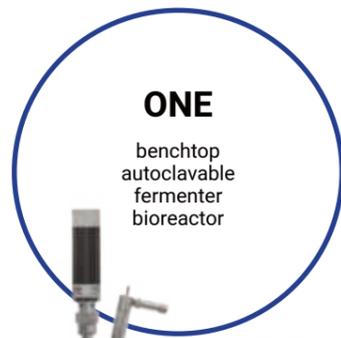


A modern, two-story white building with large windows and a glass-enclosed entrance. The building features the Solaris Biotech logo and name on the upper facade. A person is walking on a paved path in the foreground, and a white utility vehicle is parked on the right. The sky is clear and blue.

SOLARIS
BIOTECH
By Donaldson

We value your bioprocess since 2002

R&D BENCH TOP BIOREACTORS

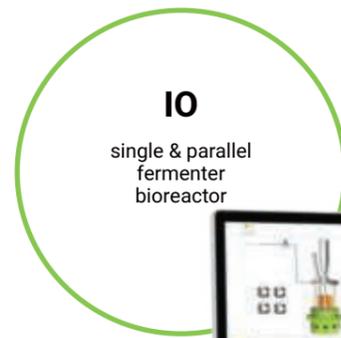


ONE

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.



IO

single & parallel fermenter bioreactor



IO bioreactors with total volumes of 200 mL and 1000 mL offers innovative solution for small scale process development and optimization.

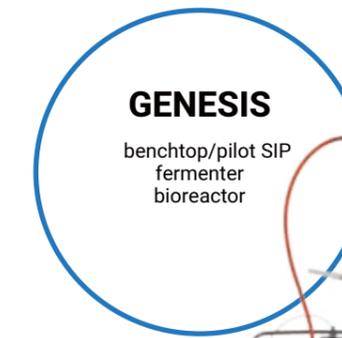


JUPITER

single & parallel autoclavable fermenter bioreactor

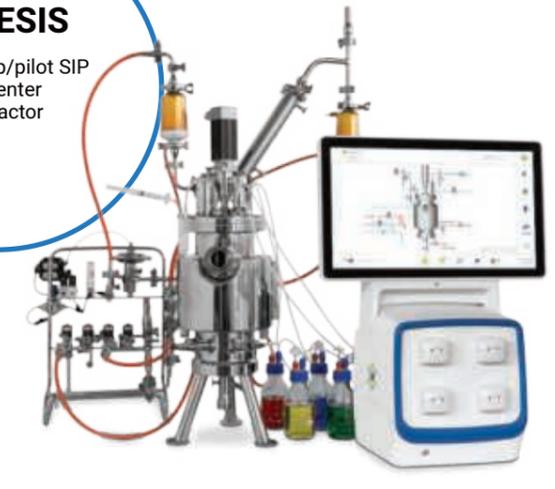


Jupiter is the most versatile of the benchtop series. It offers multiple autoclavable vessel sizes from 2 to 10 L total volume. Available as single or double-wall vessels.



GENESIS

benchtop/pilot SIP fermenter bioreactor



Genesis offers a transitional SIP bioreactor scaling from benchtop to pilot systems. Available from 7.5 to 20 L total volume.

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	3.0/1	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 0.20 VVM)					
Thermoregulation	Peltier cell		Water jacket and electrical heaters (Double wall)/ Cooling finger and heating blanket (Single wall)			

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	2.50/1			
Temperature (°C)	130			
Stirrer (rpm)	1-1500			
Sterilization	<i>In-situ</i> 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 0.20 VVM)			

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

PILOT & INDUSTRIAL SCALE BIOREACTORS

M SERIES

pilot industrial standard SIP/CIP fermenters / bioreactors



M series is Solaris standard pilot scale SIP/CIP platform. There are 6 available standard vessel sizes, ranging from 30 up to 200 L total volume, completely configurable with an extensive range of options and accessories.

S & I SERIES

SIP and CIP customisable pilot and industrial scale fermenters / bioreactors



The S & I series consist of highly automated pilot-industrial scale fermenters and bioreactors, available from 5 up to 30,000 L and more (S series 5 - 200 L, I series from 250 L and above). There fermentation units are completely customizable according to the client's process requirements.

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 0.20 VVM; configurable)					

TFF SYSTEMS / TURNKEY PROCESS PLANTS



R&D TFF SYSTEMS

PILOT & INDUSTRIAL TFF SYSTEMS

CIP & SIP SYSTEMS

PROCESS EQUIPMENTS

TURNKEY SOLUTIONS

Production of customized fermenters and bioreactors, with turnkey project

Solaris can assist its clients in the design and manufacturing of complete integrated turnkey process plants, whether it be for bacterial or cell cultivation, meeting the demands of pharma industry, as well as food and beverage, biotech, agriculture, chemical and petrochemical, bioplastics, biofuels, bioremediation, animal, health and nutrition, nutraceutical, and cosmeceutical.

SOFTWARE & AUTOMATION

Leonardo

Super powerful and used friendly software manages all Solaris equipment, from bench-top units to industrial scale, from upstream to downstream. Software is developed on a linux operating system and communicates with PLC and DCS for the supervision and control over multiple units.





SOLARIS™ BIOTECH

By Donaldson



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