



SPIRAM

SCREW CENTRIFUGAL PUMPS



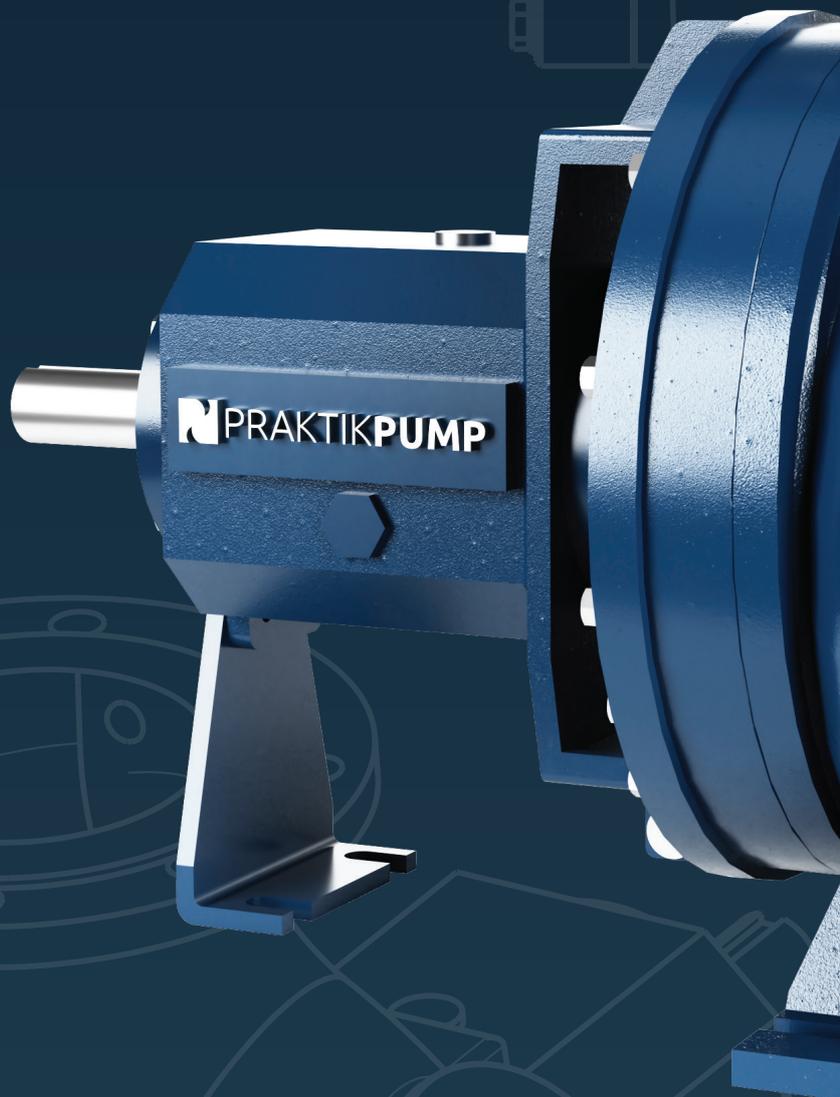
PRAKTIKPUMP
Professional partner for pumping technologies

SCREW CENTRIFUGAL PUMPS SPIRAM

NEW STANDARD OF EFFECTIVE PUMPING

SPIRAM pumps are centrifugal pumps featured with single-blade impeller of screw shape. This feature guarantees pumping media with minimum likelihood of clogging and maximally prevents entanglement of fibrous matters, while keeping high efficiency. As a result, the operating costs for pumping units are considerably reduced. Thanks to these benefits, SPIRAM pumps are suitable for handling hard-to-pump fluids with high content of solids.

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**WITH ITS TECHNICAL
PARAMETERS, SPIRAM
RANKS AMONG THE WORLD
LEADERS IN THE FIELD OF
CENTRIFUGAL PUMPS.**

ADVANTAGES OF SPIRAM PUMPS

HIGH EFFICIENCY
LARGE SOLIDS PASSAGE
STURDY CONSTRUCTION



SPIRAM
200A

ENVIRONMENT-FRIENDLY OPERATION

Low power demanding operation, high reliability and resistance to mechanical or chemical damage mean low susceptibility to occurrence of emergency situations, which could potentially lead to contamination of the environment by transported fluid. All this significantly reduces the operating costs of SPIRAM pumps.

WIDE RANGE OF SOLIDS PASSAGE

SPIRAM addresses current challenges linked, for example, to the sewage wastewater treatment processes. Nowadays, they involve in particular new types of products and materials. These contain components non-degradable in water, which cause significant problems if conventional pumps are used, for example in the wastewater treatment plants.

SMOOTH AND EFFECTIVE RUNNING

PRAKTIKPUMP proposes a solution consisting in the trouble-free operation of our pumps with wide range of solids passage, which has an essential effect on the smooth and continuous operation of the plant facilities. Accordingly, the pump maintenance and repair costs are reduced and the servicing intervals are longer as well.

FROM AN IDEA TO THE PRODUCTS **MADE IN SLOVAKIA**

17

The history of pump technology and water management in the heart of Slovakia is connected with the mining industry and dated back to the 17th century.

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In the twentieth century, especially in its second half, there had been a significant development of engineering industry in the region of Central Slovakia and the construction of rotating machines reached the world's top level.

21

SPIRAM pumps continue this heritage of workmanship. They take advantage of years of experience arising from this tradition and combine it with modern technology. Their research, development and production are performed in Slovakia thanks to teams of professional researchers, specialists in hydraulics and designers.

SPIRAM PRODUCT UNIQUENESS

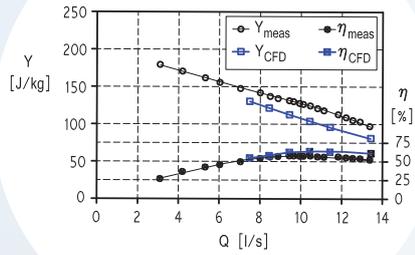
SPIRAM slurry pumps are a unique milestone in the history of the original development of pump units in Slovakia. They are the outcome of the only one research of this kind of pumps (single-bladed hydrodynamic pump with a screw shaped impeller) ever conducted in Slovakia.

The technical complexity of designing the systems for this segment of machinery does cause that there is only a very small number of manufacturers engaged in their production worldwide. By successfully completed development resulting in the their production, PRAKTIKPUMP ranks in this exclusive short list, thus promoting Slovakia as a professional player in the field of value added research, development and production in the engineering industry.

3D model of impeller with free passage check



Unbalanced impeller (weldment)



Laboratory measurements - specific energy and pump efficiency characteristics



Prototype impellers including pump itself

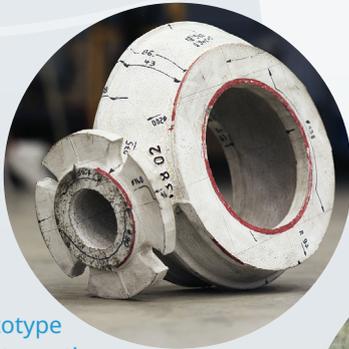


Balanced impeller (3D printout)



Measurement procedure in the pump testing room

Prototype impeller castings not dynamically or statically balanced



Prototype volute castings



Final volute prototype



Final volute prototype



Final test of SPIRAM 200 pump



PRAKTIKPUMP manufacturing and assembly premises



Finishing work on the first products constructed



Pump type 200 ready for delivery to the customer

WELL-ELABORATED DESIGN IDEA

TOP ADVANTAGES RESULTING FROM THE SPIRAM PUMP DESIGN

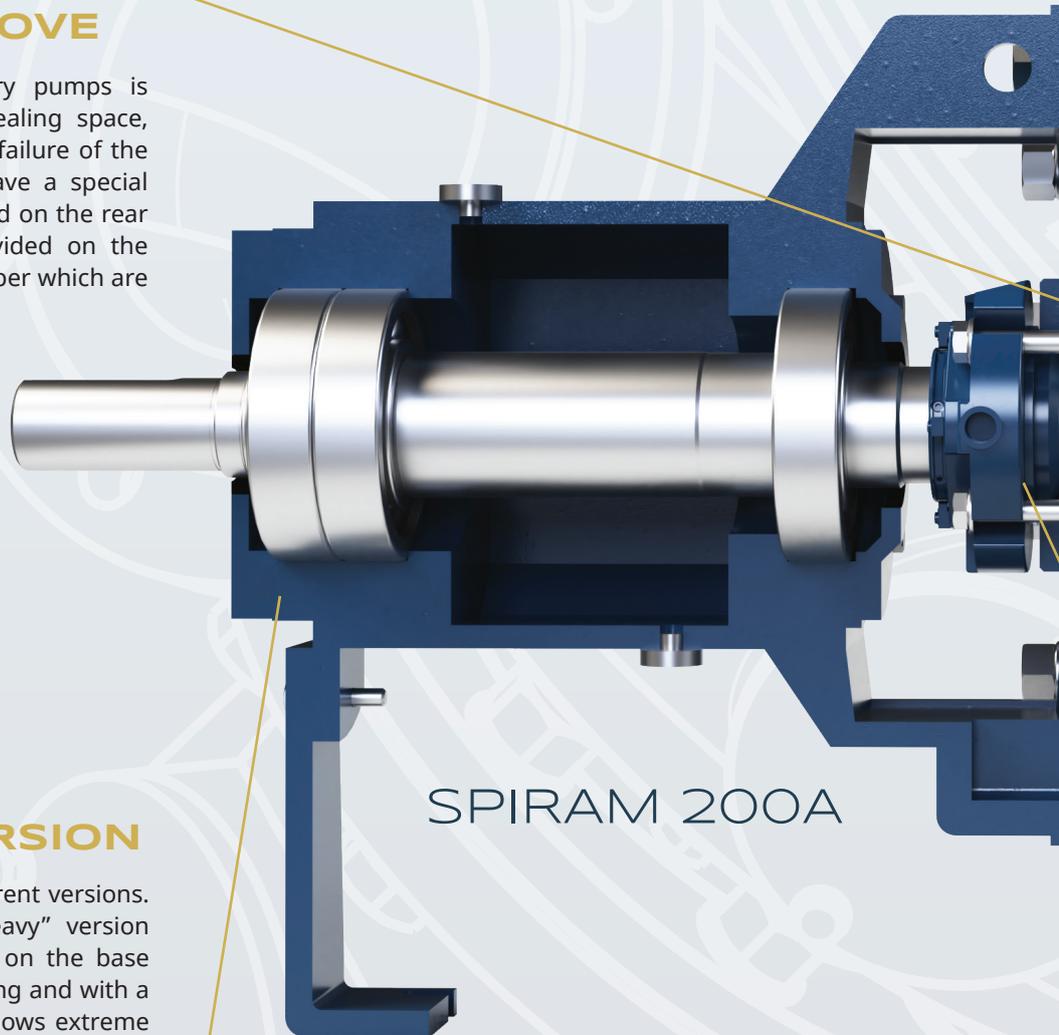
DISCHARGE GROOVE

A very common problem of slurry pumps is the settling of impurities in the sealing space, which results in premature wear or failure of the mechanical seal. SPIRAM pumps have a special feature - a discharge groove provided on the rear plate and a discharge groove provided on the conical surface before the seal chamber which are continuously connected.

