

National Type Evaluation Program
Certificate of Conformance
for Weighing and Measuring Devices

For:

Load Cell
Single-Ended Shear Beam
Model: PT5000*
n_{max}: Single Cell: Class III: 4500
n_{max}: Single Cell: Class III L: 10 000
n_{max}: Multiple Cell: Class III: 9500
n_{max}: Multiple Cell: Class III L: 10 000
Capacity: 1000 lb to 10 000 lb See Page 2*
Accuracy Class: III/III L

Submitted by:

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Standard Features and Options

* The specific models and capacities of devices covered by this Certificate are listed on Page 2.

Nominal output: 3 m V/V
4-wire design

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

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Gilbert M. Ugiansky, Ph.D.
Chief, Office of Weights and Measures
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Precision Transducers Ltd.
Single-Ended Shear Beam Load Cell
Model: PT5000

Application: The load cells may be used in Class III and III L scales for both single and multiple cell applications consistent with the model designations, number of scale divisions, and parameters specified in this Certificate. Load cells of a given accuracy class may be used in applications with lower accuracy class requirements provided the number of scale divisions, the v_{\min} values, and temperature range are suitable for the application. The manufacturer may market the load cell with fewer divisions (n_{\max}) and with larger v_{\min} values than those listed on the Certificate. However, the load cells must be marked with the appropriate n_{\max} and v_{\min} for which the load cell may be used.

Identification: A pressure sensitive identification badge containing the manufacturer, model designation, and serial number is located on the load cell. All other required information, if not marked on the load cell, must be on an accompanying document including the serial number of the load cell.

Load Cell Parameters:

Accuracy Class III					
Model	Maximum Capacity	Minimum Load Cell Interval		Minimum Dead Load (E_{\min})	Maximum Number of Intervals (n_{\max})
		v_{\min}			
		Single Cell	Multiple Cells		
PT5000-1000 lb	1000 lb	0.079 lb	0.079 lb	0	4500/9500
PT5000-2500 lb	2500 lb	0.199 lb	0.199 lb	0	4500/9500
PT5000-4000 lb	4000 lb	0.32 lb	0.32 lb	0	4500/9500
PT5000-5000 lb	5000 lb	0.399 lb	0.399 lb	0	4500/9500
PT5000-10 000 lb	10 000 lb	0.799 lb	0.799 lb	0	4500/9500
PT5000-500 kg	500 kg	0.039 kg	0.039 kg	0	4500/9500
PT5000-1000 kg	1000 kg	0.079 kg	0.079 kg	0	4500/9500
PT5000-2000 kg	2000 kg	0.159 kg	0.159 kg	0	4500/9500
PT5000-2500 kg	2500 kg	0.199 kg	0.199 kg	0	4500/9500
PT5000-5000 kg	5000 kg	0.399 kg	0.399 kg	0	4500/9500

Accuracy Class III L					
Model	Maximum Capacity (E_{\max})	Minimum Load Cell Interval		Minimum Dead Load (E_{\min})	Maximum Number of Intervals (n_{\max})
		v_{\min}			
		Single Cell	Multiple Cells		
PT5000-1000 lb	1000 lb	0.026 lb	0.026 lb	0	10 000 (both)
PT5000-2500 lb	2500 lb	0.066 lb	0.066 lb	0	10 000 (both)
PT5000-4000 lb	4000 lb	0.106 lb	0.106 lb	0	10 000 (both)
PT5000-5000 lb	5000 lb	0.133 lb	0.133 lb	0	10 000 (both)
PT5000-10 000 lb	10 000 lb	0.266 lb	0.266 lb	0	10 000 (both)
PT5000-500 kg	500 kg	0.013 kg	0.013 kg	0	10 000 (both)
PT5000-1000 kg	1000 kg	0.026 kg	0.026 kg	0	10 000 (both)
PT-5000-2000 kg	2000 kg	0.053 kg	0.053 kg	0	10 000 (both)
PT5000-2500 kg	2500 kg	0.066 kg	0.066 kg	0	10 000 (both)
PT5000-5000 kg	5000 kg	0.133 kg	0.133 kg	0	10 000 (both)

Precision Transducers Ltd.
Single-Ended Shear Beam Load Cell
Model: PT5000

Test Conditions: Two alloy steel 4000-lb capacity load cells were tested at NIST using dead weights as the reference standard. The data were analyzed for single and multiple load cell applications. The cells were tested over a temperature range of -10 °C to 40 °C. Three tests were run on the cells at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure.

The results of this evaluation indicate the device complies with applicable requirements of NIST Handbook 44.

Type Evaluation Criteria Used: NIST Handbook 44, 1999 Edition

Tested By: NIST Force Group, NIST Office of Weights and Measures

Information Reviewed By: G. Newrock (NIST), R. Suiter (NIST)