

Protego® AT 5 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. Extremely clean purifier device minimizes contamination risk. Flexible device lineup can meet all required purification points – point of use (POU), chemical delivery system (CDS), and chemical bulk manufacturing.

Protego AT purifiers deliver superior performance with improved yields and fast system startup time reducing customer's cost of ownership (COO).



APPLICATIONS

- Aggressive solvent (like IPA) applications require highly efficient metal removal and extreme cleanliness
- Bulk chemical manufacturers supplying chemistries for leading edge microelectronics market
- Sub-16 nm device node fabs, wafer fab equipment and bulk chemical supplying system

FEATURES & BENEFITS

Advanced contamination control media technologies	5 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 removing both particles and metals with high efficiency; users can reduce footprint Flexible device portfolio, small and large disposable, and cartridge designs
Ultra clean purifier	All-fluoropolymer material purifier UCM10P and UCM16P: Optimized cleaning method for AT purifiers enables rapid start-up

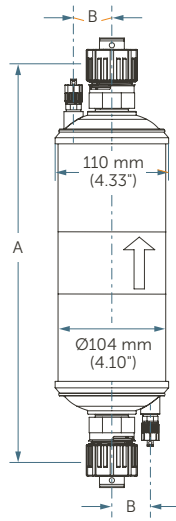
Protego AT Disposable Filters

SPECIFICATIONS

CHEM-LINE™ II ATE		P3000	P1500
Materials of construction	Membrane	PTFE	
	Supports, shell	PFA	
Purification capable		Metal removal	
Purification capacity	4.30 meq	1.18 meq	0.48 meq
Retention rating		5 nm	
Fitting size	½" I/O, ¼" V/D Super 300 Type Pillar® fittings	½" I/O, ¼" V/D Super 300 Type Pillar fittings	⅜" I/O, ¼" V/D Super 300 Type Pillar fittings
	¾" I/O, ¼" V/D Super 300 Type Pillar fittings	¾" I/O, ¼" V/D Super 300 Type Pillar fittings	8 mm I/O, 6 mm V/D Super 300 Type Pillar fittings
	¾" I/O, ½" V/D Super 300 Type Pillar fittings	8 mm I/O, 6 mm V/D Super 300 Type Pillar fittings	8 mm I/O, 6 mm V/D Super 300 Type Pillar fittings
	1" I/O, ½" V/D Super 300 Type Pillar fittings	8 mm I/O, 6 mm V/D Super 300 Type Pillar fittings	⅜" I/O, ¼" V/D Flaretek® fittings
	1" I/O, ¼" V/D Super 300 Type Pillar fittings	⅜" I/O, ¼" V/D Flaretek fittings	—
	¾" I/O, ¼" V/D Flaretek fittings	—	—
	¾" I/O, ½" V/D Flaretek fittings	—	—
	1" I/O, ¼" V/D Flaretek fittings	—	—
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 @ 25°C (77°F)	0.39 MPa @ 25°C (77°F)
	Maximum reverse differential pressure	0.29 MPa @ 25°C (77°F)	
Metallic extractables	UCM10P clean	Testing conducted for 23 metals	
Other extractables	UCM10P clean	NVR	

DIMENSIONS

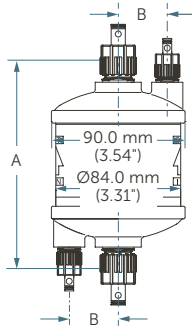
Protego AT Disposable Chem-Line II Filters



