

# FLOWROX

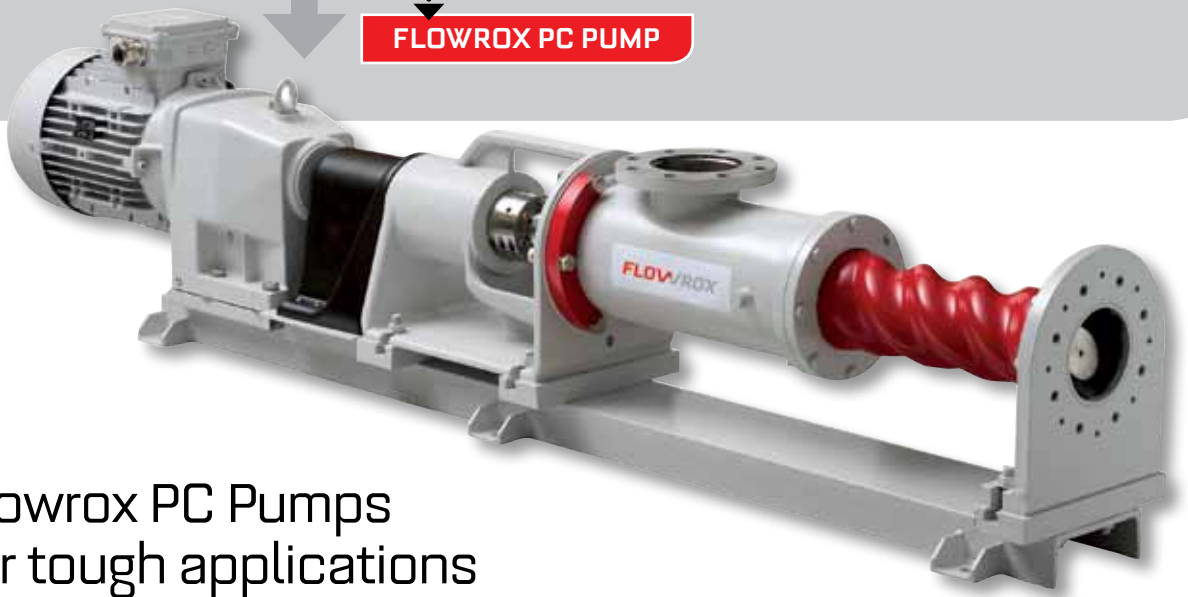
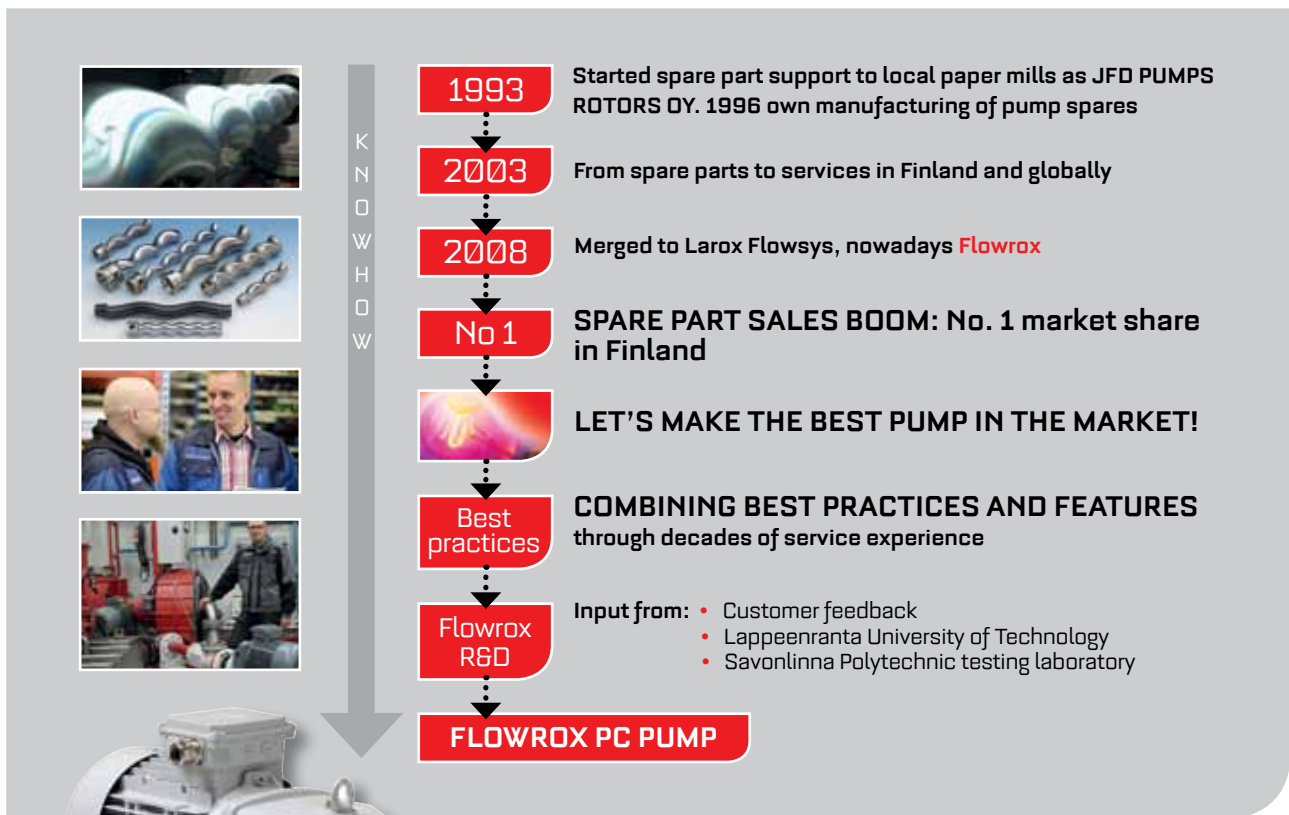
Proven Performance

