

Protego® Plus IPA Purifiers

*Advanced metals removal for IPA
critical cleaning applications*

Protego® Plus IPA all-in-one purifying filters meet the strict customer requirements of rigorous particle control specifications in production environments, and provide leading-edge metals and particle removal in the most demanding sub-28 nm technology nodes. Engineered for reduced flow, point-of-use (POU) gate-cleaning applications, these devices are best installed after the wafer spray but just before the nozzle in single-wafer tools.

Protego Plus IPA purifiers are constructed of the cleanest PFA materials and highly retentive PTFE membrane. These materials ensure high-thermal process stability with the ability to withstand aggressive operating temperatures up to 80°C (176°F). The high ion-exchange (IEX) capacity and advanced cleaning process are designed to capture trace metal ions in IPA cleaning applications and reduce particle shedding to very low levels. Protego Plus IPA purifiers deliver superior performance with improved yields, fewer filter changeouts, and greater system uptime.

APPLICATIONS

- Integrated device manufacturing processes (sub-28 nm technology nodes)
- Critical cleaning IPA applications
- Reduced flow, point-of-use gate-cleaning applications

FEATURES & BENEFITS

Cleanest PFA materials of construction	<p>Minimal particle shedding</p> <p>Low non-volatile residue (NVR)</p>
Highly retentive PTFE membrane	<p>High, single-pass retention efficiency</p> <p>High-thermal process stability for both spray dry and batch tools</p> <p>Ability to withstand aggressive operating temperatures up to 80°C (176°F)</p>
High IEX capacity and advanced cleaning process	<p>Trace metal ions captured in IPA cleaning applications and high metals removal capability</p> <ul style="list-style-type: none"> • Extended filter lifetime • Fewer filter changeouts • Minimal defects • Less downtime



SPECIFICATIONS

	CHEM-LINE™ II ATE 10” DISPOSABLE	P3000 DISPOSABLE	P1500 DISPOSABLE
Materials	Membrane	PTFE	
	Supports, shell	PFA	
Purification capable		Metal removal	
Purification capacity	4.30 meq	1.18 meq	0.48 meq
Retention rating		15 nm	
Fitting sizes	½" I/O – ¼" V/D Super 300 Type Pillar®	½" I/O – ¼" V/D Super 300 Type Pillar	½" I/O – ¼" V/D Super 300 Type Pillar
	¾" I/O – ¼" V/D Super 300 Type Pillar	¾" I/O – ¼" V/D Super 300 Type Pillar	¾" I/O – ¼" V/D Super 300 Type Pillar
	¾" I/O – ½" V/D Super 300 Type Pillar	8 mm I/O – 6 mm V/D Super 300 Type Pillar	8 mm I/O – 6 mm V/D Super 300 Type Pillar
	1" I/O – ¼" V/D Super 300 Type Pillar	8 mm I/O – 6 mm V/D Super Type Pillar	8 mm I/O – 6 mm V/D Super Type Pillar
	1" I/O – ½" V/D Super 300 Type Pillar	¾" I/O – ¼" V/D Flaretek®	¾" I/O – ¼" V/D Flaretek
	¾" I/O – ¼" V/D Flaretek	—	—
	¾" I/O – ½" V/D Flaretek	—	—
	1" I/O – ¼" V/D Flaretek	—	—
NVR extractables	≤1.0 mg/device (IPA)	≤0.4 mg/device (IPA)	
Metals extractables		<3 µg/device	
Filtration area	1.77 m² (19.05 ft²)	0.49 m² (5.27 ft²)	0.20 m² (2.15 ft²)
Flow resistance with 2 L/min IPA @ 1.96 cP (25°C)	11.5 kPa @ Inlet/Outlet 1"	39 kPa	99 kPa
Flow resistance with 2 L/min IPA @ 0.97 cP (approximately 50°C)	9.2 kPa @ Inlet/Outlet 1"	19 kPa	49 kPa
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 pressure	0.29 MPa @ 25°C (77°F)	

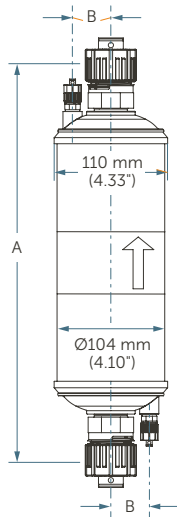
* Please contact Regional Product Sales for more information.

DIMENSIONS

Protego Plus IPA Chem-Line II Filters

This drawing represents both the Super 300 Type Pillar and Flaretek configurations.
Refer to the accompanying table for specific dimensional information.

