

BioSafe Cap Tiny

Integrated Disposable Capsule Filters

K45 Miniature Matrix • 8 Optional Interfaces • Custom Membrane Engineering

Gamma & Autoclave Sterilization Supported • Compact Low-Flow Process Purity



RELIABLE
Process Protection



PRECISE
Engineered Performance



PURE
High Purity Filtration



COMPACT
Optimized Design



Precision Micro-Filtration Engineered for Low-Flow Processing



BioSafe Cap K45
Series

The BioSafe Cap K45 Series represents the ultimate solution in compact, point-of-use, and small-scale disposable filtration. Designed specifically for the precise handling of low-flow liquids and gases, these miniature integrated capsule filters combine flexible premium polypropylene hardware with advanced multi-media membrane options.

Featuring an optimized low-dead-volume inner architecture, the BioSafe Cap maximizes product recovery, eliminates fluid cross-contamination risks, and delivers absolute process sterility without the need for expensive stainless steel filter housings.

Advanced Engineering Advantages



100% Thermal Fusion Assembly: Built entirely with advanced thermal bonding technology. No glues, chemical binders, or surfactants are used in the manufacturing process, guaranteeing a secure seal and zero leaching concerns.



8 Optional Interface Connections: Engineered with eight diverse, standardized technical connections—ranging from Tri-Clamps to CPC quick-connects—ensuring seamless integration into existing lines without system modification.



Validated Structural Integrity: Fully supports bubble point integrity testing and non-destructive quality validation protocols required by critical bio-pharma operations.



Flexible Sterilization Methods: Built to withstand demanding medical and industrial preparation, fully qualifying for Gamma Radiation, Ethylene Oxide (EO), and traditional Autoclave validation cycles.



MAX OPERATING PRESSURE
5.0 bar (72.5 psi)
@ 25°C



MAX OPERATING TEMPERATURE
60°C (140°F)



MATERIALS
Polypropylene (PP)
Multi-Media Membrane



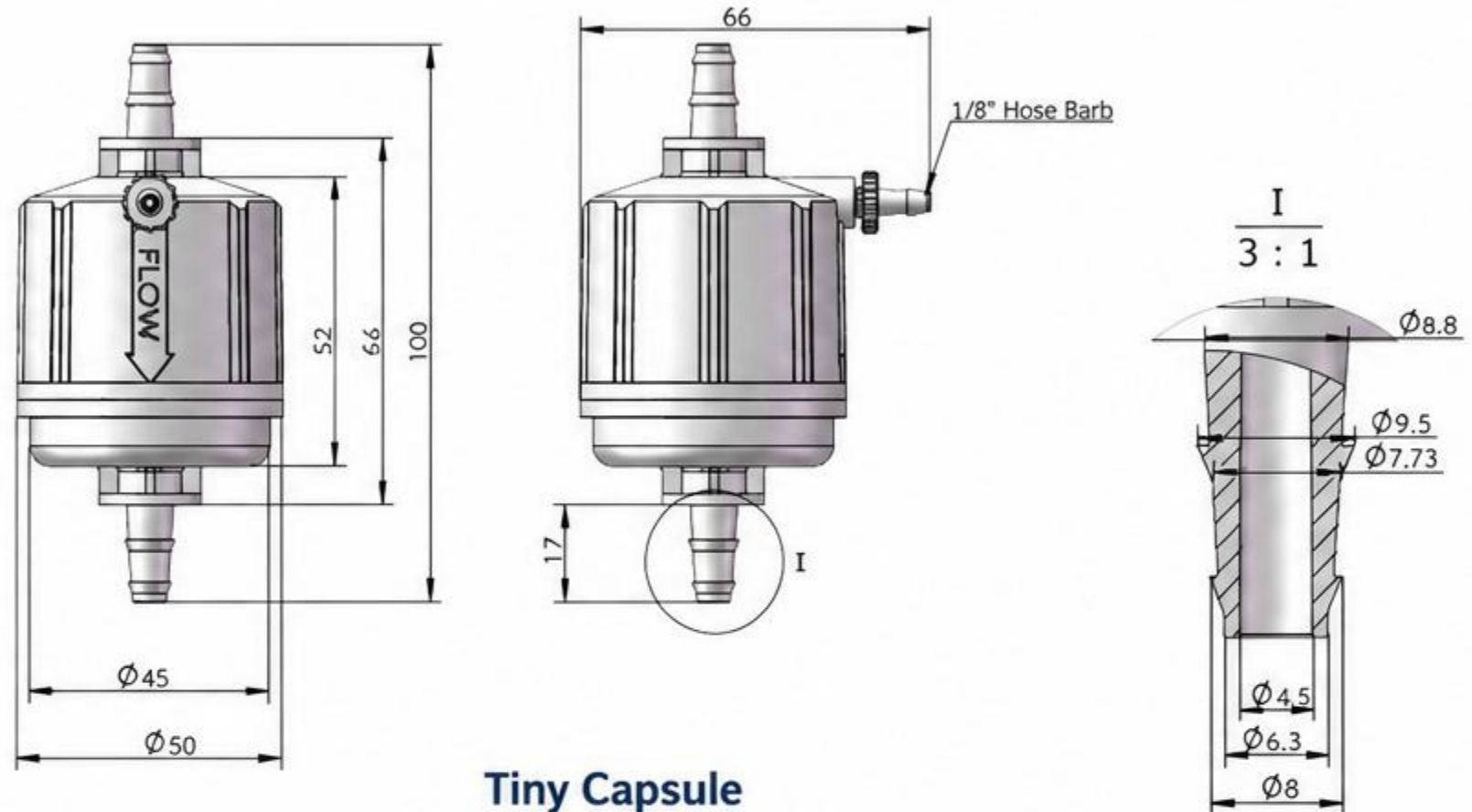
INTEGRITY TESTING
100% Bubble Point
Diffusion (Optional)



