



## Optimum Growth® System Component

Inversion & Bidirectional Transfer Caps

2091 Rutherford Rd., Suite 150  
Carlsbad, CA 92008  
info@htslabs.com  
800 541.4792  
760 757.8080  
htslabs.com

TIC-PL-082-303 Rev. B



# Optimum Growth<sup>®</sup> System

## Inversion & Bidirectional Transfer Caps

### A Little About Thomson

- 1 Solutions At Work™
- 2 Open to Collaboration

### Introduction

- 3 An Introduction to Transfer Caps & How They Work

### Connections

- 5 Connecting a Vessel to an Inversion Transfer Cap
- 7 Connecting A Vessel to a Bidirectional Transfer Cap

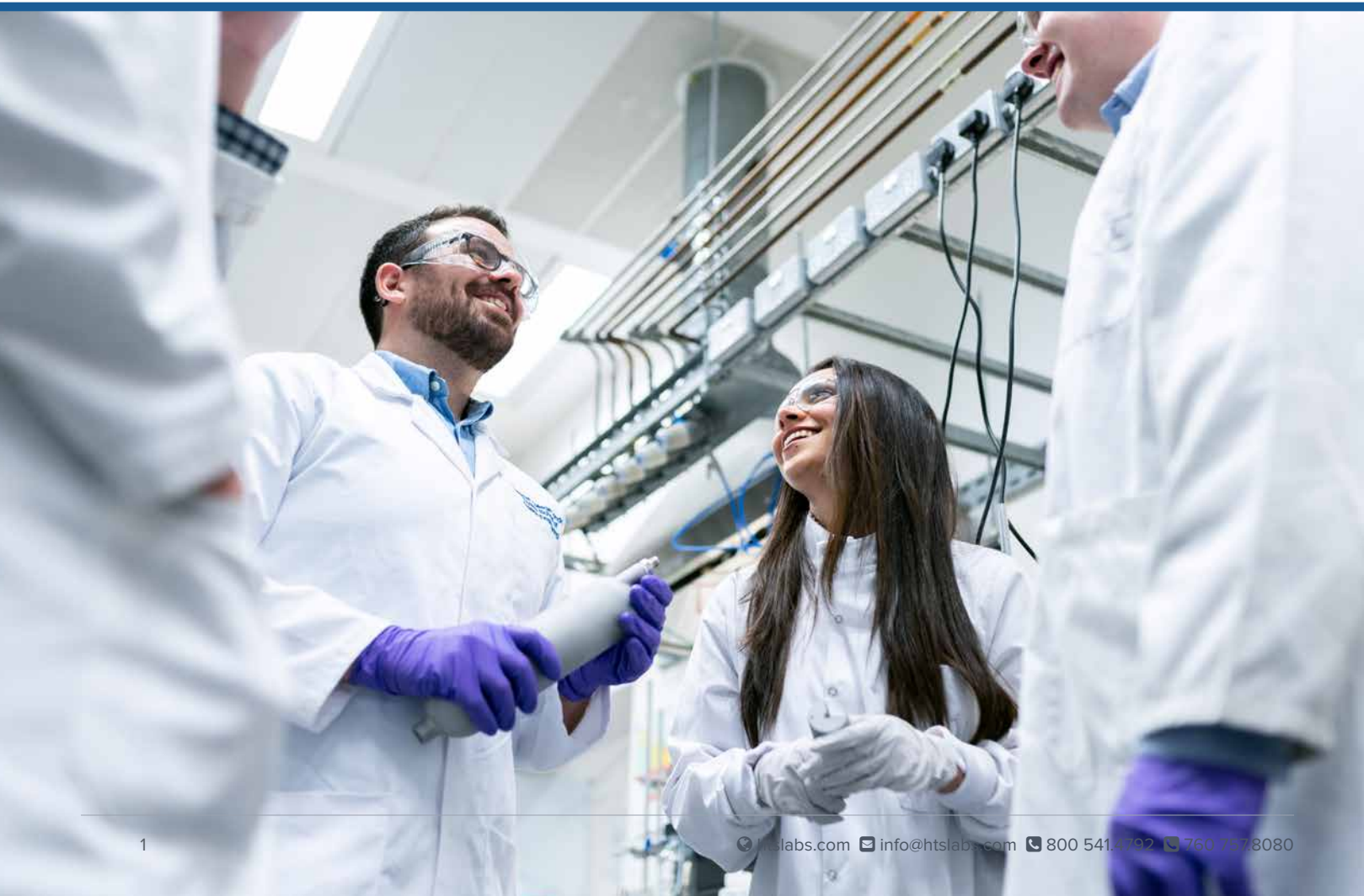
### Part Numbers

- 9 Inversion Transfer Caps
- 11 Inversion Transfer Cap Accessories: Rings & Stands
- 12 Bidirectional Transfer Caps

# A Little About Thomson

## SOLUTIONS AT WORK™

Thomson sells innovative single-use Solutions At Work™, our mission is to provide technical expertise while partnering with our customers to deliver practical scientific innovations enabling scientific advancements in pharmaceutical, biotech, environmental/food, toxicology/forensics, and contract manufacturing industries.



