

Pump station in wet installation  
for wastewater and surface water

DORANT

PE-HD  
tank



WATER IS OUR ELEMENT

**Kordes**

2023.239.0

## Quality - Innovation - Reliability

Kordes is your reliable partner for wastewater technical products. The satisfaction of our customers is always our first priority, which is why we only use high-quality and durable components.

In the course of the company's history, now in its third generation, we have continuously optimized our products through innovative ideas, experience and a great attention to detail.

The know-how we have built up is the result of the engineering expertise of our employees and the practical experience of thousands of products supplied, which we subsequently look after for many years as part of maintenance contracts after successful completion of installation.

Active environmental protection with a perspective for the future is certainly one of the greatest challenges of our time. In the field of wastewater technology we contribute to keep our waters clean and to develop solutions for tomorrow.

We will be pleased to accompany you from planning to successful commissioning. An individual drawing especially for your project in 3D view, visualizes the product even before the start of production. Together we will find the ideal solution for your project and we are looking forward to a successful cooperation.

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 **MADE IN GERMANY**  
 **SINCE 1935**



## Wastewater pump stations for municipal and industrial use

Wastewater pump stations in wet installation are ideally suited for municipal and industrial wastewater, as well as surface water.

Special loads on the pump stations in the municipal sector are caused by heavy rain, digester gases, fats and fibrous materials. In the case of industrial wastewater, these are aggressive chemical loads due to the constituents. Areas of application for surface runoff from parking lots and roads have the problem of increased salt content in addition to heavy rain water occurrences.

In each individual case, the pumping station must be dimensioned and configured in such a way that sufficient resistance for permanent use can be guaranteed. Due to the location, static safety against uplift in the presence of groundwater is often required for the shaft structure. Our ready-to-assemble pump stations minimize construction time. This significantly reduces costs for groundwater management and wastewater discharge, as well as traffic congestion during the construction phase.



## The innovative system

### Resistant

PE-HD plastic is corrosion resistant to gases and reliably resistant to chemical components in waste water. The smooth inner surface prevents deposits.

### Easy unloading

The pump station is delivered to the construction site fully equipped in one piece and lifted directly from the truck into the excavation pit.

### Buoyancy control

Depending on the requirements, buoyancy protection is already firmly welded to the structure by the manufacturer - in the form of an enlarged cantilever plate made of PE-HD with a steel-reinforced concrete core.

### Armatures

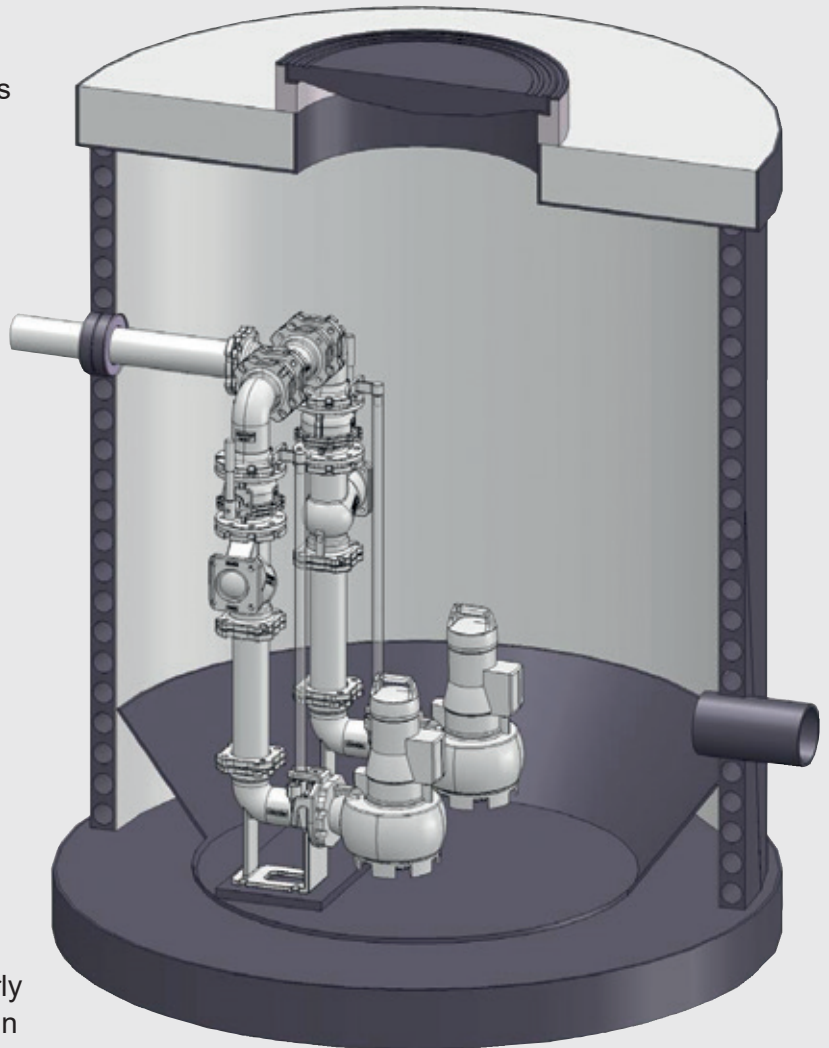
Kordes armatures score with particularly break-resistant materials and a low-maintenance design with few mounting and fastening elements.