## Flowrox Progressive Cavity Pumps



# The evolution of the Flowrox Progressive Cavity Pump

The world is full of progressive cavity (PC) pumps but only one is above the rest. Here is how it all began.



## Flowrox PC Pumps for tough applications

The Flowrox progressive cavity pump is designed for demanding industrial slurry and paste pumping applications, especially with high viscous or shear sensitive liquids and sludges.

### The operating principle

In PC pumps, the pumped medium continuously shifts spaces (progressing cavities) between the rotor and the stator, enabling nearly pulsation free pumping.

### How much pressure can you take?

With Flowrox technology it is possible to deliver up to 10 bars of pressure per single stage. This is possible with our high technology spiral stator that forms the heart of the whole pump.



### With Flowrox technology:

- High flowrate and pressure
- Low life cycle costs
- Low power consumption
- Long service interval
- Fast maintenance

# Best features

Through several decades of service and spare part business it was obvious what were the common failures, weaknesses and maintenance needs of PC pumps. This know-how was the basis of our R&D process: to develop a high performance pump that combines quality, best practises and features.


### Flowrox 2/3 spiral technology

- Combination of an elliptic rotor and a stator with even wall thickness
- More pressure with less strain
- Increased flow per revolution
- Long rotor/stator lifetime
- Less backflow

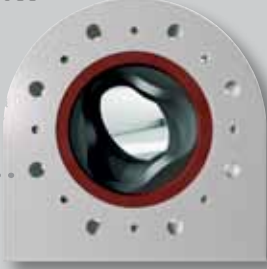
Head = elliptic, 2/3 lobe rotor



**Spiral stator**  
Spiral surface



Three intakes through the stator




### Conventional technology

- Combination of a round rotor and a stator with varying rubber thickness
- Less pressure due to elasticity and backflow
- Faster wearing of rotor/stator

