



# ROTARY VANE PUMP

*Great Performance*

**OUR RESEARCH**  
YOUR DEVELOPMENT

ENGLISH EDITION

## HIGH-TECH FOR GREAT PERFORMANCE

**MOCAREEL®**, the new Rotary Vane Pump represents an important milestone for the ODE range being this product made of PPS Technopolymer with Stainless Steel connections.

The **technopolpolymer body** has similar features to those made of stainless steel or brass. In addition, thanks to the use of PPS, these pumps are also food grade certified and comply with European Regulation No. 1935/2004 and NSF 169.

ODE Rotary Vane Pumps are designed to guarantee a **long life**, they also offer **exceptional performance**, due both to the high flow rates and high pressure capability.

These performance levels are accompanied by very quiet operation and compact footprint. The Rotary Vane Pump can function with fluids up to 70°C. Both the inlet and outlet connections are 3/8 GAS, whilst a 3/8 NPT outlet connector may be provided on request. The pump is also fitted with a **bypass valve** that allows outlet pressure to be regulated.

The pumping chamber is made of graphite, as well as the vanes. Self-lubricating feature of steel and graphite increases the product resistance using water or water-solutions.

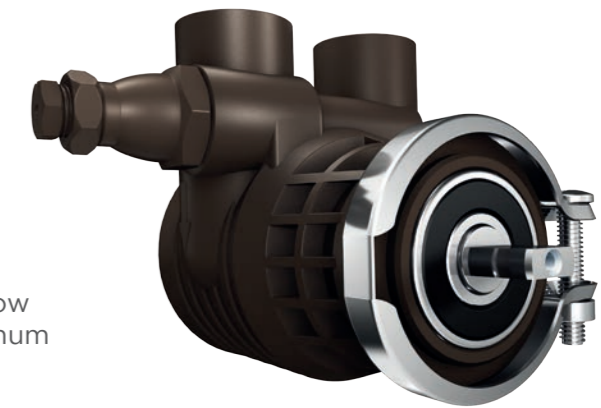
The coupling between the materials is designed to assure components longer life.



## TECHNICAL FEATURES

### INNOVATIVE MATERIALS

The body is made of **PPS**, reinforced with 40% of **fiberglass**. The gaskets are made of EPDM. The mechanical seal is formed by a graphite-filled PTFE pad and a fixed ceramic counter-face. This ensures very low friction between the components and also allows them to self-lubricate without having to add lubricants or greases. This makes the product **much quieter** than those available on the market.



### HIGH PERFORMANCE

**MOCAREEL** Rotary Vane Pumps stand out for their high performance: the maximum flow rate is 6 litres/minute at 1450 rpm for maximum allowed pressure of 16 bar.

### HIGH QUALITY

The rotor is made of **stainless steel** with a highly surface finish (0.2 to 0.25 Qm). A resin coating and drying process is carried out on the micron-sized graphite elements to make them more resistant. The micron-sized couplings for the various components provide a perfect seal, allowing to achieve more linear curves and **improved performance**.

### BYPASS

**MOCAREEL** Rotary Vane Pumps is fitted with a **bypass valve** in order to **regulate the outlet pressure**. When the screw is tightened or loosened an adjustment spring is activated to allow some of the fluid back through the inlet.





# MOCAREEL IN DETAIL

## COMPLETE RANGE

This new family of **MOCAREEL Rotary Vane Pumps** is divided into 4 different flow rate categories: **100 l/h, 150 l/h, 200 l/h, and 300 l/h.** Based on the requested flow rate to be guaranteed, it is therefore possible to select the best pump size to achieve the desired pressure performance.

