

Ambr[®] 15 Cell Culture Generation 2



Technical Specification

Scope

Automated high throughput microscale bioreactor system for cell culture applications.

Monitoring and control of 24 or 48 cultures in parallel at 10 - 15 mL working volumes.

Comprising single-use microbioreactor vessels, automated workstation, laptop and software.

Recommended Working Space

System dimensions excluding laptop computer and system options.
Refer to Building Services Specification for detailed drawings.

Ambr[®] 15 Cell Culture, 24 microbioreactor system

Width (small tip bin)	Width (large tip bin)	Depth	Height
780mm	915 mm	530 mm	665 mm
31"	36"	21"	26"

Ambr[®] 15 Cell Culture, 48 microbioreactor system

Width (small tip bin)	Width (large tip bin)	Depth	Height
1270mm	1405 mm	530 mm	665 mm
50"	55"	21"	26"

System operating parameters

Number of microbioreactors	24 or 48 (2 or 4 stations of 12)
Agitation speed	150 – 2000 rpm
Culture temperature (standard)	33 – 40°C ± 0.5°C (+ 8°C above ambient)
Culture temperature (cooled)	20 – 40°C ± 0.5°C
Temperature shift rate	≥ 5°C per 30 mins
pH set point range	6.5 – 7.5
pH monitoring range	6.0 – 8.0
pH monitoring accuracy	± 0.1 pH units
DO (% air saturation) monitoring range	0 – 200%
DO monitoring accuracy	±2% @ 100%
Maximum air or total gas flow	1 mL/min
Disposable tip sizes	1 mL and 5 mL tips

Pipette based liquid handling:

1 mL tip	± 5% from 20 µL – 50 µL	± 2% from 50 µL – 900 µL
5 mL tip	± 2% from 0.5 mL – 1 mL	± 1% from 1 mL – 4 mL

Rapid Vessel Drain operating parameters

Passage culture minimum volume remaining	2.5 mL	
Passage culture precision	± 5% @ 2.5 mL	± 1% @ 6 mL
Rapid vessel drain minimum volume remaining	0 mL	
Rapid vessel drain precision	± 5% @ 2.5 mL	± 1% @ 6 mL

Labware deck positions

	Flexible	Plate	Cooled plate
Ambr® 15 Cell Culture 24 microbioreactor system	6	2	0
Ambr® 15 Cell Culture 24 microbioreactor system cooled	6	1	1
Ambr® 15 Cell Culture 48 microbioreactor system	9	4	0
Ambr® 15 Cell Culture 48 microbioreactor system cooled	9	2	2

Deck positions for maximum plates

	24	24C	48	48C
Plate locations	5	4	10	8
Chilled plate locations	0	1	0	2
Plate lids (multiple locations can be defined)	1	1	1	1
1 or 5 mL pipette tip box (5 mL tip box cannot be defined in front of a 1 mL tip box)	1	1	1	1
Tip box lid (multiple locations can be defined)	1	1	1	1

Deck positions for maximum pipette tips

	24	24C	48	48C
Plate locations	1	1	2	2
Chilled plate locations	0	1	0	2
Plate lids (multiple locations can be defined)	1	1	1	1
1 or 5 mL pipette tip box (5 mL tip box cannot be defined in front of a 1 mL tip box)	5	4	9	7
Tip box lid	1	1	1	1

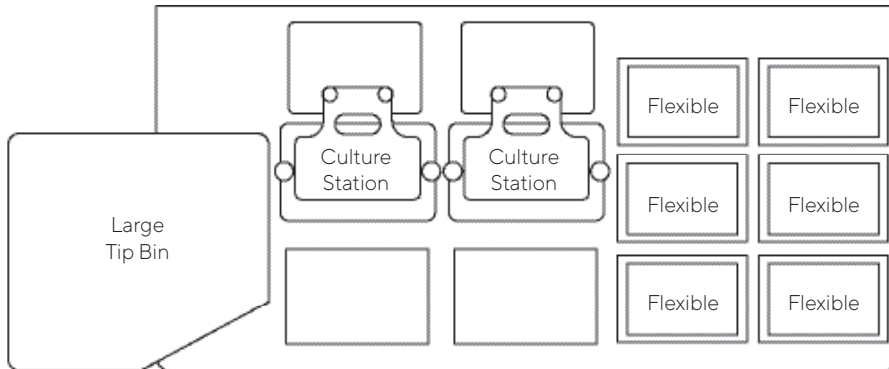
Microbioreactor vessel

Construction material	Polycarbonate, polyethylene
Internal dimensions (L x W x H)	28.0 x 14.6 x 59.7 mm
Total volume	18 mL
Working volume	10 – 15 mL
pH monitoring technology	Fluorescence based spot
DO monitoring technology	Fluorescence based spot
Impeller type	Pitched blade
Diameter	11.4 mm
Power number	2.15
KLa (sparged vessels, 13 mL DI water, 1500 rpm, gassing @ 1 mL/min)	17.6 per hour

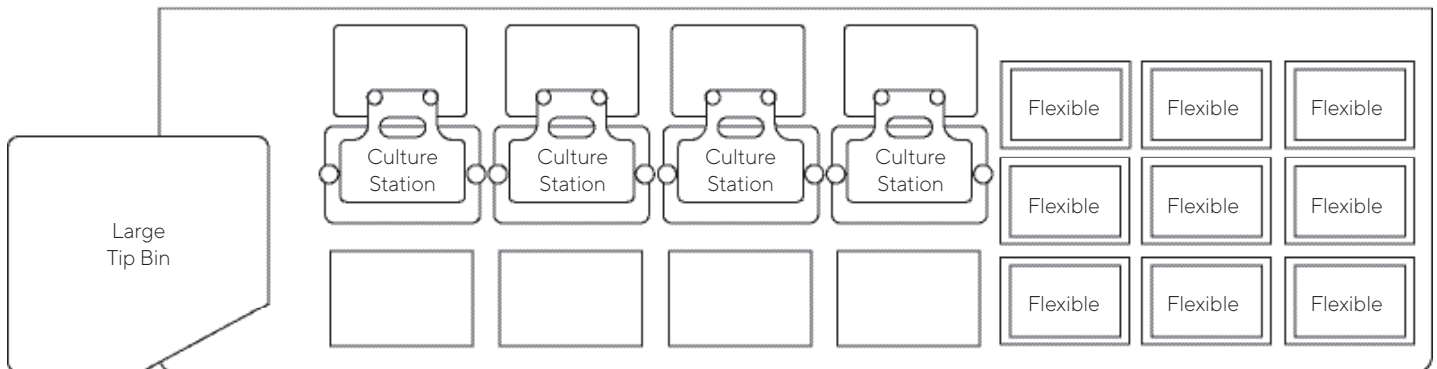
Note: All information is correct at time of publication, but Sartorius reserves the right to make alterations due to technical enhancements or other changes.

Ambr® 15 Cell Culture Generation 2 Deck Layouts

Ambr® 15 Cell Culture 24 microbioreactor system



Ambr® 15 Cell Culture 48 microbioreactor system



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