



# e-Course on Air/Natural Gas Meter Calibration Techniques & Validation

**26 AUGUST 2020**



Course Organised by:

**फ्लूइड कंट्रोल रिसर्च इंस्टिट्यूट**  
**FLUID CONTROL RESEARCH INSTITUTE**

(ISO 9001: 2008 प्रमाणित, एन ए बी एल मान्यता प्राप्त संगठन)  
(ISO 9001: 2008 Certified, NABL accredited organisation)  
(यलात्रंम मयदु कनर्जिवास रओ गोयदुतीराभ, (राकरस तराभ  
(Ministry of Heavy Industries & Public Enterprises, Govt. of India)  
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Kanjikode West, Palakkad – 678 623, Kerala.

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# About FCRI

FCRI, a state of the art flow and fluid engineering facility, first of its kind in South East Asia is dedicated to Research & Development in Fluid Flow Measurement & Control Techniques. About 100 sponsored Projects for various reputed organisations have been successfully completed by the Institute. The Institute provides facilities towards technological developments to the flow product industries and serves as a National Certifying Authority and Quality / reliability evaluation facility. The Institute also provides facility for calibration of mechanical, thermal, electrical parameters, noise, vibration etc. Apart from testing and calibration, the Institute conducts National and International training programmes in the field of flow control, measurement & Instrumentation, Calibration and related areas.

## About the Programme

Gas flow measurements play a very vital role in petrochemical industries and process plants. Flow measurement and control is an essential requirement for assuring the quantity as per the relevant standards and the safe operation of the piping network and personnel involved. The course is designed to deal with all the relevant aspects of gas flow measurement and control and will also cover the new technological developments in the field.

## Contents

The above e-course on Air / Natural Gas meter calibration techniques & validation discusses the various calibration techniques followed for calibration of flow meters used for Air/natural gas application with best possible uncertainty. It also explains the metering techniques practiced in industries for metering of piped natural gas and type tests followed as per OIML/BIS and BSEN standards for model approved certification of PNG meters. Course content also include the primary gravimetric systems equipped at FCRI facilities for calibration of precision gas meters used in Air / natural gas industries and methods to maintain the traceability chain. The site validation methods and guidelines recommend in AGS Standards for checking of Ultrasonic Gas meters will also be discussed in the at learning programme



## Target Group

Personnel from Mechanical, Instrumentation, Chemical, Petroleum or Electrical Engineering with a background of industrial Instrumentation and control in gas flow measurement and related field. Participants may be from gas industries, flow meter manufacturers, Flow meter user industries, consultant engineers, Govt Regulatory bodies, Research institutes, Academic institutions etc.

## Technical Requirements

This e-course will be conducted on Microsoft Teams platform

## Fees

### Fees (Non Residential)

#### For Participants working in India :

**Rs. 3,000/- + 18% GST Rs.540/- Total Rs. 3,540/- per participant + 1% KFC (as applicable)**

**For Participants from abroad: US \$ 176 + GST 18 % US\$ 32 + Charge Us \$ 20 = Total US \$ 228/- per foreign participant + 1% KFC (as applicable)**

#### we accept e-payment only

**Bank Details : State Bank of India(SME Branch) Kanjikode west, Palakkad - 678 623**

**Account Name : Fluid Control Research Institute**

**Account No. : 10258760349 & IFSC Code : SBIN0006640**

**Please email GST identification number, invoice address and e-payment details to [training@fcriindia.com](mailto:training@fcriindia.com)**



**DISCOUNT  
PATTERN FOR  
PARTICIPANTS  
FROM SAME  
ORGANISATION**

<b>2-3 person – 5%</b>
<b>4-5 person - 10%</b>
<b>6 and above - 20%</b>

# NABL Approved Test Facilities

Gas Meters	OIMLR137-1 Model Approval
Gas Regulators	BS EN 334
Diaphragm Gas meters	BS EN 1359 Model Approval
Liquid Meters / Water Meters	All test as per IS6784, IS779, IS2373, IS04064
Safety Relief Valves	ASME PTC 25
Venting devices/air valves	API 2000
Butterfly Valves & Actuators	POD tests as per AWWA C504 & C540
Control Valves/Actuators	Cv, FL, Seat leakage test, Fugitive emission, cryogenic testing, torque
Liquid Flow Meters	As per relevant standards



## Other test

Life Cycle Tests & Cavitation Tests for valves

## Recognition of FCRI

Agency	Category
National Accreditation Board for Testing and Calibration Laboratories (NABL)	Calibration/Testing of Flow Products, Mechanical Measurements Thermal Calibration, Electro Technical Calibration
Netherlands Measurement Institute (NMI)	CLATF (20 Bar, 400 m <sup>3</sup> /h) of FCRI complies with the criteria for Calibration Laboratories as per ISO/IEC 17025
Department of Science & Technology	Recognized R&D Institute
Department of Weights & Measures (Ministry of Civil Supplies)	Model Approval tests on flowmeter for custody transfer of oil/gas as per OIML Standard
Chief Controller of Explosives, Nagpur	Testing of Safety Relief Valves
Bureau of Indian Standards	Testing of Water Meters, Anemometers etc.
Institution of Fire Engineers, New Delhi	Hydraulic Qualification tests on fire fighting equipments
Central Pollution Control Board	Certification of Petrol, Kerosene & Diesel Generators for type approval
Nuclear Power Corporation	Seismic Studies for Power plant Equipments
Ministry of External Affairs (ITEC) & Ministry of Finance, Dept. of Economic Affairs (Colombo Plan)	Training programmes for Foreign Nationals on Flow Measurement and Instrumentation for Oil Gas & Water utilities/industries
GCAS Quality Certification Pvt. Ltd	ISO 9001:2008 Certification in Calibration & testing of fluid flow component, calibration of mechanical, electro technical, thermal instruments, flow calibration & measurements at site, project consultancy & implementation, professional training.

## Registration

Registration for the training program can be confirmed by sending the details: Name, Designation, Organisation, Postal Address Email/Phone/Fax/Post to the address given below. The course fee is to be remitted in advance through crossed Demand Draft favouring "Fluid Control Research Institute", payable at Palakkad. The registration must be completed on or before 25th August. 2020.

**For further information & registration, please contact:**

**Head Training**  
**Fluid Control Research Institute**  
**Kanjikode West, Palakkad-678623, Kerala, India**  
**Telephone: 0491-2566206, 2566120,**  
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