

Masterfilter DFC Depth Filtration Capsules

Single or Double Layer – High Purity Lignocellulose and Activated Carbon



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The Masterfilter DFC series filter capsules are available with filter media of high-purity lignocellulose and inorganic filter aid agent and high-purity cross-weaved lignocellulose and activated carbon powder. The internal porous three-dimensional structure with large internal surface area delivers excellent filtration performance and high dirt holding capacity for depth filtration applications. The filter sheets are manufactured with our highly automated proprietary process. All raw materials are controlled through our world-class quality system to ensure robust product quality and consistent filtration performance.

Applications

- Fermentation broth and cell culture media clarification
- Serums and blood products
- Enzyme preparation
- Particle removal
- Colloidal and viscous materials
- Decolorization of API
- Endotoxin removal
- Filtration of blood products
- Clarification of biochemical products

Features and Benefits

- Excellent filtration efficiency
- High dirt holding capacity
- Single- and double-layer versions
- Longer lifetime

Materials of Construction

- Filter media: Cellulose, diatomite filter aid and ionic wet-strength resin (positive or negative charged) or Cellulose, activated carbon powder, ionic wet-strength resin (positive charged)
- Out shell: Polypropylene
- Sealing: Thermal bonding

Operating Parameters

- Max. Temperature: 40 °C
- Max. Differential Pressure: 3.0 bar at 40 °C
- Flush Volume before use:
Single layer: 50 l/m², double layer: 100 l/m²
- Flow rate: 10 l/min/m²



Biological Standards

- Bacterial Endotoxin: Aqueous extraction of autoclaved filter contains < 0.25 EU/mL as determined by Limulus Amebocyte Lysate (LAL), USP <85>
- Meet the requirement of USP<87> In Vitro Cytotoxicity Test
- Meet the criteria of the USP<88> Biological Reactivity Test for Class VI-121°C plastics

Chemical Compatibility

Chemical	Concentration	at 20°C	at 80°C
NaOH	2 %	R	N
HCl	5 %	R	N
HNO ₃	5 %	R	N
H ₂ SO ₄	10 %	R	N
Acetic acid	38 %	R	R
Citric acid	10 %	R	R
Acetic Peracid	0.1 %	R	R
Butanol	80 %	R	R
Ethanol	80 %	R	R

R = recommended, N = not recommended

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Extractable Metal Ions (Cellulose, diatomite filter aid and ionic wet-strength resin)

Ion	ppb	Ion	ppb
Mg	5.201	Ni	0.334
Al	34.540	Cu	0.770
Ca	63.447	As	0.532
Cr	0.047	Pb	0.040
Fe	27.287		

Filter medium positive charged

Extractable Metal Ions (Cellulose, activated carbon powder, ionic wet-strength resin)

Ion	ppb	Ion	ppb
Mg	3.242	Ni	0.389
Al	1.468	Cu	0.019
Ca	15.514	As	0.004
Cr	0.069	Pb	0.004
Fe	1.526	Co	0.011
Mn	0.526	Zn	0.157
Cd	0.001	K	0.646
Na	81.223	Ti	0.046

