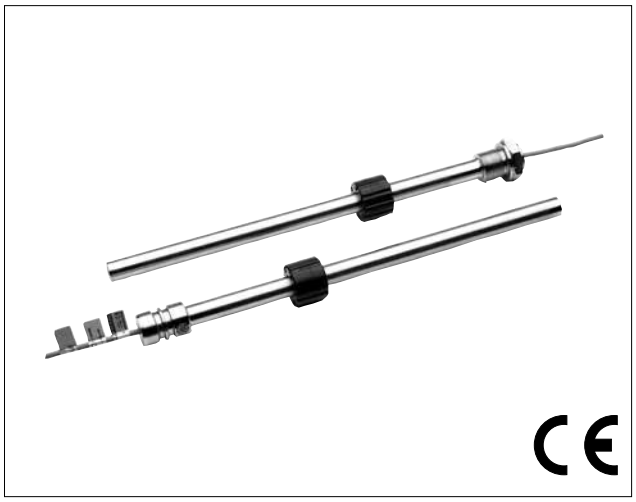
GEFRAN

PMI12

RECTILINEAR DISPLACEMENT TRANSDUCER WITH MAGNETIC DRAG



Main characteristics

- *The PMI-12 transducer is designed for use inside oil-pressure cylinders, applications that demand high strength.*
- *The AISI316 stainless steel body and elevated protection level permit installation in cylinders with pressures up to 250 bar (400 bar peak).*
- *Available with internal flanges or external threads to guarantee mechanical compatibility with all principal cylinder types.*
- *Patented*

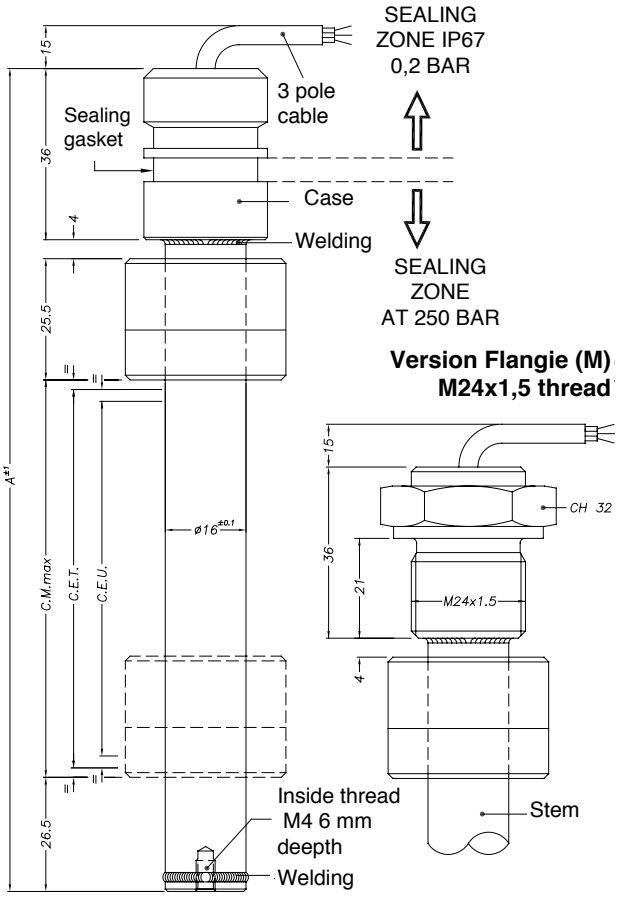
TECHNICAL DATA

Useful electical stroke (C.E.U.)	50 to 1000 mm
Independent linearity (within C.E.U.)	see table
Resolution	Infinite
Repeatibility	≤ 0.08 mm
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...2000 Hz, Amax = 0.75 mm amax = 20 g
Shock	50 g, 11 ms
Displacement sensitivity (no hysteresis)	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	10 mA
Maximum applicable voltage	see table
Electrical isolation	> 100 MΩ at 500 V = 1 bar, 2 s
Dielectric strength	< 100 μA at 500 V~ 50 Hz, 2 s, 1 bar
Dissipation at 40°C (0 W 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	Steel AISI 316

