

2. NS



Fig. 6 NS pump

General description

Grundfos NS pumps are centrifugal pumps designed for lifting water in domestic, industrial and agricultural installations.

The pumps come in two versions:

- single-impeller pumps
- twin-impeller pumps.

Features

- The pumps are efficient solutions in a simple design for the transfer of water.
- The materials of the pumps ensure an excellent robustness.
- All single-phase versions have built-in overload protection.

Constructional features

Pump

Cast-iron pump housing and motor stool treated against corrosion.

Technopolymer or cast-iron impeller.

Carbon/ceramic mechanical seal on stainless-steel rotor shaft extension.

Motor

Totally enclosed fan-cooled induction motor. The rotor is mounted on oversized greased-for-life ball bearings ensuring silent running and long life.

Single-phase pumps have built-in overload protection.

Three-phase pumps require additional protection.

Single-phase pumps have a capacitor which is permanently in circuit.

Enclosure class:	Motor: IP44. Terminal box: IP55.
Insulation class:	F.
Supply voltage:	1 x 220-240 V, 50 Hz. 3 x 220-240 / 380-415 V, 50 Hz.

Material specification

Single-impeller pumps

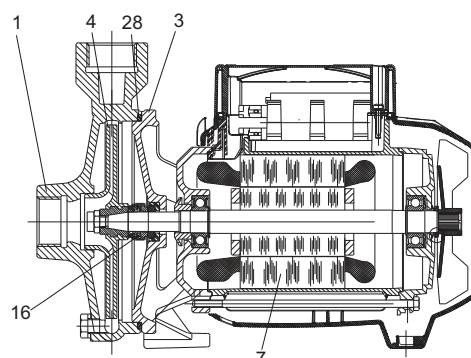


Fig. 7 NS single-impeller pump

Twin-impeller pumps

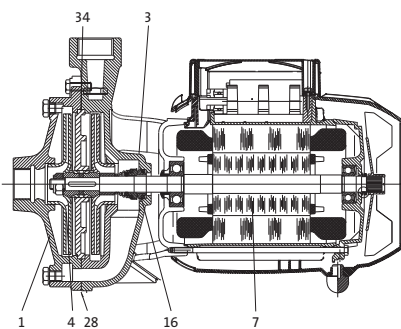


Fig. 8 NS twin-impeller pump

Pos.	Description	Material	Pump type
1	Pump housing	Cast iron 200 UNI ISO 185	
3	Motor stool	Cast iron 200 UNI ISO 185	
4	Impeller	Technopolymer A	NS 3-40, NS 4-23, NS 5-33, NS 5-50, NS 6-30, NS 6-40, NS 13-18
		Technopolymer B	NS 5-60
7	Shaft	Cast iron EN-GJL-200	NS 30-18, NS 30-30, NS 30-36
		Stainless steel AISI 416 X12 CrS 13 UNI 6900/71	NS 3-40, NS 4-23, NS 5-33, NS 13-18
		Stainless steel AISI 303 X10 CrNiS 1809 UNI 6900/71	NS 5-50, NS 5-60, NS 6-30, NS 6-40, NS 30-18, NS 30-30, NS 30-36
16	Mechanical shaft seal	Carbon/ceramic	
28	O-ring	NBR	NS 3-40, NS 4-23, NS 5-33, NS 5-50, NS 5-60, NS 6-30, NS 6-40, NS 13-18
		EPDM	NS 30-18, NS 30-30, NS 30-36
34	Disc	Cast iron 200 UNI ISO 185	

Marks



Technical data

Operating range:	Single-impeller pumps: 1.8 - 16.8 m ³ /h and heads up to 34 metres Twin-impeller pumps: 1.5 - 10.8 m ³ /h and heads up to 60 metres	
	0-35 °C for domestic use	
Liquid temperature:	-10 - +50 °C for other uses	NS 3-40, NS 4-23, NS 5-33, NS 5-50, NS 6-30, NS 6-40, NS 13-18
	-15 - +110 °C for other uses	NS 5-60, NS 30-18, NS 30-30, NS 30-36
Pumped liquids:	Thin, clean, non-aggressive and non-explosive liquids, not containing solid particles or fibres.	
Maximum ambient temperature:	40 °C	
Maximum operating pressure:	6 bar (600 kPa)	NS 3-40, NS 4-23, NS 5-33, NS 6-30, NS 6-40, NS 13-18, NS 30-18
	8 bar (800 kPa)	NS 5-50, NS 5-60, NS 30-30, NS 30-36
Installation:	Horizontal or vertical position. If the pump is installed in vertical position, the motor must be above the pump.	
On request:	Other voltages and/or frequencies	

Performance curves

Curve conditions

The performance curves are based on a kinematic viscosity of 1 mm²/s and a density of 1000 kg/m³. Tolerances are according to ISO 9906, Annex A.

