



**HPOIL GAS PRIVATE LIMITED**  
**(A Joint Venture of HPCL & OIL)**

**SUPPLY OF CNG PROVER KITS FOR CALIBRATION OF CNG DISPENSERS**  
**IN NAGALAND GA**

**TECHNICAL VOLUME**

**TENDER NO. HOGPL/2025-26/C&P/028**

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## **1.0 INTRODUCTION**

HPOIL Gas Private limited (HOGPL), a joint venture of HPCL & OIL has received authorization from PNGRB vide letter PNGRB/CGD (06)/2023/12.04 GA/Nagaland State dated 19/04/2024 to Lay, Build and Operate City Gas Distribution networks in Nagaland GA.

## **2.0 GENERAL INFORMATION**

This tender intends in purchasing CNG Prover Kit System for Calibration of CNG Dispensers in Nagaland GA.

CNG Dispensers are used to dispense CNG gas to automotive vehicles and mass flow meters are installed to measure the gas dispensed. All dispenser units along with the mass flow meters must be verified, stamped and sealed. According to the Controller of Legal Metrology, it is mandatory to certify and calibrate each measuring device annually. Moreover, stamping and verification from Legal Metrology Department are essential for the commercialization of CNG Stations.

CNG Prover Meters serve as the master calibrator for the annual calibration, stamping and verification of all CNG Dispensers' mass flow meters.

## **3.0 SCOPE OF SERVICES**

### ***BRIEF SCOPE***

HOGPL intends to "Procure CNG Prover Kits for calibration of CNG Dispensers" as per the given Scope of Work.

The objective of this document is to define the scope of work for the procurement of CNG Prover Kits used for calibration of flowmeters used in CNG dispensers at operating pressure of 250 Bar (Max.) and ambient temperature in the range of -10 Deg to + 60 Deg. The mass flowmeters must work on Coriolis principle.

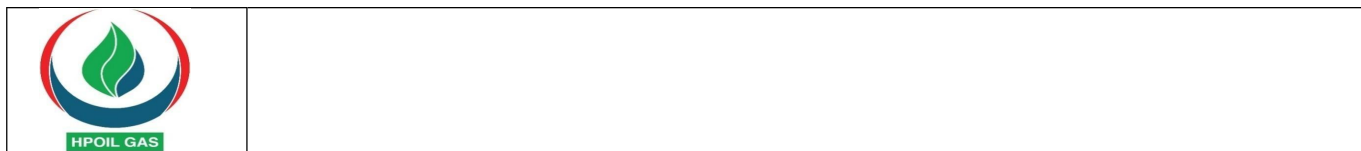
This Master flow meter (Prover system) will be used for calibration of flowmeters of CNG dispensers in Nagaland GA. The scope includes supply, inspection, testing, marking, packaging, handling and dispatch of Master Mass Flow Meter (Prover system) to Nagaland location as per the discretion of HOGPL, meeting all the requirements as laid down in technical specifications tabulated below:



S. No.	PARAMETER	TECHNICAL SPECIFICATIONS OF CNG MASTER METER / PROVER KIT
1.	Fluid	Compressed Natural Gas (CNG)
2.	End Use	Calibration of CNG Dispenser
3.	Measuring Principle	Coriolis Principle
4.	Operating Presssure	Max 250 Bar
5.	Ambient Temperature	-10 to 60 Degree Celsius
6.	Mass Flow Sensor with Transmitter	Sensor: Make – Micromotion or Transmitter:  Make – Micromotion Model – 2700 with display. Or Make – E&H Model –CNG mass DCI with display.
7.	Warranty requirement	Mass Flow meter with transmitter including all electronic components, hoses, fittings & enclosure box should be warranted for a period of a minimum of 01 year from the date of material supplied at HOGPL Nagaland.
8.	Prover Enclosure Box	Portable enclosure made up of fiber is required for carrying this master mass flow meter prover setup. The protection cover is watertight, crushproof, and dust proof ideal for lifting and transportation ( <b>Preferably trolly type arrangement with wheels</b> ).
9.	Battery/Battery Enclosure	Re-chargeable Sealed Maintenance Free (SMF) type suitable for use in Class 1, Division 1 & Zone 1 as per classification given in IS:5572/2009 for hazardous area. The battery should have a minimum of 4 hours backup provided along with suitable complete battery charger. (or) Rechargeable type maintenance free battery will be provided in Flame proof box. The battery will give a minimum of 4 hours backup. Battery charger will be provided for charging the battery. The enclosure for battery shall be of explosion and flame proof



