

External dimensions

Reactor frame with pneumatics, pedestal-mounted model

A = height 1200 mm
B = depth 430 mm
C = width 540 mm

Basic information

Nominal volume 100 ml, 250 ml, 380 ml,
500 ml, 1000 ml
Excess operating pressure 100 bar, 200 bar, 325 bar,
700 bar
Operating temperature up to 350°C max.
Speed up to 2'000 rpm max.
Material Mat. no. 1.4435 (AISI 316L)
Mat. no. 1.4571 (AISI 316Ti)
Mat. no. 1.4980 (AISI 660)
Hastelloy C22, C276, B3
Titanium Gr. 2

Flange lock

with high tensile bolts (CrMoV57) and nuts (CrMo5) up to 700 bar, or jaw lock up to 200 bar.

Sealing

O-rings made of various materials, conical metal-to-metal seal, or pure silver flat seal.

Heating

Electrical heating elements, 1500–4000 W thermal output, inserted in the copper / aluminium block, or double shell for heat transfer oil.

Cooling

Cooling coil cast into the aluminium block or double shell cooling unit.

Temperature sensors

One Pt100 temperature sensor, type K or type N in the submerged tube, to measure the medium temperature, and two more sensors in the heating / cooling shell.

Drive

Electrical motor with nominal power of 120 W, 3x240/400 V, 4-pole, 1'400 rpm, activated by frequency converter. The speed is adjusted using a potentiometer, from 200–2'000 rpm (maximum limit).

Magnetic stirrer design

The magnetic stirrer drive features a streamlined design, and torques from 20–90 Ncm are available.

