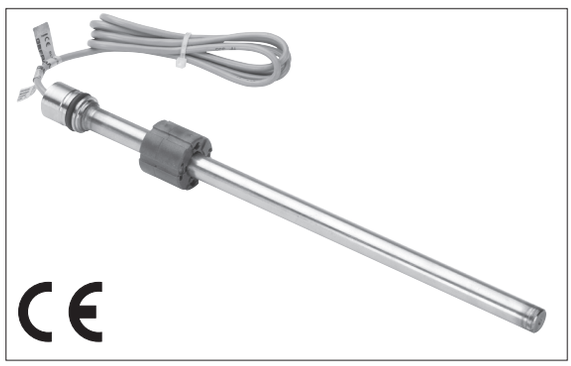
GEFRAN

PMI-SL

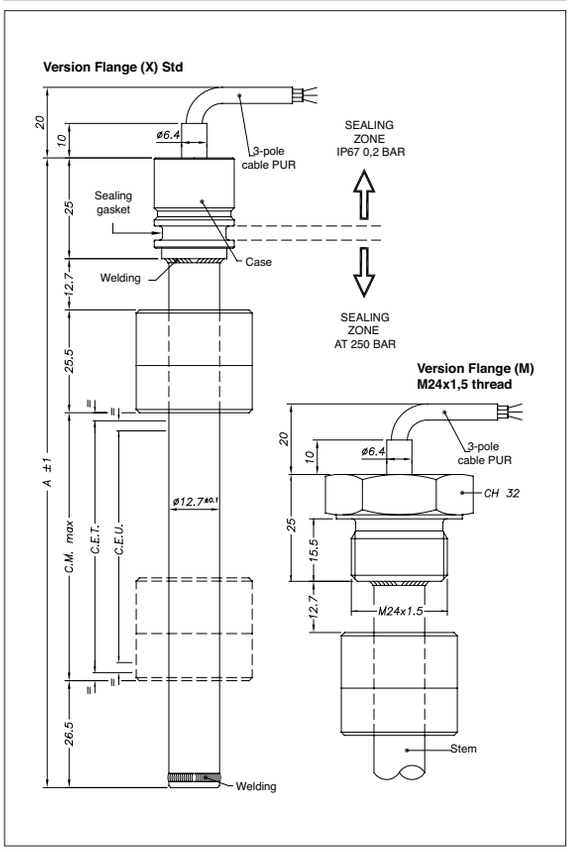
RECTILINEAR DISPLACEMENT TRANSDUCER WITH MAGNETIC DRAG



Applicative characteristics

- *The PMI-SL transducer, an evolution of the PMI-12, is designed for all inside cylinder applications which require a smaller transducer.*
  For this reason, the diameter has been reduced to 12.7 mm.
- *The PMI Slim offers the same robustness as the PMI-12: AISI 316 stainless steel body, IP67 protection level, and pressure resistance up to 250 bar (400 bar peak)*
- *Available with flanged or threaded heads, to guarantee mechanical compatibility with all main cylinder types*
- *Patented solution*
- *Ideal for applications inside hydraulic cylinders, demanding simple solutions which guarantee measurement repeatability.*

MECHANICAL DIMENSION



Important: all the data reported in the catalogue linearity and temperature coefficients are valid for sensor utilization as a ratiometric device with a max current across the cursor Ic ≤ 0.1 µA.

TECHNICAL DATA

Useful electrical stroke (C.E.U.)

50/100/150/200/250/300/350/400/450/500/550/600/750/800/850/900/950/1000

Independent linearity (within C.E.U.)

± 0,35%

Resolution

Infinie

Repeatability

≤ 0.08 mm

Hysteresis

< 250µm

Life

> $25x10^6$ m strokes, or > $100x10^6$ maneuvers, whichever is less

Electrical connection

1 mt 3-pole shielded cable

Displacement speed

standard ≤ 5 m/s

Max. acceleration

≤ 10m/s² max displacement

Cursor dragging force

≤ 0.5 N

Vibrations

5...2000Hz, Amax =0,75 mm amax. = 20 g

Shock

50 g, 11ms.

