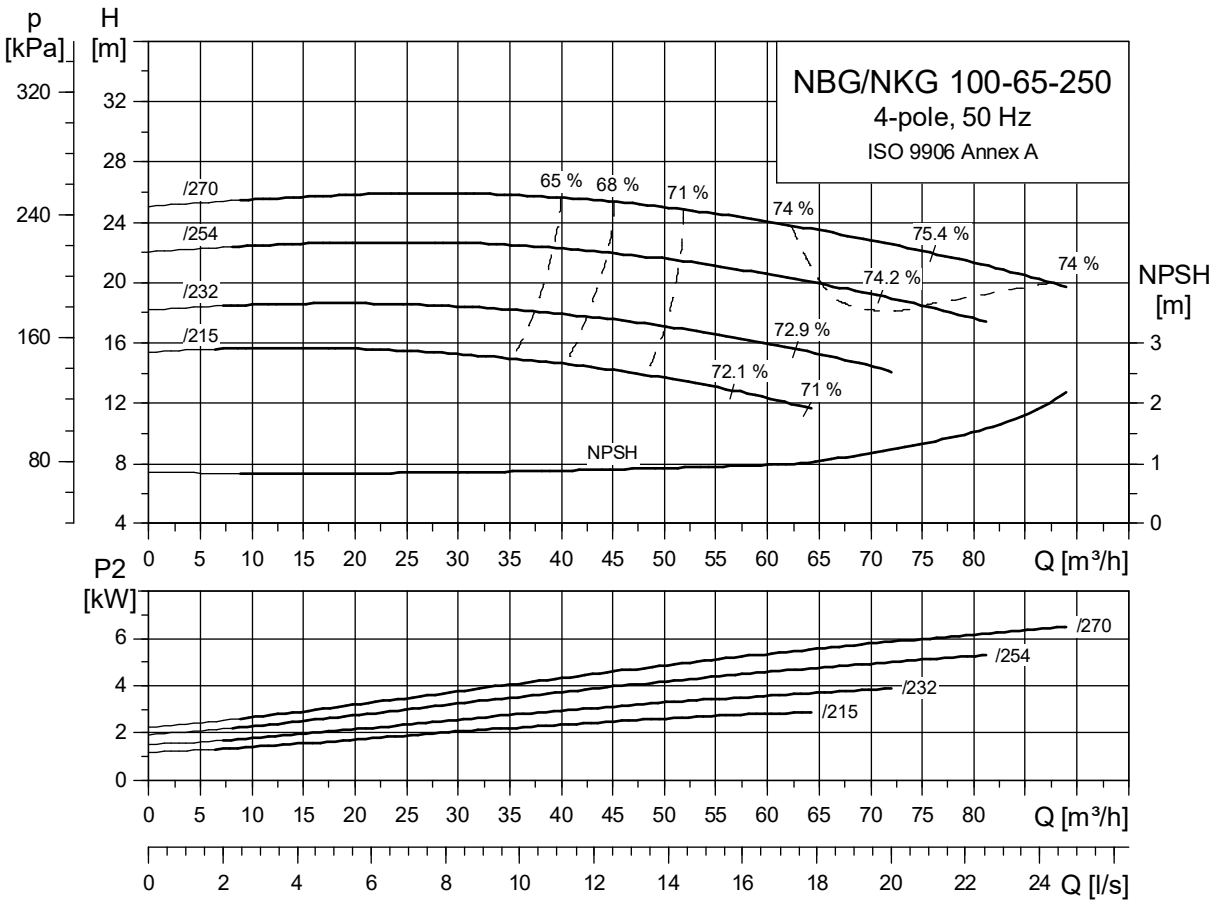


TM03 8011 0107

Pump type			100-65-200/170	100-65-200/189	100-65-200/205	100-65-200/219
Motor type	Premium Motor		MG 90LC-D	MG 100LB-D	MG 100LC-D	MG 112MC-D
	E-Motor		MGE 90LC	MGE 100LB	MGE 100LC	MGE 112MC
Common data NBG/NKG	P_2	[kW]	1.5	2.2	3	4
	PN	[bar]	16	16	16	16
	DNs	[mm]	100	100	100	100
	DNd	[mm]	65	65	65	65
	a	[mm]	100	100	100	100
	h2	[mm]	225	225	225	225
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	975/1111	999/1135	999/1135	1036/1172
	L NKGE	[mm]	975/1111	999/1135	999/1135	1036/1172
	Weight NKG	[mm]	175/174	179/177	184/182	201/199
	Weight NKGE	[kg]	181/181	190/188	192/190	205/203
	Weight NKG SS	[kg]	178/177	182/180	187/185	204/202
	Weight NKGE SS	[kg]	184/184	193/191	195/193	208/206
NKG data	l1	[kg]	1120	1120	1120	1120
	l2	[mm]	190	190	190	190
	l3	[mm]	740	740	740	740
	b1	[mm]	380	380	380	380
	b2	[mm]	490	490	490	490
	b3	[mm]	440	440	440	440
	d	[mm]	24	24	24	24
	a2	[mm]	75	75	75	75
	h	[mm]	80	80	80	80
	h3	[mm]	260	260	260	260
	h4[1)]	[mm]	370/427	380/437	380/437	394/448
	Base frame no.		5	5	5	5
NBG data	Design		A	A	A	A
	L NBG	[mm]	273	293	293	293
	L NBG SS	[mm]	273	293	293	293
	h1	[mm]	180	180	180	180
	G1	[mm]	149	149	149	149
	G2	[mm]	173	173	173	173
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	320	320	320	320
	n2	[mm]	250	250	250	250
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	LB[1)]	[mm]	321/321	335/335	335/335	372/372
	AD[1)]	[mm]	110/167	120/177	120/177	134/188
	AG[1)]	[mm]	162/264	162/264	162/264	202/290
	LL[1)]	[mm]	103/260	103/260	103/260	103/300
	P	[mm]	200	250	250	250
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG[1)]	[kg]	76/83	84/92	86/94	101/105
	Weight NBG SS[1)]	[kg]	79/85	86/94	88/96	103/108

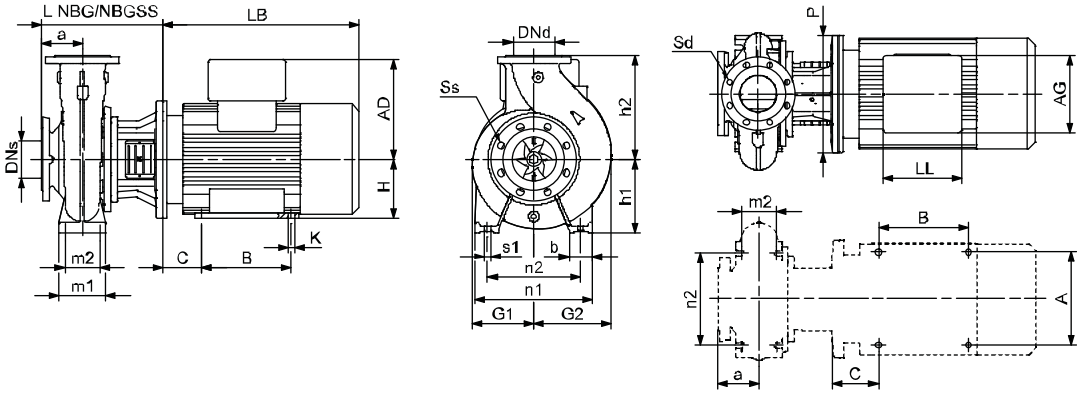
1) Dimension of pump with premium range motor/built-in frequency converter.

Note: For information about base frames, see page 236.



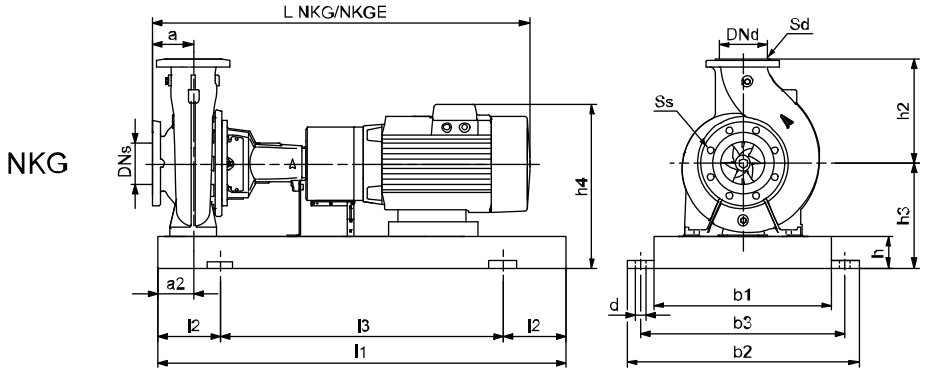
TM03 1958 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

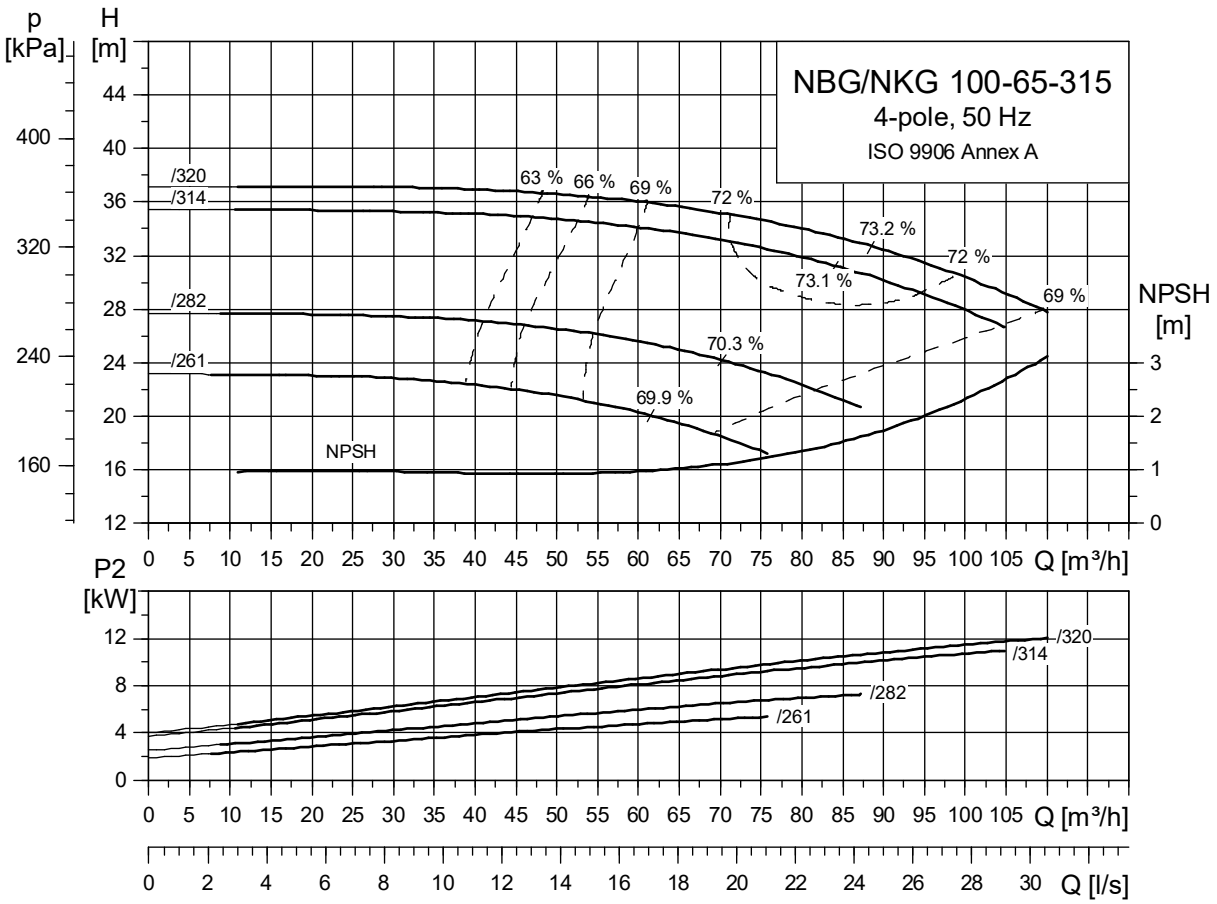
Pump type			100-65-250/215	100-65-250/232	100-65-250/254	100-65-250/270
Motor type	Premium Motor		MG 100LC-D	MG 112MC-D	Siemens 132S	Siemens 132M
	E-Motor		MGE 100LC	MGE 112MC	MGE 132SC	MMGE 132M[3)]
Common data NBG/NKG	P_2	[kW]	3	4	5.5	7.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	100	100	100	100
	DNd	[mm]	65	65	65	65
	a	[mm]	125	125	125	125
	h2	[mm]	250	250	250	250
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1024/1160	1061/1197	1082/1218	1120/1256
	L NKGE	[mm]	1024/1160	1061/1197	1100/1236	1188/1324
	Weight NKG	[mm]	232/231	246/244	251/248	266/263
	Weight NKGE	[kg]	240/239	250/248	261/258	318/312
	Weight NKG SS	[kg]	231/229	244/243	249/246	264/261
	Weight NKGE SS	[kg]	239/237	249/247	259/256	316/311
NKG data	l1	[kg]	1250	1250	1250	1250
	l2	[mm]	205	205	205	205
	l3	[mm]	840	840	840	840
	b1	[mm]	430	430	430	430
	b2	[mm]	540	540	540	540
	b3	[mm]	490	490	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	90	90	90	90
	h	[mm]	80	80	80	80
	h3	[mm]	280	280	280	280
	$h4^{1)}$	[mm]	400/457	414/468	447/468	447/639
	Base frame no.		6	6	6	6
NBG data	Design		A	A	A	A[2)]
	L NBG	[mm]	348	348	368	368
	L NBG SS	[mm]	348	348	368	368
	h1	[mm]	200	200	200	200
	G1	[mm]	183	183	183	183
	G2	[mm]	200	200	200	200
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	360	360	360	360
	n2	[mm]	280	280	280	280
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	-	-	-	132
	$LB^{1)}$	[mm]	335/335	372/372	373/391	411/449
	$AD^{1)}$	[mm]	120/177	134/188	167/188	167/333
	$AG^{1)}$	[mm]	162/264	202/290	140/290	140/246
	$LL^{1)}$	[mm]	103/260	103/300	140/300	140/410
	P	[mm]	250	250	300	300
	C	[mm]	-	-	-	89
	B	[mm]	-	-	-	178
	A	[mm]	-	-	-	216
	K	[mm]	-	-	-	12
	Weight NBG[1)]	[kg]	117/124	132/136	139/150	154/195
	Weight NBG SS[1)]	[kg]	120/128	135/139	142/154	157/198

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

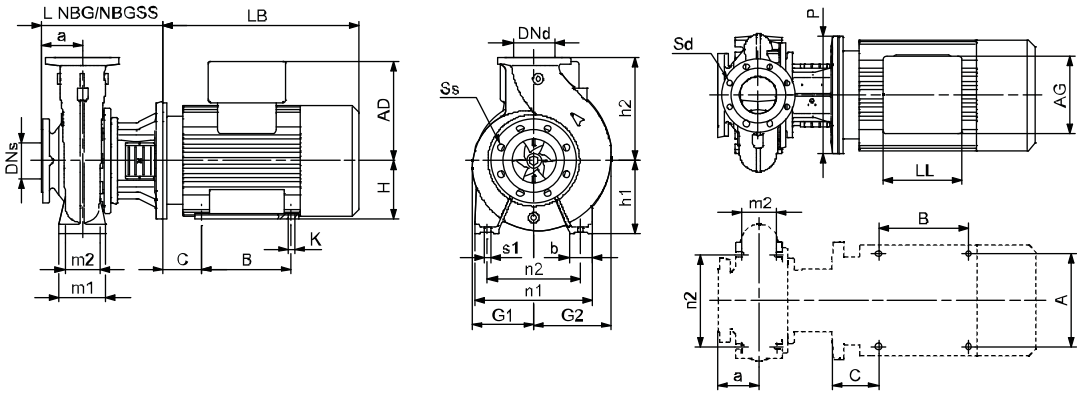
3) NBGE 100-65-250/270 is fitted with an MMGE 132M motor with motor feet; NKGE 100-65-250/270 is fitted with an MMGE 160M motor.

Note: For information about base frames, see page 236.



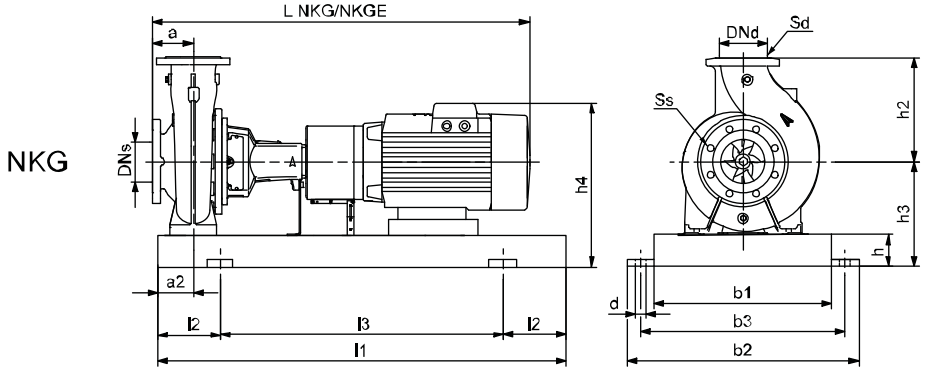
TM03 1959 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

Pump type			100-65-315/261	100-65-315/282	100-65-315/314	100-65-315/320
Motor type	Premium Motor		Siemens 132S	Siemens 132M	Siemens 160M	Siemens 160L
	E-Motor		MGE 132SC	MMGE 132M[3)]	MMGE 160M	MMGE 160L
Common data NBG/NKG	P_2	[kW]	5.5	7.5	11	15
	PN	[bar]	16	16	16	16
	DNs	[mm]	100	100	100	100
	DNd	[mm]	65	65	65	65
	a	[mm]	125	125	125	125
	h2	[mm]	280	280	280	280
	Ss		8x19	8x19	8x19	8x19
	Sd		4x19	4x19	4x19	4x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1112/1248	1150/1286	1247/1383	1287/1423
	L NKGE	[mm]	1130/1266	1218/1354	1218/1354	1268/1404
	Weight NKG	[mm]	311/308	326/323	350/345	376/371
	Weight NKGE	[kg]	321/318	370/365	401/396	419/414
	Weight NKG SS	[kg]	318/315	333/330	357/352	383/378
	Weight NKGE SS	[kg]	328/325	377/372	408/403	426/421
NKG data	l1	[kg]	1400	1400	1400	1400
	l2	[mm]	230	230	230	230
	l3	[mm]	940	940	940	940
	b1	[mm]	480	480	480	480
	b2	[mm]	610	610	610	610
	b3	[mm]	560	560	560	560
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	100	100
	h3	[mm]	325	325	325	325
	h4[1)]	[mm]	492/513	492/684	522/684	522/702
	Base frame no.		7	7	7	7
NBG data	Design		A	A[2)]	C[2)]	C[2)]
	L NBG	[mm]	366	366	396	396
	L NBG SS	[mm]	366	366	396	396
	h1	[mm]	225	225	225	225
	G1	[mm]	211	211	211	211
	G2	[mm]	219	219	219	219
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	-	132	160	160
	LB[1)]	[mm]	373/391	411/449	478/449	518/499
	AD[1)]	[mm]	167/188	167/333	197/359	197/377
	AG[1)]	[mm]	140/290	140/246	165/296	165/296
	LL[1)]	[mm]	140/300	140/410	165/410	165/410
	P	[mm]	300	300	350	350
	C	[mm]	-	89	108	108
	B	[mm]	-	178	210	254
	A	[mm]	-	216	254	254
	K	[mm]	-	12	15	15
	Weight NBG[1)]	[kg]	162/174	177/218	205/256	231/274
	Weight NBG SS[1)]	[kg]	170/182	185/226	213/264	239/282

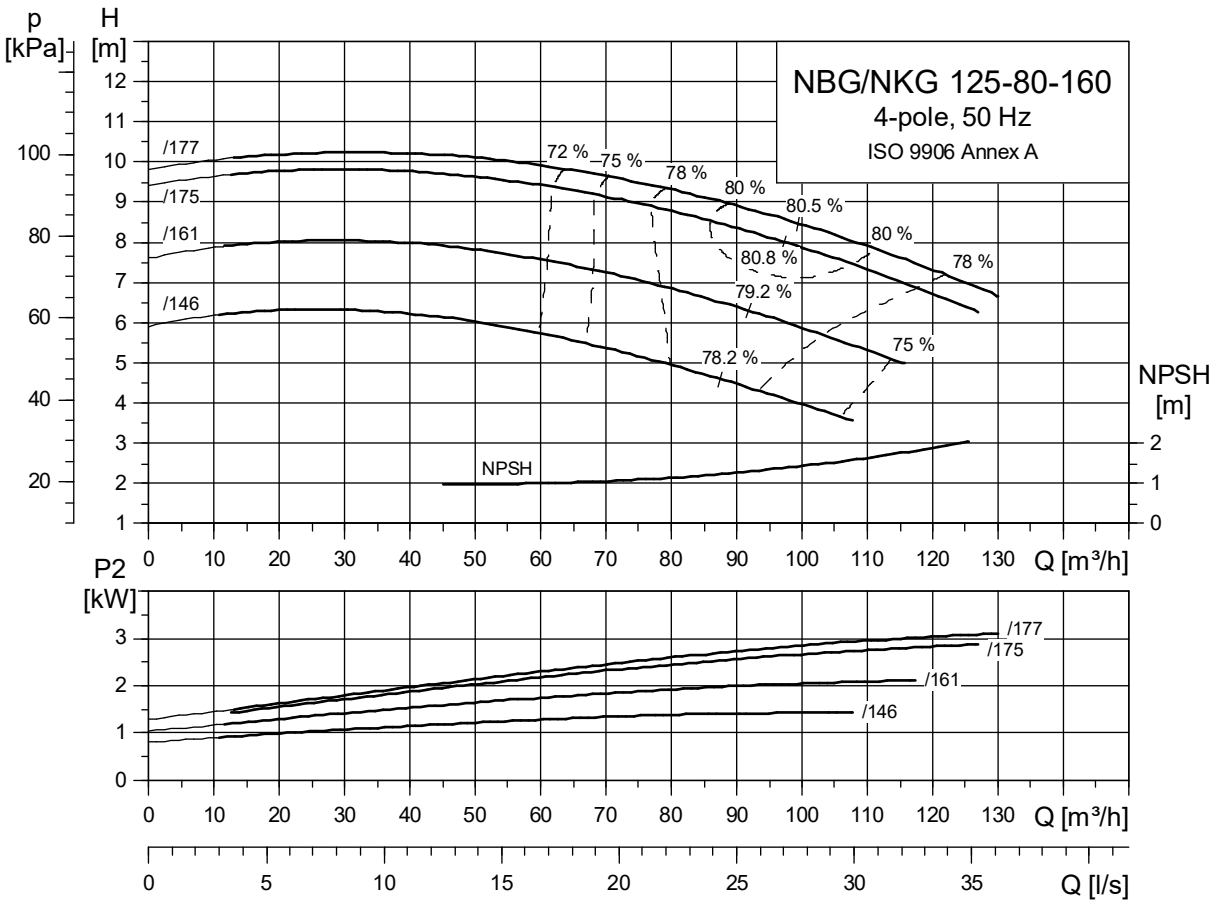
1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

3) NBGE 100-65-315/282 is fitted with an MMGE 132M motor with motor feet; NKGE 100-65-315/282 is fitted with an MMGE 160M motor.

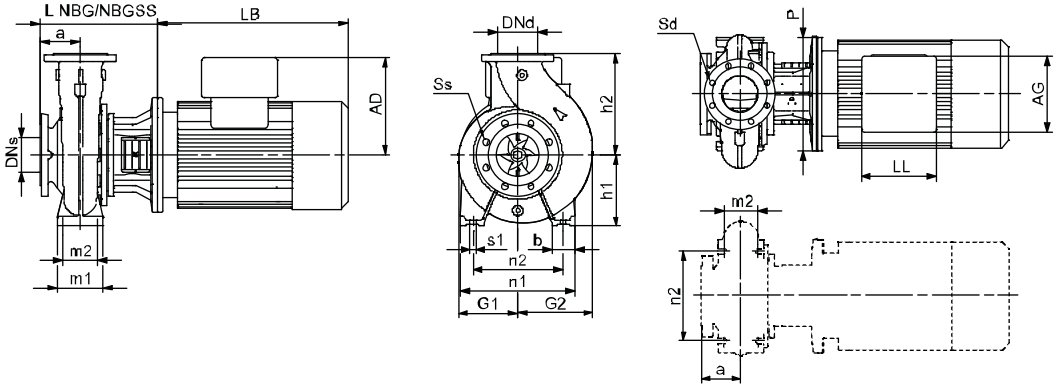
Note: For information about base frames, see page 236.

Performance curves



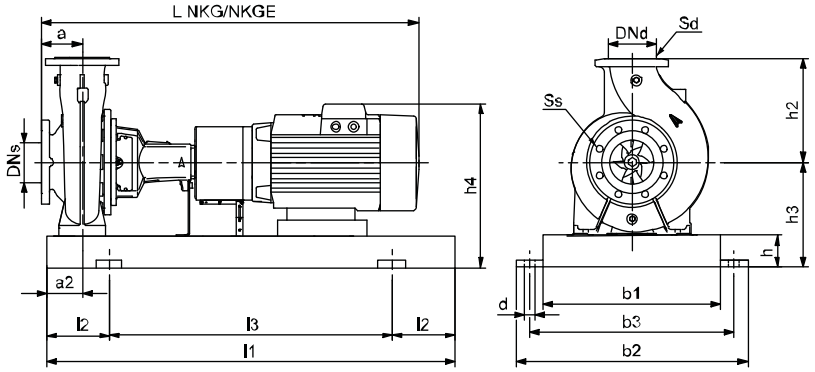
TM03 1960 1106

NBG



TM03 8008 0107

NKG



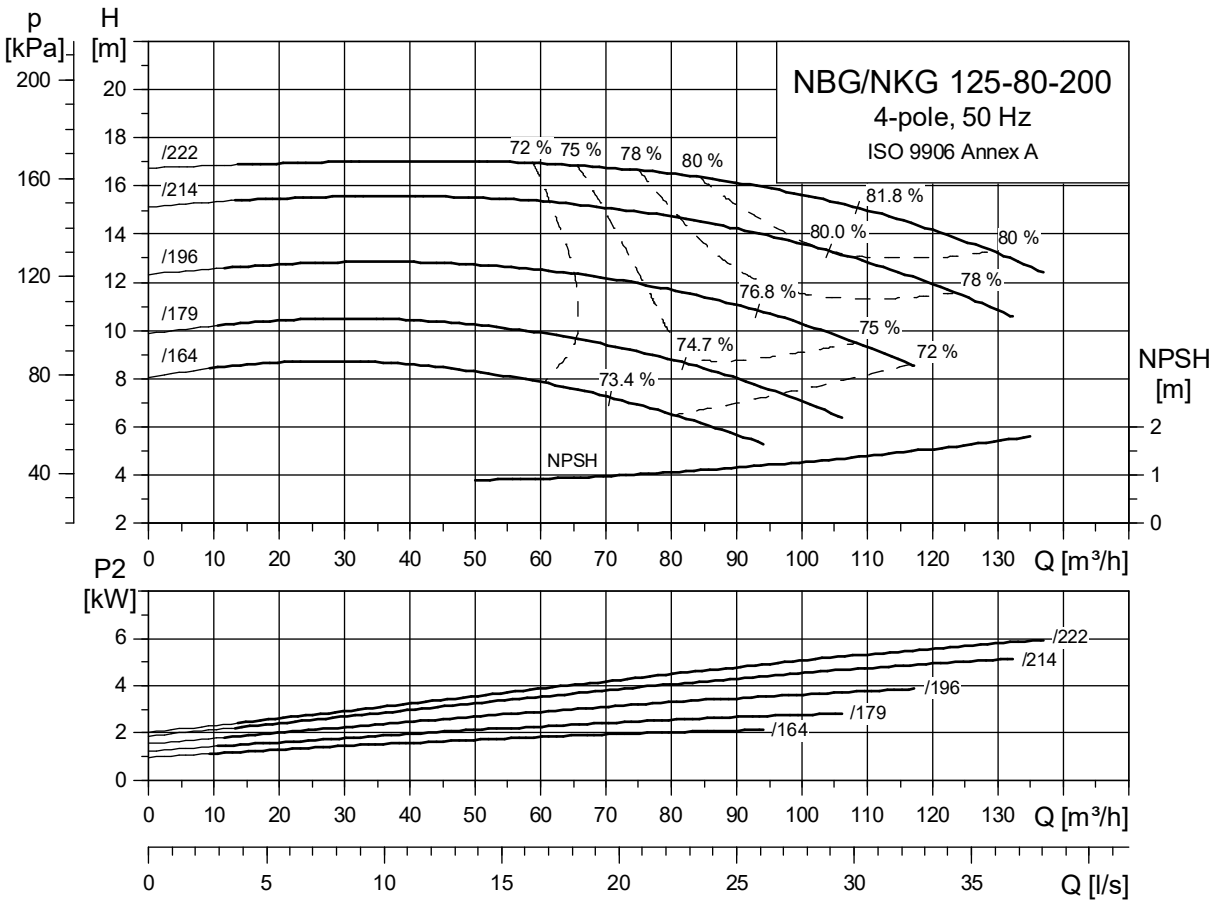
TM03 8011 0107

Pump type			125-80-160/146	125-80-160/161	125-80-160/175	125-80-160/177
Motor type	Premium Motor		MG 90LC-D	MG 100LB-D	MG 100LC-D	MG 112MC-D
	E-Motor		MGE 90LC	MGE 100LB	MGE 100LC	MGE 112MC
Common data NBG/NKG	P_2	[kW]	1.5	2.2	3	4
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	80	80	80	80
	a	[mm]	125	125	125	125
	h2	[mm]	225	225	225	225
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1000/1136	1024/1160	1024/1160	1061/1197
	L NKGE	[mm]	1000/1136	1024/1160	1024/1160	1061/1197
	Weight NKG	[mm]	176/175	180/178	185/183	201/200
	Weight NKGE	[kg]	182/182	191/189	193/191	206/204
	Weight NKG SS	[kg]	179/179	184/182	189/187	205/203
	Weight NKGE SS	[kg]	186/185	195/193	197/195	210/208
NKG data	l1	[kg]	1120	1120	1120	1120
	l2	[mm]	190	190	190	190
	l3	[mm]	740	740	740	740
	b1	[mm]	380	380	380	380
	b2	[mm]	490	490	490	490
	b3	[mm]	440	440	440	440
	d	[mm]	24	24	24	24
	a2	[mm]	75	75	75	75
	h	[mm]	80	80	80	80
	h3	[mm]	260	260	260	260
	$h4^{1)}$	[mm]	370/427	380/437	380/437	394/448
	Base frame no.		5	5	5	5
NBG data	Design		A	A	A	A
	L NBG	[mm]	298	318	318	318
	L NBG SS	[mm]	298	318	318	318
	h1	[mm]	180	180	180	180
	G1	[mm]	139	139	139	139
	G2	[mm]	182	182	182	182
	m1	[mm]	125	125	125	125
	m2	[mm]	95	95	95	95
	n1	[mm]	320	320	320	320
	n2	[mm]	250	250	250	250
	b	[mm]	65	65	65	65
	s1	[mm]	M12	M12	M12	M12
	H	[mm]	-	-	-	-
	$LB^{1)}$	[mm]	321/321	335/335	335/335	372/372
	$AD^{1)}$	[mm]	110/167	120/177	120/177	134/188
	$AG^{1)}$	[mm]	162/264	162/264	162/264	202/290
	$LL^{1)}$	[mm]	103/260	103/260	103/260	103/300
	P	[mm]	200	250	250	250
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight $NBG^{1)}$	[kg]	77/83	85/92	87/94	102/106
	Weight NBG $SS^{1)}$	[kg]	80/87	88/96	90/98	105/109

1) Dimension of pump with premium range motor/built-in frequency converter.

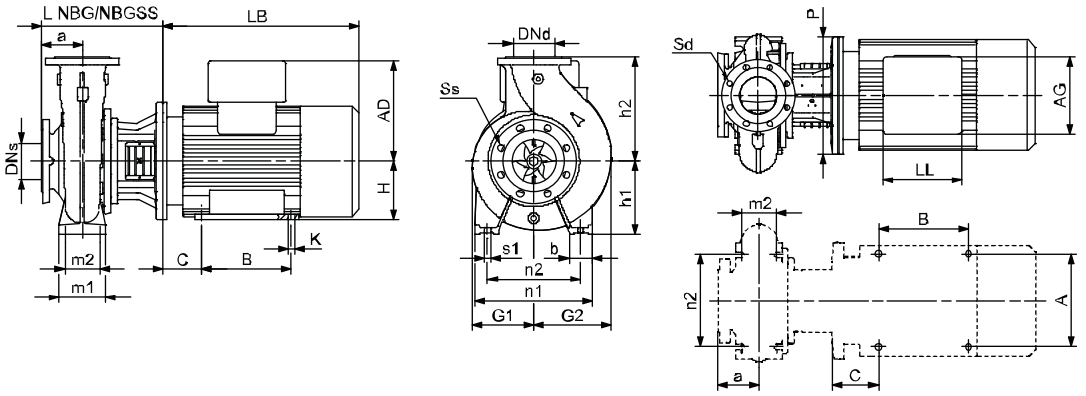
Note: For information about base frames, see page 236.

Performance curves



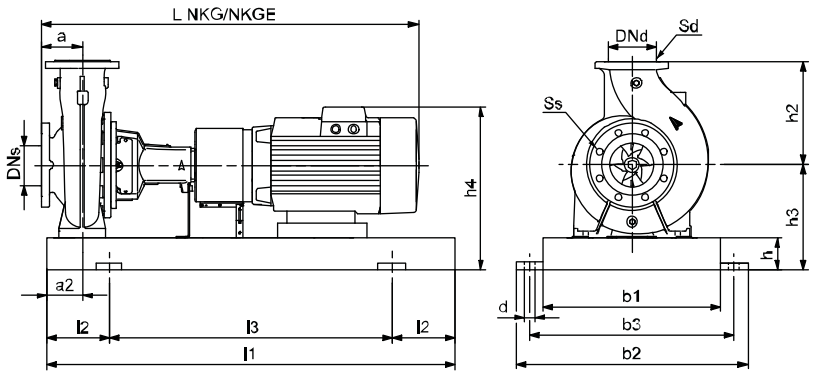
TM03 1961 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

Pump type			125-80-200/164	125-80-200/179	125-80-200/196	125-80-200/214	125-80-200/222
Motor type	Premium Motor		MG 100LB-D	MG 100LC-D	MG 112MC-D	Siemens 132S	Siemens 132M
	E-Motor		MGE 100LB	MGE 100LC	MGE 112MC	MGE 132SC	MMGE 132M[3]
Common data NBG/NKG	P_2	[kW]	2.2	3	4	5.5	7.5
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	125	125	125	125	125
	DNd	[mm]	80	80	80	80	80
	a	[mm]	125	125	125	125	125
	h2	[mm]	250	250	250	250	250
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1024/1160	1024/1160	1061/1197	1082/1218	1120/1256
	L NKGE	[mm]	1024/1160	1024/1160	1061/1197	1100/1236	1188/1324
	Weight NKG	[mm]	209/207	214/212	230/229	240/237	255/252
	Weight NKGE	[kg]	220/218	222/220	235/233	250/247	294/289
	Weight NKG SS	[kg]	214/212	219/217	235/234	245/242	260/257
	Weight NKGE SS	[kg]	225/223	227/225	240/238	255/252	299/294
NKG data	l1	[kg]	1250	1250	1250	1250	1250
	l2	[mm]	205	205	205	205	205
	l3	[mm]	840	840	840	840	840
	b1	[mm]	430	430	430	430	430
	b2	[mm]	540	540	540	540	540
	b3	[mm]	490	490	490	490	490
	d	[mm]	24	24	24	24	24
	a2	[mm]	75	75	75	75	75
	h	[mm]	80	80	80	80	80
	h3	[mm]	260	260	260	260	260
	$h4^{1)}$	[mm]	380/437	380/437	394/448	427/448	427/619
	Base frame no.		6	6	6	6	6
NBG data	Design		A	A	A	A	A[2]
	L NBG	[mm]	348	348	348	368	368
	L NBG SS	[mm]	348	348	348	368	368
	h1	[mm]	180	180	180	180	180
	G1	[mm]	161	161	161	161	161
	G2	[mm]	193	193	193	193	193
	m1	[mm]	125	125	125	125	125
	m2	[mm]	95	95	95	95	95
	n1	[mm]	345	345	345	345	345
	n2	[mm]	280	280	280	280	280
	b	[mm]	65	65	65	65	65
	s1	[mm]	M12	M12	M12	M12	M12
	H	[mm]	-	-	-	-	132
	$LB^{1)}$	[mm]	335/335	335/335	372/372	373/391	411/449
	$AD^{1)}$	[mm]	120/177	120/177	134/188	167/188	167/333
	$AG^{1)}$	[mm]	162/264	162/264	202/290	140/290	140/246
	$LL^{1)}$	[mm]	103/260	103/260	103/300	140/300	140/410
	P	[mm]	250	250	250	300	300
	C	[mm]	-	-	-	-	89
	B	[mm]	-	-	-	-	178
	A	[mm]	-	-	-	-	216
	K	[mm]	-	-	-	-	12
	Weight $NBG^{1)}$	[kg]	99/107	101/109	116/120	123/135	138/179
	Weight NBG $SS^{1)}$	[kg]	108/116	110/118	125/130	133/144	148/189

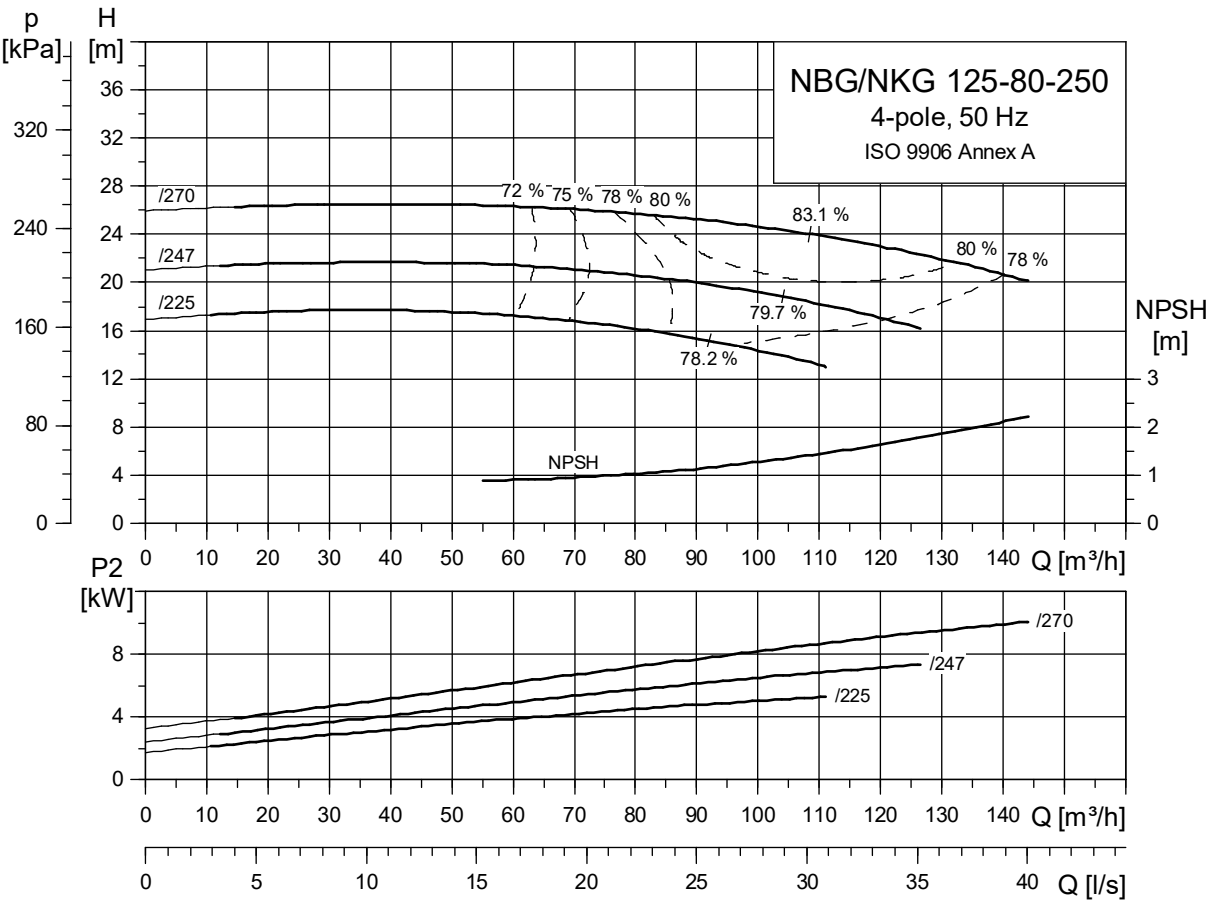
1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

3) NBGE 125-80-200/222 is fitted with an MMGE 132M motor with motor feet; NKGE 125-80-200/222 is fitted with an MMGE 160M motor.

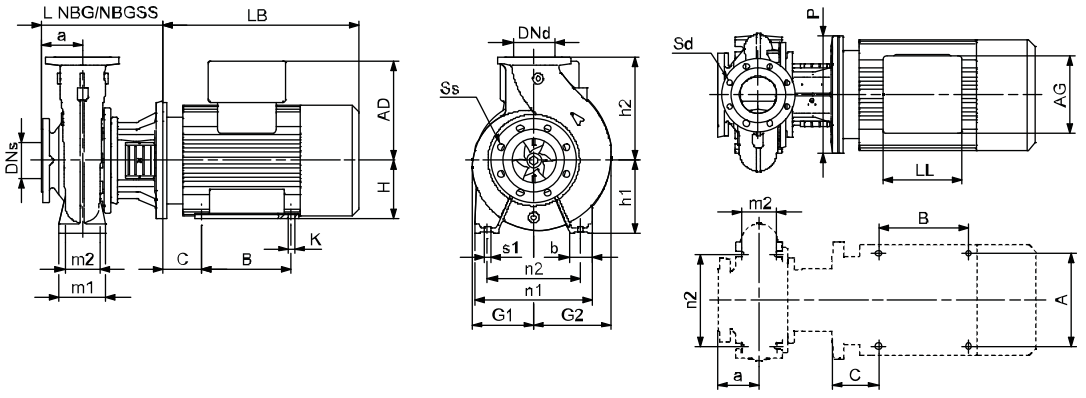
Note: For information about base frames, see page 236.

Performance curves



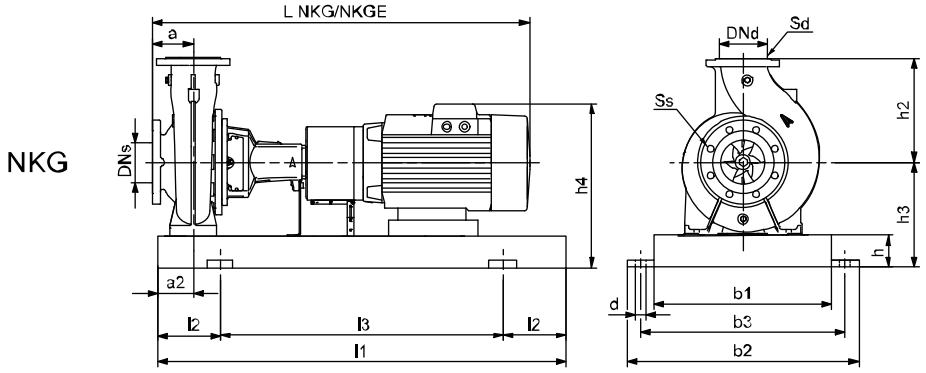
TM03 1962 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

Pump type			125-80-250/225	125-80-250/247	125-80-250/270
Motor type	Premium Motor		Siemens 132S	Siemens 132M	Siemens 160M
	E-Motor		MGE 132SC	MMGE 132M[3)]	MMGE 160M
Common data NBG/NKG	P_2	[kW]	5.5	7.5	11
	PN	[bar]	16	16	16
	DNs	[mm]	125	125	125
	DNd	[mm]	80	80	80
	a	[mm]	125	125	125
	h2	[mm]	280	280	280
	Ss		8x19	8x19	8x19
	Sd		8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1082/1218	1120/1256	1217/1353
	L NKGE	[mm]	1100/1236	1188/1324	1188/1324
	Weight NKG	[mm]	285/282	300/297	324/319
	Weight NKGE	[kg]	295/292	344/339	375/370
	Weight NKG SS	[kg]	289/286	304/301	328/323
	Weight NKGE SS	[kg]	299/296	348/343	379/374
NKG data	l1	[kg]	1400	1400	1400
	l2	[mm]	230	230	230
	l3	[mm]	940	940	940
	b1	[mm]	480	480	480
	b2	[mm]	610	610	610
	b3	[mm]	560	560	560
	d	[mm]	28	28	28
	a2	[mm]	90	90	90
	h	[mm]	100	100	100
	h3	[mm]	325	325	325
	h4[1)]	[mm]	492/513	492/684	522/684
	Base frame no.		7	7	7
NBG data	Design		A	A[2)]	C[2)]
	L NBG	[mm]	368	368	398
	L NBG SS	[mm]	368	368	398
	h1	[mm]	225	225	225
	G1	[mm]	182	182	182
	G2	[mm]	210	210	210
	m1	[mm]	160	160	160
	m2	[mm]	120	120	120
	n1	[mm]	400	400	400
	n2	[mm]	315	315	315
	b	[mm]	80	80	80
	s1	[mm]	M16	M16	M16
	H	[mm]	-	132	160
	LB[1)]	[mm]	373/391	411/449	478/449
	AD[1)]	[mm]	167/188	167/333	197/359
	AG[1)]	[mm]	140/290	140/246	165/296
	LL[1)]	[mm]	140/300	140/410	165/410
	P	[mm]	300	300	350
	C	[mm]	-	89	108
	B	[mm]	-	178	210
	A	[mm]	-	216	254
	K	[mm]	-	12	15
	Weight NBG[1)]	[kg]	142/154	157/198	184/235
	Weight NBG SS[1)]	[kg]	151/163	166/207	193/244

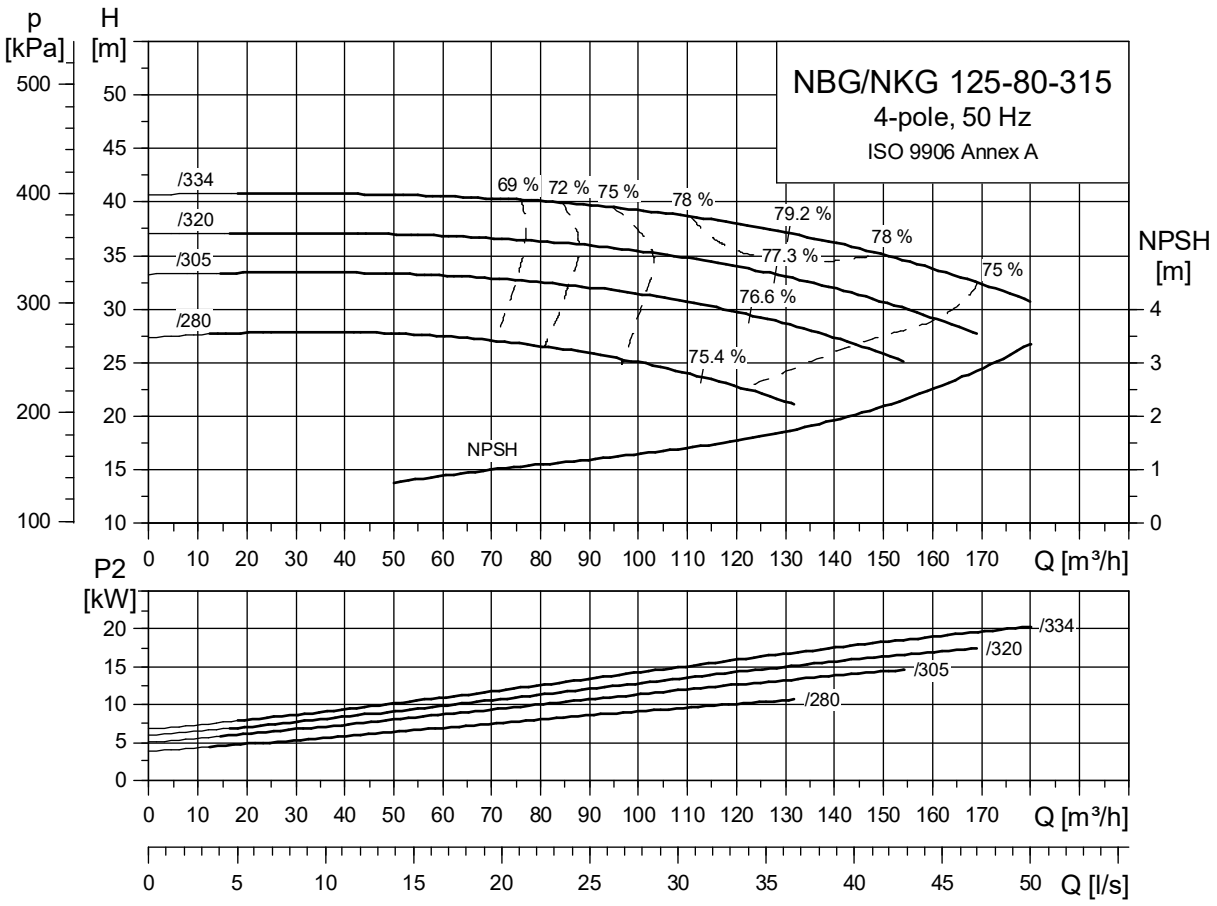
1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

3) NBGE 125-80-250/247 is fitted with an MMGE 132M motor with motor feet; NKGE 125-80-250/247 is fitted with an MMGE 160M motor.

