

## 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
- cFMus approved
- **Optional features**
  - Stainless Steel design

### APPLICATIONS

- Test and measurement
- Calibration standards
- Redundant weighing systems

### DESCRIPTION

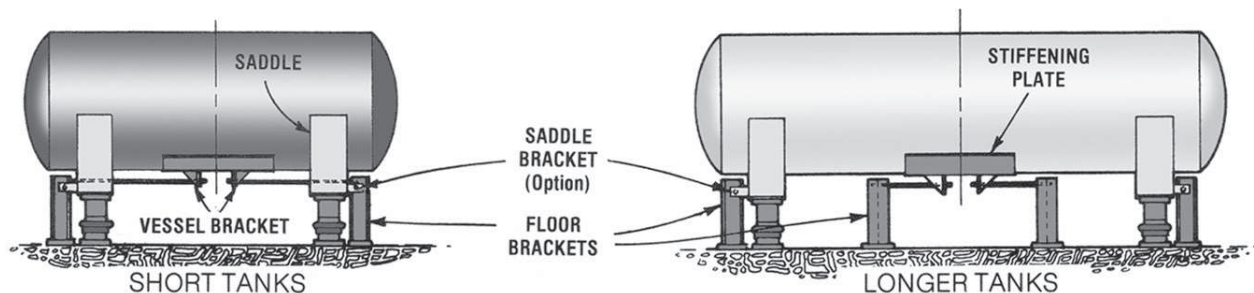
C3P1 and C3P2 cells are fabricated with high strength 'ring' type elements to provide an output signal of 3 mV/V at rated capacity. Each cell is designed for minimum deflection and 150% safe overload without damage. C3P2 cells contain a second bridge. The second bridge can be used simultaneously with 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.

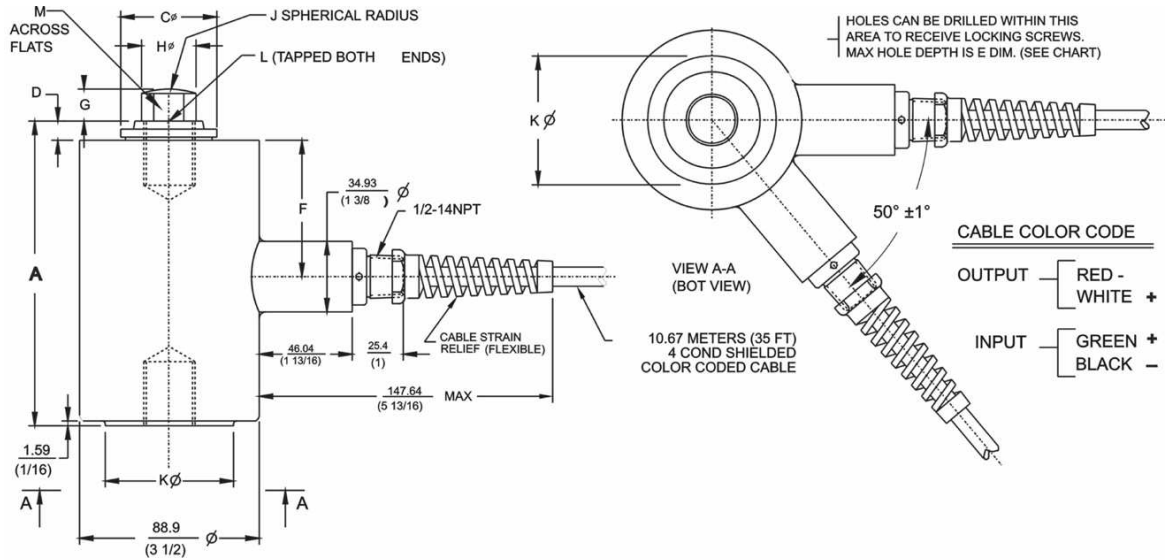
Relatively low mass and small deflection under load, produce excellent frequency response. Overall, C3P1/ C3P2 cells perform superbly in many environments where other transducers cannot.