Displacement sensitivity (no hysteresis)

from 0.05 to 0.1 mm

Tracking error

see table

Tolerance on resistance

± 20%

Recommended cursor current

< 0,1 µA

Maximum cursor current in case of bad performances

10mA

Maximum applicable voltage

see table

Electrical isolation

>100MΩ at 500V=, 1bar, 2s

Dielectric strenght

< 100µA at 500V~, 50Hz, 2s, 1bar

Dissipation at 40°C (0W at 120°C)

see table

Thermal coefficient of resistance

-200...+200 ppm/°C typical

Actual Temperature coefficient of the output voltage

≤ 5 ppm/°C typical

Working temperature

-30...+100°C

Storage temperature

-50...+120°C

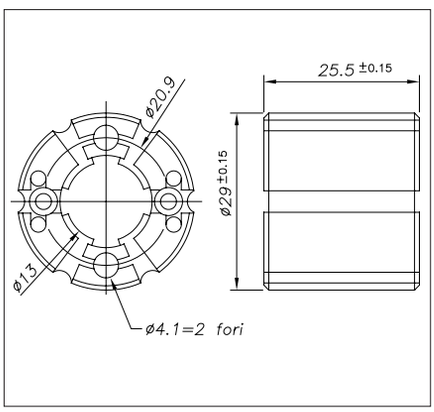
Material for transducer case

AISI 304

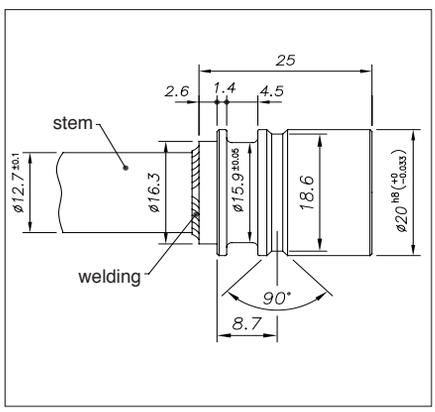
MECHANICAL / ELECTRICAL DATA

MODEL		50	100	150	200	250	300	350	400	450	500	550	600	750	800	850	900	950	1000
Useful electrical stroke (C.E.U.) + 1/-0	mm	**Model**																	
Theoretical electrical stroke (C.E.T.) ± 1	mm	C.E.U. + 1																	
Independent linearity (within C.E.U.)	± %	0.35																	
Dissipation at 40°C (0W at 120°C)	W	1	2	3															
Max applicable voltage	V	40	60																
Resistance (C.E.T.)	kΩ	5						10						20					
Mechanical stroke (C.M.)	mm	C.E.U. + 5																	
Case Lenght "A" ±1	mm	C.E.U. + 94.7																	

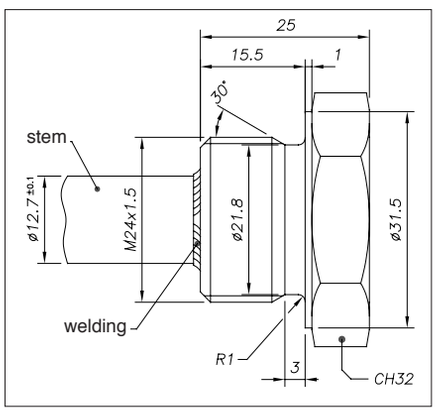
PCUR010 CURSOR



STANDARD FLANGE (X)



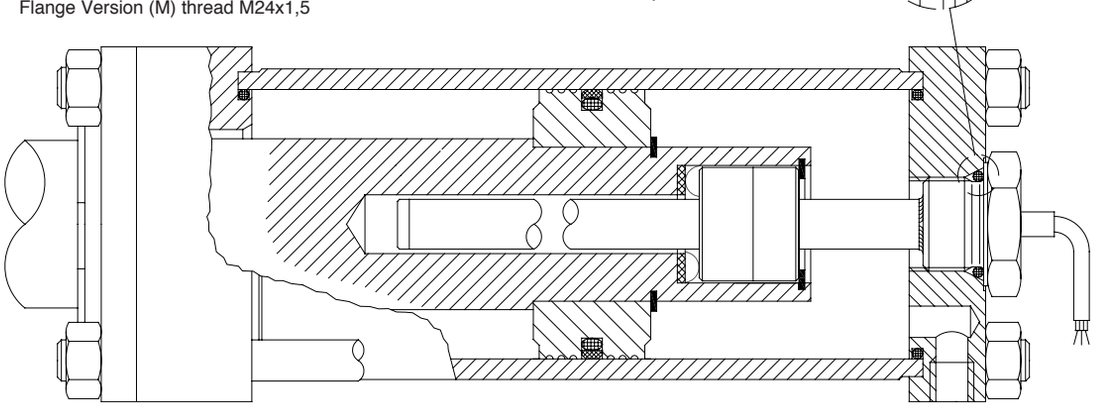
THREADED FLANGE (M)

