

# MELT PRESSURE TRANSMITTERS

## ME SERIES

Output 4...20mA



The ME series are pressure transmitters for using in High temperature environment.

The main characteristic of this series is the capability to read temperature of the media up to 400°C.

The constructive principle is based on the hydraulic transmission of the pressure.

The fluid-filled system assures the temperature stability. The physical measure is transformed in a electrical measure by means the strain-gauge technology.

### MAIN FEATURES

- Pressure ranges from:  
0-35 to 0-2000 bar / 0-500 to 0-30000 psi
- Accuracy: <  $\pm 0.25\%$  FSO (H); <  $\pm 0.5\%$  FSO (M)
- Fluid-filled system for temperature stability
- Mercury filling volume:  
ME0 (30mm<sup>3</sup>); ME1, ME2, ME3 (40mm<sup>3</sup>)
- 1/2-20UNF, M18x1.5 standard threads; other types available on request
- Autozero function on board / external option
- Drift Autocompensation function (SP version)
- Standard diaphragm is 15-5 PH stainless steel with GTP coating
- 17-7 PH corrugated diaphragm with GTP coating for ranges below 100 bar-1500 psi

*GTP (advanced protection)*

*Coating with high resistance against corrosion, abrasion and high temperature*

### AUTOZERO FUNCTION

All signal variations in the absence of pressure can be eliminated by using the Autozero function.

This function is activated by closing a magnetic contact located on the transmitter housing.

The procedure is permitted only with pressure at zero.

### AUTO-COMPENSATES INFLUENCE OF MELT TEMPERATURE

Thanks to internal self-compensation, the MSP series transmitter cancels the effect of pressure signal variation caused by variation of Melt temperature.

This reduces at the minimum the read error caused by heating of the filling fluid (typical of all sensors built with "filled" technology).

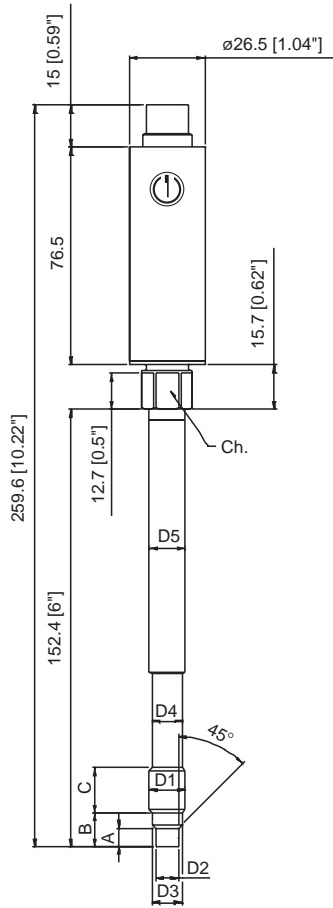
### TECHNICAL SPECIFICATIONS

Accuracy (1)	<b>H</b> < $\pm 0.25\%$ FSO (100...2000 bar) <b>M</b> < $\pm 0.5\%$ FSO (35...2000 bar)
Resolution	Infinite
Measurement range	0..35 to 0..2000bar 0..500 to 0..30000psi
Maximum overpressure (without degrading performances)	2 x FS 1.5 x FS above 1000bar/15000psi
Measurement principle	Extensimetric
Power supply	10...30Vdc
Maximum current absorption	32mA
Insulation resistance (at 50Vdc)	>1000 MOhm
Output signal Full Scale (FSO)	20mA
Zero balance (tolerance $\pm 0.25\%$ FSO)	4mA
Zero signals adjustment (tolerance $\pm 0.25\%$ FSO)	"Autozero" function
Span adjustment within $\pm 5\%$ FSO	See Manual
Maximum allowed load	See diagram
Response time (10...90% FSO)	~ 1ms
Output noise (RMS 10-400Hz)	< 0.025% FSO
Calibration signal	80% FSO
Output short circuit ingress and reverse polarity protection	YES
Voltage spike protection	> 2KV burst test, to EN61000-4-4
CE conformity (89/336 direttive)	EMC Emissions EN61000-6-3 EMC Immunity EN61000-6-2 (10V/m)
Compensated temperature range	0...+85°C
Operating temperature range	-30...+105°C
Storage temperature range	-40...+125°C
Thermal drift in compensated range: Zero / Calibration / Sensibility	< 0.02% FSO/°C
Diaphragm maximum temperature	400°C
Zero drift due to change in process temperature (zero)	< 0.02 bar/°C
Zero drift temperature for Autocompensated version (SP) within the temperature range 20°C-400°C inclusive the drift temperature of the housing	< 0.003 bar/°C 100 ≤ p < 500 bar 0.0014 %FS/°C p ≥ 500 bar
Thermocouple (model ME2)	STD: type "J" (isolated junction)
Protection degree (with 6-pole female connector)	IP65

