



Microfiltration Cassettes with Supor® Membrane



Centramate™ and Centrasette™ II Cassettes

Supor polyethersulfone (PES) cassettes are optimized for microfiltration applications, easily scaled and suited to a broad range of cleaning options.

The medium screen format is intended for:

- ▶ Clarified solutions
- ▶ Low to medium viscosity
- ▶ Final concentrations < 30% (300 mg/mL)

And the suspended screen format for:

- ▶ Solutions containing particles, cells, and cell debris in solution
- ▶ Solutions that are highly viscous and highly concentrated

Description

Pall's tangential flow filtration (TFF) cassettes with Supor membrane are intended for microfiltration (MF) applications. The cassette contains a Supor microfiltration-optimized polyethersulfone membrane.

They are available in two formats – Centramate and Centrasette II cassettes – and in a range of pore sizes from 0.1 μm to 0.65 μm to meet most application requirements.

Proven Supor TFF Membrane

Supor TFF membrane is a modified polyethersulfone membrane with a uniform depth structure. The membrane is optimized for microfiltration TFF applications including harvest, concentration and clarification of cell cultures and fermentation broths. Supor TFF membranes are ideal for applications including harvesting bacterial, mammalian, and insect cells, separating red blood cells from hemoglobin, and for clarifying yeast broth and bacterial lysates.

Features and Benefits

- ▶ Low non-specific adsorption due to its hydrophilic chemistry which leads to higher product yields
- ▶ Wide range of membrane pore sizes to optimize the process
- ▶ Compatible with acids, bases, oxidizing agents, and a variety of other cleaning agents to fit different application needs

Centramate Microfiltration Cassettes with Supor Membrane

Centramate microfiltration cassettes with Supor membrane are perfect for laboratory scale and development applications in TFF. The cassettes are available in a range of channel formats to meet most application requirements. The cassettes are supplied with the same construction materials as used in the Centrasette membrane cassettes.

Applications developed on a Centramate cassette with Supor membrane can be easily scaled up by adding cassettes to a Centramate holder or by switching to the Centrasette cassette format with identical path length and channel format.

Refer to Tables 3 and 4 for a list of membrane and formats available for Centramate cassettes.

Centrasette II Microfiltration Cassettes with Supor Membrane

Centrasette II microfiltration cassettes with Supor membrane, available in the same screen formats as the Centramate cassettes, have been widely used for many years in various process applications including concentration and diafiltration in the biopharmaceutical industry. They are available with membrane areas of 0.5 m^2 and 2.5 m^2 (5.4 ft^2 and 27 ft^2). Larger cassette areas simplify installation in large TFF systems, reducing the number of gaskets required, and minimizing risk of leakage.

Pall continues to improve membrane cassettes to meet the more rigid requirements of today's applications.

The Centrasette II membrane cassette uses the same components as in the original Centrasette cassette. Therefore, revalidation may not be necessary. Feed ports in the Centrasette II cassette have been enlarged to twice the size of the Centrasette cassette and membrane area has been increased by about 10%. The larger fluid port design will enhance the membranes performance by:

- ▶ Improving fluid flow distribution between and through cassettes
- ▶ Allowing more efficient cleaning
- ▶ Reducing the pressure profile across the feed / retentate channels

Figure 1.

Centrasette (left) and Centrasette II (right) cassettes feed port comparison



The Centrasette II microfiltration cassettes with Supor membrane are available with 2 different membrane area options to meet small scale and larger process volume requirements (see Table 4).

Specifications

Cassette Channel Configurations

Pall's microfiltration cassettes with Supor membrane are available in medium and suspended screen channel formats to best meet the specific requirements of each application.

Table 1.

Selection criteria for a cassette channel configuration

Channel Configuration	Selection Criteria
Medium screen	Clarified solutions; low – medium viscosity Final concentration < 30% (300 mg/mL)
Suspended screen / open channel	Particles / cells / cell debris in solution High viscosity

Table 2.

Materials of construction

Membrane	Supor microfiltration-optimized polyethersulfone
Encapsulant	Polyurethane
Screens	Polyester
Spacers	Polyolefin / PES

Cassettes pass current USP Biological Safety Tests for Class VI Plastics at 70 °C.

Storage Agents

Pall's microfiltration cassettes with Supor membrane are shipped wet, in liquid containing a humectant and bactericidal storage solution. This solution consists of 15 – 20% glycerin, and 0.05 – 0.1% sodium azide.

The storage solution must be removed and the cassette flushed well with water prior to use to prevent product contamination.

Complementary Product

Cassette holders are available, please contact Pall for details.

Documentation

Each microfiltration cassette with Supor membrane has a unique serial number for full traceability. Each cassette is supplied with:

- ▶ Certificate of quality
- ▶ Membrane cassette care and use procedures
- ▶ Material safety data sheet (MSDS) for cassette preservative
- ▶ Two platinum-cured silicone gaskets

Ordering Information

How to order microfiltration cassettes with Supor membrane:

1. Membrane type is **PS** (Supor TFF microfiltration-optimized polyethersulfone).
2. Choose a μm rating code from Table 3 (e.g., **M20** = 0.2 μm).
3. Choose a format code from Table 4 (e.g., **C11** or **F06**).

Typical example of part number: **PS M20 C11**

Table 3.

Available micron ratings for microfiltration Supor membranes

Code	Pore Size (μm)
M10	0.1
M20	0.2
M45	0.45
M65	0.65

Table 4.

Cassette and screen formats

Cassette Format	Nominal Area	Medium Screen Code	Suspended Screen Code
Centramate	0.01 m ² (0.1 ft ²)	C12P1	C11P1
	0.02 m ² (0.2 ft ²)	C12P2	C11P2
	0.1 m ² (1.0 ft ²)	C12	C11
Centrasette II	0.5 m ² (5.4 ft ²)	F06	F07
	2.5 m ² (27 ft ²)	F26	F27



Life Sciences

Corporate Headquarters

Port Washington, NY, USA
+1 800 717 7255 toll free (USA)
+1 516 484 5400 phone
biopharm@pall.com e-mail

European Headquarters

Fribourg, Switzerland
+41 (0)26 350 53 00 phone
LifeSciences.EU@pall.com e-mail

Asia-Pacific Headquarters

Singapore
+65 6389 6500 phone
sgcustomerservice@pall.com e-mail


Visit us on the Web at www.pall.com/biopharm

E-mail us at biopharm@pall.com

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