SOLARIS™
BIOTECH
By Donaldson

ONE

CATALOGUE

ONE

benchtop autoclavable fermenter bioreactor

ONE is a 2 L autoclavable, single wall glass vessel, benchtop bioreactor.
The system is designed for aerobic and anaerobic cultivations/fermentations, closed aseptic operations.

“Having the opportunity to extract real time process data with the lowest step time of 1 second remotely offers to our customer a powerful monitoring tool.”

APPLICATIONS

Our products are utilized across various sectors including **pharmaceuticals**, **food production**, **agriculture**, **biomanufacturing**, **bioplastics**, **biofuels**, **cosmeceuticals**, catering to both research and development and lab production needs

Our Product ONE

This catalogue describes Solaris ONE.
For supervisory control and data acquisition Leonardo software is included.

THE SYSTEM

The system consists of 2 L autoclavable, single wall glass vessel, benchtop, pre-assembled fermenter/bioreactor (total volume), supplied with all necessary tubes, valves and instruments, automation, control panel (software license).

THE DESIGN

The system is designed for aerobic and anaerobic cultivations/fermentations, closed aseptic operations.

No one like the One

Integrated Wi-Fi connection and fully automated solution.

Accurate stirring, temperature, pH and oxygen controls.

Precise feedings via peristaltic pumps.

Suitable for batch, fed-batch and continuous processes and parallel control up to 24 units.

ASIC RESEARCH

EDUCATION

PROCESS DEVELOPMENT & OPTIMIZATION

SCALE UP & SCALE-DOWN STUDIES

SMALL PRODUCTION

Rushton,
Pitched Blade or
Marine impellers.

Toro or
Sintered
sparger.

Single-wall borosilicate glass vessel, with thermoregulation performed through heating blanket and cooling finger.

Measurements and control options included: stirring, temperature, pH, dO_2.

Suitable for batch,
fed-batch and
continuous processes.

Gas control
through
TMFC.

Product Description

Accurate and powerful
rpm control,
from 1 to 1900 rpm.

Modbus digital sensors reduce
background noise and guarantee
quick response time.

Compact stainless-steel PCS
equipped with 4 Watson Marlow
peristaltic pumps.

Connectivity and data
exchange via
in-built Wi-Fi system.

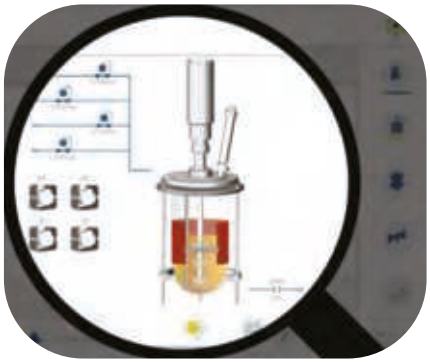
Multiple use available
up to 24 units
managed in parallel.

Leonardo Software

The innovative SCADA software Leonardo has a smart and user-friendly controller designed to provide a high level of automated management of the fermentation/cultivation processes.

Full version included with the equipment. Up to 24 units managed in parallel with a unique HMI (24”). Data extraction in .csv format.

Remote control and access via PC, tablet or smartphone, with QR code scanning or via dedicated portal.

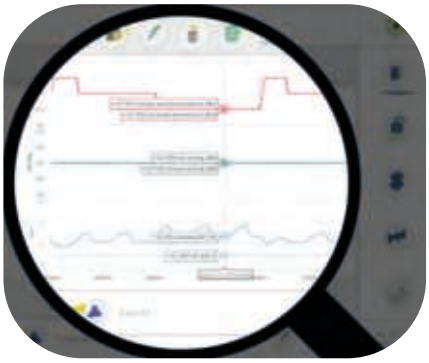


SYNOPTIC

- Real time 3D view
- Parallel control
- Manual control

TRENDS

- Custom acquisition time
- Up to 6 values simultaneously display
- Automatic graph comparison



WORKFLOW

- Custom phase manager
- Parallel visualization
- Cascade settings
- Peristaltic pumps function assignable from software

CALIBRATION

- Up to three-point calibration
- Simoultaneus calibration values for parallel work

Technical Data

VESSEL	
Solaris Code	**One 2.0**
Ratio H/D	3/1
Min working volume (L)	0.5
Max working volume (L)	1.5
Max temperature	65 °C
Operating pressure	< 0.5 bar(g)
Headplate ports (9)	1 Gas Sparger, 1 Gas Overlay, 1 Condenser, 1 Sampling/Harvesting, 1 Temperature, 1 Multifeed, 2 Sensors, 1 Level/antifoam sensor.
Design	Borosilicate single-wall glass vessel
Materials	Borosilicate Glass and AISI 316 L
SENSORS LENGTH (mm)	
pH	325
dO_2	325
DIMENSIONS FOR AUTOCLAVE (with Condenser)	
Height (mm)	610
Diameter (mm)	275
STIRRINGS	
Drive	Brushless Motor
Speed (rpm)	1 - 1900
Impellers	Select from: Rushtons, Marine, Pitched blade
THERMOREGULATION	
Control	Cooling finger and heating blanket PID Control - Accurancy 0.1 °C

GAS CONTROL & GAS MIXING	
Gas	1 TMFC for Air
Sparger type	Select from: Toro type (ring), sintered microbubbling
Gas out	1 Condenser + 0.22 µm filter
PERISTALTIC PUMPS	
Quantity & type	Up to 4 Watson Marlow type 114 FD/DV
CONTROLLER	
Master control module (w x d x h)	35 x 35 x 37 cm
Leonardo software	Licence
TEMPERATURE	
Sensor	PT100
Accuracy	± 0.1 °C
Control system	Measuring resident in Leonardo software
Control range	0 - 150 °C
pH	
Sensor	Digital sensor
Sensitivity	57 to 59 mV/pH
Control system	Measuring resident in Leonardo software
Control range	0 - 14
Operating temperature	Up to 130 °C
Pressure range	0 - 6 bar
Actuator	Cascade to peristaltic pumps for the addition of acid/base solutions
dO_2	
Sensor	Digital optical sensor
Accuracy	1 ± 0.05 %-vol, 21 ± 0.2 %-vol, 50 ± 0.5% -vol
Control system	Measuring resident in Leonardo software
Control range	0 - 300 % air saturation
Operating temperature	Up to 130 °C
Pressure range	0 - 12 bar
Actuator	Cascade to RPM, Gas Control, feedings

Get in touch

Solaris Biotech
By Donaldson

info@solarisbiotech.com

SALES & PRODUCTION

Via Bachelet, 58/89
46047
Porto Mantovano
Mantova - Italy

OUR OFFICES SHOWROOMS

Your official Solaris Biotech distributor:

KREIENBAUM Neoscience GmbH
Robert-Koch-Straße 9
40764 Langenfeld
Tel.: +49 (0) 2173 39927-0
E-Mail: info@kreienbaum-neo.de

KREIENBAUM NEOSCIENCE

www.solarisbiotech.com

REV2026-02-001