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OXY VAC India Works
Designing a Customized Solution for Gas Industries

GAS FILLING PANELS & RACKS

DAC DUBAI ACCREDITATION CENTER
CERTIFIED ISO 9001:2015 COMPANY
KVQA
INTERNATIONAL IAF ACCREDITATION FORUM

Important

This Equipment should be operated & maintained only by technicians who are suitably trained, experienced with Industrial gas filling 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

Industrial Gas Filling Station Panels and Filling Racks

Oxyvac is the Indigenous Manufacturer of Different Range of Industrial Gas Filling Station Control Panels that includes Mobile filling and advanced Filling Station.

It is specially designed for filling of Gas efficiently. We manufacture filling panel and Manifolds and supply to client in complete compliance with industry standards using best quality materials. Prior to supply and installation gas panel and manifold stringently tested on standard quality parameters

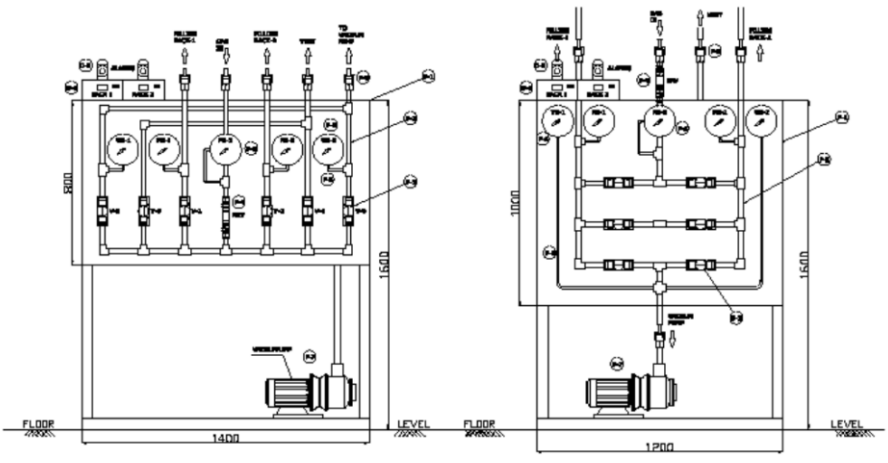
All the components and equipments are meeting the Technical Standards/Specifications.

Features:

- Robust construction
- Smooth operation
- Longer service life
- Elevated durability

Item Description	Filling Panel and Rack
Application	Gas specific
Design Codes	ASME B31.8, ASME Sec. VIII Div.1, EN and PESO GCR rules 2016
Design Life	15 Years
Material of Construction	SS304/SS316/BRASS/COPPER
MAWP	250-350 BAR

The GA of the Gas Filling panel and racks is shown in Fig.



FILLING PANEL 2 RACKS

Types of Filling Panels and Racks

AVAILABLE OPTIONS

Single Gas Control Panels:

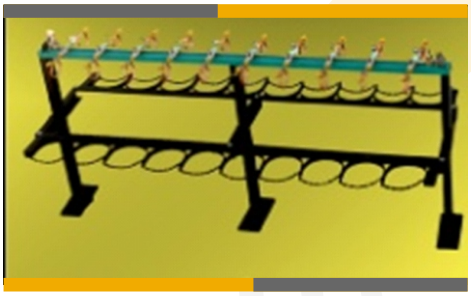
- Simplex (One-Sided)
- Duplex (Two-Sided)

Mix Gas Control Panels:

- Simplex (One-Sided)
- Duplex (Two-Sided)

Fill Rack, Manifold and Leads Options:

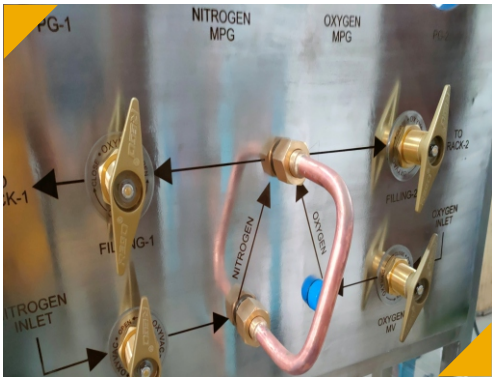
- Single Sided or Double Sided Styles Available
- A Wide, Wide Variety of Cylinder Qty. Per Mani and Frame Options Available
- Various Pressure Ratings Available Dependent Manifold Material of Construction
- Individual isolation Valves are Standard per D
- A wide Variety of CGA connections and Leads available





SOP-Filling panel and Manifold

- Connect the all cylinders to the manifold line and insure the all valves spindles of manifold headers are open
- Slowly open the valve spindle of cylinders and insure the leakage of gas by residual gas of cylinders and open vent valve to vent residue of cylinders.
- Then close the vent valve and start vacuum pump and open vacuum valve to evacuate cylinders.
- After 15 minute close the vacuum valve and purge cylinders up to 2 bar filling gas pressure by opening filling valve.


