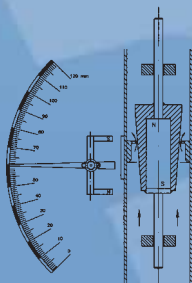




Metal Tube Variable Area Flowmeters for Gases, Liquids and Steam

- Metallic construction, optional in plastic
- Indication by magnetic coupling
- Linear scales, calibrated in l/h, m³/h, kg/h, t/h, %, etc.
- Sizes DN 15 to DN 150
- Flow rate:
 - Water: 2.5 l/h up to 180 m³/h
 - Air: 0.07 Nm³/h up to 5400 Nm³/h
- Low pressure drop
- Standard construction: EN 1.4404 (SS 316L), PVC, PP, PTFE
- Local indication
- Options:
 - 1 or 2 limit switches
 - Electric transmitter with 4-20 mA analog output for safe area or for hazardous area with protection EEx ia IIC T4/T6 (ATEX)
 - Local or remote volume totalizer
 - Pneumatic transmitter 3-15 psi (0.2-1 bar)
- Connections:
 - Flanges DN 15 to DN 150 standard in stainless steel EN 1.4404 (SS 316L)
 - On request, flanges to ANSI, JIS
 - Screwed connections BSP or NPT
 - Sanitary connections to DIN 11851, CLAMP ISO 2852, SMS 1145
- Total length DIN 2501 flanges:
 - DN 15...DN 125: 250 mm
 - DN 150: 300 mm





SC-250 Flowmeter

The SC-250 is a variable area flowmeter using totally automated construction and standard pieces, that provides a high precision in flow rate measurements.

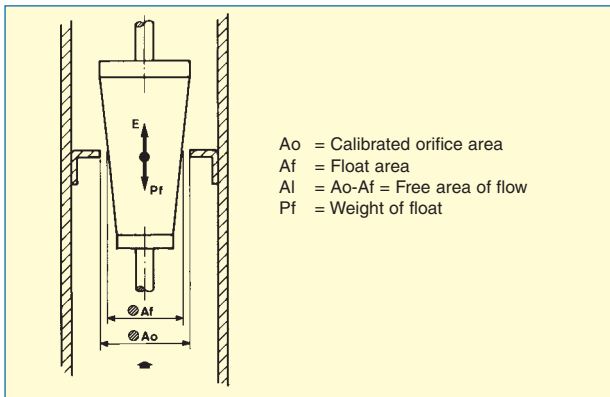
The precision is $\pm 2.5\%$ or $\pm 1.6\%$ according to VDI / VDE 3513, Sheet 2.

Operation

The metering system is made up of a calibrated orifice and a conical float. The force from the fluid, as it flows from the bottom to the top, displaces the float until it reaches an equilibrium point that is a function of:

- The weight of the float: Pf
- The force of the fluid flow: E
- The free area of flow: AI

Each float position represents a different equilibrium which has a corresponding flow rate.



Applications

The SC-250 flowmeters are built in metal with a very robust construction. They are designed to provide a high performance measurement in extreme working conditions. They provide a high resistance to temperature, pressure and corrosion with the use of materials such as EN 1.4404 (SS 316L), Hastelloy, Titanium, PVC, PP, PTFE.

These instruments are suitable in all kinds of industries, especially:

- Water treatment
- Pharmaceutical industry
- Power plants
- Nuclear generating plant
- Chemical and petrochemical industry
- Pulp & Paper industry
- Food industry
- Heating and cooling circuits
- Saturated steam circuits
- Oven treatments
- Control of gas burns, etc.

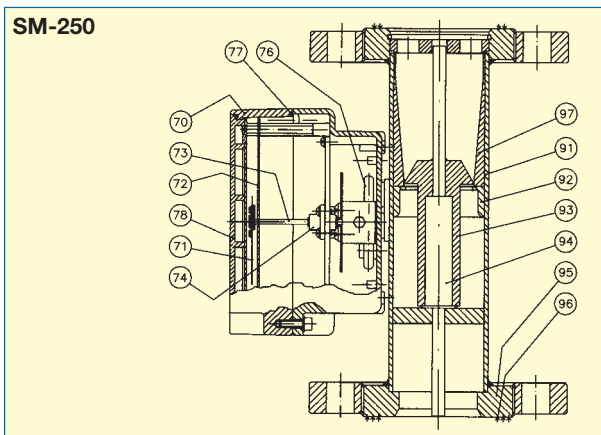
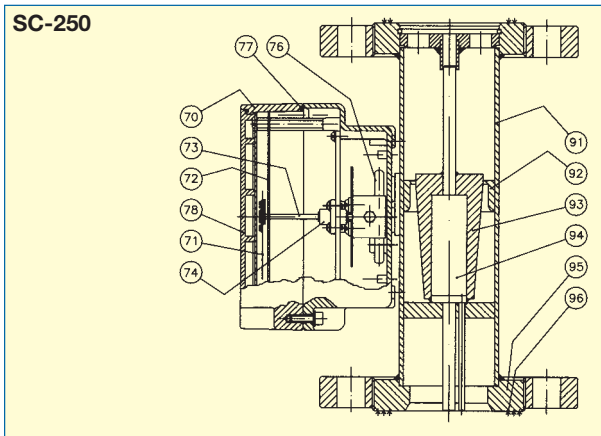
Technical Data

- Precision according to VDI / VDE 3513, Sheet 2.
 - SC-250** (max. 10 mPas)
 - Standard: $\pm 2.5\%$ of FSD
 - On demand: $\pm 1.6\%$ of FSD
 - SM-250** (max. 10000 mPas)
 - Standard: $\pm 1.6\%$ of FSD
 - Scales:
 - Direct in engineering units or in %
 - Length: 120 mm (reading length max. 100 mm)
 - Scale range: 10:1
 - Temperature of fluid:
 - Standard:
 - 50°C to +200°C EN 1.4404 (SS 316L)
 - 20°C to +150°C PTFE
 - 0°C to +50°C PVC -5 to +90°C PP
 - With thermal separator: refer to page 9
 - Ambient temperature:
 - 20°C to +80°C SS 316L, PTFE
 - 0°C to +45°C PVC
 - 5°C to +80°C PP
 - Working pressure:
 - SC-250/INOX (EN 1.4404 - SS 316L)
 - PN 40 DN 15...DN 50
 - PN 16 DN 65...DN 150
 - (others on request)
 - SC-250/PVC T/PP T (Fully PVC / Fully PP)
 - PN 16 DN 15...DN 125
 - PN 10 DN 150
 - SC-250/PVC/PP/PTFE (EN 1.4404 - SS 316L + PVC/PP/PTFE)
 - PN 40 DN 15...DN 40
 - PN 16 DN 50...DN 125
 - PN 10 DN 150
 - (others on request)
 - Mounting Length:
 - SC-250 INOX/PTFE/PVC/PP
 - DN 15...DN 125: 250 mm
 - DN 150: 300 mm

