



Modular sample conditioning panels MSCP

The modular sample conditioning panels MSCP range provides customised systems build on panels for plug-in installation into cabinets, shelters or instrumentation rooms. Depending on the application and customer requirements the panel comprises a full conditioning system composed from the high quality range of our sample conditioning program. We draw special emphasis to the fact, that we do not compromise: all major items of the systems are developed and manufactured particularly for gas analysis applications by Bühler Technologies GmbH.

The size of the panel depends on the number of components necessary for the individual application. Please also consider our SCS 19" drawer solutions.

Sample conditioning panel

Prepared for easy installation into an appropriate cabinet or shelter

Flow rate adjustable, integrated bypass for response time optimization

Outlet dew point adjustable/delta-T control optional

Nominal cooling capacity 195 kJ/h (40 °C version) or 175 kJ/h (50 °C version)

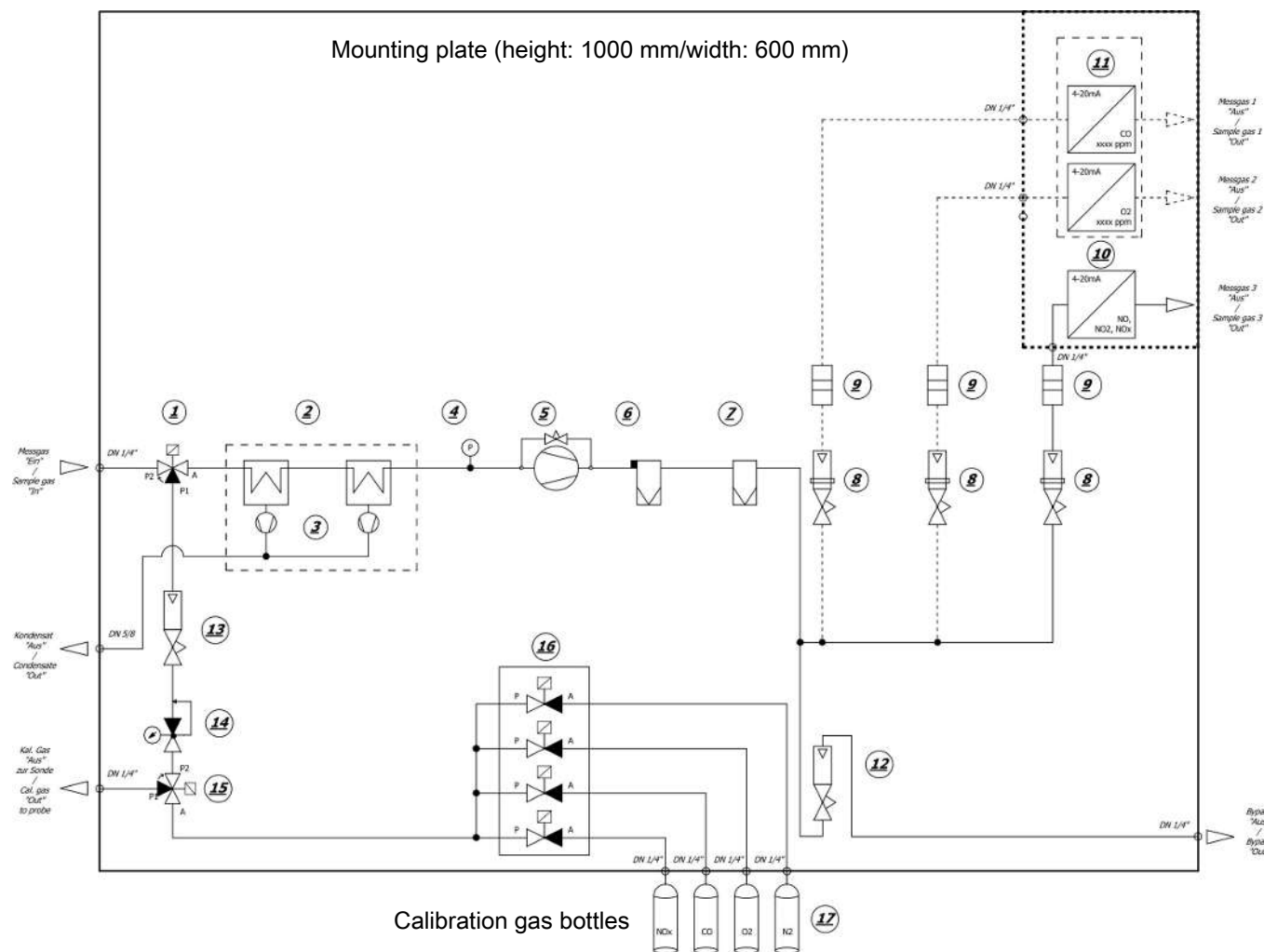
Number of calibration gases and solenoid valves variable

