Meissner’s UltraCap® H.D. (Heavy Duty) capsule filters are ready-to-use assemblies that offer high flow and throughput with the convenience and cleanliness of a single-use filter assembly.

Designed for processing of medium to large liquid batches, UltraCap® H.D. high capacity capsule filters are optimized for continuous and batch processing in biomanufacturing and for final and prefiltration in pharmaceutical, food and beverage, and microelectronics applications. UltraCap® H.D. filters withstand higher operating pressure and are more robust than conventional UltraCap® capsule filters.

Meissner UltraCap® H.D. capsule filters are optimized for integration into single-use systems such as Meissner’s One-Touch® portfolio.

UltraCap® H.D. assemblies are available with a range of Meissner filter media for liquid, gas, and venting applications. They can be specified with a variety of inlet and outlet connections. An optional gauge port facilitates pressure measurement, while an optional filter stand facilitates fast, easy installation.

Features and Benefits

- Ruggedized polypropylene assembly withstands higher pressures than conventional high capacity capsule filters and resists damage, ensuring reliability and integrity under demanding conditions
- Encapsulated, integral assembly reduces operator contact with filtered liquids
- Extremely low hold-up volume design conserves valuable filtered liquids
- Single-use filter assembly saves installation, setup, cleaning and cleaning validation costs
- Seamlessly integrates into One-Touch® single-use systems or other single-use portfolios
- Removal ratings from 0.04 μm to 99 μm
- Final filtration through prefiltration media options include PVDF, PES, PP and PTFE membranes, as well as PP microfiber, borosilicate glass microfiber, and PP microfiber depth media
- Valved vent port for security and reliability in venting, draining and sampling
- Recessed filter vent/drain on T-style configuration prevents breakage in use
- UltraCap® H.D. filters can be easily configured in series or parallel to maximize design space. 10", 20", 30", 40" and 50" lengths permit fast, easy scale-up
- Can be used with UltraSnap® connectors to configure multiple pre and final capsule filters into a presterilized, ready-to-use assembly
- Available gamma-irradiated for aseptic applications
**Materials of Construction**

*UltraCap® H.D. Housing:* Animal component free (ACF), gamma stable polypropylene (PP)

**Filtration Media:**

**Hydrophilic Membranes**

- SteriLUX®: PVDF (polyvinylidene fluoride)
- EverLUX®: PES (polyethersulfone)
- STyLUX®: PES (polyethersulfone)

**Hydrophobic Membranes**

- Steridyne®: PVDF (polyvinylidene fluoride)
- Chemdyne®: PP (polypropylene)
- Ultradyne®: PTFE (polytetrafluoroethylene)

**Microfiber**

- ALpHA®: PP (polypropylene)
- ALpHA® G: PBT (polyester)
- Vangard®: PP (polypropylene)
- Protec® RF: GF (borosilicate glass)
- Protec® RM: GF (borosilicate glass) + SteriLUX® PVDF membrane
- DeltaMax®: PP (polypropylene)
- DeltaDepth®: PP (polypropylene)

**Support Components:** Polypropylene (PP)  
**Sealing Method:** Thermal Bonding

**Cartridge Length (Nominal)**

10", 20", 30", 40", or 50"  
(25 cm, 50 cm, 75 cm, 100 cm, or 125 cm)

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**Product Specifications**

**Max. Pressure & Temperature for Liquids**

- 90 psig @ 32 °F to 100 °F (6.2 bar @ 0 °C to 38 °C)
- 55 psig @ 140 °F (3.8 bar @ 60 °C)

**Max. Pressure & Temperature for Gases**

- 60 psig @ 32 °F to 100 °F (4.1 bar @ 0 °C to 38 °C)
- 35 psig @ 140 °F (2.4 bar @ 60 °C)

**Connections**

- **Inlet/Outlet:** Sanitary flange, hose barb or Flaretek®
- **Vent Port:** Sanitary valve with hose barb; Sterile Process Design (SPD) vent (inline option only)
- **Drain Port:** Sanitary valve with hose barb; sanitary plug (T-style option only); Sterile Process Design (SPD) vent (inline option only)
- **Gauge Port:** ¾" sanitary flange (T-style option only)

**Sterilization**

The UltraCap® H.D. assembly should be autoclaved at a minimum of 121°C for 60 minutes with the vents open to facilitate air removal and the outlet down. UltraCap® H.D. assemblies can be repeatedly autoclaved without loss of integrity. For critical applications, the autoclave cycle should be validated.

