



Robust gas and liquid cooler in the transmitter housing (IP 65) for demanding industrial applications

Fail-safe tubular heat exchanger made from high-performance stainless steel (1.4571) Suitable for flammable gases

Service-friendly design with quick-change system

With water trap to protect against condensate breakthrough (optional)

Ambient temperature up to +60°C possible (Desert design)

Remote temperature monitoring via integrated temperature sensor (optional)

Ideally suited for electrochemical sensors / measuring heads up to higher class analysers

The process analyser cooler model GT5 is used for the safe cooling of process, measuring and flue gases in gas analysis technology. Via 1200 mm heat exchanger (spiral shape with additional turbulator) made of stainless steel. The gas to be measured is reliably lowered to a preset temperature / dew point.

The condensate produced is separated in a water trap (optional). With the built-in membrane technology of the SUN-Control analyser, this provides additional protection against condensate breakthroughs and dust deposits. After the process analyser cooler, a dew point-compliant, dry and dust-free measuring gas chamber is available, dry and dust-free sample gas for your high-quality gas analyser / gas sensor.

The process analyser cooler is also used to cool down liquids.

Suitable for the following applications:

- Operational measurements with fossil fuels
- Process measurements
- Regenerative forms of energy (hydrogen electrolysis)
- Heat treatments
- Biogas plants
- Cement, glass, steel and paper industries

Not suitable for the following applications:

- Official measurements such as TA-air and BImSchV measurements are only possible to a limited extent
- Applications with more than one heat exchanger



Digital form at:
www.cgs-company.de/downloads/MDZ_E_D_GT5.65.pdf

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Technical data [process analyser cooler]

- Protection class: IP 65 alternatively IP 20
- Power supply: 24 V/DC, 5.5 A, 150 W, connection terminal 0.7 - 1.5 mm², M16 cable gland
- Cooling technology: Peltier, thermoelectric
- Heat exchanger: Quantity 1, volume 15.1 ml, material stainless steel 1.4571, (HC 22, PTFE on request)
- Gas flow: 0 - 250 l/h (0 - 500 l/h on request)
- Operating pressure: 0 - 100 bar (higher pressures on request)
- Differential pressure: 15 mbar at 250 l/h air
- Gas inlet temperature: +5°C - +140°C
- Inlet dew point: 0°C - +70°C
- Gas outlet dew point: factory setting +8°C (possible +5°C to +15°C).
Dew point stability ± 0.5°C
- Max. cooling capacity: 115 kJ/h
- Ambient temperature: +5°C - +45°C (+60°C on request)
- Ready for operation: after 30 minutes
- Temperature alarm: Single-pole potential-free contact. Contact load 250 VAC / 1 A
- Temperature monitoring: The current temperature of the analyser cooler can be (optional) integrated online into a customer SIL loop via built-in temperature sensors. SIL 2 preparation with 1 piece 3-wire Pt100 class A, t90 12 sec.
- Temperature display: Analogue indicator bimetal
- Gas connections GT5: GAS-IN 6 mm pipe, GAS-OUT 6 mm pipe
- Dimensions/weight: width 330 mm, height 220 mm, depth 270 mm, 12 kg
- Mounting: Wall mounting / mounting plate via mounting bracket (included in the scope of delivery)
- Approval: UL 508A, Low Voltage Limited Energy Circuits (on request)
- Note: The technical data apply at an ambient temperature of +25°C. With increasing ambient temperatures, a decrease in performance is to be expected. Water-soluble components, such as Sulphur Dioxide (SO₂) and Nitrogen Dioxide (NO₂), can be influenced by condensation.

Scope of delivery

- Protective housing built in:
- Stainless steel heat exchanger, Peltier cooling module, temperature controller, temperature indicator, temperature alarm via electrical contact. Temperature monitoring via Pt100 temperature sensor (optional)
- Heat sink with fan and wall mounting bracket
- Water trap model GT5KOB (optional)

Application example



The process analyser cooler drains the condensate via external components, e.g. stainless steel water trap (optional). This constellation is used for monitoring hydrogen and oxygen during electrolysis (see application examples).