The mounting length is the same for the flowmeters with damping system to measure flow rates of steam or gases.
 - Indicator housing:
 - Standard: IP65 - polyamide coated aluminium
 - On demand: IP65 - polypropylene, IP67 - EN 1.4404 (SS 316L)
- ### Limit switches and transmitters
- .../AMM1...2 1 or 2 adjustable micro-switches
 - .../AMD1...2 1 or 2 adjustable inductive detectors (+relays on order)
 - TH32...TH34 4-20 mA transmitter 2 or 4 wire
 - TH32Ex 4-20 mA transmitter 2 wire
EEx ia IIC T4 (ATEX)
 - THT32...THT34 Transmitter + Totalizer 2 or 4 wire
 - THT32Ex Transmitter + Totalizer 2 wire
EEx ia IIC T4 (ATEX)
 - TKEx 0...4-20 mA Transmitter 2, 4 wire
EEx ia IIC T6 (ATEX)
 - TP1200 Pneumatic Transmitter
3-15 psi (0.2-1 bar)

SC-250 & SM-250 Indicator Box Materials

Item	Description	Materials
70	Indicator Box	Polyamide Coated Aluminium
71	Indicating needle	Aluminium
72	Scale plate	Aluminium
73	Shaft	EN 1.4404 (SS 316L)
74	Ball Bearing	EN 1.4404 (SS 316L)
76	Magnetic Coupling	Alnico
77	O-ring	Nitrile Rubber
78	Window	Polycarbonate (UV treated)



SC-250 & SM-250 Flow Tube Materials

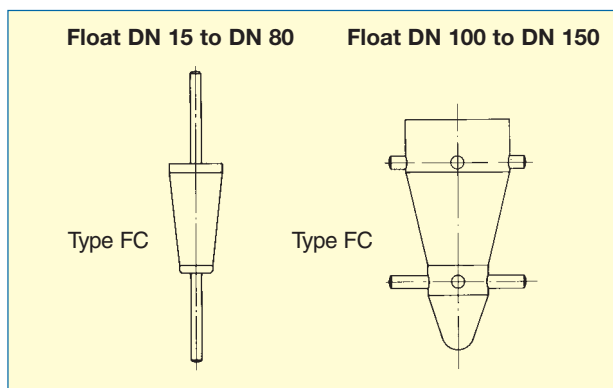
Item	Description	EN 1.4404	Materials	
			PVC/PP	PTFE
91	Flow Tube	EN 1.4404	PVC/PP	PTFE/SS
92	Calibrated Orifice	EN 1.4404	PVC/PP	PTFE
93	Float	EN 1.4404	PVC/PP	PTFE
94	Magnet	-----	Alnico	-----
95	Flanges	Steel/SS	PVC/PP	EN 1.4404
96	Flange Seat	EN 1.4404	PVC/PP	PTFE
97	Tapered Tube	EN 1.4404	PVC/PP	PTFE

The tapered FC floats and the constant section T, V & TX floats are constructed in SS 316L, PVC, PP & PTFE as standard or other materials, according to the characteristics of the fluid to be metered.

The maximum working viscosity for the FC floats of the SC 250 flowmeters is 10 mPas.

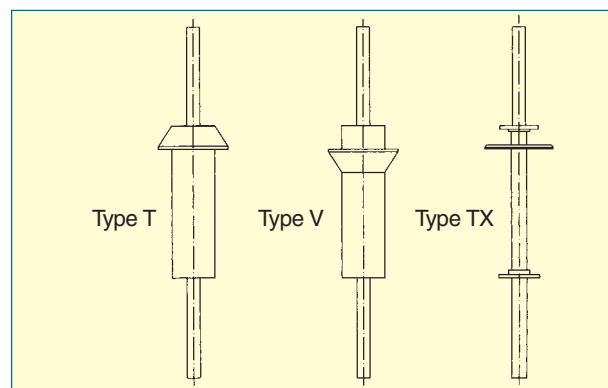
The maximum working viscosity for the T floats of the SM 250 flowmeters is 10000 mPas.

SC-250 Series Floats



- Maximum liquid viscosity 10 mPas

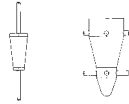
SM-250 Series Floats



- Maximum liquid viscosity 10000 mPas (Type T)



