



SOLARIS[™]
B I O T E C H

By Donaldson



Solaris Biotech specializes in delivering advanced **technology solutions** for the entire range of processes in the **bioprocessing industry**.

Our products are utilized across various sectors including **pharmaceuticals, food production, agriculture, biomanufacturing, bioplastics, biofuels, cosmeceuticals, catering** to both **research** and **development** as well as large-scale production needs.

As a key component of the **Donaldson** Life Sciences division, we actively engage in the design, engineering and manufacturing of benchtop, pilot, and industrial-scale fermenters, bioreactors, filtration solutions, and other process equipment.

With our widespread network of production, sales, and service branches around the globe, we efficiently cater to a diverse international customer base.

Though initially more industrially focused, Solaris today offers a more comprehensive approach to entirely cover from **upstream** to **downstream**.

LAB

Dedicated to laboratory scale equipment from **200 mL up to 20 L**

INDUSTRIAL

Committed to totally customizable cGMP pilot-industrial equipment **upon your needs**, and to the design and manufacturing of full turnkey solutions

Mission

Our mission is to provide advanced yet accessible solutions, with unique benefits in terms of quality and flexibility, and to be our clients' partner of choice

Vision

Our vision is to support biotechnology and non-biotech company in the development of processes that improve the well-being of society and environment.

Value

We aim to provide an integrated service in which technology, assistance and expertise come together, conveying added value to the purchase.

Difference

We strongly believe in customer care, in satisfying every biotech branch needs and in innovation. This all together drives us to making a difference in the market.

PRODUCT RANGE



ONE

2 L



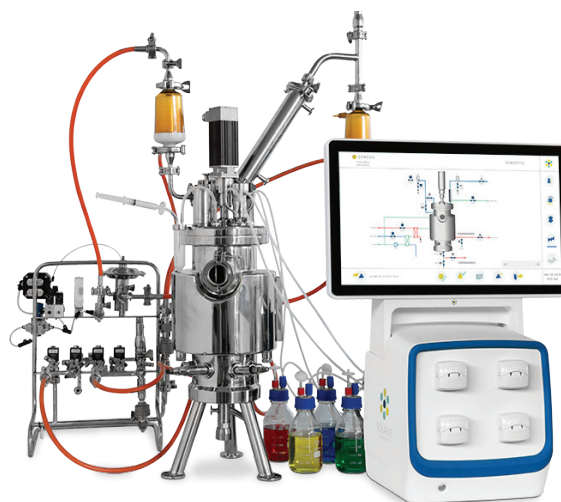
IO

200 mL – 1000 mL



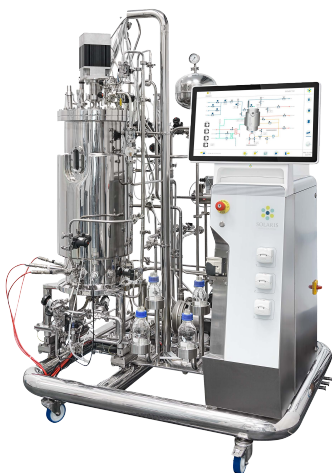
JUPITER

2 L – 10 L



GENESIS

7.5 L – 20 L



M SERIES

30 L – 200 L



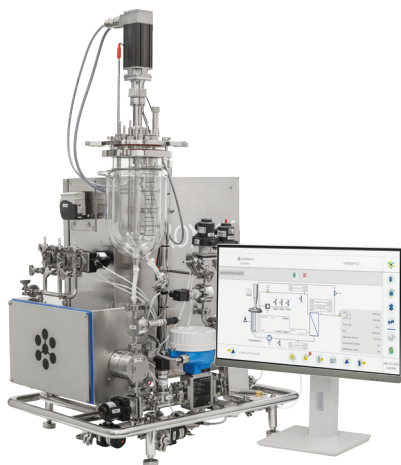
S SERIES

5 L – 200 L



I SERIES

FROM 250 L



KRONOS (TFF)

2 L – 10 L



TYTAN (TFF)

250 L/h – 500 L/h

one



**ONE**

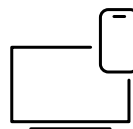
benchtop
autoclavable
fermenter
bioreactor



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.

