

Innovation in Gas Analysis

JCM-300 Peltier Sample Gas Coolers



APPLICATION

- For extractive gas analysis
- For emission and process monitoring
- Continuous drying of sample gas to a precise low and constant outlet dew point
- Minimises water vapour cross sensitivities and volumetric errors

BENEFITS

- Very powerful compact complete unit with condensate removal and condensate monitoring
- High flow rates of up to 250 NI/h per gas path
- Very low wash out ratios even at high water vapour concentrations in the sample gas
- High inlet dew points up to 80°C possible
- Reliable condensate separation even at very high ambient temperatures up to 50°C
- Extremely precise long term stable dew point even under varying loads
- Maximum operational safety
- Low maintenance operation
- Easy to maintain design

FEATURES

- New extremely powerful modular designed compact construction with one or two independant gas paths
- New heat exchanger construction in different materials
- Intelligent digital control electronic
- Digital temperature indication
- Applicable up to an ambient temperature of 50°C
- Integrated condensate pump as option
- Integrated condensate monitoring as option
- Status contact for temperature thresholds as well as for condensate alarm
- Visual alerting via LED's and digital display
- Self monitoring with deactivation of the external sample pump in case of alarm
- Ready for operation within less than 15 minutes



JCT

Analysentechnik
GmbH

Gas Sampling Probes

Heated Sample Lines

Sample Gas Coolers

Condensate
Treatment

Accessories

Gas Conditioning
Systems

Sample Gas
Converters

MADE IN AUSTRIA



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TECHNCAL DATA

Model	JCM-310	JCM-312	JCM-320 / 321	JCM-322 / 323
Description of sample gas cooler	standard	high-performance	standard	high-performance
Cooling principle	peltier cooling			
Number of gas paths	1		2	
Number of peltier elements per active gas paths	1	2	1	2
Integrated condensate pump (option)	1		1 or 2	
Integrated condensate monitoring (option)	no		1 or 2	
Digital temperature indication (option)	no		1 or 2	

Operation

Gas flow per gas path*	max. 250 NI/hr		max. 250 NI/hr	
Gas inlet temperature*	max. 140°C			
Gas inlet dew point*	max. 80°C			
Gas outlet dew point	+5°C (factory default); adjustable from +0,5°C....+7,5°C			
Dew point stability (for constant inlet conditions)	±0,1K			
Ambient temperature	+5....+40°C	+5....+50°C	+5....+40°C	+5....+50°C
Cooling capacity total	max. 15 W	max. 30 W	max. 30 W	max. 60 W
Operating pressure with condensate pump	0,2...2,2 bara			
Max. operating pressure without condensate pump	4,0 bara			
Ready for operation	<15 min			
Pressure drop at max. flow rate	3 mbar			

Construction

Dimensions over all (W x H x D)	289 x 308 x 140 mm		390 x 348 x 212 mm	
Installation	wall mounting			
Mounting position	horizontal			
Weight**	approx. 9,3 kg		approx. 13,3 kg	
Housing, colour	stainless steel, natural			
Gas wetted materials	aluminium coated, PVDF, 1.4571, FFKM, glass			
Dead volume per gas path	67 ml			
Connection sample gas and condensate outlet with condensate pump	PVDF-hose fitting DN 4/6			
Condensate outlet without condensate pump	1/4"NPTf or 3/8"NPTf			
Approvals / signs	CE			

Electrics

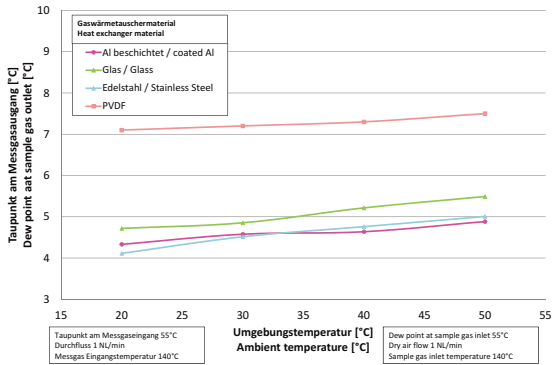
Power supply	230 VAC 50/60 Hz +/- 10% or 115 VAC 50/60 Hz +/- 10%			
Power consumption (depending on load and ambient temperature)	30....160 VA		60....320 VA	
Connection power	2 x cable conduit M12		plug CEE 7/7 to IEC plug, 2,0 m cable	
Protection class (in default mounting position)	IP 54 (EN 60529)		IP 20 (EN 60529)	
Fusing	lead fuse T2A			
On time	100 %			
Diagnostic- / operation indicator	1 x bicolour-LED		1....4 x bicolour-LED**	
Status threshold	<0 / >+10°C			
Status delay	0,5 s			
Status relay	volt free contact, 230 VAC / 2 A, min. 5 VADC / 5 mA			
Connection terminals / clamping range	spring type terminals 0,5 mm ²2,5 mm ²			
Threshold condensate detector	-		factory setting 12 kΩ adjustable 2....30 kΩ	

* Results from the effective cooling capacity at 20°C ambient temperature and 5°C outlet dew point and can be influenced by further operational parameters