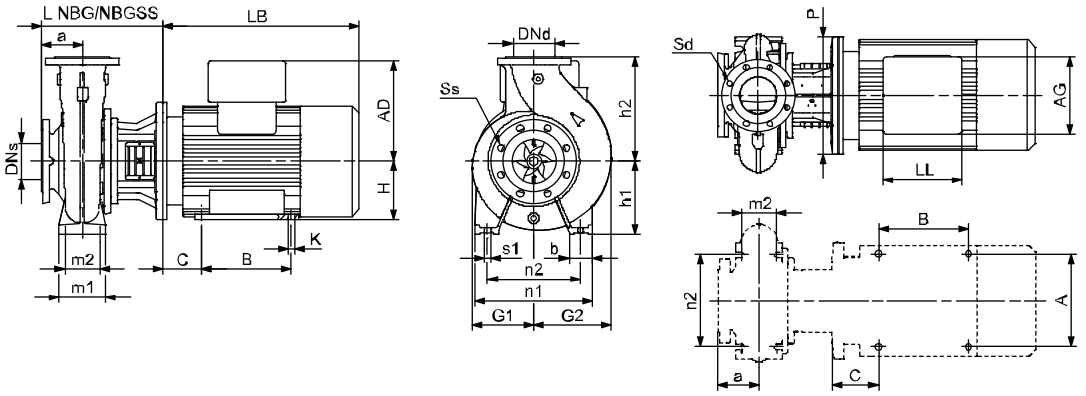
Note: For information about base frames, see page 236.

Performance curves



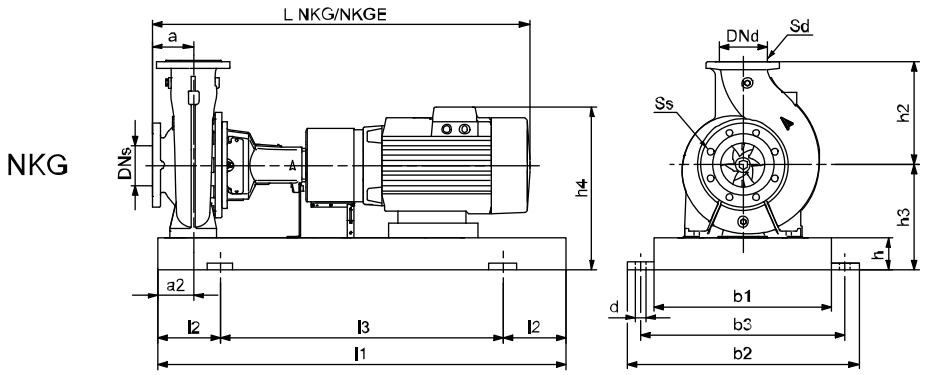
TM03 1963 1106

NBG



TM03 8010 0107

NKG



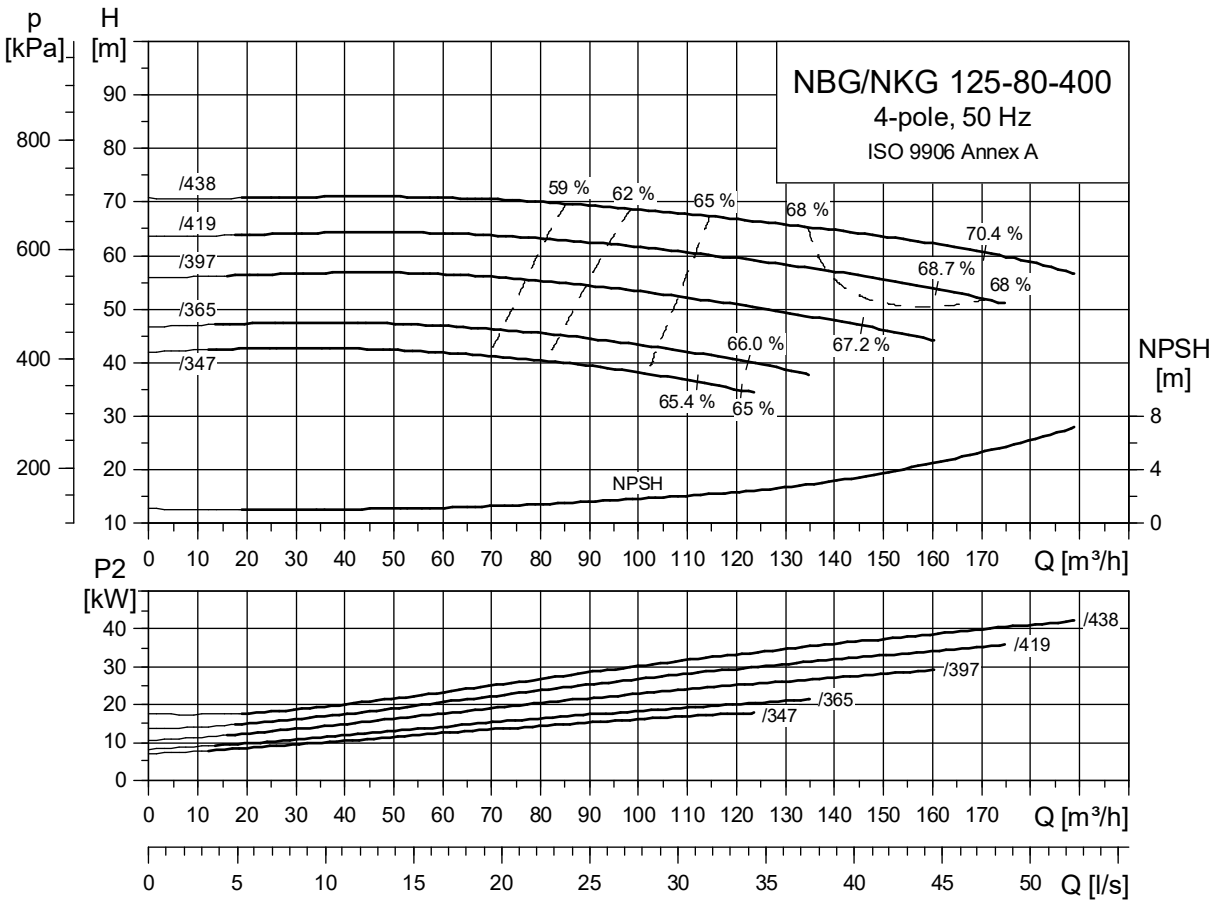
TM03 8011 0107

Pump type			125-80-315/280	125-80-315/305	125-80-315/320	125-80-315/334
Motor type	Premium Motor		Siemens 160M	Siemens 160L	Siemens 180M	Siemens 180L
	E-Motor		MMGE 160M	MMGE 160L	MMGE 180M	MMGE 180L
Common data NBG/NKG	P_2	[kW]	11	15	18.5	22
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	80	80	80	80
	a	[mm]	125	125	125	125
	h2	[mm]	315	315	315	315
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1247/1383	1287/1423	1371/1507	1371/1507
	L NKGE	[mm]	1218/1354	1268/1404	1268/1404	1339/1475
	Weight NKG	[mm]	363/358	389/384	413/405	433/425
	Weight NKGE	[kg]	414/409	432/427	470/462	504/496
	Weight NKG SS	[kg]	372/367	398/393	422/414	442/434
	Weight NKGE SS	[kg]	423/418	441/436	479/471	513/505
NKG data	l1	[kg]	1400	1400	1400	1400
	l2	[mm]	230	230	230	230
	l3	[mm]	940	940	940	940
	b1	[mm]	480	480	480	480
	b2	[mm]	610	610	610	610
	b3	[mm]	560	560	560	560
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	100	100
	h3	[mm]	350	350	350	350
	$h4^{1)}$	[mm]	547/709	547/727	608/749	608/749
	Base frame no.		7	7	7	7
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	396	396	396	396
	L NBG SS	[mm]	396	396	396	396
	h1	[mm]	250	250	250	250
	G1	[mm]	217	217	217	217
	G2	[mm]	243	243	243	243
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	160	160	180	180
	$LB^{1)}$	[mm]	478/449	518/499	602/499	602/570
	$AD^{1)}$	[mm]	197/359	197/377	258/399	258/399
	$AG^{1)}$	[mm]	165/296	165/296	152/328	152/328
	$LL^{1)}$	[mm]	165/410	165/410	132/456	132/456
	P	[mm]	350	350	350	350
	C	[mm]	108	108	121	121
	B	[mm]	210	254	241	279
	A	[mm]	254	254	279	279
	K	[mm]	15	15	15	15
	Weight $NBG^{1)}$	[kg]	217/268	243/286	261/318	281/352
	Weight NBG $SS^{1)}$	[kg]	226/277	252/295	270/327	290/361

1) Dimension of pump with premium range motor/built-in frequency converter.

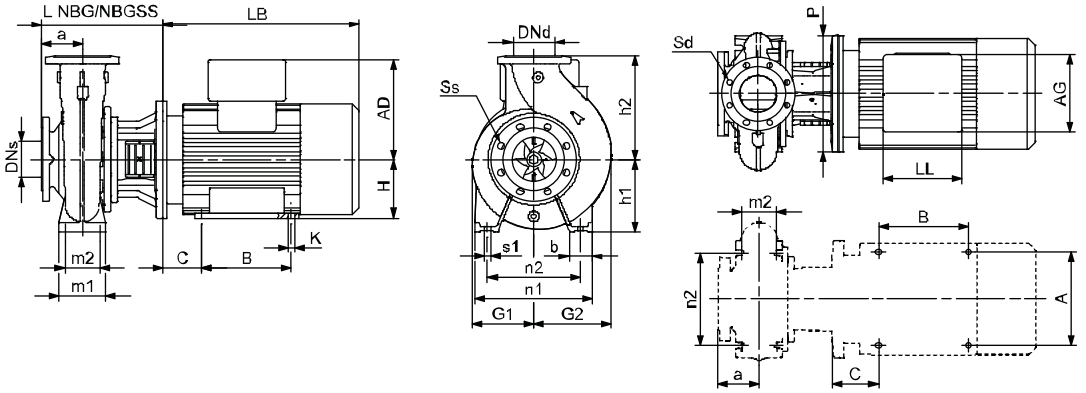
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.



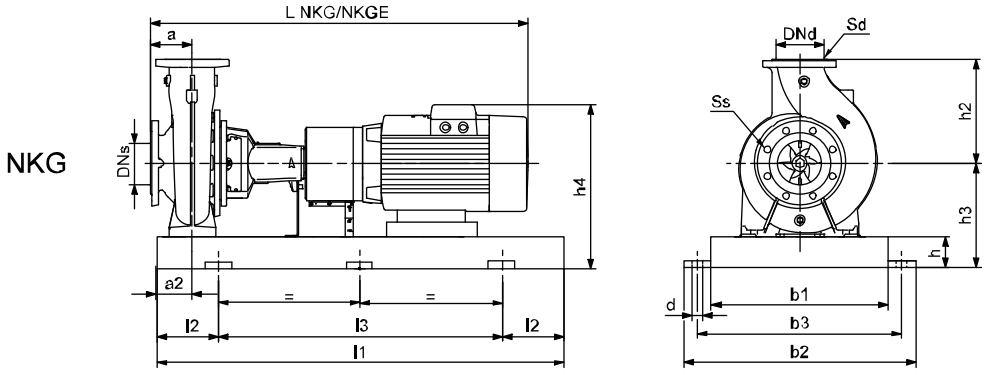
TM03 1961 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

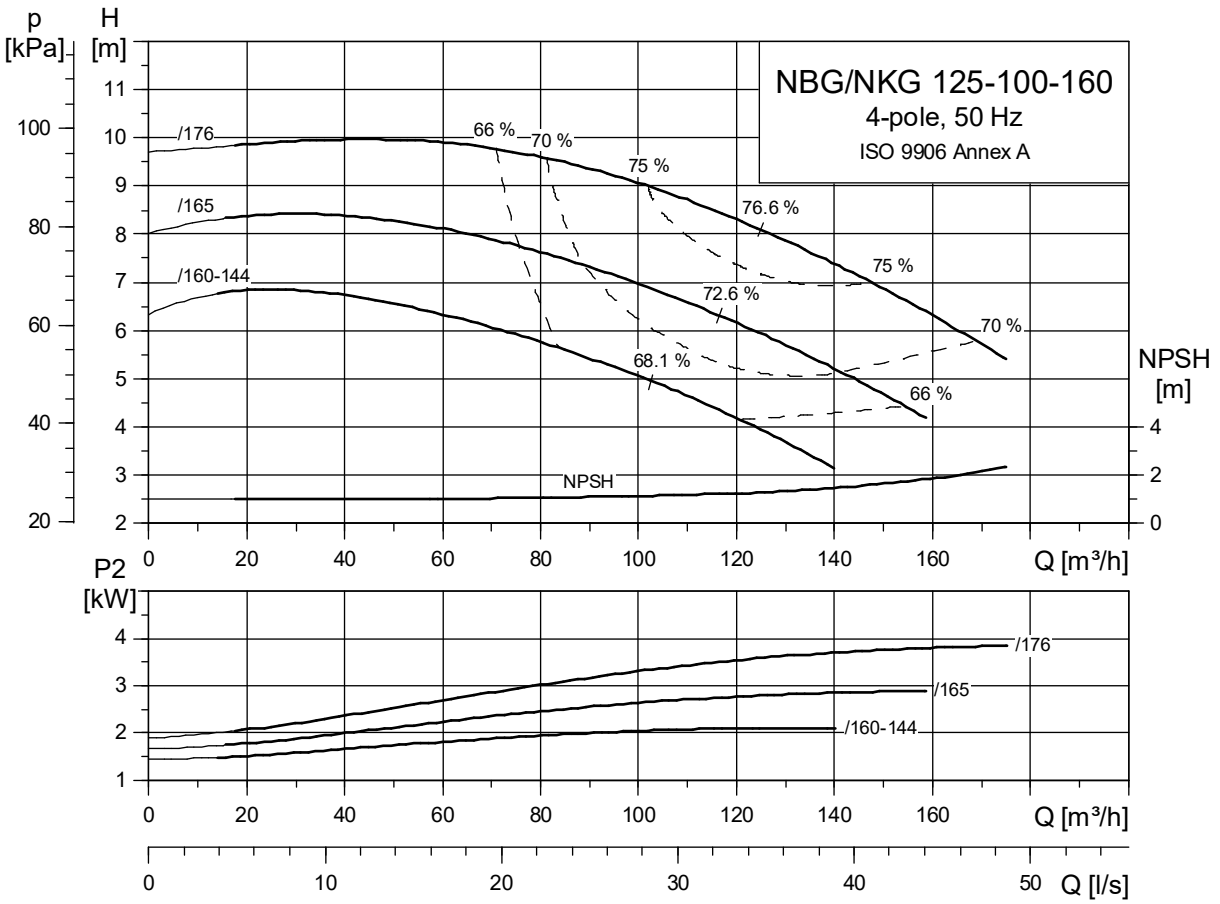
Pump type			125-80-400/347	125-80-400/365	125-80-400/397	125-80-400/419	125-80-400/438
Motor type	Premium Motor		Siemens 180M	Siemens 180L	Siemens 200L	Siemens 225S	Siemens 225M
	E-Motor		MMGE 180M	MMGE 180L	-	-	-
Common data NBG/NKG	P_2	[kW]	18.5	22	30	37	45
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	125	125	125	125	125
	DNd	[mm]	80	80	80	80	80
	a	[mm]	125	125	125	125	125
	h2	[mm]	355	355	355	355	355
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1371/1507	1371/1507	1428/1564	1448/1584	1508/1644
	L NKGE	[mm]	1268/1404	1339/1475	-/-	-/-	-/-
	Weight NKG	[mm]	504/496	524/516	579/574	694/690	734/730
	Weight NKGE	[kg]	561/553	595/587	-/-	-/-	-/-
	Weight NKG SS	[kg]	485/477	505/497	560/554	675/671	715/711
	Weight NKGE SS	[kg]	542/534	576/568	-/-	-/-	-/-
NKG data	l1	[kg]	1600	1600	1600	1600	1600
	l2	[mm]	270	270	270	270	270
	l3	[mm]	1060	1060	1060	1060	1060
	b1	[mm]	530	530	530	530	530
	b2	[mm]	660	660	660	660	660
	b3	[mm]	600	600	600	600	600
	d	[mm]	28	28	28	28	28
	a2	[mm]	90	90	90	90	90
	h	[mm]	100	100	100	100	100
	h3	[mm]	383	383	380	380	380
	$h4^{1)}$	[mm]	641/782	641/782	685/-	705/-	705/-
	Base frame no.		8	8	8	8	8
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	396	396	396	426	426
	L NBG SS	[mm]	398	398	398	428	428
	h1	[mm]	280	280	280	280	280
	G1	[mm]	266	266	266	266	266
	G2	[mm]	288	288	288	288	288
	m1	[mm]	160	160	160	160	160
	m2	[mm]	120	120	120	120	120
	n1	[mm]	435	435	435	435	435
	n2	[mm]	355	355	355	355	355
	b	[mm]	80	80	80	80	80
	s1	[mm]	M16	M16	M16	M16	M16
	H	[mm]	180	180	200	225	225
	$LB^{1)}$	[mm]	602/499	602/570	659/-	649/-	709/-
	$AD^{1)}$	[mm]	258/399	258/399	305/-	325/-	325/-
	$AG^{1)}$	[mm]	152/328	152/328	260/-	260/-	260/-
	$LL^{1)}$	[mm]	132/456	132/456	192/-	192/-	192/-
	P	[mm]	350	350	400	450	450
	C	[mm]	121	121	133	149	149
	B	[mm]	241	279	305	286	286
	A	[mm]	279	279	318	356	356
	K	[mm]	15	15	19	19	19
	Weight $NBG^{1)}$	[kg]	322/379	342/413	401/-	502/-	542/-
	Weight NBG $SS^{1)}$	[kg]	303/360	323/394	382/-	483/-	523/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

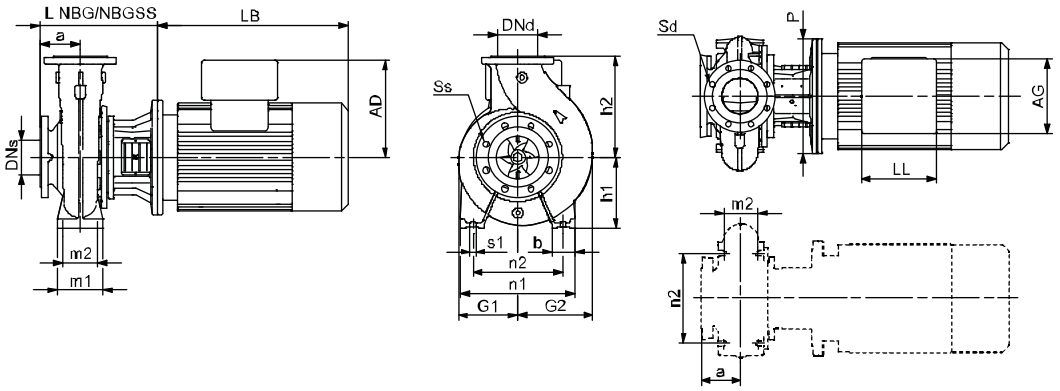
Note: For information about base frames, see page 236.

Performance curves



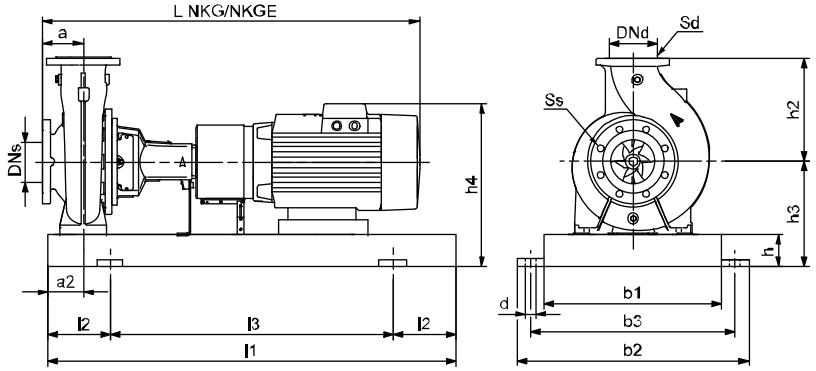
TM03 1965 1106

NBG



TM03 8008 0107

NKG

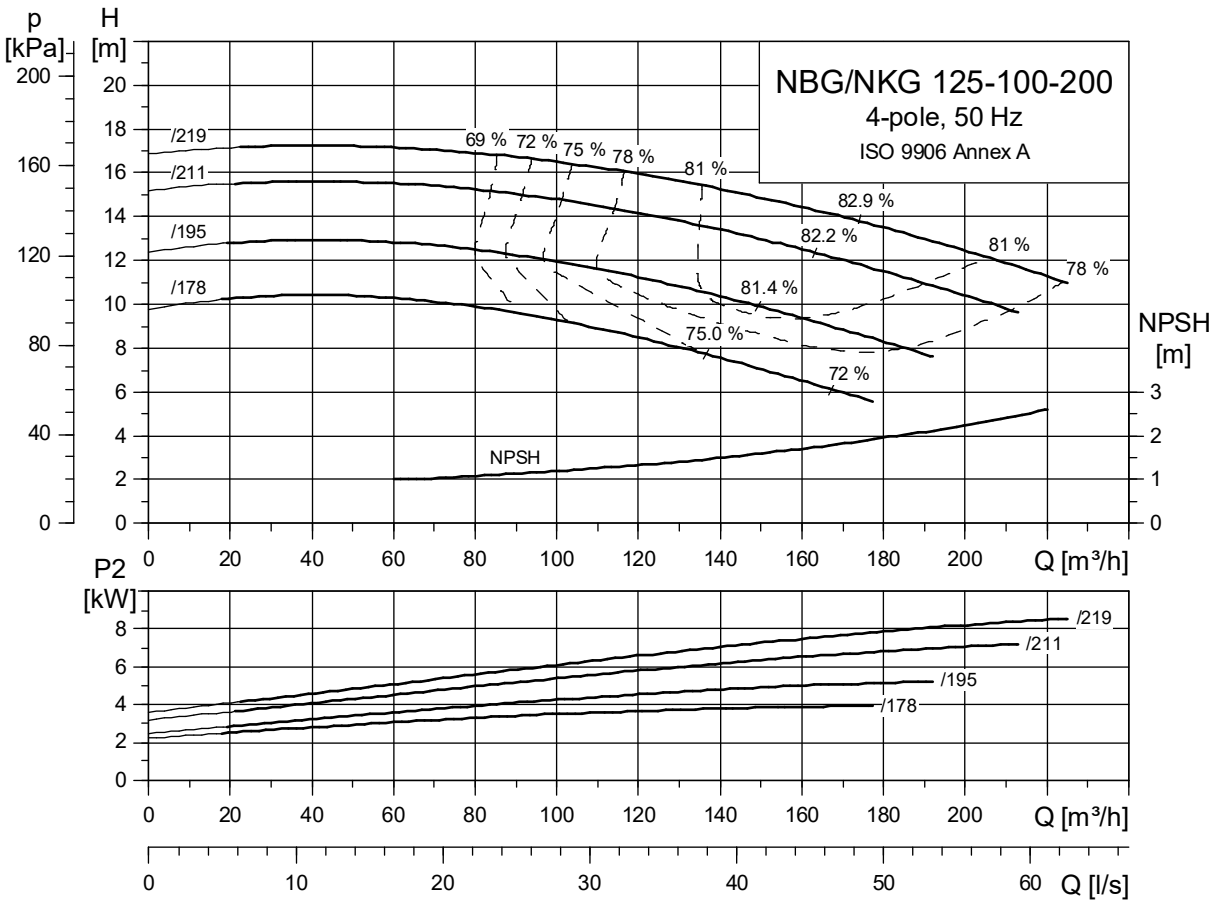


TM03 8011 0107

Pump type			125-100-160/160-144	125-100-160/165	125-100-160/176
Motor type	Premium Motor		MG 100LB-D	MG 100LC-D	MG 112MC-D
	E-Motor		MGE 100LB	MGE 100LC	MGE 112MC
Common data NBG/NKG	P_2	[kW]	2.2	3	4
	PN	[bar]	16	16	16
	DNs	[mm]	125	125	125
	DNd	[mm]	100	100	100
	a	[mm]	125	125	125
	h2	[mm]	280	280	280
	Ss		8x19	8x19	8x19
	Sd		8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1024/1160	1024/1160	1061/1197
	L NKGE	[mm]	1024/1160	1024/1160	1061/1197
	Weight NKG	[mm]	209/207	214/212	227/225
	Weight NKGE	[kg]	220/218	222/220	232/230
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	1250	1250	1250
	l2	[mm]	205	205	205
	l3	[mm]	840	840	840
	b1	[mm]	430	430	430
	b2	[mm]	540	540	540
	b3	[mm]	490	490	490
	d	[mm]	24	24	24
	a2	[mm]	90	90	90
	h	[mm]	80	80	80
	h3	[mm]	280	280	280
	$h4^{1)}$	[mm]	400/457	400/457	414/468
	Base frame no.		6	6	6
NBG data	Design		A	A	A
	L NBG	[mm]	318	318	318
	L NBG SS	[mm]	-	-	-
	h1	[mm]	200	200	200
	G1	[mm]	146	146	146
	G2	[mm]	187	187	187
	m1	[mm]	160	160	160
	m2	[mm]	120	120	120
	n1	[mm]	360	360	360
	n2	[mm]	280	280	280
	b	[mm]	80	80	80
	s1	[mm]	M16	M16	M16
	H	[mm]	-	-	-
	$LB^{1)}$	[mm]	335/335	335/335	372/372
	$AD^{1)}$	[mm]	120/177	120/177	134/188
	$AG^{1)}$	[mm]	162/264	162/264	202/290
	$LL^{1)}$	[mm]	103/260	103/260	103/300
	P	[mm]	250	250	250
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight $NBG^{1)}$	[kg]	98/106	100/108	115/119
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-

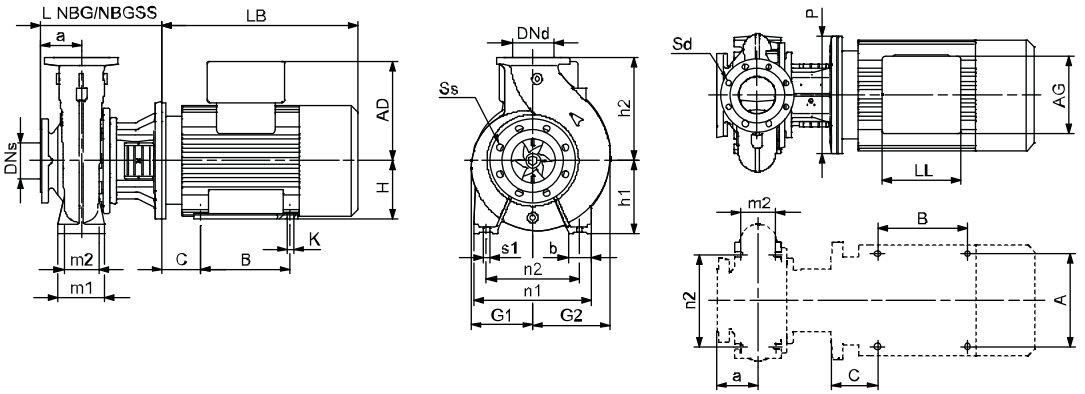
1) Dimension of pump with premium range motor/built-in frequency converter.

Note: For information about base frames, see page 236.



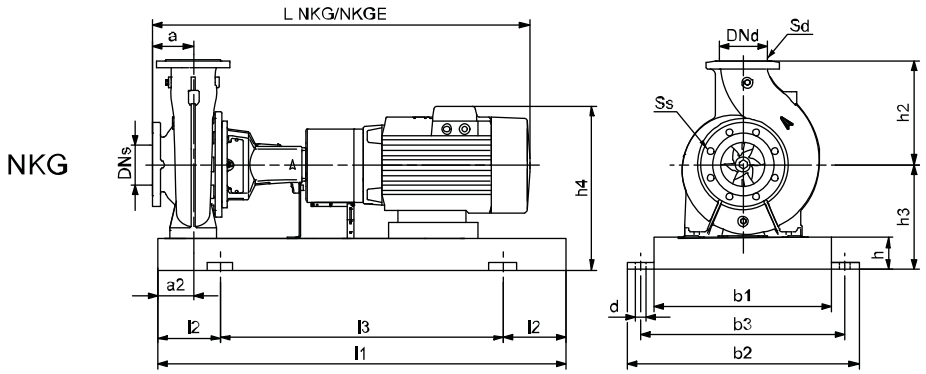
TM03 1966 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

Pump type			125-100-200/178	125-100-200/195	125-100-200/211	125-100-200/219
Motor type	Premium Motor		MG 112MC-D	Siemens 132S	Siemens 132M	Siemens 160M
	E-Motor		MGE 112MC	MGE 132SC	MMGE 132M[3)]	MMGE 160M
Common data NBG/NKG	P_2	[kW]	4	5.5	7.5	11
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	100	100	100	100
	a	[mm]	125	125	125	125
	h2	[mm]	280	280	280	280
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1061/1197	1082/1218	1120/1256	1217/1353
	L NKGE	[mm]	1061/1197	1100/1236	1188/1324	1188/1324
	Weight NKG	[mm]	239/238	245/242	260/257	292/286
	Weight NKGE	[kg]	244/242	254/251	312/306	343/337
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1250	1250	1250	1250
	l2	[mm]	205	205	205	205
	l3	[mm]	840	840	840	840
	b1	[mm]	430	430	430	430
	b2	[mm]	540	540	540	540
	b3	[mm]	490	490	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	90	90	90	90
	h	[mm]	80	80	80	80
	h3	[mm]	280	280	280	280
	$h4^{1)}$	[mm]	414/468	447/468	447/639	477/639
	Base frame no.		6	6	6	6
NBG data	Design		A	A	A[2)]	C[2)]
	L NBG	[mm]	348	368	368	398
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	200	200	200	200
	G1	[mm]	169	169	169	169
	G2	[mm]	212	212	212	212
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	360	360	360	360
	n2	[mm]	280	280	280	280
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	-	-	132	160
	$LB^{1)}$	[mm]	372/372	373/391	411/449	478/449
	$AD^{1)}$	[mm]	134/188	167/188	167/333	197/359
	$AG^{1)}$	[mm]	202/290	140/290	140/246	165/296
	$LL^{1)}$	[mm]	103/300	140/300	140/410	165/410
	P	[mm]	250	300	300	350
	C	[mm]	-	-	89	108
	B	[mm]	-	-	178	210
	A	[mm]	-	-	216	254
	K	[mm]	-	-	12	15
	Weight $NBG^{1)}$	[kg]	126/130	133/144	148/189	174/225
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

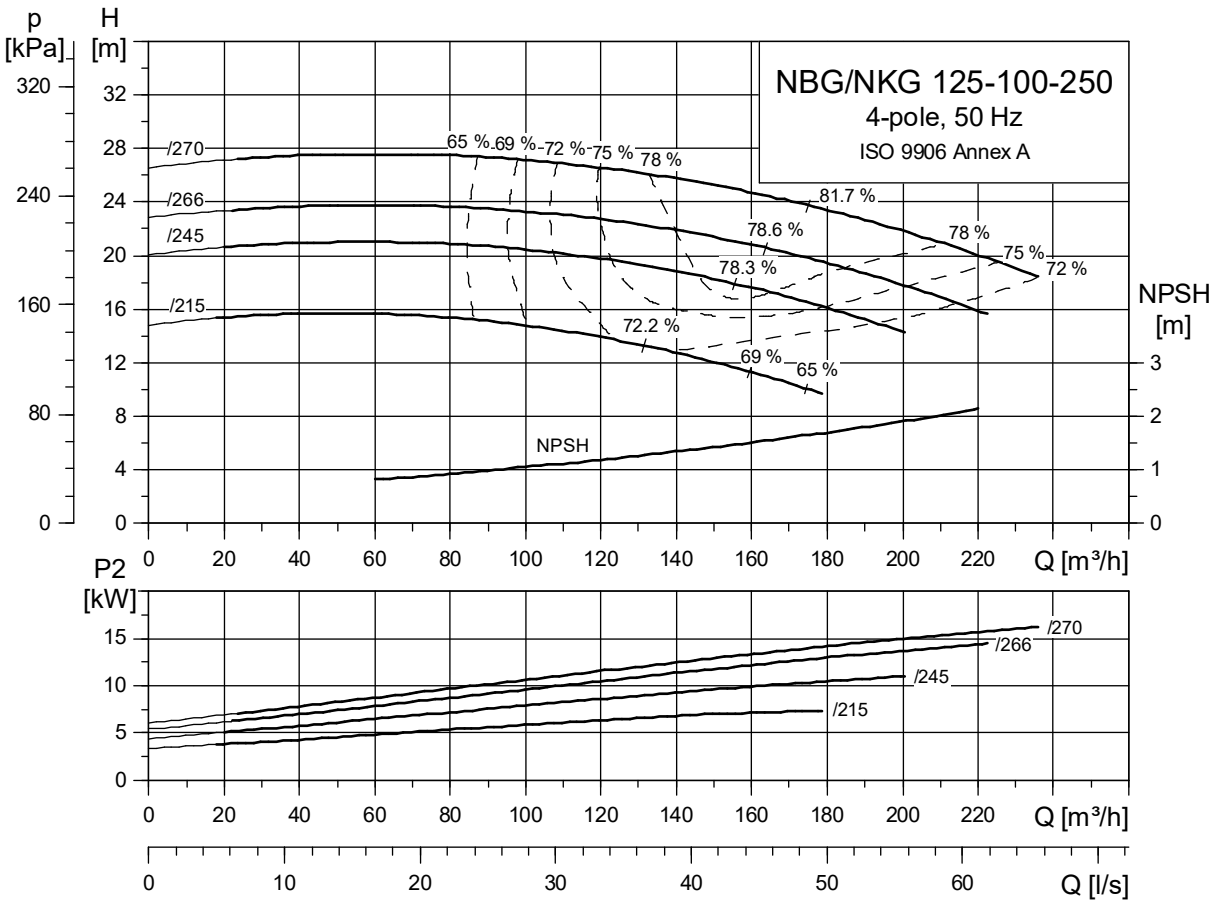
1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

3) NBGE 125-100-200/211 is fitted with an MMGE 132M motor with motor feet; NKGE 125-100-200/211 is fitted with an MMGE 160M motor.

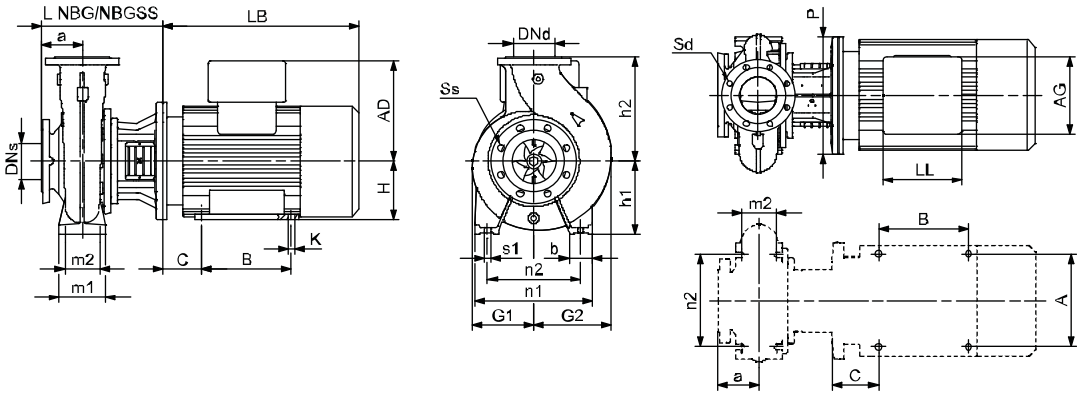
Note: For information about base frames, see page 236.

Performance curves



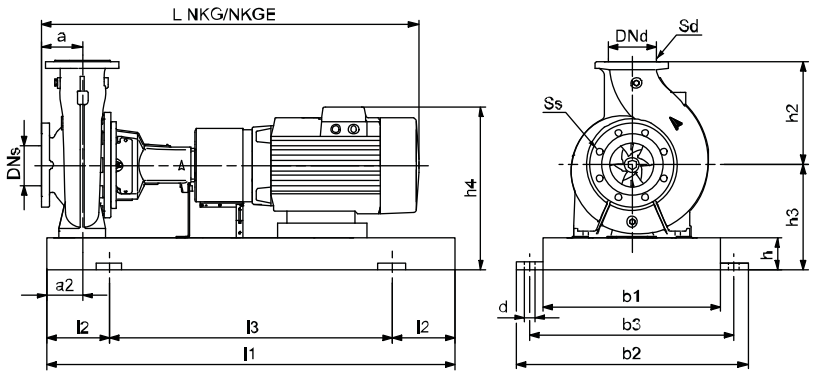
TM03 1967 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

Pump type			125-100-250/215	125-100-250/245	125-100-250/266	125-100-250/270
Motor type	Premium Motor		Siemens 132M	Siemens 160M	Siemens 160L	Siemens 180M
	E-Motor		MMGE 132M[3)]	MMGE 160M	MMGE 160L	MMGE 180M
Common data NBG/NKG	P_2	[kW]	7.5	11	15	18.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	100	100	100	100
	a	[mm]	140	140	140	140
	h2	[mm]	280	280	280	280
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1165/1301	1262/1398	1302/1438	1386/1522
	L NKGE	[mm]	1233/1369	1233/1369	1283/1419	1283/1419
	Weight NKG	[mm]	313/310	337/332	363/358	398/390
	Weight NKGE	[kg]	357/352	388/383	406/401	455/447
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1400	1400	1400
	l2	[mm]	230	230	230	230
	l3	[mm]	940	940	940	940
	b1	[mm]	480	480	480	480
	b2	[mm]	610	610	610	610
	b3	[mm]	560	560	560	560
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	100	100
	h3	[mm]	325	325	325	325
	$h4^{1)}$	[mm]	492/684	522/684	522/702	583/724
	Base frame no.		7	7	7	7
NBG data	Design		A[2)]	C[2)]	C[2)]	C[2)]
	L NBG	[mm]	381	411	411	411
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	225	225	225	225
	G1	[mm]	188	188	188	188
	G2	[mm]	224	224	224	224
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	132	160	160	180
	$LB^{1)}$	[mm]	411/449	478/449	518/499	602/499
	$AD^{1)}$	[mm]	167/333	197/359	197/377	258/399
	$AG^{1)}$	[mm]	140/246	165/296	165/296	152/328
	$LL^{1)}$	[mm]	140/410	165/410	165/410	132/456
	P	[mm]	300	350	350	350
	C	[mm]	89	108	108	121
	B	[mm]	178	210	254	241
	A	[mm]	216	254	254	279
	K	[mm]	12	15	15	15
	Weight NBG[1)]	[kg]	164/205	192/243	218/261	237/294
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-

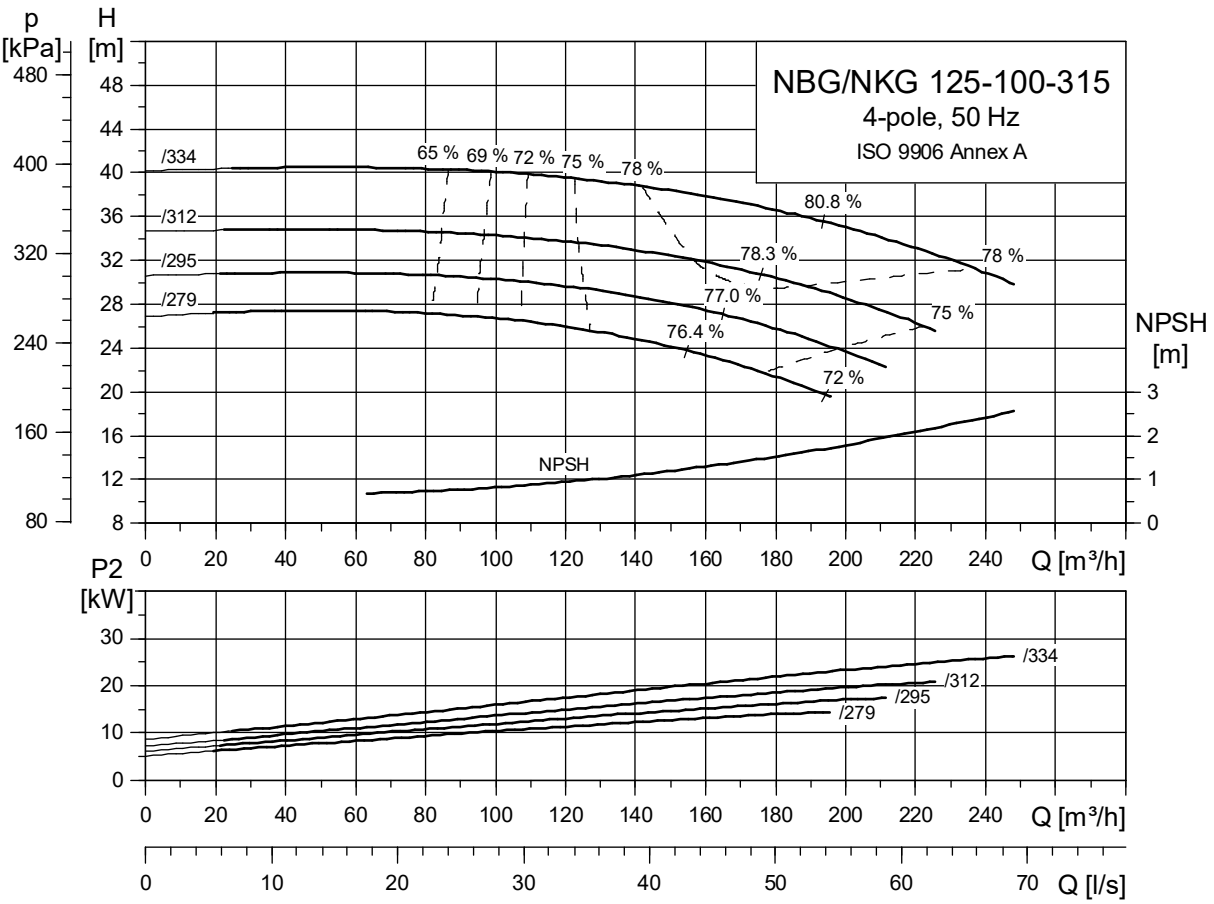
1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

3) NBGE 125-100-250/215 is fitted with an MMGE 132M motor with motor feet; NKGE 125-100-250/215 is fitted with an MMGE 160M motor.

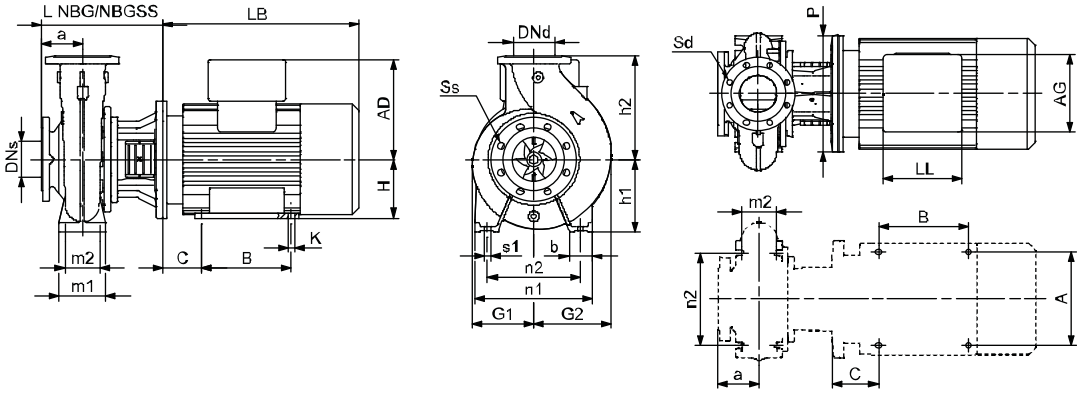
Note: For information about base frames, see page 236.

