AcroPak family of filters and capsules are designed for efficient, cost-effective filtration and high throughput of liquid volumes up to 150 liters.

- Capsules provide higher throughputs and faster flow rates than similar-size competitive devices.
- Low protein binding to minimize sample loss.
- Fusion-welded components eliminate the potential for release of extractables from sealing adhesives.
- Upstream air vent prevents vapor lock.
- 100% integrity tested to assure sterile filtrate.

**AcroPak capsules with Supor® membrane:**
- Exhibit very high flow rates.
- Ideal for solutions where low protein binding is required.
- Save money by increasing throughput with available built-in prefILTER.
- Built-in prefILTER extends filter life when viscous or particulate-laden solutions, such as serum-containing media, are processed.
- Use AcroPak capsules with double layer 0.1 µm membrane to ensure sterile, mycoplasma-free cell culture media.

**Applications**

**AcroPak capsules with Supor membrane**
- Sterile filtration of media, buffers, and biological solutions.
- Point-of-use filtration for laboratory water.
- Small, medium, and large volume media preparation.
- Pilot scale manufacturing.
- Liquids requiring prefiltration, such as serum-containing media.

**AcroPak capsules with Fluorodyne II membrane**
- Designed for scale-up and downstream processing applications.
- Suitable for use with fluids containing dilute proteins, preservatives, or other critical components.
- Suited for biological, and sterilizing filtration requirements.

**AcroPak 20 filters**
- Sterile filtration of supplemented culture media and other difficult-to-filter liquids, buffers, water, and chemicals.
- Designed to add convenience to small- and mid-volume filtrations.
- Ideal for scale-up.
The AcroPak™ family of capsules with either Fluorodyne® II or Supor® membrane is uniquely designed to provide efficient, cost-effective filtration of solutions up to 150 liters. AcroPak capsules with Supor membrane quickly process difficult-to-filter solutions, such as serum; serum supplemented culture media and viscous or particulate-laden solutions. Supor membrane has very high flow rates and consistently higher total solution throughputs because it has a higher porosity than most other membranes. Capsules with Supor membrane are ideal in situations where rapid filtration or short processing times are essential or where low protein binding is required. AcroPak capsules with Fluorodyne II membrane feature high flow rates, low adsorptive properties, and low extractables. Fluorodyne II membrane is ideal for scale-up and downstream processing applications for biopharmaceutical production. Fluorodyne II membrane is suitable for applications where customer protocol requires PVDF membrane. The double layer sterilizing membrane assures enhanced performance.

### Performance

**Total Throughput Using 3% Tryptic Soy Broth (TSB)**

![Graph showing total throughput using 3% Tryptic Soy Broth (TSB) for different membrane types and lots.](image)

A 3% tryptic soy broth solution was filtered at 5 psi. Error bars indicate standard deviation for three samples tested within each lot.
Specifications

**Materials of Construction**
- **Filter Media:** Fluorodyne® II membrane (hydrophilic PVDF), Supor membrane (hydrophilic polyethersulfone)
- **Housing, Vent Plug and Support Material:** Polypropylene
- **Sealing Technology:** Thermal bonding
- **Filling Bell:** Polycarbonate

**Pore Size**
- 0.1, 0.2, and 0.8/0.2 µm

**Effective Filtration Area**
- 20 cm²

**Nominal Housing Diameter**
- 6.7 cm (2.7 in.)

**Dimensions**
- **Housing Length:** 8.3 cm (3.3 in.)

**Inlet/Outlet Connections**
- 6.4 – 12.7 mm (1/4 – 1/2 in.) diameter stepped hosebarb with female luer slip interior and filling bell on outlet

**Typical Hold-up Volume**
- ≤ 2.5 mL

**Maximum Operating Temperature and Pressure**
- 60 °C (140 °F) at 1.0 bar (100 kPa, 15 psi)
- 4.1 bar (410 kPa, 60 psi) at ambient temperature

**Recommended Minimum Bubble Point (Water)**
- Fluorodyne II membrane, 0.2 µm: 3.2 bar (320 kPa, 46 psi)
- Supor membrane: 3.5 bar (350 kPa, 51 psi)

**Recommended Minimum Bubble Point (60% IPA/40% H₂O (v:v))**
- Fluorodyne II membrane, 0.1 µm: 1.8 bar (180 kPa, 26 psi)
- Supor membrane: 4.0 (28)

**Typical Water Flow Rate**
- Fluorodyne II membrane, 0.1 µm: 13 (9)
- Supor membrane: 26 (18)

**Bacterial Retention**
- Lot Samples retain a minimum of 10⁷ cfu/cm² of B. diminuta per modified ASTM F838-83

**Endotoxin Level**
- < 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test

**Biological Safety**
- Passes United States Pharmacopeia (USP) Biological Reactivity Test, In Vivo <98>

**Sterilization**
- Sterilized by gamma irradiation or sold non-sterile if desired, autoclave once prior to use at 131 °C for 30 minutes

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**Pall’s UpScaleSM Program**

