

Protego[®] AT 2 nm Ultraclean Purifier

Best-in-class, ultraclean purification for aggressive solvents with superior particle retention and metal removal efficiency

Protego[®] AT all-in-one purifying filters meet the strict requirements of rigorous impurity control specifications in leading-edge microelectronics fabs. The combination of the latest PTFE membrane and high-capacity IEX media can remove particles and metals with only one device. The extremely clean purifier device is without contamination risk. Our flexible device portfolio can meet all required purification needs – point of use (POU), chemical delivery system (CDS), and bulk chemical manufacturing.

Protego AT purifiers deliver superior performance with improved yields and fast system start-up, reducing cost of ownership (COO).



APPLICATIONS

- Aggressive solvent (like IPA) applications requiring highly efficient metal removal and extreme cleanliness
- Sub-7 nm device node fabs, wafer fab equipment, and bulk chemical delivery systems
- Bulk chemical manufacturers supplying chemistries for leading-edge microelectronics market

FEATURES & BENEFITS

Advanced contamination control media technologies	2 nm retention rating PTFE membrane optimized for aggressive chemistry applications Exclusive metal removal layer sustains purification performance for a long time with maximized metal removal capacity
Unique device technology	All-in-one device removes both particles and metals with high efficiency; users can reduce footprint Flexible device portfolio includes small and large disposable, and cartridge designs
Ultraclean purifier	All-fluoropolymer material purifier UCM5P: Optimized cleaning method enables rapid start-up after installation

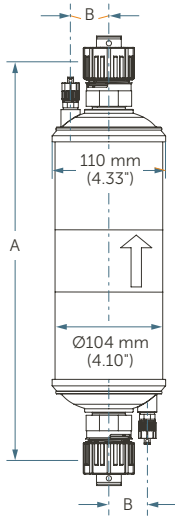
Protego AT Disposable Filters

SPECIFICATIONS

		CHEM-LINE™ II ATE	P3000	P1500
Materials of construction	Membrane	PTFE		
	Supports, shell	PFA		
Purification capable		Metal removal		
Retention rating		2 nm		
Fitting size	1/2" I/O, 1/4" V/D Super 300 Type Pillar® fitting	1/2" I/O, 1/4" V/D Super 300 Type Pillar fitting	3/8" I/O, 1/4" V/D Super 300 Type Pillar fitting	3/8" I/O, 1/4" V/D Super 300 Type Pillar fitting
	3/4" I/O, 1/4" V/D Super 300 Type Pillar fitting	3/8" I/O, 1/4" V/D Super 300 Type Pillar fitting	8 mm I/O, 6 mm V/D Super 300 Type Pillar fitting	8 mm I/O, 6 mm V/D Super 300 Type Pillar fitting
	3/4" I/O, 1/2" V/D Super 300 Type Pillar fitting	8 mm I/O, 6 mm V/D Super 300 Type Pillar fitting	8 mm I/O, 6 mm V/D Super Type Pillar fitting	8 mm I/O, 6 mm V/D Super Type Pillar fitting
	1" I/O, 1/2" V/D Super 300 Type Pillar fitting	8 mm I/O, 6 mm V/D Super Type Pillar fitting	3/8" I/O, 1/4" V/D Flaretek® fitting	3/8" I/O, 1/4" V/D Flaretek® fitting
	1" I/O, 1/4" V/D Super 300 Type Pillar fitting	3/8" I/O, 1/4" V/D Flaretek fitting	—	—
	3/4" I/O, 1/4" V/D Flaretek fitting	—	—	—
	3/4" I/O, 1/2" V/D Flaretek fitting	—	—	—
	1" I/O, 1/4" V/D Flaretek fitting	—	—	—
Filtration area	1.77 m ²	0.49 m ²	0.20 m ²	
Operating conditions	Temperature rating	80°C (176°F)		
	Maximum operating pressure	0.58 MPa @ 25°C (77°F)		
	Maximum forward differential pressure	0.44 MPa (4.4 bar, 63.8 psid) @ 25°C (77°F)	0.39 MPa (3.9 bar, 56.6 psid) @ 25°C (77°F)	
	Maximum reverse differential pressure	0.29 MPa (2.9 bar, 42.1 psid) @ 25°C (77°F)		
Metallic extractables	UCM5P clean	Testing conducted for 29 metals		
Other extractables	UCM5P clean	NVR		

