

PSG Process Cooler

BCR05 ATEX

Application

The high performance and low maintenance compressor coolers series **BCR05 ATEX** are used for continuous extractive gas analysis. They serve primarily for exact constant lowering of the sample gas dew point and thus for drying of the humid sample gas flow. In this way water vapor cross sensitivities and volumetric errors are minimized and damages of the sensible analyzer are avoided. Compressor coolers series **BCR05 ATEX** are specifically designed for operation in ATEX zones 1 and 2. ATEX-certification:  II 2G Ex pxb de [ia] IIC T4 Gb.

Technology

The precise proportional temperature control in combination with the long-lasting hot-gas bypass system and the innovative corrosion resistant heat exchangers achieves low extremely constant dew points. Also load fluctuations and high thermal stress are compensated reliably. The two mono or dual heat exchangers with one or two gas paths each are built in a solid aluminum cylinder which guarantees an optimal energy exchange between sample gas and cooling medium. In addition, the aluminum cylinder is an effective cold storage that supports the compensation of unfavorable operating conditions. The **BCR05 ATEX** is equipped with exchangeable heat exchangers which allows an easy replacement without dismantling the device.

Functions

The cooling system is filled with CFC-free refrigerant R134a. As heat-exchanger materials PVDF, glass or stainless-steel are available. The sample gas cooler is equipped with an analog indication for temperature monitoring and with a potential-free alarm contact. A pre-mounted stable console with vibration dampers for easy and safe wall mounting is available as option.



- ✓ For ATEX-zone 1 and 2
- ✓ II 2G Ex pxb de [ia] IIC T4 Gb
- ✓ 1 - 4 gas paths
- ✓ High performance heat exchangers
- ✓ Long-lasting hot-gas bypass system without switching the compressor
- ✓ Corrosion resistant easy to change PTFE / PVDF, stainless steel or glass heat exchanger
- ✓ Analog temperature indication
- ✓ Alarm contact
- ✓ Easy wall mounting due to optional stable pre-mounted console

Technical Data

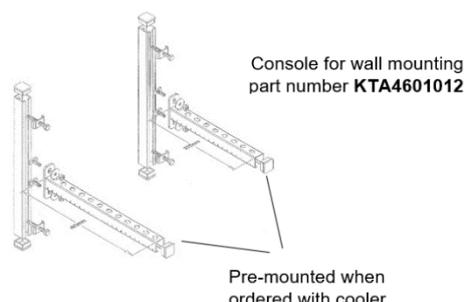
BCR05 ATEX									
Gas paths		1			2			4	
Heat exchanger		1 x Mono			2 x Mono			2 x Dual	
Heat exchanger material		PVDF	Glas	SS316	PVDF	Glas	SS316	PVDF	SS316
Gas flow V _n ¹⁾	l/hr	250	300	400	2 x 250	2 x 300	2 x 350	4 x 125	4 x 150
Gas inlet dew point	°C	65	70	80	65	70	80	65	80
Gas inlet temperature max.	°C	130							
Ambient temperature ²⁾	°C	+15 to +45							
Operating pressure with condensate pump	bar	for connection of condensate pumps / containers observe manufacturer specifications							
Operating pressure without cond. pump	bar	2,5	2,0	100,0	2,5	2,0	100,0	2,5	100,0
Gas outlet dew point ¹⁾	°C	3,0 ± 0,5							
Dead volume per gas path	ml	67	98	67	2 x 67	2 x 98	2 x 67	4 x 55	
Ready for start up	min	10							
Cooling capacity	KJ/hr	1080							
Design data									
Dimensions (B x H x T) [mm]	mm	440 x 350 x 470							
Weight without options	kg	38,5			40,5				
Housing		wall mounting (with console part no. KTA4601012) / RAL 7035							
Gas / condensate connections		DN4/6 / tube 12mm o.d. without thread							
Electrical data									
Power supply		230V 50/60 Hz or 115V 50/60Hz							
Certification		⚠ II 2G Ex pxb de [ia] IIC T4 Gb, for ATEX zone 1 and 2							
Temperature display		analog with insulated alarm contact							
Alarm set-points	°C	< +2.0 / > +10.0							
Protection rate		IP 20 EN 60529 / EN 61010							
Power consumption	W	220 at 230VAC – start-up current 6,3A							
Alarm contact		250V AC 50Hz / 40VA							

1) at inlet dew point 65°C and 25°C ambient temperature

2) for ambient temperatures below 15°C the factory setting of the cooler is changed. Please indicate ambient temperature with order.

Order numbers

Number of heat exchangers		1																	
		2																	
Gas paths	1 x Mono		1																
	2 x Mono		2																
	1 x Dual		2																
	2 x Dual		4																
Heat exchanger material	PVDF			1															
	SS316			2															
	Glass (only Mono)			3															
Integrated condensate pumps	without					0													
Housing	wall mounting										1								
Power supply	230V 50/60Hz																		F
	115V 50/60Hz																		B
Order number	BCR05 –	4									-	1			-	0	0		



Order example : **BCR05-2420-1-00-F** → Sample gas compressor cooler BCR05 Ex with 2 dual heat exchangers made of SS316, in wall mounting housing with pre-mounted console and with power supply 230V 50/60Hz