

NETZSCH

Proven Excellence.



NETZSCH Pumps in the Mining Industry

Pumps & Systems

NETZSCH brings you solutions

Unrivalled Expertise in Positive Displacement Pumps

The extraction and processing of minerals takes place every day on every continent. Every day mining companies need reliable pumps for a wide range of diverse and challenging applications including slurry transport, dewatering, chemical dosing, and neutralization.

NETZSCH Pumps and Systems has been serving its clients for over 70 years all around the world. We have satisfied clients from even the most demanding and difficult industries. What they are looking for, first of all, is a reliable solution, which will secure and maintain production with long-term cost efficiency.

Advantages

With NETZSCH Pumps you can

- reduce the cost of wear
- pump slurries with very high solids content
- transport very abrasive, dense and viscous media
- convey aggressive media save time and money on maintenance

We welcome even the most difficult tasks!

Applications

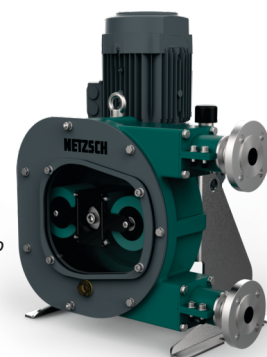
- Slurry Transfer
- Thickener Underflow
- Dewatering
- Wastewater Treatment
- Explosive Dosing
- Back Filling
- Gland Seal Water
- Yellow Cake
- Leachate
- Chemical Dosing



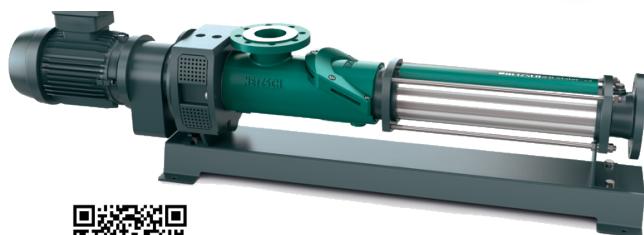
TORNADO® T1
Rotary Lobe Pump



TORNADO® T2
Rotary Lobe Pump



PERIPRO
Peristaltic
Hose Pump



NEMO® Progressing
Cavity Pump



NOTOS®
Multi Screw Pump

Four different technologies for one aim

NETZSCH Pumps and Systems offers different pump technologies for the mining industry: NEMO[®] progressing cavity pumps, TORNADO[®] rotary lobe pumps, NOTOS[®] multi screw pumps and PERIPRO peristaltic hose pumps. All types of pumps can be successfully applied in difficult mining conditions. However we also believe that each of our positive displacement pumps have their unique features that are not always replaceable.

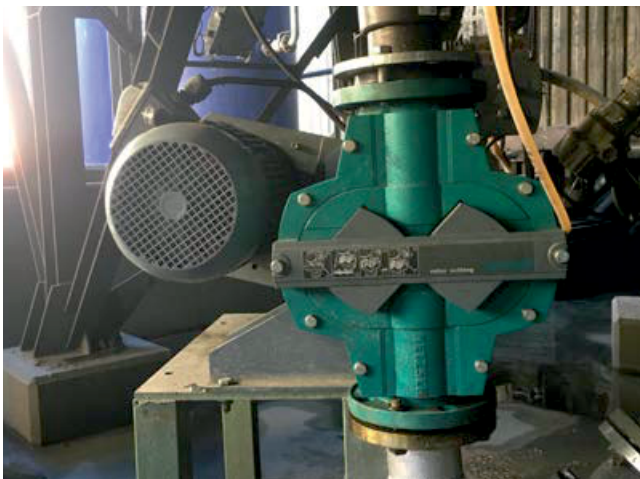
Which technology we recommend to you depends on the unique features of your application and the particular working conditions. However, what you can be absolutely sure of is that we will always offer you the better solution!