FSO = Full scale output

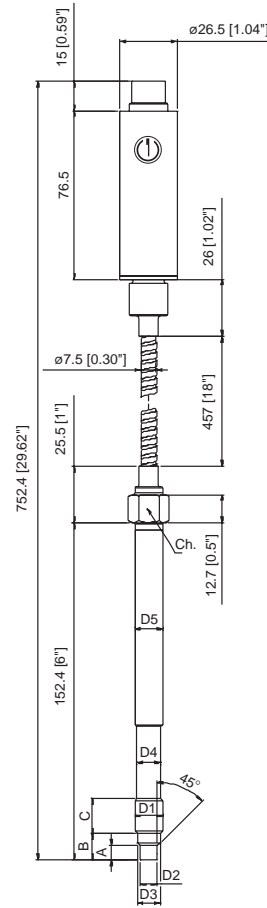
(1) BFSL method (Best Fit Straight Line): includes combined effects of Non-Linearity, Hysteresis and Repeatability.

# MECHANICAL DIMENSIONS



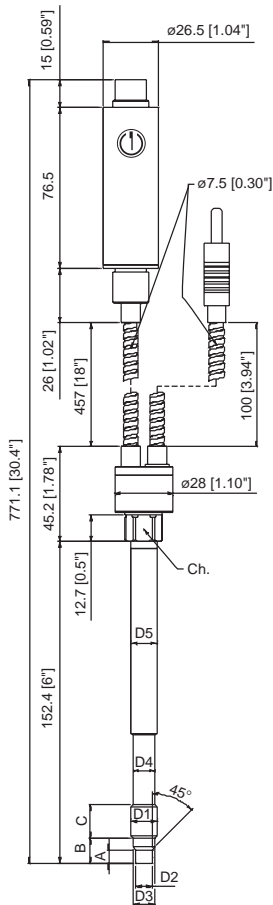
**ME0**

D1	<b>1/2 - 20UNF</b>
D2	$\varnothing 7.8 -0.05$ [ $\varnothing 0.31$ " -0.002 ]
D3	$\varnothing 10.5 -0.025$ [ $\varnothing 0.41$ " -0.001 ]
D4	$\varnothing 10.67$ [ $\varnothing 0.42$ " ]
D5	$\varnothing 12.7$ [ $\varnothing 0.5$ " ]
A	$5.56 -0.26$ [ $0.22$ " -0.01 ]
B	11.2 [ $0.44$ " ]
C	15.74 [ $0.62$ " ]
Ch	16 [ $5/8$ " ]



**ME1**

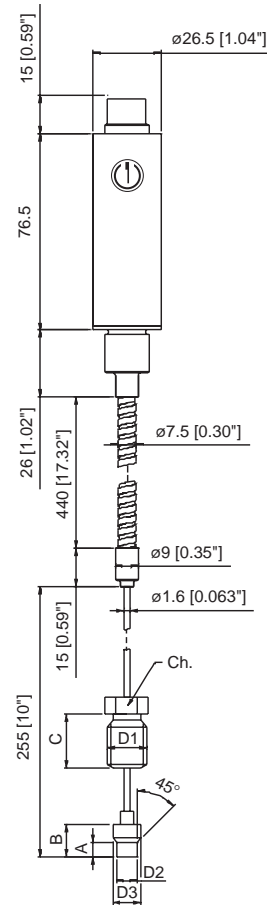
D1	<b>M18x1.5</b>
D2	$\varnothing 10 -0.05$ [ $\varnothing 0.394$ " -0.002 ]
D3	$\varnothing 16 -0.08$ [ $\varnothing 0.63$ " -0.003 ]
D4	$\varnothing 16 -0.4$ [ $\varnothing 0.63$ " -0.016 ]
D5	$\varnothing 18$ [ $\varnothing 0.71$ " ]
A	$6 -0.26$ [ $0.24$ " -0.01 ]
B	$14.8 -0.4$ [ $0.58$ " -0.016 ]
C	19 [ $0.75$ " ]
Ch	19 [ $3/4$ " ]



