

✉ oxyvacindia@gmail.com  
🌐 www.oxyvacindia.com  
☎ 9726024747



# CNG DE-COMPRESSION & METERING SKID



## Important

This Equipment should be operated & maintained only by technicians who are suitably trained, experienced with Natural Gas plant and fully conversant with the specifications.

In pursuing a policy of continuous improvement, the company reserves the right to alter the specification of any product without prior notification

## Description

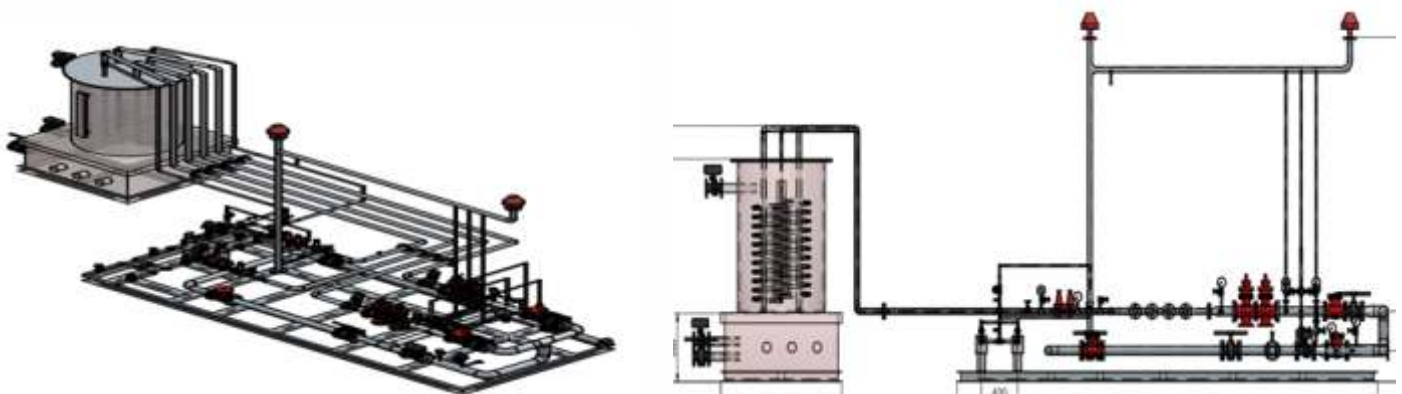
### General

CNG De-compression unit, which will reduce the pressure from 250 bar (g) (CNG Cascades) to Pipeline network. The scope of work is limited to the CNG Decompression skid, which is consisting of Twin stream Regulators, Slamshut valves, Isolation Valves, Piping/Tubing, etc.

- ④ Gas receiving from 250 Bar(g) to 15 Bar(g)
- ④ Pressure Reduction unit to reduce the pressure from 250 Bar(g) to 15 Bar(g) to a outlet pressure of 3-5 Bar(g) with the help of Pressure Regulators along with Slam Shuts. Instrumentation and controls. Electrical items including local panel.
- ④ The components and equipments being installed shall be of a reputed make and the equipments shall conform in all respects to high standards of engineering, design, workmanship and shall meet all requirements as per the relevant standards.
- ④ All the components and equipments will also meet the Technical Standards/Specifications.

Item Description	CNG Pressure Reducing and Metering Skid
Application	3" # 150 Class Flange
Design Codes	ASME B31.8, ASME Sec. VIII Div.1, EN and PESO GCR rules 2016
Design Life	15 Years, as per SMPV rules
Material of Construction - PRS	SS & A 106 Gr. B
MAWP MEGC	250 Bar. G
MAWP Pressure Reducing Station	3~5 Bar G

The line diagram of the CNG Pressure reducing skid is shown in Fig.1.



## Silent Points

- ① Outlet Temperature of the skid will be 25–35 Deg.C.
- ② ESD is provided at the near to inlet of heating system or Field area
- ③ Gas Leak Detector /Emergency shutdown/Fire shutdown Synchronized with Main control PLC
- ④ Heater will be started if temperature drops below water temperature 55 deg C & shall be closed if it exceeds beyond 65 deg. Heater shall be designed accordingly.
- ⑤ Upstream velocity of gas will be 20 m/s of the Regulating System and that of downstream is 30 m/s.
- ⑥ Inlet Connection: 1" NPT female x2500#, Outlet: 3"x150# flanged. ANSI B16.5
- ⑦ Over Pressure Slam shuts are required to meet regulations.
- ⑧ PLC Power supply (230V, 1 phase, 50 Hz, 1KW) up to JB is in Customer's scope
- ⑨ Heater Power supply (415V, 3 phase, 50 Hz, 24 KW) up to JB is in Customer's scope.
- ⑩ Skid Mounted Water Bath Heat Exchanger with Hot water system pressure rating up to 250 barg.
- ⑪ All customer interface connections, gas Inlet & outlet piping connections will be brought out to approximately 300 mm from the skid edge and terminated with flange connection. Hookup with the customer interface connections, gas inlet and out let piping connections with companion flange as utility and the package shall be provided with self sufficient heating system, as applicable, with suitable make up tank. However water for makeup purpose can be made available.



## General

The CNG pressure reducing and metering skid is normally installed between CNG cascades and user supply line. It reduce Pressure 250 Bar to 3–5 Bar of CNG. The pressure gauges within PRS skid combined with an electrical display HMI panel at control cabin, show which bank is empty and which is on stream to allow the correct bank of empty cylinders to be replaced with full ones.

The HMI panel has an integral display. This indicates inlet pressure is running, Inlet Gas temperature, Outlet pressure, Outlet Gas Flow, Water Bath Temperature, Water Level, and SOV position.

This display also indicates if the distribution line pressure is low or normal. Incorporated into the display is an audible alarm status indicator, which can be connected to the Boiler Room Scada Panel and central alarm system if required.

Gas is supplied at full pressure from the left hand and the right hand banks of the cylinders to the appropriate connections on the changeover panel. Under the normal conditions the output solenoid valve (Ref fig – 1)

CNG PRS is able to supply gas from CNG cascades one bank at a time or both. The bank whether left or right whichever opens first will supply the gas to the distribution pipeline system. When the gas pressure in the running bank comes at 30 kg/cm<sup>2</sup> (settings of pressure alarm & intermediate PLC) Alert display and announce to operator to prepare next cascades start up. When the gas pressure falls below 15 kg/cm<sup>2</sup> for a particular bank the red signal will glow with an audible alarm (position comes at low pressure inlet). Operator immediate gets action to cascade changeover to prevent gas flow interruption.