Features

- 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.



**more
device
in one**



**integrated
wi-fi
connection**



single & parallel
fermenter
bioreactor



10 is a fully electrical mini fermenter/bioreactor with a fast and accurate thermoregulation system (without water circulation).

Features

- With total volumes of 200 mL or 1000 mL, it represents an innovative device for process development and media optimization.
- Suitable for batch, fed-batch and continuous processes and parallel control up to 24 units.



JUPITER

single & parallel
autoclavable
fermenter
bioreactor

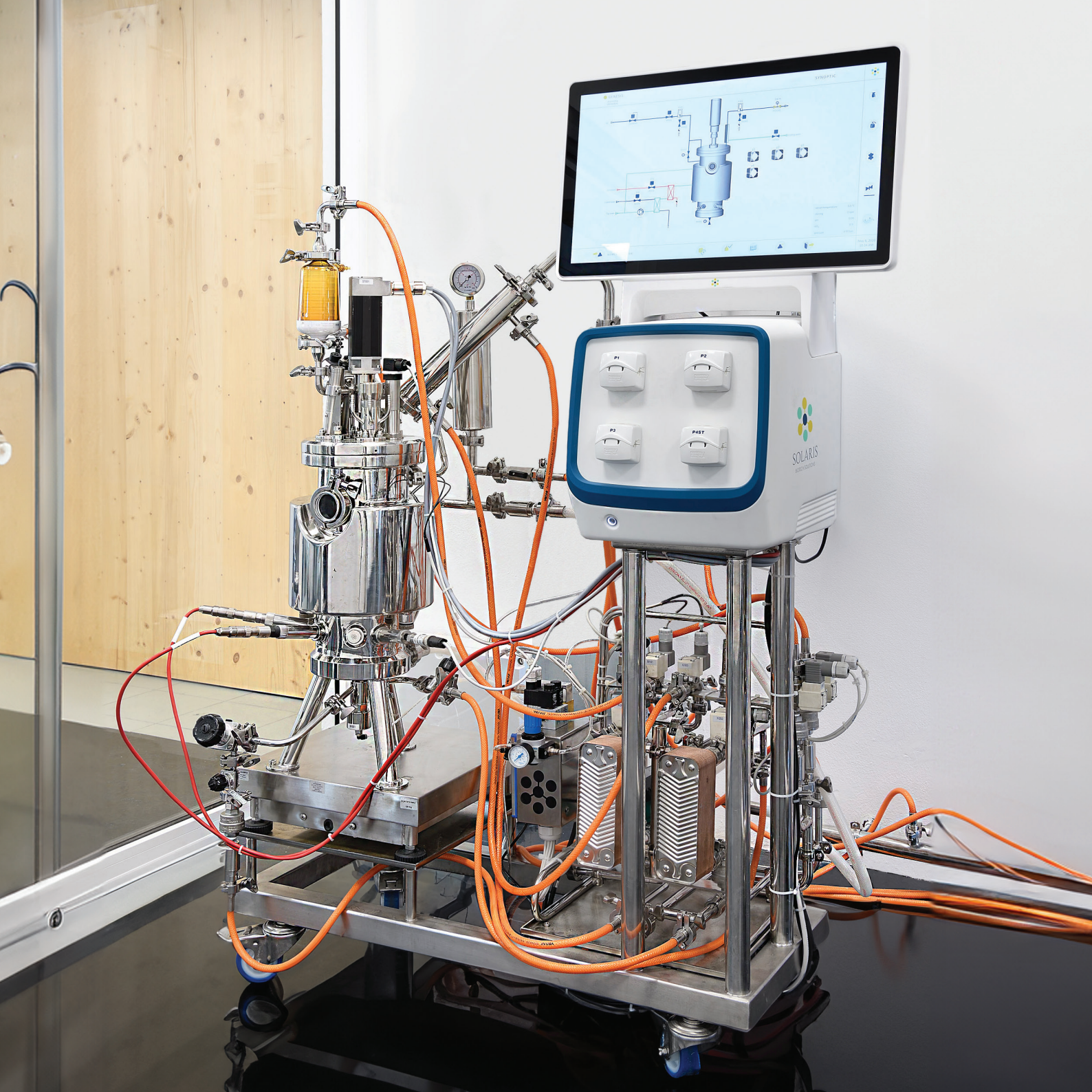


Jupiter platform offers multiple autoclavable vessel sizes from 2.0 L up to 10.0 L total volume with different H/D ratio available.

