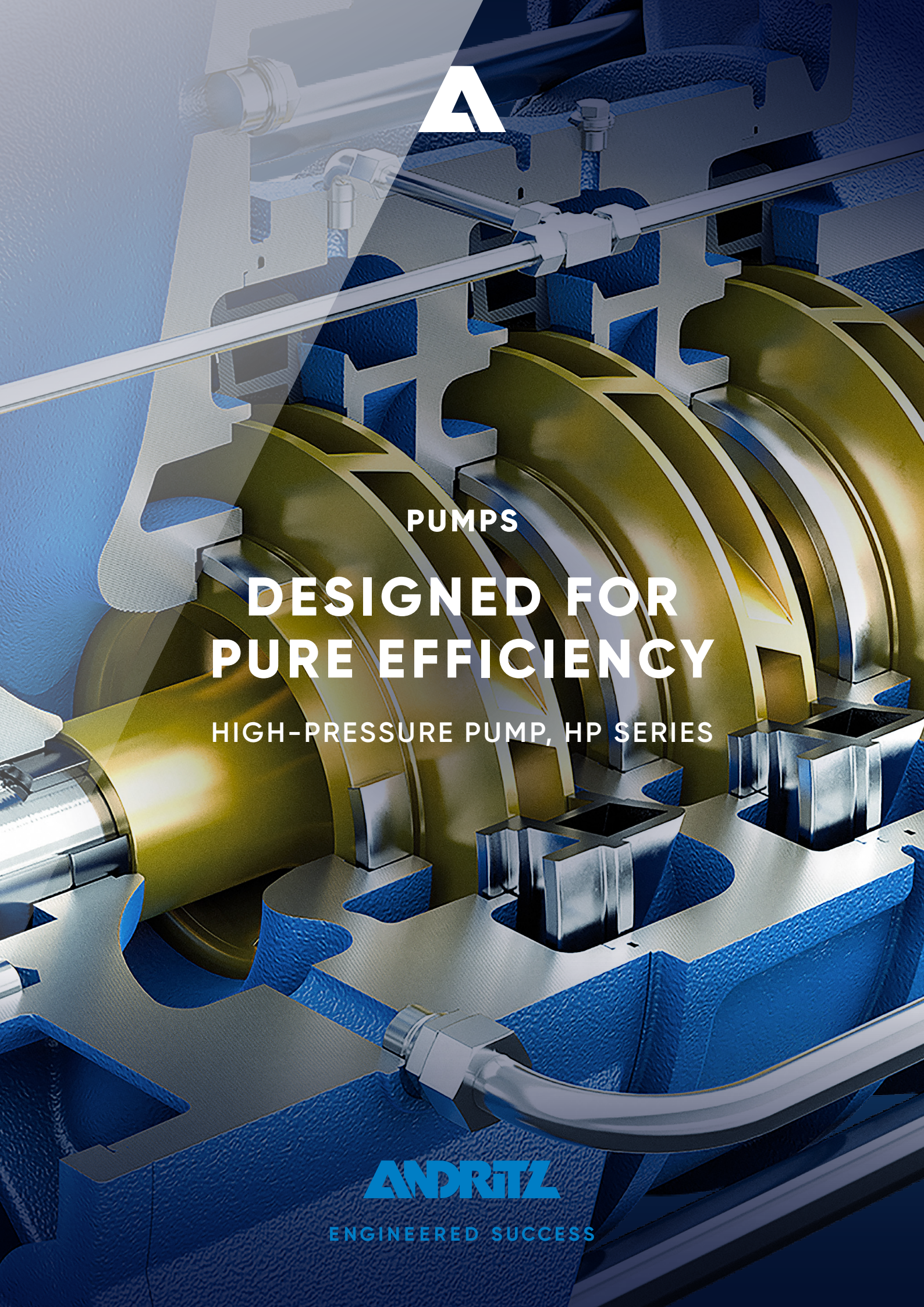


PUMPS

DESIGNED FOR PURE EFFICIENCY

HIGH-PRESSURE PUMP, HP SERIES

ANDRITZ

ENGINEERED SUCCESS

ANDRITZ pumps for your industry

Water | Pulp and paper | Power | Other industries

ANDRITZ specializes in the development and manufacturing of high-quality pumps, offering a comprehensive range from standardized products to tailor-made solutions across various industries. Our pumps have achieved global success in diverse applications, including municipal drinking water supply, wastewater disposal, industrial water distribution, and significant infrastructure projects such as irrigation, seawater desalination, and water transmission.

In flood control, irrigation, and water transport, ANDRITZ not only provides the largest and most powerful pumps, but also complete systems and pumping stations. As a prominent supplier to the pulp and paper industry, we leverage strong process expertise to deliver pump solutions that enhance process stability and energy efficiency. Our product portfolio encompasses a full range of robust process pumps and innovative medium-consistency pumps with an advanced system to avoid fiber losses. Notably, our double-suction headbox pumps boast efficiency levels of up to 93% and low-pulsation impellers, crafted with innovative methods. They thus provide the best performance in the paper manufacturing process.