This maximizes the effect of "discharging" small debris from the sealing space back into the process stream. Such a way of protecting the seal is also present in the case of pumping fibrous fluids. Moreover, such groove is provided also on the front plate, where it prevents the fibrous matters from getting entangled around the impeller.

HEAVY-DUTY VERSION

SPIRAM pumps are available in different versions. These also include the proven "heavy" version of the pump horizontally arranged on the base frame with a separate bearing housing and with a separate foot motor. This version shows extreme durability even in the most demanding applications and a very long service life as well. Other great advantages include low demanding maintenance and operation of this pump version.



VERSATILE VOLUTE

The volute casing is optimized both hydraulically and structurally to be as versatile as possible. In terms of hydraulics, we can adapt several different impellers for one volute, which are able to cover huge range of flow rates and heads at different rotational speeds. In terms of construction, the volute is designed so that it can be used in different horizontal and vertical installations, which means that one and the same piece of volute can be incorporated either in the standard horizontal version with the bearing housing or in the vertical version with the submersible electric motor.

ADJUSTABLE FRONT PLATE

For pumps equipped with semi-open impeller it is very important that the clearance between the front plate and the impeller is as narrow as possible in order to maintain the design efficiency. In the case of slurry pumps, the clearance increases over time due to the action of the abrasive particles. Such clearance can be corrected to the optimum value using the SPIRAM pump adjustment mechanism, thus keeping the pump highly effective. And, it is important to note the efficiency of the pump is directly linked to electricity savings and to the environmental impact.

UNIQUE IMPELLER

The most important component of the SPIRAM pumps is the impeller itself, which looks like a helix. This unique shape makes it possible to transport media containing large solid particles at high efficiency of the pump unit. An indisputable advantage of this type of impeller and hence the entire hydraulic system is the combination of the remarkably wide solids passage and the high hydraulic efficiency in the field of sludge pumps. In case of individual requirements it is possible to design the impeller and so the entire pump with specific parameters, thus obtaining optimum performance characteristics for application concerned.

VARIABLE SEALING SPACE

The sealing space of the SPIRAM pumps is designed so that different types of mechanical seals from different manufacturers can be installed there. This means the use of various designs ranking from standard single mechanical seals to double cartridge seals with active cooling or heating the sealing chamber. SPIRAM pumps also offer special methods of sealing, such as polymer-based packing that is used for heavy duty applications requiring absolute maintenance-free systems.

IMPELLER USED IN SPIRAM PUMPS

UNIQUE HYDRAULICS FOR TROUBLE-FREE OPERATION

The SPIRAM centrifugal pump uses a specially designed screw-shaped impeller to feed the pumped fluid into the conical inlet chamber. The impeller then uses the centrifugal force generated by the impeller to push the pumped fluid out of the pump.

The construction of the screw-shaped single blade is specially designed for low rotational speeds of impeller, avoiding the destruction of hydraulic parts by abrasive particles. This means that the design of the pump has been perfectly executed not only to prevent clogging but also to guarantee long lifetime of the pump.

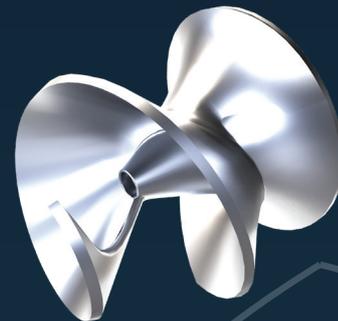
Each screw-shaped impeller of SPIRAM pumps is designed with an emphasis on the free ball passage. Thanks to it, these pumps are able to handle solid sizes up to 100% of the discharge flange diameter.

The combination of the conical narrowing of the meridional cut, the small wrap angles of blades and the low lead-in angles of the fluid path promote movement of the product from the impeller suction side to the discharge section with minimal opportunity to cause blocking. In general, the hydraulics type involving a single bladed screw pump with an impeller eliminates the possibility of clogging it. What passes through the inlet port it will also pass through the outlet port, thanks to the volute rising towards the rear side.

Further, the hydraulics working on such a principle minimizes the time of fluid flow through the pump while reducing the abrasive effect to the pump caused by gravel, sand or similar fine solids.

In addition, each SPIRAM pump is provided with a system of adjusting the clearance between the front plate and the impeller to achieve maximum hydraulic efficiency of the pump with long-term effect on the pre-set minimum power consumption of the pump unit.

The impeller of the SPIRAM pumps comes into contact with the pumped fluid at a lower percentage rate, thereby differs from common centrifugal impellers with an upstream cutting system. While other pumps cut the



fibrous matters and other waste contained in the fluid into smaller parts, the impeller of the SPIRAM pump transports these materials thanks to the low shear force and its shape with no or minimal damage to its structure. All the mentioned advantages of SPIRAM pumps are available while achieving high hydraulic efficiency of the pump. The hydraulic efficiency of up to 91% for slurry pumps is a parameter that is comparable to that of multi-blade centrifugal pumps intended for pumping clean water.

Thus, the use of SPIRAM pumps creates significant preconditions for long-term trouble-free operation at the lowest possible operating costs.



APPLICATIONS

THANKS TO THEIR BENEFITS, SPIRAM PUMPS ARE THE IDEAL SOLUTION FOR THE USE IN WASTE WATER PURIFICATION, FOOD AND PROCESSING INDUSTRY, ETC.



SLURRY AND WASTE WATER

- Wastewater treatment plants
- Dewatering systems
- Moving hydro mixtures
- Sewerage networks
- Wastewater thickening systems



INDUSTRY

- Chemical industry
- Food industry
- Pulp and paper industry
- Agriculture
- Mining industry



ENERGY

- Coal, gas, and nuclear-fired power plants
- Waste-to-energy plants
- Crude oil production
- Waste incineration plants
- Biogas generation



CIVIL ENGINEERING

- Construction and tunnels
- Flood defence systems
- Reconstruction
- Drainage system
- Building technology

SUBSTANCES PUMPED

SPIRAM pumps are suitable for pumping abrasive hydraulic mixtures, fibrous fluids and organic media in the following industries:

BIOGAS GENERATION

- Bio-waste
- Recovered oils

CHEMICAL PROCESSES

- Sludge from processing silicon carbide
- Salts
- Aggressive and non-aggressive hydro mixtures

PAPER INDUSTRY

- Cellulose mixtures
- Pulp

WTP

- Activated sludge
- Sludge recirculation

CONSTRUCTION

- Cement
- Additives
- Water containing mud

ENERGY

- Fly ash-water mixture

INDUSTRIAL PROCESSING

- Carbon pastes
- Recirculation of hydro mixtures

FOOD INDUSTRY

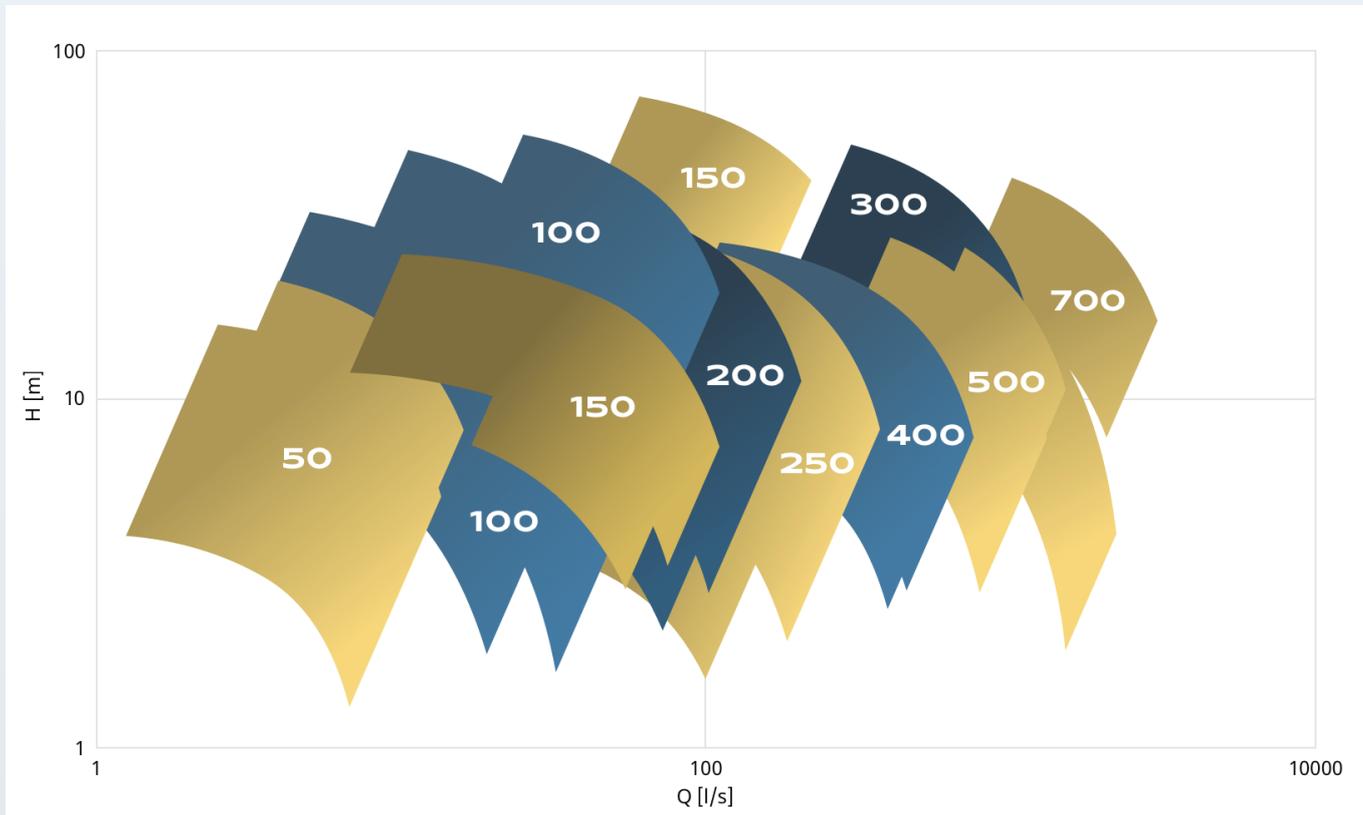
- Bentonite
- Compost
- Hops
- Mash and malt
- Meat cuts
- Bio-waste
- Slaughterhouse waste including bones, vegetable and fruit suspensions

