

## Compression Load Cells

### FEATURES

- Capacity range: 500, 1K, 2K, 3K, 5K, 10K, 20K, 50K, and 100K lb (227, 454, 907, 1.4K, 2.27K, 4.54K, 9K, 13.6K, 22.7K, and 45.4K kg)
- Environmentally sealed
- Operational: -30° to +175°F
- Low deflection
- Compact and rugged
- FM and CSA approved (NTEP Certificate of Conformance for Class III Scale Applications—20K to 100K)

### APPLICATIONS

- Test and measurement
- Calibration standards
- Redundant weighing systems

### DESCRIPTION

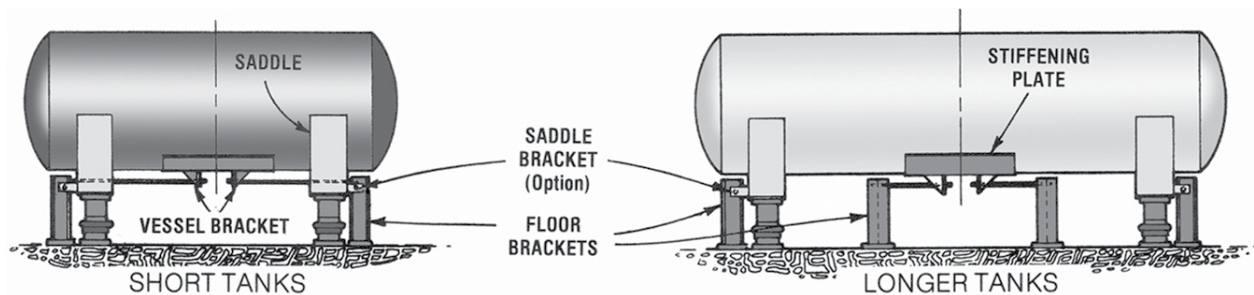
C3P1 and C3P2 cells are fabricated with high strength 'ring' type elements to provide an output signal of 3 mV/V at rated capacity. Each cell is designed for minimum deflection and 150% safe overload without damage. C3P2 cells contain a second bridge. The second bridge can be used simultaneously with the first bridge for dual output or be reserved as a backup in case of failure in the first bridge. Double diaphragm fabrication offers precision



performance and long term reliability. Low deflection and superior sealing guarantee trouble-free operation.

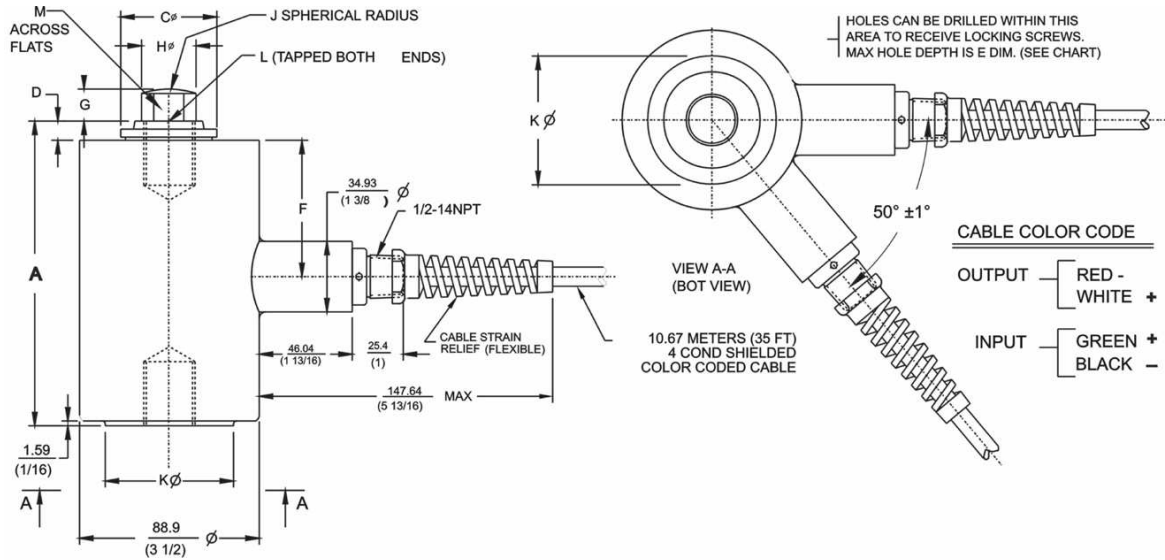
Relatively low mass and small deflection under load, produce excellent frequency response. Overall, C3P1/ C3P2 cells perform superbly in many environments where other transducers cannot.