**ME2**

**NOTE :**  
dimensions refer to rigid stem length option "4" (153 mm – 6")

**WARNING :**  
For installation use a maximum tightening torque of 56 Nm (500 in-lb)

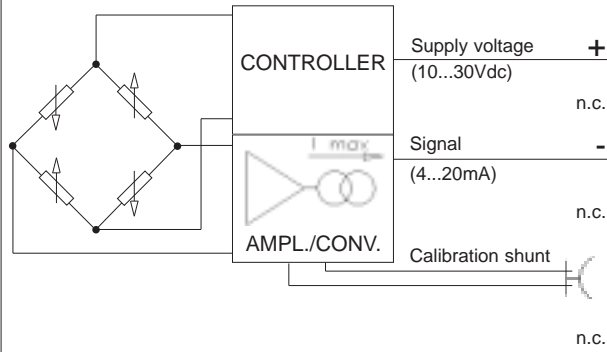


**ME3**

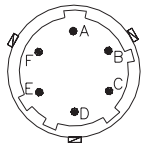
Capillare esposto Exposed capillary	
D1	1/2-20UNF
D2	.307/.305" [7.80/7.75mm]
D3	.414/.412" [10.52/10.46mm]
A	.125/.120" [3.18/3.05mm]
B	.318/.312" [8.08/7.92mm]
C	.81" [20.6mm]

# ELECTRICAL CONNECTIONS

## CURRENT OUTPUT (4...20mA, two wires)



6 pin connector  
VPT07RA10-6PT2  
(PT02A-10-6P)



8 pin connector  
PC02E-12-8P Bendix



## MAGNETIC AUTOZERO

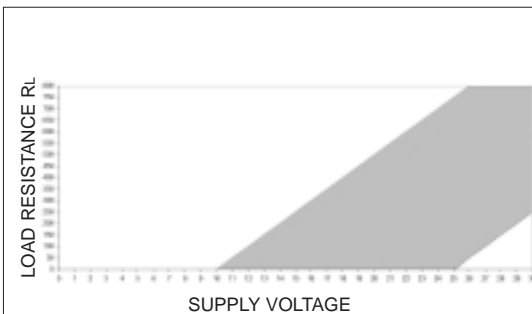
6-pin	8-pin
A	B
C	A
B	D
D	C
E - F	E - F
	G - H

Shield drain wire is tied to connector via cable clamp

## EXTERNAL AUTOZERO

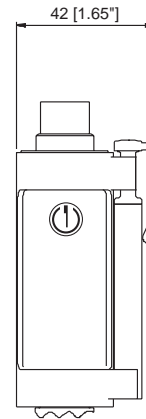
6-pin	8-pin
A	B
C	A
B	D
D	C
E - F	E - F
	G - H

## LOAD DIAGRAM



The diagram shows the optimum ratio between the load and supply voltage of the 4...20mA transmitter.  
For a correct use, choose any combination of load resistance and supply voltage, in the shaded area.

## AUTOZERO FUNCTION



The Autozero function is activated through a magnetic contact (external magnet supplied with the sensor). See the manual for a complete Autozero function explanation.

## ACCESSORIES

### Connectors

6-pin mating connector (IP65 protection degree)  
8-pin mating connector

### Extension cables

6-pin connector with 8m (25ft) cable  
6-pin connector with 15m (50ft) cable  
6-pin connector with 25m (75ft) cable  
6-pin connector with 30m (100ft) cable

Other lengths

### Accessories

Mounting bracket  
Dummy plug for 1/2-20UNF  
Dummy plug for M18x1.5  
Drill kit for 1/2-20UNF  
Drill kit for M18x1.5  
Cleaning kit for 1/2-20UNF  
Cleaning kit for M18x1.5  
Fixing pen clip  
Autozero pen

### Thermocouple for ME2 model

Type "J" (153mm - 6" stem)

CON300  
CON307

C08WLS  
C15WLS  
C25WLS  
C30WLS

consult factory

SF18  
SC12  
SC18  
KF12  
KF18  
CT12  
CT18  
PKIT309  
PKIT312

TTER 601

### Cable color code

Conn.	Wire
A	Red
B	Black
C	White
D	Green
E	Blue
F	Orange