Performance curves



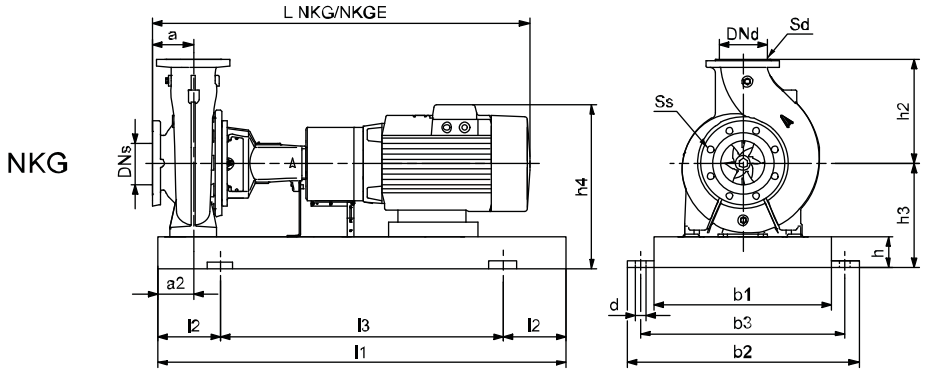
TM03 1968 1106

NBG



TM03 8010 0107

NKG



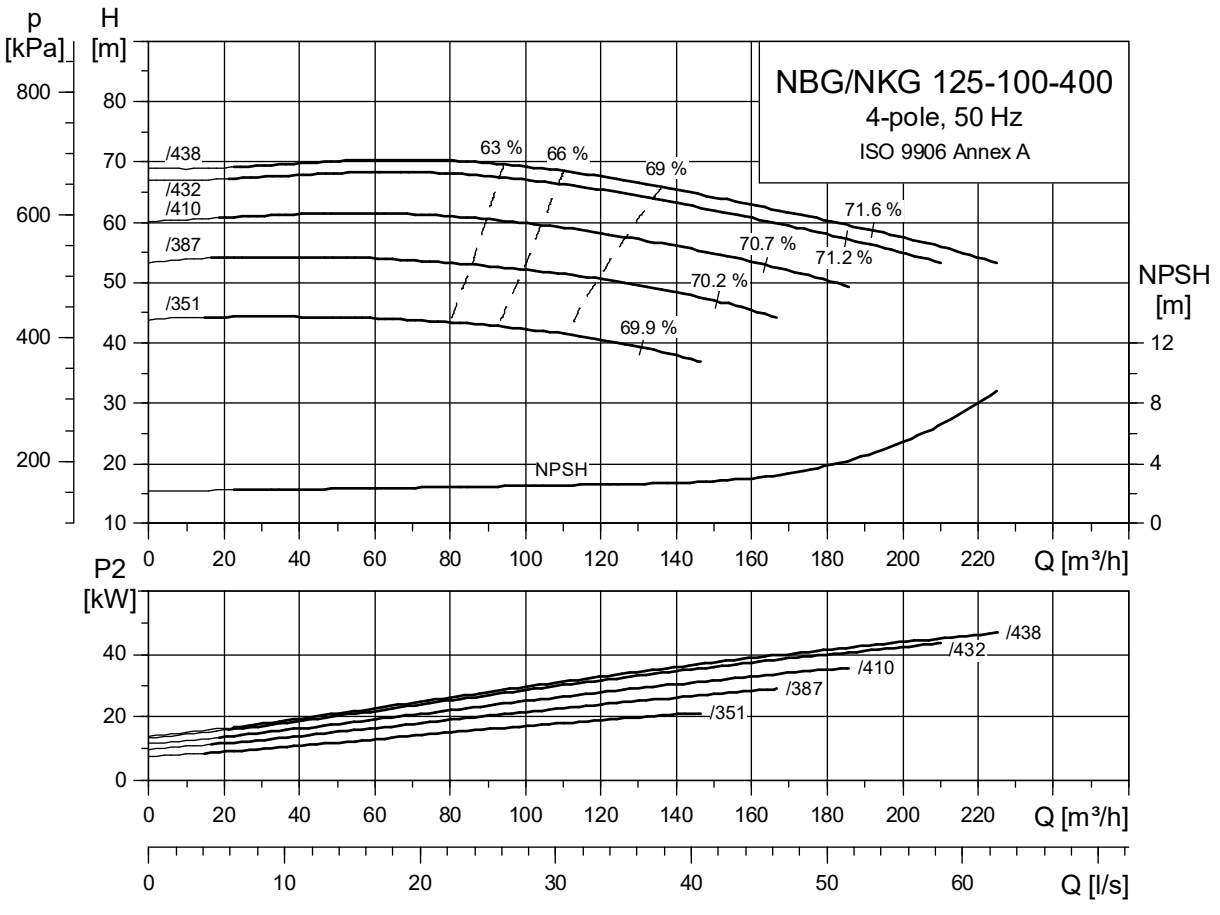
TM03 8011 0107

Pump type			125-100-315/279	125-100-315/295	125-100-315/312	125-100-315/334
Motor type	Premium Motor		Siemens 160L	Siemens 180M	Siemens 180L	Siemens 200L
	E-Motor		MMGE 160L	MMGE 180M	MMGE 180L	-
Common data NBG/NKG	P_2	[kW]	15	18.5	22	30
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	100	100	100	100
	a	[mm]	140	140	140	140
	h2	[mm]	315	315	315	315
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1302/1438	1386/1522	1386/1522	1443/1579
	L NKGE	[mm]	1283/1419	1283/1419	1354/1490	-/-
	Weight NKG	[mm]	393/388	417/409	437/429	545/540
	Weight NKGE	[kg]	436/431	474/466	508/500	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1400	1400	1600
	l2	[mm]	230	230	230	270
	l3	[mm]	940	940	940	1060
	b1	[mm]	480	480	480	530
	b2	[mm]	610	610	610	660
	b3	[mm]	560	560	560	600
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	100	100
	h3	[mm]	350	350	350	355
	$h4^{1)}$	[mm]	547/727	608/749	608/749	660/-
	Base frame no.		7	7	7	8
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	411	411	411	411
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	250	250	250	250
	G1	[mm]	208	208	208	208
	G2	[mm]	264	264	264	264
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	160	180	180	200
	$LB^{1)}$	[mm]	518/499	602/499	602/570	659/-
	$AD^{1)}$	[mm]	197/377	258/399	258/399	305/-
	$AG^{1)}$	[mm]	165/296	152/328	152/328	260/-
	$LL^{1)}$	[mm]	165/410	132/456	132/456	192/-
	P	[mm]	350	350	350	400
	C	[mm]	108	121	121	133
	B	[mm]	254	241	279	305
	A	[mm]	254	279	279	318
	K	[mm]	15	15	15	19
	Weight $NBG^{1)}$	[kg]	246/289	265/322	285/356	344/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

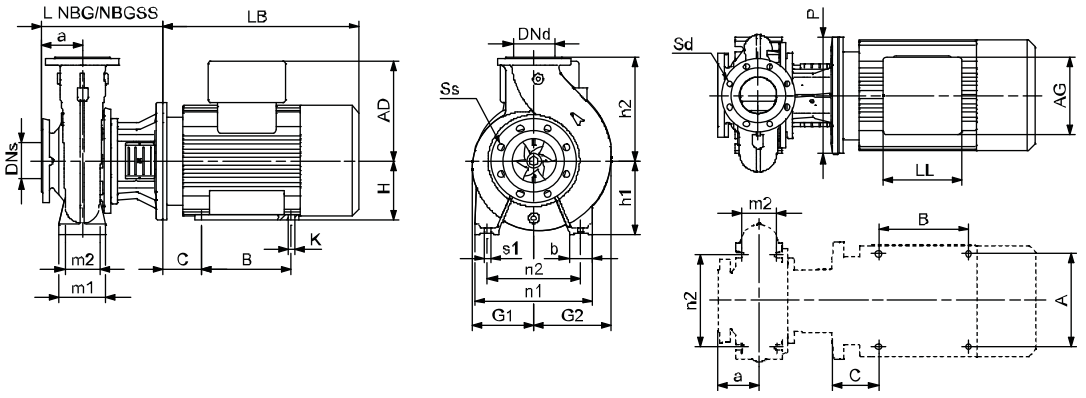
Note: For information about base frames, see page 236.

Performance curves



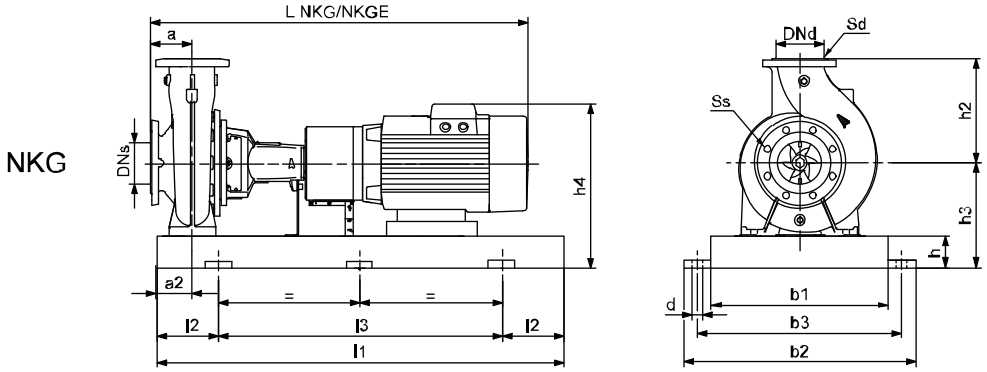
TM03 1969 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

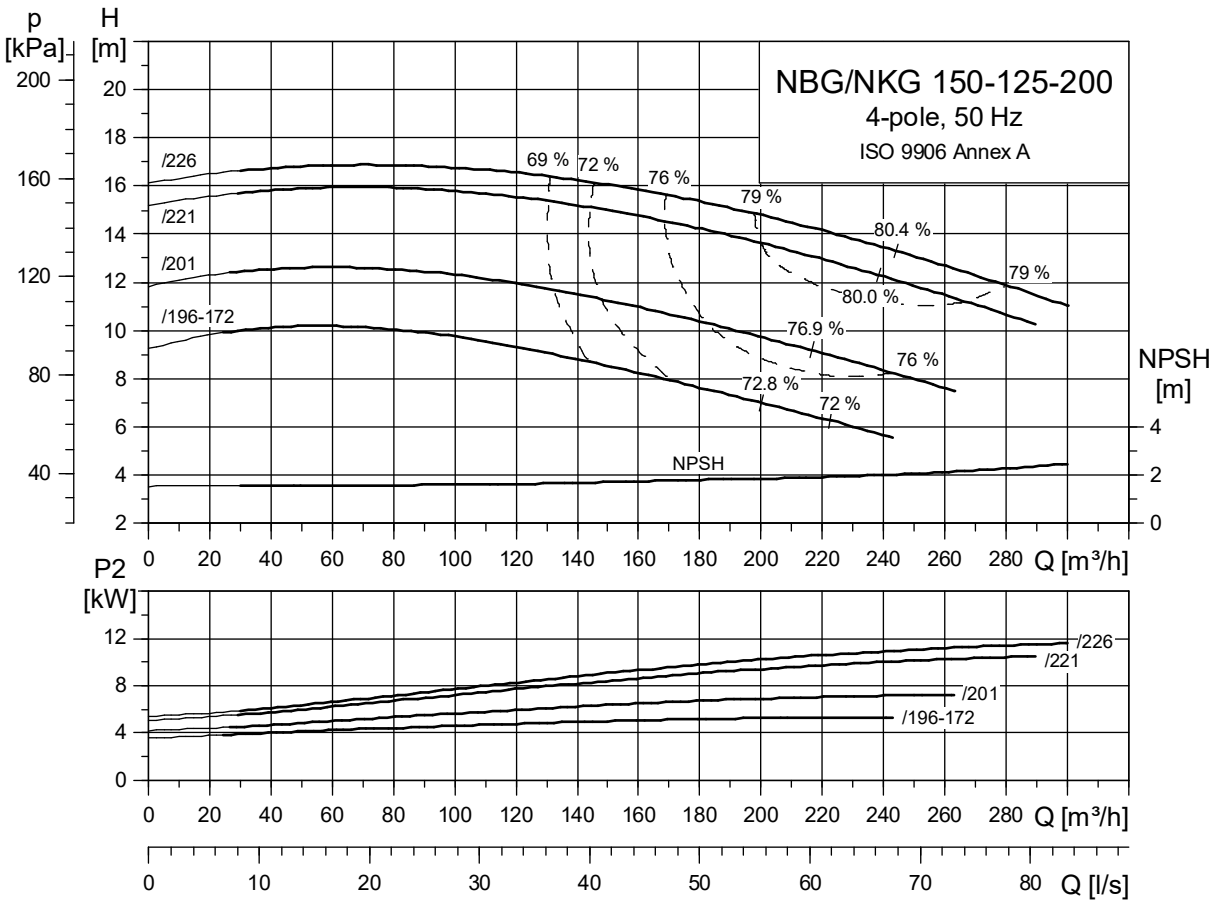
Pump type			125-100-400/351	125-100-400/387	125-100-400/410	125-100-400/432	125-100-400/438
Motor type	Premium Motor		Siemens 180L	Siemens 200L	Siemens 225S	Siemens 225M	Siemens 250M
	E-Motor		MMGE 180L	-	-	-	-
Common data NBG/NKG	P_2	[kW]	22	30	37	45	55
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	125	125	125	125	125
	DNd	[mm]	100	100	100	100	100
	a	[mm]	140	140	140	140	140
	h2	[mm]	355	355	355	355	355
	Ss		8x19	8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1386/1522	1443/1579	1463/1599	1523/1659	1631/1767
	L NKGE	[mm]	1354/1490	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	573/565	627/622	743/738	783/778	907/906
	Weight NKGE	[kg]	644/636	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	1800	1800
	l2	[mm]	300	300	300	300	300
	l3	[mm]	1200	1200	1200	1200	1200
	b1	[mm]	600	600	600	600	600
	b2	[mm]	730	730	730	730	730
	b3	[mm]	670	670	670	670	670
	d	[mm]	28	28	28	28	28
	a2	[mm]	110	110	110	110	110
	h	[mm]	100	100	100	100	100
	h3	[mm]	383	380	380	380	380
	$h4^{1)}$	[mm]	641/782	685/-	705/-	705/-	772/-
	Base frame no.		9	9	9	9	9
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	411	411	441	441	441
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	280	280	280	280	280
	G1	[mm]	272	272	272	272	272
	G2	[mm]	298	298	298	298	298
	m1	[mm]	200	200	200	200	200
	m2	[mm]	150	150	150	150	150
	n1	[mm]	500	500	500	500	500
	n2	[mm]	400	400	400	400	400
	b	[mm]	100	100	100	100	100
	s1	[mm]	M20	M20	M20	M20	M20
	H	[mm]	180	200	225	225	250
	$LB^{1)}$	[mm]	602/570	659/-	649/-	709/-	817/-
	$AD^{1)}$	[mm]	258/399	305/-	325/-	325/-	392/-
	$AG^{1)}$	[mm]	152/328	260/-	260/-	260/-	300/-
	$LL^{1)}$	[mm]	132/456	192/-	192/-	192/-	236/-
	P	[mm]	350	400	450	450	550
	C	[mm]	121	133	149	149	168
	B	[mm]	279	305	286	286	349
	A	[mm]	279	318	356	356	406
	K	[mm]	15	19	19	19	24
	Weight $NBG^{1)}$	[kg]	358/429	418/-	519/-	559/-	702/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

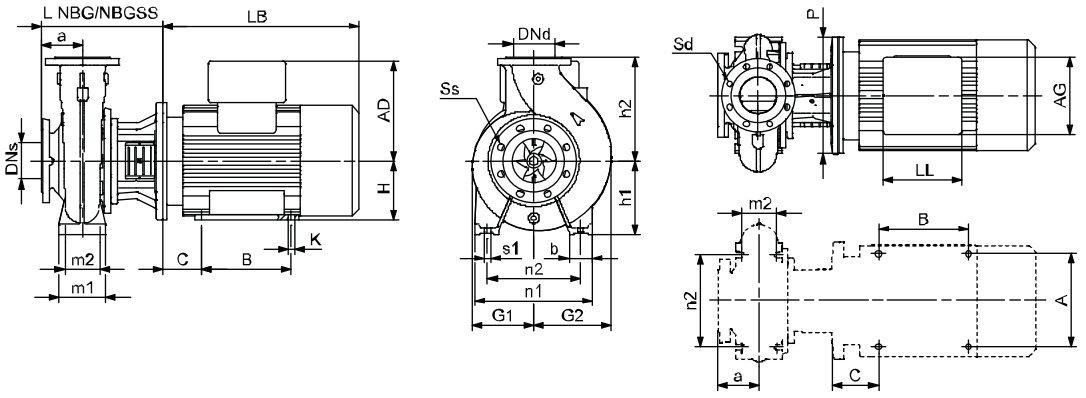
Note: For information about base frames, see page 236.

Performance curves



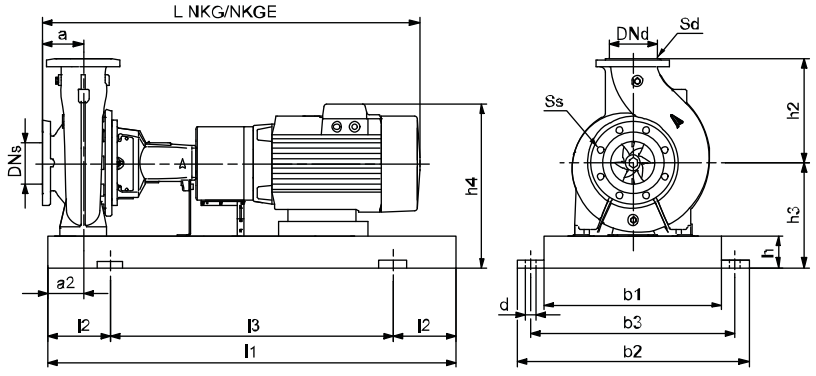
TM03 4970 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

Pump type			150-125-200/196-172	150-125-200/201	150-125-200/221	150-125-200/226
Motor type	Premium Motor		Siemens 132S	Siemens 132M	Siemens 160M	Siemens 160L
	E-Motor		MGE 132SC	MMGE 132M[3)]	MMGE 160M	MMGE 160L
Common data NBG/NKG	P_2	[kW]	5.5	7.5	11	15
	PN	[bar]	16	16	16	16
	DNs	[mm]	150	150	150	150
	DNd	[mm]	125	125	125	125
	a	[mm]	140	140	140	140
	h2	[mm]	315	315	315	315
	Ss		8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1097/1233	1135/1271	1232/1368	1272/1408
	L NKGE	[mm]	1115/1251	1203/1339	1203/1339	1253/1389
	Weight NKG	[mm]	304/301	319/316	344/339	370/365
	Weight NKGE	[kg]	314/311	364/359	395/390	413/408
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1400	1400	1400
	l2	[mm]	230	230	230	230
	l3	[mm]	940	940	940	940
	b1	[mm]	480	480	480	480
	b2	[mm]	610	610	610	610
	b3	[mm]	560	560	560	560
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	100	100
	h3	[mm]	350	350	350	350
	$h4^{1)}$	[mm]	517/538	517/709	547/709	547/727
	Base frame no.		7	7	7	7
NBG data	Design		A	A[2)]	C[2)]	C[2)]
	L NBG	[mm]	383	383	413	413
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	250	250	250	250
	G1	[mm]	183	183	183	183
	G2	[mm]	234	234	234	234
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	-	132	160	160
	$LB^{1)}$	[mm]	373/391	411/449	478/449	518/499
	$AD^{1)}$	[mm]	167/188	167/333	197/359	197/377
	$AG^{1)}$	[mm]	140/290	140/246	165/296	165/296
	$LL^{1)}$	[mm]	140/300	140/410	165/410	165/410
	P	[mm]	300	300	350	350
	C	[mm]	-	89	108	108
	B	[mm]	-	178	210	254
	A	[mm]	-	216	254	254
	K	[mm]	-	12	15	15
	Weight $NBG^{1)}$	[kg]	161/172	176/217	202/253	228/271
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

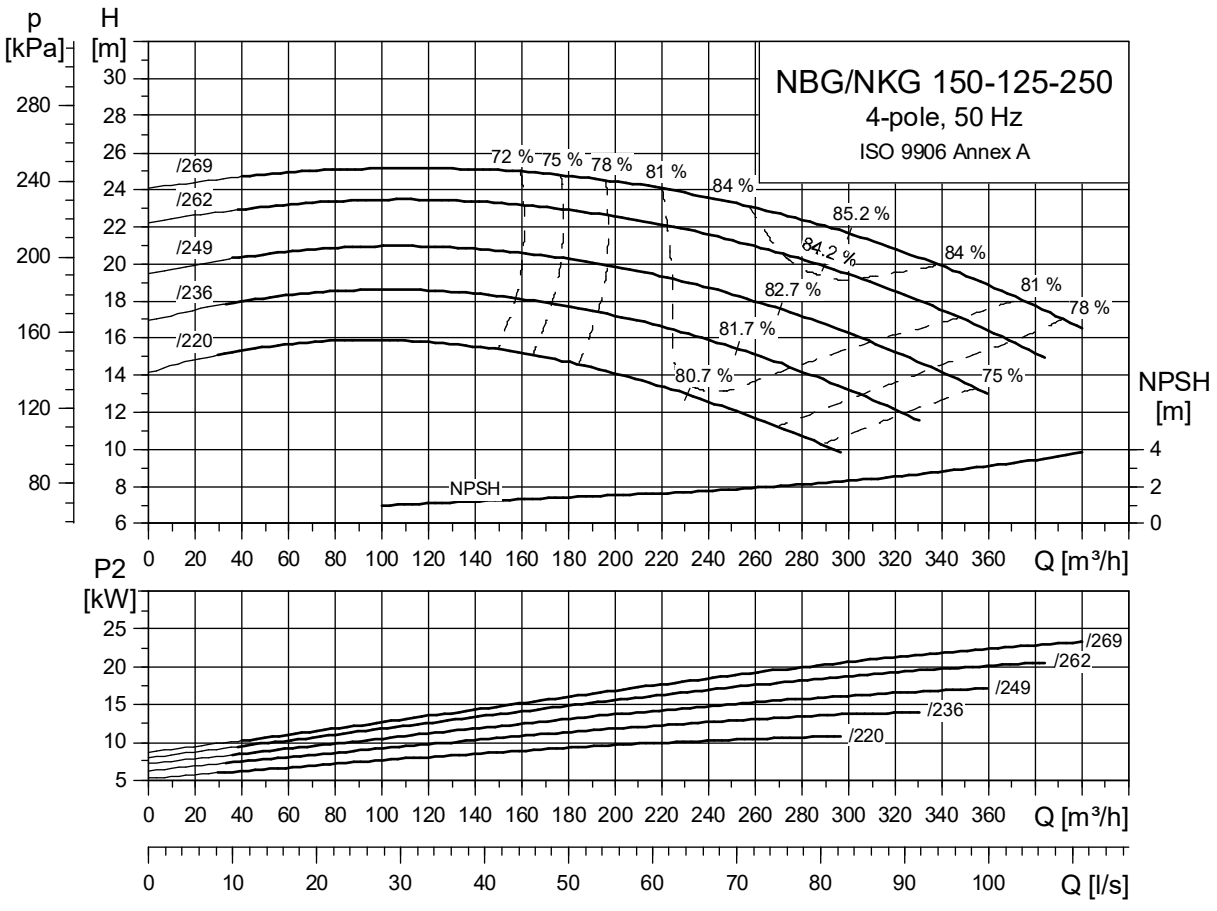
1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

3) NBGE 150-125-200/201 is fitted with an MMGE 132M motor with motor feet; NKGE 150-125-200/201 is fitted with an MMGE 160M motor.

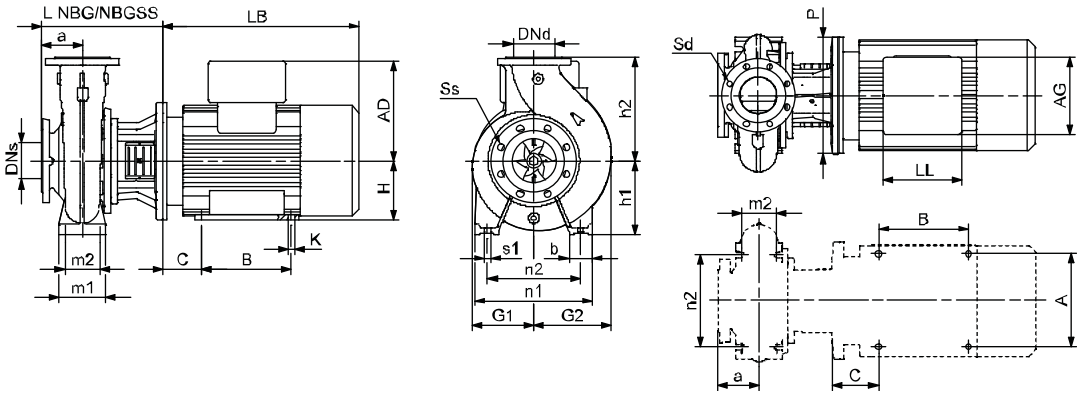
Note: For information about base frames, see page 236.

Performance curves



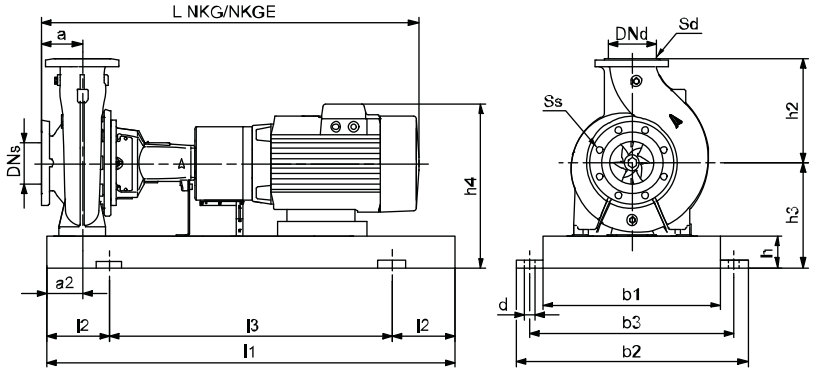
TM03 4971 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

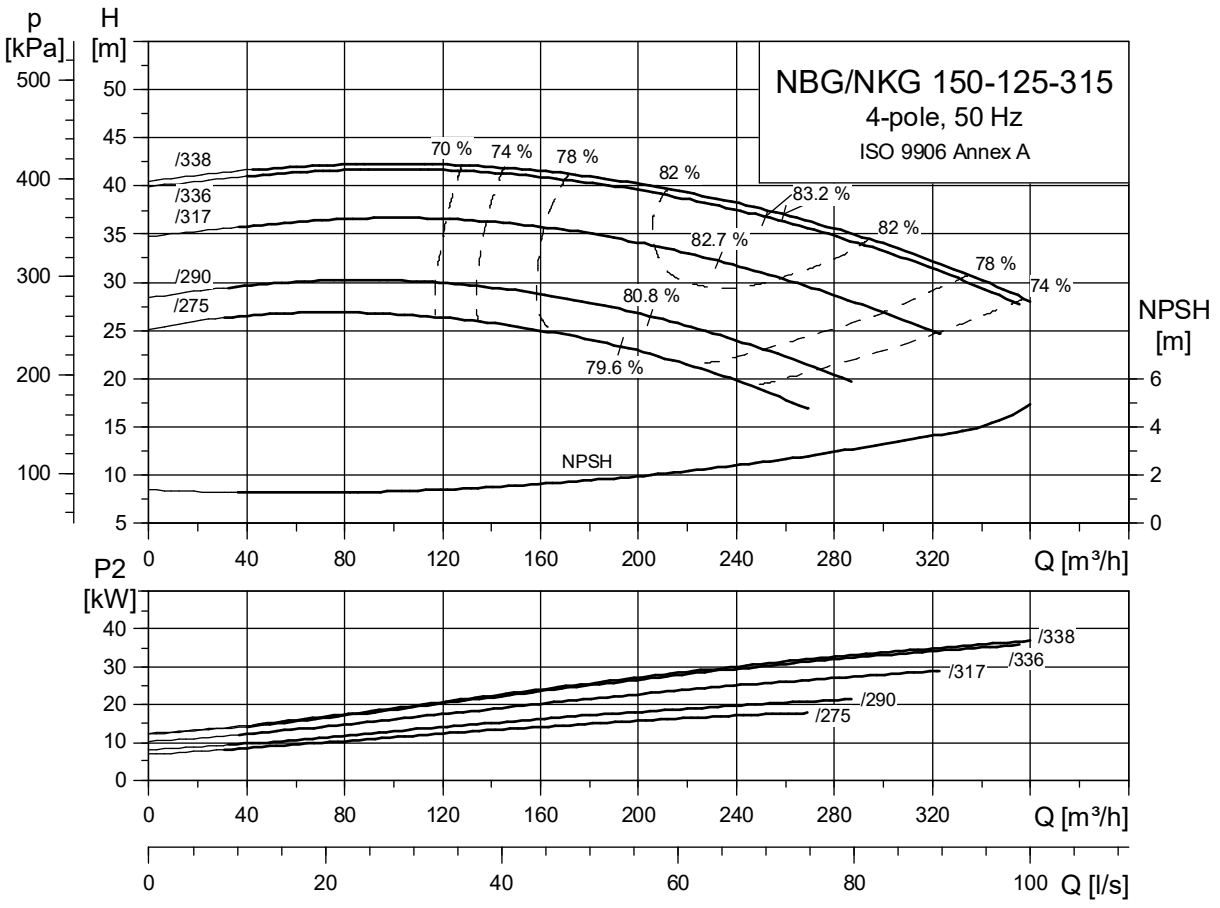
Pump type			150-125-250/220	150-125-250/236	150-125-250/249	150-125-250/262	150-125-250/269
Motor type	Premium Motor		Siemens 160M	Siemens 160L	Siemens 180M	Siemens 180L	Siemens 200L
	E-Motor		MMGE 160M	MMGE 160L	MMGE 180M	MMGE 180L	-
Common data NBG/NKG	P_2	[kW]	11	15	18.5	22	30
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	150	150	150	150	150
	DNd	[mm]	125	125	125	125	125
	a	[mm]	140	140	140	140	140
	h2	[mm]	355	355	355	355	355
	Ss		8x23	8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1262/1398	1302/1438	1386/1522	1386/1522	1443/1579
	L NKGE	[mm]	1233/1369	1283/1419	1283/1419	1354/1490	-/-
	Weight NKG	[mm]	362/357	388/383	412/404	432/424	540/535
	Weight NKGE	[kg]	413/408	431/426	469/461	503/495	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1400	1400	1400	1600
	l2	[mm]	230	230	230	230	270
	l3	[mm]	940	940	940	940	1060
	b1	[mm]	480	480	480	480	530
	b2	[mm]	610	610	610	610	660
	b3	[mm]	560	560	560	560	600
	d	[mm]	28	28	28	28	28
	a2	[mm]	90	90	90	90	90
	h	[mm]	100	100	100	100	100
	h3	[mm]	350	350	350	350	355
	$h4^{1)}$	[mm]	547/709	547/727	608/749	608/749	660/-
	Base frame no.		7	7	7	7	8
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	411	411	411	411	411
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	250	250	250	250	250
	G1	[mm]	208	208	208	208	208
	G2	[mm]	264	264	264	264	264
	m1	[mm]	160	160	160	160	160
	m2	[mm]	120	120	120	120	120
	n1	[mm]	400	400	400	400	400
	n2	[mm]	315	315	315	315	315
	b	[mm]	80	80	80	80	80
	s1	[mm]	M16	M16	M16	M16	M16
	H	[mm]	160	160	180	180	200
	$LB^{1)}$	[mm]	478/449	518/499	602/499	602/570	659/-
	$AD^{1)}$	[mm]	197/359	197/377	258/399	258/399	305/-
	$AG^{1)}$	[mm]	165/296	165/296	152/328	152/328	260/-
	$LL^{1)}$	[mm]	165/410	165/410	132/456	132/456	192/-
	P	[mm]	350	350	350	350	400
	C	[mm]	108	108	121	121	133
	B	[mm]	210	254	241	279	305
	A	[mm]	254	254	279	279	318
	K	[mm]	15	15	15	15	19
	Weight $NBG^{1)}$	[kg]	215/266	241/284	260/317	280/351	339/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

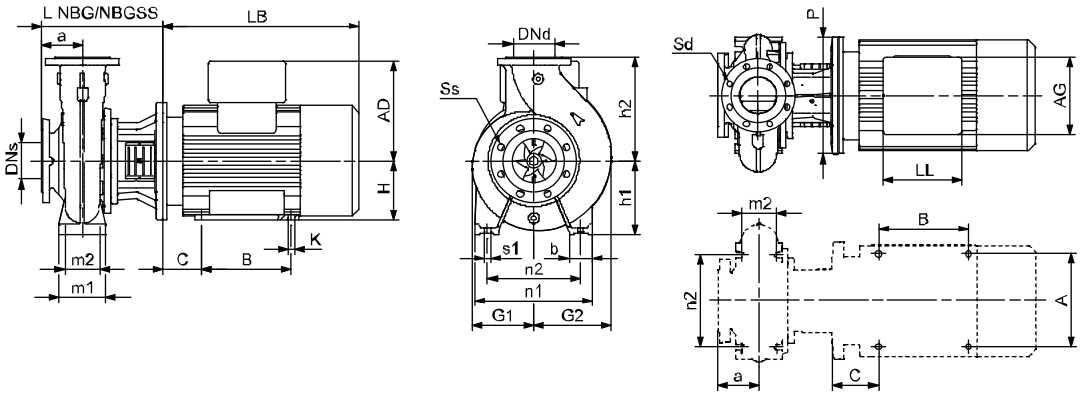
Note: For information about base frames, see page 236.

Performance curves



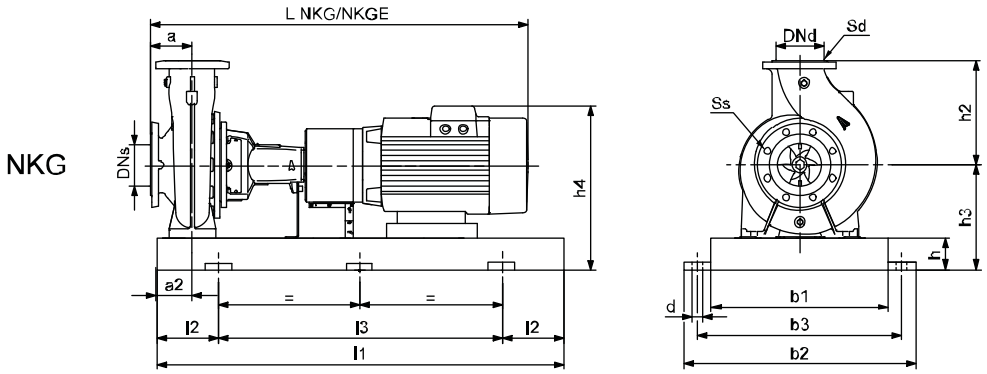
TM03 4972 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

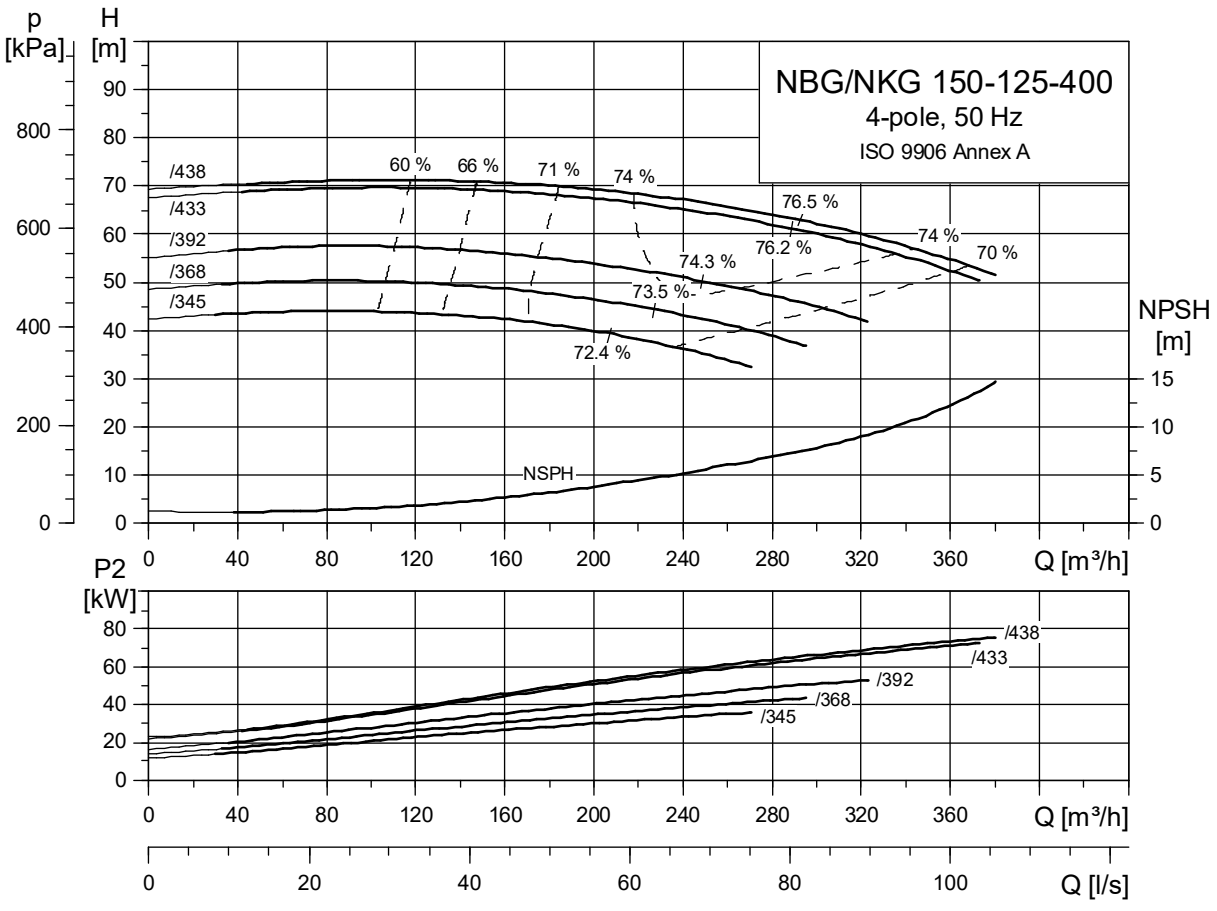
Pump type			150-125-315/275	150-125-315/290	150-125-315/317	150-125-315/336	150-125-315/338
Motor type	Premium Motor		Siemens 180M	Siemens 180L	Siemens 200L	Siemens 225S	Siemens 225M
	E-Motor		MMGE 180M	MMGE 180L	-	-	-
Common data NBG/NKG	P_2	[kW]	18.5	22	30	37	45
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	150	150	150	150	150
	DNd	[mm]	125	125	125	125	125
	a	[mm]	140	140	140	140	140
	h2	[mm]	355	355	355	355	355
	Ss		8x23	8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1386/1522	1386/1522	1443/1579	1463/1599	1523/1659
	L NKGE	[mm]	1283/1419	1354/1490	-/-	-/-	-/-
	Weight NKG	[mm]	513/505	533/525	587/582	703/698	743/738
	Weight NKGE	[kg]	570/562	604/596	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	1800	1800
	l2	[mm]	300	300	300	300	300
	l3	[mm]	1200	1200	1200	1200	1200
	b1	[mm]	600	600	600	600	600
	b2	[mm]	730	730	730	730	730
	b3	[mm]	670	670	670	670	670
	d	[mm]	28	28	28	28	28
	a2	[mm]	110	110	110	110	110
	h	[mm]	100	100	100	100	100
	h3	[mm]	383	383	380	380	380
	$h4^{1)}$	[mm]	641/782	641/782	685/-	705/-	705/-
	Base frame no.		9	9	9	9	9
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	411	411	411	441	441
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	280	280	280	280	280
	G1	[mm]	231	231	231	231	231
	G2	[mm]	268	268	268	268	268
	m1	[mm]	200	200	200	200	200
	m2	[mm]	150	150	150	150	150
	n1	[mm]	500	500	500	500	500
	n2	[mm]	400	400	400	400	400
	b	[mm]	100	100	100	100	100
	s1	[mm]	M20	M20	M20	M20	M20
	H	[mm]	180	180	200	225	225
	$LB^{1)}$	[mm]	602/499	602/570	659/-	649/-	709/-
	$AD^{1)}$	[mm]	258/399	258/399	305/-	325/-	325/-
	$AG^{1)}$	[mm]	152/328	152/328	260/-	260/-	260/-
	$LL^{1)}$	[mm]	132/456	132/456	192/-	192/-	192/-
	P	[mm]	350	350	400	450	450
	C	[mm]	121	121	133	149	149
	B	[mm]	241	279	305	286	286
	A	[mm]	279	279	318	356	356
	K	[mm]	15	15	19	19	19
	Weight $NBG^{1)}$	[kg]	298/355	318/389	377/-	479/-	519/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

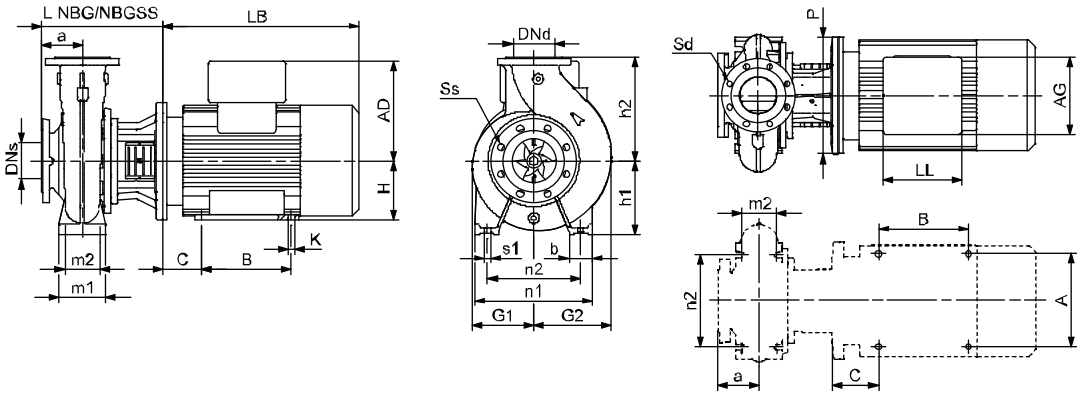
Note: For information about base frames, see page 236.

Performance curves



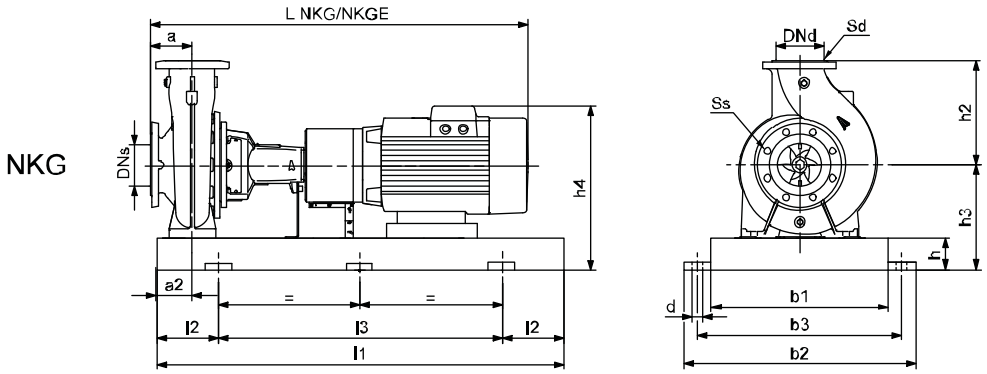
TM03 4973 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

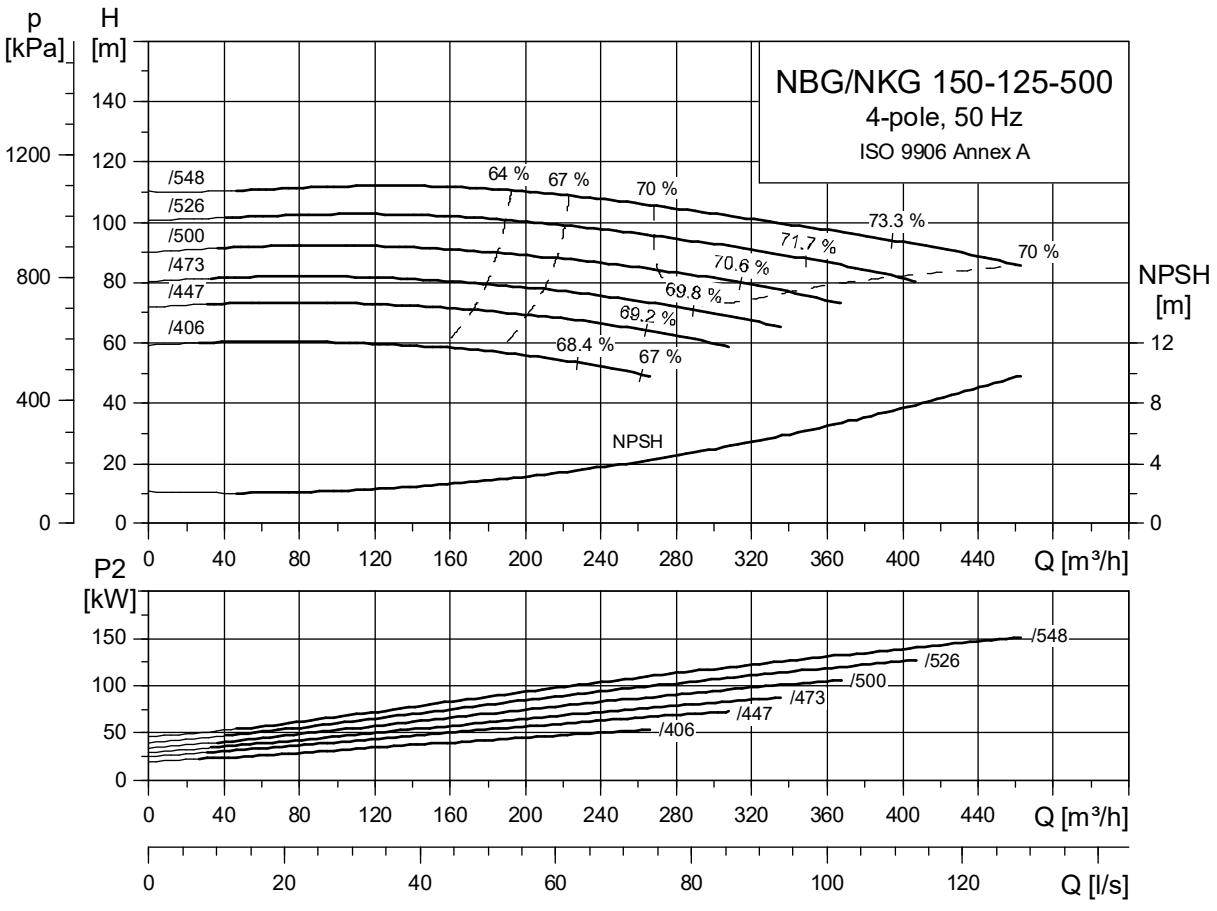
Pump type			150-125-400/345	150-125-400/368	150-125-400/392	150-125-400/433	150-125-400/438
Motor type	Premium Motor		Siemens 225S	Siemens 225M	Siemens 250M	Siemens 280S	Siemens 280M
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	37	45	55	75	90
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	150	150	150	150	150
	DNd	[mm]	125	125	125	125	125
	a	[mm]	140	140	140	140	140
	h2	[mm]	400	400	400	400	400
	Ss		8x23	8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1463/1599	1523/1659	1631/1767	1634/1770	1744/1880
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	731/726	771/766	915/914	1200/1194	1304/1298
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	2000	2000
	l2	[mm]	300	300	300	330	330
	l3	[mm]	1200	1200	1200	1340	1340
	b1	[mm]	600	600	600	750	750
	b2	[mm]	730	730	730	890	890
	b3	[mm]	670	670	670	830	830
	d	[mm]	28	28	28	28	28
	a2	[mm]	110	110	110	110	110
	h	[mm]	100	100	100	130	130
	h3	[mm]	415	415	415	445	445
	$h4^{1)}$	[mm]	740/-	740/-	807/-	877/-	877/-
	Base frame no.		9	9	9	10	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	441	441	441	441	441
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	315	315	315	315	315
	G1	[mm]	284	284	284	284	284
	G2	[mm]	320	320	320	320	320
	m1	[mm]	200	200	200	200	200
	m2	[mm]	150	150	150	150	150
	n1	[mm]	500	500	500	500	500
	n2	[mm]	400	400	400	400	400
	b	[mm]	100	100	100	100	100
	s1	[mm]	M20	M20	M20	M20	M20
	H	[mm]	225	225	250	280	280
	$LB^{1)}$	[mm]	649/-	709/-	817/-	820/-	930/-
	$AD^{1)}$	[mm]	325/-	325/-	392/-	432/-	432/-
	$AG^{1)}$	[mm]	260/-	260/-	300/-	300/-	300/-
	$LL^{1)}$	[mm]	192/-	192/-	236/-	236/-	236/-
	P	[mm]	450	450	550	550	550
	C	[mm]	149	149	168	190	190
	B	[mm]	286	286	349	368	419
	A	[mm]	356	356	406	457	457
	K	[mm]	19	19	24	24	24
	Weight $NBG^{1)}$	[kg]	531/-	571/-	714/-	829/-	929/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

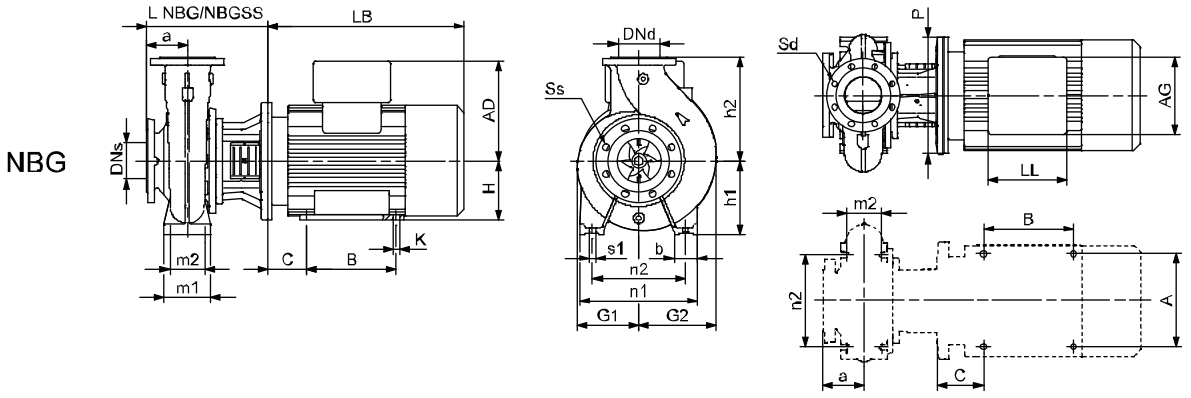
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.

