

We optimize your flow



## We optimize your flow

The importance of good functioning pumps in industrial processes cannot be neglected. The continuation of the production substantially depends on the operational safety and robustness of the pumps.

But also the food safety and as a consequence the cleanability are of major importance. Furthermore energy efficiency, so your electricity cost, becomes a distinctive factor more often.

As you will discover at a later stage in this brochure, Packo unites an intensive know-how, with a profound knowledge of the company processes. We aim not only to improve the flow in the pump but also the cleanability, reliability and energy efficiency.

Whether it is the most hygienic applications, pumping contaminated liquids or pumping vegetables, mash or curd without damage, Packo pumps are the reliable partner for improving the overall business process.

“We optimize your flow” is not an empty slogan but a mission that all our staff is aware of.



# Packo

## wants to be the strongest link in the chain

Suppliers of machines and equipment for the food and other highly demanding industries are under increasing pressure. Whether it involves R&D and design engineers at industrial equipment manufacturers or project engineers involved with the installation of a new production line, they all face similar challenges. On the one hand they are trying to increase the production capacity of their clients while optimizing their own processes and reducing costs. On the other hand, on behalf of their clients they are under increasing social and legal pressure to comply with the stringent hygiene standards and reduce their environmental burden (energy, water, waste, etc.). Packo wants to help by offering pumps and services that perform better in all these areas, so that the companies who work with Packo pumps can cope with the future challenges. Packo's ambition is to be the strongest in the chain of business processes.

### Worldwide distribution network



### Packo core values

- **Trustworthy**
- **Result oriented**
- **Passionate**

### Markets in which we are at home

- **Agriculture**
- **Animal feed**
- **Beverages**
- **Breweries**
- **Chemical industry**
- **Cosmetics**
- **Dairy industry**
- **Energy saving solutions**
- **Environmental solutions**
- **Fish**
- **Pharmaceutical industry**
- **Textile**
- **Vegetables**
- **Water treatment**
- **And a lot more...**

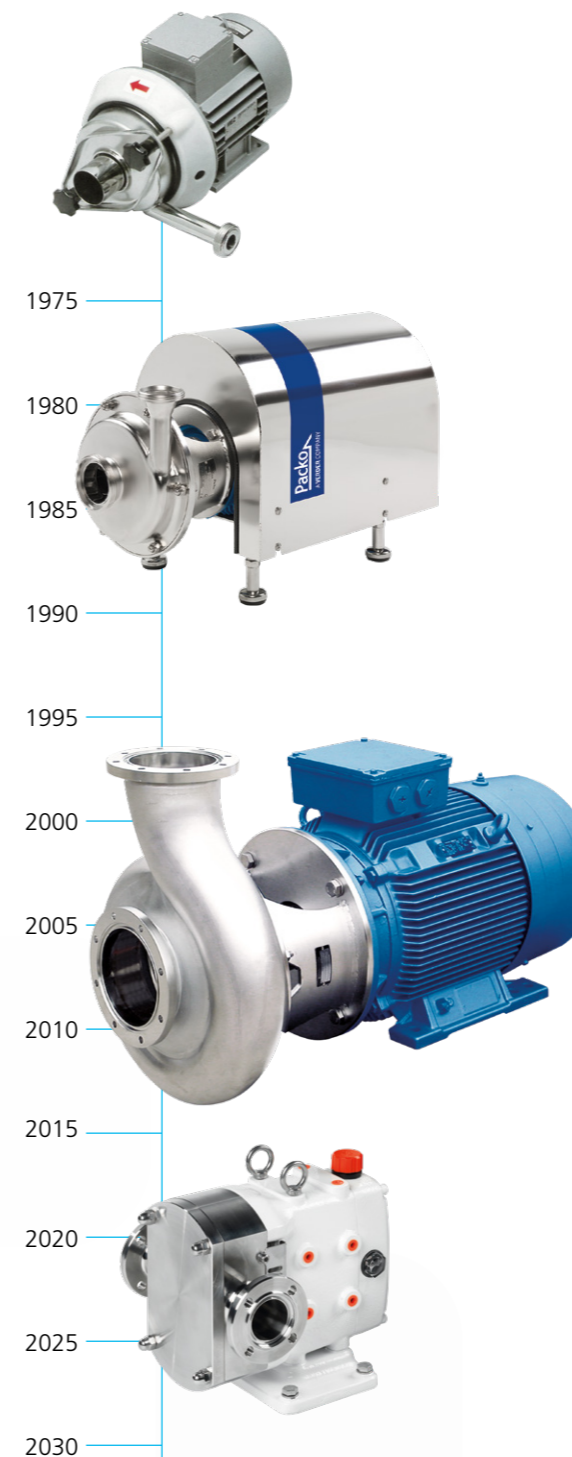
## 'The' specialist in the field of stainless steel hygienic pumps

Starting in 1975, Packo has designed and constructed stainless steel pumps for various industries. Since this date, we have supplied more than 350,000 pumps and these for the most diverse applications. The first pumps that were developed by us were destined for the dairy industry, so from the outset hygiene and cleanability were a basic requirement for Packo pumps. The use of stainless steel and the standard applying of an electrochemical surface treatment (electropolishing), find their origin here. These are two factors that make Packo pumps stand out even today. Diversification and deepening of knowledge have led to Packo being a market leader for pumps in various sectors today.