### CONFIGURATION



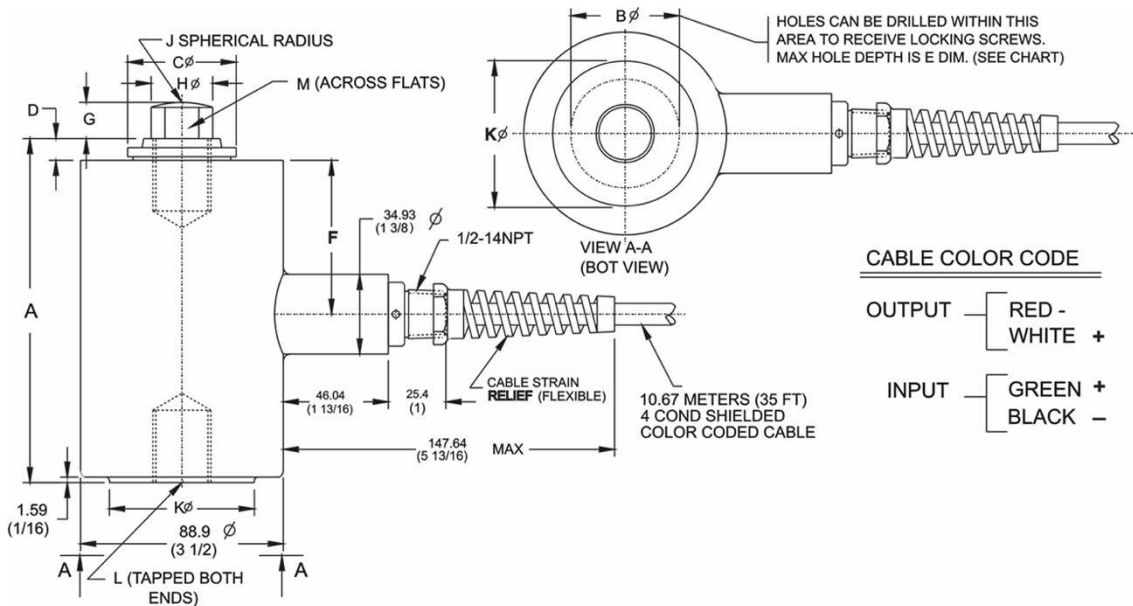
Compression Load Cells

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



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

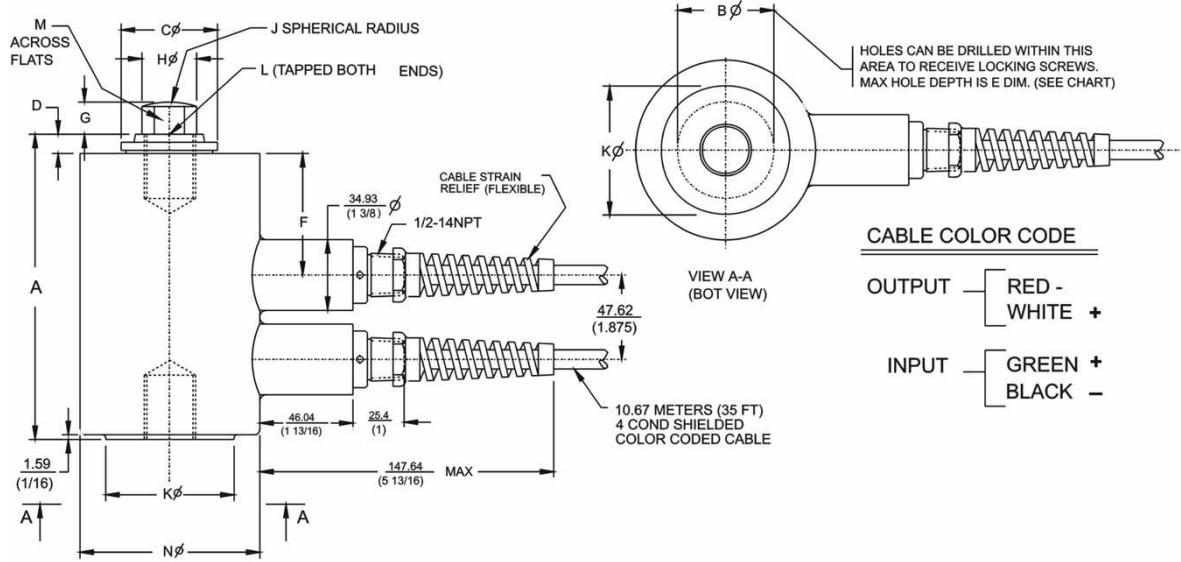
**OUTLINE DIMENSIONS—SINGLE BRIDGE—500 TO 10K POUNDS**



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

Compression Load Cells

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



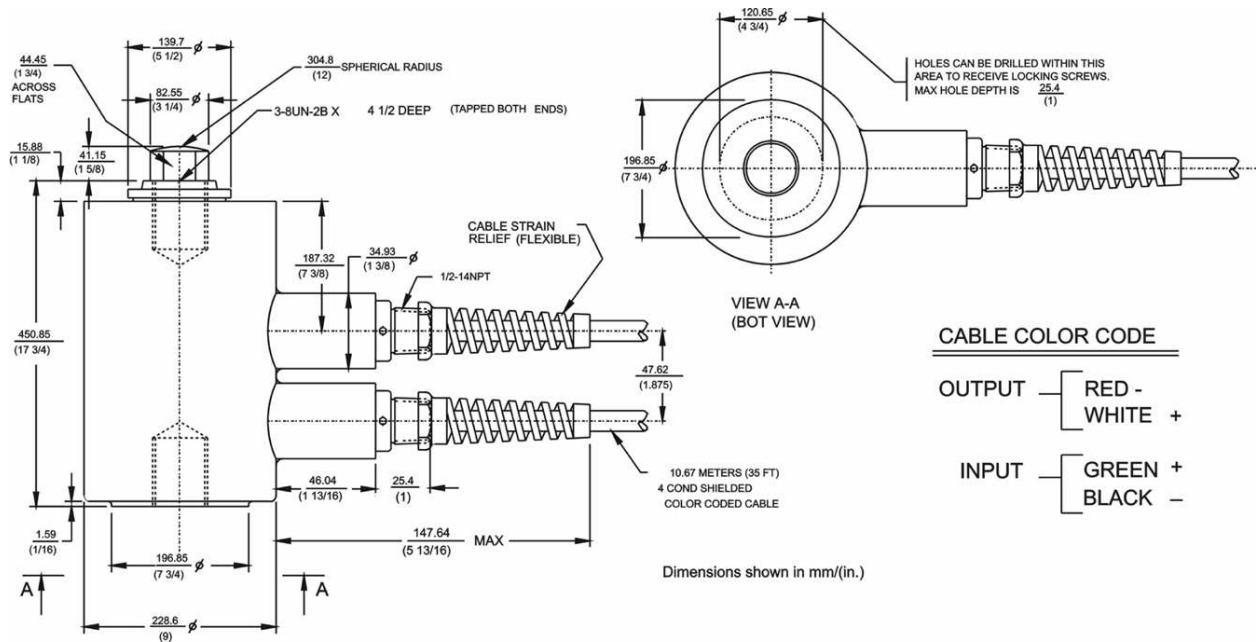
**CABLE COLOR CODE**

OUTPUT — [ RED -  
WHITE +

INPUT — [ GREEN +  
BLACK -

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**



**CABLE COLOR CODE**

OUTPUT — [ RED -  
WHITE +

INPUT — [ GREEN +  
BLACK -

Dimensions shown in mm/(in.)

Compression Load Cells

SPECIFICATIONS							
PARAMETER		VALUE		PARAMETER		VALUE	
<b>PERFORMANCE</b>				<b>ADVERSE LOAD RATINGS</b>			
<b>Capacities</b>		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)		<b>Safe overload</b>		150% rated capacity	
<b>Rated output (RO)</b>		3.0 mV/V (±0.10%)		<b>Ultimate overload</b>		300% rated capacity	
<b>Repeatability</b>		0.02% RO		<b>MATERIAL</b>			
