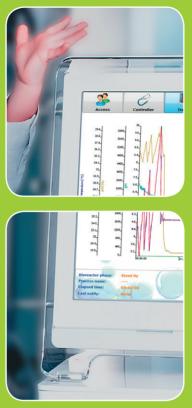
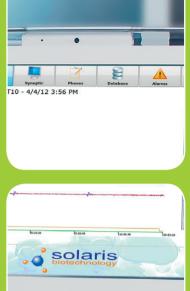
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Single Use Bioreactor/Fermenter System



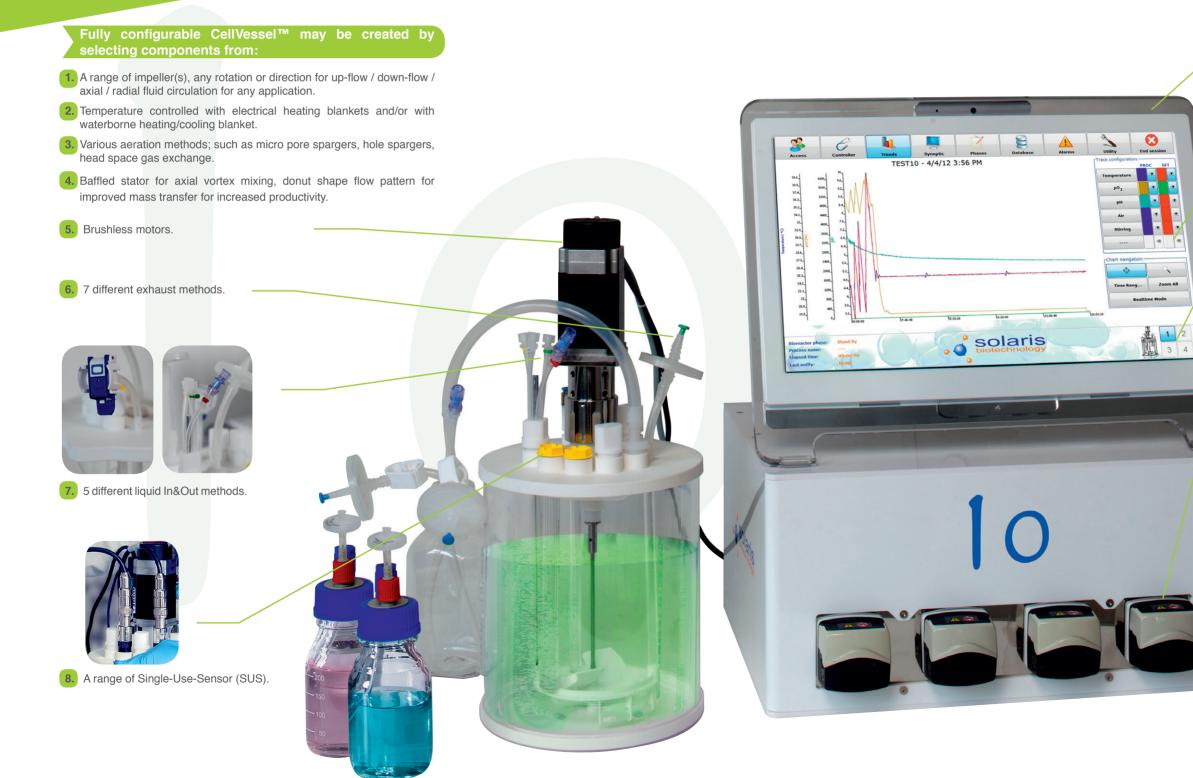
O Single-Use, Stirred-Tank Bioreactor

an exclusive system fully configurable that meets any design request in a scalable platform ranging 1-25 litre

platform ranging 1-25 litre Working-Volume (WV).

Basic specifications:

- · PC (polycarbonate) vessel in 5 different diameters and 4 different height = 13 different sizes
- · PC cover with a number of PG13.5 ports according to the diameter
- Rigid design for stable servo motor connection



Benefits

2

9. 1 TMFC in the entry model. Gas mixing: up to 5 TMFC (Air, CO₂, N₂, O₂ and Overlay).

