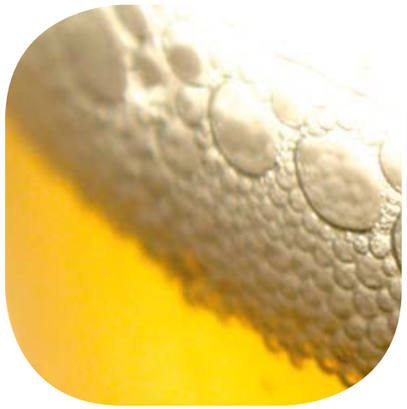
Packo
Pumps
We optimize your flow









Food Pumps

Stainless steel centrifugal pumps
for the food industries

249253-EN-260218-TEMP

A **VERDER** COMPANY

www.packopumps.com

We optimize your flow

Food manufacturers should select pumps with these two concerns in mind:

The first is food safety.
The greatest fear of food manufacturers is a food safety issue that triggers a recall or plant shutdown. That's why food pumps should be designed with optimal cleanability in mind. In this brochure you will discover why Packo pumps stands out from the competition.

The second is greater efficiency.
Most food professionals rate greater efficiency as the second most important consideration to select a pump. Their concern is to avoid production disruptions and increase throughput.
Continue reading to find out how Packo pumps will help you achieve these and even more goals.

We optimize your flow

Product overview

	EHEDG	3A	1935/2004	FDA	ATEX	MEI	Hand polished welds	Electropolished	Pump casing
FP60	-	-	√	√	O	√	√	√	Pressed
FP1	-	-	√	√	O	√	√	√	Pressed
FP2	-	-	√	√	O	√	√	√	Pressed
FP2+	-	√	√	√	O	√	√	√	Pressed
FP3	√	-	√	√	O	√	√	√	Pressed
MFP2	-	-	√	√	O	√	√	√	Investment Cast
MFP3	-	-	√	√	O	√	√	√	Investment Cast
FPP2	-	-	√	√	O	-	√	√	Machined
FMS	-	-	√	√	O	-	√	√	Pressed or Investment cast
CRP	√	-	√	√	O	-	√	√	Pressed
CRP+	√	√	√	√	O	-	√	√	Pressed
SFP2	-	-	√	√	O	-	√	√	Pressed
SFP3	-	-	√	√	O	-	√	√	Pressed
RMO	√	-	√	√	-	√	√	√	Pressed or Investment cast
VPCP	-	-	√	√	-	-	-	√	Welded
IMO	-	-	√	√	-	-	-	√	Pressed or Investment cast

	Impeller	Quench seal	Double seal	Special feature	Page
FP60	Open	O	-	Hygienic low cost process pump	16
FP1	Open	-	-	Hygienic process pump with limited options	18
FP2	Open	O	O	Hygienic process pump	20
FP2+	Open	O	O	3A certified hygienic process pump	22
FP3	Closed	O	O	EHEDG certified	24
MFP2	Open or Semi-open	O	O	Extreme energy saving thanks to optimum pump hydraulics	26
MFP3	Closed	O	O	Flow up to 1200 m³/h	28
FPP2	Open	O	O	Max inlet pressure: 40 bar	30
FMS	Open	O	O	Multistage pump	32
CRP	Open or Closed	O	O	Air handling centrifugal (CIP return)	34
CRP+	Open	O	O	Air handling centrifugal (CIP return)	36
SFP2	Open	O	O	High shear pump	38
SFP3	Closed	O	O	High shear pump	38
RMO	Open or Closed	-	-	Milk collecting pump for lorries & trucks	40
VPCP	Vane	-	-	Large free passage, damage free pumping	42
IMO	Open, Closed or Vortex	-	-	Cantilever pump up to max 200°C for hot frying oil	44

Legend

√ = approved/standard
O = optional

Our expertise in your market

Dairy and general food industry

Packo Pumps has unrivalled experience in this sector. E.g. we have developed the first pumps for the dairy industry and have continuously improved them with our customers. Although the industry puts high demands on the cleanability of the pumps, the standards are far exceeded by Packo Pumps. The basis for this is a well-considered design and the standard application of electropolishing as a final surface treatment. A number of EHEDG and 3A certified pumps were developed specifically for this sector.

Typical applications:
Milk, whey, curd, brine, yeast, blood, CIP, etc.

Vegetables & potatoes

A significant part of our core business is realised in this sector. Based on our experience, we may call ourselves specialists in this market segment.
Whether it is about damage free pumping of potatoes or any kind of vegetable, in all these cases Packo Pumps provides you with a reliable solution.
A well thought out design ensures smooth and damage free pumping without losing track of the hygienic aspect, durability or reliability.

Typical applications:
Transfer and blanching of potatoes and vegetables.

Brewery and beverages

Perfect cleanability, high reliability, minimal product damage, low noise and extremely high pump efficiencies resulting in lower energy bills, are some of the most important properties for this field of application.
With a flow rate up to 1200 m³/h Packo Pumps offers just about the widest range of food grade pumps for this market segment. Packo Pumps is heading to become the norm in this market. The fact that the Packo pump for beer and wine filtration became a standard, is the strongest evidence for this.

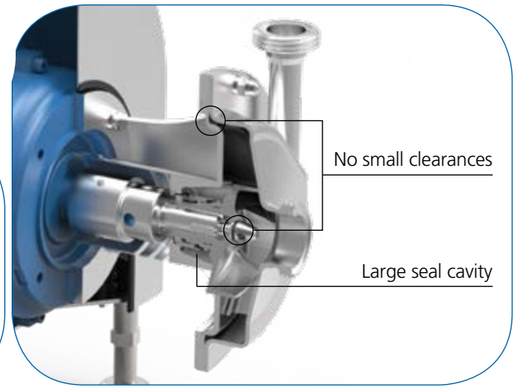
Typical applications:
Wine, beer and fruit juice filtration, gentle pumping of mash as well as handling trub, water, sugar solutions, syrups, extracts, CIP, etc.

Meat, fish & frying oil

Some of the toughest applications take place in this sector. The production process - from transferring seafood, preparing and injecting brine or pumping frying oil at 200°C- is extremely demanding for the pumps.
There are many reasons to prefer Packo pumps for the job. One is their unrivalled durability and efficiency when it comes to working in harsh conditions.

Typical applications:
Transfer of fish and seafood, handling brine, batter and frying oil to 200 °C.

Perfectly cleanable construction. EHEDG and 3A certificate available for food pumps, pharmaceutical pumps and also for CIP return pumps.



Hydraulic high quality product with the highest pump efficiencies and lowest NPSH values.

Lower energy bills thanks to Packo Pumps.

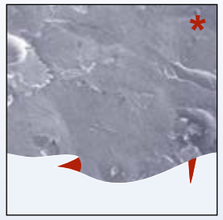
Easy, modular, maintenance friendly and robust concept.

Electropolished design

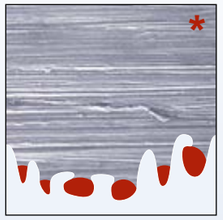
(for wetted & non-wetted parts)

Electropolished

All pumps are electro-polished. Compared to other techniques, this has the following advantages:
- easy to clean
- increased corrosion resistance
- no bacteria traps



Glass bead blasted *



Mechanical polishing 240 grit *

* Higher risk of bacteria traps with other pump brand.

Designed for food

Packo pumps are designed to be outstanding in the food industry. With their unparallelled hygienic and robust design, they rank among the most efficient pumps in the food sector. Discover some of Packo pumps characteristics and find the perfect match for your food production process.

Standardized mechanical seals to EN12756. Limited number of dimensions for the full Packo pump range.

Sterile balanced seals (spring not in contact with liquid) available, also for higher inlet pressures.

According to applicable standards and legislations, particularly within Europe, but also outside.

Before shipping all pumps are subjected to a thorough automated testing procedure. Performance and hydrostatic pressure tests, as well as a vibration test and control of the main dimensions are part of the standard test procedure. 100% final inspection!

ISO 9001:2008
ISO 14001

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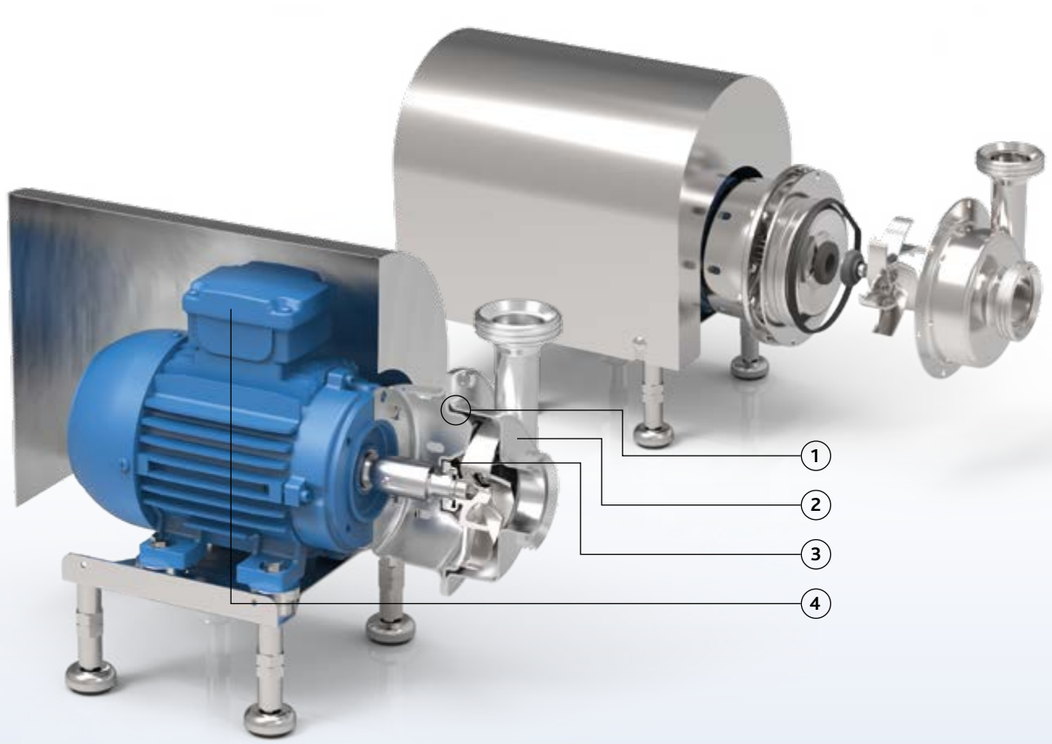
Standardized motor dimensions to IEC. Available in accordance with local motor laws.

