

**LPP-T  
PUMP**

**THE SOLUTION YOU'VE BEEN LOOKING FOR**

## LAROX PERISTALTIC PUMPS (LPP-T)

*The innovative Larox peristaltic pumps set the industry standard for peristaltic pump technology. Designed for heavy industrial duties, the LPP-T pumps are ideal for abrasive, corrosive, viscous or crystallizing media.*

### TECHNICAL FEATURES

- Only the hose is in contact with the medium
- No gland water or packing
- Full vacuum capability
- No backward flow
- 360 degree operating cycle
- In-line pipe connection
- Patented hose connection
- Patented hose compression adjustment mechanism

### PROCESS BENEFITS

- No wear and corrosion
- Dry run capability
- Self-priming
- Exact flow per revolution
- Extended hose life
- No overheating
- Lower operating costs

### ONE COMPRESSION IS ALL YOU NEED

A single, bearing-mounted roller presses against the hose only once per the 360 degree operating cycle, producing the maximum flow per revolution and offering the longest lifetime possible.

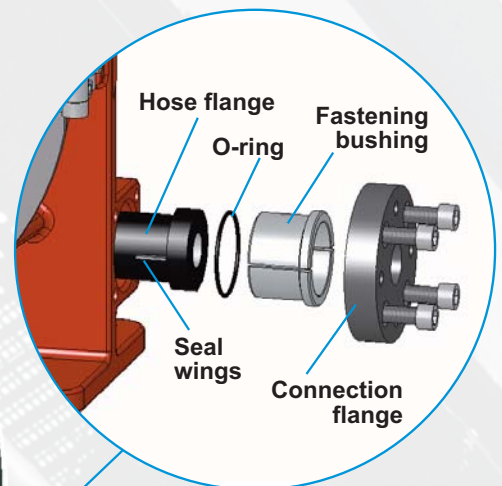
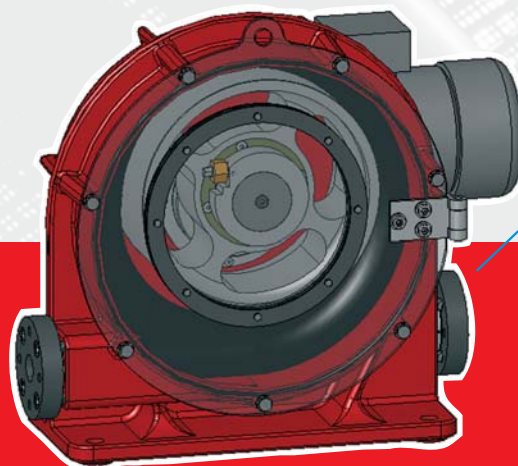
### UNIQUE ROLLING DESIGN

Larox LPP-T pumps incorporate an advanced design, which eliminates friction, maximizes hose lifetime and lowers energy consumption. The roller is mounted on a crankshaft creating eccentric rotation during the 360 degree operating cycle.

Compared to conventional peristaltic pumps, the LPP-T pumps double the flow per hose compression.

### THE OPERATING PRINCIPLE OF A PERISTALTIC PUMP

The operating principle of the LPP-T pump is based on the peristaltic effect. As the cylindrical rotor rotates along the hose, the process medium gets pushed forward through the hose. At the same time, the hose behind the compression point reverts to its original circular shape creating a suction effect at the pump inlet port. As a result, the hose bore gets filled with the medium. No backward flow can occur as the hose is squeezed tight by the roller.



*Larox LPP-T pumps are equipped with patented, reliable hose flange and in-line pipe connections.*

## TRAILBLAZING TECHNOLOGY

*LPP-T pumps are manufactured using durable elastomers and advanced body materials making them perfect for pumping a wide range of media. They provide substantial savings through improved process performance and efficiency, long service intervals and low maintenance costs.*

Equipped with the standard technical features of a typical peristaltic pump such as positive displacement and self priming, the LPP-T pumps provide exact flow per revolution. Seal less pumps will not get damaged even if they run dry for longer periods of time. The LPP-T pumps are compact in design and require only a small footprint.