Standard Scales SC-250



FC Floats

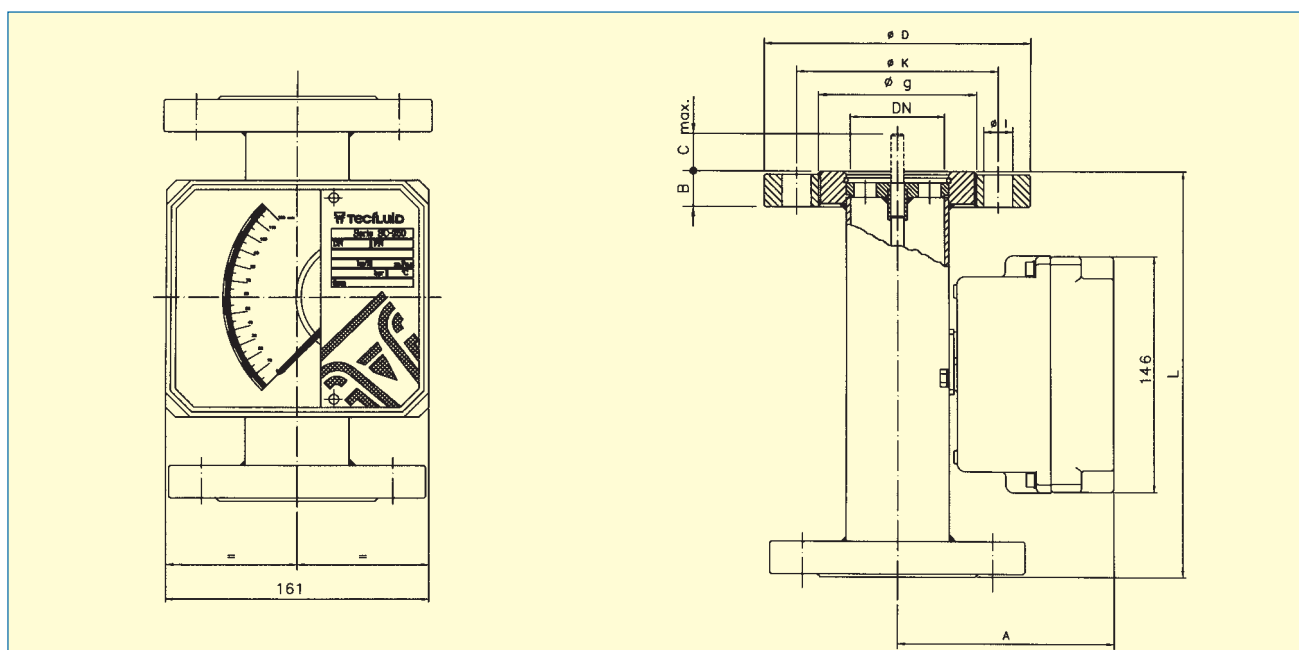
DIN Flanges DN	ANSI* Flanges	Float N°	EN 1.4404 (SS 316L) Float (7.95 g/cm³)			PVC Floats for gases			
			l/h Water	Nm³/h Air	ΔP mm H₂O	l/h Water	ΔP mm H₂O	Nm³/h Air	ΔP mm H₂O
			20°C 1.013 bar abs			20°C 1.013 bar abs			
15	1/2"	15025	2.5-25	0.07-0.7	400	2.5-25	176	0.1-1	309
		15040	4-40	0.12-1.2	400	6-60	150	0.2-2	240
		15060	6-60	0.18-1.8	400	10-100	150	0.4-4	240
		15100	10-100	0.3-3	400	16-160	150	0.6-6	240
		15160	16-160	0.5-5	500	25-250	150	1-10	240
		15250	25-250	0.7-7.5	500	40-400	150	1.6-16	240
		15400	40-400	1.2-12	500	60-600	150	2-20	240
25	1 1/4" **	25100	100-1000	3-30	600	16-160	80	0.6-6	180
		25160	160-1600	5-50	700	25-250	80	1-10	180
40	1 1/2"	25250	250-2500	7-75	900	40-400	80	1.6-16	180
		25400	400-4000	12-120	1100	60-600	80	2.5-25	180
		25101				100-1000	80	4-40	180
		25161				160-1600	80	6-60	180
		25251				240-2400	80	9-96	180
		40400	400-4000	12-120	450	150-1500	180	5-50	260
		40600	500-6300	15-180	550	250-2500	180	8-80	260
50	2"	40800	800-8000	24-240	900	400-4000	180	14-140	260
		50800	800-8000	24-240	700	250-2500	150	9-90	220
		50100	1000-10000	30-300	900	400-4000	150	15-150	220
		50150	1500-15000	45-450	1000	600-6000	150	20-200	220
65	2 1/2"	50101	1000-10000	150	35-350	220			
		65150	1500-15000	45-450	700	800-8000	150	25-250	220
		65200	2000-20000	60-600	1000	1000-10000	150	40-400	220
80	3"	80020	2000-20000	60-600	800	1000-10000	160	40-400	230
		80025	2500-25000	75-750	1000	1600-16000	160	60-600	230
		80030	3000-30000	90-900	1200				
100	4"	81040	4000-40000	120-1200	1000	1600-16000	170	60-600	240
		81050	5000-50000	150-1500	1200	2000-20000	170	100-1000	240
		81060	6000-60000	180-1800	1500				
125	5"	82080	8000-80000	240-2400	1200	3000-30000	180	150-1500	280
		82100	10000-100000	300-3000	1500	4000-40000	180	200-2000	280
		82120	12000-120000	360-3600	1800	6000-60000		220-2200	
150	6"	83150	15000-150000	450-4500	2200	8000-80000	230	250-2600	320
		83180	18000-180000	500-5400	2200	10000-100000	230	300-3200	320

* For SC-250 INOX (SS 316L) and from 150# to 2500#

** 1" on demand

Dimensions for SC-250 & SM-250 Series with DIN Flanges

DN DIN 2501	PN	D	k	g	l _{xn} ^o	B	A		C		L	Weight kg
							SC	SM	SC	SM		
15	40	95	65	45	14x4	14	133	146	45	45	250	3.5
25	40	115	85	68	14x4	16	146	154	45	45	250	4.5
40	40	150	110	88	18x4	16	154	167	45	45	250	7.3
50	40	165	125	102	18x4	18	167	176	45	45	250	8.3
65	16	185	145	122	18x4	18	176	192	45	45	250	10
80	16	200	160	138	18x8	20	192	211	45	45	250	12
100	16	220	180	158	18x8	20	211	-	-	-	250	15
125	16	250	210	188	18x8	22	236	-	-	-	250	20
150	16	285	240	212	23x8	22	262	-	-	-	300	32



Dimensions for SC-250 & SM-250 Series with ANSI Flanges

Size	Pressure class lbs	D	k	g	l _{xn} ^o	B	A		C		L	Weight kg
							SC	SM	SC	SM		
1/2"	150	88.9	60.3	34.9	15.90x4	11.1	133	146	45	45	250	3.5
3/4"	150	98.4	69.8	42.9	15.90x4	12.7	146	154	45	45	250	4.5
1"	150	107.9	79.4	50.8	15.90x4	14.3	154	167	45	45	250	7.3
1 1/4"	150	117.5	88.9	63.5	15.90x4	15.9	167	176	45	45	250	8.3
1 1/2"	150	127.0	98.4	73.0	15.90x4	17.5	176	192	45	45	250	10
2"	150	152.4	120.6	92.1	19.05x4	19.1	192	211	45	45	250	12
2 1/2"	150	177.8	139.7	104.8	19.05x4	22.2	211	-	-	-	250	15
3"	150	190.5	152.4	127.0	19.05x4	23.8	236	-	-	-	250	20
4"	150	228.6	190.5	157.2	19.05x8	23.8	262	-	-	-	300	32
5"	150	254.0	215.9	185.7	22.20x8	23.8	236	-	-	-	250	20
6"	150	279.4	241.3	215.9	22.20x8	25.4	262	-	-	-	300	32



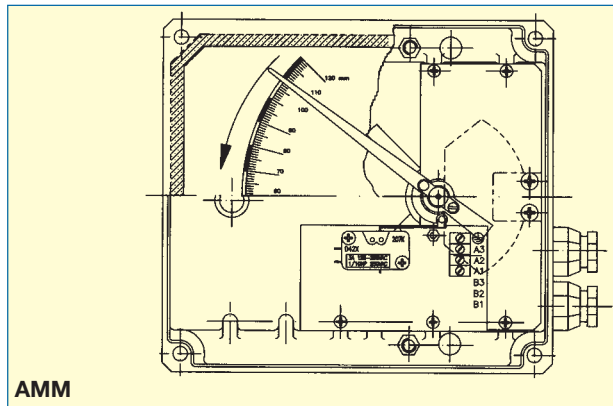
Limit Switches and Transmitter Options

Adjustable limit switch SC-AMM...SM-AMM

Electrical micro-switch mounted in the indicator housing.

- SC/SM-AMM1: 1 adjustable limit switch
- SC/SM-AMM2: 2 adjustable limit switches
- Ratings: 3(1) A, 250 V (VDE/CEE)
- Hysteresis: $\pm 10\%$ of full scale value
- Ambient temperature: -25°C to $+80^{\circ}\text{C}$
- Mechanical life: 10^7 Operations

Gold plated contacts on order.



