

PSG Process Cooler

BCR03 ATEX

Application

The high performance and low maintenance compressor coolers series **BCR03 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 vapour cross sensitivities and volumetric errors are minimized and damages of the sensible analyzer are avoided. With optional integrated peristaltic pumps for condensate removal complete devices series **BCR03 ATEX** are quick and simple integrable in sample gas conditioning systems. The coolers are specifically designed for operation in ATEX zone 2. ATEX-certification:  II 3G Ex nA nC T4 Gc.

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 is 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 **BCR03 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 a digital display for temperature monitoring and with a potential-free alarm contact. Two brackets allow a quick and easy wall mounting of the device.



- ✓ High performance compressor cooler
- ✓ For ATEX-zone 2
- ✓  II 3G Ex nA nC T4 Gc
- ✓ 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
- ✓ Digital display for temperature and alarm
- ✓ Alarm contact
- ✓ Integrated condensate pumps optionally
- ✓ Wall mounting housing

Technical Data

BCR03 Ex									
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	500	2 x 250	2 x 300	2 x 400	4 x 125	4 x 150
Gas inlet dew point	°C	65	70	80	65	70	80	65	80
Gas inlet temperature max.	°C	140	160	180	140	160	180	140	180
Ambient temperature	°C	+5 to +45							
Operating pressure with condensate pump	bar	0,2 – 2,2	0,2 – 2,0	0,2-2,2		0,2-2,0	0,2 – 2,2		
Operating pressure without condensate 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	450 x 300 x 300							
Weight without options	kg	22,0			24,0				
Housing		Wall mounting (rear side) / RAL 7035							
Gas / condensate connections		DN 4/6 / without integrated peristaltic pump condensate connection at bottom D12							
Electrical data									
Power supply		230V 50/60 Hz or 115V 50/60Hz							
Certification		⚠ II 3G Ex nA nC T4 Gc, for ATEX zone 2							
Temperature display		digital							
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 / 1,5A / 375VA							

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

Order numbers										
Number of heat exchangers									2	
Gas paths	2 x Mono								2	
	2 x Dual								4	
Heat exchanger material	PVDF								1	
	SS316								2	
	Glass (only Mono)								3	
Integrated condensate pumps	without								0	
	with two								2	
	with four								4	
Housing	wall mounting							1		
Power supply	230V 50/60Hz									F
	115V 50/60Hz									B
Order number	BCR03Ex –	2					-	1	-	0 0 -

Order example : **BCR03Ex-2424-1-00-B** → Sample gas compressor cooler **BCR03 Ex** with 2 dual heat exchangers made of SS316, with 4 integrated condensate pumps, in wall mounting housing and with power supply 115V 50/60Hz