In the factory in Diksmuide we manufacture industrial pumps and hygienic components. There is also an electropolishing division which gives our products a very high degree of finish. The production plant in Diksmuide is good for a workforce of over 140 employees and manufacturing over 10,000 pump units a year! Packo is actually worldwide distributed by more than 70 sales points. The company as well as the pumps department has a sustainable organic growth, which we owe to the high quality of products and service, and the will to keep improving constantly.

Since the summer of 2015 Packo belongs to the Verder group. Together we employ 2000 people worldwide spread over different production sites and sales offices.

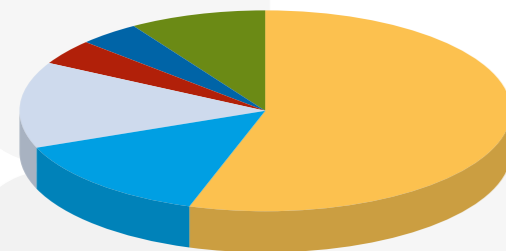
In 2020, rotary lobe, circumferential piston and twin screw pumps were added to the very extensive range of centrifugal pumps. Together with the peristaltic and membrane pumps and static and dynamic mixers from Verder, we can therefore offer a solution for every hygienic pumping, dispersing and mixing application.



# Our expertise in your market

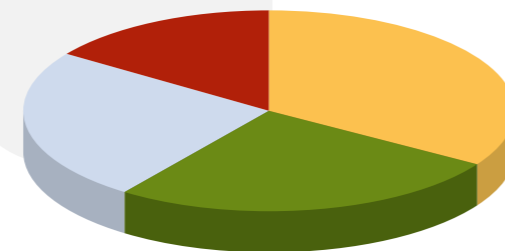
On this and the following pages you will find a brief overview of the various domains in which Packo has built up considerable expertise. This overview does not strive for completeness, because each year new developments are brought into the market. Also industries in which Packo was not active before, ask us to work together to come up with new concepts and improve existing ones.

## Market segmentation



- Food
- Pharma & biotech
- General industry & textile
- Animal feed
- Water treatment & biogas
- After sales service

## Presence in food industry



- Brewery & beverages
- Vegetables & potatoes
- Food, dairy & derivatives
- Meat, fish, frying oil

## Dairy and general food industry

Packo 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. The basis for this is a well-considered design and the standard application of electropolishing as a final surface treatment. A number of EHEDG certified pumps were developed specifically for this sector. The pumps also meet European regulation 1935/2004 EC.

### Typical applications:

Milk, yoghurt, cream, ice cream, whey, curd, brine, yeast, blood, CIP, etc.

## Beverage

When it comes to truck unloading, filtration applications, bi-directional or gentle pumping of shear sensitive liquids, with its wide range of pump technologies and capacities, Packo offers a peace-of-mind solution for every pumping application in the beverage industry. We leave the competition behind with our supreme efficiency, low shear and complete certification to worldwide regulations and standards.

### Typical applications:

Transfer of wine, juice (concentrate), soft drinks, sugar syrups, (carbonated) water, extracts, juice filtration, CIP.

## Brewery

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 1800 m<sup>3</sup>/h Packo offers just about the widest range of food grade pumps for this market segment. Packo 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:

Gentle pumping of mash, handling trub, wort, water, sugar solutions, syrups, extracts. Beer transfer and filtration, dry hopping, CIP, etc.

# Our expertise in your market

## Bakery

Packo pumps are designed for optimal performance in a wide range of viscosities and capacities. With a hygienic design, CIP-performance and optional heating/cooling capability, they are well-suited for a wide range of processes in the bakery industry, from the smallest artisanal bakery up to industrial scale operations. Unique heli-lobe rotors guarantee gentle pumping with minimal pulsation, retaining the characteristics of your valuable ingredients.

### Typical applications:

CIP, dough, cream fillings, puddings, egg, yeast, fat, paste, fondants and creams.

## Sweets

With our proven technology of special shaft seal configurations – for example, triple lip seals and knife edge seals - Packo offers a very reliable solution when it comes to the challenging sealing of sugar or chocolate based products, even where flushing is not an option, which is common in the confectionery industry. For processing tenacious masses through the pump without adding and mixing in air, Packo offers solutions including overall heated pump heads and an enlarged rectangular inlet. Furthermore, for dispersion, dissolving, mixing applications and texture agent activation, our patented high shear pump is the perfect, and unrivalled, addition.

### Typical applications:

CIP, chocolate, hard and soft candy mass, gums, gelatin and toppings.

## Convenience food

Hygienic design, easy-cleaning, reliability, high-flexibility and suitability for process automation are key features of Packo pumps for the convenience food industry.

With our wide range of state-of-the-art rotor geometries and materials, Packo is the technology leader when it comes to wear-resistance, dosing accuracy and handling of soft particles in a wide range of applications.

### Typical applications:

Transfer of soups, stews, dressings, sauces, tomato concentrate, mayonnaise, ketchup, marmalade, jams and ready meals.

