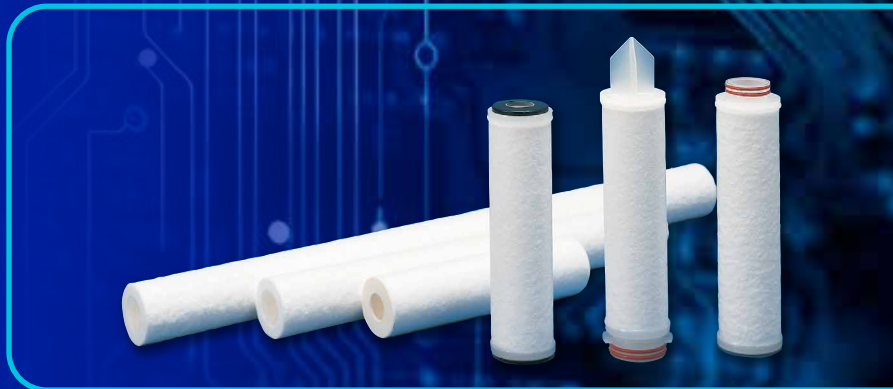


Pall Polypropylene Filters

Selection Guide





Determining Operating Conditions

Selecting the appropriate filter requires knowledge of the application parameters. The following information is required to guide the user.

1 Define the fluid

Type of fluid to be filtered : Gas Liquid (aqueous) Liquid (solvent)

Name of fluid to be filtered : _____

Name of solvent (if the fluid to be filtered is solvent-based) : _____

Presence/absence of solid content : Suspension (e.g., slurry) Solution

Viscosity : _____ mPa · s

pH : _____

Temperature¹: _____ °C °F

Pressure² : _____ MPa psi

Notes :

¹The maximum operating temperature for polypropylene is 80°C /176°F. Contact Pall for higher temperature options.

²The temperature and pressure of the gas to be filtered is required to determine the standard volume.

2 Determine the required removal rating

Removal rating : Nominal _____ μm Absolute _____ μm

In-service filter : Existing N/A

Filter part no. : _____

Notes :

Determine the need for an "absolute" or "nominal" rating. If the removal rating of the current filter or a filter used in a similar application is unknown, note the part number and contact Pall.

3 Determine the flow rate

Liquid Flow Rate : _____ L m³ / minute hour batch

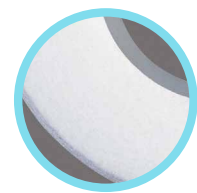
For batch filtration,
processing time : _____ minute hour



Characteristics of Polypropylene Media

Depth Media

Depth filters are constructed by depositing fibrous material onto a rotating center core and forming a tapered pore structure. Four types of products are available.



Profile® II filter

The Profile II filter cartridge is an absolute rated depth filter. This all-polypropylene filter has a continuously graded pore structure for built-in prefiltration and long service life.

Applications

These filters are the ideal choice for filtering polishing slurries used for the following applications; chemical mechanical planarization (CMP); hard disk drive (HDD) and bulk wafer polishing. Profile II filters are recommended for applications requiring the removal of particles below 5 µm.

Nexis® NXA filter

The Nexis NXA filter cartridge is a more economical absolute rated depth filter. This all-polypropylene filter features proprietary CoLD (Co-located Large Diameter) fiber technology to enhance the filter's strength and minimize contaminant unloading. In addition, this filter has been optimized with a graded pore structure for outstanding dirt holding capacity and long service life.

Applications

These cartridges are suitable for filtering, slurries and high viscosity liquids such as coatings containing various suspended solids. Nexis NXA filters offer highly cost effective performance for applications requiring an absolute rated filter to remove particles 5 µm and larger.

Nexis® NXT filter

The Nexis NXT filter cartridge is a nominally rated depth filter. This all-polypropylene filter features proprietary CoLD (Co-located Large Diameter) Melt fiber technology to enhance the filter's strength and resist contaminant unloading. In addition, this filter has been optimized with a graded pore structure for outstanding dirt holding capacity and long service life. Nexis NXT filters are available in a wide range of nominal ratings from 0.5 µm to 200 µm.