In line with our commitment to sustainability, ANDRITZ offers reliable small hydroelectric power plants and pumps utilized as turbines for private, municipal, industrial, and commercial applications. Our diverse range ensures economically and ecologically sustainable energy production. Specializing in hydroelectric storage, our pumps cover a wide range from high heads to high flows, showcasing our engineering competence.

Our pump series, distinguished by modern and robust designs, high efficiency levels, and sustainability features, find applications in various demanding industries, including sugar and starch, lysine, bioethanol, hydrogen, fertilizer, mining, offshore, and general process industries.

Additionally, ANDRITZ provides IIOT-enabled premium pump technology for enhanced process monitoring, thus reflecting our commitment to cutting-edge solutions.

Premium pumping technology

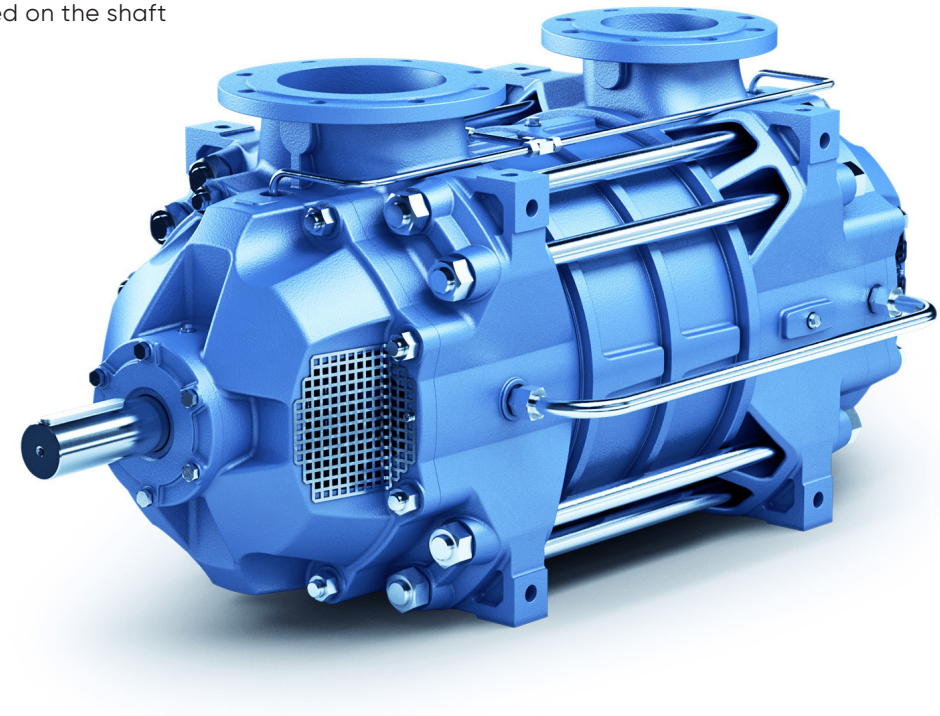
ANDRITZ HIGH-PRESSURE PUMPS FROM THE HP SERIES
are multi-stage ring section pumps of robust construction with extra-large shaft sections for vibration-free running. For high output pressures, additional axial thrust balancing is provided by a balancing pistonand and catridge seal mounted on the pump shaft. The shaft sealing is either a mechanical seal or gland packing. In all the pumps the shaft is protected against wear and corrosion over its entire length by shaft wear sleeves, especially in the area of the shaft seals.

HYDRAULIC SYSTEM
At least two types of impellers with matching diffusers are available for each pump frame. Therefore, operation within the range of optimum efficiency is possible for the required output conditions. If an abrasive medium is being pumped, the slip face and hub section of the impeller can be protected by renewable rings/ bushes in wear-resistant materials. In pumps with a small number of stages the ball bearings (fixed bearings) absorb the axial thrust. In pumps with a larger number of stages, the axial thrust is equalized by means of a balancing piston mounted on the shaft in the area of the delivery housing.

