



AURUM PUMPEN GMBH
FABERMANN PUMPEN



Solids Pumps General Catalogue



*Armoured pumps
for Solids Transportation*

*Designed for abrasive
and corrosive slurries*

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Minerals & Quarrying	HPK	NPK	NPW	KB
Sand & Gravel winning	•	•	•	•
Sand wet processing	•	•	•	•
Limestone slurries	•		•	
Slate, marble, granite	•	•	•	•
Kaolin, Clay	•	•	•	
Cyclone feed	•	•	•	
Dredging (harbors, rivers)		•	•	•

Steel & Power	HPK	NPK	NPW	KB
Coal & Coke processing		•	•	•
Hot rolling mills		•	•	
Sinter & scales		•	•	•
Blast furnaces		•	•	•
Ashes removal		•		•
Flue gas desulphurisation	•		•	
Condensates	•		•	

Manufacture	HPK	NPK	NPW	KB
Sump slurry sumps	•	•	•	
Fibrous slurries				
Filter presses	•	•		
Pulp & Paper		•		
Ceramics, glass cuttings	•	•	•	

Applications Quick Guide

Chemicals	HPK	NPK	NPW	KB
Separation	•	•	•	
Abrasive chemicals	•	•	•	
Precipitates, Soda	•	•	•	
Foaming suspensions	•	•	•	
SO4, Chloride	•	•	•	
Fertilisers, PO4	•	•	•	
Solvents, Pigments	•	•	•	
Recycling industry	•	•	•	•
Crude oil residues			•	

Mining & Ore processing	HPK	NPK	NPW	KB
Ore slurries		•	•	•
Oxides processing	•	•	•	•
Fe, Zn, Cu, Ti, Salt, etc...	•	•	•	•
Mill scales and discharge		•	•	•
Flotation, Froth	•	•		
Tailings & mine refuse	•	•	•	•

Construction & Drilling	HPK	NPK	NPW	KB
Tunnelling heavy slurries	•	•	•	•
Micro-tunnelling	•	•	•	•
Vertical drilling (on- & offshore)	•	•	•	•
Ready-mixed concrete		•	•	
Autoclaved aerated concrete	•			
Bentonite, cement batching	•		•	
Special Foundations - Trenches				•

Agro & Water	HPK	NPK	NPW	KB
Sugar industry, beet pulp		•	•	•
Biogas, manure	•	•	•	
Animal waste		•	•	•
Washing plants	•	•		•
Organic mud	•		•	
WWTP (Sewage)	•	•	•	



**Our
Company**

A Heart for Pumps

Aurum Pumpen GmbH carries an industry leading experience in the field of solids hydro-transportation.

The strengths of Aurum Pumpen GmbH are its very experienced team, the continuous development of modern pumping and materials technologies, as well as its pumps manufacture, to include the Habermann solids pump line. Habermann product line possesses over 85 years of industrial culture and has become synonymous with delivering the highest quality pumping solutions. Now, with its great reputation among its thousands of customers around the globe, we continue to uphold and strengthen Habermann pumps quality and innovation.

We care for the customers from various industries such as: Sand, Gravel, Stone, Chemical, Steel, Power, Tunnelling, Mining, Construction, Dredging and many more...

Wear-resistant armoured pumps are the masterpiece of our manufacture. The experience gathered from the successful installation of more than 30,000 pumps worldwide continuously flows into our further development. Many Habermann pumps are custom-made exactly according to their usage and application requirements.

Habermann armoured pumps are typically used where abrasive and/or corrosive slurries are pumped. Our top quality pumps' components, materials, sealing systems are carefully selected taking into account application factors, such as solid content, chemical composition and temperature of the media.

Habermann pumps stand for a longer service life and the lowest life cycle cost. Even when maintenance becomes necessary, our simple and optimized design saves you time and money. Aurum Pumpen GmbH manufactures its Habermann products in Bochum, Germany at its own production facilities. This facilitates our high level of flexibility and customer focus. Our team follows a continuous adaptation of all quality-relevant processes.

Take advantage of our experience and our wide range of products and services.

We look forward to providing you with the right Habermann pump solution.

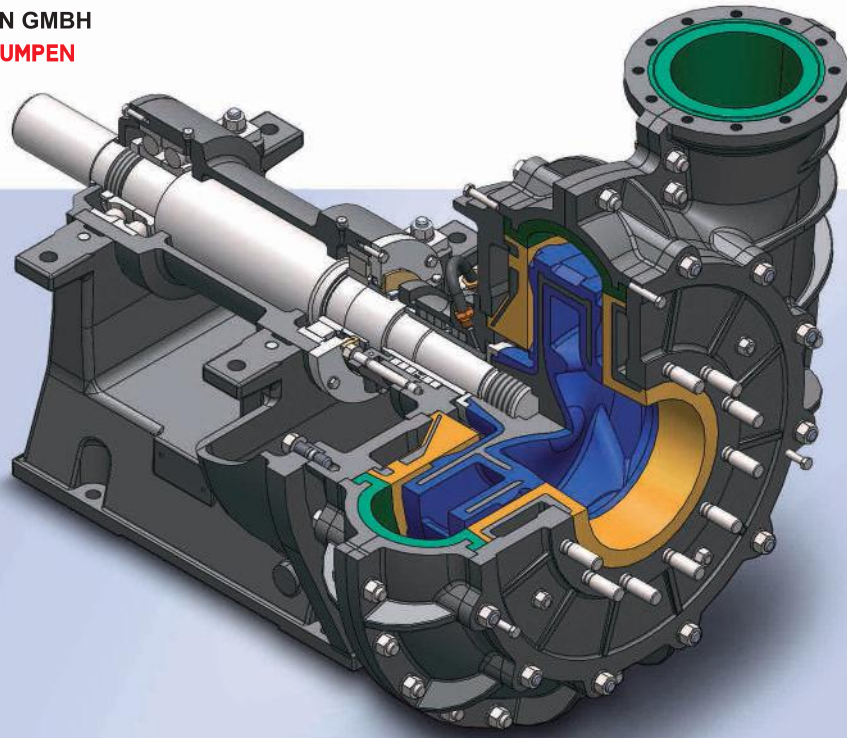
Emmerich

**Head Office
Pumps and
Suction Dredgers**

Bochum Plant

**Production
Support Office
Warehouse**





HPK 200/560

HPK

Pump Series

With Polyurethane Lining Technology (elastic coating of all wet parts)

HPK 150/450 "above pump" motor variation

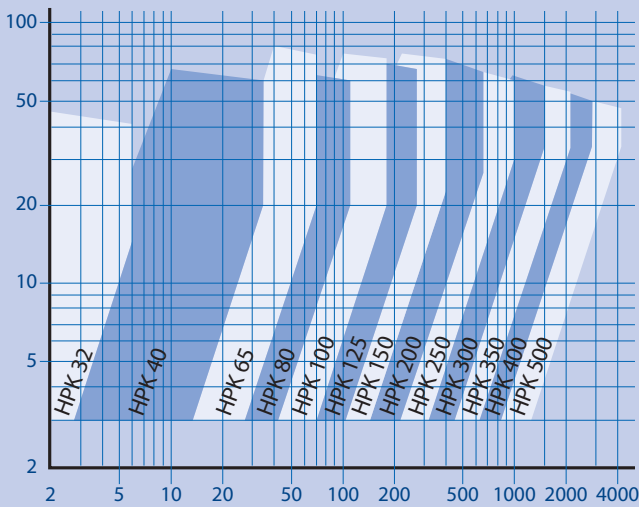
The HPK centrifugal pump series, with elastic lining made of polyurethane polymers or rubber, metal or mineral casting, is preferably used for abrasive and/or corrosive media with a maximum grain size of 5 mm.

This series comprehends single-stage centrifugal pumps with easily replaceable wear parts and re-adjustable suction gap.

The wear plates are bolted to a metallic outer housing, while the casing liner is inserted and perfectly fitted.



