I Application

Due to the choice of materials and its design, PROLAC HCP SP (Self-Priming) is suitable for applications requiring a high level of hygiene, gentle handling of the product and resistance to chemical attack.

The HCP SP pump is particularly suitable for pumping liquids containing air or gas without losing its pumping capacity. It can be used in the food-processing, pharmaceutical and chemical industries. Its main application is the return of the CIP cleaning system.

I Operating principle

The PROLAC HCP SP is a self-priming pump that eliminates the need for a vacuum pump or other devices such as foot valves or additional pipes.

The pump needs to be primed with liquid only once before start up. When the pump is turned on, it sucks the air or gas present in the suction pipe, mixing it with the liquid in the pump body. The centrifugal forces push the mixture of liquid and gas towards the separator tank where it loses speed. Because of gravity, the liquid remains at the bottom of the separator tank and is driven back to the pump body through the return pipe, while the air or gas is released through the discharge pipe. In this way, the air or gas is continuously being removed from the suction pipe until the liquid reaches the pump body and the pump begins to operate like a normal centrifugal pump.

It is very important the sucked air is released through the discharge pipe without any back pressure.

It is not advisable to reduce the hydraulic performance of the pump by resizing the impeller or lowering the speed by means of a frequency converter, since it will have negative repercussions on the pump’s suction capacity.

I Design and features

The PROLAC HCP SP has the same components as the PROLAC HCP. The key difference between the two pumps is the body. The impeller, seal and all the other parts are the same in both pumps.

The body of the PROLAC HCP SP includes a separator tank and a non-return valve, ensuring high levels of efficiency.

The motor complies with the IEC standards and is protected by a stainless steel shroud and provided with height adjustable stainless steel legs of hygienic design.
### I Technical specifications

**Materials**

- **Parts in contact with the product**: Stainless steel 1.4404 (AISI 316L)
- **Other steel parts**: Stainless steel 1.4301 (AISI 304)
- **Gaskets in contact with the product**: EPDM

**Mechanical seal**

- **Rotary part**: Silicon carbide (SiC)
- **Stationary part**: Carbon (C)
- **Gaskets**: EPDM

**Surface finish**

- **External**: Matt
- **Internal**: Bright polish $Ra < 0.8 \mu m$

**Connections**

- DIN 11851 (standard)
- CLAMP OD
- SMS 1145

(Other connections available on request)

**Operating limits**

- **Nominal pressure**: 1600 kPa (16 bar) 232 PSI
- **Temperature range**: -10°C to +120 °C 14 °F to 248 °F
- **+140°C (SIP, max. 30 min.)**: 284 °F
- **Maximum flow**: 110 m³/h 484 US GPM
- **Maximum differential head**: 60 m 197 ft
- **Maximum speed**: 3600 rpm

**I Motor**

Triphasic induction motor with B5 flange and B3 legs, in compliance with the IEC standards, 2 poles = 3000/3600 rpm, IE-2 efficiency class, IP 55 protection and F-class insulation.

- 3 phases, 50 Hz, 220-240 V Δ / 380-420 V Y; ≤ 4 kW
- 3 phases, 50 Hz 380-420 V Δ / 660-690 V Y; ≥ 5.5 kW

**I Options**

- Different types of connections.
- SiC/SiC mechanical seal.
- Double mechanical seal.
- FPM gaskets.
- Motor with other voltages, frequencies and protection classes.
- Motor for explosive atmospheres or with enhanced safety level.
I Dimensions

Dimensions $X_1, X_2$

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<th>DN2</th>
<th>X1</th>
<th>X2</th>
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Dimensions

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Dimensions in mm

The information is for guidance only. We reserve the right to modify any material or feature without notice in advance. Photos are not binding. For further information, please consult our website.
I Performance charts

2900 rpm (50 Hz)

Altura / Head m

Caudal / Flow m³/h

IMP gpm

US gpm

3500 rpm (60 Hz)

Altura / Head m

Caudal / Flow m³/h

IMP gpm

US gpm