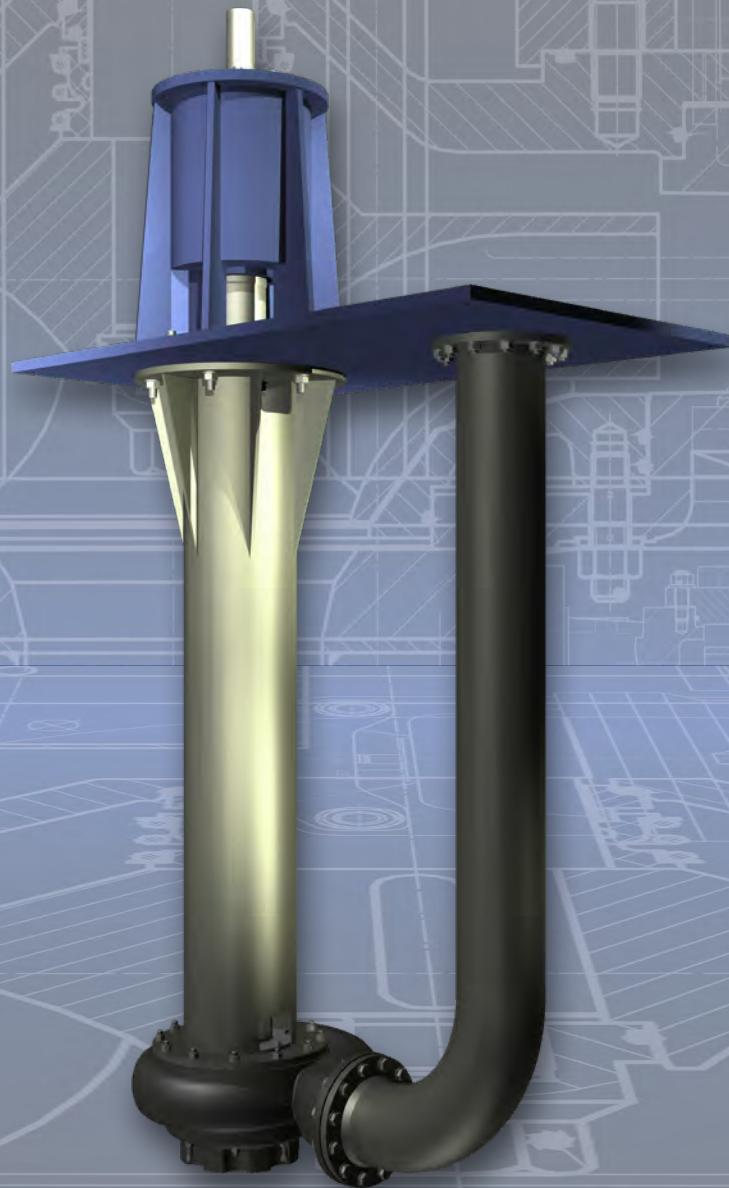




DÜCHTING
PUMPEN

Product Overview
TYPE WRV

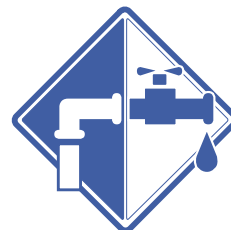


FLUE GAS DESULFURIZATION



The flue gas cleaning in Germany started with the adoption of the „Großfeuerungsverordnung“ - a regulation for open fire - in 1982. From the very beginning DÜCHTING PUMPEN took part in this business and today has one of the largest populations in European power stations. With the development of the material **SICcast**[®] now almost every FGD pump is built completely in **SICcast**[®]. Through this unique and innovative technology our products are increasingly favored beyond the borders of Europe.

WATER TREATMENT



DÜCHTING PUMPEN has worked in desalination with high-pressure centrifugal pumps in reverse osmosis now since the early 90s. While the demand for higher quantities and pressures has risen over the past years DP has kept up with the development and can now offer high-pressure pumps, including energy recovery units. The materials used for these pumps have been proven in numerous applications and the performance data has been adjusted to market demands by means of CFX programs.

