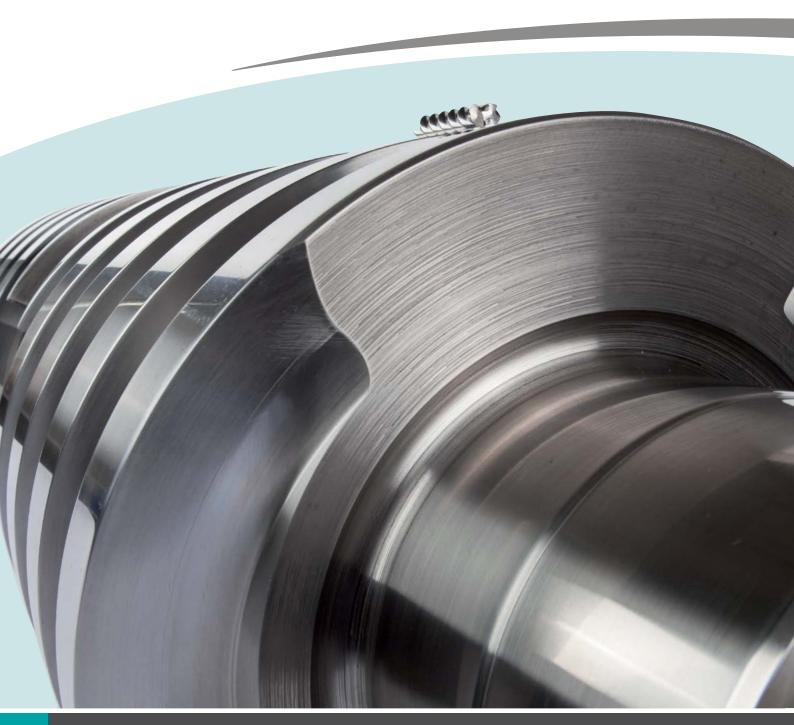




# **SCREW PUMPS & SYSTEMS**

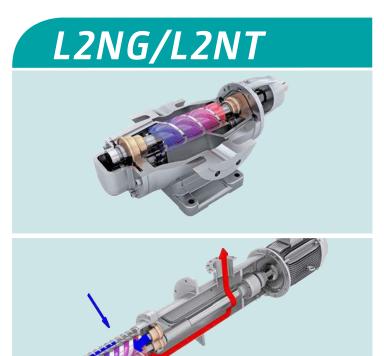




	OIL & GAS	SHIPBUILDING	CHEMICAL	POWER & ENERGY	PETROCHEMICAL
L2 Series	7	7	7	7	7
L3N Series	7	7	7	7	7
L3M Series	7	7	7	7	7
L3H Series	7	7		7	7
L3W/U Series	7	7		7	7
L4 Series	7	7	7	7	7
L5 Series	7	7	7		7



	HYDRAULICS	PULP & PAPER	STEEL-PRODUCTION	TEXTILES	PAINTS
	- Al propie				
L2 Series	7	7	7	7	7
L3N Series	7	7	7		
L3M Series	7	7	7	7	
L3H Series	7	7	7	7	7
L3W/U Series	7		7		
L4 Series		7	7	7	
L5 Series					



- Radial slight bearings → long service life
- → High efficiency → low operating costs
- Axially balanced rotors → no axial forces to bearings
- Z Low axial flow velocity → excellent priming
- Only one shaft seal → easy maintenance, low costs
- Z Limited dry running capability→ maximized process safety
- Resistant against aeration→ low noise, minimized vibration
- Availability of sealless design by magnetic drive
- ✓ Semi submersible pump design available

#### General use

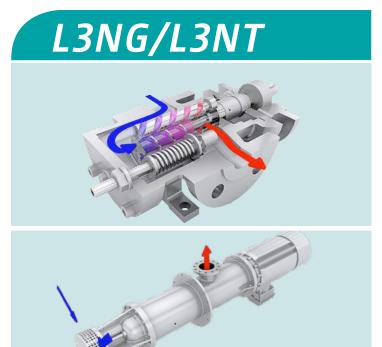
Leistritz screw pumps of the L2NG/NT series are twin screw, single volute, self-priming, positive displacement pumps for low pressure duty, suitable for transport of slightly abrasive and corrosive, high or low viscous fluids with poor or good lubricity.