MINING INDUSTRY

- Gravel
- Kaolin clay slurry
- Suspended sand
- Activated carbon

PORTFOLIO SUMMARY

SPIRAM THOMBSTONES



SUMMARY OF PARAMETERS (MAXIMAL VALUES):

- Maximal flow rate: 3000 l/s
- Maximal head: 90m
- Maximal solid content: 10%
- Maximal density: 1300 kg/m³
- Maximal free passage: 300mm
- Maximal efficiency: 91%
- Maximal viscosity: 1200 cP

TECHNICAL DETAILS:

Weight	Qmin	Qmax	Hmin	Hmax	Pmin	Pmax	η max	ø max
50	1	16	1	22	0.2	2.3	65.5	50
100	4	110	2	58	0.5	45.8	84.3	75
150	7	280	3	74	2.0	188.3	84.2	100
200	56	206	2	31	2.1	46.0	85	115
250	74	370	2	26	1.9	52.6	85	120
400	106	750	3	28	13.0	96.5	82	180
500	340	1500	3	29	32.7	252.4	84	230
700	900	3000	2	43	73.1	697.9	91	285

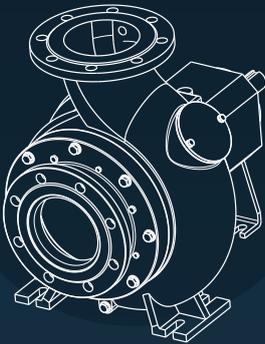
The manufacturer reserves the right to change product specifications, designs, and equipment.

CONSTRUCTION DESIGNS

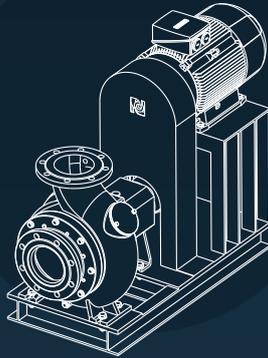
SPIRAM PUMP VARIANTS

SPIRAM centrifugal pumps can be provided in several executions depending on the installation conditions: close and long coupled versions for “dry” pumping; vertical shaft designs with the pump head immersed in the liquid stream or fully submersible pumps.

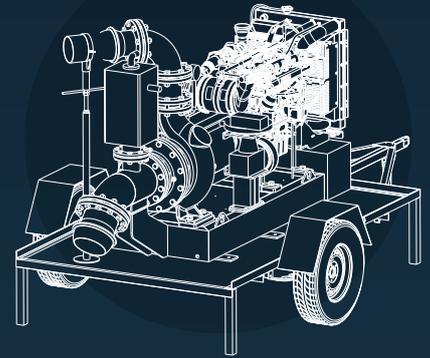
Horizontal design with bearing housing



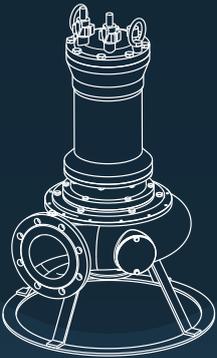
Horizontal design driven by belt



Horizontal design with diesel drive



Submersible design - free standing



Submersible design - coupling device



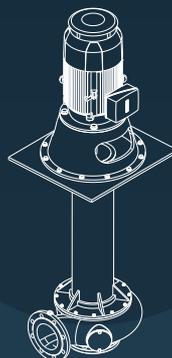
Submersible design - dry pit with cooling jacket



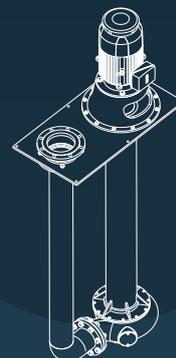
Monoblock design with standard motor (horizontal, vertical)



Immersible design



Immersible design - discharge flange above the floor



SEALING SPACE OPTIONS

ONE SPACE FOR ALL SEAL SYSTEMS AND API PLANS

Variability of the sealing chamber for SPIRAM pumps consists in the design of the rear pump plate which is ready for installation of different types of seals.

Different versions of mechanical seals can be used independently of their manufacturers.

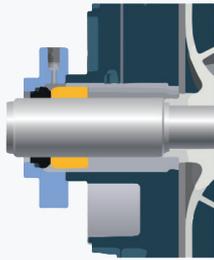
Most commonly used options include:

- Gland packing (without/with lantern ring),
- Single mechanical seal (single-spring, single-component,...),
- Cartridge mechanical seal (single, dual, back-to-back, double tandem),
- Special packed stuffing box (polymer based seal rings, without/with lantern ring),
- It is also possible to use an API Plan to prevent abrasion damage to the mechanical seal or to eliminate potential leakages.

Seal protection: The seal is protected in two ways. The conical shape of the seal chamber allows the accumulated air to be naturally discharged towards the pump outlet. Thanks to this technical solution, the pumped fluid always gets in contact with the seal to lubricate or cool it. The helical groove discharges sludge and solid particles from the seal to the pump outlet in a simple way. The rear part of the impeller or the follower rotates and imparts a proportion of its kinetic energy to the liquid present in the sealing chamber. The helical groove is oriented so that the impurities are transported towards the pump outlet by rotating liquid. In this way, the abrasive action of impurities on the sealing faces of the mechanical seal is eliminated and their service life is significantly extended.

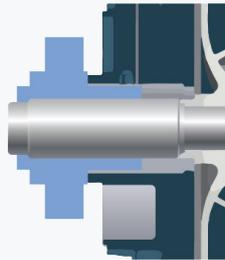
SINGLE SEAL - STANDARD

Self lubricated single mechanical seal.



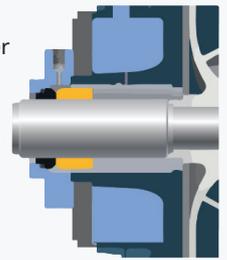
CARTRIDGE SEAL

Standard seal chamber is big enough to seat almost all the cartridges on the market.



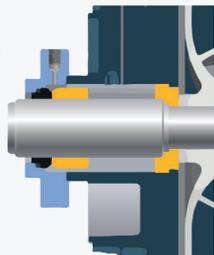
HEATING / COOLING CHAMBER

The heating or cooling chamber can be easily installed on all SPIRAM pumps.



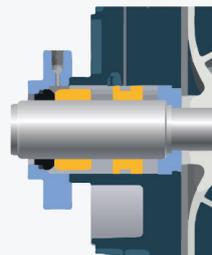
SINGLE SEAL + SHAFT SLEEVE

To use combined with PLAN 11 from the discharge or PLAN 32 from external circuit. Also available in execution without shaft sleeve.



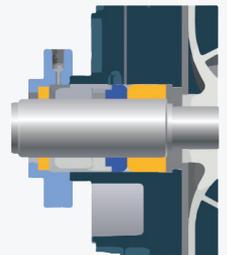
SINGLE SEAL + LANTERN RING + SHAFT SLEEVE

To use with hot or over-heated liquids and in combination with external heat exchanger. PLAN 23.



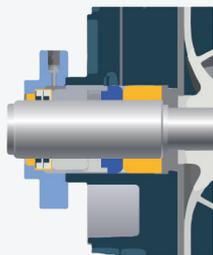
SINGLE SEAL + QUENCH

Quench mainly used for steam barrier.



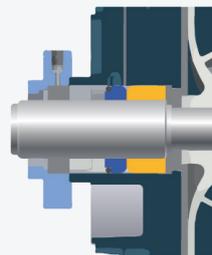
SINGLE SEAL + SELF LUBRIC. LIP SEAL QUENCH

Combined seal, for dry running without auxiliary liquids or for discontinuous flushing. Safety barrier for hazardous liquids or ATEX zones.



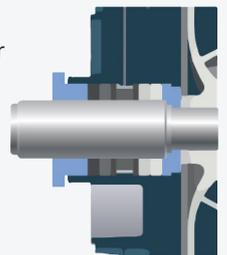
SINGLE SEAL CLOSE TO THE IMPELLER

Single seal for dirty or viscous liquids. its position, close to the impeller, facilitates lubrication.



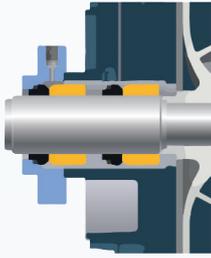
GLAND PACKING WITH HYDRAULIC BARRIER

Gland packing seal with barrier hydraulic ring and flushing. Also available in execution without shaft sleeve.



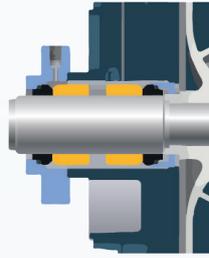
DOUBLE TANDEM MECHANICAL SEAL

Double tandem mechanical seal. PLAN 52. Also available flushing connection for the pump side seal.



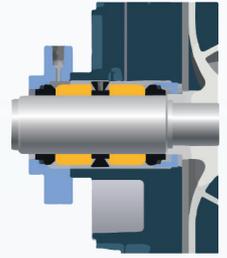
DOUBLE BACK TO BACK MECHANICAL SEAL

Double back to back seal. PLAN 53 - PLAN 54.



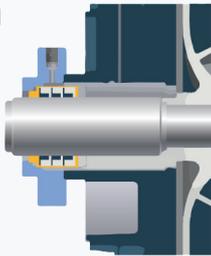
DOUBLE BACK TO BACK SEAL + LANTERN RING

Double back to back seal with pumping ring. PLAN 53 - PLAN 54.



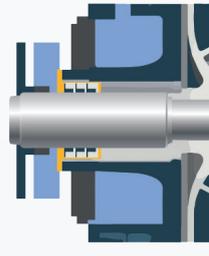
SELF LUBRICATED LIP SEAL

Self-lubricated seal rings suitable for clean and viscous liquids. Also available with ceramic coated shaft sleeve.



LIP SEAL + QUENCH + HEATED CHAMB.

As «V» type, but with safety gland packing quench and heated chamber.



VESSELS, SELF COOLED SYSTEM ETC...

Chamber flooding primarily designed for steam barrier seals.



MATERIALS OF CONSTRUCTION

SPIRAM pumps are available in different materials for different applications ranging from light-duty operation in wastewater treatment plants to aggressive chemical environments where not only chemical compatibility and stability, but also high abrasion resistance of individual pump components is required.

