



TRANSFER

▶ PROTECT VALUABLE
INGREDIENTS

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NO INGREDIENT IS TOO COMPLEX

One of the main ways to add value to any recipe is to use high-value ingredients. But they are often fragile and hard-to-handle. PCM Transfer solutions ensure gentle handling at the critical transfer phase, where the risk of damage and loss is the highest.

► PRESERVE QUALITY AND TEXTURE

High-value ingredients often have unique qualities and textures. The low-shear, low-pulsation operation of PCM Transfer solutions enables you to move large quantities without damaging the ingredient's intrinsic properties. This enables you to avoid the costs associated with trying to recreate the proper texture of an altered ingredient.

► RELIABLE PERFORMANCE

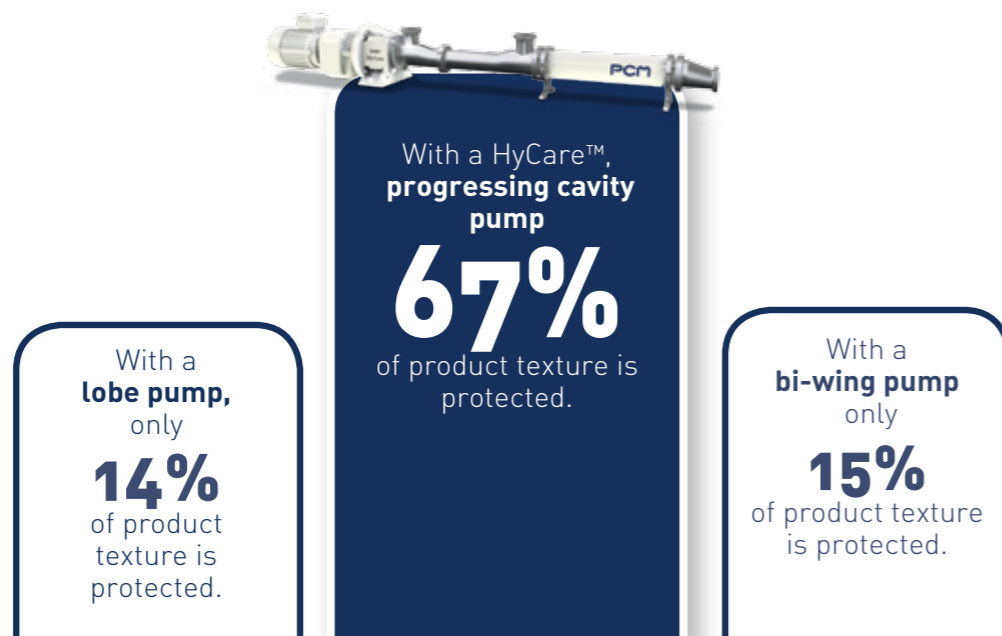
Progressing cavity pump technology provides higher output than other pump technologies used in the food industry, while requiring minimal maintenance. That's why we have chosen to build PCM Transfer systems using PCM Moineau progressing cavity pump technology to offer a unique combination of reliability and efficiency. The result is more uptime and therefore more production.

► IDEAL FOR VISCOUS FLUIDS AND SOLIDS

PCM Transfer solutions are ideal for pumping a wide range of ingredients, from thin liquids to highly viscous pastes and sauces, at cold and hot temperatures. The ingredients can be sticky, slippery or contain solids, including large chunks

and soft pieces such as chopped vegetables and whole fruit. All ingredients are transferred with virtually no product damage, thanks to the near-zero pulsation and minimal shear of the progressing cavity pumping action.

