



G3Pro Universal Bioreactor Controller

Universal Vessel Control

The G3Pro™ Universal controller is a complete, self-contained bioreactor controller for bioreactors from 25 to 2,000L.

The controller leverages Finesse technology including SmartParts, TruBio software, and SmartSensors to enable easy cell culture and manufacturing.

The modular design allows the G3Pro Universal to evolve with the process and integrate 3rd-party peripherals as needed.



Compatible Bioreactor Vessels

Type	Manufacturer	Total Volume (L)
Single-Use	Thermo Scientific HyPerforma™ SUB	All Sizes ≤ 2000
	Thermo Scientific HyPerforma™ SUF	All Sizes ≤ 300
	Xcellerex XDR™	50, 200, 500, 1000, 2000
	Pall PadReactor®	25, 50, 300, 600, 1350
	Millipore Mobius CellReady™	50, 200
	Sartorius STR®	50, 200, 500, 1000



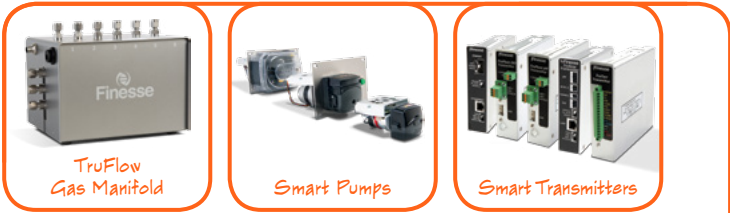
G3Pro Universal Architecture

Configure G3Pro Universal accessories according to your bioprocess needs

The G3Pro Universal controller is built of SmartParts that can be configured to match the needs of the process. Sensors can be configured to match the needs of the process. Sensors can be single-use TruFluor or the sterilizable TrupH and TruDO. SmartPumps and TruFlow gas manifolds can be easily scaled according to the size of the vessel in use. As the process evolves, the appropriate accessories can be added or substituted as required.

SmartParts

Intelligent hardware that creates systems to precisely meet the requirements of a process. Enhance bioprocess reproducibility by exploiting the local control capability of each SmartPart, and scale productivity by modifying the loading on the primary controller and data network.



SmartSensors

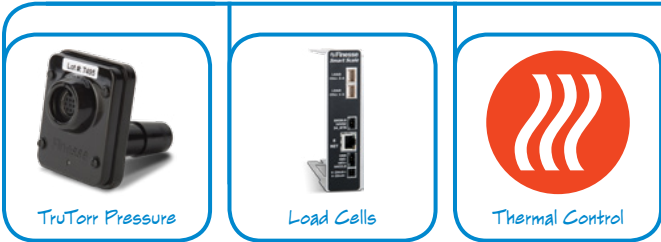
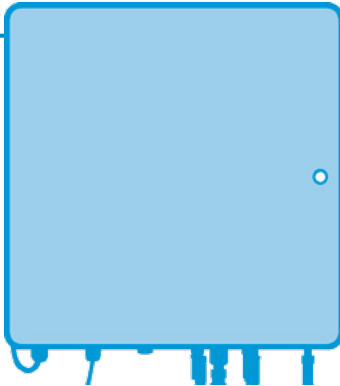
For excellence in bioprocessing measurement, the G3Pro Universal accommodates either TruFluor® and TruTorr® single-use sensors or TrupH® and TruDO® sterilizable sensors.

SmartSoftware

Finesse TruBio®DV software for the G3Pro Universal controller is suited for lab-scale / R&D to cGMP-compliant processes with no programming skills required by the user.



Vessel Adapter Box



External accessories are dependent on bioreactor brand.

G3Pro Universal

SPECIFICATIONS

Utility Tower Dimensions (H x W x D)	914.4 x 609.6 x 228.6 mm (36 x 24 x 9 in)
Cart Dimensions (H x W x D) Stand alone mounting cart with wheels	178 x 71 x 81 cm (70 x 28 x 32 in)
Enclosure Rating	NEMA 12/IP54 or optionally NEMA 4X/IP65
Operating Temperature	5°C to 40°C (41°F to 104°F)
Storage Temperature	-25°C to 85°C (-13°F to 185°F)
Relative Humidity	5% to 95% Non-Condensing
Certifications	Tested and Verified as Meeting CE Standards EN-60101 and EN 61325
Weight / Shipping Weight	18.1 kg / 41 kg (40 lbs / 90 lbs)
Cart Weight*	75 kg (165 lbs)
Agitation	Depends on Vessel Manufacturer, Control Through VAB (Vessel Adaptor Box)
pH (Up to 3 Inputs)	TruSens Transmitter (Electrochemical), TruFluor pH Transmitter (Single-Use)
DO (Up to 3 Inputs)	TruSens Transmitter (Electrochemical), TruFluor DO Transmitter (Single-Use)
Temperature	TruSens Transmitter (RTD) and/or TruFluor pH/DO Transmitters (Single-Use)
Pressure	TruTorr Transmitter (Single-Use)
Liquid control	Four (4) variable-speed peristaltic SmartPumps, Watson Marlow® Series 114, 313, or 520
Gas Control (TruFlow)	Standard: Six (6) MFCs with Three (3) Output Connectors Optional: Four (4) MFCs with Two (2) Output Connectors
Scales / Load Cells	Analog Input on Vessel Adapter Box
Auxiliary	Eight (8) Analog Inputs and Four (4) Analog Control Loops
Digital Output	Two (2) 24V Outputs; One (1) Dry Relay Alarm Contact
Thermal Control	Heater Blanket or Chilled Water Source (up to 250 L Vessel) Thermal Control Unit (TCU) for Jacketed Vessels
Vent Filter Heaters	MKS Cable Compatible with Pall or Meissner Vent Filter Heaters
External Pumps	Watson Marlow (Series 100, 300, 500 or 600) in Standalone SmartPump or SmartPump Tower
pH Cables	K8, VP, TruFluor
DO Cables	D4, VP6, VP8, TruFluor
Heater Connection	Cable Specific to Heater Connected at VAB (Vessel Adapter Box)
SUBs (Single-Use Vessels)	50 L to 2000 L
Vessel Adapter Box (VAB)	Thermo Scientific HyPerforma™ SUB: 50, 100, 250, 500, 1000, 2000 L GE / Xcellerex XDR: 50, 200, 500, 1000, 2000 L ATMI PadReactor: 25, 50, 600, 1350 L Millipore Mobius CellReady: 50, 200 L Sartorius STR: 50, 200, 500, 1000 L ASI™ 50, 300 L
Third Party Sensors (Analog Output)	CO2 – Mettler Toledo®; Cell Density – Endress+Hauser; Cell Viability – Aber™ / Fogale; Pressure / Flow
HMI	19 in Color Touch Screen Industrial LCD, NEMA 4X, 1280 x 1024, 24-Bit Color, Keyboard and Mouse

*Note that the controller is not designed to be free-standing. For this reason the controller is only shipped with the cart, for a combined weight of 116 kg (256 lbs)



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