Pressure control up to 1.6 bar is also available in the 2 and 4 L volumes. Suitable for batch, fed-batch and continuous processes and parallel control up to 24 units.

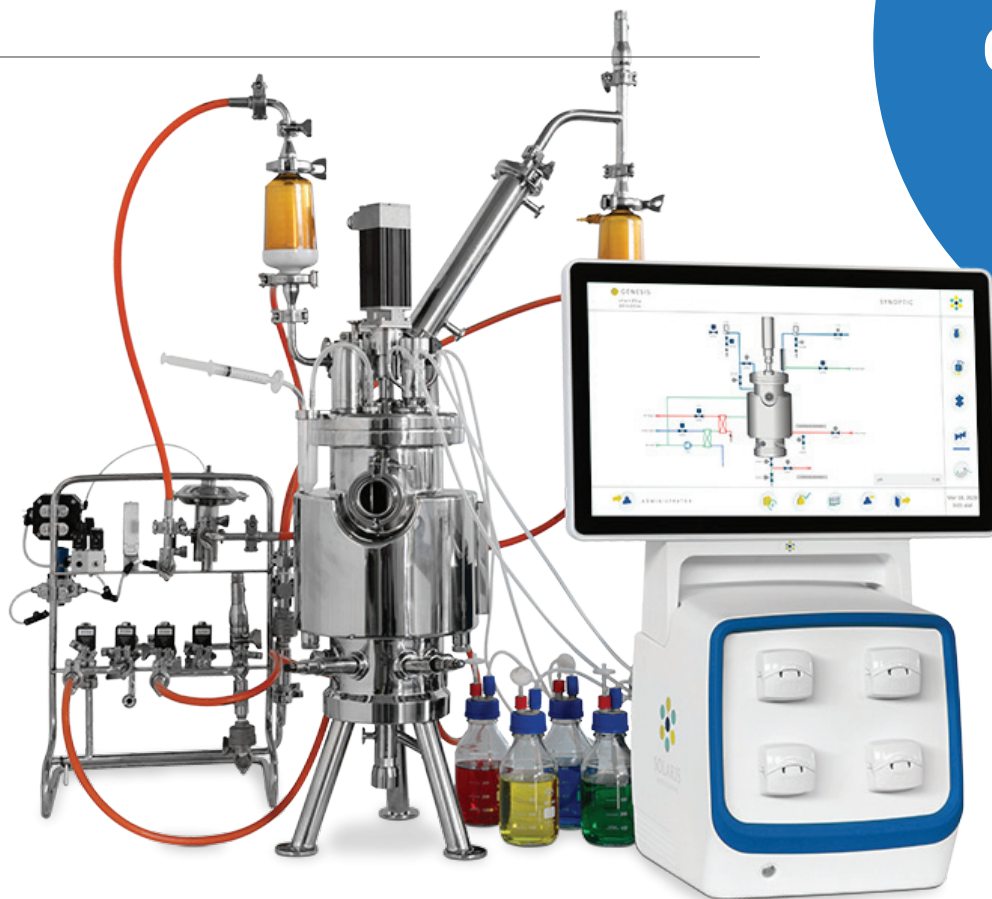
Customizable Configuration

- The system is highly configurable, offering a wide range of measurement and control options.



GENESIS

benchtop
/pilot SIP
fermenter
bioreactor



GENESIS is a compact SIP benchtop/pilot bioreactor, available from 7.5 up to 20 L total volume. Available as **automatic sterilization** with steam, electrical heaters or hybrid system.

