

NETZSCH The heart of your process

Individual solution concepts for your manufacturing processes





Company Profile

A member of the NETZSCH Group of Companies, the business unit Pumps is world market leader for progressing cavity pumps.

We develop, manufacture and market innovative quality products and services to the benefit of our customers.

In our defined business fields we increase our leadership through technology and cost effectiveness as well as through complementary products.

Our worldwide sales, service and production network, together with a wide base of regular customers, are the foundations of our continued growth.

We act responsibly in the interests of our customers and staff members.

Application knowledge, professionalism and engagement back up our reputation as first-class business partner.

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Know How and Competence...

Innovation is our strength

Throughout the world we have for more than 5 decades developed, manufactured and marketed NEMO® progressing cavity pumps for your processes.

The accumulated know how is supplemented by partnerships with our national and international customers from all branches of industry. In cooperation with them we optimise existing models and develop new products.

Our experience in designing and manufacturing progressing cavity pumps was naturally utilized in our latest product, the NETZSCH TORNADO® rotary lobe pump.

This pump is an ideal addition to our rotating displacement pump programme.

Modern production plants

With state-of-the-art production plants we ensure quality consistently to the highest standards.

Customer benefits

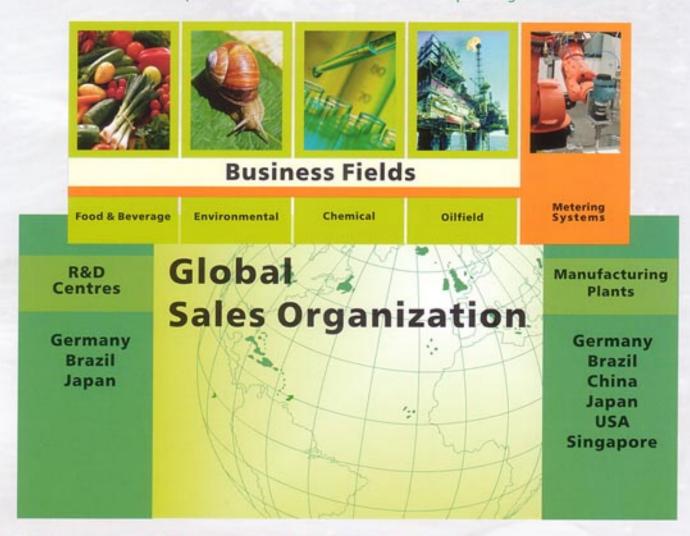
Your 'advantage is to receive individual pump types or a complete series which are sympathetic to the market, reliable and with a design optimised for your application.

...the Optimal Solution for each Application!

Our components for your processes

- NETZSCH NEMO® progressing cavity pumps
- NETZSCH TORNADO*rotary lobe pumps
- NETZSCH grinding systems
- NETZSCH accessories and optional equipment
- NETZSCH original spare parts and service

Our sales structure for competent advice and close customer relationships throughout the world



Your requirements and requests are the focal point of our actions.

Through our market orientated sales organisation and production plants in Germany, Brazil, China, Japan, USA and Singapore we are in a position to ensure you competent advice for your application.



General Properties of NEMO® Progressing Cavity Pumps

Universal installation

NEMO® progressing cavity pumps are used in all kinds of industry for conveying almost any fluid in a continuous, smooth manner with low pulsation, whilst maintaining the pressure and for dosing in proportion to speed.

A Wide Field of Application

The pump is particularly suited for products with the following features:

- high content of solids (maximum particle size of up to 150 mm/6") and free of solids
- · low to high viscosity (1 mPas 3 million mPas)
- thixotropic and dilatant
- shear-sensitive
- abrasive
- · lubricating and non-lubricating
- aggressive (pH 0-14)
- adhesive
- toxic

Large Capacity and Pressure Range

- Flow rates of only a few ml/h up to 500 m³/h (2,200 gpm)
- Number of stages ranging from 1 up to 8 for pressures up to 48 bar (680 psi)

Various Conveying Elements

Four different rotor/stator geometries are available which allows optimisation of the pump characteristics for specific applications.

Extensive Range of Materials

For the various applications the metallic materials range from simple cast iron to nickel chromium steel up to highly acid-proof materials like Duplex, Hastelloy and Titanium. Elastomeres like highly abrasion resistant natural rubber, oil-, acid- and alkali-proof elastomeres, Aflas and Viton.

Products for which elastomers cannot be used due to high temperatures and for wear reasons, there are a variety of stators from solid materials, e.g. plastics and metal.

