



Main features

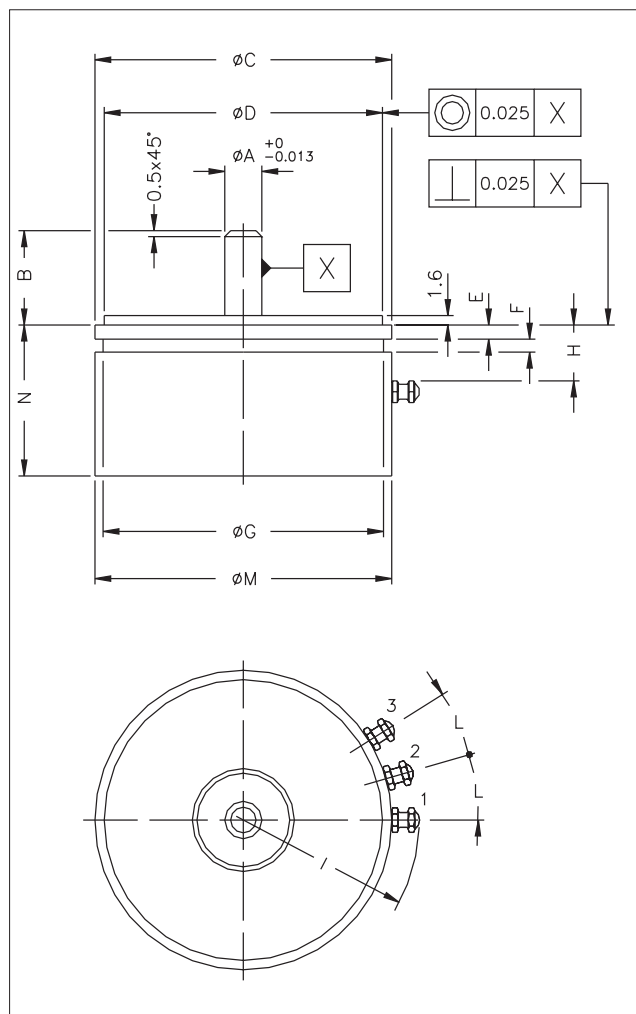
- Models 09, 11, 20
- Servo mounting
- Independent linearity up to $\pm 0,05\%$ (standard $\pm 0,5\%$)
- Repetibility 0,01% C.E.T.
- Rotation speed ≤ 600 r.p.m. (within C.E.U.)
- Life duration: $>100 \times 10^6$ operations at 10 r.p.s.
- Infinite resolution
- Electrical terminals: turrets
- Grade of protection IP40
- Suitable for use in explosive environments with presence of gas (groups IIA, IIB, IIC) and combustible powders. Standards for simple device: ATEX CEI EN 50020 2003 - paragraph 5.4 a

TECHNICAL DATA

Model	09 - 11 - 20
Vibrations	5...2000Hz, $A_{max} = 0,75$ mm $a_{max} = 20$ g
Shock	50 g, 11ms.
Hysteresis (backlash)	$\leq 15''$ of arc
Electrical terminals	Gold plated turrets
Torque	$\leq 0,20$ Ncm
Rotation speed	≤ 600 r.p.m. (within C.E.U.)
Life duration (within C.E.U.)	$>100 \times 10^6$ operations
Tolerance on resistance total	$\pm 20\%$ other values by request
Recommended cursor current	$< 0,1 \mu A$
Maximum cursor current	10mA
Electrical isolation	$>100 M\Omega$ at 500V~, 1bar, 2s
Dielectric strength	$< 100 \mu A$ at 500V~, 50Hz, 2s, 1bar
Dissipation at 40°C (0W at 120°C)	see table
Actual Temperature Coefficient of the output voltage	$< 1,5$ ppm/°C
Working temperature	-55...+100°C
Storage temperature	-55...+125°C
Case material	Diallylphtalate
Shaft material	AISI 316
Bearings	High precision with double (ZZ) sealed screen in stainless steel
Flange	Anodised aluminium

Important: all the data reported in the catalogue linearity, lifetime, temperature coefficient are valid for a sensor utilization as a ratiometric device with a max current across the cursor $I_c \leq 0.1 \mu A$.

