ENCARDIO RITE

ONE STOP MONITORING SOLUTIONS | HYDROLOGY | GEOTECHNICAL | STRUCTURAL | GEODETIC
Over 50 years of Excellence through ingenuity

DATASHEET

CENTER HOLE LOAD CELL
VIBRATING WIRE FLUID-FILLED TYPE
MODEL ELC-31V

INTRODUCTION

The Encardio-rite model ELC-31V is a precision engineered vibrating wire hydraulic center hole load cell, specially designed for civil engineering applications. It is fluid filled and is constructed from stainless steel.

The center hole load cell is available in capacities ranging from 250 kN to 2000 kN. In addition to this, a 2500 kN load cell without center hole is also available.

FEATURES

- Rugged, robust and low cost.
- Suitable for hostile & severe environment.
- Easy installation.

APPLICATION

- Determination of load in rock bolts, foundation anchors, soil anchors.
- Determination of roof convergence in underground mines.
- Proof testing and long term performance monitoring of different kind of anchor systems.
- Compressive load measurement between structural members i.e. tunnel supports or at the junction between a beam and the top of a pile strut.

DESCRIPTION

The model ELC-31V vibrating wire center hole load cell is made of a sensitive pressure pad which is formed by joining together two very stiff steel discs at their periphery. The space inside the cell is filled with de-aired fluid. When load is applied to the cell, the pressure on the fluid changes. This change in fluid pressure is used to record the variation in load being applied to the cell.

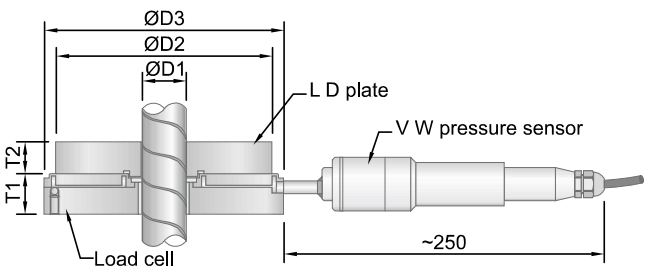
The load is distributed equally over the loading area of the cell by a thick, distribution plate.

Load distribution plates can be used both above & below the load cell to ensure an even distribution of load on to the cell. Bottom load distribution plates is not required if an adequate bearing plate has been incorporated into the proposed installation arrangement.

VIBRATING WIRE SENSOR

The pressure in the load cell is measured by a vibrating wire pressure sensor. The sensor is of stainless steel construction and incorporates the latest vibrating wire technology to provide electrical read-out. A glass to metal seal is provided for easy cable connection. The data from the pressure sensor can be measured by any vibrating wire readout unit. The data can also be automatically collected at desired frequency, stored and transmitted to remote server by a suitable datalogger.

DIMENSION



Capacity	Vibrating wire hydraulic center hole load cell				
	T1				Weight
kN	mm	D1 mm	D2 mm	D3 mm	kg
250	28	35	123	139	4
500	28	52	144	160	5
750	28	78	180	196	6
1000	28	105	219	235	8
1500	28	105	249	235	8
2000	30	130	265	281	12
2500	30	0	260	281	15

Capacity	Load distribution/bearing plates (each)			
kN	OD mm	ID mm	T2 mm	Wt. kg
250	123	35	25	3
500	144	52	35	4
750	180	78	35	6
1000	219	105	40	9
1500	249	105	40	13
2000	265	130	50	16
2500	260	0	50	20

Other capacities and internal diameter available on request.

SPECIFICATIONS

Range (kN)/ID (mm)	250/52, 500/52, 750/78, 1000/105, 1500/105, 2000/130, 2500/0
Over range capacity	110 %
Calibration accuracy	±1 % fs
Non linearity	±2 % fs
Temp. effect on zero	<0.06 % fs/°C
Operating temperature	-10° to 55°C
Cable connection	Six pin glass to metal seal
Pressure sensor	Electron beam welded
Material of element	Martensitic stainless steel

ORDERING INFORMATION CODE

Model ELC-31V-X/Y

- ID in mm
- Capacity in kN

**All specifications are subject to change without prior notice*

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