NITROGEN
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OXYGEN

SOP-Filling panel and Manifold

- Open vent valve and vent purge gas and start vacuum by vacuum valve after closing of vent valve.
- Evacuate 10 min Cylinders and ensure vacuum gauge reading up to -1 bar. Close vacuum valve and open filling valve slowly. Stop vacuum pump.
- Simultaneously connect the other rack cylinders and follow above steps and read the filling pressure of filling rack.
- Close Filling valve after pressure reach 155 bar/210 bar as desired filling pressure of connected cylinders. Simultaneously start filling in other Rack.

Follow above steps for each filling of cylinders batch.

Main Component of Filling panels and Racks

(01) Construction of Panel and Manifold Headers

- Filling panel constructed with SS304 Plate fabricated, Manifold stand wall or Ground mounted constructed with MS materials and Powder coated/Epoxy painted as per Gas color code specifications. Filling panel Piping High pressure 6000# rating SS fittings and seamless tube of 80 sch.
- Manifold headers constructed with ½" size SS seamless tube and Square block TIG welded and hydro tested with 350 bar.

(02) Gas Master Valve

Gas Master Filling valve provided of Rego-USA make for Argon/Nitrogen/Helium/Oxygen/ Hydrogen and Mixture gases

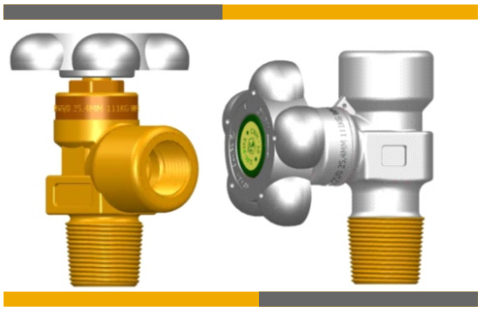
- 4200 PSI maximum working pressure with 5:1 safety factor, 5000 PSI maximum working pressure with 4:1 safety factor.
- Lowest operating torque valve, only 25 inch pounds at 6000 PSIG
- Only takes 1.5 turns to open full flow.
- Non-rotational seating action extends bubble tight seal life.
- Brass body, stem, seat retainer and bonnet for non corrosive gas service.
- Large tapered bar style hand wheel for comfortable and easy operation
- All valves are cleaned for use in oxygen per CGA G-4.1.

(03) Pressure Gauges and Vacuum Gauges

Pressure gauges of Range 0-400 Bar , Dial size 6" Panel Mounted Provided of Baumer /Micro Make , MOC : SS316 ,Vacuum gauges of Range -1 to 7 Bar , Dial size 6" Panel Mounted Provided of Baumer /Micro Make , MOC : SS316

(04) Angle valve

Angle type isolation valves provided at Headers for each cylinder isolation, Connection of valve depends on type of Gas. Tekno make wheel operated valves, MOC : Brass, WP-200 to 300 Bar.



- Minimum cycle life : 2000 cycles as per EN ISO 10297:2006
- Operating temperature : -20 C to +65 C
- Minimum closing torque : 3 Nm
- Maximum closing torque : 7 Nm
- Gland nut tightening torque : 60-70 Nm
- Retainer plug tightening torque : 30-35 Nm
- Maximum working pressure : 200-300 Bar
- Lubricant - Oxidizing gases : Krytox NRT 8908/Gleitmo 599.
- Flow coefficient (Cv) : 0.35 (Flow orifice dia. 4.00 mm
- Meets EN ISO 10297:2006, certified by BAM Berlin.
- Meets IS: 3224:2002, approved by PESO Nagpur, supplied under BIS inspection.

Main Component of Filling panels and Racks

(05) Vacuum Pump

- IVAC Oil Sealed Rotary Vane pump is double stage complete with base frame, safety cover, handles, motor pulley, v – belt, and electric motor having following specifications.
- Displacement: 1000 LPM
- Ult. Pressure with GB open in Torr 5 X10-2
- Ult. Pressure with GB closed in Torr 5 X 10-3
- Pump rotation speed(RPM): 600
- 3 Ph electric Motor:50 hz., 1400 RPM, TEFC, 1.5 KW
- Oil capacity: 6 lits.
- Inlet port in mm Dia 50
- Outlet port: BSP 1½"

(06) Safety Relief Valve

General Design: One design and one stem for gas, liquid and multi phase.

- Self Draining Body design avoids residues and reduces corrosion.
- Opens rapidly within an overpressure maximum 10% to full lift.
- Maximum blow down within 10% for gas service.
- Design and tested in accordance with the rule of DIN EN ISO 4126
- and ASME section VIII Div.1.

(07) Pigtails

- ¼" size inner Teflon tube and outer SS wire double braided and both end brass fittings as per gas specification. Pigtails full length covered by safety wire rope and spring protected.
- MAWP-250 bar, Hydro tested: 400 Bar
- Copper pigtails silver brazed with brass fittings