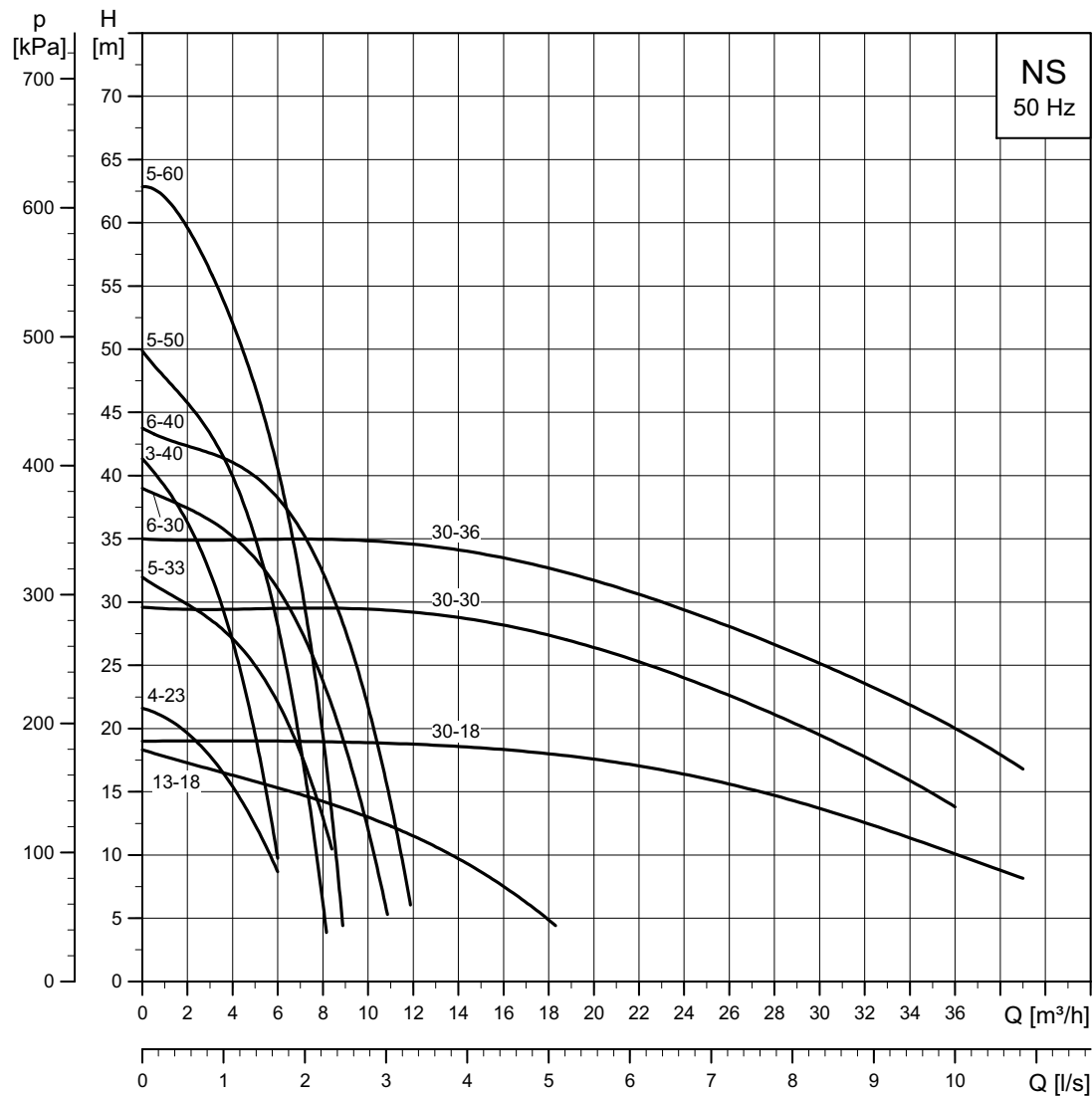
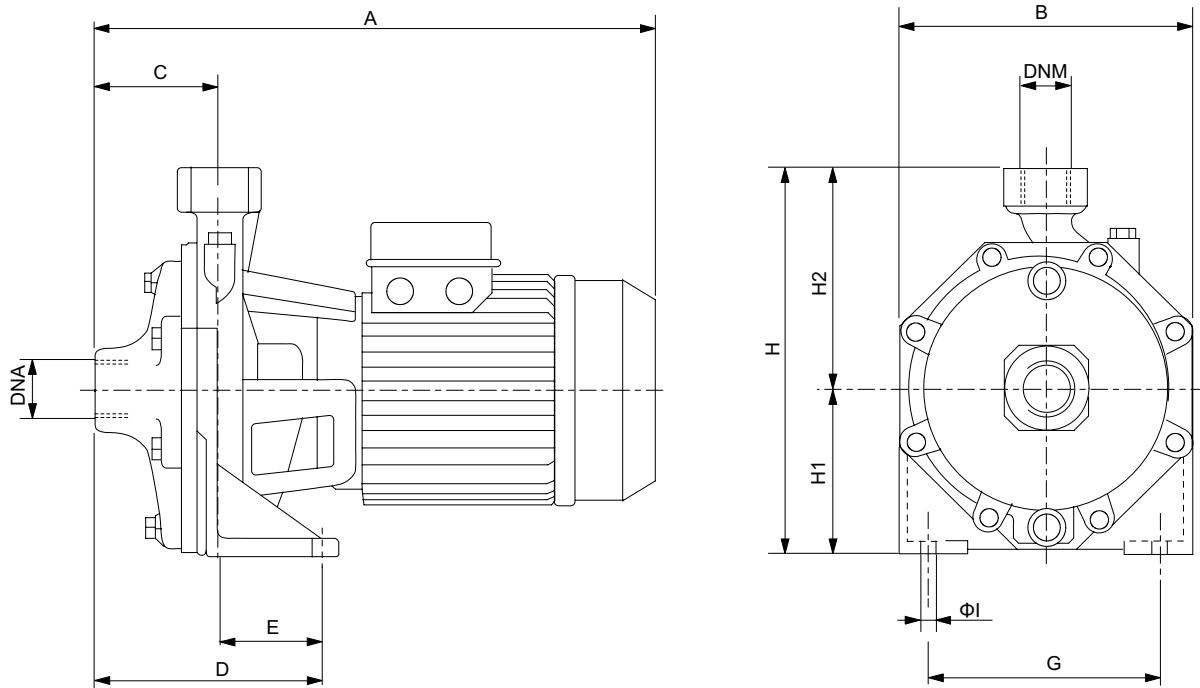