FIELDS OF APPLICATION
- Water supply
- Irrigation
- Hot and cold water circulation
- Boiler feed
- Pressure boosting installations

PRODUCT FACTS*:
- Head up to 400 m
- Flow rate up to 950 m^3/h
- Pressure up to 40 bar
- Temperature up to 120 °C
- Power up to 1300 kW

*These values are guidelines and may differ depending on project requirements

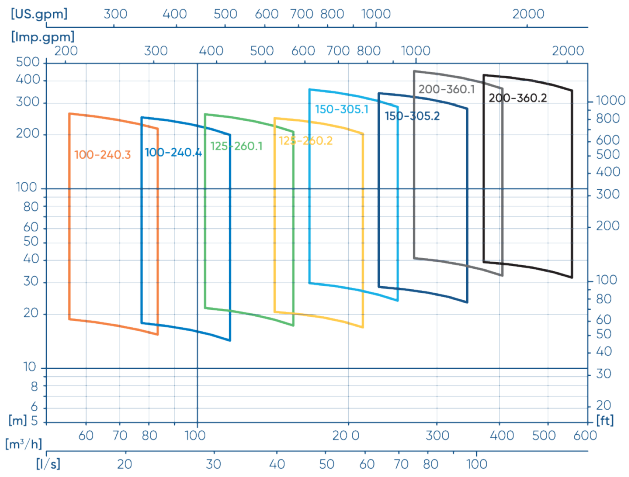


High-pressure pumps, HP Series

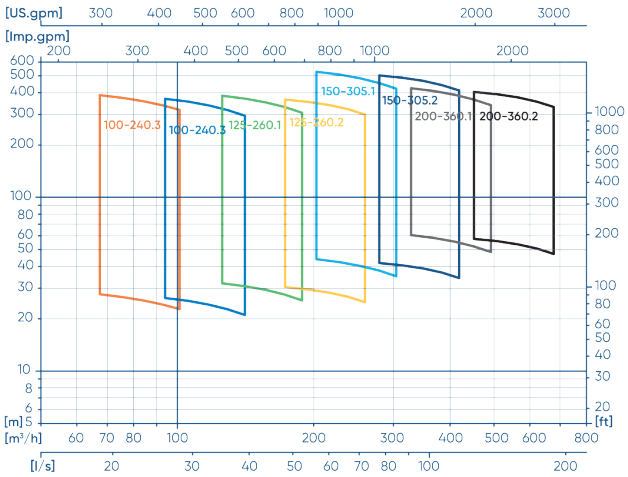
PRODUCT BENEFITS

- Numerous horizontal and vertical models for an efficient building design
- Flexible arrangement of suction- and delivery branch
- Numerous hydraulic units per model size guarantee a design at the optimal operating point
- High efficiencies owing to optimized hydraulics
- Optimal adaptability to the medium to be pumped owing to a variety of material and sealing versions
- Pump shaft is protected along its entire length by means of impeller hubs and sleeves
- Balancing of the axial thrust by means of balancing piston (at high pressure)
- Ilot ready

