Sample gas probe GAS 222.31 Ex1

In many applications gas analysis is the key for safe and efficient control of process flows, environmental protection and quality assurance. In extractive gas analysis the location of the gas sampling point is crucial for the reproducibility and accuracy of the analysis results.

The specific filter capacity, corrosion resistance and functional equipment requirements for the probe arise from the composition of the sample gas.

However, operating costs are also an important criterion in the selection, as the sampling points are frequently located at hard to access points in the system. Effective particle filter backwashing options and low maintenance characterise the extensive GAS probe series.

Versions with Atex and IECEx approval

Heated probe with shut-off valve, upstream filter and weather hood

The probe body and the area around the screw connection for the heated sample gas line are completely isolated

Heater self-regulating to approx. 90 °C

For dust loads up to 200 g/m³

This probe is suitable for use in explosive areas.
Atex: use in zone 1 and 21 and sampling from zone 0 and 20
IECEx: Use in zone 1 and sampling from zone 0

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Technical Data

Gas Probe Technical Data

Ambient temperature without accessories:	-40 to +60 °C	
Ambient temperature with accessories:	**Component**	**Ambient temperature range**
	Compressed air valve:	-30 °C < T_{amb} < +55 °C
	Solenoid valve for pneumatic drive:	-10 °C < T_{amb} < +55 °C
	Pneumatic drive:	-20 °C < T_{amb} < +60 °C
	Limit switch:	-25 °C < T_{amb} < +60 °C
Permissible gas inlet temperatures:	**Outer zone temperature class**	**Permissible gas inlet temperature**
	T2	135 °C
	T3	135 °C
	T4	130 °C
Medium temperature (blowback):	**Component**	**Medium temperature range**
	Compressed air valve:	-10 °C to +80 °C
	Solenoid valve for pneumatic drive:	-10 °C to +100 °C
Self-regulating heater:	+90 °C	
Electrical data:	Probe: 230 V, 150 W, 50/60 Hz 115 V, 150 W, 50/60 Hz	External circuit breaker type C: 230 V, 3 A, 50/60 Hz 115 V, 4 A, 50/60 Hz
Max. operating pressure	6 bar	
Max. flow rate:	1000 L/h	
Material:	1.4571; ball valve 1.4408	
Parts in contact with media:	Seals: Graphite/1.4404 and see filter	
Probe marking, depending on the selected options and temperature class:	**for zone 0/1:** ATEX: Ⓔx II 1G/2G Ex db[1] eb mb[2] IIC T5/T6...T1/T2 Ga/Gb IECEx: Ex db[1] eb mb[2] IIC T5/T6...T1/T2 Ga/Gb **for zone 1:** ATEX: Ⓔx II 2G Ex db[1] eb mb[2] IIC T6...T2 Gb IECEx: Ex db[1] eb mb[2] IIC T6...T2 Gb **for zone 0/21:** ATEX: Ⓔx II 1G/2D Ex db[1] eb mb[2] IIC T5 ... T1 Ga Ex tb mb[2] IIIC T80 °C ... T226 °C Db IECEx: - **for zone 20/1:** ATEX: Ⓔx II 1D/2G Ex ta IIIC T120 °C ... T300 °C Da Ex db[1] eb mb[2] IIC T6 ... T2 Gb IECEx: - **for zone 20/21:** ATEX: Ⓔx II 1D/2D Ex ta/tb mb[2] IIIC T120°C/T80°C...T300°C/T226°C Da/Db IECEx: - **for zone 21:** ATEX: Ⓔx II 2D Ex tb mb[2] IIIC T80°C...T226°C Db IECEx: - [1] "db" only for GAS 222.21/31 versions with limit switch [2] "mb" only for versions with solenoid valve	
Applied standards:	IEC 60079-0 (Ed. 6.0); IEC 60079-7 (Ed. 5.0); IEC 60079-26 (Ed. 3.0); EN 60079-0:2012+A11:2013; EN 60079-7:2015; EN 60079-26:2015	
IECEx certificate number:	IECEx IBE 17.0024X	
ATEX certificate number:	IBExU17ATEX1088X	

Ordering instructions

The item number is a code for the configuration of your unit. Please use the following model key:

46222311	X	X	X	X	4	X	0	X	X	X	X	X	X	Product Characteristics			
														Flange			
	0	1												Flange DN65 PN6			
	0	2												Flange DN3"-150			
	x	x												Other			
														Hazardous area			
														Outside			
			4											Zone 1 (Atex/IECEx)			
			7											Zone 21 (Atex)			
			9											none			
														Inside			
				3										Zone 0 (Atex/IECEx)			
				4										Zone 1 (Atex/IECEx)			
				6										Zone 20 (Atex)			
				7										Zone 21 (Atex)			
				9										none			
														Temperature class inside/outside (dust only ATEX)			
														Ga/Gb	**Ga/Db**	**Da/Gb**	**Da/Db**
					4									T3/T4	T3/T130°C	T175°C/T4	T175°C/T130°C
														Temperature class inside/outside (dust only ATEX)			
														Gb/Gb	**Gb/Db**	**Db/Gb**	**Db/Db**
					4									T4/T4	T4/T130°C	T130°C/T4	T130°C/T130°C
														Power supply sample probe			
						1								115 V			
						2								230 V			
														Calibration gas port			
								0						No			
								1						6 mm			
								2						6 mm with check valve			
								3						1/4"			
								4						1/4" with check valve			
														Pressure vessel *			
									0					No			
									1					Yes			
														Purge valve *			
										0				Ball valve			
										1				Solenoid valve 110 V (marked with "mb")			
										2				Solenoid valve 230 V (marked with "mb")			
										3				Solenoid valve 24 V (marked with "mb")			
										9				none			
														Pneumatic actuator for internal ball valve			
											0			No			
											1			Monostable pressure-free opened			
											2			Monostable pressure-free closed			
														Limit switch for pneumatic actuator			
												0		No			
												1		Yes (marked with "db" or "ta" or "tb")			
														Solenoid valve for pneumatic actuator			
													0	No			
													1	110 V (marked with "mb")			
													2	230 V (marked with "mb")			
													3	24 V (marked with "mb")			

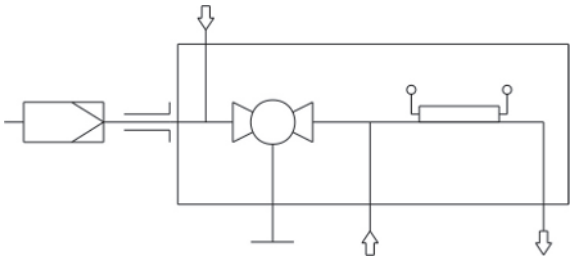
* Blowback of explosive atmosphere prohibited.

