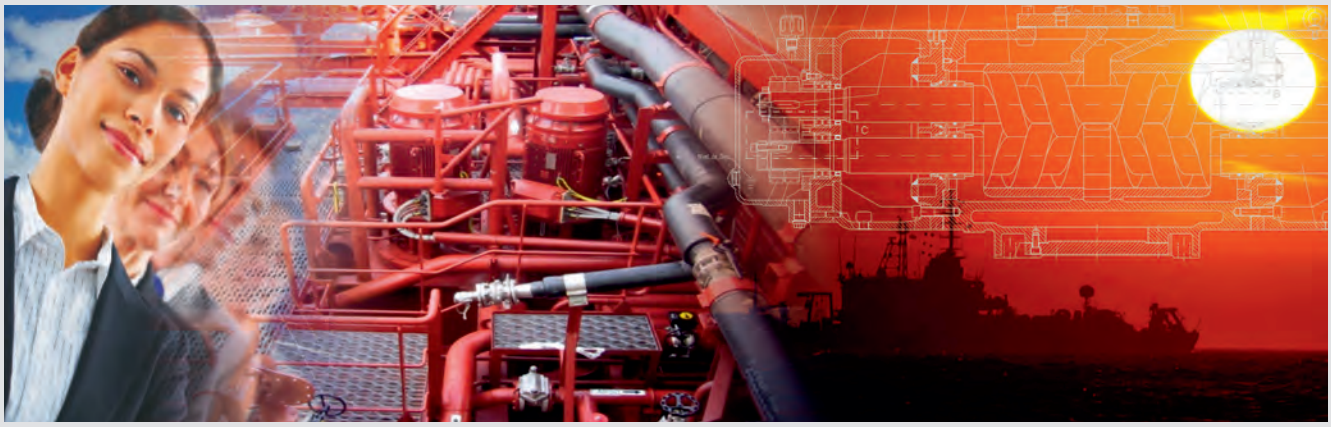
NETZSCH

Pumps & Systems

NETZSCH Multiple Screw Pumps

Thirty Years of Manufacturing Experience



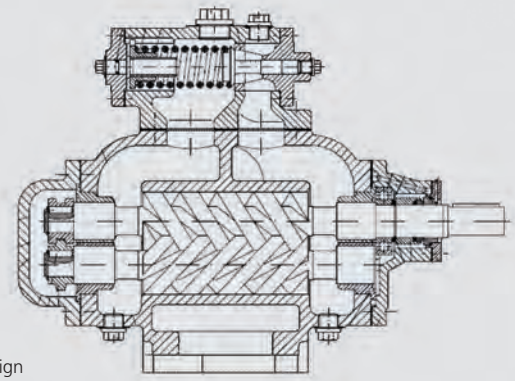
NETZSCH Pumps & Systems – Solutions you can trust

NETZSCH Multiple Screw Pumps
Flexibility, Technology, Reliability, Durability and Experience

Operational Design

Two Screw Pump Design
LN / LNA (Foot, Flange, Pedestal) and LNT (Semi-submersible)

NETZSCH Double Screw Pumps have a drive screw intermeshing with a driven screw, transferring torque from one screw to the other. A cast iron pump housing surrounds these screws. The screw geometry and pump housing form the pumping chamber. Through rotation, the screw diameter and pitch define the pump's flow rate. Lubrication between the screws and the housing is maintained by the pumped fluid itself. The screws are kept aligned by special bushings that are also lubricated by the product. There is essentially zero axial force due to the pump's hydraulic balancing.

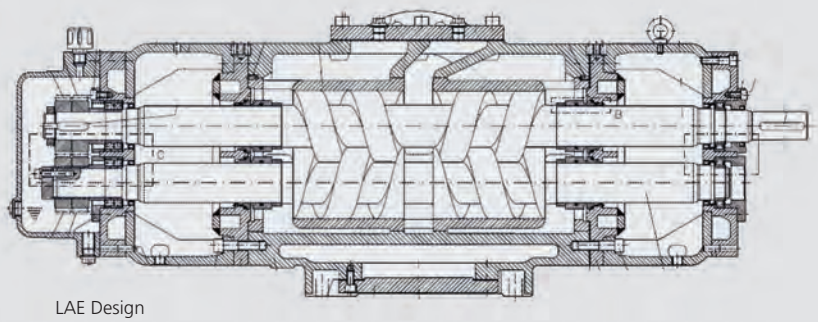


LN Design

Two Screw Pump Materials
The standard pumps are designed with a cast iron housing with screws constructed from nitrided tool steel. The cartridge is also made of cast iron. Alternative materials are available upon request.