Our pumps

- convey media with very high solid contents or large particles
- can transport low and highly viscous media at low speed
- are suited for higher density and higher yield stress applications
- operate over a wide range of pressures
- handle shear sensitive materials
- are a perfect solution for a long distance transfer applications are energy

Technical specification

- Flow rates upto 1000m³/hr
- Viscosities upto 1,00,000cP
- Discharge head upto 900 m
- Slurry concentration upto 70%



Ease of maintenance and long service life are the strengths of the TORNADO[®] rotary lobe pumps



Excellent solids handling and pressure capabilities enable the handling of demanding slurries with NEMO[®] progressing cavity pumps.

NETZSCH Pumps and Systems for the Mining Industry

Despite the potentially higher initial cost compared to other pumping technologies such as centrifugal, NETZSCH positive displacement pumps are a long-term cost-effective solution.

In the mining industry high solids content and large particles can dramatically increase wear costs and have a negative impact on the pump's operation. NETZSCH pumps are robustly built to increase reliability enabling them to operate longer without interruptions, significantly reducing maintenance costs.

What's more NETZSCH pumps are not limited in their ability to transport very dense slurries and paste-type materials unlike some other pump technologies and therefore dense slurries are easily transported with low wear rates. NETZSCH pumps are the perfect solution when you are looking for a long lasting investment!

NEMO® Progressing Cavity Pump

When slurries are too thick and pump speeds get too high for other technologies NETZSCH steps in. NEMO® progressing cavity pumps can transfer even very thick slurries at low operational speeds, thus significantly reducing wear. NEMO® pumps can also easily handle big solids and withstand high pressures.

Main advantages

- Transport of liquids with or without high solid content (max particle 6" / 150 mm)
- Wear and corrosion resistant materials for handling demanding products
- Low operating and maintenance costs
- Very low emulsification effect
- Efficient transport of slurries
- Efficient transport of highly viscous products
- Almost pulsation-free pumping
- Installation in any position
Almost no shear



NEMO® Progressing Cavity Pump

NOTOS®

Multi screw pump

Since 1979 NETZSCH has been manufacturing multi screw pumps to serve a wide range of industries and applications. The most advanced technology is utilized to produce these pumps. Reliability, durability and experience are some reasons why you should choose NETZSCH.

NOTOS® Multi screw pumps for lubrication of ball mills and sag mills

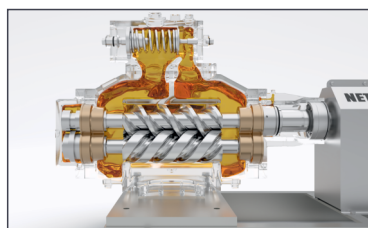
In mining you need equipment that is well prepared for working with different types of rock and that work tirelessly. To ensure the required reliability of ball mills and sag mills working in this harsh conditions reliable lubrication is essential. NOTOS® multi screw pumps provide the continuous supply of lubricant and fulfil two essential tasks: supply to the injection unit and the actual lubrication oil circulation.

Performance 2NS

- Flow up to 500 m³/h (2200 gpm)
- Pressure up to 16 bar (230 psi)
- Temperature up to 300°C (570°F)
- Viscosity up to 100.000 cSt

Advantages 2NS

- High efficiency
- Hydraulically balanced
- Quiet operation
- Long service life
- Low pulsation
- Excellent suction capability



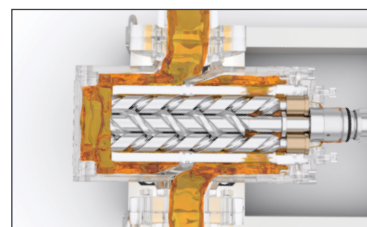
NOTOS® 2NS Multi Screw Pump

Performance 3NS

- Flow up to 350 m³/h (1500 gpm)
- Pressure up to 80 bar (1160 psi)
- Temperature up to 300°C (570°F)
- Viscosity up to 15.000 cSt