Overview Depth Filtration Capsules

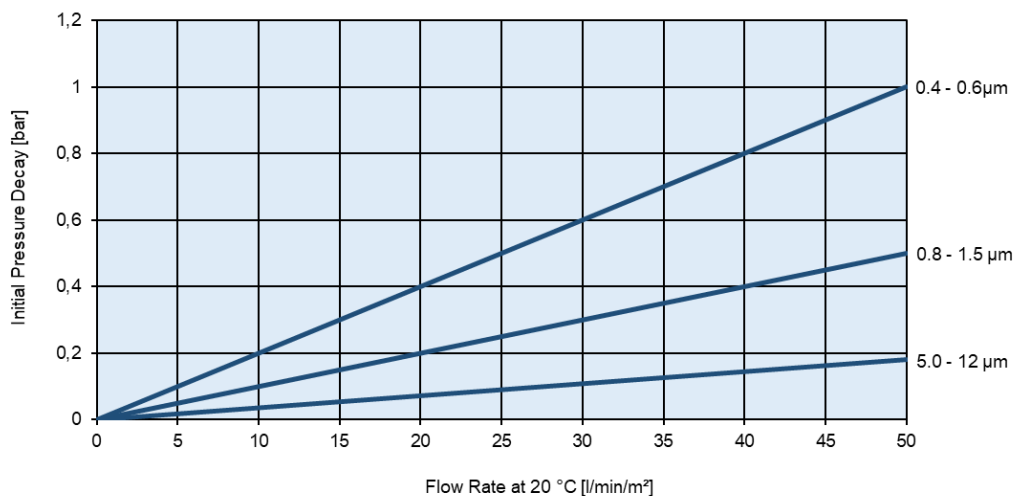
Capsules	Filter media LCMZ		Filter media LCMK	Connection
	Single-Layer	Double-Layer	Single-Layer	
 DFCA	EFA = 0.2 m ²	EFA = 0.15 m ²	EFA = 0.15 m ²	Inlet/Outlet: 1½" Tri-clamp
 DFCC	EFA = 0.4 m ²	EFA = 0.4 m ²	EFA = 0.4 m ²	Inlet/Outlet: 1½" Tri-clamp
 DFCD	EFA = 0.2 m ²	EFA = 0.15 m ²	-	Inlet/Outlet: 1" Tri-clamp
 DFCE	EFA = 0.5 m ²	EFA = 0.4 m ²	-	Inlet/Outlet: 1" Tri-clamp

LCMZ = Cellulose, diatomite filter aid and ionic wet-strength resin

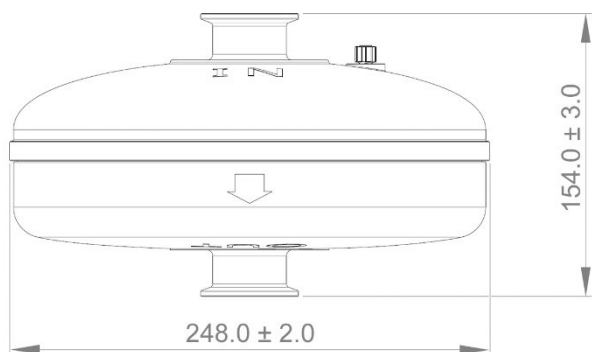
LCMK = Cellulose, activated carbon powder, ionic wet-strength resin

Flow Rate Characteristics Single-Layer – LCMZ (Cellulose, diatomite filter aid and ionic wet-strength resin)

Flow Rate Characteristics DFC (positive charged)