## Performance data

Flow rate:	Max. 900 m³/h (3,960 GPM)											
TIOW Tate.			200	400	600	800	1000	1500	2000	3000	4000	5000
Differential pressure:	Max. 16 bar (232 psi)											
Dijjerentiai pressure:		0	10	20	]	30	40	50	100	150	200	250
Viccocity	Max. 100,000 cSt											
Viscosity:		0		25000	50	000	7500	0 10	0000	12500	0 1	50000
5	AA 2009C (52C9E)											
Pumping temperature:	Max. 280°C (536°F)	О		50	100	1	50	200	250	31	00	350
					<u> </u>							

	Oil & Gas	Shipbuilding	Chemicals	Petro- chemicals	Power & Energy	General Industry
Blending	71		7	7		
Charging				7	7	
Cooling/circulating	7	71	7	7		7
Control		7				7
Export	7		7	7		
Fuel oil /diesel		7		7	7	7
Hydraulic		7			7	7
Main lube oil		7			7	7
Seal oil						7
Stripping	7	7	7			
Transfer	7	7	7	7	7	
Loading/unloading	7	7	7	7	7	





- → High efficiency → low operating costs
- Axially balanced rotors → no axial forces to bearings
- Only one shaft seal → easy maintenance, low costs
- ↗ Availability of sealless design by magnetic drive
- → Semi submersible pump design available
- Resistant against aeration→ low noise, minimized vibration
- → Simple design → reasonable price

#### General use

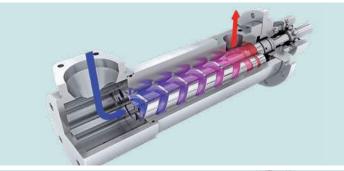
Leistritz screw pumps of the L3NG/NT series are triple screw, single volute, self-priming, positive displacement pumps for low pressure duty, suitable for transport of non abrasive lubricating fluids.

## Performance data

Flow rate:	Max. 700 m³/h (3,100 GPM)	0 200 400 600 800 1000 1500 2000 3000 4000 5000
Differential pressure:	Max. 16 bar (232 psi)	0 10 20 30 40 50 100 150 200 250
Viscosity:	Max. 15,000 cSt	25000 50000 75000 100000 125000 150000
Pumping temperature:	Max. 180°C (356°F)	0 50 100 150 200 250 300 350

	Oil & Gas	Shipbuilding	Chemicals	Petro- chemicals	Power & Energy	General Industry
Blending	71					
Cooling/circulating	7	7				
Control		7				
Export	7					
Hydraulic		7			7	7
Main lube oil		7			7	
Transfer	7	7	7		7	7

## L3MF/L3MG





## User advantages

- → High efficiency → low operating costs
- ✓ Interchangeable casing insert (MG)
  → easy maintenance
- Axially balanced rotors → no axial forces to bearings
- Only one shaft seal → easy maintenance, low costs
- Availability of sealless design by magnetic drive
- ✓ Semi submersible pump design available
- Resistant against aeration→ low noise, minimized vibration
- → Simple design → reasonable price

### General use

Leistritz screw pumps of the L3MF/MG series are triple screw, single volute, self-priming, positive displacement pumps for medium pressure duty, suitable for transport of non abrasive lubricating fluids.

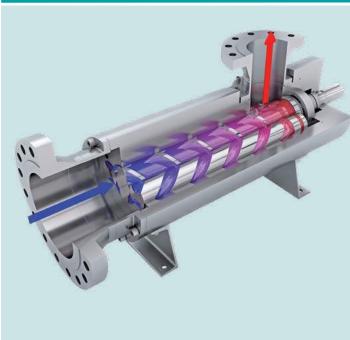
## Performance data

Flow rate:	MF: Max. 120 m³/h (530 GPM) MG: Max. 300 m³/h (1,320 GPM)	0	200	400	600	800	1000	1500	2000	3000	4000	5000
Differential pressure:	Max. 80 bar (1,160 psi)	0	1	0 2	0	30	40	50	100	150	200	250
Viscosity:	Max. 10,000 cSt	0		25000	50	0000	7500	0 10	0000	12500	0 1	50000
Pumping temperature:	Max. 280°C (536°F)	0		50	100	-	150	200	250	3	00	350

	Oil & Gas	Shipbuilding	Chemicals	Petro- chemicals	Power & Energy	General Industry
Blending	71		7			
Control		7				7
Charging					7	
Cooling/circulating	7	7	7	7		7
Export	7		7			
Foam injection	7					
Fuel oil/diesel		7		7	7	7
Hydraulic		7			7	7
Loading/Unloading						
Main lube oil		7			7	7
Transfer	7	7	7	7	7	







- → Class 300 ANSI flange adaptors: designed for the flange loads according to API standards
- Steel liner: Fully complies with the requirements of the API 676 3rd
- → Cast iron idlers: for optimum running properties under critical conditions
- → Single mechanical seal subjected only to suction pressure, API 682 cartridge seal optional
- No special internal coatings required
- → Axial inlet for ease of piping
- → Single bearing
- → Hydro-dynamically balanced rotors
  → no thrust bearing required
- Zero Quiet operation → No pulsation

#### General use

The new L<sub>3</sub>MA pump is an API 676 compliant triple screw pump. Due to the use of a new spindle material it is possible to have the spindles run directly in a steel casing.

