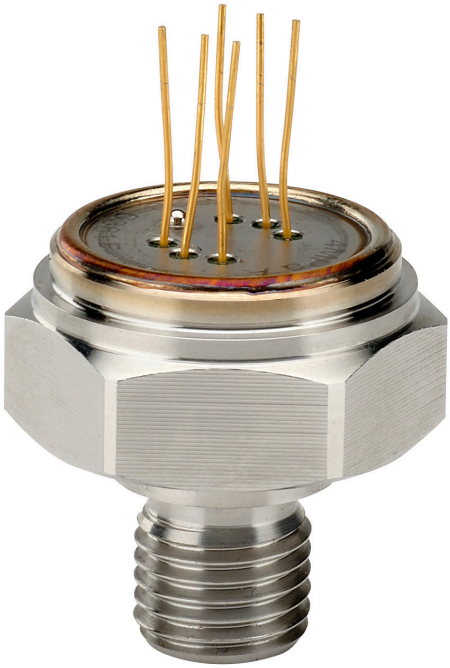
Pressure Sensor Capsules & Socketed Capsules



C10 Series – Pressure Sensor Capsule
SC10 Series – Socketed Pressure Sensor Capsule

NOSHOK C10 Series Pressure Sensor Capsule

NOSHOK C10 Series pressure sensor capsules are silicon piezoresistive pressure die packaged in a 316L Stainless Steel housing and diaphragm with a silicone oil fill. These capsules offer superior pressure measurement performance in a compact and media compatible package. Typical product features include:

- Native die pressure ranges from vacuum to 60 MPa
- Gauge, absolute, or sealed pressure reference
- Offset and full-scale compensation or direct Wheatstone bridge access
- Constant current or voltage supply

NOSHOK SC10 Series Socketed Pressure Sensor Capsule

NOSHOK SC10 Series are socketed capsules that add industry standard process connections to the pressure sensor capsule. SC10 Series capsules offer multiple standard options, and customized connections are available for high volume applications.

Pressure Ranges

Full Scale Range*	Reference	Proof Pressure (%)	Burst Pressure (%)
10 kPa	gauge	300	500
35 kPa	gauge	300	500
100 kPa	gauge	200	300
250 kPa	gauge	200	300
500 kPa	gauge	200	300
1 Mpa	gauge	200	300
1.6 Mpa	gauge	200	300
3 Mpa	gauge	200	300
100 kPa	absolute	200	300
250 kPa	absolute	200	300
500 kPa	absolute	200	300
1 Mpa	absolute	200	300
1.6 Mpa	absolute	200	300
3 Mpa	absolute	200	300
6 Mpa	absolute	200	300
10 Mpa	absolute	200	300
16 Mpa	absolute	200	300
25 Mpa	absolute	150	300
40 Mpa	absolute	150	300
60 Mpa	absolute	150	300

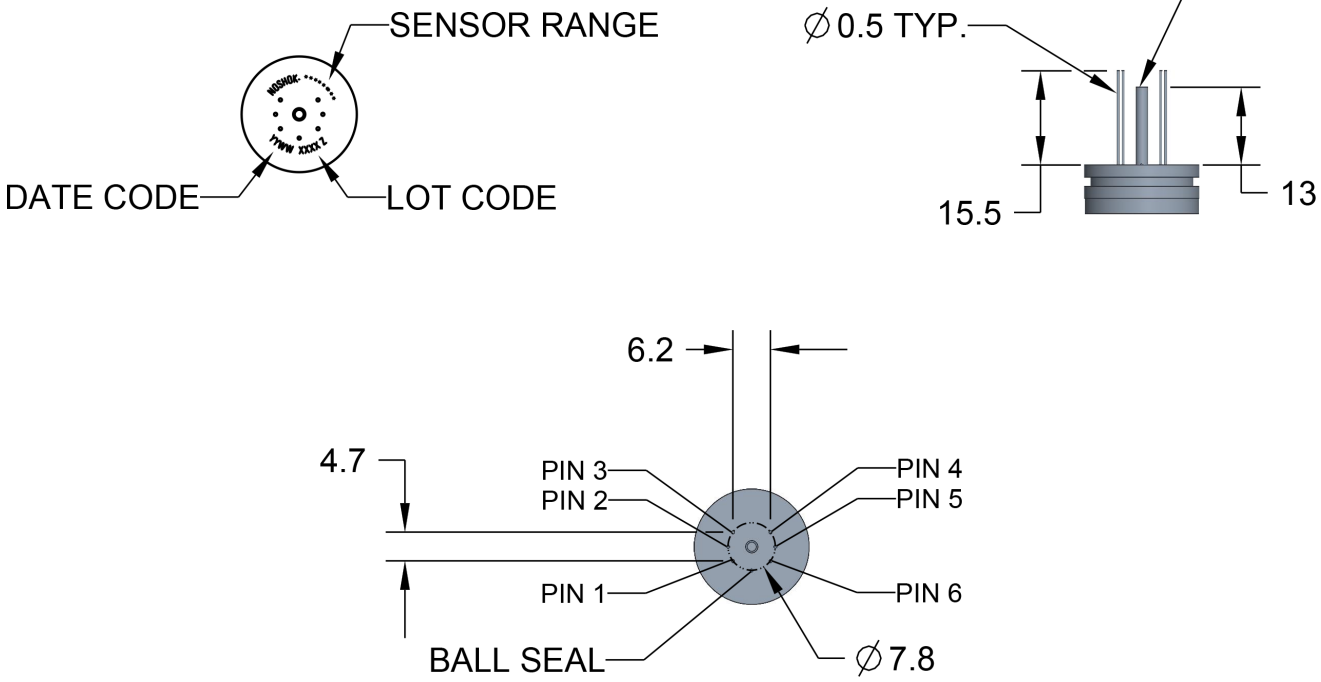
*Consult factory for range translation to alternate units of measurement