A Wide Variety of Shaft Seals

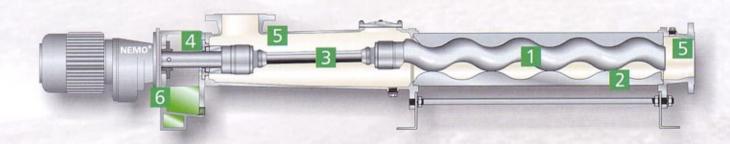
Mechanical shaft seals range from single-acting mechanical seals, with and without quench, to double-acting mechanical seals in back-to-back or tandem arrangement as well as cartridge seals as per customer specification. For certain applications there are gland packings, lip seals and specially designed seals.

In the case of toxic fluids we offer a pump with a magnetic coupling which is 100% leakproof.

Further Features

- high suction capability up to 9 mwc (30 ftwc)
- · reversible shaft rotation, i.e. direction of flow
- · installation in any position
- · smooth and quiet operation
- temperatures of -20 up to + 180°C (-5 up to +350°F)

Components of the NEMO® Progressing Cavity Pump e.g. the NEMO® Block Pump in industrial design



1 Rotor

Wear- and corrosion- resistant design up to the wearfree ceramic rotor NEMO CERATEC*.

2 Stator

Vulcanised into a tube, with integrated seals on both ends in a variety of elastomers, plastics or metals. Stator inlet with taper to facilitate the entry of the fluid into the conveying chamber.

3 Drive Chain

Drive shaft and connecting shaft with coupling rod and two universal joints for power transmission from the drive to the rotor.

For further details please see pages 18 and 19.

4 Shaft Seal

Standard design with single-acting, wear-resistant mechanical seal independent of the direction of rotation; on request different types of single-/double-acting mechanical seals by various manufacturers, cartridge and special seals as well as gland packing. For toxic fluids magnetic, leakage-free couplings are available.

5 Suction and Pressure Housing

Designed for good flow conditions with flanges or threads acc. to DIN and international standards. Materials in cast iron, nickel chromium steel, rubbercoated cast iron as well as special materials according to specifications.

6 Block Design

Drives flanged directly to the housing reduces length, weight and gives a constant shaft height independent of construction and size of the drive. It is both maintenance-and service-friendly as well as economical.

Accessory Programme

There is an extensive accessory programme for protection and monitoring of the pumps (see pages 32 and 33).

Conveying Elements

Four different rotor/stator geometries are available allowing a no compromise pump selection for your application giving optimal performance. For further details see pages 16 and 17.

NEMO® Progressing Cavity Pumps **Breakdown of Series**

Pump Type

NEMO® BY

in block design



NEMO" SY

with bearing housing and free shaft end



NEMO" LONSTA

with wear- and maintenance-free flexible rod and wear-free rotor NEMO CERATEC®



NEMO® MINI BY

mini-pump in block design





Range of Application and Performance Data

Performance

Properties

Range of Application

Flow rates up to 200 m³/h (880 gpm) at pressures up to 12 bar (170 psi) Compact design with directly flanged drive entailing low initial investment, and economical operation and maintenance. Pump housing with rectangular/square hopper and coupling rod with feeding screw with or without force feed chamber for easier entry of the fluid into the rotor and stator. Adjustment of hopper dimensions to specific applications is possible.

Industrial applications in environmental and chemical industries for very highly viscous up to not free-flowing fluids with and without solids.

Flow rates up to 200 m³/h (880 gpm) at pressures up to 12 bar (170 psi) Pump housing with rectangular/square hopper and coupling rod with feeding screw with or without force feed chamber for easier entry of the fluid into the rotor and stator. Adjustment of hopper dimensions to specific applications is possible. Design with bearing housing and free shaft end allows for the use of all types of drive.

Industrial applications in environmental and chemical industries for very highly viscous up to not free-flowing fluids with or without solids.

Flow rates up to 200 m³/h (880 gpm) at pressures up to 24 bar (340 psi) Pump housing with enlarged rectangular hopper and tapered force feed chamber as well as coupling rod with patented, positioned feeding screw for optimal transfer of the medium to the rotor and stator. Adjustment of hopper dimensions to specific applications is possible. Design with bearing housing and free shaft end allows for the use of all types of drive.

Industrial applications in environmental and chemical industries for highly viscous, compact and crumbly media with no bridgebuilding tendency.

Flow rates up to 200 m³/h (880 gpm) at pressures up to 24 bar (340 psi) Pump housing with integrated bridge breaker, mixing additions (e.g. for conditioning of dewatered sludges) enlarged rectangular hopper and tapered force feed chamber as well as coupling rod with patented, positioned feeding screw for optimal transfer of the medium to the rotor and stator.

Adjustment of hopper dimensions to specific applications is possible. Design with bearing housing and free shaft end allows for the use of all types of drives.

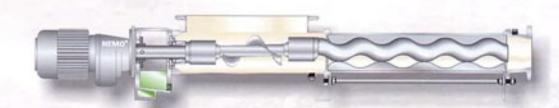
Industrial applications in environmental and chemical industries for compact and crumbly media with bridgebuilding tendency.