Advantages 3NS

- High efficiency
- Easy maintenance
- Lightweight and small footprint
- Low pulsation



NOTOS® 3NS Multi Screw Pump



TORNADO[®] Rotary Lobe Pump

TORNADO[®] Rotary Lobe Pump T2

So quick and simple to maintain

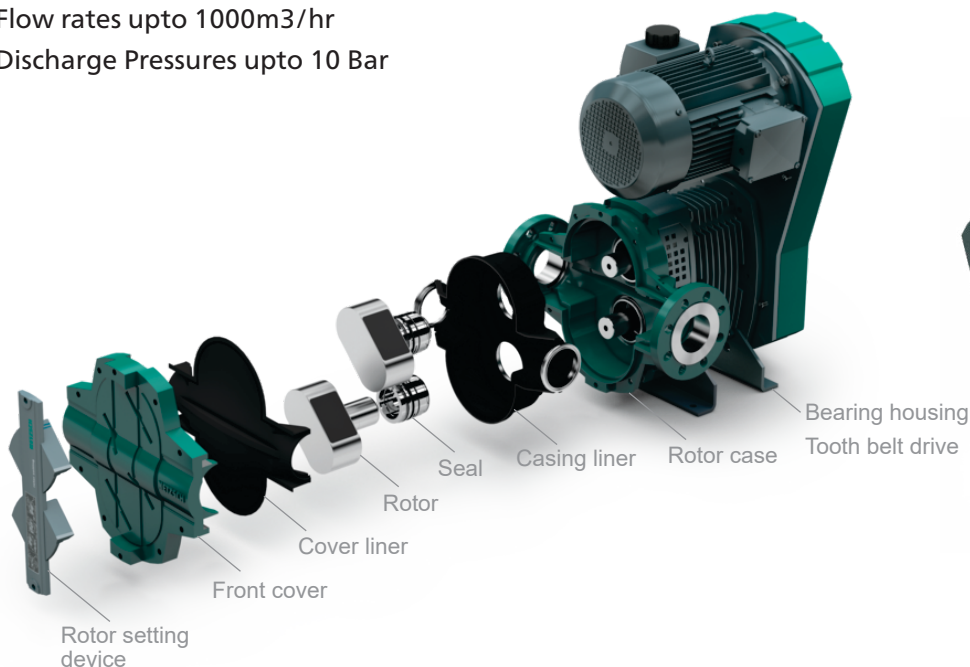
TORNADO[®] pumps have been designed with ease of maintenance in mind. All of the product wetted components, including the mechanical seals are accessible from the front with inbuilt jacking points, allowing the replacement of the components in minutes saving y

Flow rates up to 1000m³/hr

Discharge Pressures up to 10 Bar

Main advantages

- Small installation space requirements
- High performance and maximum operational reliability
- Physical separation between the pump head and bearing housing
- Service and maintenance friendly
- All parts in contact with the media are directly accessible without dismantling the pipework or disconnecting the drive



TORNADO[®] T2 Rubber-Metal Pump seen from behind: uses a robust and maintenance friendly tooth belt drive

TORNADO® Rotary Lobe Pump T1

So effective and reliable to run

The TORNADO® rotary lobe pump is the best solution if you are looking for a maintenance friendly pump and have limited space requirements. TORNADO® pumps can run slowly even for abrasive applications, which significantly reduces the wear compared to other pumping technologies such as centrifugal pumps. What's more NETZSCH TORNADO® pumps can successfully handle viscous slurries and liquids with

Main advantages

- Maximum operational reliability
- Efficiency in smallest space
- Service and Maintenance friendly
- Dry running capability
- Suitable for high flow and high head applications
- can handle high concentration slurry