AMM

Adjustable limit switch SC-AMD...SM-AMD

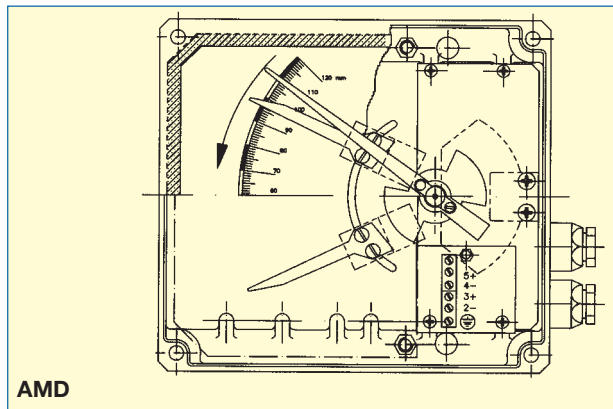
NAMUR (DIN19234) 3.5 mm slot type inductive detector activated by vane, mounted in the indicator housing.

- SC-AMD/SM-AMD1...2: 1...2 bi-stable limit switches
- Detector power supply: 8 V dc
- Ambient temperature: -25°C to $+70^{\circ}\text{C}$

Control Relay (on demand)

NAMUR (DIN19234) for 1 or 2 inductive detectors.

- Power supply: 24...230 V ac 50-60 Hz
24...250 V dc
- Input: NAMUR EEx ia IIC
- Output: 1 or 2 inductive detectors
- Output Rating: 2...5 A / 40 V dc
- Ambient temperature: -25°C to $+70^{\circ}\text{C}$

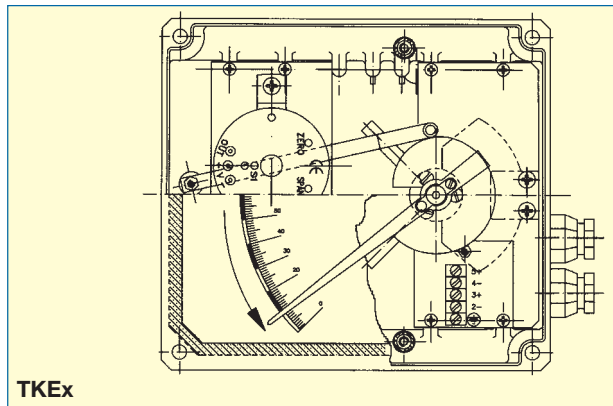


AMD

Electric transmitter SC-TKEx...SM-TKEx

The TKEx electric transmitter is an angular position converter coupled to the indicating system of the flowmeter and uses a 2 wire connection. It gives a linear output of 4-20 mA proportional to the flow rate. It is intrinsic safety ATEX certified to EEx ia IIC T6.

- Power supply: 12...30 V dc
- Output signal: 4-20 mA
- Electrical connection: 2 wire
- Short circuit current: <160 mA
- Internal Inductance: $L_i=0$
- Internal Capacitance: $C_i \leq 10$ nF
- Ambient Temperature: -20°C to $+40^{\circ}\text{C}$

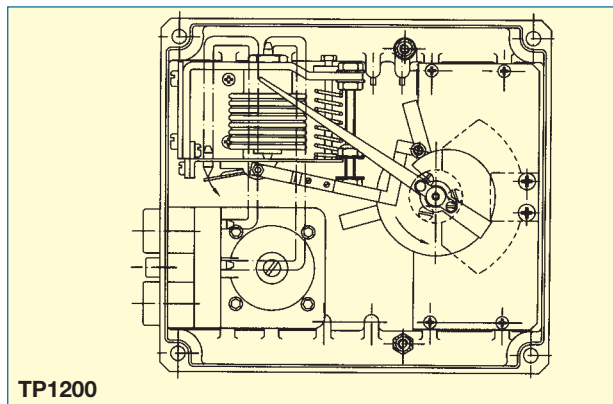


TKEx

Pneumatic Transmitter SC-TP1200...SM-TP1200

The TP1200 pneumatic transmitter gives a 3-15 psi or 0.2-1 bar, proportional to the flow rate.

- Air supply: 1.4 bar ± 0.1 bar
- Air consumption: 460 NI/h
- Output signal: 3-15 psi (0.2-1 bar)
- Linearity: $\pm 0.4\%$
- Hysteresis: $\pm 0.25\%$
- Ambient temperature: $-10...+70^{\circ}\text{C}$



TP1200

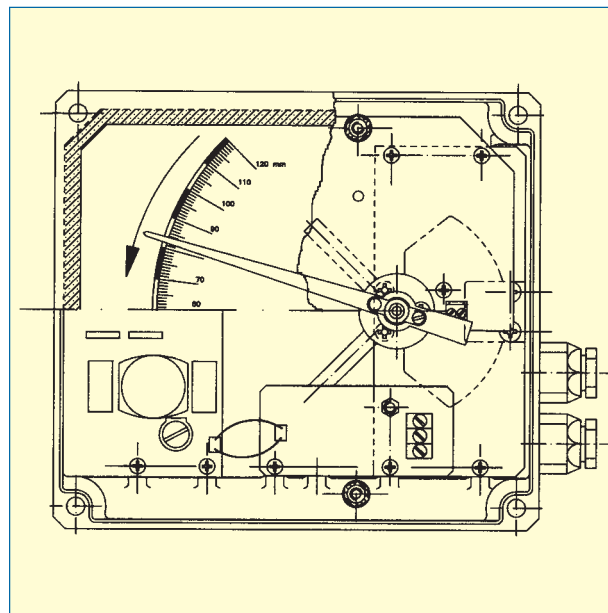
Transmitters and totalizers HALLTEC III

- 2 wire series: TH32 Transmitter
TH32T Transmitter + totalizer
- 4 wire series: TH34 Transmitter
TH34T Transmitter + totalizer

The HALLTEC electronic position transducers give an analog output proportional to the flow rate and can have a volume totalizer with a pulse output. They are based on the Hall effect using a magnetic field. They are mounted in the indicator housing.

Technical characteristics

- Power supply: 2 wire 10...50 V dc 4 wire 24...240 V ac (to be indicated)
- Power consumption: max. 20 mA less than 2 VA
- Outputs:
 - 4...20 mA analogic:**
 - Precision: < 0.6% of the magnet position
 - Maximum load in 4-20 mA loop: 2 k Ω (with 50 Vdc power supply)
 - Pulse output:** Potential free N channel MOSFET
 - I_{max}. 200 mA
 - Max. frequency 2 Hz
 - Pulse duration approx. 250 ms
- Totalizer: 9 digits, 4.5 mm high
Reset by potential free contact
- Ambient temperature: -5°C to +70°C



Safety Characteristics

Conforms to 73/23/EEC Directive (low voltage)
Conforms to 89/336/EEC Directive (EMC)

Transmitters and totalizers HALLTEC III (EEx ia IIC T4 ATEX)



- 2 wire series: TH32Ex Transmitter
TH32TEx Transmitter + totalizer

The HALLTEC electronic position transducers give an analog output proportional to the flow rate and can have a volume totalizer. They are based on the Hall effect using a magnetic field. They are mounted in the indicator housing.

