## 3.2 MEDICAL GAS CENTRAL STATIONS

### 3.2.1 Supply Systems with Cylinders (MGCYLS series)

The automatic change over decompression unit is designed to supply medical gas (oxygen-nitrous oxide-air-nitrogen-carbon dioxide) of any type of medical gas network, where continuity of supply is essential and where the pipeline is supplied from manifold high pressure gas cylinders.

This product complies with all current safety regulations and laws and is designed and tested to guarantee safe operation.

Automatic central manifold system for medical gases ($O_2$, $N_2O$, Air, $N_2$, $CO_2$) with pressure reducers, high pressure shut-off valves, automatic change over unit, analogue sensors, cylinder ramps, flexible connections, pigtails, cylinder holders and emergency inlet point is according to EN ISO 7396-1, HTM 02-01 and NFPA 99 standards.

### I. Main decompression unit

**Automatic Change over Decompression Unit for Oxygen, Nitrous Oxide, Air, Nitrogen, Carbon Dioxide**

The automatic change-over decompression units are composed of:
- A wall mounted box made of 1.5mm painted steel with door key-operated lock and window for reading pressures gauges.
- Two pressure regulators (OT 58) connected in parallel and linked respectively to the right and to the left manifold of cylinders. Each regulator is fitted with brass safety valve set at 13bar, with one pressure gauge diameter Ø63mm for high pressure (315bar full range) and with outlet pressure adjustment screw.
- Two inlet filters with pressed brass body and bronze filter mesh.
- Two inlet high pressure valves.
- Two outlet low pressure valves.
- One automatic change over device (inverter) which is connected to the outlet of the regulators.
- One pressure gauge to indicate the network pressure.
- Two pressure transmitters for monitoring the pressure in the cylinders.
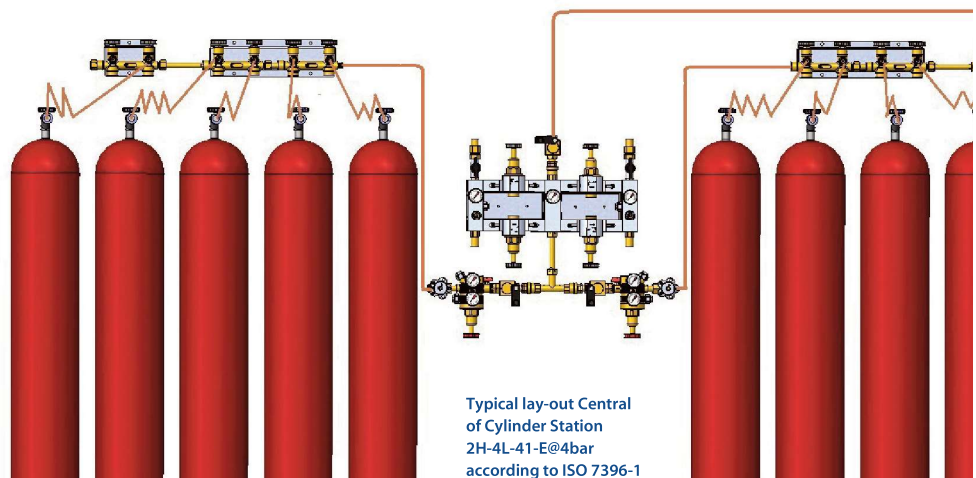
**Typical lay-out Central of Cylinder Station 2H-4L-41-E@4bar according to ISO 7396-1**

