

प्रशिक्षण विवरण-पत्र २०२३



फ्लूइड कंट्रोल रिसर्च इंस्टिट्यूट FLUID CONTROL RESEARCH INSTITUTE

आई. एस . औ . 9001 : 2015 & आई. एस . औ
17025:2017 प्रमाणित एन. ए . बी. एल . प्रत्यायित संगठन
(भारत सरकार, भारी उद्योग मंत्रालय के अधीन)
कंजीकोड (पश्चिम), पालक्काड, केरला – 678 623, भारत.
फ़ोन : 0491 – 2566119 / 2566120 / 2566206 / 2569010.
Extn: 131,183,110. Fax: 0491 – 2566326.
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वेबसाइट : WWW.fcriindia.com

An ISO 9001:2015 & ISO 17025:2017 Certified
NABL accredited organization
(Under Govt. of India, Ministry of Heavy Industries)
Kanjikode (West), Palakkad, Kerala – 678 623, India
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From the Institute

Fluid Control Research Institute (FCRI), a state of the art Fluid flow Engineering facility was established in 1989 with techno-commercial inputs from UNDP/UNIDO and transfer of technical expertise from globally reputed facilities like NEL(UK), NRLM(Japan) and Delft Hydraulics(NL) etc. Since then it has grown to become a trusted and renowned Institution in the field of flow measurement and control.

In the present highly competitive and dynamic business scenario, FCRI has been keeping up with the pace of demands for increasing accuracy regimens for its reference systems and capabilities. The Test, Research and Calibration facilities are continually upgraded, updated and expanded to ensure that they continue to be among the best in the world. Regular Inter-Comparison exercises, International certification and validations, stringent Quality Audits, trained manpower and professionalism are the key to its high levels of reputation and credibility.

FCRI believes in the philosophy of giving back to the industry its expertise and solutions nurtured over the last 33 years period. Our reputed and much sought after Technical Training Programs, both standard and customized, are specifically designed to develop, enhance and equip the industry with the latest principles, technologies and applications in Instrumentation, Flow Measurement and Control, Calibration Management Practices, Custody Transfer and Legal Metrology aspects. We encourage you to get in touch with us to know more about our Corporate Training Courses that have been popular with our loyal clientele such as ONGC, GAIL, IPCL, MRPL, Weights & Measures Department, Water Authorities, Reliance, Kerala Food Safety Department, Petronet etc.

Knowledge dissemination through National / International Training programs under the ITEC scheme sponsored by Ministry of External Affair, Govt. of India and also under a self- financing scheme are regular activities. About 97 such training programs have been conducted so far and about 1340 foreign nationals from more than 95 countries have benefited from these programs. The training programs provide a platform for eye to eye interaction between FCRI faculty and engineers from the industry field. This facilitates a direct knowledge transfer and also helps in understanding the field problems better.

Our earnest request to all professionals and end -users is to become partner of these Training programmes and help the nation in its march to Make in India programme and Atmanirbhar Bharat.

Welcome to FCRI.



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TRAINING PROGRAMS FOR THE YEAR 2023

TRAINING PROGRAMS FOR EXECUTIVES

Sl. No	Series	Program	Duration	Date	Fee per Participant (Including GST@18%)
1.	238	Advanced Water Flow Measurement & Instrumentation – Principles and Practice	3 days	15 th to 17 th March 2023	Rs. 18213* US \$ 902**
2.	239	City Gas Distribution (CGD) Flow Metering and Reconciliation	3 Days	10 th to 12 th April 2023	Rs. 18213* US \$ 902**
3.	240	Liquid Hydrocarbon flow Measurement & Custody Transfer	3 Days	21 st to 23 rd June 2023	Rs. 18213* US \$ 902**
4.	241	Gaseous Hydrocarbon flow measurement & Custody Transfer	3 Days	4 th to 6 th July 2023	Rs. 18213* US \$ 902**
5.	242	Metrology, Pressure, Temperature Measurements and Calibration	3 Days	2 nd to 4 th August 2023	Rs. 18213* US \$ 902**
6.	243	Control Valves & Actuators	3 Days	10 th to 12 th October 2023	Rs.18213* US \$ 608**
7.	244	On the job training for field engineers on flowmeters & calibration techniques	4 Days	14 th to 17 th November 2023	Rs. 24284* US \$ 1196**

