Labtainer Pro BioProcess Container

Providing improved performance, reliability, and higher quality assurance

As technology and innovation advances within the bioproduction industry, single-use technologies have also made considerable progress in the drug and vaccine manufacturing space. Some of the well-established and known advantages of SUT are lowered costs, reduced contamination risks, decreased facility footprint, increased flexibility, and production throughput efficiency with less clean-up, all resulting in quicker turnaround and increased production capabilities. The innovative concept of the new Thermo Scientific™ Labtainer™ Pro BioProcess Container (BPC) provides improved flexibility and assurance—without compromise.

Key advantages

Bioproduction requirements differ depending on the applications and processes used within a workflow. Products selected should complement workflow requirements. The Labtainer Pro BPC was developed in response to a variety of bioproduction workflow needs. The 2D style of the Labtainer Pro BPC provides improved ease of use, high reliability, and assured quality in sizes ranging from 50 mL to 20 L.

Applications
- Bioreactor feed and harvest

- Buffer and media storage; intermediate product hold and storage

- Bulk product storage prior to filling

- Chromatography feed

- Fraction collection

- Product sampling and transport

Key benefits
- Consistent contact materials in all BPCs of sizes from 50 mL to 2,000 L

- Film robustness for a reliable and durable product

- Improved handling for better ergonomics

- Optimized drainage

- Wider range of port sizing: 1/8–1/2 in. to eliminate the need for setup and step-down connections, resulting in fewer connections and better, less turbulent flow

- High level of assurance with 100% helium testing, automated manufacturing, and lot-based endotoxin and particulate testing

- No sharps or tools required for packaging removal, eliminating the risk of damage from unpacking tools.

- Reduction in packaging material, creating a more environmentally friendly product

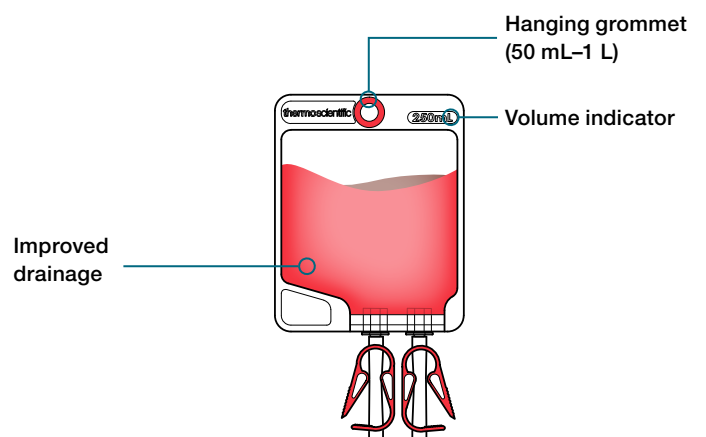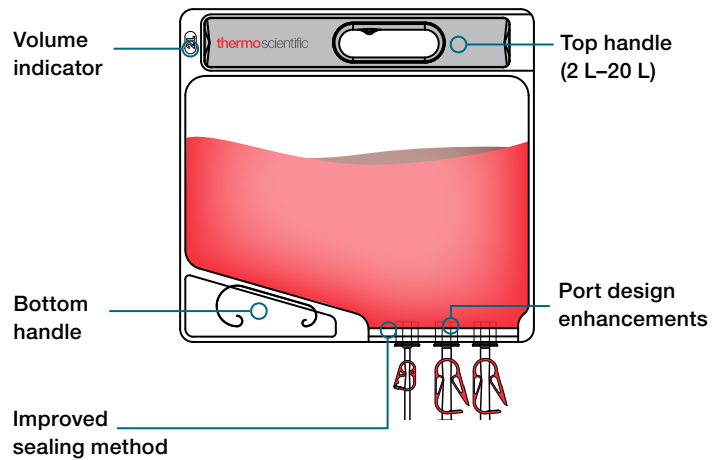## Product features

Reliability

- **Enhanced port design and customization**—2-, 3-, and 4-port configurations available without the need for excess ports in the chamber

- **Improved sealing method**—impulse heat sealing for port insertion utilizing Labtainer Automated Manufacturing (LAM) technology

- **100% helium integrity testing**—helps ensure that our best product is delivered to the customer

Quality

- **Upgraded packaging**—easy-peel tape on the shipping box and an easy-open polyethylene (PE) outer bag

- **Waste management**—cardboard reduction up to 25%

- **Improved outer polyethylene bag**—manufactured in a controlled environment, resulting in cleaner packaging with less risk of particulates

- **Lot-based testing**—implementation of lot-based bacterial endotoxin (BET) testing and particulate testing of Labtainer Pro BPC products to USP <788> and USP <85> standards

Easy to use

- **Enhanced ergonomics**—improved handle features with the addition of a lower handle on the 2, 5, 10, and 20 L BPCs

- **Optimized drainage**—chamber design, port location, and low-profile port design minimizes liquid holdup

Volume indicator · **Top handle (2 L–20 L)** · **Bottom handle** · **Port design enhancements** · **Improved sealing method**

Hanging grommet (50 mL–1 L) · **Volume indicator** · **Improved drainage**

Table 1. Labtainer Pro BPC chamber specifications and options.