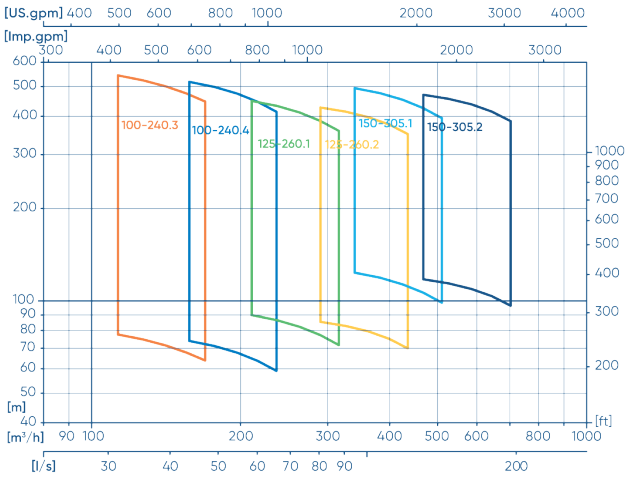
Drehzahl 1450min^{-1}



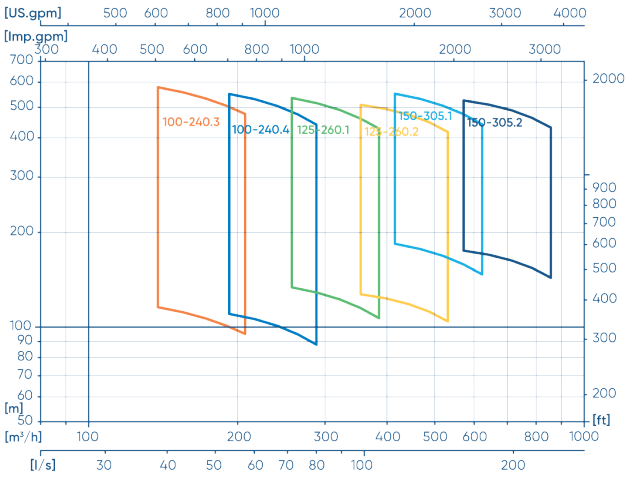
Drehzahl 1760 min^{-1}

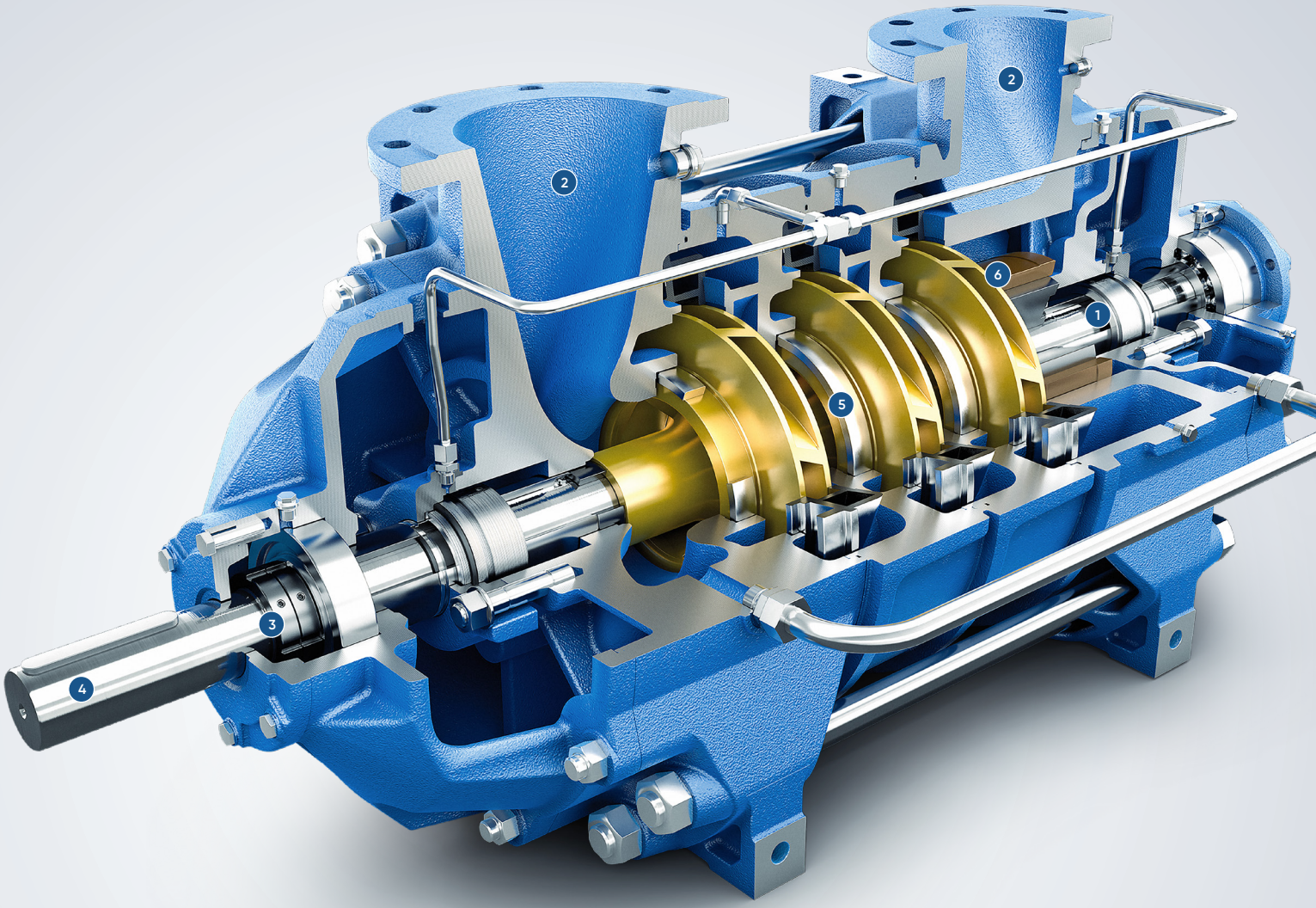


Drehzahl 2950 min^{-1}



Drehzahl 3600 min^{-1}





1 SHAFT SEALS
Mechanical seals: Single acting unbalanced/balanced mechanical seal or cartridge seal

2 BRANCH POSITION
A choice between the horizontal or vertical position.

3 BEARING ASSEMBLIES
Depending on pump arrangement, designed as grease lubricated ball bearings (a radial deep groove ball bearing on the suction side and a fixed bearing with paired angular contact ball bearings on the delivery side)

4 DRIVE
In clockwise or anti-clockwise rotation; in horizontal arrangement by IEC standard motor in form B3 with supporting feet. In vertical arrangement by IEC standard motor in form V1 with flange connection according to DIN 42948.

5 IMPELLER
Two types of matching diffuser allow operation within the range of optimum efficiency for the required output conditions and pump frames.