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

MECHANICAL DIMENSION

Version Flange (X) Std

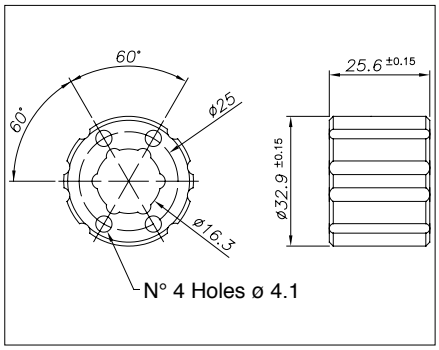


Version Flangie (M) M24x1,5 thread

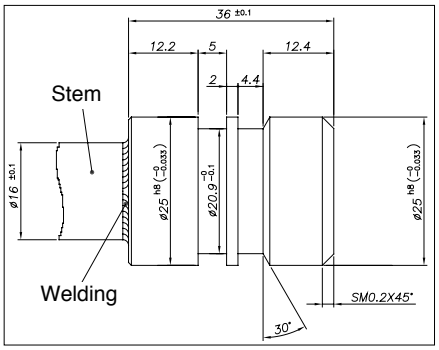
MECHANICAL / ELECTRICAL DATA

MODEL		50	100	150	200	250	300	350	400	450	500	550	600	650	700	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																			
Resistance (C.E.T.)	kΩ	5								10											20
Independent linearity (within C.E.U.)	±%	0,1								0,05											
Dissipation at 40°C (0W at 120°C)	W	1	2							3											
Max applicable voltage	V	40								60											
Mechanical stroke CM	mm	C.E.U. + 5																			
Case Lenght (A)	mm	C.E.U. + 97																			

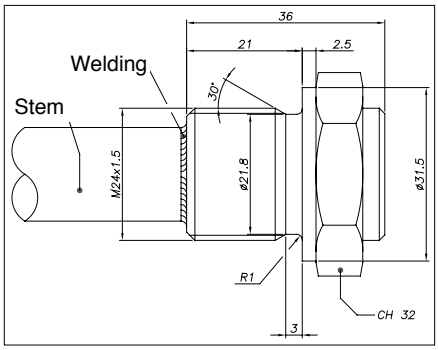
PCUR032 CURSOR



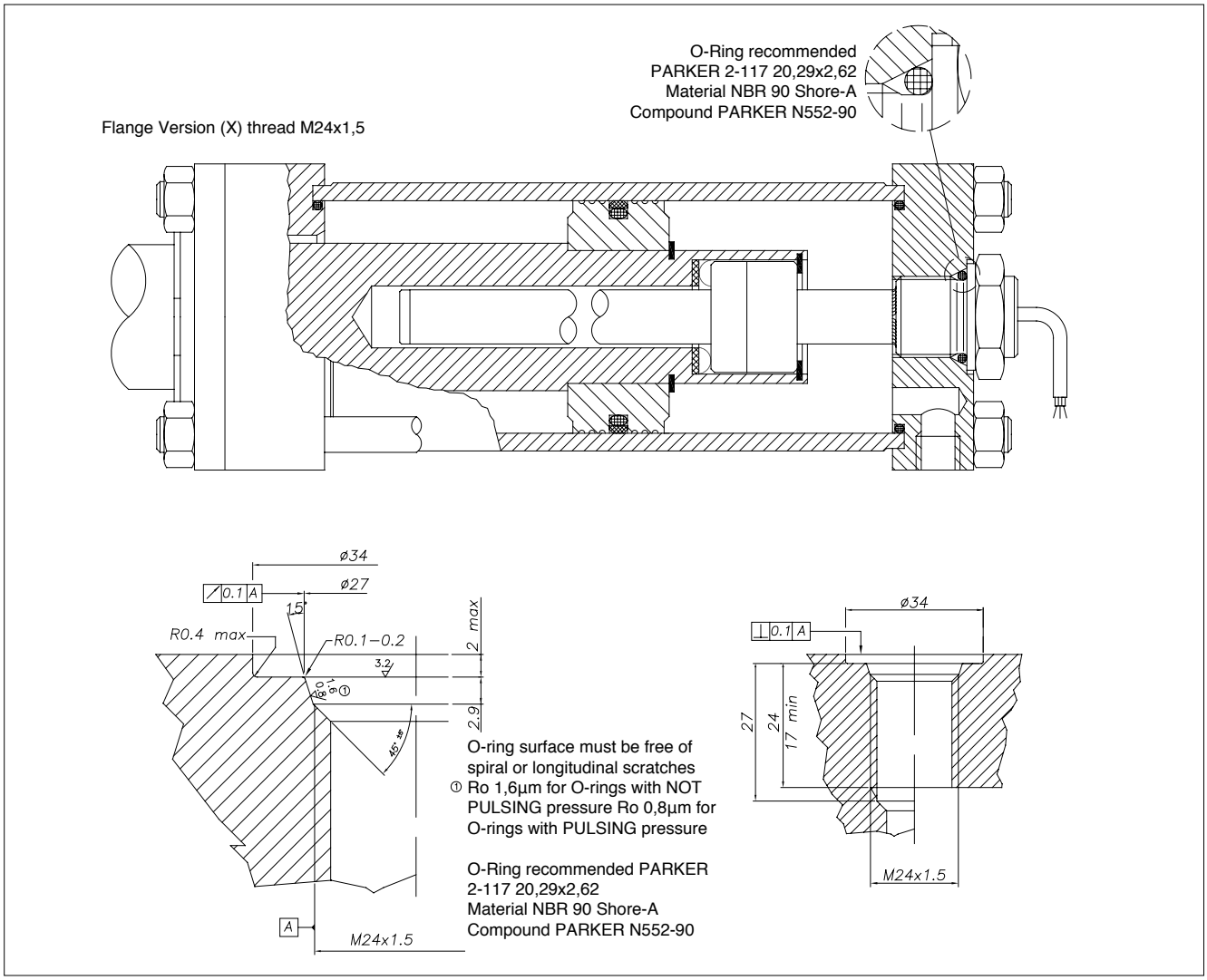
STANDARD FLANGE (X)