### Lightweight

The lightweight Dorant variants are particularly easy to transport and can therefore be used in difficult-to-access terrain.

### Demanding areas of application

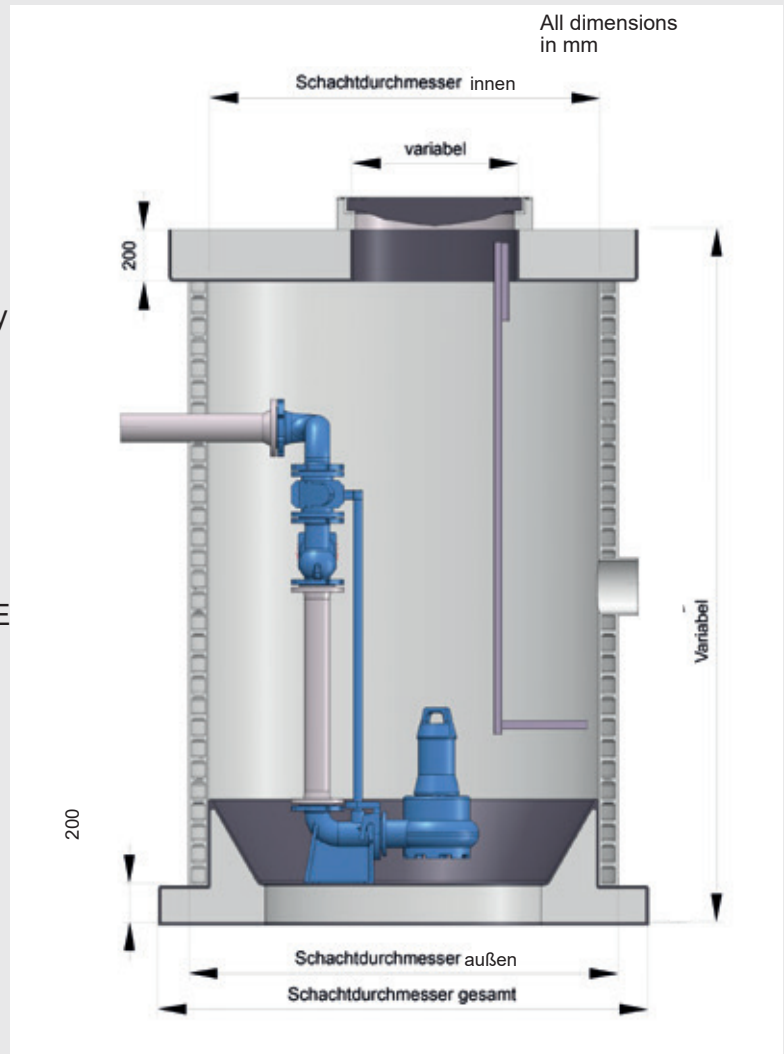
The Dorant pump station is also suitable for water protection areas, as the tank is of double-walled design and can be equipped with permanent leakage monitoring on request.





## Variable from A to Z

- Installation depth flexible
- Shaft diameter inside: 1,00 - 3,00 m
- Tank made of PE-HD double-walled coiled pipe
- Loadable up to SLW 60
- Shaft cover plate and base plate in PE-HD with reinforced concrete core
- Covers in shape, size and material individually plannable
- Connections in position, dimension, material and number can be freely planned
- buoyancy control up to 100% possible
- Pumps in single, double or multiple units
- Armatures made of stainless steel or cast iron
- Piping made of stainless steel, cast iron or PE
- Pumps suitable for the requirements
- Control technology according to individual planning



## What is so special about PE-HD?



High density polyethylene (PE-HD) is a versatile plastic. This material is one of the most widely used in the field of industrial and municipal wastewater.

Thanks to its organic composition of only carbon and hydrogen, through which no toxic ingredients can diffuse out, PE stands for sustainability and an excellent environmental balance.

