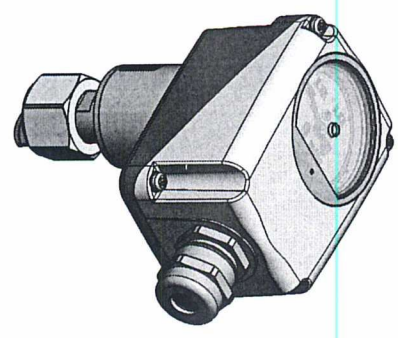
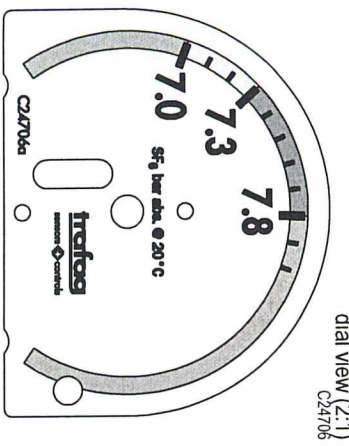


detail X (2:1)  
(drawn without and pot-lock)

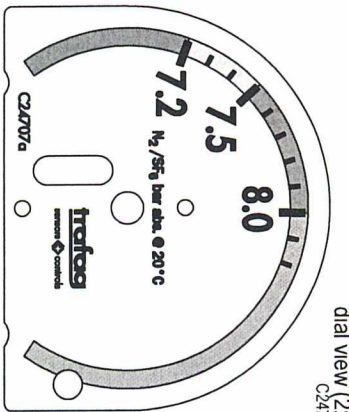
customer- approval	
date	
signature	



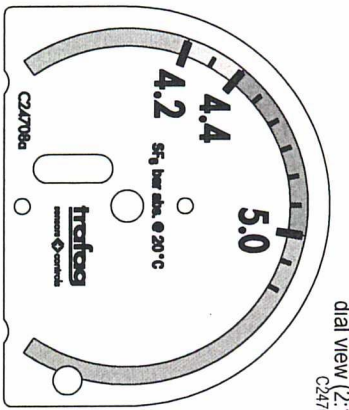
Document / document type Massbild Gasdichte	Tiefenring / selection	Umbenennung nach ISO 15016 / copyrights according to ISO 15016	Material / scale	Einzelstück Geprüftschicht	16.12.2013 16.12.2013	16.12.2013 per
Situs FREIGEGERBEN	Wellenstoff / material		1:1	Änderungshod	06.01.2022	fmh
Bezeichnung / description Gas Density Monitor			Freigegeben	Format / dnm.	06.01.2022	scd
87x8.20.2550.?? 11.60.61				Index / revision		1 / 5
trafag sensors controls			Zeichnungs-Nr. / drawing no. M93341			



