



The K3 Series are for use in high temperature applications where the process temperatures may reach 538°C (1000°F) such as high temperature engineered polymers. The K Series utilizes standard melt pressure principles and construction, but uses a near incompressible NaK (Sodium Potassium) for pressure transmission. The K Series strain sensing technology is bonded foil strain gage.

MAIN FEATURES

- Pressure ranges from:
0-35 to 0-1000 bar / 0-500 to 0-15000 psi
- Accuracy $<\pm 0.25\%$ FSO (H); $<\pm 0.5\%$ FSO (M)
- Hydraulic transmission system for pressure signal guarantees stability at working temperature (NaK).
Liquid conforming to RoHS Directive.
NaK is defined as a safe substance (GRAS)
- Quantity of NaK contained per model:
K30 series (30mm³) [0.00183 in³], K31-K32-K33 series (40mm³) [0.00244 in³]
- 1/2-20UNF, M18x1.5 standard threads; other types available on request
- Inconel 718 diaphragm with GTP coating for temperatures up to 538°C (1000°F)
- 15-5 PH diaphragm with GTP coating for temperatures up to 400°C (750°F)
- Hastelloy C276 diaphragm for temperatures up to 300°C (570°F)
- 17-7 PH corrugated diaphragm with GTP coating for ranges below 100bar-1500psi

*GTP (advanced protection)
Coating with high resistance against corrosion, abrasion and high temperature*

CE For ranges exceeding 500 bar, the K3.../K2... series bears the CE mark in conformity to Community Directive 97/23/CE of 29/05/97 (PED)

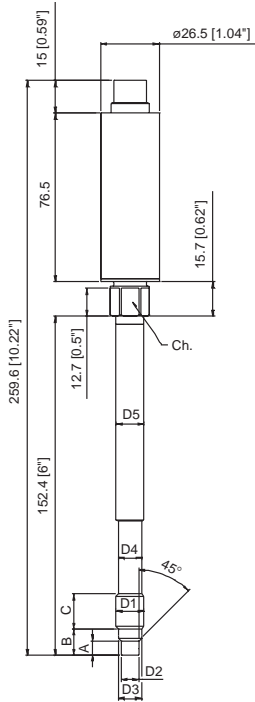
TECHNICAL SPECIFICATIONS

Accuracy (1)	H $<\pm 0.25\%$ FSO (100...1000 bar) M $<\pm 0.5\%$ FSO (35...1000 bar)
Resolution	Infinite
Measurement range	0..35 to 0..1000bar 0..500 to 0..15000psi
Maximum overpressure (without degrading performances)	2 x FS 1.5 x FS over 1000bar/15000psi
Measurement principle	Strain gage
Power supply	6..12Vdc (10Vdc typical)
Bridge resistance	350 Ohm (550 Ohm below 100bar - 1500psi)
Insulation resistance (at 50Vdc)	>1000 MOhm
Output signal Full Scale (FSO) (tolerance $\pm 0.5\%$ FSO)	2.5 mV/V (option 2) 3.33 mV/V (option 3)
Zero balance	$\pm 5\%$
Calibration signal	80% FSO
Compensated temperature range	0...+100°C 32...212°F
Maximum temperature range	-30...+120°C -22...250°F
Thermal drift in compensated range: Zero / Calibration / Sensibility	$< 0.02\%$ FSO/°C $< 0.01\%$ FSO/°F
Diaphragm maximum temperature	538°C 1000°F
Zero drift due to change in process temperature	$< 3,5$ bar/100°C < 212 psi/100°F
Material in contact with process medium - Standard	17-7 PH corrugated diaphragm with GTP coating for ranges < 100 bar (1500psi)
Thermocouple (model K32)	STD: type "J" (isolated junction)
Protection degree (with 6-pole female connector)	IP65
Electrical connections	6-pin conn. VPT07RA10-6PT (PT02A-10-6P) 8-pin conn. PC02E-12-8P

