

EXCESAL® SERIES FILTERS

POLYPROPYLENE MEDIA FILTERS

Excesal® Series Filters are available in special nominally rated polypropylene, multi-layer polypropylene, and double-layer polypropylene media to provide pre-filtration of cell culture medium, clarification of fermentation broth/cell cultures, pre-filtration of blood products, and colloids/viscous liquids.

The Excesal Filter Series provides low initial pressure drop, high flow rates, and long service life.

FEATURE	BENEFIT
Multiple filtration media	CHC: Special wrapped multiple polypropylene layers, nominally rated, provides long service life and high flow rate
	CHT: Multiple (5-10) layers of polypropylene media: provides high retention with no adhesives or surfactants
	CHE: Double-layer polypropylene, outer layer of fine fibers, inner layer of nanofibers: high retention efficiency
Multiple configurations	Allows for efficient use of the filtration area, minimizing wasted filtration.
BIOLOGICAL SAFETY	
Bacterial Endotoxins	Aqueous extraction of autoclaved filter contains <0.25 EU/mL as determined by Limulus Amoebocyte Lysate (LAL), USP <85>.
Bio-compatibility	Meet the requirement of USP<87> In Vitro Cytotoxicity Test; Meet the criteria of the USP<88> Biological Reactivity Test for Class VI-121C plastics
Particle Shedding	Autoclaved filter effluent meets the requirements in USP <788> for large volume parenterals.
Non-fiber Releasing	Component materials meet the criteria for a "Non-fiber-releasing filter" as defined in 21 CFR 210.3(b) (6).
Indirect Food Additive	All component materials meet the FDA Indirect Food Additive requirements cited in 21 CFR 177-182.
Quality Assurance	These products are manufactured in a facility which adheres to ISO® 9001 Practices.

SPECIFICATIONS

Filter media	Multi-layer wound polypropylene, Multiple-layer polypropylene, or Double-layer polypropylene with a nanofiber layer
Core/Cage/End Cap	Polypropylene
Capsule Shell	Polypropylene
O-ring (cartridge only)	Silicone/EPDM/FKM/E-FKM
O-ring, Capsule Vent	Silicone
Max. Operating temperature	80°C



APPLICATIONS

- Pre-filtration of Cell Culture Medium
- Clarification of Fermentation Broth/Cell Cultures
- Filtration of Blood Products/Serums
- Filtration of Colloids/Viscous Liquids
- Filtration of Blood and Blood Products

CH SERIES FILTRATION AREA

Bricap C			Bricap L				Bricap T			
Size	CHT	CHE	Size	CHT	CHE	CHC	Size	CHT	CHE	CHC
C01:	70 cm ²	140 cm ²	L02:	375 cm ²			T10:	0.18 m ²	0.36 m ²	475 cm ²
C02:	160 cm ²	320 cm ²	L03:	530 cm ²	0.1 m ²	140 cm ²	T20:	0.36 m ²	0.72 m ²	950 cm ²
C03:	260 cm ²	500 cm ²	L05:	0.09 m ²	0.18 m ²	240 cm ²	T30:	0.54 m ²	1.08 m ²	1425 cm ²
			L10:	0.18 m ²	0.36 m ²	475 cm ²				
			L20:	0.36 m ²	0.72 m ²	950 cm ²				
			L30:	0.54 m ²	1.08 m ²	1425 cm ²				

Cartridges				BriScale Disc Filters
Size	CHT	CHE	CHC	
5":	0.09 m ² - 0.14 m ²	0.10 m ² - 0.30 m ²	240 cm ²	A50 = 20 cm ²
10":	0.18 m ² - 0.28 m ²	0.39 m ² - 0.61 m ²	475 cm ²	
20":	0.36 m ² - 0.56 m ²	0.78 m ² - 1.22 m ²	950 cm ²	
30":	0.54 m ² - 0.84 m ²	1.17 m ² - 1.83 m ²	1425 cm ²	
40":	0.72 m ² - 1.12 m ²	1.56 m ² - 2.44 m ²	1900 cm ²	