Pump series FP60

Characteristics

These low cost pumps have stainless steel 316L pump casings constructed in cold rolled plate, 100% non-porous and extremely smooth. The pumps have open investment cast impellers in 316L. Thanks to its crevice-free design and electropolishing as a final surface treatment, the FP60 pump series are a reliable component for your food production process.



FP60

1 Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring

2 Pressed stainless steel in 2B quality plate, extremely smooth

3 Large seal cavity to clean mechanical seal properly

4 Monobloc execution with std. IEC motors

5 FDA approved mechanical seals

6 One seal diameter for the entire range: Ø 18

mechanical seal

Your benefits

- High pump efficiency resulting in lower energy consumption
- Low NPSH values: less risk on cavitation
- Electropolished: easy to clean
- Easy construction and easy maintenance: less downtime
- Easy to install
- Best value for money

Application areas

The FP60 food pump series are mainly used for pumping clean and slightly contaminated liquids coming from dairies, cheese factories, breweries, distilleries, beverage industry, etc.

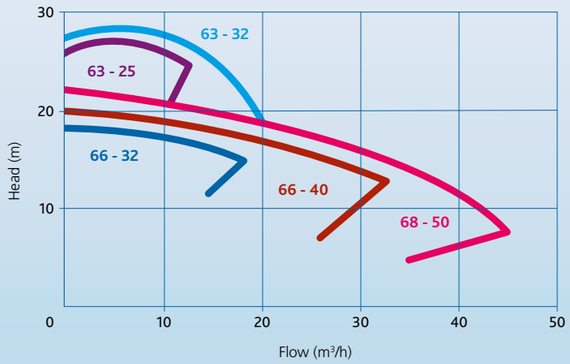
They are often used as process pump for heat exchangers, filtration units, filling machines, brine injectors, batter machines and CIP cleaning systems.

Typical liquids are milk, whey, curd, batter, brine, beer, CIP, alcohol, etc.

Pump series	FP60
Performance	
max. flow rate	40 m³/h
max. differential head	27 m
max. inlet pressure	3 bar
max. liquid viscosity	500 cP
max. temperature	95°C
impeller type	open
max. free passage	15 mm
max. motor power	2.2 kW
max. speed	3000/3600 rpm
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single, quench
available material o-ring	EPDM, FKM
connections	hygienic fittings
surface finish	hygienic quality, internal welds hand polished + electropolished (casing 0.8 µm - impeller 3.2 µm)
certificates & legislation	

Performance curves at 2900 rpm

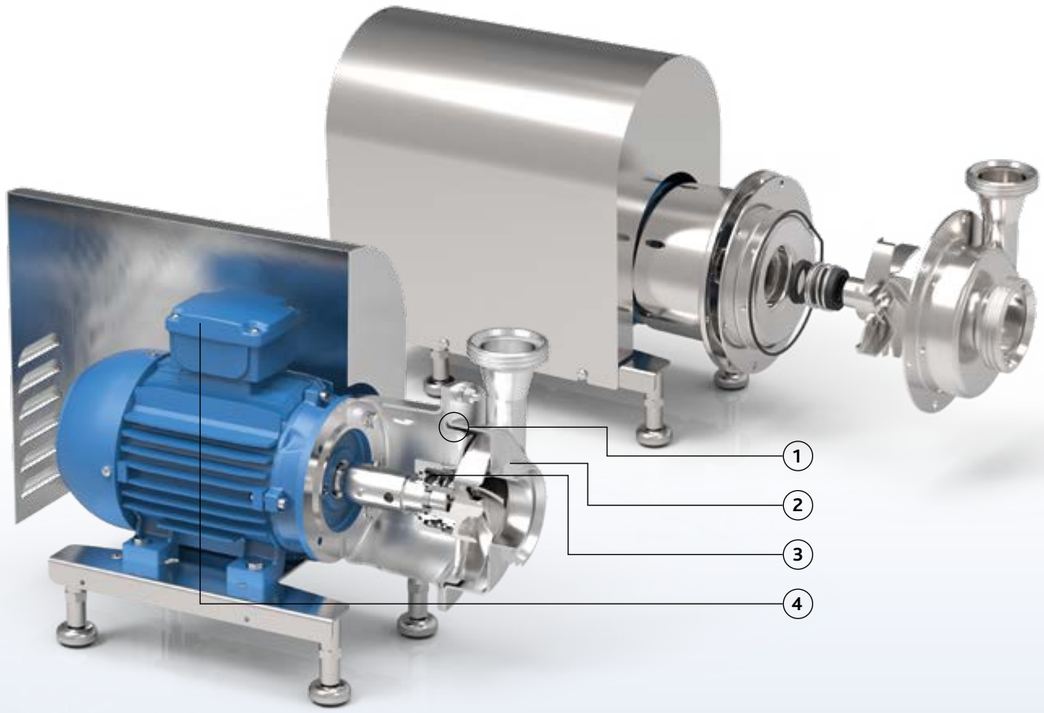
FP60



Pump series FP1

Characteristics

The Packo stainless steel centrifugal pumps of the FP1 series are the best “value for money” food grade pumps, mainly used for pumping clean and slightly contaminated liquids. This series achieves an overall high efficiency, leading to a lower energy consumption for your production process. Thanks to its modular concept it also guarantees an easy maintenance.



FP1

1 Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring

2 Pressed stainless steel in 2B quality plate, extremely smooth

3 Large seal cavity to clean mechanical seal properly

4 Monobloc execution with std. IEC motors

5 Standardized mechanical seals to EN 12756
FDA approved bellow mechanical seals or sterile O-ring seals (spring not in contact with the liquid)

6 One seal diameter for the entire range: Ø 33

5 6

bellow seal

sterile seal

Your benefits

- High pump efficiency resulting in lower energy consumption
- Low NPSH values: less risk on cavitation
- Electropolished: easy to clean
- Easy construction and easy maintenance: less downtime
- Easy to install
- Best value for money

Application areas

FP1 pumps are mainly used for pumping clean and light contaminated products from dairies, cheese dairies, breweries, distilleries, beverage industry, etc.

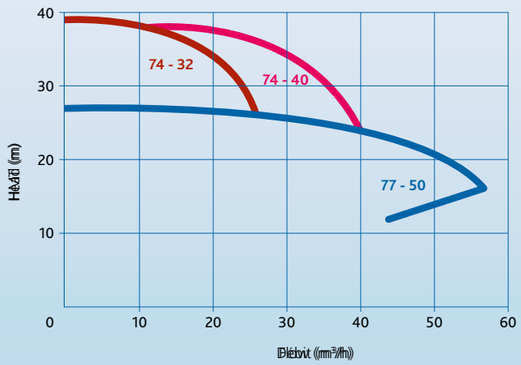
They are often used as process pumps for heat exchangers, filtration units, filling machines, brine injectors, batter machines and CIP cleaning systems.

Typical fluids are milk, whey, curd, batter, brine, beer, CIP, alcohol, etc.

Pump series	FP1
Performance	
max. flow rate	55 m³/h
max. differential head	40 m
max. inlet pressure	6 bar
max. liquid viscosity	1000 cP
max. temperature	140°C
impeller type	open
max. free passage	18 mm
max. motor power	5.5 kW
max. speed	3000/3600 rpm
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single
available material o-ring	EPDM, FKM, FEP, FFKM
connections	hygienic fittings
surface finish	hygienic quality, internal welds hand polished + electropolished (casing 0.8 µm - impeller 3.2 µm)
certificates & legislation	