Modular Platform

- Double jacket (side-bottom) for greater heat transfer efficiency and optimal temperature control. Available as a benchtop solutions or on wheels. Suitable for batch, fed-batch and continuous operation and parallel work up to 24 units.

Bench top fermenter

Serie	IO		Jupiter			
Material	Vessel: Borosilicate glass Other: AISI 316L					
Vessel volume (L)	0.2	1.0	2.0	4.0	6.5	10.0
Working volume range (L)	0.07 - 0.15	0.36 - 0.70	0.50 - 1.50	1.0 - 3.0	1.6 - 4.9	2.5 - 7.7
H/D ratio	1.50/1	2.50/1	3.00/1	3.25/1	2.50/1	3.00/1
Max temperature (°C)	56	56	65	65	65	65
Space requirement in Autoclave (H x D mm)	320 x 170	420 x 170	610 x 275	705 x 285	705 x 315	790 x 335
Stirrer (rpm)	1 - 2000	1 - 2000	1 - 1900	1 - 1800	1 - 1700	1 - 1700
Recipe preparation / Control	PCS integrated with 24" HMI touch display with SCADA system using Leonardo software for control of up to 24 units					
Pumps per vessel	Integrated four Watson Marlow pumps (Configurable)					
Impeller type	Rushton/ Marine/ Pitch blade (Configurable)					
TMFC for gas flow/ composition control	Max. up to 5 TMFC, overlay and/or submerged (TMFC up to 2 VVM/ TMFC up to 0.2 VVM)					
Thermoregulation	Peltier cell		Water jacket and electrical heaters (Double wall) / Cooling finger and heating blanket (Single wall)			

* PG 13.5 ports for condenser, sensors (pH, DO, redox etc.)

Sterilizable in-place bioreactor

Serie	Genesis			
Material	Vessel and parts in contact with the culture: AISI 316L Others: AISI 304			
Vessel volume (L)	7.5	10.0	15.0	20.0
Working volume range (L)	1.9 - 5.6	2.5 - 7.5	3.7 - 11.2	5.0 - 15.0
H/D ratio	2.5/1			
Temperature (°C)	130			
Stirrer (rpm)	1 - 1500			
Sterilization	In-situ sterilization with max. temp up to 130 °C			
Recipe preparation / Control	PCS integrated with 24" HMI touch display with SCADA system using Leonardo software			
Pumps per vessel	Integrated four watson marlow pumps (Configurable)			
Impeller type	Rushton/ Marine/ Pitch blade (Configurable)			
TMFC for gas flow/ composition control	Max. up to 5 TMFC (TMFC up to 2 VVM/ TMFC up to 0.2 VVM)			



Pilot & Industrial Solution



M SERIES

pilot industrial
standard SIP
fermenters /
bioreactors

INDUSTRIAL

The **M Series** includes standard SIP bioreactors available in a range of six different volumes from 30 up to 200 litres, with a wide range of options and accessories.



SPECIFICATIONS

SIP/CIP Industrial scale fermenter/ Bioreactor

Series	M series					
Material	Vessel and parts in contact with the culture: AISI 316L Others: AISI 304L Sight glass: Borosilicate					
Vessel volume (L)	30	50	75	100	150	200
Working volume range (L)	7.5 - 22.5	12.5 - 37.5	18.5 - 56.5	25.0 - 75.0	37.5 - 112.5	50.0 - 150.0
H/D ratio	3/1					
Temperature (°C)	150					
Stirrer (rpm)	1 - 850	1 - 750	1 - 660	1 - 600	1 - 580	1 - 550
Recipe preparation / Control	PCS with integrated 21.5" HMI touch display with SCADA system using Leonardo software					
Pumps per vessel	Integrated four Watson Marlow pumps configurable according to requirements					
TMFC for gas flow / composition control	Max. up to 5 TMFC (TMFC up to 2 VVM/ TMFC up to 0.2 VVM; configurable)					





S-I SERIES

SIP and CIP
customisable
pilot and
industrial scale
fermenters/
bioreactors

FULLY CUSTOMIZABLE highly automated fermenters and bioreactors from 5 up to 200 litres (S-Series) and from 250 litres and above (I-Series).