## 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 up to 200 °C.

## Vegetables and 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 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.

## Pharmaceutical, cosmetic, biotech and semiconductor industry

Even if the requirements are driven to extremes, Packo offers a solution. Sterile stainless steel pumps, machined to the strictest quality surface (0.4 µm as a standard), along with a package of certificates provide peace of mind to the user.

Thanks to our know-how, high pump efficiency (i.e. lower energy bill), the use of specific seals - and thus a high reliability - Packo recorded a remarkable growth in this sector.

**Typical applications:**  
Purified water, WFI, CIP, etc.

## General industry and textile

Packo offers a wide range of pumps for a variety of industrial applications including dyeing of textile, galvanization and powder paint manufacturing, but also for animal feed, biodiesel, bioethanol, etc. Needless to say these pumps can be supplied in accordance to the ATEX regulations. A robust execution, ease of construction and maintenance, along with high reliability ensure that Packo pumps make the difference.

**Typical applications:**  
Dyeing of textile and wool, surface treatment, industrial cleaning equipment, biodiesel, bioethanol, solvents, animal feed, etc.

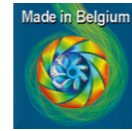
## Water treatment and biogas

Think of wastewater streams from food and pharmaceutical companies, but also of fluid treatment for gas washers, generating biogas from fruit and vegetable waste, etc. A lower energy bill, a robust execution and ease of maintenance are some typical characteristics of the Packo pumps for this market segment. This market is in rapid evolution and often appeals to the expertise of Packo for the development and improvement of their pumping plant.

**Typical applications:**  
CIP waste, water effluent, water with particles and fibers, etc.



Perfectly cleanable construction. Designed according to EHEDG and 3A. Certificate available for food pumps, pharmaceutical pumps and also for CIP return pumps.



Standard product designed by a team of engineers by using the most sophisticated software such as CFD (Computational Fluid Dynamics).

Easy, modular, maintenance friendly and robust concept.

## Where Packo centrifugal pumps make the difference



Hydraulic high quality product with the highest pump efficiencies and lowest NPSH values. Lower energy bills thanks to Packo!

Packo pumps perform better in many ways than their competitors. The design, choice of materials, service, knowledge of the market and a high level of finishing make this difference. These are some distinctive features that make our competitors jealous.

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



All pumps are electropolished, which provides an increased resistance against corrosion and improved cleanability. Additionally, this also ensures a better visual effect.

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



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 9001:2015  
ISO 14001:2015



Thanks to the expertise of Packo in the field of centrifugal pumps, but also in terms of process knowledge, we strive for the best possible solution for your system. Support in your pump selection thanks to CAPDATA (Computer Aided Pump Selection Program).



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

# Our wide range of stainless steel pumps

## Standard Packo pump range

### General industrial pumps



#### Pump Series NP60

Low cost industrial stainless steel centrifugal pump. Energy saving thanks to high efficiency. Easy concept and maintenance.

- Max. flow up to 40 m<sup>3</sup>/h
- Max. head 27 m
- Motor power up to 2.2 kW



#### Pump Series ICP2 & ICP3

Robust execution in pressed stainless steel 316L. High efficiency and very low NPSH. Modular concept composed with standard components.

Easy maintenance.  
Available with hygienic fittings, pump series ICP+.

- Max. flow up to 320 m<sup>3</sup>/h
- Max. head 220 m
- Motor power up to 90 kW



#### Pump Series ICP1

The best 'value for money' industrial stainless steel centrifugal pump. Energy-saving with high efficiency. Modular concept built up with standard components. Easy maintenance.

- Max. flow up to 55 m<sup>3</sup>/h
- Max. head 37 m
- Motor power to 5.5 kW



#### Pump Series MCP2 & MCP3

Robust design in cast stainless steel 316L. Extremely efficient thanks to optimum pump hydraulics. Modular concept composed with standard components.

Easy maintenance.

- Max. flow up to 1800 m<sup>3</sup>/h
- Max. head 75 m
- Motor power up to 250 kW

### General industrial pumps



#### Vortex Pump Series IFF & MFF

Stainless steel vortex pump with recessed impeller. Ideal as a process pump for pumping liquids with a significant proportion of solids and / or long fibers.

Available with hygienic fittings.

- Max. flow up to 750 m<sup>3</sup>/h
- Max. head 35 m
- Motor power up to 250 kW



#### Pump Series NMS

Multistage pump in an industrial design. Ideal for moderate flow rate and high pressures.

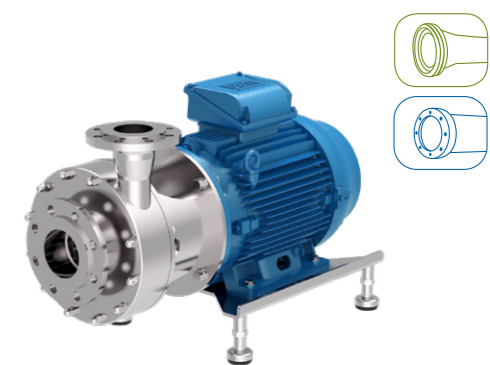
- Max. flow up to 50 m<sup>3</sup>/h
- Max. head 215 m
- Motor power up to 45 kW



#### Duplex Pump Series MWP2

Robust execution in wear resistant duplex material. Ideal for pumping erosive / abrasive products.