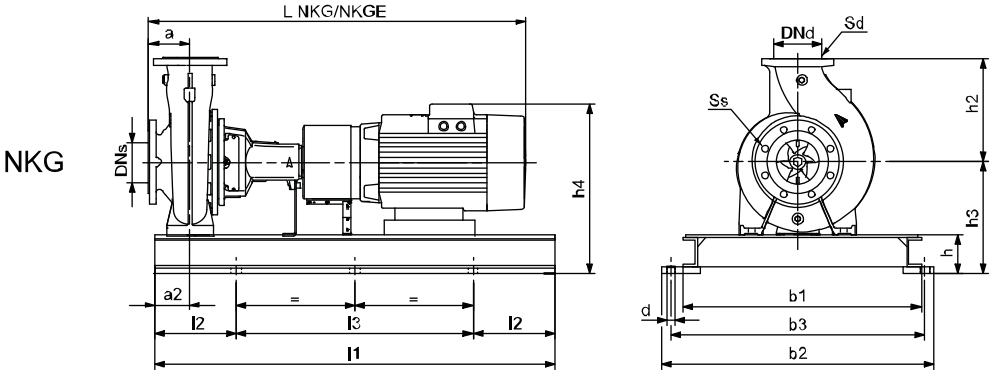
Performance curves



TM03 1971 1106



TM03 8010 0107



TM03 8013 0107

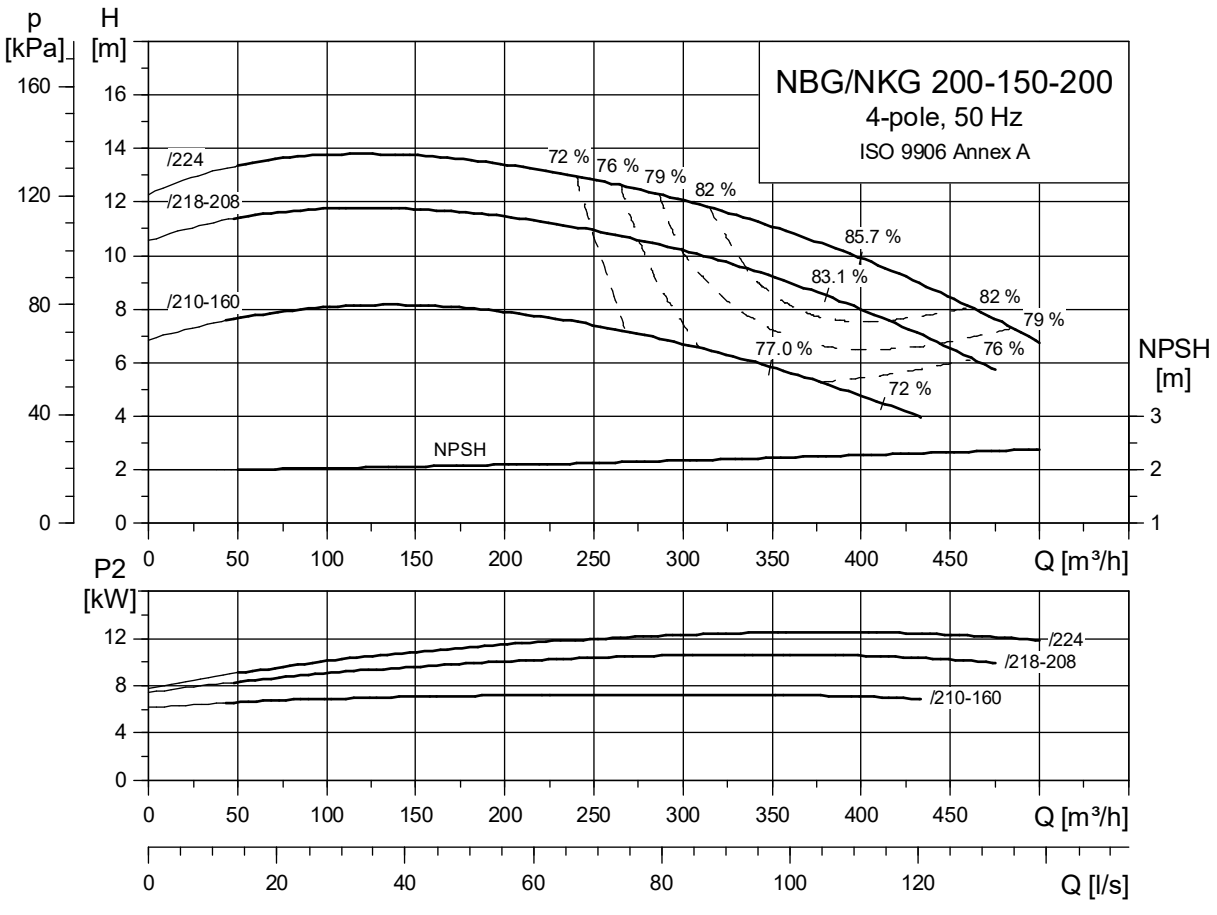
Pump type			150-125-500/406	150-125-500/447	150-125-500/473	150-125-500/500	150-125-500/526	150-125-500/548
Motor type	Premium Motor		Siemens 250M	Siemens 280S	Siemens 280M	Siemens 315S	Siemens 315MA	Siemens 315MB
	E-Motor		-	-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	55	75	90	110	132	160
	PN	[bar]	16	16	16	16	16	16
	DNs	[mm]	150	150	150	150	150	150
	DNd	[mm]	125	125	125	125	125	125
	a	[mm]	180	180	180	180	180	180
	h2	[mm]	500	500	500	500	500	500
	Ss		8x23	8x23	8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1811/1987	1814/1990	1924/2100	1956/2132	2116/2292	2116/2292
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	1367/1364	1478/1474	1582/1578	1716/1712	1875/1871	2011/2007
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	2000	2000	2000	2000	2000	2000
	l2	[mm]	330	330	330	330	330	330
	l3	[mm]	1340	1340	1340	1340	1340	1340
	b1	[mm]	750	750	750	750	750	750
	b2	[mm]	890	890	890	890	890	890
	b3	[mm]	830	830	830	830	830	830
	d	[mm]	28	28	28	28	28	28
	a2	[mm]	110	110	110	110	110	110
	h	[mm]	130	130	130	130	130	130
	h3	[mm]	530	530	530	530	530	530
	$h4^{1)}$	[mm]	922/-	962/-	962/-	1025/-	1025/-	1025/-
	Base frame no.		10	10	10	10	10	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	524	524	524	554	554	554
	L NBG SS	[mm]	-	-	-	-	-	-
	h1	[mm]	400	400	400	400	400	400
	G1	[mm]	344	344	344	344	344	344
	G2	[mm]	377	377	377	377	377	377
	m1	[mm]	200	200	200	200	200	200
	m2	[mm]	150	150	150	150	150	150
	n1	[mm]	625	625	625	625	625	625
	n2	[mm]	500	500	500	500	500	500
	b	[mm]	125	125	125	125	125	125
	s1	[mm]	M20	M20	M20	M20	M20	M20
	H	[mm]	250	280	280	315	315	315
	$LB^{1)}$	[mm]	817/-	820/-	930/-	932/-	1092/-	1092/-
	$AD^{1)}$	[mm]	392/-	432/-	432/-	495/-	495/-	495/-
	$AG^{1)}$	[mm]	300/-	300/-	300/-	379/-	379/-	379/-
	$LL^{1)}$	[mm]	236/-	236/-	236/-	307/-	307/-	307/-
	P	[mm]	550	550	550	660	660	660
	C	[mm]	168	190	190	216	216	216
	B	[mm]	349	368	419	406	457	508
	A	[mm]	406	457	457	508	508	508
	K	[mm]	24	24	24	28	28	28
	Weight $NBG^{1)}$	[kg]	927/-	1042/-	1142/-	1319/-	1474/-	1614/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

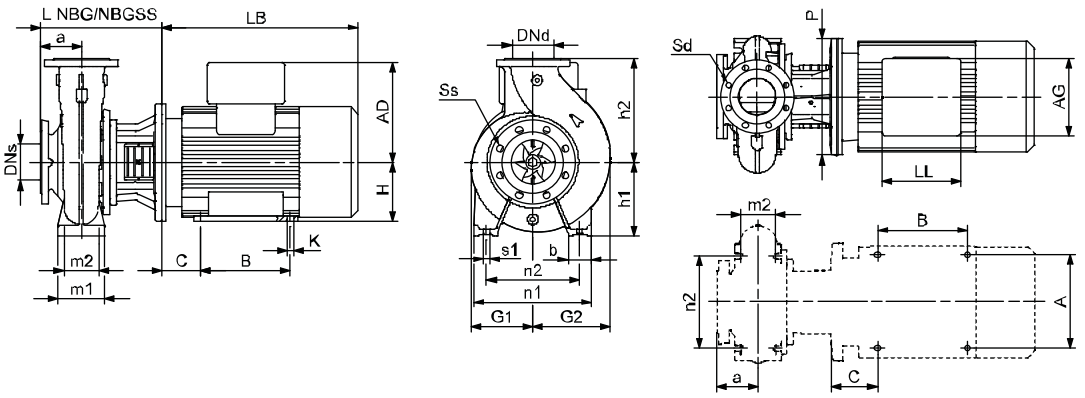
Note: For information about base frames, see page 236.

Performance curves



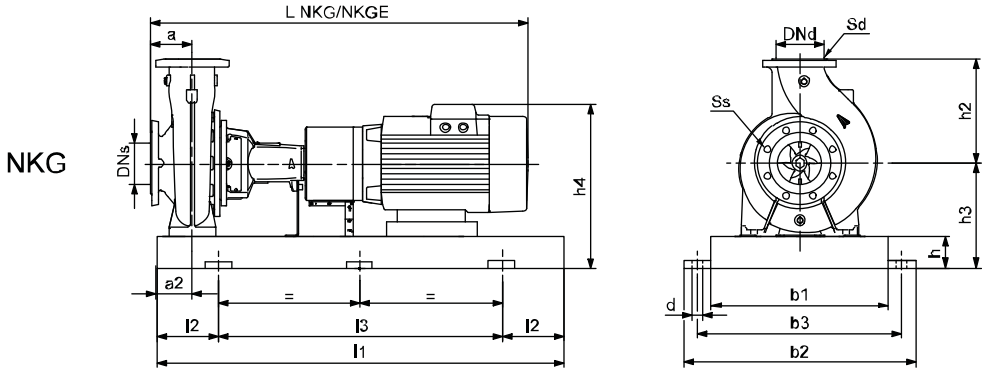
TM03 4975 4106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

Pump type			200-150-200/210-160	200-150-200/218-208	200-150-200/224
Motor type	Premium Motor		Siemens 132M	Siemens 160M	Siemens 160L
	E-Motor		MMGE 132M[3)]	MMGE 160M	MMGE 160L
Common data NBG/NKG	P_2	[kW]	7.5	11	15
	PN	[bar]	16	16	16
	DNs	[mm]	200	200	200
	DNd	[mm]	150	150	150
	a	[mm]	160	160	160
	h2	[mm]	400	400	400
	Ss		12x23	12x23	12x23
	Sd		8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1155/1331	1252/1428	1292/1468
	L NKGE	[mm]	1223/1399	1223/1399	1273/1449
	Weight NKG	[mm]	434/431	457/452	483/478
	Weight NKGE	[kg]	483/478	508/503	526/521
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800
	l2	[mm]	300	300	300
	l3	[mm]	1200	1200	1200
	b1	[mm]	600	600	600
	b2	[mm]	730	730	730
	b3	[mm]	670	670	670
	d	[mm]	28	28	28
	a2	[mm]	110	110	110
	h	[mm]	100	100	100
	h3	[mm]	385[4)]	380	380
	h4[1)]	[mm]	552/744	577/739	577/757
	Base frame no.		9	9	9
NBG data	Design		A[2)]	C[2)]	C[2)]
	L NBG	[mm]	403	433	433
	L NBG SS	[mm]	-	-	-
	h1	[mm]	280	280	280
	G1	[mm]	230	230	230
	G2	[mm]	319	319	319
	m1	[mm]	200	200	200
	m2	[mm]	150	150	150
	n1	[mm]	550	550	550
	n2	[mm]	450	450	450
	b	[mm]	100	100	100
	s1	[mm]	M20	M20	M20
	H	[mm]	132	160	160
	LB[1)]	[mm]	411/449	478/449	518/499
	AD[1)]	[mm]	167/333	197/359	197/377
	AG[1)]	[mm]	140/246	165/296	165/296
	LL[1)]	[mm]	140/410	165/410	165/410
	P	[mm]	300	350	350
	C	[mm]	89	108	108
	B	[mm]	178	210	254
	A	[mm]	216	254	254
	K	[mm]	12	15	15
	Weight NBG[1)]	[kg]	230/271	257/308	283/326
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-

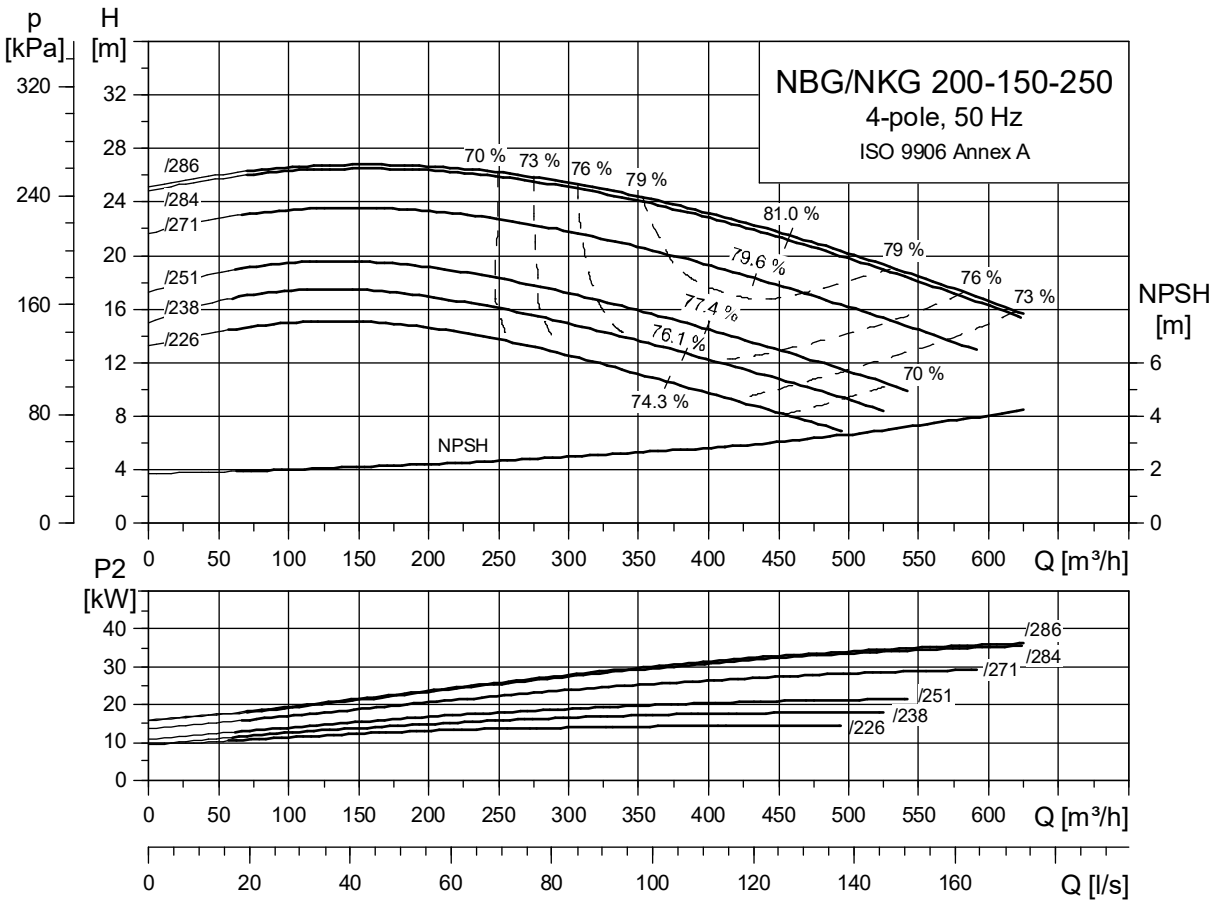
1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

3) NBGE 200-150-200/210-160 is fitted with an MMGE 132M motor with motor feet; NKGE 200-150-200/210-160 is fitted with an MMGE 160M motor.

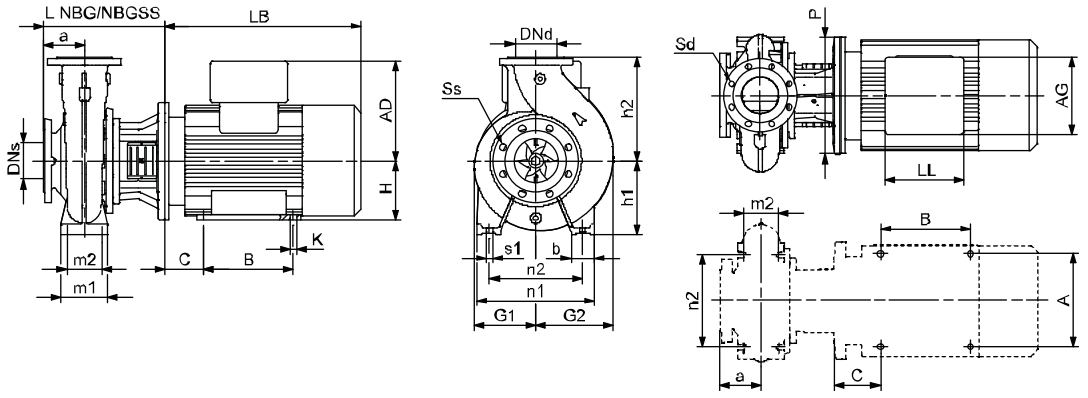
4) The h3 dimension of NKGE 150-200/210-160 is 380 mm.

Note: For information about base frames, see page 236.



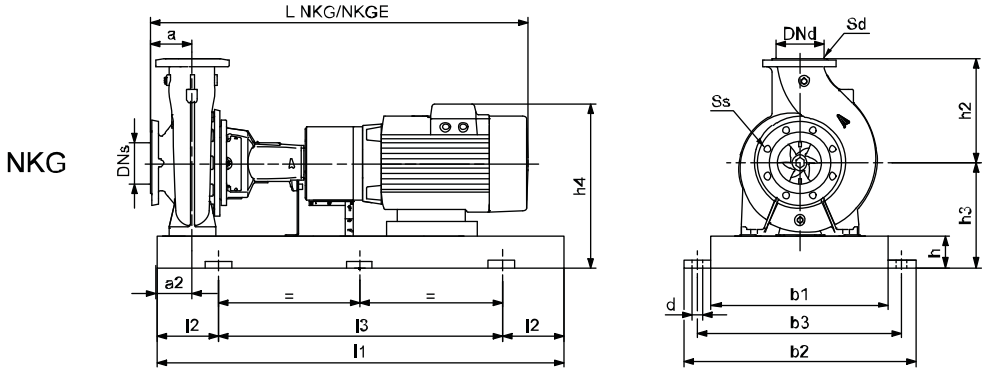
TM03 4976 4103

NBG



TM03 8010 0107

NKG



TM03 8012 0107

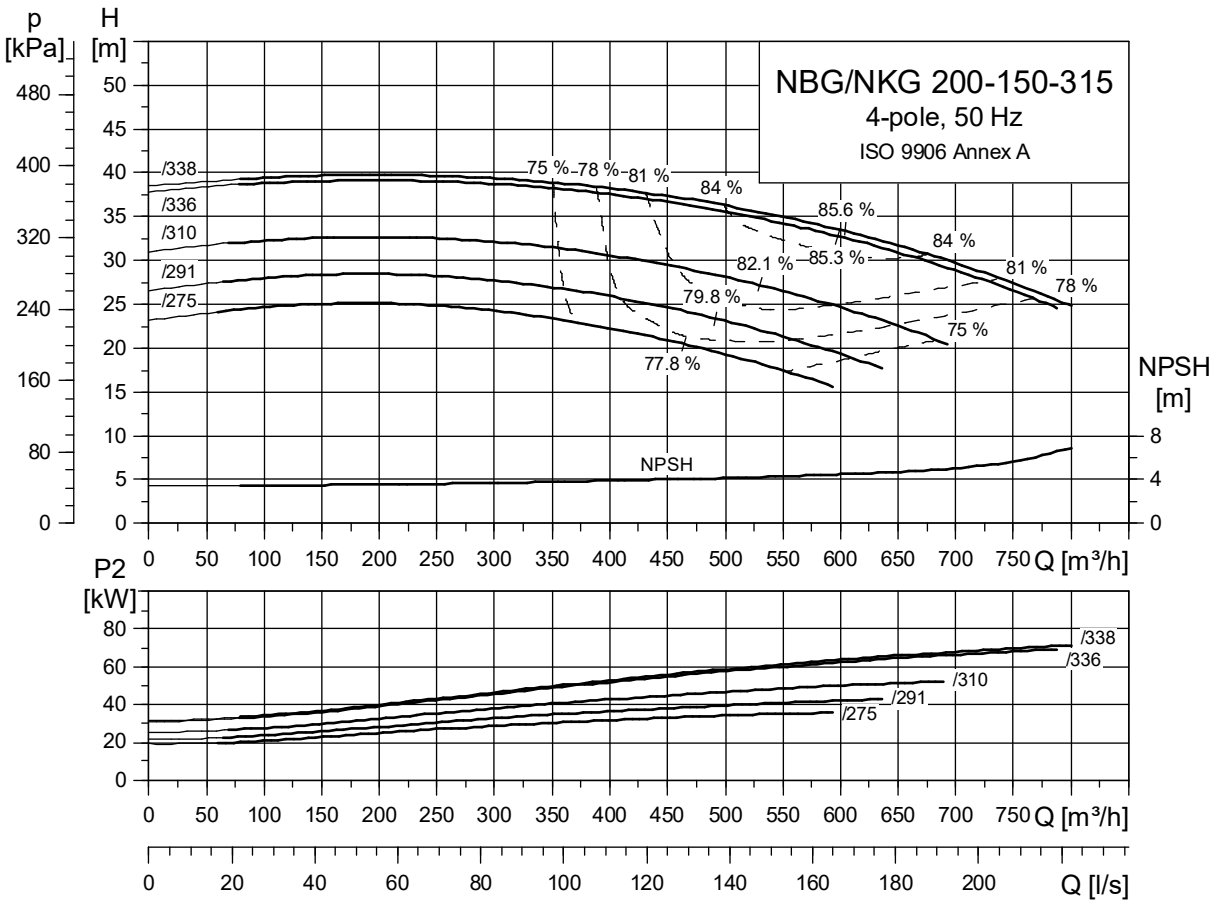
Pump type			200-150-250/226	200-150-250/238	200-150-250/251	200-150-250/271	200-150-250/284	200-150-250/286
Motor type	Premium Motor		Siemens 160L	Siemens 180M	Siemens 180L	Siemens 200L	Siemens 225S	Siemens 225M
	E-Motor		MMGE 160L	MMGE 180M	MMGE 180L	-	-	-
Common data NBG/NKG	P_2	[kW]	15	18.5	22	30	37	45
	PN	[bar]	16	16	16	16	16	16
	DNs	[mm]	200	200	200	200	200	200
	DNd	[mm]	150	150	150	150	150	150
	a	[mm]	160	160	160	160	160	160
	h2	[mm]	375	375	375	375	375	375
	Ss		12x23	12x23	12x23	12x23	12x23	12x23
	Sd		8x23	8x23	8x23	8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1322/1498	1406/1582	1406/1582	1463/1639	1483/1659	1543/1719
	L NKGE	[mm]	1303/1479	1303/1479	1374/1550	-/-	-/-	-/-
	Weight NKG	[mm]	492/487	516/508	536/528	590/585	706/702	746/742
	Weight NKGE	[kg]	535/530	573/565	607/599	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	1800	1800	1800
	l2	[mm]	300	300	300	300	300	300
	l3	[mm]	1200	1200	1200	1200	1200	1200
	b1	[mm]	600	600	600	600	600	600
	b2	[mm]	730	730	730	730	730	730
	b3	[mm]	670	670	670	670	670	670
	d	[mm]	28	28	28	28	28	28
	a2	[mm]	110	110	110	110	110	110
	h	[mm]	100	100	100	100	100	100
	h3	[mm]	380	383	383	380	380	380
	$h4^{1)}$	[mm]	577/757	641/782	641/782	685/-	705/-	705/-
	Base frame no.		9	9	9	9	9	9
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	431	431	431	431	461	461
	L NBG SS	[mm]	-	-	-	-	-	-
	h1	[mm]	280	280	280	280	280	280
	G1	[mm]	221	221	221	221	221	221
	G2	[mm]	287	287	287	287	287	287
	m1	[mm]	200	200	200	200	200	200
	m2	[mm]	150	150	150	150	150	150
	n1	[mm]	500	500	500	500	500	500
	n2	[mm]	400	400	400	400	400	400
	b	[mm]	100	100	100	100	100	100
	s1	[mm]	M20	M20	M20	M20	M20	M20
	H	[mm]	160	180	180	200	225	225
	$LB^{1)}$	[mm]	518/499	602/499	602/570	659/-	649/-	709/-
	$AD^{1)}$	[mm]	197/377	258/399	258/399	305/-	325/-	325/-
	$AG^{1)}$	[mm]	165/296	152/328	152/328	260/-	260/-	260/-
	$LL^{1)}$	[mm]	165/410	132/456	132/456	192/-	192/-	192/-
	P	[mm]	350	350	350	400	450	450
	C	[mm]	108	121	121	133	149	149
	B	[mm]	254	241	279	305	286	286
	A	[mm]	254	279	279	318	356	356
	K	[mm]	15	15	15	19	19	19
	Weight $NBG^{1)}$	[kg]	283/326	302/359	322/393	381/-	482/-	522/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

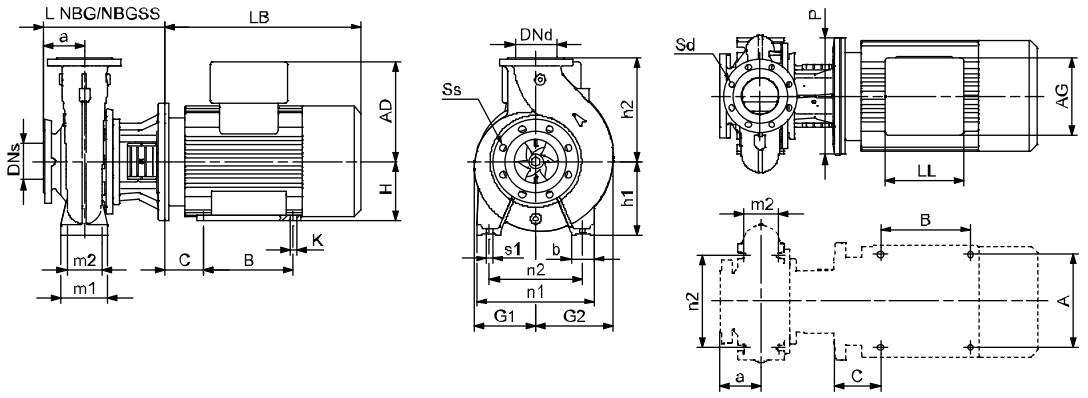
Note: For information about base frames, see page 236.

Performance curves



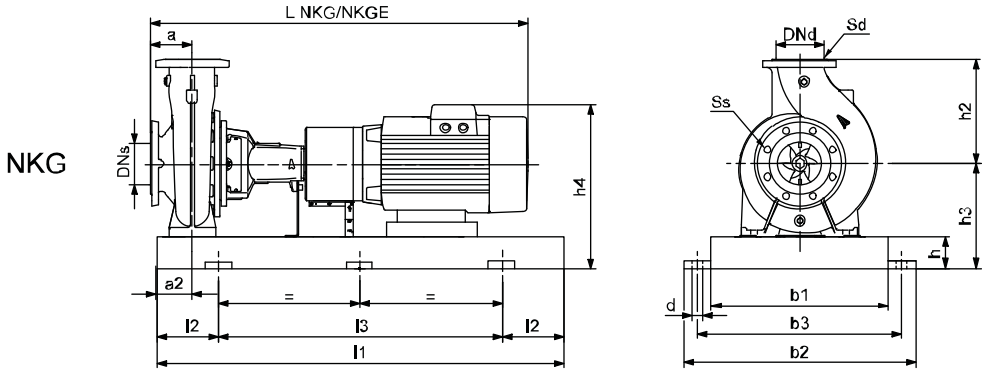
TM03 1977 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

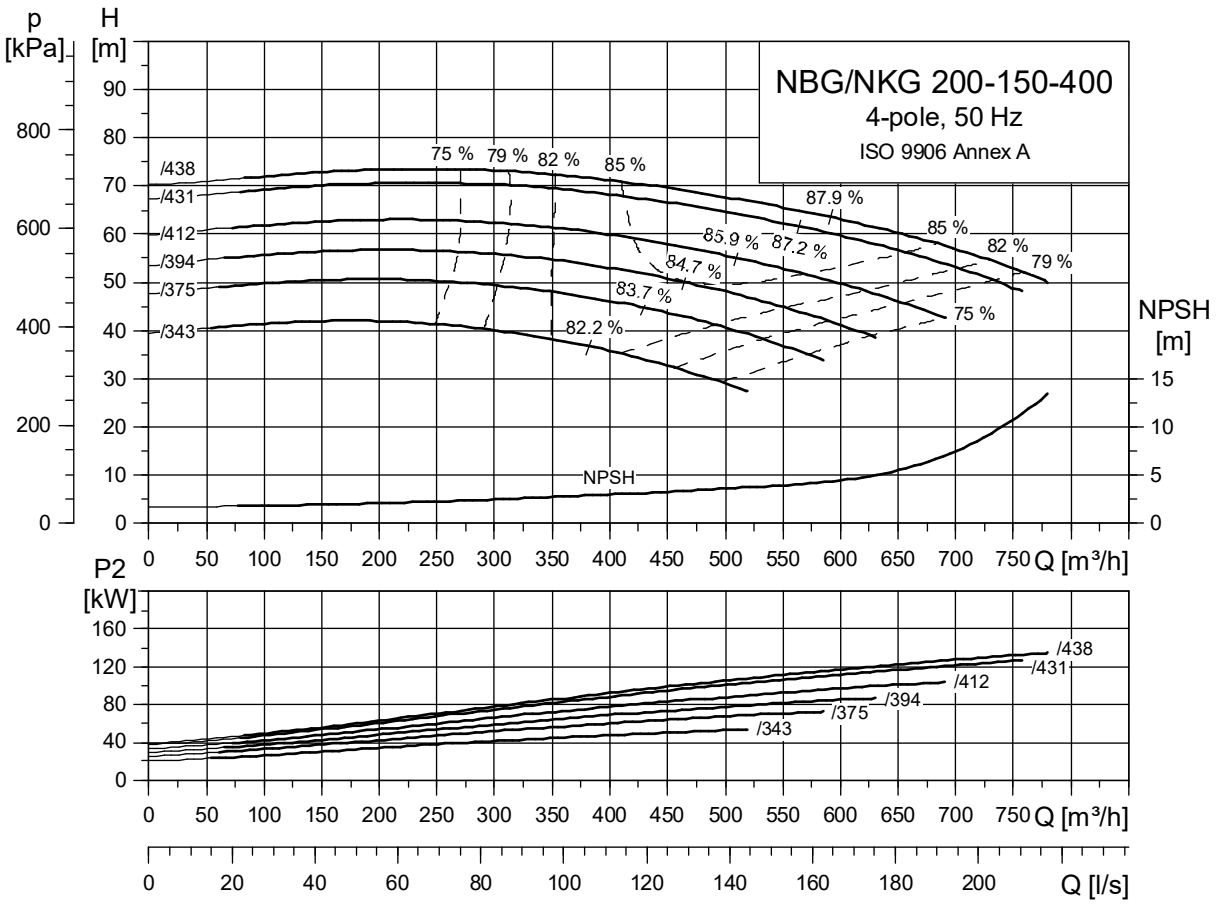
Pump type			200-150-315/275	200-150-315/291	200-150-315/310	200-150-315/336	200-150-315/338
Motor type	Premium Motor		Siemens 225S	Siemens 225M	Siemens 250M	Siemens 280S	Siemens 280M
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	37	45	55	75	90
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	200	200	200	200	200
	DNd	[mm]	150	150	150	150	150
	a	[mm]	160	160	160	160	160
	h2	[mm]	450	450	450	450	450
	Ss		12x23	12x23	12x23	12x23	12x23
	Sd		8x23	8x23	8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1623/1799	1683/1859	1791/1967	1794/1970	1904/2080
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	812/809	852/849	996/997	1282/1277	1385/1380
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	2000	2000
	l2	[mm]	300	300	300	330	330
	l3	[mm]	1200	1200	1200	1340	1340
	b1	[mm]	600	600	600	750	750
	b2	[mm]	730	730	730	890	890
	b3	[mm]	670	670	670	830	830
	d	[mm]	28	28	28	28	28
	a2	[mm]	110	110	110	110	110
	h	[mm]	100	100	100	130	130
	h3	[mm]	415	415	415	445	445
	$h4^{1)}$	[mm]	740/-	740/-	807/-	877/-	877/-
	Base frame no.		9	9	9	10	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	474	474	474	474	474
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	315	315	315	315	315
	G1	[mm]	264	264	264	264	264
	G2	[mm]	331	331	331	331	331
	m1	[mm]	200	200	200	200	200
	m2	[mm]	150	150	150	150	150
	n1	[mm]	550	550	550	550	550
	n2	[mm]	450	450	450	450	450
	b	[mm]	100	100	100	100	100
	s1	[mm]	M20	M20	M20	M20	M20
	H	[mm]	225	225	250	280	280
	$LB^{1)}$	[mm]	649/-	709/-	817/-	820/-	930/-
	$AD^{1)}$	[mm]	325/-	325/-	392/-	432/-	432/-
	$AG^{1)}$	[mm]	260/-	260/-	300/-	300/-	300/-
	$LL^{1)}$	[mm]	192/-	192/-	236/-	236/-	236/-
	P	[mm]	450	450	550	550	550
	C	[mm]	149	149	168	190	190
	B	[mm]	286	286	349	368	419
	A	[mm]	356	356	406	457	457
	K	[mm]	19	19	24	24	24
	Weight $NBG^{1)}$	[kg]	548/-	588/-	737/-	852/-	952/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

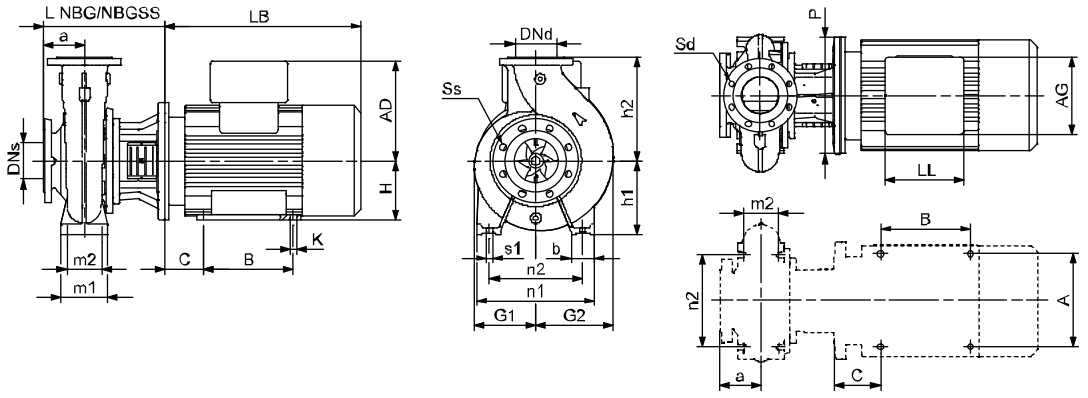
Note: For information about base frames, see page 236.

Performance curves



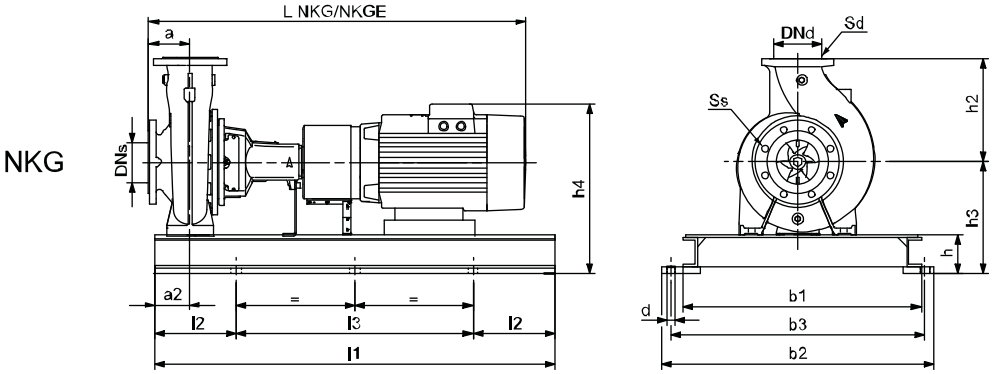
TM03 4978 4106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

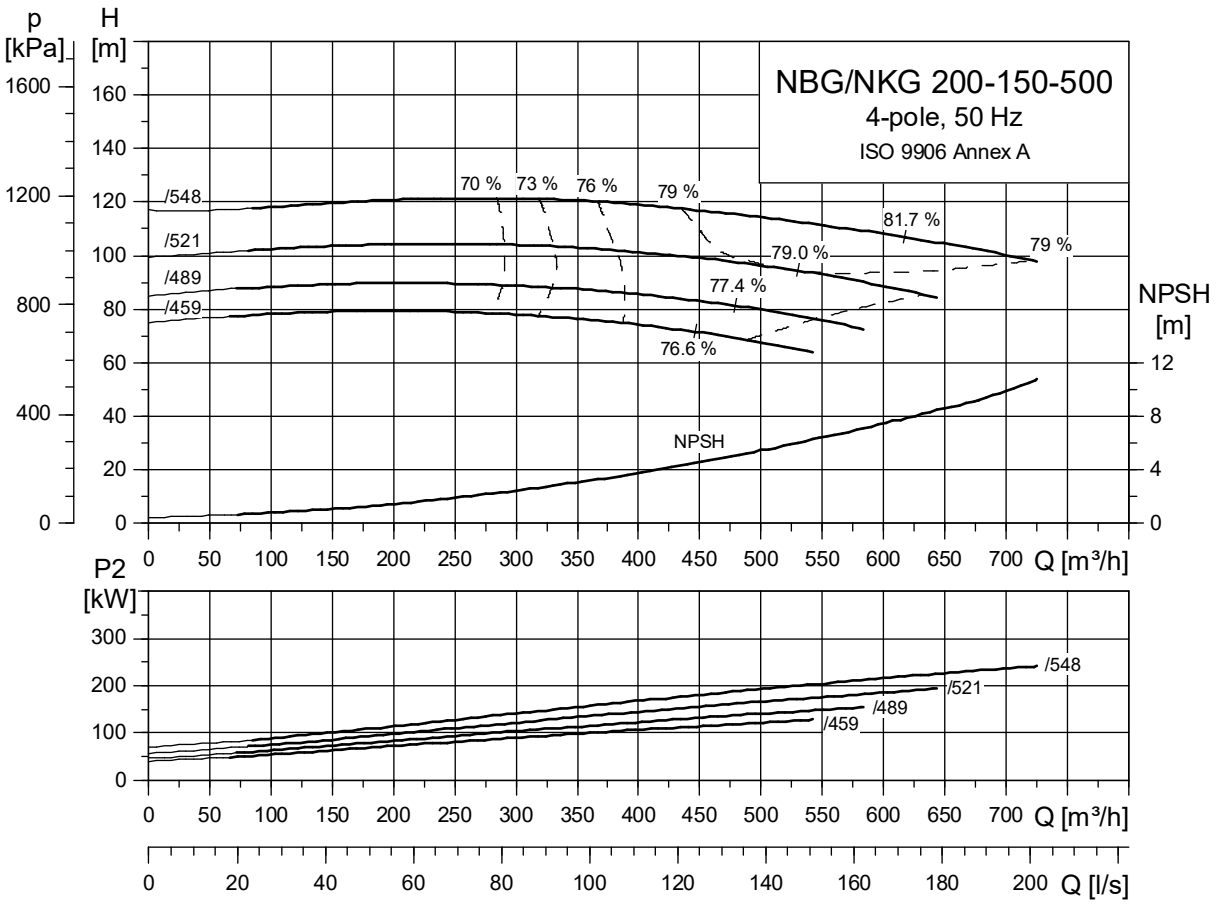
Pump type			200-150-400/343	200-150-400/375	200-150-400/394	200-150-400/412	200-150-400/431	200-150-400/438
Motor type	Premium Motor		Siemens 250M	Siemens 280S	Siemens 280M	Siemens 315S	Siemens 315MA	Siemens 315MB
	E-Motor		-	-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	55	75	90	110	132	160
	PN	[bar]	16	16	16	16	16	16
	DNs	[mm]	200	200	200	200	200	200
	DNd	[mm]	150	150	150	150	150	150
	a	[mm]	160	160	160	160	160	160
	h2	[mm]	450	450	450	450	450	450
	Ss		12x23	12x23	12x23	12x23	12x23	12x23
	Sd		8x23	8x23	8x23	8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1791/1967	1794/1970	1904/2080	1936/2112	2096/2272	2096/2272
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	1036/1036	1321/1316	1424/1419	1531/1535	1687/1690	1826/1830
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	2000	2000	2000	2000	2000
	l2	[mm]	300	330	330	330	330	330
	l3	[mm]	1200	1340	1340	1340	1340	1340
	b1	[mm]	600	750	750	750	750	750
	b2	[mm]	730	890	890	890	890	890
	b3	[mm]	670	830	830	830	830	830
	d	[mm]	28	28	28	28	28	28
	a2	[mm]	110	110	110	110	110	110
	h	[mm]	100	130	130	130	130	130
	h3	[mm]	415	445	445	450	450	450
	$h4^{1)}$	[mm]	807/-	877/-	877/-	945/-	945/-	945/-
	Base frame no.		9	10	10	10	10	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	474	474	474	504	504	504
	L NBG SS	[mm]	-	-	-	-	-	-
	h1	[mm]	315	315	315	315	315	315
	G1	[mm]	291	291	291	291	291	291
	G2	[mm]	339	339	339	339	339	339
	m1	[mm]	200	200	200	200	200	200
	m2	[mm]	150	150	150	150	150	150
	n1	[mm]	550	550	550	550	550	550
	n2	[mm]	450	450	450	450	450	450
	b	[mm]	100	100	100	100	100	100
	s1	[mm]	M20	M20	M20	M20	M20	M20
	H	[mm]	250	280	280	315	315	315
	$LB^{1)}$	[mm]	817/-	820/-	930/-	932/-	1092/-	1092/-
	$AD^{1)}$	[mm]	392/-	432/-	432/-	495/-	495/-	495/-
	$AG^{1)}$	[mm]	300/-	300/-	300/-	379/-	379/-	379/-
	$LL^{1)}$	[mm]	236/-	236/-	236/-	307/-	307/-	307/-
	P	[mm]	550	550	550	660	660	660
	C	[mm]	168	190	190	216	216	216
	B	[mm]	349	368	419	406	457	508
	A	[mm]	406	457	457	508	508	508
	K	[mm]	24	24	24	28	28	28
	Weight $NBG^{1)}$	[kg]	776/-	891/-	991/-	1167/-	1322/-	1462/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

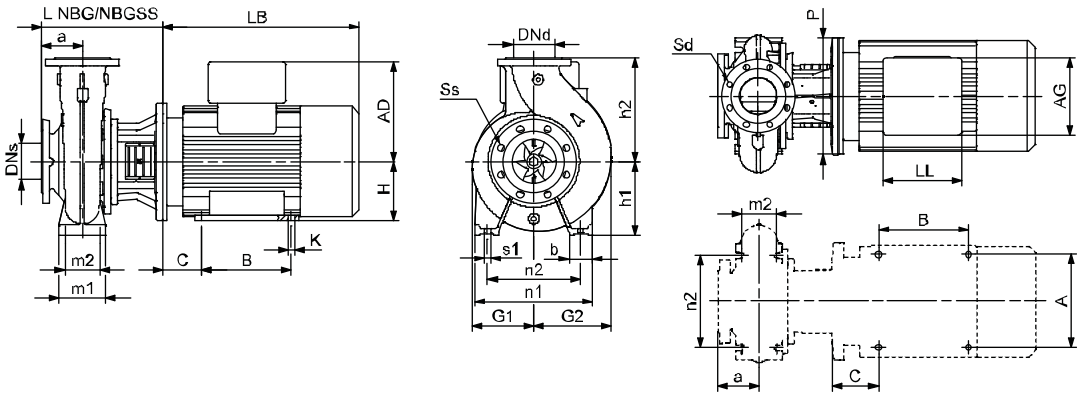
Note: For information about base frames, see page 236.

