

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 $\leq \pm 0.25\%$ FSO (H); $\leq \pm 0.5\%$ 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 up to 400°C (750°F)
- Stem material: 17-4 PH

GTP+ (advanced protection)

Coating with high resistance against corrosion, abrasion and high temperature



TECHNICAL SPECIFICATIONS

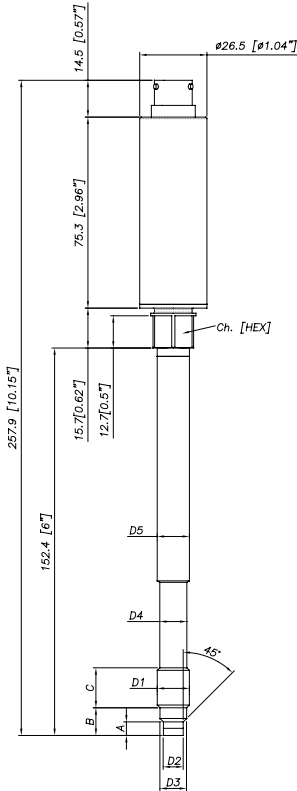
Accuracy (1)	H $\leq \pm 0.25\%$ FSO (100...1000 bar) M $\leq \pm 0.5\%$ FSO (35...1000 bar)
Resolution	Infinite
Measurement range	0..35 a 0..1000bar 0..500 a 0..15000psi
Maximum overpressure	2 x FSO 1.5 x FSO over 700bar/10000psi
Measurement principle	Strain gauge
Power supply	6..12Vdc (10Vdc typical)
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 < 28 psi/100°F
Thermocouple (model K32)	STD : type "J" (isolated junction)
Protection degree (with 6-pole female connector)	IP65
Electrical connections	Conn. 6-pin VPT07RA10-6PT (PT02A-10-6P) Conn.8-pin PC02E-12-8P

FSO = Full Scale Output

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

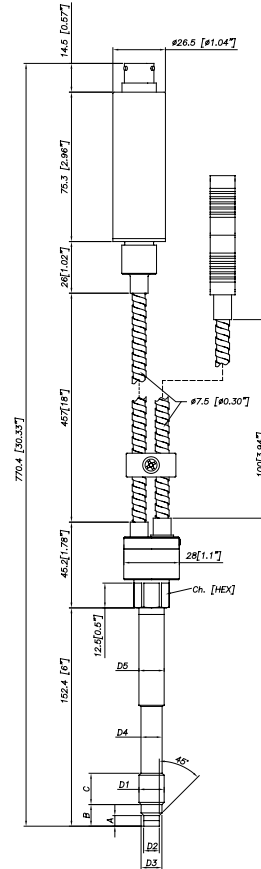
MECHANICAL DIMENSIONS

K30



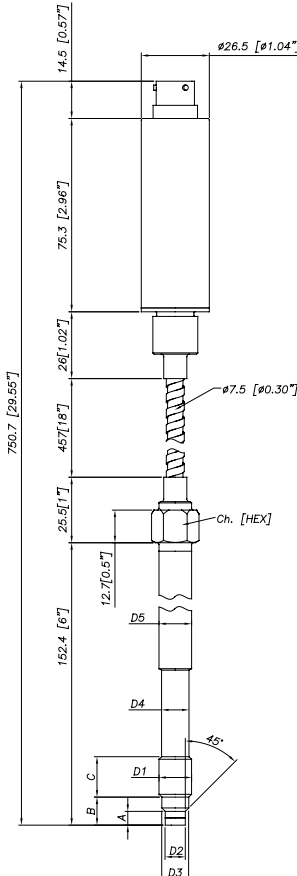
D1	1/2 - 20UNF
D2	$\phi 7.8 -0.05$ [$\phi 0.31$ " -0.002]
D3	$\phi 10.5 -0.025$ [$\phi 0.41$ " -0.001]
D4	$\phi 10.67$ [$\phi 0.42$ "]
D5	$\phi 12.7$ [$\phi 0.5$ "]
A	5.56 -0.26 [0.22" -0.01]
B	11.2 [0.44"]
C	15.74 [0.62"]
Ch [Hex]	16 [5/8"]