Mobile TORNADO® Rotary Lobe pump T1

Rotary Lobe pump T1 - Face lift

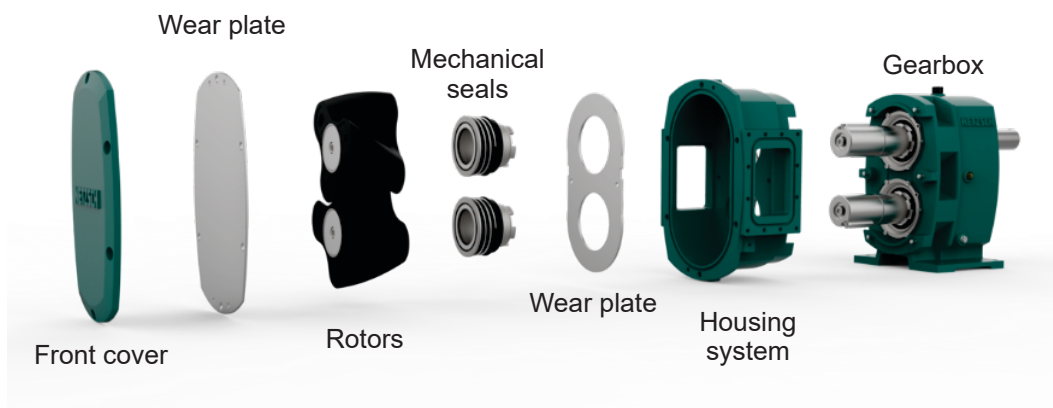


• Benefits

- Reduction of repair times by more than 40%
- Improved GSS system
- Energy efficiency is improved up to 25%
- Higher pressures up to 10 bar
- ATEX and CE certification

Technical Specifications:

- Flow rates up to 1000m³/hr
- Discharge Pressures up to 10 bar
- Discharge Head up to 80 m



PERIPRO

Peristaltic hose pump

In mining, you are always looking for improved productivity, including reducing water usage during metal extraction and separation. With its robust design, the PERIPRO pump is designed to handle media with high solids content. Downtime and repair costs are reduced with PERIPRO.

PERIPRO peristaltic pumps optimise these mining processes because their robustness and abrasion resistance allow them to pump media with high solids concentrations. The water consumption for the processes of separation and recycling is thus reduced. The PERIPRO hoses contribute to this resistance with strong textile reinforcement layers and an inner extruded layer. In this way, maintenance costs are optimised, and production downtime is reduced.

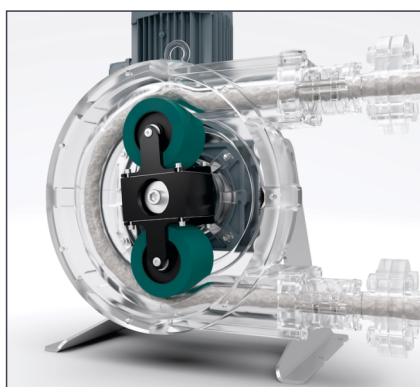
Low shear pumping and precise dosing control ensure maximum efficiency in polymer dosing. This reduces the cost of this sensitive raw material, which is often used in mining.

Your benefits

- Excellent resistance to abrasion in the pumping of products with high solid content
- Ease of maintenance and operation for continuous work applications (24 h/7 days) due to the design and robustness of the equipment
- Low shear pumping for dosing of polymers and flocculants
- Maximum process efficiency
- Pump with no valves or mechanical seals
- Indefinite dry running
- Reversible pump

Typical applications in the mining industry

- Transfer of mineral slurries
- Dosing of cyanide and xanthate
- Transfer or dosing of polymers
- Dosing of reagents



Industrial version



Chemical version

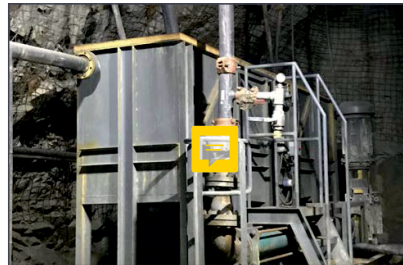
Mine Dewatering Pump Skid

Safe, Reliable, Cost Efficient

NETZSCH offers dewatering systems or skids to help mines that require a small and compact movable unit

The Base Unit

The base unit includes a tank, progressing cavity pump with right angle gearmotor, inspection ladder, valves and piping all mounted on a common galvanized steel skid. NETZSCH can optionally provide a unit with a control panel (with or without VFD on a removable stand) and instrumentation such as high/low level switches for the tank or dry run protection for the pump.