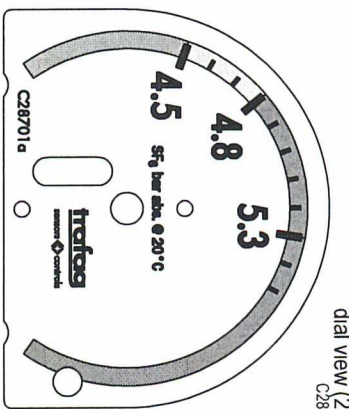
dial view (2:1)  
C24706



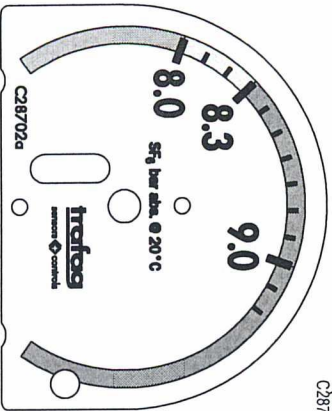
dial view (2:1)  
C24707



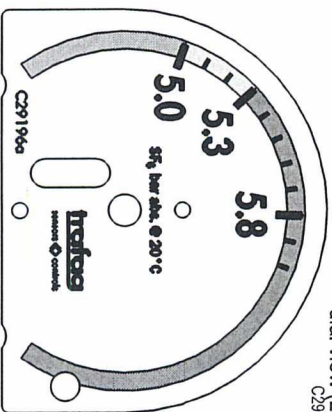
dial view (2:1)  
C24708



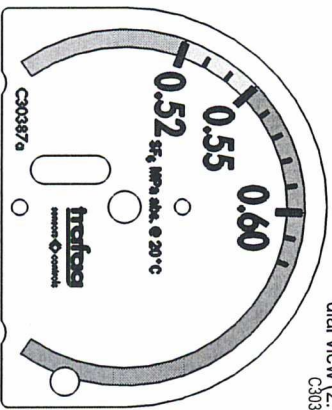
dial view (2:1)  
C24709



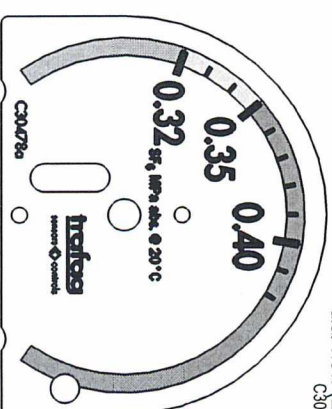
dial view (2:1)  
C24702



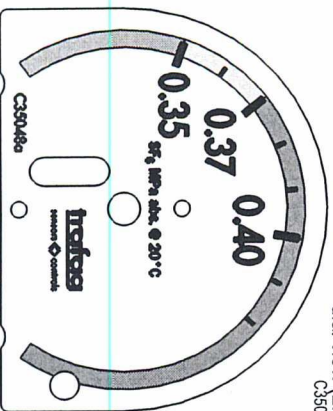
dial view (2:1)  
C29196



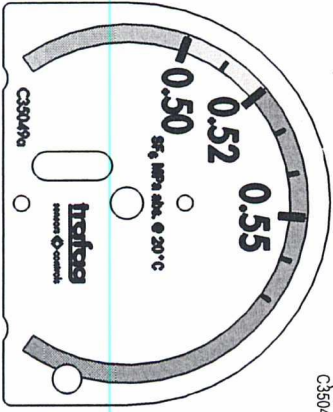
dial view (2:1)  
C30387



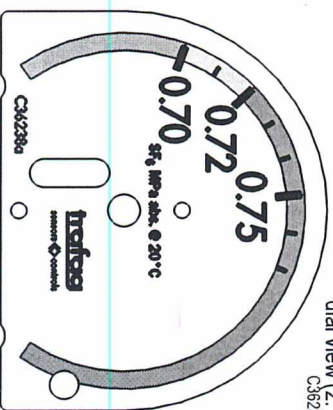
dial view (2:1)  
C30478



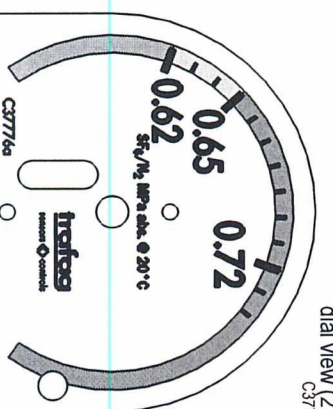
dial view (2:1)  
C35048



dial view (2:1)  
C35049



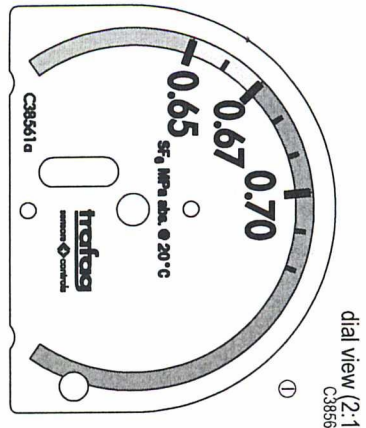
dial view (2:1)  
C36238



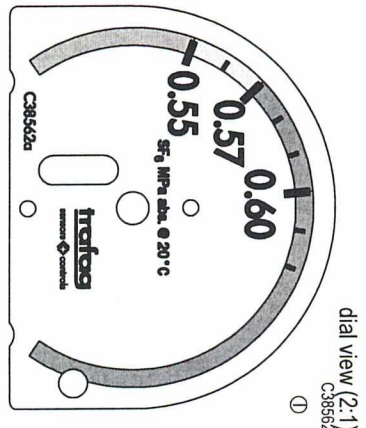
dial view (2:1)  
C3776

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11.01.22

Dokument / Document type Messbild Gasdichte		Fertigung / Fabrication Untertypen nach ISO 28015 / subtypes according to ISO 28015		Material / Material 1.1		Erhebungs- / Measurement: 16.12.2013 Prüf- / Test: 16.12.2013	
Status FREIGEGERBEN		Hersteller / Manufacturer MESSGERÄTE		Formel / Formula A2		Prüf- / Test: 2 / 5	
Gas Density Monitor 87x8.20.2550.??11.60.61				M93341		2 / 5	



execution 13



execution 14

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11.01.22


Dokument / document type <b>Maschine / Maschinenbild</b> FREIGEHEBEN	Identifizierung / Identification - Werkstoff / material FREIGEHEBEN	Untereinheit nach ISO 10018 / complete according to ISO 10018	Maßstab / scale 1:1	Erstellungsdatum / creation date 16.12.2013	Maß / size 16.12.2013