### STANDARD TECHNICAL FEATURES FOR PERISTALTIC PUMPS include

- Only the hose is in contact with the medium
- No gland water or packing
- Full vacuum capability
- No backward flow
- Positive displacement

### RESULTING IN PROCESS BENEFITS SUCH AS

- No wear and corrosion
- Dry run capability
- Self-priming
- Exact flow per revolution irrespective of the pipeline pressure
- Accurate flow
- No mixing or shearing of the medium

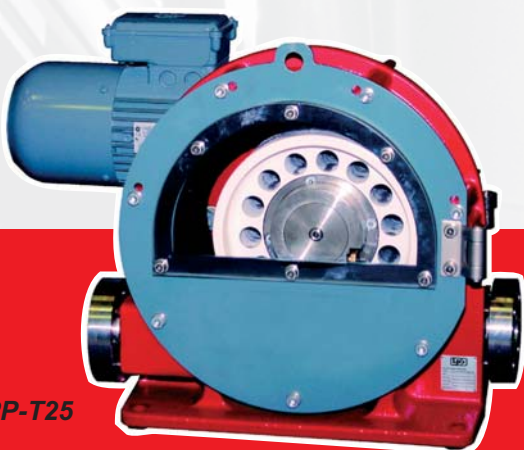
The trailblazing LPP-T pumps produce higher flow per hose compression than any other peristaltic pump. They are designed to operate continuously at high speeds and in high pressures without the risk of overheating making them perfect for heavy duty applications.

Incorporating an advanced design, the Larox LPP-T pumps can offer unbeatable **additional features** including

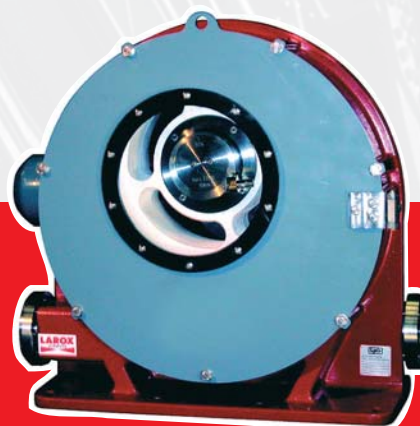
- 360 degree operating cycle
- Only one compression per revolution
- Rolling hose contact
- In-line pipe connection
- Reliable hose connection
- Low lubrication need

and **process benefits** such as

- Higher flow per compression than any other peristaltic pump
- Extended hose lifetime
- High pressure capability
- No overheating at higher continuous flow rate
- Lower energy consumption
- Easy maintenance
- Lower operating costs



LPP-T25



LPP-T65

## OPTIMAL HOSE FOR EVERY MEDIA

*With decades of experience in developing innovative flow control solutions and elastomer technology, Larox Flowsys has a wide selection of superior elastomers for diverse media and process conditions. The correct mechanical hose design and material selection are essential for optimal hose lifetime.*

The LPP-T pump hose includes three sets of layers: the inner layer, the reinforcement layers and the outer layer.

- The inner layer which is the only part of the hose in contact with the medium is resistant to abrasive wear and chemicals
- The reinforcement layers give the hose its pressure retaining capability
- The protecting outer layer facilitates the hose return to its original shape after compression creating a suction effect

### THE HOSE QUALITY YOU CAN RELY ON

The high-grade LPP-T hose materials include chemical resistant ethylene propylene, oil and fat resistant nitrile rubber, abrasive resistant natural rubber and styrene butadiene which is ideal for heavy wearing applications. It is preformed for easier installation. To guarantee the best possible mechanical characteristics, the hose cover is always made of natural rubber.

#### EPDM

- Ethylene propylene
- Medium: chemicals

#### NBR

- Nitrile rubber
- Medium: oil and fat

#### NR

- Natural rubber
- Medium: extremely abrasive

Rigid, reliable and tight connection flanges at both ends of the hose further improve LPP-T pump hose's resistance to high pressures, temperature and pressure variations and other process conditions.

### EQUIPPED TO PERFORM

Larox LPP-T pumps are equipped with in-line pipe connections and a patented adjustment mechanism that senses hose wear when compression is readjusted. This helps to maximize hose lifetime and minimize the risk of overcompression. The adjustment mechanism is mounted directly on the compression force making readjustment easy.