Chamber size	Chamber dimensions (W x L)	Total surface area	Porting range options	Handling options
50 mL	15.0 x 11.7 cm (5.9 x 4.6 in.)	28.6 sq. in.	2-port	Hanging grommet
100 mL	15.0 x 14.2 cm (5.9 x 5.6 in.)	40.1 sq. in.	2-port	Hanging grommet
250 mL	15.0 x 18.8 cm (5.9 x 7.4 in.)	59.9 sq. in.	2-port	Hanging grommet
500 mL	18.5 x 23.6 cm (7.3 x 9.3 in.)	102.3 sq. in.	2- or 3-port	Hanging grommet
1,000 mL	18.5 x 30.0 cm (7.3 x 11.8 in.)	136.8 sq. in.	2- or 3-port	Hanging grommet
2 L	34.3 x 32.5 cm (13.5 x 12.8 in.)	232.2 sq. in.	2-, 3-, or 4-port	Upper reinforced hanging handle
5 L	34.3 x 40.9 cm (13.5 x 16.1 in.)	318.7 sq. in.	2-, 3-, or 4-port	Upper reinforced hanging handle
10 L	34.3 x 64.3 cm (13.5 x 25.3 in.)	550.5 sq. in.	2-, 3-, or 4-port	Upper and lower reinforced hanging handles
20 L	45.0 x 69.3 cm (17.7 x 27.3 in.)	777.4 sq. in.	2-, 3-, or 4-port	Upper and lower reinforced hanging handles

In-process inspections and testing

In-process inspections and testing take place during the manufacturing process to ensure that each production run of the Labtainer Pro BPC system is being manufactured to the approved specifications.

Table 2. Product testing.

| Test	Specification	Frequency
Irradiation dose	25–40 kGy	Each unit
100% visual inspection	Per build specification	Each unit
100% automated manufacturing inspection	Per build specification	Each unit
Endotoxin	USP <85>: Aqueous extracts contain <0.25 EU/mL as determined by the Limulus Amebocyte Lysate Test (LAL)	Lot
Particulate	USP <788> Particulate Matter in Injections—Light Obscuration Particulate Count Test	Lot
Sterility	ANSI/AAMI/ISO 11137 guidelines provide a minimum sterility assurance level (SAL) of 10^{-6}	Routinely
Integrity	Helium integrity testing	Each unit

Table 3. Incoming component inspections.

Component	Inspections
Film	• Contamination • Gels and carbons • Width and gusset dimensions • Film thickness • Tensile strength • Chemical composition using FT-IR spectrometer
Ports, fittings, tubing, and end treatments	• Appearance and visual inspection • Dimensional analysis

Table 4. In-process inspections and testing.

| Component	Inspections
Flexible container chambers	• Appearance • Seam and port seal strength • Dimensional analysis • Leak and burst testing
Finished flexible containers	• Correctness • Completeness • Particulate debris • Defects and damage • Correct packaging
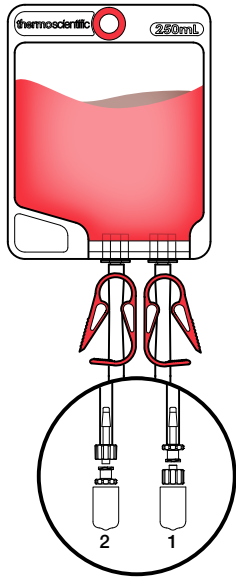
Line 1

Luer lock body with plug
Tubing: C-Flex™, length: 30.5 cm (12 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Line 2

Luer lock insert with cap
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Size	Cat. No.
	Aegis5-14
50 mL	PL30014.01
100 mL	PL30014.02
250 mL	PL30014.03
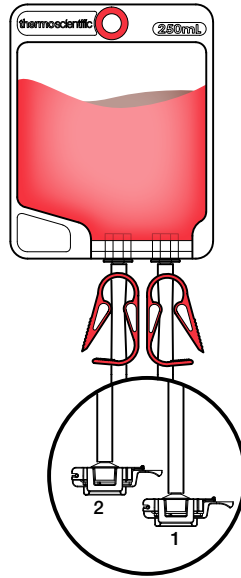
Line 1

CPC™ AseptiQuik™ Connector G
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.64 x 0.24 x 1.12 cm
(1/4 x 3/32 x 7/16 in.)