RETENTION RATES - CHE FILTERS

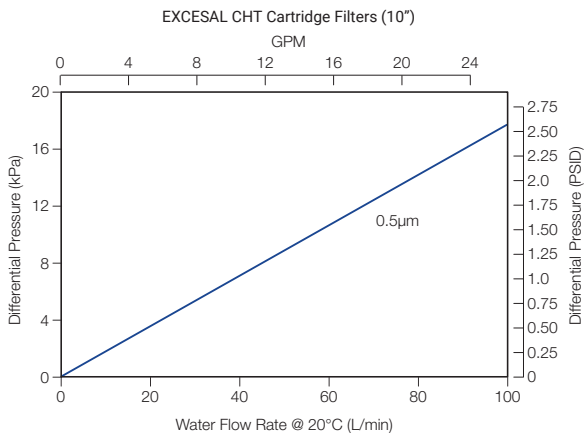
Filter Type	Retention Rates of Each Particle Size (%)							
	1.0 μm	3.0 μm	4.0 μm	5 μm	6 μm	7 μm	10 μm	20 μm
CHE 0.2 μm	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
CHE 0.3 μm	≥ 99.98	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
CHE 0.5 μm	≥ 99.90	≥ 99.98	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
CHE 0.65 μm	≥ 99.50	≥ 99.90	≥ 99.98	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
CHE 0.8 μm	≥ 99.20	≥ 99.50	≥ 99.90	≥ 99.98	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
CHE 1 μm	≥ 99.00	≥ 99.20	≥ 99.50	≥ 99.90	≥ 99.98	≥ 99.99	≥ 99.99	≥ 99.99
CHE 3 μm	-	≥ 99.00	≥ 99.20	≥ 99.50	≥ 99.90	≥ 99.98	≥ 99.99	≥ 99.99
CHE 5 μm	-	-	-	≥ 99.00	≥ 99.20	≥ 99.50	≥ 99.90	≥ 99.98

RETENTION RATES - CHT FILTERS

Retention Rates of Each Particle Size (%)

Filter Type	1.0 µm	2.0 µm	5.0 µm	10 µm	20 µm	40 µm	70 µm
CHT 0.2 µm	≥ 99.90	≥ 99.99	≥ 99.90	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
CHT 0.5 µm	≥ 99.00	≥ 99.50	≥ 99.90	≥ 99.90	≥ 99.99	≥ 99.99	≥ 99.99
CHT 1.0 µm	≥ 98.00	≥ 99.00	≥ 99.50	≥ 99.90	≥ 99.98	≥ 99.99	≥ 99.99
CHT 2.0 µm	-	≥ 98.00	≥ 99.00	≥ 99.50	≥ 99.90	≥ 99.98	≥ 99.99
CHT 5.0 µm	-	-	≥ 98.00	≥ 99.00	≥ 99.50	≥ 99.90	≥ 99.98
CHT 10 µm	-	-	-	≥ 98.00	≥ 99.00	≥ 99.50	≥ 99.90
CHT 20 µm	-	-	-	-	≥ 98.00	≥ 99.00	≥ 99.50
CHT 40 µm	-	-	-	-	-	≥ 98.00	≥ 99.00
CHT 70 µm	-	-	-	-	-	-	≥ 98.00

FLOW RATES



MAX OPERATING PRESSURE (CARTRIDGE)

0.69 MPa (6.9 bar, 100 psi) at 25°C
 0.40 MPa (4.0 bar, 58 psi) at 60°C
 0.24 MPa (2.4 bar, 35 psi) at 80°C

MAX DIFFERENTIAL PRESSURE (CARTRIDGE)

Forward: 0.69 MPa (6.9 bar, 100 psi) at 25°C
 0.40 MPa (4.0 bar, 58 psi) at 60°C
 0.24 MPa (2.4 bar, 35 psi) at 80°C

Reverse: 0.30 MPa (3.0 bar, 44 psi) at 25°C
 0.10 MPa (1.0 bar, 14.5 psi) at 80°C

STERILIZATION (CARTRIDGE)

Can be steam sterilized 20 cycles for 30 minutes at 125°C at < 0.3 bar (5 psi).