DIMENSIONS

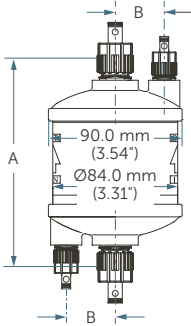
Protego AT Disposable Chem-Line II Filters



Nominal dimensions

FITTING SIZE		SUPER 300 TYPE PILLAR® FITTINGS		FLARETEK® FITTINGS	
Inlet/ outlet	Vent/ drain	B	A	B	A
1/2"	1/4"	37 mm (1.46")	341 mm (13.41")	—	—
3/4"	1/4"	37 mm (1.46")	350 mm (13.76")	37 mm (1.46")	359 mm (14.13")
3/4"	1/2"	41 mm (1.63")	349 mm (13.74")	41 mm (1.63")	363 mm (14.30")
1"	1/4"	37 mm (1.46")	383 mm (15.07")	37 mm (1.46")	368 mm (14.47")
1"	1/2"	41 mm (1.63")	380 mm (14.97")	—	—

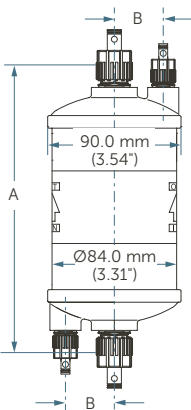
Protego AT Disposable P1500 Filters



Nominal dimensions

FITTING SIZE		SUPER TYPE PILLAR FITTINGS		SUPER 300 TYPE PILLAR FITTINGS		FLARETEK FITTINGS	
Inlet/ outlet	Vent/ drain	B	A	B	A	B	A
3/8"	1/4"	—	—	31 mm (1.22")	141 mm (5.50")	32 mm (1.26")	165 mm (6.50")
1/2"	1/4"	—	—	31 mm (1.22")	146 mm (5.75")	—	—
8 mm	6 mm	32 mm (1.26")	140 mm (5.51")	31 mm (1.22")	135 mm (5.31")	—	—

Protego AT Disposable P3000 Filters

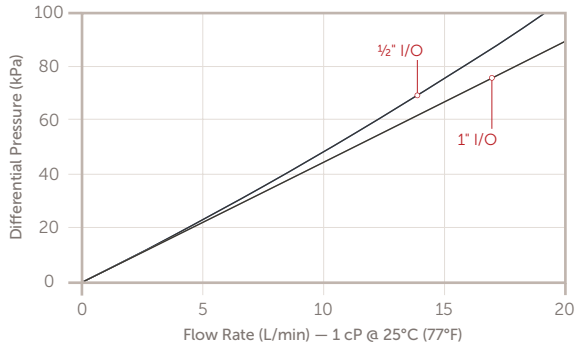


Nominal dimensions

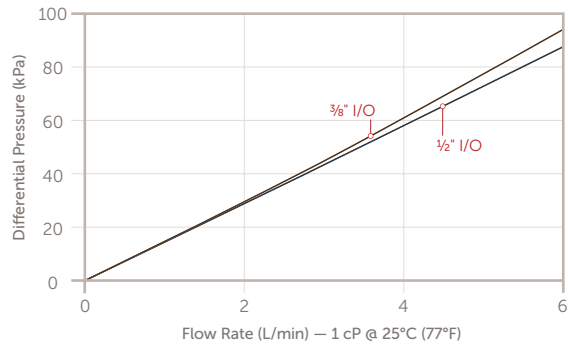
FITTING SIZE		SUPER TYPE PILLAR FITTINGS		SUPER 300 TYPE PILLAR FITTINGS		FLARETEK FITTINGS	
Inlet/ outlet	Vent/ drain	B	A	B	A	B	A
3/8"	1/4"	—	—	31 mm (1.22")	194 mm (7.64")	32 mm (1.26")	200 mm (8.66")
1/2"	1/4"	—	—	31 mm (1.22")	199 mm (7.83")	—	—
8 mm	6 mm	32 mm (1.26")	194 mm (7.64")	31 mm (1.22")	189 mm (7.44")	—	—

