

	PRODUCT CATEGORY:
	LOAD CELLS + PRESSURE SENSORS + STRESS METERS

Vibrating Wire Load Cells

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 to 6 Vibrating Wire strain sensing elements mounted parallel to the longitudinal axis of the cell.

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.

The electrical cable to the readout may be either hard wired to the cell or connect via a metal Mil-spec type bayonet connector.

> 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.

> BENEFITS

✓ Increase Safety	✓ High Accuracy
✓ Increase Productivity	✓ High Reliability
✓ Custom Options	



Annular Load Cell

Solid Load Cell

Annular load cell shown with top and bottom platens.



[Load Cells installed on multi-strand ground anchors monitoring stability of landslide.](#)

Vibrating Wire Load Cells

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SPECIFICATIONS + ORDERING

TYPICAL DIMENSIONS: ANNULAR LOAD CELLS †

PART #	# OF VW SENSORS	CAPACITY		I.D.		O.D.		HEIGHT		WEIGHT		PLATEN THICKNESS *					
		KIPS	KN	IN	MM	IN	MM	IN	MM	LB	KG	OD		HEIGHT (EACH)		WEIGHT (PAIR)	
												IN	MM	IN	MM	LB	KG
VWA-200-1.5	3	200	890	1.5	38.1	3.125	79.4	4	101.6	11.8	5.4	3.375	85.7	1	25.4	3.4	1.5
VWA-250-1.75	3	250	1112	1.75	44.5	3.500	88.9	4	101.6	13.3	6.0	3.3750	95.3	1	25.4	6.3	2.9
VWA-300-2.0	3	300	1335	2	50.8	3.875	98.4	4	101.6	15	6.8	4.125	104.8	1.5	38.1	7.5	3.4
VWA-300-2.5	3	300	1335	2.5	63.5	4.250	108.0	4	101.6	15.7	7.1	4.500	114.3	1.5	38.1	8	3.6
VWA-400-2.25	3	400	1780	2.28	57.2	4.500	114.3	4	101.6	18.7	8.5	4.750	120.7	1.5	38.1	10.3	4.7
VWA-400-2.5	3	400	1780	2.8	63.5	4.630	117.6	4	101.6	18.7	8.5	4.875	123.8	1.5	38.1	10.3	4.7
VWA-400-3.5	4	400	1780	3.5	88.9	5.250	133.4	4	101.6	18.9	8.6	5.500	139.7	2	50.8	13.9	6.3
VWA-400-3.75	4	400	1780	3.75	95.3	5.375	136.5	4	101.6	18.5	8.4	5.625	142.9	2	50.8	13.9	6.3
VWA-400-4.0	4	400	1780	4	101.6	5.625	142.9	4	101.6	19.2	8.7	5.875	149.2	2	50.8	14.2	6.4
VWA-450-4.5	4	450	2001	4.5	114.3	6.125	155.6	4	101.6	20.7	9.4	6.375	161.9	2.5	63.5	19.6	8.9
VWA-500-3.0	3	500	2225	3	76.2	5.250	133.4	4	101.6	21.8	9.9	5.500	139.7	2.5	63.5	21.1	9.6
VWA-500-4.75	4	500	2225	4.75	120.7	6.500	165.1	4	101.6	22.9	10.4	6.750	171.5	2.5	63.5	22.3	10.1
VWA-500-5.0	4	500	2225	5	127.0	6.630	168.4	4	101.6	22.1	10.0	6.875	174.6	2.5	63.5	21.4	9.7
VWA-600-4.0	4	600	2670	4	101.6	6.250	158.8	4	101.6	25.9	11.7	6.500	165.1	2.5	63.5	26.2	11.9
VWA-700-3.0	3	700	3115	3	76.2	5.875	149.2	4	101.6	28.2	12.8	6.125	155.6	3	76.2	34.7	15.7
VWA-750-5.57	6	750	3337	5.75	146.1	7.875	200.0	4	101.6	31.3	14.2	8.125	206.4	3	76.2	39.4	17.9
VWA-800-4.5	4	800	3560	4.5	114.3	7.125	181.0	4	101.6	32.7	14.8	7.375	187.3	3	76.2	41.5	18.8
VWA-800-4.75	4	800	3560	4.75	120.7	7.250	184.2	4	101.6	32.2	14.6	7.500	190.5	3	76.2	40.8	18.5
VWA-800-5.0	4	800	3560	5	127.0	7.375	187.3	4	101.6	31.7	14.4	7.625	193.7	3	76.2	40	18.1
VWA-800-6.5	4	800	3560	6.5	165.1	8.500	215.9	4	101.6	32.2	14.6	8.750	222.3	4	101.6	54.4	24.7
VWA-1000-5.0	6	1000	4448	5	127.0	7.875	200.0	4	101.6	38.6	17.5	8.125	206.4	4	101.6	67.2	30.5
VWA-1000-8.0	6	1000	4448	8	203.2	10.125	257.2	4	101.6	40	18.1	10.375	263.5	4	101.6	69.9	32.0

TYPICAL DIMENSIONS: SOLID LOAD CELLS ‡

CAPACITY		O.D.		HEIGHT		PLATEN THICKNESS*	
KIPS	KN	IN	MM	IN	MM	IN	MM
100	445	2.375	60.3	4.0	101.6	1.0	25.4
200	890	3.25	82.6	4.0	101.6	1.0	25.4
300	1335	4.0	101.6	4.0	101.6	1.5	38.1
450	2001	4.625	117.5	4.0	101.6	1.5	38.1
500	2225	5.125	130.2	4.0	101.6	2.5	63.5
600	2670	5.625	142.9	4.0	101.6	2.5	63.5
800	3560	6.5	165.1	4.0	101.6	3.0	76.2
1000	4450	7.25	184.1	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. VWS; VWS-Platen; VWS-Vibrating Wire Solid Load Cell (Customer to specify maximum capacity in Kips)

VW LOAD CELLS SPECS

ITEM	DESCRIPTION
Capacity	445 kN to 4450 kN (100,000 to 1,000,000 lbs)
Overrange Capacity	150% full scale
Sensitivity	0.01% full scale
Accuracy	0.5% full scale
Temperature Range	-20°C to +80°C
Material	High tensile, stress relieved steel
Hole Size	As requested

ORDERING INFO

Application
Annular or solid cell
ID of annular cell
Maximum load
Load platens
Cable type, connection method to cell, and length
Size limitations
Environmental data

ACCESSORIES

ITEM	DESCRIPTION
Signal Cable	EL380007P
Connector (to work with VW2106 Vibrating Wire Readout)	VW2106-LC