| MARKETS | PRODUCTS HANDLED BY PCM |
|---------------------------|--|
| Dairy products | Yogurt, fruit preparations, cream, milk, cheese, melted cheese, flavor, butter, caramel & chocolate, soda (NaOH), acid |
| Convenience food | Mustard, mayonnaise, sauce with solids, tomato sauce, ketchup, fruits, vegetables, water, eggs, cheese, cream, vinegar |
| Meat, Fish & Animal foods | Meat emulsion, edible oil, fat, enzymes, water, sugar, honey, protein, animal food, flavor, caramel, blood, food production waste |
| Fruits & Vegetables | Fruits, vegetables, butter, tomato sauce & ketchup, edible oil, brine |
| Personal care | Cosmetic base, cream, water, gelatin, soap, lotion, shampoo, alcohol, toothpaste |
| Baked goods | Water, edible oil, yeast, cream, dough, paste, stuffing, sugar, honey, egg (liquid, whole, white, yolk), milk, caramel, chocolate, jam, butter |
| Beverages | Wine, alcohol, water, beer, must, wort, sugar, honey, flavor, coloring, fruit juice |
| Sugars & Starches | Starch, sugar, honey, caramel, chocolate, syrup, liquid sugar, molasses, soapstock |



[1] Results of tests performed at the PCM Flow Technology Centre on a model fluid with characteristics similar to yoghurt at 4 bars and 6 m³/H. The performance characteristics of a HyCare™ two-stage pump were compared to those of lobe and bi-wing pumps of equivalent sizes and capacities.



Transfer of egg yolks using a PCM pump in an egg breaking plant.



Transfer of whole apples using a screw feed pump for making stewed apple.



Transfer of highly viscous chocolate for injection in a dessert using the PCM Viscofeeder™.

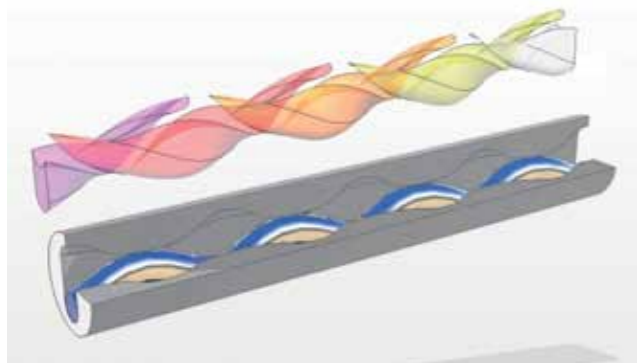
BUILT TO THE HIGHEST STANDARDS

Because they are built using one of the most reliable pump technologies and are manufactured in accordance with today's strictest regulations and in compliance with our demanding internal quality requirements, PCM systems enable you to meet today's stringent food safety regulations.

MEETING THE STRICTEST CLEANABILITY REQUIREMENTS

We have extensive experience in meeting the food industry's strict cleanability requirements, ranging from food-grade to hygienic. For example, PCM HyCare™ Series and Viscofeeder™ transfer solutions were designed in partnership with the leading specialists in manufacturing processes for the food industry, while the HyCare™ Series is compliant with all EHEDG and 3-A hygiene standards. In addition, all hygienic systems feature optimized CIP for maximum food safety.

We also manufacture our own range of food-grade elastomers for stators using unique materials exclusively available from PCM. This enables us to provide pumps with optimal lifespan and that are capable of meeting FDA, 3A, USP (US Pharmacopeia) and European standards.



Sealed cavities (upper) and pump rotor and stator (lower)

GENTLE AND STEADY PUMPING ACTION

An eccentric helical rotor turns inside a doublethreaded helical stator, moving the fluid in series of sealed cavities along the pump's axis. The size and shape of the cavities never change, making the PCM progressing cavity pump ideal for pumping fragile fluids or fluids with solids. They also give the pump high suction lift capabilities. The continuous seal between the rotor and stator moves the liquid gently and steadily inside the cavities at a fixed flow rate regardless of viscosity and pressure changes.



PCM pump in dairy application

MAKING THE RIGHT CHOICE

PCM provides pump systems adapted to a wide range of food handling challenges. The simplicity of our range of transfer pumps makes it easy to pick the right one for your requirements.