CARTRIDGE ORDERING INFORMATION

EXAMPLE: **ACHC10107EP** 1.0 µm, 10", 226 o-ring/fin, EPDM o-ring, Pharmaceutical application

A



Media

CHC = Multi-layer Wrapped PP
CHT = Multi-layer Pleated
CHE = Dual-layer Pleated (with nanofiber inner layer)



Nominal Length

05 = 5"
10 = 10"
20 = 20"
30 = 30"
40 = 40"



Connection

0 = Double Open End, Flat Gasket
2 = 226 O-ring/Flat (PBT insert)
7 = 226 O-ring/Fin (PBT insert)
3 = 222 O-ring/Flat (PBT insert)
8 = 222 O-ring/Fin (PBT insert)



Seal Material

S = Silicone
E = EPDM
V = FKM
P = E-FKM (FEP/PFA encapsulated FKM)



Application

P = Pharmaceutical

Removal Rating

CHC:

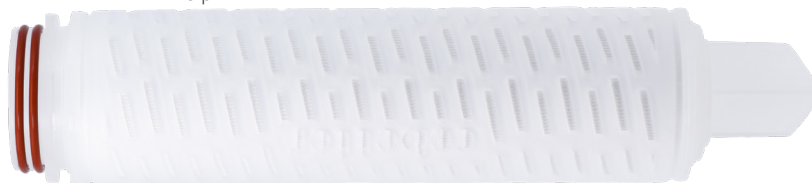
05 = 0.5 µm
10 = 1.0 µm
30 = 3.0 µm
50 = 5.0 µm
1X = 10 µm

CHE:

02 = 0.2 µm
03 = 0.3 µm
06 = 0.65 µm
08 = 0.8 µm
10 = 1.0 µm
30 = 3.0 µm
50 = 5.0 µm
1X = 10 µm

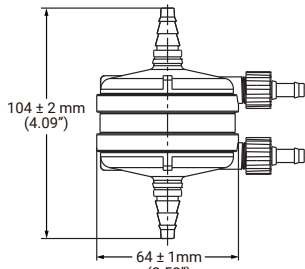
CHT:

05 = 0.5 µm
06 = 0.6 µm
08 = 0.8 µm
10 = 1.0 µm
15 = 1.5 µm
20 = 2.0 µm
50 = 5.0 µm
1X = 10 µm
2X = 20 µm
4X = 40 µm
7X = 70 µm
9X = 90 µm

