



Name of the Technology: Cross Floating Valve (CFV)

Summary: High pressure hydraulic cross floating valve (CFV) is the best suggested way to minimize the time and help to improve the accuracy of pressure calibration of pressure balances. This manually operated indigenous developed valve at CSIR-NPL has various advantages over conventionally available pneumatically actuated constant volume valves. The CFV has novelties and simple design. The technology is now ready for commercialization for the interested industry.

Product specifications:

- ❖ High strength piston developed used in high pressure range of calibration
- ❖ Unique & simple design for manual operation
- ❖ Range of calibration- Atmospheric to 2000 bar
- ❖ Low maintenance
- ❖ No power and pneumatic actuation required

Applications:

- ❖ In calibration setup of Dead weight testers or pressure balances to be utilized by various accredited/non accredited laboratories
- ❖ These CFVs are also used in other applications where pressure in two pressure balances are need to be reconnected and disconnected with minimum perturbation of volume on either side



Fig: Snapshot of the developed Cross Floating Valve with its piston (Laboratory working model)



Advantages over existing Valves:

- ❖ The existing valves operate through pneumatic actuations, power operated, imported and expensive. The present technology is of simple design, easy to operate, manual operation, maintain stable pressure with minimum volume change, helps in quick and effective calibration than normal valve and without valve calibrations.
- ❖ **Related Patent:** Nil
- ❖ **Year of introduction :** 2019
- ❖ **Broad Area/Category:** Electronics & Instrumentation

| Idea | Concept Definition | Proof of Concept | Prototype | Lab Validation | Technology Development | Technology Demonstration | Technology Integrated | Market Launch |
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❖ User Industries:

- 1) Accredited Pressure testing and calibration laboratories
- 2) Non-accredited Pressure testing and calibration laboratories
- 3) Any R & D laboratory involved in pressure measurements with dead weight testers / pressure balances
- 4) Any industry involved in pressure measurements with dead weight testers / pressure balances