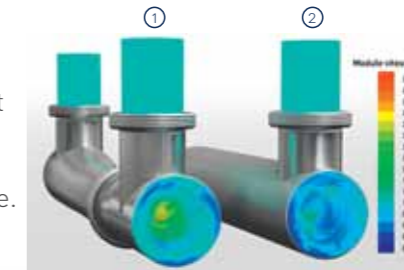


PCM HYCARE™ SERIES

The best choice for applications that require ultra-clean pumping. Custom designed to meet stringent hygiene regulations, the HyCare™ series pump offers advanced cleanability as well as low Life Cycle Costs, thanks to easy servicing, long-lasting parts and reduced energy consumption.

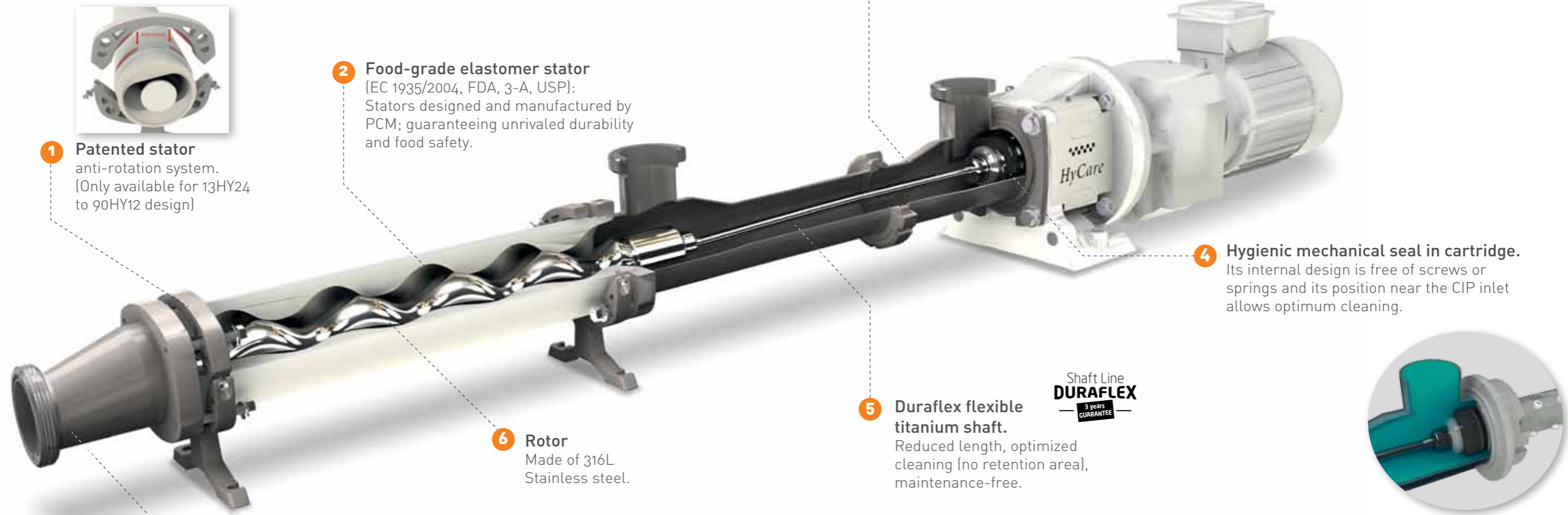


Moineau™ Technology



Effect of the inlet tangential design on the speed of the CIP fluid at the rear of the pump.

- ① HyCare™ design with tangential inlet connection
- ② Classic design



1 Patented stator anti-rotation system. (Only available for 13HY24 to 90HY12 design)

2 Food-grade elastomer stator (EC 1935/2004, FDA, 3-A, USP): Stators designed and manufactured by PCM; guaranteeing unrivaled durability and food safety.