Hersteller / manufacturer <b>trafag</b> sensors controls	Beschreibung / description <b>Gas Density Monitor</b> 87x8.20.2550.?? 11.60.61	Zeichnung / drawing no. <b>M93341</b>	Änderungsdatum / change date 16.12.2013	Prüfverfahren / test procedure 3 / 5	Zeichnung / drawing no. <b>M93341</b>



No	Parameters	Execution 1	Execution 2	Execution 3	Execution 4	Execution 5	Execution 6	Execution 7	Execution 8
1	Nominal pressure at +20°C	7.8 bar abs.	8.0 bar abs.	5.0 bar abs.	5.3 bar abs.	9.0 bar abs.	5.8 bar abs.	0.60 MPa abs.	0.40 MPa abs.
2	Alarm pressure	7.3 bar abs.	7.5 bar abs.	4.4 bar abs.	4.8 bar abs.	8.3 bar abs.	5.3 bar abs.	0.55 MPa abs.	0.35 MPa abs.
3	Blocking pressure	7.0 bar abs.	7.2 bar abs.	4.2 bar abs.	4.5 bar abs.	8.0 bar abs.	5.0 bar abs.	0.52 MPa abs.	0.32 MPa abs.
4	Pressure of gas measurement	0 - 10 bar abs.	0 - 10 bar abs.	0 - 10 bar abs.	0 - 10 bar abs.	0 - 10 bar abs.	0 - 10 bar abs.	0 - 1.0 MPa abs.	0 - 1.0 MPa abs.
5	Isolation gas	SF6	75% N2 / 25% SF6	SF6	SF6	SF6	SF6	SF6	SF6
6	Transmitter type (87X8)	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	2-stages: 1st stage - alarm signal; 2nd stage - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	2-stages: 1st stage - alarm signal; 2nd stage - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;
7	Switch points of microswitches at +20°C (at pressure decreasing)	1 stage: 7.3 bar abs. 2 stage: 7.0 bar abs. 3 stage: 7.0 bar abs.	1 stage: 7.5 bar abs. 2 stage: 7.2 bar abs. 3 stage: 7.2 bar abs.	1 stage: 4.4 bar abs. 2 stage: 4.2 bar abs. 3 stage: 4.2 bar abs.	1 stage: 4.8 bar abs. 2 stage: 4.5 bar abs.	1 stage: 8.3 bar abs. 2 stage: 8.0 bar abs. 3 stage: 8.0 bar abs.	1 stage: 5.3 bar abs. 2 stage: 5.0 bar abs.	1 stage: 0.55 MPa abs. 2 stage: 0.52 MPa abs. 3 stage: 0.52 MPa abs.	1 stage: 0.35 MPa abs. 2 stage: 0.32 MPa abs. 3 stage: 0.32 MPa abs.
8	Dial orientation	C	C	C	C	C	C	C	C