1. CAST IRON

- Grey iron
- Ductile iron
- Special alloy cast iron CR27 (intended for thermal treatment to achieve high abrasion resistance)

2. STAINLESS STEELS

Stainless steels are used wherever resistance to aggressive media is required. However, different types of stainless steel provide other advantageous properties that are required in some specific applications. (AISI304/L, AISI316/L, 316Ti)

3. DUPLEX STAINLESS STEELS

Duplex steels combine the advantages of ferritic and austenitic stainless steel. They have increased resistance to aggressive media and also more advantageous mechanical properties therefore they are often used in the most demanding industrial applications. (A890, 329, ...)

4. NICKEL AND ITS ALLOYS

Nickel is almost completely resistant to dilute acids due to its ability to form a protective coat on its surface in the oxidation phase when getting into contact with the acid for the first time. Nickel-based alloys excellently resist aggressive media and they are highly chemically stable. Thanks to their specific properties, these alloys are often used in the chemical industry. (C-22, C-4, B-2/3, C-276...)

5. TITANIUM AND ITS ALLOYS

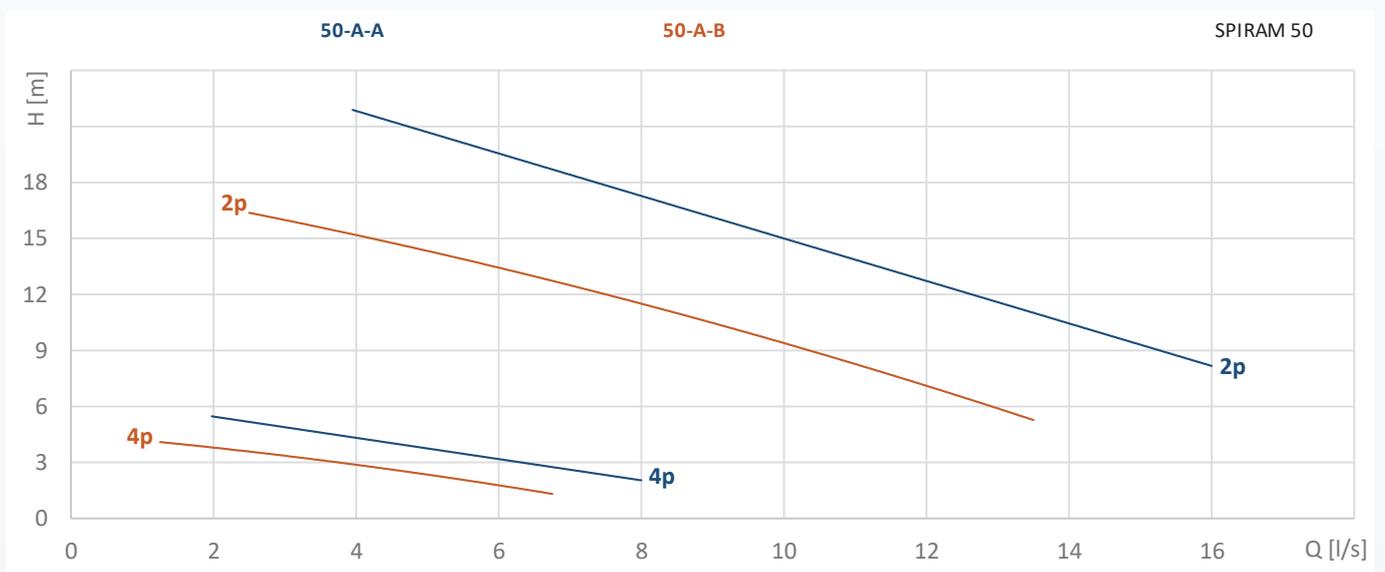
Titanium and titanium alloys are suitable for media and environments with a very high oxidation rate and high chloride content, for example in desalination plants.

SPIRAM 50 SERIES

TECHNICAL INFORMATIONS

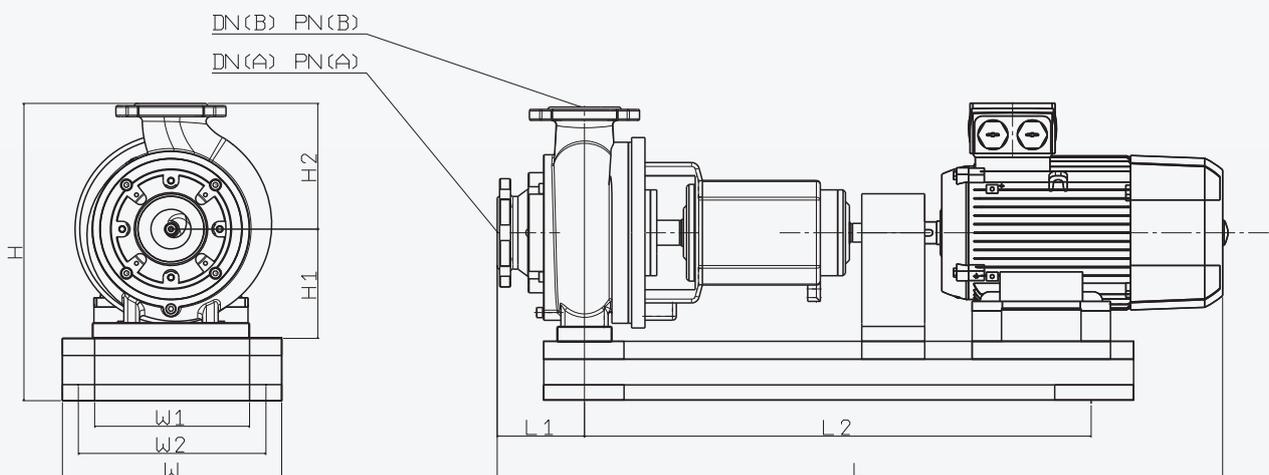
Pump version	Pump size	Type of impeller	Suction/Discharge DN/PN	Free passage (mm)	Flow BEP Q (l/s)	Head BEP H (m)	Efficiency η_h (%)	Speed (rpm)	Non-overloading power P (kW)
SPIRAM 50A-A	A	A	50/16-50/16	50.0	10.0	15	62	2900	2.21
SPIRAM 50A-B	A	B	50/16-50/16	50.0	9.0	10.5	62.4	2900	1.5
SPIRAM 50A-A	A	A	50/16-50/16	50.0	5.0	3.75	61.4	1450	0.55
SPIRAM 50A-B	A	B	50/16-50/16	50.0	4.5	2.6	61.8	1450	0.2