*Special 10% discount for nominating 5 or more participants from same organization

*For Indians working in India

**For those working abroad changes in Tax at the time of Registration will be applicable for all the courses (FCRI GSTIN : 32AAAAF0138K1Z6)

CUSTOMIZED TRAINING PROGRAMMES CONDUCTED BY FCRI IN RECENT PAST

Sl. No	Courses	Course Title	Course Duration
1	ITI Limited, Palakkad	Laboratory Quality management & Internal Audit as per IS/ ISO/IEC 17025:2017	4 Days
2.	Global Industrial Services, Oman Muscat	Metrology, Pressure, Thermal and Electro Technical Measurements	2 Days
3	M/s Reliance Gas Transportation Infrastructure Ltd., (RGTIL), Navy Mumbai	Natural Gas Measurement for RGTIL's Field & Measurement Engineers for RGTIL Engineers	5 Days
4	Kerala Water Authority	Water Transmission and Distribution Engineering	3 Days
5	M/s Dar Es Salam Water & Sewerage Authority, Tanzania	Testing & Calibration of Water Flow Meters	10 Days
6	M/s ONGC, Vadodara	Oil & Gas Flow Measurement CTMS for ONGC Engineers	5 Days
7	M/s Gail, Jaipur	Measuring Instruments & Calibration for GAIL Engineers	5 Days
8	Ministry of Consumer Affairs, Legal Metrology, New Delhi	Fuel dispensers for DIESEL/PETROL/LPG for Legal Metrology Officials	5 Days

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PROGRAM SERIES 238

Course on “Advanced Water Flow Measurement & Instrumentation – Principles and Practice”

OBJECTIVES

The course covers basics of flow metering and recent trends in Industrial Flow Measurement

Dates : 15th to 17th March 2023

Time: 9.30 AM to 5.00 PM (IST)

TARGET GROUP

It is designed specifically to cover interests of Technical personnel involved in and experienced in fields related to Water Supply Industry, personnel responsible for Design/Maintenance of Water Supply System, Consultants, Flow meter Manufacturers/Suppliers, Hydel Power Plants, Water Resources Management Departments, Water Treatment Plant Engineers. etc.

COVERAGE

- Principles and practice of flow measurement
- Calibration Techniques – Gravimetric, Volumetric,
Master meter / Meter Prover methods & standards
- Uncertainty estimation as per ISO / NABL Norms
- Flow measurement techniques for large ducts
- Traceability and intercomparison exercises
- Laboratory sessions – Flow meter calibration
- Domestic Water Meters



Indian Nationals Working in India, Course Fees Rs. 15435 GST @ 18%: Rs. 2778, Total RS. 18213.

Others / those working abroad: Course fees: US\$ 882, Processing Fee: US\$ 20, Total US\$ 902.

Quantity Discount

- i. 2 – 4 Persons: 5% ii. 5 Persons and above: 10%

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PROGRAM SERIES 239

Course on "City Gas Distribution (CGD) Flow Metering and Reconciliation"

OBJECTIVES

Gas flow measurements play a very vital role in CGD. Flow measurement and control is an essential requirement for assuring the quality 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 associated with CGD and will also cover new technological developments in the field.

COVERAGE

- Natural Gas properties for flow measurement
- Metering & Calibration Techniques
- Domestic Gas/ City gas metering
- Turbine Flow Meter & Rotary Position Displacement Gas meter : AGA 7 application
- Performance Evaluation of Gas flow meter
- Pressure and temperature Measurement and Calibration
- General aspects of CGD reconciliation process
- Automated Meter Reading
- CNG Dispenser
- Model approval of dispensers.



Dates: 10th to 12th April 2023
Time : 9.30 AM to 5.00 PM (IST)

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, CGD networks.

Indian Nationals Working in India, Course Fees Rs. 15435 GST @ 18%: Rs. 2778, Total RS. 18213.

Others / those working abroad: Course fees: US\$ 882, Processing Fee: US\$ 20, Total US\$ 902.

