

BQPM SERIES

ISO 2858 monoblock centrifugal pump - Chemical process

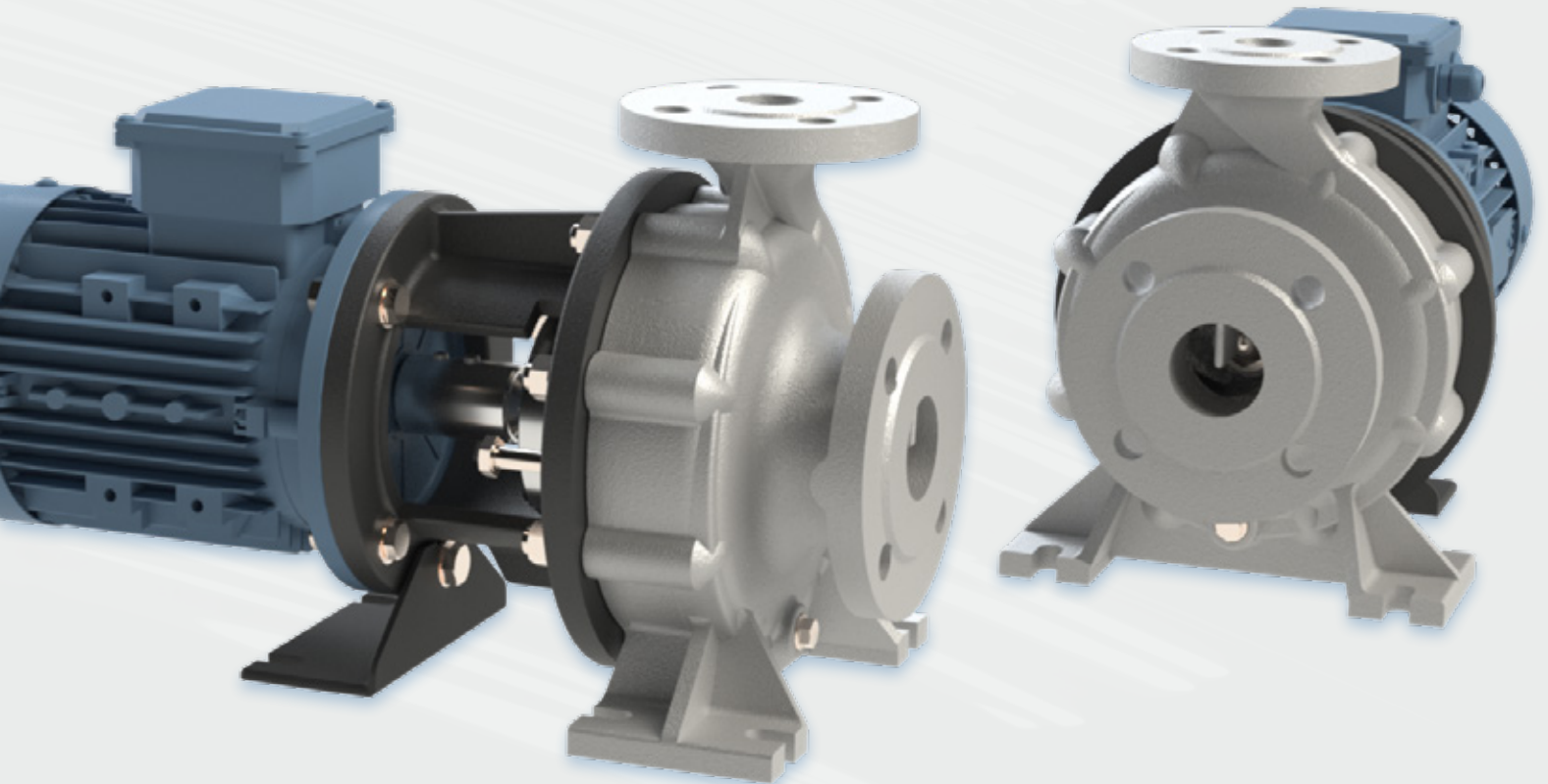
SPECIFICATIONS _____

DESIGN _____

SPARE PARTS _____

DIMENSIONS _____

PERFORMANCE CURVES _____



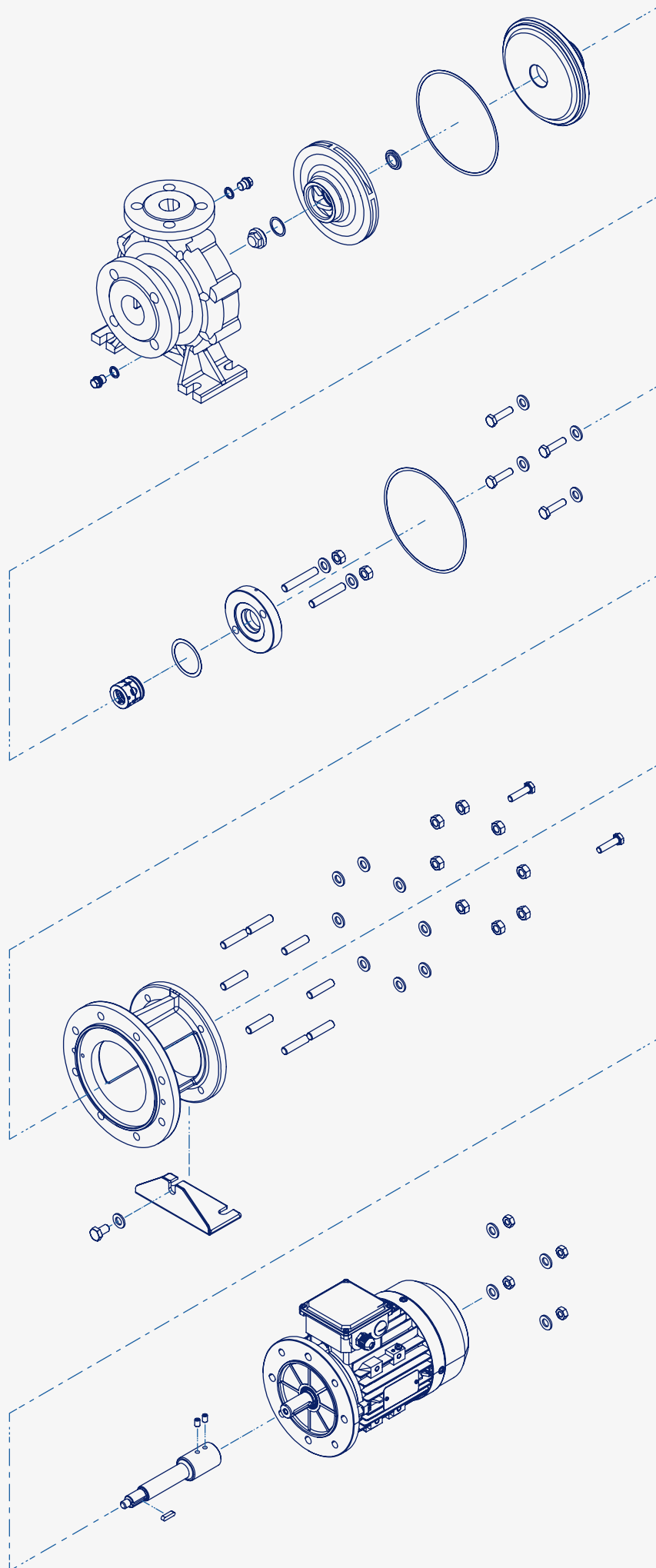
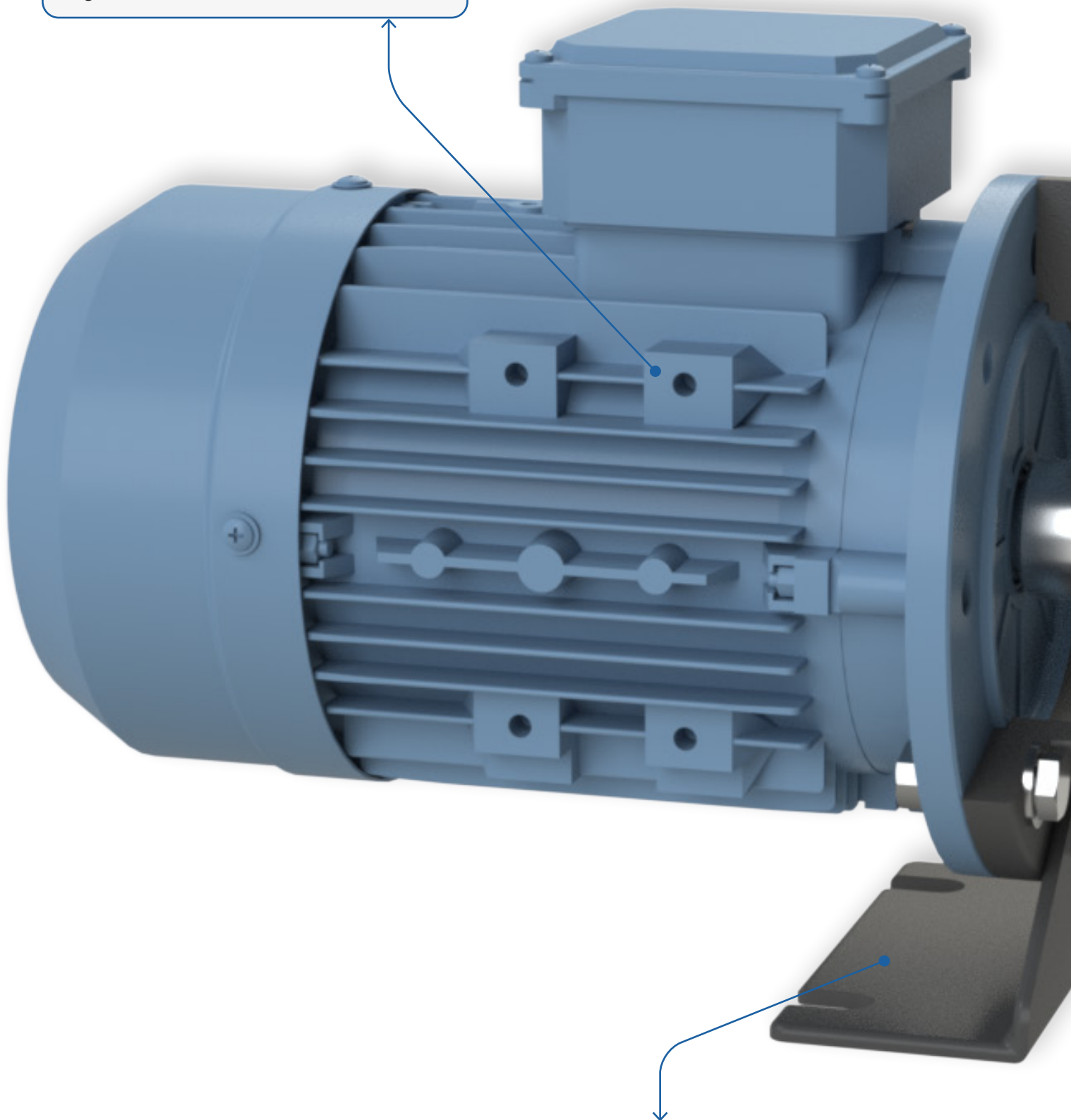


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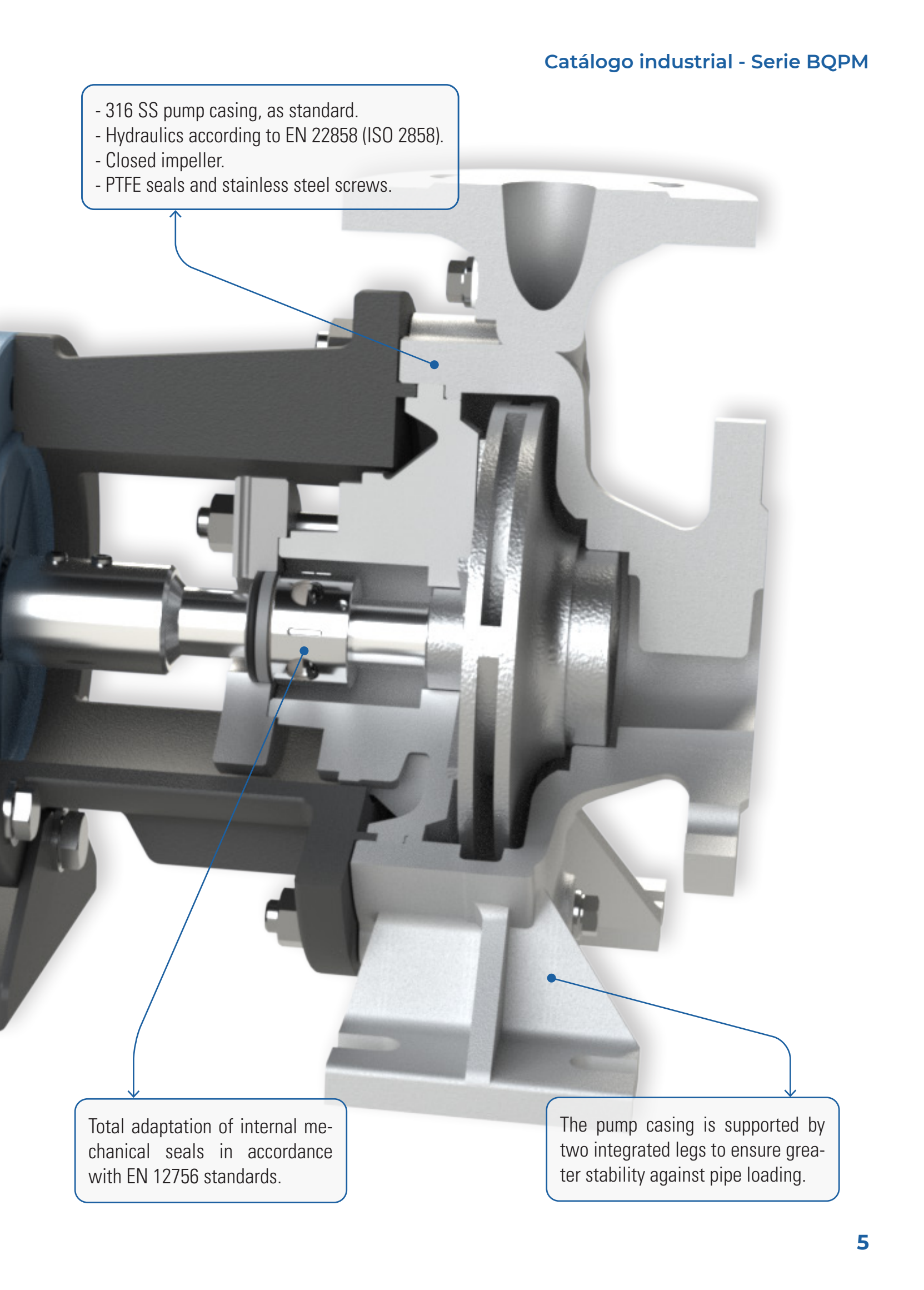
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The pump is provided with a high-efficiency electric motor flanged to the pump lantern, with an easy access for dismantling.