- Max. flow up to 50 m<sup>3</sup>/h
- Max. head 60 m
- Motor power up to 11 kW



#### Pump Series IPP2 & IPP3

High pressure pump suitable for system pressures up to 40 bar!

Made of solid, machined stainless steel 316L. Especially for use in reverse osmosis applications.

Available with hygienic fittings.

- Max. flow up to 350 m<sup>3</sup>/h
- Max. head 110 m
- Motor power up to 45 kW



## General industrial pumps



### Airhandling Pump Series IRP

Industrial air handling pump for CIP return applications as well as for truck and tank unloading, etc. High efficiency and low NPSH in comparison with a classic liquid ring pump.

Limited noise level.

Easy maintenance.

Available with hygienic fittings, pump series IRP+.

- Max. flow up to 150 m<sup>3</sup>/h
- Max. head 75 m
- Motor power up to 22 kW



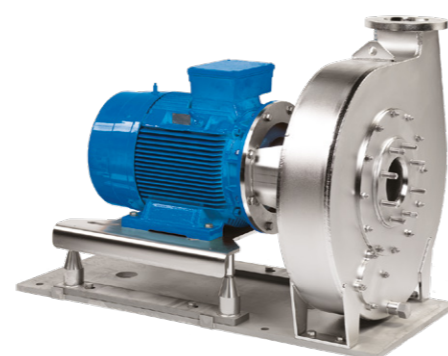
### Selfpriming Pump Series MSP2

Robust execution in cast stainless steel 316L. Suitable for CIP return, truck unloading etc.

Ideal for pumping air containing liquids.

Available with hygienic fittings.

- Max. flow up to 70 m<sup>3</sup>/h
- Max. head 30 m
- Motor power up to 11 kW



### Pump Series VPCP

Product pump in stainless steel AISI 304.

Thanks to its specially designed vane and large pump casing this pump is extremely suitable for soft and damage free pumping of e.g. potatoes, vegetables, mussels, shrimp, etc.

Extreme large passage.

Available up to outlet DN 250.

- Max. flow up to 1000 m<sup>3</sup>/h
- Max. head 20 m
- Motor power up to 55 kW
- Max. free passage 213 mm



### Pump Series VDKM

Product pump in electropolished stainless steel 304L. Thanks to the large free passage, the VDKM pump is ideally suited for gently pumping solid food products in water, such as whole or cut vegetables, fruit and sea creatures ...

Extreme large passage.

Easy maintenance: short downtimes.

- Max. flow up to 180 m<sup>3</sup>/h
- Max. head 13 m
- Motor power up to 5.5 kW
- Max. free passage 85 mm

## General industrial pumps



### Pump series IMO

Cantilever IMO pump series designed specifically for pumping hot frying oil to 190°C.

Reliable design for handling hot frying oil as well as for handling aggressive cleaning liquids!

- Available up to 1000 m<sup>3</sup>/h
- Max. head 60 m
- Motor power up to 132 kW



### Submersible Pump Series IML

Available as cantilever pump series IML without mechanical seal or support bushing for insertion length of 0.5 m.

Particularly suitable for pumping liquids that are difficult to seal, such as paints, varnishes, galvanic coatings, hot frying oil, etc.

- Max. flow up to 1000 m<sup>3</sup>/h
- Max. head 60 m
- Motor power up to 132 kW



### Submersible Pump Series IMXL

Vertical sump pump series IMXL are designed for installation in a sump or tank. The pumps have a length of 1.5 m having a shaft supported by a slide bearing in the liquid.

Particularly suitable for pumping liquids that are difficult to seal, such as paints, varnishes, galvanic coatings, hot frying oil, etc.

- Max. flow up to 300 m<sup>3</sup>/h
- Max. head 28 m
- Motor power up to 22 kW

## Standard Packo pump range

### Hygienic pumps



#### Pump Series FP60

Low cost hygienic pump executed in pressed stainless steel.

Energy saving thanks to high efficiency.

Easy concept and maintenance.

- Max. flow up to 40 m<sup>3</sup>/h
- Max. head 25 m
- Motor power up to 2.2 kW



#### Pump Series FP2 & FP3

Robust executed hygienic pump in stainless steel 316L. Energy saving and very low NPSH.

Modular concept composed with standard components.

Easy maintenance.

- Max. flow up to 320 m<sup>3</sup>/h
- Max. head 220 m
- Motor power up to 90 kW



#### Pump Series FP1

The best 'value for money' hygienic stainless steel centrifugal pump.

Energy-saving with high efficiency.

Modular concept built up with standard components.

Easy maintenance.

- Max. flow up to 55 m<sup>3</sup>/h
- Max. head 40 m
- Motor power to 5.5 kW



#### Pump Series FP2+

Robust hygienic pump in stainless steel 316L.

Energy saving and very low NPSH.

Modular concept built up with standard components.

Easy maintenance.

