INSTRON®

The difference is measurable®

2580 SERIES STATIC LOAD CELLS

500 N - 600 kN

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 2580 Series load cells are specifically designed for use with 6800 and 5900 testing systems; offering exceptional performance with the ability to measure forces as low as 1/1000th of the force capacity to an accuracy of 0.5% of reading. Automatic transducer recognition and electrical calibration, makes them easy to use. The load cells 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 10% 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.

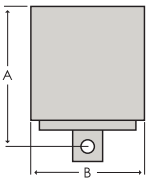
PRINCIPLE OF OPERATION

Instron 2580-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.

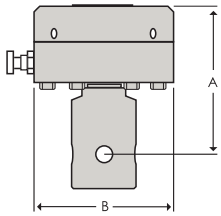
The load cells are designed to operate in tension, compression, cyclic and reverse stress. They have a wide measurement range allowing accurate force measurements to be made down to 1/1000th of the load cells capacity, reducing the need to change load cells.

FEATURES AND BENEFITS

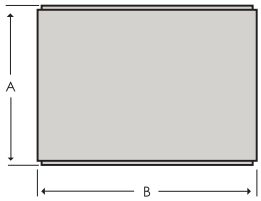
- Force capacities from ±500 N to ±600 kN (50 - 60,000 kgf or 112 -137,000 lbf)
- Suitable for a range of test types, including tension, compression, cyclic and reverse stress
- Accurate measurements down to 1/1000th of load cell capacity means fewer load cells and fewer load cell changes
- Automatic recognition with electronic serial number and electrical calibration allows for simple, error-free operation
- 150% of force capacity overload capability –reduces the possibility of damage
- Tare weight 10% of force capacity – can be used with a wide range of grips and fixtures
- Can be used with optional Quick Change and Piggy Back Adapters to facilitate a quick changeover of load cells
- Precision machining and construction along with high axial and lateral stiffness helps to maintain system alignment
- Low sensitivity to offset loads improves consistency of results
- Complies with all international force measurement standards, including ASTM E4, ISO 7500-1 class 0.5, and JIS B7721, B7733