NEMO® Progressing Cavity Pumps Breakdown of Series

Pump Type

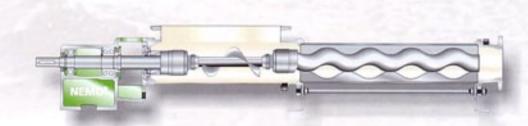
NEMO® BO

in block design



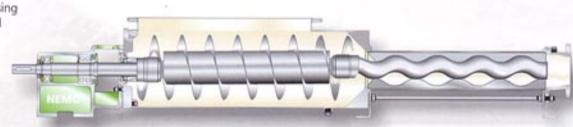
NEMO® SO

with bearing housing and free shaft end



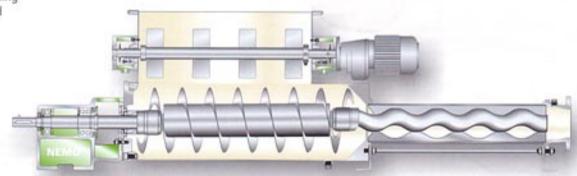
NEMO® SF

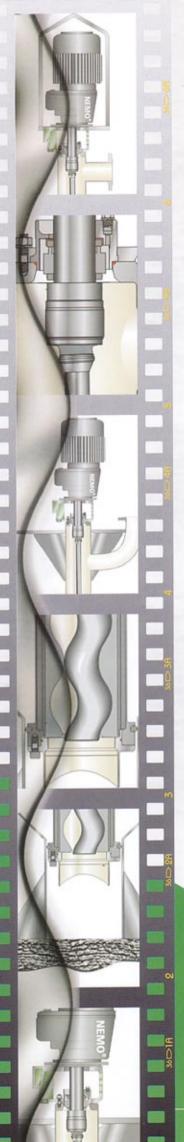
with bearing housing and free shaft end



NEMO® SP

with bearing housing and free shaft end





Applications and Performance Data

NEMO® semi-submersible pumps are used for emptying barrels, containers, tanks, clarifiers, pits, etc. They are also used where space is limited and when cavitation may be a danger or where low NPSH is available. Furthermore the pumps are suitable for emptying barrels containing materials harmful to water and the environment where emptying through a connection at the bottom of the barrel is not permitted.

Properties

Compact design with directly flanged drive. Four rotor/stator geometries for optimal performance. Immersion depth up to 15,000 mm. The length of the immersed tube can be modified by using an extended pump housing or an additional suction pipe or a combination of both.

Performance

Flow rates up to 140 m³/h (620 gpm) at pressures up to 24 bar (340 psi).

Depending on the application a number of designs / immersion variants are available. The immersion depth is adjusted as required by the application.

NEMO® Semi-Submerged Pump BT with Suspension Bracket

This pump is used for emptying open barrels and containers. It is equipped with a lug for crane suspension.

NEMO® Barrel Pump NMFB

The portable or suspended barrel pump is also suitable for emptying barrels with two inch bungholes. A large range of drives and accessories like hoses, hose connections, barrel adapters, built-in flanges, foot filters, etc. are available.

NEMO® Semi-Submerged Pump BT Wall Fastening Type

This pump is normally used in open collecting pits and mounted directly to the wall.

NEMO[®] Semi-Submerged Pump BT with Integral Mounting Plate and Discharge Connection above the Mounting Position

This pump is used in closed pits, tanks and containers where there is the possibility to vertically flange mount the pump to the tank lid. Depending on pump size, speed and immersion depth, an additional support guide is available to secure the pump to the bottom or to the wall near the bottom. Removal of the pump from a full tank is possible because the guide units self-centre and secure the pump.

NEMO® Semi-Submerged Pump BT with Integral Mounting Plate and Discharge Connection below the Mounting Position

This pump is used in closed pits, tanks and containers where there is the possibility to vertically flange mount the pump to the tank lid. With this type, the discharge connection of the pump is below the tank lid. The product is either piped to the outside vertically through the lid via a 90° elbow or horizontally through the tank wall. This minimises the dead space in the pump housing thus reducing the overall height of the pump above the tank lid. This version is normally used where there is only limited space available. Depending on pump size, speed and immersion depth, an additional support guide is available to secure the pump to the bottom or to the wall near the bottom. Removal of the pump from a full tank is possible because the guide units self-centre and secure the pump.