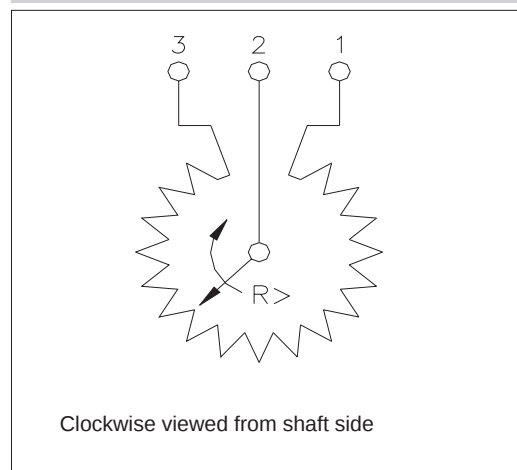
MECHANICAL DIMENSIONS



MECHANICAL / ELECTRICAL DATA

MODEL		PS09	PS11	PS20
Theoretical electrical stroke (C.E.T.)	°	340 ± 4°	345 ± 4°	350 ± 4°
Useful electrical stroke (C.E.U.)	°	C.E.T. - 2°		
Resistance ± 20% (C.E.T.)	kΩ	1 - 4.7 - 10		
Independent linearity (within C.E.U.)	±%	A = ± 1% B = ± 0,5% C = ± 0,25% D = ± 0,1% E = ± 0,05%		
Dissipation at 40°C (0W at 120°C)	W	1	1,25	3
Mechanical rotation	°	360° continuous		
Weight	g	16	20	90

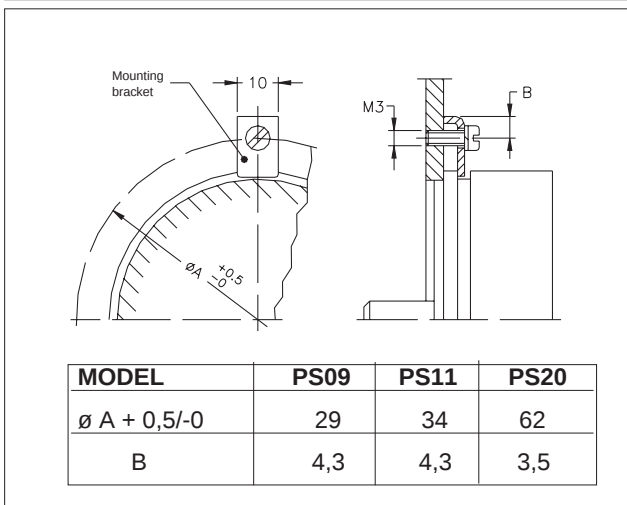
ELECTRICAL CONNECTIONS



DIMENSIONS

DIMENSIONS (mm)	DESCRIPTION	SIZE / MODEL 09 / PS09	SIZE / MODEL 11 / PS11	SIZE / MODEL 20 / PS20
ø A + 0/0.013	ø Stainless steel shaft	3.175	3.175	6.35
B max.	Shaft length	16	16	16
ø C max.	External ø of flange	22.25	27.05	50.8
ø D	ø flange	19.05	24.608	47.625
E	Tolerance on flange	+0 -0.013	+0 -0.013	+0 -0.025
F min.	Shoulder	1.6	1.6	2.4
ø G max.	Width of groove	1.5	1.5	2.2
H min.	Diameter of groove	20	25	48
I max.	Locating turrets	6	6	10
L ± 2°	Radius on turrets	16	18	30
M max.	Angle between turrets	30°	25°	15°
N max.	External ø of case	22.2	27	50.8
	Length for Nr. of elements = 1	21	21	24

MOUNTING DIAGRAM



INCLUDED ACCESSORIES

	Code
Fixing kit for PS: 3 brackets, M3x8TC screws, grower	
Rotative transducers PS09 - PS11	PKIT012
Rotative transducers PS20	PKIT013

ORDER OCODE

Rotative transducer PS

Model

Linearity (std. B)

A = ± 1%
B = ± 0,5%
C = ± 0,25%
D = ± 0,1%
E = ± 0,05%

TAPS (std. 0) 0

Resistance	1kΩ	102
value	4,7kΩ	472
(std.103)	10kΩ	103

If requested, it is possible to supply models with non-standard mechanical and/or electrical features

Example: **PS20 - 1 - B - 0 - 103**
 Rotative transducer model PS20, 1 resistive element, linearity ± 0,5%, no voltage or current intermediate pick-offs, 10kΩ resistance.

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