### CONFIGURATION



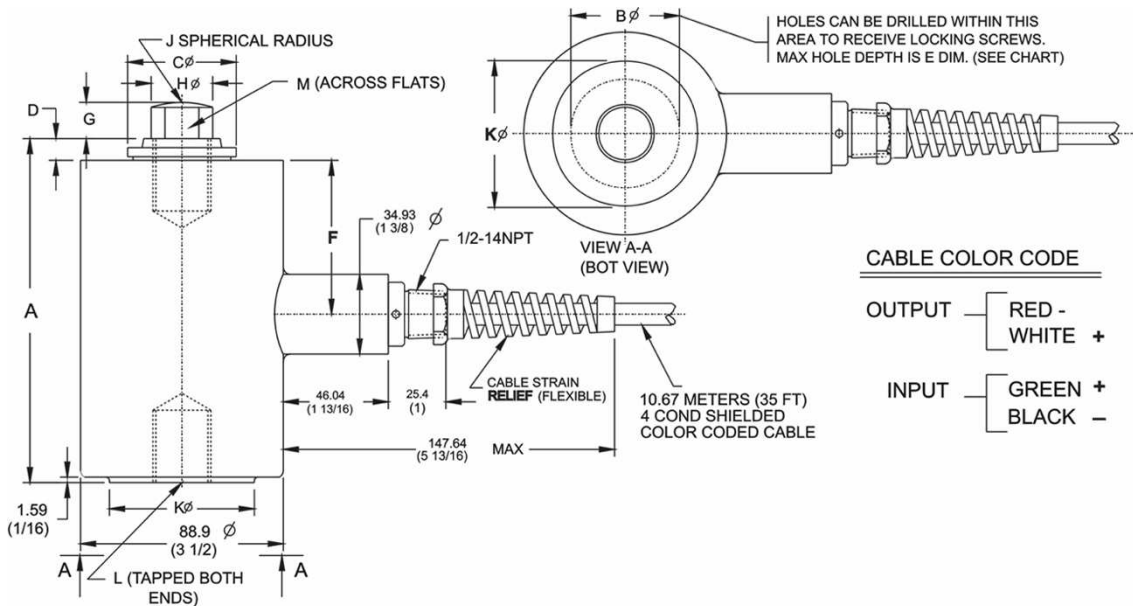
Compression Load Cells

**OUTLINE DIMENSIONS—DOUBLE BRIDGE—500 TO 10K POUNDS**



CAP.	KILOGRAMS (POUNDS)	A	B φ	C φ	D	E	F φ	G	H φ	J	K φ	L (TAPPED)	M
227	THRU 1361	115.89	—	26.99	6.35	—	57.15	9.53	16	50.8	31.75	1/2-20UNF-2B X 1/2 DP	9.53
(500)	(3000)	(4 9/16)		(1 1/16)	(1/4)		(2 1/4)	(3/8)	(5/8)	(2)	(1 1/4)		(3/8)
2268	& 4536	150.81	44.45	47.63	9.53	12.7	67.47	16	26.99	101.6	63.5	1-14UNS-2B X 1 1/4 DP	22.35
(5000)	(10000)	(5 15/16)	(1 3/4)	(1 7/8)	(3/8)	(1/2)	(2 21/32)	(5/8)	(1 1/16)	(4)	(2 1/2)		(7/8)