NEMO® Semi-Submerged Pumps Breakdown of Series

NEMO® Semi-Submerged Pump BT with suspension bracket

NEMO® Barrel Pump NMFB with suspension bracket

NEMO® Semi-Submerged Pump BT for wall mounting



NEMO® Semi-Submerged Pump BT with integral mounting plate and discharge connection below the

mounting plate

NEMO® Semi-Submerged

Pump BT

NEMO® Rotor/Stator Geometries

Comparsion

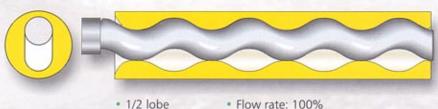
As all four pump geometries have the same outer dimensions, we have a modular design where - apart from rotor and stator - all other components are identical.

Where a change in flow rate or pressure is required, installed NEMO® Pumps can be adapted to the new operating conditions by simply changing rotor and stator.

Geometries

S-Geometry

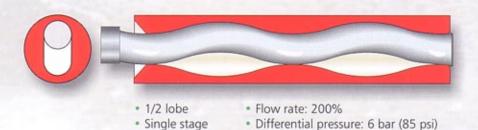
- very smooth conveyance
- compact dimensions despite high number of stages
- · large cross sections of rotor inlet
- low flow velocity/NPSH
- · conveyance of compacted products possible
- · conveyance of large solid particles



- Double stage
- Flow rate: 100%
- Differential pressure: 12 bar (170 psi)

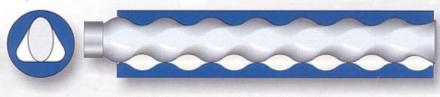
L-Geometry

- good volumetric efficiency/long service life due to long seal lines between rotor and stator
- · compact dimensions together with high flow rates



D-Geometry

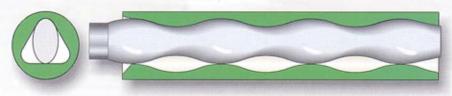
- extremely compact dimensions despite high pressures and flow rates capabilities
- almost pulsation free conveyance
- high dosing accuracy



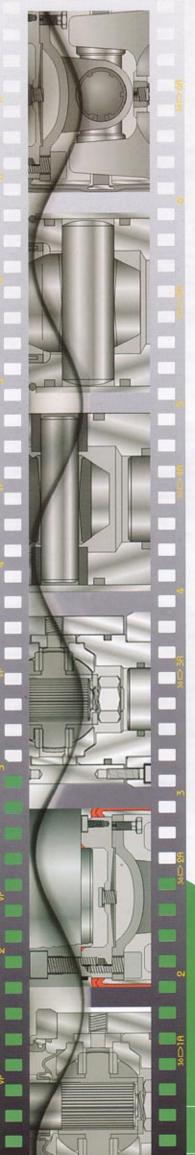
- 2/3 lobe
- Flow rate: 150%
- Double stage
- · Differential pressure: 12 bar (170 psi)

P-Geometry

- Compact dimensions in conjunction with very high flow rates
- · almost pulsation free conveyance
- high dosing accuracy
- · good volumetric efficiency/long service life due to long seal line between rotor and stator



- 2/3 lobe
- Flow rate: 300%
- Single stage
- Differential pressure: 6 bar (85 psi)



Type of Joints The Proper Joint for every Application

The correct type of joint in a NEMO® Pump is of vital importance for the operational reliability and life cycle cost. The optimal joint for the respective pump series is selected depending upon application, operational conditions as well as the flow rates.

The NEMO® pin joint is the standard joint for NEMO® industrial pumps because of its simple design and outstanding reliability.

To achieve a long service life, the joint is oil filled and sealed by the NEMO® SM seal. The joint can also be used without seal in case of extremely high temperatures and products where elastomers are not suitable.

The joint consists of only a few components which enables simple dismantling for maintenance.

The operational characteristics of the NEMO® V pin joint are similar to those of the B pin joint. For longer service life in difficult applications they are strengthened by hardened bushes fitted into boreholes in the coupling rod and the rotor/drive shaft head. The V pin joints with hardened bushes are easy to remove for maintenance purposes.

The open, patented pin joint was designed specifically for use in hygienic pumps. It is crevice and dead space free, polished and, therefore, easy to clean. The joint is made in accordance with US 3-A Sanitary Standards.

The patented flexible rod made from titanium is highly corrosion-proof, wear- and maintenancefree because there are no components moving against each other as in other joint types. Neither lubrication nor seals are required. Therefore, the flexible rod is suitable for high pressures and temperatures.

The flexible rod is also free from crevices and dead spaces which allows it to be used for pumping highly sensitive products in aseptic conditions. It is designed in accordance with the US 3-A Sanitary Standards.

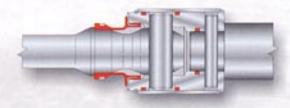
The patented K-joint was designed for extremely arduous industrial applications involving constant pump running, frequent stop/starts or shock loads. It is kinematically designed so that the torque and axial loads are borne by separate elements within the joint. The joint is oil filled and hermetically sealed by two separate seals. Filling the space between the two seals with oil allows the use of the joints at pressures up to 12 bar (170 psi).