PERFORMANCE DATA

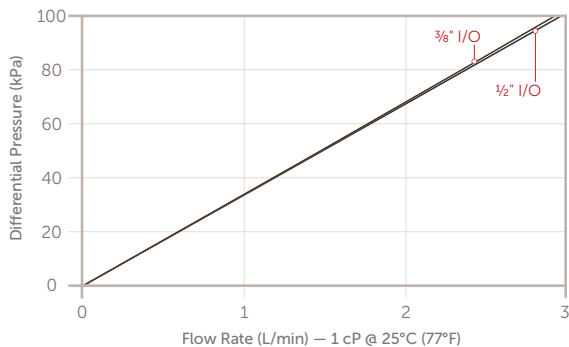
Chem-Line II Disposable Filters



P3000 Disposable Filters



P1500 Disposable Filters



ORDERING INFORMATION

Protego AT Chem-Line II Disposable Filters: part number

PI2 J E 1 G D

Retention rating
J = 2 nm

Pleat structure
E = ATE

Cleaning
G = UCM5P

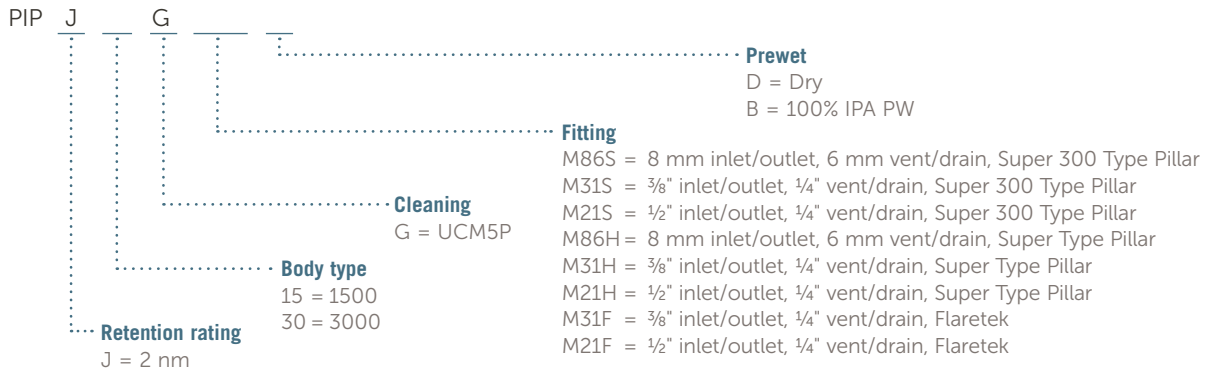
Fitting
D

Fitting

M41F= In-line male, 1" inlet/outlet, 1/4" vent/drain, Flaretek
M01F= In-line male, 3/4" inlet/outlet, 1/4" vent/drain, Flaretek
M21F= In-line male, 1/2" inlet/outlet, 1/4" vent/drain, Flaretek
M31F= In-line male, 3/8" inlet/outlet, 1/4" vent/drain, Flaretek
142F = In-line male offset, 1" inlet/outlet, 1/2" vent/drain, Flaretek
102F = In-line male offset, 3/4" inlet/outlet, 1/2" vent/drain, Flaretek
M41S= In-line male, 1" inlet/outlet, 1/4" vent/drain, Super 300 Type Pillar
M01S= In-line male, 3/4" inlet/outlet, 1/4" vent/drain, Super 300 Type Pillar
M21S= In-line male, 1/2" inlet/outlet, 1/4" vent/drain, Super 300 Type Pillar
142S = In-line male offset, 1" inlet/outlet, 1/2" vent/drain, Super 300 Type Pillar
102S = In-line male offset, 3/4" inlet/outlet, 1/2" vent/drain, Super 300 Type Pillar
F01S = In-line female, 3/4" inlet/outlet, 1/4" vent/drain, Super 300 Type Pillar
141L = In-line male offset, 1" inlet/outlet, 1/4" vent/drain, PrimeLock
M01L= In-line male, 3/4" inlet/outlet, 1/4" vent/drain, PrimeLock
M21L= In-line male, 1/2" inlet/outlet, 1/4" vent/drain, PrimeLock
M31L= In-line male, 3/8" inlet/outlet, 1/4" vent/drain, PrimeLock

ORDERING INFORMATION (CONTINUED)

