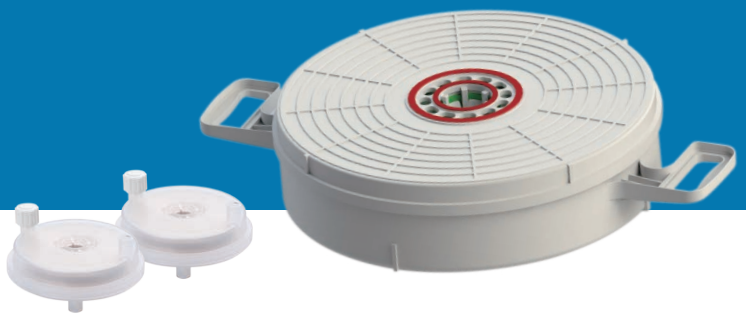
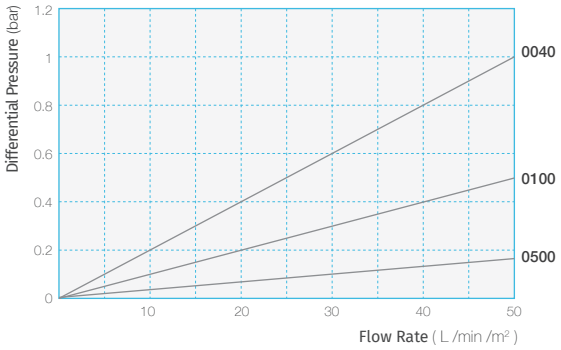
Clarification Filter Series

# Roheap® CSD Filter
## High Dirt Holding Capacity



### Features

· Filter media composed of lignocellulose and inorganic filter aids
· Gradient filter structure provides high dirt holding capacity and retention efficiency
· Low initial pressure difference and long service life
· Positive Zeta charge results in removal efficiency for host DNA, HCP, etc.




### Applications

· Clarification of fermentation broth/cell cultures
· Filtration of blood and blood products
· Filtration of enzyme preparation
· Filtration of colloids/viscous liquids

### Filter Material

| | |
|---|---|
| Filter Media | Cellulose diatomite filter aid and ionic wet-strength resin |

### Operating Conditions

| | |
|---|---|
| Max. Temperature | 80°C |
| Max. Differential Pressure | 0.24 MPa |
| Rinse | Flushing volume 50L/m², Flow Rate 10L/min/m² |

### Chemical Compatibility

| Chemicals | Concentration | @20°C | @80°C |
|---|---|---|---|
| **NaOH** | 2% | G | P |
| **HCl** | 5% | G | P |
| **$HNO_3$** | 5% | G | P |
| **$H_2SO_4$** | 10% | G | P |
| **Acetic acid** | 38% | G | G |
| **Citric acid** | 10% | G | G |
| **Peracetic acid** | 0.1% | G | G |
| **Butanol** | 80% | G | G |
| **Ethanol** | 80% | G | G |

G = Recommended ; P = Not recommended

### Biological Safety

| | |
|---|---|
| Endotoxins | <0.25 EU/ml |
| Bio-compatibility | Meet the requirement of USP<87> In Vitro Cytotoxicity Test;<br>Meet the criteria of the USP<88> Biological Reactivity Test for Class VI-121°C plastics |

### Leachables

| B Series | Ion | ppb | Ion | ppb |
|---|---|---|---|---|
| | **Mg** | 0.73 | **Ni** | - |
| | **Al** | 5.33 | **Cu** | 0.162 |
| | **Ca** | 5.65 | **As** | 0.987 |
| | **Cr** | 0.071 | **Pb** | - |
| | **Fe** | 13.1 | | |

| DSeries | Ion | ppb | Ion | ppb |
|---|---|---|---|---|
| | **Mg** | 0.755 | **Ni** | - |
| | **Al** | 3.86 | **Cu** | - |
| | **Ca** | 1.48 | **As** | - |
| | **Cr** | 0.082 | **Pb** | - |
| | **Fe** | 3.28 | | |

Explanation: - means < 0.05ppb

## CSD Lenticular Filter Series

| C S D | □□□□ | □□ | D O E | 1 □ | □ | □ | P |
|---|---|---|---|---|---|---|---|
| Number of Layers | Removal Ratings | Control Grade | End Cap | Diameter | Number of Lenses | Seal Material | |

