



TB2017-07

New Rotary Vane Pump MOCAREEL™





General information

ODE is pleased to inform the Sales network about the launch of MOCAREEL™, the new rotary vane pump, designed to offer high pressure and flow performance in various application areas.

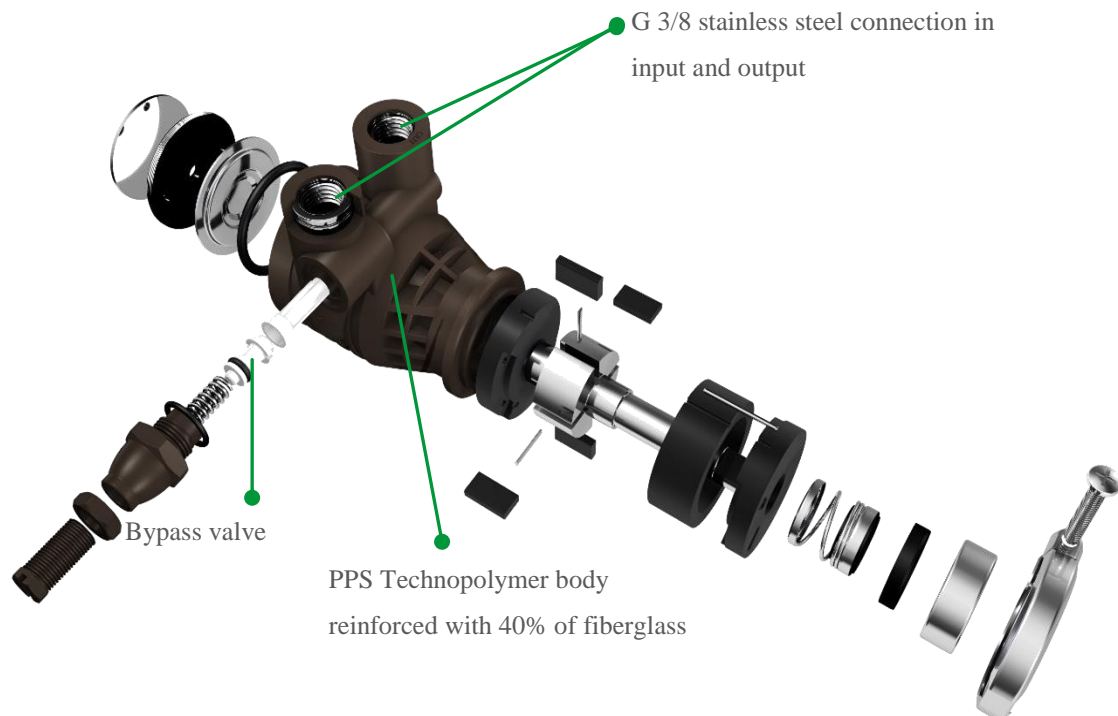
Realized with PPS Technopolymer body and stainless steel connections, MOCAREEL™ is an important innovation and a real turning point for the ODE product range.

The technopolymer body has mechanical characteristics comparable to those of brass, stainless steel and is able to work with fluids up to 70°C, distinguishing itself for high compatibility with foods, thanks to the NSF 169 certification for water.

MOCAREEL™ is supplied with both 3/8 GAS input and output connections, with possibility to have 3/8 NPT connection on request.

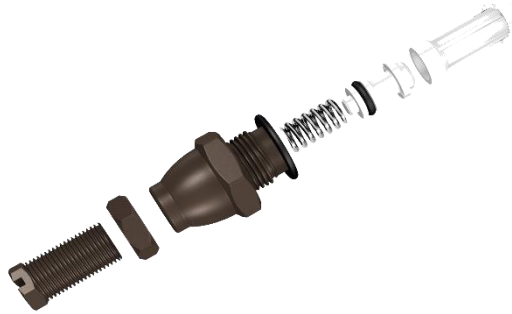
There are four model variants of 100, 150, 200 and 300 lt/h which differ for the flow rate.

Design, weight and compact size of the new rotary vane pump facilitate its housing and use in the system.





Technical features and advantages



MOCAREEL™ is equipped with a bypass valve which allows to adjust the outlet pressure with an adjusting screw acting on a calibrated spring regulating fluid re-entry at the inlet of the loop.