<b>Combined error</b>		0.10% RO (500 lb)	0.07% RO (1K–100K lb)	<b>Element</b>		High grade tool steel or stainless 17-4 steel	
<b>Zero balance</b>		1.0% RO		<b>Cannister</b>		Low carbon steel, painted* or stainless steel	
<b>Creep (20 minutes)</b>		0.03% RO		<b>SEALING</b>			
<b>Temperature effects on zero balance</b>		0.0015% RO/°F		<b>Environmental class</b>		IP67	
<b>Temperature effects on rated output</b>		0.0008% Load/°F		<b>DEFLECTION</b>			
<b>ELECTRICAL</b>				<b>500 lb</b>		0.007 in	
<b>Recommended excitation</b>		10 VAC-DC		<b>1K lb</b>		0.006 in	
<b>Input resistance</b>		350 Ω (±3.5)		<b>2K, 3K lb</b>		0.005 in	
<b>Output resistance</b>		350 Ω (±3.5)		<b>5K lb</b>		0.007 in	
<b>Cable length</b>		35 ft cable		<b>10K lb</b>		0.005 in	
<b>Number of bridges</b>		single or double		<b>20K lb</b>		0.007 in	
<b>TEMPERATURE</b>				<b>50K lb</b>		0.010 in	
<b>Safe range</b>		–30°F to +175°F		<b>100K lb</b>		0.013 in	
<b>Compensated range</b>		+30°F to +130°F					

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

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