Note: Connection (dashed line) from the analytical cooler (GT5) to the water trap is made by the customer and is not included in the scope of delivery.

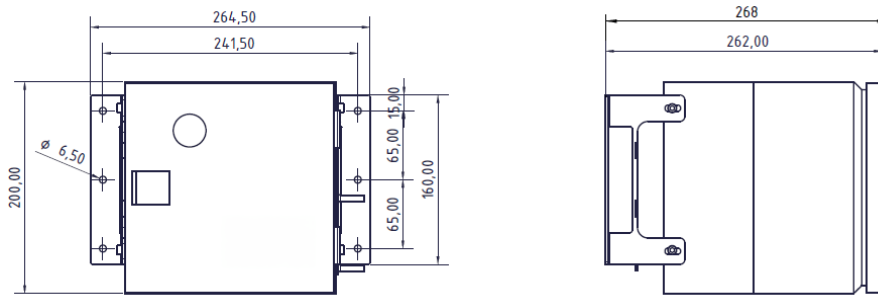
Technical data [water trap]

- Scope of delivery: Housing with built-in water trap cartridge, wall mounting bracket
- Membrane water pressure: 0 – 1 bar
- Gas operating pressure: 0 – 100 bar
- Membrane pore size: < 0.1 µm
- Effective filter area: 550 cm²
- Operating temperature: 0°C - +90°C
- Housing volume: 200 ml
- Materials used: Stainless steel type 1.4571, PTFE, PP, FKM
- Wall mounting bracket: Stainless steel 1.4301
- Dimensions: Diameter 80 mm, length 100 mm
- Gas connections:

GAS-IN	1/4" female G-thread
GAS-OUT	1/4" female G-thread
CONDENSATE-OUT	1/4" female G-thread
- Mounting: Wall mounting via mounting bracket
- Gas explosion protection ATEX: II 2G Ex h IIC Gb 0°C ≤ Ta ≤ +90°C
- Certificates/certifications: Certificate of conformity ATEX 2014/34/EU, helium leakage test
- SUNOX100-process
Oil and grease-free products for applications with 100 % oxygen (on request).

Dimensions

Process analyser cooler



order numbers

Pos	Designation	Order no.
1	Process analyser cooler IP 65, model GT5.65 according to technical data	1050500
2	Customized special or complete solutions on mounting plate	on request

Options

Pos	Designation	Order no.
1	Temperature monitoring with 1 temperature sensor PT100 (SIL 2 preparation). Installed in process analyser cooler	1049101
2	Material certificate 3.1 for heat exchanger	1039876
3	Water-acid trap; complete with filter, with O-Ring, 1.4571	1049995
4	Peristaltic condensate pump CPsingle; ATEX Zone 2	1048298
5	Separator with automatic condensate drain Can only be used with overpressure	1050012

Spare parts

Pos	Designation	Order no.
1	DC fan DC axial fan, 92x92x25 mm, 24 VDC	1050198
2	Heat exchanger; GT5.65; process analysis cooler	1050793
3	Peltier cooler; 6.1 A, 30V, operating temperature -50...120°C	1050215
4	Bimetal dial thermometer -20...40°C, Ø 34 mm, collar 14x2 mm	1050202
5	Temperature switch TK24, open 16°C, close 10°C	1050207
6	Temperature sensor Pt100, 2 m PVC cable, 3-wire	1050209
7	Peltier controller, 10 amps, 12 V, 65x50x20 mm, for cooling	1050842
8	Water trap cartridge (option item 3)	1050254
9	O-Ring 65.0x2.0 mm; FKM; green (option pos. 3)	1050568
10	Tubing for peristaltic pump CP; Q = 0.3 l/h; Tygon (Norprene)/PVDF; with screw connection 4/6 (option pos. 4)	1050210