For the largest flows and pressures possible with NEMO® pumps where the torques and axial loads are at their highest (in bearing housing size NM 125SY and above) the pumps are fitted as standard with a cartridge type precision pivot joint. The joint is oil filled, hermetically sealed with two seals and is suitable for continuous operation.

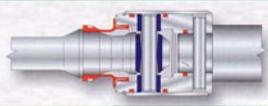
NEMO® Joints

Type of Joint

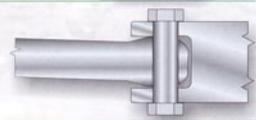
B Universal Pin Joint with SM seal



V Pin Joint with Hardened Bushes and with SM seal



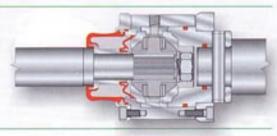
H Hygienic Pin Joint patented



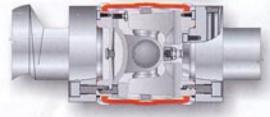
F NEMO® Flextec Flexible Rod patented

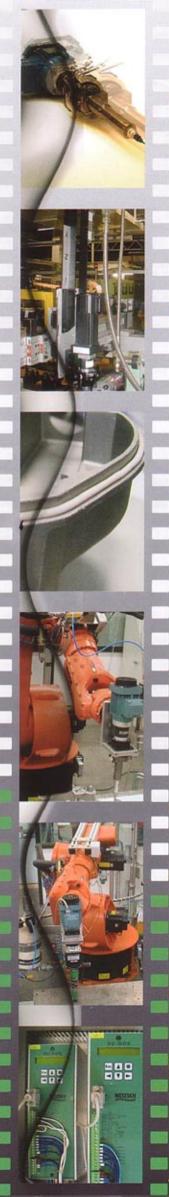


K Joint/Gear Joint patented



Z Pivot Joint





General Properties of the NEMO® Dosing Systems

NEMO® dosing systems guarantee very accurate dosing and are mainly used for applications in the automotive industry. Being a modular system they are configured depending on the application as follows: NEMO® Robodispenser, buffer storage, barrel emptying and dosing control.

The NEMO® Robodispenser is designed for the exact dosing of fluids up to a viscosity of 10 million mPas. The dosing pump can easily be installed according to your requirements and gives a precise volumetric dosing > 99 %. The self-priming NEMO® Robodispenser eliminates dripping from the nozzle through a suck back system. The single revolution dosing volume from 0.075 cc and the continuous dosing capacity from 2.25 cc/min can be easily controlled and selected by a NEMO® VC-Dos. The NEMO® dosing systems offer a high degree of operational reliability along with excellent service. As standard, the NEMO® Robodispenser is coated with an anti-adhesive layer to avoid the sticking of sealing material, adhesive, varnish and silicon to the housing surface. In addition, the combination of NEMO® Robodispenser and NEMO® buffer storage compensates for fluctuations in pressure and viscosity without the user having to recalibrate or adjust the system.

The principle of the NEMO® Robodispenser is based on a progressive cavity pump and provides smooth dosing of also solvents and abrasive fluids with hardly any pulsation.

Wide Range of Application

The system is normally used for products having the following properties:

- low up to very high viscosity (1 mPas 10 million mPas)
- · thixotropic, dilatant, viscous structure
- · with or without solids
- · shear-sensitive, abrasive
- · adhesive, gel-like
- FIPG (fill in place gasket)

Advantages

- · continuous and intermittent dosing
- · no hiatus i.e. no pressure loss in tube or system
- · dosing in proportion to speed
- dosing accuracy >99% by volume
- volumetric repeatability >99%
- · dosing accuracy is independent of viscosity
- · simple integration with a robot system
- · smooth dosing with low pulsation
- wear resistant
- simple design
- low pressure conditions up to a maximum of 80 bar (1,150 psi) in the system
- complete heating possible
- optimal dynamics with SLVC-technology (sensorless vector control)













General Properties of NETZSCH TORNADO® Industrial Rotary Lobe Pumps

Universal Use

NETZSCH TORNADO® industrial rotary lobe pumps are used in the environmental and chemical industries for the continuous, smooth and almost pulsation-free conveyance of almost all fluids, as well as dosing them in proportion to speed. They are highly efficient and only require limited installation space.

