Sample Gas Analyzers | Sample Gas Conditioners| Peristaltic Pumps | Pre-Separators | Moisture Sensors
Refrigeration Gas Dryers | Refrigeration Air Dryers | Compressed Air Filters | Compressed Air Separators

SAMPLE GAS CONDITIONING
MAK 10 Peltier

GENERAL
MAK10 Peltier offers precision, safety and longterm-stability for extractive analytics. It is designed to lower the sample dew-point and separate water vapour from humid sample streams in gas analysis systems. A typical application is to provide a conditioned sample gas prior to gas analysis by moisture intolerant analysis equipment.

TECHNOLOGY
MAK10 Peltier combines the heat-exchanger technology and performance of the established MAK10 compressor cooler with the maintainability and reliability of pure electric coolers. The innovative heat exchanger system with its hydrophobic, PTFE-coated cooling surface ensures a constant drying rate even in case of extreme load variations. Small dead space and short response time of gas to liquid realize lowest possible gas solubility rates. Thanks to the PTFE-coating, the heat exchanger system provides best chemical resistance and self cleaning effects that prevent the system from contaminations.

FEATURES
The digital control unit with its fail-safe alarm function monitors dew-point and ambient temperature and informs before a system shut down takes place. With optional components (pre-separator, filter, flowmeter, acid dosage, humidity sensor, sample gas pump) you can upgrade MAK10 Peltier coolers to complete sample gas conditioning systems. The flexible, modular design ensures an optimal integration into all analysis systems.

FEATURES

- Thermoelectric peltier cooler
- Proven and reliable technology
- Compact and robust design
- Innovative heat exchanger (PTFE/PVDF)
- Constant dew-point 3°C
- Digital control and monitoring
- Options and accessories

TÜVRheinland® CERT ISO 9001

TECHNICAL DATA

Model		
Type	**MAK10-1 Peltier**	**MAK10-1-PS1 Peltier**
Number of gas paths	1	
Number of condensate pumps	1	2
Number of pre-separators		1
Options	Pre-separator, Filter, Flowmeter, Moisture sensor, Sample gas pump	

Operation data		
Gas flow per gas path at 65°tp	100Nl/h 1.7lpm	115Nl/h 1.9lpm
Gas flow per gas path at 55°tp	140Nl/h 2.3lpm	160Nl/h 2.7lpm
Gas temperature at inlet	max. 140°C	
Ambient temperature	5-40°C	
Operating pressure (abs.)	0.5-2.2bar	
Gas dew-point at outlet	3.0°C +/-0.3°C	
Pressure loss per gas path	5mbar (V=100Nl/h)	
Dead space per gath path	26 ml	
Ready for start-up	< 15min	
Cooling capacity	Peltier-elements: 2 x 34,5W	

Material of gas paths	
Cooling transfer tube	Aluminium
Cooling surface	PTFE-Coating
Housing / Sealings	PVDF / Viton

Design data		
Dimensions (BxHxT)	310mm x 266mm x 321mm	
Weight without options	9,5kg	10,0kg
Housing	wall-mounting (19" rack and mobile optional) / RAL 7035	
Connections	Gas: PVDF DN 4/6 / Condensate: PVDF DN 4/6	
Approvals	CE	

Electrical data	
Mains connection	Plug
Communication	Potential-free alarm-contact
Alarm set points	< +2.0°C / > +10.0°C
Housing protection class	IP 20 EN 60529 / EN 61010
Power supply	230V 50/60Hz +/-15% / 115V 50/50Hz +/-10%
Power consumption	180W

Subject to change without notice / Last update: 12.06.2014