Modular sample conditioning panels MSCP

The modular sample conditioning panels MSCP range provides customized 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 is 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 185 Btu/h (104 °F version) or 166 Btu/h (122 °F version)
Number of calibration gases and solenoid valves variable
Either tubed in PTFE or stainless steel
Various pump and cooler models available

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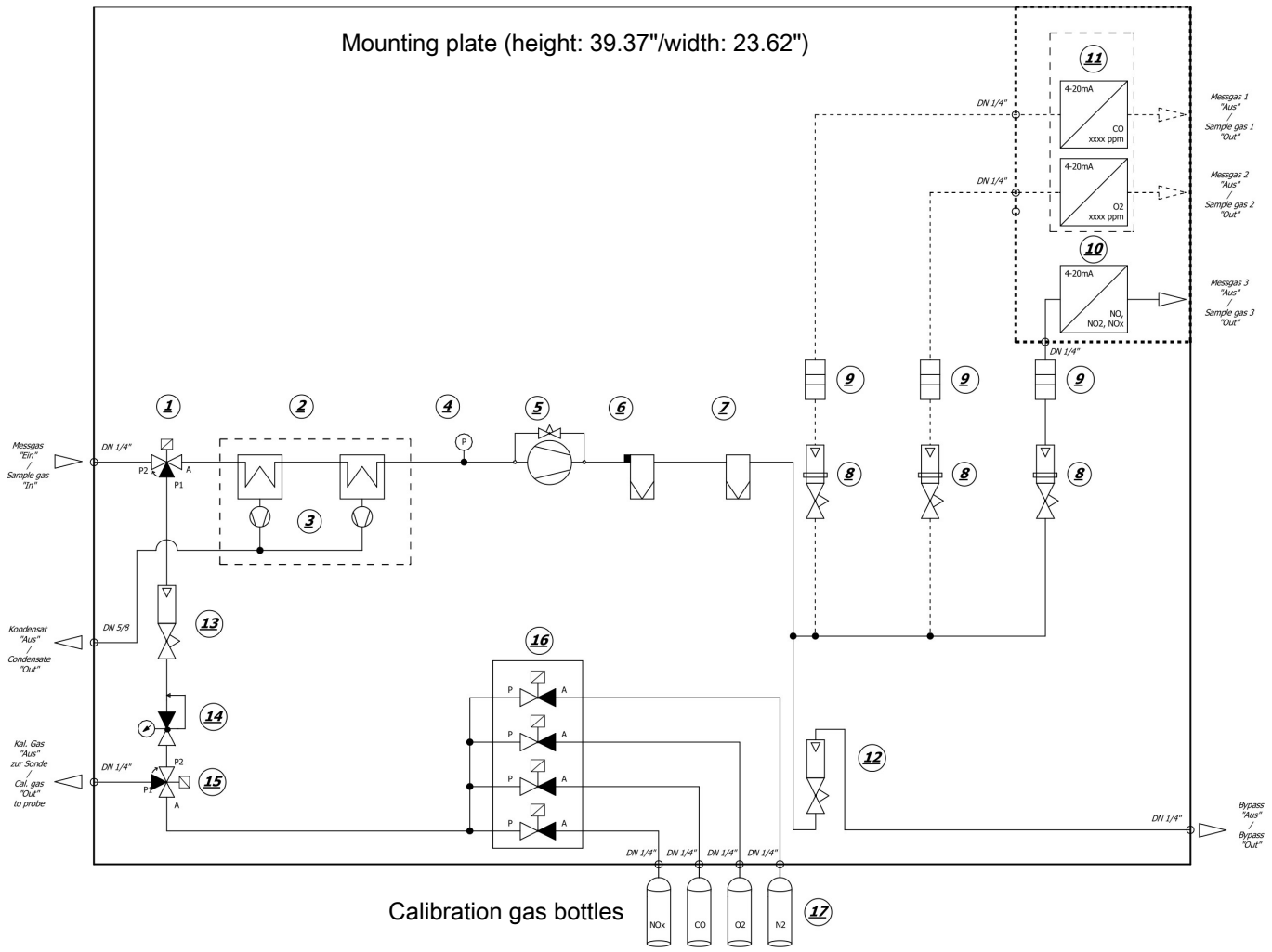
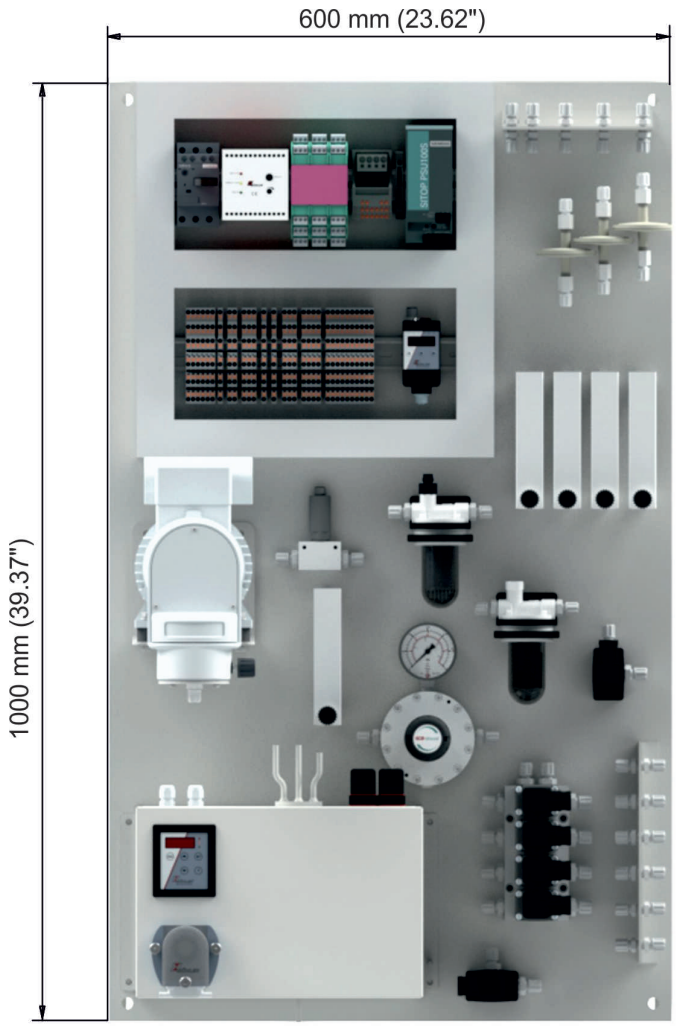
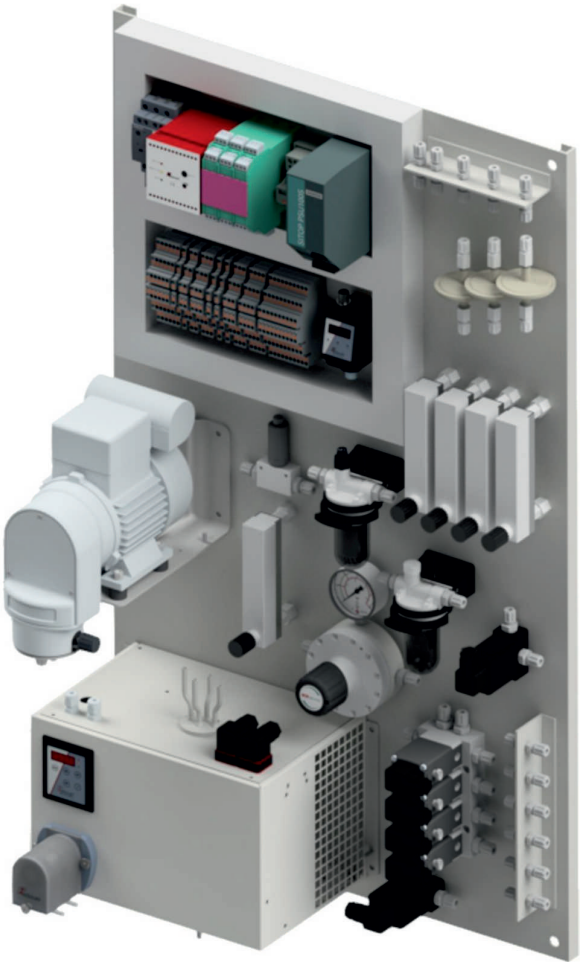
Flow diagram (example)