- Max. flow up to 110 m<sup>3</sup>/h
- Max. head 110 m
- Motor power up to 45 kW

### Hygienic pumps



#### Pump Series MFP2 & MFP3

Hygienic execution in cast stainless steel 316L. Extreme energy saving thanks to optimum pump hydraulics.

Modular concept composed with standard components.

Easy maintenance.

- Max. flow up to 1800 m<sup>3</sup>/h
- Max. head 70 m
- Motor power up to 250 kW



#### Pump Series FMS

Hygienic executed multistage pump.

Ideal for working at moderate flow rate and high pressures.

- Max. flow up to 50 m<sup>3</sup>/h
- Max. head 215 m
- Motor power up to 45 kW



#### Pump Series FPP2 & FPP3

Hygienic high pressure pump suitable for system pressures up to 40 bar!

Made of solid, machined stainless steel 316L.

Especially for use in reverse osmosis applications.

- Max. flow up to 200 m<sup>3</sup>/h
- Max. head 110 m
- Motor power up to 45 kW



#### Pump Series CRP

CIP return pump.

Unique air handling concept. High efficiency and low NPSH in comparison with a classic liquid ring pump.

Limited noise level.

Easy maintenance.

- Max. flow up to 120 m<sup>3</sup>/h
- Max. head 70 m
- Motor power up to 22 kW

## Standard Packo pump range

### Pharmaceutical pumps

### Hygienic pumps



#### Pump Series CRP+

CIP return pump.  
Unique air handling concept.  
Limited noise level.  
Easy maintenance.

- Max. flow up to 80 m<sup>3</sup>/h
- Max. head 70 m
- Motor power up to 22 kW



#### Pump Series GFP

Hygienic multi-phase pump. Combination of a standard centrifugal pump and a liquid ring pump both mounted together on 1 motor and 1 shaft.  
Ideal for foamig liquids and (viscous) liquids containing gas.

- Max. flow up to 400 m<sup>3</sup>/h
- Max. head 30 m
- Motor power up to 45 kW



#### Pump Series PHP2

Construction in line with ASME BPE guidelines.  
Parts in contact < 0.4 µm.  
Material certificates and factory declarations.  
Energy saving and very low NPSH.  
Modular concept composed with standard components.  
Easy maintenance.  
Suitable for SIP.  
Special seal configurations possible.

- Max. flow up to 100 m<sup>3</sup>/h
- Max. head 110 m
- Motor power up to 45 kW



#### Pump Series PRP2

CIP return pump / scavenge pump.  
Parts in contact < 0.4 µm.  
Material certificates and factory declarations.  
Unique air handling concept.  
High efficiency and low NPSH in comparison with classic liquid ring pump.  
Limited noise level.  
Easy maintenance.  
Special seal configurations possible.

- Max. flow up to 80 m<sup>3</sup>/h
- Max. head 70 m
- Motor power up to 22 kW



#### Pump Series MSCP

Self-priming side channel pump with exceptional suction power and air handling capacity.  
Used in applications where air must be pumped in against a high back pressure in the discharge line.

- Max. flow up to 40 m<sup>3</sup>/h
- Max. head 75 m
- Motor power up to 15 kW

## Mix and dispersing technologies



### High Shear Pump Series SFP2 and SFP3

Based on the pump series FP2 with open impeller and pump series FP3 with closed impeller. Specially with ANSYS CFD package designed stator (patented).

Efficiency improvement between 70 and 100% compared to current technologies available. Very energy saving thanks to its high efficiency.

- Max. flow up to 200 m<sup>3</sup>/h
- Max. head 50 m
- Motor power up to 45 kW
- Max. shear up to 100.000 s<sup>-1</sup>



### Colloid mills Series CM

Hygienic colloid mill with toothed rotor and stator in electropolished duplex stainless steel. Used to grind particles in suspension precisely and with reproducible results in an annular gap between the stator and rotor. The rotor and stator contain 2 milling zones and thanks to the high shear forces between rotor and stator the CM will also mix the fluid.

- Max. flow up to 15 m<sup>3</sup>/h
- Max. differential head 35 m with water
- Motor power up to 45 kW

## Packo pumps for OEMs & specific custom made solutions

### Series for OEMs

Packo offers custom made pumps for manufacturers of specific machines and installations. These pump series are based on the standard Packo pump range with options and adjustments.



Hygienic pump suitable for assembly on milk collecting trucks, built on stainless steel bearing housing. These pumps are available with hydraulic motor.



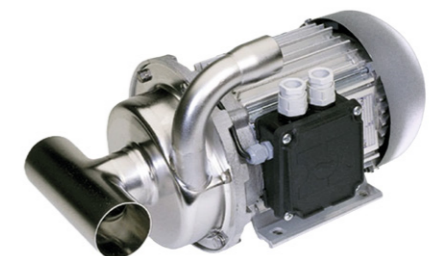
Pump executions foreseen with special motors such as stainless steel motors, motors without fan, etc.



Space-saving design without bracket.



Coating in seal chamber for increased wear resistance.



Pump with special in- and outlet.

## Other Verder products

### Specific custom made solutions

Looking for a specific custom made solution for your installation? Or looking for innovative improvements for the pump technology in your machine? Packo than also is your specialist for custom made stainless steel pumps!



