

# Fristam FL Series



***Fristam***  
PUMPS

# Fristam FL positive displacement pumps

These exceptional pumps combine mechanical simplicity with superior pumping performance. Their clever design enables easy maintenance, perfect cleanability and gentle product handling. The FL series' solid construction results in great dependability. Super-tight radial and axial clearances ensure maximum efficiency.

## OPTIMAL HYGIENE

Fristam FL pumps meet the world's strictest hygienic standards such as EHEDG and 3A. Their superior quality is reflected in the use of corrosion-resistant materials such as chromium molybdenum steel 316L with a minimum thickness of 6.0 mm. In addition 3.1 material certification (certificate available upon request) and FDA certified elastomers guarantee maximum safety in the process. All FLs are designed for CIP and SIP.

## FLEXIBILITY BY DESIGN

The FL series offers a wide range of sizes and various options to match your specific process requirements. The FL gearbox allows for top, bottom or side mounting. Along with its bi-directional rotation, this offers complete freedom for installation.

## DIVERSE APPLICATION

Pumps from the FL series are in service all over the world in the most diverse configurations, and transport a great variety of products from albumin to zabaglione – for example blood, bread and pasta dough, cheese, cream, ketchup, margarine, meat, sugars, sodas and yogurt (amongst many others).

## INGENIOUS ROTORS

Our FL series offers you utmost flexibility by enabling you to choose the perfect rotor for any given application. The rotors are interchangeable,

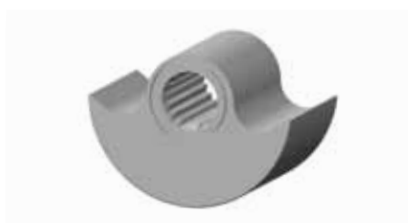
enabling you to adapt your pump to many diverse situations. All rotors are absolutely deformation-free and suitable for product viscosities up to

1,000,000 mPas. The FLs' synchronised circular motion reduces the chance of metal particles from rotor-to-rotor contact to a minimum.



### Two-wing rotor

The standard in our FL series is perfect for the production of pastes and wherever high revolution speed is needed. Due to its low shear it is ideal for products like cream cheese, dough, honey, yogurt and other viscous products.



### One-wing rotor

The D-lobe is specifically designed for unsurpassed gentle handling of suspended soft, large and sensitive solids such as cooked strawberries in syrup, thick-cut vegetables in soup, cheese curd, or pasta in tomato sauce.



### Three-wing rotor

This unique helical rotor is virtually pulsation-free, allowing for exceptionally smooth operation with higher flow rates.





### THE FL3

With its unique three-wing rotor design, the FL3 greatly expands the application range of Fristam's FL positive displacement pumps. Its helical rotors virtually eliminate pulsation, ensuring gentle product handling while allowing higher transfer capacity and superb CIP.

#### Superior performance

The FL3 is designed for highest efficiency. Its uniquely shaped double rotor design generates a perfectly continuous, smooth movement and guarantees extremely precise tight clearance. The rotors never close against each other, producing a constant product flow that results in unsurpassed suction capabilities.

#### Extremely smooth operation

This state-of-the-art pump operates at faster speed and reduced noise levels. The helix-shaped, counter-rotating rotors can handle both viscous and non-viscous products with absolute ease.

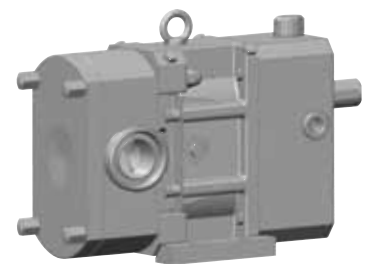


#### Additional technical specifications \*

	FL3 75	FL3 100
Max. rpm w/ product	700	700
Max. flow rates w/ water (m <sup>3</sup> /h)	19	50
Max. flow rates w/ product (m <sup>3</sup> /h)	12	35
Max. discharge pressure (bar)	8	8
Max. system pressure (bar)	12	12
Displacement (litre/revolution)	0.38	1.16
Material	Stainless steel 1.4404 (316L), alternative materials possible	
Mechanical seal materials	Carbon / stainless steel or tungsten carbide / tungsten carbide	

More technical specifications overleaf.

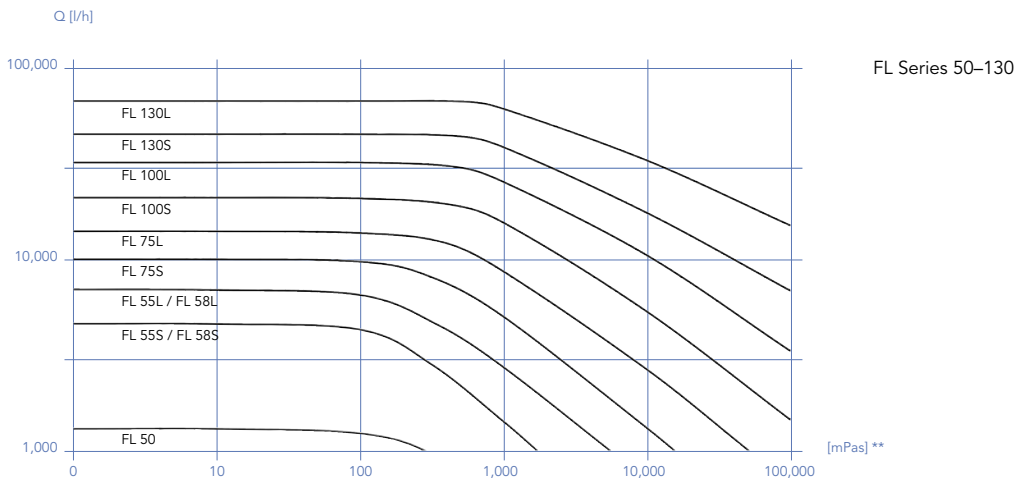
The FL3's unique helix-shaped, three-wing double rotors guarantee exceptional suction performance, a perfectly steady product flow, and minimal product warming.



Model	50	55 S/L	58 S/L	75 S/L	100 S/L	130 S/L/XL	75	100
Max. discharge pressure (bar)	6	9/6	12/8	12/8	12/8	12/8/4	8	8
Max. flow rates (m³/h)	1.7	5.5/7.7	5.9/8.4	11.5/16	24/38	48/61/77	19	50
Max. rpm	1,400	900/900	1,000/1,000	700/700	600/600	440/420/400	800–1,000	800–1,000
Connection DIN	15	25/40	25/40	40/50	50/80	80/100/125	50	80
Connection types	To suit requirements							
Viscosity	Up to 1,000,000 mPas							
Rotation	bi-directional, reversible							
Temp. (°C)	Up to 150°C with high-temperature rotors						Up to 95°C	
Gasket material	FKM, NBR, EPDM, FPM, alternative materials possible						FKM, NBR, EPDM+options	
Mounting	Horizontal and vertical						Horizontal and vertical	
Mechanical seal	Single and double						Single/double/flushed	
Options	ATEX, electrical heating, special paint, special surface finish, electro-polish, rectangular connections, heating jacket, drain, individual adaptations (bespoke) for specific products, processes and systems							

Please note that all technical information is subject to further development of the product range.

CHARACTERISTIC CURVES \*



\*) Transportation of water \*\*) Viscosity