NETZSCH Mine Dewatering Unit for a gold mine

Features and Benefits

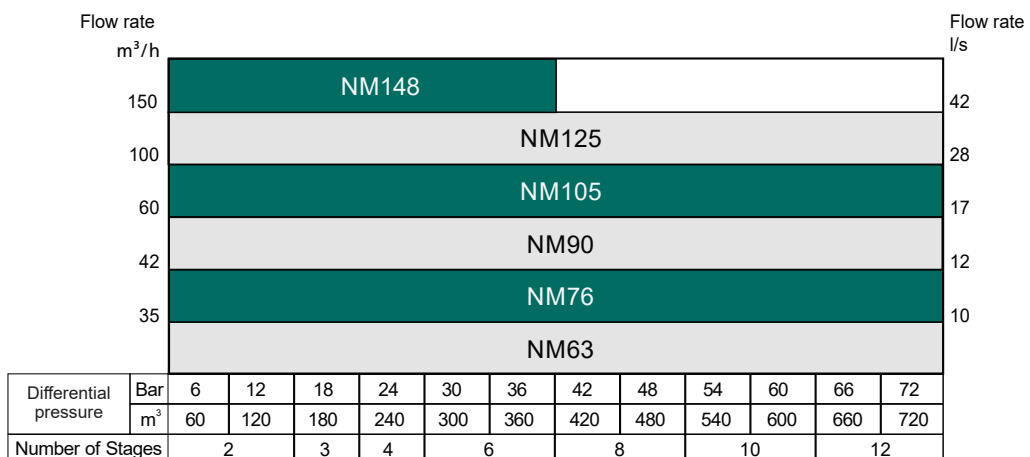
- The tank includes baffle/divider screens to filter out any solids too big to fit through the pump.
- The pump, located to the side of the tank, allows for easier access and maintenance.
- A right angle gearmotor is used to save space and eliminate the need for a belt drive, but belt and pulley designs are also available.
- A removable inspection ladder with hand rails and a removable safety screen for the tank are provided for operator safety.
- Wide range of flow and pressure capability.
- The pump and tank are available in various materials to best suit each application, including low pH applications: Elastomers like BUNA, EPDM and FKM, metals like carbon, stainless and galvanized steel and Halar or rubber lined steel.
- Standard or customized controls are optional for all units.
- All items can be custom designed to best address specific needs.
- Complies with all relevant safety standards (OSHA, MSHA, etc.).
- Anti-reversing devices are available to prevent the pump from running in reverse.

Our wide flow and pressure capabilities ranges allow you to require fewer pumps in your pump station. Our engineers can recommend solutions to meet your challenges.

Performance

With standard designs we can meet:

- Max flow rate up to 1,000 m³/h
- Max pressure: from 6 bar to 72 bar.