Performance curves at 2900 rpm

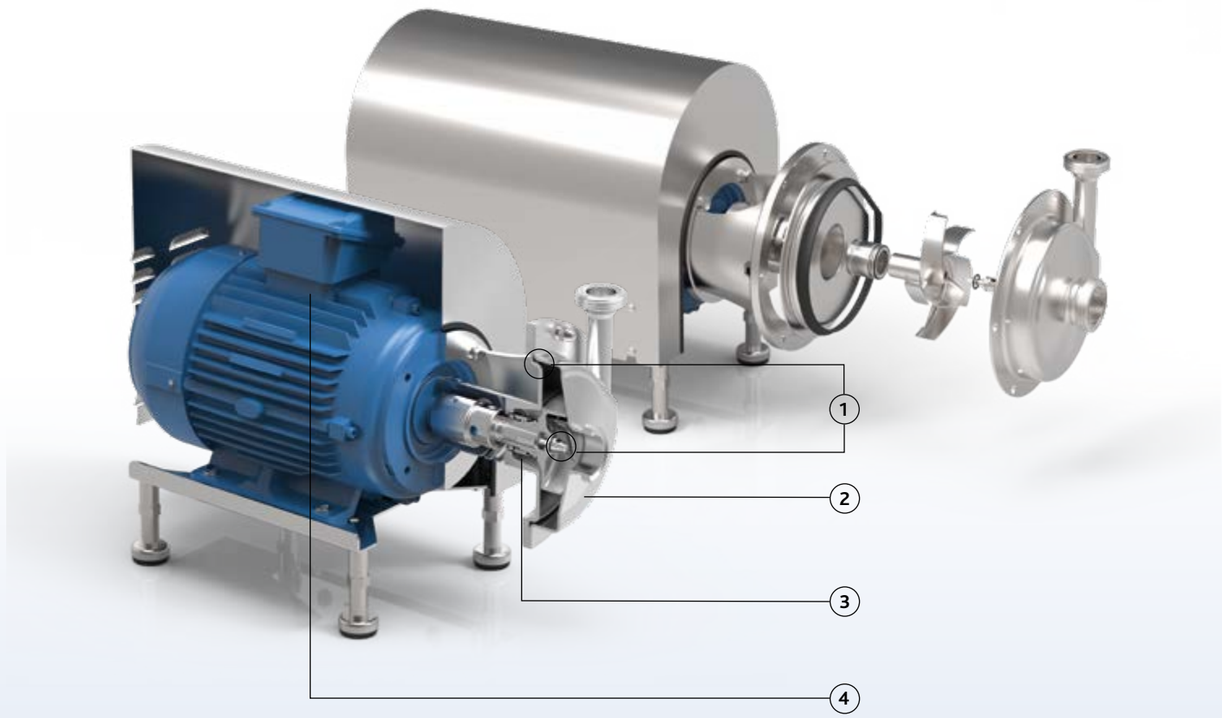
FP1



Pump series FP2

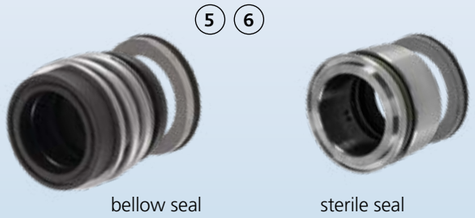
Characteristics

These pumps have stainless steel 316L pump casings constructed in thick cold rolled plate, 100% non-porous and extremely smooth. The pumps have open investment cast impellers, constructed in 316L or duplex materials. Thanks to its crevice-free design and electropolishing as a final surface treatment, the FP2 pump series are perfectly cleanable, resulting in a reliable component for your food production process.



FP2

1. Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring
2. Pressed stainless steel in 2B quality plate, extremely smooth
3. Large seal cavity to clean mechanical seal properly
4. Monobloc execution with std. IEC motors
5. Standardized mechanical seals to EN 12756 FDA approved bellow mechanical seals or sterile O-ring seals (spring not in contact with the liquid)
6. One seal diameter: Ø 33 mm, except for 250 types: Ø 43 mm



bellow seal

sterile seal

Your benefits

- High pump efficiency resulting in lower energy consumption
- Low NPSH values: less risk on cavitation
- Electropolished: perfectly cleanable
- Easy construction and easy maintenance: less downtime
- Standard components
- Easy to install
- 2 mechanical seal diameters for entire range
- Robust construction

Application areas

The Packo process pumps of the FP2 series are used in the most demanding hygienic applications in almost all industries such as dairies, breweries, beverage industry, distilleries, etc.

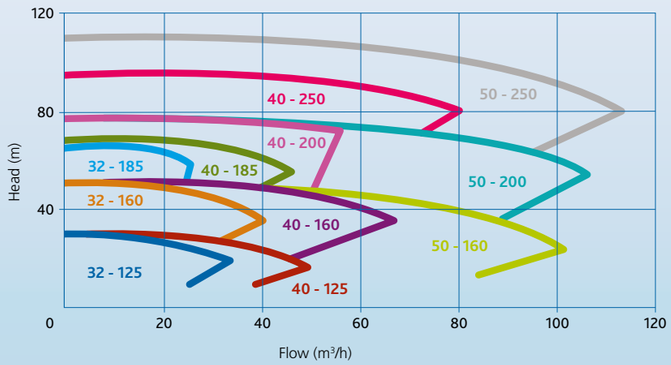
They are the ideal solution for filtration applications, pasteurisation, evaporating systems, yeast propagation and for CIP cleaning systems as well.

Typical applications include filtration of beer, wine and fruit juices as well as pumping yeast, whey and curd.

Pump series	FP2
Performance	
max. flow rate	110 m³/h
max. differential head	110 m
max. inlet pressure	13 bar
max. liquid viscosity	1000 cP
max. temperature	140°C
impeller type	open
max. free passage	22 mm
max. motor power	45 kW
max. speed	3000/3600 rpm
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single bellow, sterile, quench, double
available material o-ring	EPDM, FKM, FEP-FKM, FFKM, Silicone
connections	hygienic fittings
surface finish	hygienic quality, internal welds hand polished + electropolished (casing 0.8 µm - impeller 3.2 µm)
certificates & legislation	

Performance curves at 2900 rpm

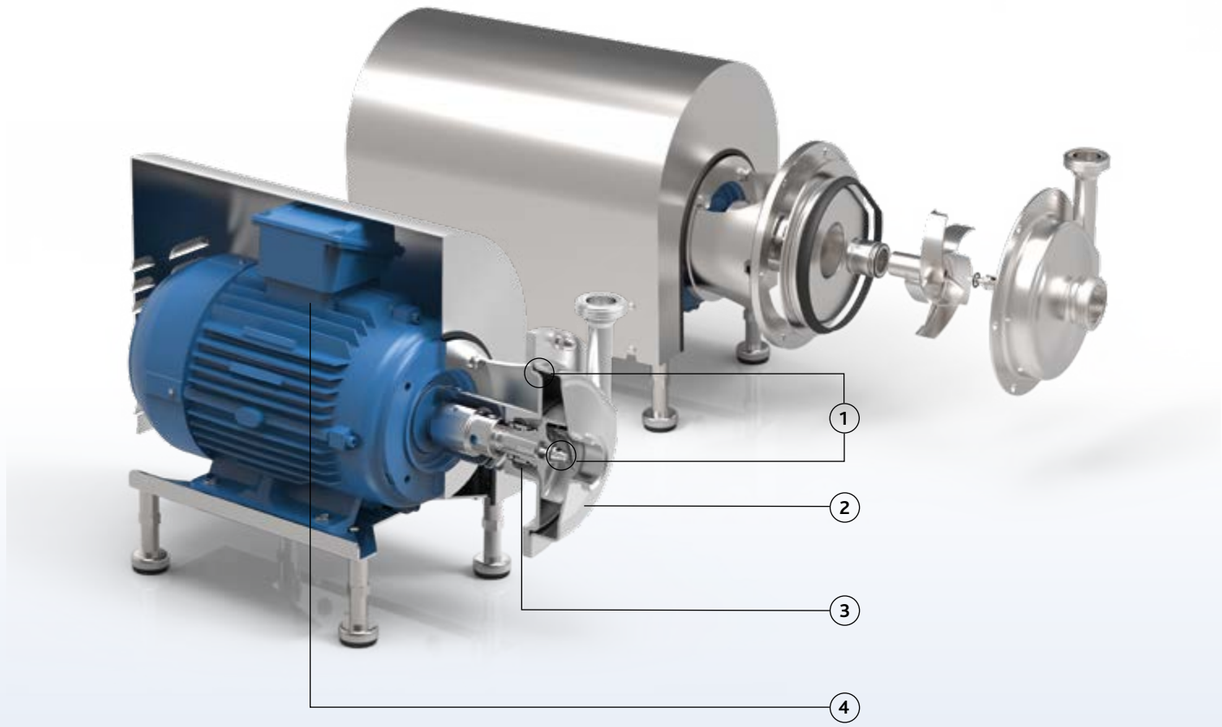
FP2



Pump series FP2+

Characteristics

These 3A certified pumps have stainless steel 316L pump casings constructed in thick cold rolled plate, 100% non-porous and extremely smooth. The pumps have open investment cast impellers, constructed in 316L or duplex materials. Thanks to its crevice-free design and electropolishing as a final surface treatment, the FP2+ pump series are perfectly cleanable, resulting in a reliable component for your production process.



FP2+

1 Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring

2 Pressed stainless steel in 2B quality plate, extremely smooth

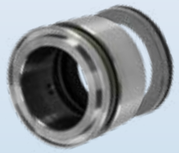
3 Large seal cavity to clean mechanical seal properly

4 Monobloc execution with std. IEC motors

5 Standardized mechanical seals to EN 12756 FDA approved sterile O-ring seals (spring not in contact with the liquid)

6 One seal diameter: Ø 33 mm, except for 250 types: Ø 43 mm

5 6



sterile seal

Your benefits

- High pump efficiency resulting in lower energy consumption
- Low NPSH values: less risk on cavitation
- Electropolished: perfectly cleanable
- Easy construction and easy maintenance: less downtime
- Standard components
- Easy to install
- 2 mechanical seal diameters for entire range
- Robust construction

Application areas

The Packo 3A certified process pumps of the FP2+ series are used in the most demanding hygienic applications in almost all industries such as dairies, breweries, beverage industry, distilleries, etc.