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PROGRAM SERIES 240

Course on “Liquid Hydrocarbon flow Measurement & Custody Transfer”

OBJECTIVES

The course covers basics bulk liquid measurement for oil companies and custody transfer measurements.

Dates: 21st to 23rd June 2023

Time: 9.30 AM to 5.00 PM (IST)

COVERAGE

- Fundamentals of Flow Measurement for petroleum liquids
- Coriolis mass flow meters
- Ultrasonic Flow Meters
- Calibration of Flow Meters & CNG Dispensers - Field Experience/ Pipe Provers
- Uncertainty Estimation in Flow Measurement as per ISO/NABL Guidelines
- Model Approval of Flow Meters / Flow products as per OIML R 117
- Multiphase flow metering
- Selection and sizing of Flow Meters
- Installation Effects and recommendation Flow Meter performance.
- Calibration of flow meters (Laboratory sessions)

TARGET GROUP

Metering and Instrumentation Engineers, Production and Reservoir Engineers, Hydrocarbon Accountants, Product Suppliers, Metering System Vendors, Government Agencies, Researchers.

This course has been designed to cover the interests of petroleum production and process industries, Power sector, flow meter manufacturers, dispenser manufactures and users, aviation industry, pipeline transporters (petroleum product), research organizations and academic institutions.



Indian Nationals Working in India, Course Fees Rs. 15435 GST @ 18%: Rs. 2778, Total RS. 18213.

Others / those working abroad: Course fees: US\$ 882, Processing Fee: US\$ 20, Total US\$ 902.

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ii. 5 Persons and above: 10%

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PROGRAM SERIES 241

Course on “Gaseous Hydrocarbon flow measurement & Custody Transfer”

OBJECTIVES

Natural 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 quality 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.

COVERAGE

- Natural Gas properties, AGA 8
- Orifice meters for gas flow measurement AGA 3
- Turbine Gas meter – AGA7
- Performance Evaluation / Calibration of Gas flow meter
- Pressure and Temperature Measurement
- Ultrasonic Flow Meters as per AGA 9
- Auditing of Gas metering systems at Site
- Flow computers & Validation / Calibration needs

Dates: 4th to 6th July 2023

Time: 9.30 AM to 5.00 PM (IST)

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, other related industries like refineries, power plants, fertilizers, R&D organizations or academic institutions.



Indian Nationals Working in India, Course Fees Rs. 15435 GST @ 18%: Rs. 2778, Total RS. 18213.

Others / those working abroad: Course fees: US\$ 882, Processing Fee: US\$ 20, Total US\$ 902.

Quantity Discount

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PROGRAM SERIES 242

Course on “Metrology, Pressure, Temperature Measurements and Calibration”

OBJECTIVES

National and International trade depends on acceptable systems of measurement standards for efficient operation. Recognizing the critical role of metrology, the International Standards Organisation (ISO) has given it a due important place in the International Quality Standards ISO 9000, 14000 & 18000 series by incorporating specific clauses on Calibration and Traceability. The course covers specification of laboratory reference equipments, testing and calibration techniques including documentation, traceability, uncertainty evaluation as required by ISO 17025/NABL 141 guidelines for accreditation of laboratories.

Dates: 2nd to 4th August 2023
Time: 9.30 AM to 5.00 PM (IST)

TARGET GROUP

Personnel with 2-3 years experience in Metrological or inspection sectors and quality groups from Engineering Industries, Industrial Process Control & Instrumentation and other related areas can participate.

COVERAGE

- Dimensional Metrology, Precision Measurement and their Calibration Techniques
- Mass Metrology (Mass, Density) and Calibration Techniques
- Pressure Measurement and their Calibration
- Temperature Measurement and their Calibration
- Laboratory Accreditation as per NABL Norms
- Traceability and Inter-comparison Campaigns
- Assessment of Uncertainty of Measurements for Laboratory Environments
- Laboratory sessions



Indian Nationals Working in India, Course Fees Rs. 15435 GST @ 18%: Rs. 2778, Total RS. 18213.

Others / those working abroad: Course fees: US\$ 882, Processing Fee: US\$ 20, Total US\$ 902.