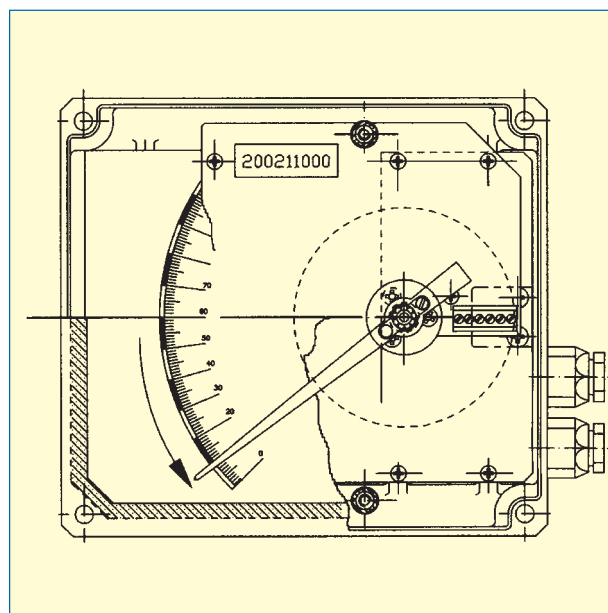
Technical characteristics

- Power consumption: 4...20 mA for 0...100% of scale
- Output:
 - 4...20 mA:**
 - Precision: < 0.6% of the magnet position
 - Maximum load in 4-20 mA loop: 700 Ω (with 24 Vdc power supply)
- Totalizer: 9 digits, 4.5 mm high
Reset by potential free contact
- Ambient temperature: -5°C to +70°C

Safety Characteristics

Equipment conforms to the following directives and norms.

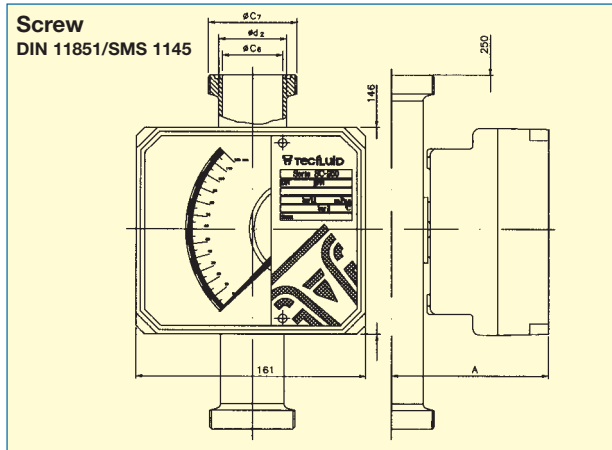
- 89/336/EEC Electromagnetic Compatibility.
- 94/9/EC Equipment and protective systems for use in potentially explosive atmospheres.
- EN 50284 Special requirements for the construction, test and marking of electrical apparatus of equipment group II, Category 1G.



This instrument, since it belongs to group II, is destined for use in locations where there may be the hazard of the formation of explosive atmospheres, except for mining.



SC-250 Sanitary Fittings

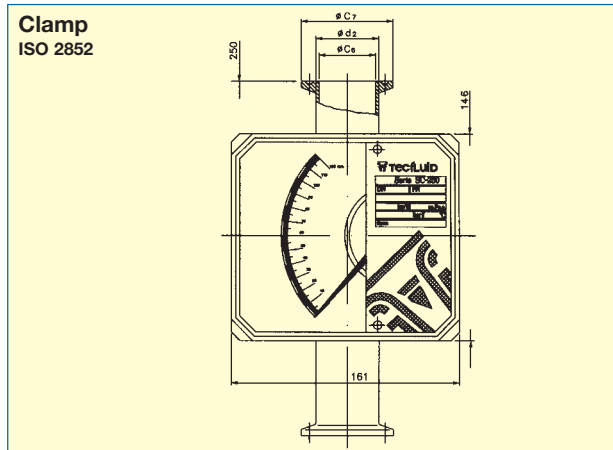


DIN 11851 EN 1.4404 (SS 316L)

NW - DN	15	25	40	50	65	80	100
$\varnothing C_7$	Rd 34 x 1/8"	Rd 52 x 1/6"	Rd 65 x 1/6"	Rd 78 x 1/6"	Rd 95 x 1/6"	Rd 110 x 1/4"	Rd 130 x 1/4"
$\varnothing C_6$	17	24.8	35.6	45.8	67	82.8	100
$\varnothing d_2$	21.3	30	42	51	73	88.9	108
A	114	118	124	129	140	148	157
DIN Equiv.: DN 15(PC)*	15	25	40	50-65	80	100	

SMS 1145 EN 1.4404 (SS 316L)

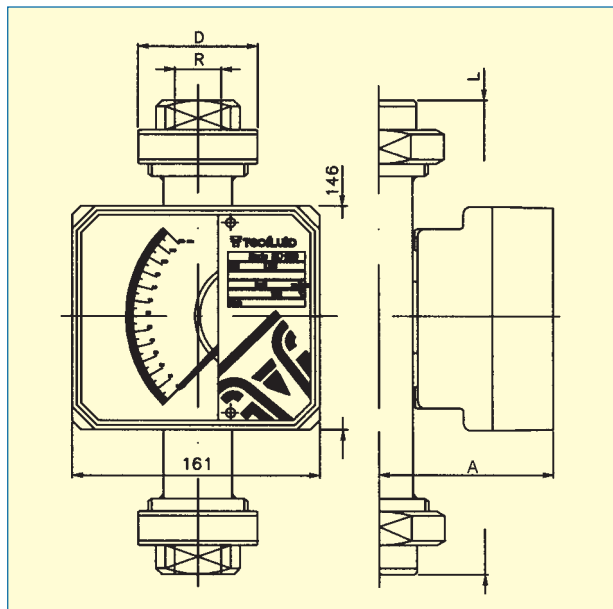
NW - DN	15	25	40	50	65	100
$\varnothing C_7$	40	60	70	85	98	125
$\varnothing C_6$	22.5	35.5	48.5	60.5	72	100
$\varnothing d_2$	25	42	51	63.5	73	108
A	115	124	129	135	140	157
DIN Equiv.: DN	15	25	40	50	65	100



CLAMP ISO 2852 : 1993 EN 1.4404 (SS 316L)