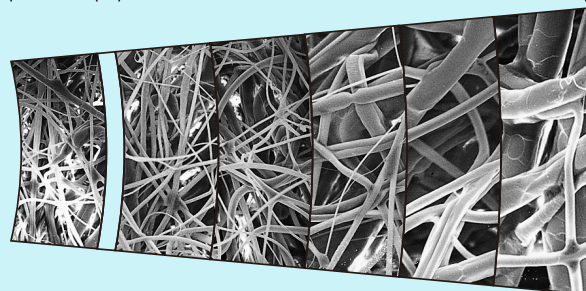
Applications

These filters are the ideal choice to replace string wound filters for improved and economical filtration. in high-viscosity fluids, cooling water and plating solutions.

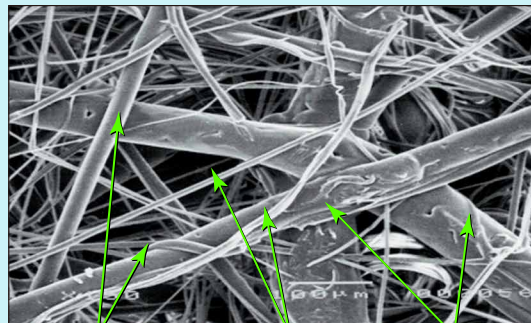
Tapered Pore Structure

Constant pore
final filter layer

Continuously graded pore
prefilter layer



CoLD Melt™ Fiber Structure



Support
fiber

Filtration
fiber

Heat
sealed

Clariss® filter

The Clariss filter cartridge is a nominally rated, depth filter that utilizes an extruded core made from very dense fibers. It is Pall's most economical, depth filtration product. Clariss filters are available in a wide range of nominal ratings from 1 to 75 µm.

Applications

These filters are widely used for filtering large volumes of liquid such as water in swimming pools, non-critical process water and chemicals in the photovoltaic industry.



Pleated-Depth Media

Pleated depth filters are formed using a pleated cylinder made of thick filter media with a tapered pore structure. Three types of filters with different pleated cylinder structures are available.

Profile® Star filter

The Profile Star filter is an all-polypropylene, pleated-depth filter that combines the exceptional dirt-holding capacity of depth filters with the high flow rates of pleated filters. While the Profile Star filter has a pressure drop and flow capability comparable to many competitive, pleated, nondepth polypropylene filters, it excels in the removal of such contaminants as gels and agglomerates.

Applications

These filters are the ideal choice for filtering both high-concentration slurries and high-viscosity pastes, where fine dispersion classification and gel removal are required. A highly successful application for Profile Star series, is filtering color resists used in the manufacture of LCD color filters.



Profile® UP filter

The Profile UP filter is an innovative combination of depth and pleated filtration technologies. This all-polypropylene product consists of a pleated, depth medium using the Ulti-pleat® filter geometry for high effective filtration area. The result is a filter having superior flow rates with very low differential pressures.

Applications

Because of their pleated depth structure and very high flow capabilities, Profile UP filters are recommended for a wide range of fluids, with varying viscosities and solids concentrations.



Poly-Fine® XLD filter

The Poly-Fine XLD filter combines the best attributes of depth and pleated filtration technologies. This all-polypropylene product combines the high flow capacity and low pressure drop of pleated filters, with the gel retention capability and long life of a depth filter. The multilayer media structure has been developed for fine dispersion classification and gel retention.

Applications

These filters are the ideal choice for the filtration of high-viscosity and high-concentration slurries where a more cost effective solution is required.



Pleated Media

Pleated filters are formed using a pleated cylinder made of polypropylene filter media. Two types of products made with different filter media are available.

HDC® II filter

The HDC II filter cartridge is a high filtration area, all-polypropylene pleated cartridge exhibiting very low differential pressures. Unlike other polypropylene pleated filters, the HDC II cartridge utilizes a proprietary medium construction composed of a continuously varying fiber diameter to produce a pore size distribution from coarse (upstream) to fine (downstream). This unique construction permits more contaminants to be trapped in the outer layers of the medium, thus substantially increasing dirt-holding capacity.

Applications

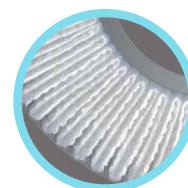
These filters are the ideal choice for process water and air where very high flow rates are required. HDC II filters are especially recommended for the removal of liquid particles below 5 µm or airborne particles below 0.1 µm.

Poly-Fine® II filter

The Poly-Fine II filter cartridge has a pleated construction, providing for very low pressure drops and high flow rates. This most economical pleated, polypropylene product comes in a range of removal ratings from 0.45 to 200 µm.

Applications

These filters are the ideal choice for process water and air when a more cost effective solution is required.