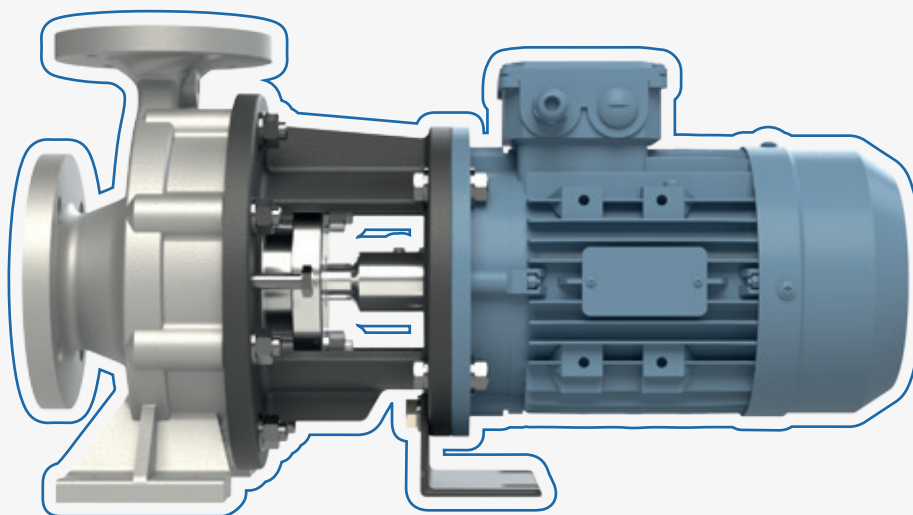


Rear support leg that carries the weight of the electric motor and maintains the correct alignment of the shaft throughout the whole assembly.

- 316 SS pump casing, as standard.
 - Hydraulics according to EN 22858 (ISO 2858).
 - Closed impeller.
 - PTFE seals and stainless steel screws.
- 

Total adaptation of internal mechanical seals in accordance with EN 12756 standards.

The pump casing is supported by two integrated legs to ensure greater stability against pipe loading.



BQPM Series

To complement our range of chemical process pumps, **BOMBA ELIAS S.A.** designed more than 30 years ago a monoblock centrifugal pump with the hydraulic performance of the renowned BQP Series, the company's leading centrifugal process pump on the market.

This is the **BQPM Series**, which is defined as a horizontal, single-cell, radial-flow, rotodynamic (centrifugal) pump, designed in monoblock construction under the **EN 22858** standards (ISO 2858 - DIN 24256). It offers excellent hydraulic performance and has a very low NPSH requirement, which reduces the risk of cavitation at the pump suction.

The structural parts in contact with the fluid, as well as the gaskets and the internal mechanical seal, have a great versatility of construction materials for a total compatibility with the transfer fluid due to its chemical conditions, temperature, pressure, viscosity and the presence of abrasive particles.

Its small monoblock design makes it much easier to install the pump and also allows an horizontal, vertical or inclined installation of the equipment. In addition, it considerably simplifies maintenance activities of the equipment.

It is worth mentioning that this series is suitable for installation with a stainless steel pre-filter, which we also have available, to convert the unit into a self-priming pump.



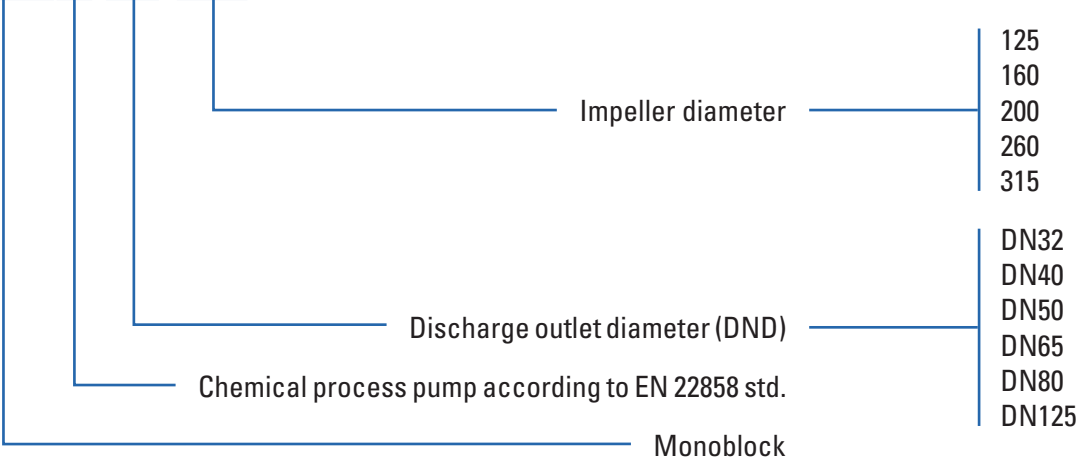
Typical applications

- Chemical and petrochemical processing.
- Acid transfer.
- Corrosive environments.
- Food and pharmaceutical industry.
- High temperature fluids.

Specifications

Nomenclature

BQPM 32-160



Materials

Casing	Cover	Impeller	Pump shaft	Lantern
Carbon steel	Carbon steel	Carbon steel	Carbon steel	Cast Iron GG-25
AISI 304L	AISI 304L	AISI 304L	AISI 304L	
AISI 316	AISI 316	AISI 316	AISI 316	
AISI 316L	AISI 316L	AISI 316L	AISI 316L	
AISI 904L - Hastelloy	AISI 904L - Hastelloy	AISI 904L - Hastelloy	AISI 904L - Hastelloy	
URANUS B6	URANUS B6	URANUS B6	URANUS B6	

Usage limits

Range of flow rates	Models up to 200 m³/h
Max. discharge head	Models up to 150 m
Max. operating pressure	16 bar
Temperature range	150°C according to gaskets and mechanical seals



Connections

Model	DND	DNS	D
32-125/160/200/260	DN 32	DN 50	
40-160/200/260/315	DN 40	DN 65	
50-160/200/260/315	DN 50	DN 80	
65-160/200	DN 65	DN 100	
80-160/200	DN 80	DN 125	

Motor technical data

Motor type	Three-phase according to IEC 60034-30 standards
Efficiency	- IE2 o IE3 for powers > 1 HP - IE1 if the power < 1 HP - It can be supplied up to IE5.
Tension	- Three-pase 230/400 V ± 10% up to 5,5 HP - Three-pase 400/690 V ± 10% from 7,5 HP
Poles	2 and 4
Level of protection	IP55
Insulation	F Class

Design

Components

Pump casing/volute

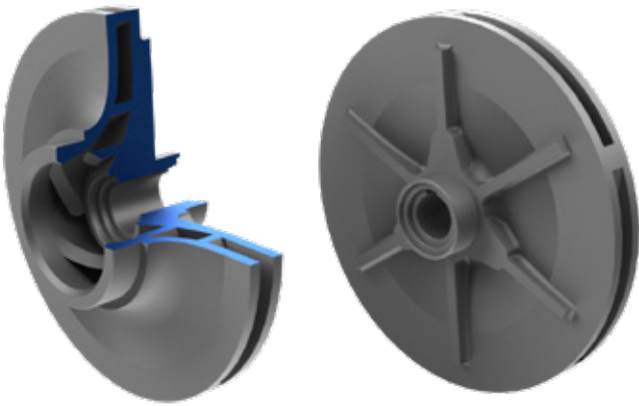
The pump casing, or volute, is of the cantilevered spiral type for all models in the series. It has an open design on the cover side, where lantern and bearing bracket are fitted.

The volute is one-piece casted, including the support legs, which guarantee total stability of the assembly against the pipe load.

As far as the inlets and outlets are concerned, the suction is located on the axial axis while the discharge is perpendicular to the inlet axial axis, with the direction of flow being radial in the impeller.



Impeller



The pump is fitted with a closed, single-suction radial impeller. As standard, it is manufactured in 316 stainless steel, although it is available in different metallurgies on request.

It is equipped with rear auxiliary blades that help to relieve pressure in the area of the mechanical seal and also facilitate the cleaning of its housing.

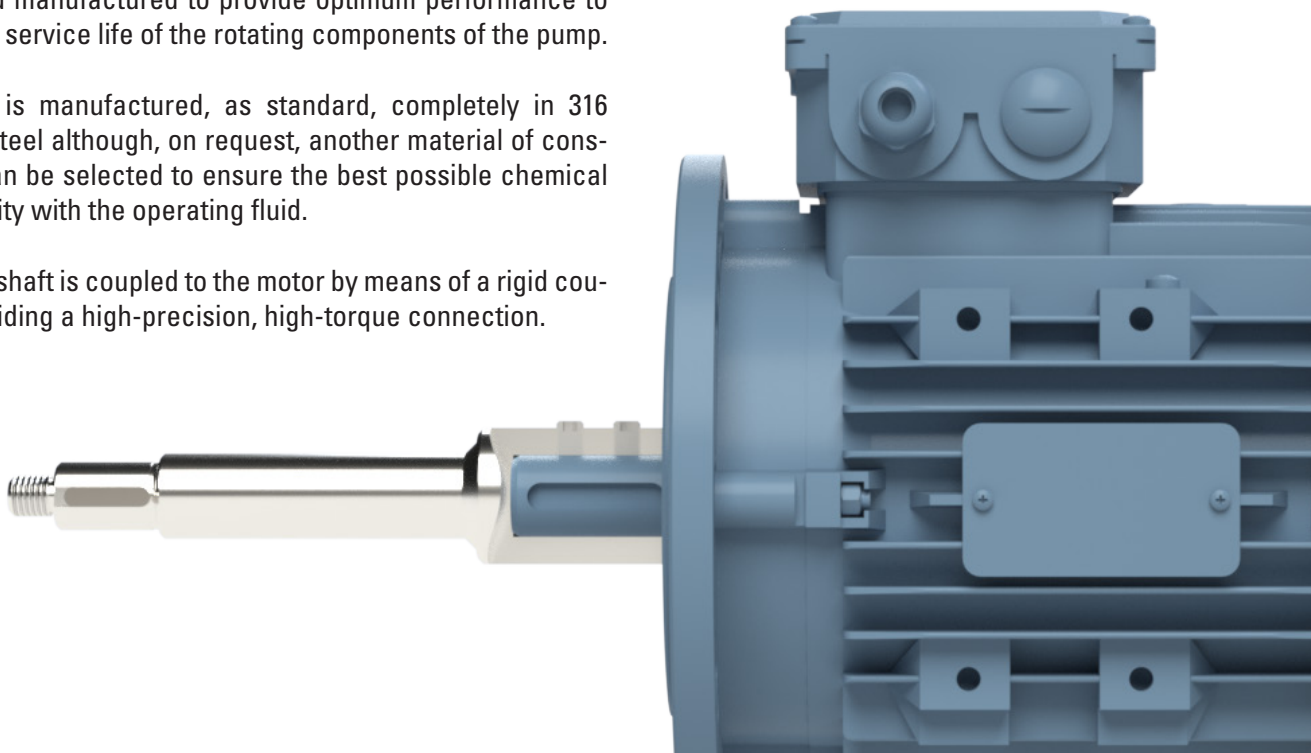
For special applications, the impeller can be supplied in a semi-open design, making it ideal for the transfer of dirty fluids or fluids with small suspended solids.

Pump shaft

The shafts for each model of the BQPM series have been designed and manufactured to provide optimum performance to extend the service life of the rotating components of the pump.

The shaft is manufactured, as standard, completely in 316 stainless steel although, on request, another material of construction can be selected to ensure the best possible chemical compatibility with the operating fluid.

The pump shaft is coupled to the motor by means of a rigid coupling, providing a high-precision, high-torque connection.

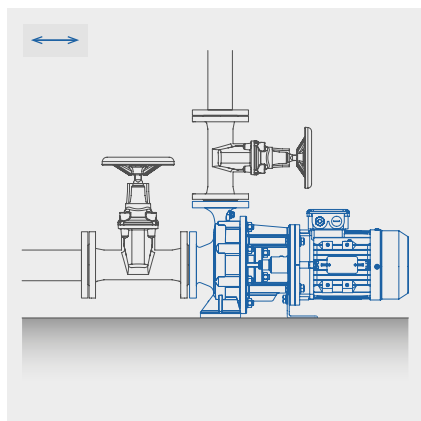




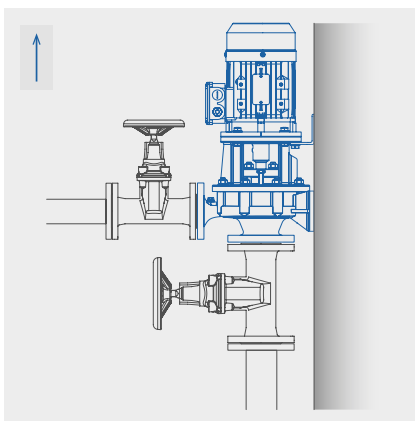
Installation

As it is a monoblock unit, the BQPM is easy to install and only requires a minimum of civil works. The models in this series can be installed in any position, with the shaft positioned horizontally, vertically or inclined, but in no case should the motor be at a lower level than the pump, as a possible leakage would damage the motor.

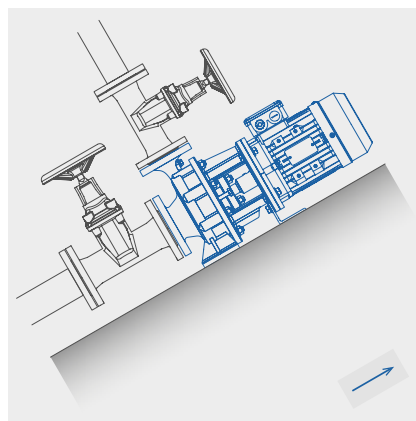
Horizontal



Vertical



Inclined

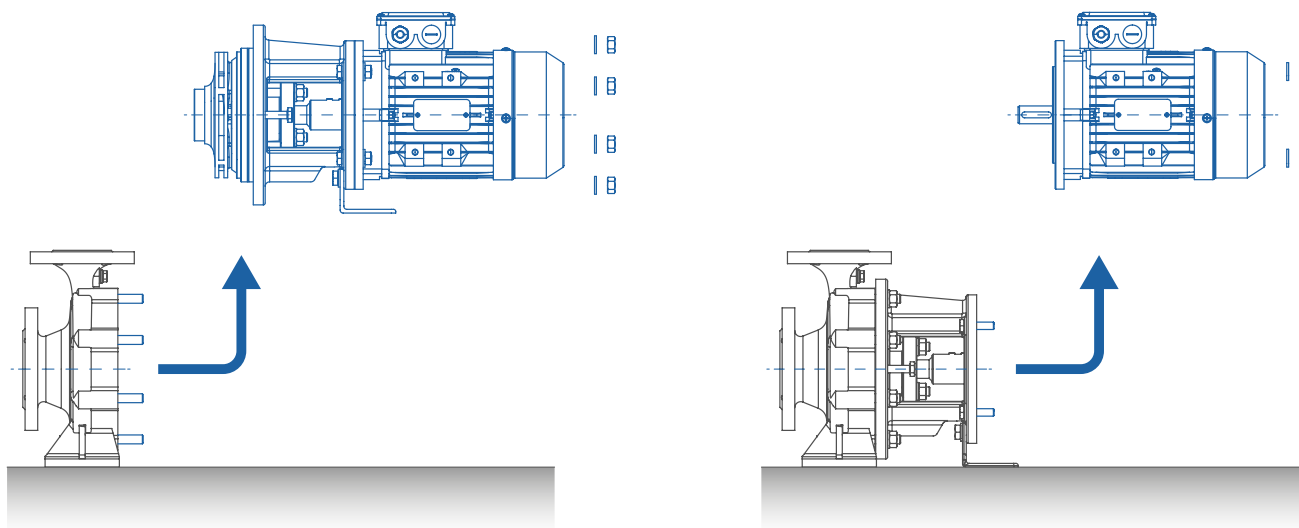


Maintenance

The monoblock design of the unit with rigid coupling between pump and motor is very useful when it comes to maintenance purposes.