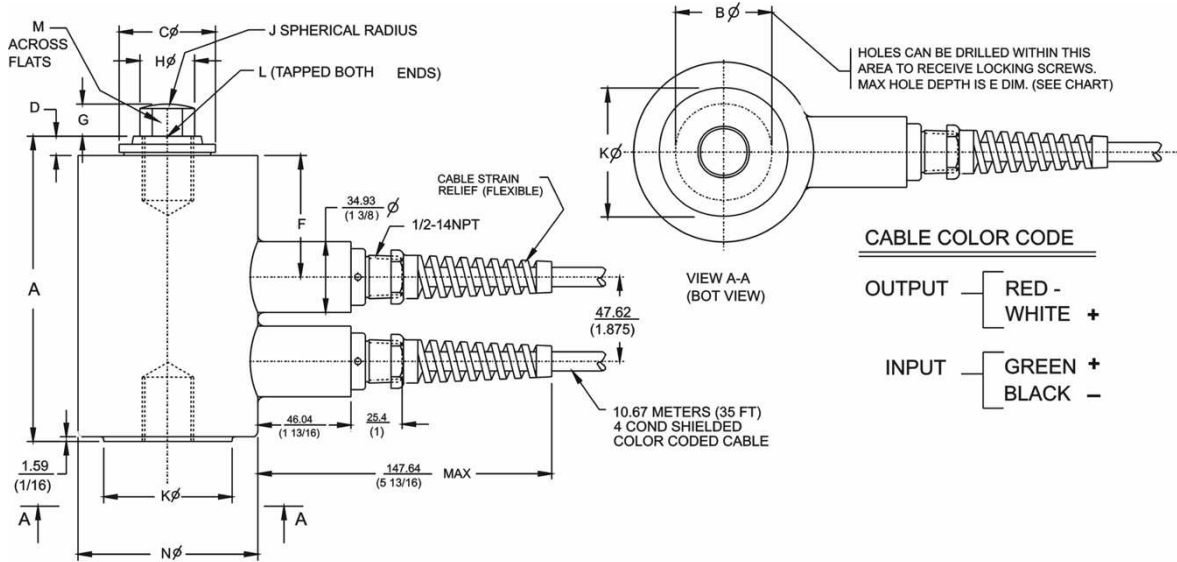
**OUTLINE DIMENSIONS—SINGLE BRIDGE—500 TO 10K POUNDS**



CAP.	KILOGRAMS (POUNDS)	A	B φ	C φ	D	E	F φ	G	H φ	J	K φ	L (TAPPED)	M
227	THRU 1361	115.89	—	26.99	6.35	—	57.15	9.53	16	50.8	31.75	1/2-20UNF-2B X 1/2 DP	9.53
(500)	(3000)	(4 9/16)		(1 1/16)	(1/4)		(2 1/4)	(3/8)	(5/8)	(2)	(1 1/4)		(3/8)
2268	& 4536	150.81	44.45	47.63	9.53	12.7	67.47	16	26.99	101.6	63.5	1-14UNS-2B X 1 1/4 DP	22.35
(5000)	(10000)	(5 15/16)	(1 3/4)	(1 7/8)	(3/8)	(1/2)	(2 21/32)	(5/8)	(1 1/16)	(4)	(2 1/2)		(7/8)