6 AXIAL PISTON
Axial thrust is thus compensated.

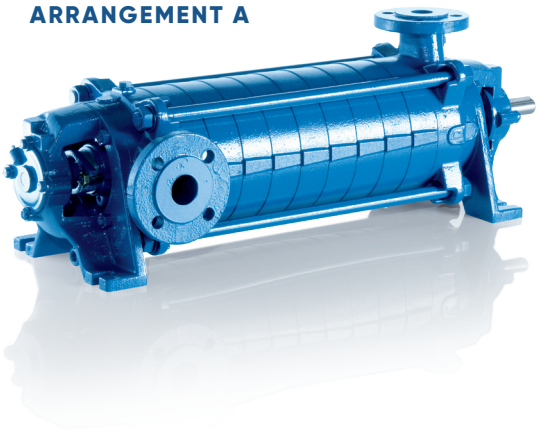
Material combinations

HP43 SERIES	GREY CAST IRON	DUCTILE CAST IRON	STAINLESS STEEL	DUPLEX STAINLESS STEEL	SUPER DUXPLEX STAINLESS STEEL	PPE
Casing		■		■	■	
Shaft			■	■		
Impeller			■	■	■	
Casing wear ring						■
Bearing housing		■				
Diffusor	■		■	■	■	

	European standard		US standard	
Material	**Number**	**Name**	**Grade**	**UNS**
Grey cast iron	5.1301	EN-GJL-250	Class 40B	/
Ductil cast iron	5.3105	EN-GJS-400-18	Grade 60-40-18	/
Stainless steel	1.4408	GX5CrNiMo19-11-2	CF8M	J92900
Stainless steel	14409		420	S42000
Stainless steel	1.4021	X20Cr13	Grade 3A	J93370
Duplex stainless steel	1.4474	GX4CrNiMoN26-5-2	S32205	S32205
Duplex stainless steel	1.4462	X2CrNiMoN22-5-3	Grade 5A	
Super duplex stainless steel	1.4469	GX2CrNiMoN26-7-4	S32750 S32750	
Super duplex stainless steel	1.4410	X2CrNiMoN25-7-4		
PPE Polyphenylene ether		PPE		

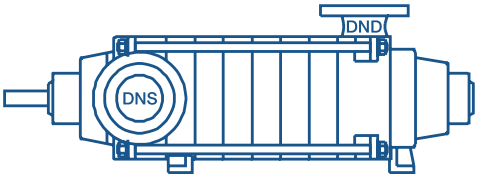
ARRANGEMENT S

ARRANGEMENT A



Construction forms HP Series

ARRANGEMENT A1 AND E1

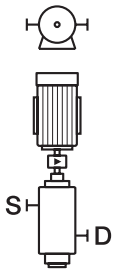


Pump in horizontal design. Suction and discharge nozzle arrangement radial. Shaft on the suction and discharge side outside the pump body in grease-lubricated roller bearings. Drive on the on the suction side with counterclockwise direction of rotation, seen from the drive. Assembly of pump and motor on a common base plate, connected by an elastic coupling.

Arrangement A1 and E1, horizontal (standard)

- Drive at suction side.
- Rotation direction of pump shaft is anti-clockwise, seen from drive end.
- Branch position by standard arrangement L3/0.
- Suction and delivery branch to same direction is possible from 3 stages or more.

L3/0

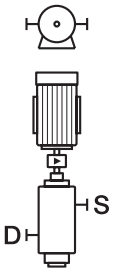


L3/3

L3/9*

L9/0

L9/3*



L9/9

L0/0*

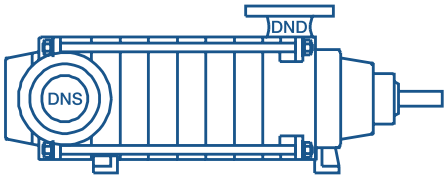
L0/3

L0/9

*possible from 3 stages

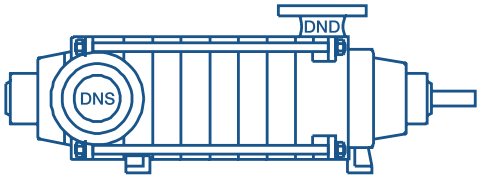
Construction forms HP Series

ARRANGEMENT A2 AND E2



Pump in horizontal design. Suction and discharge nozzle arrangement radial. Shaft guide on the discharge side outside the pump body in grease-lubricated roller bearings, on the suction side in pumped liquid-lubricated slide bearing. Drive on the discharge side with clockwise rotation clockwise as seen from the drive. Assembly of pump and motor are mounted on a common base plate, connected by a flexible coupling.