- High durability
- Shaft material made of PE-100 with corresponding DIBt approval
- Weldable with extruder
- Extremely high bending strength
- Temperature resistance from -50 to +70 °C
- Chemical resistance to salts, acids, alkalis, solvents, oils, greases and gases
- Comparatively low weight which makes installation easier
- The anti-adhesive inner surface ( $k < 0.05\text{mm}$ ) prevents deposits on the shaft wall



## Pre-assembled and ready for installation

The pump station is placed in one piece within a few hours



Buoyancy-proof and ready for operation faster, even at high groundwater levels







The delivery is made as a kit that must be completed on site

1

Installation errors possible

2

Installation time 2 days and more

3

The concrete cover is placed on the shaft casing pipe by means of a sealing ring

4

Exposed concrete susceptible to corrosion if no covering is made at the construction site

5

Assembly and age-related leaks are to be expected

6

On-site concreting of a load transfer ring is necessary according to requirements

7

Base plate in PE-HD

8

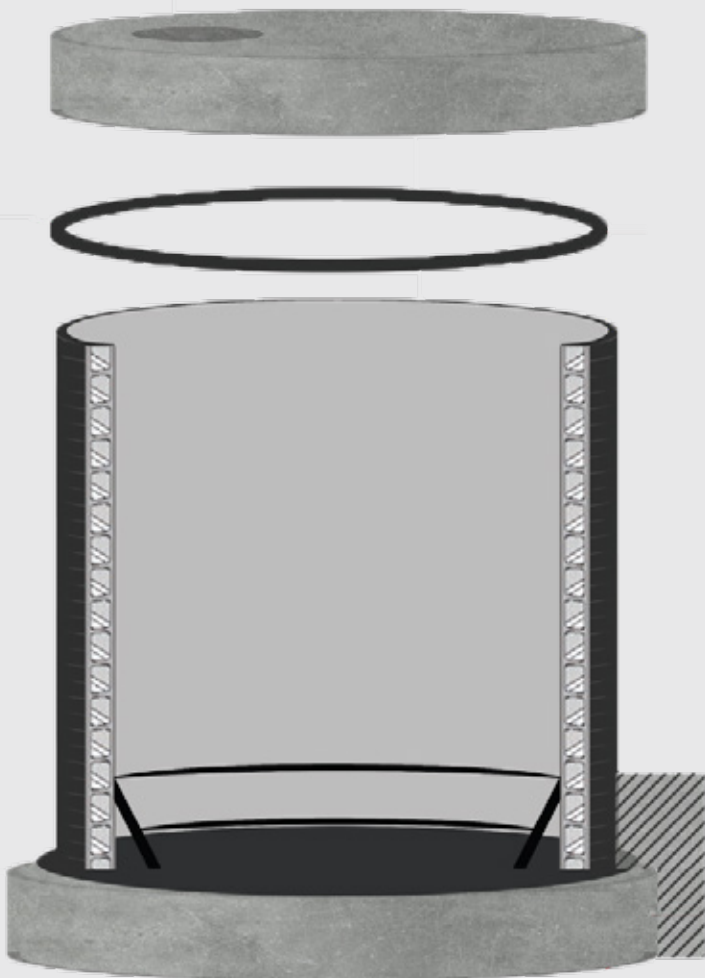
Groundwater-induced bulging causes stresses and vibrations in the armatures

9

- A foundation slab must be concreted on site on which the PE-HD chamber is placed.

10

- If buoyancy protection is required, this must be provided separately by means of a concrete fill.

