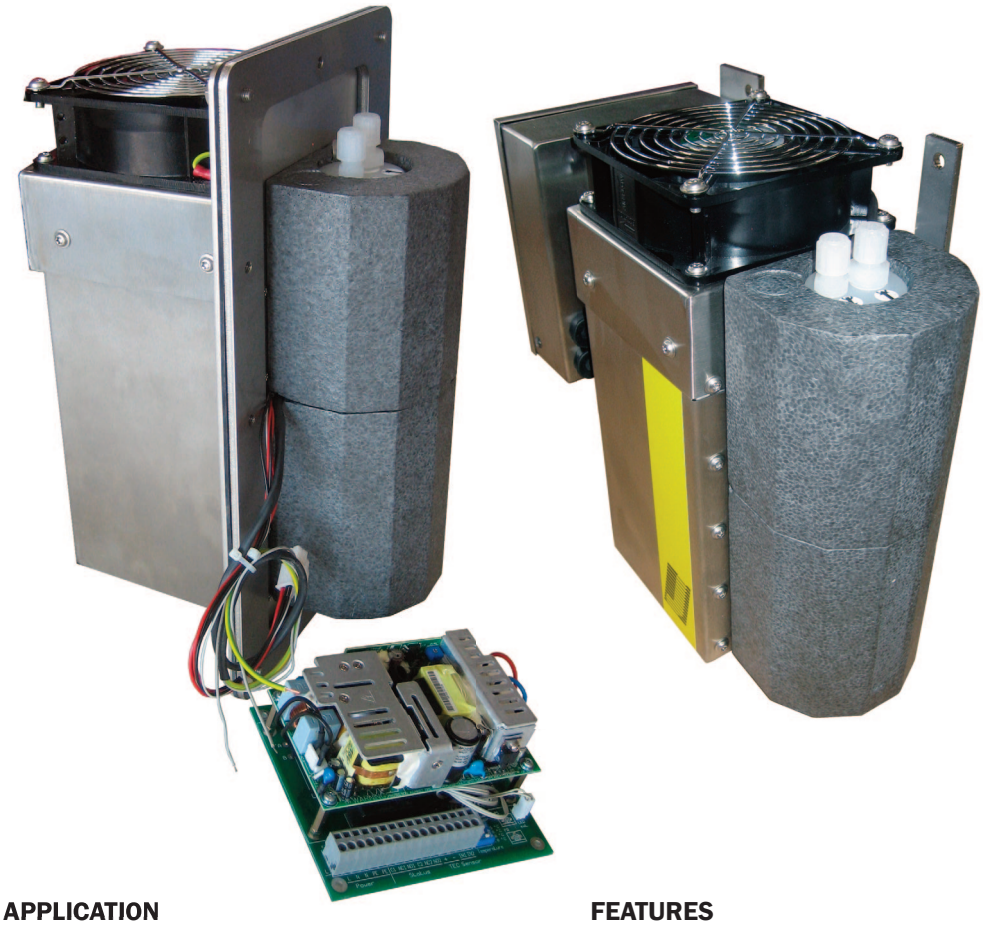
JCM-310 and JCMF-310
Peltier Sample Gas Coolers



APPLICATION

- Extractive gas analysis
- 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
- High flow rates of up to 250 Nl/h
- 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
- Extremlely precise long-term stable dew point even under varying loads
- Maximum operational safety
- Low maintenance operation
- Easy to maintain design

FEATURES

- Frame mounting for cabinets or wall mounting
- New heat exchanger JHEX-4 in different materials
- Intelligent digital control electronic
- Applicable up to an ambient temperature of 50 °C
- Condensate pump as option
- Status contact for temperature threshholds as well as for condensate alarm
- Visual alerting via LEDs
- Self monitoring with deactivation of the external sample pump in case of alarm
- Ready for operation within less than 15 minutes

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Gas Sampling Probes
Heated Sample Lines
Sample Gas Coolers
Condensate Treatment
Accessories
Gas Conditioning System
Sample Gas Converters

