

2530 SERIES STATIC LOAD CELLS

Low-Force 5 -100 N



Instron® load cells are a key part of a materials testing system. Among our competitors, Instron is the only global materials testing supplier that designs and manufactures its own load cells. This ensures that Instron load cells meet the unique requirements of materials testing such as; high accuracy over a wide measurement range, high stiffness, resistance to offset loads, accurate alignment and excellent zero stability.

The 2530-xxxN Series load cells are specifically designed for use with 6800, 3400, 5900, and 3300 testing systems. The design, manufacture, and performance verification is conducted with materials testing applications in mind. Automatic transducer recognition and electrical calibration makes them easy to use. The load cells incorporate overload protection and can withstand loads up to 150% of their force capacity without damage and 300% without mechanical failure. The load cells allow the user to zero out the tare weight of a grip or fixture that weighs up to 40% of the force capacity, while still maintaining the full specified accuracy.

All Instron load cells are individually temperature-compensated and tested for accuracy and repeatability on calibration apparatus that is traceable to international standards, with a measurement uncertainty that does not exceed one-third of the permissible error of the load cell.

PRINCIPLE OF OPERATION

Instron Low Force 2530-xxxN Series load cells are precision force transducers consisting of a full strain gauge bridge bonded to a stiff and highly linear elastic element. When the element is subjected to a force, the electrical resistance of the gauges changes, providing an output signal proportional to the applied force.

The load cells are designed to operate in tension, compression, cyclic and reverse stress. They have a wide measurement range allowing accurate force measurements to be made down to 1/500th of the load cells capacity, reducing the need to change load cells.

FEATURES AND BENEFITS

- Force capacities from ± 5 - ± 100 N (0.5 - 10 kgf, 1.12 - 22.5 lbf)
- Suitable for a range of test types, including tension, compression, cyclic, and reverse stress
- Accurate measurements down to 1/500th of load cell capacity means fewer load cells and fewer load cell changes.
- Automatic recognition with electronic serial number and electrical calibration allows for simple, error-free operation
- Integral overload protection reduces the possibility of damage during handling and use
- Tare weight 40% of force capacity – can be used with a wide range of grips and fixtures
- Complies with all international force measurement standards, including ASTM E4, ISO 7500-1 class 0.5, and JIS B7721, B7733

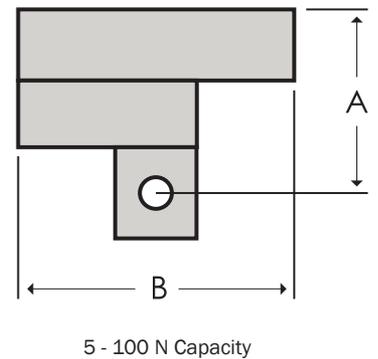
SPECIFICATIONS

Catalog Number	Force Capacity			Mechanical Fitting (Frame)	Mechanical Fitting (Load String)	Effective Length (A)		Diameter (B)		Deflection at Capacity	
	N	kgf	lbf			mm	in	mm	in	mm	in
2530-5N	±5	0.5	1.12	M10 × 1.5RH Central Thread	2.5 mm Clevis Pin (Type 00f)*	48	1.9	85	3.3	0.07	0.003
2530-10N	±10	1	2.25	M10 × 1.5RH Central Thread	2.5 mm Clevis Pin (Type 00f)*	48	1.9	85	3.3	0.06	0.002
2530-50N	±50	5	11.2	M10 × 1.5RH Central Thread	2.5 mm Clevis Pin (Type 00f)*	48	1.9	85	3.3	0.06	0.002
2530-100N	±100	10	22.5	M10 × 1.5RH Central Thread	2.5 mm Clevis Pin (Type 00f)*	48	1.9	85	3.3	0.06	0.002

* Supplied with an adapter to convert to 6 mm Clevis Pin (Type Of)

GENERAL PERFORMANCE

Linearity	±0.25% of Reading from 0.4 to 100% of Force Capacity
Repeatability	0.25% of Reading from 0.4 to 100% of Force Capacity
Hysteresis	±0.1% of Maximum Reading in cycle
Creep	±0.1% of Reading (5 Seconds to 3 Minutes)
Maximum Tare Weight	40% of Force Capacity
Overload	150% of Force Capacity without Calibration Change, 300% of Force Capacity without Mechanical Failure
Off-Center Loading Error	±0.5% of Reading (10 mm offset)
Compensated Temperature Range	0 to 50 °C (32 to 122 °F)
Temperature Effect on Zero	±0.002% of Force Capacity per °C (0.001% per °F)
Temperature Effect on Sensitivity	±0.002% of Force Capacity per °C (0.001% per °F)
Frame Compatibility	3300, 3400, 5900, and 6800 Series



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