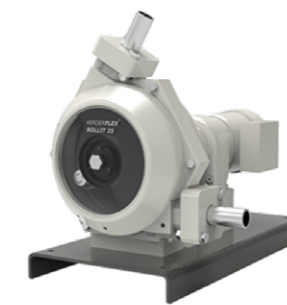
MCP pump driven by a hydraulic motor for an application within a fire brigade.



Axial pump specially designed for applications in the meat industry.



Vertical in-line pump.



#### Verderflex Rollit Hygienic

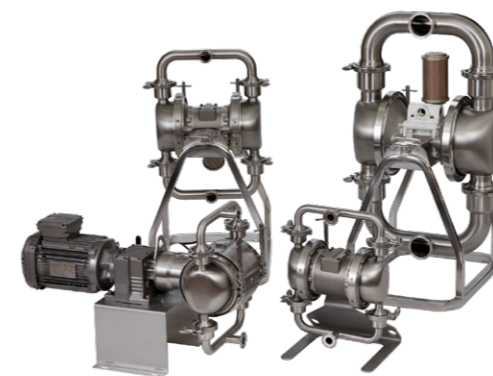
- Max. flow rate up to 7 m<sup>3</sup>/h
- Max. pressure 2 bar
- Motor power up to 3 kW
- Max. rotation speed 165 rpm
- Max. dry suction lift 7 mwc



#### Static mixers VMS, VMX, VMW

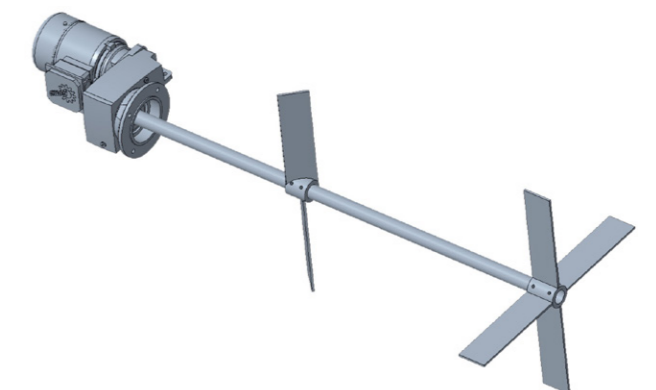
Static mixers provide precise blending and dispersion of gases and low to high viscous fluids, without utilizing moving parts.

- Viscosity: 1 - 1.000.000 cP
- Available for: liquid-liquid, liquid-gas and gas-gas
- Nominal diameter: DN4-DN800



#### Verderair HI CLEAN

- Max. flow rate up to 35 m<sup>3</sup>/h
- Max. pressure 8 bar



#### Dynamic mixers VNF, VSM, VFG, VKG, VWM

- Viscosity: 1 - 1.000 cP
- Shaft length up to 3.000 mm



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**ISO 9001:2015 - ISO 14001:2015**

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



Thanks to the expertise of Packo in the field of pumps, but also in terms of process knowledge, we strive for the best possible solution for your system. Support in your pump selection thanks to CAPDATA (Computer Aided Pump Selection Program).

**Maintenance friendly design**

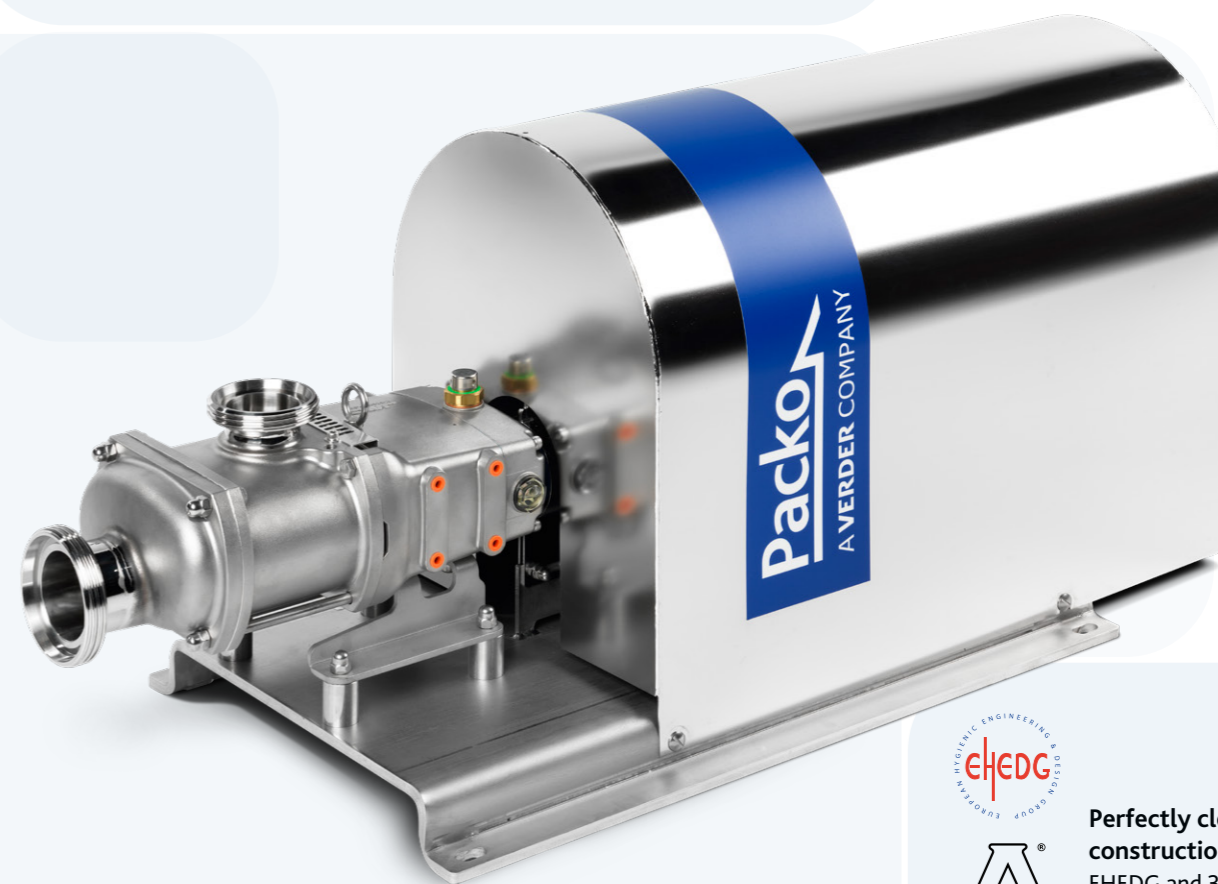
Front loaded seals: pump does not need to be mounted out of the installation to change seals.