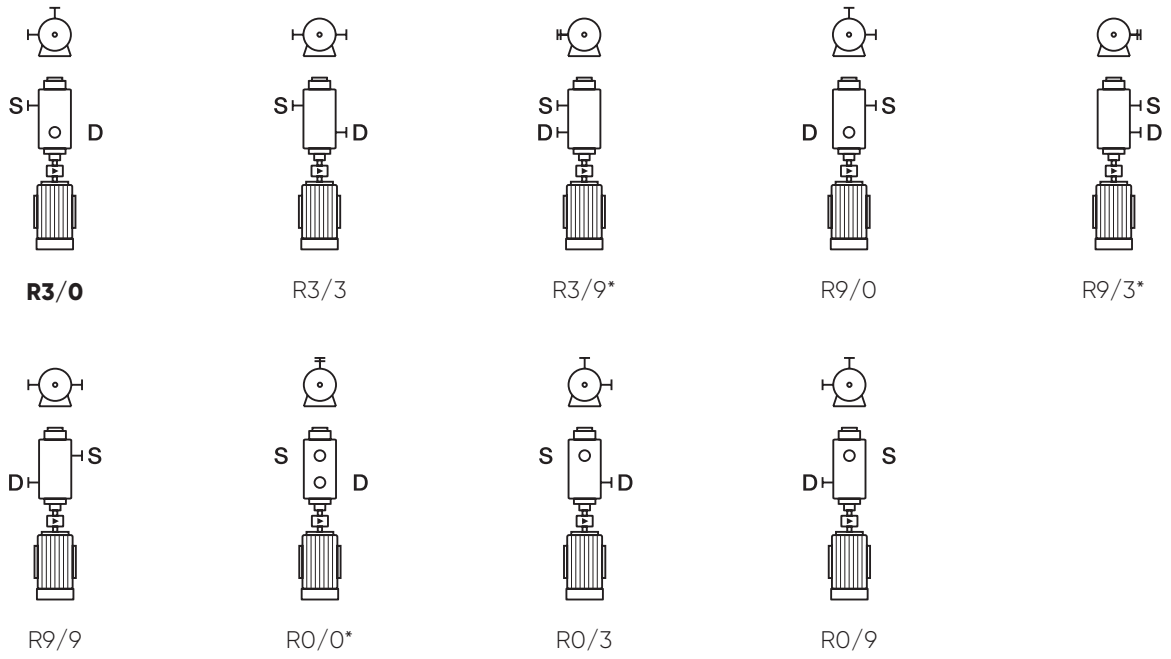
ARRANGEMENT A3 AND E3



Pump in horizontal design. Suction and discharge nozzle arrangement radial. Shaft on the suction and discharge side outside the pump body in grease-lubricated roller bearings. Drive on the drive on the discharge side with clockwise direction of rotation, viewed from the drive seen from the drive. Assembly of pump and motor on a common base plate base plate, connected by a flexible coupling.

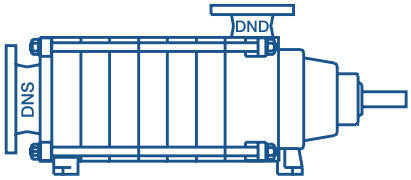
Arrangement A2, E2, A3 and E3, horizontal

- Drive at delivery side.
- Rotation direction of pump shaft is clockwise, seen from drive end.
- Branch position by standard arrangement R3/0.
- Suction and delivery branch to same direction is possible from 3 stages or more.



*possible from 3 stages

ARRANGEMENT AX

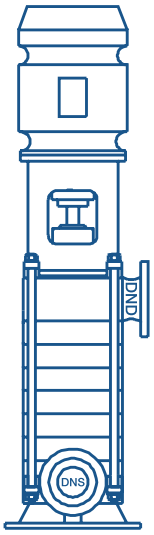


Pump in horizontal design. Suction nozzle axial, discharge nozzle arranged radially. Shaft guide on the discharge side outside the pump pump body in grease-lubricated roller bearings, on the suction side in the suction side in slide bearings lubricated with pumped liquid. Drive on the drive on the discharge side with clockwise rotation, viewed from the drive. seen from the drive. Assembly of pump and motor on a common base plate, connected by flexible coupling. Particularly favorable flow to the first impeller and therefore an improvement of the suction behavior.

Arrangement AX, horizontal

- Drive at delivery side.
- Rotation direction of pump shaft is clockwise, seen from drive end.
- Branch position by standard arrangement R4/0.

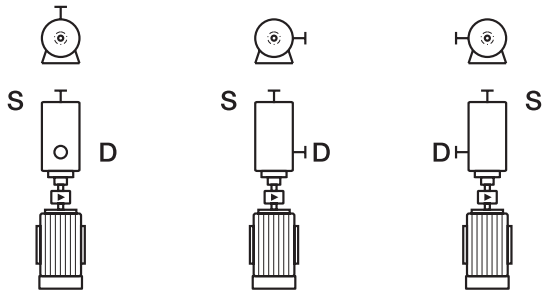
ARRANGEMENT S

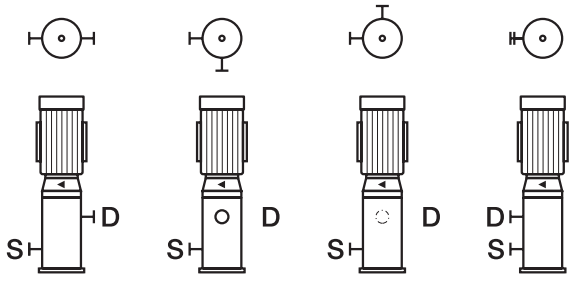


Pump in vertical design. Suction and discharge nozzle arrangement radial. Shaft guide on the suction suction side in slide bearings lubricated with pumped liquid, on the discharge side in grease-lubricated roller bearings. Drive on the discharge side with direction of rotation clockwise as seen from the drive. Connection of pump and motor via flexible coupling. Particularly space-saving and installation-friendly design.

