



VW LOAD CELL



Advantages/ Limits:

Accurate, robust and very good long term stability.

Negligible temperature effects compared with oil filled load cells.

Fast response time.

Accuracy unaffected by cable length.

Suitable for remote reading and data-logging.

Connecting cable is strong, screened and flexible and can be used in lengths in excess of 1000m.

Over-voltage surge arrestors fitted to each vibrating wire gauge to protect against electrical damage.

The vibrating wire load cell is not susceptible to partial collapse due to fluid leakage which can be experienced with hydraulic load cells.

Not suitable for dynamic measurements of load.

Applications:

Loads in rock bolts.

Tension in cable anchors and Tendons

Loads on structural beams.

Loads in piles.

Loads between tunnel supports.

Proof Testing of anchors

Operating Principle

The vibrating wire load cell comprises a set of up to six vibrating wire gauges mounted parallel to the cell axis and equally spaced in a ring in a steel alloy cylindrical housing. The method of construction results in a very robust instrument suitable for use where high performance, longevity and mechanical strength are important.

All cells are manufactured with a centre hole to accommodate rockbolts, tendons or anchor cables. For use as a solid centre cell the instrument can be supplied with top and bottom load plates.

A heavy gauge multi-core, PVC sheathed cable connects the load cell to the read-out unit via a switched terminal unit.

The switched terminal unit is required for connecting to each of the VW sensors in the load cell (the readings can be averaged by the VW read-out unit and displayed in engineering units).

Switched terminal units are available for handling multiple Load Cell installations.

For details on vibrating wire readout units please refer to data sheet GI-404. The Load Cells can also be connected to a CR1000/CR800 datalogger.

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**GEO-INSTRUMENTS: GEO/STRUCTURAL
INSTRUMENTS & MONITORING SYSTEMS**

SPECIFICATIONS:

Standard range -KN -	800 to 5000
Accuracy	0.5%F.S
Sensitivity	0.025%F.S
Temperature range	-40 to +65°C
Over-loading range	125%F.S
Water pressure resistance (PSI)	Rated to 70 Psi

ORDERING INFORMATION:

Vibrating Wire Load Cells	Range	No. of VW Strain Gages	ID (mm)	OD (mm)	H (mm)
GEO-VW- L2-800	800KN	3	80	110	120
GEO-VW- L2-1000	1000KN	3	100	135	120
GEO-VW- L2-1500	1500KN	4	150	185	150
GEO-VW- L2-2000	2000KN	6	140	185	140
GEO-VW- L2-3000	3000KN	6	165	227	160
GEO-VW- L2-4000	4000KN	6	175	245	160
GEO-VW- L2-5000	5000KN	6	185	265	170

CABLE/ACCESSORIES:

GEO-VW--CA-10-SC	5 twisted pair cable for 3& 4 sensor cells. 24 AWG tinned copper, PE, PVC or polypropylene insulation, PVC jacket. overall OD.0.38 inches
GEO-VW--CA-14-SC	7 twisted pair cable for 6 sensor cells, 24 AWG tinned copper, PE, PVC or polypropylene insulation, PVC jacket. overall up to OD. 0.38 inches
GEO-VW--TB-24-S	Switchable Terminal Box – 24 sensors
GI-404	VW Readout Box

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