

160 cm² Nominal Diameter Hydraulic Load Cell

5000 SERIES



- Designed in a distinctive ring shape to provide superior performance in compression or tension force measurement applications
- Ranges from 900 lb_f to 315 tons_f
- Accuracy levels range from $\pm 0.125\%$ full scale (BFSL) to $\pm 1.5\%$ full scale, depending on the measuring instrument
- Various flexible, rigid or capillary tubing connections combine versatility and strength to meet demanding application requirements
- High grade stainless steel housing and piston provide exceptional corrosion resistance and durability
- A high quality NOSHOK pressuring measuring instrument is directly mounted to the load cell for precise measurement indication – choose from an all stainless steel dry or liquid filled 400/500 Series pressure gauge, the 901 Series gauge with stainless steel housing, brass internals and liquid fill, or our 100, 200 or 615 Series transducers for highly accurate electronic measurement
- Operates without external power supply when using a pressure gauge for indication
- Various output signals available in transducer models that are CE compliant

APPLICATIONS

- Injection molding machine screws, tailstock spindles, propeller shafts, rope and torque measurement
- Material handling and hoisting technology; measurement of tension force in cables and ropes on coal excavators and supervision of steel rope tension on cable railways
- Adjustment and monitoring of compression forces at rolling frames; mounted underneath the screw-down gear of the roller bearing
- Adjustment and monitoring at turning, milling and deep-hole boring machines; forward feed force measurement and overload detection (i.e. at tool breakage)
- Rock thrust measurement in fore poles in mines and tunnel construction

SPECIFICATIONS

Nominal diameter	ND 160
Load cell housing	160 cm ² high grade stainless steel
Piston	High grade stainless steel
Max piston stroke	0.03" (0.8 mm)
Connecting type	Rigid right angle tube, zinc-plated and chromated steel Rigid angled tube, zinc-plated and chromated steel Flexible tubing with 7 mm diameter spiral steel jacket Flexible tubing with 7 mm diameter spiral steel jacket and polyethylene jacket Capillary restrictor Bend with glands on the load cell
Standard lengths: <i>1 m, 2 m, 3 m, 4 m, 6 m</i> <i>Maximum: 16 m</i>	
Gauge fill fluid	Glycerine Others available upon request
Load cell fill	Glycerine and water
Accessories	Ball and socket Round form load plate
Operating temperature	-13 °F to 194 °F (-25 °C to 90 °C)
Ambient temperature	-13 °F to 194 °F (-25 °C to 90 °C)