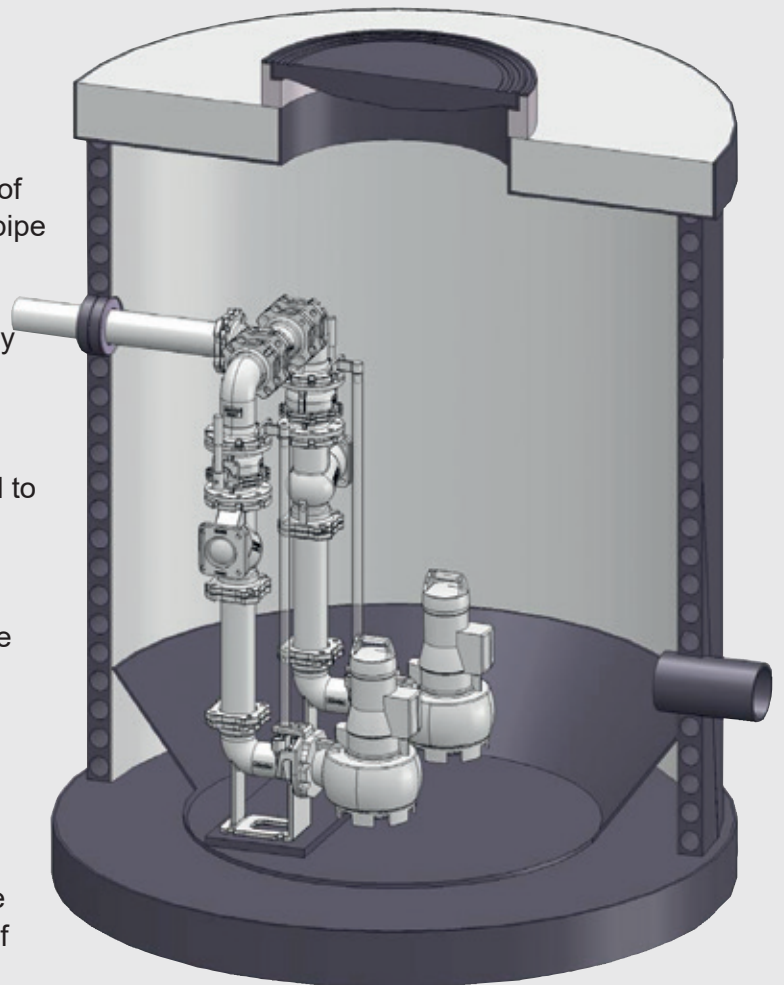




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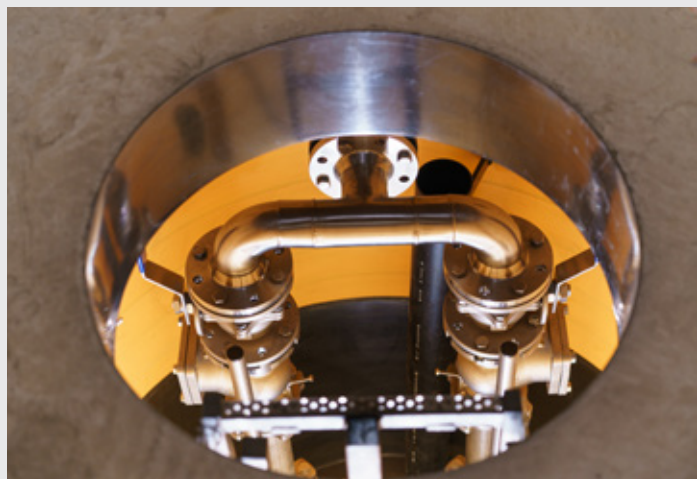
- ① The pump station is supplied complete in one piece, including technical installations.
- ② Installation errors excluded
- ③ Installation time within 2 hours
- ④ Cover plate made of PE-HD with steel-proof concrete core firmly welded to the casing pipe
- ⑤ Bottom side and dome entrance completely lined with HD-PE
- ⑥ The cover plate is firmly and tightly welded to the shaft casing pipe
- ⑦ The load is transferred from the cover plate directly to the shaft casing pipe
- ⑧ PE-HD base plate with steel-reinforced concrete core
- ⑨ Stresses and vibrations are eliminated due to the special Kordes connection system of concrete and PE-HD
- ⑩ The uplift protection is already welded at the factory as a cantilever base plate in accordance with the requirements



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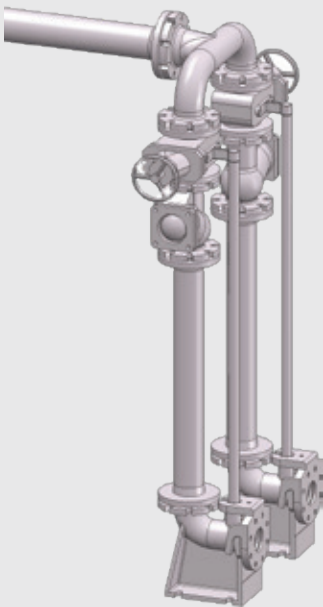
## Stainless steel armatures Corrosion resistant and durable



- Simple and fast assembly due to clamping flange connection
- Kordes pump foot optionally with single and double pipe guide and suitable for all pump makes with DIN flange

## Armatures and piping

- Depending on the shaft depth, the pipelines can be extended as required
- The pumps can be easily inserted into the coupling from above without entering the shaft
- Pump removal is possible at any time even without shutting off the slide valve
- The non-return ball valve prevents the backflow into the pump station
- The pipeline can be closed by a gate valve for repair
- Optional: flushing connection, vacuum breaker



