

# NETZSCH

Proven Excellence.



## NOTOS® Multi Screw Pumps

High Efficiency and Unique Design

Pumps & Systems

# NOTOS<sup>®</sup> MULTI SCREW PUMPS

## 3 ranges for all applications

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

### Range of applications

NOTOS<sup>®</sup> pumps are designed to convey low to very lubricating fluids, low to high viscosity, shear sensitive or chemically aggressive media. NOTOS<sup>®</sup> pumps are typically used in the following industries:

- Oil & Gas
- Marine Industry
- Power Generation
- Process Industry
- Tank Storage

### Broad range of materials

Our range of metallic materials extends from grey cast iron and chrome-nickel steel to duplex, super duplex or hastelloy steel. Other metal material options are available on request.

- No dynamically loaded rubber parts
- Static seals from NBR to FFKM

### Capacity and pressure ranges

Multi Screw Pumps are known as pumps for low to high flows and low to high pressures.

- Flow rate up to 11,000 gpm / 2,500 m<sup>3</sup>/h
- Pressure rate up to 1,450 psi / 100 bar
- Viscosities up to 200,000 cSt
- Temperature up to 570 °F / 300 °C

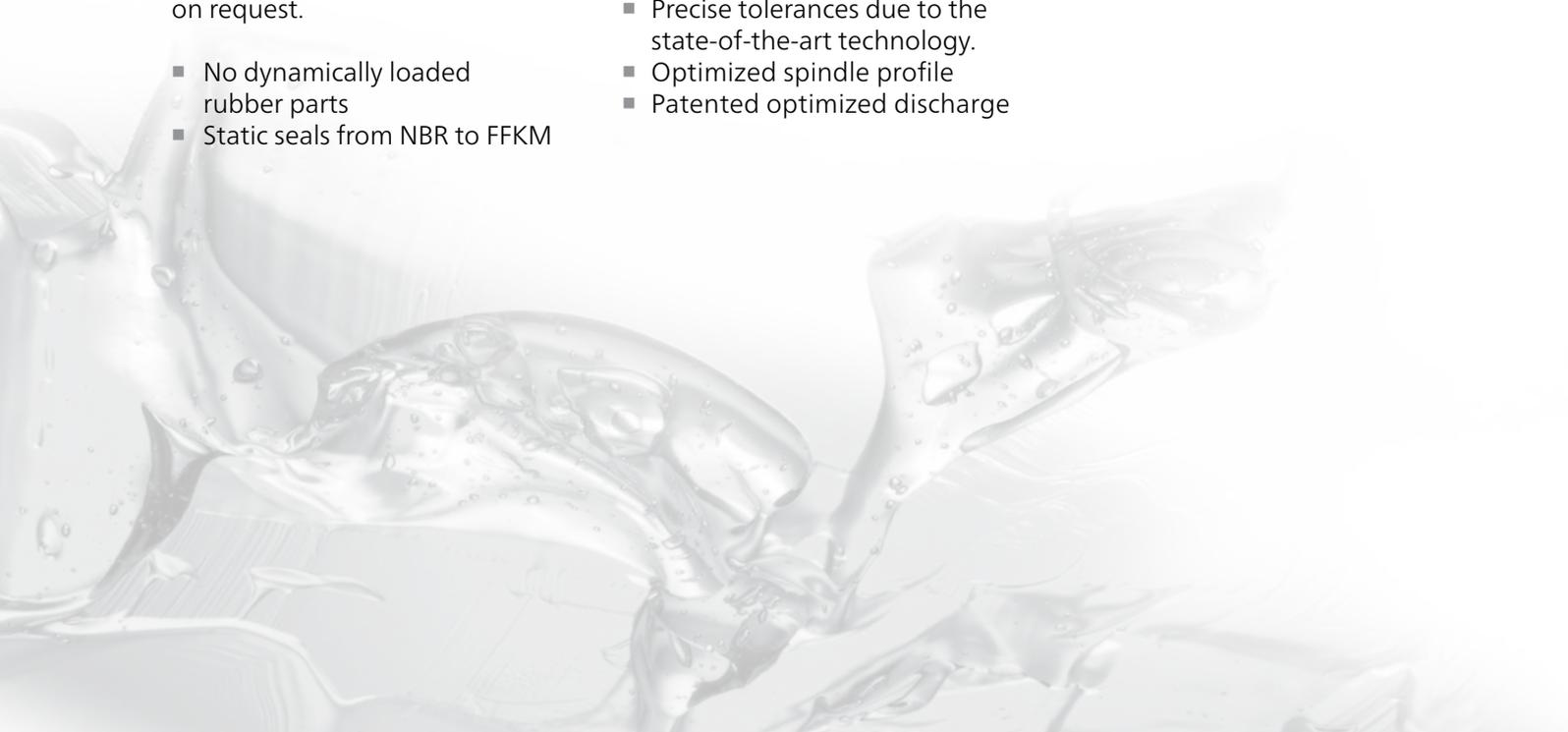
### “High Efficiency Unique Design”