Wear plates in three polyurethane lining grades



Performance range of HPK

Capacity up to	4600 [m³/h]
Conveying height, single-stage up to	70 [mLC]
Pump speed depending on series up to	2950 [rpm]
Connection diameters	DN 32 to DN 500
Maximum operating pressure	10 to 25 bar
Temperature of the pumped fluid up to	95 [°C]
Suction lift up to	8 [m water column]
Outlet side position	rotatable in steps
High corrosion resistance at pH	0 to 14

Innovative Polyurethane Lining

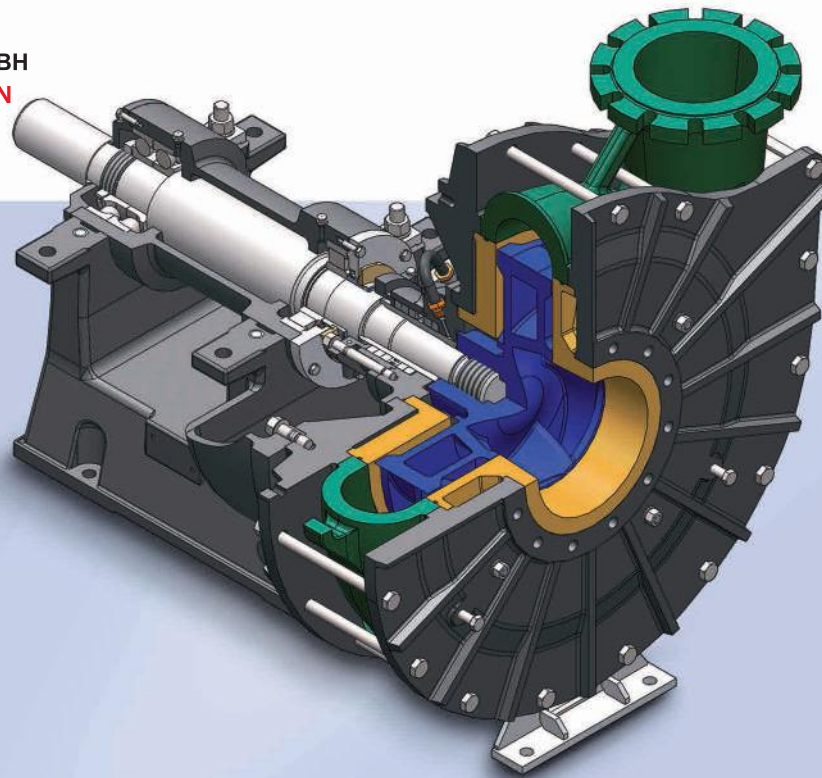
All wear parts that come into contact with media are protected by our innovative lining.

This polyurethane lining materials are available **in three different grades**.



Casing liners made from 3 polyurethane lining grades

Polyurethane lining quality grades	AP10-01	AP60-01	AP50-01	Rubber 2201	Rubber 2210
Shore hardness	A 88-90	A 75-80	A 88-90	65	55
Temperature	-30 to +75°C	-30 to +75°C	-30 to +95°C	100-105 °C	max. 130 °C
pH	0-14	5-9	0-14	0-14	0-14
Special characteristics	perfect for acids and lyes	highly attrition resistant	perfect for acids and lyes		



NPK 200/560

NPK Pump Series

Metallic Heavy Duty Slurry Pumps

The main fields of application of the metallic type of NPK centrifugal pumps are those involving high levels of wear.

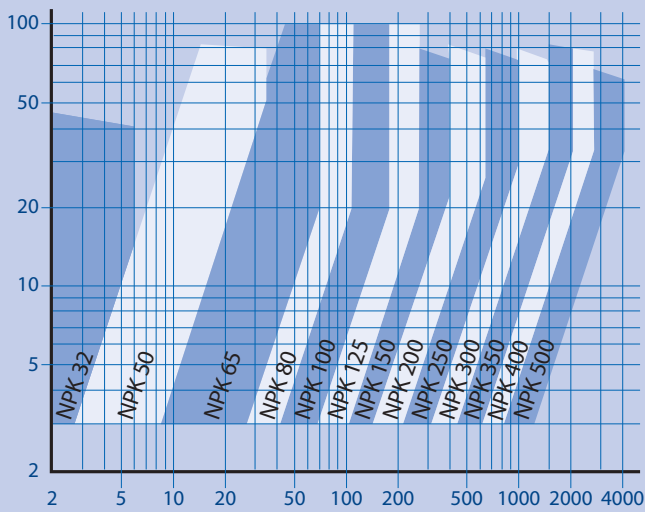
Through our careful selection of the best materials, NPK are also used for corrosive and abrasive media with grain sizes of up to 100 mm.

The exceptional wall thicknesses and core hardness of the main wear parts, such as impellers, casings, wear plates, provide durable performances. As such the NPK solid pump enjoys an excellent service life and can withstand the most adverse pumping conditions.

The NPK series contains single-stage centrifugal pumps with easily replaceable wear parts and re-adjustable suction gap. Our tie rods assembly system (across the casing covers) helps us to optimize the thread-free casing, its hardening and service life.



The vertical NPK is available, page 16
NPK 150/630 V2



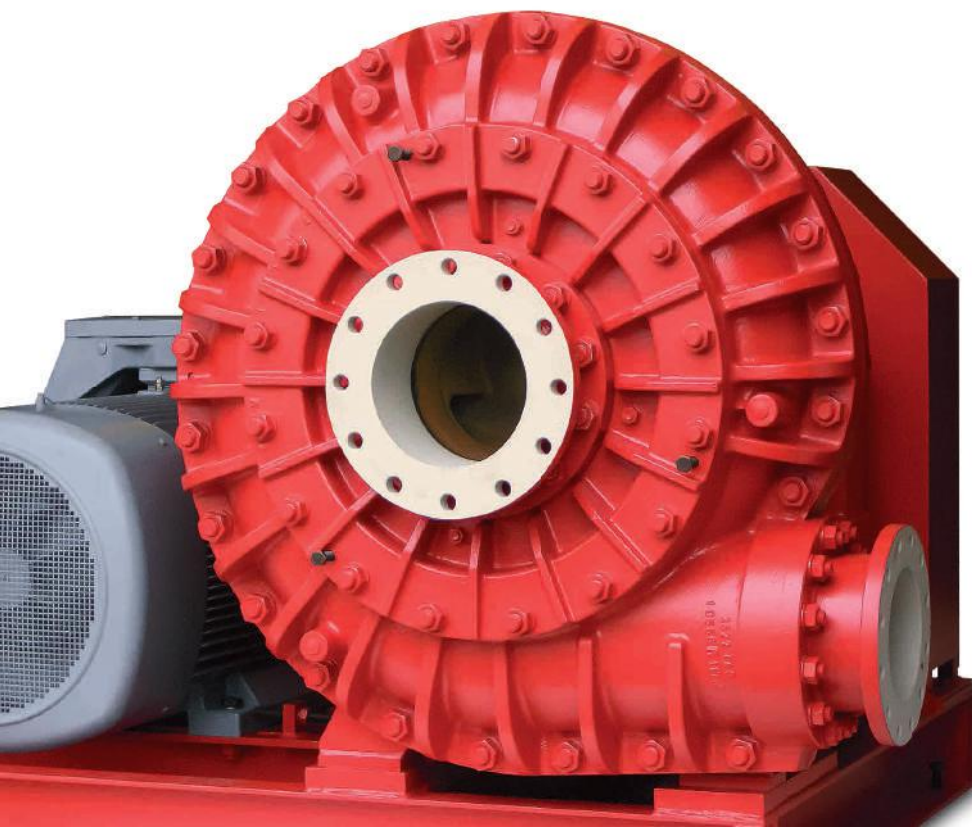
Performance range NPK

Capacity up to	4600 [m³/h]
Conveying height, single-stage up to	95 [mLC]
Pump speed depending on series up to	2950 [rpm]
Connection diameters	DN 32 to DN 500
Maximum operating pressure	up to 16-25 bar
Temperature of the pumped fluid up to	160 [°C]
Suction lift up to	8 [m water column]
Outlet side position	rotatable in steps
High corrosion resistance at pH	3 to 14