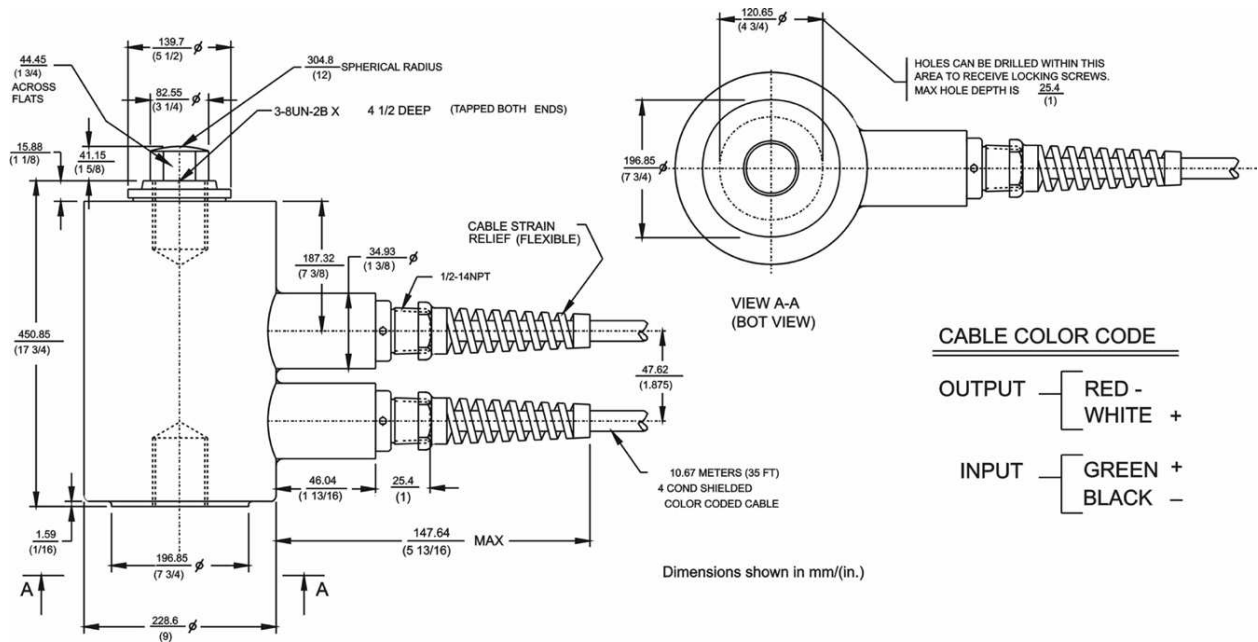
Compression Load Cells

**OUTLINE DIMENSIONS - DOUBLE BRIDGE - 20K TO 50K POUNDS**



CAP.	KILOGRAMS (POUNDS)	A	B $\phi$	C $\phi$	D	E	F	G	H $\phi$	J	K $\phi$	L (TAPPED)	M	N $\phi$
9072 (20,000)	THRU 13608 (30,000)	215.9 (8 1/2)	66.68 (2 5/8)	69.85 (2 3/4)	12.7 (1/2)	25.4 (1)	86.52 (3 13/32)	25.00 (63/64)	41.28 (1 5/8)	203.2 (8)	101.6 (4)	1 1/2-12UNF-2B X 1 3/4 DEEP	31.75 (1 1/4)	127.0 (5)
22680 (50,000)		290.51 (11 7/16)	95.25 (3 3/4)	101.6 (4)	15.88 (5/8)	25.4 (1)	113.50 (4 15/32)	25.00 (63/64)	57.15 (2 1/4)	203.2 (8)	146.05 (5 3/4)	2-12UN-2B X 2 1/4 DEEP	44.45 (1 3/4)	165.1 (6 1/2)

**OUTLINE DIMENSIONS - DOUBLE BRIDGE - 100K POUNDS**



Dimensions shown in mm/(in.)

Compression Load Cells

SPECIFICATIONS			
PARAMETER		VALUE	
<b>PERFORMANCE</b>			
Capacities	500, 1K, 2K, 3K, 5K, 10K, 20K, 50K, and 100K lb (227, 454, 907, 1.4K, 2.27K, 4.54K, 9K, 13.6K, 22.7K, and 45.4K kg)		
Rated output (RO)	3.0 mV/V (±0.10%)		
Repeatability	0.02% RO		
Combined error	0.10% RO (500 lb)	0.07% RO (1K–100K lb)	
Zero balance	1.0% RO		
Creep (20 minutes)	0.03% RO		
Temperature effects on zero balance	0.0015% RO/°F		
Temperature effects on rated output	0.0008% Load/°F		
<b>ELECTRICAL</b>			
Recommended excitation	10 VAC-DC		
Input resistance	350 Ω (±3.5)		
Output resistance	350 Ω (±3.5)		
Cable length	35 ft cable		
Number of bridges	single or double		
<b>TEMPERATURE</b>			
Safe range	–30°F to +175°F		
Compensated range	+30°F to +130°F		

PARAMETER		VALUE	
<b>ADVERSE LOAD RATINGS</b>			
Safe overload	150% rated capacity		
Ultimate overload	300% rated capacity		
<b>MATERIAL</b>			
Element	High grade tool steel		
Cannister	Low carbon steel, painted*		
<b>SEALING</b>			
Environmental class	IP67		
<b>DEFLECTION</b>			
500 lb	0.007 in		
1K lb	0.006 in		
2K, 3K lb	0.005 in		
5K lb	0.007 in		
10K lb	0.005 in		
20K lb	0.007 in		
50K lb	0.010 in		
100K lb	0.013 in		

\* Single component, waterborne polyurethane copolymer—high gloss.

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