

Electronic Controllers

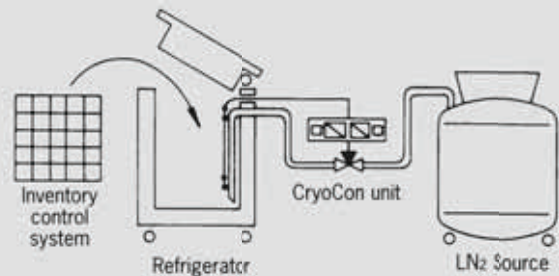


Automatic Level Controllers

CryoCon automatically monitors and controls the level of liquid nitrogen

The CryoCon controller comes with an array of features and options for flexibility in the combination of vessels, in the choice of liquid nitrogen supply and controls and in the programming and documentation through a PC or a computer.

System layout



CRYOCON AFT-3L

Features Datalog of Events, Temperature display

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| <ul style="list-style-type: none"> • Level display • Level monitoring and automatic refilling • Temperature display • Temperature control • Alarms for high temperature, level, sensor fault, low nitrogen supply, open lid, unauthorized access | <ul style="list-style-type: none"> • Manual filling • Data logging with serial port for PC/printer for temperature, level, alarm, filling activity, etc. • Simultaneous or sequential filling in the case of multiple installations • Connection for centralized gas bypass control | <ul style="list-style-type: none"> • Automatic defogging when lid is open • Quick chill when lid is closed • Password-controlled access and programming • Update of controller software through PC and Cable • Updated software can be forwarded by e-mail or CD |
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Options

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| <ul style="list-style-type: none"> • RS 485 interface • Gas bypass individual | <ul style="list-style-type: none"> • 4-20mA, 0-2 and 0-10V interface for temperature recording | <ul style="list-style-type: none"> • CryoData PC software • PC/Printer cable • Ethernet interface |
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CRYOCON AF - 1D

Features Level control

- Level indication
- Alarms for level, lid open, low nitrogen supply and sensor fault
- Level monitoring and automatic refilling
- Automatic defogging when lid is opened
- Quick chill when lid is closed
- Manual filling

Options

- Upgrade to AFT-3L

CryoVent M360 Gas Bypass System

Typically cryogenic storage installations consist of one or more refrigerators connected by insulated pipework to a bulk liquid nitrogen supply vessel. When filling one or more refrigerators, the cooling down of the lines creates substantial volumes of gas. This gas, which is normally forced out through the liquid in the refrigerator and into the room, can cause various problems:

- Ice build up
- Warming up and evaporation of nitrogen inside the vessel
- Low oxygen concentration inside the room

The use of a Taylor-Wharton CryoVent M360 gas bypass system avoids these problems.

Operation of the M360

- When one of the refrigerators begins to fill, the simultaneous fill signal from the controller signals to the M360 controller that liquid is required.
- The M360 controller sends out a signal to all controllers of the refrigerators disconnecting the fill valves and preventing the filling. At the same time a valve is opened to vent gas from the pipe-work.
- When all gas has been exhausted from the pipe-work the presence of liquid at the vent valve is detected by the thermocouple sensor. The M360 closes the vent valve and allows the fill valves to operate and fill the refrigerators.
- A second temperature sensor installed downstream of the first sensor triggers an alarm upon contact with LN₂ in order to avoid that liquid nitrogen passes through the ventline.