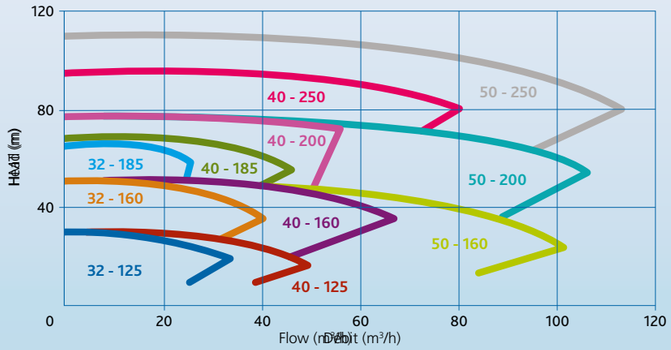
They are the ideal solution for filtration applications, pasteurisation, evaporating systems, yeast propagation and for CIP cleaning systems as well.

In pharmaceutical and biotech industry they are mainly used for handling Purified Water and as CIP forward pump in cleaning systems.

Pump series	FP2+
Performance	
max. flow rate	110 m³/h
max. differential head	110 m
max. inlet pressure	13 bar
max. liquid viscosity	1000 cP
max. temperature	140°C
impeller type	open
max. free passage	22 mm
max. motor power	45 kW
max. speed	3000/3600 rpm
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single sterile, quench, double
available material o-ring	EPDM, FKM, FEP-FKM, FFKM, Silicone
connections	3A approved hygienic fittings only
surface finish	hygienic quality, internal welds hand polished + electropolished (wetted parts 0.8 µm)
certificates & legislation	

Performance curves at 2900 rpm

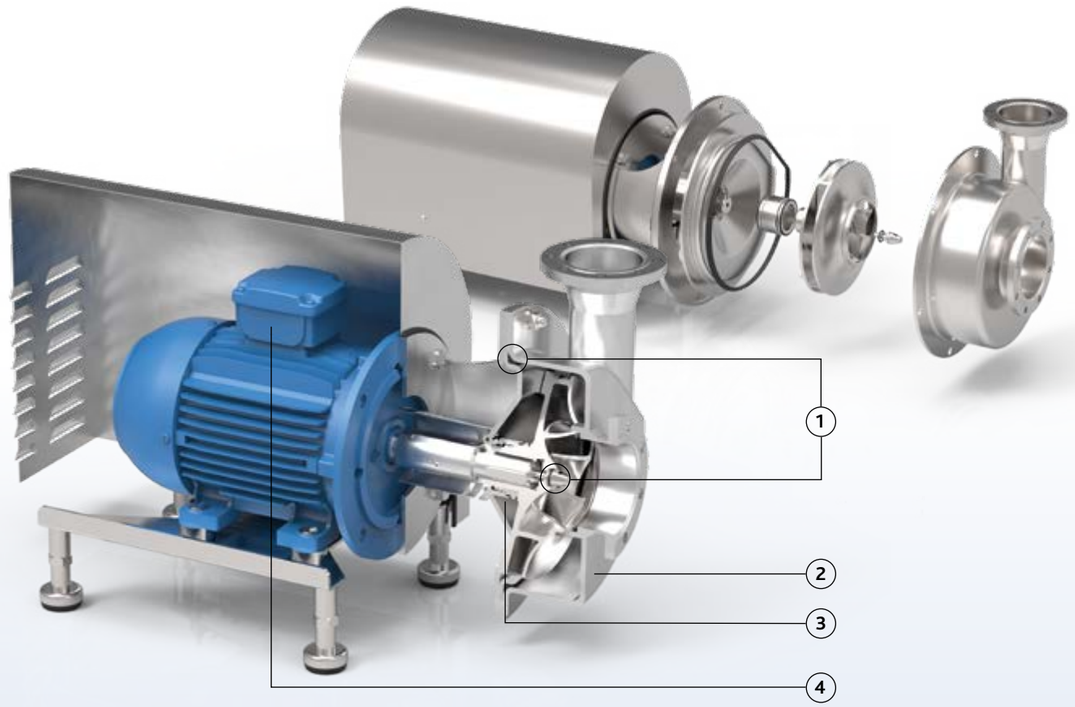
FP2+



Pump series FP3

Characteristics

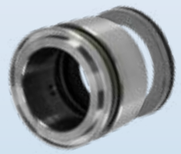
The pumps have closed impellers with 3-dimensionally profiled blades and large passage and they are constructed in 316L or duplex materials. Thanks to its crevice-free design and electropolishing as a final surface treatment, the FP3 pump series are perfectly cleanable, resulting in a reliable component for your production process. These perfectly cleanable pumps have stainless steel 316L pump casings constructed in thick cold rolled plate, 100% non-porous and extremely smooth.



FP3

1. Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring
2. Pressed stainless steel in 2B quality plate, extremely smooth
3. Large seal cavity to clean mechanical seal properly
4. Monobloc execution with std. IEC motors
5. Standardized mechanical seals to EN 12756 FDA approved bellow mechanical seals or sterile O-ring seals (spring not in contact with the liquid)
6. Two seal diameters:
   - motor power ≤ 45 kW: Ø 43 mm
   - motor power > 45 kW: Ø 70 mm

bellow seal



sterile seal

Your benefits

- High pump efficiency resulting in lower energy consumption
- Low NPSH values: less risk on cavitation
- Electropolished: perfectly cleanable
- Easy construction and easy maintenance: less downtime
- Easy to install
- 2 mechanical seal diameters for the entire range
- Robust construction

Application areas

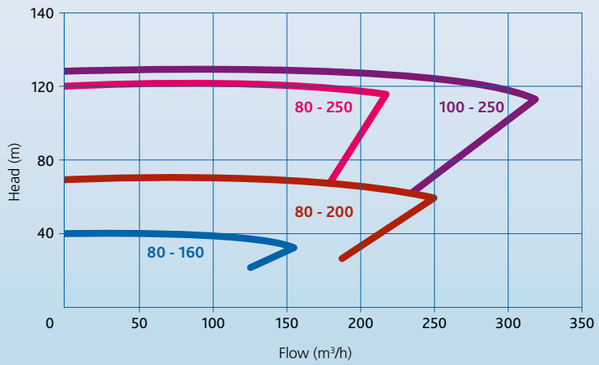
These perfectly cleanable process pumps are the ideal solution for filtration applications, pasteurisation, evaporating systems, yeast propagation and for CIP cleaning systems as well.

Typical applications include filtration of beer, wine and fruit juices as well as pumping yeast, whey and curd.

Pump series	FP3
Performance	
max. flow rate	320 m^3/h
max. differential head	120 m
max. discharge pressure	15 bar
max. liquid viscosity	500 cP
max. temperature	140°C
impeller type	closed with back vanes and balancing holes
max. free passage	21 mm
max. motor power	90 kW
max. speed	3000/3600 rpm
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single, quench, double
available material o-ring	EFDM, FKM, FEP-FKM, FFKM, Silicone
connections	hygienic fittings
surface finish	hygienic quality, internal welds hand polished + electropolished (casing 0.8 µm - impeller 3.2 µm)
certificates & legislation	

Performance curves at 2900 rpm

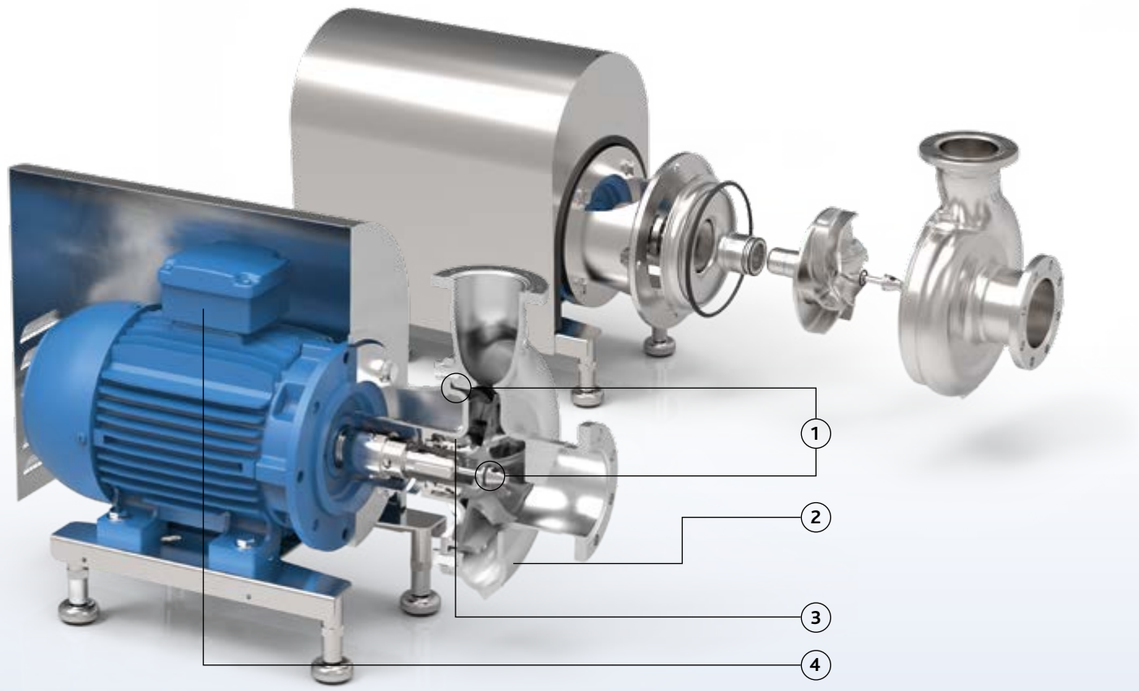
FP3



Pump series MFP2

Characteristics

The Packo pumps of the MFP2 series are used on the most demanding hygienic applications in almost all industries such as dairies, breweries, beverage industry, distilleries, etc. These robust pumps have stainless steel 316L cast pump casings and open or semi-open investment cast impellers, constructed in 316L or duplex materials.
Thanks to its crevice-free design and electropolishing as a final surface treatment, the MFP2 pump series are the ideal reliable component for your production process.