Line 2

 AseptiQuik Connector G
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.64 x 0.24 x 1.12 cm
(1/4 x 3/32 x 7/16 in.)

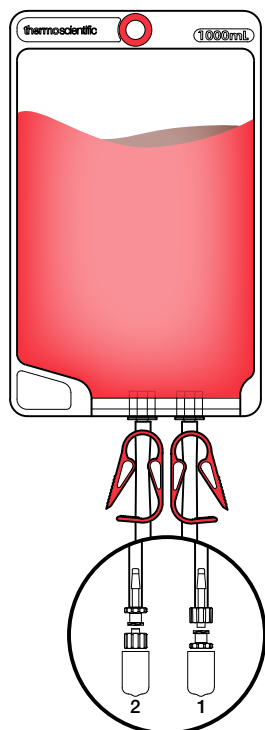| Size	Cat. No.
	Aegis5-14
50 mL	PL30015.01
100 mL	PL30015.02
250 mL	PL30015.03
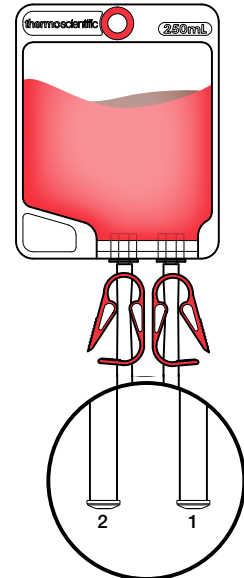
Line 1

Plug
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Line 2

Plug
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

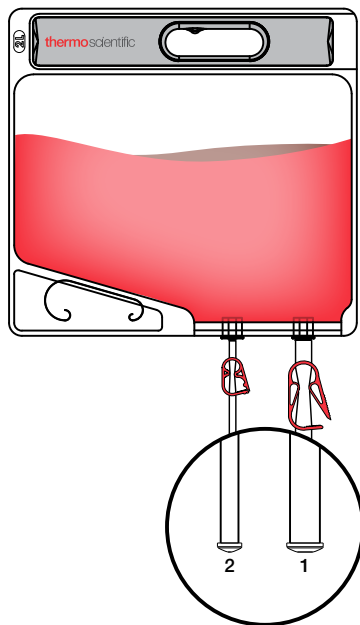| Size	Cat. No.
	Aegis5-14
50 mL	PL30016.01
100 mL	PL30016.02
250 mL	PL30016.03

Line 1
Luer lock insert with cap
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.64 x 0.24 x 1.12 cm
(1/4 x 3/32 x 7/16 in.)

Line 2
Luer lock body with plug
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.64 x 0.24 x 1.12 cm
(1/4 x 3/32 x 7/16 in.)

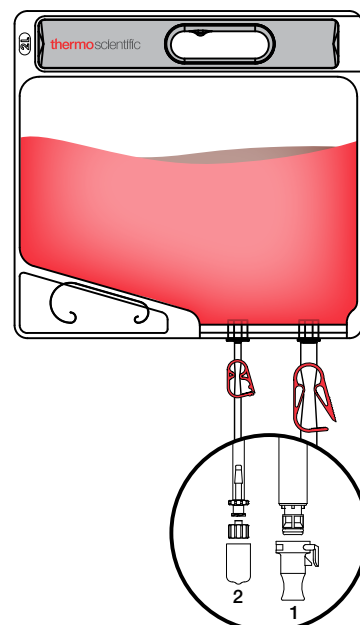| Size	Cat. No.
	Aegis5-14
500 mL	PL30018.01
1 L	PL30018.02

Line 1
Plug
Tubing: C-Flex, length: 45.7 cm (18 in.)
ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 2
Plug
Tubing: C-Flex, length: 45.7 cm (18 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

| Size	Cat. No.
	Aegis5-14
500 mL	PL30017.01
1 L	PL30017.02
2 L	PL30021.01
5 L	PL30021.02
10 L	PL30021.03
20 L	PL30021.04

Line 1
MPC insert
Tubing: C-Flex, length: 45.7 cm (18 in.)
ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 2
Luer lock insert with cap
Tubing: C-Flex, length: 45.7 cm (18 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Size	Cat. No.
	Aegis5-14
2 L	PL30022.01
5 L	PL30022.02
10 L	PL30022.03
20 L	PL30022.04

