



**JCT**  
Analysentechnik

# JCM-320 Peltier Sample Gas Cooler



Gas Sampling  
Probes

Heated Sample  
Lines

**Sample Gas Coolers**

Condensate  
Treatment

Accessories

Gas Conditioning  
System

Sample Gas  
Converters

## 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 and 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
- One or two independent gas paths
- New JHEX-4 heat exchanger construction in different materials
- Intelligent digital control electronic for each gas path
- Digital temperature display
- 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 LEDs and digital display
- Self monitoring with deactivation of the external sample pump in case of alarm
- Ready for operation within less than 15 minutes
- Passive „Pre-Cooler“

## TECHNICAL DATA

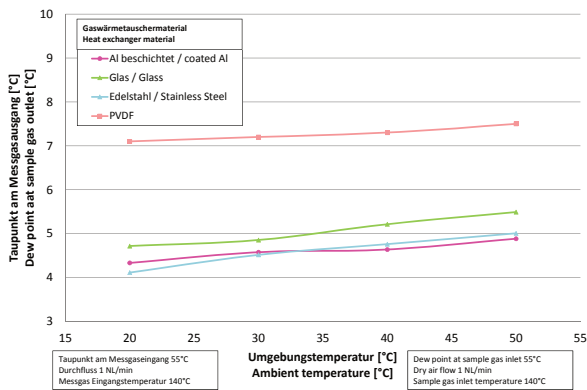
Model	JCM-320 / 321	JCM-322 / 323
Performance of sample gas cooler	standard	high-performance
Cooling principle	Peltier cooling	
Number of gas paths	2	
Number of Peltier elements per active gas paths	1	2
Integrated condensate pump (option)	1 or 2	
Integrated condensate monitoring (option)	1 or 2	
Digital temperature display (option)	1 or 2	
<b>Operation</b>		
Gas flow per gas path*	max. 250 NI/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)	±0,1K	
Ambient temperature	5° to 40 °C	5° to 50 °C
Cooling capacity total	max. 30 W	max. 60 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	
<b>Construction</b>		
Dimensions over all (W x H x D)	390 x 348 x 212 mm	
Installation	wall mounting	
Mounting position	horizontal	
Weight**	approx. 13,3 kg	
Housing / Colour	stainless steel / natural	
Gas wetted materials (depending on configuration)	aluminium coated, PVDF, 1.4571, FFKM, Duran 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	
<b>Electrics</b>		
Power supply	230 VAC 50/60 Hz +/- 10 % or 115 VAC 50/60 Hz +/- 10 %	
Power consumption (depending on load and ambient temperature)	60....510 VA	
Connection power	plug CEE 7/7 to IEC plug, 2,0 m cable	
Protection class (in default mounting position)	IP 20 (EN 60529)	
Fusing	lead fuse T2A	
On time	100 %	
Diagnostic / Operation indicator	1 to 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 <sup>2</sup> to 2,5 mm <sup>2</sup>	
Threshold condensate detector	factory setting 12 kΩ adjustable 2 to 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

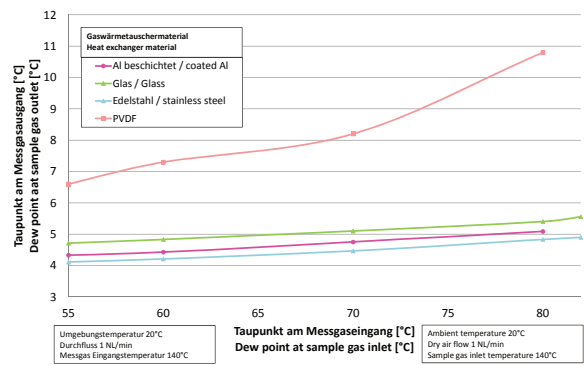
\*\* Dependent on configuration

## TECHNICAL DATA

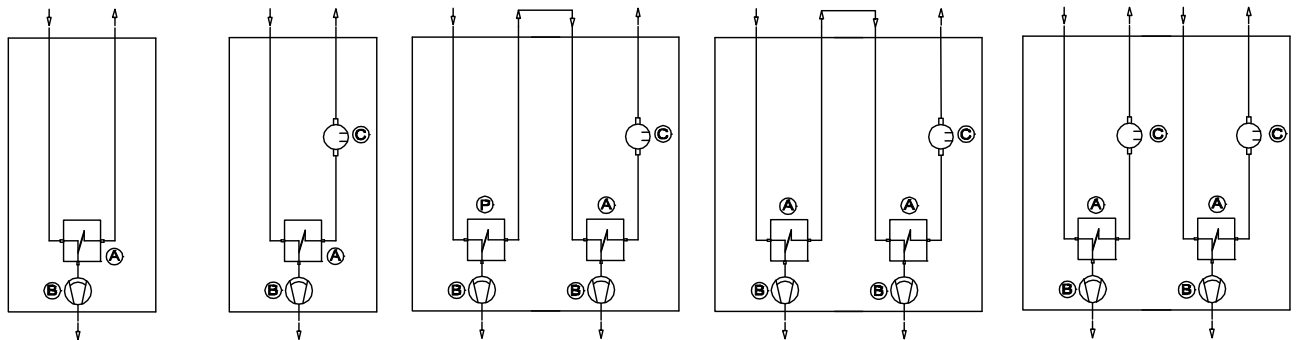
### Outlet dew point in dependence on the ambient temperature JCM-312



### Outlet dew point in dependence on the inlet dew point JCM-312



## GAS FLOW DIAGRAMS

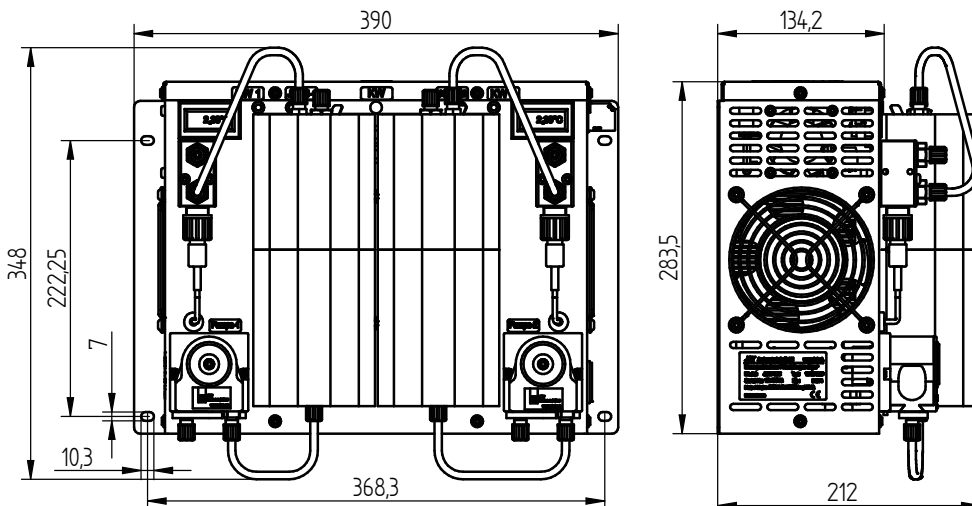


A	Actively cooled heat exchanger optionally with one or two Peltier elements
B	Condensate pump (option)

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

## DIMENSIONS

Dimensions in mm



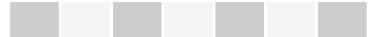
## ORDER CODE

### JCM-320 series

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



Gas Sampling **Probes**



Heated Sample **Lines**



Sample Gas **Coolers**



Gas Conditioning **Systems**



NOx **Converter**



and **solutions** for