Head = round, 1/2 lobe rotor

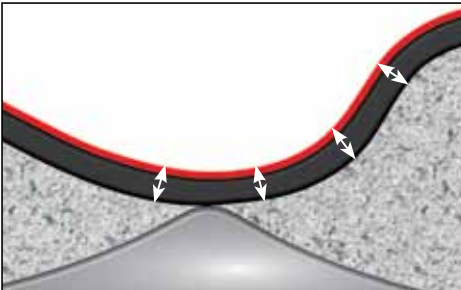


**Conventional, round stator**  
Round surface

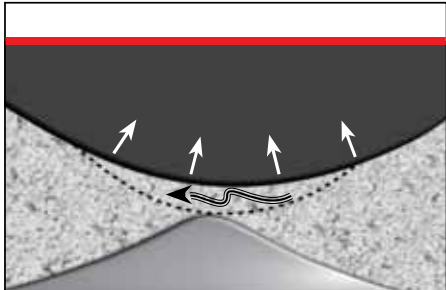


Two intakes through the stator





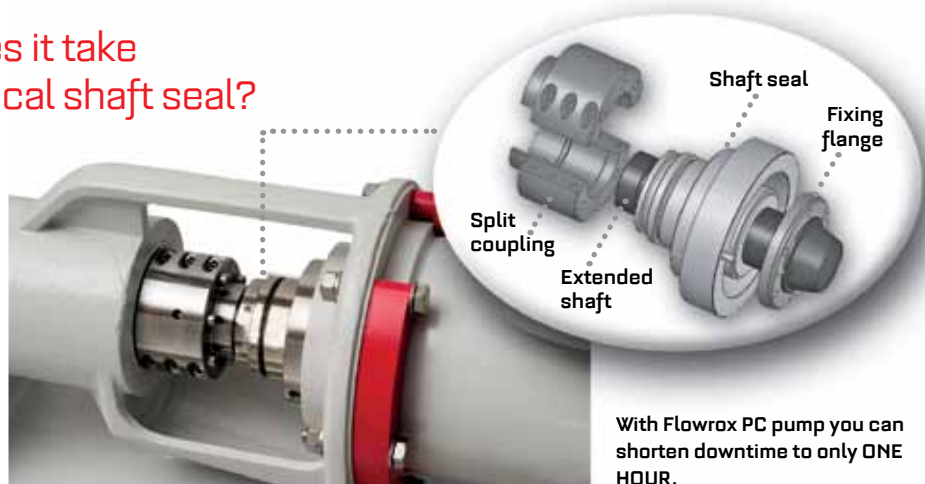
**FLOWROX SPIRAL STATOR:**  
Even wall thickness through the stator results in minimized flex and backflow.



**CONVENTIONAL STATOR:**  
Due to the variable thickness of the stator wall, the thicker rubber at the peaks flexes more resulting in backflow.

## How many hours does it take to change a mechanical shaft seal?

Flowrox PC pumps utilize a patented mechanical shaft seal removal system allowing the seal to be replaced quickly without dismantling or moving the entire pump. Combined with a long service interval, this enables the highest uptime possible.



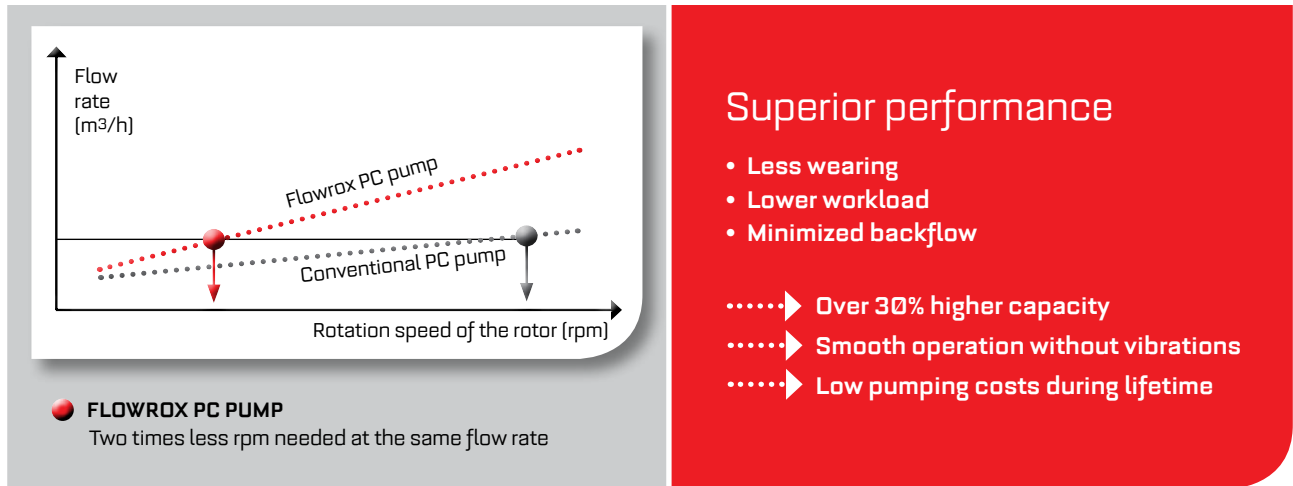
Labels in diagram: Split coupling, Extended shaft, Shaft seal, Fixing flange.

With Flowrox PC pump you can shorten downtime to only **ONE HOUR**.

# Why choose Flowrox?

You can actually gain value throughout the PC pump's lifetime when choosing Flowrox. Compared to conventional technologies, a Flowrox PC Pump delivers more pressure, more capacity and overall – more efficiency.

