

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°
- Low deflection
- Compact and rugged
- FM and CSA approved

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.

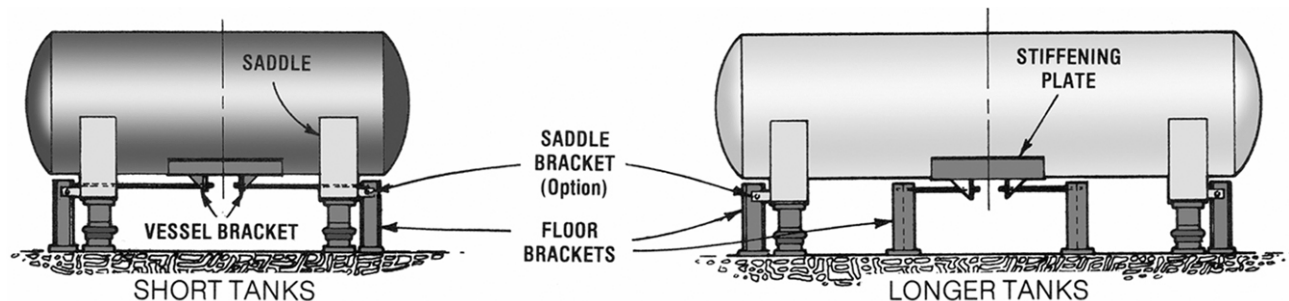
Relatively low mass and small deflection under load, produce excellent frequency re-

sponse. Overall, C3P1/C3P2 cells perform superbly in many environments where other transducers cannot.