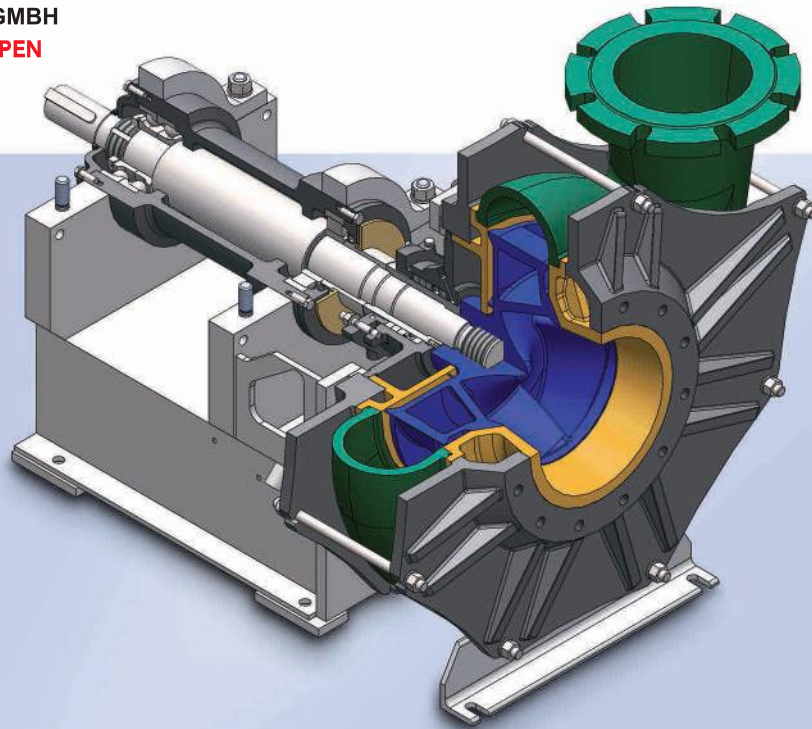
HBN Grades

HBN wear and corrosion resistant materials are a result of our continuous research and development efforts. Read more at p.22.

- **HBN 440**
Ni-Hard IV successor
- **HBN 450**
highly wear-resistant cast iron, heat-treatable up to 650 HB
- **HBN 480**
corrosion-resistant cast iron, heat-treatable up to 620 HB



*NPK 200/560
PN25 nominal pressure*



NPW 200/400

NPW Pump Series

Ideal for Industrial Slurries Applications

The main applications for the NPW series of metallic centrifugal pumps involve **Light to Medium levels of wear.**

High resistance to corrosive/abrasive media is achieved by the use of Habermann selected materials.

This series comprises single-stage heavy duty slurry pumps with easily - replaceable wear parts and re-adjustable wear plate, in a sandwich casing.

User benefits:

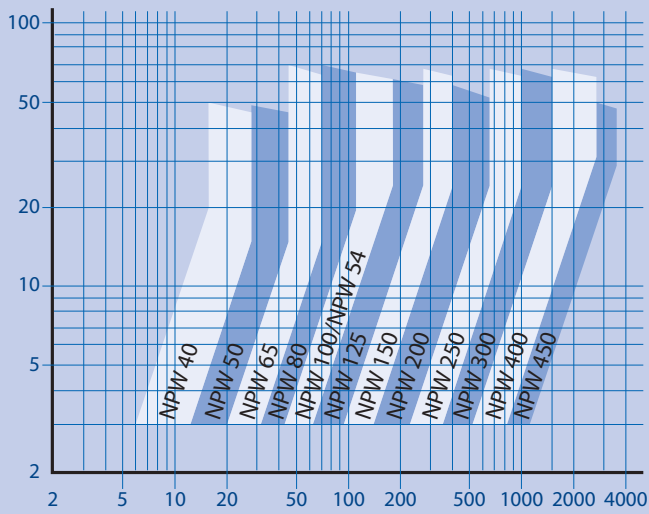
- Ensured efficient use of valuable extra-hard material.
- Savings on first investments and spare parts.



NPW 54

NPW application examples:

- Sludge in stone quarries.
- Discharge/feed pump in tunnelling.
- Mixer pump for ready-mixed concrete.



Performance range of NPW

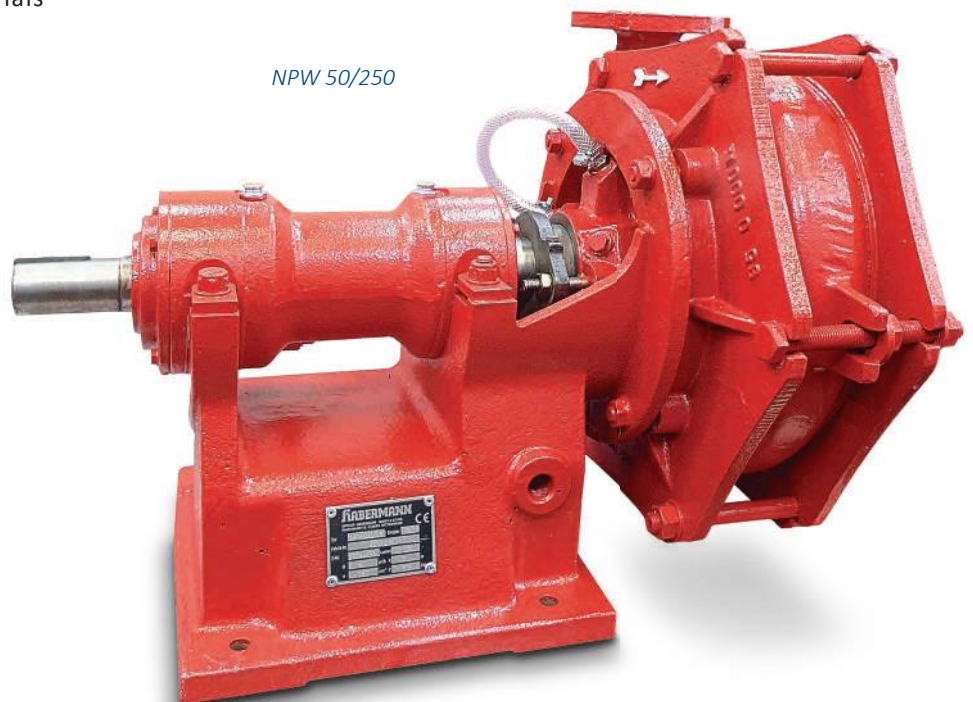
Capacity up to	4600 [m ³ /h]
Conveying height, single-stage up to	70 [mLC]
Pump speed depending on series up to	2950 [rpm]
Connection diameters	DN 40 to DN 450
Maximum operating pressure	10 bar
Temperature of the pumped fluid up to	130 [°C]
Suction lift up to	8 [m water column]
Outlet side position	rotatable in steps
High corrosion resistance at pH	3 to 14

The NPW pump series provides an attractive economical choice for handling various kinds of abrasive media.

A cost effective and durable solution.

Details concerning HBN cast materials can be found on p.22.

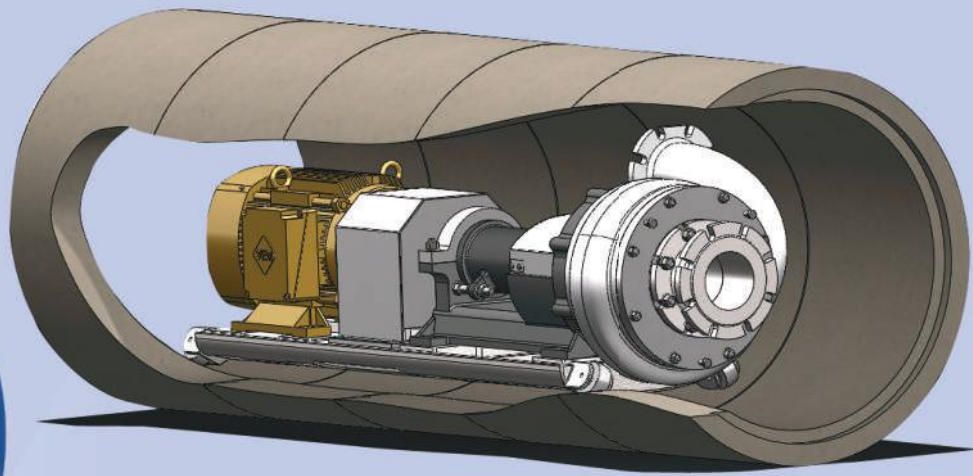
NPW 50/250



All pump series including NPW series are deliverable with various shaft seals. See p. 20.



