

8 Annex


8.1 Technical data

Product description
Product names

Chemical pump station series	
PC 3002 VARIO select	PC 3003 VARIO select
PC 3004 VARIO select	PC 3004 VARIO select EKP

Technical data

Technical data

Ambient conditions (US)		
Ambient temperature	10–40 °C	50–104 °F
Installation height, max.	2000 m above sea level	6562 ft above sea level
Humidity	30–85 %, non-condensing	
Degree of contamination	2	
Impact energy	5 J	
Protection class (IEC 60529)	IP 20	
Protection class (UL 50E)	Type 1	
Avoid condensate or contamination from dust, liquids and corrosive gases.		
Operating conditions (US)		
Operating temperature	10–40 °C	50–104 °F
Storage/transport temperature	-10–60 °C	14–140 °F
Maximum permissible media temperature (gas) of non-explosive atmospheres:		
short-term	80 °C	176 °F
Continuous operation	40 °C	113 °F
ATEX conformity	II 3/- G Ex h IIC T3 Gc X Internal Atm. Only Tech. File: VAC-EX02	
Maximum permissible media temperature (gas) of  atmospheres:		
short-term	40 °C	104 °F
Continuous operation	40 °C	104 °F
Connections		
Vacuum, inlet IN	Hose nozzle DN 6-10	
Gas ballast GB	Gas ballast valve, manual	
Inert gas adapter – OPTION	Small flange GB NT KF DN 16 Hose nozzle GB NT DN 6/10	

Ventilation valve (ventilation with inert gas) – OPTION	Silicon rubber hose 3/6	
Coolant EK	2x (+ 2x) hose nozzle DN 6/8	
Exhaust, outlet EX	Hose nozzle DN 8/10	
Cold-device plug	+ power connection CEE, CH, CN, UK, IN, US	
Plug connector	VACUU·BUS®	
Electrical data	(US)	
Rated voltage	100–230 VAC ±10 %	100–115 VAC ±10 %
Power frequency	50 Hz	60 Hz
Rated current at 50 Hz ...		
... PC 3002	1.4 A	
... PC 3003 / PC 3004	2.5 A	
Power, max.	0.53 kW	
Rated speed	2,400 rpm	
Overvoltage category	II	
Interface	VACUU·BUS®	
Power cable	2 m	
Device fuse 2x	6.3 A/t 5x20	8 A/t 5x20
Vacuum data	(US)	
Inlet pressure / outlet pressure / differential pressure, absolute	1.1 bar	825 Torr
Pressure at gas connections, absolute max.	1.2 bar	900 Torr
Sensor	integrated	integrated
Measurement principle	Ceramic membrane (aluminum oxide), capacitive, gas-type independent, absolute pressure	
Measurement accuracy	±1 mbar/hPa/Torr, ±1 digit (after adjustment, constant temperature)	
Upper measurement limit	1080 mbar	810 Torr
Lower measurement limit	0.1 mbar	0.1 Torr
Temperature drift	< 0.15 mbar/K	0.11 Torr/K
PC 3002		
Pumping speed, max.	2.8 m ³ /h	1.6 cfm
End vacuum, absolute	7 mbar	5 Torr

End vacuum with GB, absolute	12 mbar	9 Torr
Number of cylinders/steps	2/2	
PC 3003		
Pumping speed, max.	2.8 m ³ /h	1.6 cfm
End vacuum, absolute	0.6 mbar	0.45 Torr
End vacuum with GB, absolute	1.5 mbar	1.12 Torr
Number of cylinders/steps	4/4	
PC 3004		
Pumping speed, max.	4.6 m ³ /h	2.7 cfm
End vacuum, absolute	1.5 mbar	1.1 Torr
End vacuum with GB, absolute	3 mbar	2.2 Torr
Number of cylinders/steps	4/3	
Weights* and dimensions (L x W x H)		
		(US)
PC 3002 VARIO select	419 mm x 243 mm x 444 mm	16.5 in x 9.57 in x 17.48 in
Weight*	17.9 kg	39.5 lb
PC 3003 VARIO select	419 mm x 270 mm x 457 mm	16.5 in x 10.63 in x 18 in
Weight*	21.1 kg	46.6 lb
PC 3004 VARIO select	419 mm x 268 mm x 457 mm	16.5 in x 10.55 in x 18 in
Weight*	21.1 kg	46.6 lb
PC 3004 VARIO select EKP	402 mm x 361 mm x 457 mm	15.83 in x 14.21 in x 18 in
Weight*	25.2 kg	55.5 lb
* without cable		
Other specifications		
Sensor type	VACUU·SELECT Sensor	
Controller	VACUU·SELECT	
Volume of condensate collection tanks	500 ml each	
Sound pressure level at 1,500 min ⁻¹ /62% (VARIO)	42 dBA ±3	

8.2 Wetted materials

Wetted materials
(maximum list of materials)

Components	Wetted materials
Pump	
Head cover	ETFE carbon-fiber reinforced
Membrane spring washer	ETFE carbon-fiber reinforced
Membrane	PTFE
Valves	FFKM
O-rings	FPM
Valve cluster	ECTFE carbon-fiber reinforced
Inner housing cover section	PTFE carbon-fiber reinforced
Pumping unit	
Inlet	PP, stainless steel
Distributor head (inlet)	PPS fiberglass reinforced, PP (blind plate)
Outlet	PET
Distributor head	PPS fiberglass reinforced
O-ring on separator	Fluoroelastomer
Pressure release valve on emission condenser	Silicone rubber, PTFE film
Emission condenser	Borosilicate glass
Round flask	Borosilicate glass
Separator	PMP
Tubing	PTFE
Hose screw connection	ETFE, ECTFE
O-ring on separator	Fluoroelastomer, NBR
Peltronic emission condenser	ETFE, ECTFE, PP, PA
Sound absorber OPTION	PBT, PVF, rubber
Hose to sound absorber OPTION	PVC
Blind plate	PP
Lock screw	Galvanized steel
VACUU-SELECT Sensor	
Vacuum sensor	Aluminum oxide ceramic, gold-coated
Measuring chamber	PPS
Small flange OPTION	PP
Seal on sensor	Chemical-resistant fluoroelastomer