**Easy modular concept**

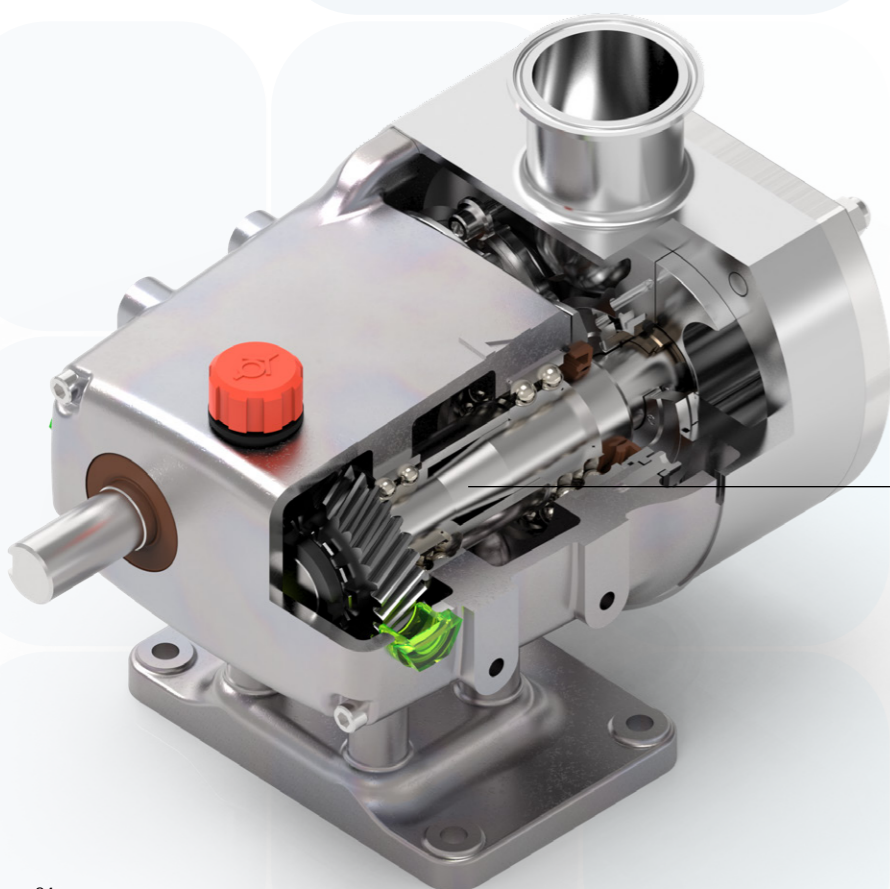
Rotors can be changed, even to other geometries without timing spindles or opening the gearbox for adjustments.

# Volumetric pumps designed for food

Packo pumps are designed to be outstanding in the food industry. Their design is unparalleled when it comes to hygiene, gentle pumping and easy maintenance. They rank among the pumps with the lowest Total Cost of Ownership in the food sector. Discover some characteristics of the Packo hygienic volumetric pumps and find the perfect match for your food production process.



**Perfectly cleanable construction.**  
EHEDG and 3A certificate available.



Food grade oil-filled gearbox increases bearing lifetime and requires minimal service effort. Ball bearings generate very low heat, helical and grinded gears guarantee smooth operation.



Circumferential Piston rotor



Tri-Lobe rotor



Multi-Lobe rotor



Heli-Lobe rotor

Different rotor geometries and materials available, the optimal solution is available for every application.