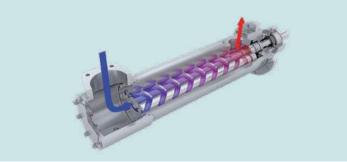
#### Performance data

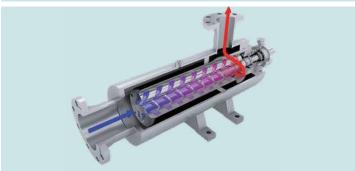
Flow rate:	Max. 276 m³/h (1,215 GPM)	0 200 400 600 800 1000 1500 2000 3000 4000 5000
Differential pressure:	Max. 20 bar (290 psi)	0 10 20 30 40 50 100 150 200 250
Viscosity:	Max. 10,000 cSt	0         25000         50000         75000         100000         125000         150000
Pumping temperature:	Max. 100°C (212°F)	0 50 100 150 200 250 300 350

	Oil & Gas / -FPSO	Shipbuilding	Chemicals	Petro- chemicals	Power & Energy	General Industry
Produced water booster	7					
Forwarding	7					
Hydraulic					7	7
Jacking					7	
Main lube oil					7	
Seal oil					7	
Stripping	7					
Transfer	7			7	7	7
Loading/unloading	7					



## L3HF/L3HG





## **User advantages**

- → High efficiency → low operating costs
- ✓ Interchangeable casing insert (HG)
  → easy maintenance
- Axially balanced rotors → no axial forces to bearings
- Only one shaft seal → easy maintenance, low costs
- → Availability of sealless design by magnetic drive
- → Semi submersible pump design available
- Resistant against aeration→ low noise, minimized vibration
- → Simple design → reasonable price

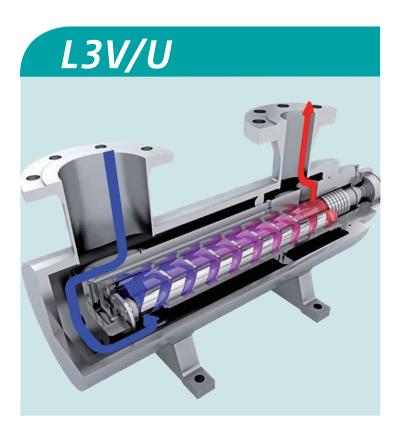
#### General use

Leistritz screw pumps of the L3HF/HG series are triple screw, single volute, self-priming, positive displacement pumps for high pressure duty, suitable for transport of non abrasive lubricating fluids.

#### Performance data

Flow rate:	HF: Max. 120 m³/h (530 GPM) HG: Max. 200m³/h (880 GPM)	0 200 400 600 800 1000 1500 2000 3000 4000 5000
Differential pressure:	Max. 160 bar (2,350 psi)	0 10 20 30 40 50 100 150 200 250
Viscosity:	Max. 10,000 cSt	6         25000         50000         75000         100000         125000         150000
Pumping temperature:	Max. 280°C (536°F)	0 50 100 150 200 250 300 350

1 1						
	Oil & Gas	Shipbuilding	Chemicals	Petro- chemicals	Power & Energy	General Industry
Blending	71		7	7		
Cooling/circulating	7			7		
Export	7		7	7		
Fuel oil injection					7	7
Hydraulic		7			7	7
Jacking					7	7
Seal oil					7	7
Transfer	7			7		



- → High efficiency → low operating costs
- ✓ Interchangeable casing insert (VG/UG)
  → easy maintenance
- → Wear resistant coatings available
- Axially balanced rotors → no axial forces to bearings
- Only one shaft seal → easy maintenance, low costs
- Availability of sealless design by magnetic drive
- ✓ Semi submersible pump design available
- Resistant against aeration→ low noise, minimized vibration
- ✓ Simple design → reasonable price

#### General use

Leistritz screw pumps of the L<sub>3</sub>VF/UF (VG/UG) series are triple screw single volute, self-priming positive displacement pumps for ultra high pressure duty suitable for transport of slightly abrasive and corrosive, high or low viscous fluids with poor or good lubricity.