FSO = Full Scale Output

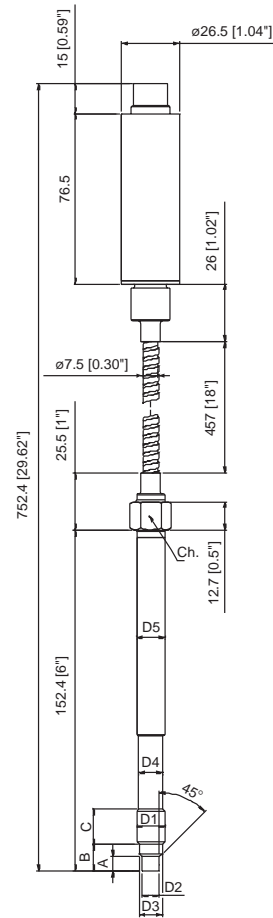
(1) BFSL method (Best Fit Straight Line): includes combined effects of Non-Linearity, Hysteresis and Repeatability.

MECHANICAL DIMENSIONS



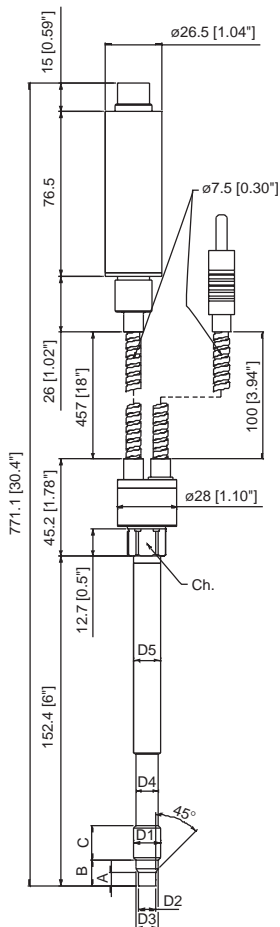
K30

D1	1/2 - 20UNF
D2	ø7.8 -0.05 [ø0.31" -0.002]
D3	ø10.5 -0.025 [ø0.41" -0.001]
D4	ø10.67 [ø0.42"]
D5	ø12.7 [ø0.5"]
A	5.56 -0.26 [0.22" -0.01]
B	11.2 [0.44"]
C	15.74 [0.62"]
Ch	16 [5/8"]



K31

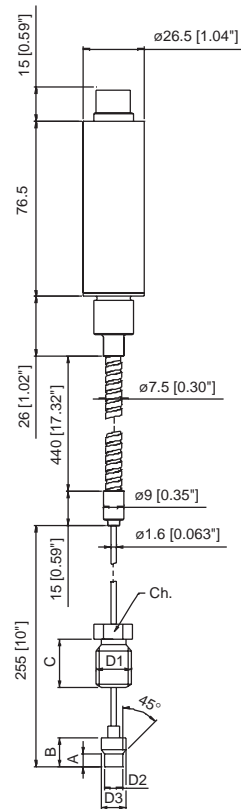
D1	M18x1.5
D2	ø10 -0.05 [ø0.394" -0.002]
D3	ø16 -0.08 [ø0.63" -0.003]
D4	ø16 -0.4 [ø0.63" -0.016]
D5	ø18 [ø0.71"]
A	6 -0.26 [0.24" -0.01]
B	14.8 -0.4 [0.58" -0.016]
C	19 [0.75"]
Ch	19 [3/4"]



K32

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)