Firstly, it is possible to disassemble the pump without having to disconnect the pump casing from the installation piping, and the rotating parts of the equipment can be accessed for checking, cleaning, repairing or replacing parts (gaskets, mechanical seal, bearings, bushings, etc.).

On the other hand, it is also possible to remove only the motor, detaching it from the shaft and the lantern, if necessary.



Prefilters

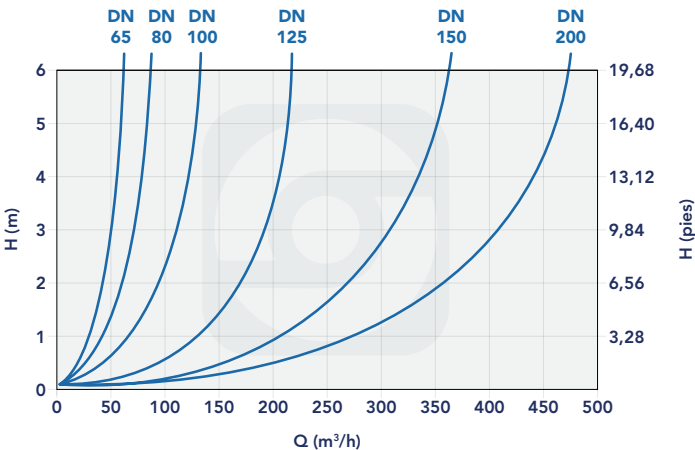
Description

The STV and STH series correspond to a range of high capacity pre-filters, which trap any solid bodies in suspension present in the fluid, thus preventing their advance into the pump's hydraulic assembly.

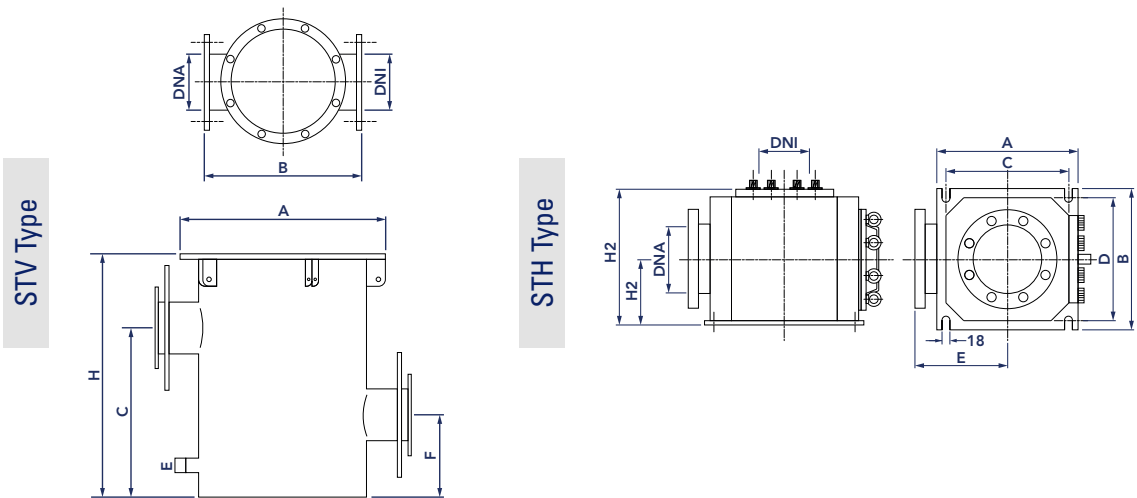
Both are made of AISI 316L stainless steel.

Inlet and outlet flanges according to DIN 2501 standard with connections from DN-65 (2 1/2') up to DN 200 (8') provided with 5 316 stainless steel locking knobs for a perfect sealing of the cover.

Selection chart



Dimensions



Series	Model	Prefilter dimensions										Technical data	
		DND	DNS	A	B	C	E	F	H	H1	H2	Weight (kg)	Volume (l)
STV Type	65/65	65	65	308	380	250	1/2"	120	430	-	-	26	17
	80/80	80	80	308	380	250	1/2"	120	430	-	-	28	17
	100/100	100	100	308	380	270	1/2"	155	430	-	-	40	17
	125/125	125	125	308	380	270	1/2"	155	430	-	-	48	17
	150/150	150	150	398	460	380	1/2"	190	610	-	-	52	48
	200/200	200	200	398	460	380	1/2"	190	610	-	-	58	48
STH Type	100/80	80	100	370	370	330	260	-	-	150	310	34,2	42
	125/100	100	125	370	370	330	260	-	-	150	310	37,4	42
	150/125	125	150	450	450	400	290	-	-	185	380	53,9	77
	250/150	150	250	435	535	390	290	-	-	215	440	72,6	105



Sealing solution

NV-EL Type mechanical seal

Characteristics

- Modular design. Components are easily interchangeable and fabricated in a variety of materials for each application.
- Reversible. It can rotate in both directions indistinctly.
- Friction faces in monolithic and semi-balanced construction.
- Robustness. Fixed to the shaft by means of set screws and torque transmission through a solid machined steel ring.
- Spring. The cylindrical spring design allows to work with loaded liquids without locking problems.
- Simple assembly. The closure incorporates an indicator to adapt to the working benchmark.
- Self-cleaning. The design of the closure avoids the accumulation of product on its surface.
- Dimensions according to *EN 12756* standards.

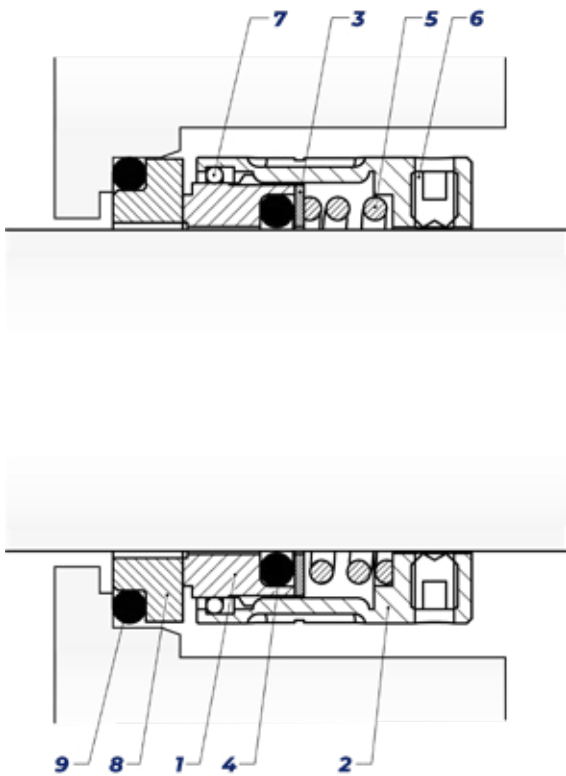


Usage limits

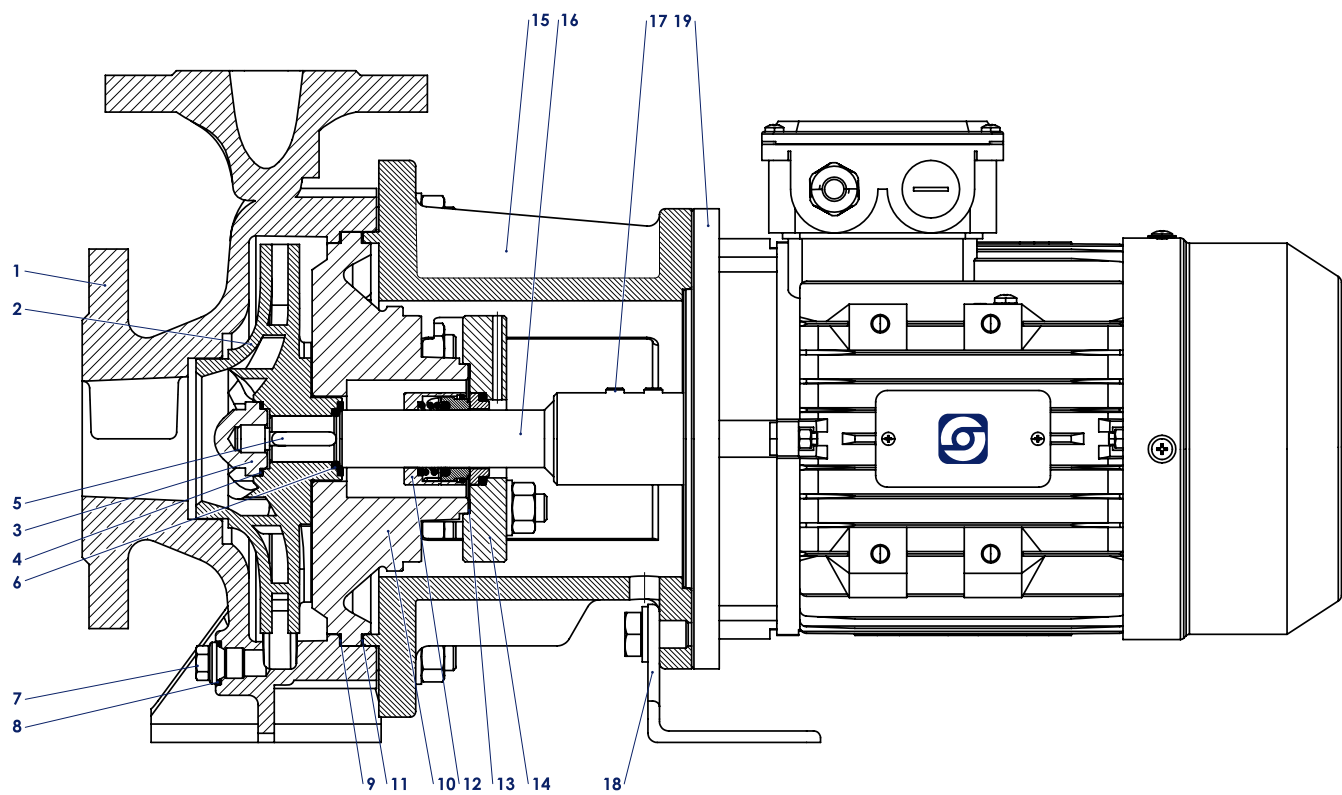
- P (Pressure): Up to 16 bar depending on the PV factor.
- T (Temperature): -40°C up to 200°C (depending on the secondary seal material).
- vg (Velocity): 20 m/s (10 m/s for U1U1)

Components breakdown

REF	Designation	Material
1	Rotating ring	Carbon resin
2	Draging sleeve	CrNiMo-steel
3	Gasket	CrNiMo-steel
4	Shaft gasket	FPM (Viton)
5	Spring	CrNiMo-steel
6	Set screw kit	CrNiMo-steel
7	Safety ring	CrNiMo-steel
8	Stationary ring	Silicone carbide Q2
9	Stationary gasket	FPM (Viton)



