



**National Accreditation Board for  
Testing and Calibration Laboratories**

(A Constituent Board of Quality Council of India)



**CERTIFICATE OF ACCREDITATION**

**FLUID CONTROL RESAERCH INSTITUTE**

has been assessed and accredited in accordance with the standard

**ISO/IEC 17025:2017**

**"General Requirements for the Competence of Testing &  
Calibration Laboratories"**

for its facilities at

KANJIKODE WEST, PALAKKAD, KERALA, INDIA

in the field of

**CALIBRATION**

Certificate Number: CC-2395

Issue Date: 01/07/2019

Valid Until: 30/06/2021

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website [www.nabl-india.org](http://www.nabl-india.org))

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 31 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
182	MECHANICAL-ACOUSTICS	Acoustics Power - Sound Source between 125 Hz and 16 Khz( Hemi-anechoic Chamber)	30 dBA to 140 dBA	1.4dB	Using Hemi Anechoic Chamber, Sound level Meter , Reference Sound source as per ISO 3745
183	MECHANICAL-ACOUSTICS	Acoustics Pressure - Free Field Measuring Microphones with Preamplifiers between 125Hz and 20kHz	80 dB to 84 dB	0.4 @ 125Hz to 250 Hz 0.3 @ 250Hz to 8kHz 0.3 @ >8kHz to 10kHz 0.42 @ >10kHz to 20kHz  dB to 0.4 @ 125Hz to 250 Hz 0.3 @ 250Hz to 8kHz 0.3 @ >8kHz to 10kHz 0.42 @ >10kHz to 20kHz dB	Using Anechoic chamber, Reference Microphone and Spektra control unit by Free field Calibration System as per IEC 61094-8/2012.And Comparison with Substitution
184	MECHANICAL-DENSITY AND VISCOSITY	Brookfield Viscometer	1 mPas/cSt to 23000 mPas/cSt	1.0% rdg.	Certified Viscosity liquid
185	MECHANICAL-DENSITY AND VISCOSITY	Capillary Viscometer (Kinematic Viscosity)	1 cSt to 23000 cSt	0.5% rdg.	Using Certified Viscosity liquid, Const. Temp. bath



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 32 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
186	MECHANICAL-DENSITY AND VISCOSITY	Density Hydrometer/ Specific Gravity Hydrometer / Alcoholometer / Twaddle Hydrometer / Baume Hydrometer / Brix Hydrometer / Arbitrary Scale Hydrometer at Specified Temperature	1.95 g/ml to 2.000	0.0005g/ml	Using Standard Hydrometers By Comparison Method
187	MECHANICAL-DENSITY AND VISCOSITY	Density Meter	0.756 g/ml to 1.55 g/ml	0.000025g/ml	Using Certified Density Liquids
188	MECHANICAL-DENSITY AND VISCOSITY	Density of unknown Sample (DUC) Liquid	0.756 g/ml to 1.55 g/ml	0.000028g/ml	Using Certified Density Liquids and Anton Paar Density Meter
189	MECHANICAL-DENSITY AND VISCOSITY	Density/Specific Gravity / Percentage/Arbitrary Scale (At Specified Temperature) Hydrometers	1.00 g/ml to 1.18 g/ml	0.0004g/ml	Using Standard Hydrometers By Comparison Method
190	MECHANICAL-DENSITY AND VISCOSITY	Density/Specific Gravity/Percentage/Arb bitrary Scale (At Specified Temperature) Hydrometers	0.64 g/ml to 0.98 g/ml	0.0004g/ml	Using Standard Hydrometers by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 33 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
191	MECHANICAL-DENSITY AND VISCOSITY	Density/Specific Gravity/Percentage/Arbitrary Scale (At Specified Temperature) Hydrometers	1.20 g/ml to 1.85 g/ml	0.0005g/ml	Using Standard Hydrometers By Comparison Method
192	MECHANICAL-DENSITY AND VISCOSITY	Dynamic/kinematic viscosity of unknown Sample (DUC) liquid	1 mPas/cSt to 23000 mPas/cSt	1.0% rdg.	Using Falling Ball Viscometer / Ubbelohde Capillary Viscometer
193	MECHANICAL-DENSITY AND VISCOSITY	Falling Ball Viscometer (Dynamic Viscosity)	1 mPas to 85000 mPas	0.7% rdg.	Using Certified viscosity liquid, Const. temp. bath
194	MECHANICAL-DENSITY AND VISCOSITY	Mass Flow Meter/ Densitometer / Density Measuring Instruments	1 g/ml to 2 g/ml	0.00014g/ml	Using Precision Balances and Distilled water of known density, Reference Density Meter, by Gravimetric Method
195	MECHANICAL-DENSITY AND VISCOSITY	Viscometer for Dynamic, Kinematic Viscosity	1 mPas/cSt to 60000 mPas/cSt	1.0% rdg.	Using Ubbelohde capillary viscometer/falling ball viscometer
196	MECHANICAL-DENSITY AND VISCOSITY	Zahn / Ford / Flow / Sheen Cup	1 mPas / cSt to 60000 mPas / cSt	1.0% rdg.	Using Ubbelohde Capillary Viscometer



