

Mycap® CCX

Fully Closed, GMP-Ready,
Single-Use Seed Train
Solution



Product Information

Mycap® CCX combines the patented Mycap® lid technology with the addition of the Mycap® CCX Gas Exchange Cartridge – enabling cell culture in a fully closed, shake flask solution.

Mycap® Bottle Closure

- Integrated tubing for aseptic fluid transfer
- Silicone seal providing robust vessel closure

Mycap® CCX Gas Exchange Cartridge

Demonstrated comparable gas exchange performance to typical shake flasks.*

*Mycap® CCX Gas Exchange performance is described fully in the Validation Guide¹

Features and Benefits

- Closed system design minimizes contamination risks and aligns with the latest regulatory guidance
- Ready-to-use and benchtop format maximizes operator productivity
- Suitable for GMP environments, with full quality documentation provided
- Supports automation and digital integration
- Integrated connectivity with Sartorius bioreactors for seamless system integration

Overview

Relevant Applications

- Upstream clinical and commercial manufacturing
- Mammalian cell culture

Relevant Process Steps

- Seed culture expansion
- Bioreactor inoculation

Effortless Implementation

Mycap® CCX is supplied double-bagged, gamma-irradiated, and ready-to-use. Standard flask sizes are 250 mL, 500 mL, 1 L, 2 L, 3 L, and 5 L.

The Mycap® CCX cap contains a cartridge that supports gas exchange required for cell culture. Its small footprint leaves room in the cap for integrated tubing to enable aseptic fluid transfer outside of a biological safety cabinet, enabling a fully closed seed train.

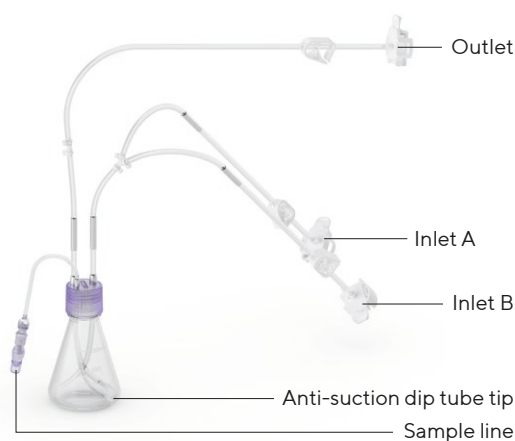
Product Qualification

- Mycap® CCX bottle closures have been qualified using a comprehensive validation process against industry-standard test protocols.
- The Validation Guide¹ describes the qualification of materials, performance specifications, manufacturing conditions, and quality control systems of the Mycap® CCX Cell Culture Expansion System.

Technical Specifications

Cap material	Polycarbonate (not fluid contact)
Tube retaining collar	316 L SS molded to tubing
Integral tubing for aseptic fluid transfer	Platinum-cured silicone or C-Flex® 374 or Tuflux® TPE
Elastomer seal in the cap	Platinum-cured silicone
Closure style and size ¹ [mm]	GL45 thread caps in 33, 38, 43, 48, 70, and 100 mm
Ports	▪ Inlet: Two tubing lines via Y connector ▪ Outlet: Single line with anti-suction dip tube tip ▪ Sample: Benchmark™ subassembly; anti-suction dip tube tip ▪ Gas exchange: Cartridge with two 0.2 µm PES filter membranes
Fittings	Tube plug, Aseptiquick® S, Luer-Lock®, Quickseal®, ratchet clamps
Flask style	Corning Erlenmeyer designs
Working volume ²	25% to 30% of the stated flask volume value. Special considerations given to medium characteristics ³

Example of Mycap® CCX Standard Configuration



Line	Tubing	Disconnection	Termination
Outlet	1/8" x 1/4", platinum-cured silicone or C-Flex®374 or Tuflux® TPE, dip tube with anti-suction tip	Quickseal® or tube sealing	Tube plug or AseptiQuik® S
Inlet	1/8" x 1/4", platinum-cured silicone	Quickseal®	Y connector
Inlet A	1/8" x 1/4", platinum-cured silicone or C-Flex®374 or Tuflux® TPE, ratchet clamp	Quickseal® or tube sealing	Tube plug or AseptiQuik® S
Inlet B	1/8" x 1/4", platinum-cured silicone or C-Flex®374 or Tuflux® TPE, ratchet clamp	Quickseal® or tube sealing	Tube plug or AseptiQuik® S
Sample line	1/16" x 3/16", platinum-cured silicone. Dip tube with anti-suction tip.		Benchmark® needle-free sampling, female Luer-Lock® and cap
Mycap® cap with CCX cartridge			Filter cartridge 0.2 µm hydrophobic PES membrane
Flask			Polycarbonate, unbaffled, from 250 mL to 5,000 mL