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")	—	—

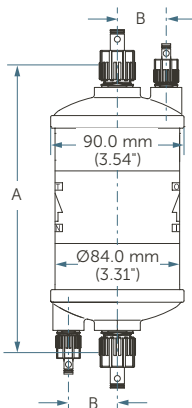
Protego AT Disposable P1500 Filters



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

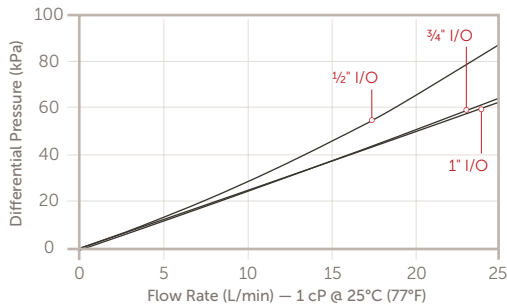


Nominal dimensions

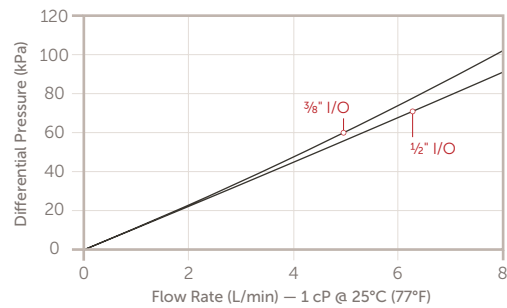
FITTING SIZE		SUPER TYPE PILLAR FITTINGS		SUPER 300 TYPE PILLAR FITTINGS		FLARETEK FITTINGS	
Inlet/ outlet	Vent/ drain	B	A	B	A	B	A
3/8"	1/4"	—	—	31 mm (1.22")	194 mm (7.64")	32 mm (1.26")	200 mm (8.66")
1/2"	1/4"	—	—	31 mm (1.22")	199 mm (7.83")	—	—
8 mm	6 mm	32 mm (1.26")	194 mm (7.64")	31 mm (1.22")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

PERFORMANCE DATA

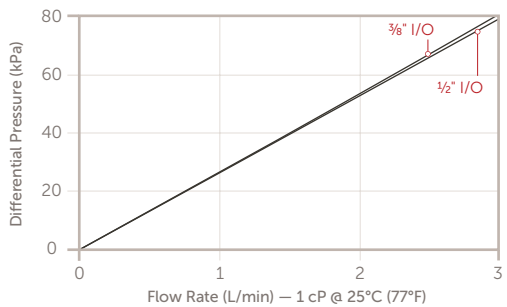
Chem-Line II Disposable Filters



P3000 Disposable Filters



P1500 Disposable Filters



ORDERING INFORMATION

Protego AT Chem-Line II Disposable Filters: part number

PID	F	E	1	K	
					Fitting
					OF = 3/4" inlet/outlet, 1/4" vent/drain, Flaretek
					OF2FM = 3/4" inlet/outlet, 1/2" vent/drain, Flaretek
					OP2PM = 3/4" inlet/outlet, 1/2" vent/drain, Super 300 Type Pillar
					OP3PM = 3/4" inlet/outlet, 1/4" vent/drain, Super 300 Type Pillar
					2P3PM = 1/2" inlet/outlet, 1/4" vent/drain, Super 300 Type Pillar
					4F = 1" inlet/outlet, 1/4" vent/drain, Flaretek
					4P2PM = 1" inlet/outlet, 1/2" vent/drain, Super 300 Type Pillar
					4P3PM = 1" inlet/outlet, 1/4" vent/drain, Super 300 Type Pillar
					Cleaning
					K = UCM10P
					Pleat structure
					E = ATE
					Retention rating
					F = 5 nm

Protego AT P1500/P3000 Disposable Filters: part number

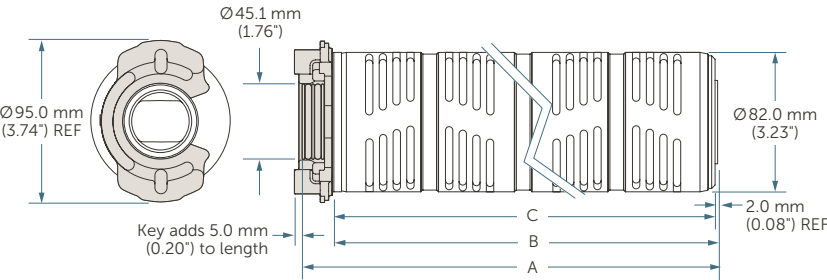
PIP	F		K		
					Prewet
					D = Dry
					B = 100% IPA PW
					Fitting
					M86S = 8 mm inlet/outlet, 6 mm vent/drain, Super 300 Type Pillar
					M31S = 3/8" inlet/outlet, 1/4" vent/drain, Super 300 Type Pillar
					M21S = 1/2" inlet/outlet, 1/4" vent/drain, Super 300 Type Pillar
					M86H = 8 mm inlet/outlet, 6 mm vent/drain, Super Type Pillar
					M31H = 3/8" inlet/outlet, 1/4" vent/drain, Super Type Pillar
					M21H = 1/2" inlet/outlet, 1/4" vent/drain, Super Type Pillar
					M31F = 3/8" inlet/outlet, 1/4" vent/drain, Flaretek
					M21F = 1/2" inlet/outlet, 1/4" vent/drain, Flaretek
					Cleaning
					K = UCM10P
					Body type
					15 = 1500
					30 = 3000
					Retention rating
					F = 5 nm