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 34 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
197	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Angle /Box Angle plates	(125 x 75 x 100) mm to (450 x 300 x 350) mm	7.0µm	Using Coordinate Measuring Machine by Comparison Method
198	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bevel Protractor	0 deg of arc to 360 deg of arc	4' of arc	Using Angle Gauge Blocks by Comparison Method
199	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bore Gauge(Transmission Only)L.C:1 µm Probing range : Upto 2 mm	Dia. 6 mm to Dia. 600 mm	2.9µm	Using Universal Length Measuring Machine by Comparison Method
200	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Caliper Checker/Step Gauges/Check Master	20 mm to 600 mm	5.54µm	Using Coordinate Measuring Machine and Gauge Blocks by Comparison Method
201	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Calipers (Vernier/Dial/Digital) L.C.:10 µm	> 600 mm to 1000 mm	10.0µm	Using Gauge Blocks by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 35 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
202	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Calipers (Vernier/Dial/Digital) L.C.:10 µm	0 mm to 600 mm	8.0µm	Using Gauge Blocks by Comparison Method
203	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Comparator Stand (Flatness)	0 mm to (600x600) mm	6.0µm	Using Coordinate Measuring Machine by Comparison Method
204	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Co-Ordinate Measuring Machine L.C:0.1µm	0 mm to 800 mm	5.26µm	Using Gauge Blocks/Master Sphere by Comparison Method
205	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Micro Checker	2.5 mm to 150 mm	5.36µm	Using Gauge Blocks & Measuring Machine by Comparison Method
206	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Micrometer (Mech./Dial/Digital) LC : 1 µm	0 mm to 300 mm	2.7µm	Using Gauge Blocks by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 36 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
207	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Calibration TesterL.C:1 µm	0 mm to 25 mm	1.0µm	Using Gauge Blocks & Mu Checker by Comparison Method
208	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Thickness GaugeL.C:1 µm	0 mm to 10 mm	1.0µm	Using '0' Grade Gauge Blocks by Comparison Method
209	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Electronic /LVDT ProbeL.C:0.1µm	0 mm to 10 mm	1.7µm	Using Universal Length Measuring Machine by Comparison Method
210	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Electronic Comparator / Mu CheckerL.C:0.01µm	0 mm to 25 mm	0.16µm	Using Gauge Blocks by Comparison Method
211	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Electronic Frame Level, Inclinomater.Precision Levels	0 to 2000 µm/m	5.0µm/m	Using Reference Electronic Frame Level by Comparison method.



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 37 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
212	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (Mech./Dial/Digital) L.C.: 1 µm	>100 mm to 1000 mm	5.0µm	Using Gauge Blocks /Long Gauge Blocks by comparison method
213	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (Mech./Dial/Digital) L.C.: 1 µm	0 mm to 100 mm	3.0µm	Using Gauge Blocks / Long Gauge Blocks by Comparison Method
214	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler Gauge	0.01 mm to 2 mm	3.27µm	Using Universal Length Measuring Machine by Comparison Method
215	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Gauge Block CalibratorL.C:0.01µm	0 µm to 200 µm	0.065µm	Using Gr."K"Gauge Blocks by Comparison Method
216	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Gauge Blocks	> 10 mm to 50 mm	0.08	Using Gauge Block Comparator & Gr. "K" Gauge Blocks by Comparison Method





# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 38 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
217	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Gauge Blocks	> 50 mm to 100 mm	0.30µm	Using Gauge Block Comparator & Gr."K" Gauge Blocks by Comparison Method
218	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Gauge blocks	0.1 mm to 10 mm	0.053µm	Using Gauge Block Comparator & Grade "K" Gauge Blocks by Comparison Method. work instructions ref WP PSL L01.3
219	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (Dial/Digital) LC : 0.1 µm	0 mm to 600 mm	2.0µm	Using Gauge Blocks by Comparison Method
220	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (Dial/Digital)LC : 0.1 µm	> 600 mm to 1000 mm	4.0µm	Using Gauge Blocks by Comparison Method
221	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Master	5 mm to 300 mm	4.2µm	Using Gauge Blocks & Coordinate Measuring Machine by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 39 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
222	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Inside/stick micrometer (dial /digital)L.C:1 µm	0 mm to 100 mm	2.0µm	Using Universal Length Measuring Machine & Gauge Blocks by Comparison Method
223	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Type Dial Gauge	0 mm to 2 mm	1.0µm	Using Universal Length Measuring Machine / Gauge Blocks by Comparison
224	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Long Slip Gauge/Length Bar	100 mm to 500 mm	3.99µm	Using ULM &Master Gauge Blocks By Comparison Method
225	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring ScaleL.C:0.5mm	0 mm to 1000	60µm	Using Tape and Scale Calibrator by Comparison Method. work instructions ref WP PSL L28.1
226	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Tape/Pie TapeL.C:1 mm	> 1 m to 100 m	200+(200x sqrt ( L ))µm. L- length in mm	Using Tape and Scale Calibrator by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA  
Accreditation Standard ISO/IEC 17025:2017  
Certificate Number CC-2395 Page No. : 40 / 79  
Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
227	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Pin Gauge	0.5 mm to 20 mm	0.5µm	Using Universal Length Measuring Machine by Comparison Method
228	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug Gauge	Dia. 1 mm to Dia. 100 mm	1.0µm	Using Universal Length Measuring Machine by Comparison Method
229	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Ring gauge	200 mm to 300 mm	6.0µm	Using Universal Length Measuring Machine & Setting Rings by Comparison Method
230	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Ring gauge	Dia. 1 mm to Dia. 100 mm	1.5µm	Using Universal Length Measuring Machine & Setting Rings by Comparison Method
231	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Ring gauge	Dia. 100 mm to Dia. 200 mm	2.0µm	Using Universal Length Measuring Machine & Setting Rings by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 41 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
232	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger type dial gauge (Analog / digital)L.C:1 µm	0 mm to 100 mm	1.24µm	Using Universal Length Measuring Machine & Gauge Blocks by Comparison Method
233	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Precision Parallel Blocks(Parallelism)	50 mm to 500 mm	6.0µm	Using Coordinate Measuring Machine by Comparison Method
234	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Profile ProjectorAngle L.C: 1'	0 ° to 360 °	1' of Arc	Using Angle Gauge Blocks by Comparison Method
235	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Profile ProjectorLinearL.C:1 µmMagnification: Upto 50X	0 mm to 300 mm	2.0µm	Using Glass Scale by Comparison Method
236	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Profile projectorMagnification	2X to 50X	0.05%	Using Glass Scale by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA  
Accreditation Standard ISO/IEC 17025:2017  
Certificate Number CC-2395 Page No. : 42 / 79  
Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
237	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Radius Gauges	0.5 mm to 50 mm	4.0µm	Using Profile Projector by Comparison Method
238	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Reference Spheres	0.4 mm to 50 mm	0.37µm	Using universal Length Measuring Machine By Comparison Method
239	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Setting Rod / Extension Rod	20 mm to 600 mm	2.9µm	Using Universal Length Measuring Machine & Gauge Blocks by Comparison Method
240	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Straight Edge	200 mm to 2000 mm	7.0µm	Using Coordinate Measuring Machine by Comparison Method
241	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Suface Roughness Specimens /Masters	0.01 to 15	7%	Using Surface Roughness Tester by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 43 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
242	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Surface Roughness Tester	0.01 to 15	7%	Using Surface Roughness Master by Comparison Method
243	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Tape and Scale CalibratorL.C:1 µm	0 mm to 1000 mm	10µm	Using Gauge Blocks by Comparison Method
244	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test sieves	0.005 mm to 25 mm	4µm	Using Profile Projector by Comparison Method
245	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Measuring Wires	Dia. 0.15 mm to Dia. 7.0 mm	0.3µm	Using Universal Length Measuring Machine by Comparison Method
246	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Pitch Gauge	0 ° to 90 °	10' of Arc	Using Profile Projector by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 44 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
247	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Pitch Gauge	0.2 mm to 8.0 mm	4.0µm	Using Profile Projector by Comparison Method
248	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Plug Gauge	Dia. 3 mm to Dia. 100 mm	1.0µm	Using Universal Length Measuring Machine and Thread Measuring Wire by Comparison Method
249	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Ring Gauge	Dia. 3 mm to Dia. 100 mm	1.0µm	Using Universal Length Measuring Machine by Comparison Method
250	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Three Point Internal Micrometer L.C:1 µm	Dia. 3 mm to Dia.100 mm	3.5µm	Using Ring Gauges by Comparison Method
251	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Universal Length Measuring Machine L.C:0.1 µm	>100 mm to 680 mm	0.20+(L/200)µm. L - Length in mm	Using Long K Grade Gauge Blocks by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 45 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
252	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Universal Length Measuring MachineL.C:0.1 µm	0 mm to 100 mm	0.15+(L/200)µm, L - length in mm	Using K Grade Slip Gauges & Long K Grade Gauge Blocks by Comparison Method
253	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	V - BlockSymmetry Angle,Flatness, Parallelism	0 to 120 °	80" of arc, 5.36 µm	Using Coordinate Measuring Machine by Comparison Method
254	MECHANICAL-FORCE PROVING INSTRUMENTS	Load cell. Proving ring, Force Measuring Instruments	5 kN to 200 kN	0.06% rdg.	Using Morehouse Universal Calibrating Machine and 200kN Loadcell by Comparison Method as per ISO 376
255	MECHANICAL-PRESSURE BALANCE OR DEAD WEIGHT TESTER	Hydraulic Pressure - Dead Weight Tester	1 bar (g) to 60 bar (g)	0.0058% rdg.	Using Ded Weight Tester (BUDENBERG) by Effective Area determination through Cross- Float as per EURAMET cg-3
256	MECHANICAL-PRESSURE BALANCE OR DEAD WEIGHT TESTER	Hydraulic Pressure - Dead Weight Testers	>60 bar (g) to 1200 bar (g)	0.0075% rdg.	Using Dead Weight Tester (Budenberg) by Comparison Method through Cross Float as per EURAMET cg-3





# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 46 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
257	MECHANICAL- PRESSURE BALANCE OR DEAD WEIGHT TESTER	Hydraulic Pressure - Dead Weight Testers	1 bar (g) to 60 bar (g)	0.0060% rdg.	Using Dead Weight Tester(Budenberg) by Comparison Method through Cross Float as per EURAMET cg-3
258	MECHANICAL- PRESSURE BALANCE OR DEAD WEIGHT TESTER	Hydraulic Pressure – Dead Weight Testers	>60 bar (g) to 1200 bar (g)	0.0073% rdg.	Using Dead Weight Tester (Budenberg) by Effective Area Determination through Cross Float as per EURAMET cg-3
259	MECHANICAL- PRESSURE BALANCE OR DEAD WEIGHT TESTER	Pneumatic Pressure Dead Weight Tester	(0.14 to 70) bar	0.004% rdg.	Using Dead Weight Tester (Ruska) by Comparison Method through Cross Float as per EURAMET cg-3
260	MECHANICAL- PRESSURE INDICATING DEVICES	Analog / Digital Pressure Gauges, Pressure Transducers / Transmitters, Indicator of Pressure Switch, Barometer	100 mbar (abs) to 2600 mbar (abs)	0.02% rdg.	Using Digital Pressure (Druck) Comparison Method as per DKD- R6-1
261	MECHANICAL- PRESSURE INDICATING DEVICES	Analog / Digital Pressure Gauges, Pressure Transducers / Transmitters, Indicator of Pressure Switch, Barometer	2 bar (abs) to 20 bar (abs)	0.02% rdg.	Using Digital Pressure (Druck) Comparison Method as per DKD- R6-1



