

TRAINING CALENDAR 2024



फ्लूइड कण्ट्रोल रिसर्च इंस्टिट्यूट
FLUID CONTROL RESEARCH INSTITUTE

आई. एस. ओ. 9001 : 2015 प्रमाणित एन. ए. बी. एल. प्रत्यायित संगठन **An ISO 9001:2015 Certified NABL accredited organization**
(भारत सरकार, भारी उद्योग मंत्रालय के अधीन) **(Under Govt. of India, Ministry of Heavy Industries)**
कंजीकोड (पश्चिम), पालक्काड, केरला – 678 623, भारत. **Kanjikode (West), Palakkad, Kerala – 678 623, India**
Phone: 0491 – 2566119 / 2566120 / 2566206 / 2569010. Extn: 131,183,110. Fax: 0491 – 2566326.

Email: training@fcridia.com, trainingfcridia@gmail.com.

Web Site: WWW.fcridia.com

From the Director

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 34 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 Affairs, Govt. of India and also under a self- financing scheme are regular activities. About 100 such training programs have been conducted so far and about 1380 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.

Dr.S.Ram Mohan
Director (i/c)

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TRAINING PROGRAMS FOR THE YEAR 2024

TRAINING PROGRAMMES FOR EXECUTIVES

Sl. No	Series	Program	Duration	Date	Fee per Participant (Including GST@18%)
1.	245	Advanced Water Flow Measurement & Instrumentation – Principles and Practice	3 days	21 st to 23 rd February 2024	Rs. 18213 US \$ 902
2.	246	Advanced Air Flow Measurement & Instrumentation – Principles and Practice	3 days	10 th to 12 th April 2024	Rs. 18213 US \$ 902
3.	247	Gaseous Hydrocarbon flow measurement & Custody Transfer	3 Days	19 th to 21 st June 2024	Rs. 18213 US \$ 902
4.	248	Noise & Vibration Measurements and Calibration	2 Days	1 st to 2 nd August 2024	Rs. 12142 US \$ 608
5	249	Water Transmission, Pumps, Valves and Control Systems	3 Days	18 th to 20 th September 2024	Rs. 18213 US \$ 902
5.	250	Metrology, Pressure, Temperature Measurements and Calibration	3 Days	16 th to 18 th October 2024	Rs. 18213 US \$ 902
6.	251	City Gas Distribution (CGD) Flow Metering and Reconciliation	3 Days	18 th to 20 th December 2024	Rs. 18213 US \$ 902

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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., (RG TIL), Navy Mumbai	Natural Gas Measurement for RG TIL's Field & Measurement Engineers for RG TIL Engineers	5 Days
4	Kerala Water Authority	Water Transmission and Distribution Engineering	3 Days
5	M/s Dare – e – Salam Water & Sewerage Authority, Tanzania	Testing & Calibration of Water Flow Meters	10 Days
6	M/s ONGC, Vadodara	Oil & Gas Flow Measurement CTMS	5 Days
7	M/s Gail, Jaipur	Flow Measuring Instruments & Calibration	3 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 245

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: 21st to 23rd February 2024

Time: 9.30 Am to 5Pm (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

- Calibration Techniques – Gravimetric, Volumetric, Master meter, Meter Prover etc.
- Electronic flow meters
- Turbine flow meters and P. D. meters for Liquids
- Differential Pressure flow meters
- Uncertainty estimation as per ISO / NABL Norms
- Ultrasonic Flow meters
- Cv testing of Control Valves
- Model approval testing of flow metering system as per OILM R117
- Flow measurement techniques in large ducts
- Testing of 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.

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PROGRAM SERIES 246

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

OBJECTIVES

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

Dates: 10th to 12th April 2024

Time: 9.30 Am to 5Pm (IST)

COVERAGE

- Performance evaluation Air/Gas at Near atmospheric condition.
- Performance evaluation Air/Gas up to 20 bar pressure.
- Domestic Gas / City gas metering and Model approval
- Measurement Uncertainty
- Uncertainty Evaluation in Calibration – Case Study
- Industrial flow meter and their applications
- Ultrasonic flow meter for Gas flow measurement
- Laboratory Accreditation procedures

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.



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PROGRAM SERIES 247

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.

Dates: 19th to 21st June 2024

Time: 9.30 Am to 5Pm (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.

COVERAGE

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



**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 248

Course on “Noise & Vibration Measurements and Calibration”

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: 1st to 2nd August 2024

Time: 9.30AM To 5 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

- Noise Levels from Control Valves
- Seismic qualification test as per the standard IEEE 344
- Vibration testing aspects National/International Standards
- Introduction to vibration sensors and calibration
- Introduction to acoustic sensors and calibration
- Acoustic measurement & Testing
- Vibration measurement & Testing

LABORATORY EXPERIMENTS

- Seismic Testing of Valves
- Special Test on Valves



Indian Nationals Working in India, Course Fees Rs. 10,290 GST @ 18%: Rs. 1852, Total RS. 12142.