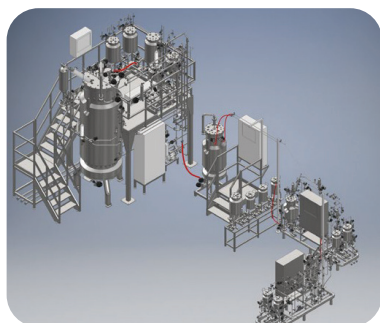
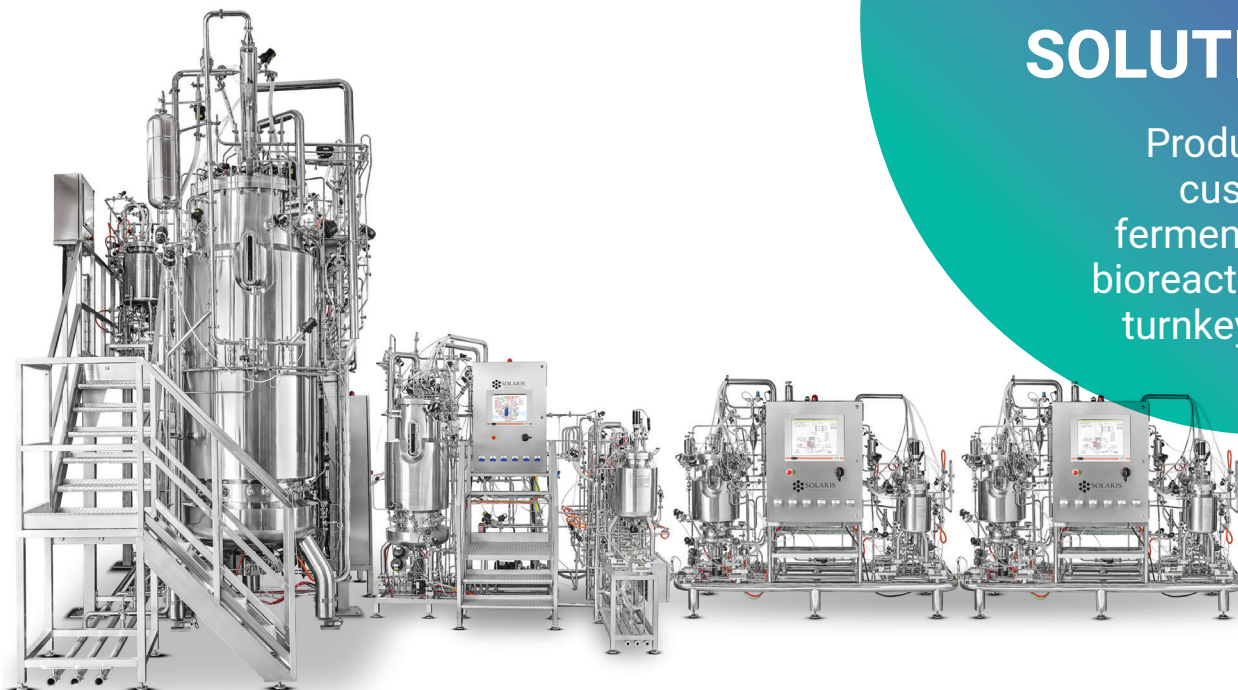
Tailor-made according URS.

Full **cGMP package** also available.