Geared Twin Screw Pump Design
LAE and LAKE (Foot)

NETZSCH Geared Twin Screw pumps have two shafts with four screws rotating inside a cartridge. Through the use of external timing-gears, there is no metal-to-metal contact in this pump. Fluids are pumped from the edges toward the center and through the void formed by the four screws rotating within the cartridge.



LAE Design

Geared Twin Screw Materials
The standard pumps are designed with a cast iron housing with screws constructed from nitrided tool steel. The cartridge is also made of cast iron. Alternative materials are available upon request.

Hydraulic Coverage
Features & Benefits

Features & Benefits

- Hydraulically balanced
- Self-Priming
- High suction power
- Quiet operation
- Continuous flow without pulsation
- Flow without turbulence
- No foaming
- Lightweight
- Small in size and footprint
- Low maintenance
- Low lifecycle cost
- Long lifetime in service
- Hydrodynamic bearings

Pump Models: LN, LNA, LNT, LNE

Size	Flow Range			
	gpm		m^3/h	
	Min	Max	Min	Max
30	4	25	1	6
40	9	54	2	12
48	15	94	3	21
62	30	103	7	23
70	50	148	11	34
82	82	241	19	55
96	130	378	30	86
106	168	519	38	118
116	235	656	53	149
126	305	855	69	194
140	377	986	86	224
164	489	1,300	111	295

**Only approximate values for 60 Hz motors.*
Flow can increase or decrease with use of VFD

Pump Models: LN, LNA, LNT, LNE

Parameter	Two Screw
Maximum Flow Rate	1,300 gpm / 295 m^3/h
Maximum Differential Pressure	230 psi / 16 bar
Maximum Viscosity	9,000 cPs
Minimum Viscosity	6 cPs
Maximum Temperature	570° F / 300° C

Features & Benefits

- Hydraulically balanced
- Self-Priming
- High suction power
- Quiet operation
- Continuous flow without pulsation
- Flow without turbulence
- No foaming
- Lightweight
- Small in size and footprint
- Dry running capability
- Able to handle small amounts of solids
- Low maintenance
- Low lifecycle cost
- Long lifetime in service

Pump Models: LAE and LAKE

Size	Flow Range			
	gpm		m^3/h	
	Min	Max	Min	Max
48	9	78	2	18
62	14	178	3	40
82	33	213	8	48
96	62	323	14	73
126	152	814	35	185
164	345	1,610	78	366
186	554	2,500	126	570

**Only approximate values for 60 Hz motors.*
Flow can increase or decrease with use of VFD

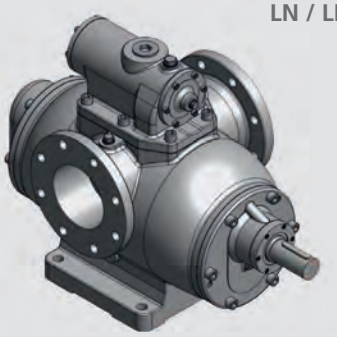
Pump Models: LAE and LAKE

Parameter	Two Screw
Maximum Flow Rate	2,500 gpm / 570 m^3/h
Maximum Differential Pressure	360 psi / 25 bar
Maximum Viscosity	50,000 cPs
Minimum Viscosity	1 cPs
Maximum Temperature	570° F / 300° C