FLOW-CHART - QH CHARACTERISTICS



DIMENSIONAL DRAWING - HORIZONTAL VERSION

END SUCTION	DN(A) PN(A)	DN(B) PN(B)	L	L1	L2	W	W1	W2	H	H1	H2
SPIRAM 50 A	50/6	50/6	900	110	600	300	200	250	380	160	160

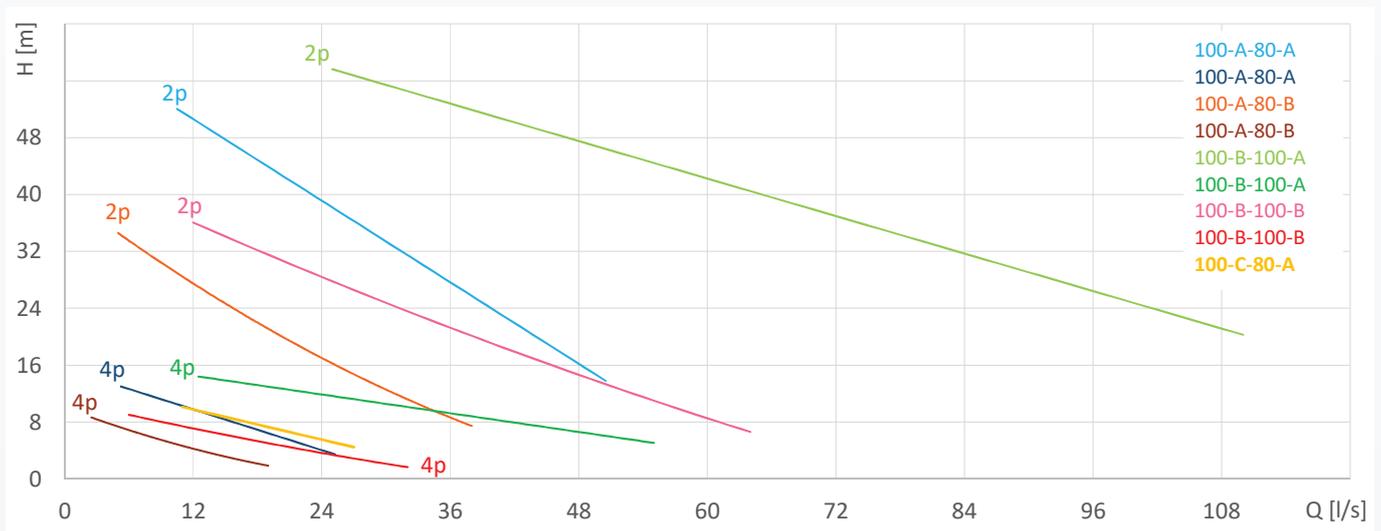


SPIRAM 100 SERIES

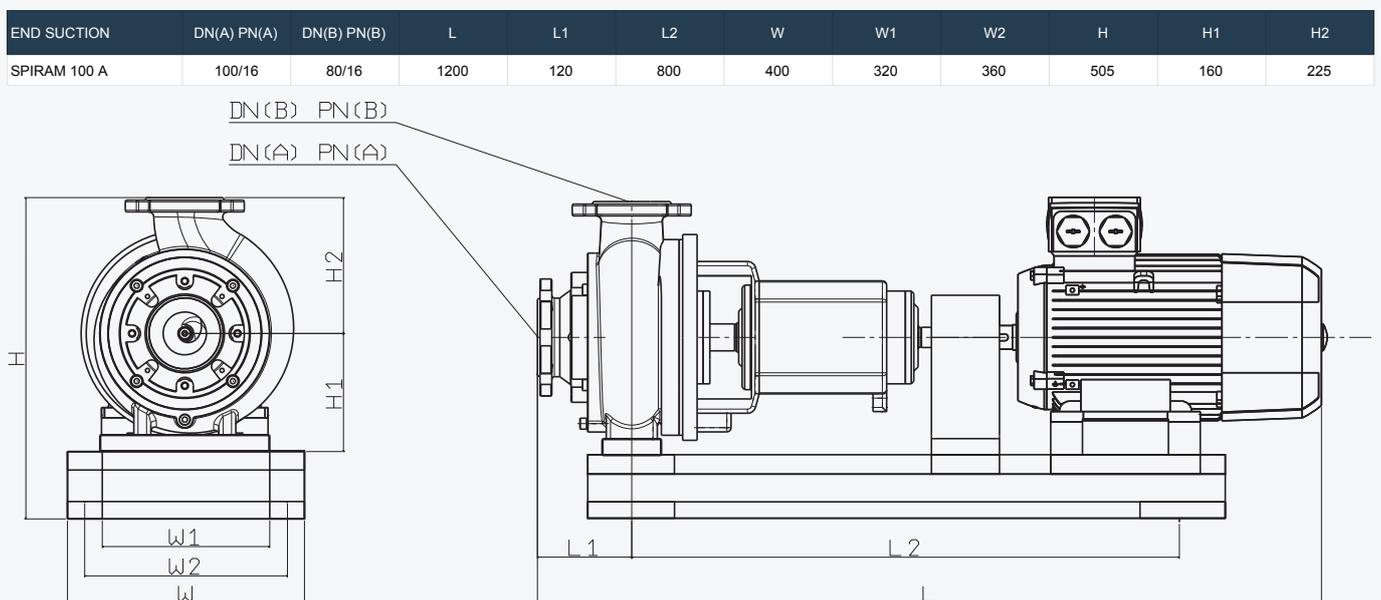
TECHNICAL INFORMATIONS

Pump version	Pump size	Type of impeller	Suction/Discharge DN/PN	Free passage (mm)	Flow BEP Q (l/s)	Head BEP H (m)	Efficiency η_h (%)	Speed (rpm)	Non-overloading power P (kW)
SPIRAM 100 A-A	A	A	100/16-80/16	50.0	32.5	31	84.3	2900	12.3
SPIRAM 100 A-B	A	B	100/16-80/16	50.0	24.1	16.9	81	2900	5.1
SPIRAM 100 B-A	B	A	100/16-100/16	75.0	63	40.9	78.1	2900	32.9
SPIRAM 100 B-B	B	B	100/16-100/16	75.0	40	19	79	2900	9.4
SPIRAM 100 C-A	C	A	100/16-80/16	75.0	19	7.3	61.5	2900	2.1
SPIRAM 100 A-A	A	A	100/16-80/16	50.0	16.3	7.8	83.7	1450	1.5
SPIRAM 100 A-B	A	B	100/16-80/16	50.0	12.1	4.2	80.4	1450	0.6
SPIRAM 100 B-A	B	A	100/16-100/16	75.0	31.5	10.2	77.5	1450	4.1
SPIRAM 100 B-B	B	B	100/16-100/16	75	20	4.8	78.4	1450	1.2

FLOW-CHART - QH CHARACTERISTICS



DIMENSIONAL DRAWING - HORIZONTAL VERSION

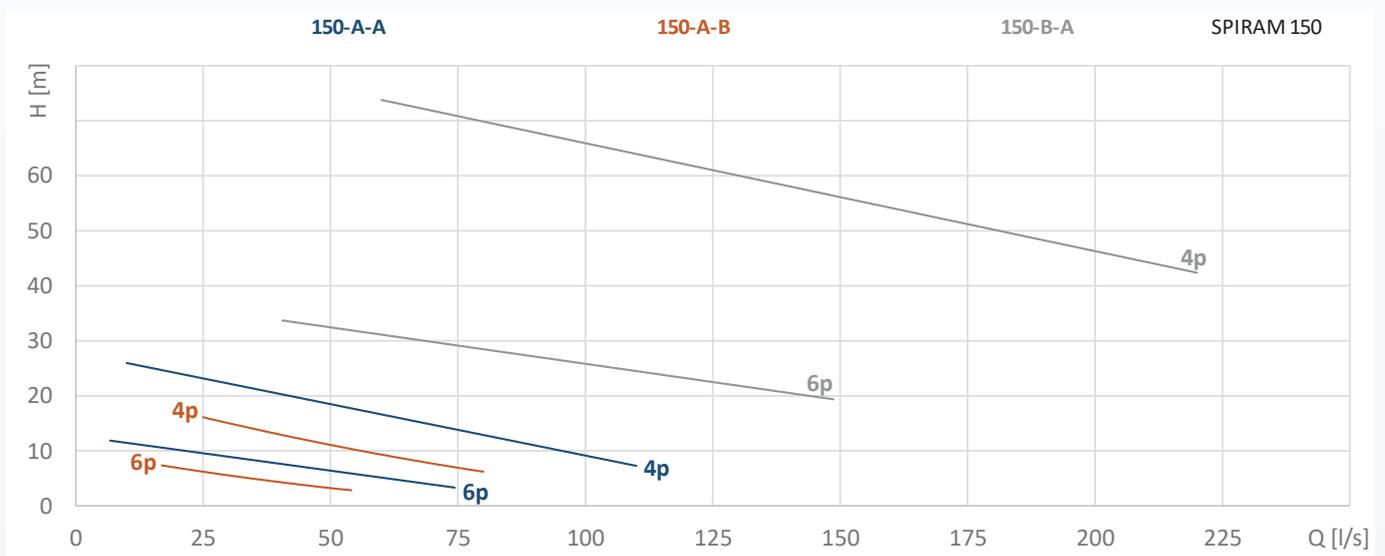


SPIRAM 150 SERIES

TECHNICAL INFORMATIONS

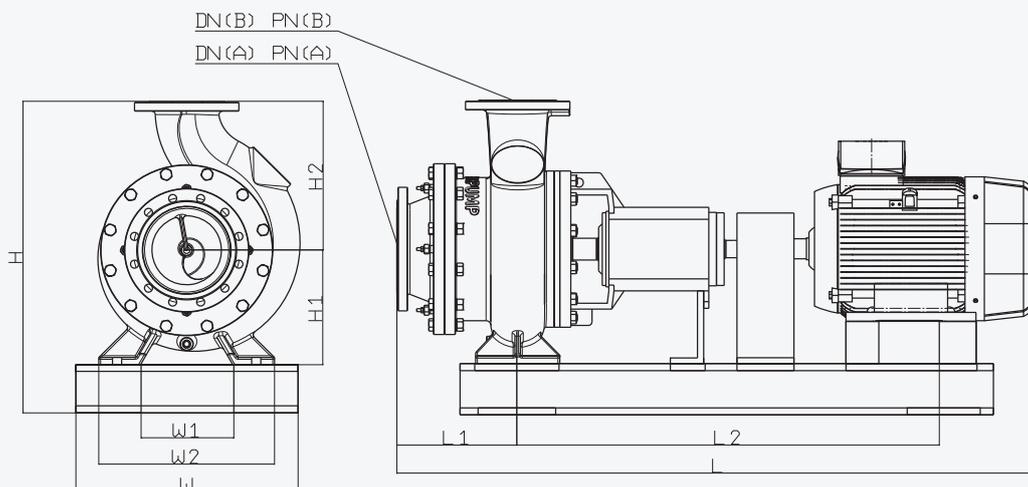
Pump version	Pump size	Type of impeller	Suction/Discharge DN/PN	Free passage (mm)	Flow BEP Q (l/s)	Head BEP H (m)	Efficiency η_h (%)	Speed (rpm)	Non-overloading power P (kW)
SPIRAM 150 A-A	A	A	150/16-150/16	95.0	74	14	84.2	1450	12.6
SPIRAM 150 A-B	A	B	150/16-150/16	100.0	56	10	81.1	1450	6.6
SPIRAM 150 B-A	B	A	150/16-125/16	95.0	120	62	79.1	1450	96.1
SPIRAM 150 A-A	A	A	150/16-150/16	95.0	50	6.4	83.4	980	3.9
SPIRAM 150 A-B	A	B	150/16-150/16	100.0	37.8	4.6	80.3	980	2
SPIRAM 150 B-A	B	A	150/16-125/16	95.0	81.1	28.3	78.3	980	29.7

FLOW-CHART - QH CHARACTERISTICS



DIMENSIONAL DRAWING - HORIZONTAL VERSION

END SUCTION	DN(A) PN(A)	DN(B) PN(B)	L	L1	L2	W	W1	W2	H	H1	H2
SPIRAM 150 A	150/16	150/16	1500	230	1000	500	430	360	720	250	350