KB 100 on skid in micro-tunnelling - diameters as from 700 mm



KB
KBK / KBH
Pump Series

Compact Series KB / KBK / KBH

Where exposure to **extremely high levels of wear** is to be expected, Habermann pump types KB / KBK / KBH are the right choice.

Exceptional wall thicknesses account for high resistance to largest grain sizes and sharp edged stone flakes.

Features:

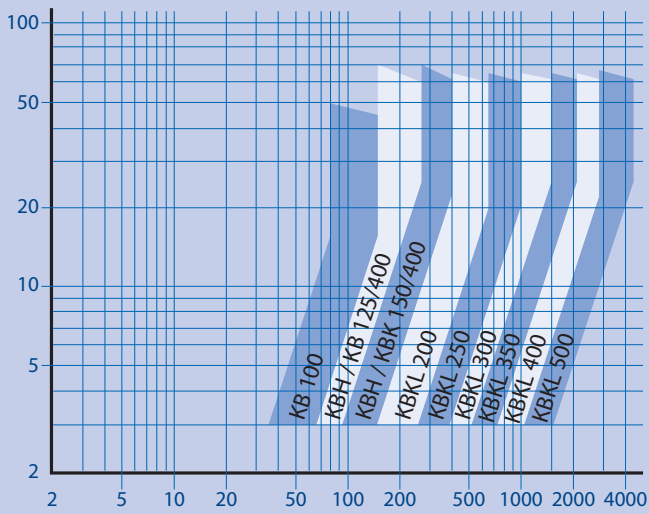
- Easy maintenance.
- Adjustable wear plates for extended performance.
- Closed impeller (thickest cover plates, front/back).
- Wall thickness provides extreme impact resistance to the presence of large solids inside pumped medium.

KB 100
ideal for narrow tunnelling
conditions

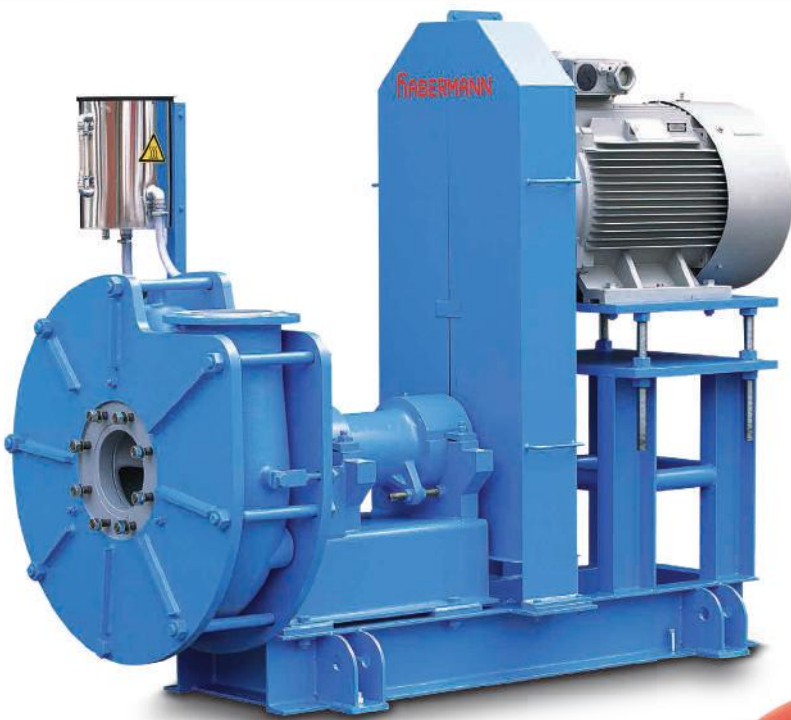


The cast materials HBN (p. 22) are used as wear and corrosion resistant materials.

Performance range of KB|KBK|KBH



Capacity up to	50 - 5000 [m³/h]
Conveying height single-stage, up to	85 [mLC]
Pump speed depending on installation size, up to	2000 [rpm]
Connection nominal diameters	DN 100 to DN 500
Maximum operating pressure	PN 10, PN 16
Temperature of the pumped fluid, up to	100 [°C]
Normal suction up to	8 [m water column]
Outlet side position	rotatable in steps
High corrosion resistance at pH	depending on material 3 to 14



KBK 200/525 with Thermosiphon

KBK typical applications:

- Sugar industry.
- Animal waste.



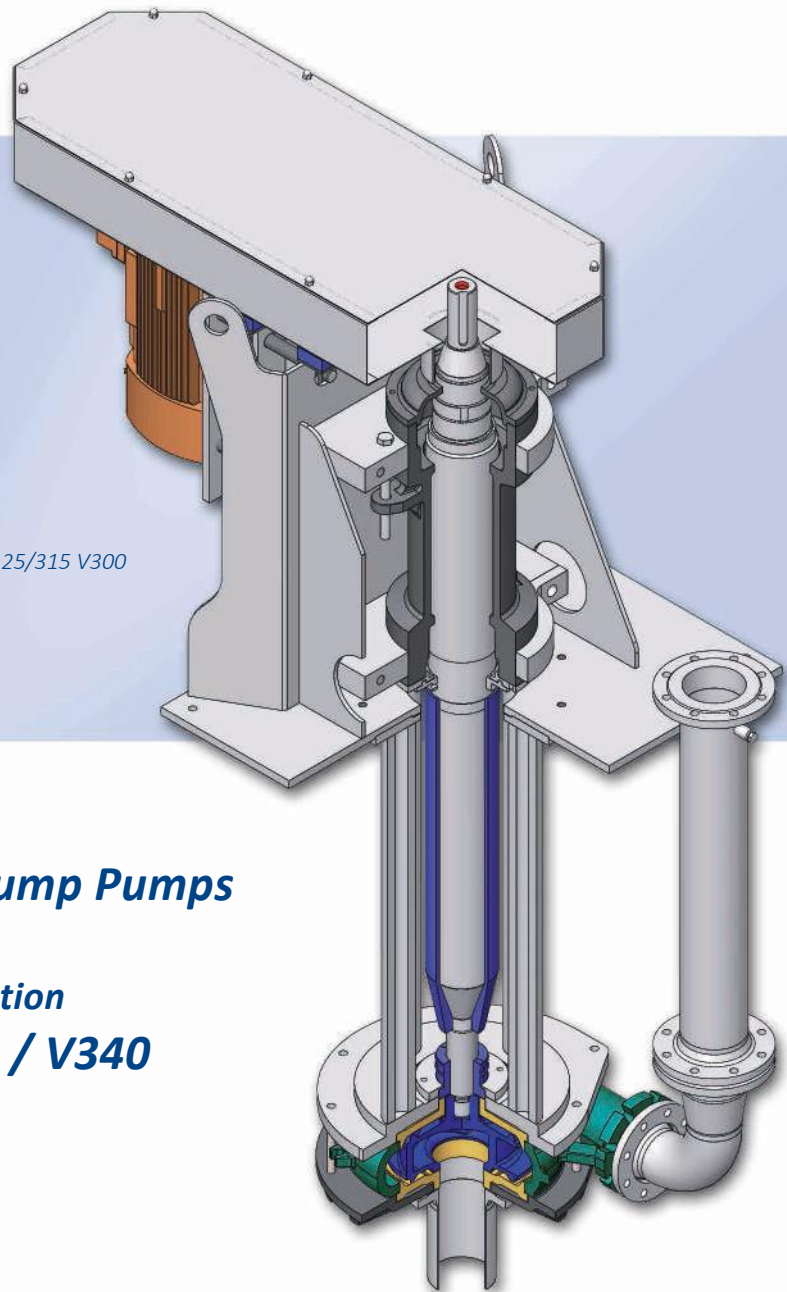
*KB 125/400
Very popular in tunnelling*



V

Vertical
Sump Pumps

NPK 125/315 V300



Cantilever Sump Pumps

For wet installation
V300 / V320 / V340

Key Features:

- Safe and dry installation of bearings.
- Suitable for very aggressive media.
- Designed for highest slurry temperatures max. 90°C.
- Capable of withstanding extreme levels of acidity (pH 0).