6 Rotor Made of 316L Stainless steel.

5 Duraflex flexible titanium shaft. Reduced length, optimized cleaning (no retention area), maintenance-free.



4 Hygienic mechanical seal in cartridge. Its internal design is free of screws or springs and its position near the CIP inlet allows optimum cleaning.



7 Eccentric pipe. Prevents any product retention.



Pipe with built-in CIP bypass (optional)



Upward pipe (option)



APPLICATIONS
Stirred yogurt, cream, fermented milk, curd, eggs, dough, proteins, sauces, flavors, fruit preparation, cheese, yeast, concentrated milk.

| | PRODUCT | HYGIENE | CLEANING | PRESSURE | FLOW |
|---------|--|----------|--|--------------|---------|
| HyCare™ | Perishable, viscous, abrasive, fragile | Hygienic | Optimized for Cleaning In Place EHEDG-3A | Up to 24 bar | 40 m³/h |

PCM ECOMOINEAU™ C

FIXED STATOR

- Stainless steel design for food and personal care applications with rinsing or draining options
- Simple and sturdy
- Simplified dismantling for easy maintenance

APPLICATIONS

Mustard, ketchup, seasoning, sauces, wine, fruit mashes and fruit juice, starch, sugar syrup, enzymes, fat, edible oil, molasses...



Fish oil transfer in Petfood industry



Wine filtration skid

FLOATING STATOR

- Compact size
- Rinsing or Cleaning Out of Place (COP)
- Low Life Cycle Costs

APPLICATIONS

Edible oil, shampoo, liquid soap, cosmetic creams, mustard, wine...



Edible oil transfert



Liquid soap base transfert in a cosmetics application

| | PRODUCT | HYGIENE | CLEANING | PRESSURE | FLOW |
|-------------------------------|---|------------|---|--------------|----------|
| EcoMoineau™ C Fixed Stator | Viscous, abrasive, fragile | Food Grade | Cleaning in Place or Rinsing / Draining | Up to 24 bar | 90 m³/h |
| I Series | Viscous, abrasive, fragile | Food Grade | Cleaning in Place or Rinsing / Draining | Up to 45 bar | 240 m³/h |
| EcoMoineau™ C Floating stator | Low viscous (<5000cps) Non abrasive Non fragile | Food Grade | Cleaning Out of Place or Rinsing | Up to 4 bar | 16 m³/h |

PCM IVA / LVA SERIES

- Transfers high-viscosity, non-homogeneous, and pasty products thanks to the feed screw
- Stainless steel design for food and personal care applications
- With rinsing or draining option for cleaning operation

APPLICATIONS

Melted cheese, butter, meat emulsions, stuffing, offal, whole fruit and vegetables, beet pulp...



Plums in the pump hopper



Hopper pump connected to a storage tank

PCM VISCOFEEDER™ SERIES

- Batch or continuous dosing of hyper viscous and/or sticky products
- Strict hygiene standards
- High precision (< 2%)

PUMPING THE UN-PUMPABLE

In the highly competitive ice-cream market segment, the Viscofeeder™ enabled one of our customers to transfer chilled caramel for use in a frozen dessert. Previously, caramel was un-pumpable at such low temperatures.

Thanks to PCM Viscofeeder™, the customer was able to meet strict hygiene requirements and bring a product to market that puts it one step ahead of the competition.

APPLICATIONS

Cheese mixtures, co-extrusion inner of dry petfood, dough, caramel injection...



PCM Viscofeeder™ used to dose dough in industrial baking



Caramel in a PCM Viscofeeder™ hopper

| | PRODUCT | HYGIENE | CLEANING | PRESSURE | FLOW |
|--------------|--|------------|---|--------------|---------|
| IVA / LVA | Very viscous, and non homogeneous, fragile, abrasive | Food Grade | Cleaning Out of Place or Rinsing / Draining | Up to 52 bar | 50 m³/h |
| Viscofeeder™ | Hyper viscous product, fragile, abrasive | Hygienic | Cleaning In Place | Up to 24 bar | 40 m³/h |

SERVICES

We provide a complete range of services that put our expertise to work for you in four key Food industry domains: transfer, dosing, mixing and filling.