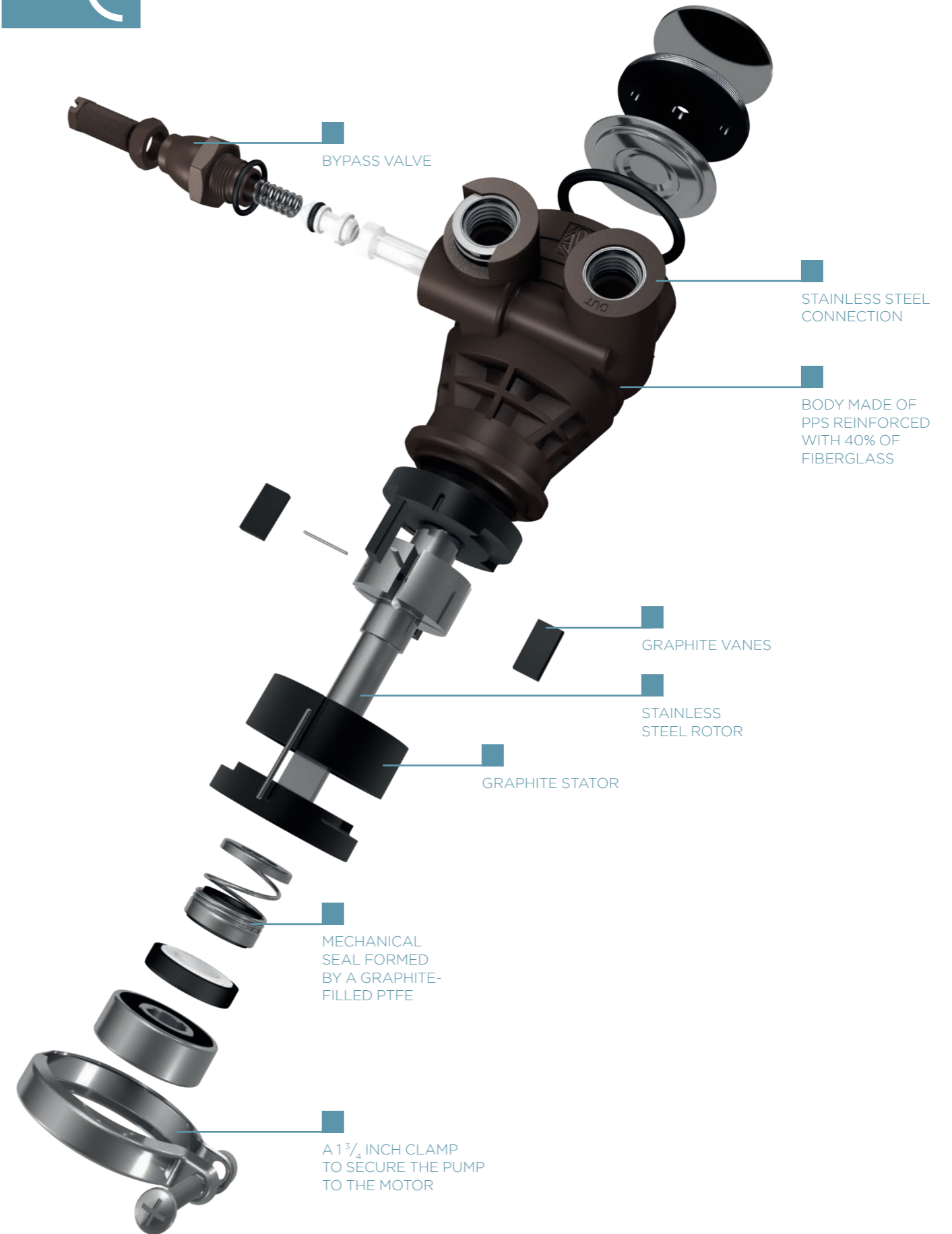
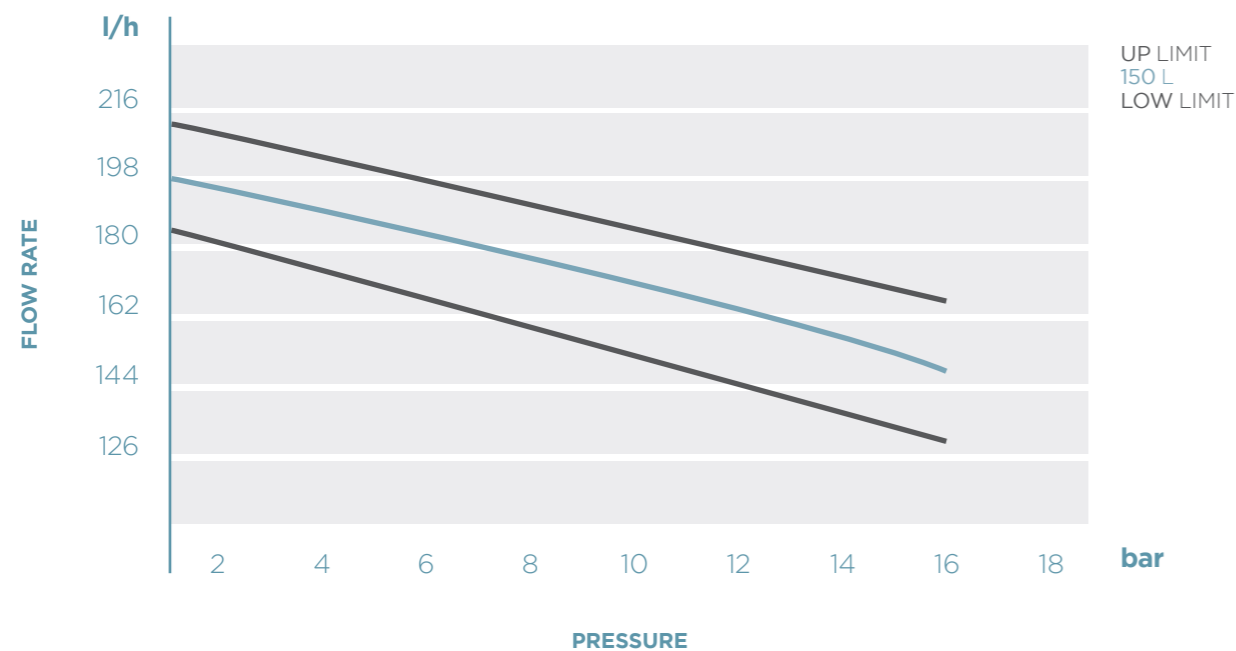
	PR100	PR150	PR200	PR300
<b>FLOW RATE</b> (l/h)	100	150	200	300
<b>PRESSURE</b> (bar)	16	16	16	16