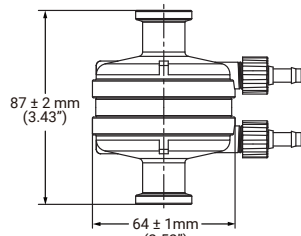


DIMENSIONS - BRICAP C SMALL CAPSULE FILTERS

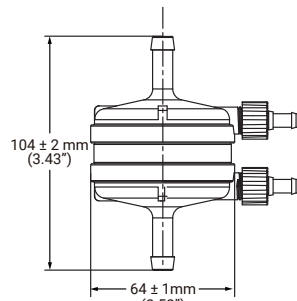
Bricap C01



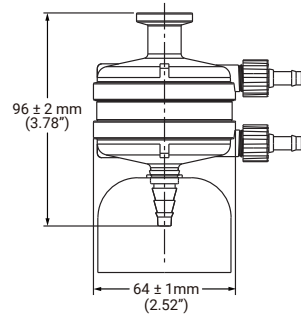
C01BB



C01TT

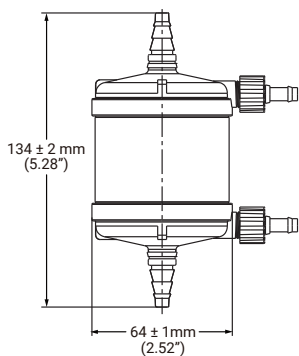


C01YY

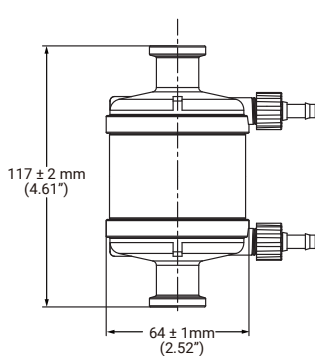


C01TA

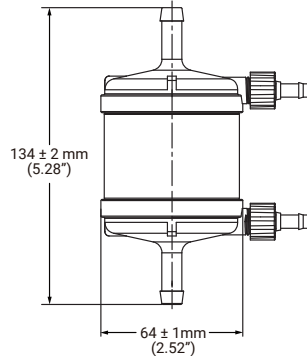
Bricap C02



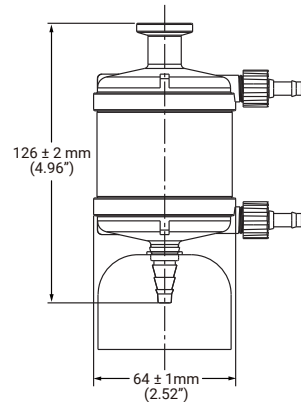
C02BB



C02TT

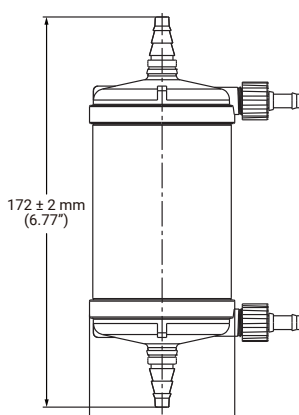


C02YY

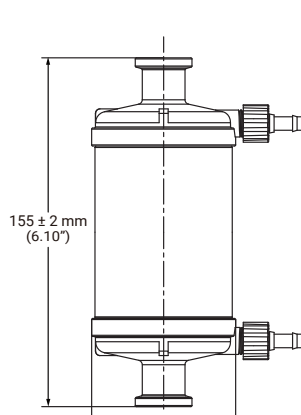


C02TA

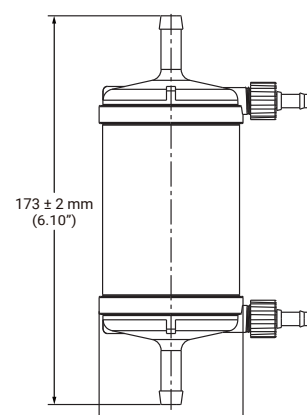
Bricap C03



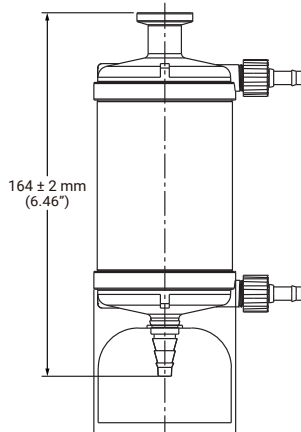
C03BB



C03TT



C03YY

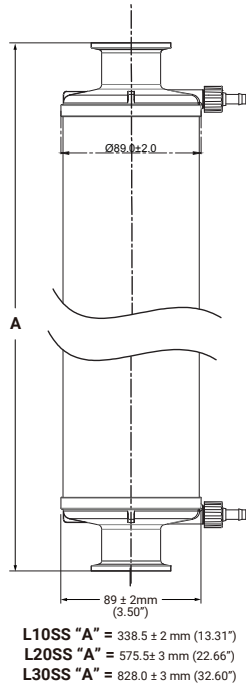
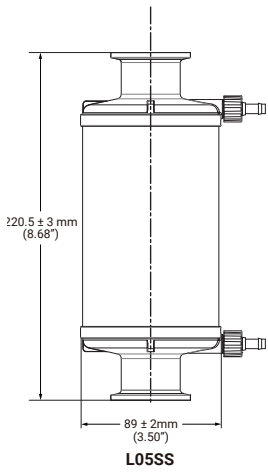
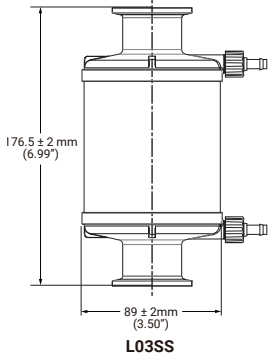
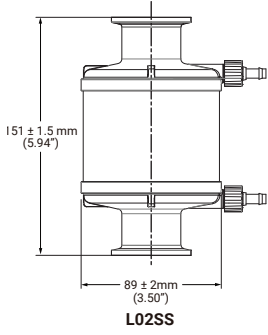


