



## Data Sheet

# Millistak+® Pod Disposable Depth Filter System

**Innovative, High-Performance Pods are Ideal for Primary and Secondary Clarification**



Millistak+ depth filter media is offered in a scalable, disposable format, the Pod Filter System. Accommodating applications from lab to pilot to process scale, the Pod format offers greater flexibility because of its unique modular design.

The Millistak+ Pod system is ideal for a wide variety of primary and secondary clarification applications, including cell cultures, yeast and *E. coli* lysates post centrifuge, *E. coli* refolds, media, vaccines, plasma proteins and sera.

Millistak+ Pod filters are available in two sizes with 0.027 m<sup>2</sup> and 0.054 m<sup>2</sup> of surface area in three distinct series of media grades in order to meet your specific application needs. Millistak+ DE, CE and HC media deliver optimal performance through a gradient density matrix as well as positive surface charge properties.

## Benefits

- Low hold-up volume for greater product yield
- Broad range of media types offered in single and multilayer products
- Millistak+ HC dual-action media improves prefiltration and compresses clarification
- Patented disposable design eliminates need for housing, CIP or cleaning validation
- Self-contained Pod filters protect operators from exposure to biohazards
- Robust construction is easy to use and set up

## EASY TO USE

With the compact, modular design of Millipore's new Pod system, you can increase productivity and shorten cycle times.

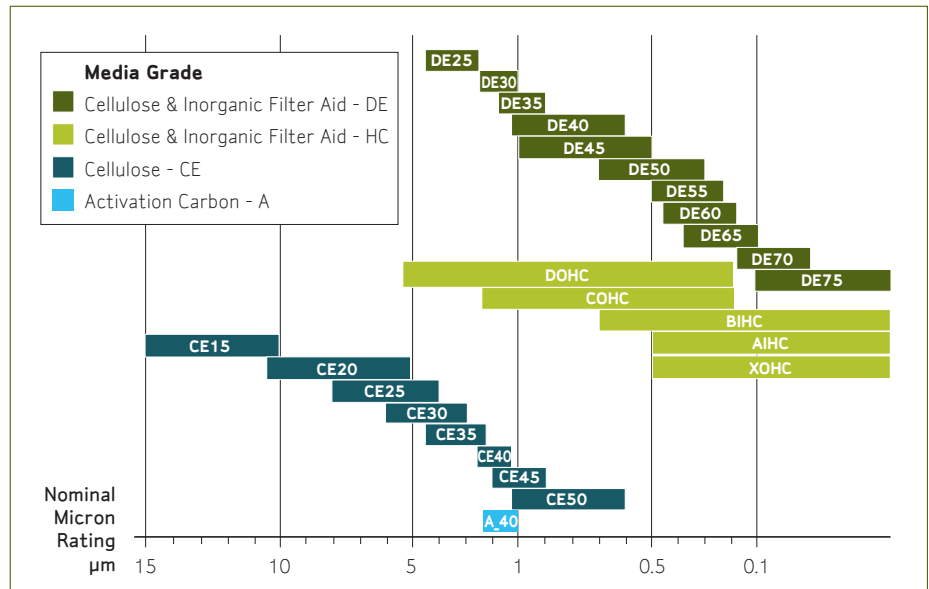
Installation and set-up of the Pod system is simple and straightforward. The unique design of the disposable adapters makes it easy to connect the Pods to the process piping. The self-contained and disposable nature of the system protects operators from exposure to biohazards and eliminates maintenance as well as cleaning validation requirements.

## MILLISTAK+ DEPTH FILTER MEDIA

Available in three media series, the proven filtration performance of Millistak+ filter media in the popular Pod format provides greater flexibility and reduced cycle times. Millistak+ Pod filters incorporate multiple graded-density layers and adsorptive, positively-charged filter media. Composed of select grade cellulose fiber and diatomaceous earth, the Millistak+ DE series not only improves the manufacturing

process but also increases contaminant holding. In addition, the Millistak+CE series consists of single layer media with cellulose fibers that are suitable for coarse filtration applications.

The Millistak+ HC series is dedicated to improving productivity by combining two distinct technologies that enhance filter capacity and retention. Multiple filtration stages downstream of the bioreactor are compressed into one efficient step.