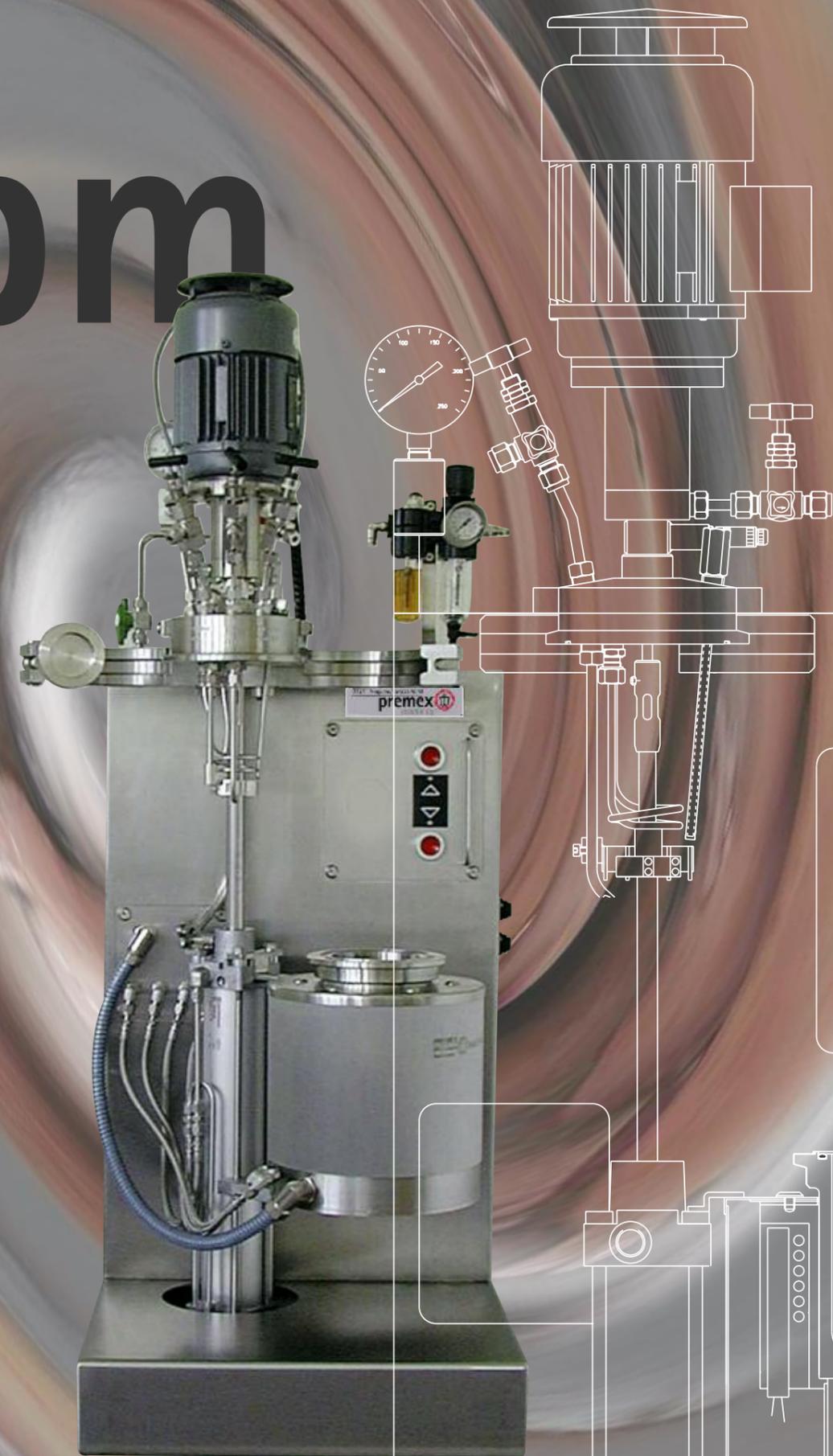
Bearings

The driven shaft is mounted on ball bearings made of stainless steel, or friction bearings made of PTFE/carbon.

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High-pressure autoclave «pollux» with pneumatic lifting device – pedestal-mounted model, 100–1000 ml

Our type «pollux» high-pressure autoclave represents perfect reactor design: it is fitted with a pneumatic lifting cylinder to allow the reactor vessel to be raised towards the cover. The advantage of this design is that all the pipework for the fittings on the reactor cover can be installed on a fixed basis.

Customers will find that there are virtually no limits to the add-on devices they can choose. Possible options include a pH sensor, an IR sensor, a level sensor for continuous reactions and a rotating catalyst cage.