Performance curves



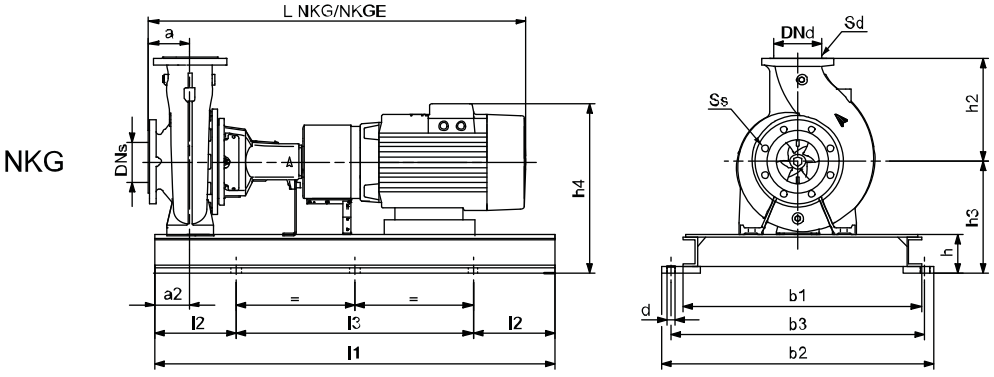
TM03 4979 4106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

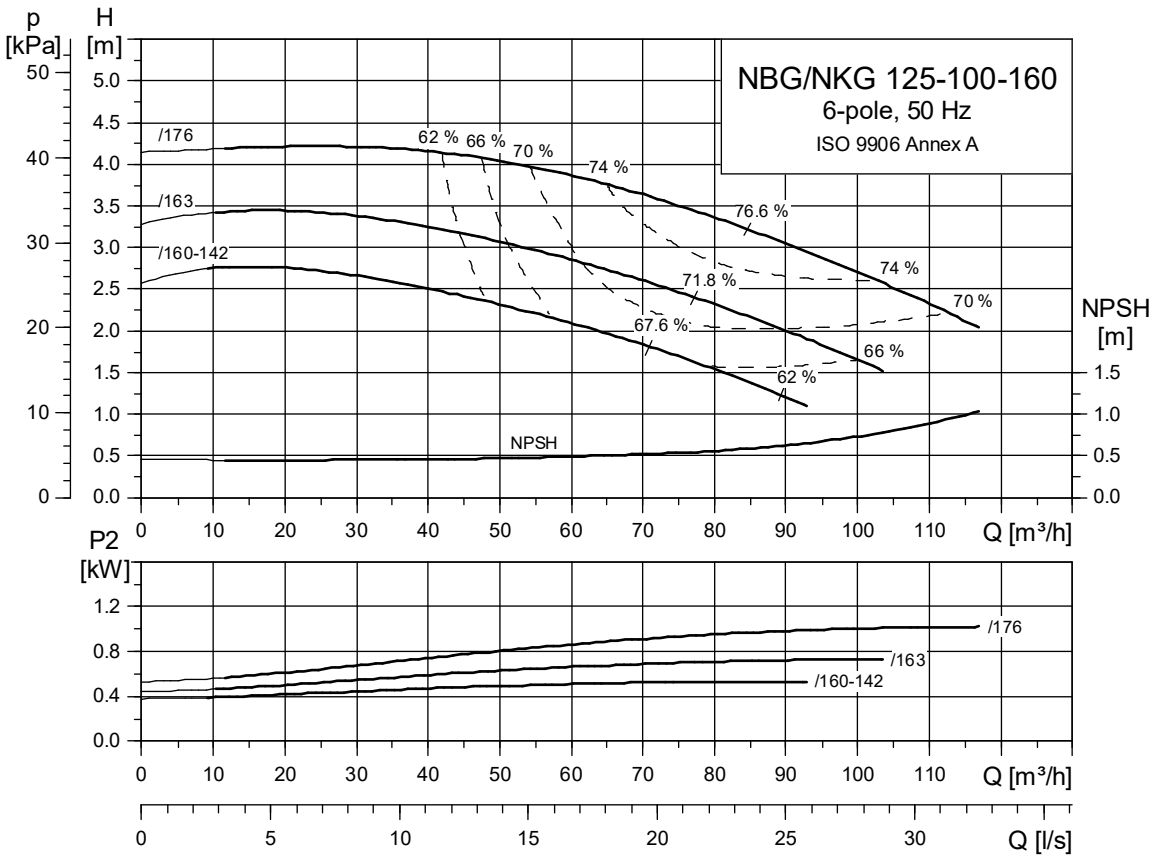
Pump type			200-150-500/459	200-150-500/489	200-150-500/521	200-150-500/548
Motor type	Premium Motor		Siemens 315MA	Siemens 315MB	Siemens 315L	Siemens 315
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	132	160	200	250
	PN	[bar]	16	16	16	16
	DNs	[mm]	200	200	200	200
	DNd	[mm]	150	150	150	150
	a	[mm]	180	180	180	180
	h2	[mm]	500	500	500	500
	Ss		12x23	12x23	12x23	12x23
	Sd		8x23	8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	2116/2292	2116/2292	2256/2432	2264/2440
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	1895/1890	2031/2027	2231/2227	2279/2274
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	2000	2000	2000	2250
	l2	[mm]	330	330	330	375
	l3	[mm]	1340	1340	1340	1500
	b1	[mm]	750	750	750	840
	b2	[mm]	890	890	890	980
	b3	[mm]	830	830	830	920
	d	[mm]	28	28	28	28
	a2	[mm]	110	110	110	110
	h	[mm]	130	130	130	130
	h3	[mm]	530	530	530	530
	$h4^{1)}$	[mm]	1025/-	1025/-	1025/-	998/-
	Base frame no.		10	10	10	11
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	-
	L NBG	[mm]	554	554	554	-
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	400	400	400	-
	G1	[mm]	353	353	353	-
	G2	[mm]	396	396	396	-
	m1	[mm]	200	200	200	-
	m2	[mm]	150	150	150	-
	n1	[mm]	625	625	625	-
	n2	[mm]	500	500	500	-
	b	[mm]	125	125	125	-
	s1	[mm]	M20	M20	M20	-
	H	[mm]	315	315	315	-
	$LB^{1)}$	[mm]	1092/-	1092/-	1232/-	-/-
	$AD^{1)}$	[mm]	495/-	495/-	495/-	-/-
	$AG^{1)}$	[mm]	379/-	379/-	379/-	-/-
	$LL^{1)}$	[mm]	307/-	307/-	307/-	-/-
	P	[mm]	660	660	660	-
	C	[mm]	216	216	216	-
	B	[mm]	457	508	457	-
	A	[mm]	508	508	508	-
	K	[mm]	28	28	28	-
	Weight $NBG^{1)}$	[kg]	1493/-	1633/-	1833/-	-/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

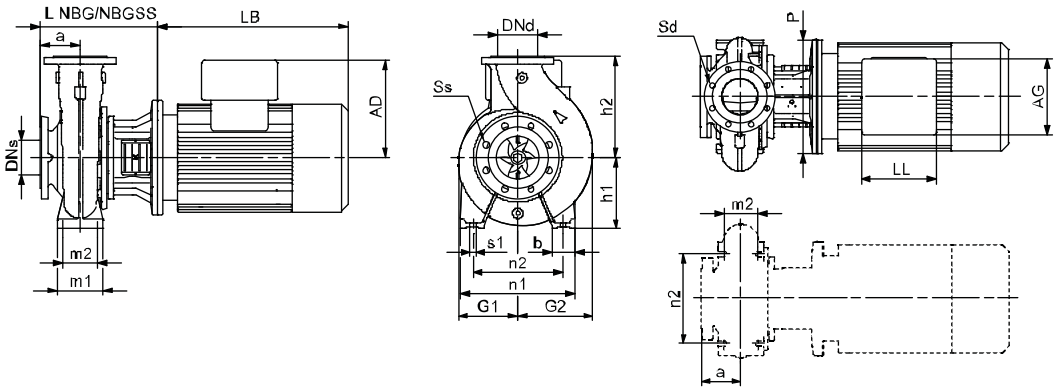
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.

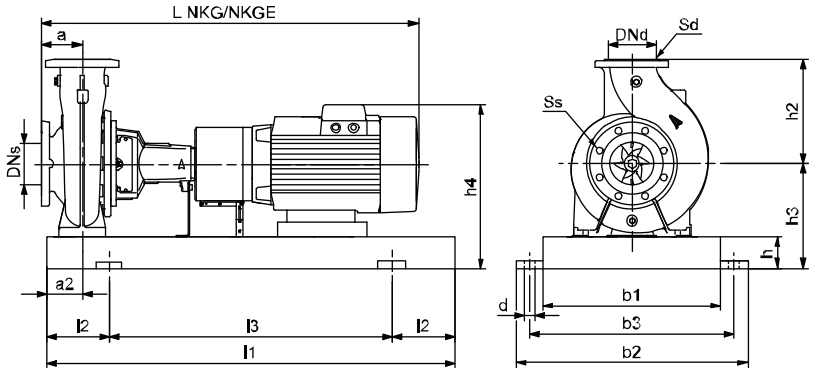
NBG, NKG 6-pole



NBG



NKG

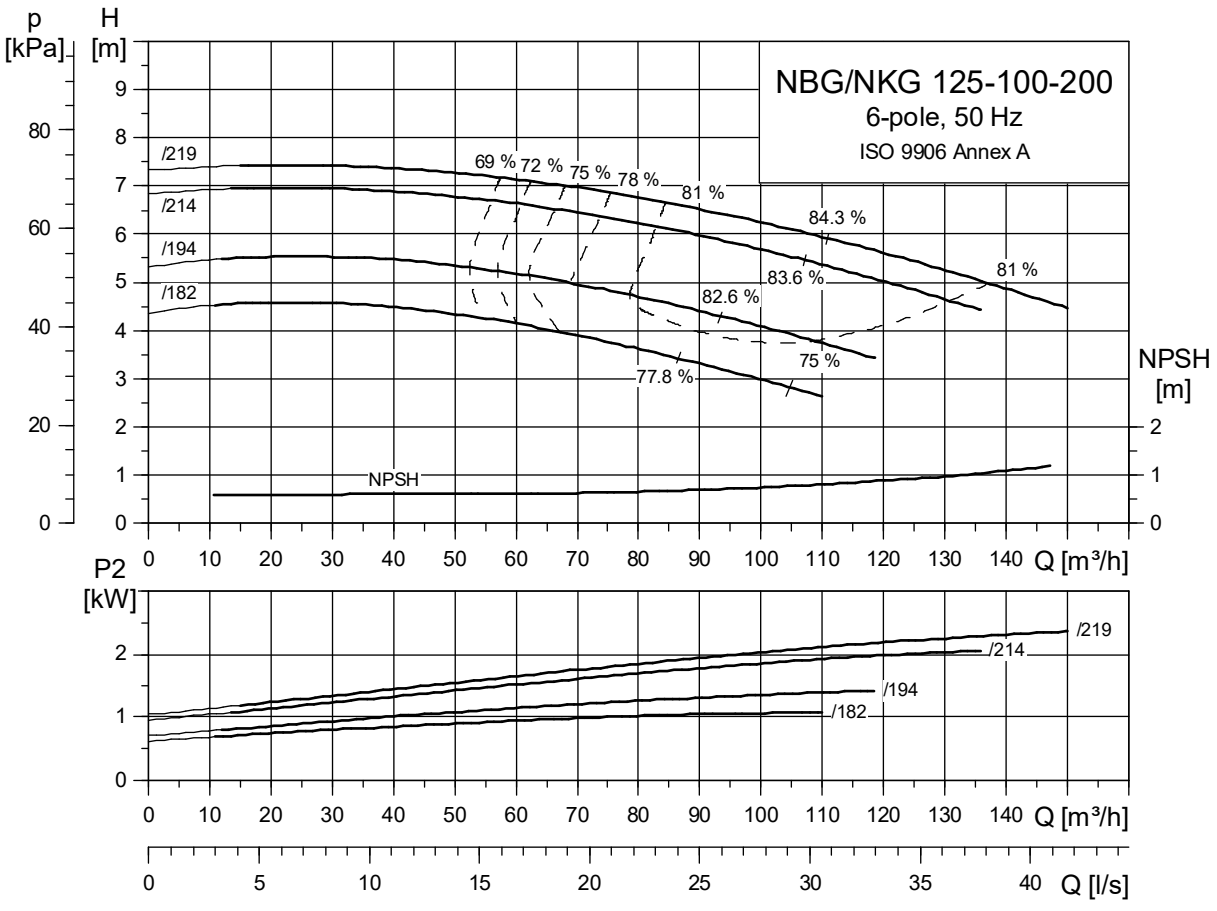


Pump type			125-100-160/160-142	125-100-160/163	125-100-160/176
Motor type	Premium Motor		Siemens 80B	Siemens 90S	Siemens 90L
	E-Motor		-	-	-
Common data NBG/NKG	P_2	[kW]	0.55	0.75	1.1
	PN	[bar]	16	16	16
	DNs	[mm]	125	125	125
	DNd	[mm]	100	100	100
	a	[mm]	125	125	125
	h2	[mm]	280	280	280
	Ss		8x19	8x19	8x19
	Sd		8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	903/1039	960/1096	1005/1141
	L NKGE	[mm]	-/-	-/-	-/-
	Weight NKG	[mm]	193/192	197/196	200/199
	Weight NKGE	[kg]	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	1250	1250	1250
	l2	[mm]	205	205	205
	l3	[mm]	840	840	840
	b1	[mm]	430	430	430
	b2	[mm]	540	540	540
	b3	[mm]	490	490	490
	d	[mm]	24	24	24
	a2	[mm]	90	90	90
	h	[mm]	80	80	80
	h3	[mm]	280	280	280
	h4 1)	[mm]	400/-	408/-	408/-
	Base frame no.		6	6	6
NBG data	Design		A	A	A
	L NBG	[mm]	298	298	298
	L NBG SS	[mm]	-	-	-
	h1	[mm]	200	200	200
	G1	[mm]	146	146	146
	G2	[mm]	187	187	187
	m1	[mm]	160	160	160
	m2	[mm]	120	120	120
	n1	[mm]	360	360	360
	n2	[mm]	280	280	280
	b	[mm]	80	80	80
	s1	[mm]	M16	M16	M16
	H	[mm]	-	-	-
	LB 1)	[mm]	234/-	281/-	326/-
	AD 1)	[mm]	120/-	128/-	128/-
	AG 1)	[mm]	75/-	75/-	75/-
	LL 1)	[mm]	75/-	75/-	75/-
	P	[mm]	200	200	200
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight NBG 1)	[kg]	78/-	84/-	87/-
	Weight NBG SS 1)	[kg]	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

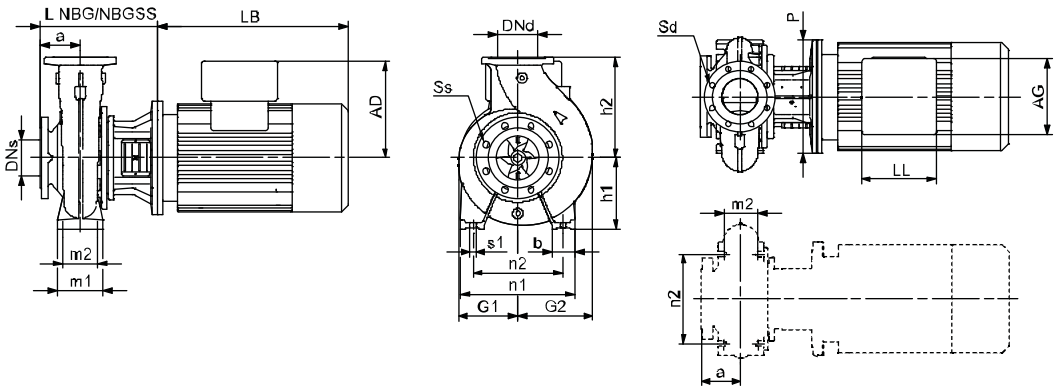
Note: For information about base frames, see page 236.

Performance curves



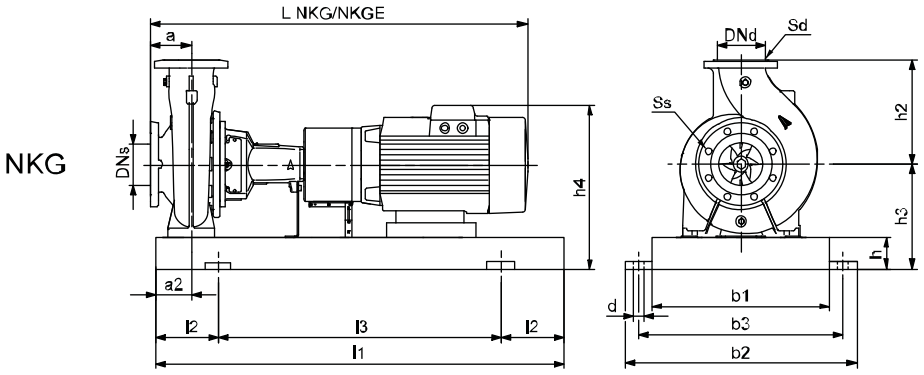
TM03 4981 1106

NBG



TM03 8008 0107

NKG



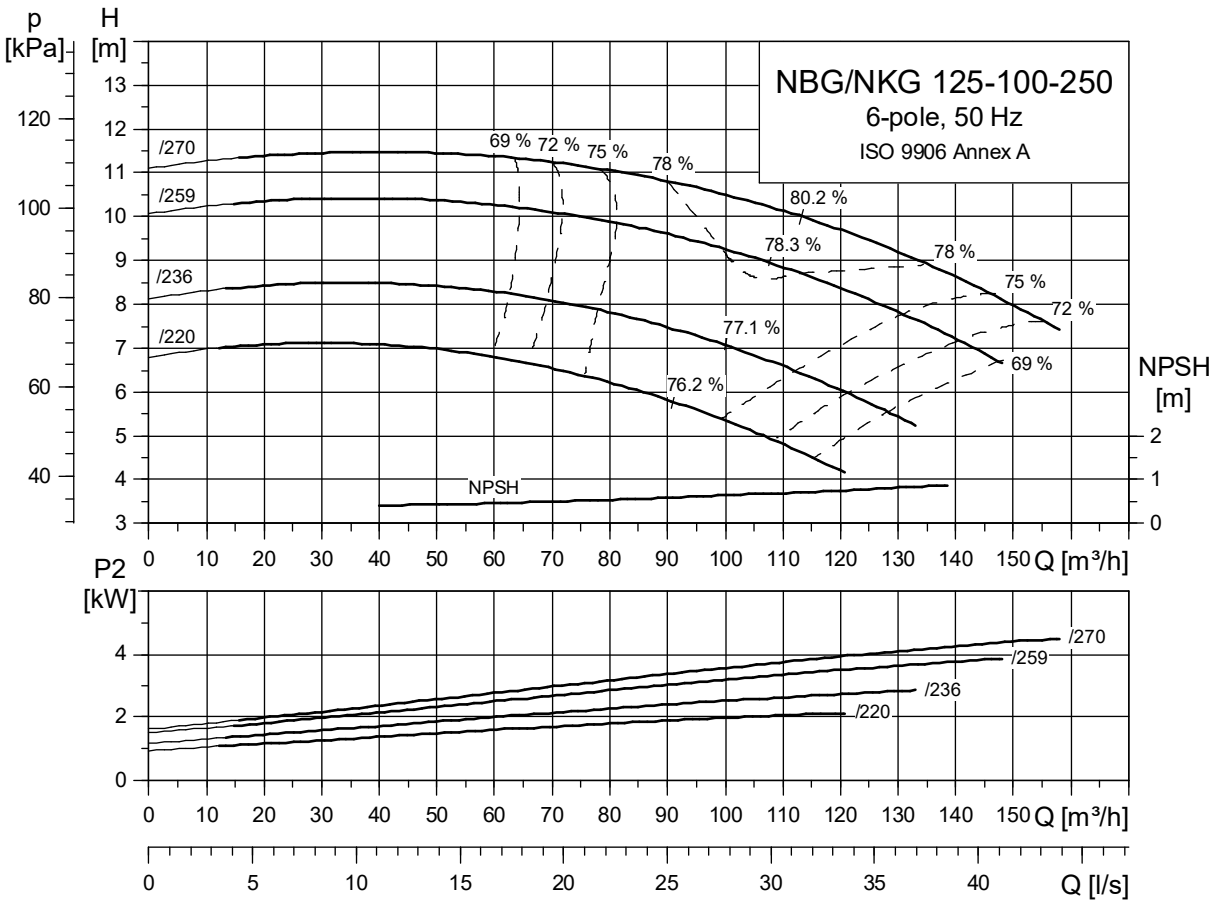
TM03 8011 0107

Pump type			125-100-200/182	125-100-200/194	125-100-200/214	125-100-200/219
Motor type	Premium Motor		Siemens 90L	Siemens 100L	Siemens 112M	Siemens 132SA
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	1.1	1.5	2.2	3
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	100	100	100	100
	a	[mm]	125	125	125	125
	h2	[mm]	280	280	280	280
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1005/1141	1036/1172	1060/1196	1082/1218
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	212/212	224/223	233/232	249/246
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1250	1250	1250	1250
	l2	[mm]	205	205	205	205
	l3	[mm]	840	840	840	840
	b1	[mm]	430	430	430	430
	b2	[mm]	540	540	540	540
	b3	[mm]	490	490	490	490
	d	[mm]	24	24	24	24
	a2	[mm]	90	90	90	90
	h	[mm]	80	80	80	80
	h3	[mm]	280	280	280	280
	h4 [1)]	[mm]	408/-	415/-	428/-	447/-
	Base frame no.		6	6	6	6
NBG data	Design		A	A	A	A
	L NBG	[mm]	328	348	348	368
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	200	200	200	200
	G1	[mm]	169	169	169	169
	G2	[mm]	212	212	212	212
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	360	360	360	360
	n2	[mm]	280	280	280	280
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	-	-	-	-
	LB [1)]	[mm]	326/-	347/-	371/-	373/-
	AD [1)]	[mm]	128/-	135/-	148/-	167/-
	AG [1)]	[mm]	75/-	120/-	120/-	140/-
	LL [1)]	[mm]	75/-	120/-	120/-	140/-
	P	[mm]	200	250	250	300
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG [1)]	[kg]	99/-	107/-	119/-	137/-
	Weight NBG SS [1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

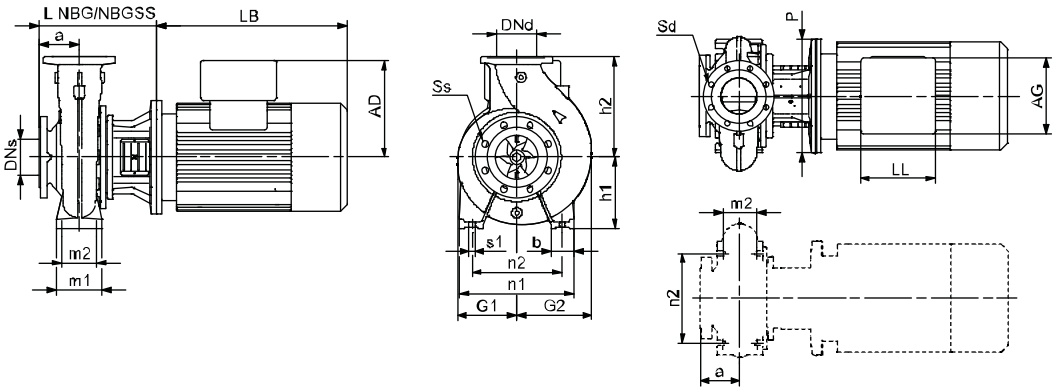
Note: For information about base frames, see page 236.

Performance curves



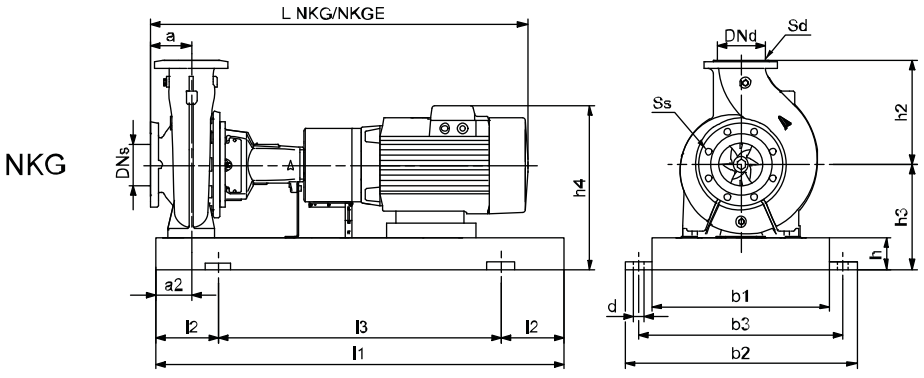
TM03 1982 1106

NBG



TM03 8008 0107

NKG



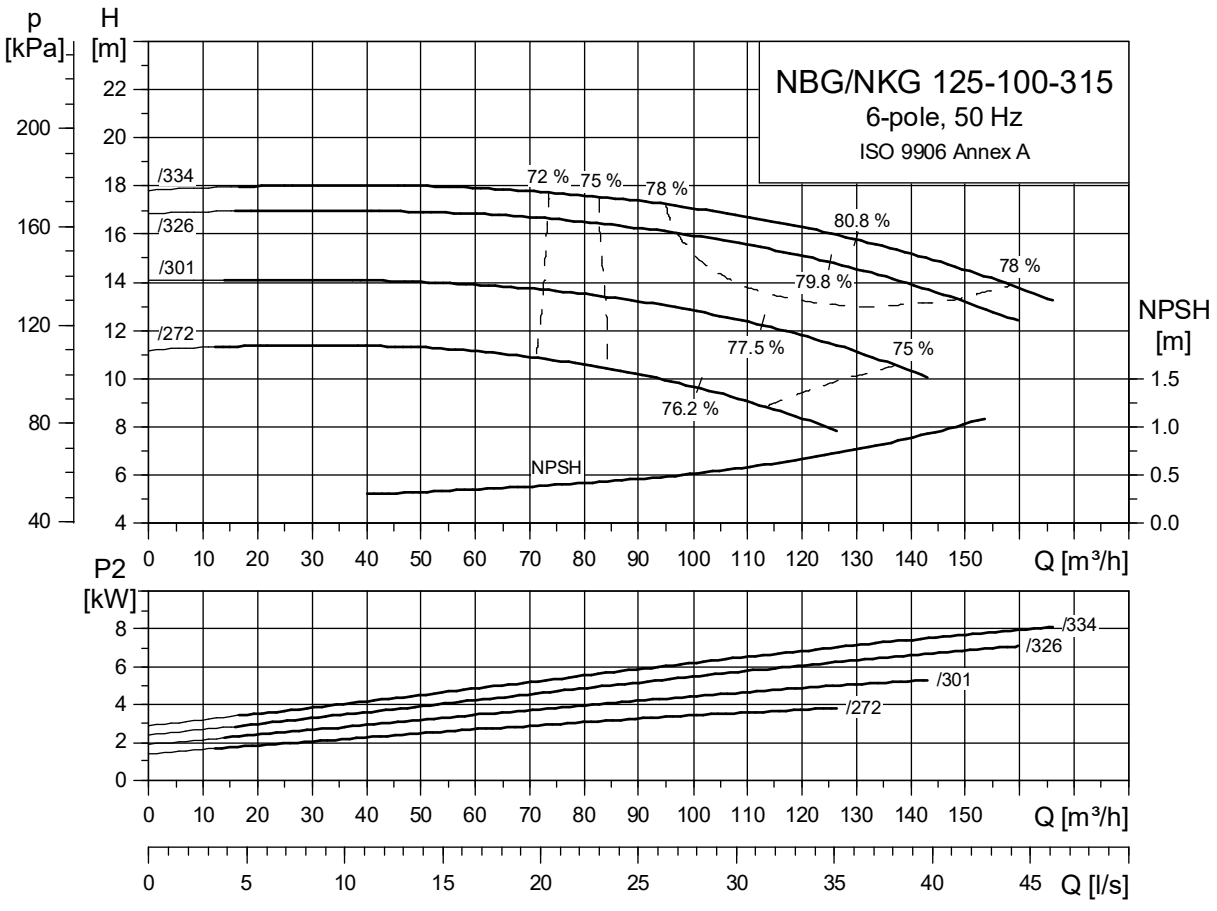
TM03 8011 0107

Pump type			125-100-250/220	125-100-250/236	125-100-250/259	125-100-250/270
Motor type	Premium Motor		Siemens 112M	Siemens 132SA	Siemens 132MA	Siemens 132MB
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	2.2	3	4	5.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	100	100	100	100
	a	[mm]	140	140	140	140
	h2	[mm]	280	280	280	280
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1105/1241	1127/1263	1127/1263	1165/1301
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	290/287	302/299	302/299	320/317
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1400	1400	1400
	l2	[mm]	230	230	230	230
	l3	[mm]	940	940	940	940
	b1	[mm]	480	480	480	480
	b2	[mm]	610	610	610	610
	b3	[mm]	560	560	560	560
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	100	100
	h3	[mm]	325	325	325	325
	h4[1)]	[mm]	473/-	492/-	492/-	492/-
	Base frame no.		7	7	7	7
NBG data	Design		A	A	A	A
	L NBG	[mm]	363	381	381	381
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	225	225	225	225
	G1	[mm]	188	188	188	188
	G2	[mm]	224	224	224	224
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	-	-	-	-
	LB[1)]	[mm]	371/-	373/-	373/-	411/-
	AD[1)]	[mm]	148/-	167/-	167/-	167/-
	AG[1)]	[mm]	120/-	140/-	140/-	140/-
	LL[1)]	[mm]	120/-	140/-	140/-	140/-
	P	[mm]	250	300	300	300
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight NBG[1)]	[kg]	132/-	153/-	153/-	171/-
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

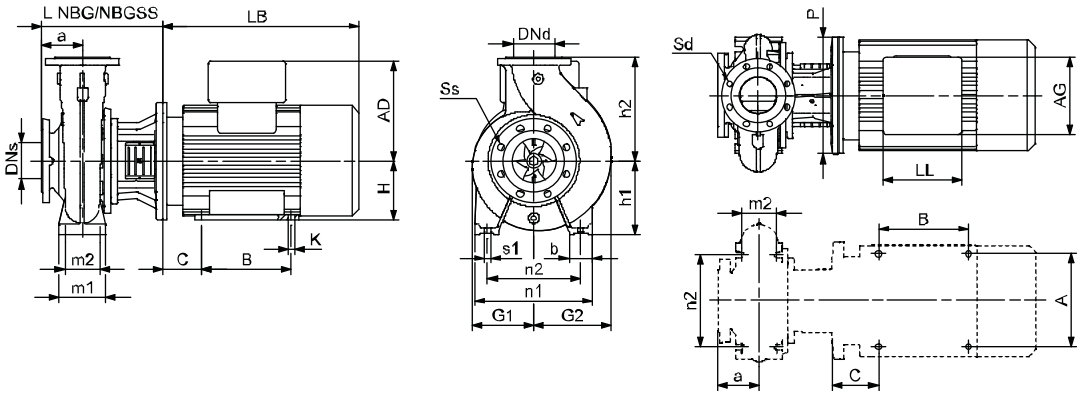
Note: For information about base frames, see page 236.

Performance curves



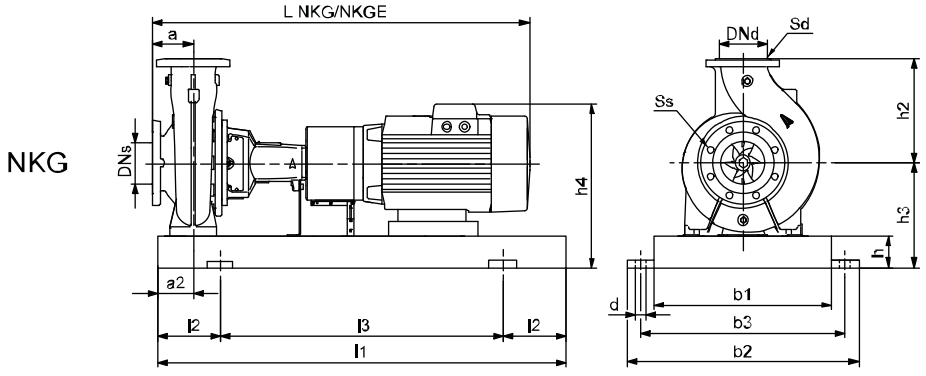
TM03 4983 1106

NBG



TM03 8010 0107

NKG



TM03 8011 0107

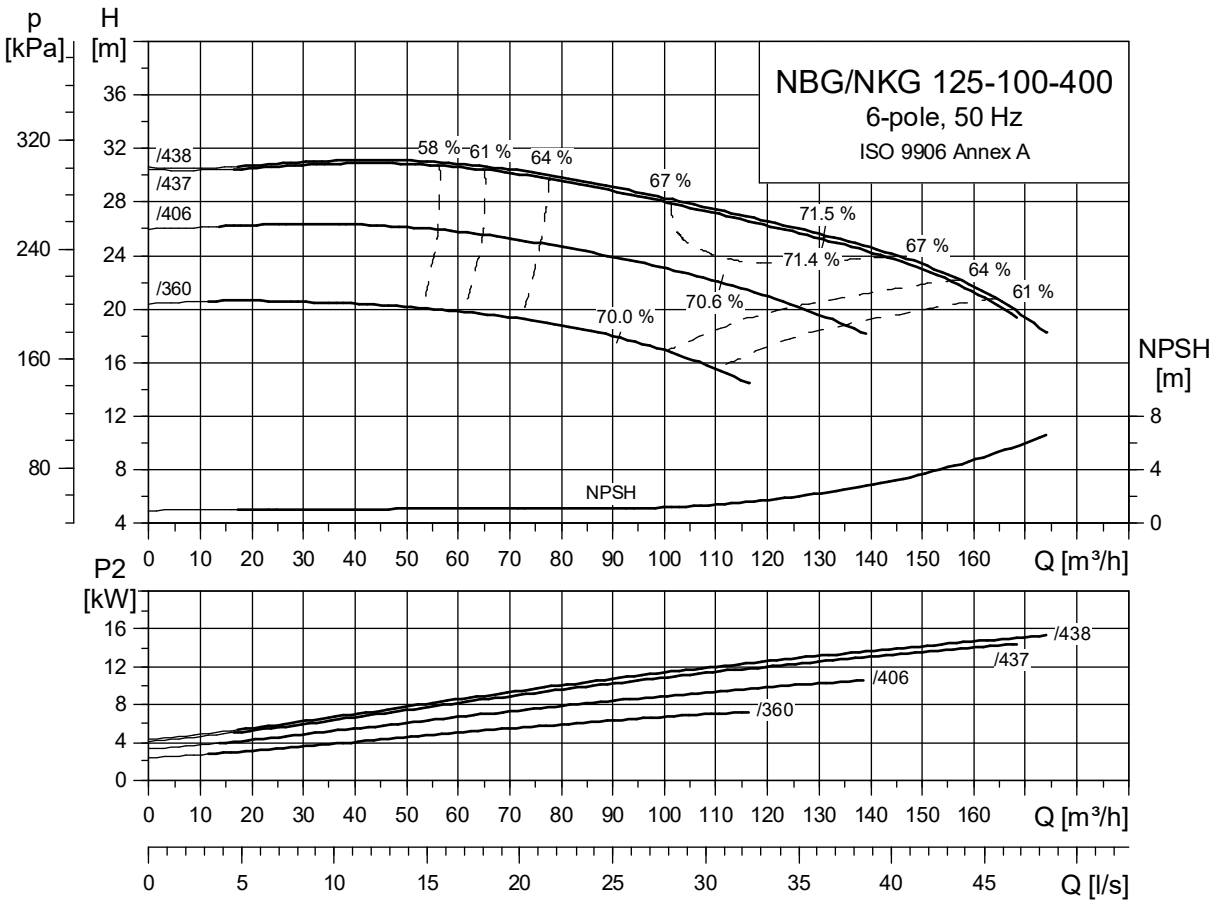
Pump type			125-100-315/272	125-100-315/301	125-100-315/326	125-100-315/334
Motor type	Premium Motor		Siemens 132MA	Siemens 132MB	Siemens 160M	Siemens 160L
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	4	5.5	7.5	11
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	100	100	100	100
	a	[mm]	140	140	140	140
	h2	[mm]	315	315	315	315
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1127/1263	1165/1301	1262/1398	1302/1438
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	331/328	349/346	384/379	391/386
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1400	1400	1400
	l2	[mm]	230	230	230	230
	l3	[mm]	940	940	940	940
	b1	[mm]	480	480	480	480
	b2	[mm]	610	610	610	610
	b3	[mm]	560	560	560	560
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	100	100
	h3	[mm]	350	350	350	350
	$h4^{1)}$	[mm]	517/-	517/-	547/-	547/-
	Base frame no.		7	7	7	7
NBG data	Design		A	A	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	381	381	411	411
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	250	250	250	250
	G1	[mm]	208	208	208	208
	G2	[mm]	264	264	264	264
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	-	-	160	160
	$LB^{1)}$	[mm]	373/-	411/-	478/-	518/-
	$AD^{1)}$	[mm]	167/-	167/-	197/-	197/-
	$AG^{1)}$	[mm]	140/-	140/-	165/-	165/-
	$LL^{1)}$	[mm]	140/-	140/-	165/-	165/-
	P	[mm]	300	300	350	350
	C	[mm]	-	-	108	108
	B	[mm]	-	-	210	254
	A	[mm]	-	-	254	254
	K	[mm]	-	-	15	15
	Weight $NBG^{1)}$	[kg]	181/-	199/-	237/-	244/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

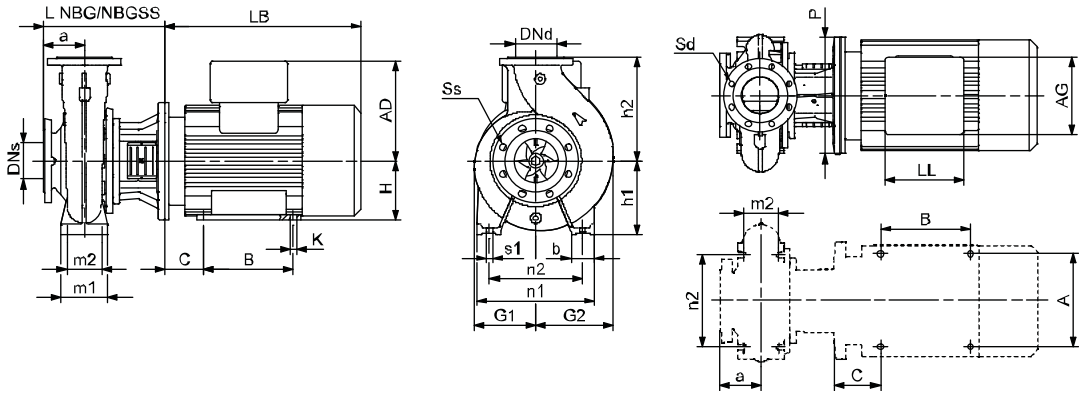
Note: For information about base frames, see page 236.

Performance curves



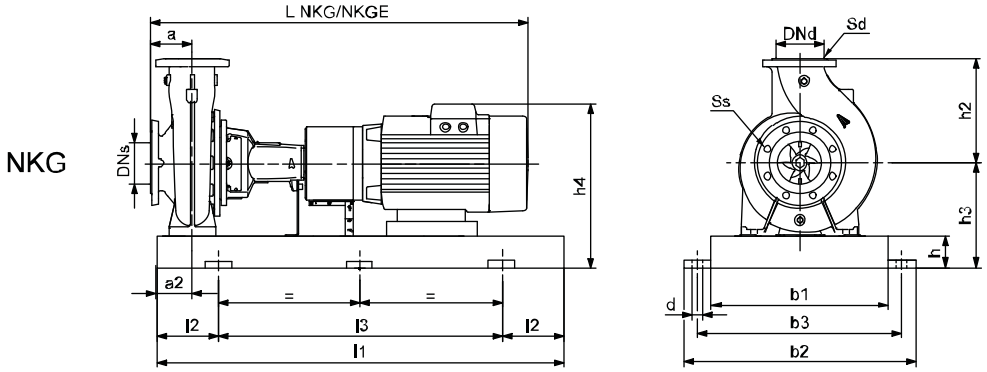
TM03 1984 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

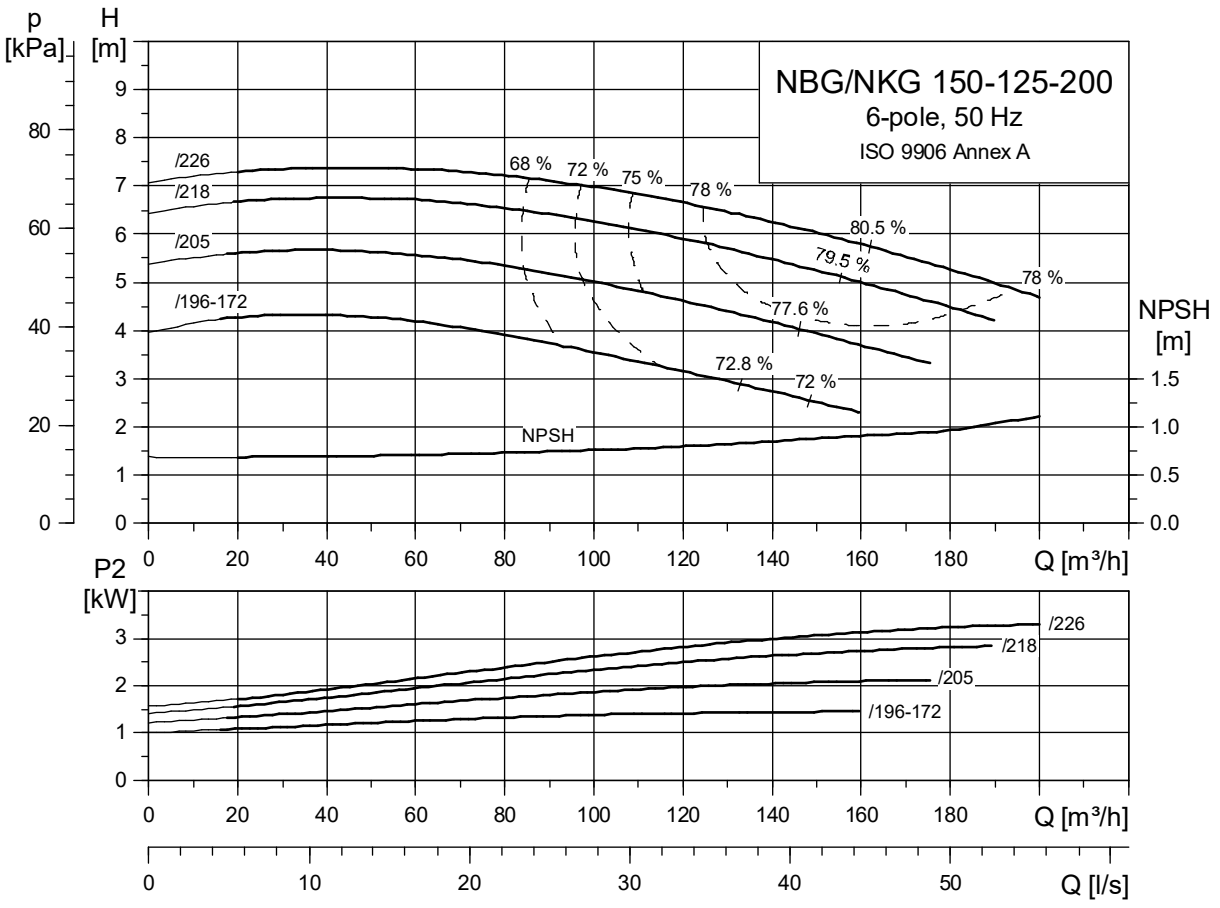
Pump type			125-100-400/360	125-100-400/406	125-100-400/437	125-100-400/438
Motor type	Premium Motor		Siemens 160M	Siemens 160L	Siemens 180L	Siemens 200LA
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	7.5	11	15	18.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	125	125	125	125
	DNd	[mm]	100	100	100	100
	a	[mm]	140	140	140	140
	h2	[mm]	355	355	355	355
	Ss		8x19	8x19	8x19	8x19
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1262/1398	1302/1438	1386/1522	1443/1579
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	520/515	527/522	571/563	614/609
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	1800
	l2	[mm]	300	300	300	300
	l3	[mm]	1200	1200	1200	1200
	b1	[mm]	600	600	600	600
	b2	[mm]	730	730	730	730
	b3	[mm]	670	670	670	670
	d	[mm]	28	28	28	28
	a2	[mm]	110	110	110	110
	h	[mm]	100	100	100	100
	h3	[mm]	380	380	383	380
	$h4^{1)}$	[mm]	577/-	577/-	641/-	685/-
	Base frame no.		9	9	9	9
NBG data	Design		C[2)]	C[2)]	C[2)]	C[2)]
	L NBG	[mm]	411	411	411	411
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	280	280	280	280
	G1	[mm]	272	272	272	272
	G2	[mm]	298	298	298	298
	m1	[mm]	200	200	200	200
	m2	[mm]	150	150	150	150
	n1	[mm]	500	500	500	500
	n2	[mm]	400	400	400	400
	b	[mm]	100	100	100	100
	s1	[mm]	M20	M20	M20	M20
	H	[mm]	160	160	180	200
	$LB^{1)}$	[mm]	478/-	518/-	602/-	659/-
	$AD^{1)}$	[mm]	197/-	197/-	258/-	305/-
	$AG^{1)}$	[mm]	165/-	165/-	152/-	260/-
	$LL^{1)}$	[mm]	165/-	165/-	132/-	192/-
	P	[mm]	350	350	350	400
	C	[mm]	108	108	121	133
	B	[mm]	210	254	279	305
	A	[mm]	254	254	279	318
	K	[mm]	15	15	15	19
	Weight $NBG^{1)}$	[kg]	311/-	318/-	356/-	405/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

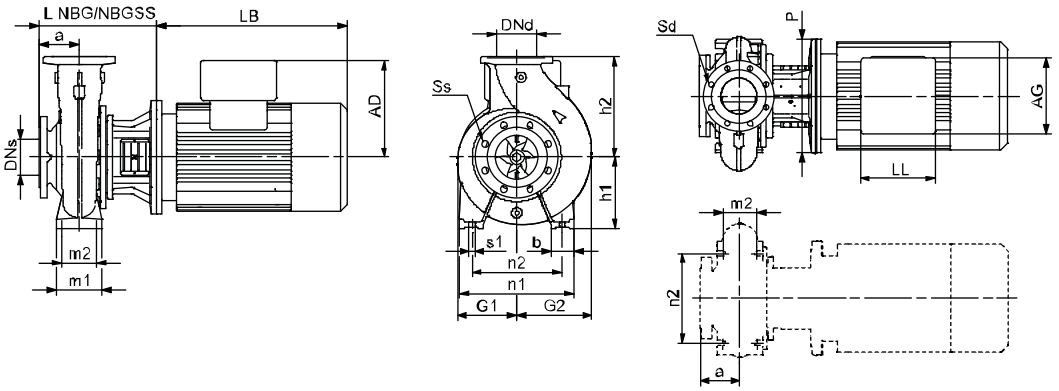
Note: For information about base frames, see page 236.

