NABL

National Accreditation Board for Testing and Calibration Laboratories

(An Autonomous Body under Department of Science & Technology, Govt. of India)

CERTIFICATE OF ACCREDITATION

FLUID CONTROL RESEARCH INSTITUTE

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

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

for its facilities at

Kanjikode West, Palakkad, Kerala

in the discipline of

FLUID FLOW TESTING

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

Certificate Number T-0027

Issue Date 31/05/2014

Valid Until 30/05/2016

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

Signed for and on behalf of NABL

N. Venkateswaran
Program Manager

Anil Relia
Director

Prof. Ashutosh Sharma
Chairman

रा.प्र.प्र.बो.

राष्ट्रीय परीक्षण और अंशशोधन प्रयोगशाला प्रत्यायन बोर्ड

(विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार के अधीन स्वायत्तशासी निकाय)

प्रत्यायन प्रमाण–पत्र

फ्लूइड कंट्रोल रिसर्च इंस्टिट्यूट

का मूल्यांकन और प्रत्यायन निम्न मानक के अनुसार

आई.एस.ओ./आई.ई.सी. 17025:2005

"परीक्षण एवं अंशशोधन प्रयोगशालाओं की सक्षमता की सामान्य अपेक्षाएँ"

पलक्कड़, केरल

में स्थित इसकी सुविधाओं के लिए

तरल प्रवाह परीक्षण

के विषय क्षेत्र में किया गया।

(इस प्रयोगशाला के प्रत्यायन के विषय क्षेत्र की जानकारी एन ए बी एल वेबसाइट www.nabl-india.org से भी प्राप्त कर सकते हैं)

प्रमाण-पत्र संख्या प-0027

जारी करने की तिथि 31/05/2014

वैधता की तिथि 30/05/2016

यह प्रमाण-पत्र उपर्युक्त मानक तथा राष्ट्रीय परीक्षण और अंशशोधन प्रयोगशाला प्रत्यायन बोर्ड की अतिरिक्त अपेक्षाओं का निरंतर संतोषप्रद अनुपालन किए जाने पर अनुबंध में निर्दिष्टानुसार प्रत्यायन के क्षेत्र के लिए वैध रहेगा।

रा.प्र.प्र.बो. की ओर से हस्ताक्षरित

एन. वेंकटेस्वरन
कार्यक्रम प्रबन्धक

अनिल रेलिया
निदेशक

आशुतोष शर्मा
प्रो. आशुतोष शर्मा
अध्यक्ष

NABL
SCOPE OF ACCREDITATION

Laboratory	**Fluid Control Research Institute, Kanjikode West, Palakkad, Kerala**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Fluid Flow Testing**	**Issue Date**	**31.05.2014**
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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**AIR DELIVERY SYTESM**			
1.	**Blower / Fan / Air/Gas Flow Measurement In Large Diameter Ducts**	Measurement Of Flow in Ducts at Labs or Site By Velocity Traversing Method Using Velocity Measuring Probes	Work Procedure No. WP-AT-09,WP-AFW-T01 ISO 3966 (Clauses 1 to 13) Annexure A, E, G) BS 848 (Part 1) (Clauses 1 to 30) ISO 10780 (Cl. 6 to 10) ANSI/AMCA 210	0.1 m/s to 80 m/s
2.	**Venting Devices/ Air Valve**	Testing of Venting Devices	Work Procedure No.WP-AT-05 API 2000 (Cl. 6, 7) ANSI/AWWA C 512-92 IS 14845 (Cl. 12)	Upto 10000 m^3/h (flow rate)
3.	**Valve/Filter/ Control Device Air Valve**	Flow Capacity, Seat Leakage, Loss Characteristics etc., Intake and Delivery Capacity of Air Valves in Ambient Condition	Work Procedure No.WP-AT-01, 02, 03, 07 IS A75.02 Cl. 4, 5.2, 8, 9 & 10 BS 5793/2.3	Pressure Upto 20 bar (g) Flow Rate Upto 10,000 m^3/h
4.	**Safety Relief Valves**	Flow Capacity, Seat Leakage, Blow Down, Lift	Work Procedure No.WP-HPB-T01 ASME PTC 25 (Cl. Except 4-3, 4-5, 4-6, 4-8 & 4-10)	Size : 100 mm NB Set Pressure : 16 bar

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5.	**Gas Regulator**	Type Approval Tests for Constructional and Functional Requirements **Test Details As Per EN 334** Dimensional Check and Visual Inspection (As Per EN 334) Verification of the Strength of Pressure Containing Parts and Inner Metallic Partition Walls Shell And Inner Metallic Partition Walls Strength Test External Tightness Test Check of Internal Sealing, Setting, Lock Up Pressure And Simplified Test Method for Accuracy Class Determination of Performance Curves and Verification of Hysteresis Band Determination of Lock Up Pressure and Verification of Internal Sealing Determination of Accuracy Class Lock Up Pressure, Class of Lock Up Pressure Zone, he Maximum Accuracy Flow Rate and the Minimum Flow Rate Related to given Range of Inlet Pressure Operational Check at Limit Temperatures of -20 °C and 60 °C	Work Procedure No. WP-AT-13 BS EN 334 (All Cl. Except 7.7.7.4.6 , 7.7.8.1 & 7.7.8.8) BS EN 88-1 (Cl. 7.1 to 7.8, 7.101.1 to 7.101.7, 9.1) BS EN 88-2 (Cl. 7.1 To 7.7)	Size : 3" NB Flow Range: Upto 160 m^3/h Pressure: Upto 20 Bar