The pumping chamber and vanes are made of graphite, while the shaft is made of stainless steel, materials that allow MOCAREEL™ greater wear resistance and better food compatibility thanks to the absence of lubricants. The graphite and steel components are developed with a high surface finish and micrometric tolerances that improve couplings, ensuring maximum sealing effect and positively influencing performance and repeatability of the pump.



The rotor is made of stainless steel with a highly surface finish ($0,2 \div 0,25 \mu\text{m}$). A resin coating and drying process is carried out on the micron-sized graphite elements to make them more resistant.

MOCAREEL™ body is made of PPS Technopolymer, reinforced with 40% of fiberglass. The gaskets are made of EPDM. The mechanical seal is formed by a graphite-filled PTFE skid and a fixed ceramic counter-face. This treatment 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.





MOCAREEL™ FUNCTIONAL ADVANTAGES

FEATURES	UTILITY	BENEFITS FOR THE USER
PPS TechNopolymer	NSF169 Certification for water	Suitability for food applications
Pumping chamber and vanes in graphite	<ul style="list-style-type: none"> - High wear resistance - No lubricants 	High product life, performance continuity, increased food compatibility and warranty of non fluid contamination
Bypass valve	Flexible in outlet pressure management	Acting on the bypass screw allows adjustment of the drain pressure
Compact and light weight	Easy to mount and best capacity to contain the overall weight of the system	Optimize layout and weight of the host device
Threaded connections coated with Stainless Steel	More mechanical strenght of the hydraulic connection	Improved mounting safety and the ability to use various seals such as: O-ring, teflon, collar, ogiva
PTFE mechanical seal made of graphite	Noise and friction reduction	More silent applications and improved and straighter pumping performance



MOCAREEL™ Benchmarking

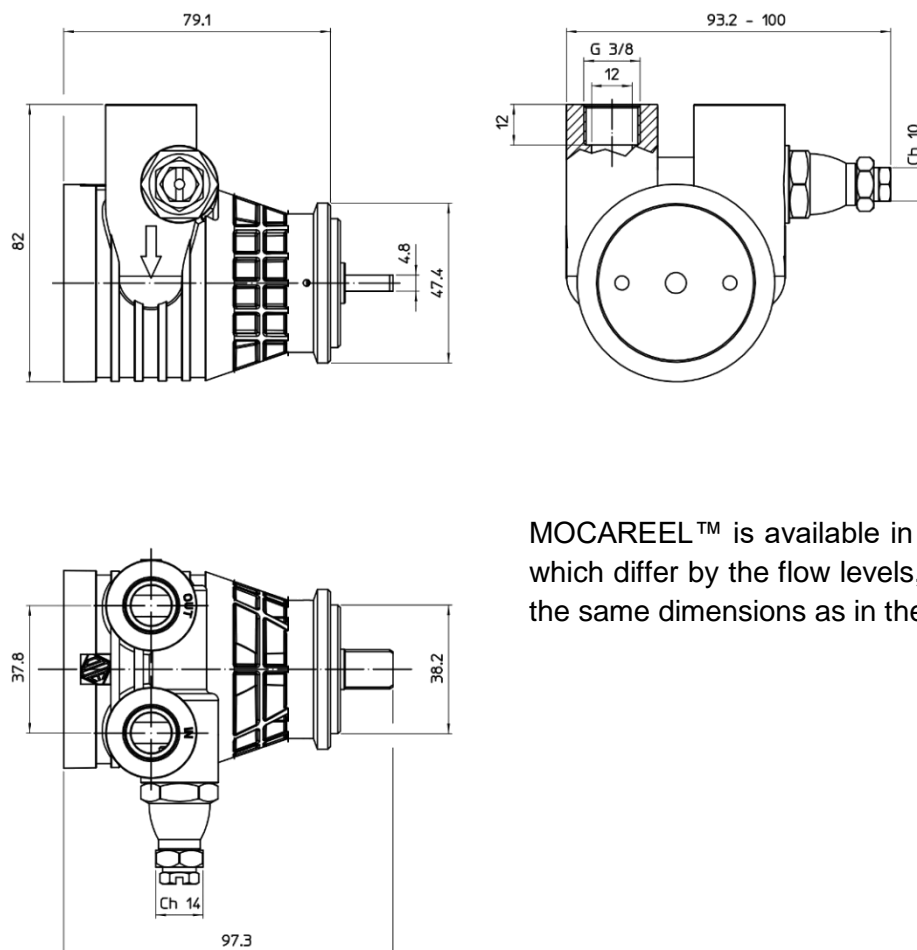
Comparing MOCAREEL™ with centrifugal pumps it has a constant flow rate with pressure changes that reduces system noise during functioning, the repeatability, reduced spaces and long-life warranty.