100% stainless steel  
DN 40 - 100



Spheroidal cast iron, powder-coated and stainless steel  
DN 50 - 200

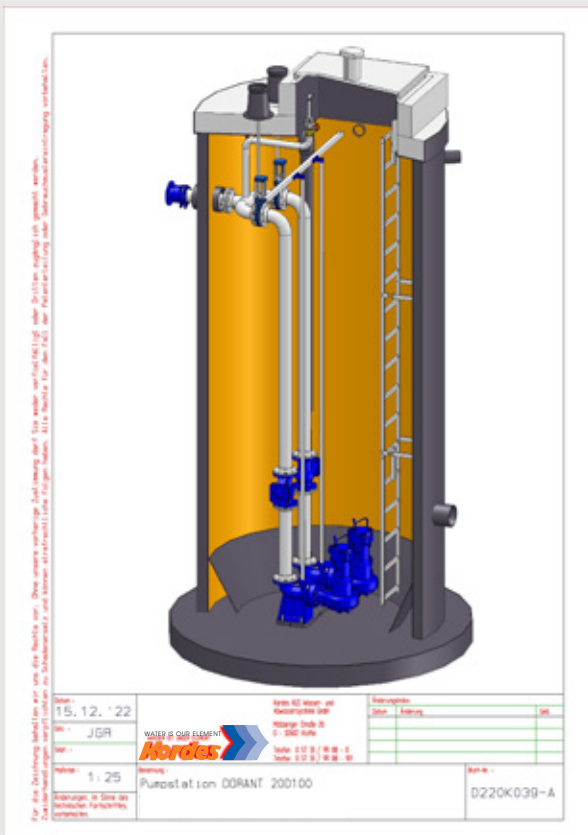
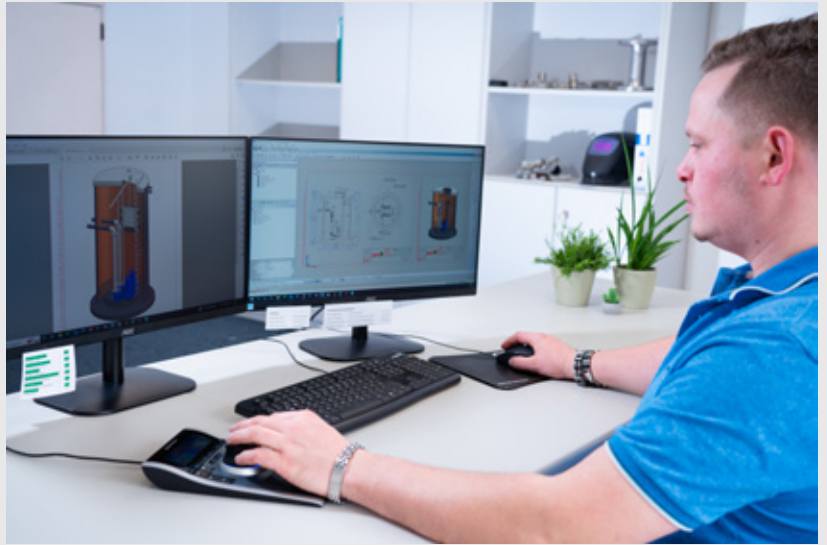


100% spheroidal cast iron, powder coated  
DN 80 - 200

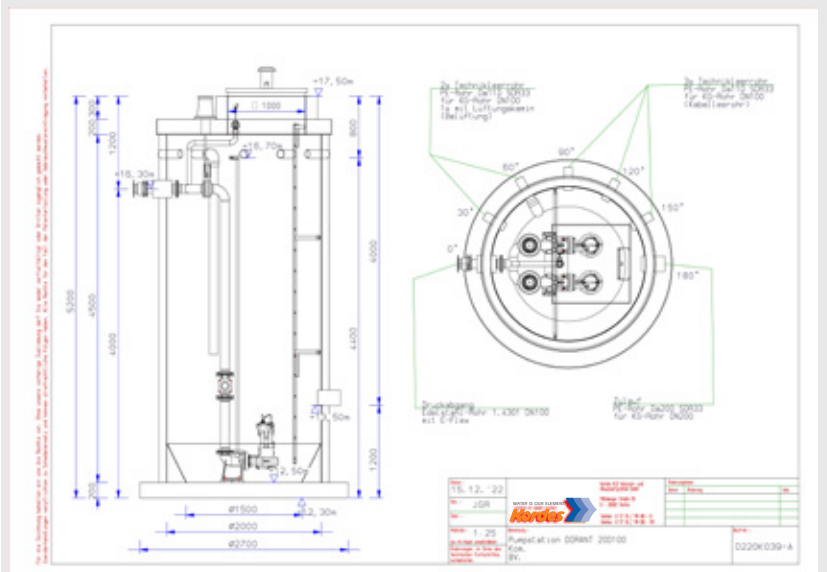


## Customized and individually designed

A frequently requested service from our company is planning support. The focus here is on the planning of wastewater pump stations, including the calculation of pumps, calculation of pressure pipelines up to the planning of pressure pipe flushing stations. The planning of EMSR and control technology are also among our strengths.



When ordering, you will receive a detailed drawing in 2D and 3D view from us for your construction project. This serves to visualize your new pump station and facilitates technical optimization before construction begins. Only when everything is perfect we begin with the production.