Performance curves



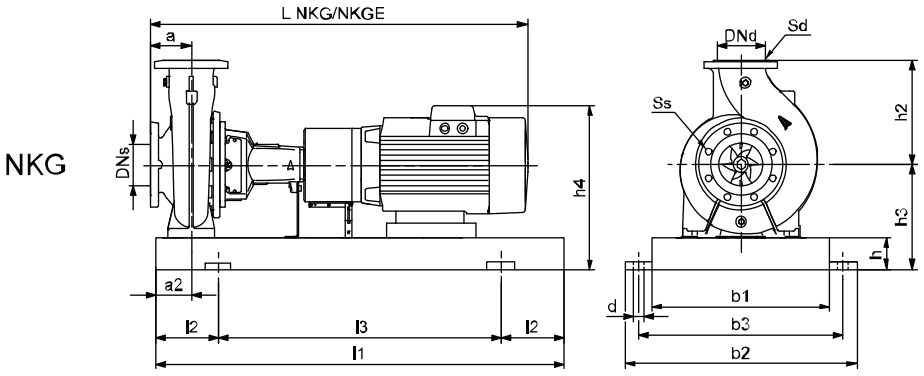
TM03 1985 1106

NBG



TM03 8008 0107

NKG



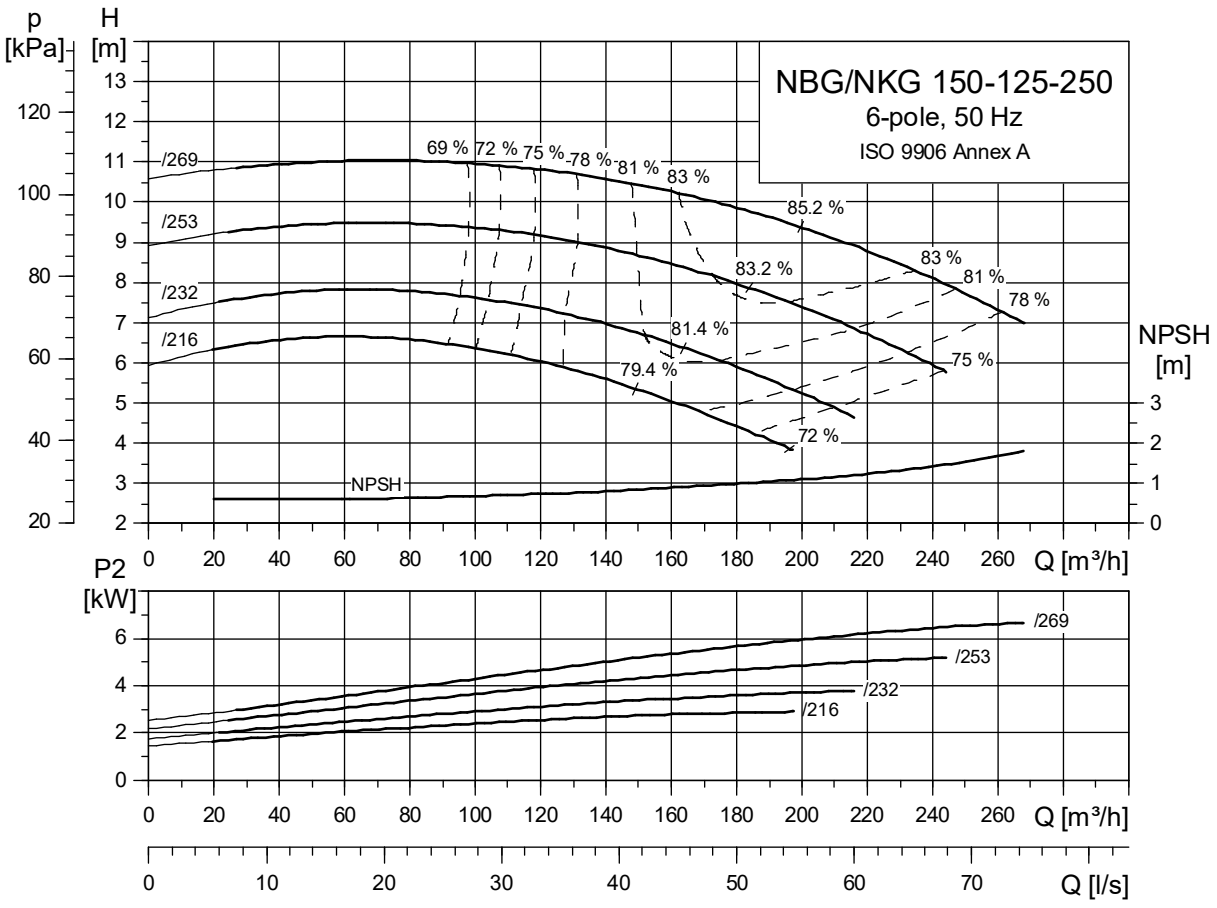
TM03 8011 0107

Pump type			150-125-200/196-172	150-125-200/205	150-125-200/218	150-125-200/226
Motor type	Premium Motor		Siemens 100L	Siemens 112M	Siemens 132SA	Siemens 132MA
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	1.5	2.2	3	4
	PN	[bar]	16	16	16	16
	DNs	[mm]	150	150	150	150
	DNd	[mm]	125	125	125	125
	a	[mm]	140	140	140	140
	h2	[mm]	315	315	315	315
	Ss		8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1051/1187	1075/1211	1097/1233	1097/1233
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	284/282	302/300	308/305	308/305
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1400	1400	1400
	l2	[mm]	230	230	230	230
	l3	[mm]	940	940	940	940
	b1	[mm]	480	480	480	480
	b2	[mm]	610	610	610	610
	b3	[mm]	560	560	560	560
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	100	100
	h3	[mm]	350	350	350	350
	$h4^{1)}$	[mm]	485/-	498/-	517/-	517/-
	Base frame no.		7	7	7	7
NBG data	Design		A	A	A	A
	L NBG	[mm]	363	363	383	383
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	250	250	250	250
	G1	[mm]	183	183	183	183
	G2	[mm]	234	234	234	234
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	-	-	-	-
	$LB^{1)}$	[mm]	347/-	371/-	373/-	373/-
	$AD^{1)}$	[mm]	135/-	148/-	167/-	167/-
	$AG^{1)}$	[mm]	120/-	120/-	140/-	140/-
	$LL^{1)}$	[mm]	120/-	120/-	140/-	140/-
	P	[mm]	250	250	300	300
	C	[mm]	-	-	-	-
	B	[mm]	-	-	-	-
	A	[mm]	-	-	-	-
	K	[mm]	-	-	-	-
	Weight $NBG^{1)}$	[kg]	135/-	147/-	165/-	165/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

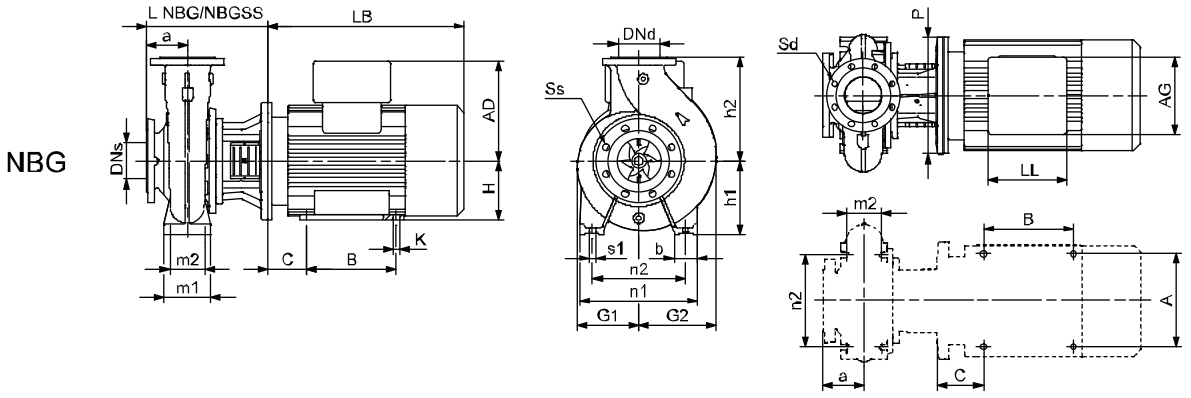
1) Dimension of pump with premium range motor/built-in frequency converter.

Note: For information about base frames, see page 236.

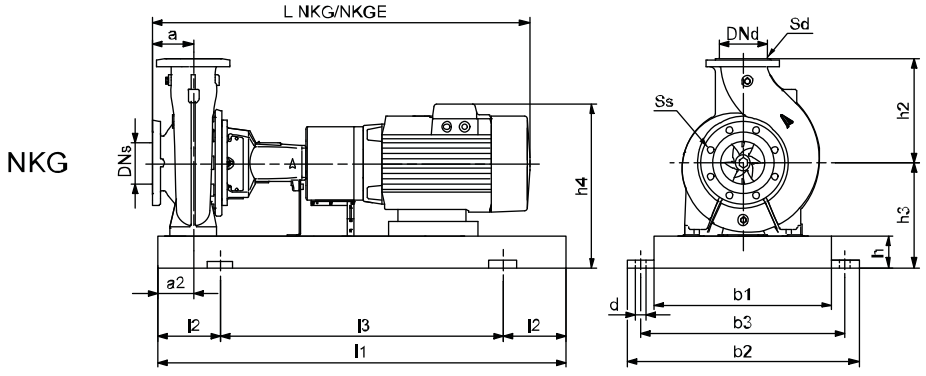
Performance curves



TM03 4986 4106



TM03 8010 0107



TM03 8011 0107

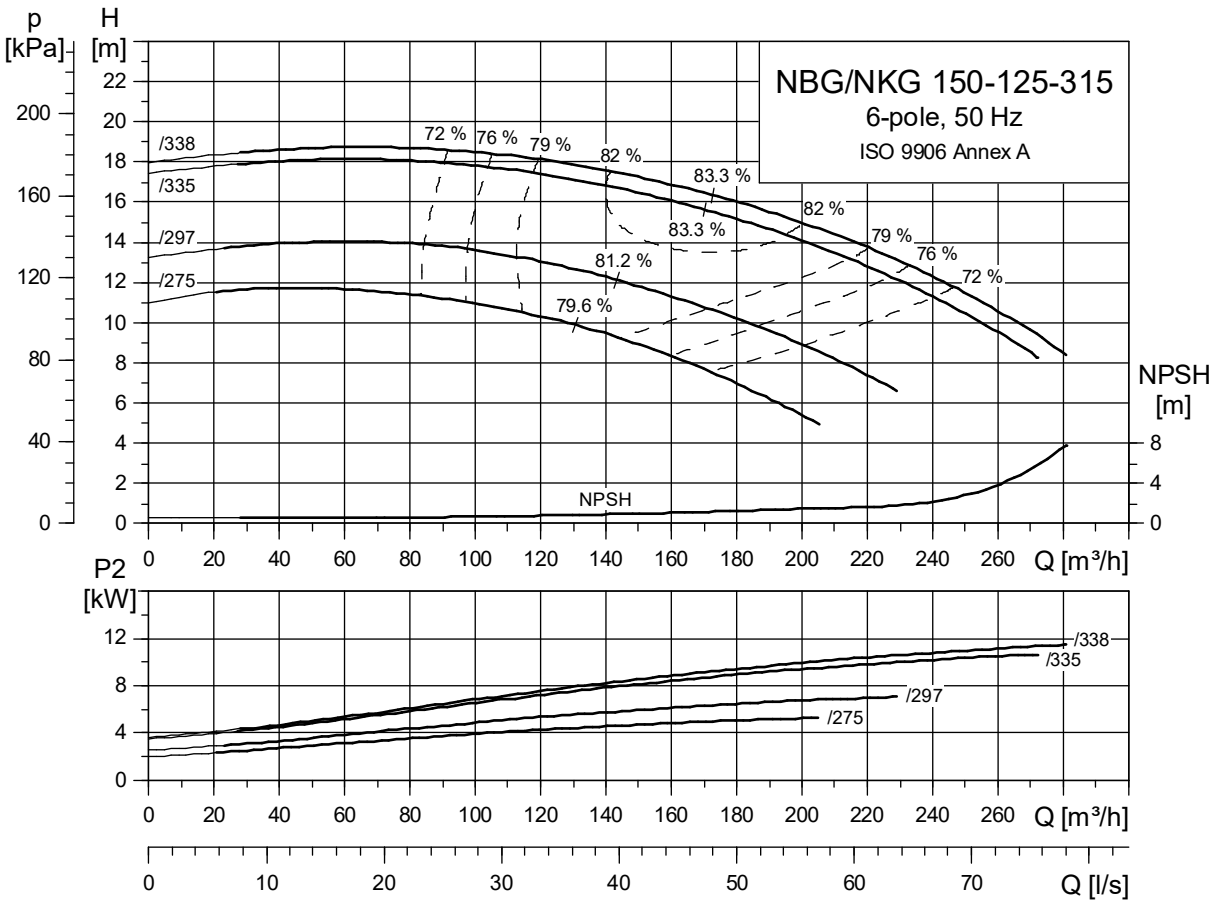
Pump type			150-125-250/216	150-125-250/232	150-125-250/253	150-125-250/269
Motor type	Premium Motor		Siemens 132SA	Siemens 132MA	Siemens 132MB	Siemens 160M
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	3	4	5.5	7.5
	PN	[bar]	16	16	16	16
	DNs	[mm]	150	150	150	150
	DNd	[mm]	125	125	125	125
	a	[mm]	140	140	140	140
	h2	[mm]	355	355	355	355
	Ss		8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1127/1263	1127/1263	1165/1301	1262/1398
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	326/323	326/323	344/341	379/374
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1400	1400	1400	1400
	l2	[mm]	230	230	230	230
	l3	[mm]	940	940	940	940
	b1	[mm]	480	480	480	480
	b2	[mm]	610	610	610	610
	b3	[mm]	560	560	560	560
	d	[mm]	28	28	28	28
	a2	[mm]	90	90	90	90
	h	[mm]	100	100	100	100
	h3	[mm]	350	350	350	350
	h4 [1)]	[mm]	517/-	517/-	517/-	547/-
	Base frame no.		7	7	7	7
NBG data	Design		A	A	A	C [2)]
	L NBG	[mm]	381	381	381	411
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	250	250	250	250
	G1	[mm]	208	208	208	208
	G2	[mm]	264	264	264	264
	m1	[mm]	160	160	160	160
	m2	[mm]	120	120	120	120
	n1	[mm]	400	400	400	400
	n2	[mm]	315	315	315	315
	b	[mm]	80	80	80	80
	s1	[mm]	M16	M16	M16	M16
	H	[mm]	-	-	-	160
	LB [1)]	[mm]	373/-	373/-	411/-	478/-
	AD [1)]	[mm]	167/-	167/-	167/-	197/-
	AG [1)]	[mm]	140/-	140/-	140/-	165/-
	LL [1)]	[mm]	140/-	140/-	140/-	165/-
	P	[mm]	300	300	300	350
	C	[mm]	-	-	-	108
	B	[mm]	-	-	-	210
	A	[mm]	-	-	-	254
	K	[mm]	-	-	-	15
	Weight NBG [1)]	[kg]	176/-	176/-	194/-	232/-
	Weight NBG SS [1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

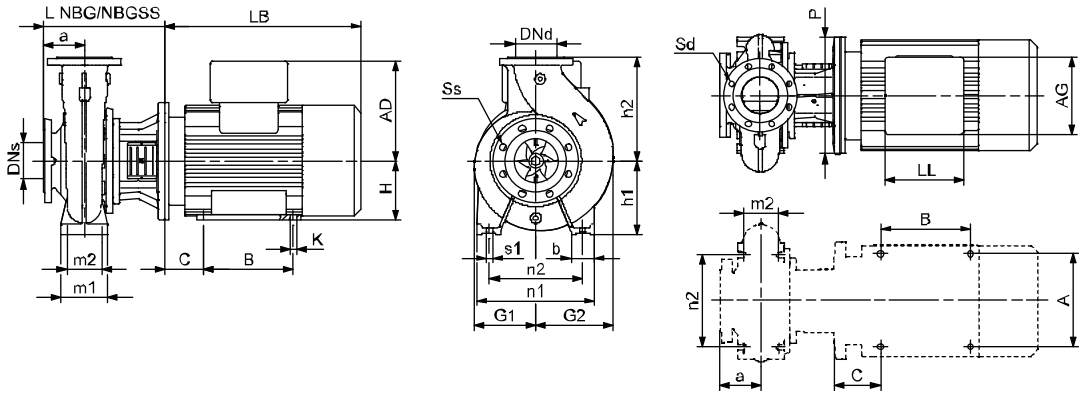
Note: For information about base frames, see page 236.

Performance curves



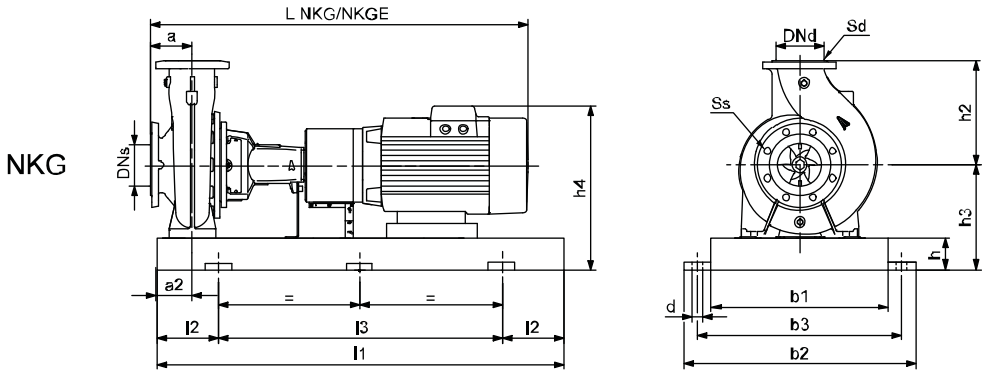
TM03 1987 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

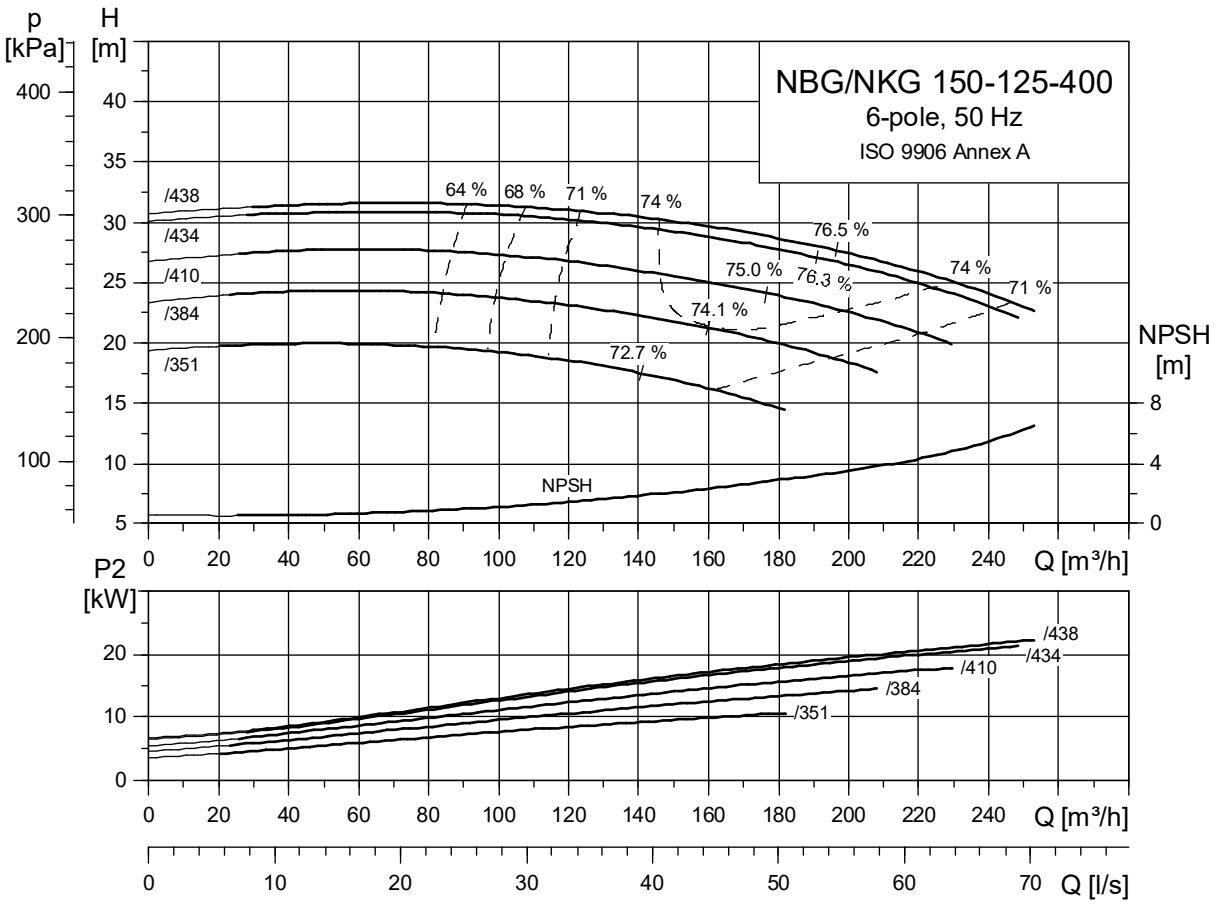
Pump type			150-125-315/275	150-125-315/297	150-125-315/335	150-125-315/338
Motor type	Premium Motor		Siemens 132MB	Siemens 160M	Siemens 160L	Siemens 180L
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	5.5	7.5	11	15
	PN	[bar]	16	16	16	16
	DNs	[mm]	150	150	150	150
	DNd	[mm]	125	125	125	125
	a	[mm]	140	140	140	140
	h2	[mm]	355	355	355	355
	Ss		8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1165/1301	1262/1398	1302/1438	1386/1522
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	454/451	479/474	486/481	531/523
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	1800
	l2	[mm]	300	300	300	300
	l3	[mm]	1200	1200	1200	1200
	b1	[mm]	600	600	600	600
	b2	[mm]	730	730	730	730
	b3	[mm]	670	670	670	670
	d	[mm]	28	28	28	28
	a2	[mm]	110	110	110	110
	h	[mm]	100	100	100	100
	h3	[mm]	385	380	380	383
	h4[1)]	[mm]	552/-	577/-	577/-	641/-
	Base frame no.		9	9	9	9
NBG data	Design		A	C[2)]	C[2)]	C[2)]
	L NBG	[mm]	381	411	411	411
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	280	280	280	280
	G1	[mm]	231	231	231	231
	G2	[mm]	268	268	268	268
	m1	[mm]	200	200	200	200
	m2	[mm]	150	150	150	150
	n1	[mm]	500	500	500	500
	n2	[mm]	400	400	400	400
	b	[mm]	100	100	100	100
	s1	[mm]	M20	M20	M20	M20
	H	[mm]	-	160	160	180
	LB[1)]	[mm]	411/-	478/-	518/-	602/-
	AD[1)]	[mm]	167/-	197/-	197/-	258/-
	AG[1)]	[mm]	140/-	165/-	165/-	152/-
	LL[1)]	[mm]	140/-	165/-	165/-	132/-
	P	[mm]	300	350	350	350
	C	[mm]	-	108	108	121
	B	[mm]	-	210	254	279
	A	[mm]	-	254	254	279
	K	[mm]	-	15	15	15
	Weight NBG[1)]	[kg]	233/-	271/-	278/-	316/-
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

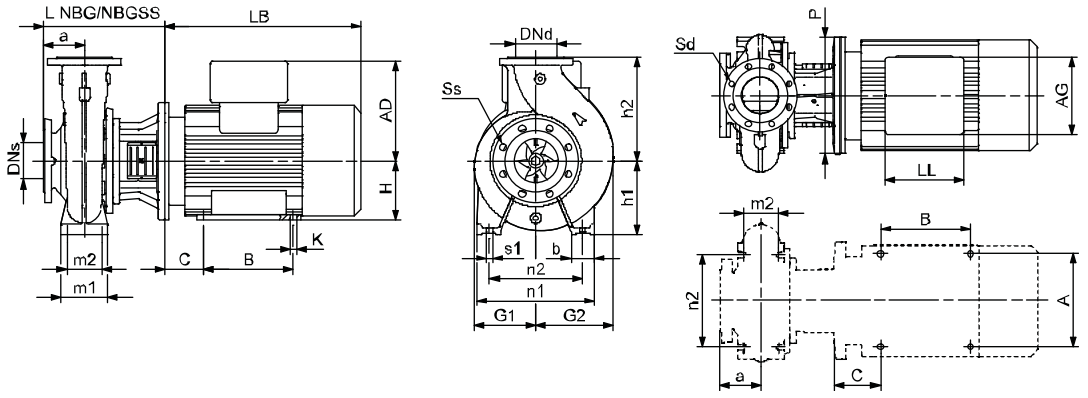
Note: For information about base frames, see page 236.

Performance curves



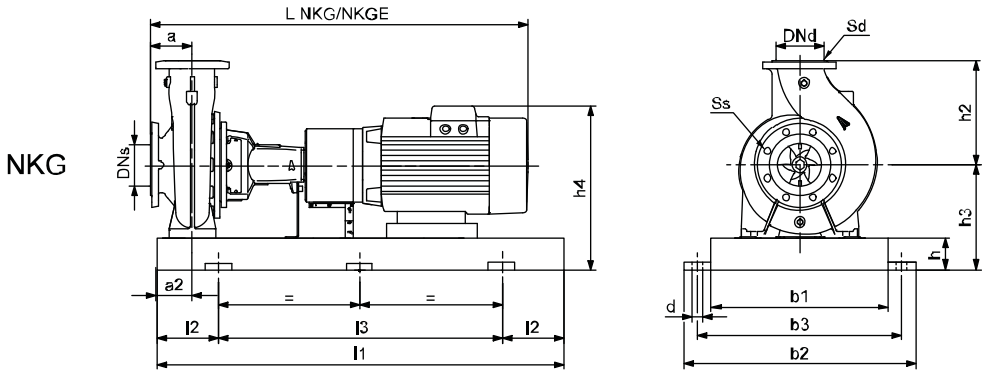
TM03 1988 1106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

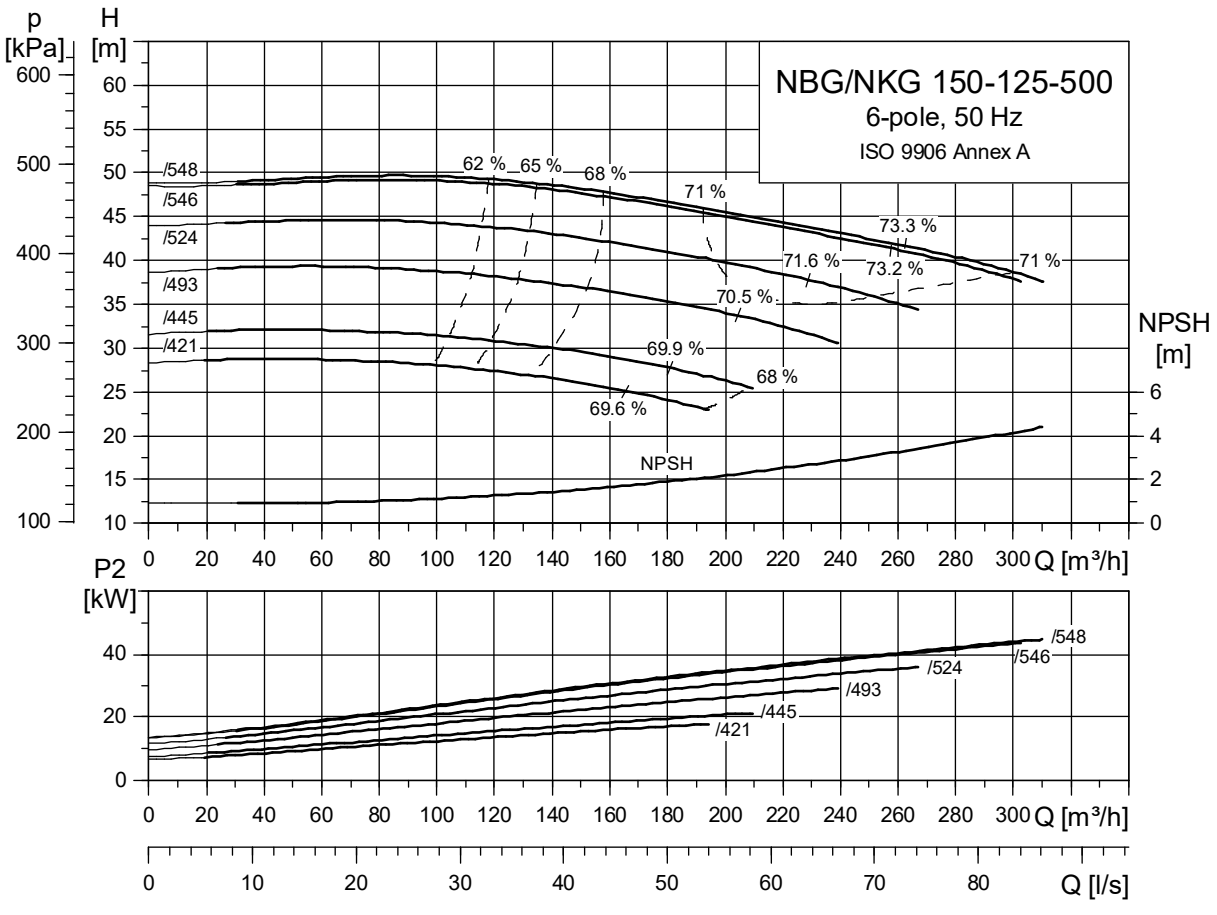
Pump type			150-125-400/351	150-125-400/384	150-125-400/410	150-125-400/434	150-125-400/438
Motor type	Premium Motor		Siemens 160L	Siemens 180L	Siemens 200LA	Siemens 200LB	Siemens 225M
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	11	15	18.5	22	30
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	150	150	150	150	150
	DNd	[mm]	125	125	125	125	125
	a	[mm]	140	140	140	140	140
	h2	[mm]	400	400	400	400	400
	Ss		8x23	8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1302/1438	1386/1522	1443/1579	1443/1579	1523/1659
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	553/548	593/585	631/626	662/657	766/761
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	1800	1800
	l2	[mm]	300	300	300	300	300
	l3	[mm]	1200	1200	1200	1200	1200
	b1	[mm]	600	600	600	600	600
	b2	[mm]	730	730	730	730	730
	b3	[mm]	670	670	670	670	670
	d	[mm]	28	28	28	28	28
	a2	[mm]	110	110	110	110	110
	h	[mm]	100	100	100	100	100
	h3	[mm]	415	415	415	415	415
	h4[1)]	[mm]	612/-	673/-	720/-	720/-	740/-
	Base frame no.		9	9	9	9	9
NBG data	Design		C[2)]	C[2)]	C[2)]	C[2)]	C[2)]
	L NBG	[mm]	411	411	411	411	441
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	315	315	315	315	315
	G1	[mm]	284	284	284	284	284
	G2	[mm]	320	320	320	320	320
	m1	[mm]	200	200	200	200	200
	m2	[mm]	150	150	150	150	150
	n1	[mm]	500	500	500	500	500
	n2	[mm]	400	400	400	400	400
	b	[mm]	100	100	100	100	100
	s1	[mm]	M20	M20	M20	M20	M20
	H	[mm]	160	180	200	200	225
	LB[1)]	[mm]	518/-	602/-	659/-	659/-	709/-
	AD[1)]	[mm]	197/-	258/-	305/-	305/-	325/-
	AG[1)]	[mm]	165/-	152/-	260/-	260/-	260/-
	LL[1)]	[mm]	165/-	132/-	192/-	192/-	192/-
	P	[mm]	350	350	400	400	450
	C	[mm]	108	121	133	133	149
	B	[mm]	254	279	305	305	286
	A	[mm]	254	279	318	318	356
	K	[mm]	15	15	19	19	19
	Weight NBG[1)]	[kg]	330/-	368/-	416/-	447/-	566/-
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

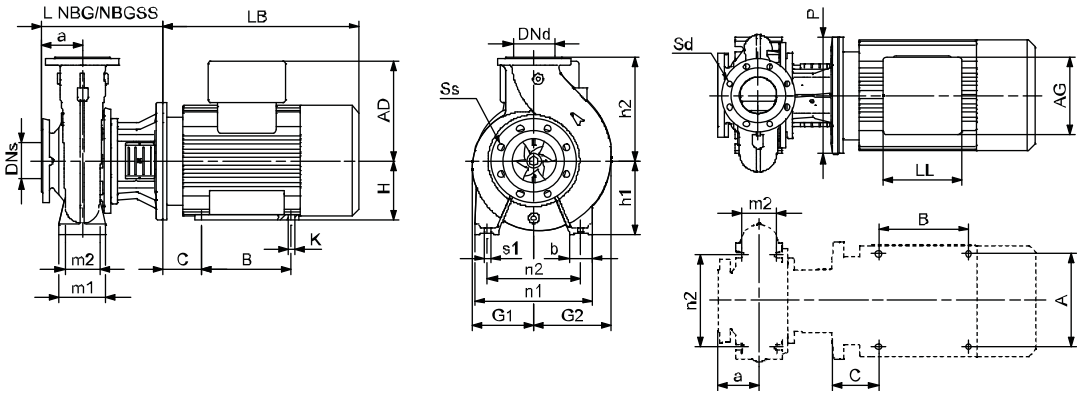
Note: For information about base frames, see page 236.

Performance curves



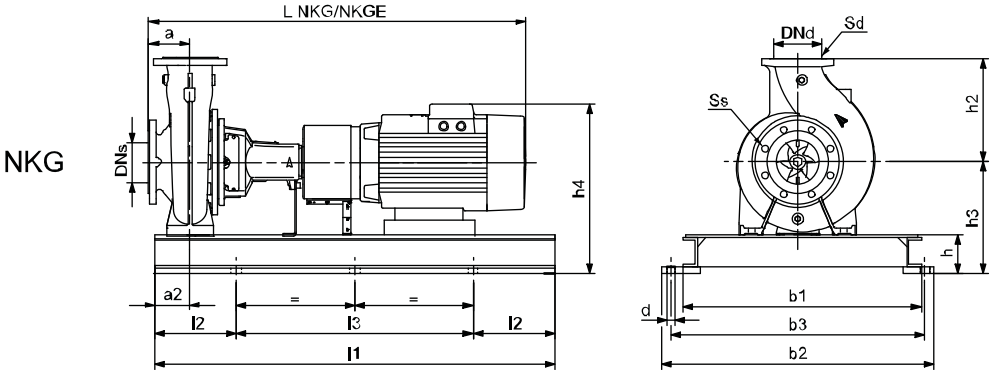
TM03 1989 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

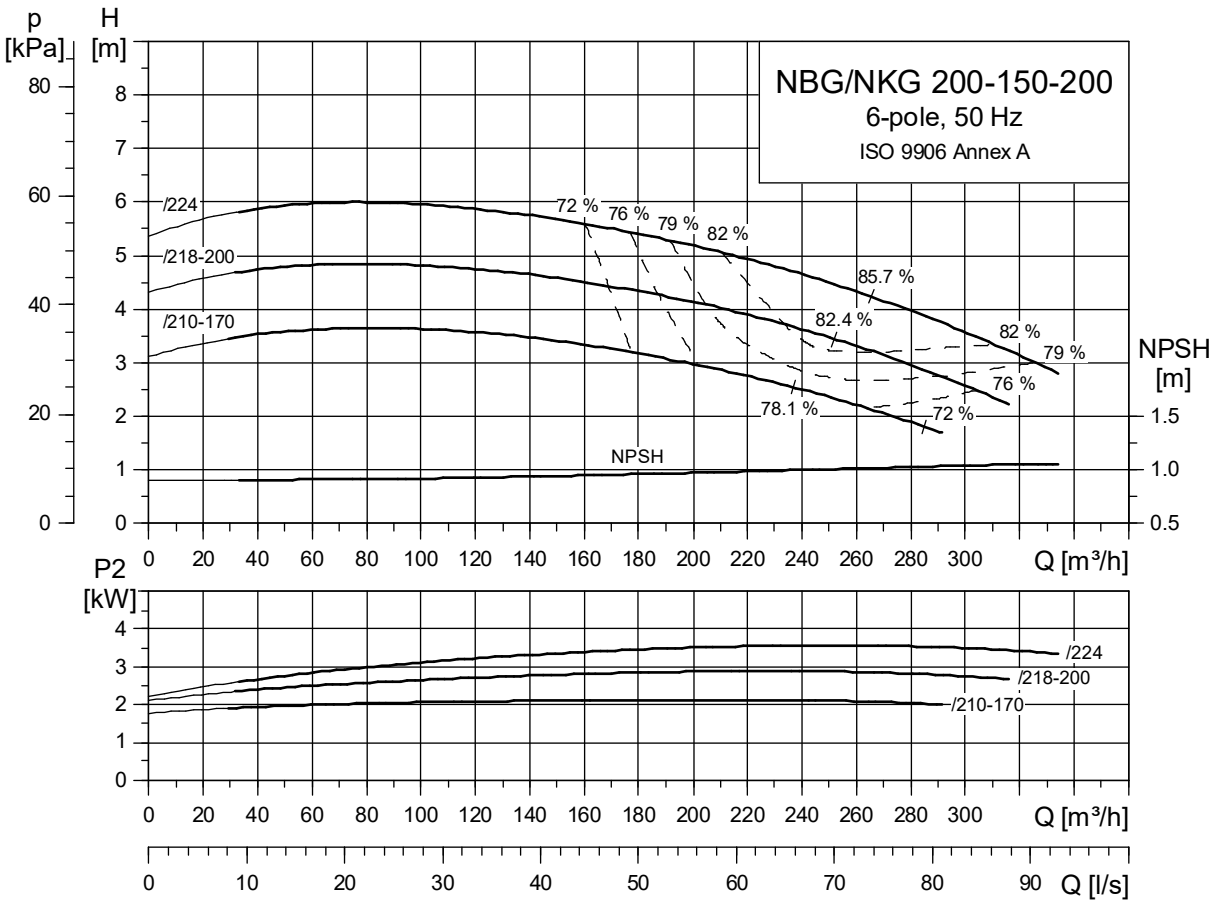
Pump type			150-125-500/421	150-125-500/445	150-125-500/493	150-125-500/524	150-125-500/546	150-125-500/548
Motor type	Premium Motor		Siemens 200LA	Siemens 200LB	Siemens 225M	Siemens 250M	Siemens 280S	Siemens 280M
	E-Motor		-	-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	18.5	22	30	37	45	55
	PN	[bar]	16	16	16	16	16	16
	DNs	[mm]	150	150	150	150	150	150
	DNd	[mm]	125	125	125	125	125	125
	a	[mm]	180	180	180	180	180	180
	h2	[mm]	500	500	500	500	500	500
	Ss		8x23	8x23	8x23	8x23	8x23	8x23
	Sd		8x19	8x19	8x19	8x19	8x19	8x19
Common data NKG standard/ spacer coupling	L NKG	[mm]	1623/1799	1623/1799	1703/1879	1741/1917	1814/1990	1924/2100
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	1094/1093	1125/1124	1226/1223	1312/1309	1423/1419	1477/1473
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	2000	2000	2000	2000	2000	2000
	l2	[mm]	330	330	330	330	330	330
	l3	[mm]	1340	1340	1340	1340	1340	1340
	b1	[mm]	750	750	750	750	750	750
	b2	[mm]	890	890	890	890	890	890
	b3	[mm]	830	830	830	830	830	830
	d	[mm]	28	28	28	28	28	28
	a2	[mm]	110	110	110	110	110	110
	h	[mm]	130	130	130	130	130	130
	h3	[mm]	530	530	530	530	530	530
	h4[1)]	[mm]	835/-	835/-	855/-	922/-	962/-	962/-
	Base frame no.		10	10	10	10	10	10
NBG data	Design		C[2)]	C[2)]	C[2)]	C[2)]	C[2)]	C[2)]
	L NBG	[mm]	494	494	524	524	524	524
	L NBG SS	[mm]	-	-	-	-	-	-
	h1	[mm]	400	400	400	400	400	400
	G1	[mm]	344	344	344	344	344	344
	G2	[mm]	377	377	377	377	377	377
	m1	[mm]	200	200	200	200	200	200
	m2	[mm]	150	150	150	150	150	150
	n1	[mm]	625	625	625	625	625	625
	n2	[mm]	500	500	500	500	500	500
	b	[mm]	125	125	125	125	125	125
	s1	[mm]	M20	M20	M20	M20	M20	M20
	H	[mm]	200	200	225	250	280	280
	LB[1)]	[mm]	659/-	659/-	709/-	747/-	820/-	930/-
	AD[1)]	[mm]	305/-	305/-	325/-	392/-	432/-	432/-
	AG[1)]	[mm]	260/-	260/-	260/-	300/-	300/-	300/-
	LL[1)]	[mm]	192/-	192/-	192/-	236/-	236/-	236/-
	P	[mm]	400	400	450	550	550	550
	C	[mm]	133	133	149	168	190	190
	B	[mm]	305	305	286	349	368	419
	A	[mm]	318	318	356	406	457	457
	K	[mm]	19	19	19	24	24	24
	Weight NBG[1)]	[kg]	623/-	654/-	774/-	872/-	987/-	1037/-
	Weight NBG SS[1)]	[kg]	-/-	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

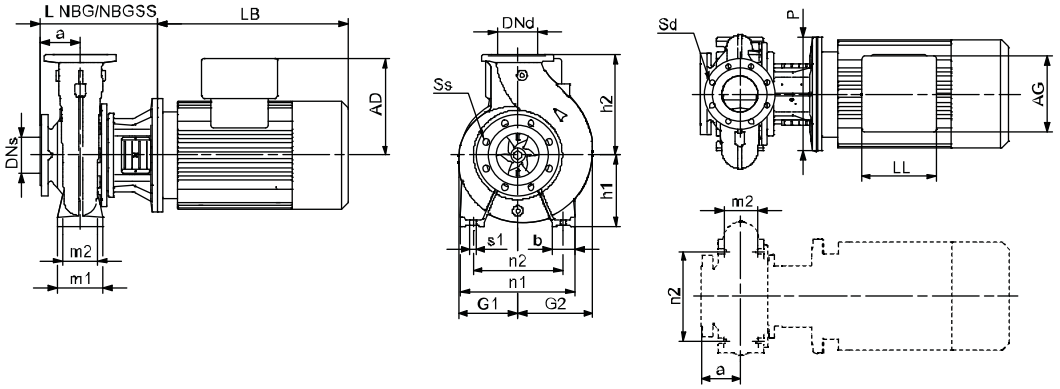
Note: For information about base frames, see page 236.