# Open to Collaboration

## INNOVATIVE PRODUCT LINE

Scientists around the world are discovering new ways to use Thomson Filter Vials. Whether testing pharmaceuticals, performing toxicology, or testing for drugs of abuse Thomson Filter Vials have proven to be indispensable tools for sample prep when using HPLC, GC, LC-MS, or GC-MS, methodologies.

Thomson offers a full line of shake flasks and accessories with above-average yields and higher working volumes, designed specifically for insect/mammalian, or microbial/*E. coli* cells based on an understanding and experience of lab operations.

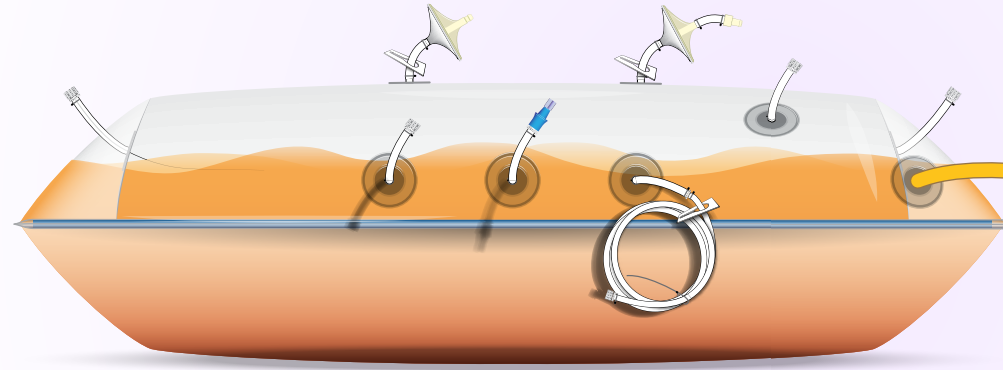
Our well-plate catalog continues to grow and provide the highest quality plates, ready for robotics, cell culture, synthesis, or analysis.

SINGLE StEP® Empty Columns are ready for the addition of sorbents or resins depending on the application.

If you have unique needs or need a new product please reach out to us. We look forward to collaborating with you.

# An Introduction to Transfer Caps & How They Work

Thomson Transfer Caps are used with our Optimum Growth® 1.6L, 2.8L & 5L flasks for aseptic transfer of cells or media into any vessel. Transfer Caps eliminate the need to move cells to an intermediate vessel for scale-up or to seed cultures. Transfer caps enable reagent addition, seeding of larger bioreactors or cell bags, and media transfer.