Protego AT P1500/P3000 Disposable Filters: part number

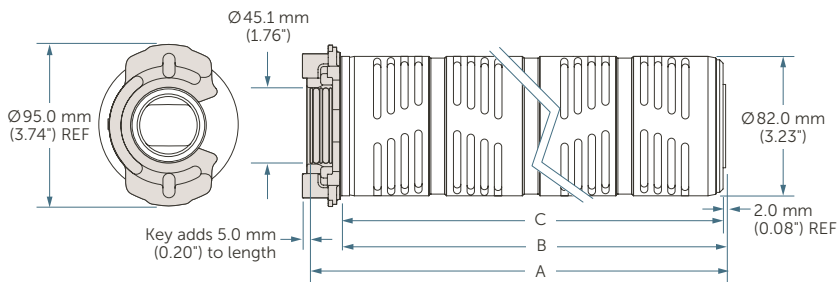


Protego AT Cartridge Filters

SPECIFICATIONS

	10" CARTRIDGE	20" CARTRIDGE
Materials	Membrane	PTFE
	Supports, core, sleeve	PFA
Purification capable	Metal removal	
Retention rating	2 nm	
Filtration area	1.77 m ²	3.54 m ²
Operation conditions	Temperature rating	80°C (176°F)
	Maximum forward differential pressure	0.44 MPa (4.4 bar, 63.8 psid) @ 25°C (77°F)
	Maximum reverse differential pressure	0.34 MPa (3.4 bar, 49.3 psid) @ 25°C (77°F)
Metallic extractables	UCM5P clean	Testing conducted for 29 metals
Other extractables	UCM5P clean	NVR

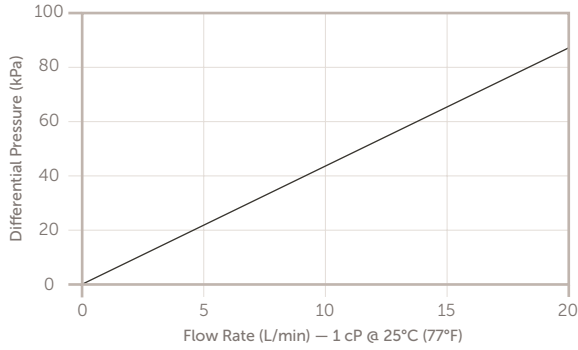
DIMENSIONS



Length	A (overall)	B (control)	C (shoulder)
10"	244.0 mm (9.61")	227.0 mm (8.94")	225.0 mm (8.86")
20"	471.0 mm (18.54")	454.0 mm (17.87")	452.0 mm (17.80")

PERFORMANCE DATA

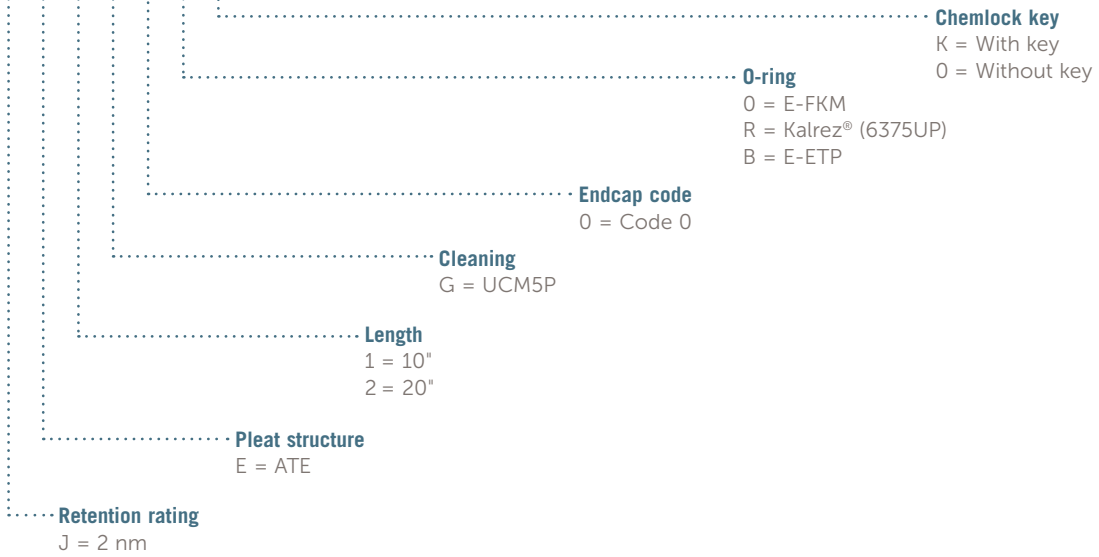
10" Cartridge Filter



ORDERING INFORMATION

Protego AT Cartridge Filters: part number

PIC J E G O D



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Corporate Headquarters
129 Concord Road
Billerica, MA 01821
USA

Customer Service
Tel +1 952 556 4181
Fax +1 952 556 8022
Toll Free 800 394 4083

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