Wide Spectrum of Applications

This pump is normally used for products having the following properties:

- with or without solids (max. size of solids up to 70 mm / 3")
- · low to high viscosity (1 mPas 1 million mPas)
- · thixotropic and dilatant
- shear-sensitive
- · abrasive
- · non-smearing and smearing

Wide Range of Flow Rates and Pressures

- flow rates from 2 up to 700 m³/h (8.8 up to 3,100 gpm)
- for pressures up to 12 bar (170 psi)

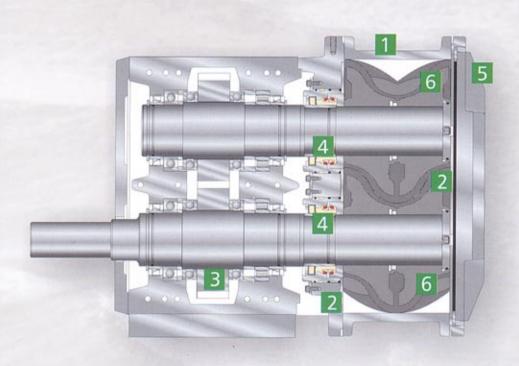
Alternative Rotating Elements

For specific applications four different types of rotary lobes are available.

Further Features

- high suction capability of up to 8 mwc (26 ftwc)
- resistant to dry-running
- · direction of rotation, thus, direction of flow reversible
- · installation in any position
- · vibration free and quiet running
- · low life cycle cost and service friendliness

Construction of the NETZSCH TORNADO® Industrial Rotary Lobe Pump



Housing

Modular design with an

Modular design with an adjustable housing for long service life

2 Protection Wear Plates

On both faces of the housing highly abrasion resistant and replaceable protection plates.

3 Timing Gear

The patented timing gear, together with separate seals for pump and gear ensure that any product leakage is safely drained and, therefore, ingress into the timing gear is avoided.

4 Shaft Seal

Service-friendly shaft seals with single acting and wear resistant mechanical seals independent of the direction of rotation. Installation of any DIN/ISO Standard mechanical seal is possible.

5 Housing Cover Plate

Rotary lobe, pump and gear seals can easily be serviced or exchanged after removal of the cover plate without having to remove pump housing or gears.

6 Rotary Lobe

For different applications two to four bladed, straight or bevelled, rotary lobes in various elastomer qualities are available.













Characteristics of the mobile emergency pump station NETZSCH TORNADO® Mobile

Universal Use

NETZSCH TORNADO[®] Industrial Rotary Lobe Pump mounted on mobile two-wheel trailer, allows pumping large quantities of wastewater and sludge at different places. Depending on the application, various sizes of the NETZSCH TORNADO[®] Rotary Lobe Pumps can be trailer mounted.

They are highly efficient and only require limited installation space which makes them especially suitable for emergency cases.

Wide Range of Applications

The NETZSCH TORNADO® Mobile Rotary Lobe Pumps are specifically designed for products with the following characteristics:

- capable of handling low to highly viscous and also abrasive fluids (1 mPas to 1 million mPas) without problems
- insensitive to solids contained in wastewater (completely free passage up to 60 mm) and dry running
- self-priming up to a maximum of 8 mwc for water and sludge
- other pump sizes with different flow rates and pressures are available

Wide Range of Capacities and Pressures

- capacities up to 600 m³/h
- pressures up to 5 bar, optional 10 bar

Alternative Rotating Elements

For specific applications two different types of rotary lobes are available.

Additional Features

- · bi-directional
- easy operation by integrated electronic motor control
- · integrated tool box
- 2 x 3 m suction hose in DN 150 or 2 x 3 m suction pipe extension

Construction of the mobile emergency pump station NETZSCH TORNADO® Mobile e.g. the Rotary Lobe Pump XLB4-JD-60kW



1 Pump Typ XLB4-JD-60kW bi-directional, self priming rotary lobe pump, pulsation free helical lobes made from GG25 cast iron with NBR rubber coating. Bearings only on drive side to allow quick lobe replacement, adjustable housings,

2 Diesel Drive

replaceable wear plates.

powerful John-Deere 60 kW / 80 PS 4-cylinder diesel drive, 4-stroke direct injection engine, water cooler, fuel filter, air filter, injection pump, lubricating oil filter, oil pan, oil level dipstick, thermostat, cooling fan, 12 V starter, 65 A Bosch dynamo, suction filter, exhaust assembly with silencer.

3 Connections

suction: 2 x DN 150 Perrot M T ype. Discharge: DN 150 V Type (Storz A or other types of connections also possible), discharge ports either on side of unit or at the rear, each fitted with a blind cover, all pipes and flanges galvanised.

4 Trailer

completely hot dip galvanised, made from stable, torsionally rigid, structural steel, drive console with vibration dampener. Stable, hinged front support wheel, rear support with hand crank. Braked trailer with tow bar suitable for car, Total weight 2000 kg.

5 Drive Accessories

optimised starting, adjustable speed control, ignition starter switch, error memory. Preset shut off time, resettable hours run meter, total hours run meter.

