



## Semi-Automatic Modular Cylinder Filling Systems

Manual connection / handling of cylinders and automatic control of filling

Our system solutions have been developed from many years of experience in gases engineering, equipment manufacture and operations. The end result is a range of manual to fully automatic systems that are highly productive, easy to operate and cost effective for the modern gases industry.

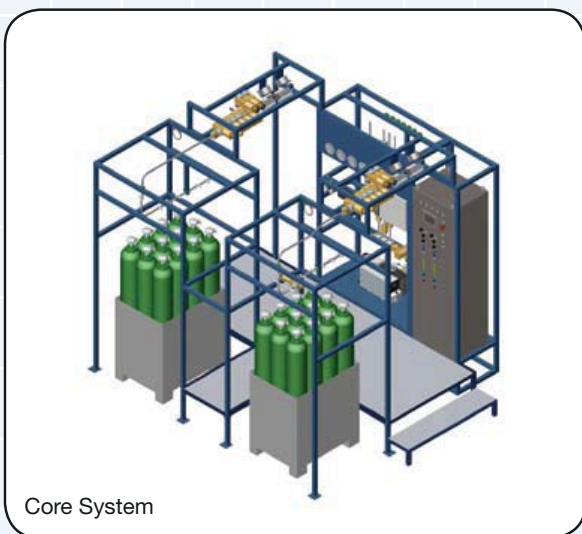


This data sheet details our Semi-Automatic Modular Cylinder Filling System.

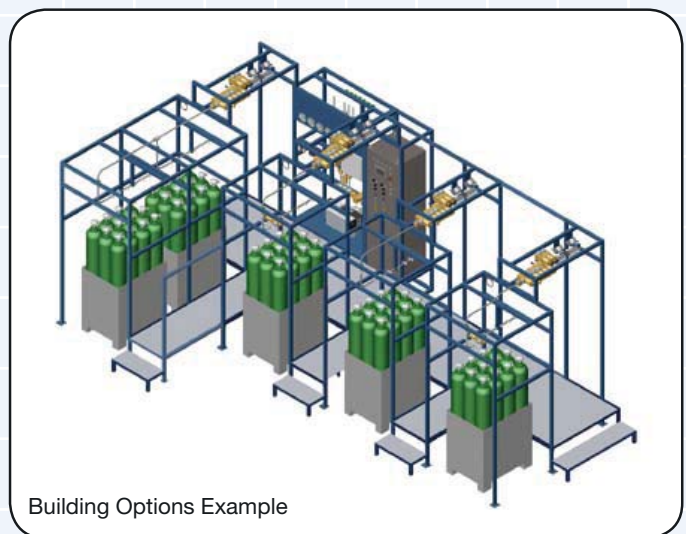
### Product Technology

Our Modular Semi-Automatic Filling Systems (industrial or medical) are built up from the core system and then complemented with additional Filling Modules and/or Filling Stations – see examples below. A full 'Turnkey' plant is simply constructed using this type of system and is easily tailored to suit the exact requirements of the Client. The units are all built and tested off site, which significantly reduces the on-site installation time. The modular system provides significant

productivity benefits and reduced overall hardware requirements.



Core System



Building Options Example

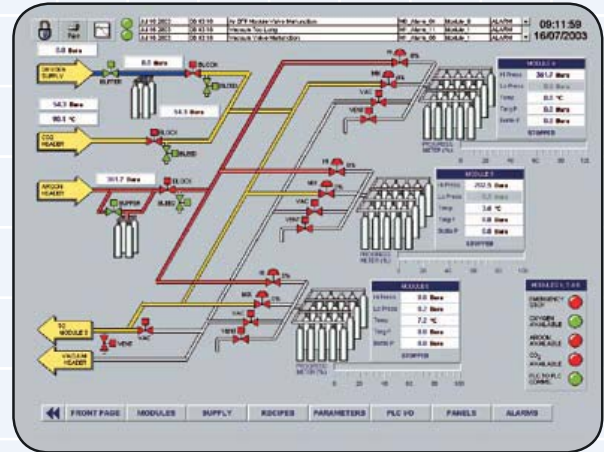
The operator; connects the cylinders; opens the cylinder valves; selects the filling recipe; and presses the start button. Filling is then automatically controlled by pressure/temperature compensation. The operator is then informed when filling is completed. The system has safety pressure trips included, which ensures cylinders cannot be over-pressurised.

The control system also prioritises the order in which gases, vacuum and filling modules are used – ensuring maximum system multi-tasking. As an option a SCADA system can be added to allow remote access for support and data acquisition/storage.

Existing pumping systems can be utilised or we can provide new systems – see Product Data Sheet ‘Tank, Pumping & Vaporiser Systems’

**List of common features:**

- o Back flow prevention system
- o Fill, Vent & Vacuum Valves
- o Multi-Tasking
- o Pressure Safety
- o Control Panel (PLC)
- o Framework and walkways
- o Filling manifolds (manifold, hoses, cylinder connectors) to match cylinder pallet



**Documentation**

Each of our systems/projects comes with comprehensive documentation, which includes:

- o Design Documents
- o CE Build Files
- o P&ID's and Process Descriptions
- o Safety Studies
- o Spares and Maintenance lists
- o Operating Instructions
- o Certification for all materials/parts



**Summary of Benefits**

- o Flexibility of Design
- o Minimum on site Installation
- o Turnkey Project or Equipment Only (*with commissioning service*)
- o Up to 300 bar filling pressures (*420 bar Design*)
- o High Productivity (*minimum manning*)
- o Full Documentation with Safety Study

**Also see our other Product Data Sheets:**

- o Storage, Pumping & Vaporiser Systems
- o Fully Automatic Filling Systems
- o Manual Filling Systems
- o Single Cylinder Medical Filling Systems
- o Plant Systems
- o Industrial Gas Generation Plant
- o Gas Mixing & Distribution Systems
- o Special Projects

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