No	Parameters	Execution 9	Execution 10	Execution 11	Execution 12	Execution 13	Execution 14
1	Nominal pressure at +20°C	0.40 MPa abs.	0.55 MPa abs.	0.75 MPa abs.	0.72 MPa abs.	0.70 MPa abs.	0.60 MPa abs.
2	Alarm pressure	0.37 MPa abs.	0.52 MPa abs.	0.72 MPa abs.	0.65 MPa abs.	0.67 MPa abs.	0.57 MPa abs.
3	Blocking pressure	0.35 MPa abs.	0.50 MPa abs.	0.70 MPa abs.	0.62 MPa abs.	0.65 MPa abs.	0.55 MPa abs.
4	Pressure of gas measurement	0 - 1.0 MPa abs.	0 - 1.0 MPa abs.	0 - 1.0 MPa abs.	0 - 1.0 MPa abs.	0 - 1.0 MPa abs.	0 - 1.0 MPa abs.
5	Isolation gas	SF6	SF6	SF6	30% SF6 / 70% N2	SF6	SF6
6	Transmitter type (87X8)	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;	3-stages: 1st stage - alarm signal; 2nd and 3rd stages - blocking signal;
7	Switch points of microswitches at +20°C (at pressure decreasing)	1 stage: 0.37 MPa abs. 2 stage: 0.35 MPa abs. 3 stage: 0.35 MPa abs.	1 stage: 0.52 MPa abs. 2 stage: 0.50 MPa abs. 3 stage: 0.50 MPa abs.	1 stage: 0.72 MPa abs. 2 stage: 0.70 MPa abs. 3 stage: 0.70 MPa abs.	1 stage: 0.65 MPa abs. 2 stage: 0.62 MPa abs. 3 stage: 0.62 MPa abs.	1 stage: 0.67 MPa abs. 2 stage: 0.65 MPa abs. 3 stage: 0.65 MPa abs.	1 stage: 0.57 MPa abs. 2 stage: 0.55 MPa abs. 3 stage: 0.55 MPa abs.
8	Dial orientation	C	C	C	C	C	C

1.01.22

Documentart / document type	Massbild Gasdichte	Status	FREIGEgeben
Unternehmen nach ISO 16016 / copyright according to ISO 16016			
Bezeichnung / description	Gas Density Monitor		
Zeichnungs-Nr. / drawing no.	87x8.20.2550.??1.60.61		
Einheitswert	1:1	Format / dm.	A3
Einheitswert	16.12.2013	Index / revision	4 / 5
Einheitswert	16.12.2013	Index / revision	1



**MAIN CHARACTERISTICS**

**Principle:** Reference gas measurement  
**Measuring range absolute:** 0...1MPa (0...1000 kPa)  
**Output:** floating change-over contact  
**Switch point:** adjustment in factory

**ACCURACY (@ 20°C)**

**Switching differential typ:** 20  
**Microswitch**  
 Accuracy of the reference Microswitch from the reference isochore  
 -60...+60°C <15kPa  
 (Filling pressure <650kPa)  
 -60...+60°C <18kPa  
 (Fillign pressure <1MPa)

**MICRO SWITCH**

**Rating:** see table  
**Resistance of insulation:** > 2 MΩ  
**Dielectric strength:** 2 kV terminal to ground  
**Life time (mechanical):** 1 Mio. cycles  
**micro switch 20:** max. difference from the lowest to the highest switch point: 130kPa