MFP2

1 Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring

2 Solid design thanks to investment cast casings and impellers

3 Large seal cavity to clean mechanical seal properly

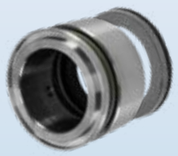
4 Monobloc execution with std. IEC motors

5 Standardized mechanical seals to EN 12756
FDA approved bellow mechanical seals or sterile O-ring seals (spring not in contact with the liquid)

6 One seal diameter for the entire range: Ø 33 mm

5 6

bellow seal



sterile seal

Your benefits

- High pump efficiency resulting in lower energy consumption
- Low NPSH values: less risk on cavitation
- Electropolished: easy to clean
- Easy construction and easy maintenance: less downtime
- Standard components
- Easy to install
- Robust construction

Application areas

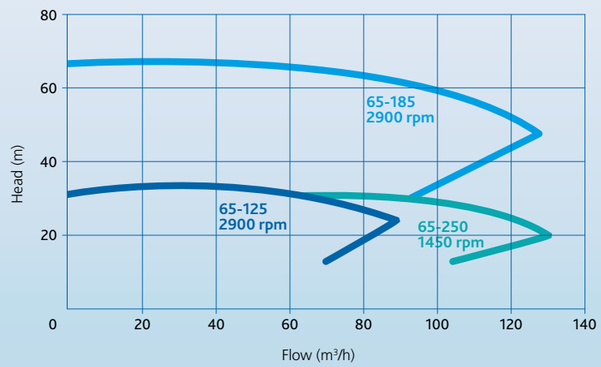
These robust process pumps are the ideal reliable component for filtration applications, pasteurization, yeast propagation as well as for CIP cleaning systems.

Typical applications include filtration of beer, wine and fruit juices as well as pumping yeast, whey, curd, CIP, etc.

Pump series	MFP2
Performance	
max. flow rate	120 m^3/h
max. differential head	65 m
max. inlet pressure	10 bar
max. liquid viscosity	1000 cP
max. temperature	140°C
impeller type	open and semi-open
max. free passage	25 mm
max. motor power	22 kW
max. speed	3000/3600
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single, quench, double
available material o-ring	EPDM, FKM, FEP-FKM, FFKM, Silicone
connections	hygienic fittings
surface finish	hygienic quality, internal welds hand polished + electropolished
certificates & legislation	

Performance curves

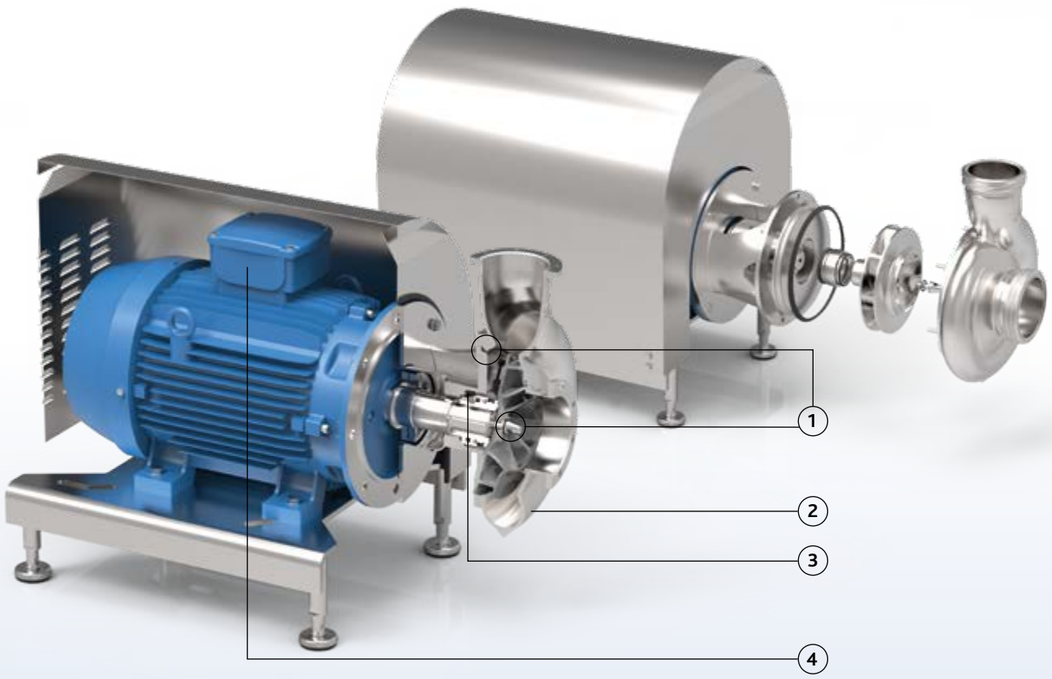
MFP2



Pump series MFP3

Characteristics

The Packo pumps of the MFP3 series are used on the most demanding hygienic applications in almost all industries such as dairies, breweries, beverage industry, distilleries, etc. These robust pumps have stainless steel 316L cast pump casings and closed investment cast impellers, constructed in 316L or duplex materials.
Thanks to its crevice-free design and electropolishing as a final surface treatment, the MFP3 pump series are the ideal reliable component for your production process.



MFP3

1 Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring

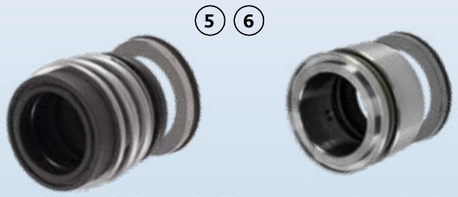
2 Solid design thanks to investment cast casings and impellers

3 Large seal cavity to clean mechanical seal properly

4 Monobloc execution with std. IEC motors

5 Standardized mechanical seals to EN 12756
FDA approved bellow mechanical seals or sterile O-ring seals (spring not in contact with the liquid)

6 Mechanical seal diameters depending on motor power: 43 - 70 - 110 mm



gabelow seal soufflet

stérile

Your benefits

- High pump efficiency resulting in lower energy consumption
- Low NPSH values: less risk on cavitation
- Electropolished: easy to clean
- Easy construction and easy maintenance: less downtime
- Standard components
- Easy to install
- Robust construction

Application areas

These robust process pumps are the ideal reliable component for filtration applications, pasteurization, yeast propagation as well as for CIP cleaning systems.

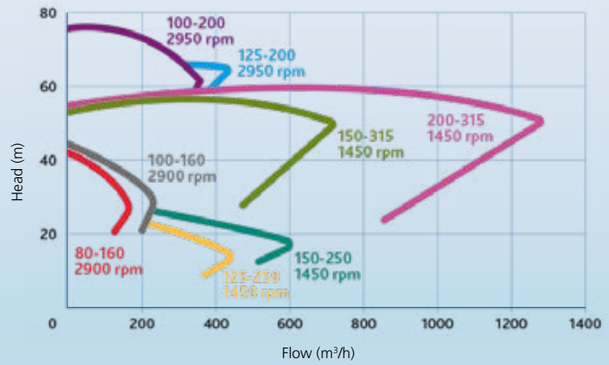
Typical applications include filtration of beer, wine and fruit juices as well as pumping yeast, whey, curd, CIP, etc.

Pump series	MFP3
Performance	
max. flow rate	1200 m³/h *
max. differential head	70 m
max. discharge pressure	12 bar
max. liquid viscosity	500 cP
max. temperature	140°C
impeller type	closed with back vanes and balancing holes
max. free passage	27 mm
max. motor power	250 kW
max. speed	3000/3600
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single, quench, double
available material o-ring	EPDM, FKM, FEP-FKM, FFKM, Silicone
connections	hygienic fittings
surface finish	hygienic quality, internal welds hand polished + electropolished
certificates & legislation	

* Higher capacities up to 1700 m³/h available in industrial range (industrial fittings and welds not hand-polished).