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Gas Regulator	**Test Details As Per EN 88-1 & EN 88-2** External And Internal Leak Tightness Test (As Per EN 88-1 & EN 88-2) Torsion & Bending (As Per En 88-1 & En 88-2) Rated Flow Rate Test (As Per En 88-1) Pressure Regulator Performance (As Per En 88-1) Endurance Test (As Per En 88-1 & En 88-2) Lock-Up Pressure Test (As Per En 88-1 & En 88-2) Safety-Shut-Off Device Accuracy Group Test For Overpressure (As Per En 88-2) Safety Shut Off Device Test (As Per EN 88-2)	Work Procedure No. WP-AT-13 BS EN 334 (All Cl. Except 7.7.7.4.6, 7.7.8.1 & 7.7.8.8) BS EN 88-1 (Cl. 7.1 To,7.8, 7.101.1 To,7.101.7,9.1) Bs En 88-2 (Cl. 7.1 To 7.7)	Size : 3" Nb Flow Range: Upto 160m^3/h Pressure Upto 20 Bar

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
6.	**Diaphragm/Dry/ Domestic Gas Meters**	Initial Accuracy Test	Work Procedure No. WP-AT-11	0.05 to 40 m^3/h
		Starting Flow Rate	BS EN 1359	0.0012 to 40 m^3/h
		External Leak Tightness	(All Cl. Except 6.3.2.1.1 to 6.3.2.1.5, 6.5.3, 6.5.5, 7.3.2, 7.3.3 & 7.3.4)	Upto 20 bar g
		Endurance Test		Upto 5000 hr
		Impact Test		3 Joules & 5 Joules
		Vibration Test	Work Procedure No. WP-AT-11	10 Hz to 150 Hz
		Humidity Test	IS 14439 (Part 2)	10 to 95 % RH
		Ultraviolet Radiation Test	Cl. 1 to 10	275 watts to 300 watts
		Pressure Absorption		Upto 5 mbar
7.	**Hydrostatic Test of Spools, Flow Meters And Fittings**	Hydrostatic Test	Work Procedure No. WP-AHP/HPT	300 Bar
II.	**WATER**			
1.	**Domestic Water Meter**	Hydrostatic Pressure Test	IS 779: 1994	Upto 20 bar
		Accuracy Test	ISO 4064/1: 1993/2005	Upto 30 m^3/h
		Pressure Loss Test	IS 6784: 1996	Upto 1 bar
		Temp. Suitability Test	ISO 4064/3: 1999/2005	Upto 50 °C
		Endurance Test		1 lakh cycles
2.	**Bulk Water Meter**	Hydrostatic Pressure Test	IS 2373: 1981	Upto 20 bar
		Accuracy Test	ISO 4064/1: 1993/2005	30 to 4500 m^3/h
		Pressure Loss Test	ISO 4064/3: 1999/2005	Upto 1 bar
		Endurance Test		1000 hours

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3.	**Flow Meter (Upto 600 Mm Size)**	Accuracy Test & Repeatability Tests	OIML R 117 OIML R 105	Upto 2500 m^3/h
		(Prior to & After Endurance Test)		100 hours
		Endurance Test for 100 Hrs		10 bar
		Pressure Loss Across Meter		55 C
		Dry Heat Test		-25 C
		Cold Test		-25 to 55 C RH 95 %
		Damp Heat (Cyclic) Test		230 + 10 %
		Power Voltage Variation Tests		230 – 15 %
4.	**Control Valve (Upto 600 Mm Size)**	Control Valve Capacity Test	ANSI/ISA 75.01: 1995	Valve size Upto 900 mm NB
		Inherent Flow Characteristics	ANSI/ISA 75.02: 1996	
		Liquid Pressure Recovery Factor Test	ANSI/ISA 75.11: 1997 IS 10189: 1993	
	Control Valve (Upto 1200 mm Size)	Control Valve Capacity Test	ANSI/ISA 75.01: 1995	Valve size Upto 600 to 1200 mm NB
		Inherent Flow Characteristics	ANSI/ISA 75.02: 1996 ANSI/ISA 75.11: 1997 IS 10189: 1993	
5.	**Valves**	Fugitive Emission Test	ISO DIS 15848-1: 2004 ISO DIS 15848-2: 2004 ANSI ISO 93.00: 1999	Upto # 600 class - 195 °C to 400 °C 250 bar
		Hydrostatic/Seat Leakage Test	ANSI B 16.104 BS 5146: 1984	Valve size Upto 600 mm NB
		Cryogenic Testing	BS 6364 BS 5146: 1984	300 mm NB Ambient Upto 196 °C

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6.	**Butterfly Valve**	Butterfly Valve Proof Of Design Testing	AWWA M49-2001 BS 5155 IS 13095: 1991	Valve size Upto 1200 mm NB

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