Sample gas probe GAS 222.21 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 and/or downstream filter and weather hood
- The downstream filter can easily be removed by turning the handle 90°
- The probe body and the area around the screw connection for the heated sample gas line are completely isolated
- Heater self-regulating to approx. 194 °F
- For dust loads up to 2 g/m³ with downstream filter or > 10 g/m³ with upstream filter
- 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 131 °F	
Ambient temperature with accessories:	**Component**	**Ambient temperature range**
	Compressed air valve:	-22 °F < T_{amb} < 131 °F
	Solenoid valve for pneumatic drive:	14 °F < T_{amb} < 131 °F
	Pneumatic drive:	-4 °F < T_{amb} < 131 °F
	Limit switch:	-13 °F < T_{amb} < 131 °F
Permissible gas inlet temperatures:	**Outer zone temperature class**	**Permissible gas inlet temperature**
	T2	275 °F
	T3	275 °F
	T4	266 °F
Medium temperature (blowback):	**Component**	**Medium temperature range**
	Compressed air valve:	14 °F to 176 °F
	Solenoid valve for pneumatic drive:	14 °F to 212 °F
Self-regulating heater:	194 °F	
Electrical data:	Probe: 230 V, 200 W, 50/60 Hz 115 V, 200 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:	85 psia	
Max. flow rate:	16.66 lpm	
Materials in contact with media Flange: Probe body: Ball valve: Seal:	 Stainless steel 1.4571 Stainless steel 1.4571 Stainless steel 1.4408/1.4462/PTFE Stainless steel 1.4404/graphite/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:

46222211	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")

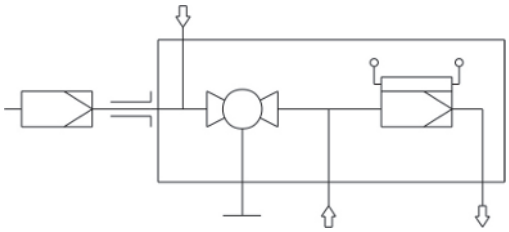
* Blowback of explosive atmosphere prohibited.

Options

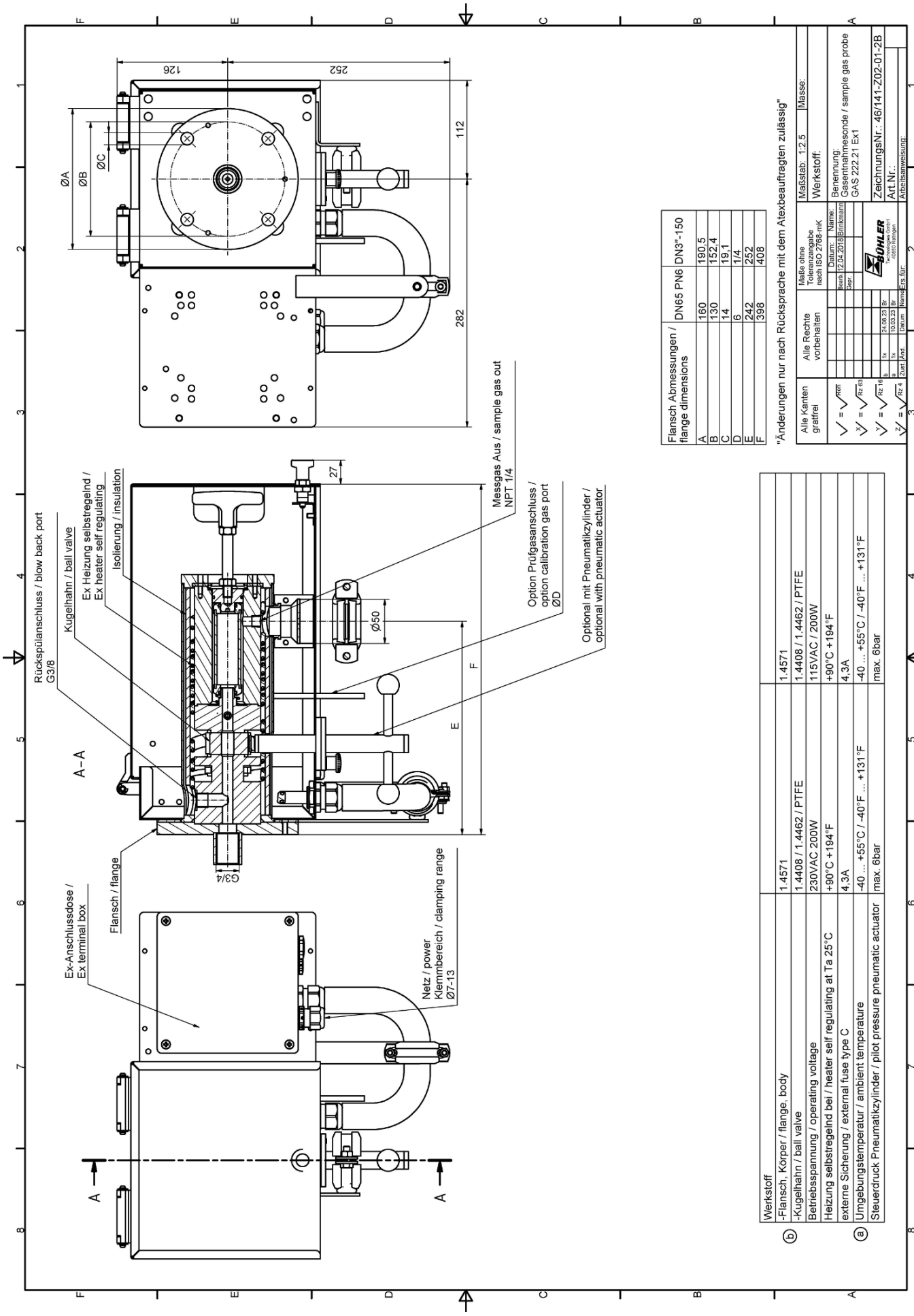
The base unit becomes functional by adding accessories suitable for the application. Please refer to accessory data sheet no. 461099 for information.

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

Flow chart



Dimensions


Rückspülanschluss / blow back port G3/8
Kugelhahn / ball valve
Ex Heizung selbstregelnd / Ex heater self regulating
Isolierung / insulation
Messgas Aus / sample gas out NPT 1/4
Option Prüfgasanschluss / option calibration gas port ØD
Optional mit Pneumatikzylinder / optional with pneumatic actuator
Ex-Anschlussdose / Ex terminal box
Flansch / flange
Netz / power Klemmbereich / clamping range Ø7-13
A–A
ØA
ØB
ØC
126
252
112
282
27
Ø50
E
F
G3/4
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 242 252
F 398 408
"Änderungen nur nach Rücksprache mit dem Atexbeauftragten zulässig"
Alle Kanten gratfrei
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Maße ohne Toleranzangabe nach ISO 2768-mK
Maßstab: 1:2,5
Masse:
Werkstoff:
Benennung: Gasentnahmesonde / sample gas probe GAS 222.21 Ex1
ZeichnungsNr.: 46/141-Z02-01-2B
Art.Nr.:
Arbeitsanweisung:
Werkstoff
-Flansch, Körper / flange, body 1.4571 1.4571
-Kugelhahn / ball valve 1.4408 / 1.4462 / PTFE 1.4408 / 1.4462 / PTFE
Betriebsspannung / operating voltage 230VAC 200W 115VAC / 200W
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 ... +55°C / -40°F ... +131°F -40 ... +55°C / -40°F ... +131°F
Steuerdruck Pneumatikzylinder / pilot pressure pneumatic actuator max. 6bar max. 6bar