Ordering Information

- Made-to-order standards: Quickseal® aseptic disconnect and Benchmark® needle-free sampling port.
- Made-to-stock standards: As per made-to-order standards; Benchmark® needle-free sampling port includes check valve and heat shrink assembly cover.

Predesigned Standards for 250 mL



Tubing Material	Inlets A and B Tubing Length [mm]	Outlet Tubing Length [mm]	Connection Method	Made-to-Order	Made-to-Stock
Platinum-cured silicone	152	165	AseptiQuik® S	MCX02500204AG	
C-Flex® 374	457	457	Weld or AseptiQuik® S	MCX02500204BG	
Tuflux® TPE	457	457	Weld or AseptiQuik® S	MCX02500204DG	MCX0250ATC-000
Tuflux® TPE	457	457	Tube welding	MCX02500204TG	
C-Flex® 374	457	457	Tube welding	MCX02500204WG	

Predesigned Standards for 500 mL



Tubing Material	Inlets A and B Tubing Length [mm]	Outlet Tubing Length [mm]	Connection Method	Made-to-Order	Made-to-Stock
Platinum-cured silicone	152	120	AseptiQuik® S	MCX050002040204A	
C-Flex® 374	457	457	Weld or AseptiQuik® S	MCX050002040204B	
Tuflux® TPE	457	457	Weld or AseptiQuik® S	MCX050002040204D	MCX0500ATC-000
Tuflux® TPE	457	457	Tube welding	MCX050002040204T	
C-Flex® 374	457	457	Tube welding	MCX050002040204W	

Predesigned Standards for 1,000 mL



Tubing Material	Inlets A and B Tubing Length [mm]	Outlet Tubing Length [mm]	Connection Method	Made-to-Order	Made-to-Stock
Platinum-cured silicone	152	152	AseptiQuik® S	MCX100002040204A	
C-Flex®374	457	457	Weld or AseptiQuik® S	MCX100002040204B	
Tuflux® TPE	457	457	Weld or AseptiQuik® S	MCX100002040204D	MCX1000ATC-000
Tuflux® TPE	457	457	Tube welding	MCX100002040204T	
C-Flex®374	457	457	Tube welding	MCX100002040204T	

Predesigned Standards for 2,000 mL



Tubing Material	Inlets A and B Tubing Length [mm]	Outlet Tubing Length [mm]	Connection Method	Made-to-Order	Made-to-Stock
Platinum-cured silicone	152	165	AseptiQuik® S	MCX200002040204A	
C-Flex®374	457	457	Weld or AseptiQuik® S	MCX200002040204B	
Tuflux® TPE	457	457	Weld or AseptiQuik® S	MCX200002040204D	MCX2000ATC-000
Tuflux® TPE	457	457	Tube welding	MCX200002040204T	
C-Flex®374	457	457	Tube welding	MCX200002040204W	

Predesigned Standards for 3,000 mL



Tubing Material	Inlets A and B Tubing Length [mm]	Outlet Tubing Length [mm]	Connection Method	Made-to-Order	Made-to-Stock
Platinum-cured silicone	152	165	AseptiQuik® S	MCX300002040204A	
C-Flex®374	457	457	Weld or AseptiQuik® S	MCX300002040204B	
Tuflux® TPE	457	457	Weld or AseptiQuik® S	MCX300002040204D	MCX3000ATC-000
Tuflux® TPE	457	457	Tube welding	MCX300002040204T	
C-Flex®374	457	457	Tube welding	MCX300002040204W	