**ELECTRICAL CONNECTION**

**Screwed cable gland:** see accessories  
**Terminal screw:** plugable, 0.2...2.5 mm<sup>2</sup>

**ENVIRONMENTAL CONDITIONS**

**Ambient temperatur:** -60...+80°C  
**(temporary):** (-65...+80°C)  
**Media temperature** -60...+80°C  
**Protection:** P 65  
**Humidity:** max. 95% relative  
**Vibration (x-y-z):** 5 kPa  
**Min. Difference from switch point:** 4 g/100ms/10000imp  
**20...80 Hz:** 50g/11ms/3000imp  
**Choc:**

**SECURITY**

**Leakage of Reference chamber:** <0.5kPa / year (5 10 kPa l s )  
**Service:** none, switch point checking after 5 years  
**Reference chamber leakage tests:** with helium gas vacuum process and integral leakage test in overpressure process  
**Switching signal in case of liquefaction of gas**

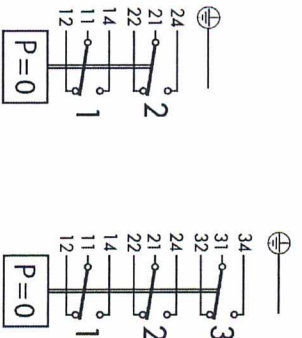
**MECHANICAL DATA**

**Material**  
**Measurement system:** 1.4435, 1.4404, 1.4401 (AISI316L, AISI316)  
**Sensor:** 1.4435, 1.4404 (AISI 316L)  
**Sensor housing, options:** 1.4435, 1.4404 (AISI 316L)  
**Filling:** Gas  
**Housing (density monitor):** AISI10Mg  
**Screwed cable gland:** brass nickel plated ~ 530 g  
**Weight:** 1.4404 (AISI 316L)  
**pressure connection:** (see data sheet H72502)

**electrical data switch**

Switch:	Rating	
	AC	DC
20	250 V	10 (1.5) A
	250 V	0.1 (0.05) A
	220 V	0.25 (0.2) A
	110 V	0.5 (0.3) A
	24 V	2 (1) A

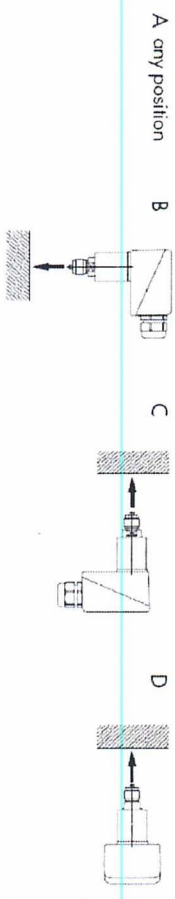
**electrical connection** number of microswitches according to application (max.4)  
**type label** number of microswitches according to application (max.4)



**trafaag** S/N : MUSTER-001  
 Type : 8738.20.2550.XC  
 EXECUTION 3

SF<sub>6</sub> : 50 % CF<sub>4</sub> : 50%  
 PN abs : 0.70 MPa @ 20°C  
 P1 abs : 0.62 MPa @ 20°C  
 P2 abs : 0.60 MPa @ 20°C  
 P3 abs : 0.60 MPa @ 20°C  
 P4 abs : MPa @ 20°C

**dial orientation**



*Handwritten signature and date: 11.01.22*

Document / document type Massbild Gasdichte	Tafelierung / tabulation -	Umfeldnorme nach ISO 18016 / copyrights according to ISO 18016	Massstab / scale	Erstellungs- datum	16.12.2013	Us
Situa FREIGEgeben	Werkstoff / material		1:1	Gepriichtschel / Andersungshndel	16.12.2013	per
Bezeichnung / description Gas Density Monitor			Fragepunkttyp / Format / dim.	06.01.2022	11u	scd
87x8.20.2550.?? 11.60.61			Seite / sheet 5 / 5			
<b>trafaag</b> sensors controls			Zeichnungs-Nr. / drawing no. M93341			Index / revision 1