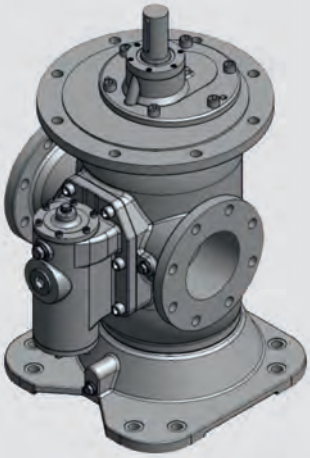
Pump Models and Configurations

Product Range

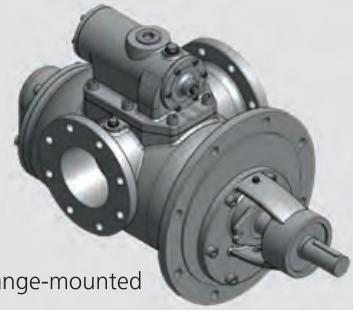
LN / LNA Models



Foot-mounted



Pedestal-mounted



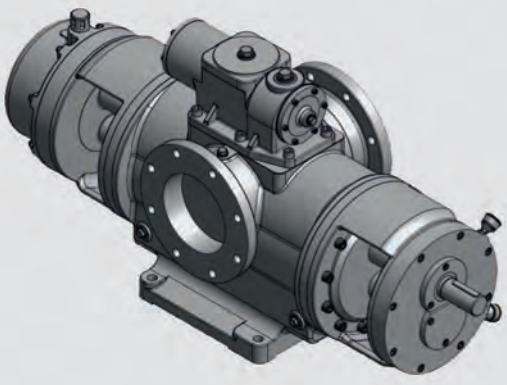
Flange-mounted

Foot-mounted, flange-mounted and pedestal-mounted pump models are available with Internal or External Bearings

LNT Model

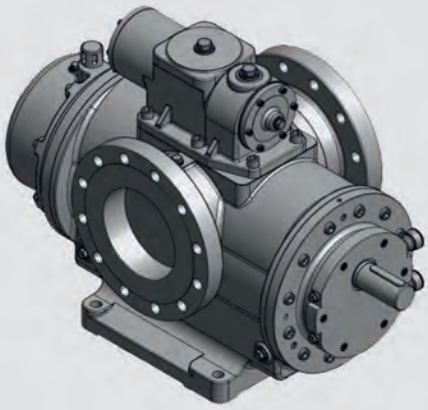
Vertically-mounted and semi-submersible

LAE Model



Foot-mounted pump with External Bearings

LAKE Model



Foot-mounted pump with Internal Bearings for higher pressures

Applications

Oil & Gas

- Onshore & Offshore Crude Oil
- Fuel oil
- Diesel
- Asphalt
- Bitumen
- HFO
- Water - Oil Emulsions
- Dark oil
- Petroleum Asphalt Cement (PAC)
- Bunker
- Produced Water
- Deep well Asphalt Cargo Pump
- Gasoil

Marine

- Fuel Loading and Unloading (Cargo Pump)
- Main Enginie Fuel Feed
- Propeller Shaft Bearings Lubrication
- Main Engine Sealing Lubrication
- Gearbox Lubrication
- Fuel Oil Holding Pressure
- Power Generator Pump (diesel)
- Lubrication and pre-lubrication of main MDG
- Fuel oil filter pump for MCA
- Oil-to-Cylinder Transfer
- Oil for Anchor System
- Cargo Pump
- Stripping Pump

Energy

- Hydraulic Turbine Guide Bearing Lubrication
- Hydraulic Turbine Combined Bearing Lubrication
- Wind Generator Bearing Lubrication
- Boiler Fuel Feeding
- Turbine Propeller Angle Adjustment system
- Bearing Lubrication System
- Water - Oil Emulsions

Industrial

- Polyol
- Grease
- Emulsions
- Cutting oil
- Molasses
- Resins
- Polymers
- Hydraulic oil
- Vegetable oil

Pump with suction filter system in a power generation plant

Horizontal pump, ISO VG68 2,465 gpm / 560 m^3/h max. pressure 16 bar.

Vertical pump used in the marine industry

NETZSCH

Lubricant oil,
660 gpm / 150 m³/h
60 psi / 4 bar
Pump installed
inside the vessel

Lubricant oil
260 gpm / 60 m³/h
120 psi / 8 bar

Marine service
Lubricant oil,
220 gpm / 50 m³/h
90 psi / 6 bar

Asphalt Refinery
530 gpm / 120 m³/h
150 psi / 10 bar
Heating system

NETZSCH Pumps North America, LLC
119 Pickering Way
Exton, PA 19341
USA
Tel: 610 363-8010
Fax: 610 363-0971

E-mail: npa@netzsch.com

NETZSCH Canada, Incorporated
740 Huronia Road, Unit 10
Barrie, ON L4N 6C6
Canada
Tel: 705 797-8426
Fax: 705 797-8427

E-mail: ntc@netzsch.com

www.netzsch.com