Due to the “High Efficiency Unique Design” (HEUD), the pumps are optimized in order to increase their performance. Characteristics of this design are:

- Precise tolerances due to the state-of-the-art technology.
- Optimized spindle profile
- Patented optimized discharge

### Characteristics

- Self-priming
- Good suction capability
- Continuous flow with low pulsation
- Flow with minimal turbulences
- Gentle product handling
- Low maintenance
- Low lifecycle cost
- Long service life
- Quiet operation
- Several mechanical seal options
- Magnetic drive optional
- Extremely low noise and vibrations
- Vertical or horizontal installation



The NOTOS® multi screw pump family is comprised of three pump series in multiple arrangements which serve a wide range of industries and applications. The superior quality standard meets the highest level of requirements from our customers.

Three different pump series to meet your individual demands:



Configuration samples of all series

## 2 NS – Two Screw Pump

Fluid properties:

- From non to light abrasive
- Corrosive and non corrosive
- Low to medium viscosities
- Low to well lubricating fluids

## 3 NS – Three Screw Pump

Fluid properties:

- Non abrasive
- Non corrosive
- Low to medium viscosities
- Lubricants

## 4 NS – Geared Twin Screw Pump

Fluid properties:

- From non to medium abrasive
- Corrosive and non corrosive
- Low to high viscosities
- Non lubricants and lubricants

# 2NS SERIES

NOTOS® two screw pumps have one drive screw, transferring torque through a hydrodynamic film to the rotating intermeshing driven screw.

## Performance

- Flow up to 2,860 gpm / 650 m<sup>3</sup>/h
- Pressure up to 230 psi / 16 bar
- Temperature up to 570 °F / 300 °C
- Viscosity up to 100,000 cSt

## Accessories

- Mounted on or external relief valve
- Vibration sensor
- Temperature sensors
- API 682 cartridge seal
- Various API seal plans

## Configurations

- Foot, vertical, semi-submersible, housing with replaceable liner or flange mounted
- Heating jacket is optional

### 1 Screws

Nitrated in alloy steel or in stainless steel. The HEUD (High Efficiency Unique Design) provides excellent performance.

### 2 Housing

Various ports configurations such as top top, side top or in line.

### 3 Bearing Bushings

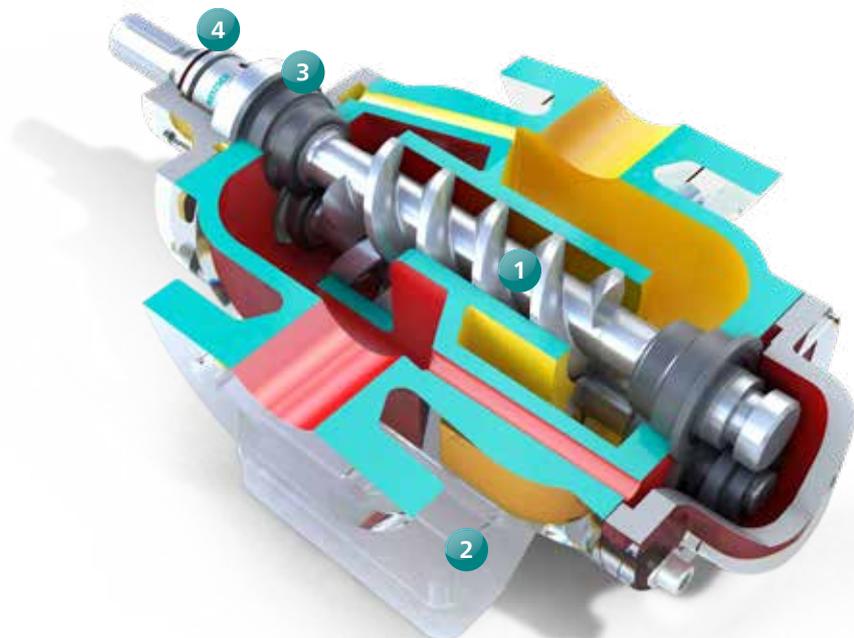
Internal bearing bushings helps to support radial loads.