Furthermore, designs V320 and V340 are particularly suitable for gassing and/or foaming media.

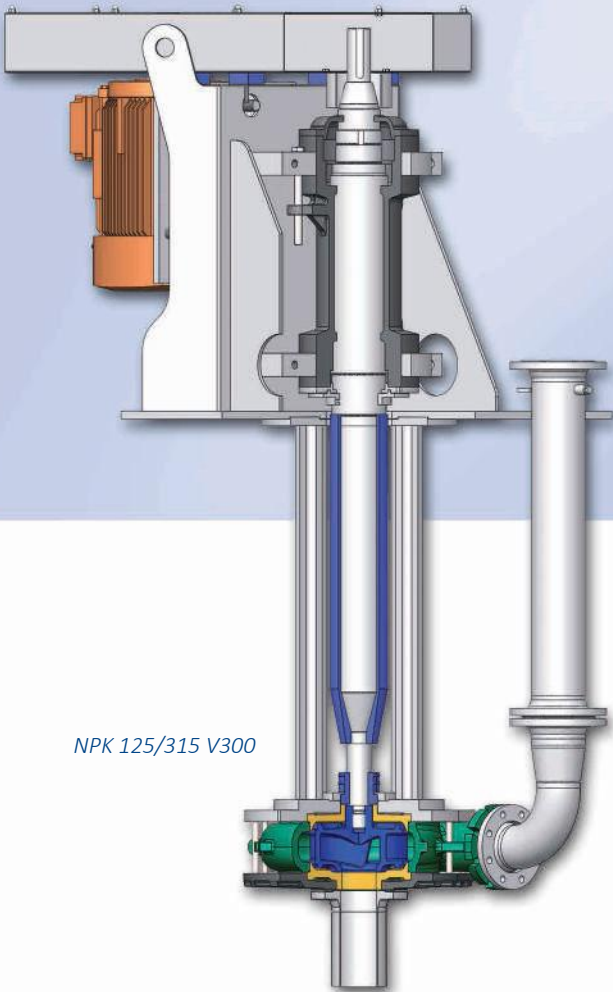
Typical V320 and V340 applications:

- Flotations.
- Digestion processes.
- Discontinuous supplies.

Rated full loaded smooth delivery is achieved without regulation of incoming media.

Performance range of V300 / V320 / V340

Capacity up to	1400 [m³/h]
Conveying height single-stage, up to	50 [mLC]
Pump speed depending on installation size, up to	2000 [rpm]
Connection nominal diameters	DN 32 to DN 300
Maximum operating pressure up to	10 bar
Temperature of the pumped fluid, up to	90 [°C]
High corrosion resistance at pH	0 to 14
Standard installation depths	H = 500/900/1100/1350 1500/1650/1800 mm
Standard drive	Belt drive, direct motor coupling possible depending on operating point.



NPK 125/315 V300

The V series pump benefits from our modular concept design. This allows the V Series to carry shared hydraulic components also found in the HPK, NPK and NPW series pumps.

Both metal and elastomer designs are therefore available.

- Shaft length up to 1,800 mm.
- High depth reach thanks to extra suction tubes.

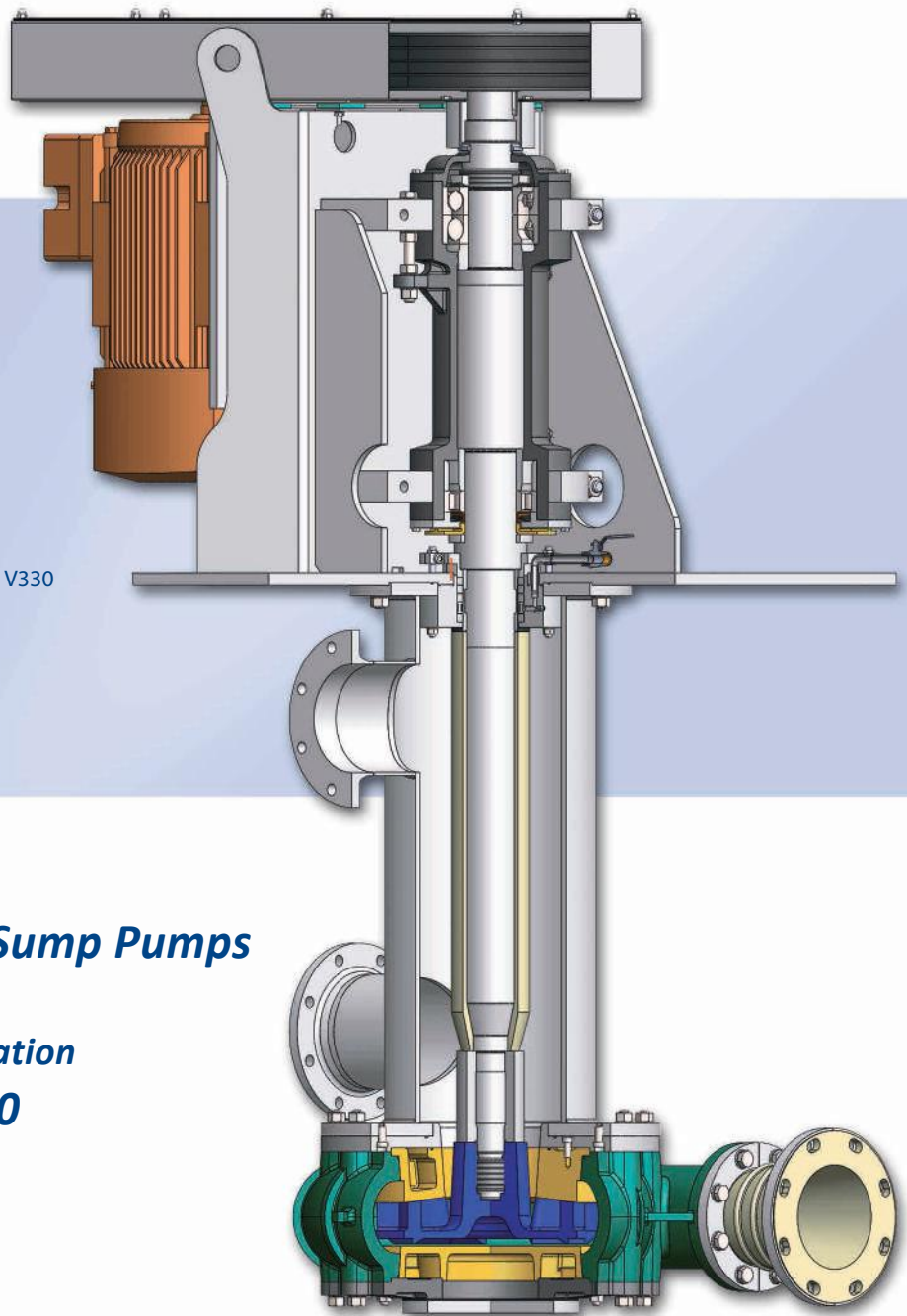
*NPWH 150/400 V300 –
Large field of applications, for instance:*

- Sand & minerals processing.
- Flue gas desulphurisation.
- Steelworks, hotrolling mills.