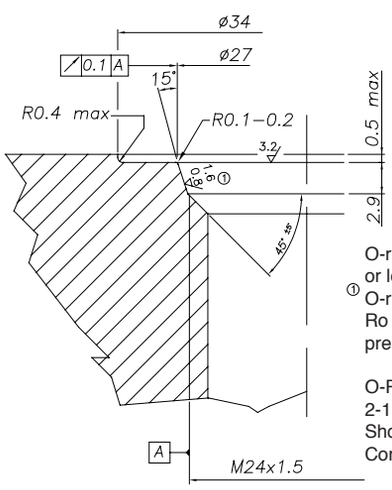


INSTALLATION INSIDE THE CYLINDER

O-Ring recommended
PARKER 2-117 20,29x2,62
Material NBR 90 Shore-A
Compound PARKER N552-90

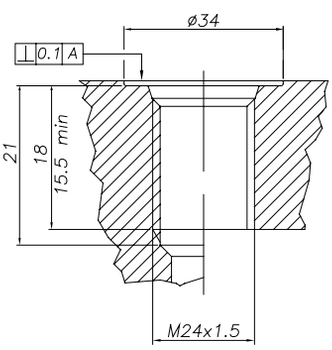
Flange Version (M) thread M24x1,5



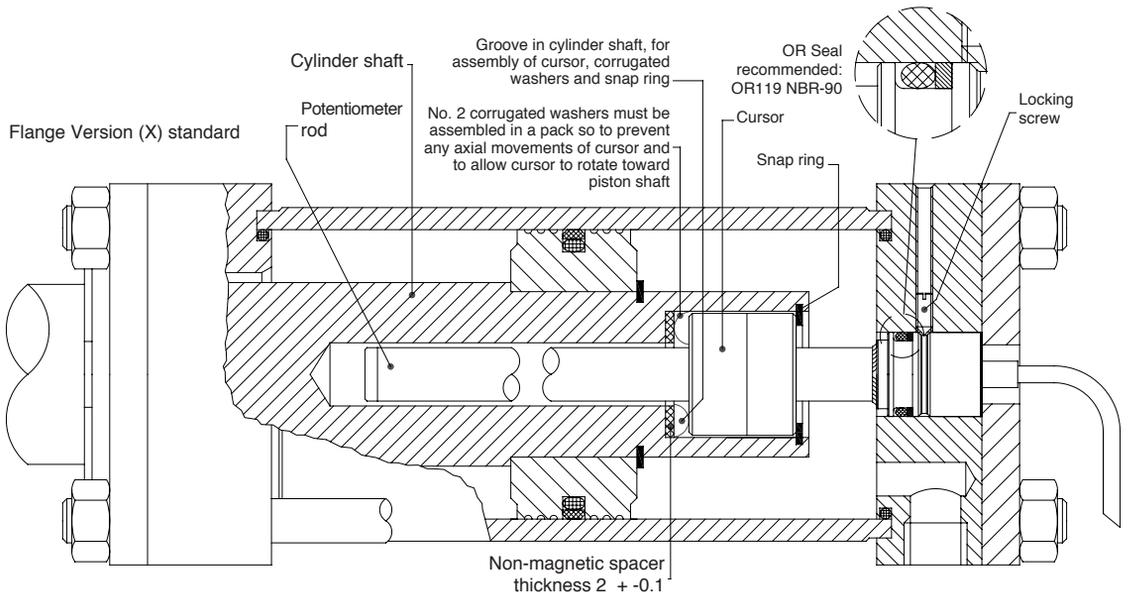


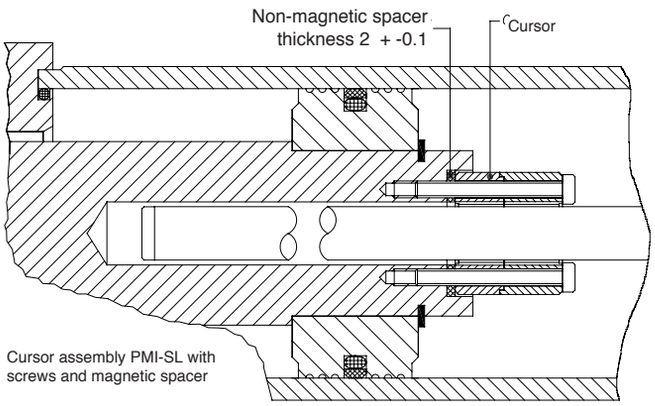
① O-ring surface must be free of spiral or longitudinal scratches Ro 1,6µm for O-rings with NOT PULSING pressure Ro 0,8µm for O-rings with PULSING pressure

O-Ring recommended PARKER 2-117 20,29x2,62 Material NBR 90 Shore-A
Compound PARKER N552-90

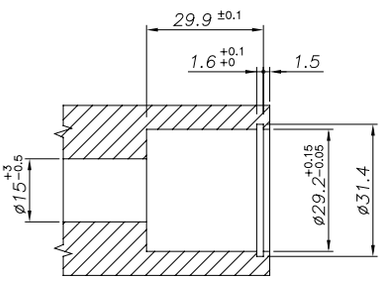


INSTALLATION INSIDE THE CYLINDER



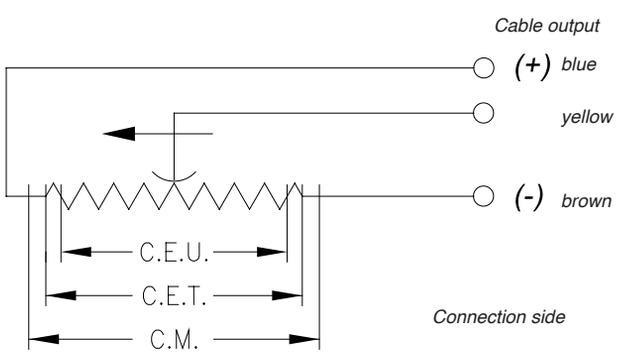


Cursor assembly PMI-SL with screws and magnetic spacer



Cursor housing size PMI-SL assembly with corrugated washers and non-magnetic spacer thickness 2+-0.1

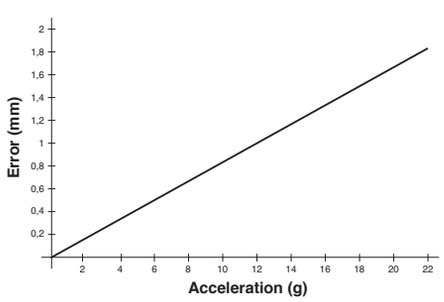
ELECTRICAL CONNECTIONS



INSTALLATION INSTRUCTIONS

- Make the specified electrical connections (DO NOT use the transducer as a variable resistance)
- When calibrating the transducer, be careful to set the stroke so that the output does not drop below 1% or rise above 99% of the voltage level.

TRACKING ERROR



ORDER CODE

Displacement transducers | P | M | I | S | L | | | | | | |

3-pole PUR cable output 3x0.25, 1 mt	F

Model	
Standard flange	X
Threaded flange M24x1.5	M

0	0	0	0	X	0	0	0	X	X			X	X	X

No certificate attached	0
Linearity curve to be attached	L

Version F cable length	
1 mt cable (standard)	00
2 mt cable	02
3 mt cable	03
4 mt cable	04
5 mt cable	05
10 mt cable	10
15 mt cable	15

Ex.: **PMI-SL-F-0400-X 0000X000XX00XXX**
PMI SL displacement transducer, cable output, useful electrical stroke (C.E.U.) 400mm, standard flange, no certificate attached, cable length 1 mt.

ACCESSORIES (standard)

Standard magnetic cursor	**PCUR010**

GEFRAN spa
via Sebina, 74
25050 PROVAGLIO D'ISEO (BS) - ITALIA
ph. 0309888.1 - fax. 0309839063
Internet: http://www.gefran.com