Protego AT Cartridge Filters

SPECIFICATIONS

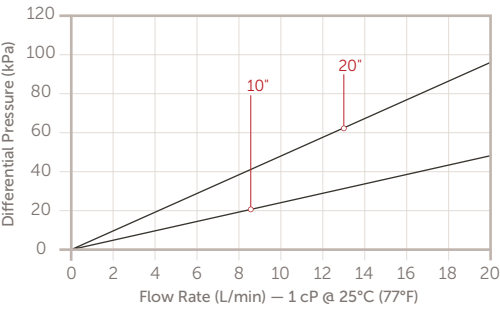
		10" CARTRIDGE	20" CARTRIDGE
Materials	Membrane	PTFE	
	Supports, core, sleeve	PFA	
Purification capable		Metal removal	
Purification capacity		4.30 meq	8.60 meq
Retention Rating		5 nm	
Filtration area		1.77 m ²	3.54 m ²
Operation Conditions	Temperature rating	80°C (176°F)	
	Maximum forward differential pressure	0.44 MPa @ 25°C (77°F)	
	Maximum reverse differential pressure	0.34 MPa @ 25°C (77°F)	
Metallic Extractables	23 metals	UCM10P Clean	UCM16P Clean
Other Extractables	NVR	UCM10P Clean	UCM16P Clean

DIMENSIONS



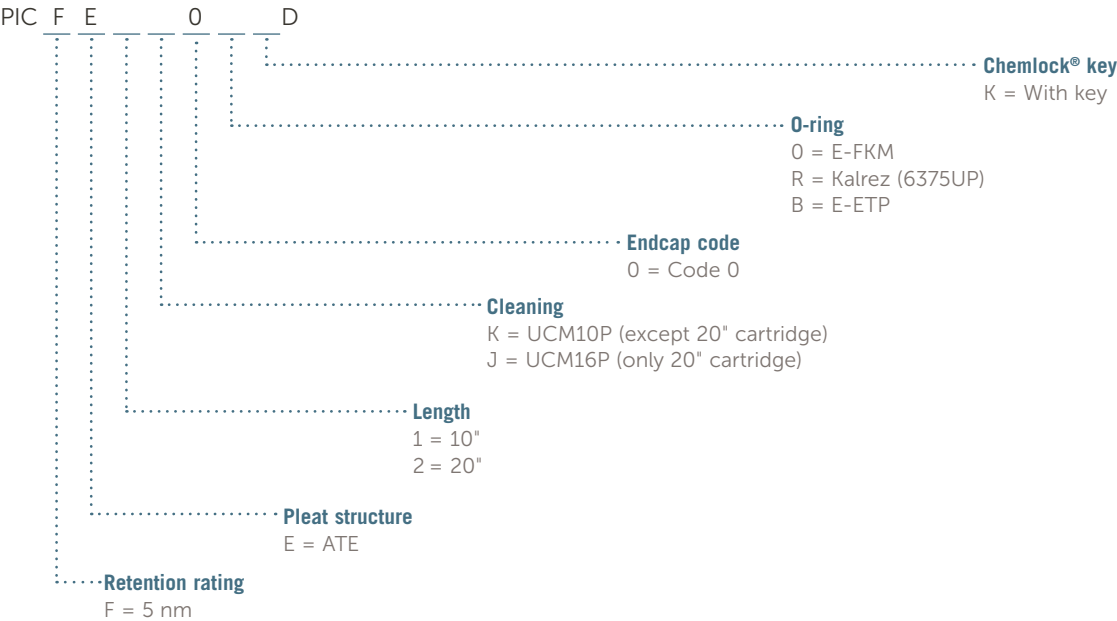
Length	A (overall)	B (control)	C (shoulder)
10"	244.0 mm (9.61")	227.0 mm (8.94")	225.0 mm (8.86")
20"	471.0 mm (18.54")	454.0 mm (17.87")	452.0 mm (17.80")

PERFORMANCE DATA



ORDERING INFORMATION

Protego AT Cartridge Filters: part number



FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the [Contact Us](#) link to find the customer service center nearest you.

TERMS AND CONDITIONS OF SALE

All purchases are subject to Entegris' Terms and Conditions of Sale. To view and print this information, visit entegris.com and select the [Terms & Conditions](#) link in the footer.



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

Entegris®, the Entegris Rings Design®, and other product names are trademarks of Entegris, Inc. as listed on entegris.com/trademarks. All third-party product names, logos, and company names are trademarks or registered trademarks of their respective owners. Use of them does not imply any affiliation, sponsorship, or endorsement by the trademark owner.

©2018-2020 Entegris, Inc. | All rights reserved. | Printed in the USA | 4447-10165ENT-1120