All stages of the LPP-T pump and hose design, and manufacturing are covered by ISO 9001:2000.



*The preformed LPP-T hoses enable secure, trouble free and fast assembly.*

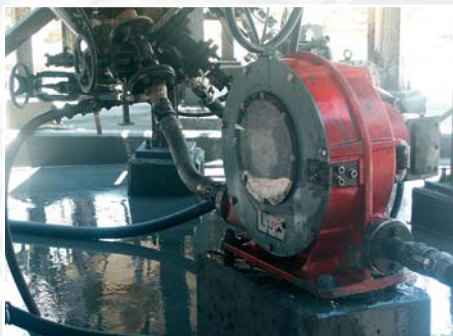
## A MULTITUDE OF APPLICATIONS

*Larox peristaltic pumps have proven their suitability for a wide range of industries and applications. Designed for industrial pumping, the LPP-T pump is ideal for slurries with high solid content, abrasive, corrosive, viscous and crystallizing media.*



### **Brewery**

Widely used in brewery filtration, kieselguhr also known as diatomaceous earth or diatomite, is extremely abrasive, causing intense wear in conventional pumps. To optimize their filtration efficiency, Paulaner Brauerei, the largest brewery in Munich, Germany replaced a traditional hose pump with a Larox LPP-T 40 pump to feed kieselguhr to a Larox pressure filter which dewateres the spent kieselguhr before disposal.



### **Mining**

At Mt Garnet zinc concentrator in Queensland Australia a LPP-T40 pump operates as a thickener underflow pump and delivers lead slurry to a filter feed tank serving a horizontal filter press. In thickener applications, constant output flow from the thickener secures stability throughout the whole process. The Larox LPP-T pump allows an in-line installation where suction lines can be significantly shorter. This prevents settling of the heavy lead slurry in the pipeline.



### **Chemical Process Industries**

Due to its highly corrosive properties, there are only a few pumps that can reliably handle sulphuric acids and fewer that can provide flexible flow control when the supply tank is on a higher level than the discharge head. The Larox LPP-T can do both. At Kemira Growhow Plant in Finland the Larox LPP-T provides a safe and reliable liquid transfer even when handling the most aggressive media.



### **Steel**

Raah Steelworks in Finland has drastically cut down maintenance costs and lengthened maintenance intervals after replacing a conventional pump with a Larox peristaltic pump (LPP-T40) in their abrasive gypsum slurry application. The replaced progressive cavity (mono) pump had required changing of its rubber stator and stainless steel rotor every 1 to 2 weeks.

## LAROX PUMPS IN THE PROCESS



### Chemical Process Industries

Larox LPP-T40 pumps benefit Delta Chemicals, a leading chemicals manufacturer located in Baltimore, USA. The LPP-T pumps water based aluminum trihydrate solids carried by aluminum chloride and aluminum sulphate. Delta Chemicals has experienced longer hose life and no additional glycerine use since the installation compared to traditional peristaltic pumps. The advanced rolling design of the LPP-T allowed for a smaller pump motor and less frictional wear on the hose resulting in lower maintenance costs and electrical consumption.

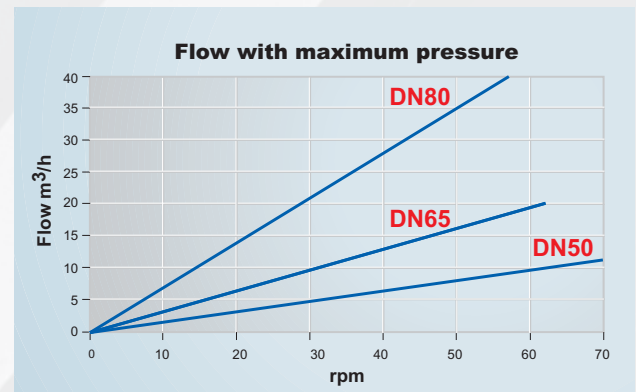
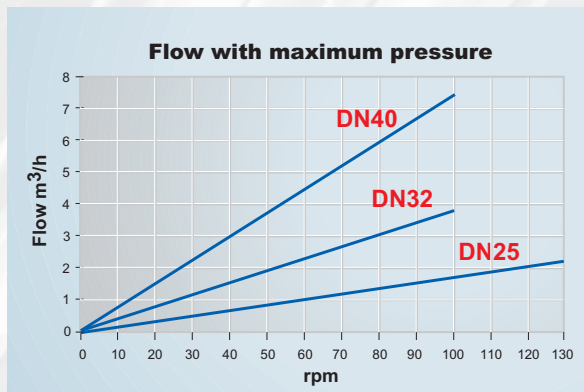