Performance curves

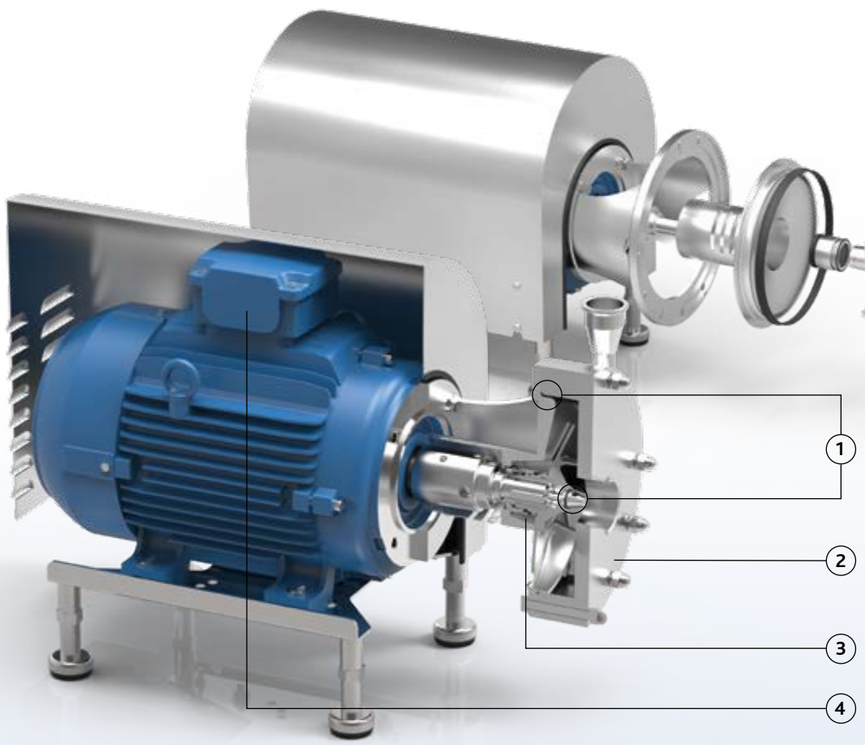
MFP3



Pump series FPP2

Characteristics

The food grade Packo stainless steel pumps of the FPP2 series are pumps made of solid, machined stainless steel 316L and are extremely suitable for high system pressure applications up to 40 bar. Typical applications can be found in reverse osmosis applications in all kind of food related applications such as whey filtration, CIP waste filtration, beer filtration, etc.



FPP2

1 Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring

2 Fully machined stainless steel, extremely smooth

3 Large seal cavity to clean mechanical seal properly

4 Monobloc execution with std. IEC motors

5 Standardized mechanical seals to EN 12756 FDA approved sterile O-ring seals (spring not in contact with the liquid)

6 One seal diameter Ø 33 mm

5 6

sterile seal

Your benefits

- Suitable for system pressure applications up to 40 bar
- High pump efficiency resulting in lower energy consumption
- Low NPSH values: less risk on cavitation
- Electropolished: easy to clean
- Easy construction and easy maintenance: less downtime
- Standard components
- Easy to install
- 1 seal diameter for entire range

Application areas

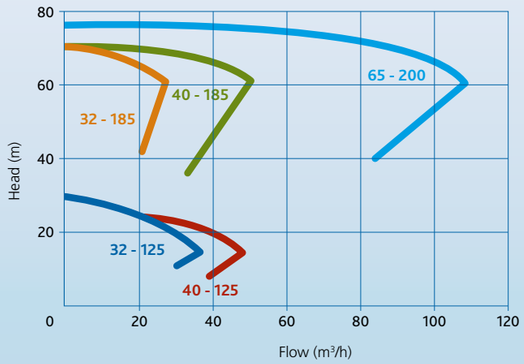
The Packo high pressure pumps of the FPP2 series are used primarily in the reverse osmosis (RO) applications for the filtration of, for example, contaminated CIP-water, whey, etc. They are also used as a booster pump in a variety of skids.

You will find them in just about all industries including the dairy industry, breweries, beverage industry as well as in water treatment industry.

Pump series	FPP2
Performance	
max. flow rate	70 m³/h
max. differential head	70 m
max. inlet pressure	max. 40 bar
max. liquid viscosity	500 cP
max. temperature	140°C
impeller type	open
max. free passage	15 mm
max. motor power	22 kW
max. speed	3000/3600 rpm
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single, quench, double
available material o-ring	EPDM, FKM, FEP-FKM, FFKM, Silicone
connections	Tri-Clamp connections
surface finish	hygienic quality, internal welds hand polished + electropolished
certificates & legislation	

Performance curves at 2900 rpm

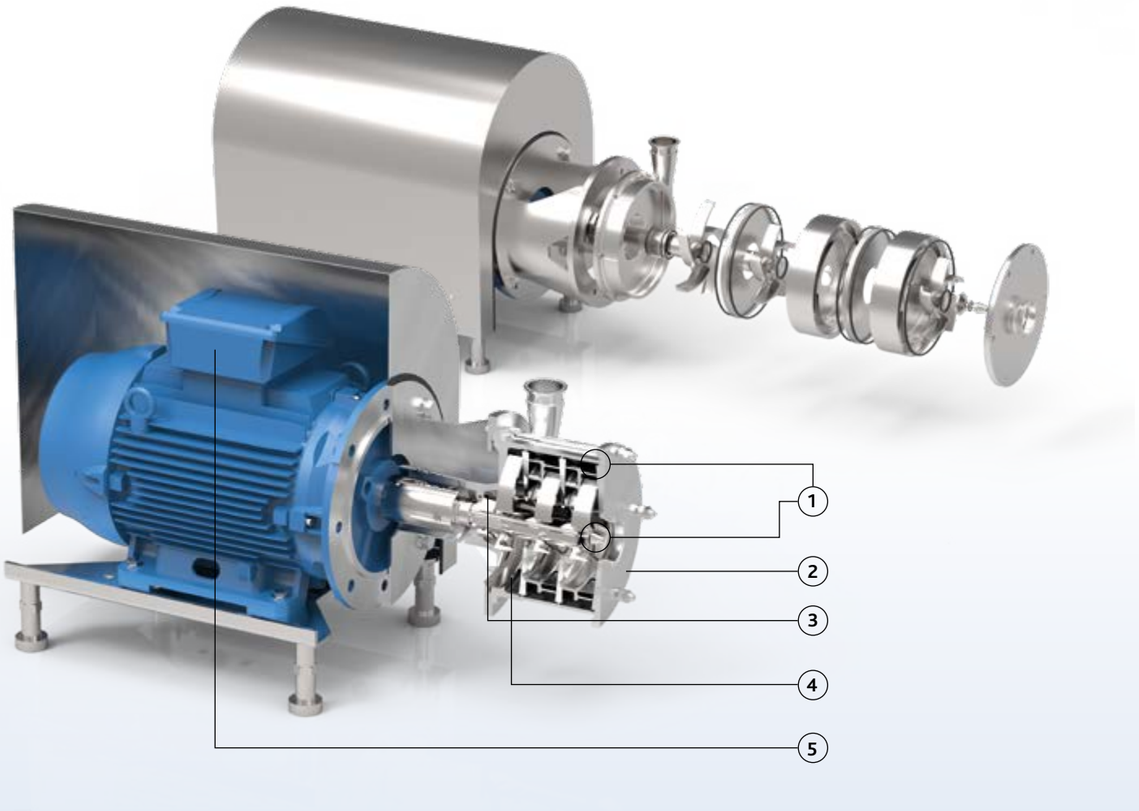
FPP2



Pump series FMS

Characteristics

The hygienically designed Packo multistage pumps from the FMS series are used as process pump in the most diverse applications in food, pharmaceutical and chemical industries. They are the right match for operations at moderate flows and high pressures.



FMS

1 Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring

2 Investment cast design

3 Large seal cavity to clean mechanical seal properly

4 Open impellers: no axial forces on motor bearings

5 Monobloc execution with std. IEC motors

6 Standardized mechanical seals to EN 12756 FDA approved bellow mechanical seals or sterile O-ring seals (spring not in contact with the liquid)

6

bellow seal

sterile seal

Your benefits

- Ideal for operation at moderate flow rate and high pressures
- High pump efficiency resulting in lower energy consumption
- Low NPSH values: less risk on cavitation
- Electropolished: easy to clean
- Easy construction and easy maintenance: less downtime
- Standard components
- Easy to install

Application areas

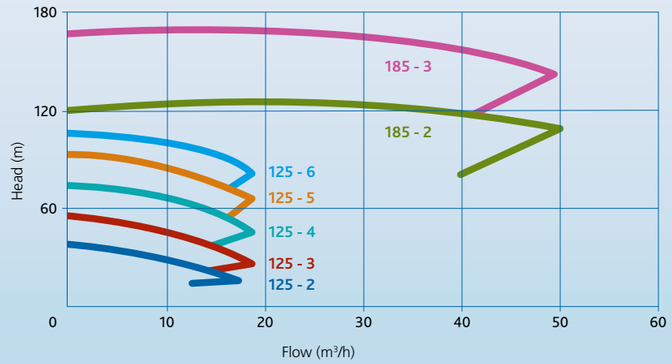
For use in food, brew, beverage, pharmaceutical and chemical industries, as transfer and mixing pump for liquid food products, drinks, medicines, lotions, etc.

Typical applications: process pump for plate heat exchangers, pasteurizer systems, filters, filling machines, mixers, deaerators, carbonators and high pressure cleaning systems.