Either tubed in PTFE or stainless steel

Various pump and cooler models available

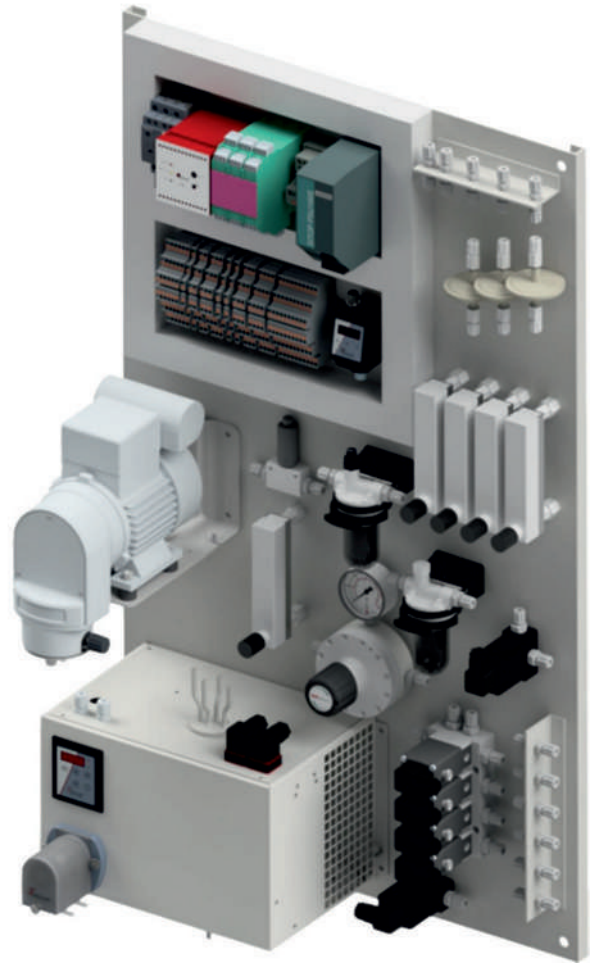


Flow diagram (example)



1	3/2-way solenoid valve (sample gas/calibration gas)	2	Sample gas cooler
3	Condensate pumps	4	Pressure gauge
5	Sample gas pump	6	Sample gas filter with moisture detector
7	Coalescing filter	8	Flow meter (analyser gas path)
9	Waterstop filter	10	Analyser (customer's scope)
11	Analyser (customer's scope)	12	Flow meter (bypass gas path)
13	Flow meter (probe verification gas path)	14	Pressure regulator
15	3/2-way solenoid valve (probe verification/direct calibration)	16	2/2-way solenoid valve (calibration gases)
17	Calibration gas bottles (customers's scope)		

System structure (example)



Technical Data

Technical data MSCP	
Mounting plate:	Dimensions: 1000 mm x 600 mm (example) or according to customer's specification Material: stainless steel 1.4401 (AISI 316)
Gas paths:	Tubed in PTFE 1/4" or DN 4/6, fittings made of PVDF Piped in stainless steel 1/4" or Ø 6 mm, fittings made of stainless steel
Scope of application:	Designed for further integration into a corresponding cabinet, shelter or instrumentation room. The sample conditioning system is delivered including a manufacturer's declaration. Can be equipped with Class I, Division 2 or ATEX/IECEx Zone 2 certified components (e.g. sample gas cooler, sample gas pump).
Max. ambient temperature:	40 °C
Max. inlet pressure:	0,5 barg
Max. sample inlet temperature ¹ :	- 80 °C at sample gas inlet with option 3/2-way solenoid valves (see flow diagram (1)) - 180 °C Heat exchanger stainless steel - 140 °C Heat exchanger glass/PVDF
Max. inlet H ₂ O dew point:	according to cooler capacity data (see table)
Outlet H ₂ O dew point:	5 °C default adjustable up to 20 °C Delta-T control (option)
Material of sample wetted parts:	- Gas paths tubed in PTFE, fittings made of PVDF or piped in stainless steel, fittings made of stainless steel - Solenoid valves: PVDF/gaskets: FKM - Flow meters: PVDF/gaskets: FKM - Gas cooler: stainless steel 1.4571/1.4404 - Gas pump: PTFE/PVDF - Gas filters: PVDF, borosilicate fiber/gaskets: FKM - Pressure regulators (calibration/reference gases): brass NiCr
Power supply ² :	230 VAC 50 Hz/115 VAC 60 Hz 654 VA (depending on specification) (cooler, pump, 24 VDC power supply, flow controller)
Signals and alarms ² :	- Pressure gauge - Cooler temperature alarm - Moisture alarm - Low flow alarm per analyser gas path

¹ Depending on total nominal cooling capacity, refer to cooler capacity data.

² Varies on configuration.

Cooler capacity data

Cooler type	Ambient temperature 25 °C				Ambient temperature 32 °C				Ambient temperature 40 °C			
	Moisture content (Vol. %)				Moisture content (Vol. %)				Moisture content (Vol. %)			
	12 %	15 %	20 %	30 %	12 %	15 %	20 %	30 %	12 %	15 %	20 %	30 %
TC-STD 6111	310 NI/h	180 NI/h	190 NI/h	90 NI/h	150 NI/h	140 NI/h	110 NI/h	60 NI/h	100 NI/h	80 NI/h	60 NI/h	30 NI/h
TC-MIDI 6111	420 NI/h	360 NI/h	270 NI/h	180 NI/h	300 NI/h	270 NI/h	210 NI/h	130 NI/h	190 NI/h	150 NI/h	120 NI/h	80 NI/h