

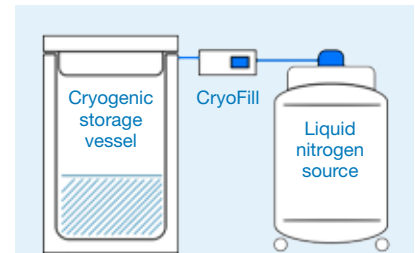


CryoFill: the best of two worlds

Cryogenic nitrogen controller for bio preservation

The CryoFill controls and monitors the liquid nitrogen level within a cryogenic storage vessel. One of the unique features of the CryoFill is that it has multiple measurement techniques, so it can be combined with almost every storage vessel on the market.

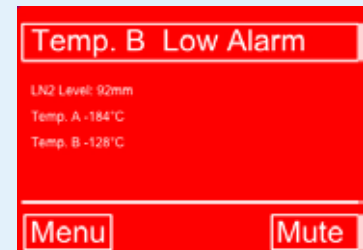
In the world of cryogenic controllers and filling units there are two industry standards for measuring the liquid nitrogen level: the simple 'four point level sensor' or the 'pressure differential measurement'. They each have advantages and disadvantages. Cryo Solutions has developed a new automatic filling controller for biological storage vessels that can operate with either of these standards. The status, settings, events and alarms of the controller are displayed on a TFT touchscreen display and are very easy to read. The alarm is displayed in a different color on the TFT display, for easy recognition; an audible alarm can also sound. The user interface of the controller is very user-friendly and information is easily accessible and readable.



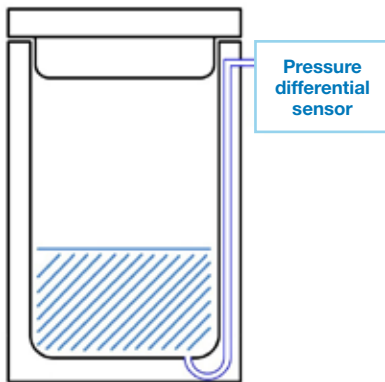
Normal operation:



Example of an alarm:

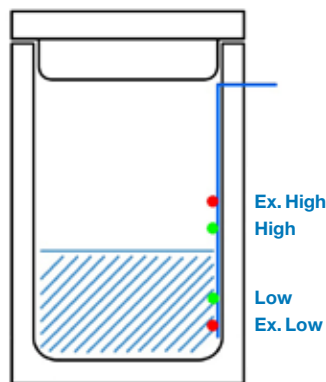


Pressure-Differential measurement:



+ Precise level indication

Four-Point NTC measurement:



+ Very simple, basic level indication



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FEATURES OF THE CRYOFILL

Level measurement & control	Temperature Measurement	User interaction & alarm output
PD: pressure differential sensor for realtime level display (10mm accuracy)	Two PT100 temperatures sensors with one degree accuracy (K/F/C)	Via a TFT touch screen (320x240 pixels)
4P: Four negative temperature coefficient sensors (level: extra high, high, low and extra low)	Two point temperature sensor calibration	Visual on display level of Liquid Nitrogen + both probe temperatures in the sample area
Two fill valve - safety		Alarm visual in a different colour + with first help indications/options
Two gas-bypass valve		Audible alarm
Two point pressure differential calibration		NC/NO remote alarm, Ethernet / RS485 alarm options

Alarm types	Communication	Basic controllers options
Level alarm high / low	USB port for controller diagnostics	Level read out and control - manual or automatic
Temperature alarm high / low	Two RS485 ports for communication with other controllers	Temperature read out and alarm
Fill time alarm	One ethernet port for alarm/monitoring and or logging purposes	Timed / One fill all fill / simultaneous and cascade filling options
Usage alarm		Defog option / quick cool options
Gas bypass time and or temperature alarm	Logging Features	Lid open alarm
Sensor fault	Logging files stored on SD card. Nitrogen and temperature levels, fill status and alarms.	Liquid usage control
Mains fault		Battery back-up
Lid open alarm		

The controller can be used for the biological storage in liquid Nitrogen, conventional gas phase and/or in the so called "Dry" gas phase with an absolute separation between the samples and liquid Nitrogen. It can also be easily retrofitted to existing biological storage vessels of any brand or type.



Solutions CryoFill

Left:
CryoFill on a MVE vessel (Pressure differential measurement)

Right:
CryoFill on a Taylor Warton vessel (Four-point NTC measurement)

Want to know more about the CryoFill filling unit?

Please feel free to contact us. You can reach us by phone (+31)73 620 54 50 or via email at info@cryosolutions.nl