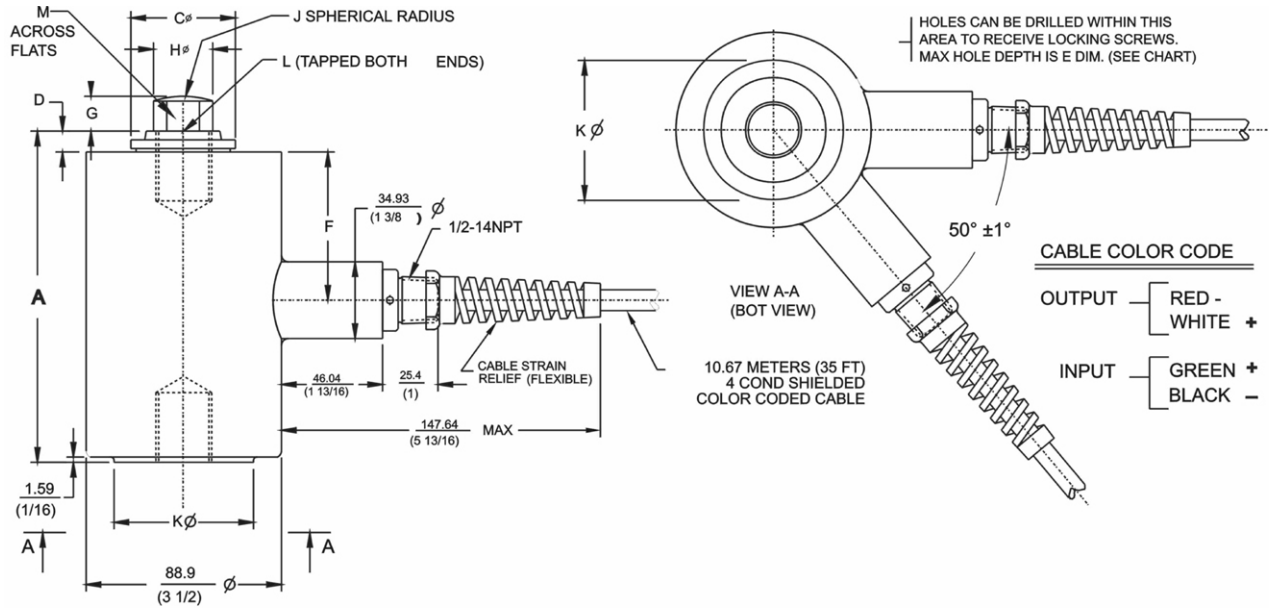
APPLICATIONS

- Test and measurement
- Calibration standards
- Redundant weighing systems

CONFIGURATION



OUTLINE DIMENSIONS - DOUBLE BRIDGE - 500 TO 10K POUNDS



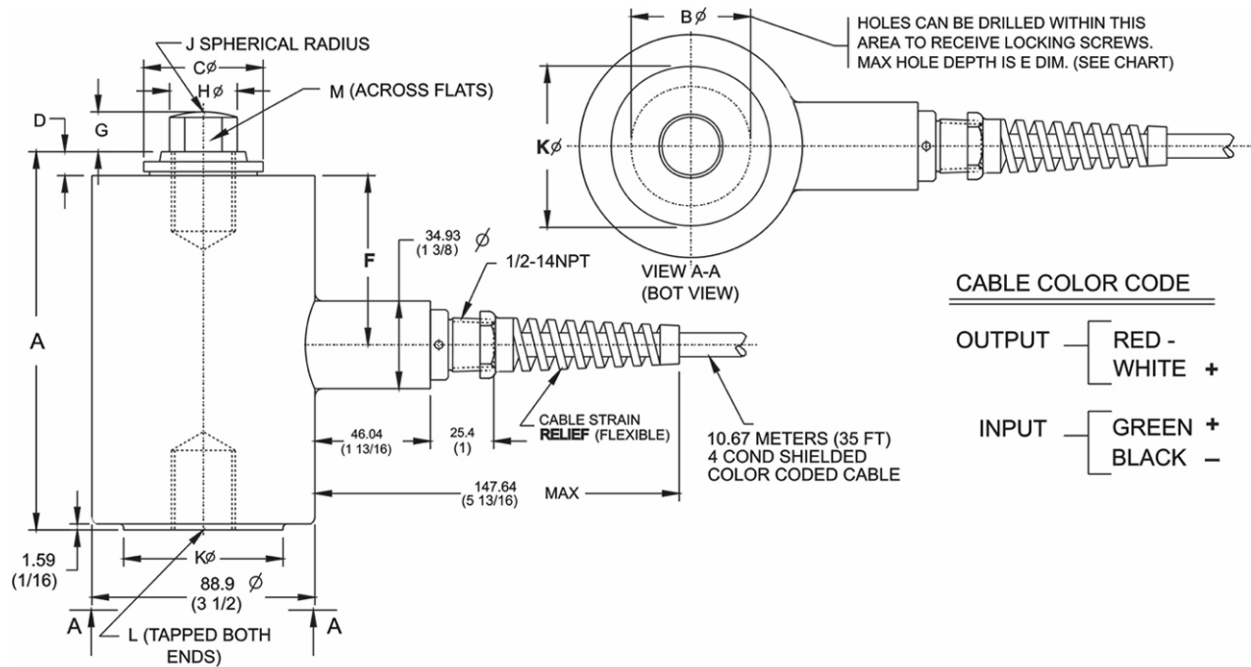
CABLE COLOR CODE

OUTPUT — RED - WHITE +

INPUT — GREEN + BLACK -

CAP.	KILOGRAMS (POUNDS)	A	B ϕ	C ϕ	D	E	F	G	H ϕ	J	K ϕ	L (TAPPED)	M
227 (500)	THRU 1361 (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 (5000)	& 4536 (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



