

L E I S T R I T Z S C R E W P U M P S

PROCESS PUMPS



DEGASSING PUMPS



MELT PUMPS



ZERO EMISSION PUMPS

## OPERATING ECONOMY, AND EFFICIENCY WITH FLUIDS OF ANY VISCOSITY

Screw pumps are rotary, positive displacement pumps, which use two or more intermeshing screws to transfer fluids axially. Flow rates are determined by a combination of factors, including the number of screws, the number and diameter of the screw profile, inlet conditions, fluid viscosity, horsepower, and operating speed. Compared to other pump technologies, screw pumps offer a number of important advantages:

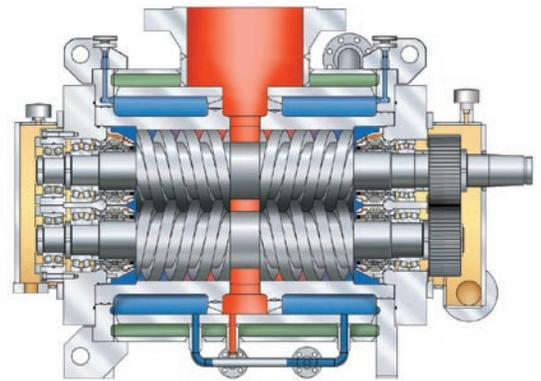
- » Broad range of flows and pressures at higher total efficiencies across a wide spectrum of viscosities;
- » Self-priming with outstanding suction characteristics, also at very high viscosities;
- » Excellent tolerance to entrained gases and air, eliminating vapor lock;
- » Low internal velocities minimize shear and agitation of shear sensitive liquids and emulsions;
- » Consistent flow regardless of back pressure;
- » Smooth, non-pulsating flow directly proportional to pump speed;
- » Hydraulically balanced with fewer moving parts for less maintenance, and longer life;
- » Direct drive for simple, economical installation and operation.

## PROCESS PUMPS

**Leistritz L4HK Process Pump** — The Leistritz L4HK Process Pumps are engineered for medium to high flow capacities and continuous operation under demanding process conditions. Their unique rotor designs are ideal for a broad range of fluids and fluids with entrained gases.

### Advantages:

- » Double flow arrangement equalizes hydraulic axial forces on the rotor under all operating conditions;
- » Single, solid piece rotor construction maximizes stiffness and integrity;
- » Short bearing span and large root diameter minimize shaft deflection, eliminating contact between the rotors and liner;
- » Minimal clearances optimize efficiency;
- » Handles entrained and free gases and volatile fluids.



### L4HK Process Pumps

<b>Performance</b>	
Flow (max)	9,600 gpm
Viscosity	1 to 10,000 cp
Speed (max)	3,600 rpm
Temperature (max)	410° F
Discharge pressure (max)	1200 psi
<b>Materials of Construction</b>	
Casing:	Steel or Stainless Steel
Rotors:	Steel or Chrome Steel
Liner:	Cast Iron, Ductile Iron or Carbon Steel

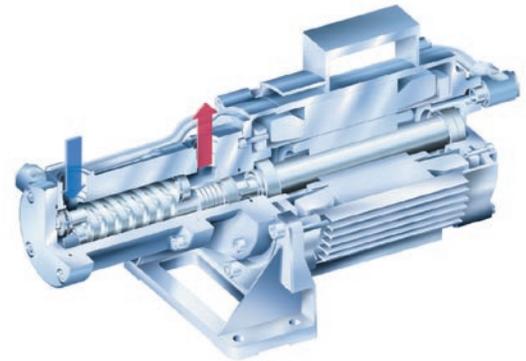
## ZERO EMISSION PUMPS

### Leistritz L2hd Canned Motor Pumps for Low Lubricity

**Fluids** — Leistritz L2hd twin screw pumps are hermetically sealed to prevent emissions when pumping toxic, flammable, explosive and corrosive fluids.

#### Advantages:

- » Special ball bearing support prevents contact between the screws and liner at pressures up to 435 psi;
- » Screw profile allows efficient transmission of low viscosity and low lubricity fluids;
- » Embedded thermistors in each stator winding prevent overheating;
- » Motor assembly uses standard electric motor components.



#### Performance

Flow (max)	115 gpm
Viscosity	1 to 1,000 cSt
Speed (max)	3,600 rpm
Temperature (max)	175° F
Discharge pressure (max)	435 psi