6 Gear and Coupling

directly flanged gear reducer, 1:3 ratio reduction, with hand operated clutch.

For a detailed report please refer to our internet website under www.netzsch-pumps.com

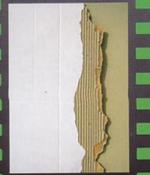












Applications and Performance Data

NETZSCH grinding systems are used to protect the NEMO® progressing cavity pumps from damage or blockage due to large solids within the fluid. The NEMO® pump pulls the fluid with solids entrained through the grinder into the pump. The grinder reliably reduces the size of the solid particles.

The NETZSCH grinding system is mainly used in:

- municipal or industrial environmental technology to grind solid and fibrous matter in waste water, primary, raw and digested sludges.
- agriculture to shear straw and grass contained in liquid manure and to grind waste from canteens, bakeries and canning factories for animal feed.
- slaughter houses to treat animal offal and slaughter house waste.
- sugar refineries to crush sugar beet leaves and roots in the sweet water.

For specific applications two different designs are available:

NEMO® Coarse Particle Macerator

Solids contained in the fluid are carried in to the macerator by the fluid stream. The solid particles come up against the slotted plate where they are cut by the rotating cutter head. The solids, thus reduced in size, flow through the slots in the cutter plate and into the pump. The NEMO® Coarse Particle Macerator is available in four versions and four sizes for flow rates up to 100 m³/h (440 gpm):

- N Standard version with bearing housing, flexible coupling, flanged drive and stone trap for heavy solids.
- NI Inline version with bearing housing, flexible coupling, flanged drive and stone trap for heavy solids.
- NB Compact block design with directly flanged drive and stone trap for heavy solids.
- NBI Compact block version with directly flanged drive and integrated stone trap for heavy solids.

NETZSCH Disintegrator

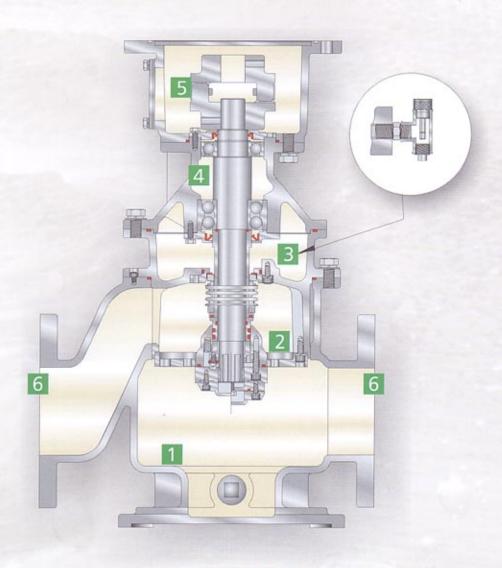
The solids contained in the fluid are carried to the macerator by the fluid stream. The solid particles come up against the perforated disc which allows a section of the solids to protrude through the disc where the solids are cut by the continuously rotating cutter head. Together with the liquid the disintegrated solids flow through the holes of the perforated disc and from there into the pump.

The NETZSCH Disintegrator is available in two versions and three sizes for flow rates up to 200 m³/h (880 gpm):

- C Conditioner in standard version with flexible coupling, directly flanged drive and stone trap for heavy solids.
- P Pipeliner in inline version with flexible coupling, directly flanged drive and integrated stone trap for heavy solids.

For special applications alternative grinding systems are available.

NETZSCH Grinding Systems Construction of the NETZSCH Grinding System Pipeliner



1 Housing

Designed for good flow conditions with integrated stone trap for heavy solids and two side ports for cleaning and inspection.

2 Cutters

The cutting plate is made from wear resistant, hardened steel. The self adjusting cutter head ensures optimal cutting performance. The cutter head is equipped with blades made from hardened metal. The cartridge unit can easily be removed for exchange and maintenance.

3 Shaft Seal

A single acting hard faced mechanical seal with an oil reservoir to avoid product ingress into the bearing.

4 Bearing

Heavy duty bearings to withstand large loads.

5 Lanterr

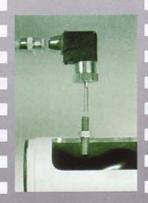
For flanging the drive. Drive transmission via flexible coupling for relieving the strain of shock loads on the drive.

6 Inline Version

Product inlet and outlet ports are the same level. The grinder can directly be installed into a horizontal pipe or connected directly to the horizontally orientated suction connection of a NEMO® pump.













