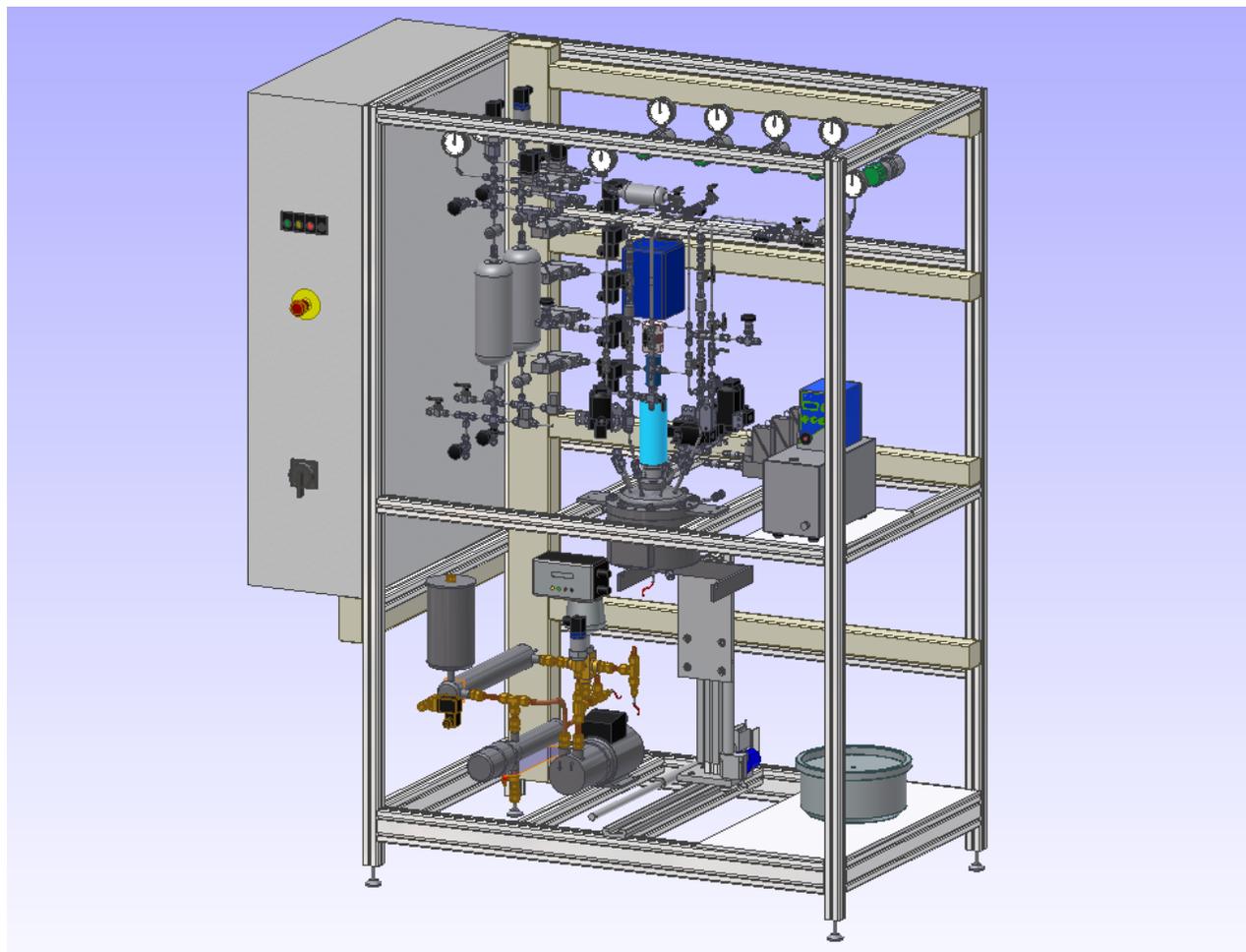


Gas Phase Polymerization Plant



- 1.8 l reactor for 175 °C, 50 bar
- Dynamic heating & cooling system
- Integrated gaschromatograph
- Fully automated recipe based operation