Arrangement S, vertical

- Drive at delivery side.
- Rotation direction of pump shaft is clockwise, seen from drive end.
- Branch position by standard arrangement R9/3.
- Suction and delivery branch to same direction is possible from 3 stages or more.





*possible from 3 stages

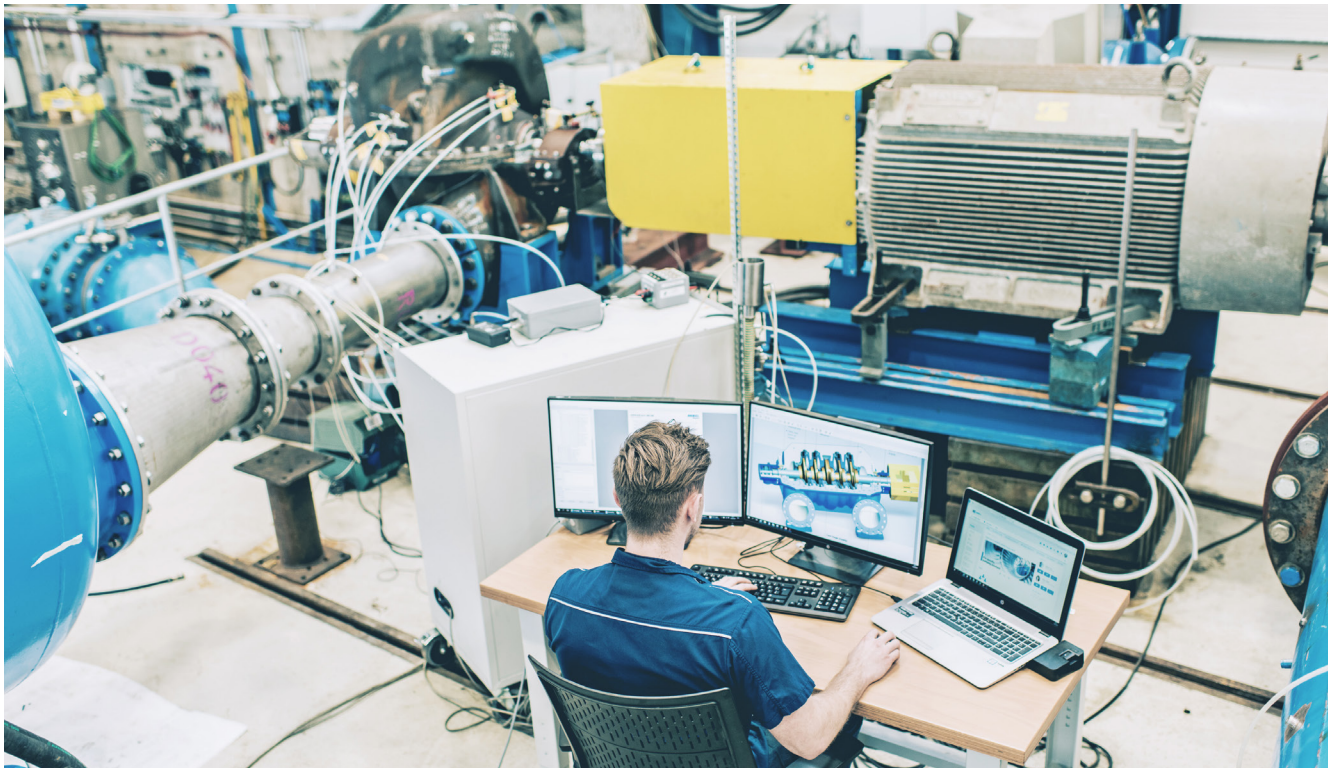
Always a flow ahead – Research and development

Our Pump Technology Center (PTC) ASTROE enjoys an internationally renowned reputation for its hydraulic developments and investigations. The high efficiency of the ANDRITZ pump series is ensured by Computational Fluid Dynamic (CFD) calculations and extensive testing carried out in our company owned laboratory.

Continuously increasing demands by customers in our operating industries emphasize the significance of R&D in the constant optimization of products and services. Today, efficiency, flexibility, and reliability over an extended lifetime are the major challenges of the market.

