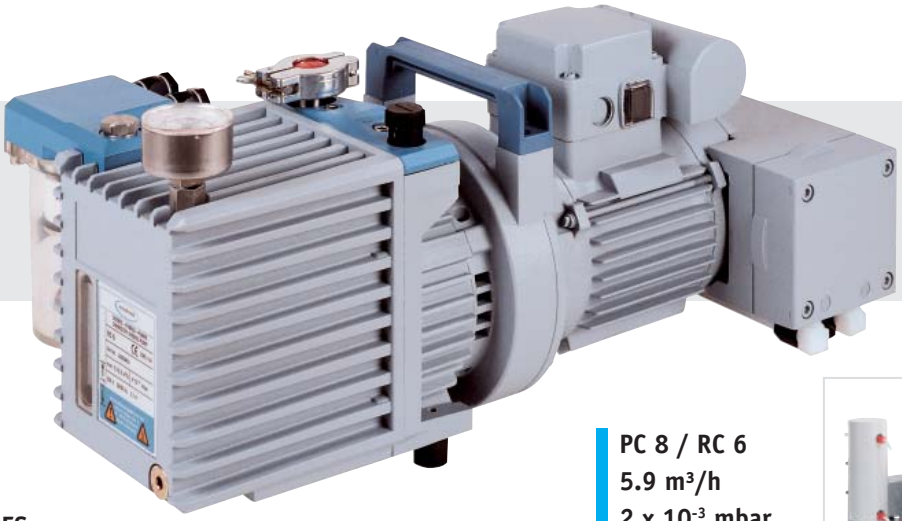
# CHEMISTRY-HYBRID™ PUMP

## RC 6

The RC 6 chemistry-HYBRID™ pump is a combination of a two-stage rotary vane pump and a two-stage chemistry diaphragm pump for optimized corrosion resistance. The diaphragm pump maintains the oil reservoir under vacuum in order to keep the partial pressures of solvent vapors at levels below their condensation points and to reduce largely the concentration of oxygen and corrosive gases.

**RC 6**
**5.9 m³/h**
**2 x $10^{-3}$ mbar**

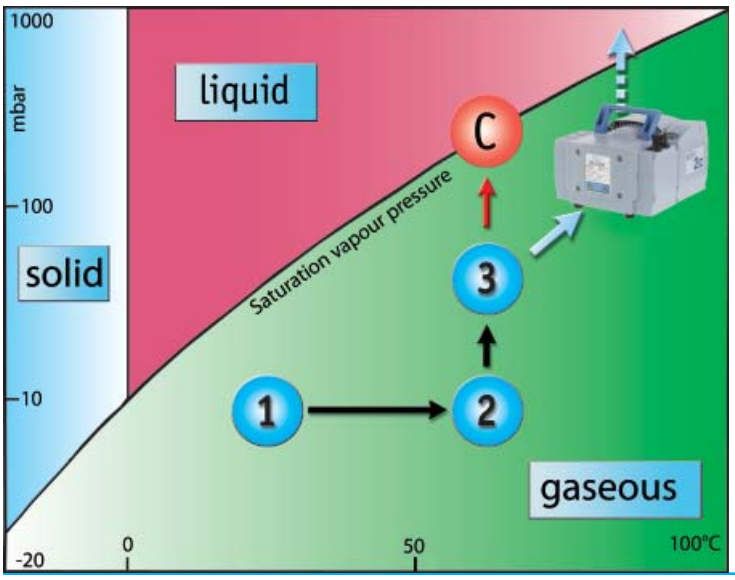


**PC 8 / RC 6**
**5.9 m³/h**
**2 x $10^{-3}$ mbar**

### PERFORMANCE FEATURES

- reduced internal corrosion, even when working with corrosive vapors
- oil changes typically reduced 90% or more compared with rotary vane pumps alone
- excellent environmental friendliness due to efficient solvent recovery (accessory; or as pumping unit PC 8)
- drastically reduced amount of waste oil for disposal due to extended service intervals
- ease of maintenance due to telescopic design

### THERMODYNAMIC FUNCTIONAL PRINCIPLE OF THE CHEMISTRY-HYBRID™ PUMP




1 - Vapor is aspirated at low pressure and ambient temperature.

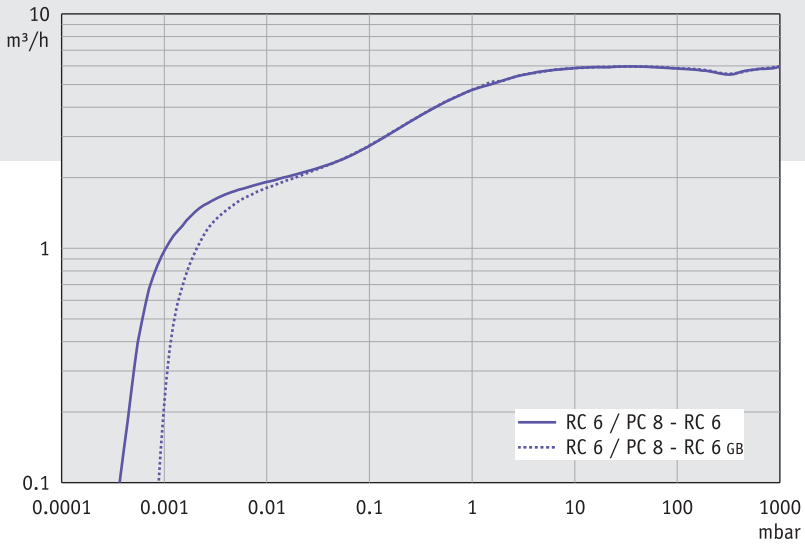
2 - Vapor is heated to approx. 60°C by heat exchange and compression within pump.