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 47 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
262	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure – Analog/ Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	1 bar (g) to 100 bar (g)	0.0062% rdg.	Using Dead Weight Tester (Budenberg) by Comparison Method as per DKD-R6-1
263	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure – Analog/ Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	20 bar (g) to 1200 bar (g)	0.0075% rdg.	Using Dead Weight Tester (Budenberg) by Comparison Method as per DKD-R6-1
264	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure – Analog/ Digital Pressure Gauges, Transducers / Transmitters, Indicator of Pressure Switch	20 bar (g) to 250 bar (g)	0.02% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
265	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure – Analog/ Digital Vacuum Gauges, Vacuum Transducers / Transmitters, Indicator of Pressure Switch	100 bar (g) to 1000 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
266	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Digital/Analog Vacuum Gauges/ Transducers/ Transmitters, Indicator of Pressure Switch	-0.98 bar (g) to -0.015 bar (g)	0.012% rdg.	Using Dead Weight Tester (Budenberg) by Comparison Method as per DKD-R6-1



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 48 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
267	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure – Analog/ Digital Pressure Gauges, Transducerss/ Transmitters, Indicator of Pressure Switch	10 bar (g) to 100 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
268	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	0.1 bar (g) to 2 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
269	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	0.2 mbar to 10 mbar	0.5% rdg.	Using Dead Weight Tester (Pressurements) by Comparison Method as per DKD-R6-1
270	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	10 mbar (g) to 100 mbar (g)	0.03% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
271	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	2 bar (g) to 20 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA  
Accreditation Standard ISO/IEC 17025:2017  
Certificate Number CC-2395 Page No. : 49 / 79  
Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
272	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	0.14 bar (abs) to 70 bar (abs)	0.0045% rdg.	Using Dead Weight Tester (Ruska) by Comparison Method as per DKD-R6-1
273	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	0.25 bar (abs) to 20 bar (abs)	0.0075% rdg.	Using Dead Weight Tester (Pressurements) by Comparison Method as per DKD-R6-1
274	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	0.25 bar (g) to 20 bar (g)	0.008% rdg.	Using Dead Weight Tester (Pressurements) by Comparison Method as per DKD-R6-1
275	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	30 mbar (g) to 2000 mbar (g)	0.0065% rdg.	Using Dead Weight Tester (Pressurements) by Comparison Method as per DKD-R6-1



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 50 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
276	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch, Barometers	30 mbar (abs) to 2000 mbar (abs)	0.0066% rdg.	Using Dead Weight Tester (Pressurements) by Comparison Method as per DKD-R6-1
277	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switches	0.14 bar (g) to 70 bar (g)	0.004% rdg.	Using Dead Weight Tester (Ruska) by Comparison Method as per DKD-R6-1
278	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	-10 mbar (g) to +10 mbar (g)	0.5% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
279	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Vacuum Analog/ Digital Gauges, Vacuum Transducers/ Transmitters, Indicator of Pressure Switch	-0.98 bar (g) to -0.015 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
280	MECHANICAL-TORQUE MEASURING DEVICES	Torque Wrench	2 Nm to 1500 Nm	0.1% rdg.	Using Torque Transducer as per ISO 6789



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 51 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
281	MECHANICAL-TORQUE MEASURING DEVICES	Torque Transducers, Torque Meter, Torque Master, Torque Measuring Instruments	10 Nm to 1500 Nm	0.02% rdg.	Using 1500 mm Norbar Beam and Certified Beam as per BS 7882
282	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E1 class and coarser)	200 g	0.04 g	E1 standard weights & 220 g Semi Micro Balance, d=0.01mg
283	MECHANICAL-WEIGHING SCALE AND BALANCE	Micro pipette volume measurement(contain and delivery type)	(1 to 10)µl,(>10 to 100)µl,(>100 to 1000) µl,(>1000 to 5000) µl,(5000 to 10000) µl	0.2µl,2µl,6µl,6µl,6µl	Precision Radwag (0 to 11)g/0.001 mg weighing balance,ISO 8655 part 6
284	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	0.1 N	0.0001 mN	E1 Std. weights, 11 g micro balance and Certified 'g' value
285	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton weight	0.2 N	0.0001 mN	E1 Std. weights, 220 g micro balance and Certified 'g' value
286	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	0.5 N	0.0002 mN	E1 Std. weights, 220 g micro balance and Certified 'g' value
287	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	1 N	0.0003 mN	E1 Std. weights, 220 g micro balance and Certified 'g' value
288	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	10 N	0.005 mN	E1 Std. weights, 2.5 kg balance and Certified 'g' value