From drug discovery and basic research, through process development and production, Pall Corporation is the single source for all of your filtration and separation needs. Our UpScale program provides you with the scaleable filtration products and support you need to bring new products to market faster. The concept is simple – use the same materials of construction in devices that fit all phases of the drug development process, from R&D to pilot to full-scale production. Pall’s AcroPak™ capsules and filters are scaleable lab products. For information on our process-scale products, visit our Web site at www.pall.com/upscale or contact your local Pall Life Sciences office.
### Fluorodyne II membrane (hydrophilic PVDF), Supor membrane (hydrophilic polyethersulfone)

- **Material:** Polypropylene, Thermal bonding, Polycarbonate
- **Pore Size:** 0.2 and 0.8/0.2 µm
- **Size:** 200 cm²
- **Housing Diameter with Vent:** 6.7 cm (2.6 in.), 6.1 cm (2.4 in.), 6.9 cm (2.7 in.)
- **Approximate Length with Filling Bell:** 6.1 cm (2.4 in.)
- **Overall Length (without Filling Bell):**
  - AcroPak 400 capsules: 400 cm²
  - AcroPak 800 capsules: 800 cm²
  - AcroPak 500 capsules: 500 cm²
  - AcroPak 1000 capsules: 1000 cm²
  - AcroPak 1500 capsules: 1500 cm²
- **Minimum Bubble Point (Water):**
  - Fluorodyne II membrane, 0.2 µm: 3.2 bar (320 kPa, 46 psi)
  - Supor membrane, 0.8/0.2 µm: 3.5 bar (350 kPa, 51 psi)
- **Passes United States Pharmacopeia (USP) Biological Reactivity Test, In Vivo.<sup>88</sup>**
- **Sterilized by gamma irradiation**
- **Lot Samples retain a minimum of 10<sup>7</sup> cfu/cm² of *B. diminuta* per modified ASTM F838-83**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**

### AcroPak 200 Sterile Capsules with Fluorodyne® II & Supor® Membranes

- **Material:** Polypropylene, Thermal bonding, Polycarbonate
- **Pore Size:** 0.1 and 0.2 µm
- **Size:** 200 cm²
- **Housing Diameter with Vent:** 6.7 cm (2.6 in.), 6.1 cm (2.4 in.), 6.9 cm (2.7 in.)
- **Approximate Length with Filling Bell:**
  - 500 series: 6.1 cm (2.4 in.)
  - 800 series: 8.5 cm (3.3 in.)
  - 1000 series: 10.5 cm (4.1 in.)
- **Overall Length (without Filling Bell):**
  - 500 series: 5.2 bar (520 kPa, 75 psi)
  - 800 series: 6.4 bar (640 kPa, 93 psi)
  - 1000 series: 9.0 bar (900 kPa, 130 psi)
- **Minimum Bubble Point (Water):**
  - Fluorodyne II membrane, 0.2 µm: 3.2 bar (320 kPa, 46 psi)
  - Supor membrane, 0.8/0.2 µm: 3.5 bar (350 kPa, 51 psi)
- **Passes United States Pharmacopeia (USP) Biological Reactivity Test, In Vivo.<sup>88</sup>**
- **Sterilized by gamma irradiation**
- **Lot Samples retain a minimum of 10<sup>7</sup> cfu/cm² of *B. diminuta* per modified ASTM F838-83**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**

### AcroPak 400 and 800 Sterile Capsules with Fluorodyne II Membrane

- **Material:** Polypropylene, Thermal bonding, Polycarbonate
- **Pore Size:** 0.1 and 0.2 µm
- **Size:** 400 cm², 800 cm²
- **Housing Diameter with Vent:** 6.7 cm (2.6 in.), 6.1 cm (2.4 in.), 6.9 cm (2.7 in.)
- **Approximate Length with Filling Bell:**
  - 400 series: 19 cm (7.5 in.)
  - 800 series: 22.5 cm (8.9 in.)
- **Overall Length (without Filling Bell):**
  - 400 series: 19 cm (7.5 in.)
  - 800 series: 14.5 cm (5.7 in.)
  - 1000 series: 19.3 cm (7.6 in.)
- **Minimum Bubble Point (Water):**
  - Fluorodyne II membrane, 0.2 µm: 3.2 bar (320 kPa, 46 psi)
  - Supor membrane, 0.8/0.2 µm: 3.5 bar (350 kPa, 51 psi)
- **Passes United States Pharmacopeia (USP) Biological Reactivity Test, In Vivo.<sup>88</sup>**
- **Sterilized by gamma irradiation**
- **Lot Samples retain a minimum of 10<sup>7</sup> cfu/cm² of *B. diminuta* per modified ASTM F838-83**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**