$\varnothing C_7$	34	50.5	50.5	64	77.5	91	106	130
$\varnothing C_6$	17	24.8	35.6	45.8	58.3	67	82.8	100
$\varnothing d_2$	21.3	30	42	51	63.5	73	88.9	108
A	114	118	124	129	135	140	148	157
DIN Equiv.: DN 15(PC)*	15	25	40	50	65	80	100	

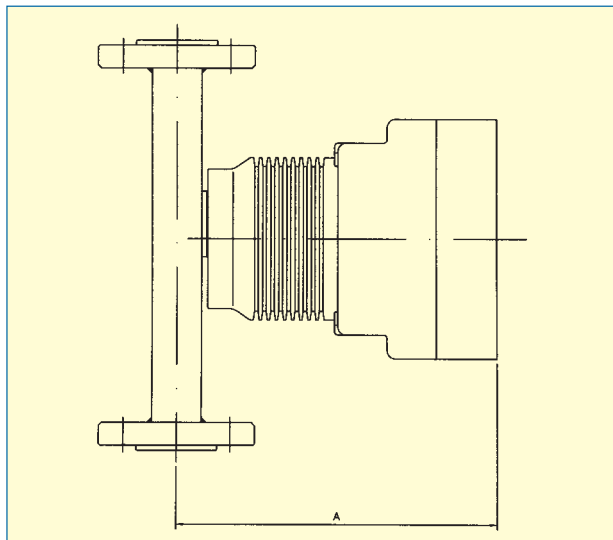
SC-250 Threaded Fittings BSP or NPT EN 1.4404 (SS 316L)



R	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"
L	296	298	306	306	310	328	382
D	60	70	85	100	116	136	152
A	115	124	124	129	135	140	157
DIN Equiv.: DN 15(PC)*	15	25	40	50	65	80	

* Maximum Flow 250 l/h H₂O

Indicator Housing with Thermal Separator

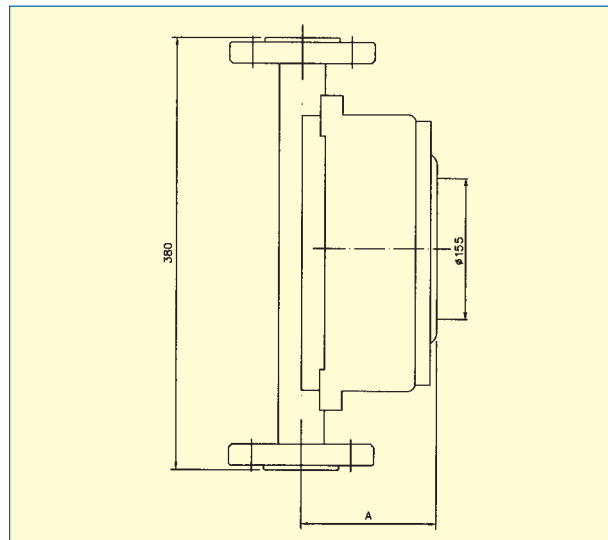


DN	15	25	40	50	65	80	100	125	150
A	177	183	187	194	198	207	216	228	241

Thermal Separator DT

- Standard in aluminium, optional in SS 316L
- For working with fluids at high and low temperatures
- With electronics DN 15...DN 65: -180°C to + 300°C
DN 80...DN 150: -180°C to + 280°C
- Without electronics DN 15...DN 150: -180°C to + 400°C
- Reference ambient temperature = 20°C

Explosion Proof Enclosure (ADF) EEx d IIC T6

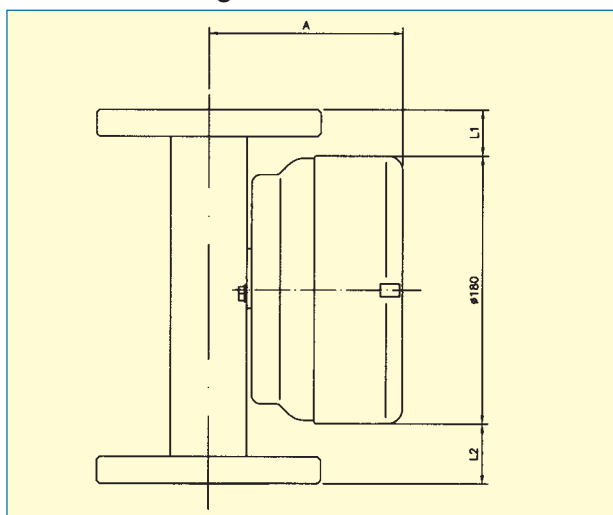


DN	15	25	40	50	65	80	100	125	150
A	195	201	205	212	216	224	234	246	260

Explosion Proof Enclosure (ADF)

- Porthole with glass for viewing the flow rate
- In the inside, the SC...SM-250 housing with standard limit switches and transmitters
- Protection Class: EEx d IIC T6 - IP 65

SS 316L Housing for SC-250 & SM-250



DN	15	25	40	50	65	80	100	125	150
L1	30	30	30	30	30	30	35	35	60
L2	40	40	40	40	40	40	35	35	60
A	115	121	125	132	137	145	154	167	180



Stainless Steel Housing CTI series

- Specially indicated for working within sanitary or sterile installations
- For saline atmospheres (marine platforms), etc.
- All stainless steel construction EN 1.4404 (SS 316L).
- Can be fitted with standard limit switches or with Halltec III 2 wires electronics.

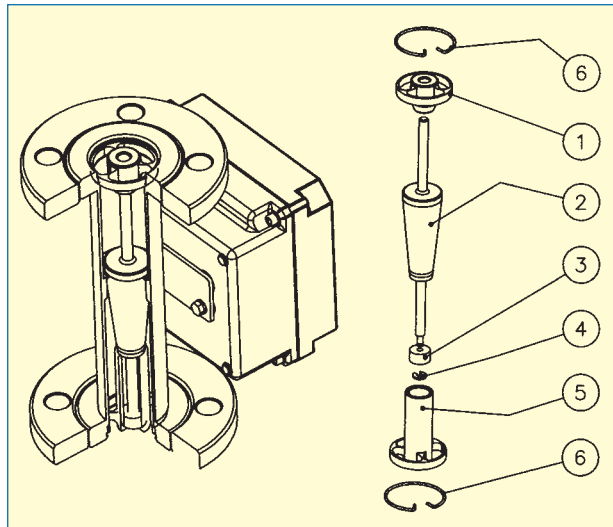


Float Damping System (for gas applications)

Ceramic piston system for eliminating stainless steel float oscillations in gas flowmeters, obtaining stable readings inclusive with very low working pressures and low gas densities.