## Inversion Transfer Caps

Utilize Gravity Feed for Simple Aseptic Transfer of Media or Cells

### Key Features

- Gravity feed keeps cells stress free
- Dip tube attached to 0.2µm syringe filter provides aseptic air displacement
- Configurations include with & without attached tubing to accommodate a variety of vessel connections
- C-Flex® 16 & 24 tubing sizes available for tube fusing



Dip tube for sterile air displacement

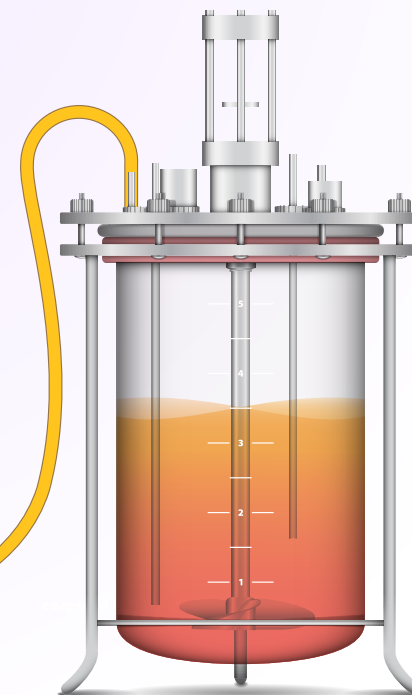
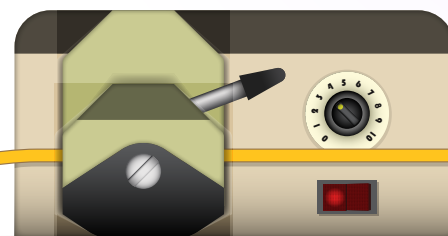
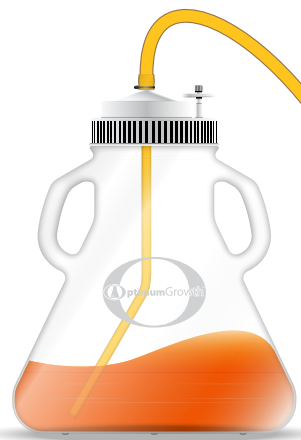
Stand & ring sold separately

## Bidirectional Transfer Caps

Utilize a Peristaltic Pump for Easy Aseptic Bidirectional Transfer of Media or Cells

### Key Features

- Equipped with 2' of 1/4" OD C-Flex® 16 tubing for pumping, ending with either a plug or male Luer lock
- Downstem allows for bidirectional transfer
- 0.2µm PTFE syringe filter provides aseptic air displacement while pumping



C-Flex® 16 ID: 1/8" (3.1mm), OD: 1/4" (6.35mm)

C-Flex® 24 ID: 3/16" (4.76mm), OD: 7/16" (11.1mm)

# Connecting a Vessel to an Inversion Transfer Cap

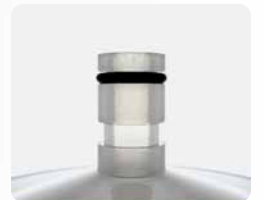
Inversion Transfer Caps are available in two configurations:

- Without tubing
- With tubing in either C-Flex® 16 or 24

## For Vessels That Include Their Own Tubing and Connections



1/4" OD Barb Quick Connect



7/16" OD Male Quick Connect

## For Vessels That Include a Female Luer Lock Connection

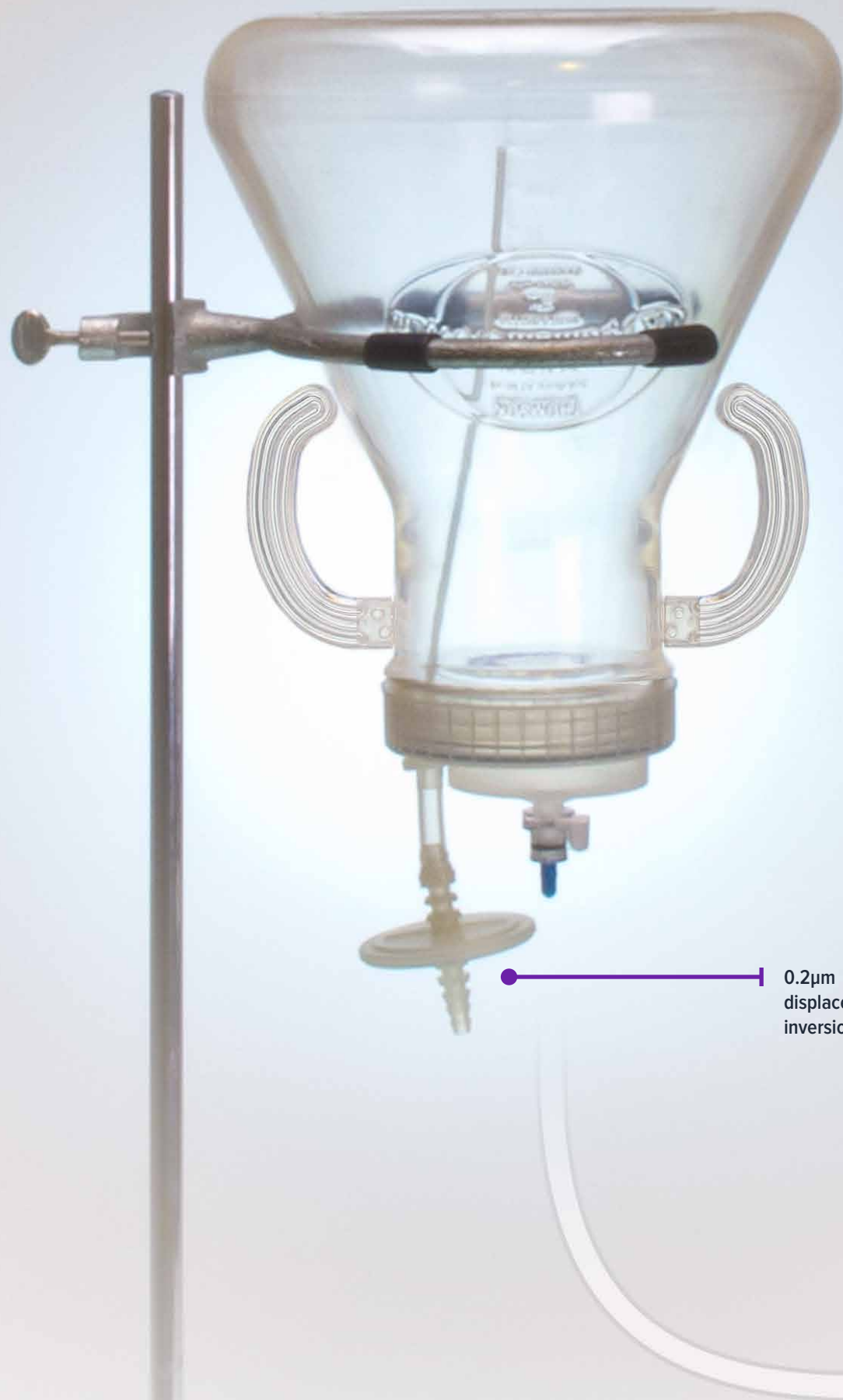


Male Luer Lock

## For Vessels That Include C-Flex® 16 or 24 for Tube Fusing



Tube Fuse



0.2µm PTFE filter allows aseptic air displacement with dip tube during inversion transfer

C-Flex® 16 ID: 1/8" (3.1mm), OD: 1/4" (6.35mm)  
C-Flex® 24 ID: 3/16" (4.76mm), OD: 7/16" (11.1mm)

# Connecting A Vessel to a Bidirectional Transfer Cap

Bidirectional Transfer Caps configurations:

- C-Flex® 16 with plug on terminus for tube fusing
- C-Flex® 16 with male luer lock on terminus



Tube Fuse

**For Vessels That Already Include C-Flex® 16 for Tube Fusing**



Male Luer Lock

**For Vessels That Already Include a Female Luer Lock Connection**

C-Flex® 16 ID: 1/8" (3.1mm), OD: 1/4" (6.35mm)