10. 18.5" touch display.

11. LEONARDO: smart controller designed to provide an high level of automated management of the fermentation processes.

Remote Control, 100% assistance from our office.

12. Up to 4 vessels managed with one station.

13. N.4 software assignable peristaltic pumps, **all speed** controlled.



14. Compact master control station. Universal power supply 100-240 V. Rear module with 3 removable technical trays (power, control, process) to facilitate the after sales service.

O Single-Use, Stirred-Tank Fermenter

an exclusive system fully configurable that meets any design request in a scalable platform ranging 1-25 litre Working-Volume (WV).

BactoVessel[™] series of Single-Use-Fermenters (SUF) for batch and fed-batch microbial applications are unique as they are fully configurable and meet any design request in a scalable platform ranging 1-25 litre Working-Volume (WV).



7. 5 different liquid In&Out methods.



8. A range of Single-Use-Sensor (SUS).



9. Compact master control station. Universal power supply 100-240 V. Rear module with 3 removable technical trays (power, control, process) to facilitate the after sales service.

Fully configurable BactoVessel™ may be created by selecting components from:

- 1. A range of impeller(s), any rotation or direction for up-flow / down-flow / axial / radial fluid circulation for any application.
- 2. Temperature controlled with electrical heating blankets and/or with waterborne heating/cooling blanket.
- 3. Various aeration methods; such as micro pore spargers, hole spargers, head space gas exchange.
- 4. Baffled stator for axial vortex mixing, donut shape flow pattern for improved mass transfer for increased productivity.
- 6. 7 different exhaust methods.

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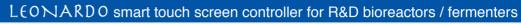
SET UP YOUR

Ask for the Configurator Tool for your own SUB/SUF design!

CellVessel[™] and BactoVessel[™] frequently requested volumes

| Vessel volume (ml) | OD110 | OD130 | OD150 | OD200 | OD250 |
|--------------------|-------|-------|--------|--------|--------|
| N. of PG13.5 ports | 6 | 7 | 9 | 10 | 12 |
| 245 mm height | 2,100 | 3,000 | | | |
| 340 mm height | | 4,100 | 5,600 | 10,300 | 15,700 |
| 420 mm height | | 5,100 | 6,900 | 13,400 | 19,300 |
| 520 mm height | | | 8,500 | 16,500 | 23,800 |
| 620 mm height | | | 10,100 | 19,600 | 28,300 |





E A S E

1 2

Non lang. Joon M Andree Rafe 1 2

<u>A</u> <u>S</u>

| Stand By | Before Cultivatio | e Cultivation | | | | |
|------------------|-------------------|---------------|-------------|----------------------|---|----|
| 2004 | | | infrared. | | _ | |
| Temperature | | PROFILE | | Colleges_ | | |
| E pH | ON | | | 7.00 | | |
| 602 | ON | | _ | 0 % | | |
| Stirring | ON | | | 100 rpm | | |
| Air 0, 00, | ON | | | LO NUmin | _ | |
| 2 | ON | | | LO NVmin LO NVmin | _ | |
| Feed-A | 01 | | | 0 rpm | - | |
| Feed-B | of | | | 0 rpm | - | |
| Feed-C | OF | | | 0 rpm | - | |
| First plane | Repters | Canada | Losd-script | See orige | - | |
| | 0 | sola | 24 | | | 2. |

WITH

User friendly fermentation management

Controller page to view setpoints, process values and control mode, to set up customized PID (or use factory defaults) and alarm limits

Continuous trends representation to track, print and export data.

Different dynamic zooms and configurations.

Events log and alarm register



Solaris

o solaris



Process Control System

your process is easily and efficiently managed by this innovative, user friendly and powerful

Multi-level password protection

On line parameters calibration

Possibility of saving recipes for repeat usage

Remote control for after sale assistance





CerCell