Available for DN 15 ... DN 80

1. Upper float stop
2. Float
3. Ceramic piston
4. Piston locking circlip
5. Guide cylinder
6. Circlips for locking upper float stop & guide cylinder



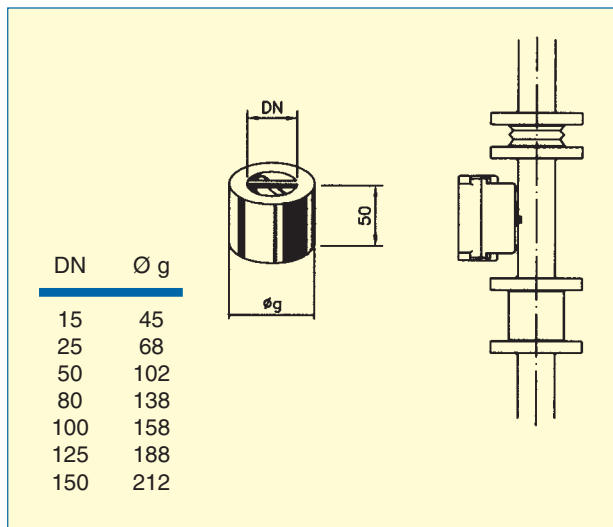
Magnetic Particle Filter

For liquids with magnetic particles in suspension, we recommend the installation of a magnetic filter.

- MAG 1 series, constructed in stainless steel EN 1.4404 (SS 316L)
- MAG-5 series, constructed in PTFE
- Other materials on demand

The permanent magnets are encapsulated in the filter material.

The magnets are mounted helicoidally to improve the capturing of magnetic particles.



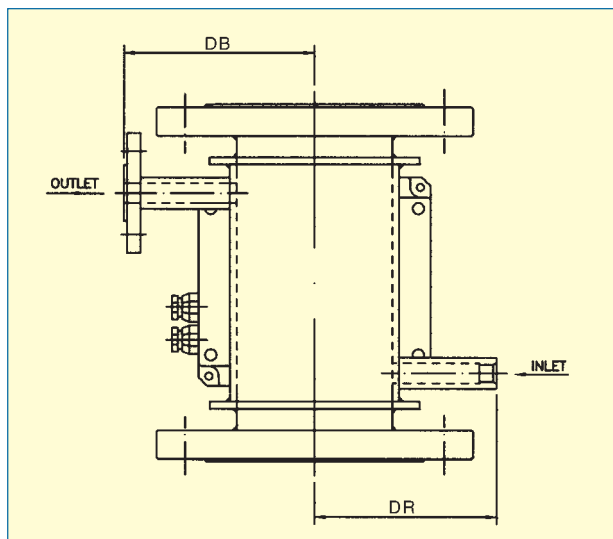
Double Heating-Cooling Chamber

For installations that require maintaining the metered fluid temperature by means of the circulation of a heating or cooling fluid through the double chamber of the flowmeter.

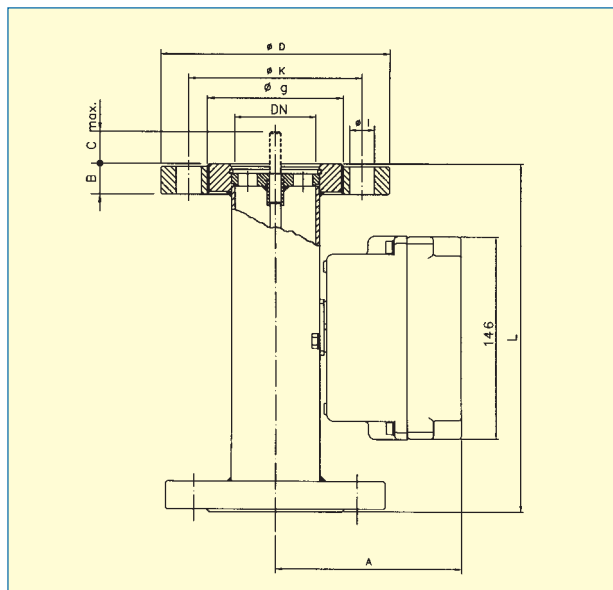
- Without contact with the metered fluid
- Flanged or threaded pipe fittings (BSP, NPT, DIN 2501)
Other standards on demand
- Pipe fitting diameters as in the table
- Stainless steel EN 1.4404 (SS 316L)
Other materials on demand

DN	15(PC)	15	25	40	50	65	80	100	125	150
R	1/2"	1/2"	1/2"	3/4"	3/4"	1"	1"	1"	1"	1"
B*	DN15	DN15	DN15	DN20	DN20	DN25	DN25	DN25	DN25	DN25
DR	35	39	45	50	50	56	70	80	91	104
DB	77	77	88	105	112	122	130	140	155	172

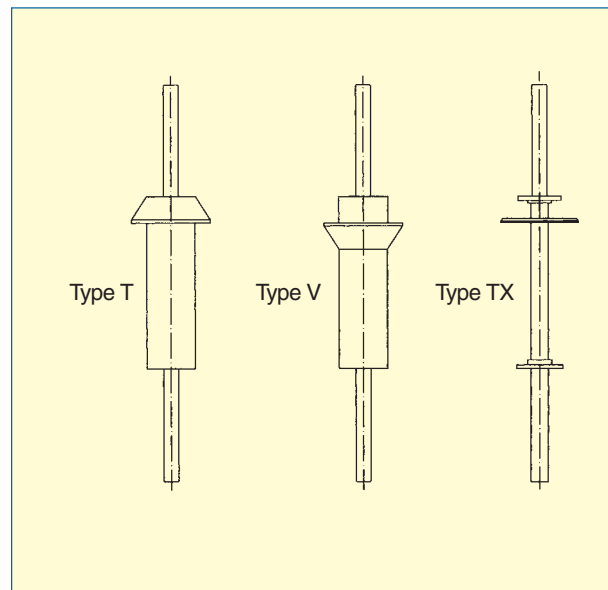
*PN16 DIN2501 Flanges (Others on demand)