Others / those working abroad: Course fees: US\$ 588, Processing Fee: US\$ 20, Total US\$ 608.

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PROGRAM SERIES 249

Course on “Water Transmission, Pumps, Valves and Control Systems”

OBJECTIVES

This Course has been designed to provide a in depth knowledge of water transmission, pumps, valves and control systems used in water transmission and distribution.

Dates: 18th to 20th September 2024

Time: 9.30AM To 5 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.

COVERAGE

- Pumps & Pumping Systems for Water Industry .
- Design of Gravity and Pumping Main.
- Testing of Valves.
- Hydraulic Transients in Transmission Systems.
- Flow measurement in large diameter pipes.
- Control System And Management Information. System (MIS) For Water Utility.
- Flow Meters for Water Industries.



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 250

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: 16th to 18th October 2024

Time: 9.30 Am to 5Pm (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 / Calibration Techniques
- Mass Metrology (Mass, Density, Volume etc) and Calibration Techniques
- Pressure Metrology and Calibration of Pressure Measuring Instruments
- Thermal Metrology and Calibration of Temperature Measuring Instruments
- Laboratory Accreditation as per NABL Norms
- Traceability and Inter-comparison Campaigns
- Quality Standards and Relevance of Calibration
- Assessment of Uncertainty of Measurements for Laboratory Environs
- Uncertainty Estimation – case studies
- Lab Video sessions



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PROGRAM SERIES 251

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

- Flow Measurement Gas properties, Metering Calibration
- TFM/RPD Gas meter - AGA 7
- Pressure Measurement and Calibration
- Temperature measurement & Calibration
- Performance Evaluation of Gas flow meter / (Lab Videos)
- General aspects of CGD reconciliation
- Domestic Gas/ City gas metering and Model approval
- Ultrasonic/Automated Meter Reading
- CNG Dispenser



Dates: 18th to 20th December 2024
Time : 9.30 AM to 5PM (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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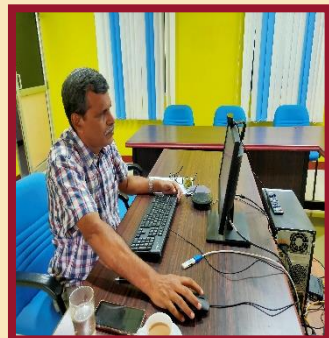
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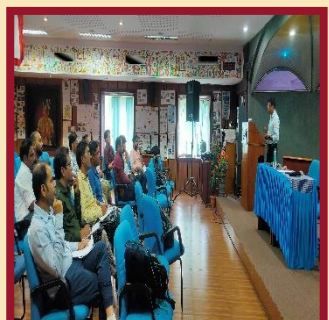


TRAINING PROGRAMME HITHERTO

Sl. No	Program	No. of Programs conducted	Duration	Participants
1	Training Programs for Executives	224	2 to 5 days	Participants from various industries
2	Customized / Tailor made Training Program	164	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)	100	2 to 3 months	Above 1380 Participants from 95 Partner Countries
5	E – ITEC Training Program	4	5 days	54 Participants from 15 Partner Countries
6	Inplant Training Program	20	4 to 7 days	Participants from various industries



E – Training Course at FCRI



Customized training courses at FCRI

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BANK DETAILS

Training Course Fee to be paid by e-payment (RTGS/NEFT) only

State Bank of India (SME Branch) Kanjikode West, Palakkad - 678 623

Account No. 10258760349. IFSC Code: SBIN0006640. GSTIN : 32AAAF0138K1Z6. PAN : 32AAAF0138K

NABL ACCREDITED TEST FACILITY

Control Valve/Actuators	CV, FL, Seat leakage test, Fugitive emission, cryogenic Testing, torque
Water Meters	All test as per IS 6784, IS 779, IS 2373, ISO 4064
Butterfly Valves & Actuators	POD tests as per AWWA C504 & C540
Venting devices/air valves	API 2000
Safety Relief Valves	ASME PTC 25
Gas Turbine Meters	OIMLR 137 - 1 Model Approval
Gas Regulators	BS EN 334
Diaphragm Gas Meters	BS EN 1359 Model Approval
Liquid Flow Meters	As per relevant standards

RECOGNITIONS 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 ³ /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 flow meter 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)	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 components, calibration of Mechanical, electro technical, thermal Instruments, flow calibration & measurements at Site, project consultancy & implementations, Professional training.

About FCRI

An ISO – 9001: 2015 accredited, autonomous Research Institute under the Ministry of Heavy Industries, Govt. of India, FCRI celebrated its Silver Jubilee in 2014. FCRI has had unique and focused expertise in Flow Measurement and Control, Fluid Dynamics Instrumentation and Data Acquisition, Computational Fluid Dynamics and Finite Element Analysis, Technical computational Software, etc.

ISO – 17025 accredited Fluid Flow Laboratories at FCRI are considered one of the best in this part of the World. FCRI has been accredited and approved by a number of certifying bodies and agencies.

Please visit www.fcriindia.com for knowing more.



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