PRINZ®
PUMPS MANUFACTURING COMPANY

FMH - LMH PUMP SERIES

The Standard For Hygienic Twin Screw Pumps
FOR FOOD BEVERAGE AND MORE

since 1952

index

Description	4
Benefits	5
Technical Features	6
Working Principle And Performance	8
Applications	9
Contacts	10

DESCRIPTION

FMH & LMH Screw Pumps are Rotating Positive Displacement Pumps, externally supported. One Pair of Screws, which operate without being in contact with each other, ensures a constant flow, pulsation-free, together with a high suction lift capability with very low NPSH values.

FMH - LMH

PRODUCT RANGE

FMH&LMH Screw Pumps: solution for all applications.
Whether universal or aseptic processes or applications with high viscosities, high pressures or sensitive media, the FMH-LMH series is the best solution!

– FMH SERIES | HIGH PRESSURE – EHEDG & 3A COMPLIANT – CUSTOMIZABLE VERSION

FMH 50

FMH 100

FMH 200

– LMH SERIES | HIGH CAPACITY – STANDARD HYGIENIC VERSION

LMH 50

LMH 100

LMH 200

– LMH 300i | HIGH PRESSURE & HIGH CAPACITY (Hybrid Version)

LMH 300i

3PPRINZ - AVAILABLE FOR CUSTOMIZED REQUEST

The portfolio of FMH-LMH series offers a solution for almost any application. But also for special customers request we supply optimal solutions.

2 IN 1 PRINCIPLE

Thanks to the wide range or speeds, it is possible to pump the product and clean in place (CIP) with only one pump!
Angular speed range between 100 and 3000 RPM.

BEST OPERATING PRINCIPLE WITH LONGEST LIFE AND LESS MAINTENANCE

The screws are rotating inside the pump casing without any contact. Wear-out is minimized, also on applications with abrasive and non-lubricating fluids, including dissolved gas/air.

UPGRADING THE HYGIENIC STANDARDS

Our pumps are available in full EHEDG and 3-A compliant execution.
The FHM and LMH series are ideal for hygienic applications.

ONE PUMP FOR MANY OPERATING CONDITIONS - HIGHEST FLEXIBILITY

The FMH and LMH pumps can fit many operating conditions, thanks to their wide speed range. It is possible to generate different capacities and pressure ranges with a wide range of viscosities and temperatures.

IMPROVE THE FINAL QUALITY OF THE PRODUCT BY USING THE BEST PUMPS

Thanks to the operating principle of the FMH and LMH pumps, the product is conveyed very smoothly and gently, with almost no pulsations.

HIGH SUCTION CAPABILITY - MANY OPERATING CONDITIONS

The FMH and LMH pumps are self priming (if partially filled with liquid before starting) and can suction down to 0,1 bar absolute (1,45 psi abs), having an excellente NPSHr.