C - Condensation problem with "normal" rotary-vane pumps: On the way to atmospheric pressure, the saturation vapor pressure (transition to liquid state) is reached **inside** the oil-filled section. Result: **condensation** and **corrosion** inside the pump; **contamination** of the oil.

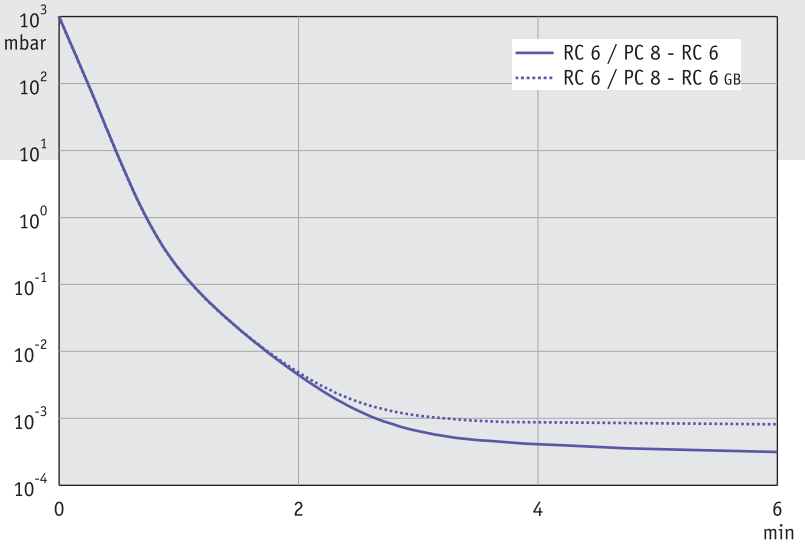
3 - Chemistry-Hybrid™ Pump: The chemistry diaphragm pump evacuates the vapors from the oil reservoir of the rotary-vane pump. Under intended operating conditions, **no condensation** takes place inside the oil-filled part and, in particular, within the oil reservoir. (Any condensation taking place inside the oil-free diaphragm pump is much less problematic.) Less condensation means **less corrosion** and **cleaner oil for longer life**. For example, in the case of acid vapors, the evacuation of the oil reservoir to 20 mbar reduces corrosion by a factor of about 50!



Further information at **www.vacuubrand.com**




Pumping speed graph at 50 Hz with/without gas ballast




Pump down graph at 50 Hz with/without gas ballast (10 l volume)

Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

| TECHNICAL DATA | | RC 6 |
|---|---|---|
| Number of stages | | 2 |
| Max. pumping speed at 50/60 Hz | m³/h | 5.9/6.9 |
| Ultimate partial vacuum (abs.) | mbar | $4 \times 10^{-4}$ |
| Ultimate vacuum (abs.) | mbar | $2 \times 10^{-3}$ |
| Ultim. vac. (abs.) with gas ballast | mbar | $1 \times 10^{-2}$ |
| Water vapor tolerance | mbar | >> 40 mbar not defined according to PNEUROP® |
| Oil capacity (B-Oil) min / max | l | 0.34 / 0.53 |
| Inlet connection (IN) | | Small flange KF DN 16 |
| Outlet connection (EX) | | Hose nozzle DN 10 mm |
| Rated motor power | kW | 0.37 |
| Rated speed at 50/60 Hz | $min^{-1}$ | 1500/1800 |
| Degree of protection | | IP 40 |
| Dimensions (L x W x H) | mm | 510 x 305 x 230 |
| Weight | kg | 24.2 |

**ITEMS SUPPLIED**

pump completely mounted, ready for use after oil filling (bottle 0.5l enclosed), with manual

| ORDERING INFORMATION | | RC 6 |
|---|---|---|
| 230 V ~ 50-60 Hz | CEE | 698560 |
| 230 V ~ 50-60 Hz | CH | 698561 |
| 230 V ~ 50-60 Hz | UK | 698562 |
| 100-120 V ~ 50-60 Hz | US | 698563 |
| **ORDERING INFORMATION** | | **PC 8 / RC 6** |
| 230 V ~ 50-60 Hz | CEE | 698570 |

**ACCESSORIES**

Rubber vacuum tubing DN 10 mm (686002)
PTFE tubing KF DN 16 (1000 mm: 686031)
Stainless steel tubing KF DN 16 (1000 mm: 673336)
Kit PC 8 with emission condenser (699949)
Filter element oil mist filter RC (640187)