

AC-06-XXXX SERIES LOAD CELLS

10kN - 500 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.

AC-06-XXXX Series tension-compression strain gauge-based fatigue rated load cells are of compact shear-web design with standard axial metric thread mounting. They exhibit excellent linearity, seamless tension-compression response and practically no hysteresis. Each load cell includes embedded auto calibration circuitry, obviating the need for calibration at installation. The load cells are precision-machined from high strength steel and instrumented with Transducer Class strain gauges and bonded resistor networks for bridge balance and temperature compensation. Two-step curing virtually eliminates potential process-related residual strains. These load cells meet / exceed ASTM E4, IS1828, ISO7500-1, BS 1610, DIN 51221, EN-10002 for accuracy.

PRINCIPLE OF OPERATION

AC-06-XXXX 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 gauge 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.

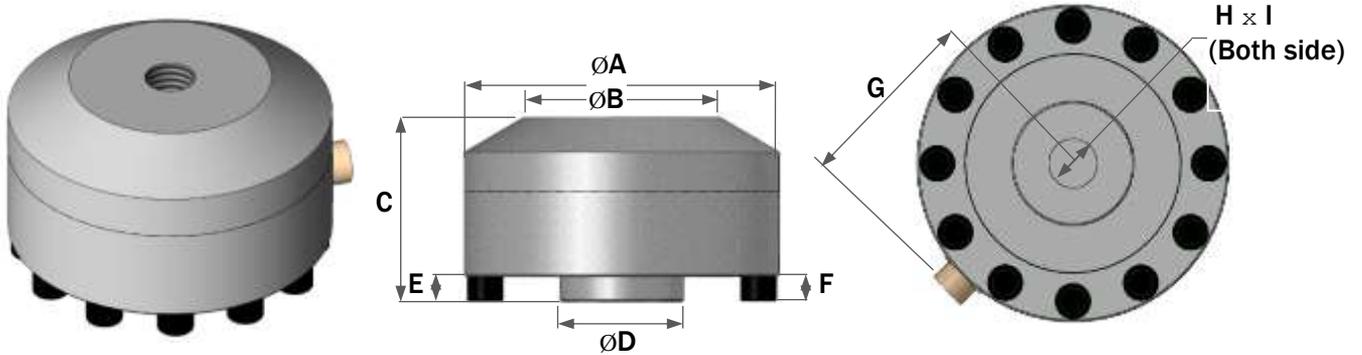
FEATURES AND BENEFITS

- Force capacities from $\pm 10\text{kN}$ to $\pm 500\text{kN}$.
- 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 Automatic calibration allows for simple, error-free operation.
- 150% of force capacity overload capability –reduces the possibility of damage.
- Precision machining and construction along with high axial and lateral stiffness helps to maintain system alignment and comes with eccentric load compensated design.
- Low sensitivity to offset loads improves consistency of results.
- Available in single bridge or dual bridge options.
- Complies with all international force measurement standards, including ASTM E4, IS1828, ISO7500-1, BS 1610, DIN 51221, and EN-10002.

SPECIFICATIONS

Shear web type load cells

Model No.	Capacity, kN	ØA mm	ØB mm	C mm	ØD mm	E mm	F mm	G mm	H mm	x I mm
AC-06-0030	10	125	65	76	49	2	8	75	M27X2-6H	30
AC-06-0035	25	125	65	76	49	2	8	75	M27X2-6H	30
AC-06-0040	50	125	65	76	49	2	8	75	M27X2-6H	30
AC-06-0045	100	160	100	92	63	12.5	12	91	M27X2-6H	30
AC-06-0046	160	160	100	92	63	12.5	12	91	M27X2-6H	30
AC-06-0047	250	180	80	140	80	10	16	102	M50X2-6H	60
AC-06-0050	300	180	80	140	80	10	16	102	M50X2-6H	60
AC-06-0055	500	265	140	141	115	11	16	145	M50X2-6H	50



GENERAL PERFORMANCE

Linearity	±0.05% of Reading of Force Capacity
Repeatability	± 0.02% of Force Capacity
Hysteresis	±0.06% of Force Capacity
Creep	±0.025% of Force Capacity (20 minutes after application of full force)
Resolution	0.02% of Full scale
Overload	150% of Force Capacity without Calibration Change, 300% of Force Capacity without Failure
Operating Temperature Range	-10°C to +60°C
Compensated Temperature Range	-10°C to +45°C
Temperature Effect on Zero	±0.001% of Force Capacity per °C
Temperature Effect on Sensitivity	±0.0015% of Force Capacity per °C
Side load sensitivity	± 0.08%
Eccentric load sensitivity	± 0.06%
Rated output	2.0 ±0.5% mv/V
Excitation voltage	10V nominal, 15V Max AC/DC
Bridge resistance	350 Ohms
Zero Balance	± 0.5% of rated output
Insulation resistance	5000 Mega ohms
Connector	MIL connector/PT02E10-6P Bayonet Connector
Calibration	Tension and Compression Shunt Calibration
Accuracy1	± 0.25% of read out value down to 1/100 of capacity
Accuracy2	± 0.5% of read out value down to 1/500 of capacity
Zero recovery	± 0.05% of read out value
Fatigue life	100-million full reverse stressed cycles
Static error band	±0.06% of Rated output (RO)

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