Fig. 9 Performance curves of NS pumps

TM02 8934 2415

Dimensions

NS 3-40, NS 4-23, NS 5-33, NS 5-50, NS 5-60



TM06 4482 2415

Fig. 10 Dimensional sketches of NS pumps

Pump type	Voltage [V]	A	B	C	D	E	F	G	H	H1	H2	ØI	DNA	DNM	Weight [kg]
NS 3-40	1 x 220-240	362	180	76	148	72	15	148	235	100	135	9.5	Rp 1	Rp 1	15
NS 4-23	1 x 220-240	275	160	50	100	50	15	110	205	85	120	9	Rp 1	Rp 1	10
NS 5-33	1 x 220-240	330	185	50	108	58	15	140	235	100	135	9	Rp 1	Rp 1	15
NS 5-50	1 x 220-240	370	210	75	144	69	15	165	268	118	150	11.5	Rp 1 1/4	Rp 1	26
NS 5-60	1 x 220-240	370	210	75	144	69	15	165	268	118	150	11.5	Rp 1 1/4	Rp 1	25

Product numbers and electrical data

Pump type	Production place		Voltage		P1	I _{1/1}	Capacitor		Product number
	Italy		1 x 220-240 V 50 Hz	3 x 380-415 V 50 Hz	Max. [kW]	[A]	[μF]	[Vc]	
NS 3-40	•		•		1.2	5.5	20		98904963
NS 4-23	•		•		0.65	3	10		98904964
NS 5-33	•		•		1.3	6	20		98904966
NS 5-50	•		•		1.9	8.3	31.5		98904967
NS 5-60	•		•		2.7	12.8	40	450	98904968
NS 6-30	•		•		1.56	7.1	25		98904969
NS 6-40	•		•		2	9	40		98904970
NS 13-18	•		•		1.1	9.5	20		98904981
NS 30-18	•		•		1.85	9.5	20		98904982
NS 30-18	•			•	2.1	3.6			98904983
NS 30-30	•			•	3.8	14.7	-	-	98907044
NS 30-36	•			•	4.55	10.2			98907045