Precision Force and Weight Measurement Canisters

FEATURES

- Capacity range: 500 to 100K lb (227 to 45K kg)
- Compact, rugged
- Operational: –30°F to +175°F
- Low deflection
- Environmentally sealed
- cFMus approved
- **Optional features**
  - Stainless Steel design



APPLICATIONS

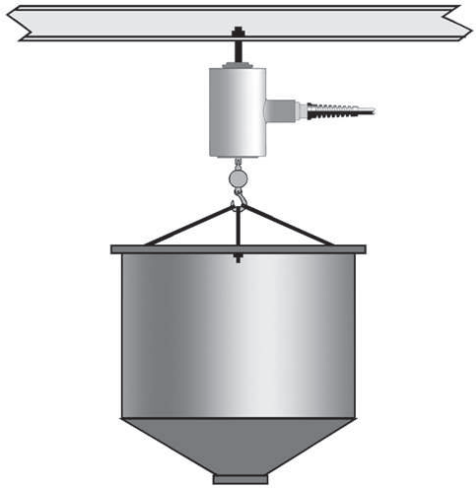
- Dynamometers
- Tensile testing
- Tension and compression weighing

DESCRIPTION

T3 type load cells, developed by BLH Nobel are designed for various types of weighing and force measurement. All cells are fabricated with high strength ‘ring’ type elements to provide an output signal of 3mV/V at rated capacity. Each cell is designed for minimum deflection and 150% safe overload without damage. U3G1 and U3G2 universal load cells are shipped with calibration data verifying accuracy in both tension and compression modes. U3G2 and T3P2 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.