500 N - 5 kN



10 kN - 100 kN



150 - 600 kN

Notes:
1. For Quick-Mount and Piggy Back Adapter Kits
2. 100 kN max

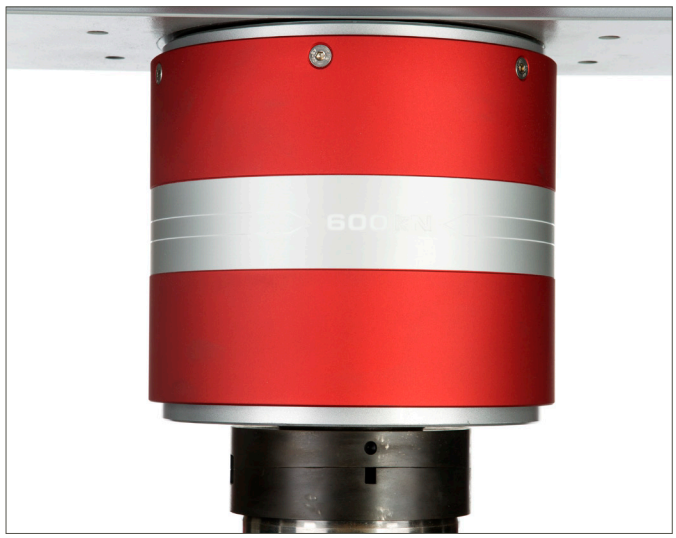
SPECIFICATIONS

Catalog Number	Force Capacity			Mechanical Fitting (Frame)	Mechanical Fitting (Load String)	Effective Length (A)		Diameter (B)		Weight		Deflection at Force Capacity		Off-Center Loading Error (10 mm offset)
	kN	kgf	lbf			mm	in	mm	in	kg	lb	mm	in	% of reading
2580-500N	± 0.5	50	112	M10 × 1.5RH Central Thread 3 off M6 on 48 mm PCD[1]	6.0 mm Clevis Pin (Type Of)	91	3.6	76	3.0	0.6	1.3	0.03	0.001	± 0.03
2580-1KN	± 1	100	225	M10 × 1.5RH Central Thread 3 off M6 on 48 mm PCD[1]	6.0 mm Clevis Pin (Type Of)	91	3.6	76	3.0	0.6	1.3	0.05	0.002	± 0.03
2580-2KN	± 2	200	450	M10 × 1.5RH Central Thread 3 off M6 on 48 mm PCD[1]	6.0 mm Clevis Pin (Type Of)	91	3.6	76	3.0	0.6	1.3	0.08	0.003	± 0.03
2580-5KN	± 5	500	1,125	M10 × 1.5RH Central Thread 3 off M6 on 48 mm PCD[1]	0.5 in Clevis Pin (Type Df)	101	4.0	76	3.0	0.8	1.8	0.12	0.005	± 0.20
2580-10KN	± 10	1,000	2,250	M16 × 2RH Central Thread 6 off M8 on 75 mm PCD	0.5 in Clevis Pin (Type Df)	122	4.8	107	4.2	4.2	9.2	0.03	0.001	± 0.20
2580-30KN	± 30	3,000	6,750	M16 × 2RH Central Thread 6 off M8 on 75 mm PCD	0.5 in Clevis Pin (Type Df)	122	4.8	107	4.2	4.2	9.2	0.05	0.002	± 0.40
2580-50KN	± 50	5,000	11,250	M16 × 2RH Central Thread 6 off M8 on 75 mm PCD	0.5 in Clevis Pin (Type Df)	122	4.8	107	4.2	4.2	9.2	0.05	0.002	± 0.50
2580-100KN	± 100	10,000	22,500	M30 × 2RH Central Thread 6 off M10 on 100 mm PCD	0.5 in Clevis Pin (Type Df)	110	4.3	113	4.4	11	24.2	0.05	0.002	± 0.50
2580-150KN	± 150	15,000	33,750	M48 × 2RH Central Thread 6 off M20 on 150 mm PCD	M48 × 2LH (Type IIf), 6 off M20 on 150 mm PCD, 6 off M10 on 100 mm PCD[2]	170	6.7	218	8.6	35	77	0.1	0.004	± 0.03
2580-250KN	± 250	25,000	56,200	M48 × 2RH Central Thread 6 off M20 on 150 mm PCD	M48 × 2LH (Type IIf), 6 off M20 on 150 mm PCD, 6 off M10 on 100 mm PCD[2]	170	6.7	218	8.6	35	77	0.1	0.004	± 0.05
2580-300KN	± 300	30,000	67,500	M48 × 2RH Central Thread 6 off M20 on 150 mm PCD	M48 × 2LH (Type IIf), 6 off M20 on 150 mm PCD, 6 off M10 on 100 mm PCD[2]	170	6.7	218	8.6	35	77	0.12	0.005	± 0.06
2580-400KN	± 400	40,000	88,000	M48 × 2RH Central Thread 6 off M20 on 150 mm PCD	M48 × 2LH (Type IIf), 6 off M20 on 150 mm PCD, 6 off M10 on 100 mm PCD[2]	170	6.7	218	8.6	35	77	0.15	0.006	± 0.08
2580-600KN	± 600	60,000	135,000	M72 × 3RH Central Thread	M72 × 3LH (Type IIf), 6 off M10 on 100 mm PCD[2]	211	8.3	230	9.1	45	99	0.2	0.008	± 0.08

GENERAL PERFORMANCE

Linearity	±0.15% of Reading from 1 to 100% of Force Capacity ±0.25% of Reading from 0.1 to 1% of Force Capacity
Repeatability	0.15% of Reading from 1 to 100% of Force Capacity 0.25% of Reading from 0.1 to 1% of Force Capacity
Hysteresis	±0.1% of Force Capacity (difference between increasing and decreasing force measurements at 50% of capacity)
Creep	±0.1% of Force Capacity (3 minutes after application of full force)
Maximum Tare weight	10% of Force Capacity (500 N - 400 kN), 5% of Capacity (600 kN)
Overload	150% of Force Capacity without Calibration Change, 300% of Force Capacity without Mechanical Failure
Compensated Temperature Range	0 to 50 °C (32 to 122 °F)
Temperature Effect on Zero	±0.001% of Force Capacity per °C (0.0005% per °F)
Temperature Effect on Sensitivity	±0.002% of Force Capacity per °C (0.001% per °F)
Frame Compatibility	6800 and 5900

50 kN Load Cell with Quick-Mount kit



600 kN Capacity Load Cell

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