MINING



Since the early 50s DÜCHTING has supplied pumps to the mining industry, especially German hard coal mining - at first only as maintenance and primarily with respect to underground mining. In the following years new pumps and wear-resistant centrifugal pumps for the processing of coal were added. Today DÜCHTING PUMPEN covers the entire market for centrifugal pumps in mining including high-pressure cooling centrifugal pumps.

INDUSTRY / OIL & GAS



The chemical industry profits from the **SICcast**[®] - material of DÜCHTING PUMPEN.

As far as this field of application is concerned the high chemical resistance of **SICcast**[®] is of primary importance: its corrosion resistance with respect to acids will even exceed that of Ni-alloys.

These pumps are entirely metal free in all wetted areas - even the single- or double-acting mechanical seals.



Quality through experience

DÜCHTING PUMPEN is a privately owned German company with more than 77 years of experience in the field of advanced centrifugal pumps for use in many different industries.

Our motto “Quality Through Experience” forms the basis of our sophisticated product range. The capabilities of our company in the construction, manufacturing, testing and commissioning of our products is highly respected in the industries we serve.

Our reputation is based on a sustainable company policy, focusing on efficiency, reliability, innovation and thorough customer after-sales service which is provided by partners in the countries where our products are installed.

In order to meet the current demand for highly efficient and reliable products in seawater desalination, DÜCHTING PUMPEN offers optimized high-pressure pumps and energy recovery turbine units. To minimize total energy costs in high pressure seawater desalination plants, we are at your service during both design and operation.





Vertical centrifugal pump

TYPE WRV

Designed to handle slurries.