Specifications

Parameter	Min	Typ	Max	Units of Measure	Notes
Bridge Resistance	2600	3600	5500	Ohms	
Offset Voltage	-25	0.00	25	mV	2
10 kPa	-35	0.00	35		
Span Voltage	60	100	140	mV	2
10 kPa	30	60	120		
10, 40 MPa	200	270	350		
60 MPa	100	110	120		
Long Term Stability		0.05	0.20	± % F.S.S./year	
Linearity Error		0.30	0.50	± % F.S.S.	5
ranges higher than 10 MPa		0.50	1.00		
Temperature Coefficient of Bridge	0.24	0.28	0.31	%/K	3
Temperature Coefficient of Offset	-0.05	0.02	0.05	% F.S.S./K	3
10 kPa	0.00	0.15	0.30		
35 kPa	0.00	0.07	0.16		
Temperature Coefficient of Span	-0.20	-0.18	-0.16	% F.S.S./K	3
10 kPa	-0.23	-0.21	-0.18		
Temperature Hysteresis		0.10	0.40	± % F.S.S.	4
Operating Temperature	-40		125	°C	
Storage Temperature	-40		125	°C	
Compensated Temperature	-10		70	°C	
<100 kPa	0		60	°C	
Supply Voltage		5	12	Vdc	
		1.5	2	mA	
Process Connection Weight			<5	grams	

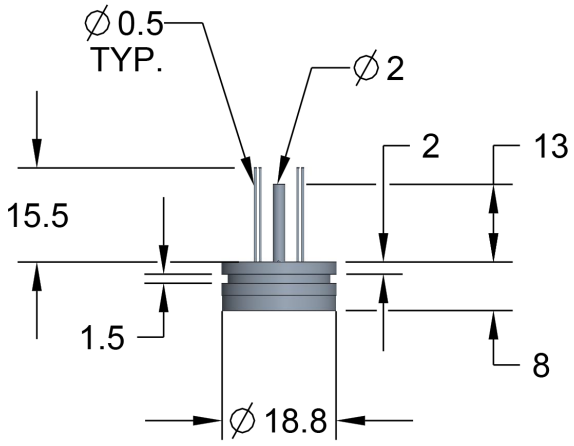
Notes

1. All parameters measured at 5 Vdc supply and 25 °C unless otherwise specified
2. Uncompensated bridge
3. Measured from 25°C to 85°C
4. Measured from 25°C to 125°C
5. Terminal point linearity, pressure applied to front of die
6. Capsules marked with native full scale pressure range, pressure reference, and lot code
7. Housing and diaphragm material 316L stainless steel
8. Elastomeric seal NBR ranges <= 3 MPa, FFKM ranges > 3 MPa (consult factory for alternate materials)
9. Connection pins Kovar 0.6um gold plated
10. Vibration rated 20g (20 – 5000 Hz)
11. Capsule fill fluid: Dowsil 510 (consult factory for extended temperature fill fluid option)
12. Consult factory for pressure applications outside of tabled performance parameters
13. Sensors individually packaged
14. Consult factory for optional calibrated and conditioned outputs (signal conditioning pcb)
    a. E.G. 4-20 mA, 0-5 Vdc, 0.5-4.5 Vdc ratiometric, I2C, SPI



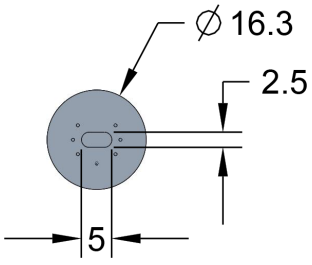
Pin Connections			
Pin Connections	**Function**		
	Uncompensated	**Constant Current Supply**	**Constant Voltage Supply**
1	excitation -	no connect	excitation -
2	output +	output +	output +
3	excitation +	excitation +	no connect
4	output -	output -	output -
5	no connect	excitation -	excitation +
6	excitation -	no connect	excitation -

