



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

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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.

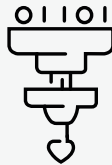
Suitable for batch, fed-batch and continuous processes and parallel control up to 24 units.



ASIC
RESEARCH



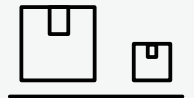
EDUCATION



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.

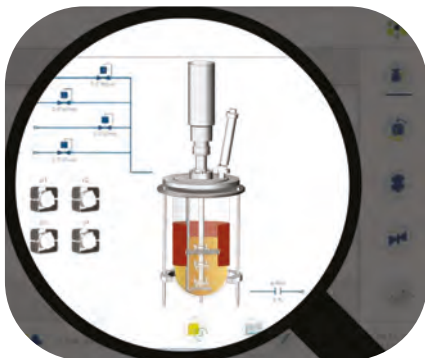
Leonardo Software



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
- Simultaneous 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 - Accuracy 0.1 °C
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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
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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

dO₂

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



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**OUR OFFICES
SHOWROOMS**





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