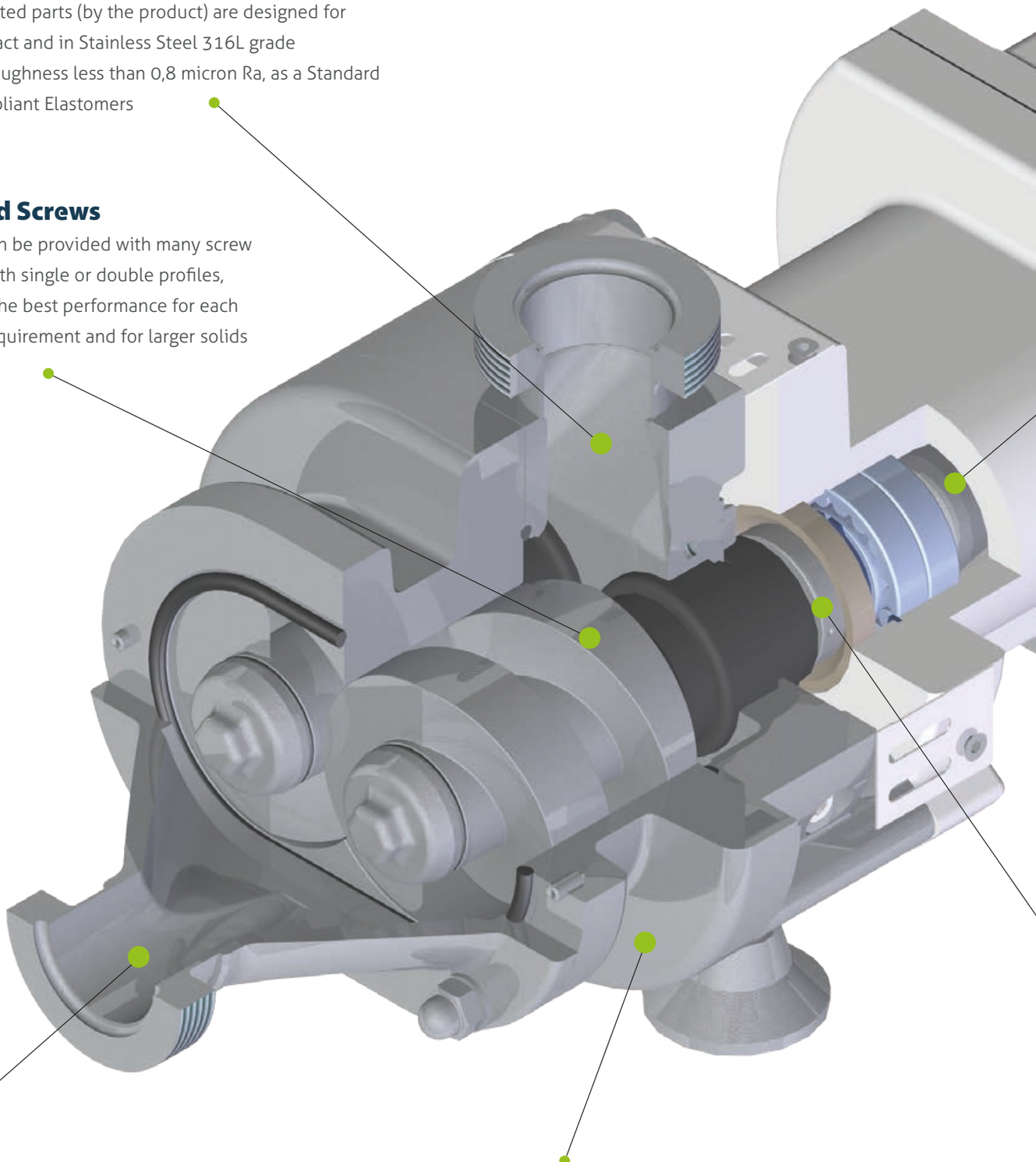
FMH PUMPS MAIN TECHNICAL FEATURES

Material & Surface Finishing

- Pump wetted parts (by the product) are designed for food contact and in Stainless Steel 316L grade
- Surface roughness less than 0,8 micron Ra, as a Standard
- FDA Compliant Elastomers

Engineered Screws

- Each pump can be provided with many screw pitches and with single or double profiles, for obtaining the best performance for each customized requirement and for larger solids handling.



Customized Connection

- The most common DIN hygienic connections are available as standard execution
- Other connections, like Tri-clamp, SMS, BS, are available on request.

Three Part Design

- Pump housing is made of 3 parts, that allow easy disassembly for manual cleaning, inspection and maintenance.