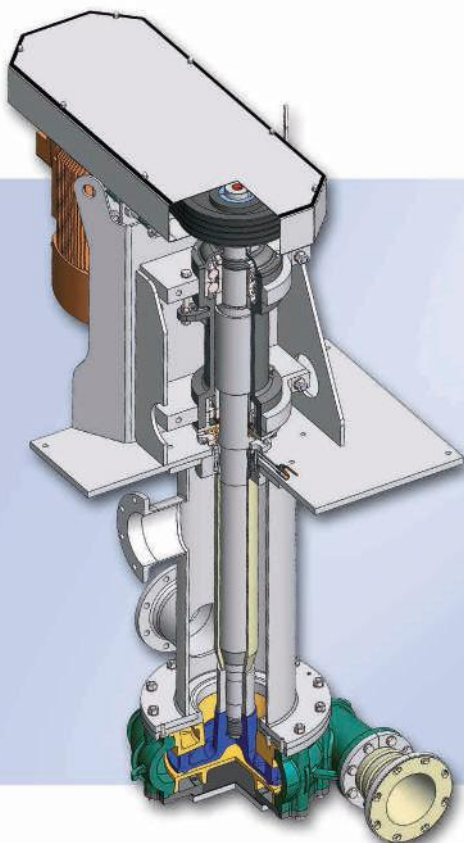
HPK 150/450 V330



V
Vertical
Sump Pumps

Cantilever Sump Pumps

For dry installation
V310 / V330

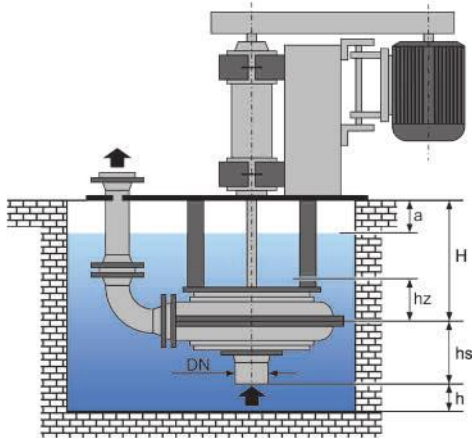


Performance range of V310 / V330

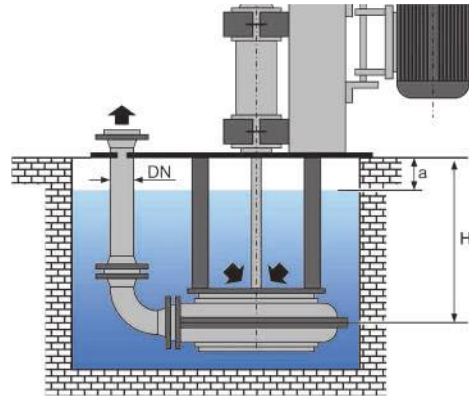
Capacity up to	1600 [m ³ /h]
Conveying height single-stage, up to	50 [mLC]
Pump speed depending on installation size up to	2000 [rpm]
Connection nominal diameters	DN 32 to DN 300
Maximum operating pressure	up to 10 bar (double stage up to 16 bar)
Temperature of the pumped fluid up to	90 [°C]
High corrosion resistance at pH	0 to 14

Installation Examples

Cantilever Sump Pumps Wet Installed

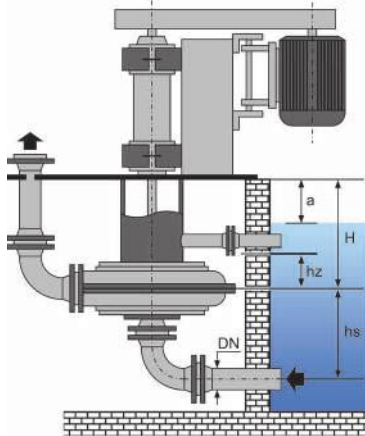


Wet Installation V300

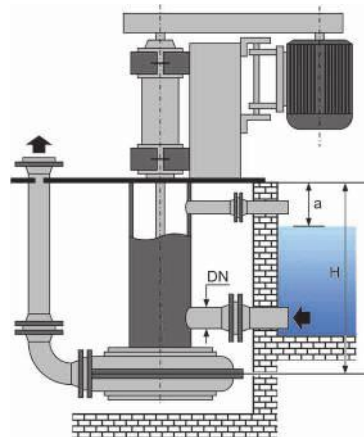


Wet Installation V320 / V340
 (V340 with additional inlet from below)

Cantilever Sump Pumps Dry Installed



Dry Installation V310



Dry Installation V330

Minimum liquid level at start:

$$hz = DN + 150 \text{ mm}$$

Maximum liquid level:

$$a_{min} = 1 \times DN$$

Bottom Clearance:

$$h_{min} = 1.5 \times DN$$

Drive:

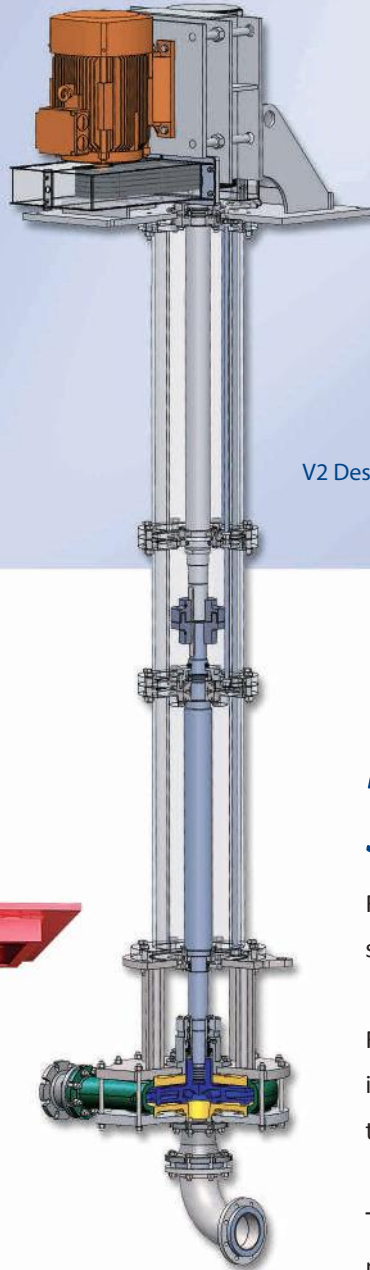
Belt drive

Direct motor coupling

Frequency drive



V1 / V2
Sealed Sump
pumps



V2 Design with in-line shaft extension



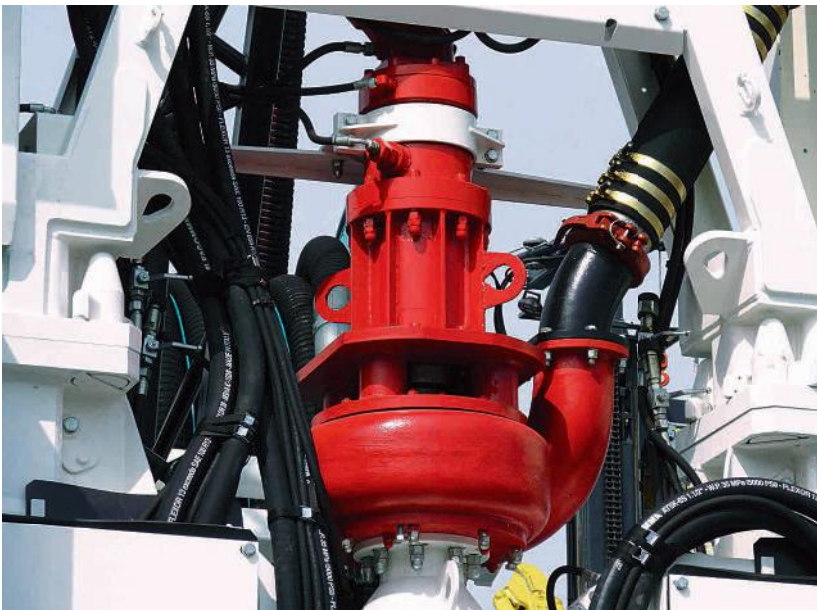
V2 NPK 150/630

Vertical Sump Slurry Pumps with Special Shaft Seals

For dry installation the pump side is sealed using a mechanical shaft seal.