Predesigned Standards for 5,000 mL



Tubing Material	Inlets A and B Tubing Length [mm]	Outlet Tubing Length [mm]	Connection Method	Made-to-Order	Made-to-Stock
Platinum-cured silicone	152	165	AseptiQuik® S	MCX500002040204A	
C-Flex®374	457	457	Weld or AseptiQuik® S	MCX500002040204B	
Tuflux® TPE	457	457	Weld or AseptiQuik® S	MCX500002040204D	MCX5000ATC-000
Tuflux® TPE	457	457	Tube welding	MCX500002040204T	
C-Flex®374	457	457	Tube welding	MCX500002040204W	

Peripherals and Accessories

Transfer Assemblies



Transfer Assemblies offered in several tubing materials. Featuring Tuflux® TPE with its excellent pumpability and weldability characteristics. Learn more in the Tuflux® TPE Datasheet⁴.

Predesigned Standard Transfer Assemblies

Connection Method	Total Tube Length	Tubing Dimensions	Line Configuration	Article
Weld	42" 1,067 mm	$\frac{1}{8}" \times \frac{1}{4}" - \frac{1}{8}" \times \frac{1}{4}" - \frac{1}{8}" \times \frac{1}{4}"$	Tuflux® TPE - Silicone - Tuflux® TPE	X020412T020412T
			CFlex® 374 - Silicone - CFlex® 374	X020412W020412W
		$\frac{1}{8}" \times \frac{1}{4}" - \frac{1}{8}" \times \frac{1}{4}" - \frac{1}{4}" \times \frac{7}{16}"$	Tuflux® TPE - Silicone - Tuflux® TPE	X020412T040712T
			CFlex® 374 - Silicone - CFlex® 374	X020412W040712W
Weld to AseptiQuik®	30" 762 mm	$\frac{1}{8}" \times \frac{1}{4}" - \frac{1}{8}" \times \frac{1}{4}"$	Tuflux® TPE - Silicone - AseptiQuik® S	X020412T020418A
			CFlex® 374 - Silicone - AseptiQuik® S	X020412W020418A
		$\frac{1}{4}" \times \frac{7}{16}" - \frac{1}{8}" \times \frac{1}{4}"$	Tuflux® TPE - Silicone - AseptiQuik® S	X040712T020418A
			CFlex® 374 - Silicone - AseptiQuik® S	X040712W020418A
Weld or AseptiQuik®	36" 914 mm	$\frac{1}{8}" \times \frac{1}{4}"$	AseptiQuik® S-CFlex® 374-AseptiQuik® S	X020436BB
			AseptiQuik® S-Tuflux® TPE-AseptiQuik® S	X020436DD
AseptiQuik® to AseptiQuik®	36" 914 mm	$\frac{1}{8}" \times \frac{1}{4}"$	AseptiQuik® S - Silicone - AseptiQuik® S	X020436AA

Predesigned Standard Transfer Assemblies: 3-Way Splitters*



Aseptically Connect Mycap® CCX Flask to Other Flasks or Bioreactors

Description	Aseptic Connection Method	Article
⅜" x ¼" (Silicone)	AseptiQuik® S	XY020403A
⅜" x ¼" (CFlex® 374)	Weld or AseptiQuik® S	XY020418B
⅜" x ¼" (Tuflux® TPE)	Weld or AseptiQuik® S	XY020418D
⅜" x ¼" (Tuflux® TPE)	Weld	XY020418T
⅜" x ¼" (CFlex® 374)	Weld	XY020418W

Accessories

- The stand features a broad base and silicone feet to ensure stability on both the workbench and the balance during cell passaging.
- The Quickseal® aseptic disconnect enables sterile disconnection after media fill or inoculation, eliminating the need to enter a biosafety cabinet.