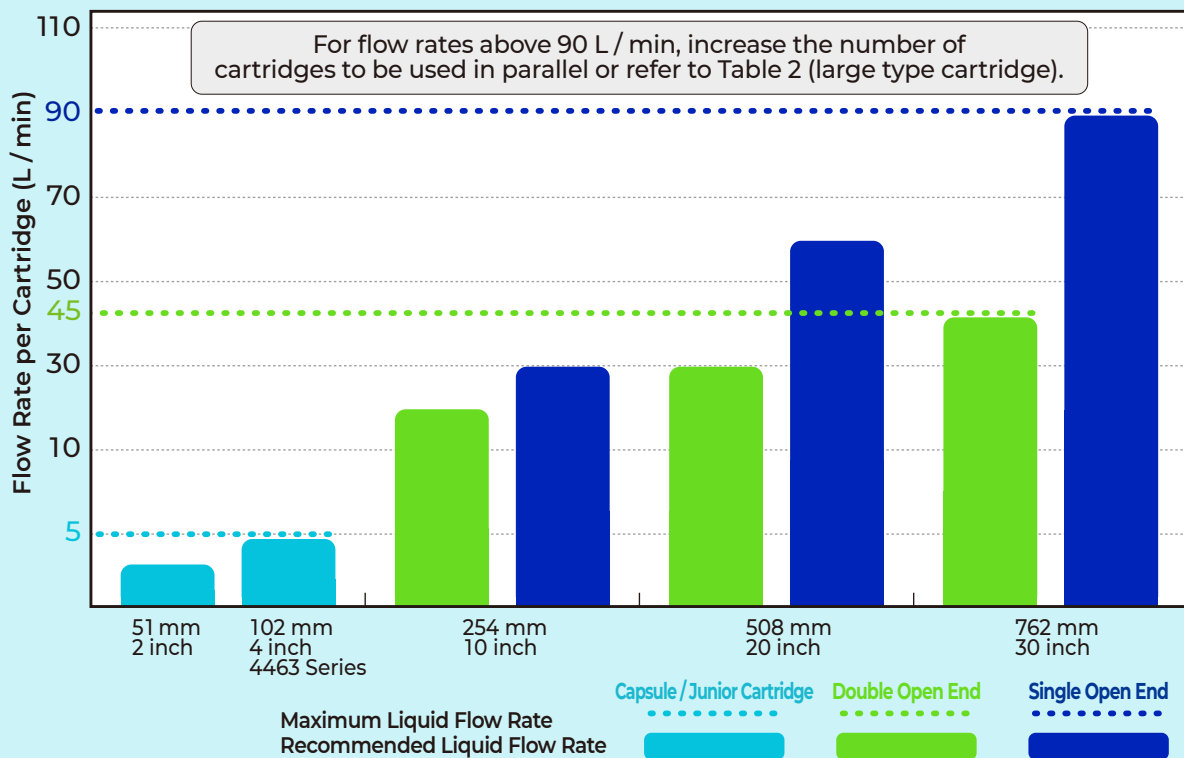


Filter Selection and Sizing Guide

Standard Cartridges and Capsules

After selecting the most suitable filter medium, determine the size and number of filters required based on the configurations and sizing selection chart below. For pressure drop values, refer to the relevant data sheet. The recommended flow rate indicated below is provided as a guideline to optimize filter life.

Table 1



● Cartridge



● Capsule



PDF Filter Assembly
(Poly-Fine II, Nexis NXA, Nexis NXT)

DFA™ Filter Assembly
(HDC II, Profile Star)

- Junior style 4463 Series (102 mm / 4 inch)
- Double Open End, Gasket Type
- Single Open End, O-Ring Type

*Single open end / Double open end and 254-762 mm / 10-30 inch size are available in all filter media. Junior style 4463 series is available in HDC II only.