**Number of Layers**

**CSD** Single-Layer

**Removal Ratings**

| | |
|---|---|
| **0004** | 0.04-0.2μm |
| **0020** | 0.2-0.4μm |
| **0040** | 0.4-0.6μm |
| **0060** | 0.6-0.8μm |
| **0150** | 1.5-3.0μm |
| **0300** | 3.0-6.0μm |
| **0400** | 4.0-9.0μm |
| **0500** | 5.0-12.0μm |
| **0600** | 6.0-15.0μm |
| **0700** | 7.0-18.0μm |
| **0800** | 8.0-20.0μm |

**Control Grade**

Pharma Grade **PB** **PC** **PD** **PE**

Standard Grade **SA**

**End Cap**

**DOE** Double Open End

**Diameter**

**12** 12 inch
**16** 16 inch

**Number of Lenses**

| | |
|---|---|
| **W** | 2 |
| **Y** | 3 |
| **G** | 4 |
| **B** | 5 |
| **N** | 9 |
| **X** | 10 |
| **Q** | 11 |
| **T** | 12 |
| **F** | 15 |
| **D** | 16 |

**Seal Material**

| | |
|---|---|
| **S** | Silicone |
| **E** | EPDM |
| **V** | Viton |
| **T** | Soft PTFE |
| **F** | Hard PTFE |

**P** Pharmaceutical

| C S D D | □□□□ | □□ | D O E | 1 □ | □ | □ | P |
|---|---|---|---|---|---|---|---|
| Number of Layers | Removal Ratings | Control Grade | End Cap | Diameter | Number of Lenses | Seal Material | |

**Number of Layers**

**CSDD** Double-Layer

**Removal Ratings**

| | |
|---|---|
| **0102** | 0.04-0.4μm |
| **0106** | 0.04-0.8μm |
| **0140** | 0.04-9.0μm |
| **0180** | 0.04-20.0μm |
| **0280** | 0.2-20.0μm |
| **0680** | 0.6-20.0μm |
| **1080** | 0.8-20.0μm |

**Control Grade**

Pharma Grade **PB** **PC** **PD** **PE**

Standard Grade **SA**

**End Cap**

**DOE** Double Open End

**Diameter**

**12** 12 inch
**16** 16 inch

**Number of Lenses**

| | |
|---|---|
| **W** | 2 |
| **Y** | 3 |
| **G** | 4 |
| **B** | 5 |
| **N** | 9 |
| **X** | 10 |
| **Q** | 11 |
| **T** | 12 |
| **F** | 15 |
| **D** | 16 |

**Seal Material**

| | |
|---|---|
| **S** | Silicone |
| **E** | EPDM |
| **V** | Viton |
| **T** | Soft PTFE |
| **F** | Hard PTFE |

**P** Pharmaceutical

## CDFC Capsule Filter Series

| C D F C | S | C S D | □□□□ | □□ | P |
|---|---|---|---|---|---|
| Filter Name | Number of Layers | Filter Media | Removal Ratings | Control Grade | |

**Filter Name**

**Number of Layers**

**S** Single-Layer

**Filter Media**

**Removal Ratings**

| | |
|---|---|
| **0004** | 0.04-0.2μm |
| **0020** | 0.2-0.4μm |
| **0040** | 0.4-0.6μm |
| **0060** | 0.6-0.8μm |
| **0100** | 0.8-1.5μm |
| **0150** | 1.5-3.0μm |
| **0300** | 3.0-6.0μm |
| **0400** | 4.0-9.0μm |
| **0500** | 5.0-12.0μm |
| **0600** | 6.0-15.0μm |
| **0700** | 7.0-18.0μm |
| **0800** | 8.0-20.0μm |

**Control Grade**

Pharma Grade **PB** **PC** **PD** **PE**

Standard Grade **SA**

**P** Pharmaceutical

| C D F C | D | C S D | □□□□ | □□ | P |
|---|---|---|---|---|---|
| Filter Name | Number of Layers | Filter Media | Removal Ratings | Control Grade | |

**Filter Name**

**Number of Layers**

**D** Double-Layer

**Filter Media**

**Removal Ratings**

| | |
|---|---|
| **0102** | 0.04-0.4μm |
| **0106** | 0.04-0.8μm |
| **0140** | 0.04-9.0μm |
| **0180** | 0.04-20.0μm |
| **0280** | 0.2-20.0μm |
| **0680** | 0.6-20.0μm |
| **1080** | 0.8-20.0μm |

**Control Grade**

Pharma Grade **PB** **PC** **PD** **PE**

Standard Grade **SA**

**P** Pharmaceutical