



NABL : C-0066

FRI

Prosperity through research

Fie Research Institute

22/44, Ganganagar P. O., ICHALKARANJI - 416 111

(Dist.Kolhapur) Maharashtra State, INDIA

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Accreditation No. NABL C0066

CALIBRATION CERTIFICATE OF FORCE MEASURING DEVICE

Date of calibration : 19/03/2015

Certificate No. : FRI/03/15/7526

Next calibration due on : 19/05/2017

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Calibrated for : M/s. Krutam Techno Solutions Pvt. Ltd.
64/B, G.I.D.C, Makarpura,
VADODARA - 390 010

Customer Reference No. : DC No. 334/14-15 Dated 11/03/2015

Identification : Load cell make : ADI Artech
Model : NS/1008/LC/6000
Sr. No. : 674061
Capacity : 7.5 Ton (Calibrated upto 50 kN)
Readout : ADI
Model : LI-5000
Sr. No. : 8578
Resolution : 1 Count

Date of receipt : 13/03/2015

Mode of Calibration : Tension

Machine used for calibration : Dead Weight Force Calibration Machine (FIE-DWP-003)

Traceability : NPL,Cert.No.14070367/D5.05/C-253 valid up to 22/07/16

Read out setting : Nil

Temperature : 24°C

Note : 1) Tension test were made out by using self-aligning Tension shackles provided with the force - measuring device.
2) Readout with load cell warmed up for 30 min. before calibration.
3) Calibration is done as per IS:4169-1988.
4) The reported uncertainty is at coverage factor $k=2$ which corresponds to a Coverage probability of approximately 95% for normal distribution, considering the relative error of different components such as zero, Resolution, Repeatability, Interpolation and combining the uncertainty of applied force.



U. V. Patil

U. V. Patil
(Sc. Assistant)

R. V. Tambad

R. V. Tambad
(Sr. Engineer)

Dr. J. C. Padte

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(Director)



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Identification : Load cell make : ADI Artech
Sr. No. : 674061

Calibration method : The Load cell is calibrated in Tension as per FRI Calibration procedure No. FRICAL/CAL/02 based on IS:4169-1988

Results : The calibration results are valid for specific force steps/ interpolation

Applied force (kN)	Deflection (Counts)			
	Series 1 at 0°	Series 2 at 180°	Series 3 at 360°	Average
5	5012	5011	5011	5011
10	10026	10024	10023	10024
15	15033	15031	15030	15031
20	20042	20040	20038	20040
25	25046	25044	25042	25044
30	30053	30051	30049	30051
35	35062	35060	35059	35060
40	40068	40066	40065	40066
45	45072	45070	45069	45070
50	50077	50075	50073	50075

Polynomial Used : $Y = 2.0111111108 + 1002.241893292 \times X - 0.0224320124 \times X^2 + 0.0001408961 \times X^3$

Where X = Force in kN, Y = Average reading in Counts

Class	Mode	From	To	Uncertainty of measurement
Class 0	Tension	50 kN	5 kN	$\pm 0.060\%$

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