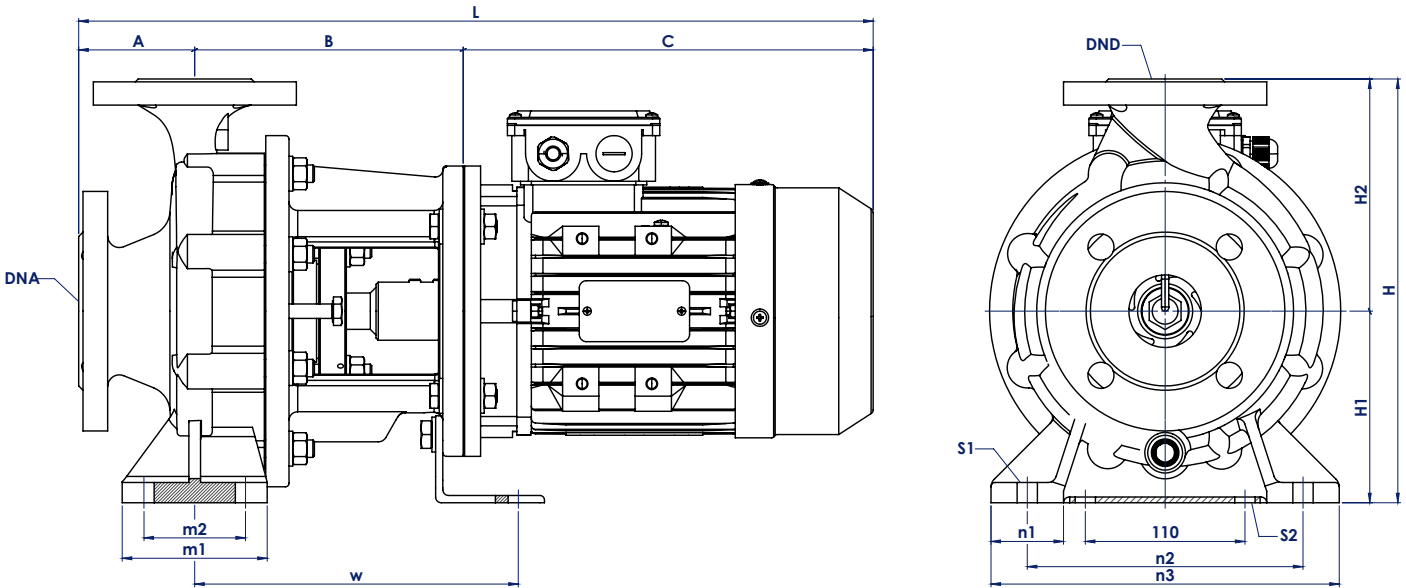
Components breakdown



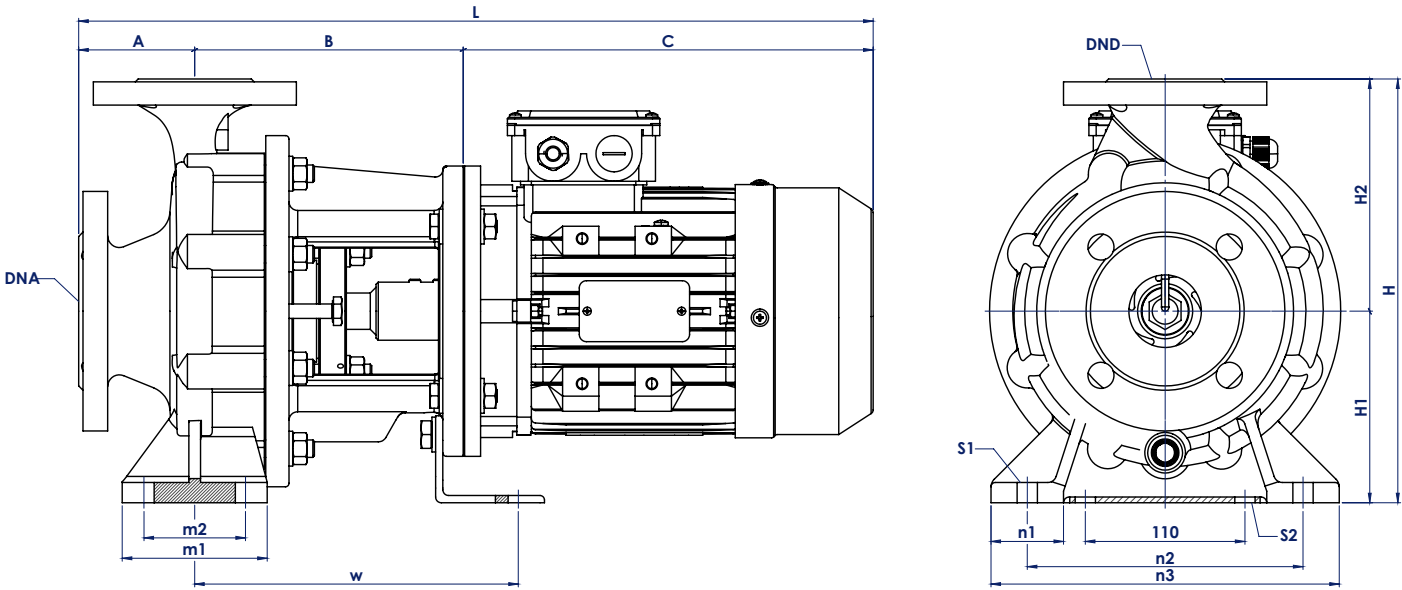
REF	Designation	REF	Designation
1	Pump casing/volute	11	Cover/lantern gasket
2	Impeller	12	Mechanical seal
3	Shaft end nut	13	Mechanical seal cover gasket
4	Shaft end nut gasket	14	Mechanical seal cover
5	Shaft front key	15	Lantern
6	Impeller conversion washer	16	Pump shaft
7	Pump casing draining plug	17	Pump shaft stud bolts
8	Pump casing draining plug gasket	18	Rear supporting leg
9	Pump casing/cover gasket	19	Motor
10	Pump cover		



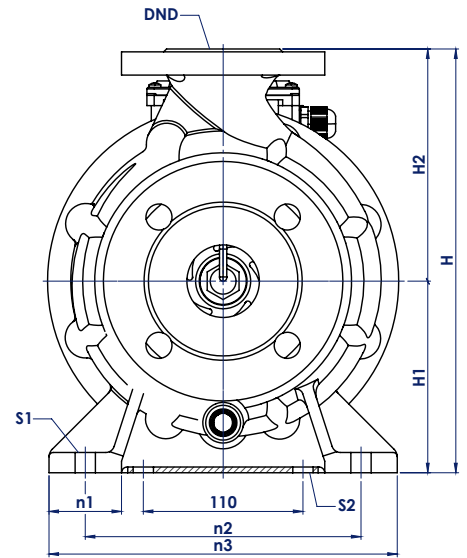
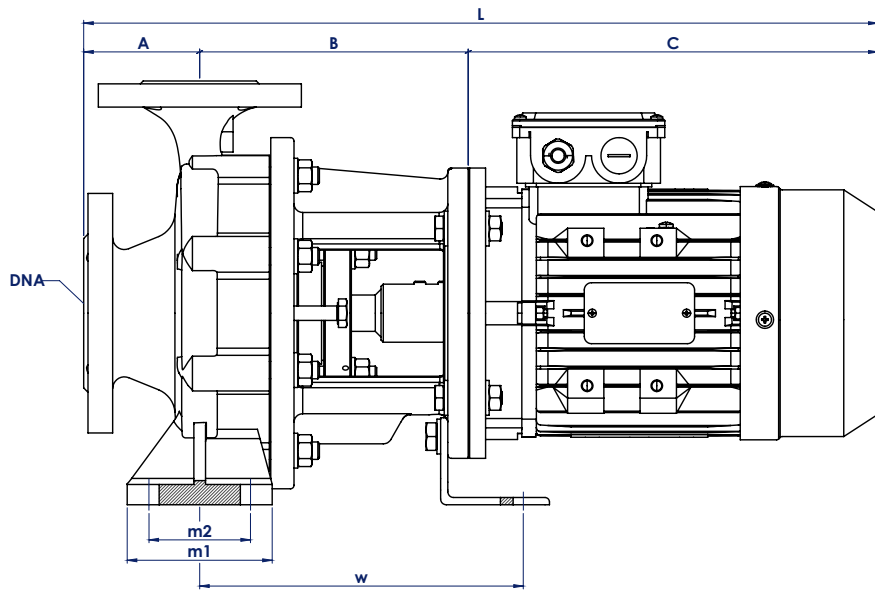
Dimensions table



Model	Motor	Pump dimensions									Support/feet dimensions							
		DND	DNS	L	A	B	C	H	H1	H2	m1	m2	n1	n2	n3	s1	s2	w
32-125	80	32	50	519	80	184	255	252	112	140	100	70	50	140	190	14	14	222
	90S			549			285											
	90L			579			315											
	100			604			340											
32-160	80	32	50	519	80	184	255	292	132	160	100	70	50	190	240	14	14	222
	90S			549			285											
	90L			579			315											
	100/112			604			340											
	132S			676		246	350											282
32-200	80	32	50	519	80	184	255	340	160	180	100	70	50	190	240	14	14	222
	90S			549			285											
	90L			579			315											
	100/112			604			340											
	132S			676		246	350											282
32-260	100/112	32	50	694	100	254	340	405	180	225	125	95	65	250	320	14	14	290
	132S			704			350											
	160M			884			530											
40-160	80	40	65	519	80	184	255	292	132	160	100	70	50	190	240	14	14	222
	90S			549			285											
	90L			579			315											
	100/112			604			340											
	132S			676		246	350											282

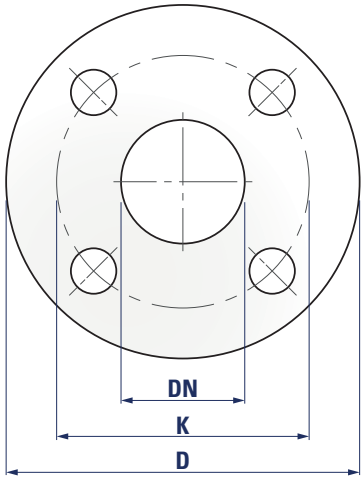


Model	Motor	Pump dimensions									Support/feet dimensions							
		DND	DNS	L	A	B	C	H	H1	H2	m1	m2	n1	n2	n3	s1	s2	w
40-200	80	40	65	539	100	184	255	340	160	180	100	70	50	212	265	14	14	222
	90S			569			285											
	90L			599			315											
	100/112			624		246	340											282
	132S			696			350											
	160M			876			530											
40-260	100/112	40	65	694	100	254	340	405	180	225	125	95	65	250	320	14	14	290
	132S			704			350											
	160M/160L			884			530											
40-315	100/112	40	65	719	125	254	340	450	200	250	125	95	65	280	345	14	14	290
	132S			729			350											
	160M,160L			909			530											
50-160	80	50	80	539	100	184	255	340	160	180	100	70	50	212	265	14	14	222
	90S			569			285											
	90L			599			315											
	100/112			624		246	340											282
	132S			696			350											
	160M			876			530											
50-200	90S	50	80	569	100	184	285	360	160	200	100	70	50	212	265	14	14	222
	90L			599			315											
	100/112			624		246	340											
	132S			696			350											282
	160M, 160L			876			530											



Model	Motor	Pump dimensions									Support/feet dimensions							
		DND	DNS	L	A	B	C	H	H1	H2	m1	m2	n1	n2	n3	s1	s2	w
50-260	100/112	50	80	719	125	254	340	405	180	225	125	95	65	250	320	14	14	290
	132S			729			350											
	160M/160L			909			530											
50-315	112	50	80	719	125	254	340	450	200	250	125	95	65	280	345	14	14	290
	132S			729			350											
	132M			779			400											
65-160	100/112	65	100	693	100	253	340	360	160	200	125	95	65	212	280	14	14	289
	132S			703			350											
	160M			883			530											
65-200	100/112	65	100	694	100	248	340	405	180	225	125	95	65	250	320	14	14	284
	132S			704			350											
	160M, 160L			884			530											
80-160	100/112	80	125	719	125	254	340	405	180	225	125	95	65	250	320	14	14	290
	132S			729			350											
	160M, 160L			909			530											
80-200	100/112	80	125	719	125	254	340	430	180	250	125	95	65	280	345	14	14	284
	132S			729			350											
	160M, 160L			909			530											

Flange dimensions

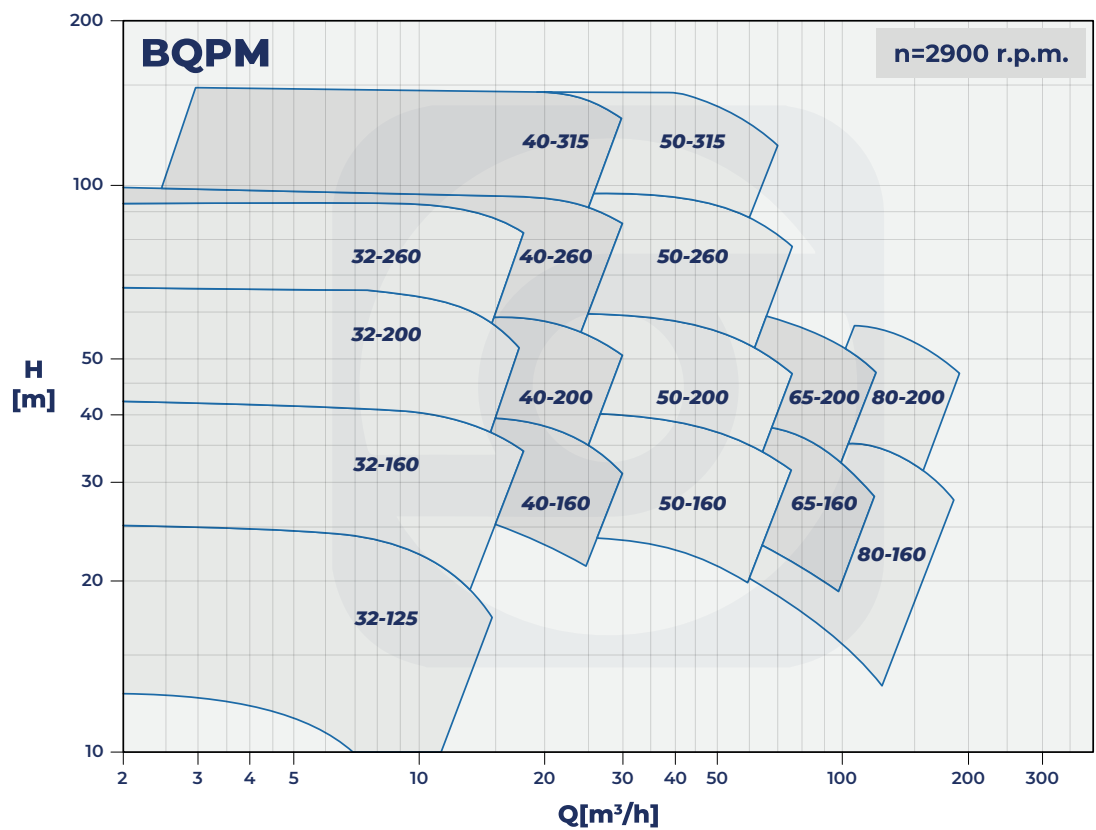


DN	DIN 2501 PN16 Flange dimensions			
	D	K	Holes	
			Nº	Ø
32	140	100	4	18
40	150	110		
50	165	125		
65	185	145		
80	200	160	8	
100	220	180		
125	250	210		

