

HDC® II Gas Filter Cartridges

High Dirt Retention All-polypropylene Filters



Pall **HDC II** filters are constructed using a proprietary technique that varies the fiber diameter instantaneously and continuously to produce a pore-size distribution from coarse (upstream) to fine (downstream) while maintaining constant void-volume throughout the depth of the filter medium. This unique construction means that more contaminants are trapped in the outer and inner regions of the medium, thereby substantially increasing the dirt-holding capacity and the service life of the filter.

HDC II AB style and MCY 1000 style filters are available in a range of removal ratings and in four nominal cartridge lengths: 10 in. (254 mm), 20 in. (508 mm), 30 in. (762 mm) and 40 in. (1016 mm). Their all-polypropylene construction makes them compatible with an extremely wide range of gaseous fluids. Cartridges are also available as P option which are optimized for pharmaceutical applications.

All materials of construction are FDA-listed and all components have been tested according to USP Class VI biological tests for plastics at 121 °C.

Features and Benefits

High Removal Efficiency

- 99.9998% efficiency at 0.3 µm for finest grade

Varied Fiber Diameter

- Extraordinarily high dirt-holding capacity
- Lowest cost per liter of filtered fluid

Fixed Pore Structure

- No solids unloading under variations in flow or pressure differential
- Fibers will not migrate or become dislodged and contaminate the process fluid

All-Polypropylene Construction

- Extremely good chemical compatibility with a wide range of gaseous fluids
- No surfactants
- Meets USP Biological Reactivity Tests (in vivo) in accordance with USP Class VII Plastics at 121°C
- Cartridge can be in situ steam-sterilized or autoclaved
- Media melt-sealed to endcaps without the use of binder resins

P Optimization for Pharmaceuticals

- Statistical testing of filter effluent for:
 - ◆ particle and fiber counts
 - ◆ endotoxins using LAL test
 - ◆ pH shift test
 - ◆ Total organic carbon and water conductivity tests

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Technical Specifications

Operating Limits⁽¹⁾

Operating Temperature	Maximum Differential Pressure
50 °C (122 °F)	5.5 bard (80 psid)
80 °C (176 °F) (Maximum)	4.1 bard (60 psid)

⁽¹⁾ In compatible fluids which do not soften, swell or adversely affect the filter medium or materials of construction.

Steam Sterilization

Maximum Cumulative Steaming Exposure	Steam Sterilizing Temperature of AB Code 3 (P Grade Only) and AB Code 7 (In situ or Autoclave)
50 hours	Up to 140 °C (284°F)

Retention Ratings

Code	Absolute Rating	Liquids Retention (90%)	Gas Efficiency ⁽³⁾ for 0.3 µm Aerosols	Flow Rates per 10 in. (254 mm) Cartridge ⁽²⁾	
				Nominal Filter Area ⁽⁴⁾	For Air m ³ /h ΔP = 10 mbar (0.15 psi) ⁽⁴⁾
J006	0.6 µm ⁽³⁾	< 1.0 µm ⁽³⁾	99.9998 %	0.62 m ² (6.67 ft ²)	4.0
J012	1.2 µm	< 1.0 µm ⁽³⁾	99.996 %	0.69 m ² (7.43 ft ²)	10.0
J025	2.5 µm	< 1.0 µm ⁽³⁾	99.75 %	0.86 m ² (9.26 ft ²)	14.0
J045	4.5 µm	1.2 µm	99.95 %	0.86 m ² (9.26 ft ²)	17.0
J060	6.0 µm	3.0 µm	99 %	0.40 m ² (4.31 ft ²)	24.0
J100	10.0 µm	5.4 µm	93 %	0.52 m ² (5.6 ft ²)	39.0
J200	20.0 µm	10.0 µm	-	0.53 m ² (5.7 ft ²)	-
J400	40.0 µm	22.0 µm	-	0.37 m ² (3.98 ft ²)	-
J700	70.0 µm	35.0 µm	-	0.37 m ² (3.98 ft ²)	-

⁽²⁾ For fluids of 1 cP viscosity. As a general guide for viscosities multiply pressure drop by viscosity in cP. For cartridges of 508, 762 and 1016 mm nominal length, divide differential pressure by 2, 3, and 4 respectively.

⁽³⁾ Based on mineral oil test.

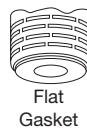
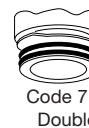
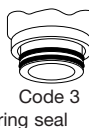
⁽⁴⁾ For 10 in. (254 mm) nominal length cartridge

⁽⁵⁾ Extrapolated value.

Ordering Information⁽⁵⁾

MCY 1000 style Double open-ended 70 mm (2.75 in.) diameter element with gaskets on both ends. Sealing is assured by using a tie rod and seal nut.

MCY 100

Code	Nominal Length	Code ⁽⁴⁾	Removal Rating ⁽⁵⁾ in Liquids*	Code	Gasket Options	Cartridge Sealing Arrangements		
1	10 in. (254 mm)	J006	0.6 µm	H13	Nitrile	1000 style AB style		
2	20 in. (508 mm)	J012	1.2 µm	J	Ethylene propylene			
3	30 in. (762 mm)	J025	2.5 µm	Other materials available on request.				
4	40 in. (1016 mm)	J045	4.5 µm					
		J060	6.0 µm					
		J100	10.0 µm					
		J200	20.0 µm					
		J400	40.0 µm					
		J700	70.0 µm					

⁽³⁾ For availability of specific options, contact Pall

⁽⁴⁾ Absolute rating means the value in microns at which the OSU-F2 test gives a beta value of > 5000.

* Due to the enhanced particle removal efficiencies in gases, the approximate ratings for gas service can be calculated by dividing the liquid rating in µm by between 5 and 10.

AB style Single open-ended 70 mm (2.75 in.) diameter element with double O-ring at one end

Code	Nominal Length	Code	Removal Rating in Liquids*	Code	Cartridge Style	Code	Filter Grade	Code	O-ring Option
1	10 in. (254 mm)	J006	0.6 µm	3	Double 222 O-ring with flat end	P	Pharmaceutical*	H4	Silicone
2	20 in. (508 mm)	J012	1.2 µm	7	Double 226 O-ring with bayonet lock and fin end	Omit	General Use	J	Ethylene propylene
3	30 in. (762 mm)	J025	2.5 µm			* Pall pharmaceutical-grade filters are designed for use in conformance with CGMP in Manufacturing, Processing, Packing or Holding of Drugs (21CFR210) and CGMP for finished Pharmaceuticals (21CFR211.72) including batch release certificate and full traceability.			
4	40 in. (1016 mm)	J045	4.5 µm			Other materials available on request.			
		J060	6.0 µm						
		J100	10.0 µm						
		J200	20.0 µm						
		J400	40.0 µm						
		J700	70.0 µm						