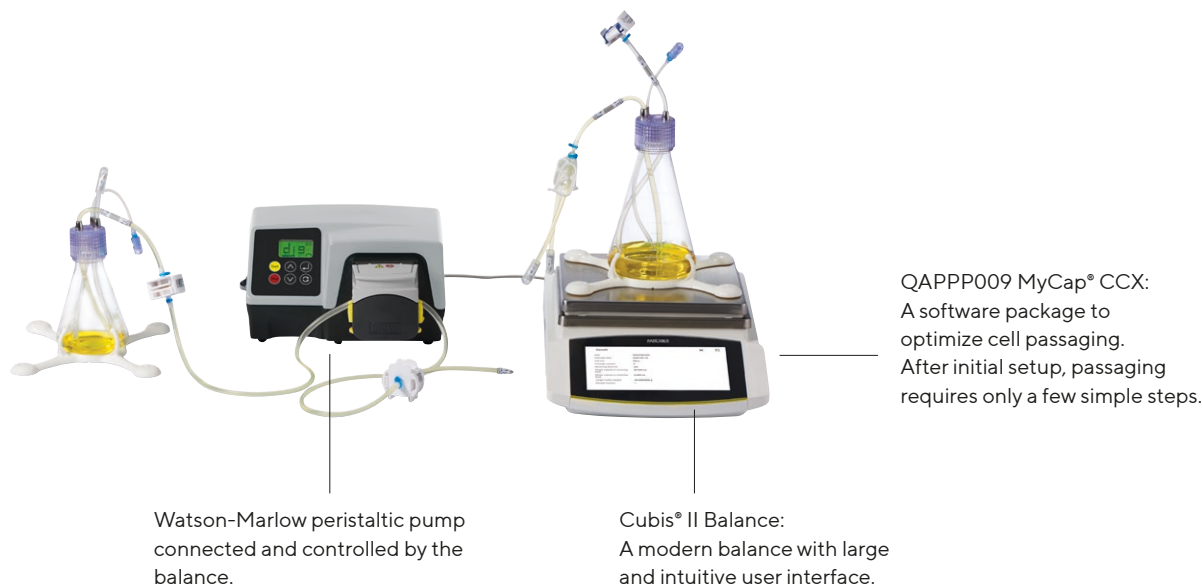


Description	Article
Small Diameter* Quickseal® Cutting Tool	QSCUTTERSD
Protective Cap for ¼" OD Quickseal® Collar	QSCAP04SILNT
Mycap® CCX Flask Stand; 250 mL Corning Flask	MCX0250STDCRN
Mycap® CCX Flask Stand; 500 mL Corning Flask	MCX0500STDCRN
Mycap® CCX Flask Stand; 1,000 mL Corning Flask	MCX1000STDCRN

* 3-way means one inlet and two outlets. Other options available upon request, e.g., multiple way splitters.

Automation

Automated Cell Passaging With Mycap® CCX and Cubis® II MCA



Description	Article
Cubis® II MCA balance with QAPPP009	Various item numbers – consult balance datasheet ⁵ .
WM pump 323DU/D2 with pump head 313DW2 for 2.4 WT tubes, max. 400 rpm.	YDU-30 (EU), YDU-31 (US), YDU-32 (UK), YDU-33 (South Africa), YDU-34 (India).
WM pump 323DU/D with pump head 313DW for 1.6 WT tubes, max. 400 rpm.	YDU-35 (EU), YDU-36 (US), YDU-37 (UK), YDU-38 (South Africa), YDU-39 (India).
WM pump 530DUN/R3 with pump head R3 for 3.2 WT tubes, max. 220 rpm, IP66 protected NEMA module with 5 pole M12 connector wired to RS232 adapter.	YDU-50 (EU), YDU-51 (US), YDU-52 (UK), YDU-53 (South Africa), YDU-54 (India).
WM pump 630DUN/R with pump head R for 3.2 WT tubes, max. 265 rpm, IP66 protected NEMA module with 5 pole M12 connector wired to RS232 adapter.	YDU-60 (EU) , YDU-61 (US), YDU-62 (UK), YDU-63 (South Africa and India).
Data cable RS232 9-pin (male) to RS232 9-pin (male) for connecting IP31 protected pumps 323/530/630Du 2.9 M long.	YCC-D09MM-EC-2.9M
Data cable RS232 25-pin (male) to M12 (female) for connecting IP66 protected pump models 530DuN and 630DuN. 2 M long.	YCC-D25M-M12F-2M
Printer for batch information labels	YDP30-NET

Ordering Information

Contact your local Sartorius Account Manager or Field Application Specialist for details on more tubing and connector combinations.

 **For more information about Mycap® CCX visit**
Mycap® CCX Cell Culture Shake Flask | Sartorius

References

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Last modified: 09 | 2025