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 (analyzer gas path)
9	Waterstop filter	10	Analyzer (customer's scope)
11	Analyzer (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: 39.37” x 23.62” (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:	104 °F
Max. inlet pressure:	7.3 psi
Max. sample inlet temperature[1]:	- 176 °F at sample gas inlet with option 3/2-way solenoid valves (see flow diagram (1)) - 356 °F Heat exchanger stainless steel - 284 °F Heat exchanger glass/PVDF
Max. inlet H_2O dew point:	according to cooler capacity data (see table)
Outlet H_2O dew point:	41 °F default adjustable up to 68 °F 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 analyzer 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 77°F				Ambient temperature 90 °F				Ambient temperature 104 °F			
	Moisture content (Vol. %)				Moisture content (Vol. %)				Moisture content (Vol. %)			
	12 %	15 %	20 %	30 %	12 %	15 %	20 %	30 %	12 %	15 %	20 %	30 %
TC-STD 6111	5.2 lpm	3 lpm	3.2 lpm	1.5 lpm	2.5 lpm	2.3 lpm	1.8 lpm	1 lpm	1.7 lpm	1.3 lpm	1 lpm	0.5 lpm
TC-MIDI 6111	7 lpm	6 lpm	4.5 lpm	3 lpm	5 lpm	4.5 lpm	3.5 lpm	2.2 lpm	3.2 lpm	2.5 lpm	2 lpm	1.3 lpm