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Course on “Control Valves & Actuators”

OBJECTIVES

The course presents a practical approach to selection, sizing, installation and performance evaluation of control valves/actuators. These elements form critical control device in industrial/process piping/flow systems. The course also covers matching of valve/actuator technical specifications and system operational parameters.

Dates: 10th to 12th October 2023
Time: 9.30 AM To 5.00 PM (IST)

TARGET GROUP

Personnel who are involved in design, selection, installation or operation of Valves and Actuators within the Oil & Gas, Petroleum, Water, Chemical Process, Pharmaceuticals, plastics, Paper and Food Industries. A basic understanding of flow measurement/control requirements & applications would be advantageous.

COVERAGE

- Basics of Control Valves & Actuators
- Selection and Sizing of Control Valves and Matching Actuator.
- Cavitation in Valves - Theory and Testing
- Valves for Cryogenic Services - Test Program
- Performance Evaluation of Control Valves and Actuators
- Tests on Valves for Nuclear Applications
- Fugitive Emission – Testing of valves
- Endurance/Life Cycle Test of Valves and Actuators

LABORATORY SESSIONS

- Flow Coefficient Test of Valves
- Fugitive emission testing of Valves



Indian National Working in India Course Fees: Rs. Rs. 15435 GST @ 18%: Rs. 2778,
Total RS. 18213

Others / those working abroad: Course Fees: US\$ 882, Processing Fee: US\$ 20, Total US\$ 902

Quantity Discount

- 2 – 4 Persons: 5%
- 5 Persons and above: 10%

PROGRAM SERIES 244

On The Job Training for Field Engineers on Flowmeters & calibration Techniques

OBJECTIVES

The course envisages to cater to the requirements of technical personnel from Petroleum, Natural gas, petrochemical, Process and Manufacturing Industries for on the job training of flow metering and auxiliary measurement system for both liquid and gas flow measurement.

Dates: 14th to 17th November 2023

Time: 9.30 AM To 5 PM (IST)

TARGET GROUP

Technical Personnel from Mechanical, Instrumentation, chemical, Petroleum, Electrical Engineering or related background with exposure to Industrial Instrumentation. The course will benefit Oil/Gas Metering Engineers, Instrumentation Engineers, Process Control Engineers, Production and Reservoir Engineers, Laboratory Engineers, Quality Managers, Hydrocarbon Accountants, Metering system vendors, Flow meter Manufacturers, Product Suppliers, Government Regulators, Researchers and others from related fields.

COVERAGE

- Calibration of Flow meters using primary and secondary standards.
- Pressure measurement and Calibration
- Calibration of dimensional parameters
- Uncertainty analysis and preparation of uncertainty budget.
- Laboratory session on Flow and its secondary parameters.



Indian Nationals Working in India, Course Fees Rs. 20580 GST @ 18%: Rs. 3704.4,
Total RS. 24284

Others / those working abroad: Course fees: US\$ 1176, Processing Fee: US\$ 20, Total US\$ 1196.

Quantity Discount

- 2 – 4 Persons: 5%
- 5 Persons and above: 10%



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TRAINING PROGRAMME HITHERTO

Sl. No	Program	No. of Programs	Duration	Participants
1	Training Programs for Executives	215	2 to 5 days	Participants from various industries
2	Customized / Tailor made Training Program	162	3 to 5 days	Participants from ITI, GIS, HPCL, HAL, TNPEC, ONGC, GAIL, Naval Dockyard, Reliance, etc.
3	Post Graduate Certificate Program	23	3 months	329 Fresh engineers
4	International Training (ITEC Program of MEA)	97	2 to 3 months	Above 1340 Participants from 95 Partner Countries
5	E – ITEC Training Program	4	5 days	54 Participants from 15 Partner Countries
6	Inplant Training Program	16	4 to 7 days	Participants from various industries



A glimpse of training program at FCRI

BANK DETAILS

Training course fee to be paid by e-payment (RTGS/NEFT) only
State Bank of India (SME branch) Kanjikode West, Palakkad – 678623
Account No. 10258760349. IFSC Code: SBIN0006640.
GSTIN: 32AAAAF0138K126. PAN: 32AAAAF0138K

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