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



## Standard Packo pump range

### Rotary lobe pumps



#### Pump Series ZL

This pump can be equipped with a variety of rotors and options to adapt to almost all hygienic pumping applications. This guarantees an optimal and efficient operation of the pumping process.

Wetted parts in SS316L.

Improved CIP performance.

- Max. flow 100 m<sup>3</sup>/h
- Max. product viscosity 1.000.000 cP
- Max. differential pressure 20 bar
- Max. temperature 150° C



#### Pump Series ZW

This pump with standard rubber heli-lobe rotors are designed for pumping liquids with small particles. The small clearance between the soft rubber rotors and rotor case result in high efficiency and less product damage.

Can be mounted with both horizontal and vertical connections.

- Max. flow 50 m<sup>3</sup>/h
- Max. product viscosity 1.000.000 cP
- Max. differential pressure 8 bar
- Max. temperature 120° C



#### Pump Series ZLC

3A certified pharmaceutical process pump used for the most demanding sterile applications in the pharmaceutical, biotech and cosmetic industry. This perfectly cleanable pump has wetted parts in stainless steel 316L.

Electropolished.

- Max. flow 100 m<sup>3</sup>/h
- Max. product viscosity 1.000.000 cP
- Max. differential pressure 20 bar
- Max. temperature 150° C

### Circumferential piston pumps



#### Pump Series ZP

Hygienic stainless steel pump. The rotors, made of the special non-galling material Nitronic 60, forgive high temperatures and abrasive particles. Very good efficiency especially with low viscosity products.

Good cleanability, faster maintenance.

- Max. flow 42 m<sup>3</sup>/h
- Max. product viscosity 1.000.000 cP
- Max. differential pressure 15 bar
- Max. temperature 180° C

### Twin screw pumps



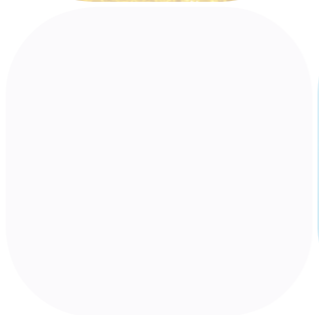
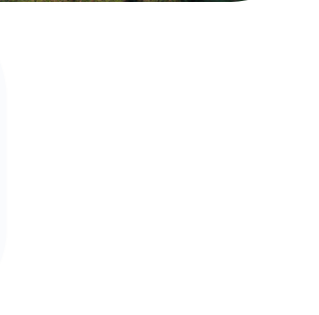
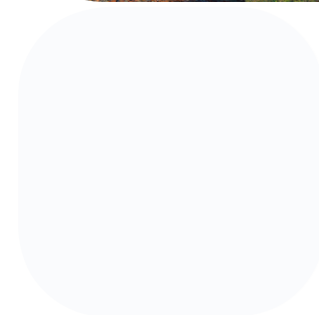
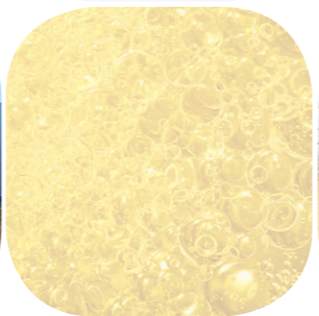
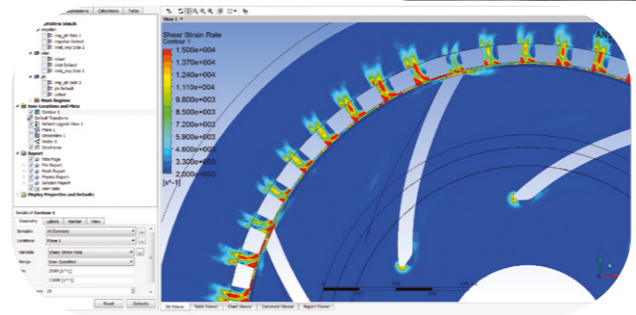
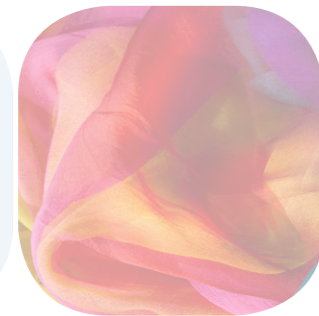
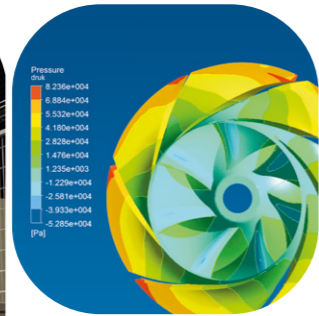
#### Pump Series ZS

Twin screw pumps offer maximum flexibility in terms of the type of application, as well as the nature of the medium to be pumped. Exceptionally good hygiene and cleanability make this type of pumps more and more popular.

Wetted parts in SS316L.

Gearbox in stainless steel.

- Max. flow 100 m<sup>3</sup>/h
- Max. product viscosity 1.000.000 cP
- Max. differential pressure 12 bar
- Max. temperature 150° C





**Packo**

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We optimize your flow

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Watch the Packo pumps video.