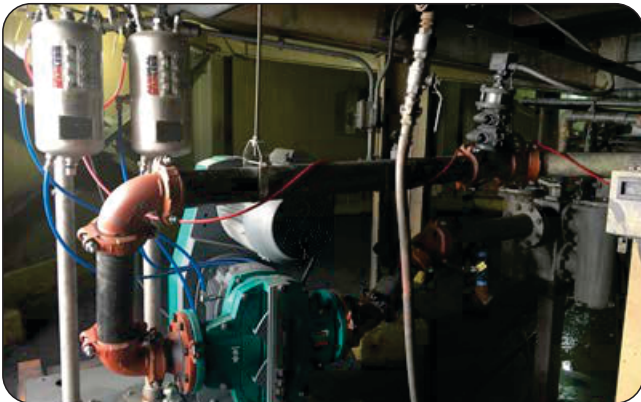




NEMO® Progressing Cavity Pump for coal slurry transfer



Reagent transfer using multiple NEMO® BY pumps



TORNADO® pump on a copper thickener underflow application



Tailings recovery with TORNADO® T2



NEMO® Progressing Cavity Pump on Trailer for dewatering application



Mine dewatering skid with NEMO® SY pump

NETZSCH Original Spare Parts, Accessories & Service

Safety Valves and Bypass System

- Safety valves and bypass system equipped between the inlet and outlet can protect the system.
- When pressure exceeds the maximum allowable limit, relief valves protect pump and pipe systems from damage

Diaphragm Pressure Gauge and Over Pressure Protection

- Gauge internals are isolated from the media by a generously dimensioned diaphragm
- Stainless steel diaphragm
- Display of operation pressure
- For highly clogging fluids
- Shutdown at the adjusted pump's maximum discharge pressure



Pressure Gauge

Heating Jacketed Pump Housing and Dry Running Protection

When the temperature of the medium in the pump exceeds the set value or no medium passes through, the NEMO® pumps equipped with STP-2A dry running protective system will stop operation automatically. For special applications, such as the pumps are installed in a cold region, we provide the pumps with a heating jacket. When the hot water is introduced in the jacket, the whole pump will be heated, ensuring that the pumped media is kept in a flowable condition.

- Control Panel
- Frequency inverter
- Complete instrumentation
- PLC controlled
- After Sales
- Commissioning
- Start-up assistance
- Maintenance on site
- Training on site and in-house

NETZSCH after-sales is built on 3 pillars:

Maintenance and Repairs

when commissioning, maintaining, retrofitting & repairing, and with service contract from NETZSCH you are on the safe side.

