एफ.सी.आर.आई.

FCRI

FLUID CONTROL RESEARCH INSTITUTE

LARGE WATER FLOW LAB

The Largest and Unique Water flow Calibration/ Testing laboratory in India was established at FCRI in the year 2012, in order to meet the demands of Manufacturer/user industries in connection with calibration/testing of large sized flow meters/ control valves with high accuracy. The laboratory is designed for a maximum pipe diameter of 2000mm with a maximum flow rate of 15000 m^3/ hr. This laboratory is accredited by NABL for testing and calibration as per ISO 17025.

Major sectors/plants availing the laboratory facility are

- Water treatment & desalination plant
- Irrigation and hydrology departments
- Power plant
- Sewage plant
- Integrated urban water management
- Drinking water and sanitation authority
- Petrochemical industries and refineries
- Manufacturing / user industries of flow meters and control valves

Apart from flow meters calibration and valve testing, the laboratory can also take up performance testing of pumps and turbines.

The laboratory consists of an underground water sump of capacity 3000 m^3 on which 5 Vertical Turbine pumps are erected. The Pumps are of rating 110 kw, 200 kw, 295 kw, 395 kw & 485 kw and are used in combinations to meet the wide flow range requirements. Four Electromagnetic flow meters are operated parallely as reference flow meters.

The major specifications of this facility are as under:

1. Flow Medium : Water
2. Maximum flow rate : 15000 m^3/hr
3. Head : 20m of Water Column
4. Pipe Line Size (Max.) : 2000mm (Design)
5. Sump Dimensions : 50m long x 8m wide x 7.5m deep
6. Type of Flow : Direct Pumping
7. Pumps Type : Vertical turbine
8. Type of Drive : Electrical Motor
9. Power Source : DG Sets, 1250 KVA (2 Nos.)
10. Uncertainty : ± 0.5%

Recently carried out Calibrations/Testings:

Sl.No.	Description of Test meter/valve	Client
1)	Wafer Check Valve 500 mm & 600 mm	M/s. Crane Process Flow Technologies (I) Ltd., Pune
2)	Electromagnetic flow meter 750 mm	M/s. Emerson Process Management (I) Pvt. Ltd., Navi Mumbai
3)	Electromagnetic flow meter 900mm	M/s. Chennai Water desalination ltd., Chennai
4)	Venturi flow meter 750mm	M/s.Hydropneumatics Pvt.Ltd, Goa
5)	Ultrasonic flow meter 1200mm & 2000mm	M/s. Indian Institute of Technology, Roorkee
6)	Pump Cavitation Test	M/s. Grundfos Pumps India Pvt.Ltd. Chennai
7)	Ultrasonic flow meter 900mm	M/s. General Electricals Pvt.ltd, Pune
8)	Electro Magnetic flow meter 1400mm	M/s. Endress + Hauser Pvt.Ltd, Mumbai
9)	Risonic Multipath Ultrasonic flow meter 2000mm	In connection with field efficiency testing at KHEP
10)	Testing of Gates 450mm & 900mm	M/s. KBJNL, Karnataka

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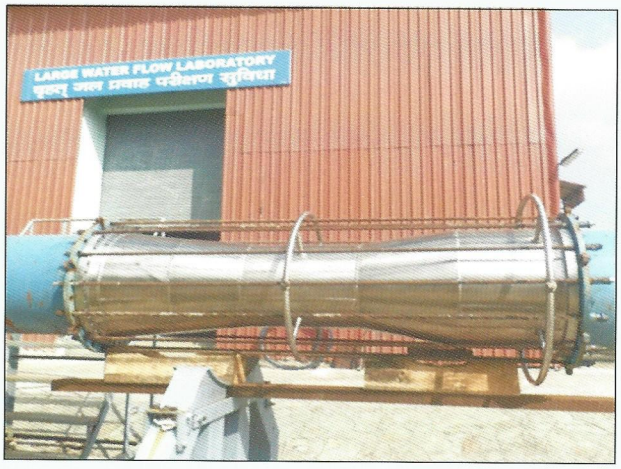
Calibration of 1000mm venturi meter

Calibration of Risonic Multipath Ultrasonic flow meter 2000mm

Calibration of electromagnetic flow meter 1400mm



Calibration of 750mm Venturi meter

600 mm Wafer Check Valve under test

Pump Cavitation test