NETZSCH Accessories and Optional Equipment

NETZSCH Controls

- dosing systems
- · filter press feeding
- · frequency inverter
- motor protection devices
- pressure transducers

NETZSCH Optional Equipment, Fittings/Hoses and Tools

- adjustable stator with adjusting device (NEMO® pump)
- coupling rod with mixing/agitator blade (NEMO® pump)
- · bypass tubing with control switch or pressure relieve valve
- pressure relieve valve
- heating jacket
- · stone trap for heavy solids
- special hoppers
- ring dosing nozzle
- seal support systems and buffer fluid systems for mechanical seals
- · adjustable feet and foundation bolts
- vibration dampener
- · covers for drives
- · mobile and trailer mounted units
- · shut-off devices, valves, back valves
- · connecting-, T- and welding neck flanges
- · hoses and hose connections
- · special tools

NETZSCH Accessories and Optional Equipment

NEMO® Dry Running and Over-/Underpressure Protection to avoid thermal destruction of the stator and to protect the pump and the following equipment and fittings from overpressure. This equipment increases the operating reliability of the pump and plant and avoids down time.

Available types:

System STP-2

Dry running protection for constant product temperatures. In the event of an increase in the stator temperature the pump will instantly be shut down.

System STP-D

Dry running protection for constant and changing fluid temperatures. In the event of an increase in the differential temperature between product and the stator the pump will instantly be shut down.

System TTP

Dry running protection for constant or changing fluid temperatures. Protection against over temperature and pressure by early warning and shut down of the pump. Warning in the case of wear of rotor and stator. Integrated running hours indicator.

System TTC

Dry running protection at constant or changing fluid temperatures. Protection against over temperature and cavitation when the suction pressure is too low by early warning and shut down of the pump. Warning in the case of wear of rotor and stator. Integrated running hours indicator.

Conductivity Probe FTW 360

Dry running protection for electroconductive fluids and pastes which do not insulate the inner walls of the tube. When there is not sufficient flow the pump shuts off automatically.

Tuning Fork Probe FTL 260

Dry running protection for pumping fluids which tend to leave deposits but containing no fibrous matter. When there is not sufficient flow the pump shuts off automatically.

Pressure Control Device DTSL 3

Display of operating pressure by a Bourdon gauge. Gauge is isolated from the process fluid by an elastomer diaphragm. Shut down of the pump when the maximum allowable pressure is exceeded with adjustable pressure setting. Also available with a differential pressure on/off switch.

Diaphragm Pressure Gauge G3/4 Inch connection

The pressure gauge displays the operating pressure. Gauge is isolated from the process fluid by a stainless steel diaphragm. Shut down of the pump when the maximum allowable pressure is exceeded with adjustable pressure setting. Suitable for low up to medium viscosities.

Diaphragm Pressure Gauge with DN50/PN40 flanged connection

Operation similar to the G3/4 inch unit, however, with larger flanged connection it is suitable for use for highly viscous and clogging fluids.

Diaphragm Pressure Gauge with connections for Food and Pharmaceutical Industries

The pressure gauge displays the operating pressure. Gauge is isolated from the process fluid by a stainless steel diaphragm. Shut down of the pump when the maximum allowable pressure is exceeded with adjustable pressure setting. Suitable for low up to medium viscosities. Also available with hygienic connection DN25/DIN 11887.

Monitor and Control

NETZSCH Original Spare Parts

With the purchase of a NETZSCH pump you decided for good reason on NETZSCH quality!

You maintain the performance of your pump and the quality of your processes by buying NETZSCH original spare parts.

Why?

Only NETZSCH original spare parts guarantee:

- · constant quality of materials
- · correct fit of all parts
- · low starting and operating torque
- consistently high efficiency
- · stability of flow rates and pressures
- · low pulsation

- long service life
- · low life cycle cost
- · low down time
- high profitability
- security of supply

For the production of stators the coordination of manufacturing processes, elastomer compounds and moulds are the key to reliability, efficiency and the service life of the rotating elements.

Only NETZSCH original stators guarantee constant dimensional tolerance over the whole length of the stator independent of the elastomer type because for every elastomer compound a separate core is made.

For hygienic and aseptic applications in food, pharmaceutical and biochemical industries, our stators are certified and accepted in accordance with international standards. The composition and origin of each elastomer compound is traceable.

For the production of rotors where materials and coatings/hardenings for chemical and abrasion resistance are specifically adapted to individual applications, a precise fit and the surface finish quality of the rotating elements are of vital importance.

In order to minimize the weight of the rotor entailing a reduction in centrifugal force caused by the eccentricity of the rotor, we use hollow rotors depending on the application and the size of the pump. The smooth running of pumps originally fitted with these rotors is only maintained if NETZSCH original hollow rotors are used.

Our manufacturing know how for pumps and spare parts acquired over decades of research is made available to you.

Strict quality standards, tests and the certification acc. to DIN EN ISO 9001 guarantee all parts are of a consistent quality to the highest degree.

Global Presence

Addresses of all representatives in 60 countries throughout the world on request or under:

www.netzsch-pumpen.de





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