

### Masterfilter DFCL Depth Filtration Capsules

The Masterfilter DFCL series filter capsules are available with filter media of high-purity lignocellulose and inorganic filter aid agent. 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)
- 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/m<sup>2</sup>, double layer: 100 l/m<sup>2</sup>
- Flow rate: 10 l/min/m<sup>2</sup>



### 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 <sub>3</sub>               | 5 %           | R       | N       |
| H <sub>2</sub> SO <sub>4</sub> | 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

# Masterfilter DFCL Depth Filtration Capsules

Single or Double Layer – High Purity Lignocellulose



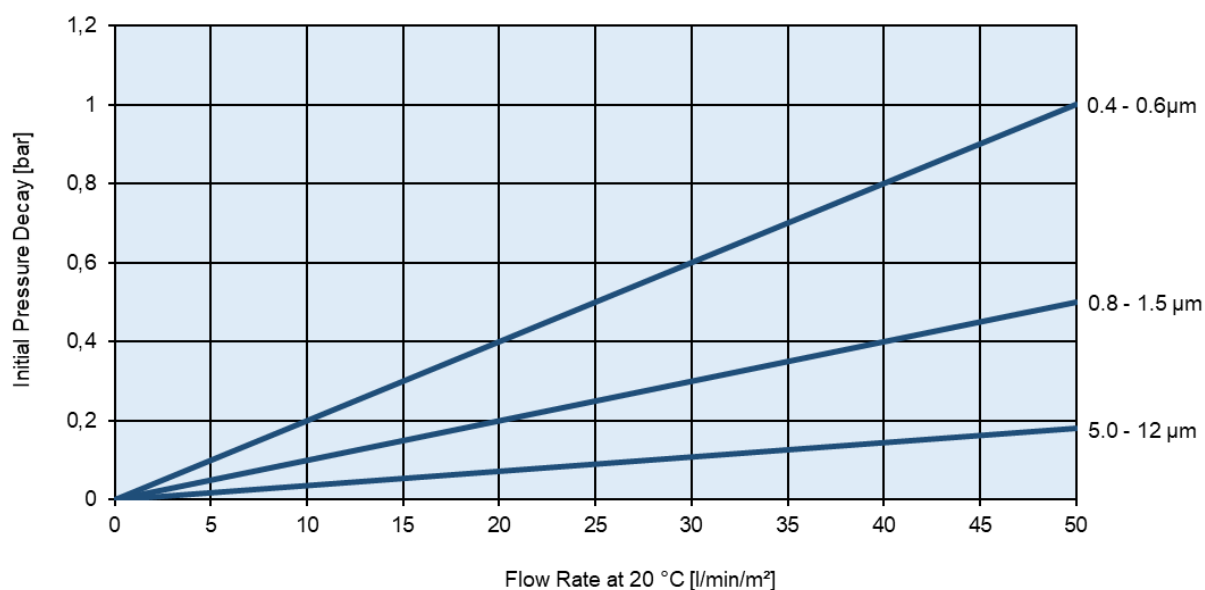
## Extractable Metal Ions (Cellulose, diatomite filter aid and ionic wet-strength resin)

| 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

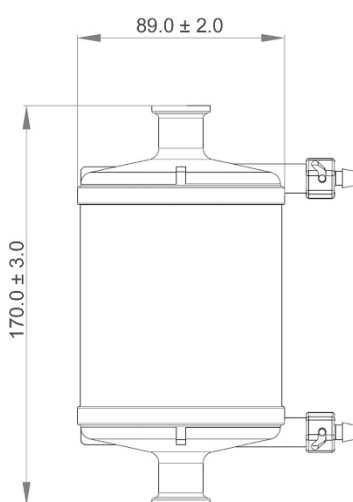
## Flow Rate Characteristics Single-Layer – LCMZ (Cellulose, diatomite filter aid and ionic wet-strength resin)

Flow Rate Characteristics DFCL (positive charged)