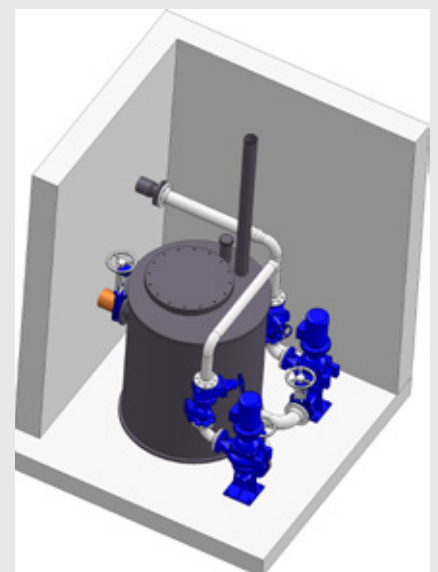
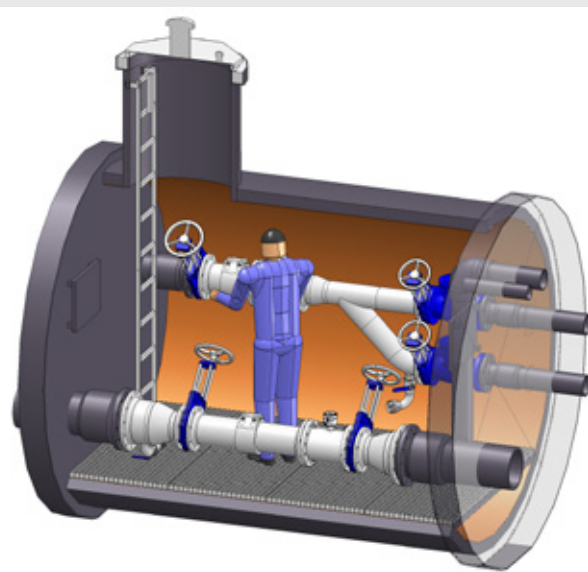


## Special constructions



### our offer:

- Armature shafts
- MID-shafts
- Measuring- and control shafts
- Overflow shafts
- Diversion shafts
- Distribution shafts
- Neutralization plants
- Extinguishing water tanks
- Pumping stations with multiple pumps in cascade arrangement
- Pump stations for indoor installation



## Shaft installations



### Access ladder

Pump stations require a safe access ladder. For this purpose, we build stainless steel ladders with safety steps in widths of 300mm and 400mm. The pull-out boarding aid provides safety when entering. For deeper pumps stations we offer a fall protection system or an intermediate ceiling according to UVV.



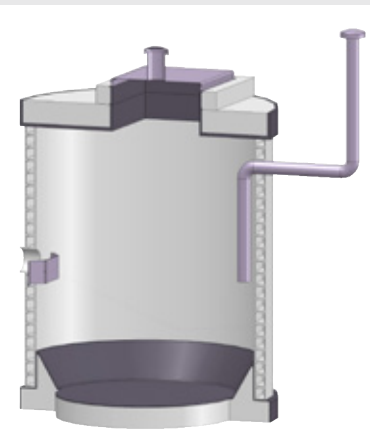
### Pipe lead-through

For a tight connection between the shaft and the pipe, we offer Kordes ConFix feed-through systems. They form a permanently elastic, tight connection between the pipe and the concrete or PE-HD wall. Pipes made of cast iron, steel and plastic are sealed gas- and watertight in core drill holes or lining pipes by pressing together an NBR rubber ring by means of two V2A stainless steel flanges.



### Plug-in gate valve and spindle gate valve

In pump stations, it is sometimes desired to be able to shut off inlet pipes for work in the shaft. For this purpose, we offer plug-in or spindle gate valves for the appropriate pipe diameter. Operation is mechanical or by electric drive. The control can be connected to the BMS.

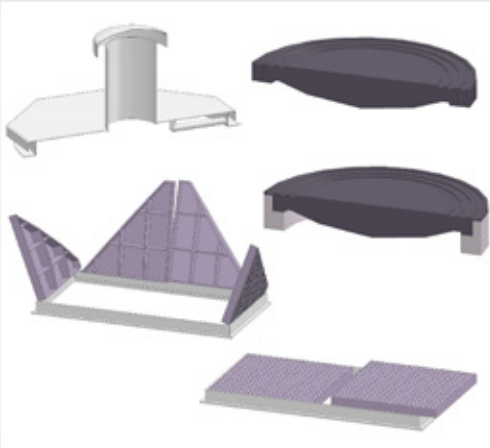


### Shaft ventilation

Appropriate stainless steel or PE-HD piping should be installed in the shaft for ventilation. For the end of the underground pipeline we offer ventilation chimneys made of stainless steel in DN 100 / DN 150.

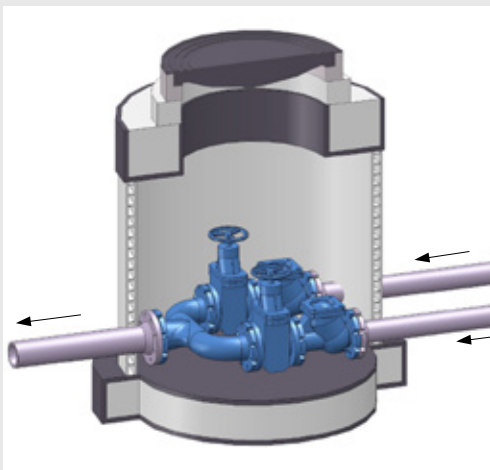
The stainless steel cover can be equipped with vapor hood on request.