### 4 Mechanical Seal

Under suction pressure just one mechanical seal is required for the 2NS. Magnetic drive optional.

## Advantages

- High efficiency
- Hydraulically balanced
- Quiet operation
- Long service life
- Low pulsation
- Excellent suction capability
- API 676 3<sup>rd</sup> ed., optional
- 3-year manufacturer's warranty



# 3NS SERIES

NOTOS® three screw pumps have one drive screw, transferring torque through a hydrodynamic film to the two rotating intermeshing driven screws.

## Performance

- Flow up to 1,760 gpm / 400 m<sup>3</sup>/h
- Pressure up to 1,450 psi / 100 bar
- Temperature up to 570 °F / 300 °C
- Viscosity up to 15,000 cSt

## Accessories

- Mounted on or external relief valve
- Vibration sensor
- Temperature sensors
- API 682 cartridge seal
- Various API seal plans

## Configurations

- Foot, vertical, semi-submersible
- Housing with replaceable liner, light, top tank version
- Heating jacket is optional

### 1 Screws

Nitrated in alloy steel or in stainless steel. The HEUD (High Efficiency Unique Design) provides excellent performance.

### 2 Housing

Various ports configurations such as top top, side top or in line.

### 3 Bearing Bushings

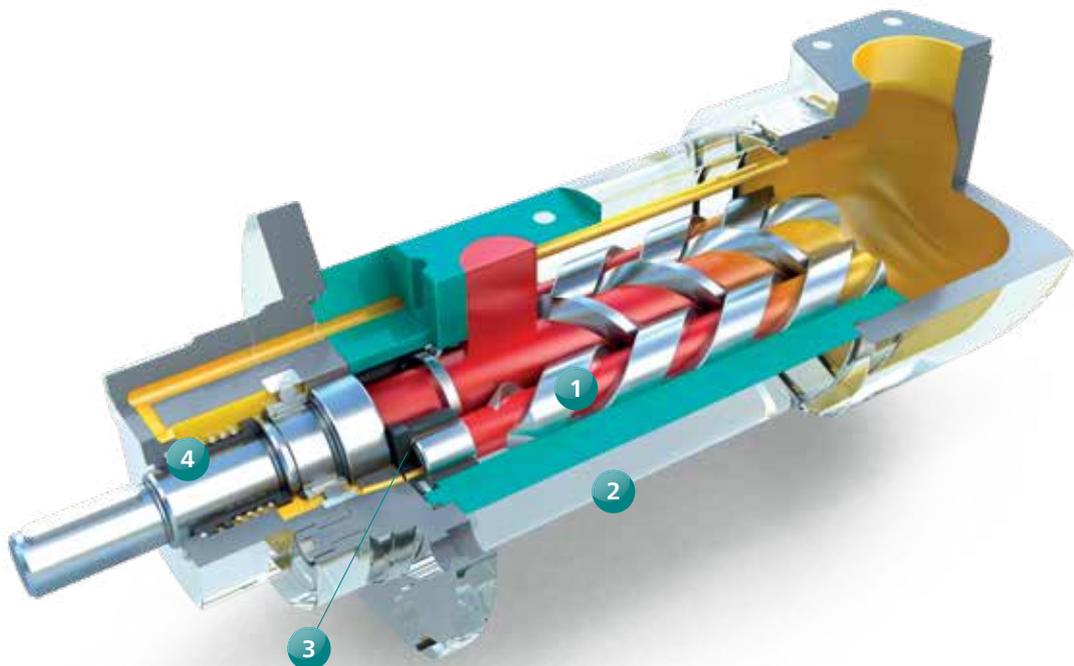
Nitrated bushings help to prevent start up failures and help to support radial loads.

### 4 Mechanical Seal

Under suction pressure just one mechanical seal is required for the 3NS. Magnetic drive is optional.

## Advantages

- High efficiency
- Easy maintenance
- Lightweight and small footprint
- Low pulsation
- API 676 3<sup>rd</sup> ed., optional
- 3-year manufacturer's warranty



# 4NS SERIES

NOTOS® geared twin screw pumps have two shafts and four screws. The torque is transferred to the driven shaft via helical gears. The design is hydraulically balanced.