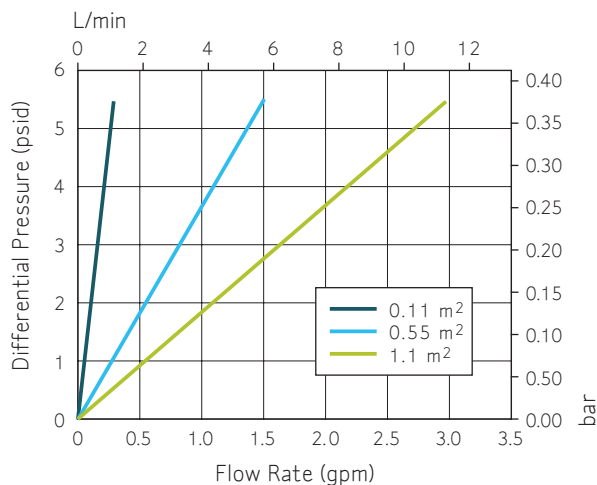


## Millistak+ Pod Filter Specifications

	0.29 ft <sup>2</sup> (0.027 m <sup>2</sup> )	0.58 ft <sup>2</sup> (0.054 m <sup>2</sup> )
<b>Surface Area</b>	0.29 ft <sup>2</sup> (0.027 m <sup>2</sup> )	0.58 ft <sup>2</sup> (0.054 m <sup>2</sup> )
<b>Materials of Construction</b>	Filter Media: Cellulose fibers with inorganic filter aid (CE Media contains cellulose only) Filter Membrane: Mixed esters of cellulose (grades A1HC and B1HC only) Pod Housings: Glass Filled Polypropylene	
<b>Pod Dimensions</b>	Length: 8.5 in. (22 cm) Height: 5.3 in. (14 cm) Thickness: 2.9 in. (7 cm)	
<b>Maximum Operating Pressure</b>	50 psig (3.5 bar) at 4-25 °C	
<b>Maximum Differential Pressure</b>	Forward: 30 psid (2.1 bar) at 25 °C Reverse: 30 psid (2.1 bar) at 25 °C	
<b>Sterilization</b>	2 cycles of 60 minutes at 123 °C	
<b>Indirect Food Additive</b>	All components meet the FDA indirect food requirements cited in 21 CFR 177-182.	
<b>Toxicity</b>	All component materials meet the requirements of the current USP <88> biological reactivity test for class VI plastics.	
<b>Bacterial Endotoxin</b>	< 0.25 EU/mL as determined by the Limulus Amebocyte Lysate (LAL) test.	

## Water Permeability

### Grade A1HC Pod Filters Example Graph



Media Type/Grade	Flow Rate (Lmh/Psid)**
A1HC	125
B1HC	140
COHC	530
DOHC	960
XOHC	101

\* Measured on a device

Media Type/Grade	Flow Rate (Lmh/Psid)**
CE15	18360-33720
CE20	12690-22650
CE25	8640-15510
CE30	5940-10650
CE35	4050-7290
CE40	2700-5010
CE45	1830-3360
CE50	1260-2280

Media Type/Grade	Flow Rate (Lmh/Psid)**
DE25	8658-15559
DE30	6006-10692
DE35	4062-7308
DE40	2706-5004
DE45	1842-3384
DE50	1272-2274
DE55	864-1554
DE60	595-1068
DE65	406-732
DE70	271-500
DE75	184-338

\*\* Typical values for media

## Choose the Right Media

Media Grade	Application	Characteristics	Media Construction
Single-layer CE*		Cellulose	CE15 to 50
Single-layer DE*		Cellulose + inorganic filter aid	DE 25 to 75
Triple-layer A1HC	Post-TFF (Prostak™ module) clarification fluids	Tightest media combination with an additional membrane layer to protect downstream membrane filters	60DE + 75DE + RW01
Triple-layer B1HC	Post-centrifuge or settled permeate containing cellular particulate	A more open first layer with an additional membrane layer to protect downstream membrane filters	50DE + 75DE + RW01
Double-layer COHC	Perfusion bioreactor fluid	Two layers of a more open DE media	30DE + 60DE
Double-layer DOHC	Primary clarification directly out of the bioreactor	A more open CE layer and DE media combination	25CE + 40DE
Double-layer XOHC	Secondary clarification of bioreactor harvests, primarily for cell cultures	Two DE Layers. Provides sterile filter protection without an RW01 membrane	75IM + 83IM

\*For clarification of serum, plasma, vaccines, cell culture or other fluids, choice of media grade should be based on small-scale trials.

## ORDERING INFORMATION

### Lab Scale Pod

**M**

Millistak+  
Lab Scale  
Pod Filters



Media Type and grade

A1HC	XOHC	CE30	CE50	DE40	DE60
B1HC	CE15	CE35	DE25	DE45	DE65
COHC	CE20	CE40	DE30	DE50	DE70
DOHC	CE25	CE45	DE35	DE55	DE75



Size

027 = 0.027 m<sup>2</sup>  
054 = 0.054 m<sup>2</sup>



Connection

H1 = 1/4 in. (6 mm)  
Hose Barb



For technical assistance, contact Millipore:  
**1-800-MILLIPORE (1-800-645-5476)**  
E-mail: [tech\\_service@millipore.com](mailto:tech_service@millipore.com)



For customer service, call **1-800-766-7000**.  
To fax an order, use **1-800-926-1166**.  
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