All the sizes ensure that 16bar of pressure can be reached with a standard motor of 0.25 HP (0.18 KW).

## PERFORMANCE CURVE

The graph shows the performance curve for 150 l/h Rotary Vane Pumps. It should be noted that the performance curve is very linear.

This pump reaches a flow rate of 150 l/h with an operating pressure of 16bar, water at 20°C and motor at 1450-rpm. Performance increases by 10% when using 1700-rpm motors.





MOTOR ELECTRICAL DATA

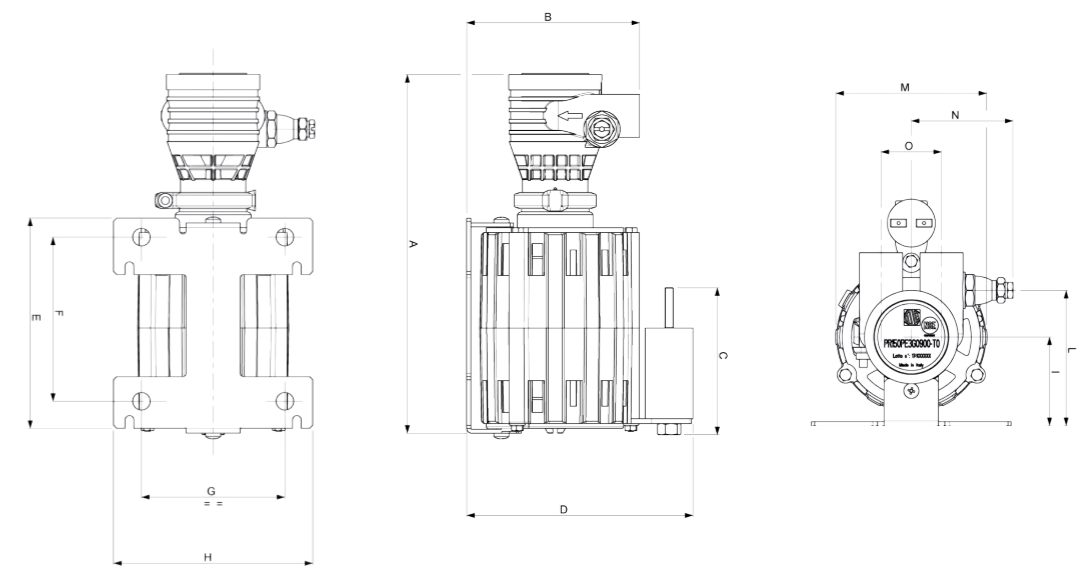
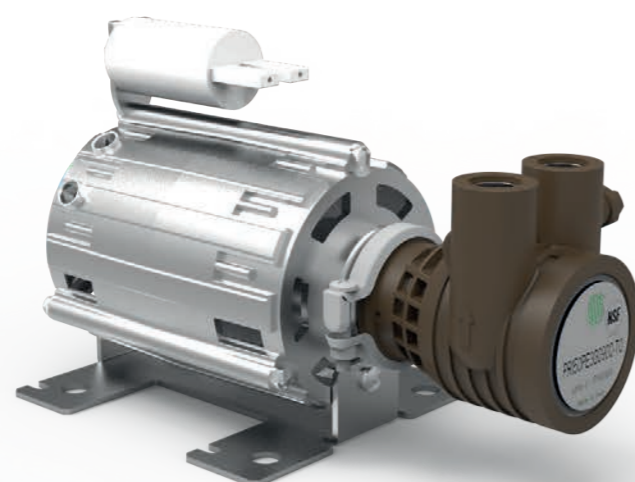
TYPE	PR100/PR150	PR200/PR300
FLOW RATE (l/h)	100/150	200/300
RATED POWER (kW)	0,15	0,16
CURRENT (A)	1,5	1,6
RPM (r/min)	1340	1370
CAPACITOR (µF)	6	10
WEIGHT (kg)	3,54	5,4