C03TA

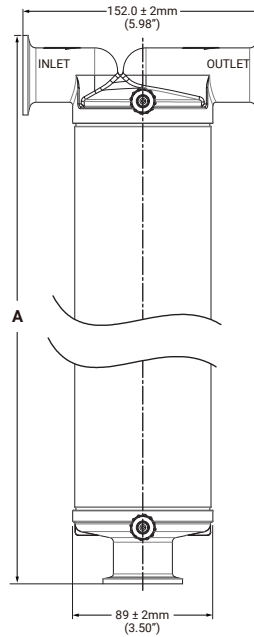
Max. Differential Pressure Capsules

0.55 MPa (5.5 bar, 80 psi) at 25°C
0.1 MPa (1.0 bar, 14.5 psi) at 80°C

DIMENSIONS - BRICAP L



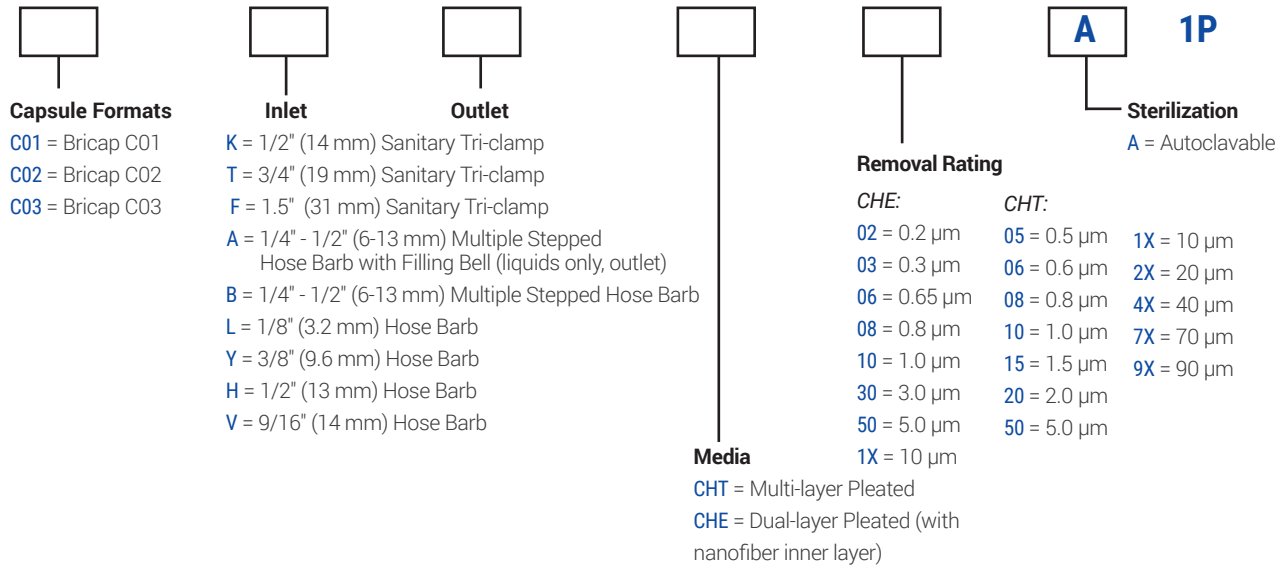
DIMENSIONS - BRICAP T



- T10SS "A" = 348.0 ± 2 mm (13.70")**
- T20SS "A" = 586.0 ± 3 mm (23.07")**
- T30SS "A" = 839.0 ± 3 mm (33.03")**