ORDERING INFORMATION						
LOAD CELLS	5040 ND 40 - Compression or tension - ring type design	5090 ND 90 - Compression or tension - ring type design	5240 ND 240 - Compression or tension - ring type design	5060 ND 60 - Compression or tension - ring type design	5160 ND 160 - Compression or tension - ring type design	5410 ND 410 - Compression or tension - ring type design
	MEASURING RANGES	5040 - ND 40	5060 - ND 60	5090 - ND 90	5160 - ND 160	5240 - ND 240
	900A 900 lb _f	1500A 1,500 lb _f	2200A 2,200 lb _f	4000A 4,000 lb _f	6000A 6,000 lb _f	10000A 10,000 lb _f
	1200A 1,200 lb _f	3600A 3,600 lb _f	4200A 4,200 lb _f	10000A 10,000 lb _f	18000A 18,000 lb _f	25000A 25,000 lb _f
	3000A 3,000 lb _f	7000A 7,000 lb _f	8500A 8,500 lb _f	20000A 20,000 lb _f	30000A 30,000 lb _f	50000A 50,000 lb _f
	6000A 6,000 lb _f	9000A 9,000 lb _f	10500A 10,500 lb _f	50000A 50,000 lb _f	75000A 75,000 lb _f	85F 85 tons _f
	12000A 12,000 lb _f	18000A 18,000 lb _f	28000A 28,000 lb _f	75F 75 tons _f	110F 110 tons _f	160F 160 tons _f
	30000A 30,000 lb _f	45000A 45,000 lb _f	70000A 70,000 lb _f	125F 125 tons _f	180F 180 tons _f	315F 315 tons _f
	60000A 60,000 lb _f	90000A 90,000 lb _f	70F 70 tons _f			
	Other ranges available, please consult factory.					
INSTRUMENTS	3 40-400 Series gauge	6 100 Series transmitter	8 615 Series transducer	5 60-400 Series gauge	7 200 Series transducer	
INSTRUMENT ORIENTATIONS	A Bottom connection	B Top connection	C Right side connection	D Left side connection		
40-400 SERIES GAUGE OPTIONS	60-400 SERIES GAUGE OPTIONS	100 SERIES TRANSMITTER OPTIONS	200 SERIES TRANSDUCER OPTIONS	615 SERIES TRANSDUCER OPTIONS		
0 No options	0 No options	Accuracy	Accuracy	Accuracy		
1 Glycerine filled	1 Glycerine filled	1 0.50%	1 0.50%	1 0.25%		
2 Max. indicating pointer	2 Max. indicating pointer	2 0.25%	2 0.25%	2 0.125%		
3 Set pointer	3 Set pointer	Output	Output	Output		
4 Rubber case protector	8 SS rear flange	1 4 mA to 20 mA	2 0 Vdc to 5 Vdc	1 4 mA to 20 mA		
6 Safety glass overlay		Electrical Connection	3 1 Vdc to 5 Vdc	2 0 Vdc to 5 Vdc		
7 Adjustable pointer		1 Option 7 with 36" cable	5 0 Vdc to 10 Vdc	3 1 Vdc to 5 Vdc		
8 SS rear flange		3 6-pin Bendix	Electrical Connection	5 0 Vdc to 10 Vdc		
		6 1/2" NPT conduit w/ 36" cable	1 Option 7 with 36" cable	Electrical Connection		
		7 Mini-Hirschmann	3 6-pin Bendix	1 Option 8 with 36" cable		
		25 M12 x 1 (4-pin)	6 1/2" NPT conduit w/ 36" cable	3 6-pin Bendix		
			7 Mini-Hirschmann	6 1/2" NPT conduit w/ 36" cable		
			25 M12 x 1 (4-pin)	8 Hirschmann		
				25 M12 x 1 (4-pin)		
CONNECTING TYPES	0 Direct connection	2 100 mm SS spacer				
	1 50 mm SS spacer	3 Capillary w/ spiral protective sleeve				
CAPILLARY LENGTH	## Specify in feet (for options 3 and 4)					

Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

Note: Separate multiple options with forward slash "/"

EXAMPLE - With Pressure Gauge

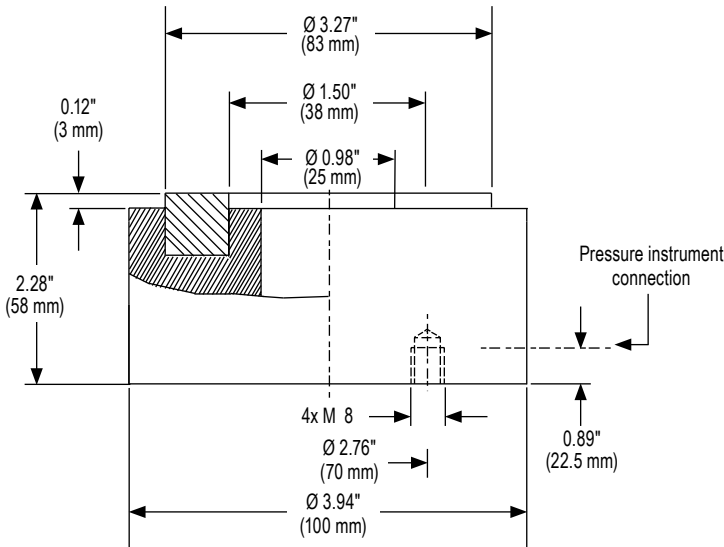
Load cell.....	5000 Series ND 410	5410 - 160F - 5 - A - 3/8 - 3 - 10
Measuring range.....	160 tons _f	
Instrument.....	60-400 Series gauge	
Instrument orientation.....	Bottom connection	
Options.....	Set pointer, SS rear flange	
Connecting type.....	Capillary w/spiral protective sleeve	
Capillary length.....	10'	