3 ports
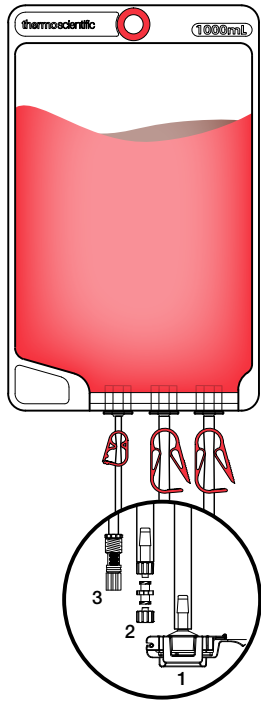
Line 1
AseptiQuik Connector G
Tubing: C-Flex, length: 30.5 cm (12 in.)
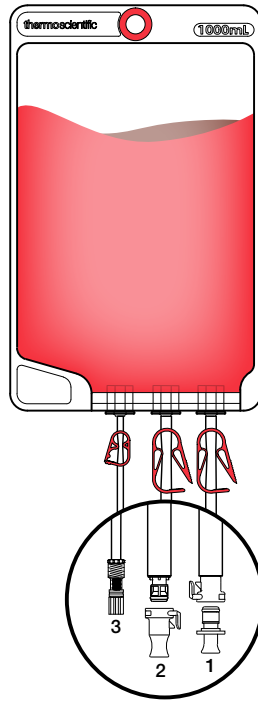ID x wall x OD: 0.64 x 0.24 x 1.12 cm
(1/4 x 3/32 x 7/16 in.)

Line 2
Luer lock body and insert
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.64 x 0.24 x 1.12 cm
(1/4 x 3/32 x 7/16 in.)

Line 3
Luer lock body with needleless Luer insert
Tubing: C-Flex, length: 10.2 cm (4 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Size	Cat. No.
	Aegis5-14
500 mL	PL30019.01
1 L	PL30019.02

3 ports

Line 1
MPC body
Tubing: C-Flex, length: 45.7 cm (18 in.)
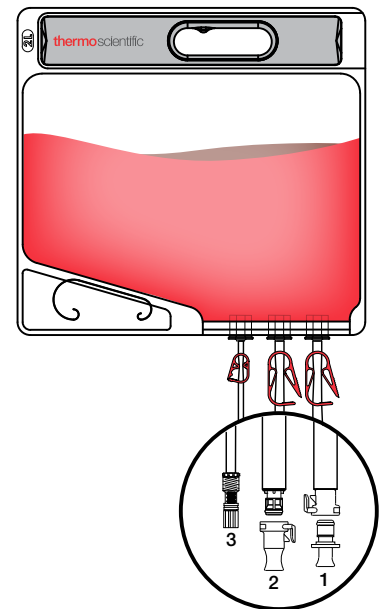ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 2
MPC insert
Tubing: C-Flex, length: 45.7 cm (18 in.)
ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 3
Luer lock body with needleless Luer insert
Tubing: C-Flex, length: 10.2 cm (4 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Size	Cat. No.
	Aegis5-14
500 mL	PL30020.01
1 L	PL30020.02

3 ports

Line 1
MPC body
Tubing: C-Flex, length: 30.5 cm (12 in.)
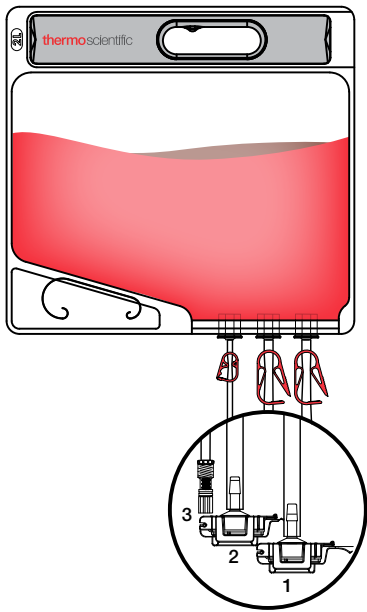ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 2
MPC insert
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 3
Luer lock body with needleless Luer insert
Tubing: C-Flex, length: 10.2 cm (4 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Size	Cat. No.
	Aegis5-14
2 L	PL30023.01
5 L	PL30023.02
10 L	PL30023.03
20 L	PL30023.04