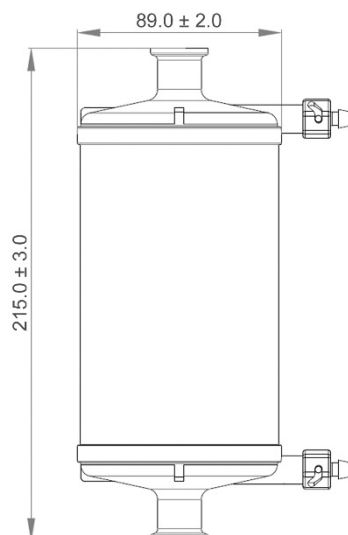


## Dimensional Drawing

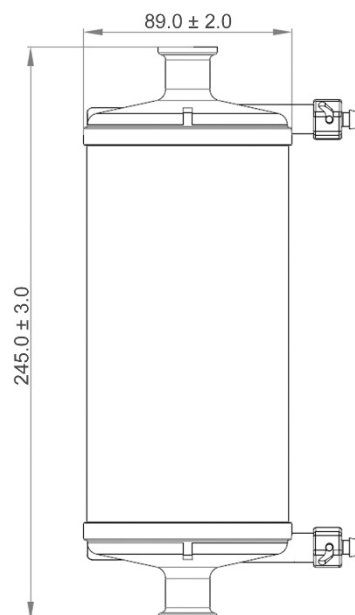
### DFCL – L03



### DFCL – L04



### DFCL – L08



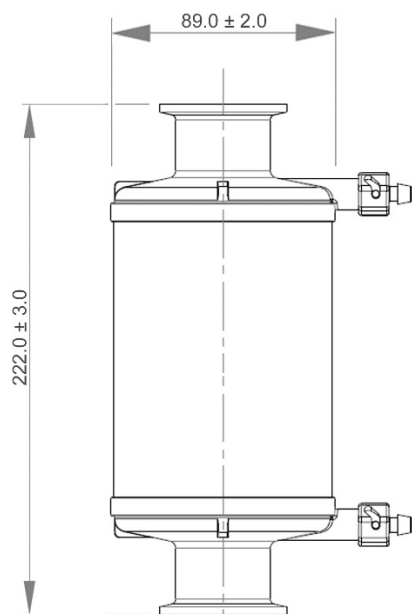
Inlet / Outlet: TC 3/4", Vent / Drain: 6 mm Hose barb

# Masterfilter DFC Depth Filtration Capsules

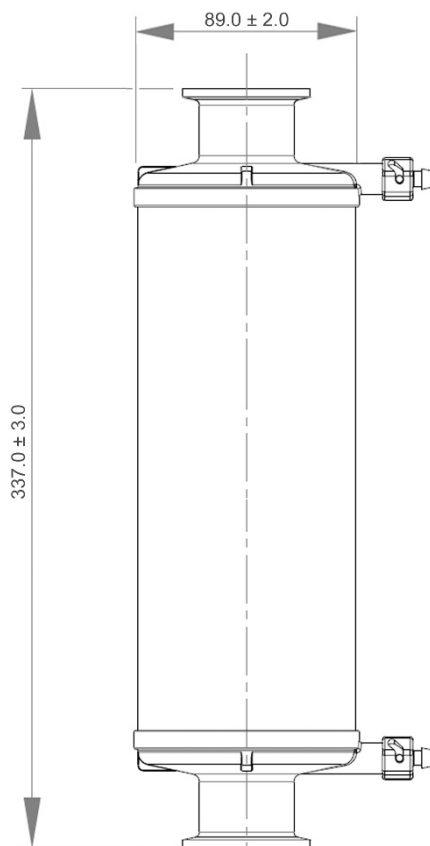
Single or Double Layer – High Purity Lignocellulose



## DFCL – L05



## DFCL – L10



Inlet / Outlet: TC 1.5", Vent / Drain: 6 mm Hose barb

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

### DFCL-LCMZ

| 080                                                                                                                                                                                                                                                       | P                                             | L10                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Removal Rating<br/>[µm]</b><br>002 = 0.02-0.2<br>004 = 0.04-0.2<br>020 = 0.2-0.4<br>040 = 0.4-0.6<br>060 = 0.6-0.8<br>080 = 0.8-1.5<br>150 = 1.5-3.0<br>300 = 3.0-6.0<br>400 = 4.0-9.0<br>500 = 5.0-12<br>600 = 6.0-15<br>700 = 7.0-18<br>900 = 9.0-30 | <b>Charge</b><br>P = Positive<br>N = Negative | <b>Filtration Area<br/>EFA</b><br>L03 = 225 cm <sup>2</sup><br>L04 = 405 cm <sup>2</sup><br>L08 = 585 cm <sup>2</sup><br>L05 = 207 cm <sup>2</sup><br>L10 = 414 cm <sup>2</sup> |

e.g. part number: DFCL-LCMZ080-P-L10

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

|           |        |   |   |   |     |
|-----------|--------|---|---|---|-----|
| DFCL-LCMZ | 004004 | - | P | - | L10 |
|           |        |   |   |   |     |
|           |        |   |   |   |     |
|           |        |   |   |   |     |
|           |        |   |   |   |     |
|           |        |   |   |   |     |
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|           |        |   |   |   |     |
|           |        |   |   |   |     |
|           |        |   |   |   |     |

\* only available in Positive charge version

e.g. part number: DFCL-LCMZ004004-P-L10