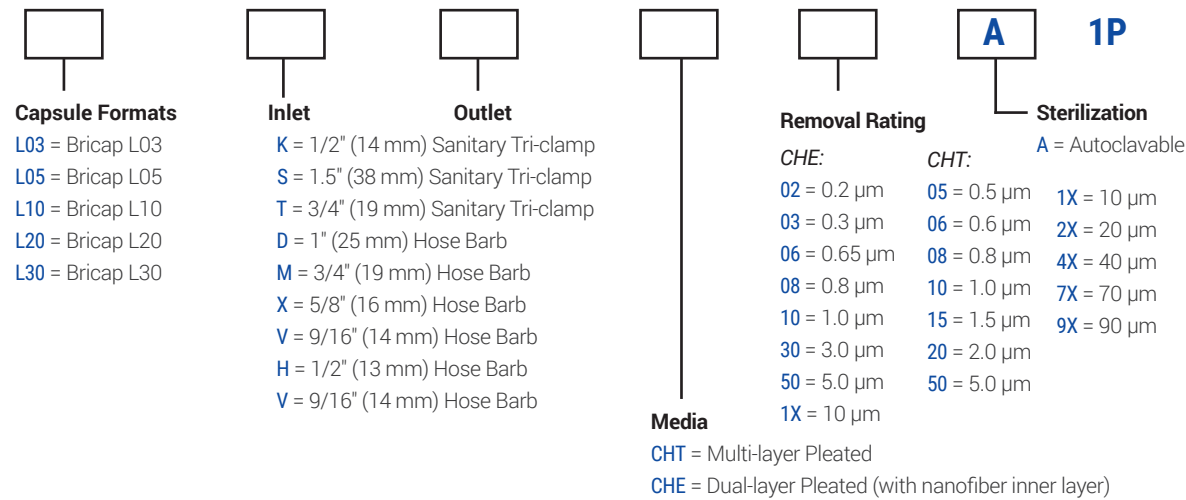
CHE & CHT SERIES BRICAP C SMALL CAPSULE FILTERS - ORDERING INFORMATION

EXAMPLE: **C01TTTCHE03A1P** = Bricap C01, 3/4" Tri-Clamp I/O, 0.3 µm, autoclavable