# Part Numbers

## Inversion Transfer Caps

Flask Compatibility	1.6L & 2.8L Optimum Growth®	1.6L & 2.8L Optimum Growth®	1.6L & 2.8L Optimum Growth®	1.6L & 2.8L Optimum Growth®
Part #	931706-4	931710-4	931705-4	931708-4
Tubing Included	no	yes	yes	yes
Connection	7/16" (11.1mm) Male Quick Connect	Male Luer Lock	Tube Fuse (plug on terminus)	Tube Fuse (plug on terminus)
Tubing Diameter	n/a	C-Flex® 16	C-Flex® 16	C-Flex® 24
Tubing	n/a	Chemically resistant, heat sealable	Chemically resistant, heat sealable	Chemically resistant, heat sealable
Tubing Length	n/a	24" (609.6mm)	24" (609.6mm)	24" (609.6mm)
Style	Threaded	Threaded	Threaded	Threaded
Material	PP (polypropylene)	PP (polypropylene)	PP (polypropylene)	PP (polypropylene)
Air Filter Ventilation	0.2µm PTFE vent filter	0.2µm PTFE vent filter	0.2µm PTFE vent filter	0.2µm PTFE vent filter
Sterility (SAL)	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-6</sup>
Qty/Case	4	4	4	4

## Inversion Transfer Caps

Flask Compatibility	5L Optimum Growth®	5L Optimum Growth®	5L Optimum Growth®	5L Optimum Growth®	5L Optimum Growth®
Part #	931594-4	931596-4	931616-4	931595-4	931598-4
Tubing Included	no	no	yes	yes	yes
Tubing Connection	1/4" (6.35mm) Barb	7/16" (11.1mm) Male Quick Connect	Male Luer Lock	Tube Fuse (plug on terminus)	Tube Fuse (plug on terminus)
Tubing Diameter	n/a	n/a	C-Flex® 16	C-Flex® 16	C-Flex® 24
Tubing	n/a	n/a	Chemically resistant, heat sealable	Chemically resistant, heat sealable	Chemically resistant, heat sealable
Tubing Length	n/a	n/a	24" (609.6mm)	24" (609.6mm)	24" (609.6mm)
Style	Threaded	Threaded	Threaded	Threaded	Threaded
Material	PP (polypropylene)	PP (polypropylene)	PP (polypropylene)	PP (polypropylene)	PP (polypropylene)
Air Filter Ventilation	0.2µm PTFE vent filter	0.2µm PTFE vent filter	0.2µm PTFE vent filter	0.2µm PTFE vent filter	0.2µm PTFE vent filter
Sterility (SAL)	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-6</sup>
Qty/Case	4	4	4	4	4



### Inversion Transfer Cap Accessories: Ring & Stands

Flask Compatibility	1.6L & 2.8L Optimum Growth®	1.6L & 2.8L Optimum Growth®	5L Optimum Growth®	5L Optimum Growth®
Part #	931609	931700	931606	931607
Stand Height	22"	n/a ring only	22"	n/a ring only
Ring Diameter	5"	5"	7"	7"
Qty/Case	1	1	1	1

### Bidirectional Transfer Caps

Flask Compatibility	1.6L Optimum Growth®	1.6L Optimum Growth®	2.8L Optimum Growth®	5L Optimum Growth®	5L Optimum Growth®
Part #	931702-8	931704-8	931804-8	931618-8	931614-8
Tubing Included	yes	yes	yes	yes	yes
Tubing Connection	Male Luer Lock	Tube Fuse (plug on terminus)	Male Luer Lock	Male Luer Lock	Tube Fuse (plug on terminus)
Tubing Diameter	C-Flex® 16	C-Flex® 16	C-Flex® 16	C-Flex® 16	C-Flex® 16
Tubing	Chemically resistant, heat sealable	Chemically resistant, heat sealable	Chemically resistant, heat sealable	Chemically resistant, heat sealable	Chemically resistant, heat sealable
Tubing Length	24" (609.6mm)	24" (609.6mm)	24" (609.6mm)	24" (609.6mm)	24" (609.6mm)
Style	Threaded	Threaded	Threaded	Threaded	Threaded
Material	PP (polypropylene)	PP (polypropylene)	PP (polypropylene)	PP (polypropylene)	PP (polypropylene)
Air Filter Ventilation	0.2µm PTFE vent filter	0.2µm PTFE vent filter	0.2µm PTFE vent filter	0.2µm PTFE vent filter	0.2µm PTFE vent filter
Sterility (SAL)	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-6</sup>
Qty/Case	8	8	8	8	8

C-Flex® 16 ID: 1/8" (3.1mm), OD: 1/4" (6.35mm)  
 C-Flex® 24 ID: 3/16" (4.76mm), OD: 7/16" (11.1mm)