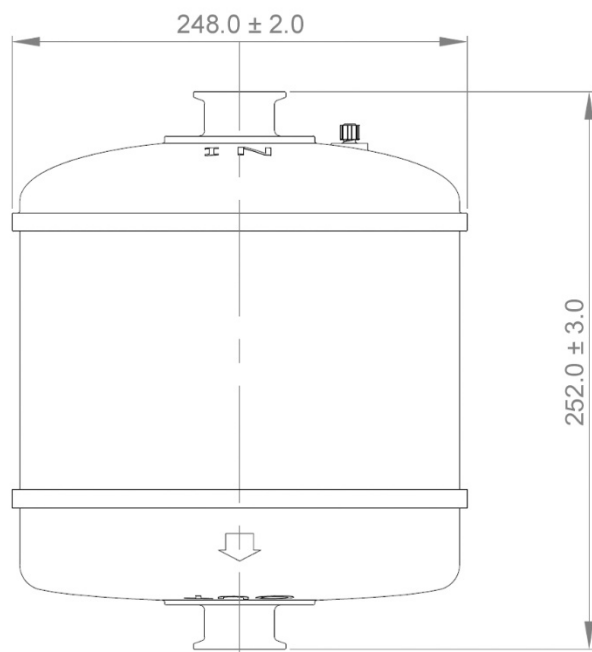


Dimensional Drawing - DFCA



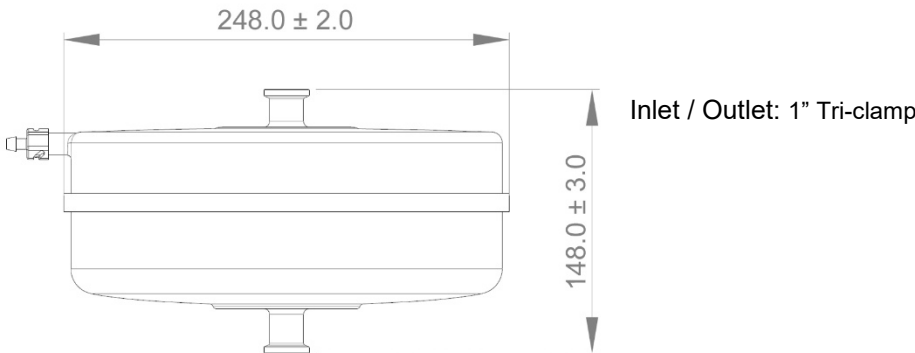
Inlet / Outlet: 1½" Tri-clamp

Dimensional Drawing - DFCC

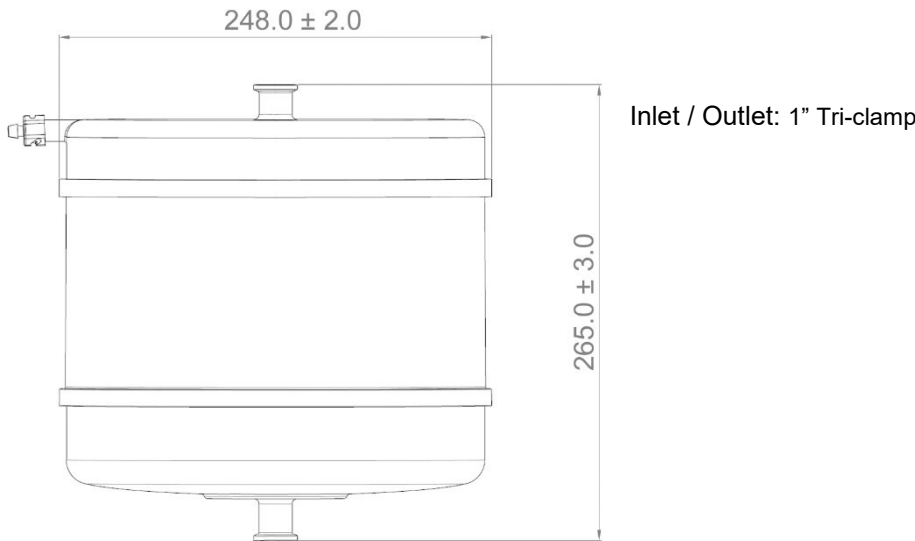


Inlet / Outlet: 1½" Tri-clamp

Dimensional Drawing – DFCD



Dimensional Drawing – DFCE



Part Numbers Single Layer – LCMZ (Cellulose, diatomite filter aid and ionic wet-strength resin)

DFCA-LCMZ	080	-	P
DFCC-LCMZ			
DFCD-LCMZ			
DFCE-LCMZ			

Removal Rating [μm]	Charge
002 = 0.02-0.2	P = Positive
004 = 0.04-0.2	N =Negative
020 = 0.2-0.4	
040 = 0.4-0.6	
060 = 0.6-0.8	
080 = 0.8-1.5	
150 = 1.5-3.0	
300 = 3.0-6.0	
400 = 4.0-9.0	
500 = 5.0-12	
600 = 6.0-15	
700 = 7.0-18	
900 = 9.0-30	

e.g. part number: DFCA-LCMZ080-P

Part Numbers Double Layer – LCMZ (Cellulose, diatomite filter aid and ionic wet-strength resin)

DFCA-LCMZ
DFCC-LCMZ
DFCD-LCMZ
DFCE-LCMZ

004004	-	P
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Removal Rating [µm]	Charge
001001 = 0.01-0.1*	P = Positive
001002 = 0.01-0.2*	N = Negative
002002 = 0.02-0.2*	
004004 = 0.04-0.4	
004008 = 0.04-0.8	
004090 = 0.04-9.0	
010090 = 0.1-9.0*	
010180 = 0.1-18*	
400180 = 4.0-18	
400300 = 4.0-30	
600300 = 6.0-30	

* only available in Positive charge version

e.g. part number: DFCA-LCMZ004004-P

Part Numbers Single Layer – LCMK (Cellulose, activated carbon powder, ionic wet-strength resin)

DFCA-LCMZ
DFCC-LCMZ

050	-	P
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Rating [µm]	Charge
030 = 0.3-1.0	P = Positive
050 = 0.5-1.0	
100 = 1.0-2.0	
200 = 2.0-4.0	

e.g. part number: DFCA-LCMK050-P