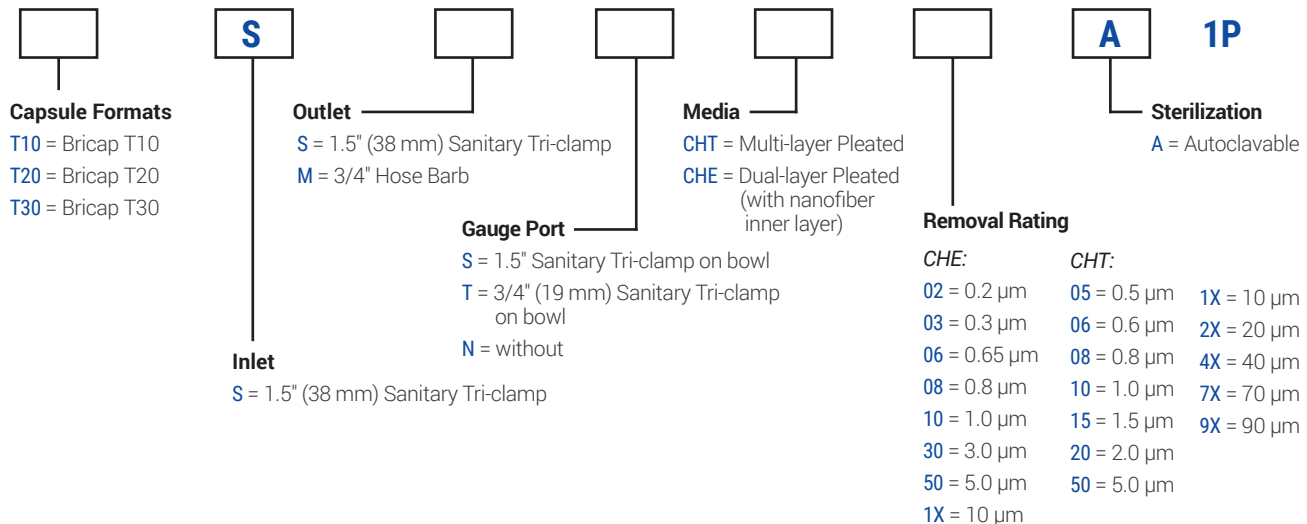
CHE & CHT SERIES BRICAP INLINE CAPSULE FILTERS - ORDERING INFORMATION

EXAMPLE: **L03SSSCHE03A1P** = Inline Bricap, 10", 1.5" Tri-Clamp I/O, 0.3 µm, autoclavable



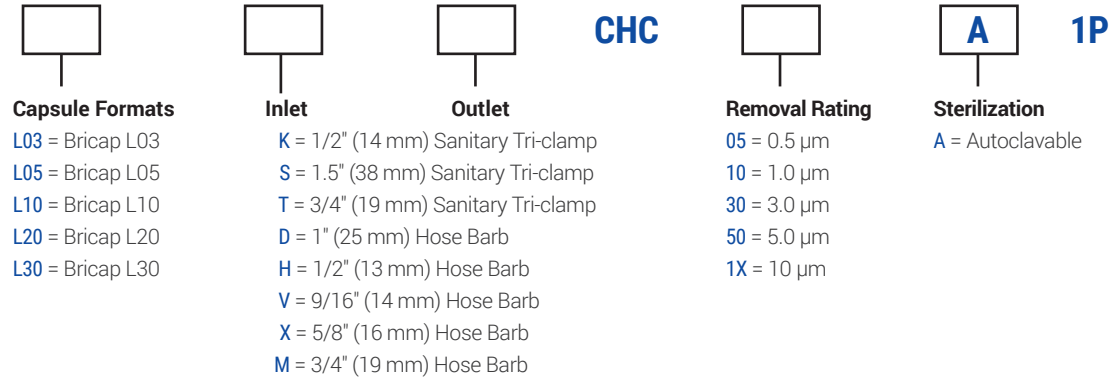
CHE & CHT SERIES BRICAP T CAPSULE FILTERS - ORDERING INFORMATION

EXAMPLE: **T10SSSCHE06A1P** = T-line Bricap, 10", 1.5" Tri-Clamp I/O, 0.65 µm, autoclavable



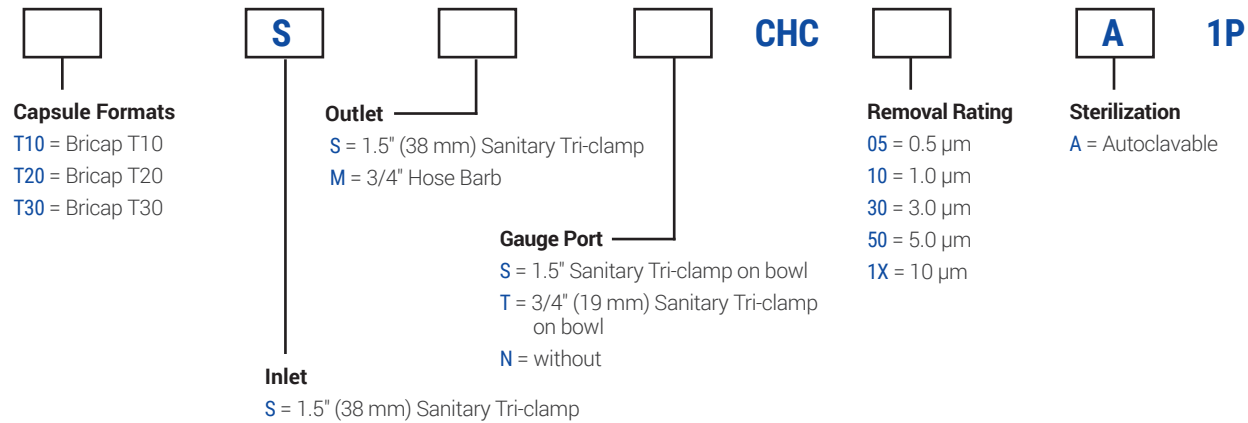
CHC SERIES BRICAP L INLINE CAPSULE FILTERS - ORDERING INFORMATION

EXAMPLE: **L03SSSCHC05A1P** = Inline Bricap, 10", 1.5" Tri-Clamp I/O, 0.5 µm, autoclavable