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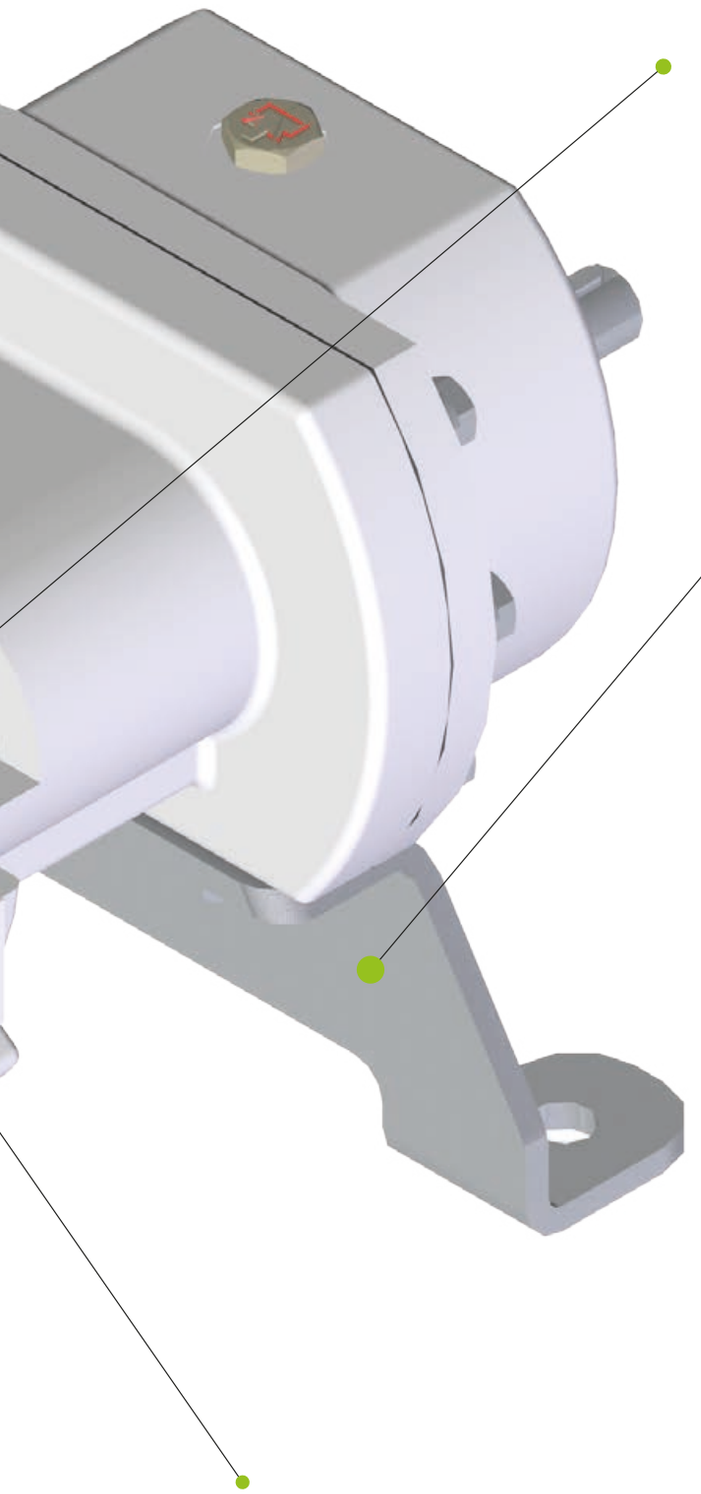


Optimized Bearing Unit

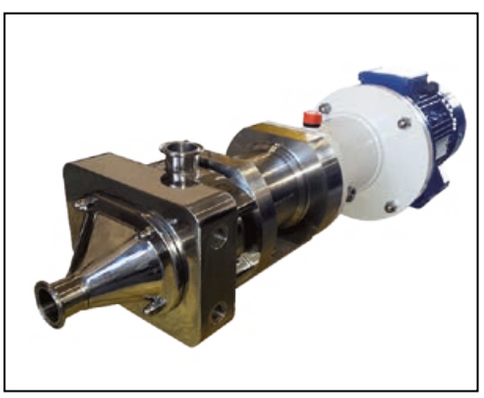
- Bearing Housing designed for smoothening vibrations and for hosting higher volume of lubricating oil, for better cooling
- Specially Engineered Bearings Arrangement suitable to handle high pressures and reverse pumping
- Timing Gears for synchronizing the 2 screws and permitting no contact movement in the pumping chamber
- Bearing Housing available in SS316 or Cast Iron materials, for washdown duty or more cost effective solutions
- Closed coupling joint version available on most pump sizes;
- Short assembly version, with motor output shaft is optional

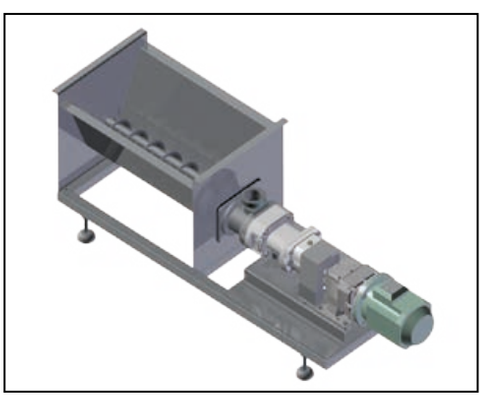
Customized Feet Arrangement

- Levelling feet, anti-vibration type, standard for most pump sizes, allowing better cleanability under the pump
- Fixed feet execution available for Stainless Steel Baseplate option