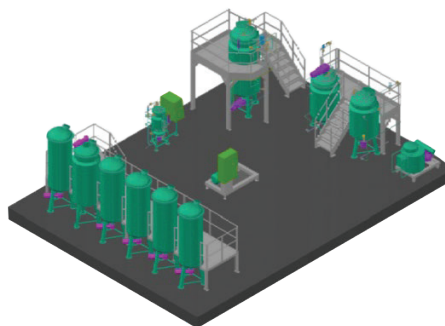


TURNKEY SOLUTIONS

Production of
customized
fermenters and
bioreactors, with
turnkey project



Project Feasibility & Assesment



Engineering and Manufacturing

Hardware design
Software design
Integrated system
architecture



Handover

Commissioning
Qualification/ Validation
Start-up & training

Process Equipment



Buffer Tanks



Sterilizers



Media Preparation Tanks



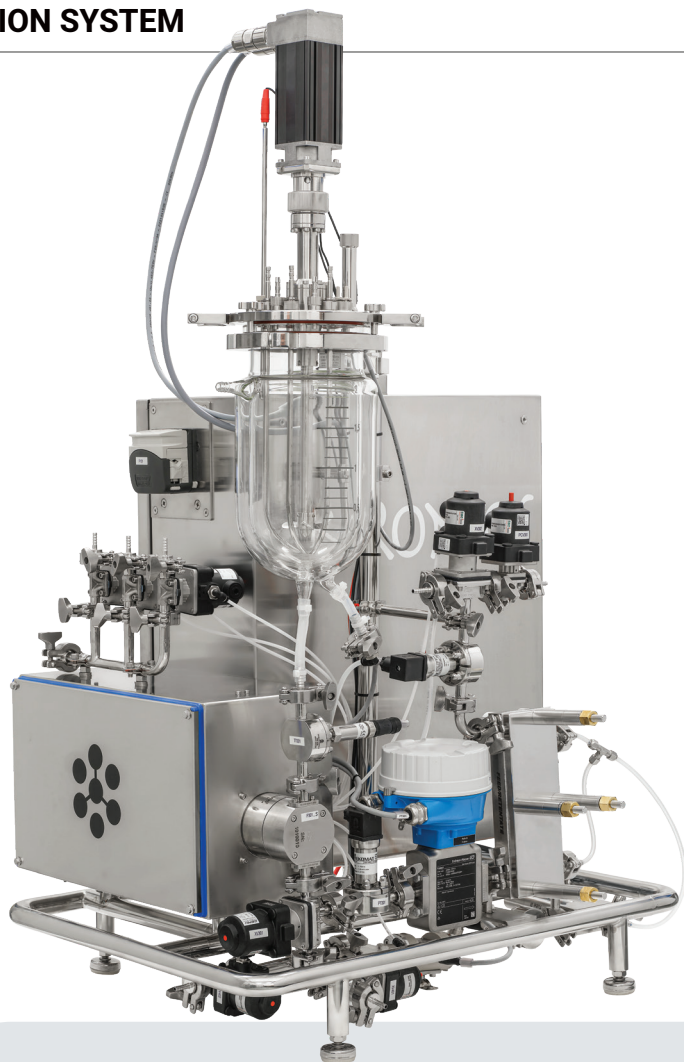
CIP Units

Filtration System





FILTRATION SYSTEM



KRONOS

Standard
Benchtop
Tangential
Flow Filtration
(TFF) System



KRONOS is a benchtop automatic **TangentialFlow Filtration (TFF) system**, designed following the most updated criteria of cGMP.

KRONOS can handle up to 0.5 m² total filtration area allowing different membrane technologies like cassettes and hollow fibers which make it ideal for **innovative process development** as well as for automatic process sequences.