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 52 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
289	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton weight	100 N, 200 N	0.2 mN	E1 Std. weights, 64 kg balance and Certified 'g' value
290	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton weight	1000 N	0.0024 mN	F1 standard weights & 150 kg sartorius balance & certified 'g' value
291	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	2 N	0.0005 mN	E1 Std. weights, 220 g micro balance and Certified 'g' value
292	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	20 N	0.006 mN	E1 Std. weights, 2.5 kg balance and Certified 'g' value
293	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	2000 N	0.003 mN	F1 standard weights & 3000 kg Mettler balance & certified 'g' value
294	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton weight	5 N	0.0024 mN	E1 Std. weights, 2.5 kg balance and Certified 'g' value
295	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	50 N	0.026 mN	E1 Std. weights, 64 kg balance and Certified 'g' value:
296	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	500 N	0.6 mN	E1 Std. weights, 64 kg balance and Certified 'g' value



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 53 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
297	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weight	5000 N	0.01 mN	F1 standard weights & 3000 kg Mettler balance & certified 'g' value
298	MECHANICAL-WEIGHING SCALE AND BALANCE	Newton Weights	0.01 N to 0.05 N	0.00007 mN	E1 Std. weights, 11 g micro balance and Certified 'g' value
299	MECHANICAL-WEIGHING SCALE AND BALANCE	Sp.gravity bottle,Pipettes,Burettes ,Measuring Flasks Glass/Plastic/Metallic wares/Dispensette, volume measurements(contain and delivery type)	(>10 to 100)ml	0.046 ml	Precision sartorius (0 to 220 ) g/0.01 mg weighing balance, ISO 4787
300	MECHANICAL-WEIGHING SCALE AND BALANCE	Sp.gravity bottle,Pipettes,Burettes ,Measuring Flasks Glass/Plastic/Metallic wares/Dispensette, volume measurements(contain and delivery type)	(>100 to 2000) ml	0.2 ml	Precision sartorius (0 to 2.5 ) kg/0.1 mg weighing balance, ISO 4787





# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 54 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
301	MECHANICAL-WEIGHING SCALE AND BALANCE	Sp.gravity bottle,Pipettes,Burettes ,Measuring Flasks Glass/Plastic/Metallic wares/Dispensette, volume measurements(contain and delivery type)	(>2000 to 4000) ml	0.3 ml	Precision sartorius (0 to 5 ) kg/1 mg weighing balance, ISO 4787:
302	MECHANICAL-WEIGHING SCALE AND BALANCE	Sp.gravity bottle,Pipettes,Burettes ,Measuring Flasks Glass/Plastic/Metallic wares/Dispensette, volume measurements(contain and delivery type)	(>4000 to 5000) ml	0.5 ml	Precision sartorius (0 to 64 ) kg/10 mg weighing balance, ISO 4787
303	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E1 class and coarser)	1 g	0.004 mg	E1 standard weights & 11 g micro balance, d=0.001mg
304	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E1 class and coarser)	1 mg to 500 mg	0.002 mg	E1 standard weights & 11 g micro balance, d=0.001mg
305	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E1 class and coarser)	10 g	0.007 mg	E1 standard weights & 11 g micro balance, d=0.001mg
306	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E1 class and coarser)	100 g	0.03 mg	E1 standard weights & 220 g Semi Micro Balance, d=0.01mg



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 55 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
307	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E1 class and coarser)	2 g to 5 g	0.005 mg	E1 standard weights & 11 g micro balance, d=0.001mg
308	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E1 class and coarser)	20 g to 50 g	0.02 mg	E1 standard weights & 220 g Semi Micro Balance, d=0.01mg
309	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E2 class and coarser)	1 kg	0.20 mg	E1 standard weights & 2.5 kg sartorius comparator d=0.1 mg
310	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E2 class and coarser)	10 kg	9 mg	E1 standard weights & 64 kg sartorius comparator d=10 mg
311	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E2 class and coarser)	2 kg	0.8 mg	E1 standard weights & 2.5 kg sartorius comparator d=0.1 mg
312	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E2 class and coarser)	20 kg	11 mg	E1 standard weights & 64 kg sartorius comparator d=10 mg:
313	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E2 class and coarser)	5 kg	2 mg	E1 standard weights & 5 kg sartorius comparator d=1 mg
314	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E2 class and coarser)	500 g	0.15 mg	E1 standard weights & 2.5 kg sartorius comparator d=0.1 mg
315	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of E2 class and coarser):	50 kg	30 mg	E1 standard weights & 64 kg sartorius comparator d=10 mg