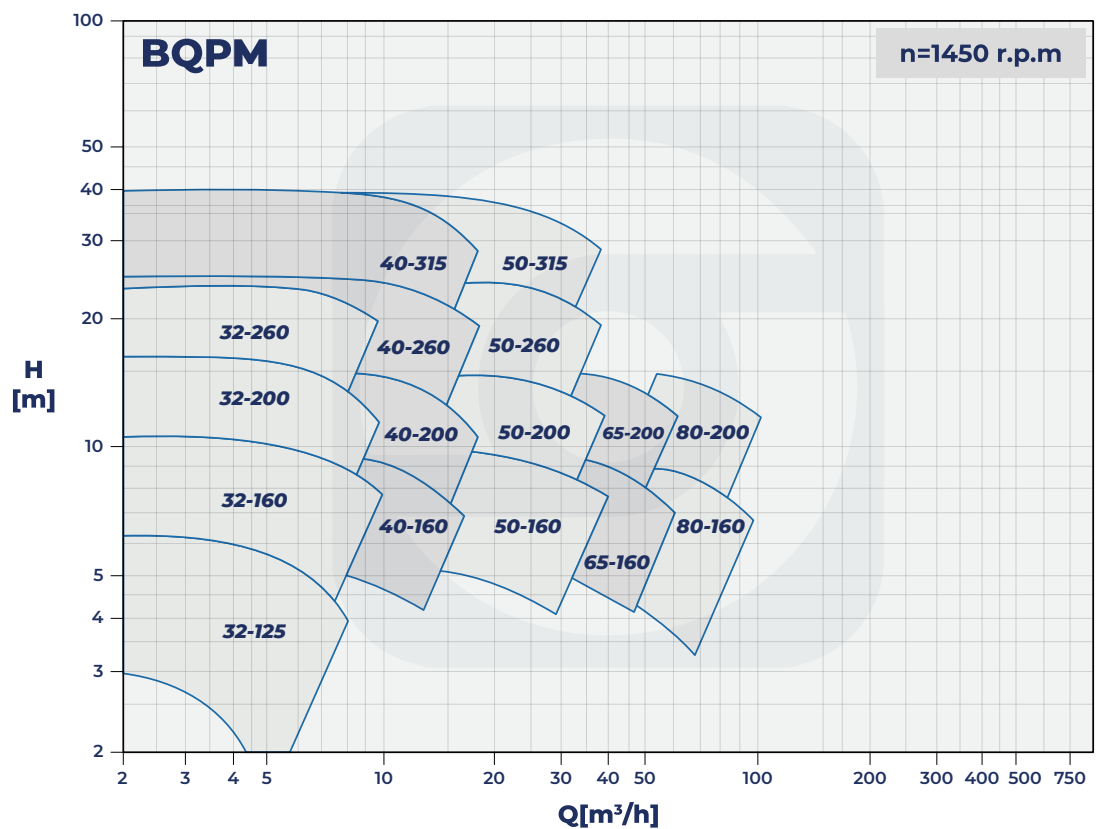


Pump selection graphics

$n = 2900 \text{ r.p.m.} / 50 \text{ Hz}$

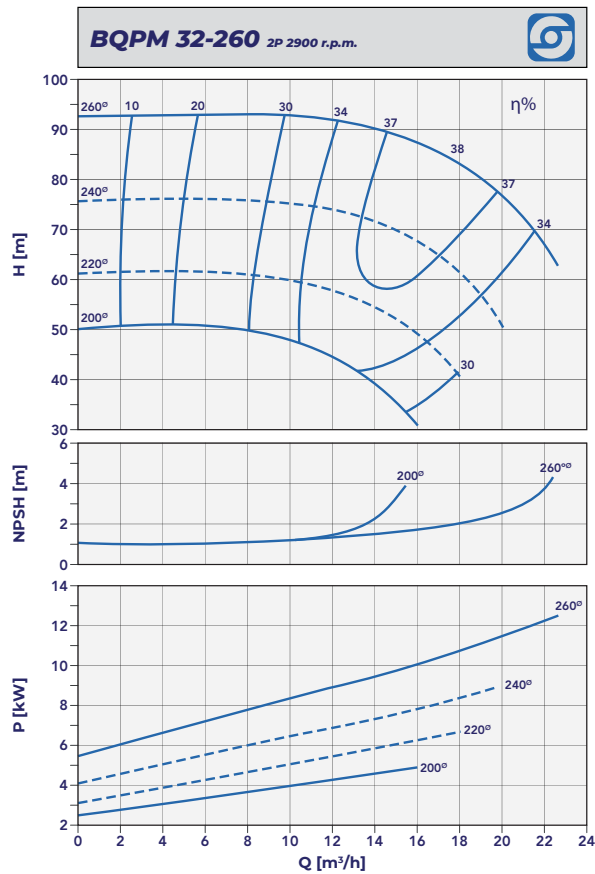
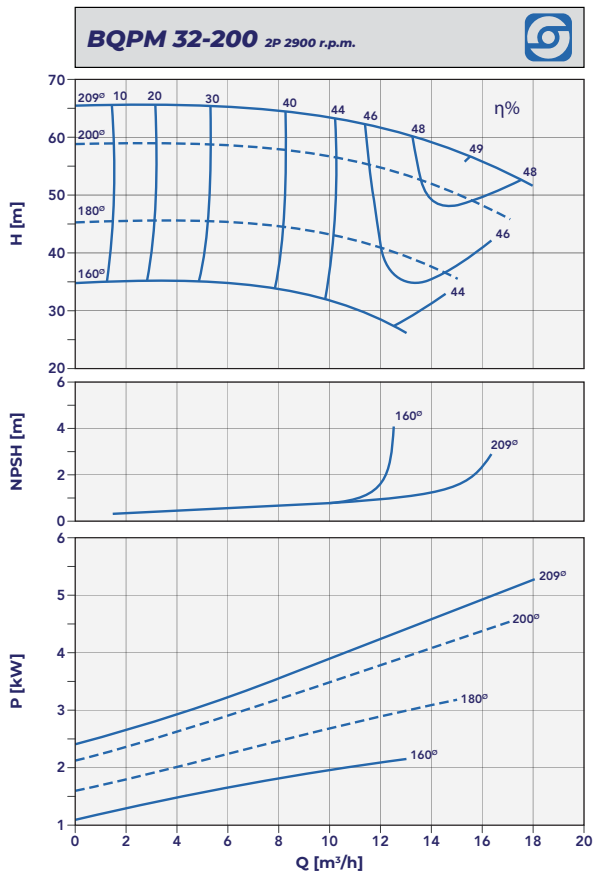
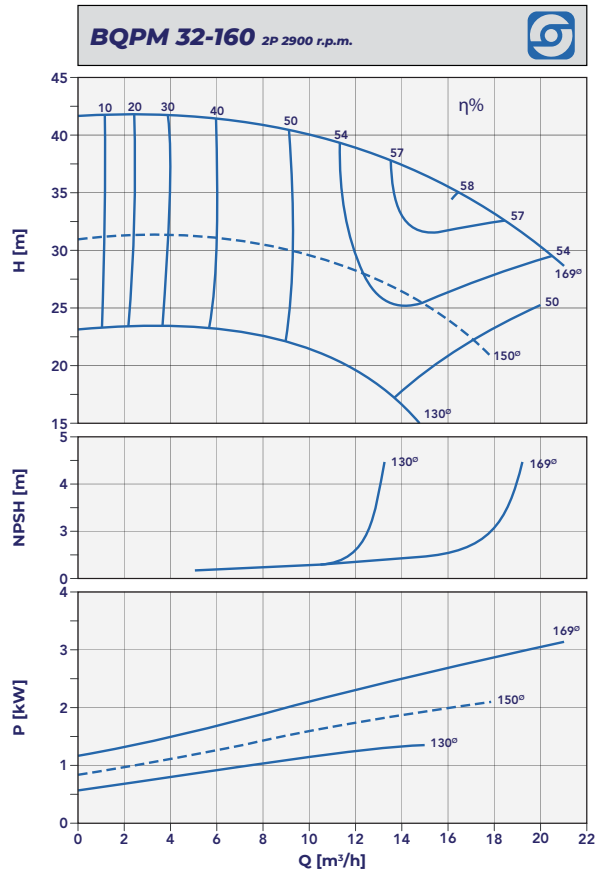
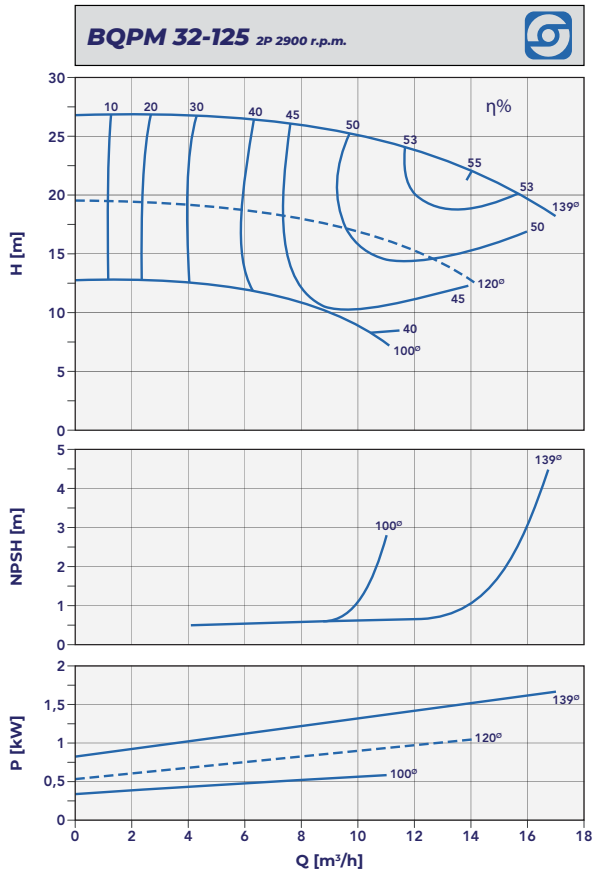


$n = 1450 \text{ r.p.m.} / 50 \text{ Hz}$



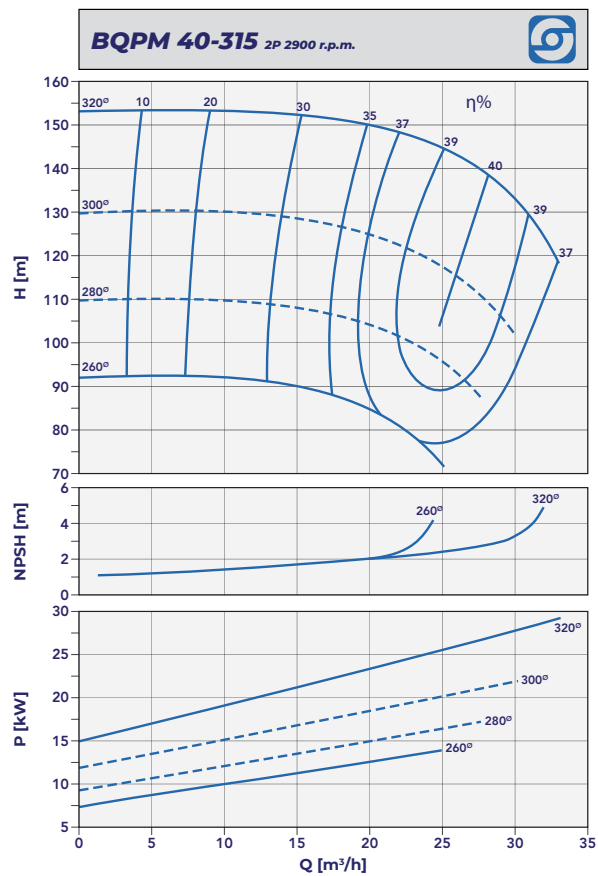
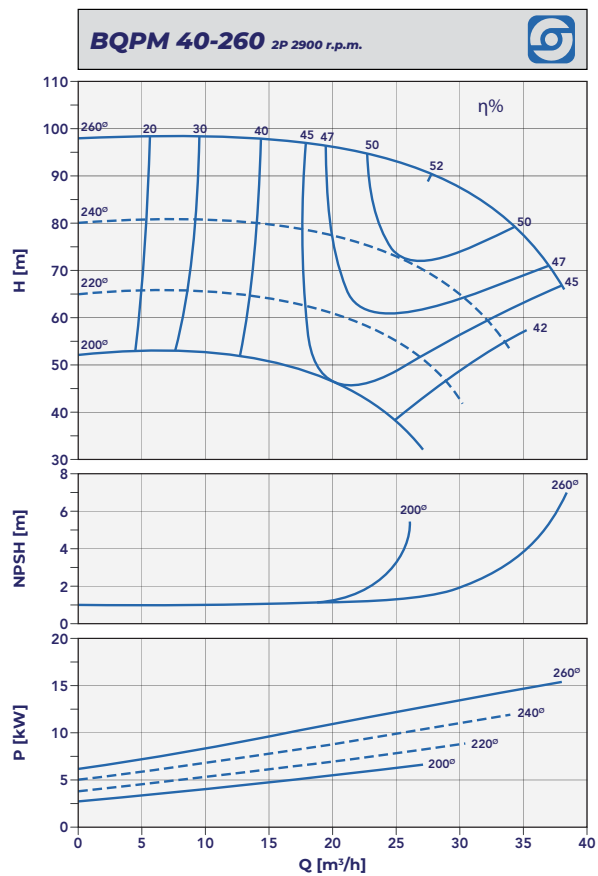
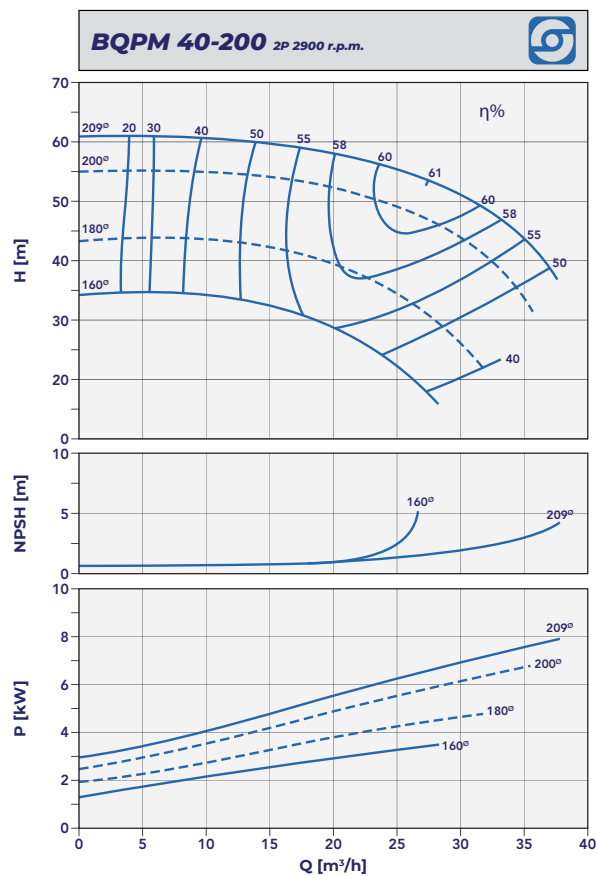
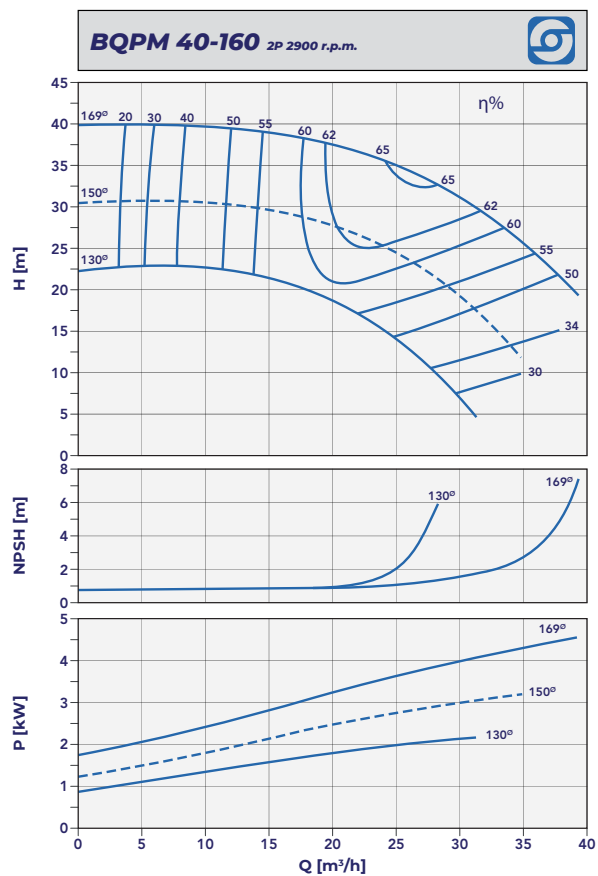
Performance curves

