

Automation, Fill-Free™ – 1.x - 3.x

Spec Sheet

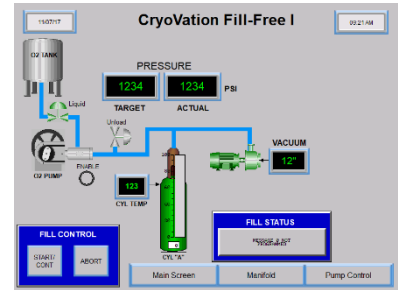


1.0 (Simplex) & **1.5** (Duplex)

Single Product (Pure Gas) Semi Automated System – Pressure Temperature

This system will sense and compute temperature, pressure and vacuum, notifying the filler when the cylinder is full. Freeing your filler to tend to other tasks while the fill process is cycling. Our System is PLC controlled and includes a color touchscreen control screen, including:

- (1) Pressure Transducers, (1) Vacuum Transducer and (1) Thermocouples
- PLC controller enclosed in NEMA 4 enclosure
- Full Color digital control console with remote pump control features
- Customized Recipe programming
- Audible / Visual Alarm available



2.0 (Simplex) & **2.5** (Duplex)

Mix Gas (Inert) Semi Automated System – Pressure Temperature

These systems will sense and compute temperature, pressure, vacuum, notifying the filler when the cylinder is full. Freeing your filler to tend to other tasks while the fill process is cycling. Our System is PLC controlled and includes a color touchscreen control screen, including:

- (2) Pressure Transducers, (1) Vacuum Transducer and (2) Thermocouples
- Larger PLC controller enclosed in NEMA 4 enclosure
- Full Color digital control console with remote pump control features
- Customized recipe programming including all mix recipes
- Remote Monitoring



3.0 (Simplex) & **3.5** (Duplex)

Mix Gas (Inert) Semi Automated System – Gravimetric (Fill by gram weight)

These systems include all of the benefits in Fill-Free 2.x + a gravimetric fill enclosure, reference cylinders and scales for 2 zones.

Automation, Fill-Free™ – 4.x & 5.x

Spec Sheet

The CryoVation “Fill-Free” **Fully Automated System 4.0** will sense and compute temperature, pressure, vacuum and open and close valves automatically. Fill-Free 5.0 brings the addition of gravimetric components and precise mixing.

Automation brings **accuracy** as well as freeing your filler to tend to other tasks while the fill process is cycling. Our system is PC based so we can store batch information and access remote monitoring, so you could login from anywhere and see what was happening.



4.x (Zones)

Fully Automated Pure Oxygen Fill System

- Control System with PLC controller
 - This sub-system provides all input and output interfacing with all other major components
 - Ladder logic program is designed, installed, tested and is design protected by CryoVation
- PC Workstation including full color, "touchscreen" display and Wonderware® (windows based) software. Includes:
- Control Valve Manifold, consisting of all fittings, pipe, check valves, etc. for control of Vent, Vacuum and High-pressure product supply
 - Automated O2 Sampling and Fill Log available
 - Audible or Visual signaling of leak check requirement
 - Ethernet or Wireless connection for remote monitoring
 - Redundant power for a safe cancelation and shutdown of the system in the event of a power failure



5.x (Zones)

Fully Automatic Cylinder Filling Control System

5.0 brings in everything that 4.0 offers but adds gravimetric filling & 5 gas mixture capability, to provide completely automatic, unattended, gravimetric filling of Manifolds to 3000+ PSI.