## Performance data

Flow rate:	Max. 180 m³/h (792 GPM)	0	200	400	600	800	1000	1500	2000	3000	4000	5000
Differential pressure:	U: Max. 280 bar (4,060 psi) V: Max. 200 bar (2,900 psi)	0	10	) 2	0	30	40	50	100	150	200	250
Viscosity:	Max. 1,000 cSt		0	25000	5	0000	75000	) 10	0000	125000	0   15	50000
Pumping temperature:	Max. 280°C (536°F)	0		50	100	1	150	200	250	30	00	350

	Oil & Gas	Shipbuilding	Chemicals	Petro- chemicals	Power & Energy	General Industry
Blending	7		7	7		
Booster	7					
Cooling/circulating	7			7		
Export	7		7	7		
Fuel oil injection					7	7
Hydraulic		7			7	7
Jacking					7	7
Seal oil					7	7
Transfer	7		7	7		





- Rotors (screws and shafts) made out of a single piece of bar stock → limited shaft deflection → Low bearing loads
- Gear designs with helical gear teeth
   → Reduced noise level → easy maintenance
- Interchangeable liner → easy maintenance, low costs
- Special rotor design available → minimized pulsation → Optimized NPSHR
- Zero Low axial flow velocity → excellent priming
- Axially balanced rotors → no axial forces to bearings
- ✓ Suitable for dry running → maximized process safety

#### General use

Leistritz screw pumps of the L4 series are twin screw, double volute, self-priming, positive displacement pumps for low, medium and high pressure duty, suitable for transport of abrasive/non abrasive, corrosive/non corrosive, lubricating/non lubricating, high or low viscous fluids.

## Performance data

Flow rate:	Max. 5,000 m³/h (22,000 GPM)	0	200	400	600	800	1000	1500	2000	3000	4000	5000
Differential pressure:	Max. 150 bar (2,175 psi)	0	10	20	30	0 4	10	50	100	150	200	250
Viscosity:	Max. 150,000 cSt	0		25000	500	000	75000	100	0000	125000	)   15	0000
Pumping temperature:	Max. 350°C (662°F)	0		50	100	15	0	200	250	30	0	350

	Oil & Gas			Petro- chemicals	Power & Energy	General Industry
Blending	71		7	7		
Cooling/circulating	7	7	7	7		
Export	7		7	7		
Pipeline start-up	7			7		
Stripping	7	7	7	7		
Tank cleaning	7		7	7		
Transfer	7	7	7	7	7	7
Loading/unloading	7	7	7	7	7	7





- Economic and slim design for reduced weight
- Pump casing with cast steel (1.0619) and with integrated liner
- → ANSI & DIN flanges possible
- Spindles of single bar stock for maximum stiffness and case-hardened steel (1.7139), nitrided for max. hardness
- ✓ Side by side arrangement for excellent lubrication capabilities of spindle, bearings and seals
- External double helical gear for efficient power transmission
- → Single mechanical seal:
- Component or cartridge design (API conform) possible
- ▶ API plan 02/11 and oil quench possible
- → Self-aligning roller bearings on DE and NDE side

#### General use

The new compact screw pump of the L4NC series are twin screw, double volute, self-priming, positive displacement pumps for low pressure duty.

Developed for low capital expenditure (CAPEX) combined with highest efficiency and reliability for optimized operational expenditure (OPEX)

#### Performance data

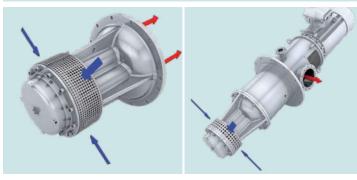
Flow rate:	Max. 5,000 m <sup>3</sup> /h (22,000 GPM)	00 m³/h (22 000 GPM)										
riow rate.	(22,000 d) (v)	0	200	400	600	800	1000	1500	2000	3000	4000	5000
Differential pressure:	Max. 20 bar (290 psi)											
Dijjerentiai pressare.	Nax: 25 5a: (256 ps.)	0	1	0 2	20 .	30	40 .	50	100	150	200	250
Viscosity:	Max. 10,000 cSt											
			0	25000	50	0000	75000	100	0000	125000	15	50000
Pumping temperature:	Max 100°C (189°F)											
. amping temperature.		C	)	50	100	1	50	200	250	30	0	350

	Oil & Gas	Shipbuilding	Chemicals	Petro- chemicals	Power & Energy	General Industry
Stripping	7	7	7	7		
Transfer	7	7	7	7	7	7
Loading/unloading	7	7	7	7	7	7