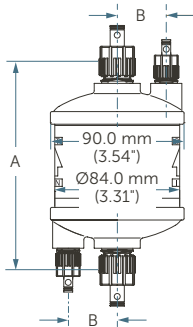
Protego Plus IPA
Chem-Line II



Nominal dimensions for Chem-Line II

FITTINGS		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")	—	—

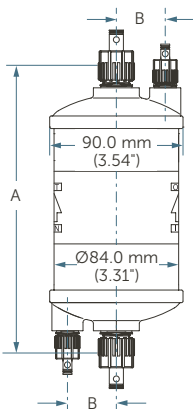
Protego Plus IPA
P1500



Nominal dimensions for P1500

FITTINGS		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 Plus IPA
P3000

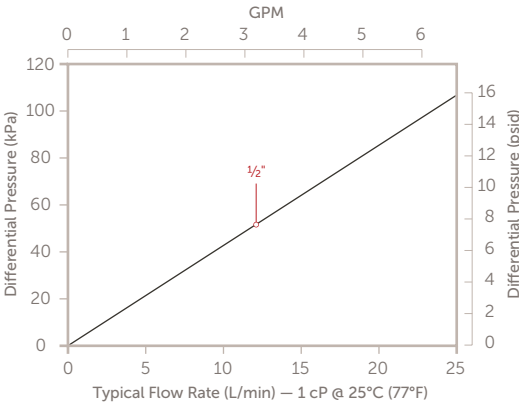


Nominal dimensions for P3000

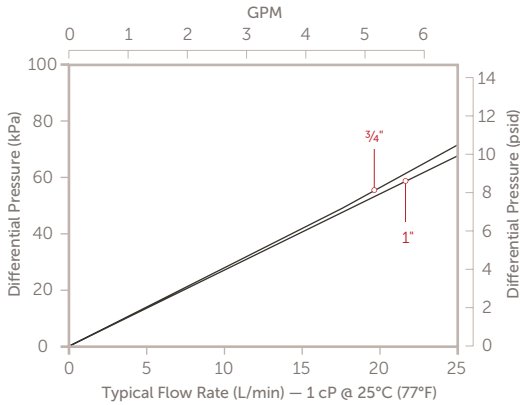
FITTINGS		SUPER TYPE PILLAR FITTINGS		SUPER 300 TYPE PILLAR FITTINGS		FLARETEK FITTINGS	
Inlet/ Outlet	Vent/ Drain	B	A	B	A	B	A
3/8"	1/4"	—	—	31 mm (1.22")	194 mm (7.64")	32 mm (1.26")	200 mm (8.66")
1/2"	1/4"	—	—	31 mm (1.22")	199 mm (7.83")	—	—
8 mm	6 mm	32 mm (1.26")	194 mm (7.64")	31 mm (1.22")	189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

PERFORMANCE DATA

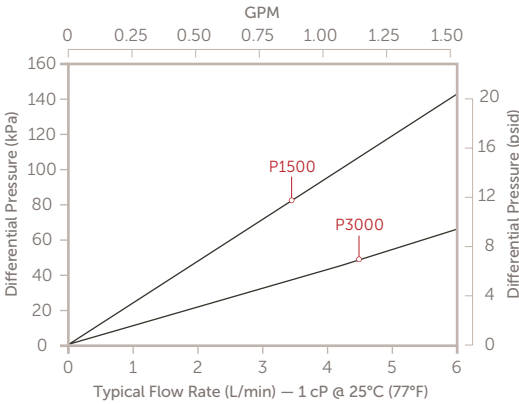
Protego Plus IPA Purifiers
10" Chem-Line II Filters
1/2" Fittings



Protego Plus IPA Purifiers
10" Chem-Line II Filters
3/4" and 1" Fittings

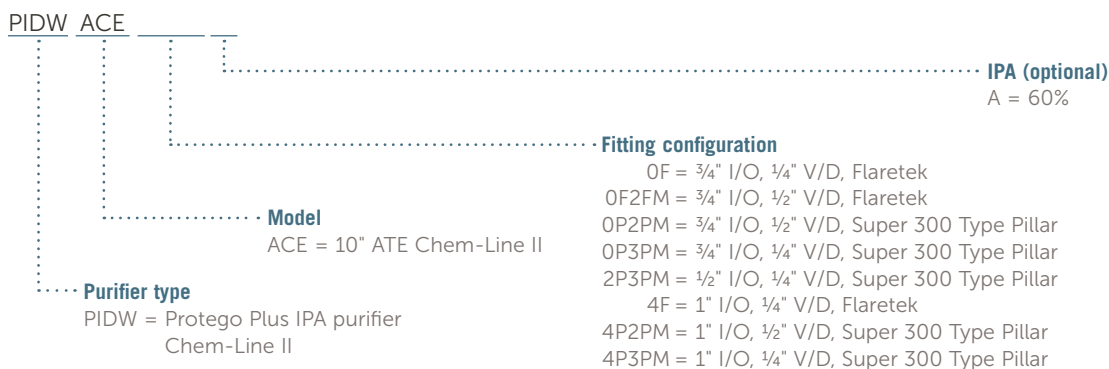


Protego Plus IPA Purifiers
Small Disposable
P1500/P3000

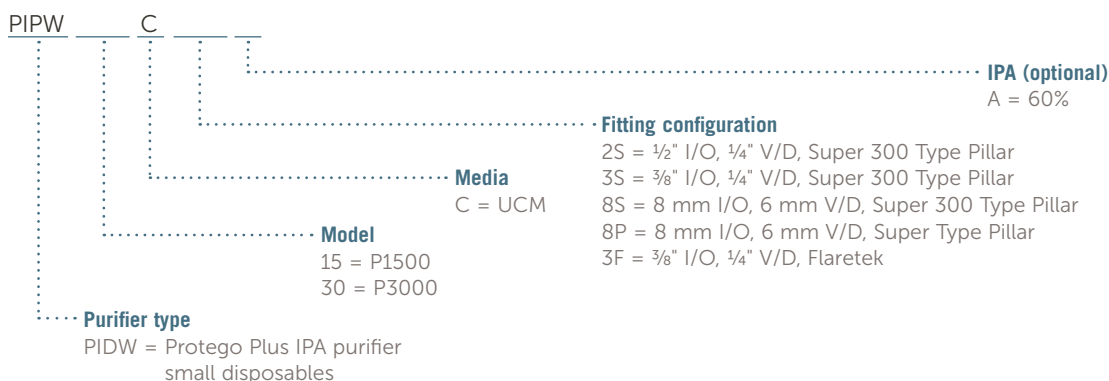


ORDERING INFORMATION

Protego Plus IPA Purifiers 10" Chem-Line II Filters: part number



Protego Plus IPA Purifiers Small Disposable Filters*: part number



* Available in 60% IPA prewet packaging. Please contact your regional representative for more information.

FOR MORE INFORMATION

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