## Accessories



### Covers

We offer shaft covers according to your requirements in square or round shape as Begu, in cast iron or stainless steel. The shaft system corresponds to the load class SLW 60, so that shaft covers from class A to D are freely selectable.



### Armature shaft

Armatures are usually located in the pump station but some operators prefer the armatures in a separate shaft, which we offer as a prefabricated part in PE-HD or reinforced concrete.

The inductive volume measuring device or ventilation valves are also often installed in separate shafts.



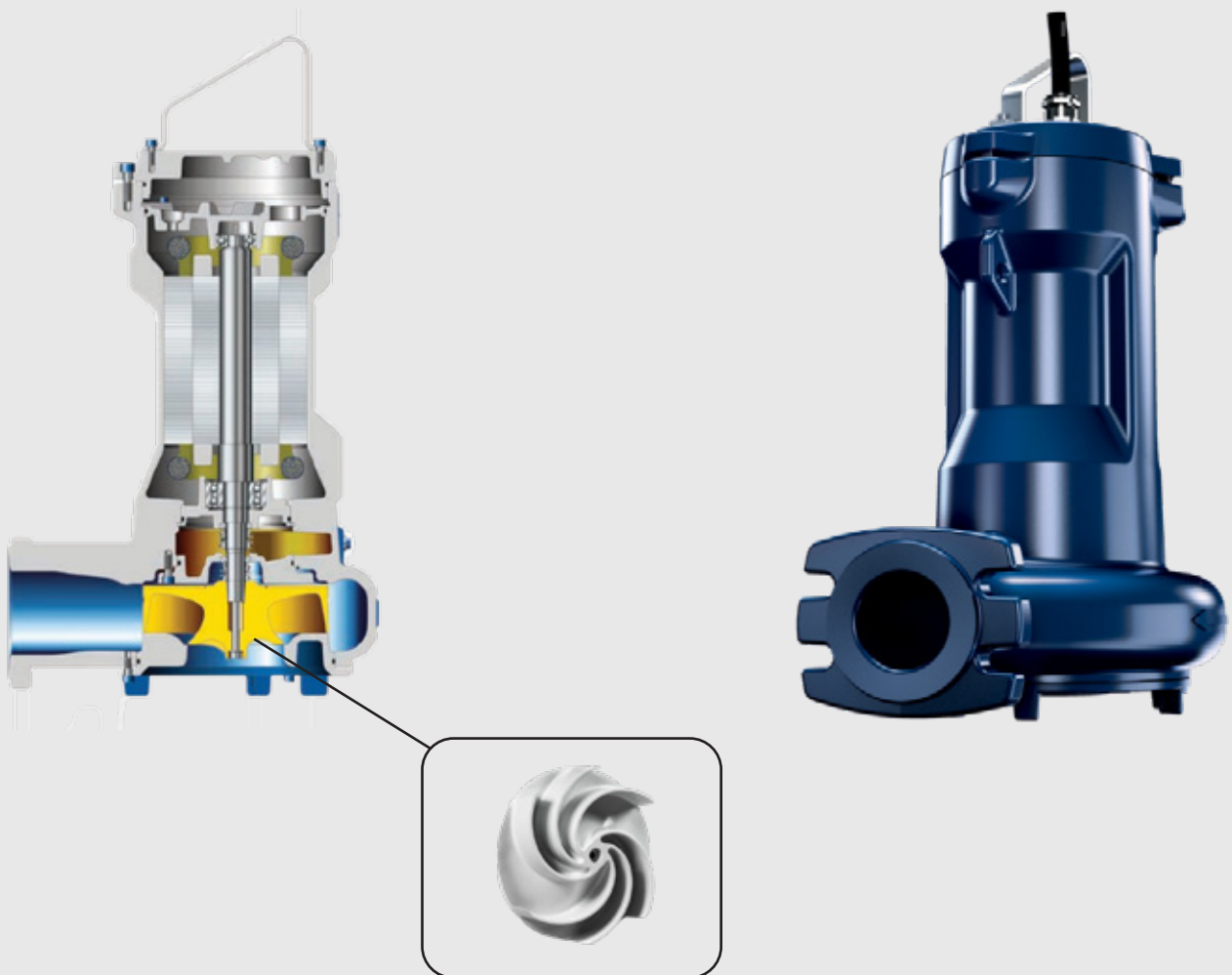
### Technical building

Optionally we offer a suitable technical building for your pump station. We arrange the equipment individually with you in order to find an ideal solution for the later operation.

## Pumps

For optimum flow rate and flow velocity, the armatures, discharge line and pumps must be precisely matched to the requirements of your construction project. Our products range from pumps with cutting impeller system for small wastewater volumes with admixtures, to pumps with free-flow impeller system. Both variants are available with and without explosion protection. For certain types of wastewater, pumps with special resistance to corrosive substances are also required.