ON REQUEST

- Heating jacket
- Twin auger feeder system
- Other options





Hygienic Engineered Mechanical Seals

- Single, Single Flushed, Double type available
- Soft or Hard Seal Surfaces available
- Soft or Hard Seals available
- Several Soft Part Materials available
- Modular design available, with the possibility of retrofitting/upgrading the mechanical seal from single to double
- Hygienic design, with no dead-ends (no product accumulation)
- Fast and Easy Maintenance

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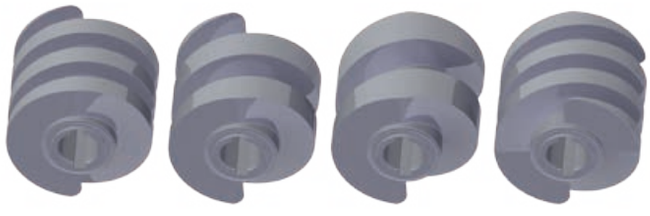
WORKING PRINCIPLE & PERFORMANCE

Mode of operation

3P Prinz FMH & LMH twin-screw-pumps are single-flow and self-priming. Two non-contacting intermeshing screws and the pump housing form closed chambers that, according to the direction of rotation, constantly move towards the pressure discharge end of the pump.



Wide range of Screw Pitches and Profiles available

FMH SERIES Performance Data

	FMH 50	FMH 100	FMH 200
Capacity	Up to 12 m3/h | 53 gpm	Up to 22 m3/h| 88 gpm	Up to 30 m3/h| 132 gpm
Differential Pressure	Up to 16 barg | 232 psi	Up to 16 barg | 232 psi	Up to 16 barg | 232 psi
Rotation Speed	Up to 3000 rpm	Up to 3000 rpm	Up to 3000 rpm
Medium Temperature	-20 / +140 °C |-4 / 284 °F (160°C |320°F with oil cooler)	-20 / +140 °C |-4 / 284 °F (160°C |320°F with oil cooler)	-20 / +140 °C |-4 / 284 °F (160°C |320°F with oil cooler)
Viscosity	Up to 1.000.000 cSt	Up to 1.000.000 cSt	Up to 1.000.000 cSt

LMH SERIES Performance Data

	LMH 50	LMH 100	LMH 200	LMH 300i
Capacity	Up to 16 m3/h| 70 gpm	Up to 32 m3/h| 141 gpm	Up to 72 m3/h| 317 gpm	Up to 180 m3/h| 793 gpm
Differential Pressure	Up to 6 barg | 87 psi	Up to 6 barg | 87 psi	Up to 6 barg | 87 psi	Up to 16 barg | 232 psi
Rotation Speed	Up to 3000 rpm	Up to 3000 rpm	Up to 2600 rpm	Up to 2200 rpm
Medium Temperature	-20 / +140 °C |-4 / 284 °F (160°C |320°F with oil cooler)	-20 / +140 °C |-4 / 284 °F (160°C |320°F with oil cooler)	-20 / +140 °C |-4 / 284 °F (160°C |320°F with oil cooler)	-20 / +140 °C |-4 / 284 °F (160°C |320°F with oil cooler)
Viscosity	Up to 1.000.000 cSt	Up to 1.000.000 cSt	Up to 1.000.000 cSt	Up to 1.000.000 cSt

3P Prinz Pumps for Food & Beverage and Hygienic

Very smooth and gentle handling and hygienic production, with optimal efficiency in a wide range of operations.

Convenience

- Oils & greases
- Soups
- Sauces and Pulps
- Dressings
- Ketchup
- Mustard
- Mayonnaise
- Mousse
- Honey
- Spreads
- Salads
- Meats
- Fish
- Delicacies
- Jams

Beverage industry

- Juices
- Concentrates
- Wines
- Sparkling wine

Sweets

- Chocolate
- Liquid sugar
- Fudge
- Cream
- Raw mixtures
- Fillings

Dairy Products

- Yogurt
- Quark
- Single cream
- Butter
- Pudding
- Desserts
- Concentrates
- Melted cheese
- Homogenized Milk

Meat Products

- Sausage meat
- Sausage prep

Pharmaceutical industry

- Raw materials
- Personal care
- Cosmetics
- Bio-Pharma

3P PRINZ
PUMPS MANUFACTURING COMPANY

Via Enrico Mattei, n.293/R,
55100 MUGNANO (LU) Italy

Phone: +39 0583 491183
Fax: +39 0583 954659

Email: sales@3pprinz.com
web: www.3pprinz.com

https://twitter.com/3pprinz

https://plus.google.com/107807076723000638783

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www.3pprinz.com

sales@3pprinz.com

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