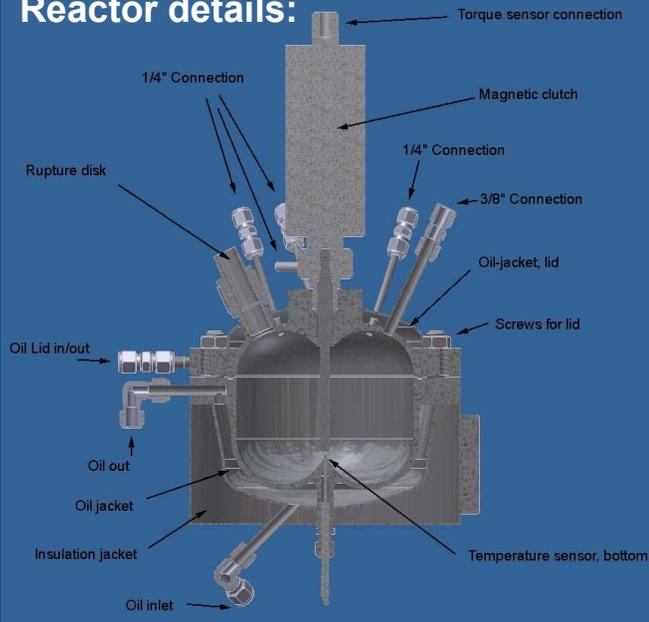
Short description:

The system consists of two plants that share one gas chromatograph to analyze the reaction gas. Each plant is equipped with a 1.8 l reactor. The system comprises gas feeds, liquid feeds, catalyst and co-catalyst feed lines. The pressure inside the reactor can be controlled inside with an automatic pressure control valve. Gas flow of the educt gases can be controlled with thermal mass flow controller.

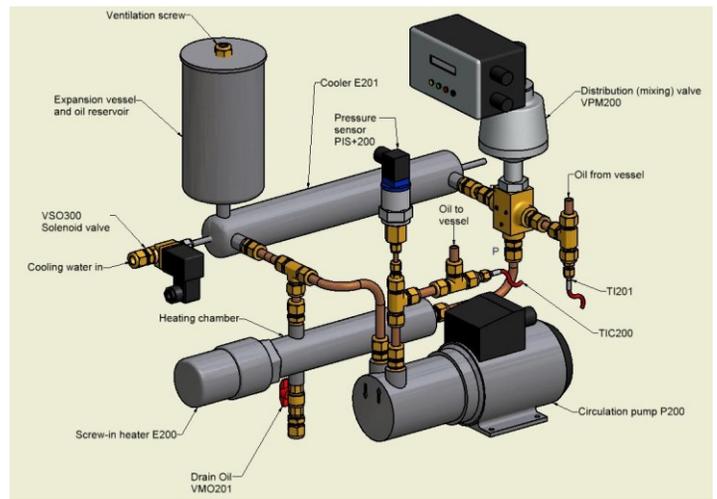
Design properties:

- ✓ $T_{\max} = 175 \text{ }^{\circ}\text{C}$
- ✓ $p_{\max} = -1 - 50 \text{ bar}$
- ✓ Nitrogen 10 – 500 g/h
- ✓ Ethylene 5 – 250 g/h
- ✓ Hydrogen 0.001 – 0.1

Reactor details:



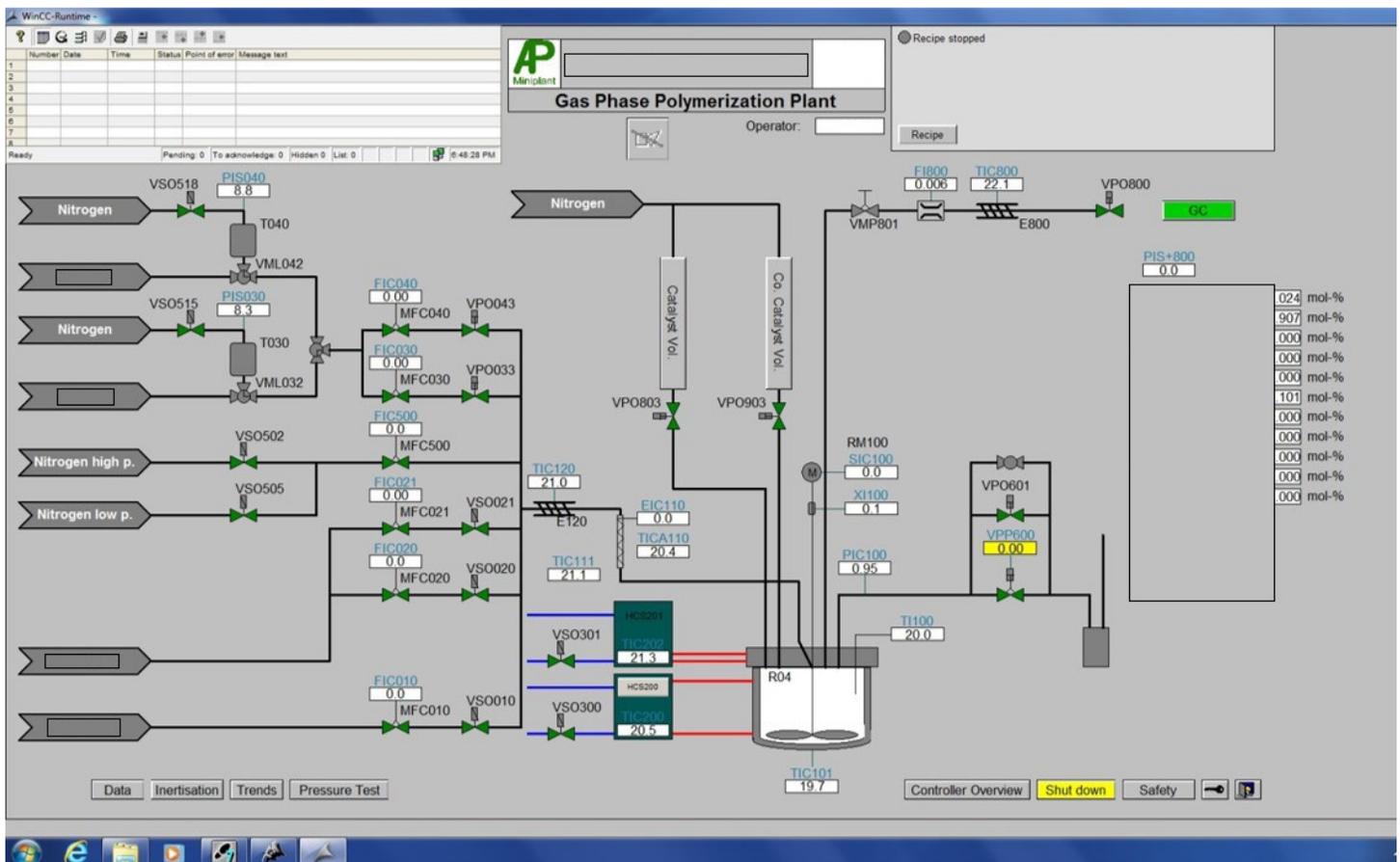
Ribbon and head space stirrer



Fast heating/cooling system

- ✓ heated lid
- ✓ heating jacket
- ✓ stainless steel

* Special design by Czech Polymer Research Institute in Brno.



control system: operating screen

Dimension plant W x D x H	1550 mm x 900 mm x 1900 mm
Mass of the unit without computer + spares	360 kg
Electrical supply	3 x 380 V AC, 60 Hz, 20 A, 3,5 kW
Electrical connection	spring-loaded terminal, max. 10 mm ² , from bottom
Ambient conditions	10 to 35 °C, Max. humidity < 85 %
Noise emissions	65 – 68 db(A) max.
Reactor volume	1.6 Liter
Design pressure reactor PS	-1 to 50 bar
Design temperature reactor	-10 to 175 °C
Reactor type	Special design by Czech Polymer Research Institute in Brno, Bottom and lid part with heating cooling jacket, material of construction is stainless steel 1.4404 (SS316L)
Stirrer speed	100 – 1400 RPM
Stirrer torque	Max. 7.5 Nm measured at the meter
Gas supplies	Thermal mass flow controllers (examples) Nitrogen 10 – 500 g/h Ethylene 5 – 250 g/h Hydrogen 0.001 – 0.1 g/h
Liquid or liquidified gas supplies	2 Lines with 1 l pressure tanks, design pressure 50 bar
Heating cooling system	AP-Miniplant highly dynamic heating and cooling system with circulation pump, pneumatically controlled mixing valve, electrical heater with 1.5 kW power, water cooled cooler. Total oil volume 2.5 l.
Catalyst supply	Dosing units with 1, 2 and 10 ml

Product Overview



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