Our commitment to research and development forms the basis for our advances in hydraulic machine manufacturing. With PTC ASTROE, center for hydraulic engineering and laboratory, we have an internationally renowned institute for hydraulic development work at our disposal.

We are developing and testing our pumps at different locations worldwide. Our test stands are among the most accurate in the world. By networking these research and development centers, we provide a continuous transfer of know-how within the ANDRITZ GROUP for the benefit of our customers. The main tools for R&D are numerical simulation methods as well as experimental measurements in the laboratory and on site. State-of-the-art equipment, highly precise measuring instruments as well as the latest simulation technologies, and powerful software form the basis of the high technical quality of the pumps and turbines from ANDRITZ.



Greater efficiency for a competitive edge – Pumps service

Optimization / Modernization / Operating reliability

The conditions of your plant have changed, but your pumps are still operating as previously and therefore, wasting energy? Would you like to optimize your system to reduce costs? With ANDRITZ, you will have a competent partner for these and numerous other services at your side.

Service and maintenance have a long tradition at ANDRITZ and complement the product portfolio. The century-long expertise is reflected not only in a service portfolio with innovative solutions and advanced products that can be optimally adapted to the respective customer needs, but also in a specially trained staff. ANDRITZ has specialized in the servicing of pumps to achieve improved efficiencies and adaptations to changed operating points of the installed pumps. A large potential for savings can already be achieved by improving the efficiency of 20 percent of the installed pumps. Our service team provides prompt, professional, and reliable assistance – also for other manufacturers' products. Book our service package and you can be sure of the best operating reliability for your systems in the long term. We conduct an expert assessment together with you, thus creating transparency and making an optimum solution possible that is tailored to your needs. After examining your plant, we determine its savings potential and realize it by improving the efficiency of the pumps installed. Additionally, this individual solution lowers your maintenance costs. You do not have to think about personnel, nor about maintenance schedules or utilities. Assembly is conducted according to defined schedules and with assistance from our trained personnel.

AN OVERVIEW OF OUR SERVICES

- Supply of original spare parts
- Deployment of trained personnel
- Installation and start-up
- Inspection
- Repairs, overhauls, maintenance
- Machine assessment by an expert for early fault detection
- Consulting and modernization
- Performance and vibration measurement
- Fault and damage analyses
- Feasibility studies
- Energy consulting for pumps and systems
- Preparation of maintenance schedules
- Service and maintenance agreements
- Automation and Electrical Power Systems
- Electronic equipment
- Training

INNOVATION SINCE 1852

The internationally renowned ANDRITZ GROUP has been building pumps for almost 170 years. We offer innovative and targeted solutions with pumps and complete pumping stations. Our longstanding experience in hydraulic machine manufacturing and complete process know-how form the basis of the high standard of ANDRITZ pump engineering. Our quality and high-efficiency products as well as our understanding of customer requirements have made us a preferred partner for pumping solutions worldwide. ANDRITZ offers everything from a single source – from development work, model tests, engineering design, manufacture and project management, to after-sales service and training. We also perform complete start-up on site and guarantee our customers the best support. Our declared goal is your complete satisfaction. See for yourself!

EUROPE

ANDRITZ AG
Stattegger Strasse 18
8045 Graz, Austria
p: +43 316 6902-2509
f: +43 316 6902-413
pumps@andritz.com

ANDRITZ Pumps Germany GmbH
Marie-Curie-Straße 19
73529 Schwäbisch Gmünd,
Germany
p: +49 7171 609-0
f: +49 7171 609-287
ritz@andritz.com

ANDRITZ Hydro SRL
Polígono Industrial La Garza 2
Carretera de Algete M-106, Km. 2
28110 Algete
Spain
p: +34 91 6636 409
f: +34 91 425 1001
bombas.es@andritz.com

SOUTH AMERICA

ANDRITZ HYDRO
Alameda Tocantins 350, 12º andar
06455-020, Barueri, SP - Brasil
p: +55 11 4133-0000
f: +55 11 4133-0037
bombas.br@andritz.com

ASIA

ANDRITZ (CHINA) LTD.
No.83 B Zone, Leping Central Technology & Industry Park, Sanshui District,
Foshan 528137, Guangdong, P.R.China
p: +86 0757 6663-3102
atc_pumps@andritz.com

ANDRITZ Technologies Pvt. Ltd.
S.No. 389, 400/2A & 400/2C,
Padur Road, Kuthambakkam
Village, Poonamallee Talluk,
Thiruvallur District –
600124, Chennai, India
p: +91 44 4399-1111
pump.in@andritz.com

ANDRITZ FZCO
Building 6WA – Office No. 329
54522 Dubai, United Arab Emirates
p: +971 506 069 884
dubai@andritz.com

ANDRITZ.COM/PUMPS