Do not leave the right selection of your pump to chance and let us support you in the correct design. To offer you the pump that is best suited for your construction project, we work together with the leading manufacturers of wastewater pumps. Our armature system can be combined with almost all common pumps with DIN flange.





## Control technology

With our Kordes control systems we are able to switch single, double or multiple plants. Our control systems are used by commercial and municipal plant operators and can be customized with electronic components on request. In the field of municipal wastewater discharge, we also supply PLC-controlled systems as well as process visualization and telecontrol technology. We will also be pleased to supply you with the appropriate control cabinet for your project. In the factory, the control system and the desired components are already installed and tested in the control cabinet according to your specifications.

### WDN control unit



- Individually designable control system for municipal use

### CEN / CDN control unit



- Connection up to 20 kW / 40 A
- Dimensions according to equipment
- Direct start, soft start, Star-delta starting
- 3 potential-free contacts with optional extension

### CEB / CDB control unit



- Connection up to 5,5 kW / 9 A
- W/H/D = 265 x 270 x 145 mm
- direct starting
- 3 potential free contacts

### For both control units:

- Level measurement: dynamic pressure, float switch, pressure probe
- Touch color display illuminated
- Error memory with full text display
- Manual operation
- External locking of the pumps
- Operating hours recording
- Current measurement
- Thermal monitoring of the pumps
- Messages: Overcurrent, overheating, high water, Runtime monitoring
- Air bubbling optional
- Power failure monitoring optional
- GSM modem with qualified messages optional

## Service

### Spare parts

You need a spare part? Due to our extensive component archive and with corresponding stock-keeping, we will find the right spare part for you, so that your system is quickly ready to work again.



### Installation and commissioning

After you have received the delivery and the on-site preparations have been completed, we will be pleased to come to the technical assembly. After a successfully completed test run, everything is ready for commissioning. As a preparation for professional operation management, you will receive a detailed technical briefing from us.



### Maintenance

Your Kordes system has been running trouble-free so far and you are satisfied with the product. To keep it that way, we recommend regular and qualified maintenance. As part of the maintenance contract, we check the entire systems technology and adjust everything to the current conditions. We then document the status of the system, including the measures carried out, and provide you with a clear report. A permanently reliable operation of your treatment plant is thus guaranteed.

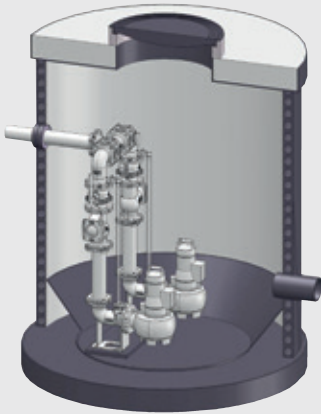


### Contact

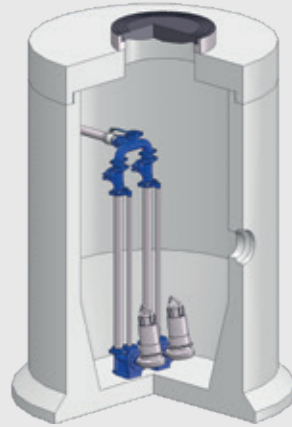
Tel: 05733/9908 - 316  
wartung@kordes.de

## Products

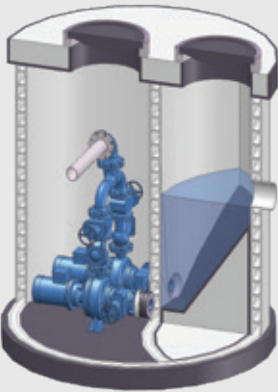
DORANT with PE-HD tank



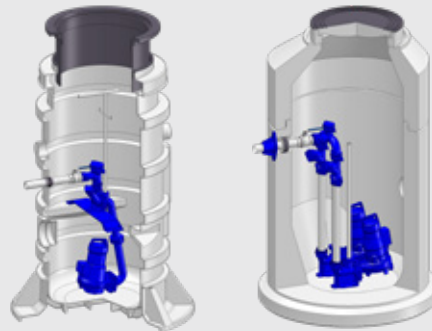
GARANT with reinforced concrete tank



HEKANT with dry-installed pumps



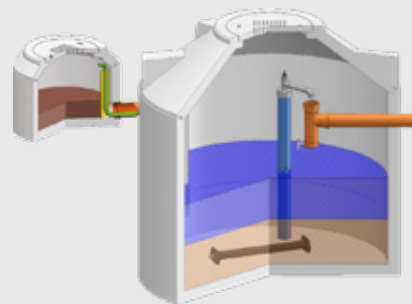
VARIANT Pressure drainage



BIOclear vario wastewater treatment plant up to 5,000 Pe



Small wastewater treatment plants up to 50 Pe



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