230 V, 50 Hz, 4 poles, Protection IP20, Permanent Capacitor  
Single phase Electric Motors - Semi opened frame

DIMENSION DATA

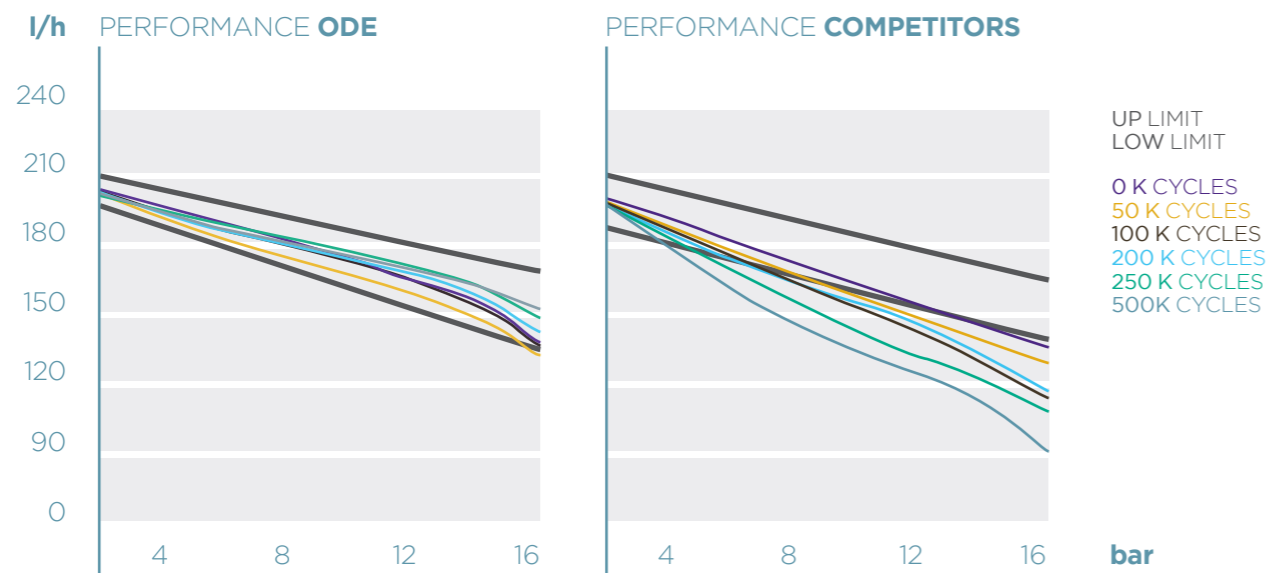
TYPE	PR100/PR150	PR200/PR300
A	225,1	224,0
B	108,6	113,8
C	92,3	109,7
D	142,5	183,9
E	132,0	100,0
F	103,0	42,8
G	90,0	104,5
H	125,0	136,0
I	55,6	72,8
L	84,9	102,1
M	94,5	129,0
N	63,7	63,7
O	37,8	37,8

**MOCAREEL Rotary Vane Pumps** have a motor-pump coupling with a special moulded built-in shaft and a 1 3/4 inch clamp added to secure the pump to the motor.