# PRODUCT PORTFOLIO
## Medical Gas Central Stations

| Main unit Type | Inputs @200bar or @8bar | Outputs @4bar or @8bar | No of Reducers High (200bar) 200m³h@8bar | No of Reducers Low (8bar) 200m³h@8bar | Outlet Pressure bar | Operation | Alarm embedded |
|---|---|---|---|---|---|---|---|
| 1H-M-21 | 2 | 1 | 1 | 0 | 8 | Manual | 0 |
| 1H-1L-M-21 | 2 | 1 | 1 | 1 | 4 | Manual | 0 |
| 2H-P-21 | 2 | 1 | 2 | 0 | 8 | Pneumatic | 0 |
| 2H-E-21 | 2 | 1 | 2 | 0 | 8 | Electric* | 1 |
| 2H-1L-P-21 | 2 | 1 | 2 | 1 | 4/8 | Pneumatic | 0 |
| 2H-2L-P-21 | 2 | 1 | 2 | 2 | 4/8 | Pneumatic | 0 |
| 2H-2L-P-31 | 3 | 1 | 2 | 2 | 4/8 | Pneumatic | 0 |
| 3H-2L-P-31 | 3 | 1 | 3 | 2 | 4/8 | Pneumatic | 0 |
| 3H-2L-P-41 | 4 | 1 | 3 | 2 | 4/8 | Pneumatic | 0 |
| 2H-2L-P-41 | 4 | 1 | 2 | 2 | 4/8 | Pneumatic | 0 |
| 2H-2L-E-21 | 2 | 1 | 2 | 2 | 4/8 | Electric* | 1 |
| 3H-2L-E-31 | 3 | 1 | 3 | 2 | 4/8 | Electric* | 1 |
| 2H-2L-E-31 | 3 | 1 | 2 | 2 | 4/8 | Electric* | 1 |
| 3H-2L-E-41 | 4 | 1 | 3 | 2 | 4/8 | Electric* | 1 |
| 3H-2L-P-51 | 5 | 1 | 3 | 2 | 4/8 | Pneumatic | 0 |
| 2H-4L-P-31 | 3 | 1 | 2 | 4 | 4/8 | Pneumatic | 0 |
| 2H-4L-P-22 | 2 | 2 | 2 | 4 | 4/8 | Pneumatic | 0 |
| 2H-4L-P-32 | 3 | 2 | 2 | 4 | 4/8 | Pneumatic | 0 |
| 2H-4L-E-31 | 3 | 1 | 2 | 4 | 4/8 | Electric* | 1 |
| 2H-4L-E-41 | 4 | 1 | 2 | 4 | 4/8 | Electric* | 1 |
| 3H-4L-E-41 | 4 | 1 | 3 | 4 | 4/8 | Electric* | 1 |
| 1H-1L-E-11 | 1 | 1 | 1 | 1 | 4/8 | Electric* | 1 |
| 4H-2L-E-51 | 5 | 1 | 4 | 2 | 4/8 | Electric* | 1 |
| 4H-2L-P-51 | 5 | 1 | 4 | 2 | 4/8 | Pneumatic | 0 |
| 2H-P-31 | 3 | 1 | 2 | 0 | 4/9 | Pneumatic | 0 |
| 3H-P-31 | 3 | 1 | 3 | 0 | 4/10 | Pneumatic | 0 |

**HTM** 02-01  **EN ISO** 7396-1, NFPA 99  **BAM**



O₂ Cylinder Station (electrical change-over)
2H-1L-P-21
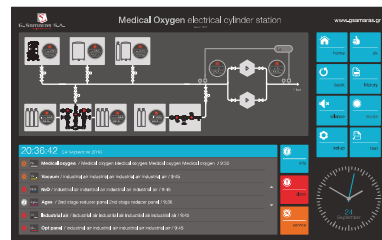


**Models available with capacity from 50m³/h to 180m³/h**

MGCYLS 2×m+1×n

m: R/L quantity of cylinders
n: quantity of reserve sources/vessels

**NAME EXPLANATION**
**Expression:** h**H** – l**L** – **t** - **i**o
**Variables:** h = Number of high pressure regulators, l = Number of middle/low pressure regulators
t = Type (**M**=Manual, **E**=Electric, **P**=Pneumatic), i = Number of inputs, o = Number of outputs

*Microprocessor based (including alarm)
• Flow rate with nitrogen refers to normal pressure and temperature conditions. For the other gases multiply the values for nitrogen by the following coefficients:
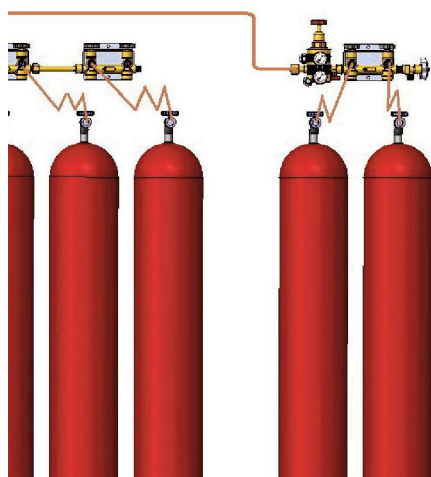    AIR = 0.98, OXYGEN = 0.93, NITROUS OXIDE = 0.79, CARBON DIOXIDE = 0.79
• The main units can be supplied either from hp cylinders through cylinder ramps - pigtails or by special hp cylinder packs (photo) of 9/12/16 pcs or by small, portable low pressure liquid vessels.



**Typical layout of Compact Central Cylinder Station 3H-2L-E-41@4bar with 2×1+1x1 cylinders according to ISO 7396-1**