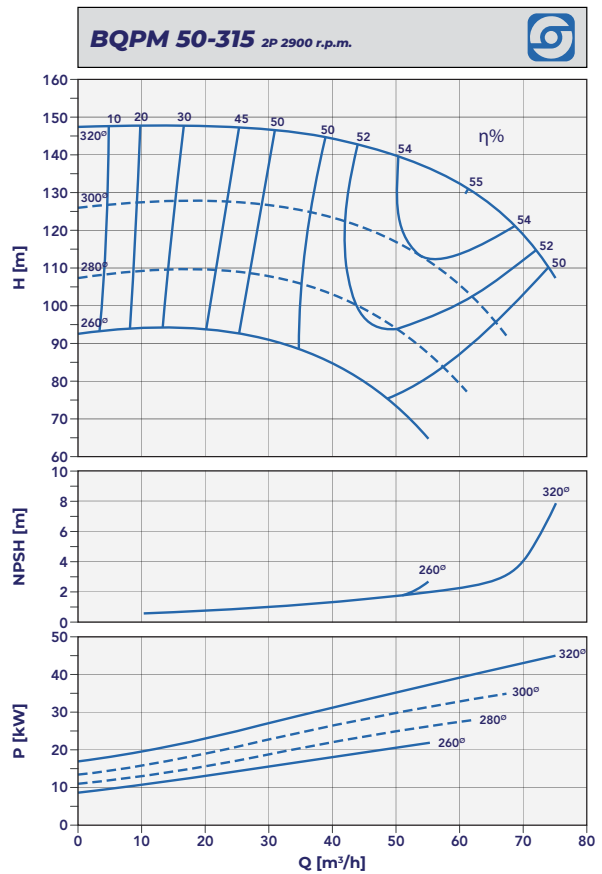
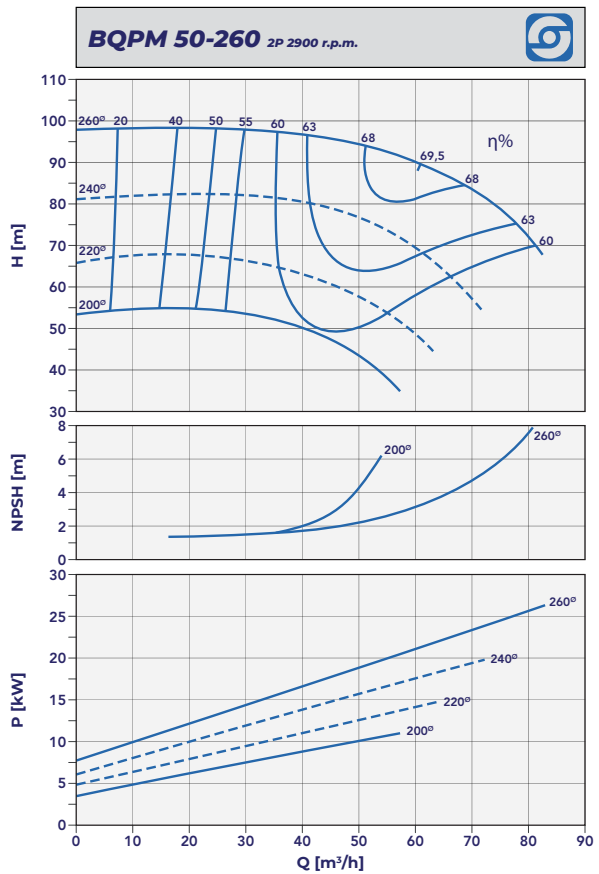
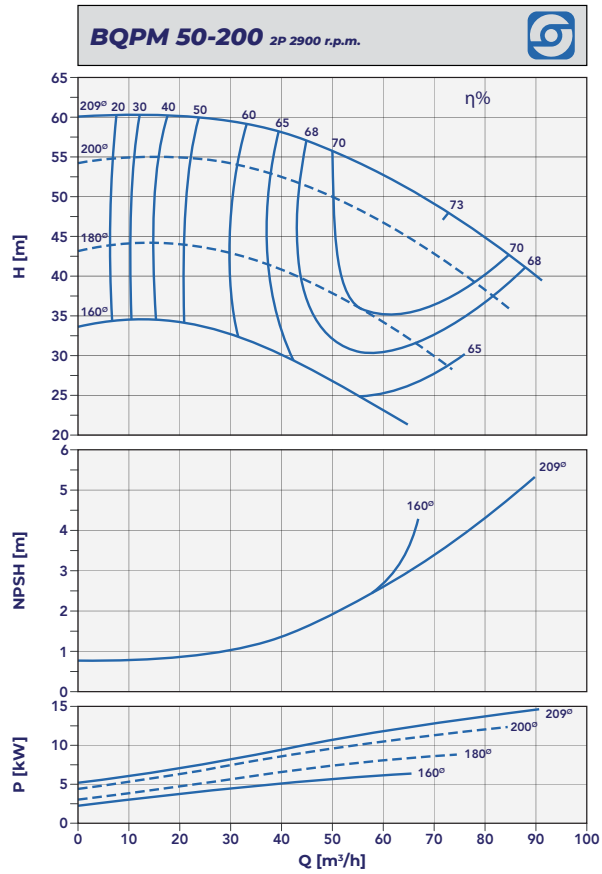
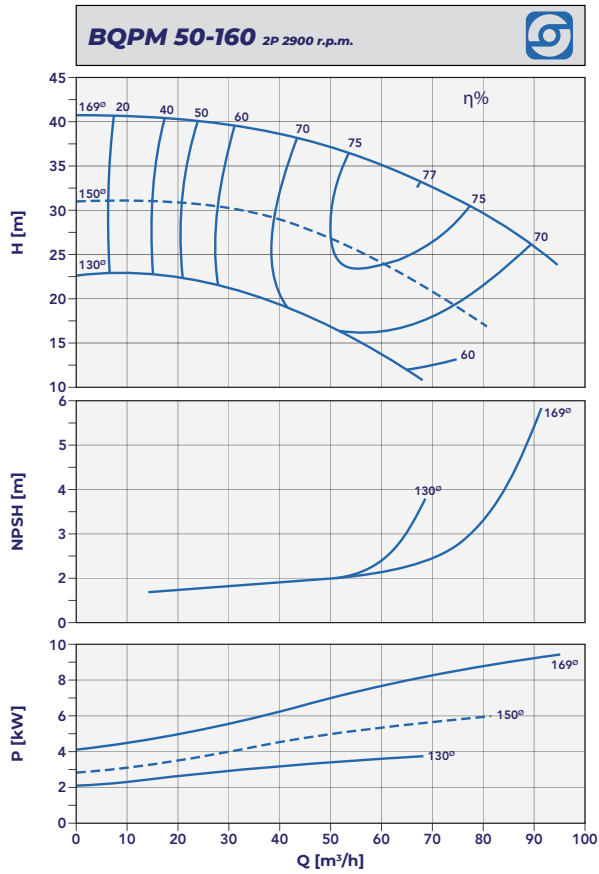
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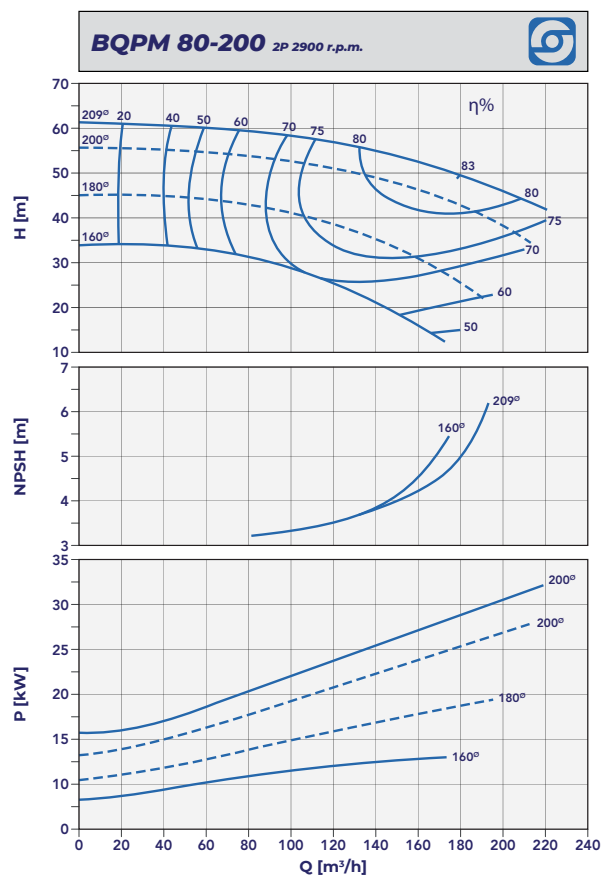
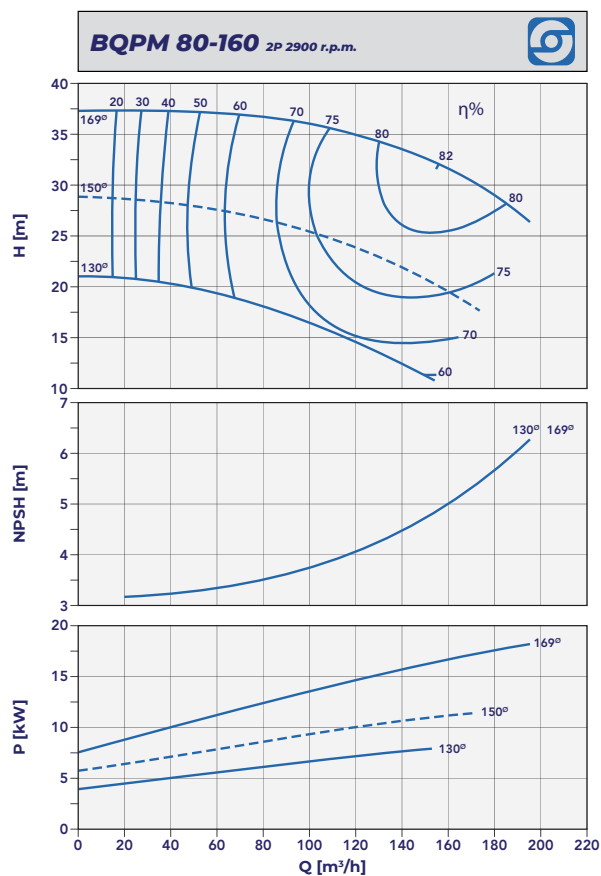
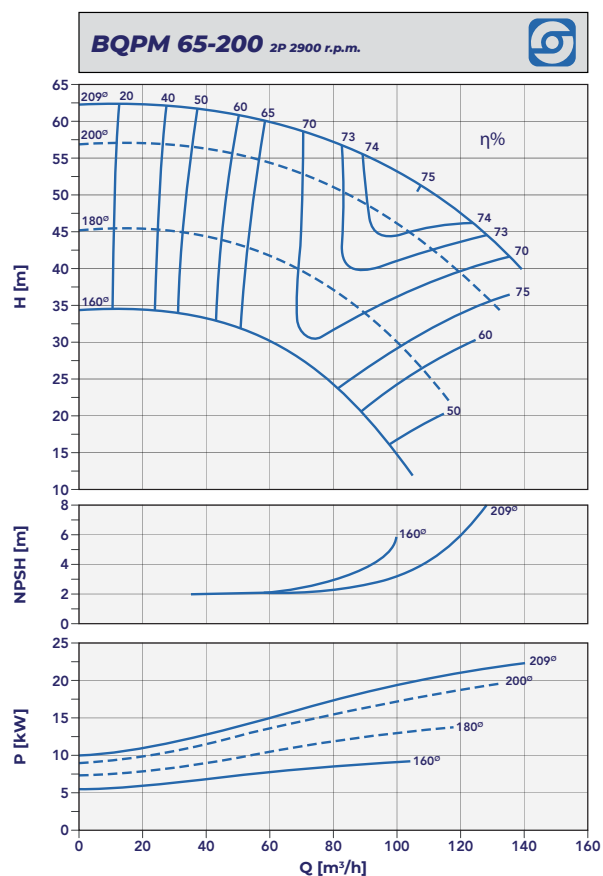
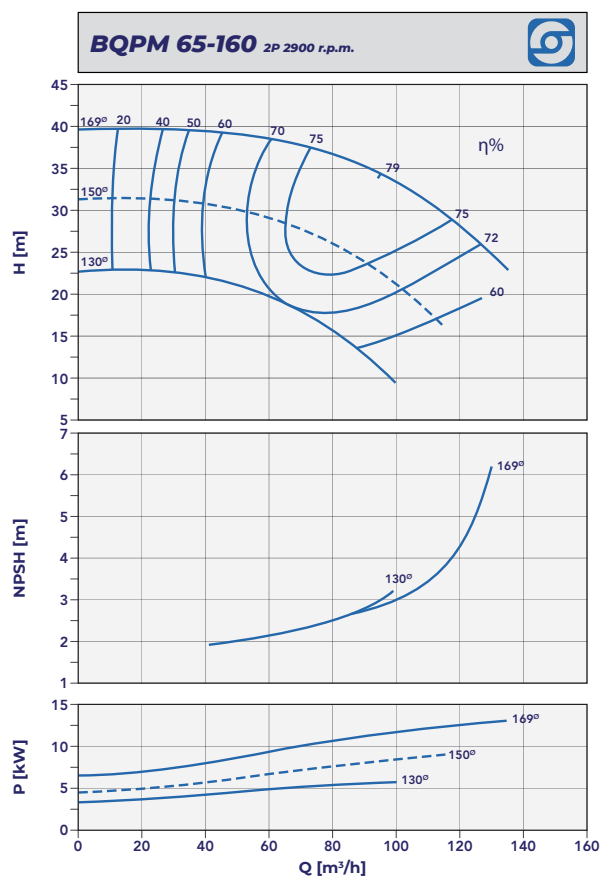
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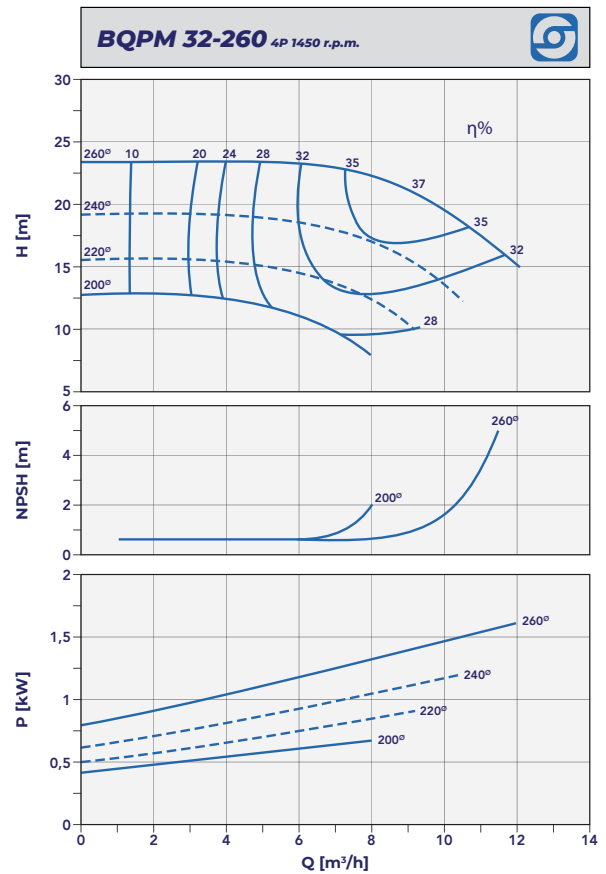
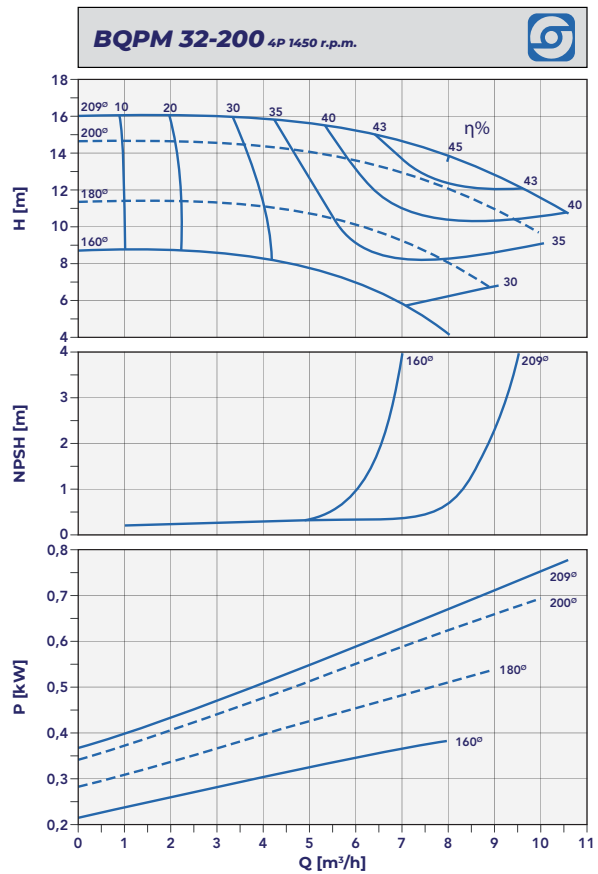
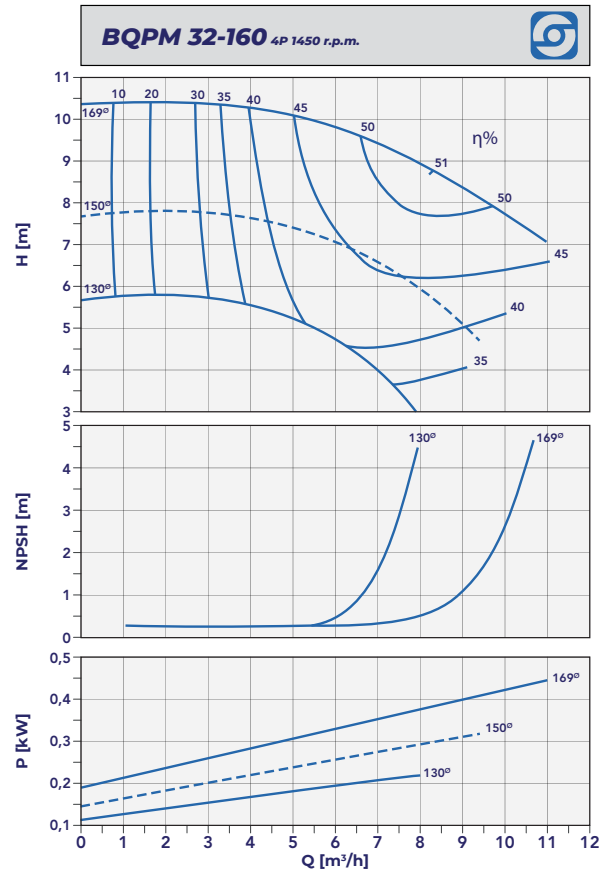
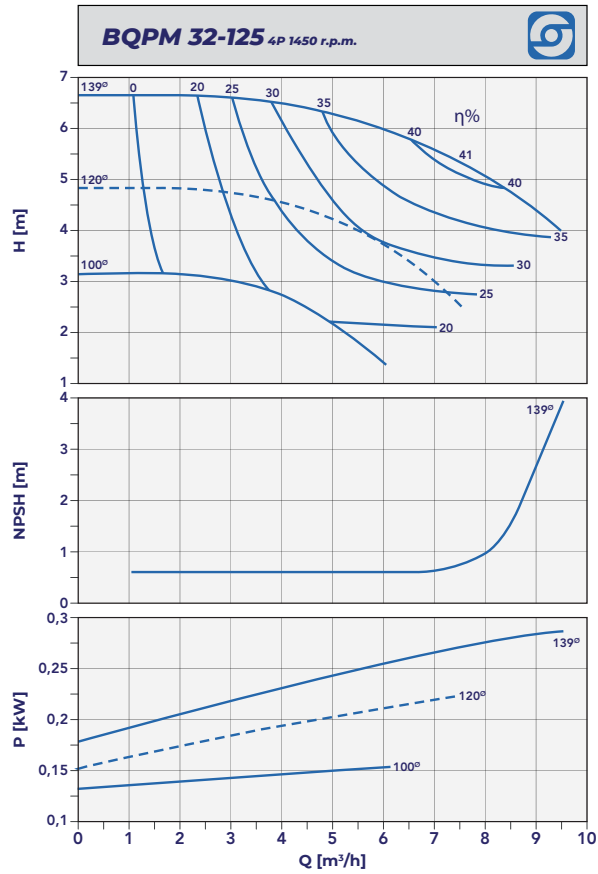