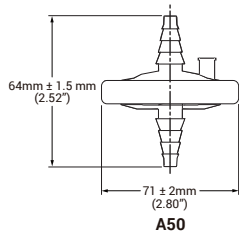


CHC SERIES BRICAP T CAPSULE FILTERS - ORDERING INFORMATION

EXAMPLE: **T10SSSCHC05A1P** = T-line Bricap, 10", 1.5" Tri-Clamp I/O, 0.5 µm, autoclavable

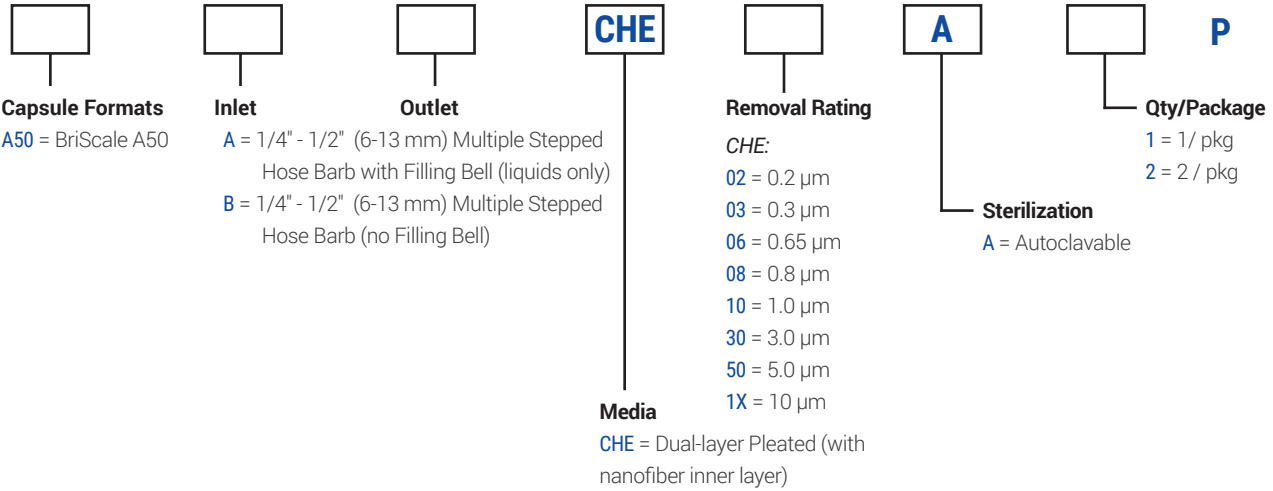


DIMENSIONS - BRICAP DISC FILTER



CHE BRISCALE® DISC LIQUID FILTER - ORDERING INFORMATION

EXAMPLE: **A50AACHE10A2** = BriScale A50, 1/4" - 1/12" multi-stepped hose barb with filling bell, CHE media, 1.0 µm, autoclavable, 2/pkg



BANNER INDUSTRIES IS THE EXCLUSIVE DISTRIBUTOR FOR COBETTER PRODUCTS IN THE USA
Visit www.bannerindustries.com and select the Contact Us link to find the location nearest you. The Banner Industries of N.E., Inc. Terms and Conditions of Sale apply and are fully and expressly incorporated herein by reference and constitute a part of any contract for the purchase of the products described herein.

www.bannerindustries.com | Technical Sales: filtration@bannerindustries.com

CBBPP1116 Rev. 04202021
Copyright © 2021 Banner Industries, Inc. All rights reserved.
Excesal® and BriScale® are registered trademarks of Cobetter Filtration Equipment Co., Ltd.