SM-250 Series



SM-250 Floats



SM-250 Standard Scales

DIN Flanges DN	ANSI Flanges 150/300#	Tapered tube n°	Scales Water Float EN 1.4404 (7.95 g/cm³)			Scales Air 20°C 1.013 bar abs Float EN 1.4404 (7.95 g/cm³)			Δp mm H ₂ O Float EN 1.4404		
			Type T l/h	Type V l/h	Type TX l/h	Type T Nm³/h	Type V Nm³/h	Type TX Nm³/h	Type T	Type V	Type TX
15	1/2"	CM-11			2-20			0.06-0.6			360
		CM-12			5-50			0.15-1.5			360
		CM-13	6-60		8-80			0.24-2.4			360
		CM-14	10-100		10-100			0.30-3.0			360
		CM-15	16-160		15-150			0.45-4.5			360
		CM-21	25-250	30-300	20-230	0.8-8	0.9-9	0.70-7	550	550	400
3/4"	CM-22	40-400	50-500	30-300	1.2-12	1.5-15	0.90-9	550	550	400	
	CM-23	60-630	80-800	50-500	2.0-20	2.5-25	1.5-15	550	550	400	
	CM-24	80-800	100-1000	60-650	2.5-25	3.0-30	2.0-20	600	600	430	
25	1"	CM-25	100-1000	130-1300	80-800	3.0-30	4.0-40	2.0-24	600	700	450
		CM-26	120-1200	160-1600	100-1000	3.5-35	4.5-45	3.0-30	700	800	500
1 1/4"	CM-31	160-1600	200-2000	120-1200	5.0-50	6.0-60	3.5-35	700	990	320	
	CM-32	200-2000	250-2500	150-1500	6.0-60	7.5-75	4.5-45	900	1200	410	
	CM-33	250-2500	300-3000	180-1800	7.0-70	10-100	5.0-50	1100	1600	530	
40	1 1/2"	CM-41	300-3000	400-4000	150-1500	9.0-90	12-120	4.5-45	450	600	150
		CM-42	400-4000	500-5300	200-2000	12-120	15-150	6.0-60	550	800	180
50	2"	CM-43	500-5000	650-6500	250-2500	15-150	18-180	7.0-70	500	600	160
		CM-44	600-6000	800-8000	300-3000	18-180	20-240	8.0-80	550	800	170
		CM-45	750-7500	1000-10000	350-3500	20-200	30-300	10-100	700	1000	190
65	2 1/2"	CM-51	1000-10000	1300-13000	400-4000	30-300	40-400	12-120	600	800	140
		CM-52	1200-12000	1500-15000	500-5000	35-350	45-450	15-150	700	900	170
80	3"	CM-61	1600-16000	2000-20000	600-6000	50-500	60-600	18-180	600	800	100
		CM-62	2000-20000	2500-25000	600-6500	60-600	70-700	20-200	800	1000	120



Lloyd's Register
Lloyd's Register España, S.A.
 Notified Body Nº 0094

EC CERTIFICATE OF CONFORMITY

In accordance with the requirements of R.D. 789/1999 which transpose the Pressure Equipment Directive 97/23/CE

This is to Certify that the Quality Management System of:
TECFLUID,S.A.
 C/ Narcís Monturiol, 33
 08950 Sant Just Desvern
 Barcelona (España)

has been assessed against the requirements of Annex III Module H of the Pressure Equipment Directive 97/23/CE, and conforms to the requirements for the product shown below:

**DESIGN AND MANUFACTURING OF FLOWMETERS,
 VOLUMETRIC ACCOUNTANT AND LEVELS**

Approval is subject to the continual maintenance of Quality System in accordance with the requirements of the above Directive and Regulations

Authorization is hereby given to use the LR Notified Body Identification Number 0094 (Princesa 29, 1ª Madrid - Spain) in accordance with the requirements of specified Directive and Regulations. In relation to the product as identified above

Certificate Nº: **811**
 Original Approval: 20/07/2005
 Current Certificate: 20/07/2005
 Certificate Expiry: 31/07/2008



Notified Body of the EU, as defined in Article 10 of the EU Pressure Equipment Directive 97/23/CE, under the auspices of Lloyd's Register España, S.A. (LR)



LABORATORIO OFICIAL J. M. MADARIAGA

1. PRODUCTION QUALITY ASSURANCE NOTIFICATION

2- Annex IV of Directive 90/269

3- Identification Number: LOM 4215111

4- MEASUREMENT AND CONTROL ELECTRICAL FOR EXPLOSIVE ATMOSPHERES OF CATEGORY II

5- Applicant: **TECFLUID, S.A.**
 C/ Narcís Monturiol, 33
 08950 SANT JUST DESVERN (Barcelona)

6- Manufacturer: **TECFLUID, S.A.**
 C/ Narcís Monturiol, 33
 08950 SANT JUST DESVERN (Barcelona)

7- Laboratorio Oficial J. M. Madariaga (LOM), is the Notified Body Nº 0094 for Annex IV, in accordance with the Article 9 of the Pressure and Lifting Directive 90/269 of 23 March 1990, notified to the applicant for the aforementioned manufacturer has a production quality control system which complies to Annex IV of the Directive.

8- This notification is based on such report Nº LOM 4215111, issued on 2005-06-04

9- The applicant shall inform Laboratorio Oficial J.M. Madariaga about any relevant modification to the Quality System, particularly concerning to:

- Personnel responsibility of Quality System and Inspection Controls.
- Personnel substituting the Head of Quality Area.
- Changes the inspection equipment affecting quality systems.
- Retework aspects affecting Quality System certification.

10- The applicant is free to use (provided by Laboratorio Oficial J. M. Madariaga) to certify if the manufacturer duly fulfils the obligations arising out of the approved quality system, as stated in clause 4 of Annex IV of the Directive, and will be subject to audit visit.

11- This notification can be withdrawn if the manufacturer no longer satisfies the above mentioned requirements.

12- As stated in article 10 of Directive 90/269, CE marking is accompanied by the identification number of LOM 4215111, notified body responsible of supervising the quality of the production.

MADRID July 9th 2005


 Carlos Fernández Sanjurjo
 DIRECTOR OF LABORATORY


 Ricardo Rodríguez Galán
 Head of Audit Area



This certificate may only be reproduced in its entirety and without alteration Page: 1 / 1

ENAC
 LABORATORIO OFICIAL J. M. MADARIAGA
 Centro de Investigación Científica y Tecnológica
 (Paseo de la Castellana 149) 28046 MADRID - Spain
 Tel: (34) 91 440 1000 or 91 440 4000 FAX: 91 440 1000

ENAC is a member of the European Association of Notified Bodies (EUNB) and is a member of the International Association of Notified Bodies (IANB)

Applus⁺
 Certification
 Technological
 Center

CERTIFICATE

Number: **EC-0032/96**

LGAJ Technological Center
 certifies that the Quality Management System of the supplier:

TECFLUID, S.A.
 C/ Narcís Monturiol, 33
 08950 SANT JUST DESVERN, Barcelona, Spain

for the following activities:

Design, manufacture and after sales service of flowmeters (variable area, orifice plate, target and electromagnetic), volumetric counters and levels.

is in accordance with the requirements of the standard
ISO 9001:2000

This certificate is valid until March 24, 2008
 Certificate was issued March 10, 2004
 Approved by APPLUS Certification Technological Center of the certification dated October 7, 1999

General Director: 
 Ramón Capellades i Fort

Manager of the Certification Center: 
 Salvador Benjumea

ENAC
 LABORATORIO OFICIAL J. M. MADARIAGA

This certificate shall be valid provided that all the conditions of the contract of which it is a part are fulfilled
 This certificate comes from the EC-0032/96 LGAJ certificate number (ENAC-0032/96) Accreditation

Marketed by:

Malema Sensors
 1060 S.Rogers Circle
 Boca Raton, FL 33487
 U.S.A
 Tel: 1-561-995-0595, Fax: 1-561-995-0595
 email: IndustrialSales@malema.com
 URL: www.malema.com

