

The CryoFill 2.0 controller

“The next generation cryogenic level controller.”

The CryoFill 2.0 is the next generation liquid nitrogen level controller with a number of improved and new features. The CryoFill 2.0 is Medical Device Regulation (MDR) (EU) 2017/745 compliant. As well as the ability to have a real time remote read out of relevant data via an alarming and/or monitoring system.

New features:

- MDR Class IIa medical device.
- Larger, better and more user friendly 4.3" colour touchscreen display with a resolutions of 480x320
- Real-time remote read out, compatible with several monitoring systems.
- One Fill All Fill filling sequence (master slave configuration)
- High temperature control

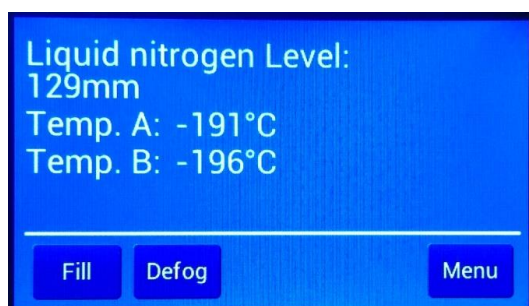


New: **One Fill All Fill (OFAF)**

This is a feature for optimizing the filling sequence of multiple cryogenic storage vessels. The controllers are connected with each other using communication cables. The master controller will make sure all the vessels fill in succession, in order to minimize nitrogen consumption.

New: **High temperature control**

This is a new software feature for controlling the temperature in the neck of the vessel. This feature is intended for situation when work is performed in the neck and the lid is open for a longer period. In case the temperature in the neck starts to rise, the controller injects nitrogen into the vessel, which lowers the temperature in the top of the vessel.



Normal situation example

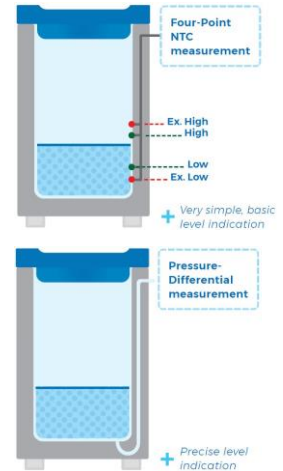


Alarm situation example

The CryoFill 2.0 can be used for controlling the liquid nitrogen level for any storage type, either conventional gas phase or the so called “dry” gas phase, with an absolute separation between the samples and liquid nitrogen, or full liquid phase. The CryoFill 2.0 can easily be retrofitted to existing cryogenic storage vessels of any brand or type.

The CryoFill 2.0 is equipped with the following features and options:

- User friendly interface
- Compatible with two measuring standards (pressure differential and 4 point measurement)
- Two temperature sensors
- Defog and quick chill functions
- Hot gas bypass
- Safety valve, acts as a secondary fill and bypass valve.
- Unit can be either build onto a vessel or into a cabinet (TW K-series) or into a lid (CBS V- series)
- Timed filling; Daily fill, weekly fill or fill pulse from cryobank control system
- Data logging
- UPS battery back-up
- Remote real time read out of relevant data via RS485 / RS422



Many of these options are also available for existing CryoFill 1.0 units. Of course it is also possible to up-grade an existing cryogenic storage vessel to the CryoFill 2.0.

CryoFill 2.0 specifications:

Level Measurement	Temperature Measurement	User Interface	Alarm types	Communication	Basic features
PD: pressure differential sensor, level in millimetres (Ten mm accuracy)	Two PT100 temperatures Sensors. (Two degree accuracy)	4.3" Touchscreen 428x320 resolution	Level alarm High and Low	Three RS485/RS422 ports	Level control and hot gas bypass
4P: Four point NTC sensors (low alarm / low / normal/ high/ high alarm)	Both temperature sensors placed in sample area	2.83" Touchscreen 320x280 resolution for placement in a cabinet or lid.	High temperature alarm	XiltriX compatible (RS485)	Daily / Weekly Fill
Optional Safety valve (secondary Fill / Bypass Valve)	Optional high temperature control	Level and temperatures displayed	Fill and Bypass Timer alarms	Modbus RTU compatible (RS485)	Fill pulse (for Cryobank integration)
		Alarm visual in different colour and first help instructions	Sensor Fault Alarm	Datalogging**	Battery backup**
		Audible alarm	NTC fault alarm	One Fill All Fill (Master / Slave)	Datalogging files sorted on SD card
			Lid open alarm		Three programmable NC/NO remote alarms

** Currently unavailable