K32

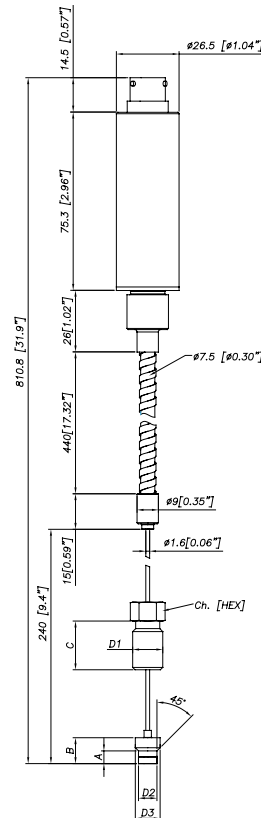


D1	M18x1.5
D2	$\phi 10 -0.05$ [$\phi 0.394$ " -0.002]
D3	$\phi 16 -0.08$ [$\phi 0.63$ " -0.003]
D4	$\phi 16 -0.4$ [$\phi 0.63$ " -0.016]
D5	$\phi 18$ [$\phi 0.71$ "]
A	6 -0.26 [0.24" -0.01]
B	14.8 -0.4 [0.58" -0.016]
C	19 [0.75"]
Ch [Hex]	19 [3/4"]

K31



K33



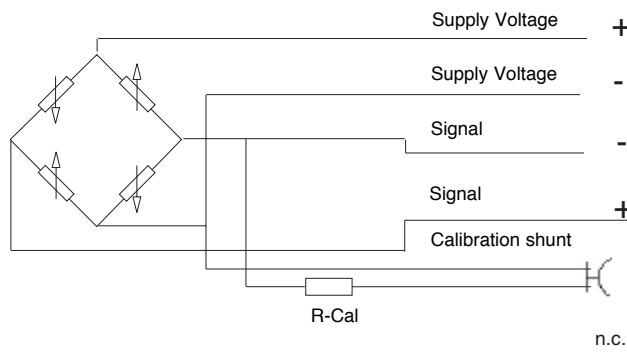
Exposed capillary	
D1	1/2-20UNF
D2	.307/.305" [7.80/7.75mm]
D3	.414/.412" [10.52/10.46mm]
A	.125/.120" [3.18/3.05mm]
B	.318/.312" [8.08/7.92mm]
C	.81" [20.6mm]

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)

ELECTRICAL CONNECTIONS

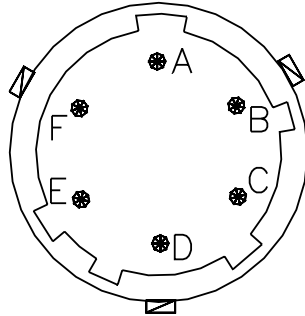
mV/V OUTPUT



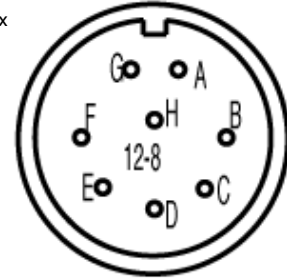
6-pin	8-pin
C	A
D	C
B	D
A	B
E - F	E - F
	G - H

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

Connectors

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
Other lengths

C08W
C15W
C25W
C30W
E08W
E15W
E25W
E30W
on request

Cable color code 6 wires	
Conn.	Wire
A	Red
B	Black
C	White
D	Green
E	Blue
F	Orange

Codice colore cavo 8 wires	
Conn.	Wire
A	White
B	Red
C	Green
D	Black
E	Blue
F	Orange
G	n.c.
H	n.c.

Accessories

Mounting bracket
Dummy plug for 1/2-20 UNF
Dummy plug for M18x1,5
Drill kit for 1/2 -20 UNF
Drill kit for M18 x 1,5
Cleaning kit for 1/2-20 UNF
Cleaning kit for M18x1,5

SF18
SC12
SC18
KF12
KF18
CT12
CT18

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 ≥ 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

(*) Hastelloy diaphragm not available for pressure range ≤ 70 bar (1000 psi)

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

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"

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

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.

Sensors are manufactured in compliance with:

- EMC compatibility directive
- RoHS directive

Electrical installation requirements and conformity certificate are available on our web site: www.gefran.com

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

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