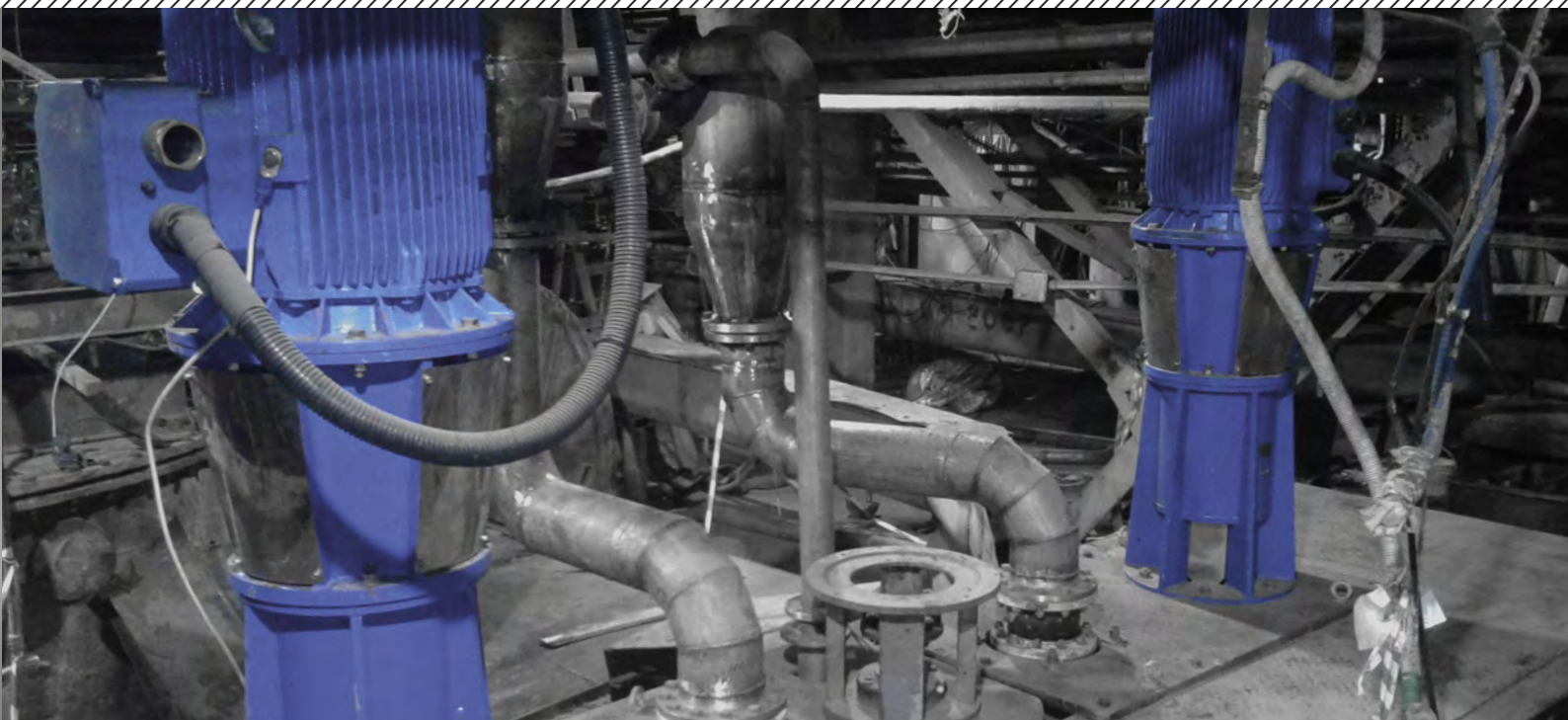


WRV Design

Vertical single-stage centrifugal pump in semi-submerged design.

- End-suction type slurry pump
- Pumping of abrasive and corrosive liquids
- Discharge flange: DN 32 to DN 250 radial, from DN 300 tangential
- Closed and open impeller available
- Impeller is fixed by fitting key; reverse rotation (e.g. back-flushing) is possible
- Re-adjustable inclined gap between the impeller and volute to optimize the efficiency and differential pressure after prolonged operation
- Grease-lubricated, maintenance-free bearings
- Customized immersion depth possible
- Optimized design ensures easy maintenance and long service life even under difficult conditions
- Direct or belt driven design





Fields of Application

Handling of abrasive and corrosive liquids.

- Flue gas desulfurization (lime / gypsum slurries)
- Cleaning equipment for heat exchanger
- Construction industry (cement-water mixture)
- Potash industry (caustic potash solution, mixed salts/brine)
- Fertilizer Industry
- Mineral processing and refining

Materials

Available in almost any metal from cast iron to **SUPER DUPLEX stainless steel**.

The materials are carefully selected depending on the application, the pumped liquids and the combinations of materials adapted to the respective conditions of use.

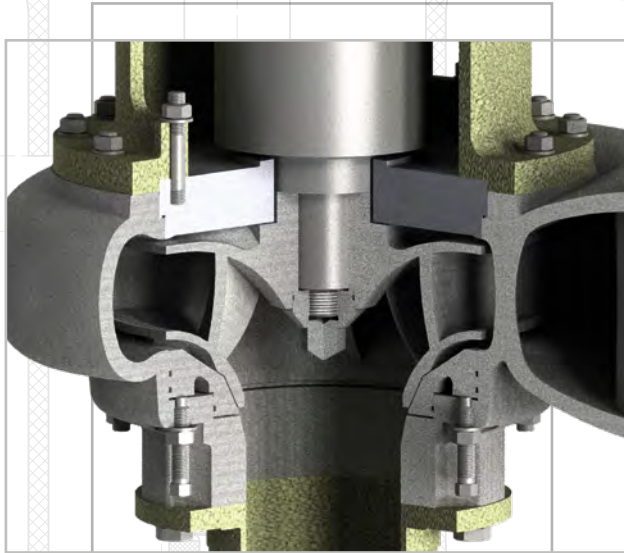
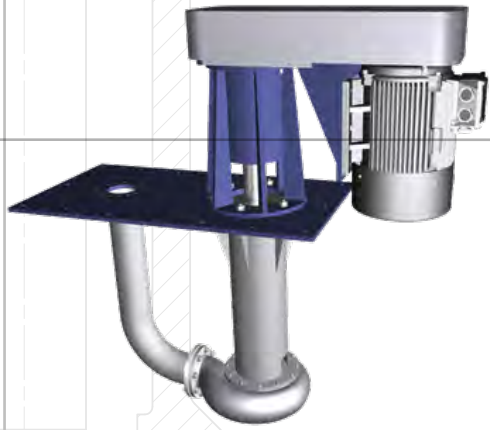
Technical Data