For wet installation a mechanical shaft seal is used on the bearing side and includes a throttle bush on the pump side.

The V series pump benefits from our modular concept design. This allows the V Series to carry shared hydraulic components also found in the HPK, NPK, NPW and KB series pumps. Both metal and polyurethane polymer/elastomer designs are therefore available.



Performance range of V1 / V2

Capacity up to	2500 [m ³ /h]
Conveying height single-stage, up to	60 [mLC]
Pump speed depending on installation size up to	1480 [rpm]
Connection nominal diameters	DN 32 to DN 400
Maximum operating pressure	10 bar
Temperature of the pumped fluid up to	70 [°C]
Outlet side setting	user-defined
High corrosion resistance at pH	0 to 14

Special design KBKT-V1– Hydraulic driven Equipping the trench-cutters of European leading special foundations OEMs

V1 Design

With this single shaft design we can reach sump depths of 2500 mm and more with suction pipes extensions, in both wet and dry installation.

V2 Design

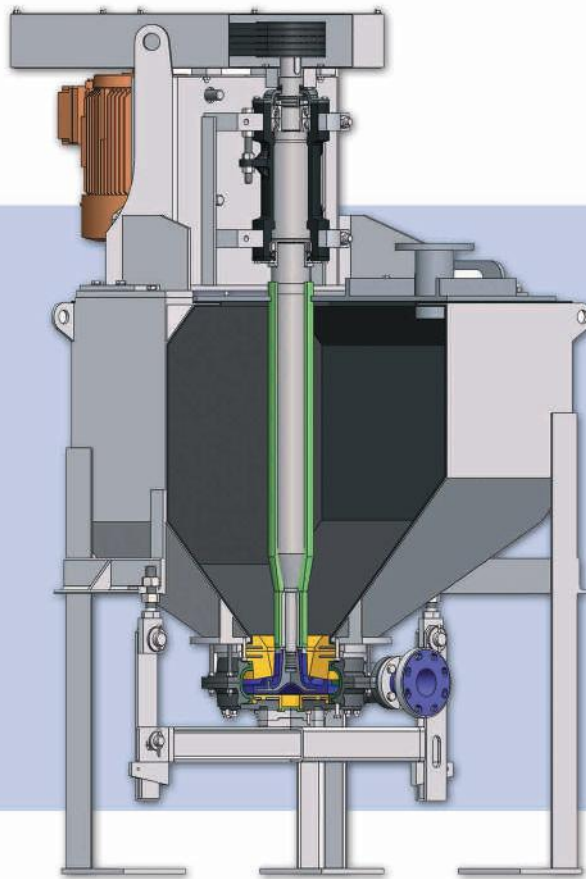
The Habermann V2 pumps benefit of a shaft in-line extension. Its secondary shaft is directly coupled with the first one and enjoys its own heavy duty bearing system. V2 vertical pumps suit to sumps of 5000 mm depth and even more. Available for both wet and dry installation.

Lubrication systems

Habermann integrated greasing systems ensure perfect regular lubrication to heavy duty bearing systems.



NPW 300/530 V1 newly installed in a Steel Works for Sinter Waters



N Series
 Tank Pumps

Cantilever Pumps with Feed Tanks

This custom design with its integrated feed tank is mainly used where the **media contains air, foaming suspensions or discontinuous supply conditions.**

Our modular concept design allows the N series of pumps to benefit from shared components with other pump series.

Feed Tank:

- Designed to suit your particular application.
- Large choice of construction materials.
- Protective linings available.
- No shaft seal, less maintenance.

HPK 40/300N



Performance range N

Capacity up to 1400 [m³/h]

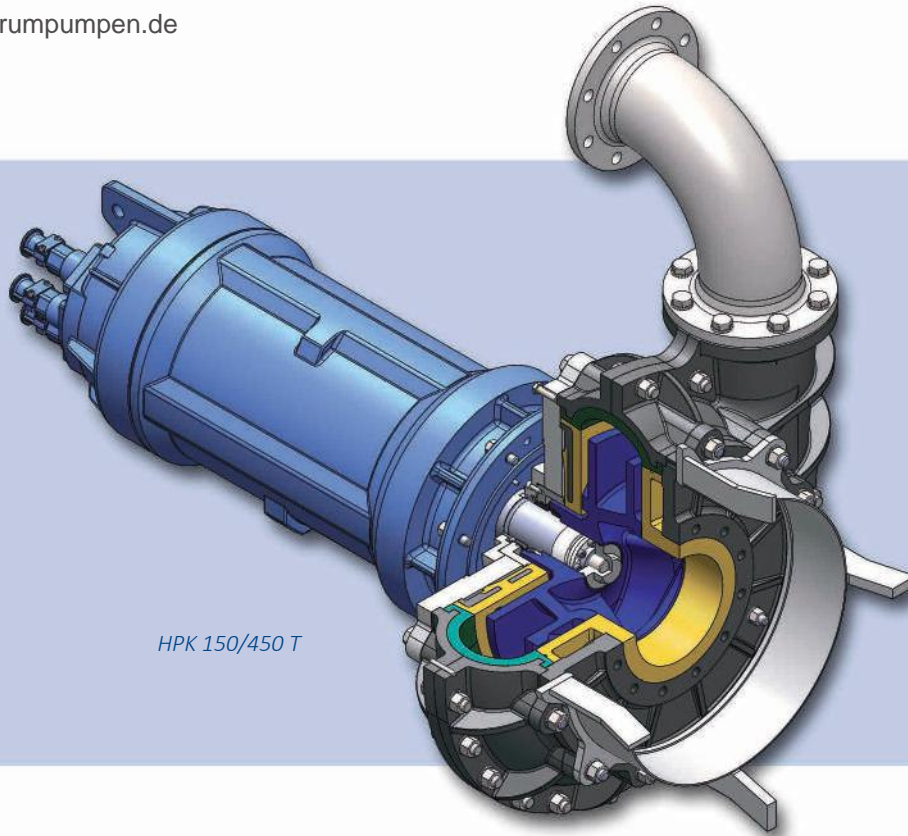
Conveying height single-stage, up to 50 [mLC]

Pump speed up to 2000 rpm

Nominal connection diameters DN 32 - DN 300

Maximum operating pressure 10 bar

Temperature of the pumped fluid up to 80[°C]



HPK 150/450 T

T Series Submersibles

Fully Submersible Monobloc Pumps

The T model is a pump series of a heavy duty, sturdy design with directly flanged submersible motor for **wet and dry installation**.

The T series pump benefits from our modular concept design. This allows the T Series to carry shared hydraulic components also found in the **HPK**, **NPK**, **NPW** and **KB** series pumps.

Both metal and elastomer designs are therefore available.

Features:

- Optional dry installation thanks to internal forced coolant circulation.
- Mechanical seal in oil bath.
- Motor protection via moisture sensor.

Performance range of T series

Capacity up to 1500 [m³/h]

Conveying height single-stage, up to 40 [mLC]

Pump speed up to 1480 rpm

Nominal connection diameters DN 32 - DN 300

Maximum operating pressure 10 bar

Corrosion resistance at pH 5-9



NPK 125/500 T



Habermann Triple Protection Gland Packing

Low streams of sealing water are used for:

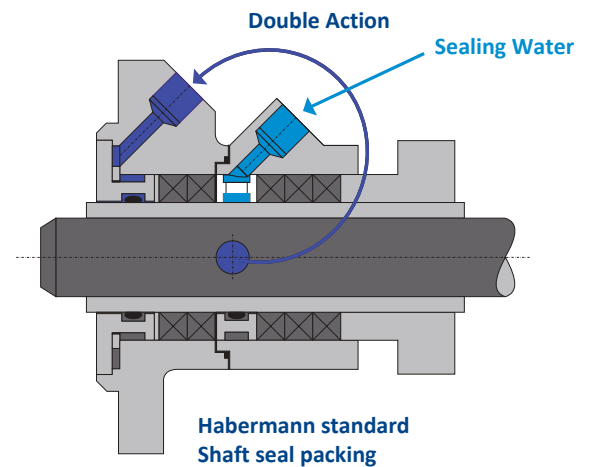
- Sealing and cooling of multiple gland packing.
- Frontline protection of complete sealing system.
- Flushing of impeller's back for minimized wear.