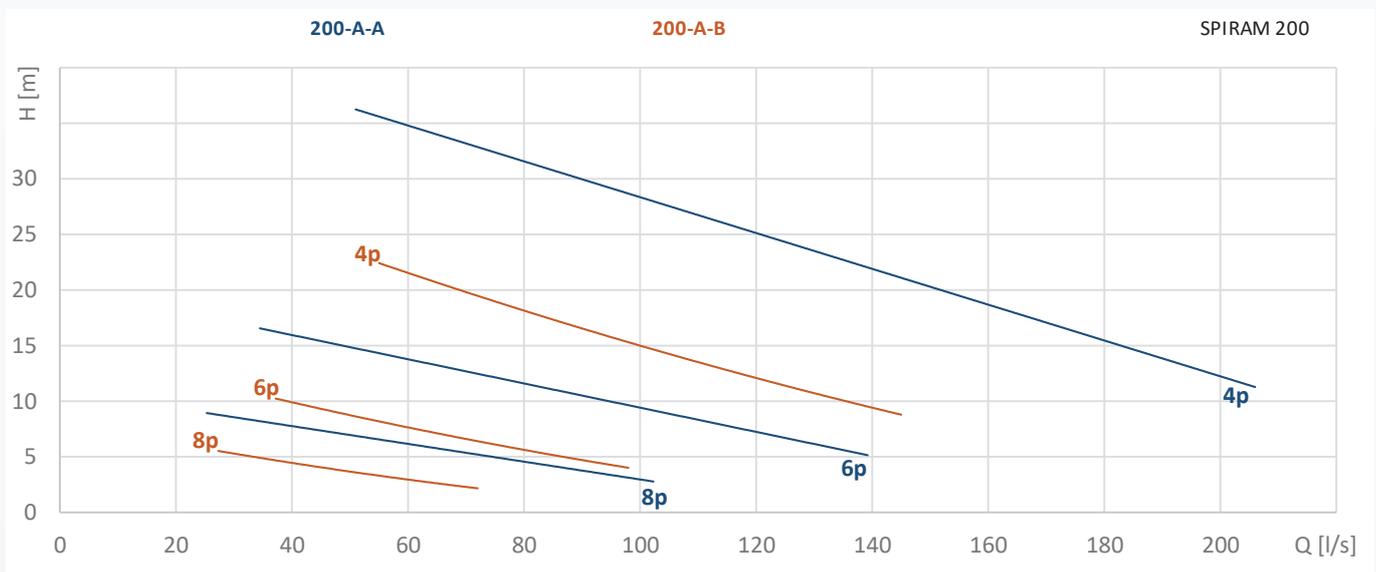


SPIRAM 200 SERIES

TECHNICAL INFORMATIONS

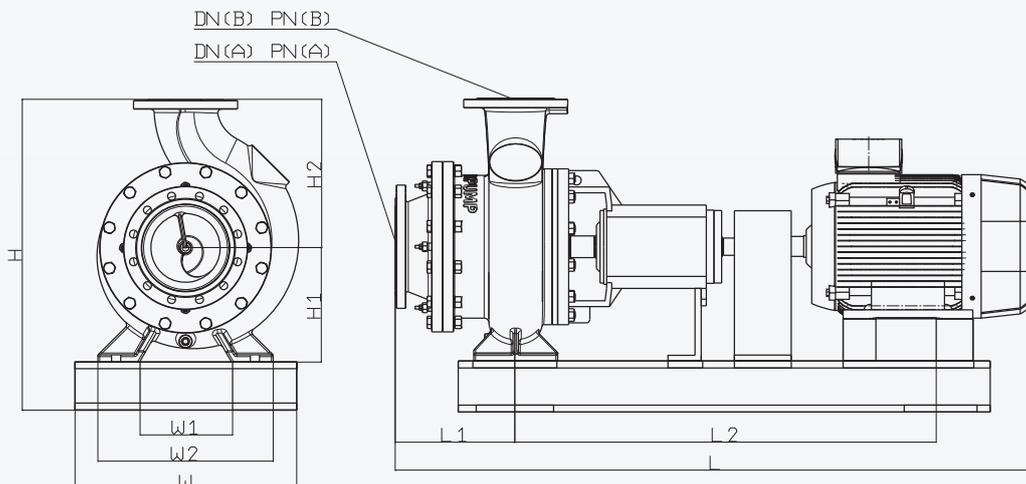
Pump version	Pump size	Type of impeller	Suction/Discharge DN/PN	Free passage (mm)	Flow BEP Q (l/s)	Head BEP H (m)	Efficiency η_h (%)	Speed (rpm)	Non-overloading power P (kW)
SPIRAM A-A	A	A	200/16-150/16	115.0	127	24	85	1450	33.4
SPIRAM A-B	A	B	200/16-150/16	115.0	100	15	82	1450	17.9
SPIRAM A-A	A	A	200/16-150/16	115.0	85.8	11	84.2	980	10.3
SPIRAM A-B	A	B	200/16-150/16	115.0	67.6	6.9	81.2	980	5.5
SPIRAM A-A	A	A	200/16-150/16	115.0	63	5.9	83.3	720	4.1
SPIRAM A-B	A	B	200/16-150/16	115.0	49.7	3.7	80.3	720	2.2

FLOW-CHART - QH CHARACTERISTICS



DIMENSIONAL DRAWING - HORIZONTAL VERSION

END SUCTION	DN(A) PN(A)	DN(B) PN(B)	L	L1	L2	W	W1	W2	H	H1	H2
SPIRAM 200 A	200/16	150/16	1800	330	1200	600	250	480	845	315	410

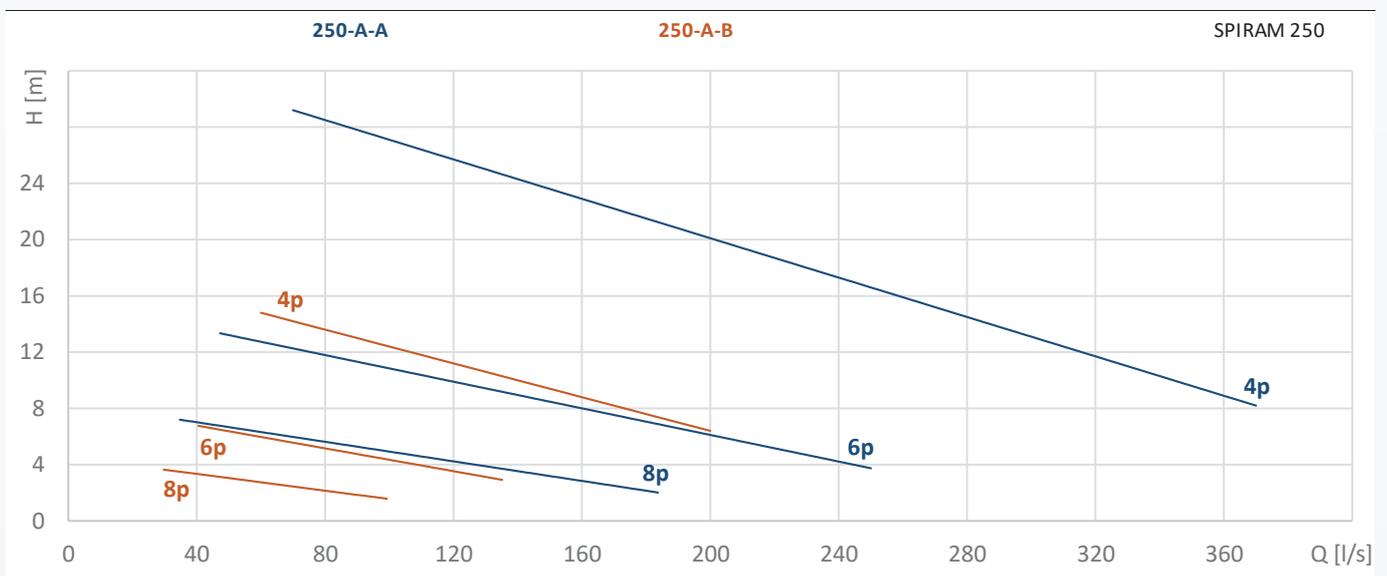


SPIRAM 250 SERIES

TECHNICAL INFORMATIONS

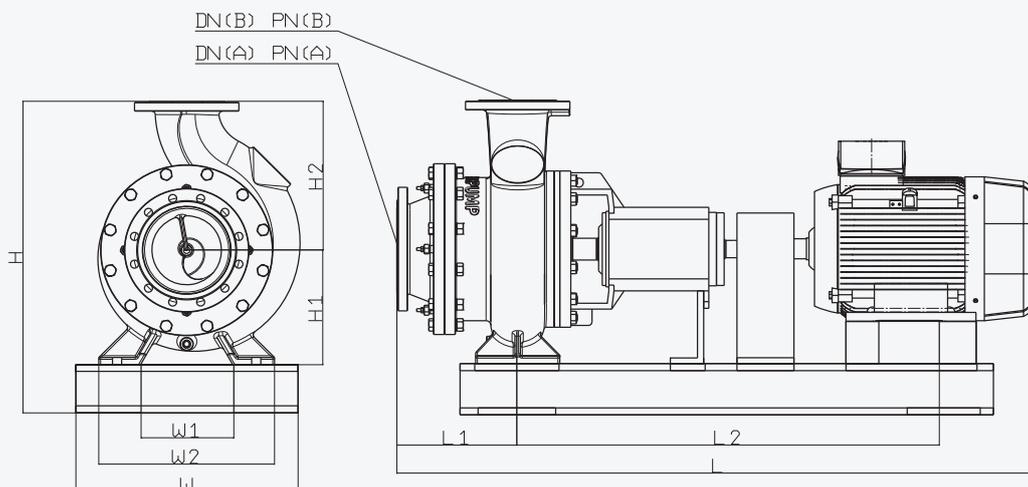
Pump version	Pump size	Type of impeller	Suction/Discharge DN/PN	Free passage (mm)	Flow BEP Q (l/s)	Head BEP H (m)	Efficiency η_h (%)	Speed (rpm)	Non-overloading power P (kW)
SPIRAM A-A	A	A	250/16-250/16	120.0	230	18	82.1	1450	51.5
SPIRAM A-B	A	B	250/16-250/16	110.0	140	10	85	1450	16.1
SPIRAM A-A	A	A	250/16-250/16	120.0	155.4	8.2	81.3	980	15.9
SPIRAM A-B	A	B	250/16-250/16	110.0	94.6	4.6	84.2	980	5
SPIRAM A-A	A	A	250/16-250/16	120.0	114.2	4.4	80.4	720	6.3
SPIRAM A-B	A	B	250/16-250/16	110.0	69.5	2.5	83.3	720	2

FLOW-CHART - QH CHARACTERISTICS



DIMENSIONAL DRAWING - HORIZONTAL VERSION

END SUCTION	DN(A) PN(A)	DN(B) PN(B)	L	L1	L2	W	W1	W2	H	H1	H2
SPIRAM 250 A	250/10	250/10	1850	360	1200	650	585	520	1050	400	475