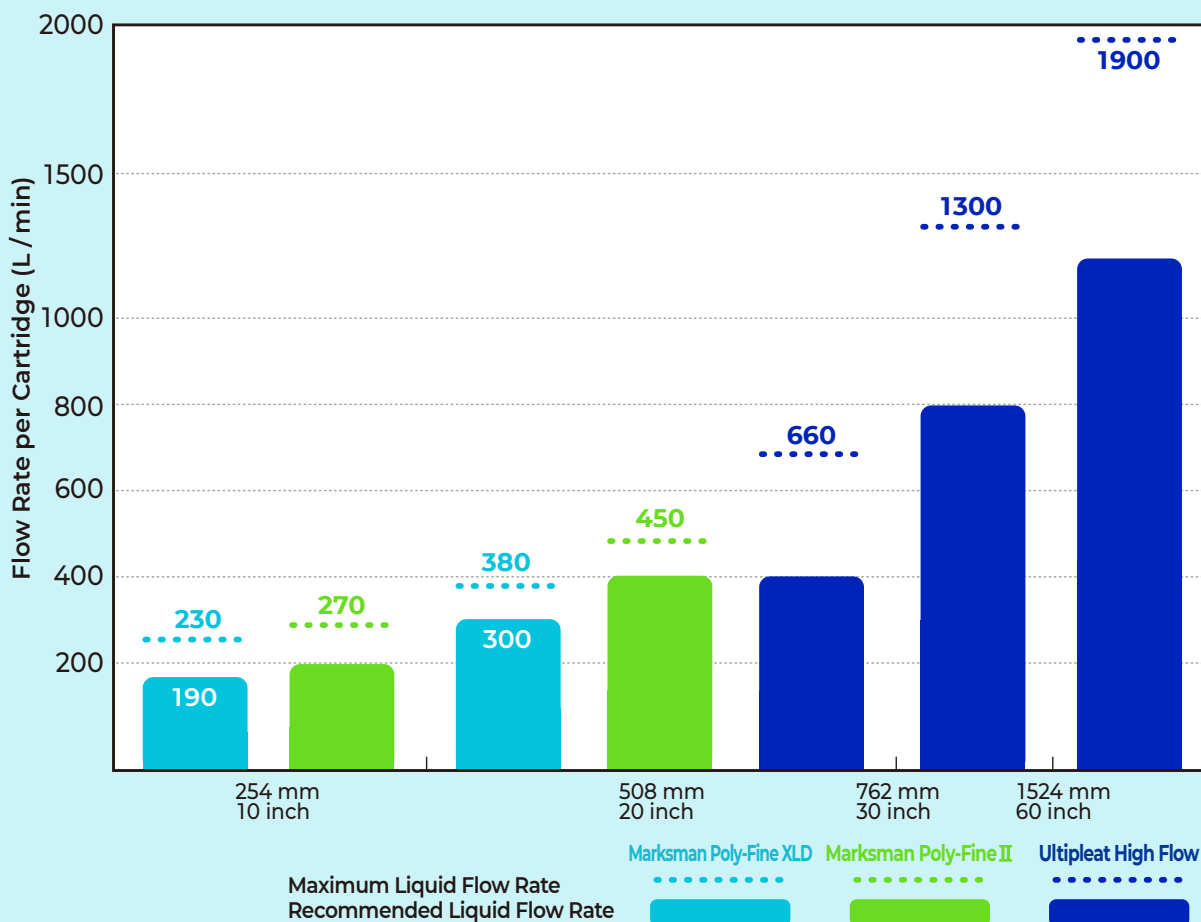


Filter Selection and Sizing Guide

Large Flow Cartridges

Pall large flow cartridges are designed to be very cost effective for flow rates greater than 90 L/min. The recommended flow rate indicated below is provided as a guideline to optimize filter life.

Table 2



● Large Flow Cartridge



Marksman™
(Poly-Fine XLD, Poly-Fine II)



Ultipleat® High Flow
(Profile UP, HDC II)



Microelectronics

25 Harbor Park Drive
Port Washington, NY 11050
+1 516 484 3600 telephone
+1 800 360 7255 toll free US

Nihon Pall Ltd.

6-5-1, Nishishinjuku,
Shinjuku-ku
Tokyo 163-1325 Japan
+81 3 6901 5700 telephone
+81 3 5322 2109 fax

Visit us on the Web at www.pall.com/microelectronics
Contact us at www.pall.com/contact

Pall Corporation has offices and plants throughout the world. To locate the Pall office or distributor nearest you, visit www.pall.com/contact.

The information provided in this literature was reviewed for accuracy at the time of publication. Product data may be subject to change without notice. For current information consult your local Pall distributor or contact Pall directly.

IF APPLICABLE Please contact Pall Corporation to verify that the product conforms to your national legislation and/or regional regulatory requirements for water and food contact use.

© Copyright 2024, Pall Corporation. Pall, , Ultipleat, and PhotoKleen are trademarks of Pall Corporation. ® Indicates a trademark registered in the USA.