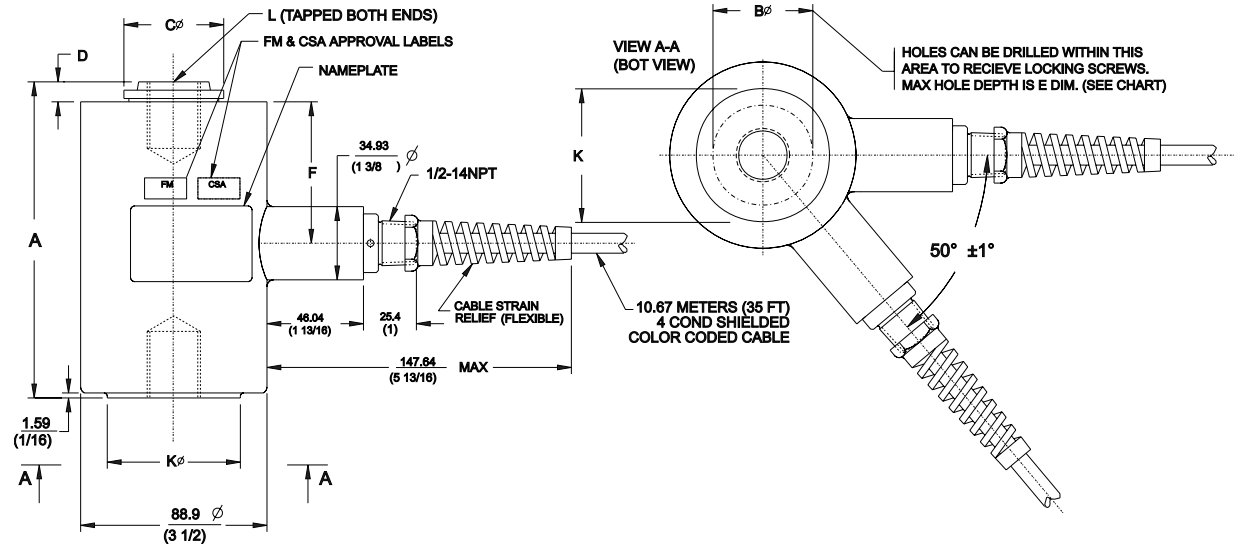
CONFIGURATION

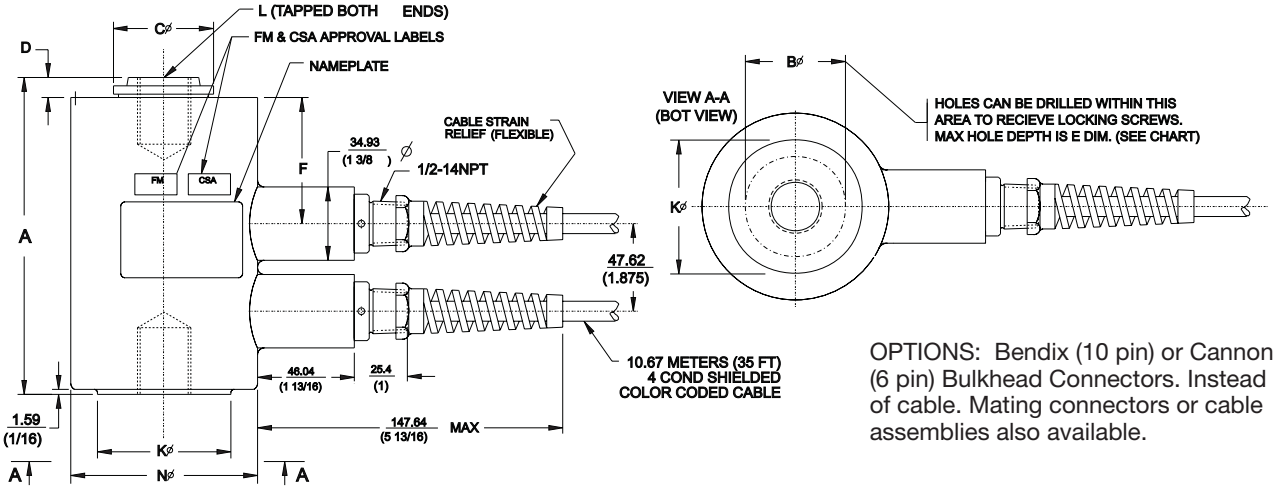


BLH NOBEL
A VPG Brand

Precision Force and Weight Measurement Canisters

OUTLINE DIMENSIONS





OPTIONS: Bendix (10 pin) or Cannon (6 pin) Bulkhead Connectors. Instead of cable. Mating connectors or cable assemblies also available.

Capacity (lb)	A	B DIA.	C DIA.	D	E	F	K DIA.	L (TAPPED)	N DIA.
500–3000	49/16	—	11/16	1/4	—	21/4	11/4	1/2-20UNF-2BX1/2DP	—
5000–10000	515/16	13/4	17/8	3/8	1/2	221/32	21/2	1-14UNS-2BX11/4DP	—
20000–30000	81/2	25/8	23/4	1/2	1	313/32	4	11/2-12UNF-2BX13/4DP	5
50000	117/16	33/4	4	5/8	1	415/32	53/4	2-12UN-2BX21/4DP	61/2
100000	173/4	43/4	51/2	11/8	1	73/8	73/4	3-8UN-2BX41/2DP	9

Capacity (lb)	500	1000	2/3000	5000	10000	20000	50000	100000
Weight (lb)	6	6	6	10	10	25	70	200
Deflection in.	0.007	0.006	0.005	0.007	0.005	0.007	0.010	0.013
Nat. Freq @ Eff. Wt Hz/lb	1250/0.45	1800/0.50	2600/0.56	2200/1.5	3400/1.7	2400/5	1900/15	1350/43

Precision Force and Weight Measurement Canisters

SPECIFICATIONS

PARAMETER	VALUE	
PERFORMANCE		
Type	**U3**	**T3**
Capacities	500, 1K, 2K, 3K, 5K, 10K, 20K, 50K, and 100K lb (227, 454, 907, 1.4K, 2.3K, 4.5K, 9.1K, 13.6K, 22.7K, and 45.4K kg)	
Rated output (RO)	3 mV/V – 0.25%	3 mV/V ± 0.1%
Non-Linearity	0.10% RO	0.05% RO
Hysteresis—% RO	0.02% 1–100K lb; 0.05% 500 lb	0.02% 1–50K lb; 0.05% 500 lb
Repeatability	0.02% RO	0.02% RO
Creep (20 min.)	0.03% RO	0.03% RO
Variance Ten.—Cmp	0.015 mV/V max.	NA
ELECTRICAL		
Recommended Excitation	10 VAC-DC	
Zero Balance	1.0% RO	
Input Resistance	350 Ω ±3.5 Ω	
Output Resistance	350 Ω ±3.5 Ω	
Number of Bridges	single/double	
Min. Insulation Resistance MΩ (@ 50 VDC)	—	
Bridge to Ground	5000	
Shield to Ground	2000	
Electrical Connection	10 ft or 35 ft cable	

PARAMETER	VALUE	
TEMPERATURE		
Safe Range	–30 to +175°F	
Compensated Range	+30 to +130°F	
Effect on Zero Balance	0.0015% RO/°F	
Effect on Rated Output	0.005% load/°F	0.0008% load/°F
ADVERSE LOAD RATINGS		
Safe Overload	150% RO	
Max Overload	300% RO	

BLH Nobel is continually seeking to improve product quality and performance. Specifications may change accordingly. Appearance may differ from picture.

Technical contact: blhnobel.usa@vpgsensors.com,
Europe: blhnobel.eur@vpgsensors.com, Asia: blhnobel.asia@vpgsensors.com

Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “VPG”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify VPG’s terms and conditions of purchase, including but not limited to, the warranty expressed therein.

VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG’s knowledge of typical requirements that are often placed on VPG products. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at vpgsensors.com.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Copyright Vishay Precision Group, Inc., 2014. All rights reserved.