



# Vibrating Wire Load Cells



Annular Load Cell



Solid Load Cell



Annular load cell shown with top and bottom platens.

Vibrating Wire Load cells are available in both solid and annular styles to monitor compressive loads. Load elements are manufactured from high tensile, heat treated, stress relieved steel, with precision bearing surfaces. Machined overall, high tensile matching load platens are recommended to provide a smooth parallel bearing surface and spread the load.

Solid style cells incorporate 3 Vibrating Wire strain sensing elements mounted parallel to the longitudinal axis of the cell. Optional spherical platens are available to enhance alignment to the load axis.

Annular cells incorporate 3 to 6 vibrating wire strain sensors, mounted parallel to the longitudinal axis, equidistant around the circumference.

With the multi sensor configuration, it is possible to obtain accurate readings under mildly eccentric loading conditions, as the sensors are read individually. In multi strand anchors, it is possible to tension the strands uniformly by monitoring the load in each sensor as appropriate.

Submerged service designs are available on special order. The electrical cable to the cell or the readout may be either hard wired to the cell or connect via a metal Mil-spec type bayonet connector.

Sensors are read with the pluck and read technique, permitting compatibility with various brands of readouts and loggers. Gauges employing the autoresonant reading technique are available on special order.



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## applications

Measurement of loads in tie-backs, struts, ground anchors and rock bolts.

Measure loads during the testing of piles.

## features

Manufactured from high tensile, heat treated, stress relieved steel, with precision bearing surfaces.



specifications + ordering info

# Vibrating Wire Load Cells



## VW load cells specs

ITEM	DESCRIPTION
Capacity	225 kN to 10675 kN (50,000 to 2,400,000 lbs)
Overrange Capacity	150% full scale
Sensitivity	0.01% full scale
Accuracy	0.5% full scale
Temperature Range	-40°C to +75°C.
Material	High tensile, stress relieved steel
Hole Size	As requested

## ordering info

Application.
Annular or solid cell.
Environmental data.
Cable type, connection method to cell, and length.
Spherical platens.
Maximum load.
Size limitations.
Connector for VW2106 Vibrating Wire Readout.

## optional equipment

VW2106 Vibrating Wire Readout.
Dataloggers.
Load platens.
Terminal stations.
Electrical cable.
Centralizer bushings, if required.

## dimensions: solid load cells

MODEL	CAPACITY		O.D.		HEIGHT		PLATEN THICKNESS***	
	KIPS	KN	INCHES	MM	INCHES	MM	INCHES	MM
VWS-100	100	445	2.375	60.3	4.0	101.6	1.0	25.4
VWS-200	200	890	3.25	82.6	4.0	101.6	1.0	25.4
VWS-300	300	1335	4.0	101.6	4.0	101.6	1.5	38.1
VWS-400	400	1780	4.625	117.5	4.0	101.6	1.5	38.1
VWS-500	500	2225	5.125	130.2	4.0	101.6	2.5	63.5
VWS-600	600	2670	5.625	142.9	4.0	101.6	2.5	63.5
VWS-800	800	3560	6.5	165.1	4.0	101.6	3.0	76.2
VWS-1000	1000	4450	7.25	184.1	4.0	101.6	4.0	101.6

The model number is determined as follows: eg. VWS - 300: VWS – Vibrating Wire Solid Load Cell, 300 – Maximum capacity in Kips

## dimensions: annular load cells

MODEL	CAPACITY		I.D.		O.D.		HEIGHT		PLATEN THICKNESS***	
	KIPS	KN	INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM
VWA-50-1	50	223	1.0	25.4	2.0	50.8	4.0	101.6	1.0	25.4
VWA-100-1	100	445	1.0	25.4	2.5	63.5	4.0	101.6	1.0	25.4
VWA-136-1.4	136	605	1.4	35.6	3.0	76.2	4.0	101.6	1.0	25.4
VWA-200-1.75	200	890	1.75	44.5	3.75	95.3	4.0	101.6	1.0	25.4
VWA-255-2.0	255	1135	2.0	50.8	4.125	104.8	4.0	101.6	1.5	38.1
VWA-300-2.0	300	1335	2.0	50.8	4.5	114.3	4.0	101.6	1.5	38.1
VWA-300-3.0	300	1335	3.0	76.2	5.0	127.0	4.0	101.6	1.5	38.1
VWA-400-2.5	400	1780	2.5	63.5	5.25	133.4	4.0	101.6	1.5	38.1
VWA-400-3.5	400	1780	3.5	88.9	5.75	146.1	4.0	101.6	2.0	50.8
VWA-600-3.0	600	2670	3.0	76.2	6.375	161.9	4.0	101.6	2.5	63.5
VWA-600-4.0	600	2670	4.0	101.6	6.875	174.6	4.0	101.6	2.5	63.5
VWA-800-5.0	800	3560	5.0	127.0	8.25	209.6	4.0	101.6	3.0	76.2
VWA-800-6.5	800	3560	6.5	165.1	9.25	235.0	4.0	101.6	4.0	101.6
VWA-1000-5.0	1000	4450	5.0	127.0	8.75	222.2	4.0	101.6	4.0	101.6
VWA-1000-8.0	1000	4450	8.0	203.2	10.75	273.1	4.0	101.6	4.0	101.6

NOTES: These specifications are typical only - custom sizes and capacities are available to suit individual project requirements. All loadcell design stress is 25 ksi  
The model number is determined as follows: eg. VWA - 200 - 1.5: VWA – Vibrating Wire Annular; 200 – Maximum capacity in Kips; 1.5 – Hole size in inches  
\*\*\* Platen thickness is for each of the two platens (top and bottom).