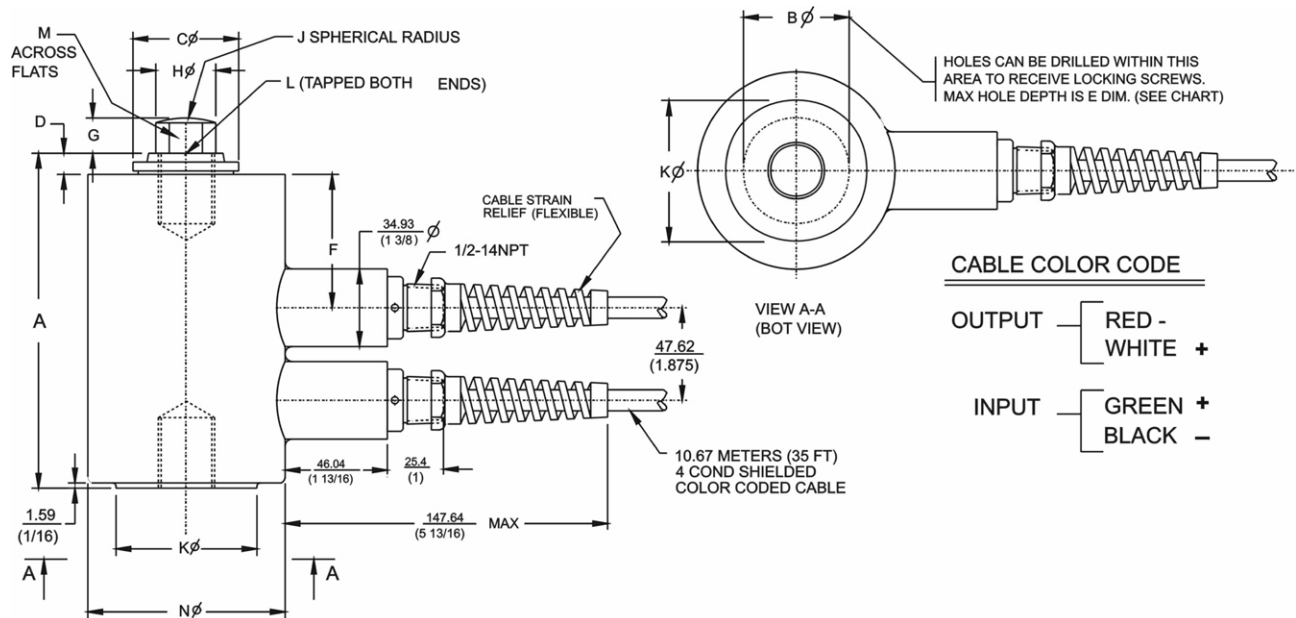
CABLE COLOR CODE

OUTPUT — RED - WHITE +

INPUT — GREEN + BLACK -

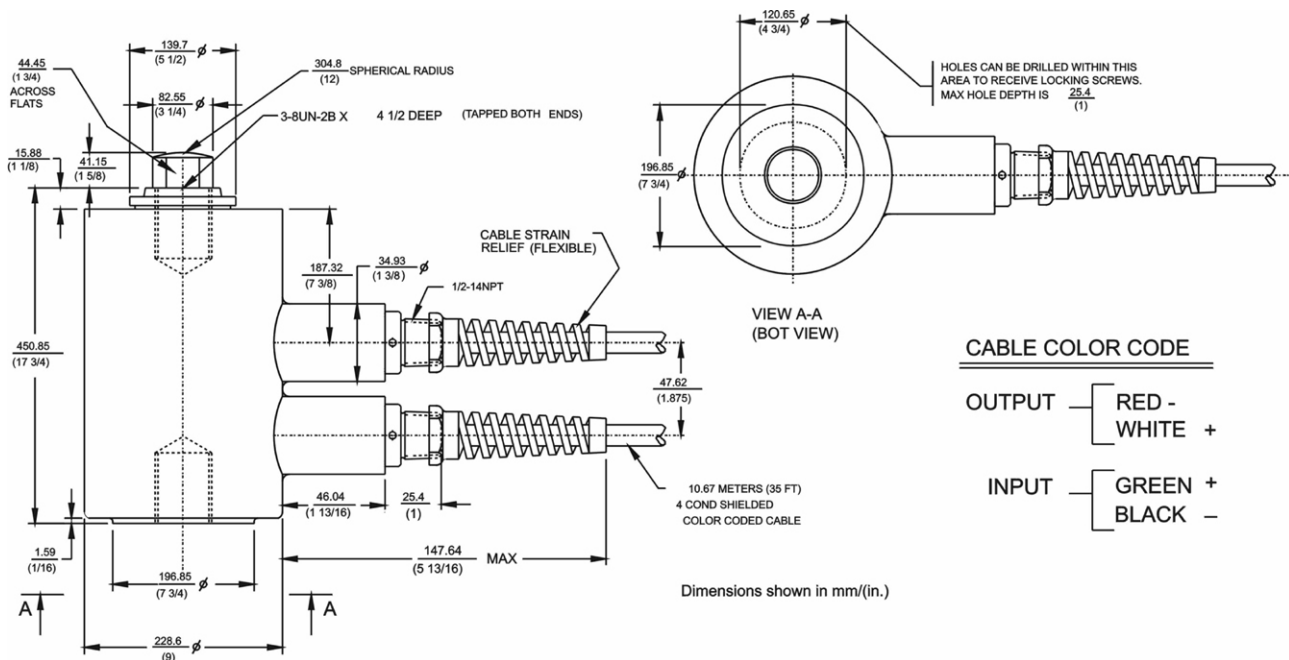
CAP.	KILOGRAMS (POUNDS)	A	B ϕ	C ϕ	D	E	F ϕ	G	H ϕ	J	K ϕ	L (TAPPED)	M
227 (500)	THRU 1361 (3000)	115.89 (4 9/16)	—	26.99 (1 1/16)	6.35 (1/4)	—	57.15 (2 1/4)	9.53 (3/8)	16 (5/8)	50.8 (2)	31.75 (1 1/4)	1/2-20UNF-2B X 1/2 DP	9.53 (3/8)
2268 (5000)	& 4536 (10000)	150.81 (5 15/16)	44.45 (1 3/4)	47.63 (1 7/8)	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 - DOUBLE BRIDGE - 20K TO 50K POUNDS



CAP.	KILOGRAMS (POUNDS)	A	Bφ	Cφ	D	E	F	G	Hφ	J	Kφ	L (TAPPED)	M	Nφ
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.)

SPECIFICATIONS

Performance

Capacities	500, 1K, 2K, 3K, 5K, 10K, 20K, 50K, & 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
On Rated Output	0.0008%Load/°F

Electrical

Recommended Excitation	10 Vac-dc
Input Resistance	350 ohms (+/-3.5)
Output Resistance	350 ohms (+/-3.5)
Cable Length	35 feet
Number of Bridges	single or double

Temperature

Safe Range	-30 to +175°F
Compensated Range	+30 to +130°F

Adverse Load Ratings

Safe Overload	150% rated capacity
Ultimate Overload	300% rated capacity

Material

Element	high grade tool steel
Cannister	low carbon steel, painted*

Sealing

Environmental Class	IP67
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Deflection

500 lb	0.007 inches
1K lb	0.006 inches
2K, 3K lb	0.005 inches
5K lb	0.007 inches
10K lb	0.005 inches
20K lb	0.007 inches
50K lb	0.010 inches
100K lb	0.013 inches

Approvals

FM/CSA Intrinsically Safe	Class I, II, III; Division 1, Groups A-G
FM/CSA Nonincendive	Class I, Division 2, Groups A-D

*single component, waterborne polyurethane copolymer - high gloss.

BLH is continually seeking to improve product quality and performance. Specifications may change accordingly.