› CO-DEVELOPMENT

Our expertise can give you a precious edge in bringing new products to market. By determining the economic and industrial feasibility of a system as early as possible we help you reduce the risk of a costly failure and accelerate the path to reward.

› CONSULTING & TRAINING

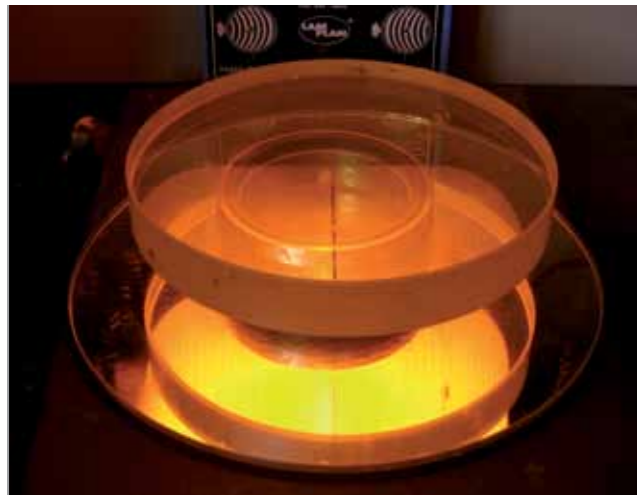
To ensure optimum operational efficiency of PCM systems, we provide upstream testing of product dosing and filling. We bring solutions online faster with start-up assistance. To accelerate knowledge transfer to our customers, our Field Services Teams provide training services for your staff.

› INTERNATIONAL PARTS DISTRIBUTION

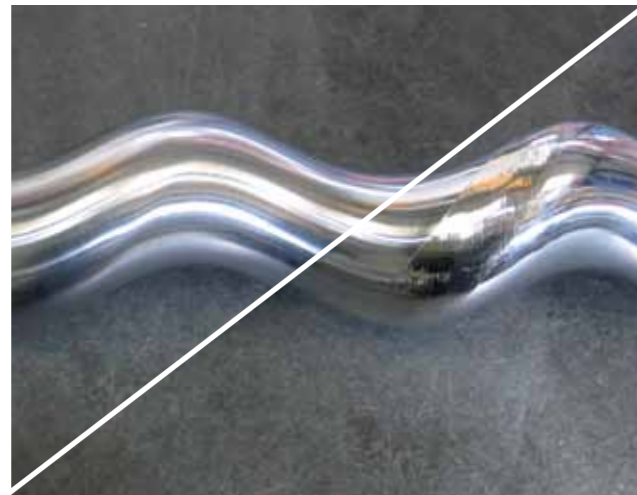
Thanks to our worldwide network of sales offices and distributors, you can obtain genuine PCM spare parts quickly. Using PCM spare parts ensures that PCM products last as long as possible, benefit from warranty protection and maintain their CE conformity until their end of life. We also provide a comprehensive portfolio of maintenance services.

› REPAIRS & UPGRADES

Maintenance can be performed on site or in our facilities. Our technicians can also upgrade existing systems with new technologies. To extend a pump's lifespan, we also provide rotor re-chroming and mechanical seal refurbishing.



Mechanical seal assessment at PCM



Rotor re-chroming by PCM

ABOUT PCM



PCM is one of the world's leading manufacturers of positive displacement pumps and fluid-handling equipment. The company was co-founded in 1932 by the inventor of the Progressing Cavity Pump (PCP), René Moineau.

PCM Food systems enable you to transfer, dose, mix and fill challenging ingredients (including fluids with high viscosity and solids content) with minimal damage.

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