EXAMPLE - With Pressure Transducer

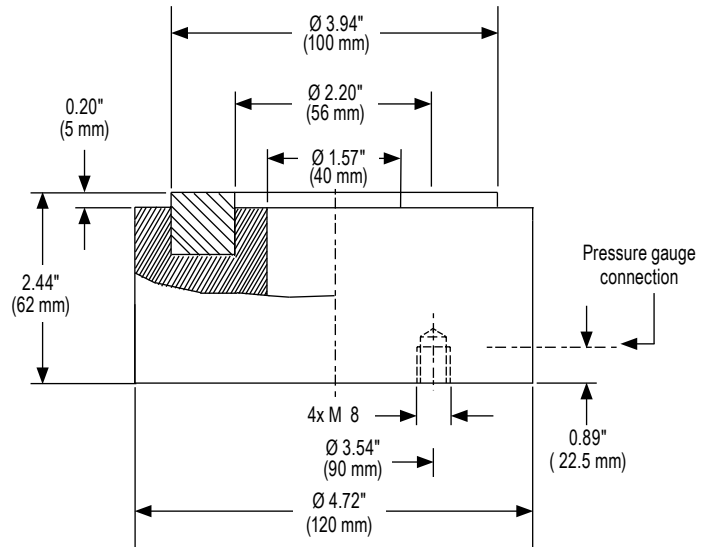
Load cell.....	5000 Series ND 90	5090 - 70000A - 8 - A - 2/3/6 - 3 - 5
Measuring range.....	70,000 lb _f	
Instrument.....	615 Series transducer	
Instrument orientation.....	Bottom connection	
Options.....	0.125% accuracy, 1 Vdc to 5 Vdc, 1/2" NPT conduit with 36" cable	
Connecting type.....	Capillary w/spiral protective sleeve	
Capillary length.....	5'	

Dimensions

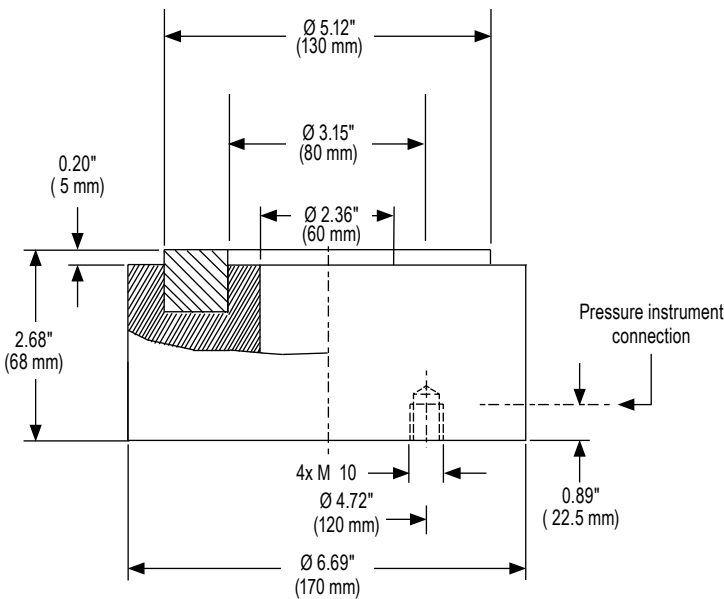
ND 40 Load Cell



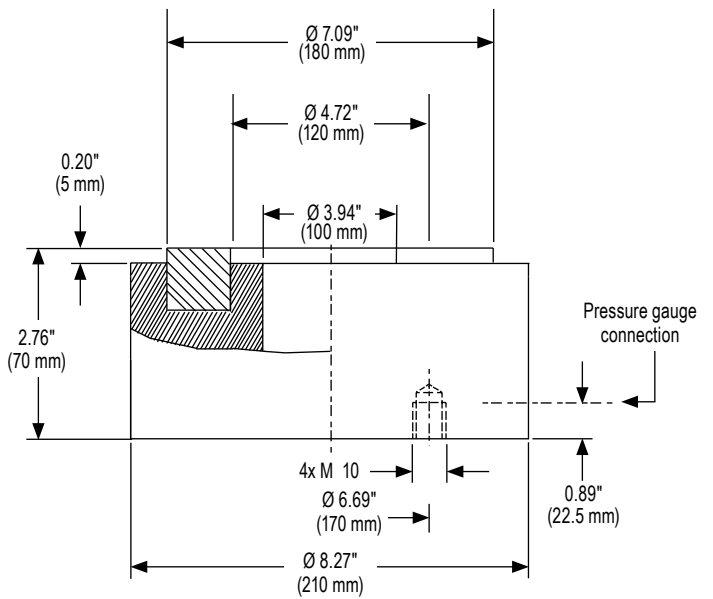
ND 60 Load Cell



ND 90 Load Cell



ND 160 Load Cell



ND 240 Load Cell ND 410 Load Cell