Pump Size:	DN 32 to DN 400 (1 1/4" to 16")
max. Pressure:	16 bar (230 PSI)
max. Flow:	4000 m³/h (17600 gpm)
Total head:	up to 120 m (395 ft)
Rotating Speed:	up to 3600 rpm



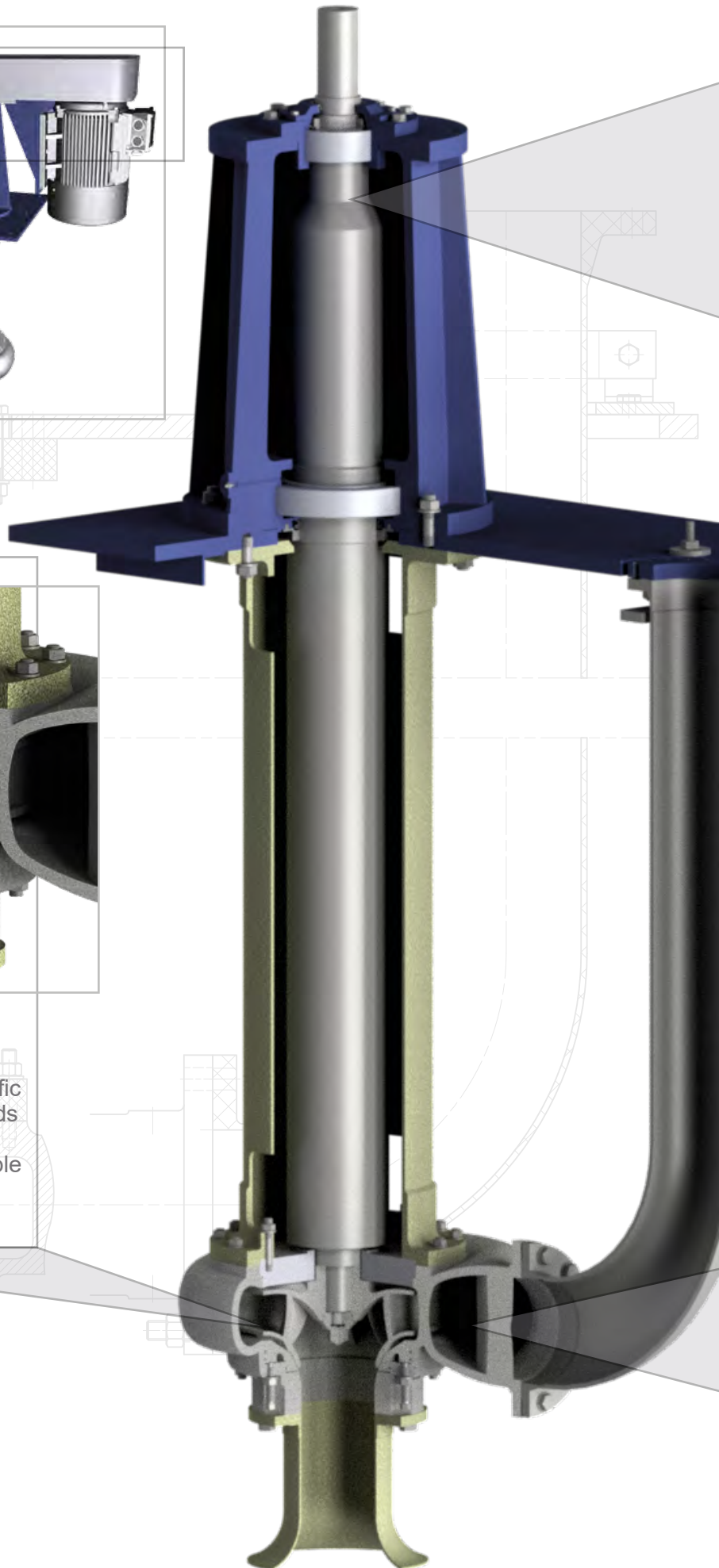
Arrangement A:

Belt driven.