Performance curves



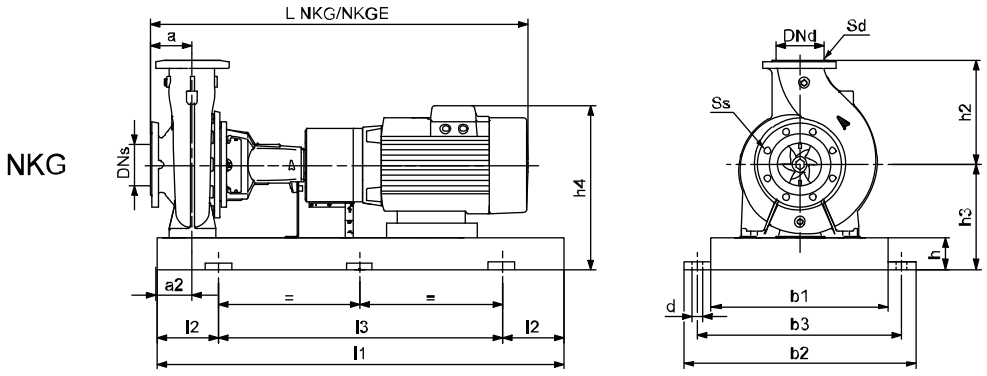
TM03 4990 4106

NBG



TM03 8008 0107

NKG



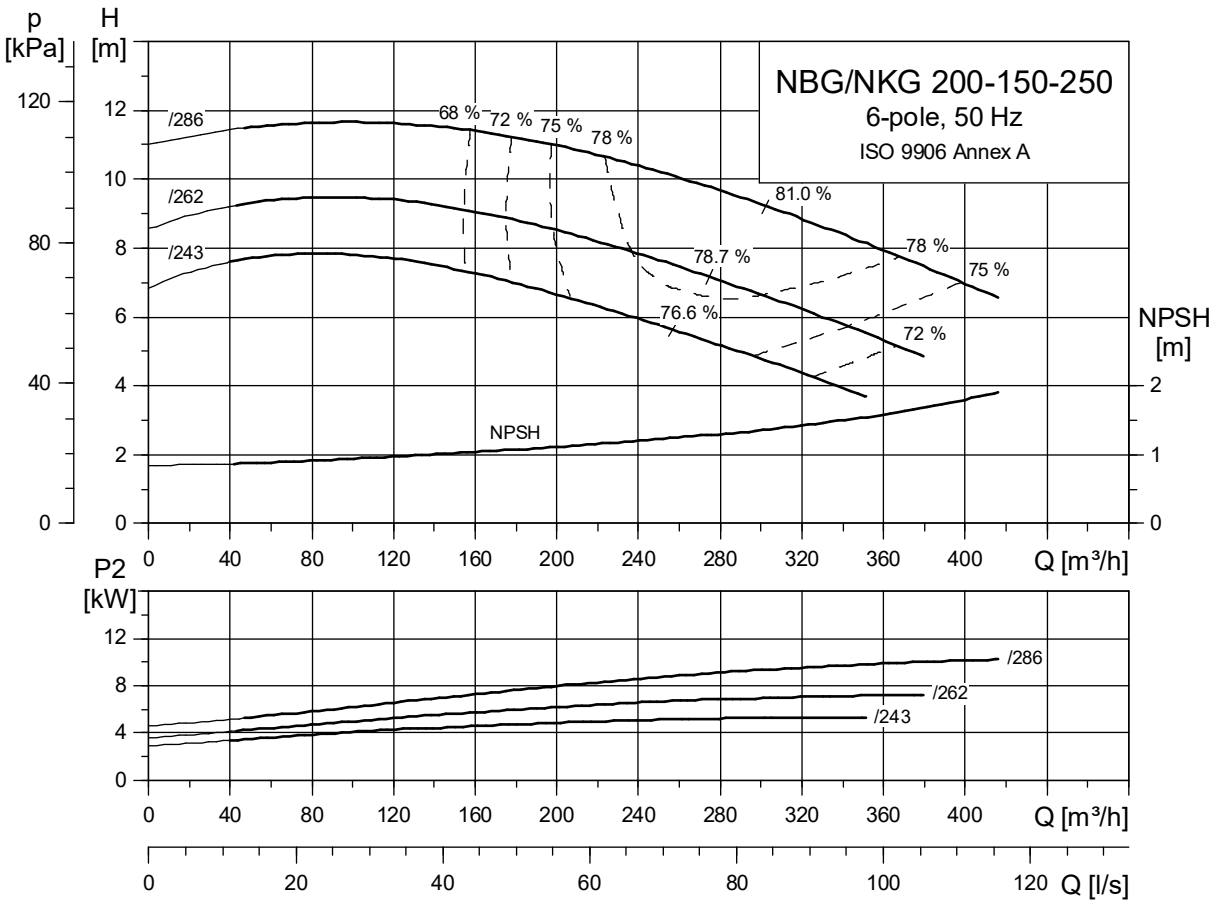
TM03 8012 0107

Pump type			200-150-200/210-170	200-150-200/218-200	200-150-200/224
Motor type	Premium Motor		Siemens 112M	Siemens 132SA	Siemens 132MA
	E-Motor		-	-	-
Common data NBG/NKG	P_2	[kW]	2,2	3	4
	PN	[bar]	16	16	16
	DNs	[mm]	200	200	200
	DNd	[mm]	150	150	150
	a	[mm]	160	160	160
	h2	[mm]	400	400	400
	Ss		12x23	12x23	12x23
	Sd		8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1095/1271	1117/1293	1117/1293
	L NKGE	[mm]	-/-	-/-	-/-
	Weight NKG	[mm]	408/406	423/420	422/419
	Weight NKGE	[kg]	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800
	l2	[mm]	300	300	300
	l3	[mm]	1200	1200	1200
	b1	[mm]	600	600	600
	b2	[mm]	730	730	730
	b3	[mm]	670	670	670
	d	[mm]	28	28	28
	a2	[mm]	110	110	110
	h	[mm]	100	100	100
	h3	[mm]	380	385	385
	$h4^{1)}$	[mm]	528/-	552/-	552/-
	Base frame no.		9	9	9
NBG data	Design		A	A	A
	L NBG	[mm]	383	403	403
	L NBG SS	[mm]	-	-	-
	h1	[mm]	280	280	280
	G1	[mm]	230	230	230
	G2	[mm]	319	319	319
	m1	[mm]	200	200	200
	m2	[mm]	150	150	150
	n1	[mm]	550	550	550
	n2	[mm]	450	450	450
	b	[mm]	100	100	100
	s1	[mm]	M20	M20	M20
	H	[mm]	-	-	-
	$LB^{1)}$	[mm]	371/-	373/-	373/-
	$AD^{1)}$	[mm]	148/-	167/-	167/-
	$AG^{1)}$	[mm]	120/-	140/-	140/-
	$LL^{1)}$	[mm]	120/-	140/-	140/-
	P	[mm]	250	300	300
	C	[mm]	-	-	-
	B	[mm]	-	-	-
	A	[mm]	-	-	-
	K	[mm]	-	-	-
	Weight $NBG^{1)}$	[kg]	201/-	219/-	219/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-

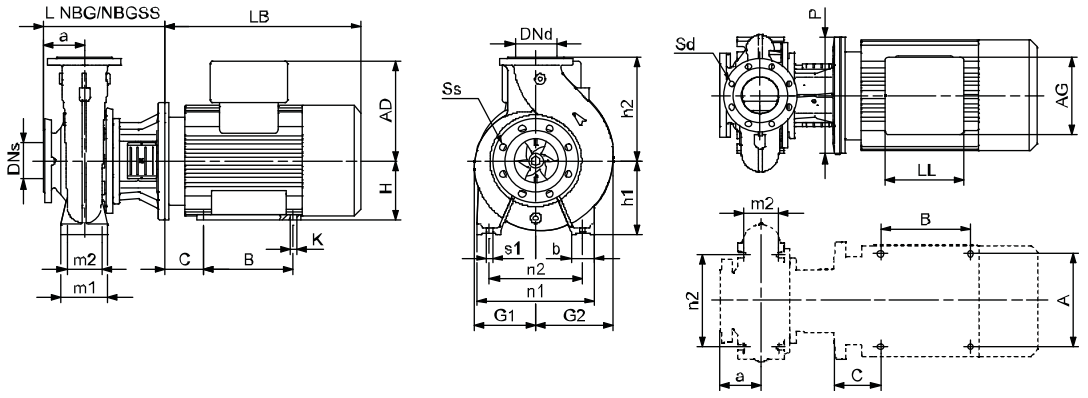
1) Dimension of pump with premium range motor/built-in frequency converter.

Note: For information about base frames, see page 236.

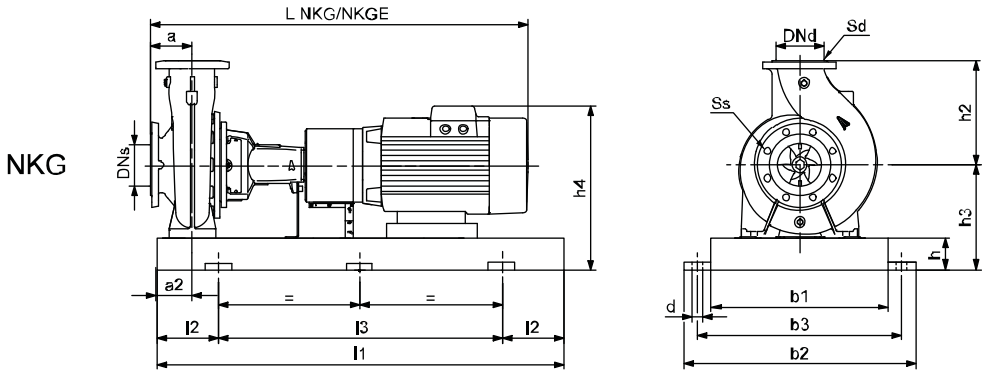
Performance curves



NBG



NKG



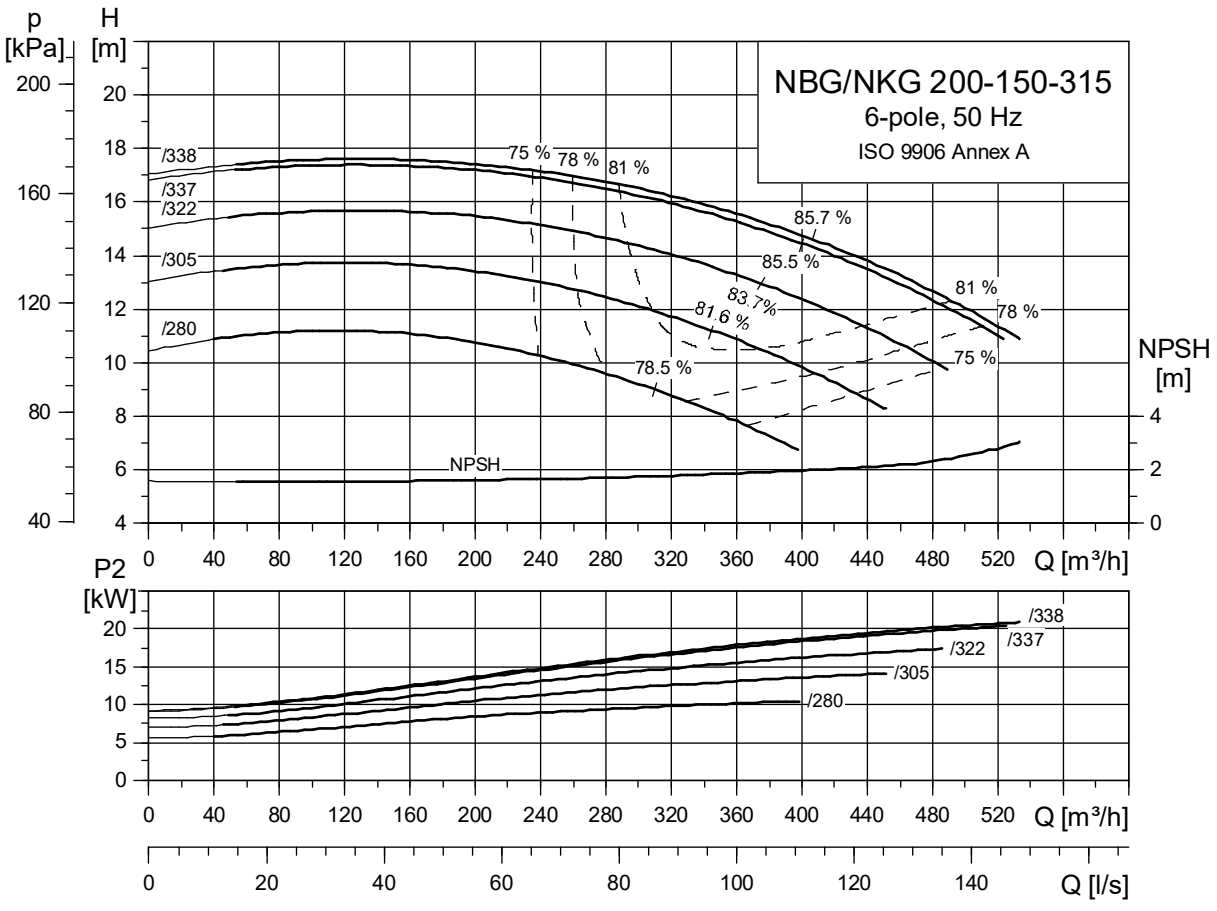
Pump type			200-150-250/243	200-150-250/262	200-150-250/286
Motor type	Premium Motor		Siemens 132MB	Siemens 160M	Siemens 160L
	E-Motor		-	-	-
Common data NBG/NKG	P_2	[kW]	5.5	7.5	11
	PN	[bar]	16	16	16
	DNs	[mm]	200	200	200
	DNd	[mm]	150	150	150
	a	[mm]	160	160	160
	h2	[mm]	375	375	375
	Ss		12x23	12x23	12x23
	Sd		8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1185/1361	1282/1458	1322/1498
	L NKGE	[mm]	-/-	-/-	-/-
	Weight NKG	[mm]	457/454	483/478	490/485
	Weight NKGE	[kg]	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800
	l2	[mm]	300	300	300
	l3	[mm]	1200	1200	1200
	b1	[mm]	600	600	600
	b2	[mm]	730	730	730
	b3	[mm]	670	670	670
	d	[mm]	28	28	28
	a2	[mm]	110	110	110
	h	[mm]	100	100	100
	h3	[mm]	385	380	380
	$h4^{1)}$	[mm]	552/-	577/-	577/-
	Base frame no.		9	9	9
NBG data	Design		A	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	401	431	431
	L NBG SS	[mm]	-	-	-
	h1	[mm]	280	280	280
	G1	[mm]	221	221	221
	G2	[mm]	287	287	287
	m1	[mm]	200	200	200
	m2	[mm]	150	150	150
	n1	[mm]	500	500	500
	n2	[mm]	400	400	400
	b	[mm]	100	100	100
	s1	[mm]	M20	M20	M20
	H	[mm]	-	160	160
	$LB^{1)}$	[mm]	411/-	478/-	518/-
	$AD^{1)}$	[mm]	167/-	197/-	197/-
	$AG^{1)}$	[mm]	140/-	165/-	165/-
	$LL^{1)}$	[mm]	140/-	165/-	165/-
	P	[mm]	300	350	350
	C	[mm]	-	108	108
	B	[mm]	-	210	254
	A	[mm]	-	254	254
	K	[mm]	-	15	15
	Weight $NBG^{1)}$	[kg]	236/-	274/-	281/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

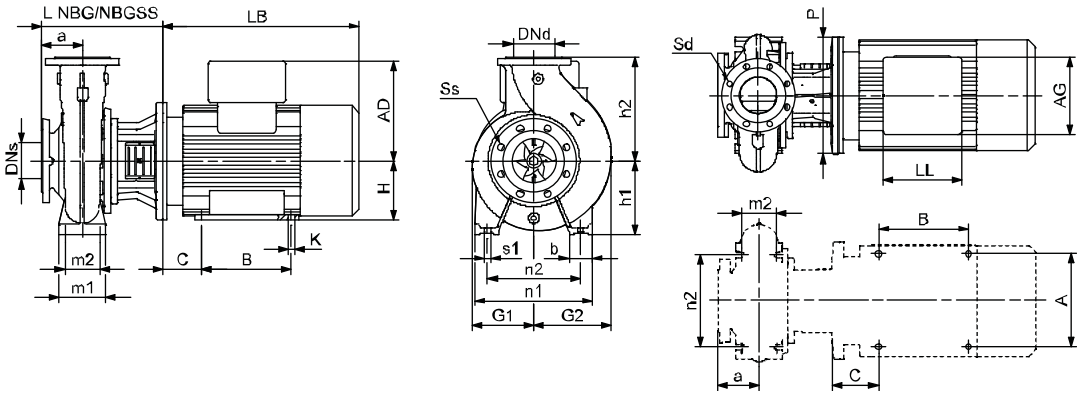
Note: For information about base frames, see page 236.

Performance curves



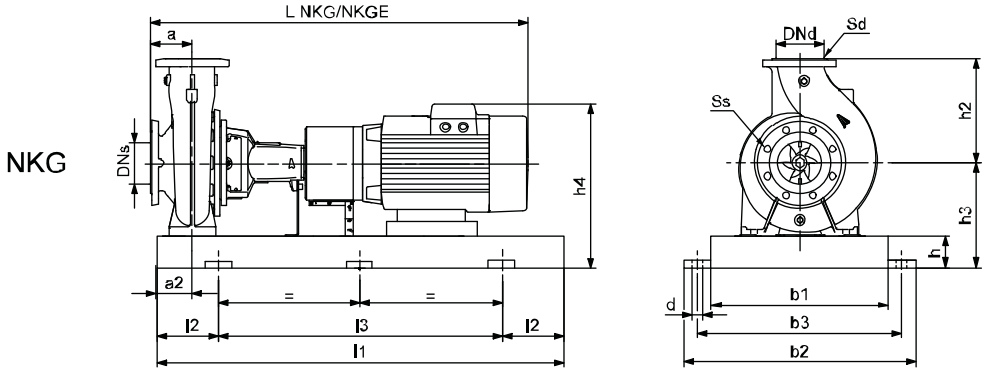
TM03 4992 4106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

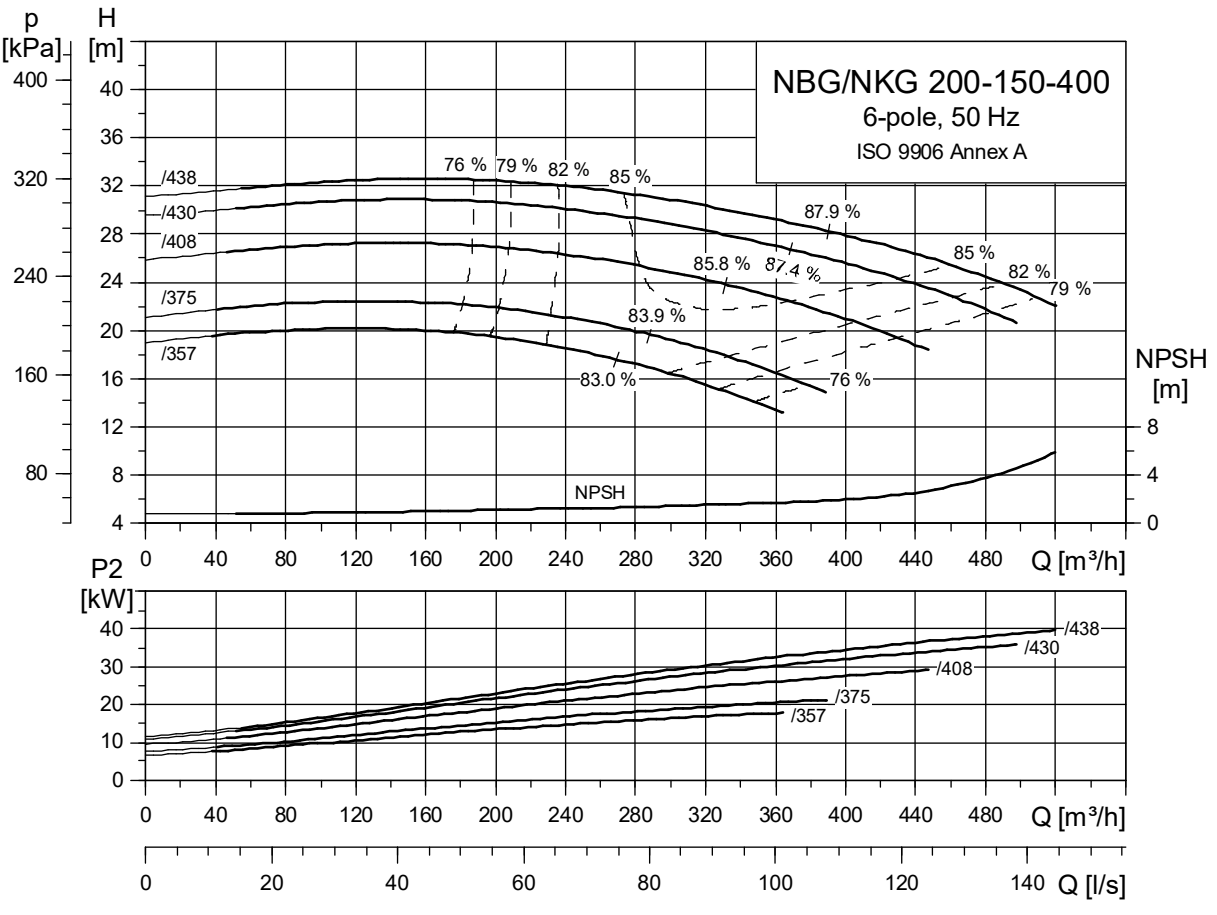
Pump type			200-150-315/280	200-150-315/305	200-150-315/322	200-150-315/337	200-150-315/338
Motor type	Premium Motor		Siemens 160L	Siemens 180L	Siemens 200LA	Siemens 200LB	Siemens 225M
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	11	15	18.5	22	30
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	200	200	200	200	200
	DNd	[mm]	150	150	150	150	150
	a	[mm]	160	160	160	160	160
	h2	[mm]	450	450	450	450	450
	Ss		12x23	12x23	12x23	12x23	12x23
	Sd		8x23	8x23	8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1462/1638	1546/1722	1603/1779	1603/1779	1683/1859
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	634/632	674/667	713/709	744/740	847/844
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	1800	1800
	l2	[mm]	300	300	300	300	300
	l3	[mm]	1200	1200	1200	1200	1200
	b1	[mm]	600	600	600	600	600
	b2	[mm]	730	730	730	730	730
	b3	[mm]	670	670	670	670	670
	d	[mm]	28	28	28	28	28
	a2	[mm]	110	110	110	110	110
	h	[mm]	100	100	100	100	100
	h3	[mm]	415	415	415	415	415
	$h4^{1)}$	[mm]	612/-	673/-	720/-	720/-	740/-
	Base frame no.		9	9	9	9	9
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	444	444	444	444	474
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	315	315	315	315	315
	G1	[mm]	264	264	264	264	264
	G2	[mm]	331	331	331	331	331
	m1	[mm]	200	200	200	200	200
	m2	[mm]	150	150	150	150	150
	n1	[mm]	550	550	550	550	550
	n2	[mm]	450	450	450	450	450
	b	[mm]	100	100	100	100	100
	s1	[mm]	M20	M20	M20	M20	M20
	H	[mm]	160	180	200	200	225
	$LB^{1)}$	[mm]	518/-	602/-	659/-	659/-	709/-
	$AD^{1)}$	[mm]	197/-	258/-	305/-	305/-	325/-
	$AG^{1)}$	[mm]	165/-	152/-	260/-	260/-	260/-
	$LL^{1)}$	[mm]	165/-	132/-	192/-	192/-	192/-
	P	[mm]	350	350	400	400	450
	C	[mm]	108	121	133	133	149
	B	[mm]	254	279	305	305	286
	A	[mm]	254	279	318	318	356
	K	[mm]	15	15	19	19	19
	Weight $NBG^{1)}$	[kg]	348/-	387/-	432/-	463/-	583/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

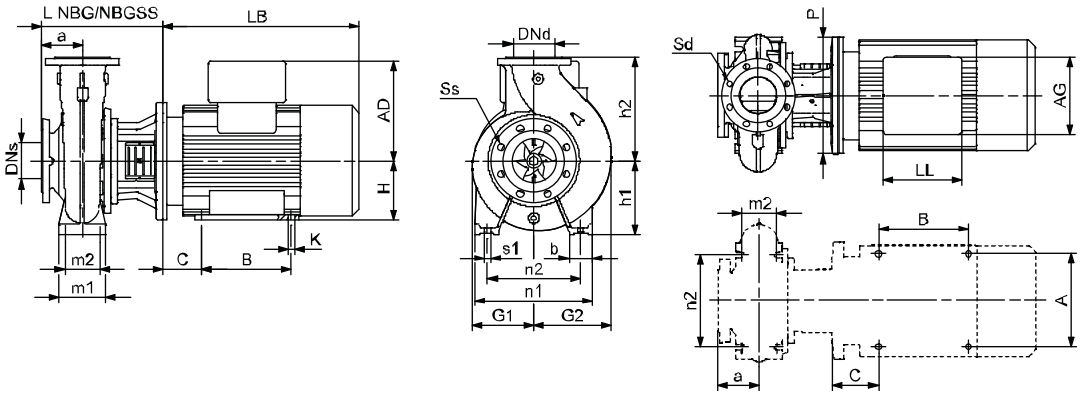
Note: For information about base frames, see page 236.

Performance curves



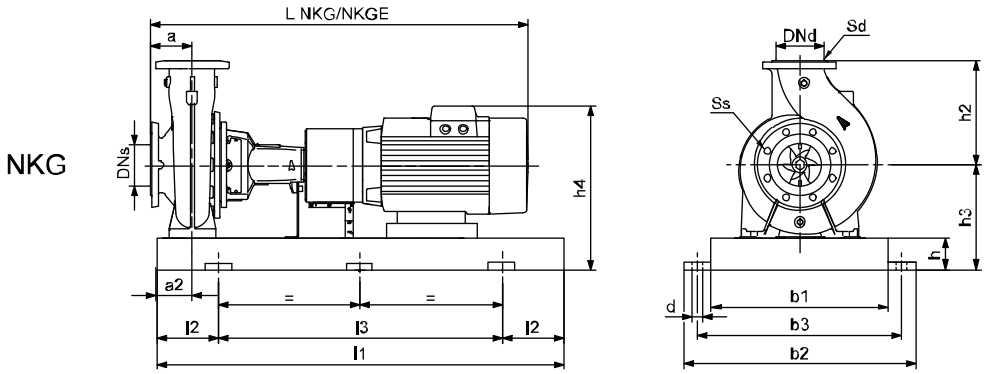
TM03 4993 4106

NBG



TM03 8010 0107

NKG



TM03 8012 0107

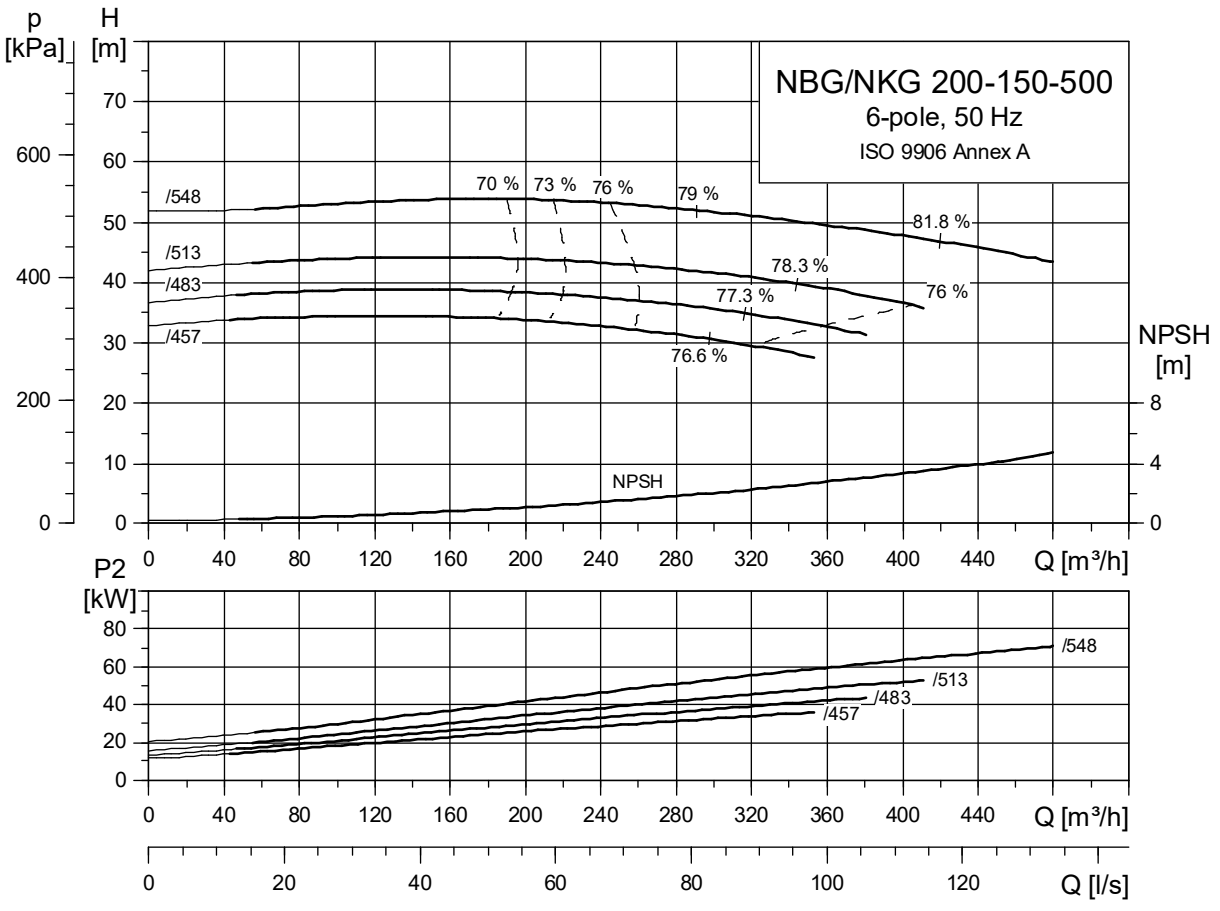
Pump type			200-150-400/357	200-150-400/375	200-150-400/408	200-150-400/430	200-150-400/438
Motor type	Premium Motor		Siemens 200LA	Siemens 200LB	Siemens 225M	Siemens 250M	Siemens 280S
	E-Motor		-	-	-	-	-
Common data NBG/NKG	P_2	[kW]	18.5	22	30	37	45
	PN	[bar]	16	16	16	16	16
	DNs	[mm]	200	200	200	200	200
	DNd	[mm]	150	150	150	150	150
	a	[mm]	160	160	160	160	160
	h2	[mm]	450	450	450	450	450
	Ss		12x23	12x23	12x23	12x23	12x23
	Sd		8x23	8x23	8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1603/1779	1603/1779	1683/1859	1721/1897	1794/1970
	L NKGE	[mm]	-/-	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	752/748	783/779	887/883	981/981	1266/1261
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	1800	1800	1800	1800	2000
	l2	[mm]	300	300	300	300	330
	l3	[mm]	1200	1200	1200	1200	1340
	b1	[mm]	600	600	600	600	750
	b2	[mm]	730	730	730	730	890
	b3	[mm]	670	670	670	670	830
	d	[mm]	28	28	28	28	28
	a2	[mm]	110	110	110	110	110
	h	[mm]	100	100	100	100	130
	h3	[mm]	415	415	415	415	445
	$h4^{1)}$	[mm]	720/-	720/-	740/-	807/-	877/-
	Base frame no.		9	9	9	9	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	444	444	474	474	474
	L NBG SS	[mm]	-	-	-	-	-
	h1	[mm]	315	315	315	315	315
	G1	[mm]	291	291	291	291	291
	G2	[mm]	339	339	339	339	339
	m1	[mm]	200	200	200	200	200
	m2	[mm]	150	150	150	150	150
	n1	[mm]	550	550	550	550	550
	n2	[mm]	450	450	450	450	450
	b	[mm]	100	100	100	100	100
	s1	[mm]	M20	M20	M20	M20	M20
	H	[mm]	200	200	225	250	280
	$LB^{1)}$	[mm]	659/-	659/-	709/-	747/-	820/-
	$AD^{1)}$	[mm]	305/-	305/-	325/-	392/-	432/-
	$AG^{1)}$	[mm]	260/-	260/-	260/-	300/-	300/-
	$LL^{1)}$	[mm]	192/-	192/-	192/-	236/-	236/-
	P	[mm]	400	400	450	550	550
	C	[mm]	133	133	149	168	190
	B	[mm]	305	305	286	349	368
	A	[mm]	318	318	356	406	457
	K	[mm]	19	19	19	24	24
	Weight $NBG^{1)}$	[kg]	471/-	502/-	623/-	721/-	836/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

2) Support blocks are needed because of the P, h1 and H dimensions.

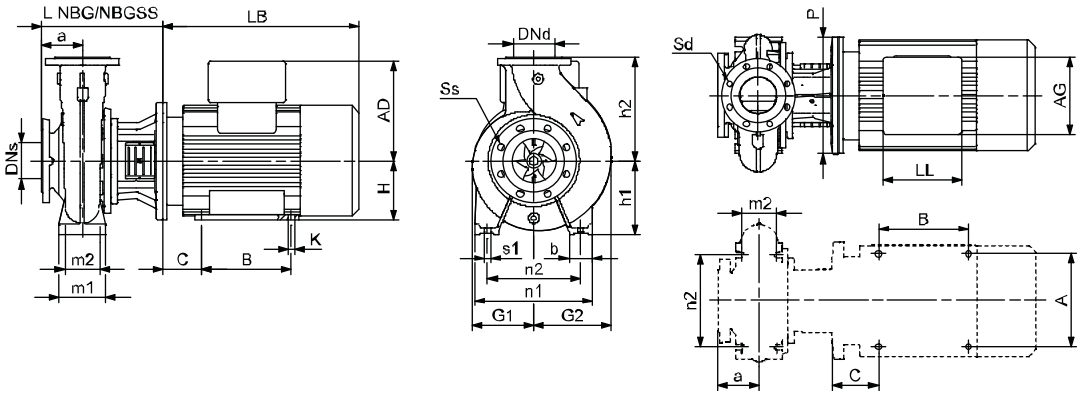
Note: For information about base frames, see page 236.

Performance curves



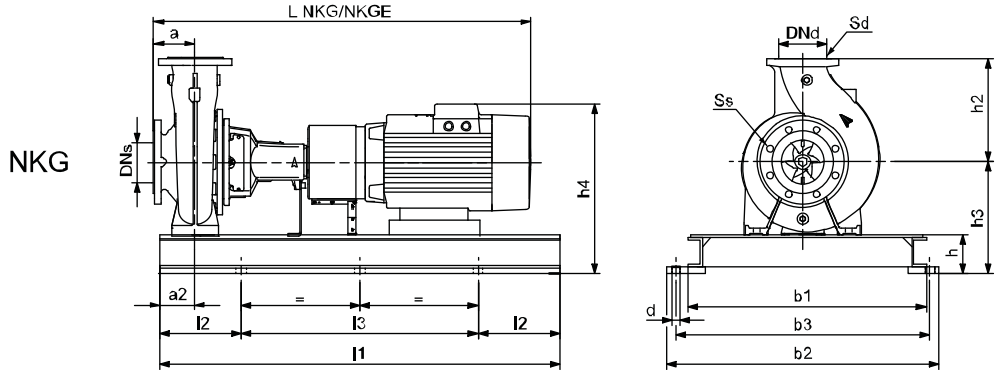
TM03 1994 1106

NBG



TM03 8010 0107

NKG



TM03 8013 0107

Pump type			200-150-500/457	200-150-500/483	200-150-500/513	200-150-500/548
Motor type	Premium Motor		Siemens 250M	Siemens 280S	Siemens 280M	Siemens 315S
	E-Motor		-	-	-	-
Common data NBG/NKG	P_2	[kW]	37	45	55	75
	PN	[bar]	16	16	16	16
	DNs	[mm]	200	200	200	200
	DNd	[mm]	150	150	150	150
	a	[mm]	180	180	180	180
	h2	[mm]	500	500	500	500
	Ss		12x23	12x23	12x23	12x23
	Sd		8x23	8x23	8x23	8x23
Common data NKG standard/ spacer coupling	L NKG	[mm]	1741/1917	1814/1990	1924/2100	1956/2132
	L NKGE	[mm]	-/-	-/-	-/-	-/-
	Weight NKG	[mm]	1332/1329	1443/1439	1497/1493	1686/1682
	Weight NKGE	[kg]	-/-	-/-	-/-	-/-
	Weight NKG SS	[kg]	-/-	-/-	-/-	-/-
	Weight NKGE SS	[kg]	-/-	-/-	-/-	-/-
NKG data	l1	[kg]	2000	2000	2000	2000
	l2	[mm]	330	330	330	330
	l3	[mm]	1340	1340	1340	1340
	b1	[mm]	750	750	750	750
	b2	[mm]	890	890	890	890
	b3	[mm]	830	830	830	830
	d	[mm]	28	28	28	28
	a2	[mm]	110	110	110	110
	h	[mm]	130	130	130	130
	h3	[mm]	530	530	530	530
	$h4^{1)}$	[mm]	922/-	962/-	962/-	1025/-
	Base frame no.		10	10	10	10
NBG data	Design		$C^{2)}$	$C^{2)}$	$C^{2)}$	$C^{2)}$
	L NBG	[mm]	524	524	524	554
	L NBG SS	[mm]	-	-	-	-
	h1	[mm]	400	400	400	400
	G1	[mm]	353	353	353	353
	G2	[mm]	396	396	396	396
	m1	[mm]	200	200	200	200
	m2	[mm]	150	150	150	150
	n1	[mm]	625	625	625	625
	n2	[mm]	500	500	500	500
	b	[mm]	125	125	125	125
	s1	[mm]	M20	M20	M20	M20
	H	[mm]	250	280	280	315
	$LB^{1)}$	[mm]	747/-	820/-	930/-	932/-
	$AD^{1)}$	[mm]	392/-	432/-	432/-	495/-
	$AG^{1)}$	[mm]	300/-	300/-	300/-	379/-
	$LL^{1)}$	[mm]	236/-	236/-	236/-	307/-
	P	[mm]	550	550	550	660
	C	[mm]	168	190	190	216
	B	[mm]	349	368	419	406
	A	[mm]	406	457	457	508
	K	[mm]	24	24	24	28
	Weight $NBG^{1)}$	[kg]	892/-	1007/-	1057/-	1288/-
	Weight NBG $SS^{1)}$	[kg]	-/-	-/-	-/-	-/-

1) Dimension of pump with premium range motor/built-in frequency converter.

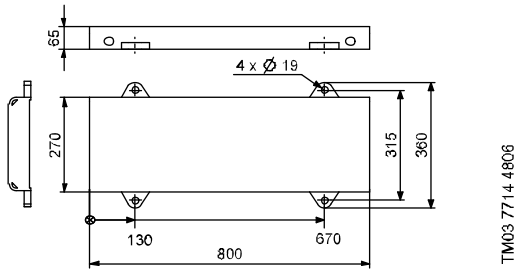
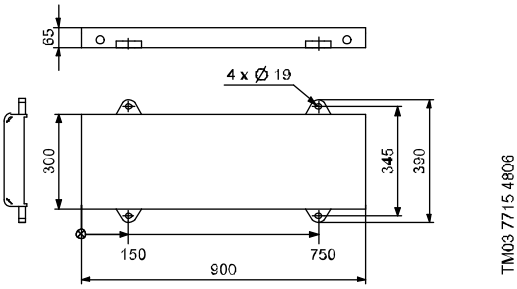
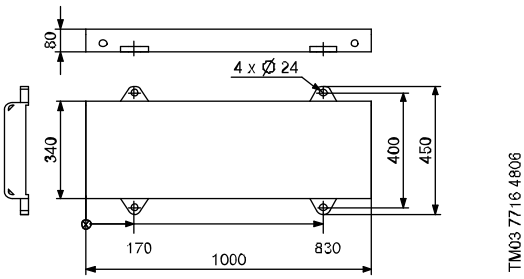
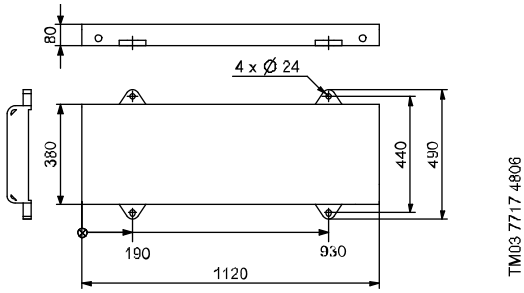
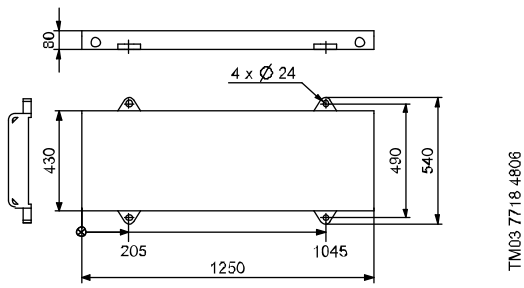
2) Support blocks are needed because of the P, h1 and H dimensions.

Note: For information about base frames, see page 236.

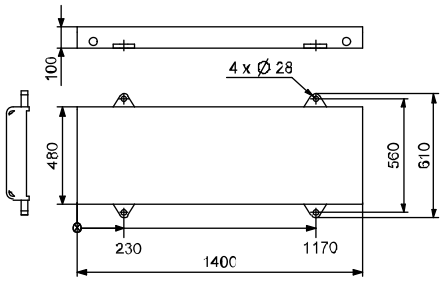
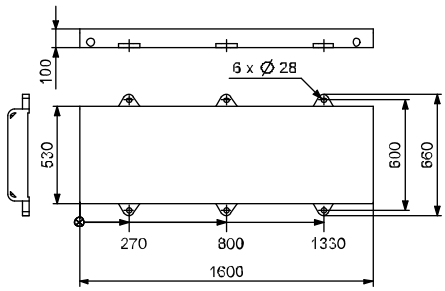
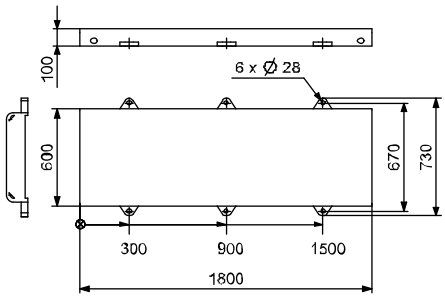
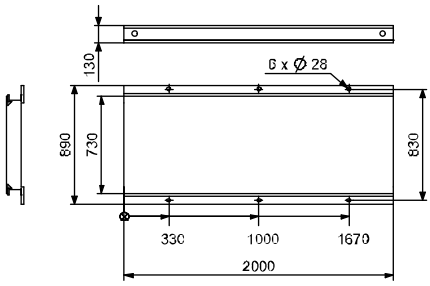
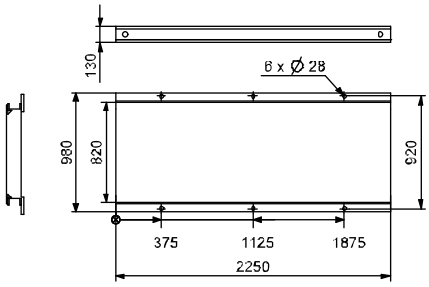
Base frames

The dimensional sketches below show the dimensions of the base frames fitted to NKG, NKGE pumps.

The type number of the base frame is stated for each NKG, NKGE pump mentioned in the section Technical data/performance curves.

Base frame type No	Base frame
2	
3	
4	
5	
6	

Base frames

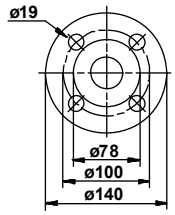
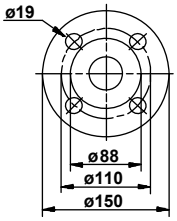
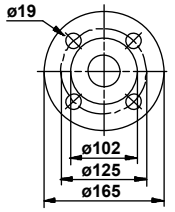
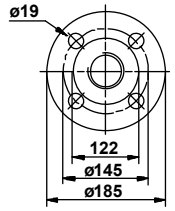
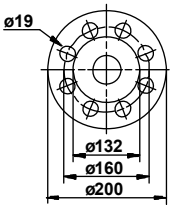
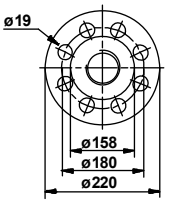
Base frame type No	Base frame
7	 TM03 7719 4806
8	 TM03 7720 4806
9	 TM03 7721 4806
10	 TM03 7722 4806
11	 TM03 7723 4806

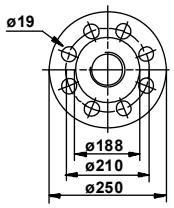
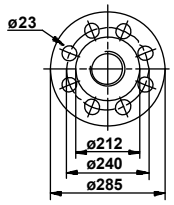
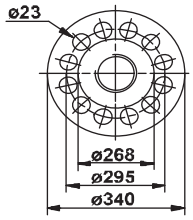
Counter flanges

Cast iron pumps

Counter flanges for NBG(E) and NKG(E) pumps of cast iron 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.

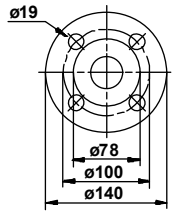
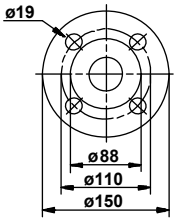
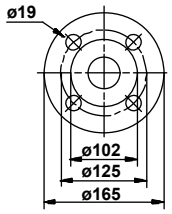
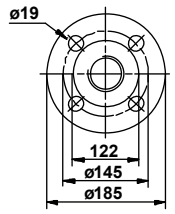
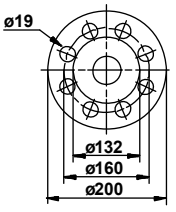
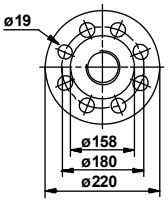
Counter flange		Flange size	Description	Rated pressure	Pipework connection	Product number
	TM03 0400 5004	DN 32	Threaded	10/16 bar, EN 1092-2	Rp 1¼	419901
			For welding	10/16 bar, EN 1092-2	32 mm	419902
	TM03 0401 5004	DN 40	Threaded	10/16 bar, EN 1092-2	Rp 1½	429902
			For welding	10/16 bar, EN 1092-2	40 mm	429901
	TM03 0402 5004	DN 50	Threaded	10/16 bar, EN 1092-2	Rp 2	339903
			For welding	10/16 bar, EN 1092-2	50 mm	339901
	TM03 0403 5004	DN 65	Threaded	10/16 bar, EN 1092-2	Rp 2½	349902
			For welding	10/16 bar, EN 1092-2	65 mm	349904
	TM03 2117 3705	DN 80	Threaded	10/16 bar, EN 1092-2	Rp 3	350540
			For welding	10/16 bar, EN 1092-2	80 mm	350541
	TM03 0405 5004	DN 100	Threaded	10/16 bar, EN 1092-2	Rp 4	369901
			For welding	10/16 bar, EN 1092-2	100 mm	369902

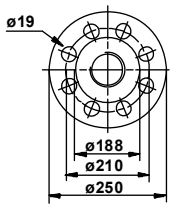
Counter flange		Flange size	Description	Rated pressure	Pipework connection	Product number
	TM03 0406 5004	DN 125	For welding	10/16 bar, EN 1092-2	125 mm	96414677
	TM03 0407 5004	DN 150	For welding	10/16 bar, EN 1092-2	150 mm	96414676
	TM03 0408 5004	DN 200	For welding	16 bar, EN 1092-2	200 mm	96691093

Stainless steel pumps

Counter flanges for NB(E) and NK(E) stainless steel 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	Pipework connection	Product number
	TM03 0400 5004	DN 32	Threaded	10/16 bar, EN 1092-2	Rp 1¼	415304
			For welding	10/16 bar, EN 1092-2	32 mm	415305
	TM03 0401 5004	DN 40	Threaded	10/16 bar, EN 1092-2	Rp 1½	425245
			For welding	10/16 bar, EN 1092-2	40 mm	425246
	TM03 0402 5004	DN 50	Threaded	10/16 bar, EN 1092-2	Rp 2	335254
			For welding	10/16 bar, EN 1092-2	50 mm	335255
	TM03 0403 5004	DN 65	Threaded	10/16 bar, EN 1092-2	Rp 2½	349910
			For welding	10/16 bar, EN 1092-2	65 mm	349906
	TM03 2117 3705	DN 80	Threaded	10/16 bar, EN 1092-2	Rp 3	350543
			For welding	10/16 bar, EN 1092-2	80 mm	350544
	TM03 0405 5004	DN 100	Threaded	10/16 bar, EN 1092-2	Rp 4	369904
			For welding	10/16 bar, EN 1092-2	100 mm	369903

Counter flange		Flange size	Description	Rated pressure	Pipework connection	Product number
	TM03 0406 5004	DN 125	For welding	16 bar, EN 1092-2	125 mm	96694017

Sensors

Accessory	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°C to +25°C	96432591
Temperature sensor	TTA (-25) 25	Carlo Gavazzi	–25°C to +25°C	96430194
Temperature sensor	TTA (50) 100	Carlo Gavazzi	50°C to +100°C	96432592
Temperature sensor	TTA (0) 150	Carlo Gavazzi	0°C to +150°C	96430195
Accessory for temperature sensor. All with ½ RG connection.	Protecting tube ø9 x 50 mm	Carlo Gavazzi		96430201
	Protecting tube ø9 x 100 mm	Carlo Gavazzi		96430202
	Cutting ring bush	Carlo Gavazzi		96430203
Temperature sensor, ambient temperature	WR 52	tmg (DK: Plesner)	–50°C to +50°C	ID8295
Differential temperature sensor	ETSD	Honsberg	0°C to +20°C	96409362
Differential temperature sensor	ETSD	Honsberg	0°C to +50°C	96409363

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

Sensors for boosting applications

Danfoss pressure sensor kit	Pressure range	Product number
• Connection: G ½ A (DIN 16288 - B6kt) • Electrical connection: Plug (DIN 43650)	0 - 2.5 bar	96478188
	0 - 4 bar	91072075
	0 - 6 bar	91072076
	0 - 10 bar	91072077
	0 - 16 bar	91072078
• Pressure sensor, type MBS 3000, with 2 m screened cable Connection: G ¼ A (DIN 16288 - B6kt) • 5 cable clips (black) • Fitting instructions PT (00400212)	0 - 2.5 bar	405159
	0 - 4 bar	405160
	0 - 6 bar	405161
	0 - 10 bar	405162
	0 - 16 bar	405163

Sensors for circulation applications

Grundfos differential pressure sensor, DPI	Pressure range	Product number
• 1 sensor incl. 0.9 m screened cable (7/16" connections) • 1 original DPI bracket (for wall mounting) • 1 Grundfos bracket (for mounting on motor) • 2 M4 screws for mounting of sensor on bracket • 1 M6 screw (self-cutting) for mounting on MGE 90/100 • 1 M8 screw (self-cutting) for mounting on MGE 112/132 • 1 M10 screw (self-cutting) for mounting on MMGE 160 • 1 M12 screw (self-cutting) for mounting on MMGE 180 • 3 capillary tubes (short/long) • 2 fittings (1/4" - 7/16") • 5 cable clips (black) • Installation and operating instructions • Service kit instruction	0 - 0.6 bar	96611522
	0 - 1.0 bar	96611523
	0 - 1.6 bar	96611524
	0 - 2.5 bar	96611525
	0 - 4.0 bar	96611526
	0 - 6.0 bar	96611527
	0 - 10 bar	96611550

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

Potentiometer

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

Product	Product number
External potentiometer with cabinet for wall mounting	625468

R100

R100 is used for wireless communication. The communication takes place by means of infrared light.