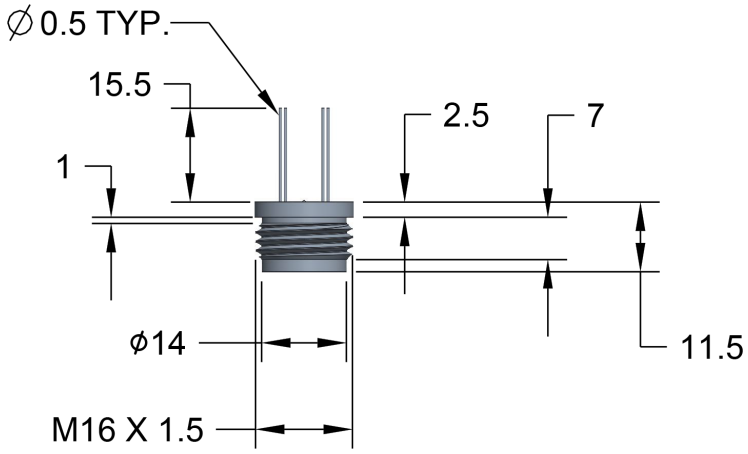
≤ 10MPa



O-RING SIZE
19.0 mm OD
16.0 mm ID
1.5 mm THK

≥ 10MPa

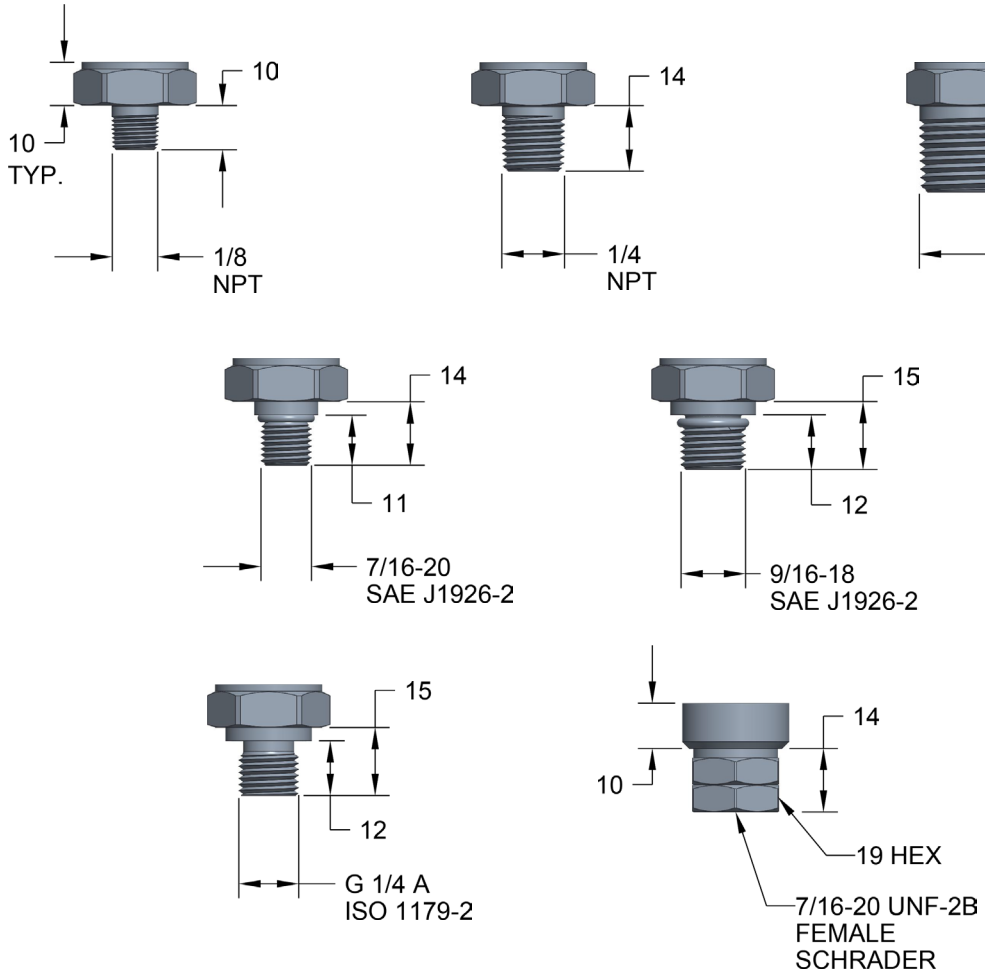




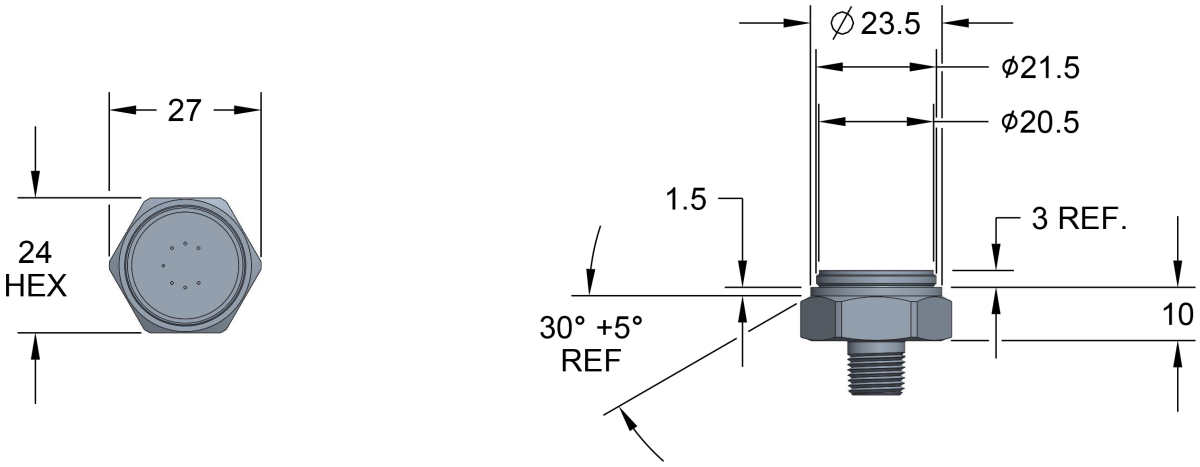
Process Connections

Process Connection	Notes
Ø19 mm x 8 mm o-ring, weld (<= 10 Mpa)	
Ø14 mm, M16 x 1.5 thread o-ring, weld (>= 10 Mpa)	
1/8" NPT male	
1/4" NPT male	
1/2" NPT male	
7/16-20 female Schrader	
G 1/4 A male ISO 1179-2	
7/16-20 male SAE-4 (J1926-2)	
9/16-18 male SAE-6 (J1926-2)	