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 56 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
316	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of F1 class and coarser)	100 kg	820 mg	F1 standard weights & 600 kg sartorius comparator d=1 g
317	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of F1 class and coarser)	200 kg	830 mg	F1 standard weights & 600 kg sartorius comparator d=1 g
318	MECHANICAL-WEIGHING SCALE AND BALANCE	Standard Weights(Calibration of F1 class and coarser)	500 kg	900 mg	F1 standard weights & 600 kg sartorius comparator d=1 g
319	MECHANICAL-WEIGHING SCALE AND BALANCE	Volume Jars, prover tanks/jars, volume measurements (Contain and delivery type)	(>100 to 250)liter	14 ml	Precision sartorius (0 to 3000) kg/0.001 kg weighing balance, ISO 4787
320	MECHANICAL-WEIGHING SCALE AND BALANCE	Volume Jars, prover tanks/jars, volume measurements (Contain and delivery type)	(>20 to 100) liter	5 ml	Precision sartorius (0 to 3000) kg/0.001 kg weighing balance, ISO 4787
321	MECHANICAL-WEIGHING SCALE AND BALANCE	Volume Jars, prover tanks/jars, volume measurements (Contain and delivery type)	(>5 to 20) litre	2 ml	Precision sartorius (0 to 64 ) kg/10 mg weighing balance, ISO 4787
322	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.001 mg	0 g to 11 g	0.004mg	Using E1 Std. Weights based on OIML R-76-1



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 57 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
323	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.001 mg	0 g to 20 g	0.011mg	Using E1 Std. Weights based on OIML R-76-1
324	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.001mg	0 g to 2 g	0.005mg	Using E1 Std. Weights based on OIML R-76-1
325	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.01 mg	0 g to 220 g	0.05mg	Using E1 Std. Weights based on OIML R-76-1
326	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.05 kg	0 kg to 2000 kg	0.1kg	Using F1 and M1 Std. Weights based on OIML R-76-1
327	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.1 mg	0 kg to 2.5 kg	0.0013g	Using E1 Std. Weights based on OIML R-76-1
328	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 10 mg	0 kg to 64 kg	0.150g	Using E1 Std. Weights based on OIML R-76-1
329	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 100 mg	0 kg to 600 kg	0.05g	Using F1 Std. Weights based on OIML R-76-1
330	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 2 kg	0 kg to 20000 kg	1.2kg	Using M1 Std. Weights based on OIML R-76-1
331	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d= 1 mg	0 kg to 5 kg	0.005g	Using E1 Std. Weights based on OIML R-76-1



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 74 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
78	FLUID FLOW- FLOW MEASURING DEVICES	Liquid Mass Flow Rate	0 t/h to 150 t/h	0.1%	Using 80 mm coriolis mass flow meter by comparison method
79	FLUID FLOW- FLOW MEASURING DEVICES	Liquid velocity	0 m/s to 10 m/s	1%	Using clamp-on ultrasonic flow meter by comparison method
80	FLUID FLOW- FLOW MEASURING DEVICES	Liquid Volume Flow Rate	0 cu.m/h to 150 cu.m/h	0.15%	Using 80 mm coriolis mass flow meter by comparison method
81	FLUID FLOW- FLOW MEASURING DEVICES	Site Calibration of Flow Meters (Medium Air)	0.00075 l/min to 650 l/min	1%	Using Thermal mass flow meters & Secondary standard by Comparison method
82	FLUID FLOW- FLOW MEASURING DEVICES	Site Calibration of Flow Meters (Medium Air)	0.00075 l/min to 650 l/min	1%	Using Thermal mass flow meters & Secondary standard by Comparison method
83	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Profile ProjectorLinearL.C:1 µmMagnification: Upto 50X	0 mm to 300 mm	2.0µm	Using Glass Scale by Comparison Method
84	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Profile projectorMagnification	2X to 50X	0.05%	Using Glass Scale by Comparison Method