Product	Product number
R100	625333

G10-LON interface

The G10-LON interface is used for data transmission between a Locally Operating Network (LON) and electronically controlled Grundfos pumps via the Grundfos GENIbus protocol.

Product	Product number
G10-LON interface	00605726

Support blocks (NBG)

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.

The product numbers in the tables below refer to a set of two support blocks with the dimensions specified.

Hexagon head bolts, washers and nuts are supplied together with support blocks higher than 20 mm.

NBG 50 Hz, 2-pole

Pump type	P_2 [kW]	Dimensions W x L x H [mm]	Support block No	Product number
50-32-125	3	50x100x20	2	96434610
50-32-160	5.5			
50-32-200	11	80x332x20	3	96434611
		50x100x20		96434610
50-32-250	11	80x332x20	1	96434611
50-32-250	15			
65-40-200	11	80x332x20	1	96434611
65-40-200	15			
65-40-250	11			
65-40-250	15			
65-40-250	18.5			
65-50-125	3	50x100x20	2	96434610
65-50-125	4			
65-50-160	5.5			
65-50-160	7.5			
80-50-200	11	80x332x20	1	96434611
80-50-200	15			
80-50-200	18.5			
80-50-250	15			
80-50-250	18.5			
80-65-125	5.5	50x100x20	2	96434610
80-65-125	7.5			
80-65-160	11	80x332x20	1	96434611
80-65-160	15			
100-65-200	11			
100-65-200	15			
100-65-200	18.5			
100-80-125	11	80x332x20 70x125x20	3	96434611 96434612
100-80-160	11			
100-80-160	15			
100-80-160	18.5			
125-80-160	11	80x332x20	1	96434611
125-80-160	15			
125-80-160	18.5			
125-80-200	30	70x125x20	2	96434612
125-80-200	37			

NBG 50 Hz, 4-pole

Pump type	P_2 [kW]	Dimensions W x L x H [mm]	Support block No	Product number
80-50-315	11	90x335x65	1	96434605
100-65-315	11			
100-65-315	15			
125-80-250	11	100x332x40		96434609
125-80-315	11	90x335x90		96434606
125-80-315	15			
125-80-315	18.5	100x320x70		96434607
125-80-315	22			
125-100-200	11	100x332x40		96434609
125-100-250	11	90x335x65		96434605
125-100-250	15			
125-100-315	15	90x335x90		96434606
125-100-315	18.5	100x320x70		96434607
125-100-315	22			
150-125-200	11	90x335x90		96434606
150-125-200	15			
150-125-250	11			
150-125-250	15			
150-125-250	18.5	100x320x70		96434607
150-125-250	22			
200-150-200	11	80x290x120		96434608

NBG 50 Hz, 6-pole

Pump type	P_2 [kW]	Dimensions W x L x H [mm]	Support block No	Product number
125-100-315	7.5	90x335x90	1	96434606
125-100-315	11			
125-100-400	7.5	80x290x120		96434608
150-125-250	7.5	90x335x90		96434606
150-125-315	7.5	80x290x120		96434608
200-150-250	7.5			

Key to support block number

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

Electrical data

The below tables show the electrical data of the following mains-operated motors

- MMG model E
- TECO, EFF2/standard efficiency
- TECO, EFF1/high efficiency.

MMG model E, 2-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
MMG	71	3x220-240 Δ/380-415Y	0.55	2.18/1.26	73.0	0.82	2790	6.5
MMG	80		0.75	2.88/1.66	75.0	0.83	2820	6.1
MMG	80		1.1	4.00/2.30	76.2	0.84	2820	6.6
MMG	90S		1.5	5.75/3.30	78.5	0.83	2830	7.5
MMG	90L		2.2	7.90/4.55	81.0	0.85	2830	7.3
MMG	100L		3	10.2/5.90	82.6	0.87	2860	7.5
MMG	112M		4	13.6/7.80	84.2	0.87	2890	7.7
MMG	90L	3x380-415 Δ	2.2	4.60/2.70	81.0	0.85	2830	7.3
MMG	100L		3	5.90/3.40	82.6	0.87	2860	7.5
MMG	112M		4	7.80/4.50	84.2	0.87	2890	7.7
MMG	132S		5.5	10.2/6.00	85.7	0.88	2910	7.9
MMG	132S		7.5	13.6/7.90	87.0	0.89	2900	7.8

MMG model E, 4-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
MMG	-	3x220-240 Δ/380-415Y	0.55	2.60/1.50	71.0	0.72	1410	5.3
MMG	-		0.75	3.30/1.90	73.0	0.75	1400	5.4
MMG	-		1.1	4.35/2.50	76.2	0.80	1390	5.9
MMG	-		1.5	6.00/3.45	78.5	0.79	1400	5.8
MMG	-		2.2	7.95/4.60	81.0	0.84	1430	6.9
MMG	-		3	11.6/6.70	82.6	0.78	1440	7.9
MMG	-		4	14.2/8.10	84.2	0.84	1440	7.6
MMG	-	3x380-415 Δ	2.2	4.70/2.70	81.0	0.84	1430	6.9
MMG	-		3	6.70/3.90	82.6	0.78	1440	7.9
MMG	-		4	8.10/4.70	84.2	0.84	1440	7.6
MMG	-		5.5	10.6/6.15	85.7	0.85	1450	7.4

TECO – EFF2/standard efficiency, 2-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
TECO	80	3x220-240 Δ/380-415Y	0.75	3.00/1.74	76.5	0.86	2780	6.6
TECO	80		1.1	4.30/2.50	79.0	0.86	2790	7.6
TECO	90S		1.5	5.80/3.35	80.0	0.86	2810	7.2
TECO	90L		2.2	8.35/4.85	82.3	0.85	2830	7.6
TECO	100L		3	10.8/6.25	83.8	0.88	2840	7.3
TECO	112M		4	14.0/8.10	85.3	0.89	2850	7.8
TECO	90L	3x380-415 Δ	2.2	4.60-4.45	82.3-82.1	0.88-0.84	2830-2850	7.6-8.2
TECO	100L		3	6.20-5.85	83.8-83.5	0.88-0.85	2840-2860	7.3-8.0
TECO	112M		4	8.00-7.60	85.3-85.0	0.89-0.86	2850-2870	7.9-8.6
TECO	132S		5.5	10.8-10.2	86.3-86.7	0.90-0.86	2900-2920	6.0-7.1
TECO	132S		7.5	14.8-13.8	87.2-88.0	0.89-0.86	2870-2890	6.0-7.3

Other motor brands

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
TECO	160M	3x380-415Δ/660-690Y	11	21.0/12.2	88.5	0.89	2900	7.3
TECO	160M		15	27.5/16.0	90.5	0.91	2910	7.5
TECO	160L		18.5	34.0/19.6	91.0	0.91	2920	7.3
TECO	180MA		22	40.5/23.6	91.5	0.90	2920	7.2
TECO	200LA		30	56.5/32.5	91.0	0.89	2930	7.0
TECO	200LA		37	68.5/39.5	91.5	0.90	2930	7.2
TECO	225MA		45	82.5/47.5	91.0	0.91	2930	6.7
TECO	250SA		55	102/58.5	91.7	0.90	2950	6.7
TECO	250MA		75	138/79.5	92.4	0.90	2950	6.8
TECO	280SA		90	164/94	93.0	0.90	2950	6.5
TECO	280MA		110	200/116	93.0	0.90	2960	6.5
TECO	315SA		132	240/138	93.2	0.90	2960	6.5
TECO	315MA		160	290/168	93.2	0.90	2960	6.5
TECO	315MA		200	355/206	93.5	0.91	2960	6.4
TECO	355MA		250	430/248	95.3	0.93	2980	7.1
TECO	355LA		315	535/310	95.6	0.94	2980	7.1

TECO – EFF2/standard efficiency, 4-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
TECO	71	3x220-240Δ/380-415Y	0.25	1.38/0.80	68.5	0.70	1390	5.3
TECO	71		0.37	2.00/1.16	68.5	0.71	1380	5.0
TECO	80		0.55	2.70/1.56	73.5	0.73	1400	5.6
TECO	80		0.75	3.55/2.06	75.3	0.74	1400	5.5
TECO	90S		1.1	4.85/2.80	77.8	0.77	1400	6.0
TECO	90L		1.5	6.15/3.55	80.0	0.80	1400	6.2
TECO	100L		2.2	8.80/5.10	82.3	0.80	1410	6.7
TECO	100L		3	11.8/6.80	83.2	0.81	1410	6.7
TECO	112M		4	15.2/8.80	85.3	0.81	1420	7.2
TECO	100L	3x380-415Δ	2.2	5.05-4.60	82.0-81.0	0.81-0.82	1430	6.7
TECO	100L		3	6.80-6.15	82.5-82.0	0.82-0.83	1430	7.4
TECO	112M		4	8.80-8.00	84.5-84.0	0.82-0.83	1440	7.1
TECO	132S	3x380-415Δ/660-690Y	5.5	11.8/6.75	86.0	0.83	1450	6.6
TECO	132M		7.5	15.4/8.90	88.0	0.84	1450	6.8
TECO	160M		11	21.6/12.2	89.0	0.88	1450	7.3
TECO	160L		15	29.0/16.8	90.0	0.87	1460	7.2
TECO	180MC		18.5	36.0/21.0	91.0	0.86	1460	6.8
TECO	180LC		22	42.0/24.6	91.0	0.87	1460	7.0
TECO	200LC		30	57.5/33.0	91.5	0.87	1460	6.9
TECO	225SC		37	71.0/41.0	91.7	0.87	1460	7.0
TECO	225MC		45	85.5/49.5	92.4	0.87	1460	6.5
TECO	250SC		55	104/60.0	92.4	0.87	1470	6.5
TECO	250MC		75	140/80.5	93.0	0.88	1480	6.7
TECO	280SC		90	166/96.0	93.7	0.88	1480	6.2
TECO	280MC		110	202/118	93.8	0.88	1480	6.2
TECO	315SC		132	240/138	93.8	0.89	1480	6.2
TECO	315MC		160	290/168	94.2	0.89	1480	6.2
TECO	315MB		200	355/204	94.8	0.91	1480	6.6
TECO	355MB		250	435/250	95.5	0.91	1490	6.9
TECO	355LB		315	535/310	95.6	0.94	1490	6.9

Other motor brands

TECO – Standard efficiency, 6-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
TECO	80	3x220-240 Δ/380-415Y	0.55	3.60/2.10	63.0	0.66	890	4.2
TECO	90S		0.75	3.95/2.26	73.8	0.68	910	4.8
TECO	90L		1.1	5.55/3.20	74.0	0.68	910	4.9
TECO	100L		1.5	7.05/4.10	79.0	0.71	920	5.6
TECO	112M		2.2	9.80/5.70	81.6	0.73	940	6.0
TECO	132S		3	12.0/6.95	83.3	0.79	960	6.3
TECO	132M		4	16.6/9.55	83.3	0.76	960	6.3
TECO	112M	3x380-415 Δ/660-690Y	2.2	5.65/3.25	81.6	0.73	940	6.0
TECO	132S		3	6.95/4.00	83.3	0.79	960	6.4
TECO	132M		4	9.55/5.50	83.3	0.76	960	6.3
TECO	132M		5.5	12.4/7.20	84.8	0.79	960	6.6
TECO	160M		7.5	16.4/9.40	86.0	0.81	970	6.3
TECO	160L		11	23.0/13.2	88.5	0.83	970	6.8
TECO	180LC		15	30.0/17.2	89.5	0.86	970	7.0
TECO	200LC		18.5	36.5/21.0	91.0	0.85	970	6.8
TECO	200LC		22	43.5/25.0	92.0	0.84	970	6.8
TECO	225MC		30	61.5/35.5	91.0	0.82	970	6.4
TECO	250SC		37	74.5/43.0	91.7	0.83	970	6.5
TECO	250MC		45	88.0/50.5	92.4	0.84	970	6.3
TECO	280SC		55	108/62.0	92.4	0.84	970	6.3
TECO	280MC		75	144/82.5	93.0	0.86	980	6.5
TECO	315SC		90	172/99.0	93.0	0.86	980	6.5
TECO	315MC		110	210/122	93.0	0.86	980	6.2
TECO	315MC		132	250/144	93.6	0.86	980	6.2

TECO – EFF1/high efficiency, 2-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
TECO	80	3x220-240 Δ/380-415Y	0.75	2.90/1.68	80.0	0.85	2810	6.3
TECO	80		1.1	4.15/2.42	82.5	0.84	2810	6.7
TECO	90S		1.5	5.50/3.20	84.1	0.85	2810	7.2
TECO	90L		2.2	7.95/4.60	85.7	0,85	2820	7.3
TECO	100L		3	10.4/6.05	86.7	0.87	2850	8.6
TECO	112M		4	13.8/7.95	87.6	0.87	2860	8.3
TECO	90L	3x380-415 Δ	2.2	4.55-4.35	85.1-84.8	0.86-0.83	2820-2840	7.3
TECO	100L		3	6.00-5.65	86.7-86.4	0.88-0.85	2850-2870	8.6
TECO	112M		4	7.90-7.45	87.8-87.5	0.88-0.85	2860-2880	8.3
TECO	132S		5.5	10.2-9.85	90.5-90.9	0.90-0.85	2900-2920	7.2
TECO	132S		7.5	14.0-14.0	89.9-90.2	0.91-0.83	2890-2910	6.7
TECO	160M	3x380-415 Δ/660-690Y	11	20.6/11.8	90.4	0.91	2910	7.2
TECO	160M		15	27.5/15.8	91.1	0.91	2920	7.1
TECO	160L		18.5	33.5/19.2	91.6	0.92	2920	8.4
TECO	180MA		22	39.0/22.6	92.8	0.92	2940	8.6
TECO	200LA		30	55.5/32.0	92.7	0.88	2940	8.6
TECO	200LA		37	66.5/38.5	93.7	0.90	2940	8.6
TECO	225MA		45	81.0/46.5	93.8	0.90	2940	8.4
TECO	250SA		55	97.5/56.0	94.0	0.91	2950	7.4
TECO	250MA		75	130/75.0	95.0	0.92	2950	7.5
TECO	280SA		90	158/91.0	95.0	0.91	2950	7.0
TECO	280MA		110	190/110	95.5	0.92	2960	7.6
TECO	315SA		132	230/132	95.5	0.91	2980	7.5
TECO	315MA		160	280/162	95.6	0.90	2980	7.0
TECO	315MA		200	355/204	94.0	0.90	2980	8.0
TECO	315CA		250	455/260	94.2	0.89	2970	6.4
TECO	315DA		315	560/325	94.5	0.90	2970	6.5
TECO	355AA		355	630/365	94.8	0.90	2970	6.5

TECO – EFF1/high efficiency, 4-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
TECO	80	3x220-240 Δ/380-415Y	0.55	2.60/1.50	80.0	0.70	1390	5.7
TECO	80		0.75	3.25/1.90	81.5	0.74	1400	5.7
TECO	90S		1.1	4.30/2.50	83.8	0.80	1410	6.1
TECO	90L		1.5	5.80/3.35	85.0	0.80	1400	6.4
TECO	100L		2.2	7.75/4.50	86.5	0.86	1410	6.7
TECO	100L		3	11.0/6.35	87.5	0.82	1420	7.7
TECO	112M		4	14.2/8.20	88.5	0.84	1430	7.7
TECO	100L	3x380-415 Y	2.2	4.50-4.25	86.5-86.2	0.86-0.83	1410-1430	9.6
TECO	100L		3	6.35-6.05	87.5-87.2	0.82-0.79	1420-1440	9.8
TECO	112M		4	8.20-7.75	88.5-88.2	0.84-0.81	1430-1450	9.8
TECO	132S		5.5	11.0-10.4	89.1-89.2	0.86-0.82	1450-1470	9.8
TECO	132M	3x380-415 Y/660-690Y	7.5	14.6/8.40	91.0	0.86	1450	9.5
TECO	160M		11	20.6/11.8	92.5	0.88	1450	9.0
TECO	160L		15	31.0/17.8	93.7	0.89	1450	8.6
TECO	180MC		18.5	35.0/20.0	94.0	0.86	1460	8.8
TECO	180LC		22	41.0/23.6	94.0	0.87	1460	8.3
TECO	200LC		30	55.0/31.5	94.5	0.88	1460	9.3
TECO	225SC		37	69.0/39.5	95.0	0.86	1470	7.8
TECO	225MC		45	84.0/48.5	95.0	0.86	1470	7.4
TECO	250SC		55	100/58.0	95.5	0.87	1480	7.4
TECO	250MC		75	138/79.0	95.5	0.87	1480	7.3
TECO	280SB		90	164/94.0	95.4	0.88	1480	7.0
TECO	280MC		110	200/114	95.4	0.88	1480	6.8
TECO	315SC		132	240/138	95.4	0.88	1490	6.0
TECO	315MCB		160	290/166	95.4	0.88	1490	6.0
TECO	315MB		200	335/192	95.8	0.88	1480	7.8
TECO	315CB		250	450/260	94.5	0.89	1480	6.4
TECO	315DB		315	565/325	94.8	0.89	1480	6.4

TECO – high efficiency, 6-pole

Motor	Frame size	Voltage	P2 [kW]	$I_{1/1}$ [A]	η [%]	Cos φ1/1	n [min^{-1}]	$\frac{I_{start}}{I_{1/1}}$
TECO	80	3x220-240 Δ/380-415Y	0.55	3.10/1.80	75.0	0.62	910	5.0
TECO	90S		0.75	3.90/2.26	77.7	0.65	920	4.8
TECO	90L		1.1	5.50/3.20	79.9	0.66	920	4.7
TECO	100L		1.5	7.00/4.05	81.0	0.70	920	5.3
TECO	112M		2.2	9.00/5.20	82.6	0.78	930	5.9
TECO	132S		3	11.2/6.45	88.5	0.80	970	7.4
TECO	132M		4	14.8/8.60	89.5	0.79	970	7.4
TECO	112M	3x380-415 Δ/660-690Y	2.2	5.20/3.00	82.6	0.78	930	5.9
TECO	132S		3	6.45/3.70	88.5	0.80	970	7.4
TECO	132M		4	8.60/4.95	89.5	0.79	970	7.4
TECO	132M		5.5	11.4/6.60	89.0	0.82	960	6.5
TECO	160M		7.5	15.4/8.90	91.0	0.81	970	6.7
TECO	160L		11	23.0/13.4	91.0	0.79	980	7.4
TECO	180LC		15	29.5/17.0	91.5	0.84	970	6.1
TECO	200LC		18.5	37.5/21.6	93.0	0.81	980	6.4
TECO	200LC		22	43.5/25.0	93.5	0.83	980	6.2
TECO	225MC		30	56.5/32.5	94.0	0.86	980	5.9
TECO	250SC		37	68.5/39.5	94.0	0.87	990	6.4
TECO	250MC		45	82.5/47.5	94.5	0.88	990	7.0
TECO	280SB		55	106/60.5	94.5	0.84	980	6.4
TECO	280MB		75	140/80.5	95.0	0.86	980	6.7
TECO	315SB		90	168/96.0	95.3	0.86	990	6.7
TECO	315MB		110	200/114	95.4	0.88	990	6.4
TECO	315MB		132	246/140	95.8	0.86	990	6.4

Correction tables

The below tables show the dimensions of the following mains-operated motors

- MG EFF2
- MMG model E
- TECO, EFF2/standard efficiency
- TECO, EFF1/high efficiency.

MG EFF2

If MG EFF2 motors are selected, the dimension in Technical data on page 58 to 267 must be corrected according to the tables below.

2-pole

P_2 [kW]	EFF1 motor	EFF2 motor	L/LB	H	h4/AD	AG	LL	P	A	B	C	K	NK weight	NB weight
			[mm]										[kg]	[kg]
0.55	MG 71B-C	MG 71B-C	0	0	0	0	0	0	0	0	0	0	0	0
0.75	MG 80A-C	MG 80A-C	0	0	0	0	0	0	0	0	0	0	0	0
1.1	MG 90SA-D	MG 80B-C	-50	-10	-1	-80	-21	0	-15	0	-6	0	-5.4	-5
1.5	MG 90SB-D	MG 90SA-C	0	0	0	0	0	0	0	0	0	0	0	-1
2.2	MG 90LC-D	MG 90LA-C	-40	0	0	0	0	0	0	0	0	0	-3	-3
3	MG 100LC-D	MG 100LA-C	0	0	0	0	0	0	0	0	0	0	-2	-2
4	MG 112MC-D	MG 112MB-C	0	0	0	0	0	0	0	0	0	0	-9	-9
5.5	MG 132SC-D	MG 132SB-C	0	0	0	0	0	0	0	0	0	0	0	0
7.5	MG 132SD-D	MG 132SC-C	0	0	0	0	0	0	0	0	0	0	2	2

Note:

The 'L' and 'h4' dimensions refer to NK pumps.
The 'LB' and 'AD' dimensions refer to NB pumps.

4-pole

P_2 [kW]	EFF1 motor	EFF2 motor	L/LB	H	h4/AD	AG	LL	P	A	B	C	K	NK weight	NB weight
			[mm]										[kg]	[kg]
0.25	MG 71A-C	MG 71A-C	0	0	0	0	0	0	0	0	0	0	0	0
0.37	MG 71B-C	MG 71B-C	0	0	0	0	0	0	0	0	0	0	0	0
0.55	MG 80A-C	MG 80A-C	0	0	0	0	0	0	0	0	0	0	0	0
0.75	MG 80B-C	MG 80B-C	0	0	0	0	0	0	0	0	0	0	0	0
1.1	MG 90SB-D	MG 90SA-C	0	0	0	0	0	0	0	0	0	0	-5	-6
1.5	MG 90LC-D	MG 90LA-C	-40	0	0	0	0	0	0	0	0	0	-4	-5
2.2	MG 100LB-D	MG 100LA-C	0	0	0	0	0	0	0	0	0	0	-1	-4
3	MG 100LC-D	MG 100LB-C	0	0	0	0	0	0	0	0	0	0	-2	-2
4	MG 112MC-D	MG 112MB-C	0	0	0	0	0	0	0	0	0	0	-7	-7
5.5	Siemens 132S	MG 132SC-C	18.5	0	-33	62	-37	0	0	0	0	0	-3	-1

Note:

The 'L' and 'h4' dimensions refer to NK pumps.
The 'LB' and 'AD' dimensions refer to NB pumps.

MMG model E motors

If MMG model E motors are selected, the dimension in Technical data on page 58 to 267 must be corrected according to the tables below.

2-pole

P_2 [kW]	EFF1 motor	EFF2 motor	L/LB	H	h4/AD	AG	LL	P	A	B	C	K	NK weight	NB weight
			[mm]										[kg]	[kg]
0.55	MG 71B-C	MMG 71B-E	21	0	12	10	10	0	0	0	0	0	4.9	4.6
0.75	MG 80A-C	MMG 80A-E	13	0	24	10	10	0	0	0	0	0	9.6	8.7
1.1	MG 90SA-D	MMG 80B-E	-37	-10	23	-70	-11	0	-15	0	-6	0	2	2
1.5	MG 90SB-D	MMG 90S-E	-21	0	36	-56	-3	0	0	0	3	0	9	10
2.2	MG 90LC-D	MMG 90L-E	-36	0	36	-56	-3	3	0	0	3	0	7	11
3	MG 100LC-D	MMG 100L-E	-18	0	40	-66	3	-1	0	0	0	0	9	1
4	MG 112MC-D	MMG 112M-E	-41	0	46	-86	15	0	0	0	0	0	3	2
5.5	MG 132SC-D	MMG 132SA-E	-8	0	66	-86	15	0	0	0	0	0	26	24
7.5	MG 132SD-D	MMG 132SB-E	-8	0	66	-86	15	0	0	0	0	0	26	24
11	Siemens 160M	MMG 160MA-E	20	0	51	-5	-15	-1	0	0	0	0	42	44
15	Siemens 160M	MMG 160MB-E	20	0	51	-5	-15	-1	0	0	0	0	41	43
18.5	Siemens 160L	MMG 160L-E	24	0	51	-5	-15	-1	0	0	0	0	44	46
22	Siemens 180M	MMG 180M-E	-22	0	6	8	18	0	0	0	0	0	52	54
30	Siemens 200L	MMG 200LA-E	-11.5	0	-8	-32	-4	-1	0	0	0	0	34	34
37	Siemens 200L	MMG 200LB-E	-11.5	0	-8	-32	-4	-1	0	0	0	0	56	58
45	Siemens 225M	MMG 225M-E	-12	0	-5	-32	-4	-1	0	0	1	0	16	20
55	Siemens 250M	MMG 250M-E	23	0	-33	-54	-20	0	0	0	0	0	42	48
75	Siemens 280S	MMG 280S-E	-17	0	-46	-54	-20	0	0	0	-0.5	0	-5	0
90	Siemens 280M	MMG 280M-E	-76	0	-46	-54	-20	0	0	0	-0.5	0	-25	-15
110	Siemens 315S	MMG 315S-E	105	0	-24	-59	-27	0	0	0	-1	0	163	165
132	Siemens 315M	MMG 315M-E	55	0	-24	-59	-27	0	0	0	-1	0	132	132
160	Siemens 315L	MMG 315LA-E	55	0	-24	-59	-27	0	0	0	-1	0	95	95
200	Siemens 315L	MMG 315LB-E	-85	0	-24	-59	-27	0	0	0	-1	0	-20	-20
250	Siemens 315	MMG 355M-E	106	40	171	-	22	100	50	-70	74	2	300	300
315	Siemens 315	MMG 355L-E	106	40	171	-	22	100	50	0	74	2	400	-
355	Siemens 355	MMG 355L-E	-119	0	98	-	0	0	-20	-170	54	-5	400	-

Note:

The 'L' and 'h4' dimensions refer to NK pumps.

The 'LB' and 'AD' dimensions refer to NB pumps.

4-pole

P_2 [kW]	EFF1 motor	EFF2 motor	L/LB	H	h4/AD	AG	LL	P	A	B	C	K	NK weight	NB weight
			[mm]										[kg]	[kg]
0.25	MG 71A-C	MMG 71A-E	21	0	12	10	10	0	0	0	0	0	4.8	4.5
0.37	MG 71B-C	MMG 71B-E	21	0	12	10	10	0	0	0	0	0	5.3	5
0.55	MG 80A-C	MMG 80A-E	13	0	24	10	10	0	0	0	0	0	9.7	8.9
0.75	MG 80B-C	MMG 80B-E	13	0	24	10	10	0	0	0	0	0	8.5	8
1.1	MG 90SB-D	MMG 90S-E	-21	0	36	-56	-3	0	0	0	3	0	5	6
1.5	MG 90LC-D	MMG 90L-E	-36	0	36	-56	-3	3	0	0	3	0	6	10
2.2	MG 100LB-D	MMG 100LA-E	-18	0	40	-66	3	-1	0	0	0	0	10	-1
3	MG 100LC-D	MMG 100LB-E	-18	0	40	-66	3	-1	0	0	0	0	5	-3
4	MG 112MC-D	MMG 112M-E	-41	0	46	-86	15	0	0	0	0	0	2	1
5.5	Siemens_132S	MMG 132S-E	10.5	0	33	-24	-22	0	0	0	0	0	21	21
7.5	Siemens 132M	MMG 132M-E	10.5	0	33	-24	-22	0	0	0	0	0	21	21
11	Siemens 160M	MMG 160MA-E	20	0	51	-5	-15	-1	0	0	0	0	48	54
15	Siemens 160L	MMG 160L-E	24	0	51	-5	-15	-1	0	0	0	0	38	41
18.5	Siemens 180M	MMG 180M-E	-22	0	6	8	18	0	0	0	0	0	54	58
22	Siemens 180L	MMG 180L-E	-22	0	6	8	18	0	0	0	0	0	61	66
30	Siemens 200L	MMG 200L-E	-11.5	0	-8	-32	-4	-1	0	0	0	0	66	74
37	Siemens 225S	MMG 225M-E	23	0	-5	-32	-4	-1	0	0	1	0	35	40
45	Siemens 225M	MMG 225M-E	-12	0	-5	-32	-4	-1	0	25	1	0	20	25
55	Siemens 250M	MMG 250M-E	-47	0	-33	-54	-20	0	0	0	0	0	10	15
75	Siemens 280S	MMG 280S-E	-17	0	-46	-54	-20	0	0	0	-0.5	0	-21	-15

Other motor brands

P_2 [kW]	EFF1 motor	EFF2 motor	L/LB	H	h4/AD	AG	LL	P	A	B	C	K	NK weight	NB weight
			[mm]										[kg]	[kg]
90	Siemens 280M	MMG 280M-E	-76	0	-46	-54	-20	0	0	0	-0.5	0	-75	-65
110	Siemens 315S	MMG 315S-E	102	0	-24	-59	-27	0	0	0	-1	0	155	155
132	Siemens 315MA	MMG 315M-E	55	0	-24	-59	-27	0	0	0	-1	0	155	155
160	Siemens 315MB	MMG 315LA-E	55	0	-24	-59	-27	0	0	0	-1	0	95	95
200	Siemens 315L	MMG 315LB-E	-85	0	-24	-59	-27	0	0	51	-1	0	-10	-10
250	Siemens 315	MMG 355M-E	106	40	171	-	22	100	50	-70	74	2	350	350
315	Siemens 315	MMG 355L-E	106	40	171	-	22	100	50	0	74	2	450	-

Note:
The 'L' and 'h4' dimensions refer to NK pumps.
The 'LB' and 'AD' dimensions refer to NB pumps.

6-pole

P_2 [kW]	EFF1 motor	EFF2 motor	L/LB	H	h4/AD	AG	LL	P	A	B	C	K	NK weight	NB weight
			[mm]										[kg]	[kg]
0.37	Siemens 80A	MMG 80A-E	10.5	0	13	17	17	0	0	0	0	0.5	7	7
0.55	Siemens 80B	MMG 80B-E	10.5	0	13	17	17	0	0	0	0	0.5	8	8
0.75	Siemens 90S	MMG 90S-E	-21	0	18	31	25	0	0	0	3	0	9	11
1.1	Siemens 90L	MMG 90L-E	-41	0	18	31	25	3	0	0	3	0	8	13
1.5	Siemens 100L	MMG 100L-E	-30	0	25	-24	-14	-1	0	0	0	0	7	1
2.2	Siemens 112M	MMG 112M-E	-40	0	32	-4	-2	0	0	0	0	0	8	8
3	Siemens 132SA	MMG 132S-E	10.5	0	33	-24	-22	0	0	-38	0	0	17	17
4	Siemens 132MA	MMG 132MA-E	48.5	0	33	-24	-22	0	0	0	0	0	27	27
5.5	Siemens 132MB	MMG 132MB-E	10.5	0	33	-24	-22	0	0	0	0	0	17	17
7.5	Siemens 160M	MMG 160M-E	20	0	51	-5	-15	-1	0	0	0	0	24	29
11	Siemens 160L	MMG 160L-E	24	0	51	-5	-15	-1	0	0	0	0	40	45
15	Siemens 180L	MMG 180L-E	-22	0	6	8	18	0	0	0	0	0	40	45
18.5	Siemens 200LA	MMG 200LA-E	-11.5	0	-8	-32	-4	-1	0	0	0	0	47	47
22	Siemens 200LB	MMG 200LB-E	-11.5	0	-8	-32	-4	-1	0	0	0	0	31	31
30	Siemens 225M	MMG 225M-E	-12	0	-5	-32	-4	-1	0	25	1	0	-29	-29
37	Siemens 250M	MMG 250M-E	23	0	-33	-54	-20	0	0	0	0	0	-17	-15
45	Siemens 280S	MMG 280S-E	-17	0	-46	-54	-20	0	0	0	-0.5	0	-2	-2
55	Siemens 280M	MMG 280M-E	-76	0	-46	-54	-20	0	0	0	-0.5	0	16	16
75	Siemens 315S	MMG 315S-E	102	0	-24	-59	-27	0	0	0	-1	0	232	232
90	Siemens 315MA	MMG 315M-E	55	0	-24	-59	-27	0	0	0	-1	0	115	115
110	Siemens 315MB	MMG 315LA-E	55	0	-24	-59	-27	0	0	0	-1	0	100	100
132	Siemens 315L	MMG 315LB-E	-85	0	-24	-59	-27	0	0	51	-1	0	31	31

Note:
The 'L' and 'h4' dimensions refer to NK pumps.
The 'LB' and 'AD' dimensions refer to NB pumps.

Other motor brands

TECO EFF2/EFF1 motors

If TECO EFF2/EFF1 motors are selected, the dimension in Technical data on page 58 to 267 must be corrected according to the tables below.

2-pole

P_2 [kW]	EFF1 motor	TECO motor	L (NB)	L(NK/ LB(NK)	H	h4/AD	AG	LL	P	A	B	C	K	EFF2 motor		EFF1 motor	
														NK weight	NB weight	NK weight	NB weight
			[mm]											[kg]	[kg]	[kg]	[kg]
0.55	MG 71B-C	Teco 71	0	29.5	0	23	-	-	0	0	0	0	0	5.5	5.2	7.9	7.6
0.75	MG 80A-C	Teco 80	0	11.5	0	49	-	-	0	0	0	0	0	6.2	5.3	8.6	7.7
1.1	MG 90SA-D	Teco 80	0	-38.5	-10	48	-	-	0	-15	0	-6	0	1.6	1.6	1	1
1.5	MG 90SB-D	Teco 90S	0	-23.5	0	60	-	-	0	0	0	0	0	5.5	4.5	5	4
2.2	MG 90LC-D	Teco 90L	0	-38.5	0	60	-	-	0	0	0	0	0	6.5	5.5	5	4
3	MG 100LC-D	Teco 100L	0	-20.5	0	60	-	-	0	0	0	0	0	12	10	12	10
4	MG 112MC-D	Teco 112M	0	-40.5	0	55	-	-	0	0	0	0	0	2	1	4	3
5.5	MG 132SC-D	Teco 132S	0	-17	0	91	-	-	0	0	0	0	0	25	23	35	33
7.5	MG 132SD-D	Teco 132S	0	-17	0	91	-	-	0	0	0	0	0	30	28	35	33
11	Siemens 160M	Teco 160M	0	20	0	66	-	-	0	0	0	0	-0.5	35	35	57	57
15	Siemens 160M	Teco 160M	0	20	0	66	-	-	0	0	0	0	-0.5	40	40	48	48
18.5	Siemens 160L	Teco 160L	0	24	0	66	-	-	0	0	0	0	-0.5	36	36	56	56
22	Siemens 180M	Teco 180L	0	-40	0	47	-	-	0	0	0	0	-0.5	55	55	49	49
30	Siemens 200L	Teco 200L	0	1.5	0	69	-	-	0	0	0	0	-0.5	56	56	66	66
37	Siemens 200L	Teco 200L	0	1.5	0	69	-	-	0	0	0	0	-0.5	76	76	66	66
45	Siemens 225M	Teco 225M	0	-8	0	102	-	-	0	0	0	0	-0.5	15	15	25	25
55	Siemens 250M	Teco 250S	0	-4.5	0	101	-	-	0	0	-38	0	0	30	30	50	50
75	Siemens 280S	Teco 250M	0	-39.5	-30	61	-	-	0	-51	-19	-22	0	-5	-5	10	10
90	Siemens 280M	Teco 280S	0	-78	0	91	-	-	0	0	-51	0	0	-15	-15	15	15
110	Siemens 315S	Teco 280M	-30	-30	-35	28	-	-	-110	-51	13	-26	-4	-90	-127	-90	-127
132	Siemens 315M	Teco 315S	0	-146	0	53	-	-	0	0	-51	0	0	5	5	-75	-75
160	Siemens 315L	Teco 315M	0	-95	0	53	-	-	0	0	-51	0	0	145	145	-110	-110
200	Siemens 315L	Teco 315M	0	-235	0	53	-	-	0	0	-51	0	0	105	135	125	155

4-pole

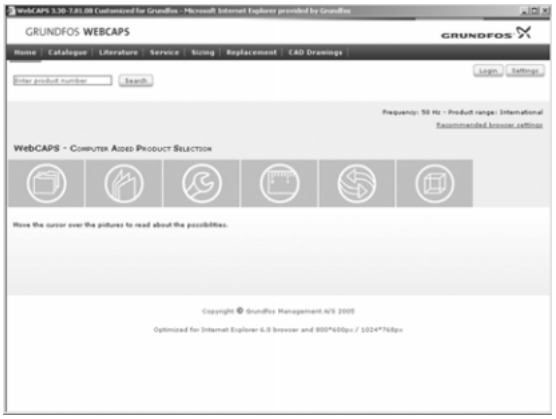
P_2 [kW]	EFF1 motor	TECO motor	L (NB)	L(NK/ LB(NK)	H	h4/AD	AG	LL	P	A	B	C	K	EFF2 motor		EFF1 motor	
														NK weight	NB weight	NK weight	NB weight
			[mm]											[kg]	[kg]	[kg]	[kg]
0.25	MG 71A-C	Teco 63	0	5	-8	13	-	-	0	-12	-10	-5	0	5.8	5.5	5.8	5.5
0.37	MG 71B-C	Teco 71	0	29.5	0	23	-	-	0	0	0	0	0	5.3	5	5.3	5
0.55	MG 80A-C	Teco 80	0	11.5	0	49	-	-	0	0	0	0	0	5.7	4.9	6.7	5.9
0.75	MG 80B-C	Teco 80	0	11.5	0	49	-	-	0	0	0	0	0	7.5	7	7.5	7
1.1	MG 90SB-D	Teco 90S	0	-23.5	0	60	-	-	0	0	0	0	0	-0.4	-1.4	1	0
1.5	MG 90LC-D	Teco 90L	0	-38.5	0	60	-	-	0	0	0	0	0	2.5	1.5	4	3
2.2	MG 100LB-D	Teco 100L	0	-20.5	0	60	-	-	0	0	0	0	0	10	5	13	8
3	MG 100LC-D	Teco 100L	0	-20.5	0	60	-	-	0	0	0	0	0	9	7	8	6
4	MG 112MC-D	Teco 112M	0	-40.5	0	55	-	-	0	0	0	0	0	0	-1	3	2
5.5	Siemens 132S	Teco 132S	0	1.5	0	58	-	-	0	0	0	0	0	18	18	30	30
7.5	Siemens 132M	Teco 132M	0	1.5	0	58	-	-	0	-1	0	0	0	17	17	22	22
11	Siemens 160M	Teco 160M	0	20	0	66	-	-	0	0	0	0	-0,5	35	35	49	49
15	Siemens 160L	Teco 160L	0	24	0	66	-	-	0	0	0	0	-0,5	25	25	51	51
18.5	Siemens 180M	Teco 180M	0	-40	0	47	-	-	0	0	0	0	-0,5	46	46	40	40
22	Siemens 180L	Teco 180M	0	-2	0	47	-	-	0	0	0	0	-0,5	59	59	59	59
30	Siemens 200L	Teco 200L	0	1.5	0	69	-	-	0	0	0	0	-0,5	81	81	81	81
37	Siemens 225S	Teco 225S	0	27	0	102	-	-	0	0	0	0	-0,5	35	35	30	30
45	Siemens 225M	Teco 225M	0	-8	0	102	-	-	0	0	25	0	-0,5	20	20	30	30
55	Siemens 250M	Teco 250S	0	-74.5	0	101	-	-	0	0	-38	0	0	15	15	50	50
75	Siemens 280S	Teco 250M	0	-39.5	-30	61	-	-	0	-51	-19	-22	0	-25	-25	-10	-10
90	Siemens 280M	Teco 280S	30	-48	0	91	-	-	0	0	-51	0	0	-15	-15	5	5
110	Siemens 315S	Teco 280M	0	0	-35	28	-	-	-110	-51	13	-26	-4	-90	-130	-50	-90

P_2 [kW]	EFF1 motor	TECO motor	L (NB)	L(NK/ LB(NK)	H	h4/AD	AG	LL	P	A	B	C	K	EFF2 motor		EFF1 motor	
														NK weight	NB weight	NK weight	NB weight
			[mm]											[kg]	[kg]	[kg]	[kg]
132	Siemens 315MA	Teco 315S	0	-146	0	53	-	-	0	0	-51	0	0	-45	-45	-35	-35
160	Siemens 315MB	Teco 315M	0	-95	0	53	-	-	0	0	-51	0	0	95	95	-85	-85
200	Siemens 315L	Teco 315M	0	-235	0	53	-	-	0	0	0	0	0	-55	-25	-35	-5

6-pole

P_2 [kW]	EFF1 motor	TECO motor	L (NB)	L(NK/ LB(NK)	H	h4/AD	AG	LL	P	A	B	C	K	EFF2 motor		EFF1 motor	
														NK weight	NB weight	NK weight	NB weight
			[mm]											[kg]	[kg]	[kg]	[kg]
0.37	Siemens 80A	Teco 80	0	9	0	38	-	-	0	0	0	0	0,5	7	7	8	8
0.55	Siemens 80B	Teco 80	0	9	0	38	-	-	0	0	0	0	0,5	7	7	9	9
0.75	Siemens 90S	Teco 90S	0	-23.5	0	42	-	-	0	0	0	0	0	5.5	5.5	5	5
1.1	Siemens 90L	Teco 90L	0	-43.5	0	42	-	-	0	0	0	0	0	6	6	6	6
1.5	Siemens 100L	Teco 100L	0	-32.5	0	45	-	-	0	0	0	0	0	8	8	10	10
2.2	Siemens 112M	Teco 112M	0	-39.5	0	41	-	-	0	0	0	0	0	4	4	9	9
3	Siemens 132SA	Teco 132S	0	1.5	0	58	-	-	0	0	-38	0	0	11	11	26	26
4	Siemens 132MA	Teco 132M	0	39.5	0	58	-	-	0	-1	0	0	0	16	16	33	33
5.5	Siemens 132MB	Teco 132M	0	1.5	0	58	-	-	0	-1	0	0	0	13	13	15	15
7.5	Siemens 160M	Teco 160M	0	20	0	66	-	-	0	0	0	0	-0,5	16	16	32	32
11	Siemens 160L	Teco 160L	0	24	0	66	-	-	0	0	0	0	-0,5	39	39	53	53
15	Siemens 180L	Teco 180M	0	-2	0	47	-	-	0	0	0	0	-0,5	66	66	61	61
18.5	Siemens 200LA	Teco 200L	0	1.5	0	69	-	-	0	0	0	0	-0,5	84	84	94	94
22	Siemens 200LB	Teco 200L	0	1.5	0	69	-	-	0	0	0	0	-0,5	63	63	63	63
30	Siemens 225M	Teco 225M	0	-8	0	102	-	-	0	0	25	0	-0,5	20	20	35	35
37	Siemens 250M	Teco 250S	0	-4.5	0	101	-	-	0	0	-38	0	0	0	0	105	105
45	Siemens 280S	Teco 250M	0	-39.5	-30	61	-	-	0	-51	-19	-22	0	-80	-80	45	45
55	Siemens 280M	Teco 280S	30	-48	0	91	-	-	0	0	-51	0	0	40	40	80	80
75	Siemens 315S	Teco 280M	0	0	-35	28	-	-	-110	-51	13	-26	-4	-50	-90	-30	-70
90	Siemens 315MA	Teco 315S	0	-146	0	53	-	-	0	0	-51	0	0	-65	-65	-15	-15
110	Siemens 315MB	Teco 315M	0	-95	0	53	-	-	0	0	-51	0	0	-10	-10	10	10
132	Siemens 315L	Teco 315M	0	-235	0	53	-	-	0	0	0	0	0	-80	-80	-140	-140

WebCAPS



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- Literature
- Service
- Sizing
- Replacement
- CAD drawings.

Catalogue

This section is based on fields of application and pump types, and contains
- technical data
- curves (QH, Eta, P1, P2, etc.) which can be adapted to the density and viscosity of the pumped liquid and show the number of pumps in operation
- product photos
- dimensional drawings
- wiring diagrams
- quotation texts, etc.

Literature

In this section you can access all the latest documents of a given pump, such as
- data booklets
- installation and operating instructions
- service documentation, such as Service kit catalogue and Service kit instructions
- quick guides
- product brochures, etc.

Service

This section contains an easy-to-use interactive service catalogue. Here you can find and identify service parts of both existing and discontinued Grundfos pumps.
Furthermore, this section contains service videos showing you how to replace service parts.

Sizing

This section is based on different fields of application and installation examples, and gives easy step-by-step instructions in how to
- select the most suitable and efficient pump for your installation
- carry out advanced calculations based on energy consumption, payback periods, load profiles, life cycle costs, etc.
- analyse your selected pump via the built-in life cycle cost tool
- determine the flow velocity in wastewater applications, etc.

Replacement

In this section you find a guide to selecting and comparing replacement data of an installed pump in order to replace the pump with a more efficient Grundfos pump.
The section contains replacement data of a wide range of pumps produced by other manufacturers than Grundfos.

Based on an easy step-by-step guide, you can compare Grundfos pumps with the one you have installed on your site. When you have specified the installed pump, the guide will suggest a number of Grundfos pumps which can improve both comfort and efficiency.

CAD drawings

In this section it is possible to download 2-dimensional (2D) and 3-dimensional (3D) CAD drawings of most Grundfos pumps.

These formats are available in WebCAPS:

2-dimensional drawings:
- .dxf, wireframe drawings
- .dwg, wireframe drawings.

3-dimensional drawings:
- .dwg, wireframe drawings (without surfaces)
- .stp, solid drawings (with surfaces)
- .eprt, E-drawings.

WinCAPS

Fig. 32 WinCAPS CD-ROM

WinCAPS is a **Win**dows-based **C**omputer **A**ided **P**roduct **S**election program containing detailed information on more than 185,000 Grundfos products in more than 20 languages.

The program contains the same features and functions as WebCAPS, but is an ideal solution if no Internet connection is available.

WinCAPS is available on CD-ROM and updated once a year.

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Subject to alterations.

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