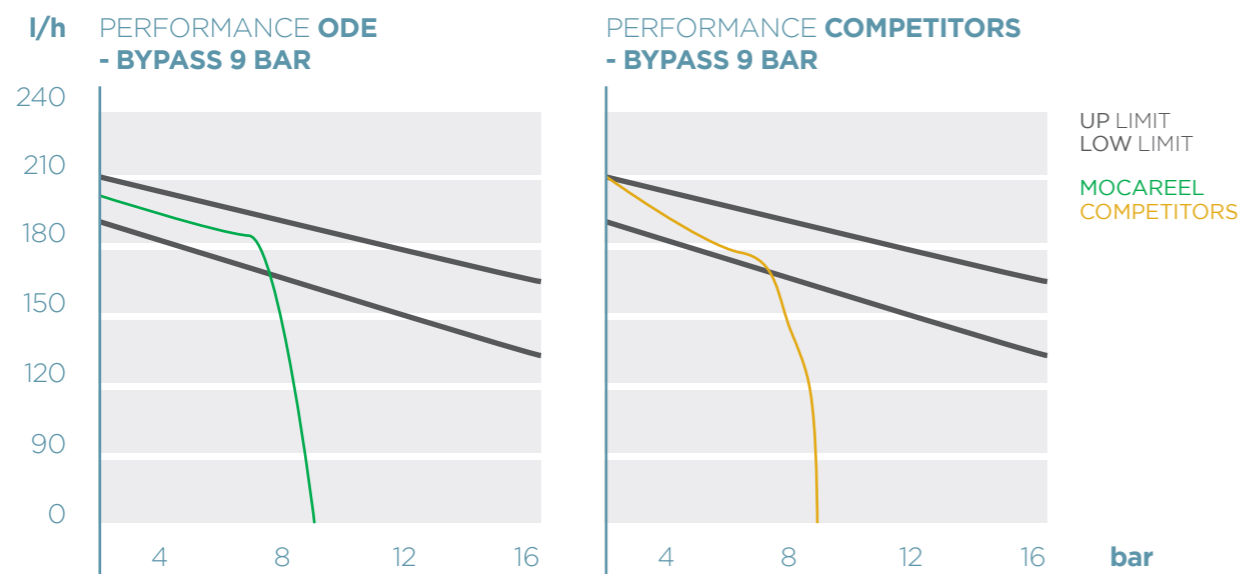


# MOCAREEL VS COMPETITORS

Tests carried out on other pumps with graphite sealings (available on market) decrease performance at high pressures and cause whistling when starting and stopping the pump. It also can occur a shaft locking problem.



Opening the bypass without pressure drops with a more linear behavior.



# MOCAREEL

ROTARY VANE PUMP

- Technopolymer is lighter than brass or stainless steel
- It is not affected from oxidation
- Suitable with almost all aggressive fluids or environment
- Low noise and long life
- Anti-turbulence profile
- Very high working precision and couplings make the pumping performance very reliable and repeatable



# ADVANTAGES OVER PUMP

## ADVANTAGES OVER DIAPHRAGM PUMPS

When comparing **MOCAREEL** pumps with Diaphragm Pumps, the first present some advantages such as:

- **LOW PULSATIONS**
- **CONTINUOUS FLOW**
- **LONGER LIFE**
- **ABSENCE OF NON-RETURN VALVES**



## ADVANTAGES OVER CENTRIFUGAL PUMPS

When compared to Centrifugal Pumps, **MOCAREEL** pumps present some advantages such as:

- **CONSTANT FLOW RATE WITH PRESSURE CHANGES**
- **REPEATABILITY**
- **GOOD SUCTION CAPACITY**
- **LOW ENERGY CONSUMPTION**

**MOCAREEL**  
Rotary Vane Pump



# APPLICATIONS AND CERTIFICATIONS

## APPLICATIONS

Thanks particularly to food-grade materials able to meet the **highest standards**, **MOCAREEL** is easily suitable for the following applications:



### COFFEE AND VENDING

Coffee and vending machines for the supply of water, juices or beverages



### REVERSE OSMOSIS SYSTEMS

For pumping water through osmosis filters

In addition, these products can also be used for applications within other industrial sectors:



### DOSING

Of chemical mixtures

## CERTIFICATIONS

**MOCAREEL** is suitable to be used in contact with alimentary fluid, in accordance with the most important European and American standards. All the assembled materials have been accurately selected, to ensure the highest level of safety in food application.

### NSF certified

**MOCAREEL** used in contact with water, bear NSF marking, in accordance with NSF standard 169, guaranteeing the sanitation food protection through specific selected materials, particular design, fabrication and construction.

### Compliant with the European and Italian regulations

**MOCAREEL** complies with MOCA (material and object in contact with food). It has been designed and manufactured in accordance with the European Regulation n. 1935/2004, with the GMP European Regulation 2023/2006, with the European Regulation 10/2011 for plastic component, and in accordance with Italian Law n.29 2017/02/10.



## CONTACT INFORMATION

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