3 ports

Line 1
AseptiQuik Connector G
Tubing: C-Flex, length: 61 cm (24 in.)
ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 2
AseptiQuik Connector G
Tubing: C-Flex, length: 61 cm (24 in.)
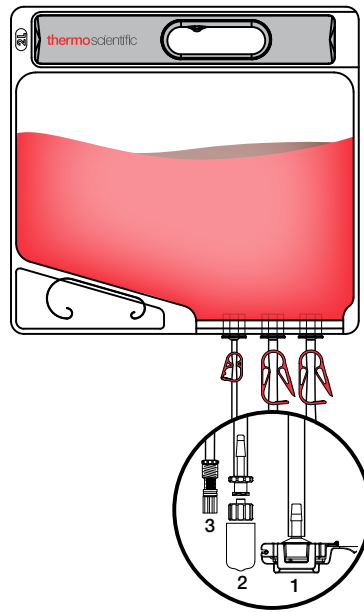ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 3
Luer lock body with needleless Luer insert
Tubing: C-Flex, length: 10.2 cm (4 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Size	Cat. No.
	Aegis5-14
2 L	PL30024.01
5 L	PL30024.02
10 L	PL30024.03
20 L	PL30024.04

3 ports

Line 1
AseptiQuik Connector G
Tubing: C-Flex, length: 30.5 cm (12 in.)
ID x wall x OD: 0.64 x 0.24 x 1.12 cm
(1/4 x 3/32 x 7/16 in.)

Line 2
Luer lock body with plug
Tubing: C-Flex, length: 30.5 cm (12 in.)
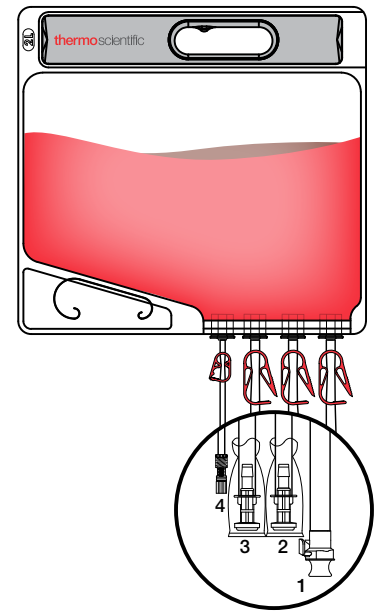ID x wall x OD: 0.64 x 0.24 x 1.12 cm
(1/4 x 3/32 x 7/16 in.)

Line 3
Luer lock body with needleless Luer insert
Tubing: C-Flex, length: 10.2 cm (4 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Size	Cat. No.
	Aegis5-14
2 L	PL30025.01
5 L	PL30025.02
10 L	PL30025.03
20 L	PL30025.04

4 ports

Line 1
MPX body
Tubing: C-Flex, length: 61 cm (24 in.)
ID x wall x OD: 1.27 x 0.32 x 1.91 cm
(1/2 x 1/8 x 3/4 in.)

Line 2
3/4 in. tri-clamp with gasket, sterilized
Tubing: C-Flex, length: 61 cm (24 in.)
ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 3
3/4 in. tri-clamp with gasket, sterilized
Tubing: C-Flex, length: 61 cm (24 in.)
ID x wall x OD: 0.95 x 0.32 x 1.59 cm
(3/8 x 1/8 x 5/8 in.)

Line 4
Luer lock body with needleless Luer insert
Tubing: C-Flex, length: 46 cm (18 in.)
ID x wall x OD: 0.32 x 0.16 x 0.64 cm
(1/8 x 1/16 x 1/4 in.)

Size	Cat. No.
	Aegis5-14
2 L	PL30026.01
5 L	PL30026.02
10 L	PL30026.03
20 L	PL30026.04

Accessories

Labtainer BPC tote

Storage and handling is simplified with the Labtainer Pro tote. Designed to protect single-use BPCs, the tote can be used in a wide range of applications. The tote is designed with a sloped bottom for improved draining, and for the larger scale, a kickstand is included to aid in draining. There is also a window allowing for access to tubing while stacked. In light-sensitive applications, the lid can remain on. The tote can be used with both the Labtainer Pro and Labtainer BPCs.

- Compatible with 2D BPCs, up to 20 L in volume

- Made of durable high-grade HDPE material

- Nesting capability for easy storage

- Stackable for better utilization of space

- Provides light protection to BPCs

Table 5. Labtainer BPC tote specifications.

Description	Cat. No.
Small tote with lid (For 2D BPCs 5 L and under)	SV30200.01
Large tote with lid and kickstand (For 10 L and 20 L 2D BPCs)	SV30200.02

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