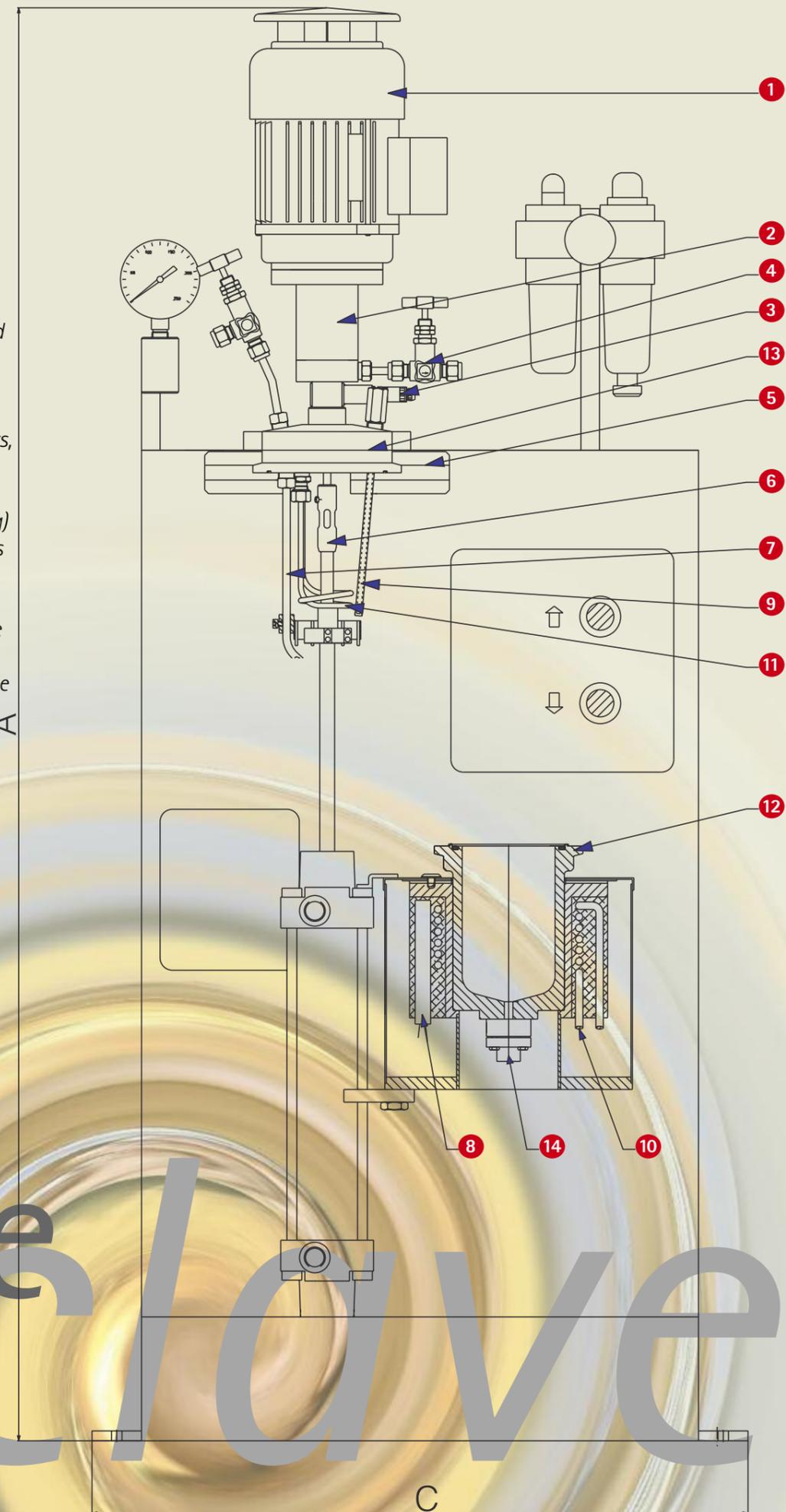
The reaction vessel can be removed from the heating / cooling unit for cleaning. The pneumatic control and the cooling water valves are built into the rear wall of the reactor frame, with frontal access via a service opening.

The «pollux» reactor can be supplied in versions for up to 200 bar with the popular jaw lock (fast closing system).

Bore holes on the reactor cover

- 1 Magnetic stirrer drive
- 2 Submerged tube with temperature sensor, type Pt100, type K or type N to measure temperatures in the medium (there are 2 more sensors in the heating / cooling shell to control and monitor the heating.
- 3 Gas supply valve
- 4 Pressure release valve
- 5 Valve with submerged tube as far as reactor base, for sampling
- 6 Product feed valve
- 7 Pressure gauge (manometer) and pressure transducer
- 8 Cooling spiral in the medium to counter exothermal reactions, on request

- 1 Electrical motor
- 2 Magnetic coupling
- 3 Speed reading point sitted to the driven shaft
- 4 Gas supply on magnetic stirring drive
- 5 High tensile bolts and nuts, or jaw lock
- 6 Stirrer
- 7 Submerged tube (sampling)
- 8 Electrical heating elements in heating shell, or double shell design
- 9 Temperature sensor in the medium
- 10 Cooling spiral cast into the aluminium block, for electrical heating
- 11 Cooling spiral in the medium (exothermal) on request
- 12 Autoclave vessel
- 13 Autoclave cover with all fittings
- 14 Base valve on request



the autoclave
pollux
hpm-p