HYCARE™

THE MOST HYGIENIC STAINLESS STEEL PROGRESSING CAVITY PUMP

www.pcm.eu
QUALITY
HYCARE™ PROTECTS THE QUALITY AND TEXTURE OF YOUR PRODUCTS

Moineau™ technology at the heart of HyCare™
The HyCare™ pumps are used in the last stages of the process, when the product is almost finalized. That is the moment when it is crucial to protect the texture and ingredients.

Moineau™ technology provides the best protection for the valuable pieces and texture of your product.

The internal slip flow, which causes shear in the product, is controlled by tightening the elastomer stator in the rotor. This characteristic provides a decisive advantage over metal/metal technologies such as lobe pumps in terms of protecting the texture and visual or taste qualities of your products.

Moineau™ technology provides the best protection for the valuable pieces and texture of your product.

OPERATION
A Moineau pump consists of a helical rotor turning inside a helical stator. The stainless steel rotor is machined to a high degree of precision, and the stator is molded in a resilient elastomer. The geometry and dimensions of these parts are such that when the rotor is inserted into the stator, a double chain of watertight cavities (honeycombed-shaped) is created. When the rotor turns inside the stator, the honeycomb progresses spirally along the axis of the pump without changing either shape or volume. This action transfers the product from the pump intake to the pump discharge without degrading the product.

FEATURES
- Handles both fragile and viscous products
- High suction and self-priming capabilities
- Constant non-pulsating flow
- Easy to maintain
- Reversible
- Flow rate proportional to running speed
- Flow rate proportional to the speed of rotation

QUALITY
- HYCARE™ PROTECTS THE QUALITY AND TEXTURE OF YOUR PRODUCTS
- HYCARE™ provides the best protection for the valuable pieces and texture of your product.

Comparison of HyCare™ performances versus bi-wing and lobe pump technologies. (1)

With a lobe pump, only 14% of product texture is protected.
With a bi-wing pump, only 15% of product texture is protected.

Moineau™ technology

67% of product texture is protected.

Moineau™ technology

66% of product texture is protected.

WE SHARE YOUR COMMITMENT TO EXCELLENCE
Featuring a patented body design developed using advanced computational fluid dynamics, PCM HyCare™ is the world’s gentlest, most hygienic progressing cavity pump for food-grade applications. It’s the first food-grade PCP to treat your ingredients, food safety requirements and budget with equal care.

QUALITY, SAFETY AND EFFICIENCY
are the three ingredients PCM has used to create the new HyCare™ progressing cavity pump.

GUARANTEE
QUALITY, SAFETY AND EFFICIENCY are the three ingredients PCM has used to create the new HyCare™ progressing cavity pump.

(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.
**SAFETY**

A PARTNER IN YOUR COMMITMENT TO CONSUMERS

**HyCare™**, the cleanest progressing cavity pump on the market

PCM used computational fluid dynamics (CFD) to develop the Duraflex flexible shaft, guaranteeing food safety for consumers. With 3-A and EHEDG certification, the HyCare™ pump guarantees optimum hygiene for your process.

**CFD to promote hygiene**

PCM has optimized the internal design of the HyCare™ pump and improved the cleaning in place effect by 30% thanks to its expertise in Computational Fluid Dynamics (CFD). This result was obtained by increasing the speed of the cleaning fluid and by studying the currents in the most difficult areas to clean.

**Duraflex, the flexible shaft designed for CIP**

The Duraflex flexible shaft has a one-piece design without any possible retention area, unlike the classic open joints. The total absence of wear parts prevents any risk of metal particles being released into the product.

**Materials that comply with international laws**

- The materials in the HyCare™ pump (stators, gaskets, mechanical seals) comply with the following standards:
  - American FDA (Food and Drug Administration) regulations
  - The American USP (United States Pharmacopoeia) Standard

**EFFICIENCY**

HYCARE™ OPTIMIZES YOUR PRODUCTION

**HyCare™ optimizes your production**

HyCare™, is the shortest hygienic progressing cavity pump on the market.

Equipped with the new Duraflex flexible shaft, HyCare™ is 20% shorter. This significantly decreases integration and transport costs.

**Greater efficiency**

The internal volume of the HyCare™ pump is 50% smaller thanks to the innovative design of the body and the Duraflex flexible shaft. This reduces product loss at the end of production to an absolute minimum.

The savings achieved mean that you will recover your investment on the HyCare™ pump in just a few months.

**The energy efficiency of Moineau technology**

Moineau technology has amongst the best hydraulic efficiency ratings of any positive displacement pump thanks to a slip flow that is controlled by the tightening between rotor and stator.

The constant flow rate allows the pump to remain highly efficient despite any variations in viscosity or pressure. This results in motors that consume less energy and correspondingly lower operating costs.

**Reliable in every situation**

- Duraflex flexible shaft made of hard-wearing titanium (compared to open joints).
- Patented stator anti-rotation system, ensuring safe operation in the event of high pressure or temperature.
- No maintenance on the flexible shaft (no joint).
- Quick and simple disassembly thanks to the two-part body and the shafting assembly system.

**Simplified maintenance**

- Mechanical seal in a cartridge (no adjustment).
- Quick and simple disassembly thanks to the two-part body and the shafting assembly system.

**Cleaning-in-place (CIP) fluid speeds modeling in the body of the HyCare™ pump using CFD.**
TECHNICAL FEATURES OF THE HYCARE™ PUMP

Design 13HY24 to 90HY12

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


3. Optimized body design, with CFD technology to improve the effect of the cleaning and reduce production losses. It is made of 316L stainless steel, in a two-part design for easy maintenance. (Only available for 13HY24 to 90HY12 design)

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.

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


PERFORMANCE OF THE HYCARE™ PUMP

- Pressure up to 24 bars
- Flow rate up to 40 m³/h
- Particle size up to 32 mm

GUARANTEE

- Pressure up to 24 bars
- Flow rate up to 40 m³/h
- Particle size up to 32 mm
INDUSTRIES AND APPLICATIONS

In every area of the food industry

▷ DAIRY PRODUCTS
Stirred yoghurt, set yoghurt, curd cheese, butter, creams, desserts, ferments, rennet, milk, oil, ice cream, eggs, fruit preparations, vitamins, flavours, etc.

▷ MEAT, FISH, ANIMAL FEED, EGG PRODUCTS
Meat emulsions, surimi, minced meat, fodder, chicken, fish with or without pieces, surimi, oils, flavours, colorants, fats, proteins, enzymes, etc.

▷ BREAD, CAKES, PASTRIES
Butter, jam, water, oil, eggs, yeast, dough, biscuit mix, gluten, fillings, sauces, chocolate, biscuit creams, sweet syrup, etc.

▷ DRINKS
Juices, wine, dregs and pressings, fruit concentrates, beer, etc.

▷ FRUITS, VEGETABLES
Fruit or vegetable purée, jam and jelly, fruit paste, compote, etc.

▷ READY-MADE MEALS, SAUCES
Mayonnaise, mustard, ketchup, tomato sauce, oils, eggs, fish paste, baby food, etc.

▷ COSMETICS AND PHARMACEUTICAL PRODUCTS
Creams, shampoo, liquid soap, body milk, resin, oil, plant extracts, etc.