Options

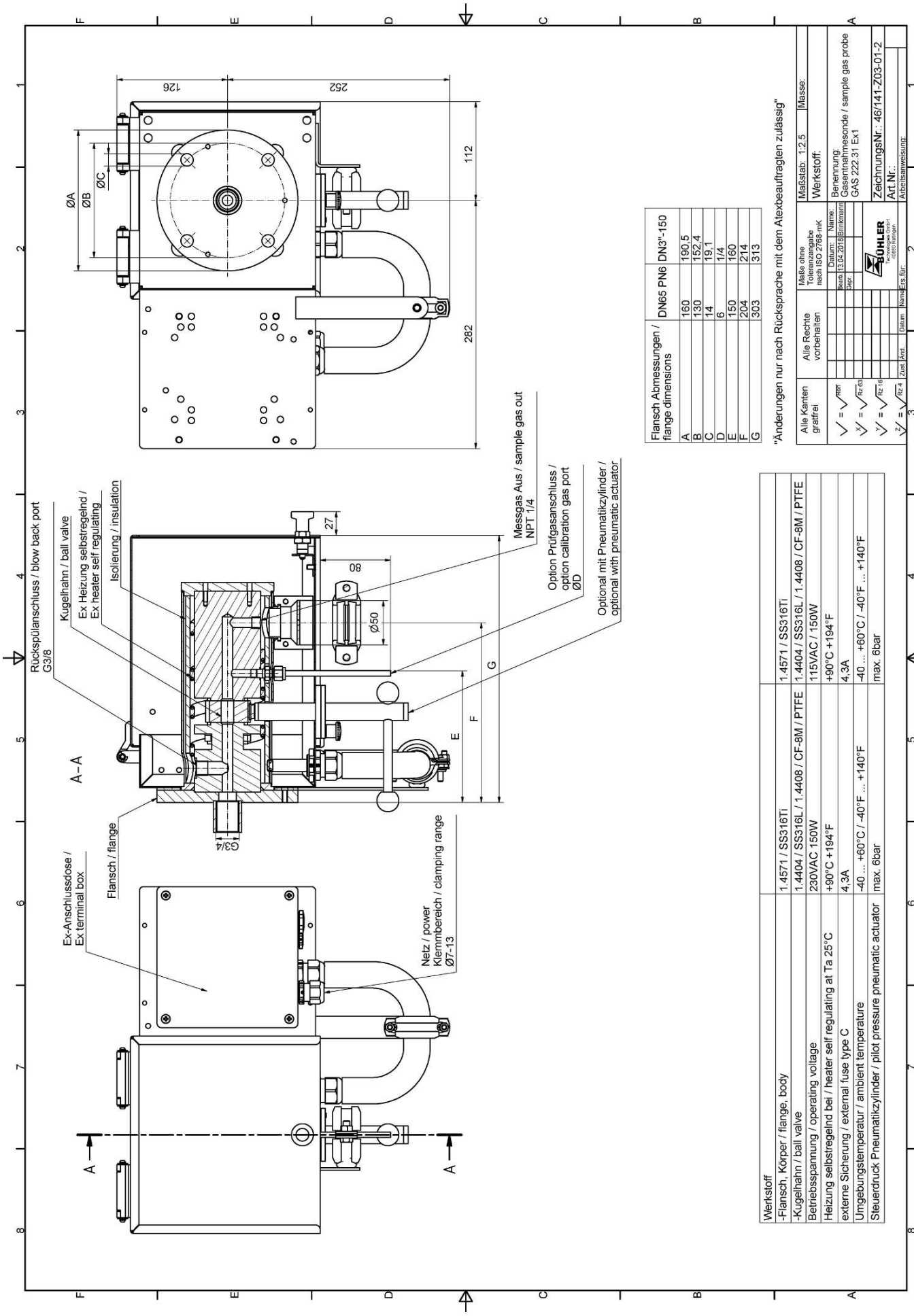
The base unit becomes functional by adding accessories suitable for the application. Please refer to accessory data sheet no. 461099 for information.

Please also refer to data sheet no. 461000 "GAS 222 Gas Probes" for a general description.

Flow chart



Dimensions



Flansch Abmessungen / flange dimensions	DN65 PN6	DN3"-150
A	160	190,5
B	130	152,4
C	14	19,1
D	6	1/4
E	150	160
F	204	214
G	303	313

Werkstoff		
-Flansch, Körper / flange, body	1.4571 / SS316Ti	1.4571 / SS316Ti
-Kugelhahn / ball valve	1.4404 / SS316L / 1.4408 / CF-8M / PTFE	1.4404 / SS316L / 1.4408 / CF-8M / PTFE
Betriebsspannung / operating voltage	230VAC 150W	115VAC / 150W
Heizung selbstregelnd bei / heater self regulating at Ta 25°C	+90°C +194°F	+90°C +194°F
externe Sicherung / external fuse type C	4.3A	4.3A
Umgebungstemperatur / ambient temperature	-40 ... +60°C / -40°F ... +140°F	-40 ... +60°C / -40°F ... +140°F
Steuerdruck Pneumatikzylinder / pilot pressure pneumatic actuator	max. 6bar	max. 6bar

"Änderungen nur nach Rücksprache mit dem Atexbeauftragten zulässig"

Alle Kanten gratfrei | Alle Rechte vorbehalten | Maße ohne Toleranzangabe nach ISO 2768-mK | Maßstab: 1:2,5 | Masse:

Werkstoff:

Benennung: Gasentnahmesonde / sample gas probe GAS 222.31 Ex1

Bearb. 13.04.2018 Brinkmann | Datum: | Name:

Gepr.

Datum | Name | Ers. für:

Zust. | Änd.

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