SOLARIS™
BIOTECH
By Donaldson

ONE

CATALOGUE

ONE

benchtop autoclavable fermenter bioreactor

ONE is a 2 L autoclavable, single wall glass vessel, bench-top 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 a 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, bench-top, preassembled 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 WiFi system.

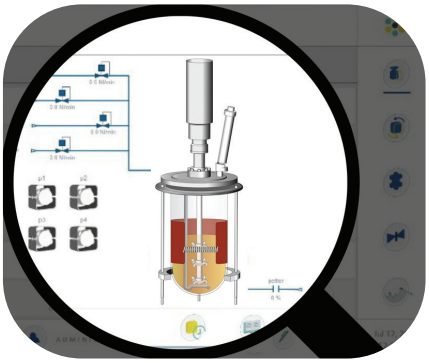
Multiple use available up to 24 units managed in parallel.

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.

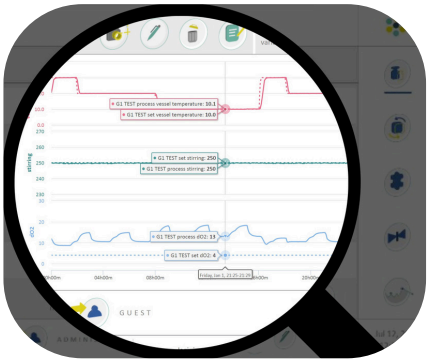


SYNOPTIC

- 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 D/H	1:3.0
Min. Working Volume (L)	0.5
Max. Working Volume (L)	1.5
Max. temperature	70 °C
Operating pressure	< 0.5 bar (g)
Headplate ports (9)	9 agitation group, gas sparger, gas overlay, gas out/condenser, sampling/harvest, temperature, multifeed, sensors DN12
Design	Borosilicate glass vessel (single wall)
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 impellers, Marine impellers, Pitched blade
THERMOREGULATION	
Control	Cooling finger and heating blanket PID Control - Accurancy 0,1 °C

GAS CONTROL & GAS MIXING	
Gas Mixing (Air)	1 TMFC for Air
Sparger type	Select from: Toro type (ring), sintered microbubbling - both provided with 0.22 µm sintered filter
Gas Out	1 Condenser + 0.22 µm sinterized filter
PERISTALTIC PUMPS	
Type	up to n. 4 Watson Marlow type 114 FD/DV fixed speed, max. 60 rpm, volumetric flow 0,5-51 ml/min, function assignable from software
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, Combination electrode
Sensitivity	57 to 59 mV/pH
Control system	Measuring resident in Leonardo software
Control range	0 - 14 °C
Operation temperature	0 - 130 °C
Pressure range	0 - 6 bar
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
Operation temperature	up to 130 °C
Pressure range	0 - 12 bar

Get in touch

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OUR OFFICES SHOWROOMS

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