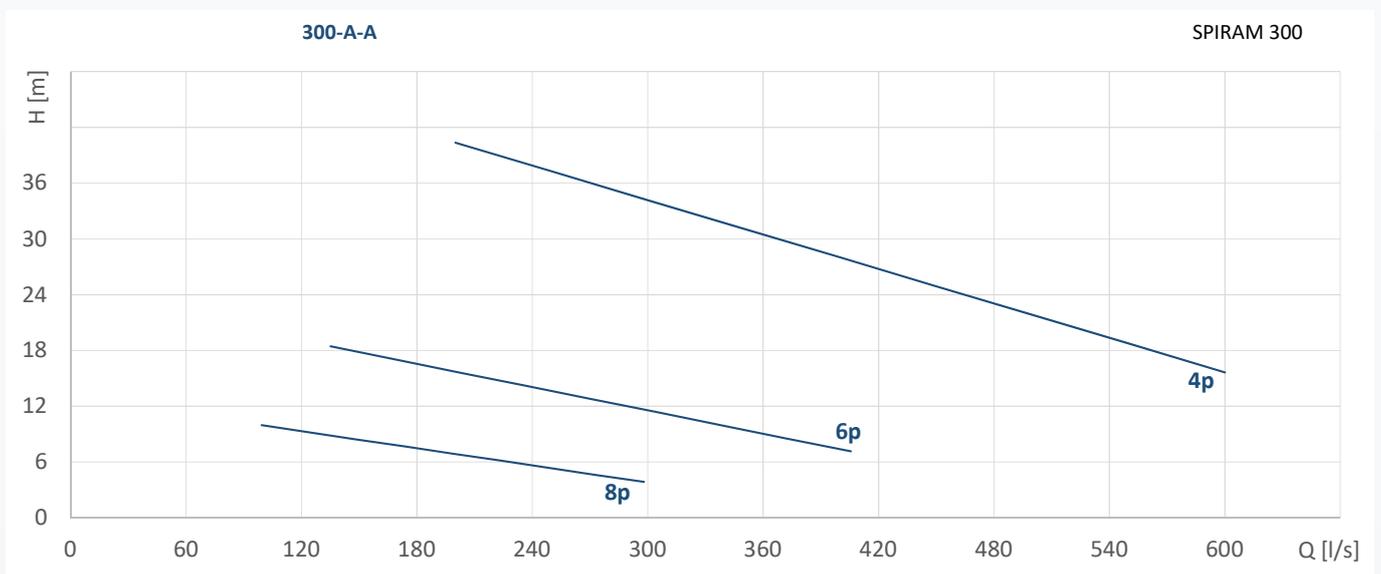


SPIRAM 300 SERIES

TECHNICAL INFORMATIONS

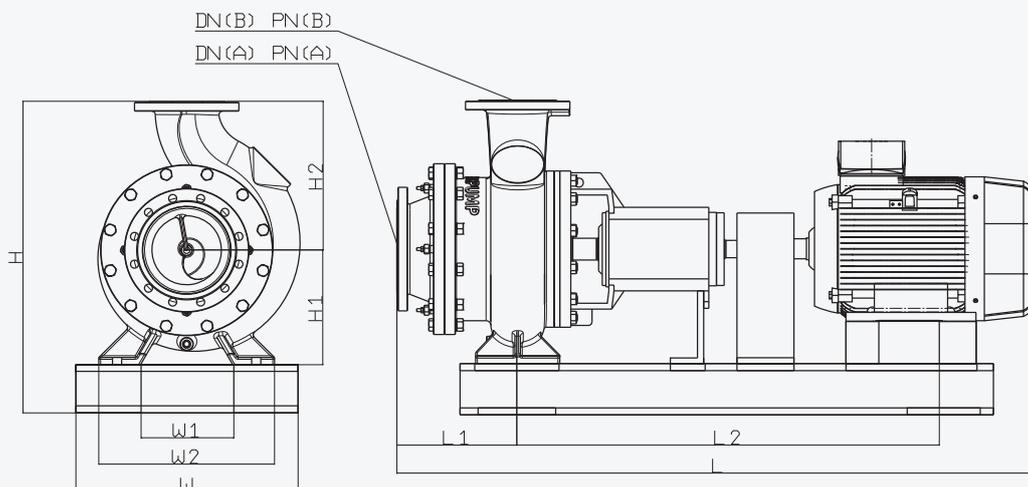
Pump version	Pump size	Type of impeller	Suction/Discharge DN/PN	Free passage (mm)	Flow BEP Q (l/s)	Head BEP H (m)	Efficiency η_h (%)	Speed (rpm)	Non-overloading power P (kW)
SPIRAM A-A	A	A	300/16-300/16	150.0	400	28	82	1450	133.3
SPIRAM A-A	A	A	300/16-300/16	150.0	270.3	12.8	81.2	980	41.2
SPIRAM A-A	A	A	300/16-300/16	150.0	198.6	6.9	80.4	720	16.3

FLOW-CHART - QH CHARACTERISTICS



DIMENSIONAL DRAWING - HORIZONTAL VERSION

END SUCTION	DN(A) PN(A)	DN(B) PN(B)	L	L1	L2	W	W1	W2	H	H1	H2
SPIRAM 300 A	300/10	300/10	1900	550	1300	760	640	580	1290	560	650



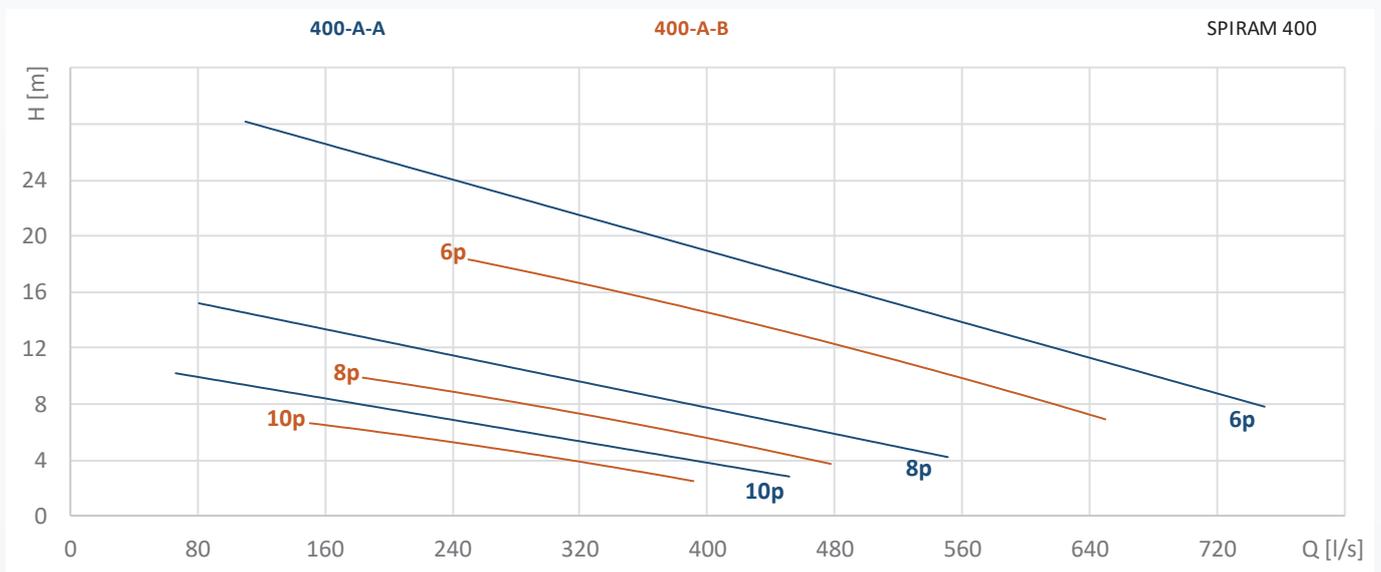
The manufacturer reserves the right to change product specifications, designs, and equipment.

SPIRAM 400 SERIES

TECHNICAL INFORMATIONS

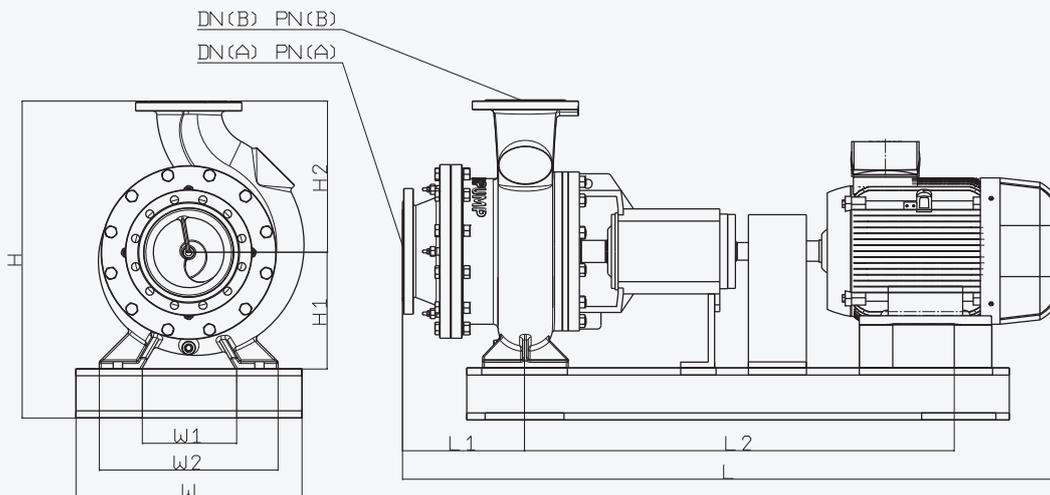
Pump version	Pump size	Type of impeller	Suction/Discharge DN/PN	Free passage (mm)	Flow BEP Q (l/s)	Head BEP H (m)	Efficiency η_h (%)	Speed (rpm)	Non-overloading power P (kW)
SPIRAM A-A	A	A	400/16-400/16	180.0	540	14.5	81	980	94.6
SPIRAM A-B	A	B	400/16-400/16	180.0	490	12	82	980	70.2
SPIRAM A-A	A	A	400/16-400/16	180.0	396.7	7.8	80.1	720	37.5
SPIRAM A-B	A	B	400/16-400/16	180.0	360	6.5	81.1	720	27.8
SPIRAM A-A	A	A	400/16-400/16	180.0	325.1	5.3	79.2	590	20.6
SPIRAM A-B	A	B	400/16-400/16	180.0	295	4.3	80.2	590	15.3

FLOW-CHART - QH CHARACTERISTICS



DIMENSIONAL DRAWING - HORIZONTAL VERSION

END SUCTION	DN(A) PN(A)	DN(B) PN(B)	L	L1	L2	W	W1	W2	H	H1	H2
SPIRAM 400 A	400/10	400/10	2500	670	1500	800	720	640	1350	660	500