### AcroPak 500, 1000, & 1500 Sterile Capsules with Supor Membrane

- **Material:** Polypropylene, Thermal bonding, Polycarbonate
- **Pore Size:** 0.1/0.1, 0.2/0.2, 0.8/0.2 and 0.8/0.45 µm
- **Size:** 500 cm², 1000 cm², 1500 cm²
- **Housing Diameter with Vent:** 6.7 cm (2.6 in.), 6.1 cm (2.4 in.), 6.9 cm (2.7 in.)
- **Approximate Length with Filling Bell:** 6.1 cm (2.4 in.)
- **Overall Length (without Filling Bell):**
  - 500 series: 14.5 cm (5.7 in.)
  - 1000 series: 19.3 cm (7.6 in.)
  - 1500 series: 22.9 cm (9.0 in.)
- **Minimum Bubble Point (60% IPA/40% H₂O (v/v)):**
  - 0.1 µm: 1.8 bar (180 kPa, 26 psi)
  - 0.2 µm: 2.4 bar (240 kPa, 35 psi)
- **Passes United States Pharmacopeia (USP) Biological Reactivity Test, In Vivo.<sup>88</sup>**
- **Sterilized by gamma irradiation; if desired, autoclave once only prior to use at 121 - 123 °C (250 - 253 °F) for a maximum of 20 minutes**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**
- **< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test**
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<thead>
<tr>
<th>Product No.</th>
<th>Description</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>12209</td>
<td>Fluorodyne® II membrane, 0.1 µm, sterile</td>
<td>3/pkg</td>
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<tr>
<td>12208</td>
<td>Fluorodyne II membrane, 0.1 µm, non-sterile</td>
<td>3/pkg</td>
</tr>
<tr>
<td>12201</td>
<td>Fluorodyne II membrane, 0.2 µm, sterile</td>
<td>3/pkg</td>
</tr>
<tr>
<td>12200</td>
<td>Fluorodyne II membrane, 0.2 µm, non-sterile</td>
<td>3/pkg</td>
</tr>
<tr>
<td>12203</td>
<td>Supor® membrane, 0.8/0.2 µm, sterile</td>
<td>3/pkg</td>
</tr>
<tr>
<td>12202</td>
<td>Supor membrane, 0.8/0.2 µm, non-sterile</td>
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**AcroPak 20 Filters with Filling Bell**

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<th>Description</th>
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<tbody>
<tr>
<td>12472</td>
<td>Fluorodyne II membrane, 0.1 µm</td>
<td>1/pkg</td>
</tr>
<tr>
<td>12478</td>
<td>Supor membrane, 0.2 µm</td>
<td>1/pkg</td>
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**AcroPak 400 Sterile Capsules with Filling Bell**

<table>
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<th>Product No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>12473</td>
<td>Fluorodyne II membrane, 0.1 µm</td>
<td>1/pkg</td>
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<tr>
<td>12471</td>
<td>Fluorodyne II membrane, 0.2 µm</td>
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**AcroPak 800 Sterile Capsules with Filling Bell**

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<th>Product No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>12675</td>
<td>Supor membrane, 0.8/0.2 µm</td>
<td>1/pkg</td>
</tr>
<tr>
<td>12686</td>
<td>Supor membrane, 0.2/0.2 µm</td>
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### Complementary Products

**Sterile Acrodisc® Syringe Filters with Polypropylene Housing for Scale-up**

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<th>Product No.</th>
<th>Description</th>
<th>Packaging</th>
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<tbody>
<tr>
<td>4905</td>
<td>Supor® membrane, 0.8/0.2 µm, 25 mm</td>
<td>50/pkg</td>
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<tr>
<td>4906</td>
<td>Ultpor® membrane, 0.2 µm, 25 mm</td>
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<tr>
<td>4907</td>
<td>Fluorodyne® II membrane, 0.2 µm, 25 mm</td>
<td>50/pkg</td>
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<tr>
<td>4908</td>
<td>Posidyne® membrane, 0.2 µm, 25 mm</td>
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**Sterile Acrodisc Syringe Filters with Modified Acrylic Housing**

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<td>4611</td>
<td>Supor membrane, 0.1 µm, 25 mm</td>
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<td>4612</td>
<td>Supor membrane, 0.2 µm, 25 mm</td>
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<tr>
<td>4614</td>
<td>Supor membrane, 0.45 µm, 25 mm</td>
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<td>4618</td>
<td>Supor membrane, 0.8 µm, 25 mm</td>
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<tr>
<td>4187</td>
<td>Supor membrane, 0.8/0.2 µm, 25 mm</td>
<td>50/pkg</td>
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<tr>
<td>4651</td>
<td>Supor membrane, 0.1 µm, 32 mm</td>
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<tr>
<td>4652</td>
<td>Supor membrane, 0.2 µm, 32 mm</td>
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<td>Supor membrane, 0.45 µm, 32 mm</td>
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<tr>
<td>4656</td>
<td>Supor membrane, 1.2 µm, 32 mm</td>
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<td>Supor membrane, 5 µm, 32 mm</td>
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<tr>
<td>4658</td>
<td>Supor membrane, 0.8/0.2 µm, 32 mm</td>
<td>50/pkg</td>
</tr>
</tbody>
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**Visit us on the Web at www.pall.com/lab**

E-mail us at Lab@pall.com