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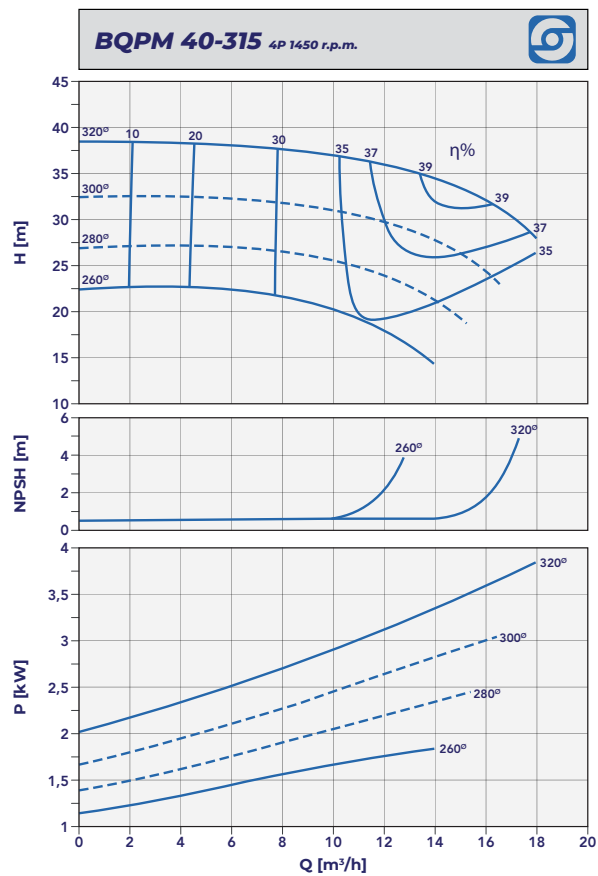
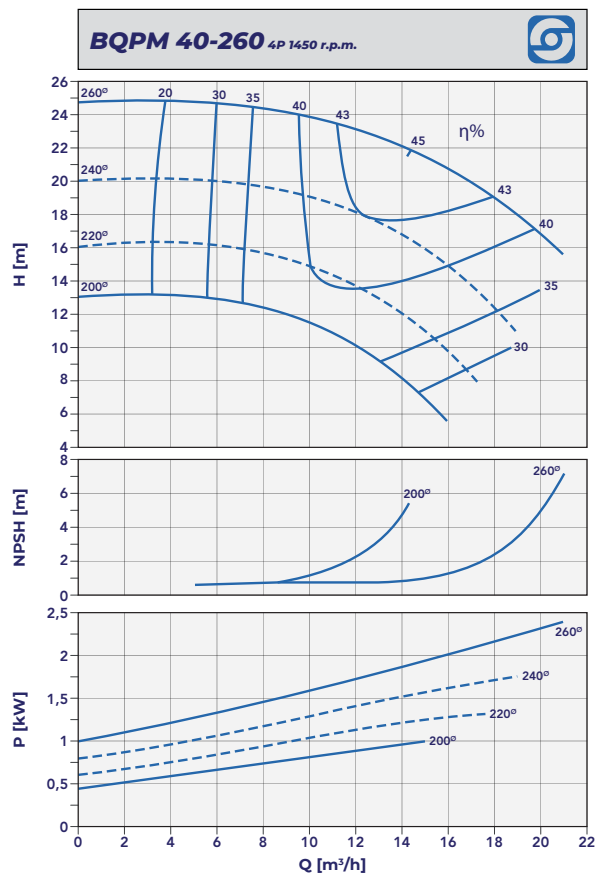
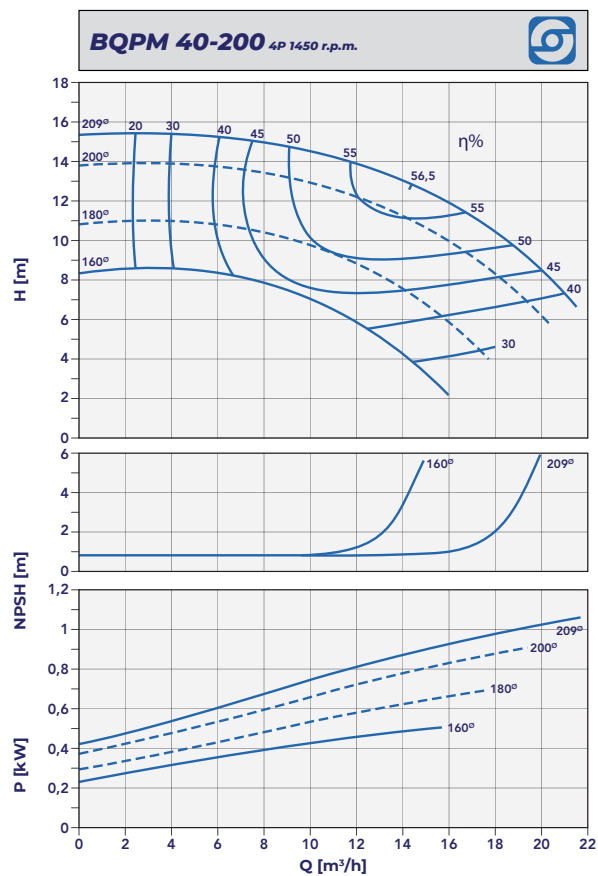
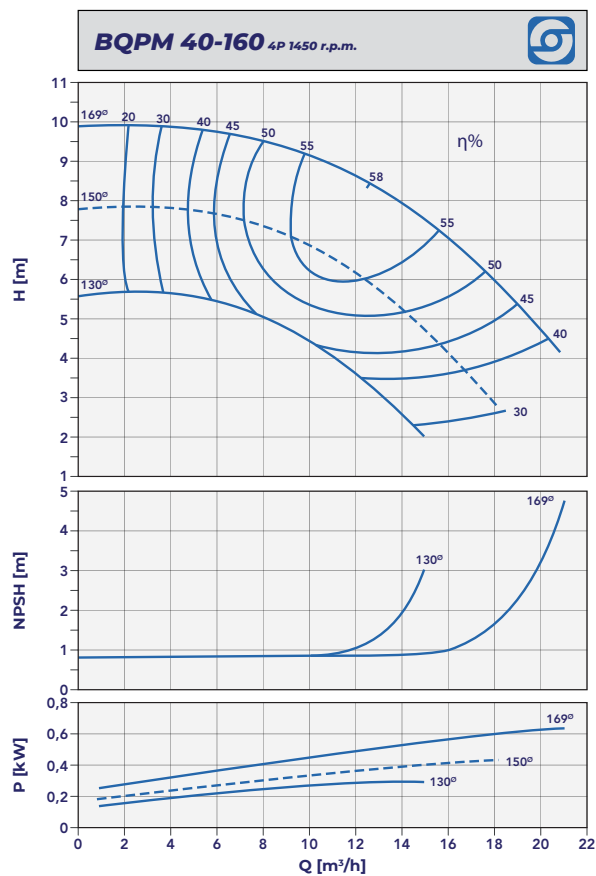