THREADED FLANGE (M)



INSTALLATION INSIDE THE CYLINDER

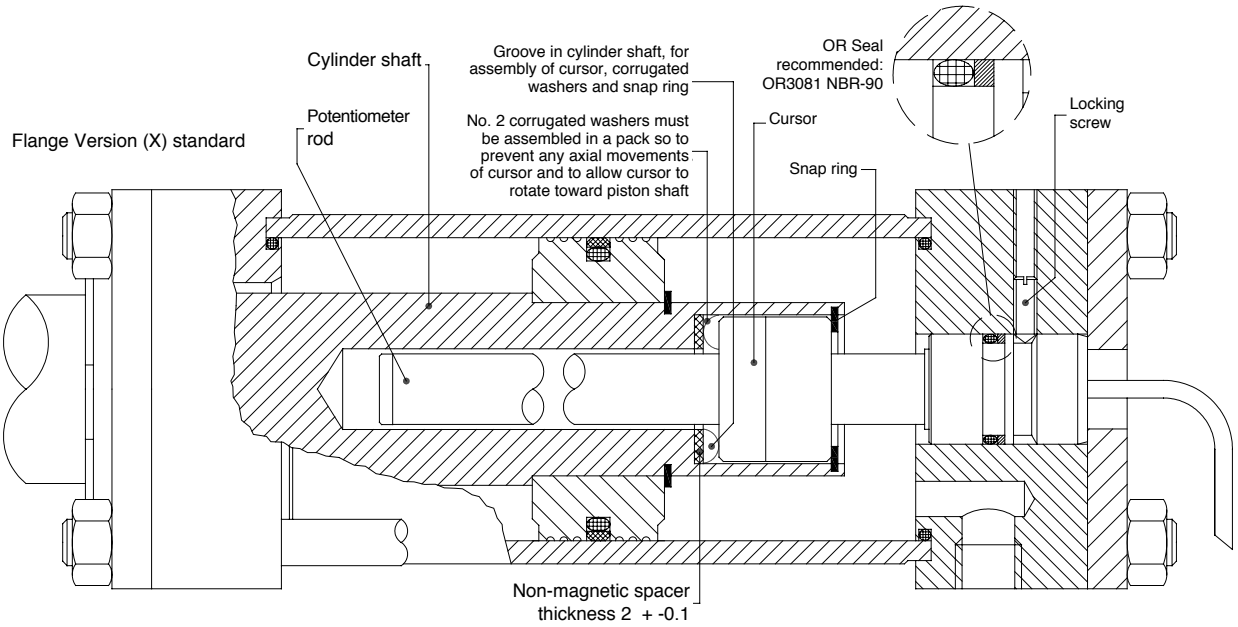


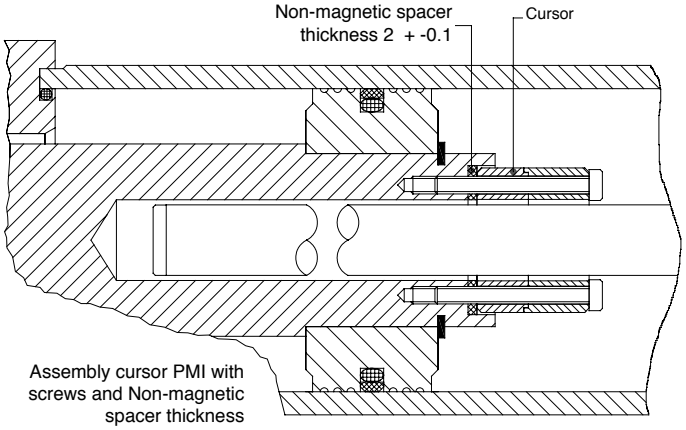
O-ring surface must be free of spiral or longitudinal scratches

① Ro 1,6µm for O-rings with NOT PULSING pressure Ro 0,8µm for O-rings with PULSING pressure

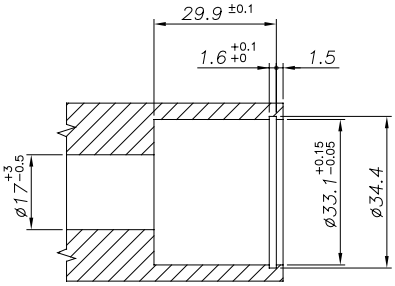
O-Ring recommended PARKER 2-117 20,29x2,62
Material NBR 90 Shore-A
Compound PARKER N552-90

INSTALLATION INSIDE THE CYLINDER



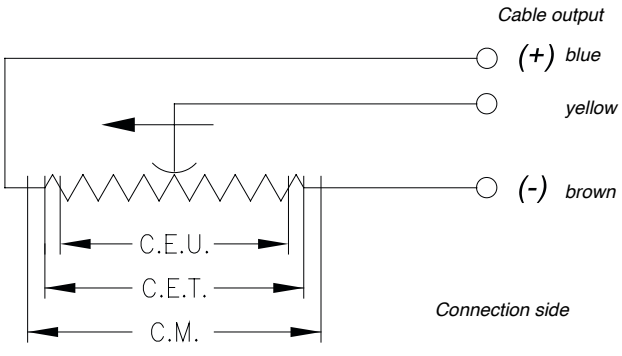


Assembly cursor PMI with screws and Non-magnetic spacer thickness



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

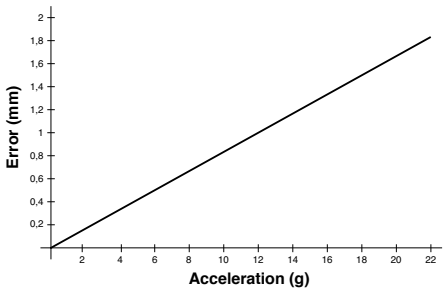
ELECTRICAL CONNECTIONS



INSTALLATION INSTRUCTIONS

- Respect the indicated 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 beyond 99% of the supply voltage.

TRACKING ERROR



ORDER CODE

Displacement transducers **PMI** | 12 | F | | |

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

Dimensions 1/2”

3-pole PUR cable output 3x0,25 1m

Model

FLANGE	
Standard	**X**
Threaded M24x1,5	**M**

CABLE LENGHT (1mt F standard version)
F output **00** =1mt **02** =2mt **03** =3mt **04** =4mt **05** =5mt
10 =10mt **15** =15mt

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

Ex.:**PMI-12-F-400-X 0000-X000-XX-00-XXX**
PMI 12 model transducer, useful electrical stroke (C.E.U.) 400mm.

ACCESSORIES

Series

• Standard magnetic cursor: **PCUR032**

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