## L5NG/NT





## User advantages

- → High efficiency → low operating costs
- → Radial slight bearings → long service life
- Axially balanced rotors→ no axial forces to bearings
- Zero Low axial flow velocity → excellent priming
- Z Limited dry running capability → maximized process safety
- Only one shaft seal→ easy maintenance, low costs
- ✓ Resistant against aeration→ low noise, minimized vibration
- → Semi submersible pump design available

## General use

Leistritz screw pumps of the L5NG/NT series are five screw, single volute, self-priming, positive displacement pumps for low pressure duty, suitable for transport of slightly abrasive and corrosive, high or low viscous fluids with poor or good lubricity.

## Performance data

Flow rate:	Max. 1,700 m³/h (7,500 GPM)	0	200	400	600	800	1000	1500	2000	3000	4000	5000
Differential pressure:	Max. 10 bar (145 psi)	0	10	20	3	0 2	10	50	100	150	200	250
Viscosity:	Max. 100,000 cSt	C		25000	500	000	75000	10	0000	125000	0 15	0000
Pumping temperature:	Max. 280°C (536°F)	0		50	100	15	0	200	250	30	00	350

	Oil & Gas	Shipbuilding	Chemicals	Petro- chemicals	Power & Energy	General Industry
Cooling/circulating					7	
Export	7	7	7	7		
Main lube oil		7			7	
Stripping	7	7	7			
Transfer	7	7	7	7	7	7
Loading/unloading	7	7	7	7	7	7



## **PUMP SKIDS**



### General use

Besides simple pump skids, consisting of Leistritz screw pumps, drivers and common baseplates, Leistritz supplies complete pump systems, suitable for various duties and applications.

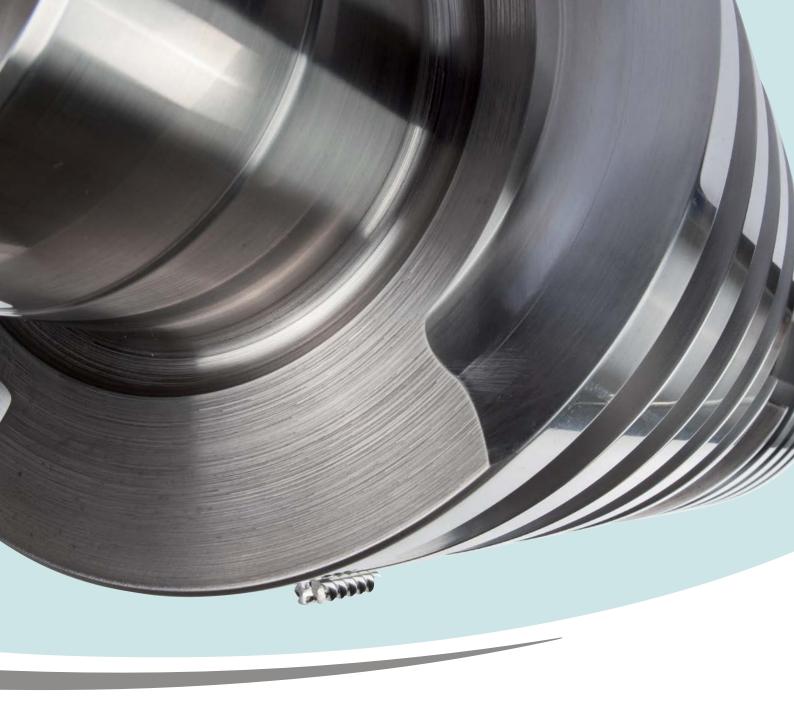
These pump systems include variable speed drives, external lubrication systems, filtration systems, extended pipings with valves, various instrumentation- and control- systems, recirculation systems, cooling facilities, and fire-fighting systems.

Leistritz pump systems are particularly used for crude oil boosting or multiphase application.

## **Leistritz System Supply**

- ∠ Leistritz multiphase pump
- → Single or double acting mechanical seals
- Customized liquid management system
- → Skid type baseplate
- → Electric motors / combustion engines / gas or diesel engines
- → Flexible all metal coupling with non-sparking coupling guard
- → On-skid instrumentation
- On-skid piping with manually or actuator operated block valves, suction filter, check and pressure relief valve
- → Lube and seal oil systems
- → Variable speed drives
- → PLC, low and medium voltage switch gears, MCC, UPS
- → Remote control systems
- Container for installation of the multiphase pump skids and the control equipment







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