Comparing with the membrane pumps MOCAREEL™ has a much more linear fluid dispensing.

Comparing with diaphragm pumps MOCAREEL™ presents the following advantages: low pulsations, continuous flow, longer life, absence of non-return valves.

Fluidic connections and space occupancy

The inlet and outlet fluid connections are co-molded with stainless steel thread in the inner part. It is also available different sizes (standard G 3/8).



MOCAREEL™ is available in four versions which differ by the flow levels, but maintain the same dimensions as in the 3 drawings.



Compatible power and motors

It's possible to have the assembled and calibrated motor and pump combined.

Compact motors have been developed (with RPM company) with balanced powers for the various pump capacity.

On a 150l/h pump applied to a professional mono coffee machine, it can be mounted a 150 Watt, 230V, 50Hz. MOCAREEL™ can be coupled with a customized motor based on voltages, powers and applications according to customer needs.

Certifications

MOCAREEL™ is certified according to the standard NSF169 and conforming to European Regulation n. 1935/2004, concerning materials and devices intended to come in contact with food. WRAS certification is under development.



COMPONENT

Applications

Thanks to the intrinsic features of high compatibility with foodstuffs, MOCAREEL™ is easy to use in the following applications:

- Coffee & Vending: coffee and vending machines for the water supply, juices or beverages
- RO Systems (Reverse Osmosis Systems): to pump water into the osmosis filters (ensures high purity of the dispensed fluid)
- Small water carbonation machines (sparkling water production)
- Hydraulic pumps for machine tools at low pressures and flow (supplied with EPDM seals, available on request also with FKM seals)
- Recirculating pumps for solar thermal panels (reduced flow and pressures)



Label data

The information is reported on the label as follows:



- | | |
|-----------------------------------|------------------------|
| 1) Manufacturing company logo: | ODE |
| 2) QR code: | linking to the website |
| 3) Food grade certification logo: | NSF 169 |
| 4) Product code: | PR150PE3G0900-T0 |
| 5) Production batch: | 17/000007 |
| 6) Manufacturing country: | Italy |

Product code key

- | | | |
|-------------------------|---|--|
| PR150PE3G0900-T0 | > | PR is the rotary vane pump series |
| PR150PE3G0900-T0 | > | 150 is the flow indicated in l/h |
| PR150PE3G0900-T0 | > | P the material body (Technopolymer) |
| PR150PE3G0900-T0 | > | E is the sealing material (EPDM) |
| PR150PE3G0900-T0 | > | 3 is the connection (3/8) |
| PR150PE3G0900-T0 | > | G is the threaded type (GAS) |
| PR150PE3G0900-T0 | > | 09 is the calibration pressure (9 bar) |
| PR150PE3G0900-T0 | > | 00 are the special characteristics (Bypass standard) |
| PR150PE3G0900-T0 | > | T0 is the approval (NSF) |

Batch code key production

17/000007 ----- 17 production year (2017)

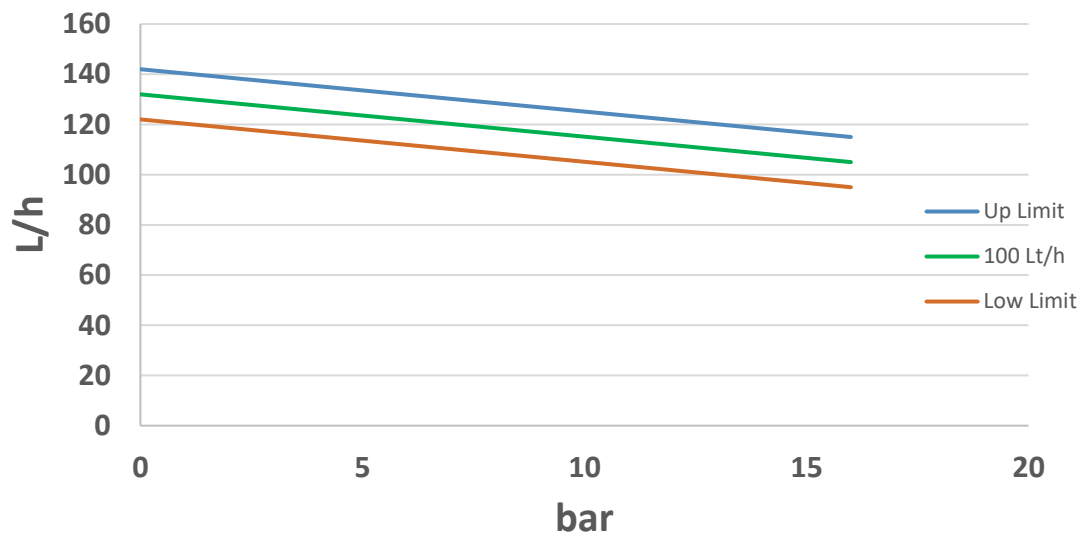
17/000007 ----- 000007 is the progressive number of the production batch (7)