### Cement

The key raw materials of Autoclaved Areated Concrete (AAC) are lime and quartz sand. Pumping of this abrasive slurry is a demanding task. The robust LPP-T65 has provided Celcon-owned H+H Siporex, a leading North European aircrete producer with a solution that saves both time and money. Previously used and tested conventional hose and centrifugal pumps proved unsuccessful resulting in high maintenance costs and reduced maintenance intervals.

INDUSTRY	APPLICATION / MEDIA
Mining and Metal Industry	Metal concentrates, mineral slurries, flocculants
Chemical Process Industries	Paints, acids, resins
Water and Effluent Treatment	Slurries, sludge, mud, additives
Pulp and Paper Industry	Paper coatings, glues, additives
Pigments and Fillers	GCC, PCC, talc, kaolin, TiO <sub>2</sub>
Energy Production	Lime, waste slurries, gypsum
Food and Beverage Industry	Filtering, filtration aids, diatomaceous earth, starch
Construction Industry	Mortars, plasters, bentonite, cement
Oil and Offshore	Drilling mud, waste sludge

## LPP-T PUMP SIZE RANGE



### PRODUCT SPECIFICATIONS

- Size range: LPP-T25, LPP-T32, LPP-T40, LPP-T50, LPP-T65, LPP-T80
- Flow capacity: Up to 40 m<sup>3</sup>/h
- Maximum operating pressure: 10 bar
- Standard drive unit: Helical bevel geared motor
- Auxiliaries: Pressure transmitter, revolution detector, hose leakage detector, connector hoses
- Frequency inverters
- The pump can also be equipped with a parallel shaft geared motor

TECHNICAL DATA	LPP-T25	LPP-T32	LPP-T40	LPP-T50	LPP-T65	LPP-T80
Weight	~ 130 kg	~ 300 kg	~ 360 kg	~ 650 kg	~ 960 kg	~ 2450 kg
Flow/revolution	0,28 l	0,65 l	1,25 l	2,75 l	5,4 l	11,6 l
Maximum flow	2,2 m <sup>3</sup> /h	3,9 m <sup>3</sup> /h	7,5 m <sup>3</sup> /h	11,5 m <sup>3</sup> /h	20 m <sup>3</sup> /h	40 m <sup>3</sup> /h
Maximum pressure	10 bar	10 bar	10 bar	10 bar	10 bar	7,5 bar
Lubricant volume	0,8 l	0,8 l	1 l	2,5 l	3 l	8 l
Adjustment torque:						
– new hose	15 Nm	None	30 Nm	50 Nm	60 Nm	120 Nm
– readjustment	10 Nm	None	25 Nm	45 Nm	50 Nm	110 Nm
Hose bore and flange connection	25 mm	32 mm	40 mm	50 mm	65 mm	80 mm
Motor power	0,37 - 1,5 kW	0,75 - 4 kW	1,1 - 4 kW	2,2 - 7,5 kW	3 - 11 kW	9,2 - 18 kW



FOR YOUR LOCAL LAROX REPRESENTATIVE SEE

[WWW.LAROX.FI/FLOWSYS/](http://WWW.LAROX.FI/FLOWSYS/)

## LAROX FLOWSYS PRODUCT RANGE



ISO 9001

LAROX FLOWSYS OY • P.O. BOX 338 • FI-53101 LAPPEENRANTA, FINLAND • TEL. +358 201 113 311 • FAX +358 201 113 300  
INFO@LAROX.FI • WWW.LAROX.FI