UltraCap® H.D. assemblies must not be *in situ* steam sterilized (SIP).

Gamma irradiated models are available.

**Mounting**

The UltraCap® H.D. assembly can be mounted and supported on suitably braced, rigid, inline pipe connections. A wall mounting bracket and accessory stand are also available. For applications requiring multiple UltraCap® H.D. capsule filters, Meissner’s UltraSnap® filter assembly is recommended. This assembly secures pre and final capsule filters into a single-use filtration system for plug and play use. Contact Meissner for details.
Filter Media Grade Descriptions

1 T-grade (VTH, STW, STY, VT, PT, TT) This absolute, microbiologically rated filter meets full traceability requirements for the pharmaceutical industry. It is 100% integrity tested during manufacture. Each T-grade filter is shipped with a Certificate of Quality stating exact quality control criteria and test performance results. This is a validatable product to meet the stringent requirements of the pharmaceutical industry.

2 M-grade (VMH, SMH, SM, VMV, PM, TA) This absolute, microbiologically rated filter is also rated 100% integrity tested during manufacture. This filter is suited for critical applications when regulatory documentation requirements are minimal.

3 L-grade (VLMH, VSMH, VSM, VLMV, PMP, PT, TA) This filter is not 100% integrity tested or flushed during manufacture. It is offered as an economical prefilter or final filter when sterility assurance is not required.

Gamma-irradiated model not available for media listed below:

Chemodyne® PP PT® 0.2
                   PM® 0.04, 0.1, 0.2

Ultradyne® PTFE TT® 0.2
                   TA® 0.2
                   TM 0.05, 0.1, 0.2, 0.4, 1.0, 5.0

Microfiber Media Grade Retention Rating (μm)

ALpha® PP MF 0.45, 0.6, 0.8, 1.2, 2.4, 5, 7, 10, 20, 30, 40*, 70*

ALpha® G PBT MG® 0.6, 1.2, 2.4, 5, 7, 10, 20

Vanguard® PP MN 0.1, 0.2, 0.4, 1, 3, 5, 10, 30,
                  60, 99 (nominal)

Protec® GF RF® 0.5, 1

Protec® GF + PVDF RM* 0.2, 0.3, 0.5

DeltaMax® PP depth DM 0.5, 1, 3, 5, 10, 20, 40, 70

DeltaDepth® PP depth DD 0.5, 1, 5, 10, 25, 50 (nominal)

*ALpha® G, Protec® RF, Protec® RM, and ALpha® 40 μm & 70 μm are gamma-irradiatable.

Information

UltraCap® H.D. Model

Filter Media - Grade  Retention Rating (μm)  Cartridge Length  Body Style  Inlet/Outlet  Vent/Drain Ports

CR2 MF 1.2 10° = 10°  T = T-style  00 = 1° sanitary flange 2 = No vent/drain

CR2 Standard (non-sterile)  N = Inline  00 = 1° sanitary flange 77 = ¾° sanitary flange

Gamma irradiated  02 = 1° sanitary flange inlet; ½° hose barb outlet 2 = Sanitary vent; ¾° sanitary flange plug

CR2 = Gamma irradiated  03 = 1° sanitary flange inlet; ½° hose barb outlet 3 = Sanitary vent; ¾° sanitary flange plug

Vent Port outlet  04 = Sanitary vent; no drain 4 = Sanitary vent; ¾° sanitary flange plug

γ 40 µm & 70 µm are gamma-irradiateable.  05 = Sanitary vent; ¾° sanitary flange gauge port; no drain 5 = Sanitary vent; ¾° sanitary flange gauge port

40 µm & 70 µm are gamma-irradiateable.  06 = No vent/drain; ¾° sanitary flange gauge port 6 = No vent/drain; ¾° sanitary flange gauge port

A = No vent; sanitary drain valve 7 = No vent/drain; ¾° sanitary flange gauge port

B = Sanitary vent; sanitary drain valve 8 = No vent; sanitary drain valve

C = Sanitary vent; sanitary drain; ¾° sanitary flange gauge port

T-style 0 = No vent/drain

00 = 1° sanitary flange 2 = Two sanitary vent/drain valves

1 = No vent; ¾° sanitary drain plug 4 = One sanitary vent or drain valve

2 = Sanitary vent; ¾° sanitary drain plug 5 = One SPD vent/drain valves at inlet and outlet

3 = Sanitary vent; sanitary drain plug 6 = One SPD vent at outlet only