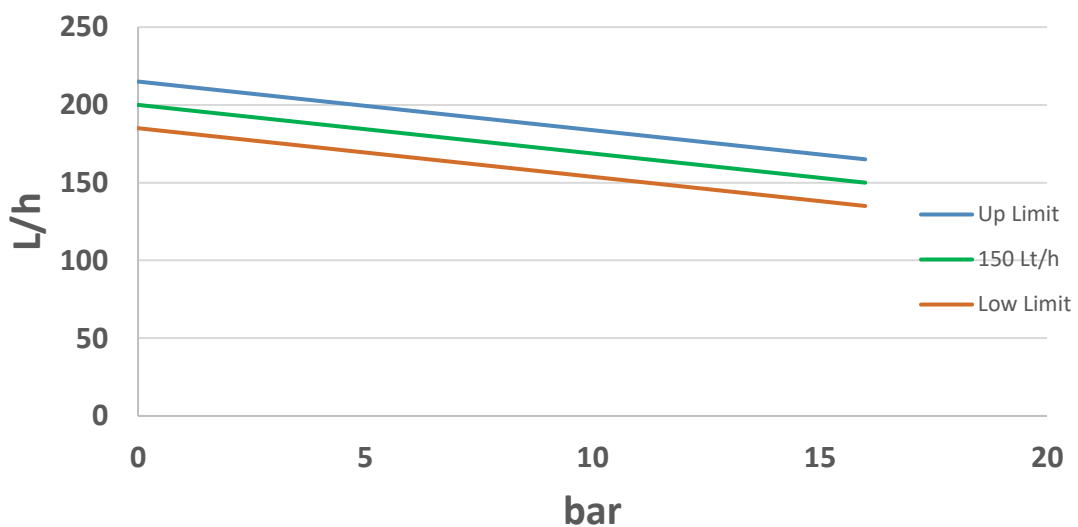
Operating Temperatures and performance

The maximum temperature that the fluid can reach during operation is 70°C. Higher temperatures can be evaluated case by case in accordance with MOCAREEL™ certifications.

The below chart shows the performance curves of **100 l/h** MOCAREEL™ series PR100PE3G0900-T0:

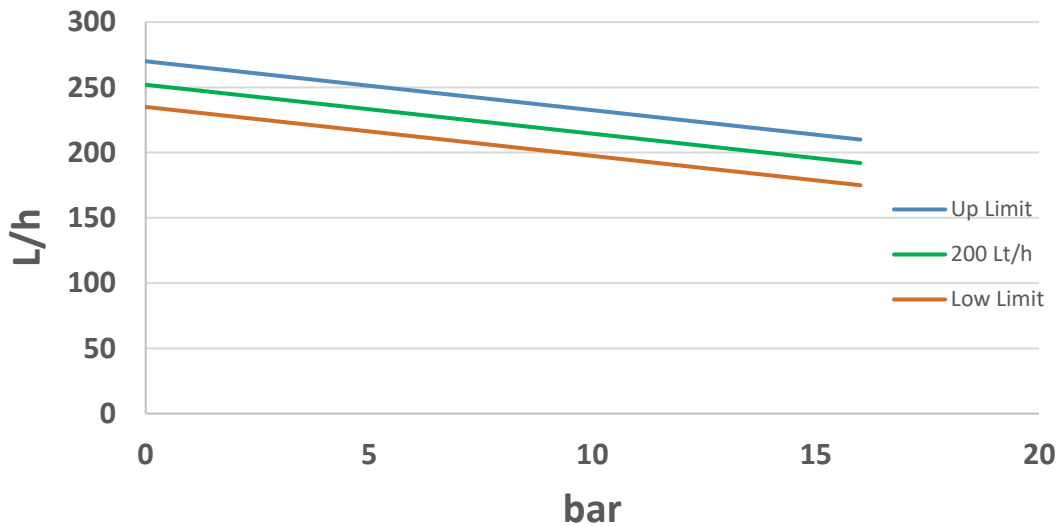


The below chart shows the performance curves of **150 l/h** MOCAREEL™ series PR150PE3G0900-T0:

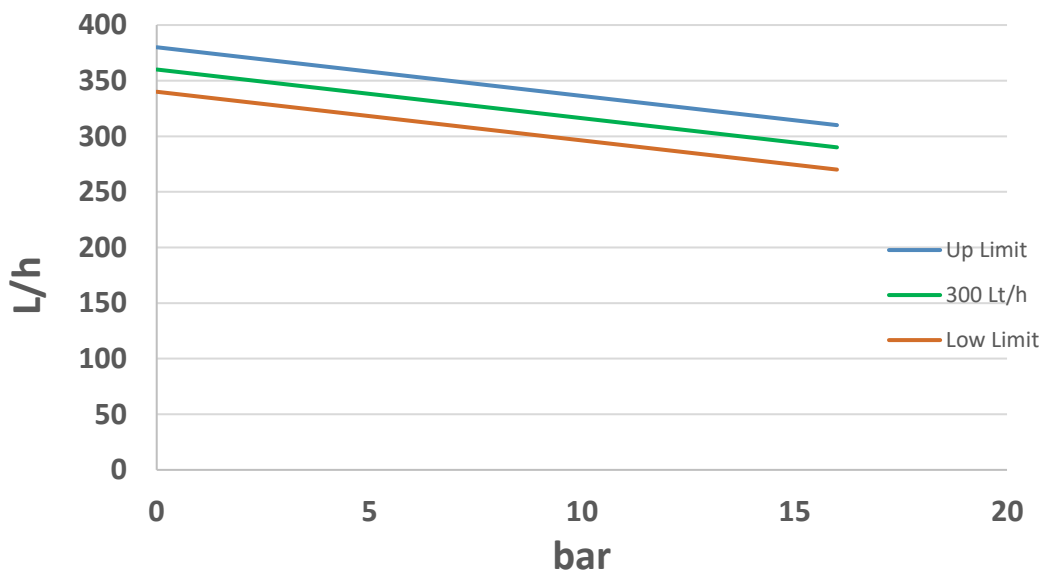




The below chart shows the performance curves of **200 l/h** MOCAREEL™ series PR200PE3G0900-T0:



The below chart shows the performance curves of **300 l/h** MOCAREEL™ series PR300PE3G0900-T0:



All the above performance curves are the result of laboratory tests with water at 20°C and a 1450 rpm engine. Performance can increase by approximately 10% using a 1700 rpm engine.



Product test

MOCAREEL™ rotary pumps are tested to the most stringent standards. Each pump is singularly verified in order to guarantee the highest quality to customers and the absence of any kind of application problem. Product life tests exceeded 500,000 cycles, with 20 sec of 9 bar delivery alternating to 4 sec of OFF phase.

Product codes

These following are the codes to request MOCAREEL™:

PR100PE3G0900-T0 of **100 l/h**

PR150PE3G0900-T0 of **150 l/h**

PR200PE3G0900-T0 of **200 l/h**

PR300PE3G0900-T0 of **300 l/h**

Price list

Attached to this Technical Bulletin we send the price list of the rotary vane pump of the PR series, which is referred to the MOCAREEL™ pump without the engine.

Catalogue pages

Attached to this technical bulletin you can find only the data sheet of MOCAREEL™ PR150PE3G0900-T0 of 150 l/h. Further PR series data sheets and its variants of standard versions will be created.

Product brochure

MOCAREEL™ brochure is available both in digital and paper format.

Attached to this technical bulletin we provide the relevant pdf file, which can also be downloaded from our site available in the [download area](#) of the homepage menu.

Paper copies are available on request by contacting our Customer Service and using reference code 300085 as reference.

Delivery time

Delivery time for significant production volume is about 10/12 weeks from the order receipt of the existing codes.

If there were specific situations for high production volumes, please contact the sales organization for an appropriate definition of the delivery terms.

For sampling or small productions the required time is 1/3 weeks.