TECHNICAL DATA

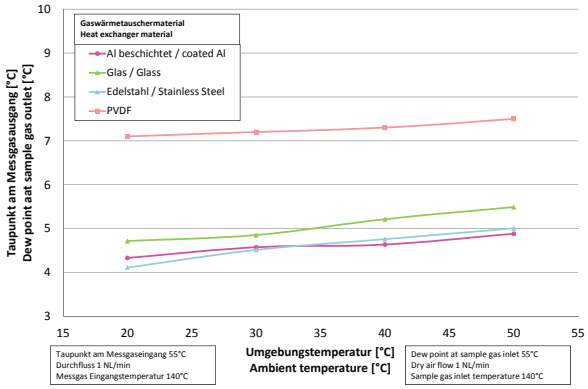
Model	JCM-310	JCM-312	JCMF-310	JCMF-312
Description of sample gas cooler	standard	high-performance	standard	high-performance
Cooling principle	Peltier cooling			
Number of gas paths	1			
Number of Peltier elements per active gas paths	1	2	1	2
Integrated condensate pump (option)	1		-	
Operation				
Gas flow per gas path*	max. 250 Nl/hr			
Gas inlet temperature*	max. 140 °C; SS heat exchanger: max. 180 °C			
Gas inlet dew point*	max. 80°C			
Gas outlet dew point	5 °C (factory default); adjustable from 0,5 °C to 7,5 °C			
Dew point stability (for constant inlet conditions)	±0,1 K			
Ambient temperature	5° to 40 °C	5° to 50 °C	5° to 40 °C	5° to 50 °C
Cooling capacity total	max. 15 W	max. 30 W	max. 15 W	max. 30 W
Operating pressure with condensate pump	0,2 to 2,2 bara		-	
Max. operating pressure without condensate pump	4,0 bara; SS heat exchanger: max. 19 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		180 x 340 x 210 mm	
Installation	wall mounting		frame mounting	
Mounting position	horizontal			
Weight**	approx. 9,3 kg		approx. 9,3 kg	
Housing / Colour	stainless steel / natural			
Gas wetted materials (depending on configuration)	aluminium coated, PVDF, SS316Ti, FFKM, Duran glass			
Dead volume per gas path	67 ml			
Connection sample gas and condensate outlet with/for 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 to 255 VA			
Connection power	2 x cable conduit M12		external PCB	
Protection class (in default mounting position)	IP 54 (EN 60529)		IP 54 (EN 60529) PCB: IP 00 (EN 60529)	
Fusing	lead fuse T2A			
On time	100 %			
Diagnostic / Operation indicator	1 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^2 to 2,5 mm^2			

* 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

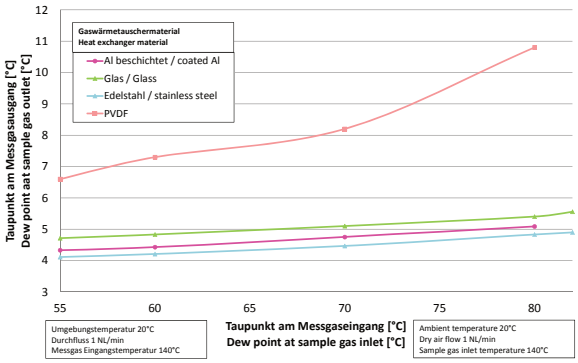
** Dependent on configuration

TECHNICAL DATA

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



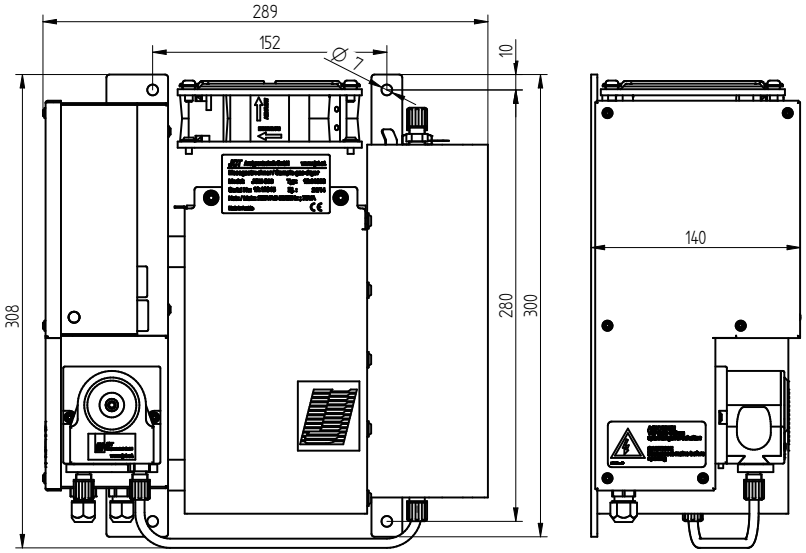
Outlet dew point in dependence on the inlet dew point JCM-312 / JCMF-312



