

# LOAD CELL



## Model ELC-30S | Resistive Strain Gage Type Center Hole/Anchor Bolt Load Cell

ELC-30S is a resistive strain gage type center hole load cell used to determine load in rock bolts, tieback anchors, etc. It comprises of a cylinder of high strength steel with eight 350 Ohm resistance strain gages, wired to form a 700 Ohm bridge. To minimize the effect of uneven and eccentric loading, the eight gages are mounted around the circumference at 45° to each other. The load cell is hermetically sealed by electron beam welding making it immune to ingress of water and to most corrosive environments.

### SPECIFICATIONS

Range (kN)/ID (mm)	200/40, 500/52, 1000/78, 1000/105, 1500/85, 1500/130, 2000/105, 2000/155, specify
Over range capacity	120%
Calibration accuracy	± 0.25 % fs
Non-linearity	± 1 % fs
Temperature limit	-20 to 80 C
Cable connection	Six pin glass to metal seal



## Model ELC-30S-H | Resistive Strain Gage Type Center Hole/Anchor Bolt Load Cell

ELC-30S-H high capacity center hole load cell is similar to model ELC-30S load cell. Load cell with capacity above 5000 KN comprises of a high strength stainless steel element with sixteen 350 Ohm resistance strain gages, wired to form a 1400 Ohm bridge. The 3500/185 and 5000/202 load cells are electron beam welded.

### SPECIFICATIONS

Range (kN)/ID (mm)	3500/185, 5000/202, 7500 /227, 10000/210, specify
Over range capacity	120 %
Non-linearity	± 1 % fs (± 0.5 % fs is available)
Output	1.5 mV/V ± 20 %
Excitation	10 V DC (max. 20 V DC)
Temperature limit	-20 to 80 C
Cable connection	Four core shielded 5m long, specify



## Model ELC-210S | Resistive Strain Gage Type Compression Load Cell

ELC-210S is a resistive strain gage type load cell designed to measure compressive load or axial forces. The load cell has great resistance to extraneous forces. This increases the fatigue life, permits less stringent mounting alignment and reduces the possibility of reading error. The load cell is protected against dust, moisture and adverse environmental conditions.

### SPECIFICATIONS

Range (kN)	1000, 1500, 2000, 3000, 3500
Rated output	1.5 mV/V ± 10 %
Enclosure	IP 68, electron beam welded under a vacuum of 1/1000 Torr
Temperature limit	-20° to 80° C
Cable	Four-core shielded 2 m long; specify
Other specifications	same as ELC-30S



### Model ELC-150S-H High Capacity Compression Load Cell

ELC-150S-H is a resistive strain gage type load cell designed to measure large compressive load or axial forces. The load cell has extensive use in pile testing. Like the ELC-210S, this load cell also has great resistance to extraneous forces, and is protected against dust, moisture and adverse environmental conditions.

#### SPECIFICATIONS

Range (kN)	5000, 6000, 7500, 10000 & 12500
Rated output	1.5 mV/V $\pm$ 10 %
Over range capacity	120 % with a maximum upto 14000 kN
Temperature limit	-20° to 80° C
Cable	Four-core shielded 5 m long; specify
Other specifications same as ELC-30S	



### Model ELC-31V | Vibrating Wire Hydraulic Center Hole/Anchor Bolt Load Cell

ELC-31V is vibrating wire type center hole load cell used to determine load in rock bolts, tieback anchors, etc. It is fluid filled with a vibrating wire pressure sensor attached to it, to convert the load into a frequency output. Solid load cell for stress measurement in tunnel supports and struts is also available on request.

#### SPECIFICATIONS

Range (kN)/ID (mm)	250/35, 500/52, 750/78, 1000/105, 2000/130, 2500/0
Overload	110 % fs
Calibration accuracy	$\pm$ 1 % fs
Non-linearity	$\pm$ 2 % fs from 10% to full range
Temperature limit	-10° to 55° C
Temperature effect	$\pm$ 0.06% fs/°C
Thermistor	YSI 44005 or equivalent



### Model ELC-32V Vibrating Wire Center Hole/Anchor Bolt Load Cell

ELC-32V is vibrating wire type center hole load cell used to determine load in rock bolts, tieback anchors, etc. It comprises of a cylinder of high strength martensitic stainless steel with three vibrating wire strain gages mounted at 120° to each other to minimize the effect of uneven and eccentric loading. To determine the load, the average of the three readings is taken. Load cell with six vibrating wire strain gages and nine core cable is available on request. Solid load cell for stress measurement in tunnel supports and struts is also available on request.

#### SPECIFICATIONS

Range (kN)/ID (mm)	250/27, 500/52, 1000/78, 1500/102, 2000/127, 2000/152, specify (solid load cell available on request)
Overload	150 %
Calibration accuracy	$\pm$ 0.25 % fs
Non-linearity	$\pm$ 1 % fs
Temperature limit	-20° to 80° C
Thermistor	YSI 44005 or equivalent
Cable	Six core shielded 5 m long; specify