1-1/2" Sanitary Tri-Clamp® (ASME BPE) – optional cooling fins available	Optional cooling fins available
2" Sanitary Tri-Clamp® (ASME BPE) – optional cooling fins available	Optional cooling fins available
G 1/2 (ISO 1179-2) Flush Front Diaphragm	

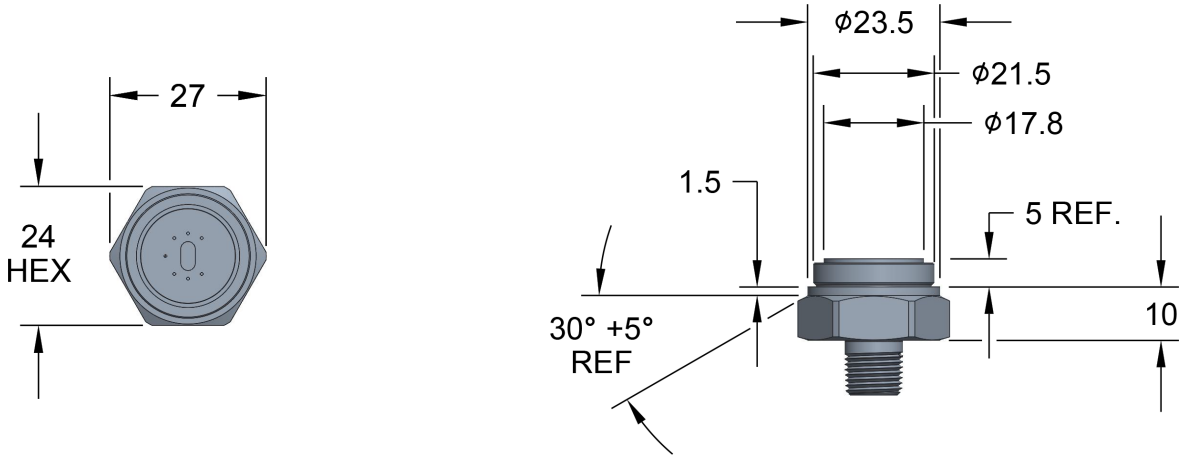
Additional process connections available – consult factory.



≤ 10MPa



≥ 10MPa



NOSHOK, Inc. I 1010 West Bagley Road, Berea, OH 44017 I Ph 440.243.0888 I Fax 440.243.0342 I www.noshok.com