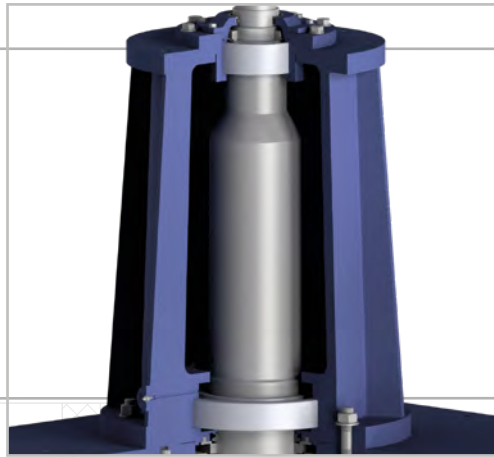
Impeller

Designed to optimized specific speed. Cast in ceramic moulds for highest surface quality. Different impeller sets available for every pump size.



Bearing

Heavy duty bearing arrangement with grease lubrication. The modular shaft design allows high design variability and easy maintenance.



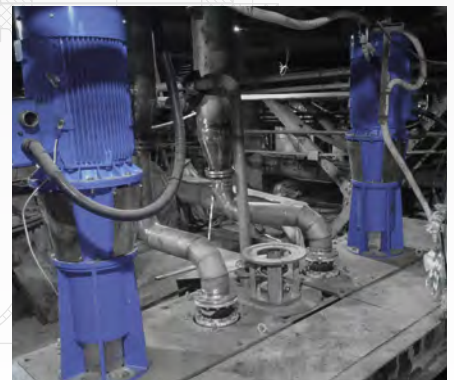
Arrangement B:

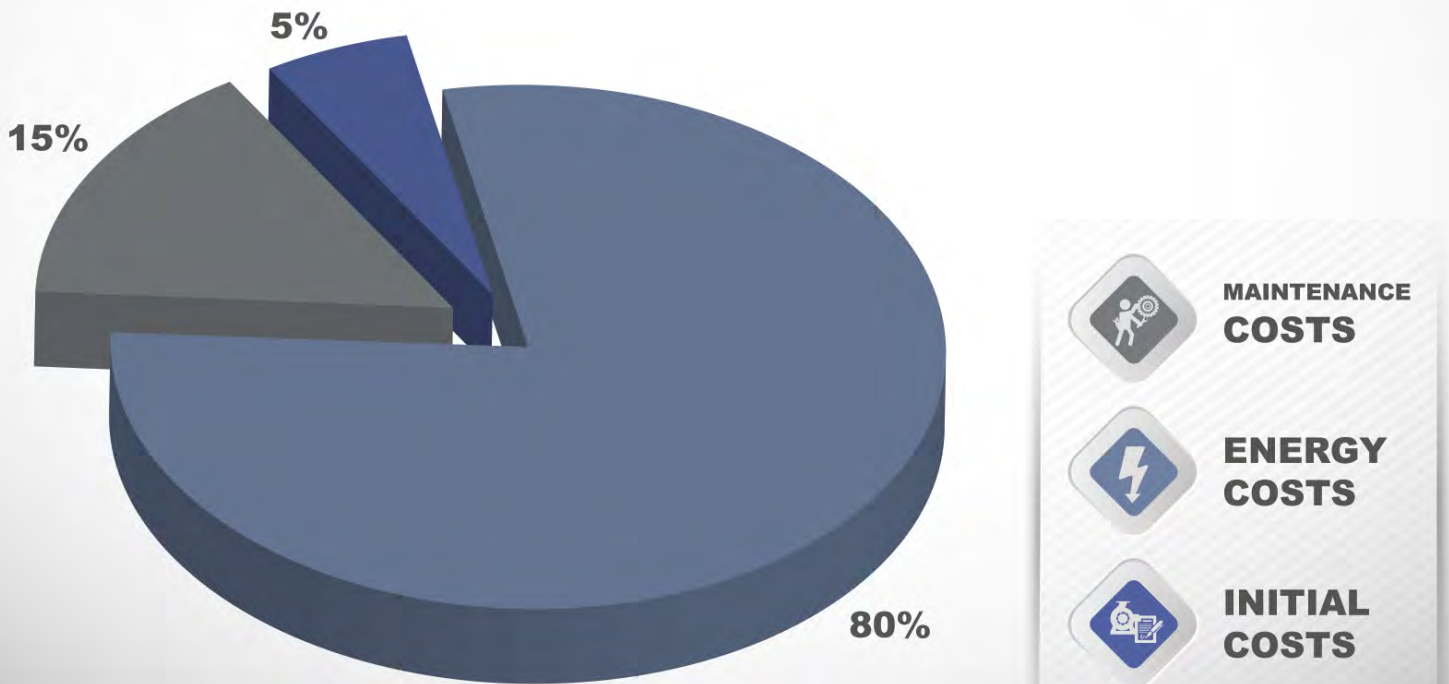
Direct driven.



