Benchtop Glass Fermenter - Laboratory Bioreactor - 1 to 10 L - pH, DO and Feed Control

Model **MSGF-J1SWISS, MSGF-J2SWISS, MSGF-J3SWISS, MSGF-J5SWISS, MSGF-J7SWISS, MSGF-J10SWISS** | Brand **Master Science**





The Master Science Benchtop Glass Fermenter is a compact bioreactor for precise microbial fermentation in research and industrial laboratories. It is used for screening media formulations, optimising fermentation parameters and verifying processes and strains before scale-up.

KEY HIGHLIGHTS

- Full process control
- See the culture
- Ready to run
- Flexible feeding
- Room to expand

Request a Quotation
Contact us for pricing, configuration options and delivery details.

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Overview

Six vessel sizes are available, from 1 to 10 litres, in heat- and pressure-resistant borosilicate glass with a 316L stainless steel top plate. Temperature, pH, dissolved oxygen, feeding and foam are all monitored and controlled from a PLC with a colour touch screen.

Specifications of the Master Science Benchtop Glass Fermenter range (1 / 2 / 3 / 5 / 7 / 10 L):

Key Benefits

Full process control
the Master Science Benchtop Glass Fermenter regulates temperature, pH, DO, feed and foam.

See the culture
borosilicate glass vessel.

Ready to run
plug in power and cooling water.

Flexible feeding
10-segment programs linked to DO.

Room to expand
mass flow, off-gas and redox options.

Seed cultures are often prepared in a Master Science laboratory incubator or shaker.

Technical Specifications

GENERAL

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Nominal Volume	1 / 2 / 3 / 5 / 7 / 10 L
Working Volume	65 to 80 % (70 % optimal)
Vessel	High-silicon borosilicate glass, single or double layer; 316L stainless steel top plate
Agitation	Top-entry servo motor, aseptic mechanical seal or magnetic drive, 0 to 1000 rpm
Impellers	Three-tier: flat, pitched and toothed anti-foam blades, adjustable height
Aeration	Ring sparger, glass rotameter, pressure gauge, 0.2 µm sterile filter (external compressed air required)
Temperature Control	PT-100 probe, electric heating and cooling water, automatic or manual
pH Control	Steam-sterilisable pH electrode, 1 or 2 peristaltic pumps for acid/base
Dissolved Oxygen	0 to 100 % or 0 to 200 %, steam-sterilisable DO electrode, linkable to stirring and feeding
Feeding	1 peristaltic pump, time-proportional, 10-segment program
Anti-foam	Conductive foam probe with alarm, anti-foam pump (switchable to feed)
Control	PLC with colour touch screen
Sterilisation	In-place or autoclave
Control Cabinet	400 × 300 × 600 mm, 25 kg
Contaminated air supply	0.2 µm sterile filter.

DIMENSIONS & WEIGHT

Vessel Inner Size (Ø × H)	100 × 175 / 160 × 200 / 160 × 250 / 160 × 300 / 160 × 350 / 190 × 375 mm
Vessel Weight	5 / 7 / 13 / 17 / 22 / 24 kg
Gross Weight	48 / 50 / 58 / 60 / 65 / 70 kg

COMMON LABORATORY PROBLEMS AND HOW THIS FERMENTER HELPS

Common Laboratory Problems and How This Fermenter Helps	How the Master Science Benchtop Glass Fermenter improves fermentation work:
Shake flasks give poor control	online pH, DO and temperature.
Foam overflow	foam probe with automatic anti-foam dosing.
Manual feeding errors	programmed peristaltic feeding.

Applications

The Master Science Benchtop Glass Fermenter is used for
Microbial fermentation research Medium formulation screening Fermentation process optimisation Strain and process verification University and industrial R&D labs

Vessel and Agitation

- 1 to 10 L glass vessels
- Servo top drive, 0 to 1000 rpm
- Three-tier adjustable impellers

Measurement and Control

- Online pH, DO and temperature
- PLC with touch screen
- Acid, base, feed and anti-foam pumps

Aeration

- Ring sparger
- Rotameter and pressure gauge
- 0.2 µm sterile air filter

Optional Accessories

- Multi-channel feeding
- Feed weighing
- Oxygen enrichment bypass
- Online redox (ORP) measurement
- Automatic air flow (mass flow) control
- Off-gas CH4, O2 and CO2 analysis