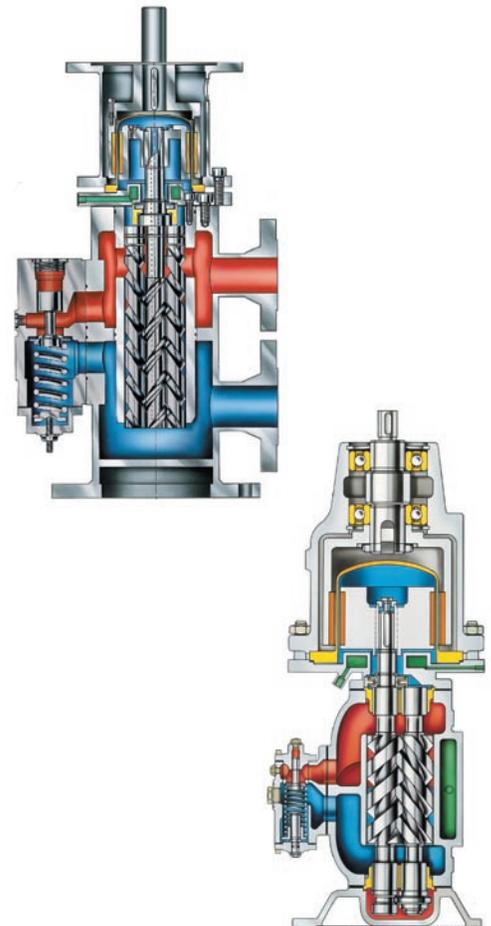
#### Materials of Construction

Casing:	Cast Iron, Ductile Iron, High Alloy Steel
Rotors:	Steel or High Alloy Steel (hardened)

**Leistritz L2 and L3 Mag-Drive Pumps** — Leistritz zero-emission L2 and L3 screw pumps with magnetic drives are used to pump toxic fluids that emit harmful carcinogens and other dangerous substances, or simply when zero emission rules do not permit use of mechanical seals.

#### Advantages:

- » Hermetic seals eliminate fluid and vapor leakage;
- » Suitable for viscosities from 2 to 4,000 cp;
- » Available in vertical and horizontal configurations;
- » Direct motor-to-pump mounting eliminates alignment procedures (vertical configuration).



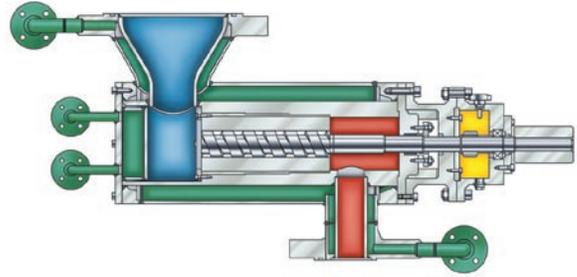
Performance	L2	L3
Flow (max)	550 gpm	400 gpm
Viscosity	2 to 4,000 cp	2 to 4,000 cp
Speed (max)	3,600 rpm	3,600 rpm
Temperature	-10° to 400° F	350° F
Discharge pressure (max)	250 psig	1450 psig
<b>Materials of Construction</b>		
Casing:	Cast Iron, Ductile Iron, Bronze, Carbon Steel or Stainless Steel	Cast Iron, Ductile Iron or Steel
Rotors:	Steel or Chrome Steel	Steel
Liner/Bushings:	Cast Iron, Ductile Iron or Bronze	Cast Iron

## **POLYMELT PUMP**

Leistritz Polymelt pumps have totally surrounding heating jackets, which provide constant process temperatures through all parts of the pump. Molten materials are pumped with no risk of failure from varying viscosities.

### **Advantages:**

- » Vertical inlet connection for direct mounting to reactor vessel;
- » Successive pressure buildup to eliminate pulsation and provide near-laminar flow;
- » Chrome steel alloy rotors with hard titanium nitride coating.



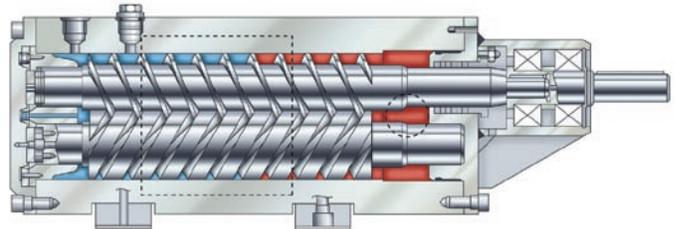
<b>Performance</b>	
Flow	1-130 gpm
Viscosity	0.5 to 1,000,000 cp
Speed	900 rpm
Temperature (max)	750° F
Discharge pressure (max)	1,000 psig
<b>Materials of Construction</b>	
Casing:	Fabricated Stainless Steel
Rotors:	Chrome Steel Alloy with Titanium Nitride Coating
Liner:	Bearing Material or Sintered Metal

## **VISCOVAC**

Viscovac simultaneously transports viscous liquids while removing entrained gases. Action of the twin screws reduces the surface tension of high viscosity fluids, allowing separation and removal of unwanted gases or air. The result is a purer product for internal processing or customer packaging.

### **Advantages:**

- » Smooth laminar flow and low shear rate;
- » High flow and pressure capability;
- » Low NPSH requirements at high viscosities and difficult inlet conditions;
- » Simple design for high reliability and trouble-free performance.



<b>Performance</b>	
Flow (max)	100 gpm
Viscosity	10,000 to 3,000,000 cp
Speed	50 to 200 rpm
Temperature (max)	250° F
Discharge pressure (max)	250 psig
<b>Materials of Construction</b>	
Casing:	Stainless Steel
Rotors:	Chrome Steel with Titanium Nitride Coating
Bushing:	Stainless Steel with Teflon Coating

# **Leistritz**

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