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 75 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
85	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Tape and Scale CalibratorL.C:1 µm	0 mm to 1000 mm	10µm	Using Gauge Blocks by Comparison Method
86	MECHANICAL-PRESSURE BALANCE OR DEAD WEIGHT TESTER	Hydraulic Pressure - Dead Weight Testers	1 bar (g) to 60 bar (g)	0.0060% rdg.	Using Dead Weight Tester(Budenberg) by Comparison Method through Cross Float as per EURAMET cg-3
87	MECHANICAL-PRESSURE INDICATING DEVICES	Analog / Digital Pressure Gauges, Pressure Transducers / Transmitters, Indicator of Pressure Switch, Barometer	100 mbar (abs) to 2600 mbar (abs)	0.02% rdg.	Using Digital Pressure (Druck) Comparison Method as per DKD-R6-1
88	MECHANICAL-PRESSURE INDICATING DEVICES	Analog / Digital Pressure Gauges, Pressure Transducers / Transmitters, Indicator of Pressure Switch, Barometer	2 bar (abs) to 20 bar (abs)	0.02% rdg.	Using Digital Pressure (Druck) Comparison Method as per DKD-R6-1
89	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure – Analog/ Digital Pressure Gauges, Transducers / Transmitters, Indicator of Pressure Switch	20 bar (g) to 250 bar (g)	0.02% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 76 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
90	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure – Analog/ Digital Vacuum Gauges, Vacuum Transducers / Transmitters, Indicator of Pressure Switch	100 bar (g) to 1000 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
91	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure – Analog/ Digital Pressure Gauges, Transducerss/ Transmitters, Indicator of Pressure Switch	10 bar (g) to 100 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
92	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	0.1 bar (g) to 2 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
93	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	10 mbar (g) to 100 mbar (g)	0.03% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
94	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/ Digital Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	2 bar (g) to 20 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 77 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
95	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure Analog/Digital Pressure Gauges, Pressure Transducers/ Transmitters, Indicator of Pressure Switch	-10 mbar (g) to +10 mbar (g)	0.5% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
96	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Vacuum Analog/ Digital Gauges, Vacuum Transducers/ Transmitters, Indicator of Pressure Switch	-0.98 bar (g) to -0.015 bar (g)	0.017% rdg.	Using Precision Pressure Calibrator (Beamex) Comparison Method as per DKD-R6-1
97	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.001 mg	0 g to 11 g	0.004mg	Using E1 Std. Weights based on OIML R-76-1
98	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.001 mg	0 g to 20 g	0.011mg	Using E1 Std. Weights based on OIML R-76-1
99	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.001mg	0 g to 2 g	0.005mg	Using E1 Std. Weights based on OIML R-76-1
100	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.01 mg	0 g to 220 g	0.05mg	Using E1 Std. Weights based on OIML R-76-1
101	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.05 kg	0 kg to 2000 kg	0.1kg	Using F1 and M1 Std. Weights based on OIML R-76-1





# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name FLUID CONTROL RESAERCH INSTITUTE, KANJIKODE WEST, PALAKKAD, KERALA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2395 Page No. : 78 / 79

Validity 01/07/2019 to 30/06/2021 Last Amended on 12/09/2019

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured / Instrument	Measurement range and additional parameters where applicable(Range and Frequency)	Calibration and Measurement Capability(CMC)(±)	Calibration or Measurement Method or procedure)
102	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 0.1 mg	0 kg to 2.5 kg	0.0013g	Using E1 Std. Weights based on OIML R-76-1
103	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 10 mg	0 kg to 64 kg	0.150g	Using E1 Std. Weights based on OIML R-76-1
104	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 100 mg	0 kg to 600 kg	0.05g	Using F1 Std. Weights based on OIML R-76-1
105	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d = 2 kg	0 kg to 20000 kg	1.2kg	Using M1 Std. Weights based on OIML R-76-1
106	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Scale d= 1 mg	0 kg to 5 kg	0.005g	Using E1 Std. Weights based on OIML R-76-1
107	THERMAL-TEMPERATURE	Calibration of Freezer, Deep Freezer, Chamber, Oven, Auto Clave & Incubator(for non medical purpose only)	-40 °C to 180 °C	0.6°C	Using Nine PRTs (Minimum) with Data Logger Multi position Calibration (Mapping)
108	THERMAL-TEMPERATURE	Relative Humidity Indicator of Chamber@25°C	10 %RH to 95 %RH @ 25°C	0.7%RH	Thermo Hygrometer Make-Novasina Hygrodat 100 by Single position Calibration