Technical Training

by NETZSCH experts at our customer's site or at our locations

Original Spare Parts

with NETZSCH manufacturing quality

The benefit to you

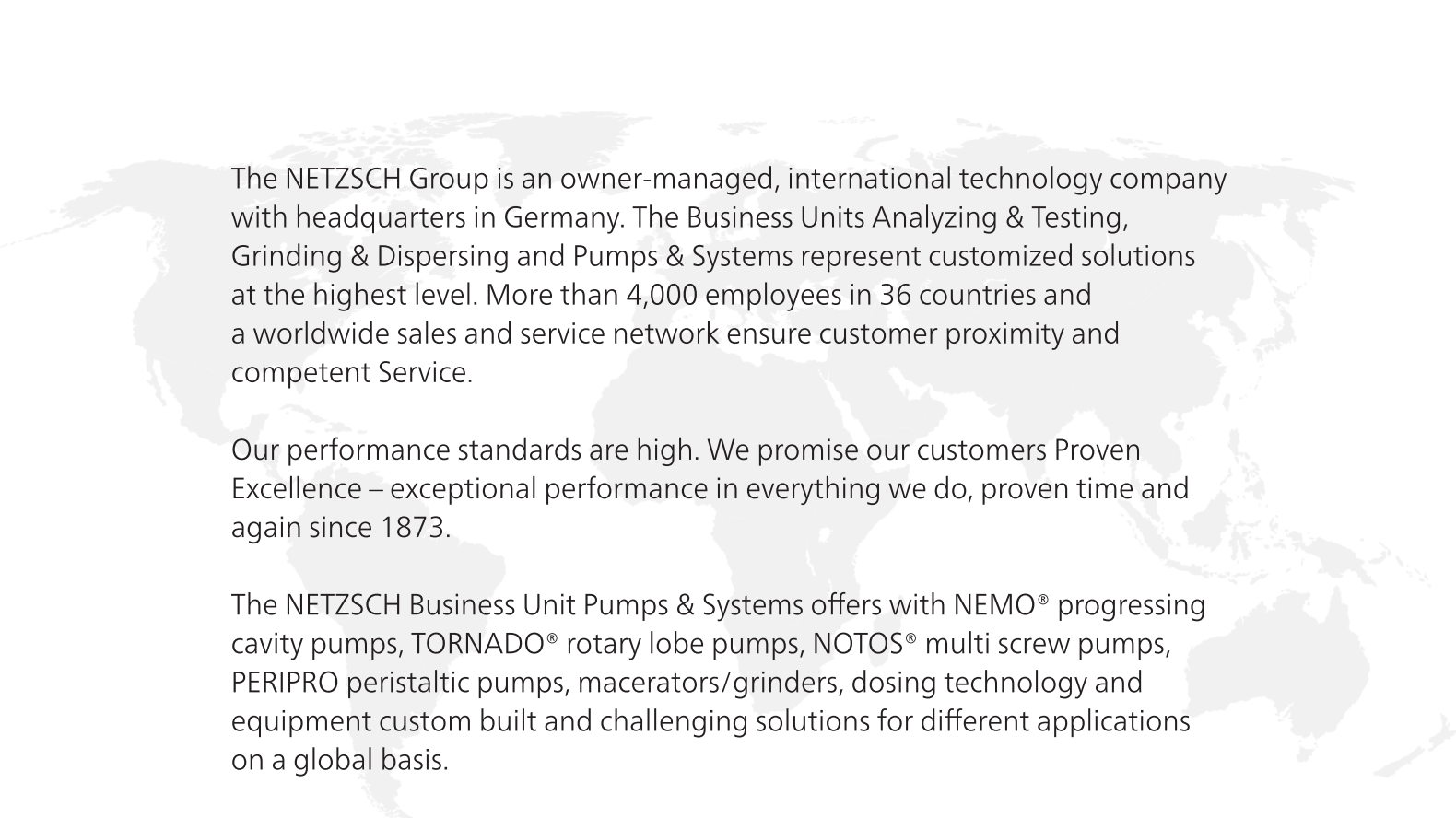
Advice, Service and Quality are our strengths. Strict quality standards, test procedures and certification in accordance with DIN EN ISO 9001 guarantee that you receive the very highest quality without exception. To maintain the performance and quality of your pump, we continue to provide support after delivery in all aspects of your pump to ensure it operates reliably in your system. We have over 70 years of experience with more than 500,000 installed pumps behind us.

For NETZSCH Original spare parts & technical service. Scan the QR code



Mail us at info.nti@netzsch.com
or Call us at **+91 44 4296 5100**





The NETZSCH Group is an owner-managed, international technology company with headquarters in Germany. The Business Units Analyzing & Testing, Grinding & Dispersing and Pumps & Systems represent customized solutions at the highest level. More than 4,000 employees in 36 countries and a worldwide sales and service network ensure customer proximity and competent Service.

Our performance standards are high. We promise our customers Proven Excellence – exceptional performance in everything we do, proven time and again since 1873.

The NETZSCH Business Unit Pumps & Systems offers with NEMO® progressing cavity pumps, TORNADO® rotary lobe pumps, NOTOS® multi screw pumps, PERIPRO peristaltic pumps, macerators/grinders, dosing technology and equipment custom built and challenging solutions for different applications on a global basis.

Proven Excellence.

NETZSCH Technologies India Pvt Ltd.

No.39, 2nd Street, Spartan Nagar,

Mogappair, Chennai- 600037

Tel : +91 44 42965100

Fax: +91 44 42965150

info.nti@netsch.com

Factory: L-10, Verna Industrial Estate,
Verna, Salcette, Goa-403722

NETZSCH®

pumps-systems.netsch.com/en-IN