		suitable for Gas Group II A & IIB. Necessary certificate from CMRI and PESO will be provided.
10.	Pressure Gauge	Make: WIKA/Druck/Waaree/GIC Range: 0 – 400 bar, Class I Dial Size: 63mm / 100mm.
11.	Prover Inlet Process Connections	1. NZS receptacle (OPW/Staubli make) for Car. 2. NGV receptacle (OPW make) for Bus 3. Quick connect coupling (OPW make) for LCV Hose
12.	Prover Outlet Process Connections	1. Quick connect coupling stem end (OPW make) suitable for Car, Bus and LCV Hose. 2. Outlet Hose 3/8" ID (Swagelok/Parker/Eaton make) 3 m long with NGV1 Receptacle and NZ adaptor for car dispenser with NGV Nozzle of (OPW/Staubli make). (With Parker or Swagelok make 3-way valve.). 3. Outlet Hose 1/2" ID (Swagelok/Parker/Eaton make) 3 m long with Quick connect NGV receptacle for bus dispenser with Bus Nozzle of (OPW make). 4. Outlet Hose (Swagelok/Parker/Eaton make) 3 m long with both ends Quick connect coupling (OPW make) for LCV Hose
13.	SS Fitting	Swagelok/Parker make
14.	SS Tubing	Sandvik/Tubacex/Parker make
15.	Drain Valve	Provision of drain valve to drain out gas within the tubing of the prover kit
16.	Programmer for Zero Calibration	Latest calibration software, perpetual license with data logging facility with all connectors, power adopters, batteries and communication cables (USB to RS485) (1 set for each prover) of reputed make should be provided. Prover system should be suitable for calibration, proving, configuring the flow meter, etc.
17.	Switch provision required	Separate switch provision required for Zero point calibration & Totalizer reading reset.
18.	Communication Socket required	Separate RS 485 communication socket required for configuring flow meter.
19.	Calibration & Approvals	Custody Transfer approval, AGA 11 Conformance certification and Calibration Certificate on Natural Gas from accredited test labs with traceability acceptable internationally. Hazardous area compatibility, Weatherproof certification i.e. IP67, Material Test, Manufacturer's certification. PESO certificate for CNG Prover is to be provided. The Calibration certificate of Emerson -Micro Motion is to be provided with each Prover kit. Additionally, FCRI certificate of calibration shall also be provided.



20.	Pattern Approval Certificate	Pattern Approval Certificate Pattern approval certificate from Legal Metrology Department, Govt. of India for Prover model has to be provided.
21.	Documentation	O&M manual with exploded view and part number, Compatibility certificate to use in hazardous area, Calibration Certification, Approval towards custody transfer from Govt. W&M department and OIML approved from the country of origin.

## Quality Assurance

The supplier shall provide a certificate of compliance with the specified standards.  
Any defective or non-compliant Master Mass Flow Meters (Prover Kit System) must be replaced at the supplier's expenses.

## Packaging and Delivery

The Master Mass Flow Meters (CNG Prover System) shall be securely packaged to prevent any damage during transit.

The supplier is responsible for delivering the CNG Prover Kit System to the designated storage facility or site as specified by the purchaser.

## After-Sales Support

The supplier shall provide support for any issues related to the supplied Master Mass Flow Meters (Prover system) including replacement of any faulty items identified upon delivery or during warranty period.