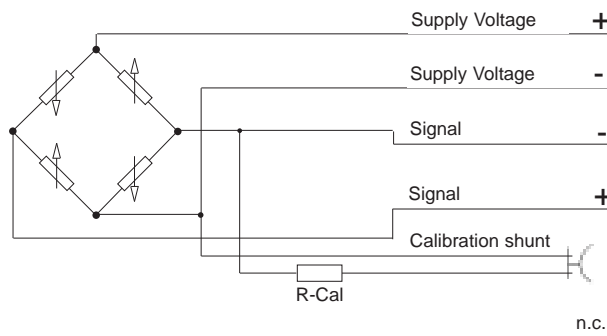


K33

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

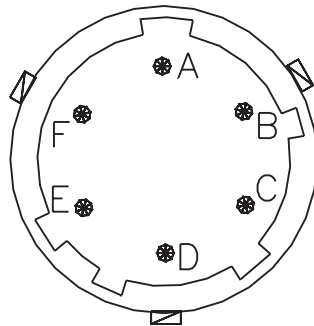
mV/V output



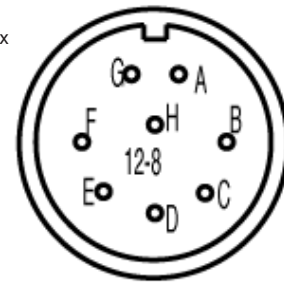
6-pin	8-pin
C	A
D	C
B	D
A	B
E - F	E - F
	G - H

Connect the cable sheathing to the side of the instrument.

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



8-pin connector
PC02E-12-8P Bendix



ACCESSORIES

Connettori

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

CON300
CON307

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

C08W
C15W
C25W
C30W
E08W
E15W
E25W
E30W

Other lengths

on request

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

SF18
SC12
SC18
KF12
KF18
CT12
CT18

Cable color code

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

Thermocouple for K32 model
Type "J" (153mm - 6" rigid stem)

TTER 601

ORDER CODE

K - [] - [] - [] - [] - [] - [] - [] - [] - [] - **000**

OUTPUT SIGNAL	
2.5 mV/V	2
3.33 mV/V	3

VERSION	
Rigid stem	0
Rigid + flexible stem	1
With thermocouple	2
Exposed capillary	3

CONNECTOR	
Standard	
6-pin	6
8-pin	8

ACCURACY CLASS	
0.25% FSO (ranges \geq 100 bar/1500 psi)	H
0.5% FSO	M

RANGE			
bar		psi	
35	B35U	500	P05C
50	B05D	750	P75D
70	B07D	1000	P01M
100	B01C	1500	P15C
200	B02C	3000	P03M
350	B35D	5000	P05M
500	B05C	7500	P75C
700	B07C	10000	P10M
1000	B01M	15000	P15M

000= Standard version
Special or customized versions
available on request

CONTACT DIAPHRAGM	
I	INCONEL 718 (538°C*)
S	15-5 PH (400°C*)
H	HASTELLOY C276 (300°C*)

* max temperature

FLEXIBLE STEM LENGTH (mm / inches)	
Standard (K30)	
0	none
Standard (K31, K32)	
D	457mm 18"
E	610mm 24"
F	760mm 30"
Standard (K33)	
L	711mm 28"
Available on request	
A	76mm 3"
B	152mm 6"
C	300mm 12"

RIGID STEM LENGTH (*) (mm / inches)	
Standard (K30, K31, K32)	
4	153mm 6"
5	318mm 12.5"
Standard (K33)	
0	none
Available on request	
1	38mm 1.5"
2	50mm 2"
3	76mm 3"
6	350mm 14"
7	400mm 16"
8	456mm 18"

(*) max combined rigid/flexible stem length is
1000mm - 39"

THREAD	
Standard	
1	1/2 - 20 UNF
4	M18 x 1.5

Examples

K32-6-M-B07C-1-4-D-I-000

Melt pressure transducer with type "J" thermocouple, 3,33 mV/V output, 6-pin connector, 1/2-20UNF thread, 700 bar pressure range, 0.5% accuracy class, 153 mm (6") rigid stem, 457mm (18") flexible stem, Inconel 718 diaphragm.

K20-8-M-P03M-1-4-0-I-000

Melt pressure transducer, rigid stem, 2,5 mV/V output, 6-pin connector, 1/2-20UNF thread, 3000 psi pressure range, 0.5% accuracy class, 153 mm (6") rigid stem (6"), Inconel 718 diaphragm.

GEFRAN reserves the right to make any kind of design or functional modification at any moment without prior notice

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