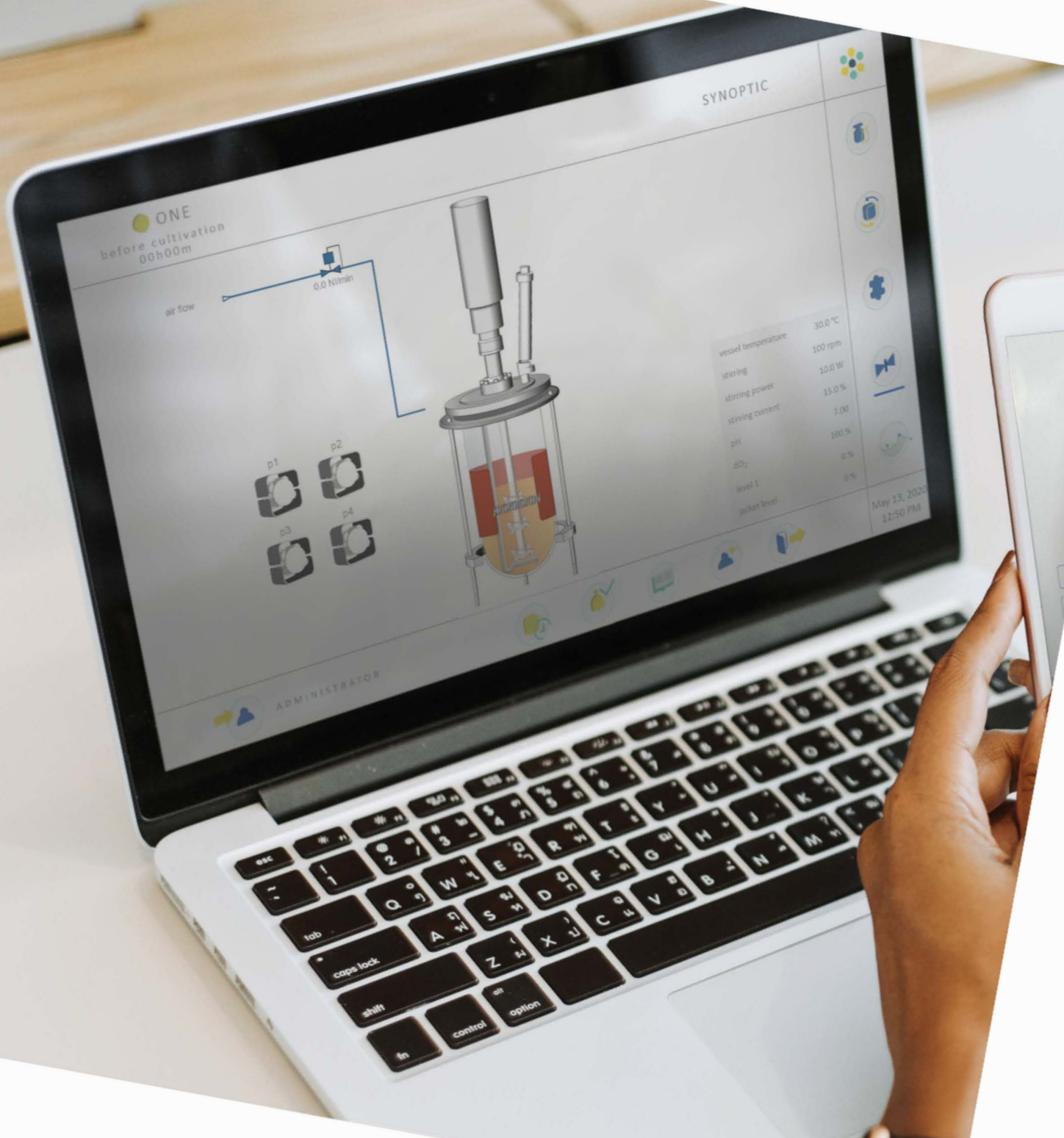


TYTAN

Pilot and
Industrial
Tangential
Flow Filtration
Systems



TYTAN is Solaris' completely customisable pilot / industrial scale **Tangential Flow Filtration (TFF) system** based on microfiltration and ultrafiltration techniques and operating at low pressure ranges (1-5 bar).



Leonardo Software





The **Super Powerful and user-friendly software** that manages all Solaris equipment, from benchtop units to pilot-industrial scales, from **upstream** to **downstream**.

The software is **developed on a Linux operating system** and **communicates with PLC and DCS** for the supervision and control over multiple units, managing sterilization, cleaning of pipelines and transferring between units, working with the major automation and software platforms on the market.

LEONARDO

Software &
Automation



Leonardo is Solaris' in-house developed software for Process Control.

Its flexibility and powerfulness make it suitable for different kinds of process fields, from **benchtop** bioreactors used in R&D, to **pilot** and **industrial** bioreactors for scale-up and production and filtration systems (TFF).

The unicity

While the interface remains the same, Solaris developed unique features and options depending on the needs. Let's dive in a little bit...



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



Solaris Biotech

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OUR OFFICES SHOWROOMS





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