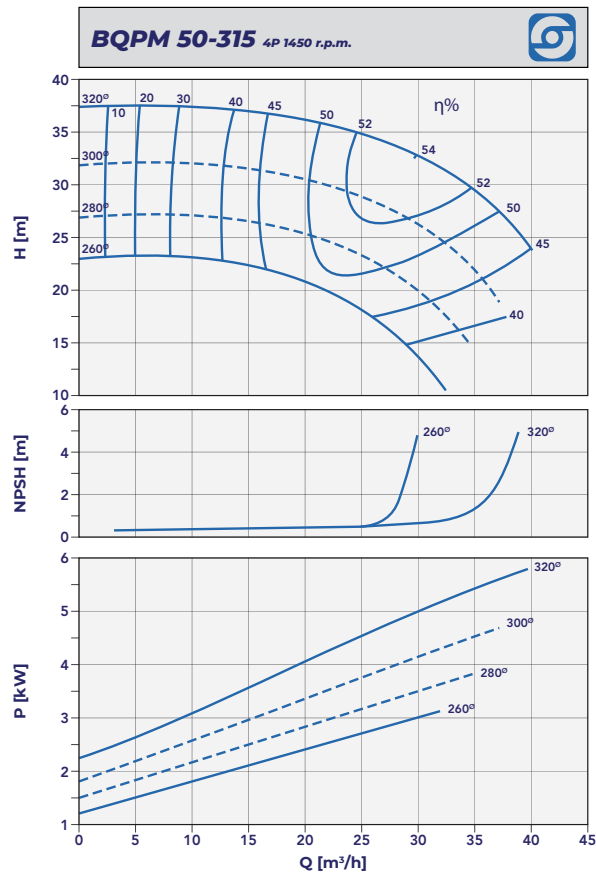
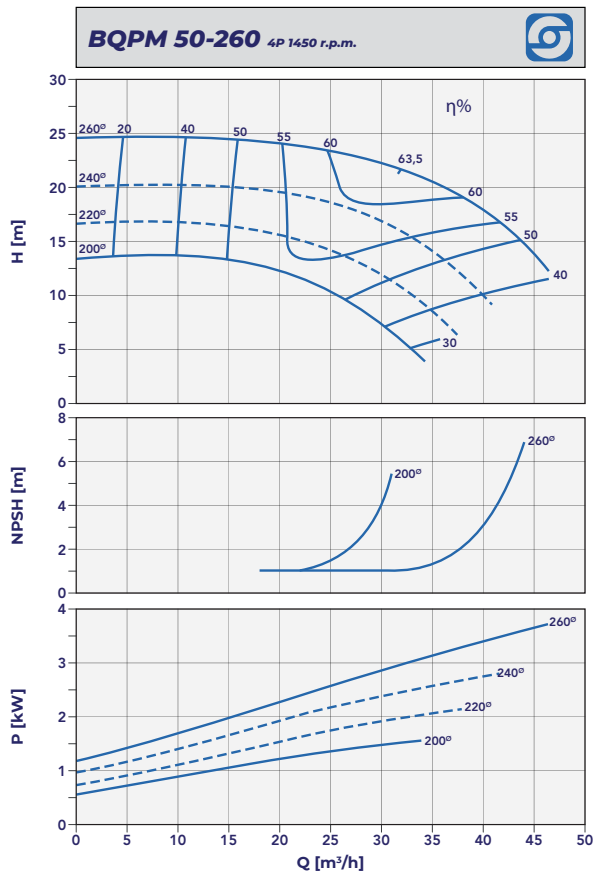
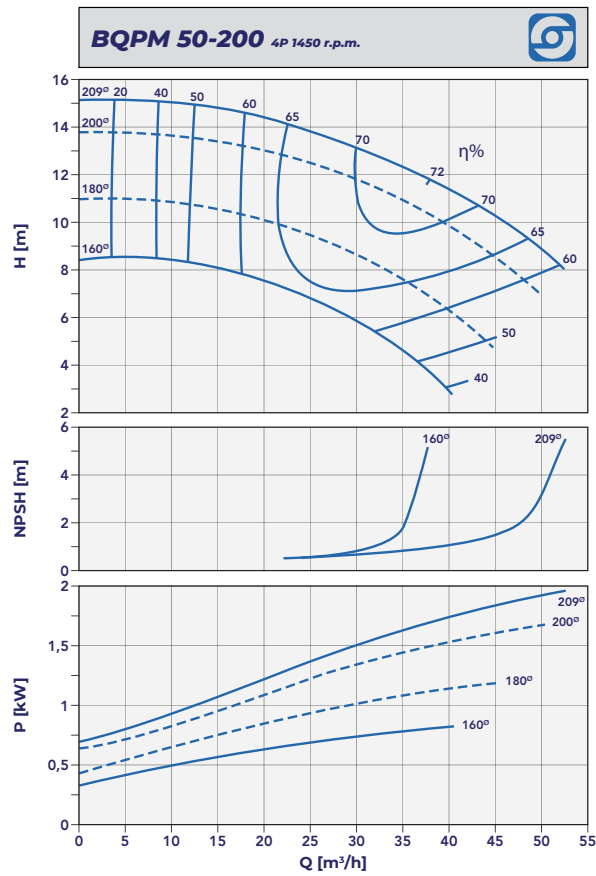
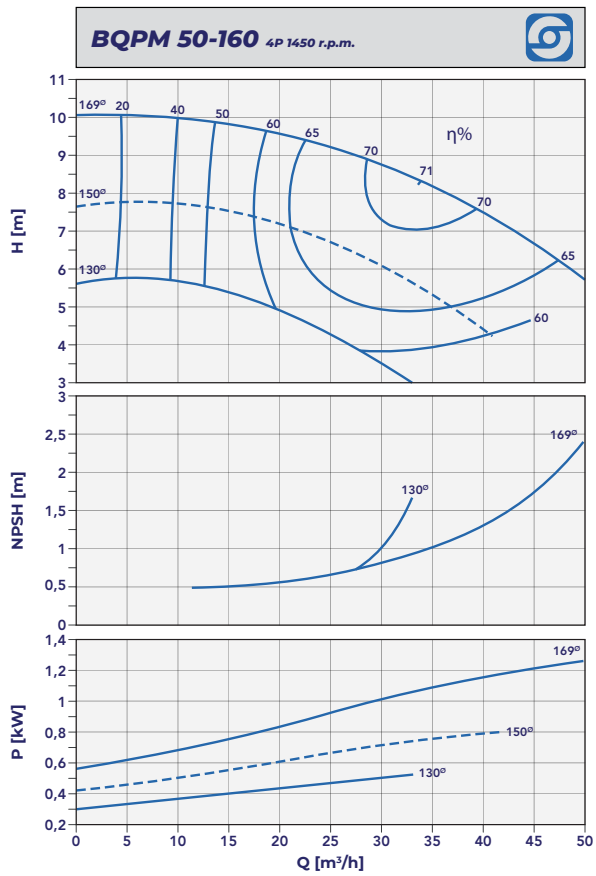
$n = 1450 \text{ r.p.m.} / 50 \text{ Hz}$





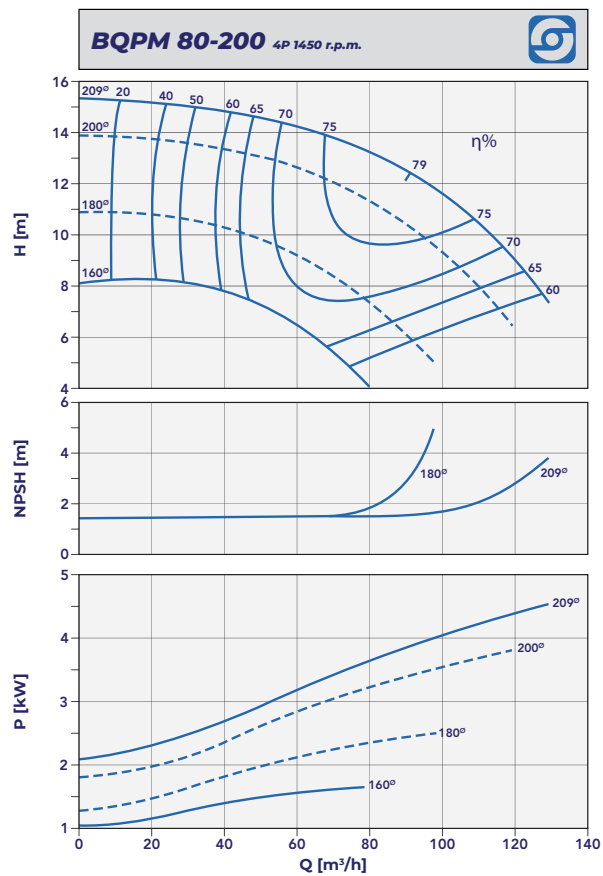
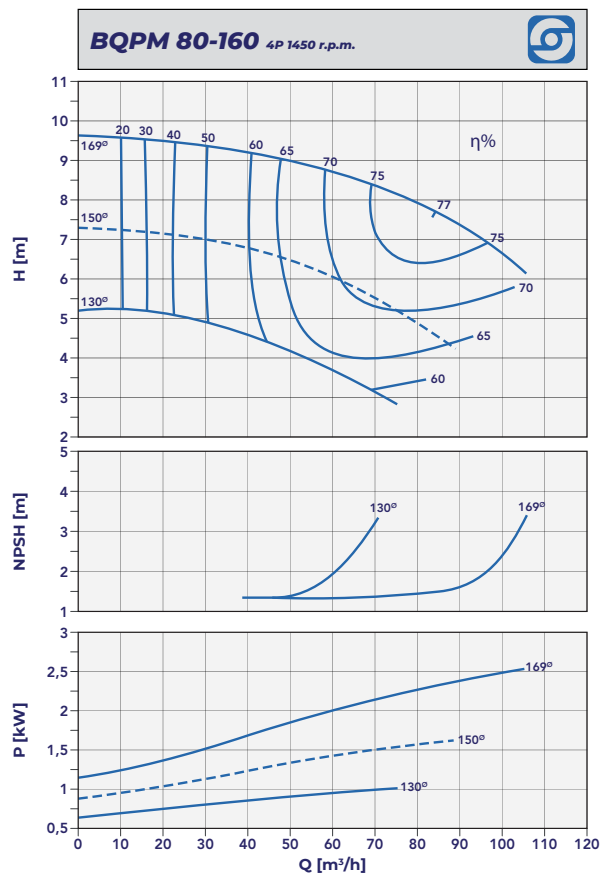
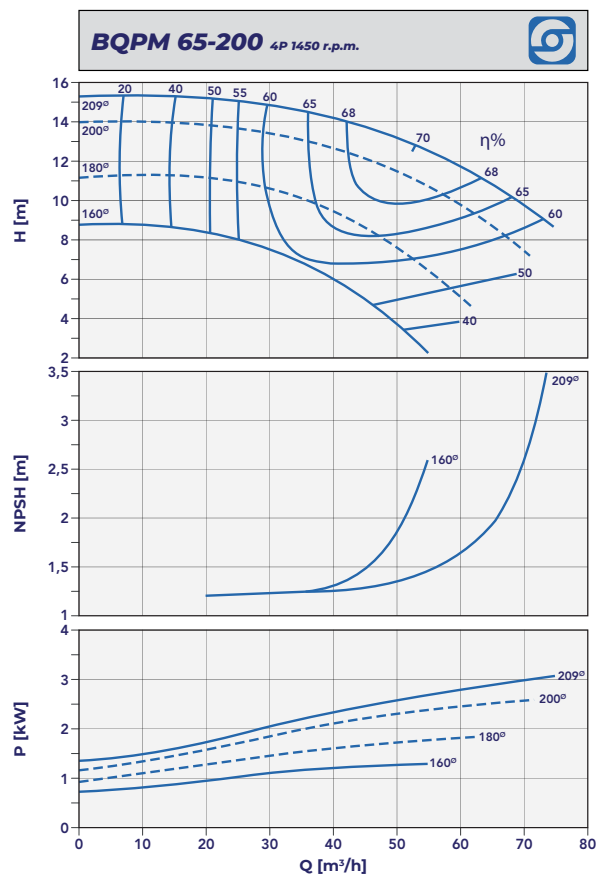
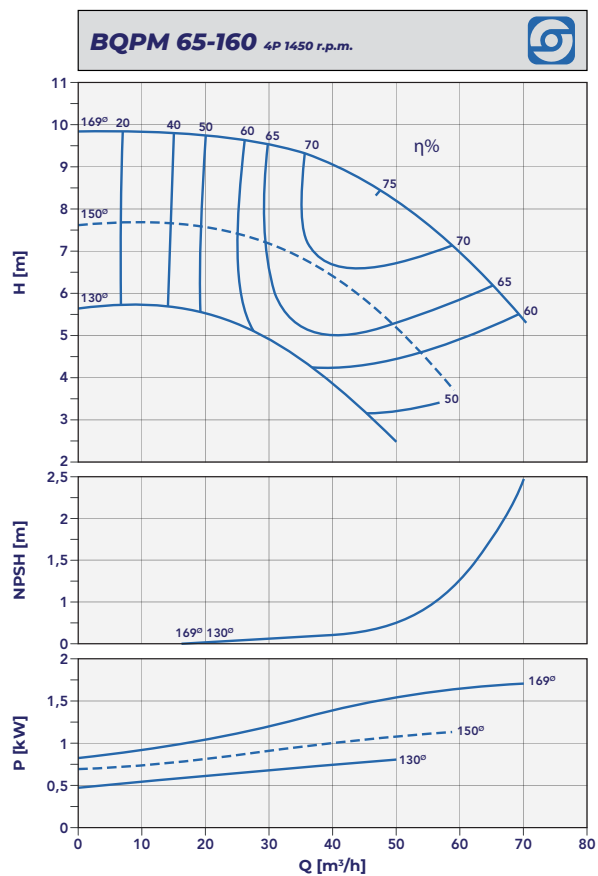
$n = 1450 \text{ r.p.m.} / 50 \text{ Hz}$







$n = 1450 \text{ r.p.m.} / 50 \text{ Hz}$



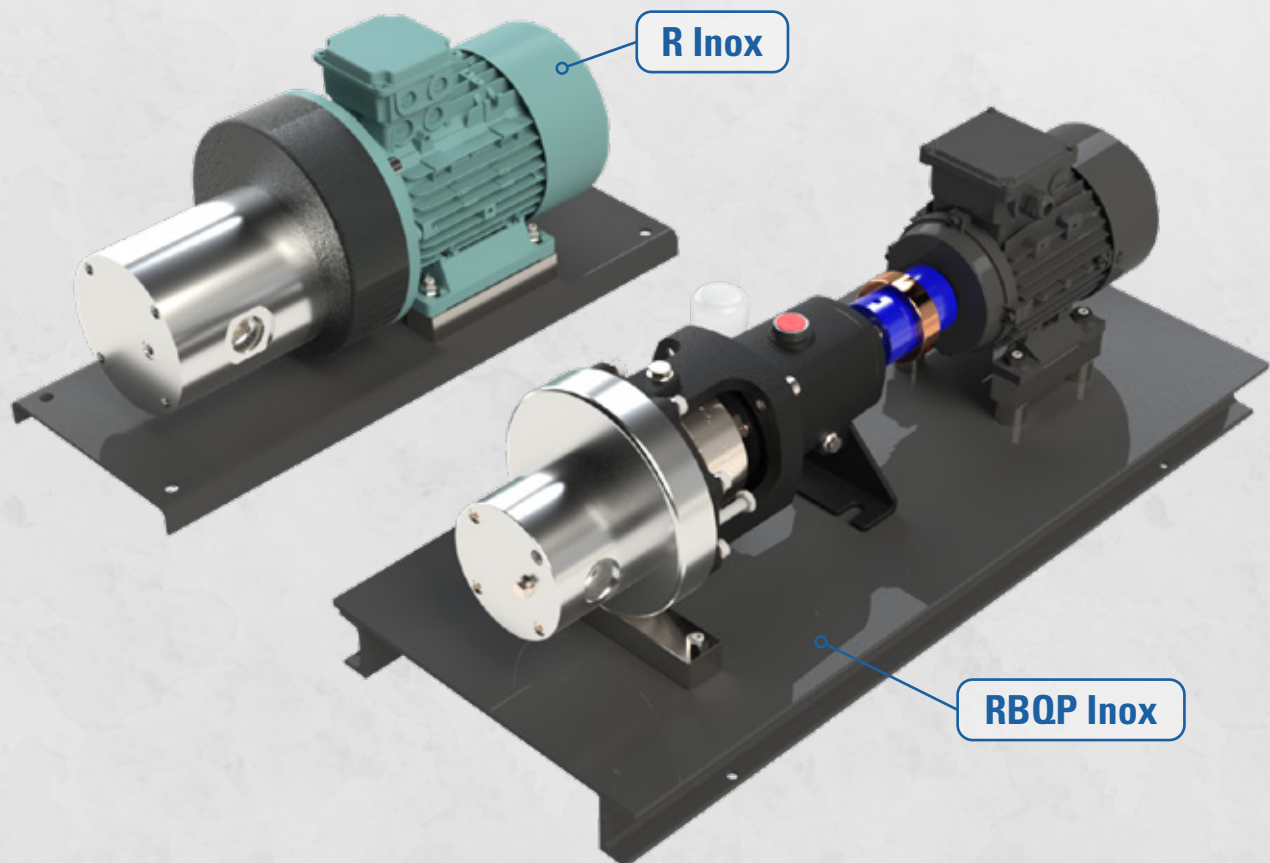
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- Withstands temperatures up to 150°C

RBQP Inox series

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- Suitable for transferring a wide range of fluids
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