Simple, cost effective Habermann triple protection gland packing delivers outstanding durability.

Included as Standard

- Easy mounting and disassembly thanks to gland housing radial split.

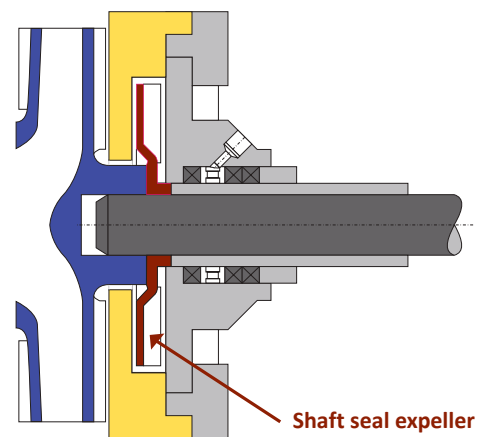
Flow restrictor and flow indicator for total control of sealing and lowest water consumption can be installed.



Shaft
seals

Expeller

- The expeller is available as a standard feature on most of our pumps.
- The expeller is particularly useful for fine-grain heavy liquids.
- Application close to the boiling point of the suspension.
- Perfect alternative to the mechanical shaft seal for difficult uses arising from:
 - o Low sealing water quality.
 - o Unpressurized sealing water.
 - o Unpressurized sealing water admission.
- The advantages are:
 - o Further minimization of seal water consumption.
 - o Gland packing backups at standstill.



The components of the expelling unit can be made of metal, polyurethane, rubber or from a combination of selected materials; according to your application requirements.

Simple-action Mechanical Shaft Seal

We offer a large selection of mechanical seals according to the pumped medium properties and required discharge pressure.

Habermann intelligent seal designs achieve maximum prevention of corrosion and abrasion.

Our system directs the pressurizing springs to the safe atmospheric side; while wear resistant components face the slurry side.

Internal Mechanical Shaft Seal with Quench Seal (QS)

Our innovative HGD-1/QS withstands high pressures of up to 25 bars.

Our vortex chamber repels solids from the mechanical seal.

The mechanical shaft seal is lubricated and cooled via the quench connection. Natural thermosiphon system recycles water in closed loop.

Additionally, a pumping screw on the shaft sleeve forces circulation.

The advantages of this system are:

- No contamination of your pumped liquids.
- The use of HGD-1 is also possible without quench seal.

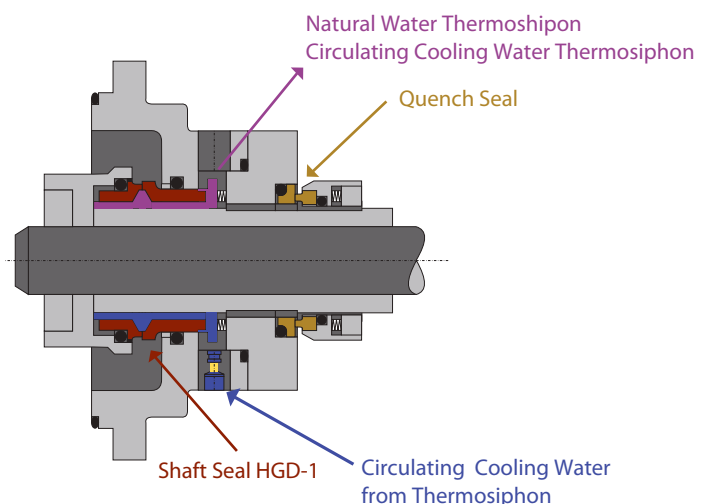
HGD-1 in Cartridge Design

The cartridge seal is based on the proven HGD-1. It consists of a completely preassembled and quality controlled seal unit. This ensures perfect assembly every single time.

The assembly safety locks must be removed for the seal to be ready for operation.

The cartridge is designed to maintain its position even following an impeller clearance adjustment.

The HGD-1 in the cartridge design is available both as single and double mechanical shaft seals.



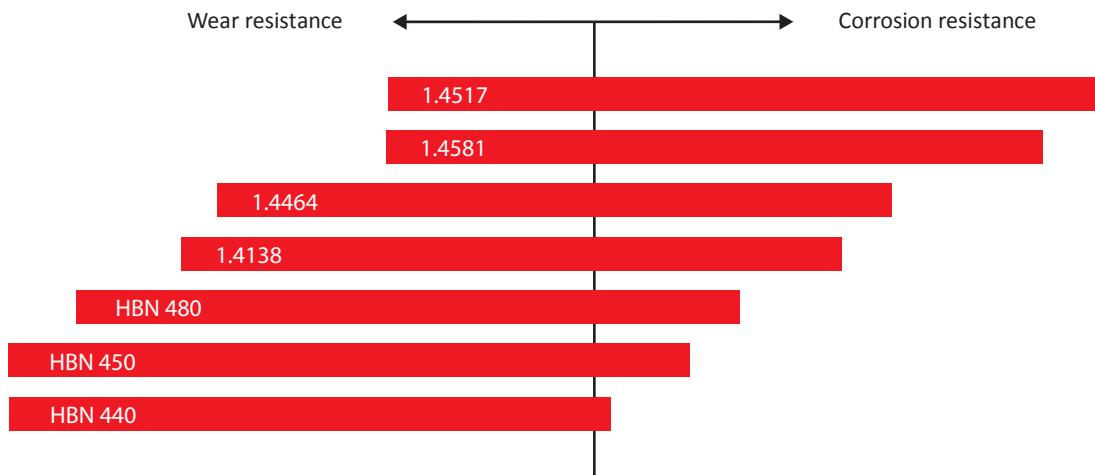


Cast materials

Outstanding Cast Materials

Our wear-resistant and corrosion-resistant materials (heat-treated and duplex steels) are optimised casting materials stemming from decades of Habermann Foundry experience.

Wear resistance and corrosion resistance of various pump materials



Material no.	Short name	Hardness [HB]
1.4517	G-X3 CrNiMoCuN 26 6 3 3	230 / 300
1.4581	G-X5 CrNiMoNb 18 10	130 / 200
1.4464	G-X40 CrNiMo 27 5	230 / 300
1.4138	G-X120 CrMo 29 2	260 / 330
HBN 480	~G-X260 CrMo 27 1	620
HBN 450	~G-X300 CrMo15 3	650
HBN 440	~G-X300 CrNiSi 9 5 2	600



After Sales

The Habermann Division of Aurum Pumpen GmbH caters to all your support and maintenance needs.

The Habermann name is synonymous with a customer focused approach.

Along with our existing series manufactured pumps, we can develop complete technical solutions for your unique application.

This has been the recipe for our success in the most demanding industries, e.g., Chemicals, Power, Sugar, as well as with our special KB pumps, renowned in Tunnelling.

Customer-oriented action also means a strong after-sales service.

After the successful commissioning of your new Habermann pump our support team, our central workshop, our network of trained official distributors and network of experienced partner workshops remain at your side to ensure your Habermann pump will remain properly serviced for the coming decades.

We also sustain a comprehensive central stock of wear parts in order to facilitate your maintenance scheduling and to avoid down times.

Our specialized Habermann workshop also offers the reprocessing and repair of mechanical shaft seals, helping you to save further on spare parts. Secondary sealing elements (elastomers, O-rings, bellows, collars etc...) are usually replaced while sliding and counter seal rings can be lapped.

After repair, your mechanical shaft seal is fully checked and re-installed.

Continuing with Habermann traditions, service and customer proximity are also very important to us at Aurum Pumpen GmbH. As such, our technical sales force, consisting of experienced Habermann Engineers and Technicians, are constantly at your disposal. Our team can advise your Technicians on installing your new Habermann pumps. We also train your Operators on the most efficient and reliable ways of utilizing our products.



AURUM PUMPEN GMBH
FABERMANN PUMPEN

*Die
innovative
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