## Flowrox spiral technology vs. conventional technology



## Process benefits in numbers

	FLOWROX PC PUMP	CONVENTIONAL PC PUMP
Pressure	10 bar	4 - 6 bar
Backflow	8%	17%
Flowrate	1,5 X	1 X
Operating efficiency	63%	54%
Energy savings	up to 15%	0%
Maintenance time	1 h	6 h

Through advanced technology and precise design, Flowrox PC Pump offers you significant cost savings by reducing pumping cost.

### Flowrox PC pump lifecycle benefits:

#### Easy installation:

- Free adjustment of the suction flange direction
- Short inlet -outlet construction

#### Fluent operation:

- Low power consumption
- High hydraulic efficiency
- High flowrate and pressure

#### Quick maintenance:

- Long service interval
- Short shaft seal replacement time





# The right pump for the right application

## PC Pump, C-series

### Flowrox in the Aluminium process:

**Company:** Aluminium Bahrain B.s.c (ALBA)

**Application:** graphite slurry handling

Graphite slurry is pumped to an electroplating process to ensure a smooth transfer of aluminium from the anode plate after process. Flowrox PC-C pump was chosen because of better sealing and savings in pumping costs.



### Typical applications:

- Filter press feed
- Centrifuge unit feed
- Boron slurry transfer
- Paper machines
- Paste transfer
- Coater feed
- Transfer of slurries
- Pumping of adhesives and pigment
- Chemical transfer

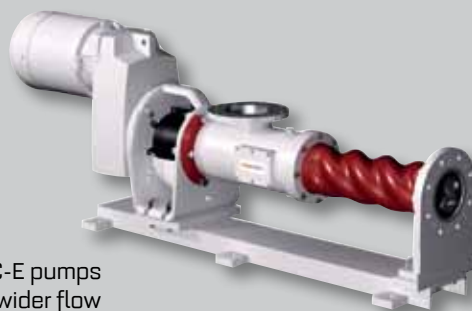
## PC Pump, E-series

### Flowrox in mining industry:

**Company:** McArthur River Mine Xstrata, Australia

**Application:** flocculant pumping to thickener

The customer chose four Flowrox PC-E pumps because of their capability to pump wider flow range compared to other progressive cavity pumps.



### Typical applications:

- Wastewater treatment
- Tailings pumping
- Press sludge feed
- Lime mud pumping
- Sludge transfer
- Feed dewatering devices
- Circulation of digested sludges

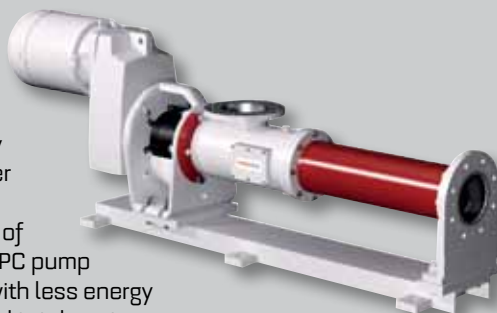
## PC Pump, EL-series

### Flowrox in wastewater treatment:

**Company:** Lappeenranta Vesi Oy

**Application:** municipal wastewater

Plant purifies almost six million m<sup>3</sup> of wastewater per year. With Flowrox PC pump the needed output was achieved with less energy and less RPM which also decreased total costs. Clog removal is easy through access holes without dismantling the whole pump.



### Typical applications:

- Wastewater treatment
- Bio sludge applications with big particles

## PC Pump, D-series



### Typical applications:

- Flocculant dosing
- Dosing of boiler feed chemicals
- Lime milk dosing
- Chemical dosing
- Metering of additives

For special requirements, please contact Flowrox.



# FLOWROX

Proven Performance

## Proven Performance with Flowrox

Our customers work in some of the most challenging conditions on the planet. They run extremely abrasive or corrosive processes, often in remote locations. Whether they do business in mining, metallurgy, energy, cement, pulp & paper, chemical or other heavy duty industries, we are there for them.

And we are glad to help.

Flowrox is a privately held family owned company with over 30 years of experience and more than 100 000 global deliveries. We value long partnerships with our customers, and are inspired by their success. Our products increase our customers' productivity and offer the lowest total costs of ownership. Flowrox is the benchmark in heavy duty valves and pumps.

Experience with Insight • Participating Partner • Facilitating Performance



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Contact our nearest office or one of our partners we have all over the world.

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