

ANKERSMID Peltier cooler

APC 30x Series

Application

Ankersmid Peltier Coolers are used to lower the dew point of humid gas to avoid condensate entering into the gas analyser.

A good and stable gas dew point avoids cross-interference if the analyser is sensitive to H₂O.

Description

This unique microprocessor controlled Peltier Cooler has been designed with a powerful dew point stabiliser. The dew point is set at 4°C but can be changed at any value between 1°C and 15°C. The condensate that is formed should be removed by a peristaltic pump, automatic drain or collection vessel.

3 possible exchanger materials: Glass body with PTFE head; PVDF body with PTFE head or completely out of stainless steel.

The digital controlled cooler has many control and warning features like programmable alarms, mA-output, digital inputs and Modbus or RS485 communication.

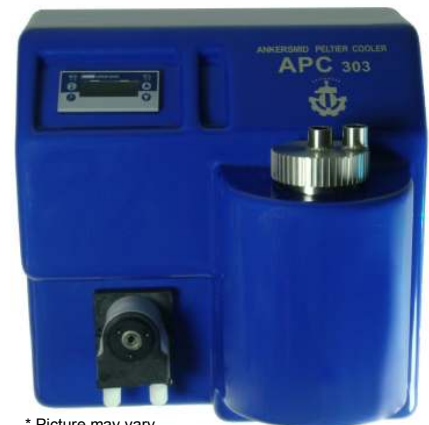
The alarm status changes when the temperature deviates by $\pm 3^{\circ}\text{C}$ from the set point.

Available for 230VAC and 115VAC power supply.

Extra Features

Ankersmid electronically controlled Peltier cooler incorporates a unique design of demountable heat exchangers. This versatile design creates many possibilities. One of the important available features is the humidification of calibration gases to avoid volumetric errors.

Humidification is achieved with a special inlet for liquids. During calibration the heat exchanger dries out due to the dry calibration gas; this volumetric change is important for reference measurements. Injection of liquid during calibration can avoid this issue.



* Picture may vary

- **Special demountable heat-exchanger with unique design**
- **Humidified heat-exchanger for calibration cross-interference compensation**
- **Digital controlled high stable outlet dew point $\pm 0,1^{\circ}\text{C}$**
- **Ambient temperature up to $+50^{\circ}\text{C}$**
- **Alarm contact**
- **Optional digital communication Modbus /RS485**
- **Power supply 115 – 230 VAC**



Heat exchanger



The unique design of the Ankersmid heat exchanger guarantees an optimum dew point reduction to a low and stable value and secures condensate formation. An external pre-separation is not needed.

By lowering the dew point of humid condensation in the analyser system is avoid and an extremely stable gas dew point avoids water vapour cross sensitivity and volumetric errors for the measurement.

Our heat exchangers are available in various materials (see below) and dimensions for flow rates up to 350NI/h depending on the application.



Heat exchanger left

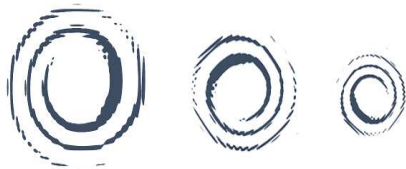
Head: PTFE, Body: Duran® glass, Volume displacer: PVDF.
G1/4"i-connection for sample gas inlet/outlet.
GL25-connection for condensate outlet.

Heat exchanger middle

Head: PTFE, Body + Volume displacer: PVDF.
G1/4"i-connection for sample gas inlet/outlet.
G3/8"i-connection for condensate outlet.

Heat exchanger right

Head: Body + Volume displacer: SS316.
G1/4"i-connection for sample gas inlet/outlet.
G3/8"i-connection for condensate outlet.



Technical Data APC – Ankersmid Peltier Cooler series 300

Model APC	APC 301	APC 302	APC 303
Number of heat exchanger	1		
Housing version	Plastics, Wall-mount		
Housing color	RAL 5002 (Blue)		
Dimensions (HxLxD)	323 x 330 x 282mm		
Data per heat exchanger			
Gas flow	Max. 350l/h*		
Material of exchanger body	Duran® Glass	PTFE	SS316
Material of exchanger head	PTFE	PTFE	SS316
Sealing	Viton®	Viton®	Viton®
Maximum pressure	3 bar a	3 bar a	10 bar a
Pressure drop	5 mbar at 350l/h		
Dead volume	100cm ³		
Sample gas inlet	1x G1/4"i		
Sample gas outlet	1x G1/4"i	1x G1/4"i	1x G1/4"i
Condensate outlet	1x GL25	1x G3/8"i	1x G3/8"i
Operation data			
Gas inlet dew point	Max. 65°C*		
Gas inlet temperature	Max. 190°C*		
Gas outlet temperature	+1°C +15°C, factory setting: +4°C		
Stability	0,1°C at ambient temperature 20°C		
Ambient temperature	+5°C to 45°C		
General electrical data			
Mains connection	Electrical terminals 2,5mm ² / Cable gland 2 x PG11		
Alarm contact	Free programmable contact 1NO / 1NC, rating: 250V, 16A AC		
Alarm set points	< +2°C / > +10°C		
Protection class	IP20 EN 60529 / EN 61010		
Electrical protection	Fuse 1A		
Power consumption	75W		
Weight	7,4 kg	7,5 kg	7,6 kg
Model APC	APC 301	APC 302	APC 303
Power supply	230VAC, 50/60Hz		
Model APC	APC 311	APC 312	APC 313
Power supply	115VAC, 50/60Hz		

Maximum values in technical data's must be rated in consideration of total cooling capacity at 25°C ambient temperature and 4°C outlet dew point
 PTFE = Polytetrafluoroethylene (Teflon®)
 PVDF = Polyvinylidenfluoride