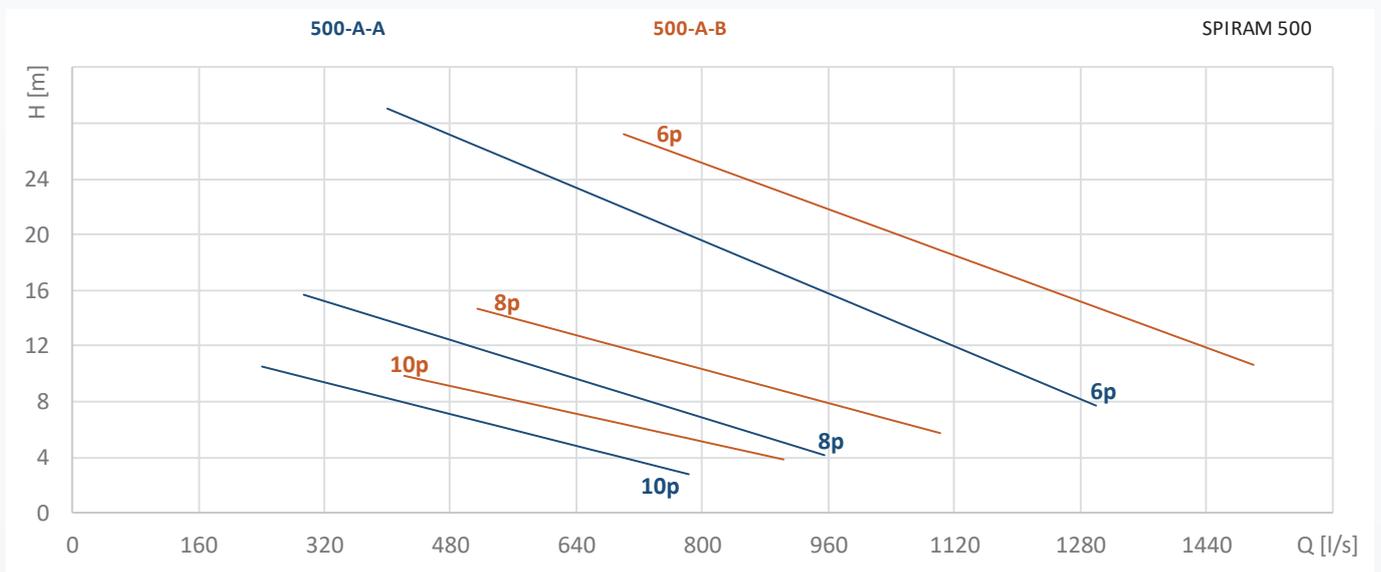


SPIRAM 500 SERIES

TECHNICAL INFORMATIONS

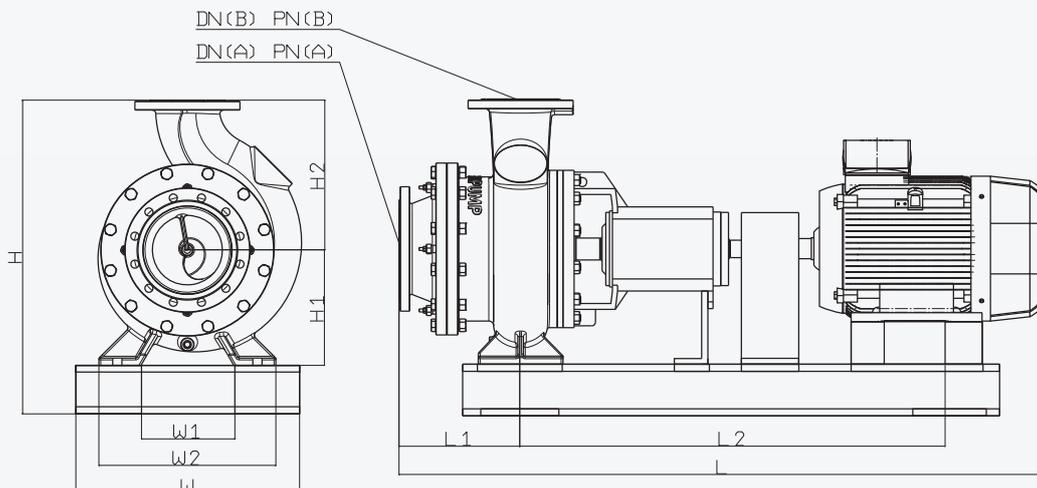
Pump version	Pump size	Type of impeller	Suction/Discharge DN/PN	Free passage (mm)	Flow BEP Q (l/s)	Head BEP H (m)	Efficiency η_h (%)	Speed (rpm)	Non-overloading power P (kW)
SPIRAM A-A	A	A	500/16-500/16	230.0	900	17.2	80	980	189.4
SPIRAM A-B	A	B	500/16-500/16	230.0	1000	21	84	980	244.7
SPIRAM A-A	A	A	500/16-500/16	230.0	661.2	9.3	79.1	720	75.1
SPIRAM A-B	A	B	500/16-500/16	230.0	734.7	11.3	83.1	720	97
SPIRAM A-A	A	A	500/16-500/16	230.0	541.8	6.2	78.2	590	41.3
SPIRAM A-B	A	B	500/16-500/16	230.0	602	7.6	82.2	590	53.4

FLOW-CHART - QH CHARACTERISTICS



DIMENSIONAL DRAWING - HORIZONTAL VERSION

END SUCTION	DN(A) PN(A)	DN(B) PN(B)	L	L1	L2	W	W1	W2	H	H1	H2
SPIRAM 500 A	500/10	500/10	2750	850	1700	950	865	780	1650	840	630



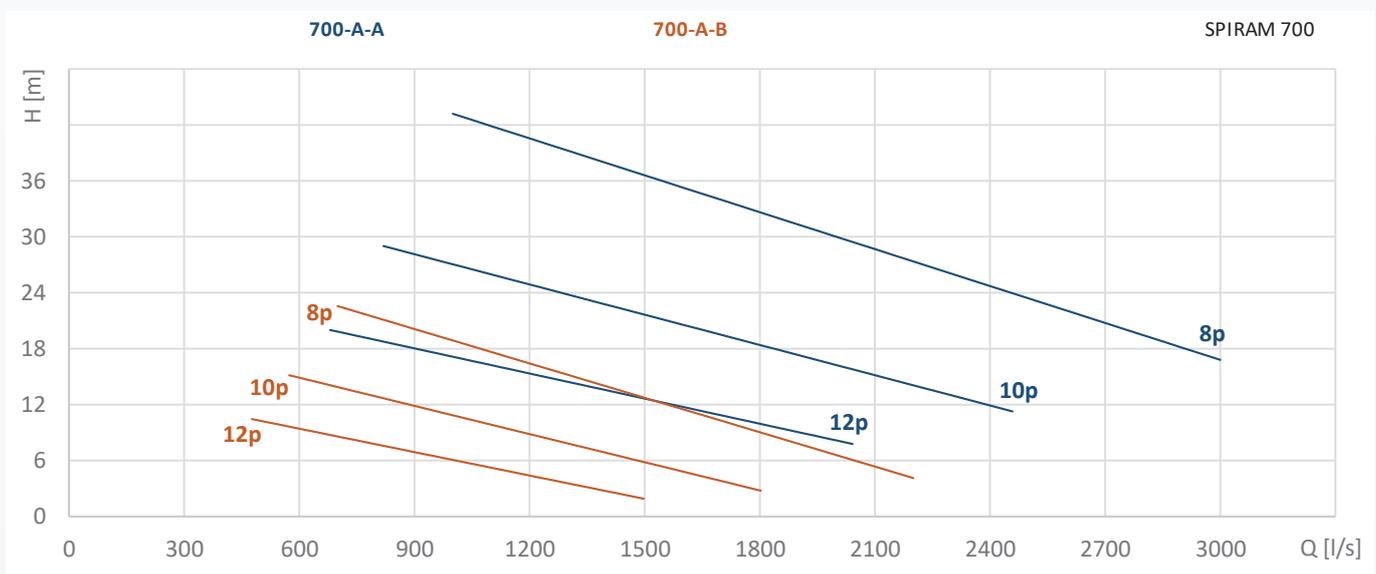
The manufacturer reserves the right to change product specifications, designs, and equipment.

SPIRAM 700 SERIES

TECHNICAL INFORMATIONS

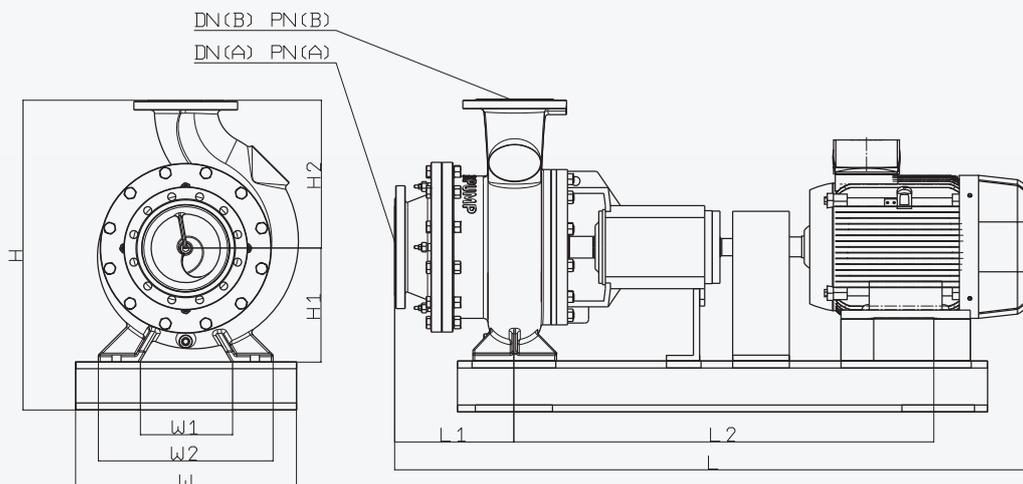
Pump version	Pump size	Type of impeller	Suction/Discharge DN/PN	Free passage (mm)	Flow BEP Q (l/s)	Head BEP H (m)	Efficiency η_h (%)	Speed (rpm)	Non-overloading power P (kW)
SPIRAM A-A	A	A	700/16-700/16	285.0	2000	30	86	720	661.3
SPIRAM A-B	A	B	700/16-700/16	285.0	1700	10.3	91	720	337.9
SPIRAM A-A	A	A	700/16-700/16	285.0	1638.9	20.1	85.1	590	363.9
SPIRAM A-B	A	B	700/16-700/16	285.0	1393.1	6.9	90.1	590	186
SPIRAM A-A	A	A	700/16-700/16	285.0	1361.1	13.9	84.1	490	208.4
SPIRAM A-B	A	B	700/16-700/16	285.0	1156.9	4.8	89.1	490	106.5

FLOW-CHART - QH CHARACTERISTICS



DIMENSIONAL DRAWING - HORIZONTAL VERSION

END SUCTION	DN(A) PN(A)	DN(B) PN(B)	L	L1	L2	W	W1	W2	H	H1	H2
SPIRAM 700 A	700/10	700/10	3300	850	200	1600	1000	1400	2130	950	880



MANUFACTURER S GUARANTEE FOR SERVICING

PRAKTIKPUMP PROVIDES WARRANTY AND POST WARRANTY PROFESSIONAL COMPREHENSIVE SERVICING OF SPIRAM PUMPS TO THE FOLLOWING EXTENT:

Installation of pumps, commissioning, routine service checks and inspections, preventive checks and inspections, professional diagnostics in case of failure, use of advanced diagnostic methods.

Pump repairs are carried out in our newly built service centre specialized in repairing and servicing of pumps, pump units, blowers, vacuum pumps, etc., or directly at the pump installation site.

Servicing is performed by our trained service technicians with extensive experience in the field of repairs at a high professional level. Professional level is regularly increased by the participation of service technicians in trainings focused on different areas related to the pump technology.

Our central spare parts warehouse in Zvolen allows fast, flexible and hassle-free availability of all spare parts for all pump versions.

Most of the components are manufactured directly in Slovakia, which allows flexibly respond to the changing situations and keep optimum stock of necessary spare parts always available when needed without lengthy acquisition times if a supplier is from other country.





PRAKTIKPUMP

Professional partner for pumping technologies

ABOUT OUR COMPANY

PRAKTIKPUMP is a project engineering and implementation company specialized in technological units with an emphasis on machinery technology. Our activities are backed up by the sound expertise in the field of pumps and other rotating machinery. For many years, we have been involved in executing complex turnkey projects in different industrial sectors including water industry.

We are innovators and pioneers dealing with new technologies in the pump industry. Our company has been developing and manufacturing pumps available under own brand name SPIRAM. We are authors of SMART PUMPING CONCEPT, the smart predictive diagnostics software for rotating machinery.

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