DIMENSIONS

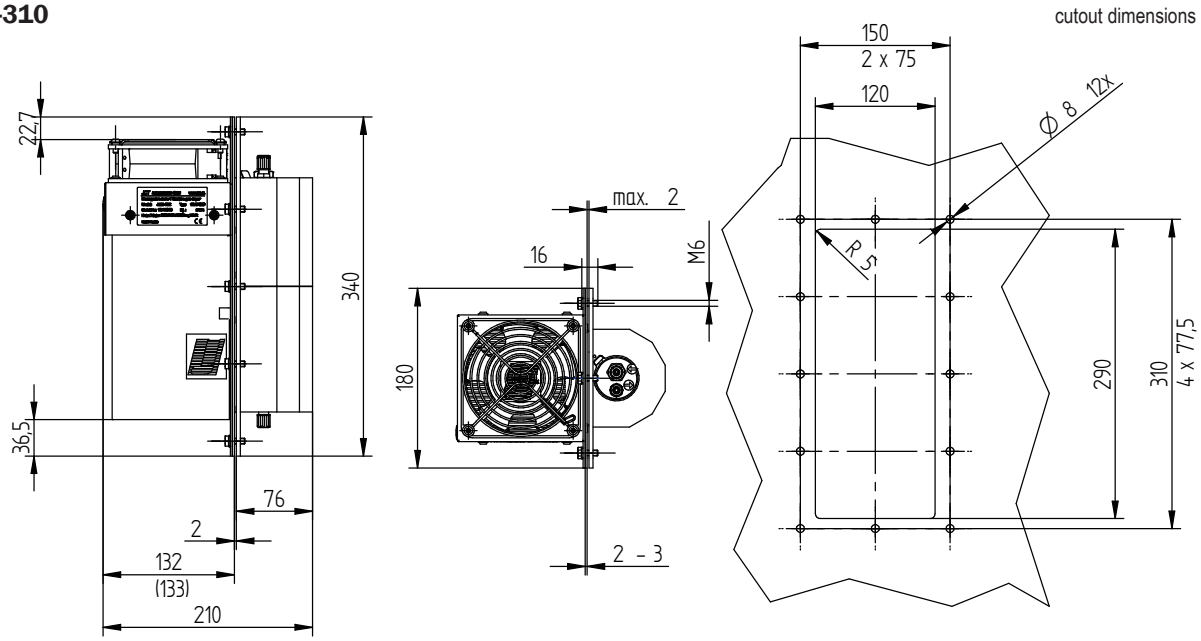
Dimensions in mm

JCM-310

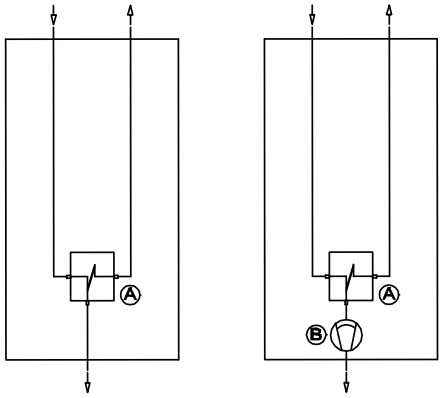


JCMF-310

cutout dimensions



GAS FLOW DIAGRAMS



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

ORDER CODE

JCM-310 series

Performance	standard	0.				
	high-performance	2.				
Heat exchanger	JHEX-4 heat exchanger aluminium coated		1			
	JHEX-4 heat exchanger PVDF		2			
	JHEX-4 heat exchanger Duran glass		3			
	JHEX-4 heat exchanger stainless steel		4			
Condensate pumps	with 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**				

JCMF-310 series

Performance	Standard	0.				
	high-performance	2.				
Heat exchanger	JHEX-4 heat exchanger aluminium coated		1			
	JHEX-4 heat exchanger PVDF		2			
	JHEX-4 heat exchanger Duran glass		3			
	JHEX-4 heat exchanger stainless steel		4			
Condensate outlet	PVDF-hose fitting DN 4/6			1		
	1/4" NPTf outlet			2		
	3/8" NPTf outlet			3		
Power supply	230 VAC 50/60 Hz				A	
	115 VAC 50/60 Hz				B	
Order code		**JCMF-31**				

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