Volute Casing

Volute casing with single or double volute. Available in almost any metal from cast iron to SUPER DUPLEX stainless steel. Optimized by numerical calculations to achieve best efficiency.





Life-Cycle-Costs

Average life cycle costs for industrial pumps.

Evaluating the Life-Cycle-Costs will identify the most financially attractive alternative. The initial purchase price is a very small part of the life cycle cost for high usage pumps. Minimizing energy consumption and plant downtime have a big influence on the total Life-Cycle-Costs.

Energy costs

DÜCHTING PUMPEN offers a wide range of impeller sets for high efficiencies.

- ▶ high efficiency leads to low energy costs

Maintenance costs

Robust design leads to long lifetime of the pump parts.

- ▶ low wear leads to low maintenance work and costs

Easy accessible and changeable wear parts lead to short downtime for overhauls.

- ▶ short downtime leads to low maintenance costs





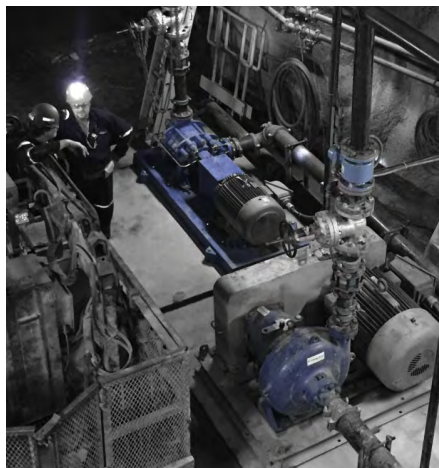
After-Sales-Service & Spare Parts

With its service and spare parts department DÜCHTING PUMPEN offers the full range of After-Sales-Service.

With its own service technicians and several service partners worldwide DÜCHTING Service is everywhere and always available.

Inhouse - Service

- Maintenance
- rebuild & repair
- damage analysis
- performance tests with vibration analysis
- site staff training
- and much more



Site - Service

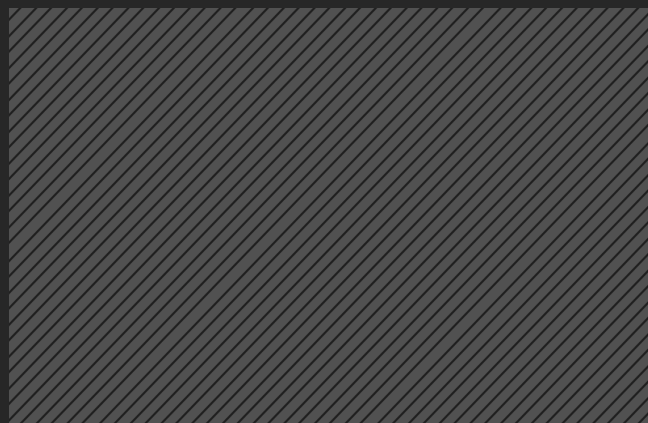
- start-ups
- commissioning assistance
- Revisions
- Repairs
- Troubleshooting
- laser alignment
- vibration & condition analysis
- flow rate measuring
- whole pump rebuild and repair
- mechanical seal exchange
- on-site training
- and much more



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