## Performance

- Flow up to 11,000 gpm / 2,500 m<sup>3</sup>/h
- Pressure up to 1,160 psi / 80 bar
- Temperature up to 570 °F / 300 °C
- Viscosity up to 200,000 cSt

## Accessories

- Mounted on or external relief valve
- Vibration sensors
- Temperature sensors
- API 682 cartridge seals
- Various API seal plans

## Configurations

- Housing with replaceable liner
- Heating jacket is optional

### 1 Screws

Nitrated in alloy steel or in stainless steel. The HEUD (High Efficiency Unique Design) provides excellent performance.

### 3 Timing Gear

Double helical timing gears transfer the torque with reduced vibration and noise.

### 2 Housing

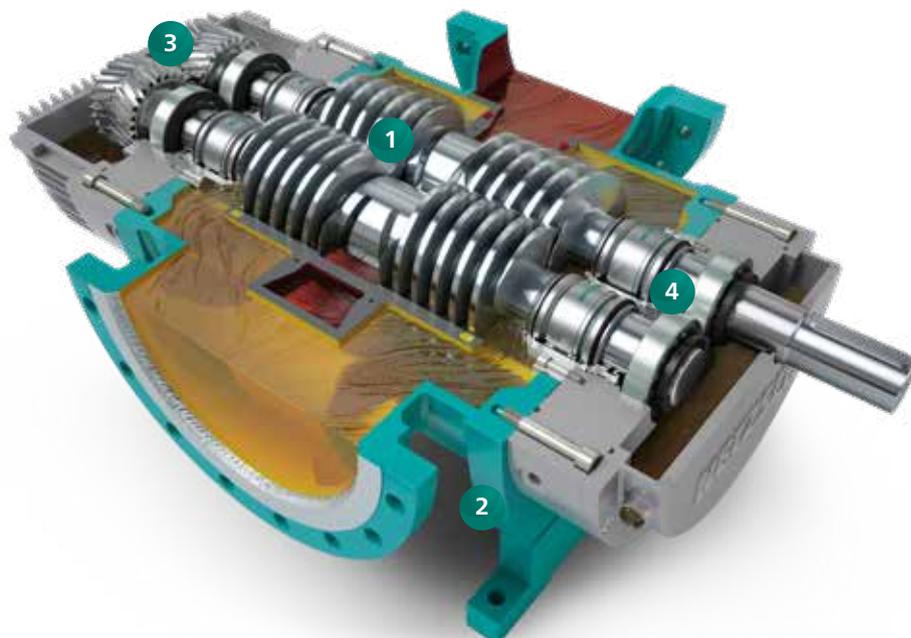
Various ports configurations such as top top, side top or in line.

### 4 Mechanical Seal

Four mechanical seals under suction pressure.

## Advantages

- High Efficiency
- No metal to metal contact
- Small footprint
- Long service life
- Excellent suction capability
- API 676 3<sup>rd</sup> ed., optional
- 3-year manufacturer's warranty



# APPLICATION EXAMPLES

## Truck Unloading

- Pump NOTOS®: 2 NS
- Media: Palm oil
- Flow rate: 40 gpm / 9.2 m<sup>3</sup>/h
- Pressure: 72.5 psi / 5.0 bar
- Temperature: 122 to 140°F /  
50 to 60 °C
- Viscosity: 20 to 60 cSt



## Boiler Feeding

- Pump NOTOS®: 3 NS
- Media: Fuel Oil
- Flow rate: 93 gpm / 21.2 m<sup>3</sup>/h
- Pressure: 362 psi / 25 bar
- Temperature: 140 °F / 60 °C
- Viscosity: 622 cSt



## Tank Storage

- Pump NOTOS®: 4 NS
- Media: Water emulsion
- Flow rate: 440 to 560 gpm /  
100 to 127 m<sup>3</sup>/h
- Pressure: 261 psi / 18 bar
- Temperature: 95 °F / 35 °C
- Viscosity: 60 to 250 cSt





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 NEMO® progressing cavity pumps, TORNADO® rotary lobe pumps, NOTOS® screw pumps, PERIPRO™ peristaltic pumps, macerators/grinders, metering technology and equipment custom built for challenging solutions for different applications globally.

## Proven Excellence.

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