QUALITY SYSTEM
ISO 9001:2015
Compliant



DESIGNED & ENGINEERED
FOR CRITICAL APPLICATIONS



Tiny Capsule

Model : TK-2HF
Surface Area : 150~230cm²
(2HF=1/4~3/8" Hose Barb)



Tiny capsule filter assemblies are ready-to-use filters that offer high flows, increased throughputs, high strength, all with the convenience and cleanliness of a disposable and easy-to-install filter assembly in a small package.

Designed for small pre-filtration, clarification, and final filtration, in pharmaceutical, biotechnology, food and beverage, medical, chemical, and DI water applications.

Typical Point-of-Use & Miniature Applications

BioSafe Cap K45
Series



Typical Point-of-Use & Miniature Applications:



Biopharmaceuticals: Sterile venting and terminal micro filtration of cell culture media, medicinal liquids, laboratory solutions, and biological fluids.



Gas & Vent Sterilization: High-purity gas lines, autoclave air breathers, and sterile isolation barrier filtration.



Fine Chemicals & Electronics: Precise filtration of aggressive chemical reagents, corrosive acids/alkalts, photoresists, adhesives, and specialized manufacturing inks.



Utrapure Utilities: Point-of-use terminal loops for deionized (D) water delivery in semiconductor cleanrooms.



Technical Working Characteristics:



Normal Operating Temperature:
Up to 60 °C (140°F)



Maximum Operating Temperature:
80 °C (176°F) at 2.0 bar (29 ps)



Maximum Housing Pressure Capability: 5.0 bar (72 ps) at 25 °C



Recommended Maximum Forward Flux DeltaP: 0.42 MPa (60 ps) at 25 °C



Autoclave Sterilization:
Qualified for up to 10 cycles of 20 minutes at 120 °C.

mikropore
BioSafe Cap K45



Dimensions in mm [inches]



Absolute Retention
Down to 0.02 pm



Low Extractables
& Leachables



Ruggedized PP
Hardware



Wide Media Range
PTFE, Nylon, PES



Quality Assured
ISO 9001:2015
Compliant



Optimized Surface Area for Low-Velocity Flux Path

The compact K45 design successfully packs 150 to 230 cm² of effective filtration area into a rigid 45 mm outer diameter capsule. This provides an exceptional flow-to-pressure-drop ratio, ensuring continuous operational flow without premature clogging.

Part Number / Selection Configurator

Build your custom Mikropore capsule part number using the matrix below:

Series Code	Filter Media Type	Micron Rating	Connection / Interface Type	Seal Material	Sterilization Type
BSC-CAP (BioSafe Cap)	PES = Polyethersulfone NY = Nylon 66 PVDF = Polyvinylidene PTFE = Hydrophobic PTFE PP = Polypropylene GF = Glass Fiber	010 = 0.1 µm 020 = 0.2 µm 045 = 0.45 µm 065 = 0.65 µm 100 = 1.0 µm 300 = 3.0 µm 500 = 5.0 µm 10E = 10 µm 20E = 20 µm 40E = 40 µm	1HB = 1/8" Hose Barb 2HB = 1/4" Hose Barb SHB = 1/4"-3/8" Stepped Hose MTC = 1/2" Tri-Clamp 2NS = 1/4" NPT Male 1QC = 1/8" CPC Quick-Connect 2QC = 1/4" CPC Quick-Connect LFC = Luer Connection	S = Silicone N = Nitrile E = EPDM V = Viton T = Teflon	G = Gamma Radiation E = Ethylene Oxide A = Autoclave / None

Ordering Example: BSC-CAP-PTFE-020-MTC-V-G (BioSafe Cap, Hydrophobic PTFE Media, 0.2 µm rating, 1/2" Tri-Clamp interface, Viton seals, Gamma Sterilized).



mikropore
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