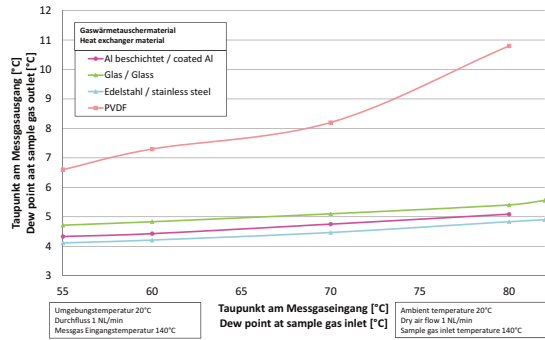
** Dependent on configuration

TECHNICAL DATA

Outlet dew point in dependence on the sample gas flow JCM-312



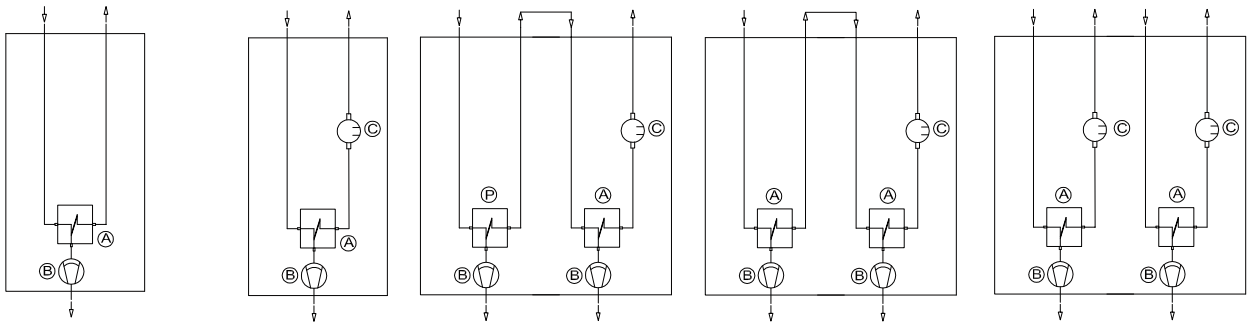
Outlet dew point in dependence on the ambient temperature JCM-312



GAS FLOW DIAGRAMS

JCM-310 series

JCM-320 series



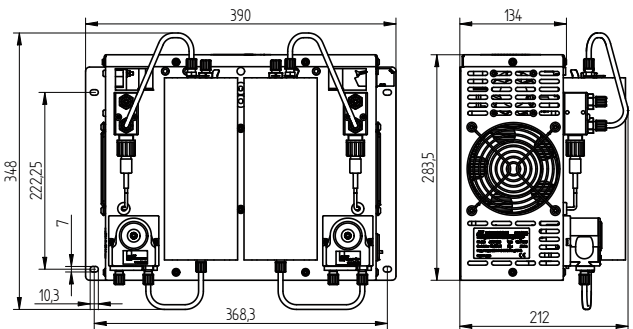
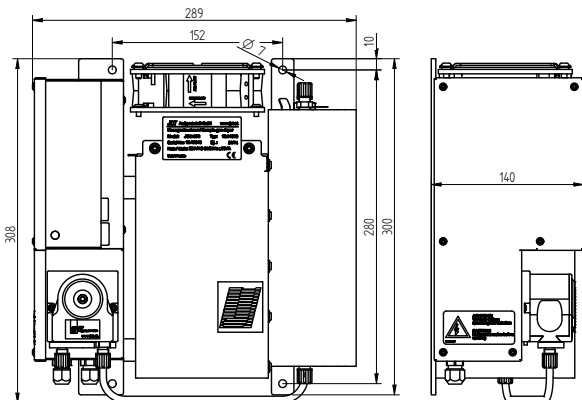
- A Actively cooled heat exchanger optionally with one or two peltier elements
- B Condensate pump (option)

- P Passively cooled heat exchanger without peltier elements (pre-cooling stage)
- C Condensate monitoring (option)

DIMENSIONS

JCM-310 series

JCM-320 series



Dimensions in mm

ORDER CODES

JCM-310 series

Performance	Standard performance	0.							
	High-Performance	2.							
Heat exchanger	1 heat exchanger Aluminium coated					1			
	1 heat exchanger PVDF					2			
	1 heat exchanger glass					3			
	1 heat exchanger stainless steel					4			
Condensate pumps	1 condensate pump JSR-25						1		
	without condensate pump JSR-25, 1/4" NPTf Outlet						2		
	without condensate pump JSR-25, 3/8" NPTf Outlet						3		
Power supply	230 VAC 50/60 Hz								A
	115 VAC 50/60 Hz								B

Order code JCM-31

JCM-320 series

Performance	Standard performance	0.							
	Standard performance with 1 pre-cooler	1.							
	High-Performance	2.							
	High-Performance with 1 pre-cooler	3.							
Heat exchanger 1	1 heat exchanger Aluminium coated				1				
	1 heat exchanger PVDF				2				
	1 heat exchanger glass				3				
	1 heat exchanger stainless steel				4				
Heat exchanger 2	1 heat exchanger Aluminium coated					1			
	1 heat exchanger PVDF					2			
	1 heat exchanger glass					3			
	1 heat exchanger stainless steel					4			
Condensate pump	1 condensate pump JSR-25						1		
	2 condensate pumps JSR-25						2		
	without condensate pump JSR-25, 1/4" NPTf Outlet						3		
	without condensate pump JSR-25, 3/8" NPTf Outlet						4		
Condensate detectors	without condensate detector							0	
	1 electronic module KW-2, 1 condensate sensor KW-1							1	
	1 electronic module KW-2, 2 condensate sensors KW-1							2	
	2 electronic modules KW-2, 2 condensate sensors KW-1							3	
Temperature display	without temperature display								0
	1 temperature display for 1 heat exchanger								1
	2 temperature displays for 2 heat exchangers								2
Power supply	230 VAC 50/60 Hz								A
	115 VAC 50/60 Hz								B

Order code JCM-32

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