Pump series	FMS
Performance	
max. flow rate	50 m³/h
max. differential head	160 m
max. inlet pressure	8 bar
max. liquid viscosity	250 cP
max. temperature	140°C
impeller type	open
max. free passage	14 mm
max. motor power	45 kW
max. speed	3000/3600 rpm
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single, quench, double
available material o-ring	EPDM, FKM
connections	hygienic fittings
surface finish	hygienic quality, internal welds hand polished + electropolished
certificates & legislation	

Performance curves at 2900 rpm

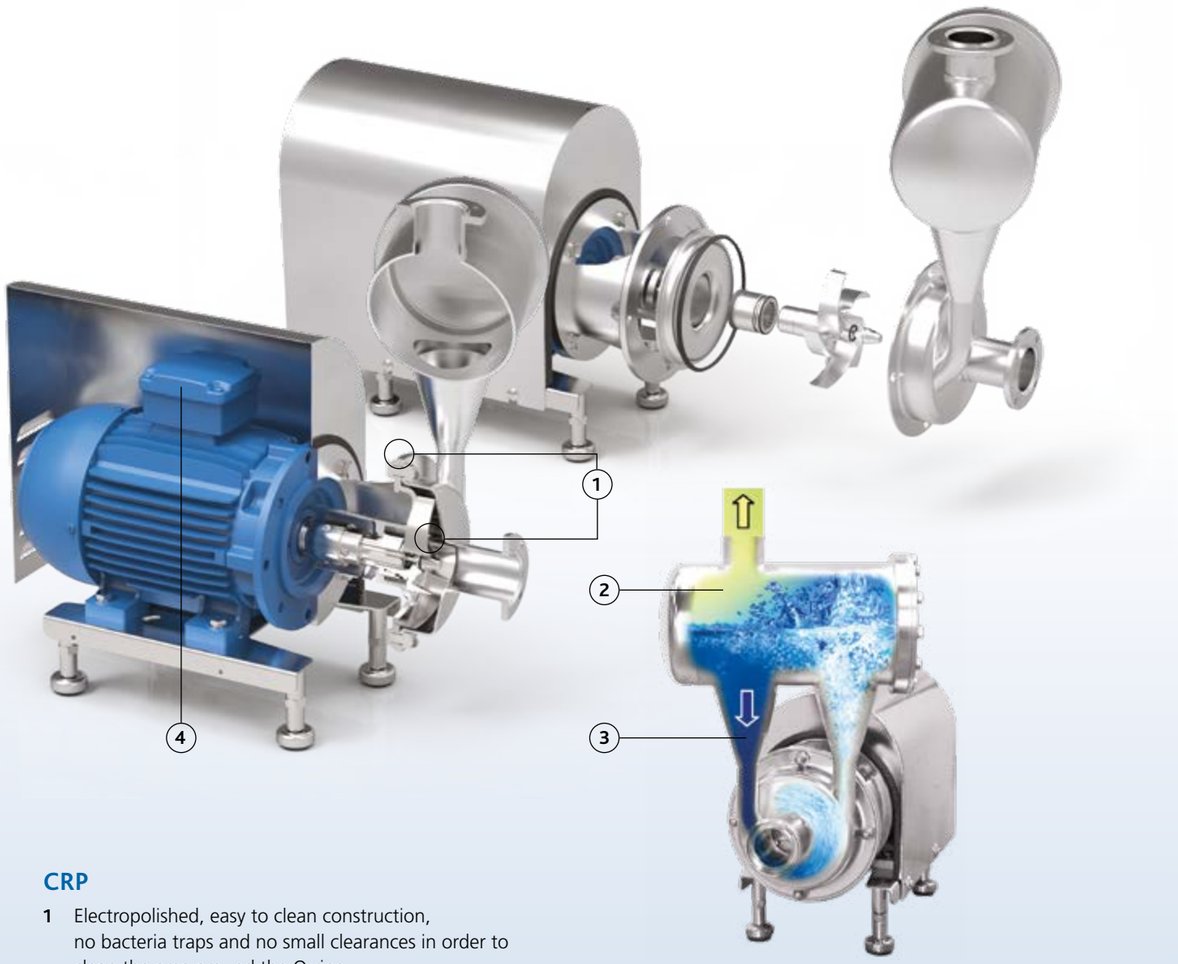
FMS



Pump series CRP

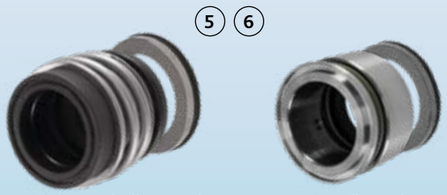
Characteristics

The pumps of the CRP series are perfectly cleanable EHEDG certified air handling pumps and are mainly used to pump a mixture of liquid and air. Constructed in thick cold rolled plate, 100% non-porous and extremely smooth.
The pumps have open or closed investment cast impellers, constructed in 316L or duplex materials. Thanks to its crevice-free design and electropolishing as a final surface treatment, the CRP pump series are perfectly cleanable, resulting in a reliable component for your production process.



CRP

1. Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring
2. Unique air handling design with cleanable air separator
3. By-pass to casing taking care about air evacuation
4. Monobloc execution with std. IEC motors
5. Standardized mechanical seals to EN 12756 FDA approved bellow mechanical seals or sterile O-ring seals (spring not in contact with the liquid)
6. One mechanical seal diameter: 33 mm, except for 80-160: Ø 43 mm



bellow seal

sterile seal

Your benefits

- Higher pump efficiency compared with a classic liquid ring pump
- Low NPSH values: less risk on cavitation
- Electropolished: perfectly cleanable
- Easy construction and easy maintenance: less downtime
- Construction without non-return valve
- Easy to install
- 2 mechanical seal diameters for the entire range
- Robust construction
- Limited noise level

Application areas

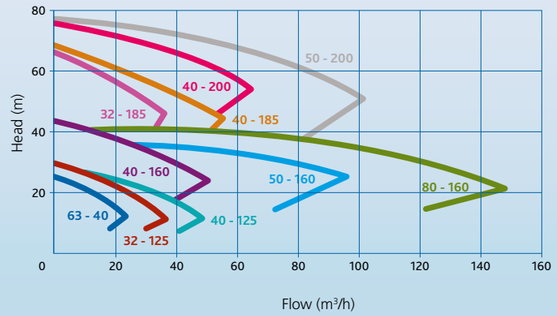
Thanks to its unique air handling design based on a standard centrifugal pump, the CRP series are particularly suitable as a CIP return pump, as well as for unloading applications.

They are used in the most demanding hygienic applications in almost all industries such as dairies, breweries, beverage industry, distilleries, etc.

Pump series	CRP
Performance	
max. flow rate	120 m³/h
max. differential head	75 m
max. inlet pressure	10 bar
max. liquid viscosity	10 cP
max. temperature	140°C
impeller type	open or closed
max. free passage	22 mm
max. motor power	22 kW
max. speed	3000/3600 rpm
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single bellow, sterile, quench, double
available material o-ring	EPDM, FKM, FEP-FKM, FFKM or similar
connections	hygienic fittings only
surface finish	hygienic quality, internal welds hand polished + electropolished (casing: 0.8 µm + impeller: 3.2 µm)
certificates & legislation	

Performance curves at 2900 rpm

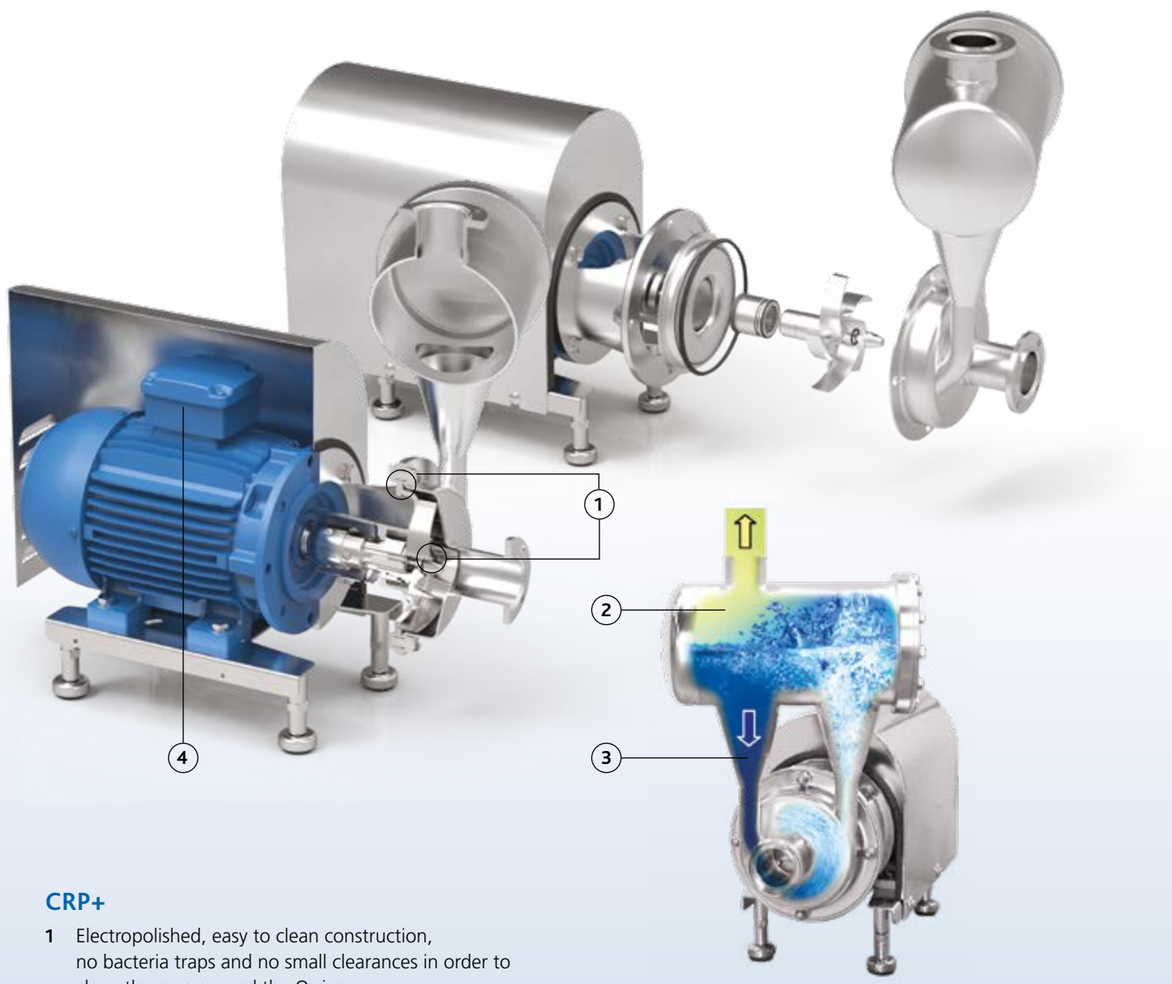
CRP



Pump series CRP+

Characteristics

The pumps of the CRP+ series are perfectly cleanable EHEDG and 3A certified air handling pumps and are mainly used to pump a mixture of liquid and air. Constructed in thick cold rolled plate, 100% non-porous and extremely smooth. The pumps have open investment cast impellers, constructed in 316L or duplex materials. Thanks to its crevice-free design and electropolishing as a final surface treatment, the CRP+ pump series are perfectly cleanable, resulting in a reliable component for your production process.



