

SILOXA adsorption dryer, models 400 and 700 (further models on request)



Features

- Compact frame-mounted design, modular structure
- High availability, operational reliability, low maintenance
- Upgrades possible with further modules/options

Frame

- Made of square tubes, 1,4301
- Compact design

Adsorption vessels

- 2 vessels
- Material 1,4301
- Initial fill of desiccant

Regeneration gas processing

- Tube bundle heat exchanger, material 1,4571 for components in contact with fluids
- Gas heater
- Fan

Condensate trap

- Moulded piece material 1,4571 for flange mounting
- Demister, material 1,4571
- Condensate fill-level monitoring

Insulation against heat and cold

- Mineral wool or Armaflex with aluminium-sheet sheathing
- Including trace heating for the condensate discharge

Measurement and control unit for outdoor installation in weatherproof housings

- 2 pressure sensors (1 for feed gas, 1 for product gas)
- 2 pressure switches (regeneration gas)
- 6 temperature sensors
- 1 temperature switch
- 10 local readout thermometers/manometers
- 1 dew point meter
- 1 fill-level meter (capacitive) for continuous measurement in fluids. Includes evaluation unit. The system is used for controlling and monitoring the discharge of condensate and complies with safety integrity level SIL 1.

Control cabinet

- Material: stainless steel
- Protection category IP 55

E, I&C

- Siemens PLC S7-300 with TP177A touch panel

Factory assembly

- All components supplied ready for use with pipework and cabling

Technical documentation

- Operating instructions, installation drawing/shop drawing
- Piping and instrumentation diagram, circuit diagram, list of assemblies
- Spare parts lists and individual documentation for the installed components
- Inspection/testing reports and certificates

Available options

Gas pre-cooling

Tube bundle heat exchanger in flanged design, where cooling facility is available on site ▶



SILOXA
Take out what doesn't belong.

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Water cooler

- With air-cooled condensers for outdoor installation and all-year operation
- Compact, commercially-produced standard unit

Components in contact with fluids comply with ATEX (Zone 1G) requirements

Installation in an EX zone possible on request

Technical Specifications:

Technical Data	AT 400	AT 700
Gasmedium	Biomethan	Biomethan
Gas flow rate	400 Nm ³ /h	700 Nm ³ /h
Gas inlet temperature	max. 15 °C	max. 15 °C
Water content in inlet gas	6.3 g/Nm ³ (0.75 % v/v)	6.3 g/Nm ³ (0.75 % v/v)
Dew-point temperature of inlet gas (1113 mbar)	5 °C	5 °C
Gas outlet temperature	< 30 °C	< 30 °C
Primary pressure	> 60 to 500 mbar gauge	> 60 to 500 mbar gauge
Operating pressure	max. 0.5 bar	max. 0.5 bar
Test pressure	3 bar	3 bar
Water content in inlet gas	0.0050 g/Nm ³	0.0050 g/Nm ³
Dew-point temperature of outlet gas	-48 °C (at approx. 500 mbar gauge)	-48 °C (at approx. 500 mbar gauge)
Pressure loss, biomethane	approx. 50 mbar	approx. 50 mbar
Regeneration gas processing		
Gas cooler	Tube bundle heat exchanger Material: 1,4571, carbon steel jacket	Tube bundle heat exchanger Material: 1,4571, carbon steel jacket
Fan	Brand: Continental, centrifugal fan	Brand: Continental, centrifugal fan
Regeneration gas	Biomethane	Biomethane
Desorption	Counter current	Counter current
Cooling of desiccant	Parallel flow	Parallel flow
Regeneration gas temperature after cooling	max. 35 °C	max. 35 °C
Regeneration gas temperature after heating	max. 160 °C	max. 160 °C
Gas composition		
Methan CH₄	96 bis 99 % v/v	96 bis 99 % v/v
Carbon dioxide CO₂	approx. 1 % v/v	approx. 1 % v/v
Sulphur H₂S	0 ppm	0 ppm
Oxygen O₂	< 1 % v/v	< 1 % v/v
Water (max)	6,3 g/Nm ³	6,3 g/Nm ³
Physical properties		
Gas density (standard state)	0.73 bis 0.77 kg/Nm ³	0.73 bis 0.77 kg/Nm ³
Specific heat capacity C_p	2.1 bis 2.2 kJ/kg K	2.1 to 2.2 kJ/kg K
Installation conditions		
Installation site	Outside	Outside
Permissible ambienttemperature	-20° to +40 °C	-20° to +40 °C
Inlet/outlet DN	150/100 PN10	200/150 PN10
Danger area	Installation outside of EX zones	Installation outside of EX zones
Dimensions (L x W x H)	3,300 x 2,400 x 3,100 mm	3,880 x 2,600 x 3,281 mm
Electrical Connection	400 V / 3 Ph / 50 Hz	400 V / 3 Ph / 50 Hz
Control Air	min. 6 bar gauge, clean and dry	min. 6 bar gauge, clean and dry
Cooling water connection	1 1/2", DN 40	2", DN 50
Gas inlet	DN 150 PN 10	DN 200 PN 10
Gas outlet	DN 100 PN 10	DN 150 PN 10
Condensate discharge	G 1"	G 1"

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