CRP+

1 Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring

2 Unique air handling design with cleanable air separator

3 By-pass to casing taking care about air evacuation

4 Monobloc execution with std. IEC motors

5 Standardized mechanical seals to EN 12756 FDA approved sterile O-ring seals (spring not in contact with the liquid)

6 One mechanical seal diameter: Ø 33 mm

7 Optional: Novapad seal for applications with poor lubrication

sterile seal novapad

Your benefits

- Higher pump efficiency compared with a classic liquid ring pump
- Low NPSH values: less risk on cavitation
- Electropolished: perfectly cleanable
- Easy construction and easy maintenance: less downtime
- Standard components
- Easy to install
- 1 mechanical seal diameter for the entire range
- Robust construction
- Limited noise level

Application areas

Thanks to its unique air handling design based on a standard centrifugal pump, the CRP series are particularly suitable as a CIP return pump, as well as for unloading applications.

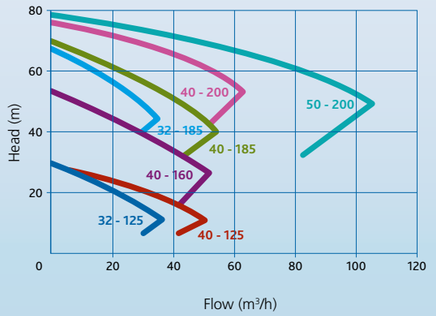
They are used in the most demanding hygienic applications in almost all industries such as dairies, breweries, beverage industry, distilleries, etc.

In pharmaceutical and biotech industry they are mainly used for CIP return applications.

Pump series	CRP+
Performance	
max. flow rate	80 m³/h
max. differential head	75 m
max. inlet pressure	10 bar
max. liquid viscosity	10 cP
max. temperature	140°C
impeller type	open
max. free passage	22 mm
max. motor power	22 kW
max. speed	3000/3600 rpm
available frequency	50/60 Hz
Technical specifications	
materials wetted parts	stainless steel 316L or similar
mechanical seal configuration	single bellow, sterile, quench, double
available material o-ring	EPDM, FKM, FEP-FKM, FFKM or similar
connections	3A hygienic fittings only
surface finish	hygienic quality, internal welds hand polished + electropolished (wetted parts 0.8 µm)
certificates & legislation	

Performance curves at 2900 rpm

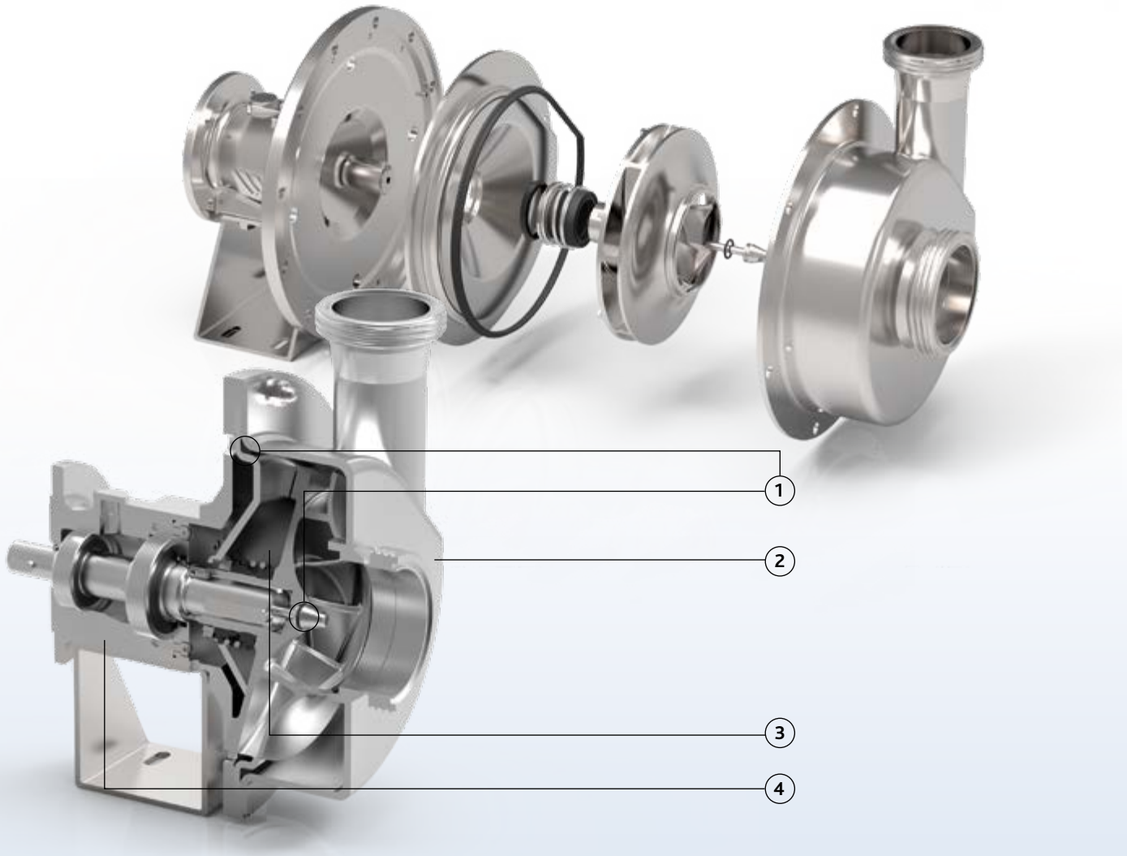
CRP+



Pump series RMO

Characteristics

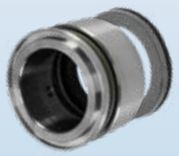
This pump serie is especially produced for installation on lorries and trucks and are constructed on a stainless steel bearing pedestal. They can be equipped with an optional hydraulic or electric motor. Pumps provided with an electric motor can be powered by the batteries of the truck and can be executed in a monobloc design.
These perfectly cleanable pumps have stainless steel 316L pump casings constructed in thick cold rolled plate, 100% non-porous and extremely smooth. Some of them have an investment cast casing, resulting in an even more solid design.



RMO

1. Electropolished, easy to clean construction, no bacteria traps and no small clearances in order to clean the area around the O-ring
2. Pressed or investment cast stainless steel, robust design
3. Large seal cavity to clean mechanical seal properly
4. Cast solid bearing housing with pedestal suitable for hydraulic motor
5. Standardized mechanical seals to EN 12756 FDA approved bellow mechanical seals or sterile O-ring seals (spring not in contact with the liquid)

bellow seal



sterile seal

Your benefits

- High pump efficiency, low motor power
- Low NPSH values: less risk on cavitation
- Short built-in dimensions, space saving
- Robust design, smooth operation
- Higher capacity
- Low noise level

Application areas

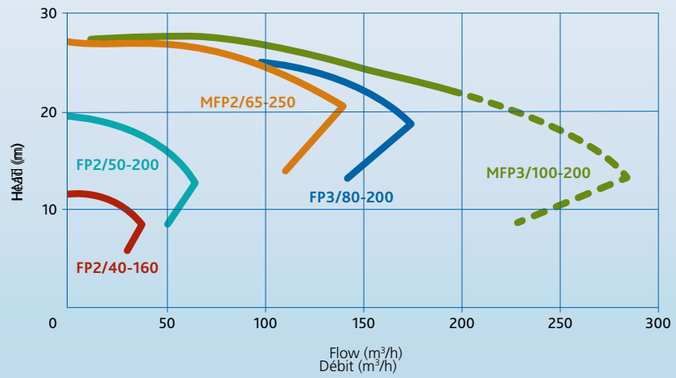
The RMO series are used on trucks and lorries for the handling of liquids in the food industry such as milk, beer and wine.

They can also be used for the handling of AD Blue, drinking water and other liquids.

Pump series	RMO
Performance	
max. flow rate	250 m³/h
max. differential head	30 m
max. inlet pressure	3 bar
max. liquid viscosity	500 cP
max. temperature	140°C
impeller type	open / closed
max. free passage	21 mm
max. speed	variable
Technical specifications	
materials wetted parts	316L or similar
mechanical seal configuration	single
available material o-ring	EPDM, FKM
connections	hygienic fittings
surface finish	hygienic quality, internal welds hand polished + electropolished (casing 0.8 µm - impeller 3.2 µm except for MFP series)
drive	hydraulic motor or electromotor
certificates & legislation	

Performance curves at 1450 rpm

RMO



In practice pumps are operating at lower or higher speed depending on the application.