

Impact® 8G Series Photochemical Filters

Ultraclean, point-of-dispense filtration of photoresist and photochemical solvents

Impact® 8G series filters deliver best-in-class, point-of-dispense photochemical filtration with superior flow rate performance and reduced microbubble formation capabilities in sub-28 nm technology nodes. To minimize the risk of filter contamination, Impact 8G filters utilize an enhanced ultraclean technology to reduce particle shedding, microbubble entrapment and metal and organic extractables. In addition, the unique core-fill device structure increases flow rate performance, shortens filter startup times, reduces on-wafer defects and enhances filter lifetime.

APPLICATIONS

Critical photochemical filtration of:

- Photoresists
- BARCs
- TARCs
- Solvents
- Underlayers
- EUV lithography
- Emerging chemistries



FEATURES & BENEFITS

Enhanced cleaning process

- Minimal organic and metal extractables in photochemical solvents
- Cleaner filters with less particle shedding
- Less time spent on filter startups

Unique core-fill flowpath design

- Better flow rate performance than comparable filters
- Limited microbubble formation upstream and downstream
- Reduces overall filter priming time leading to reduced filter startup costs

Oktolex™ membrane technology

- Revolutionizes the removal of critical chemical contaminants
- Further optimizes removal performance to eliminate any adverse interactions with chemical composition
- Enables a tailored approach to the contamination control requirements of ArF, KrF, and EUV applications for Logic, DRAM, and 3D NAND devices

Impact 8G and 8G UC Series Filters

SPECIFICATIONS

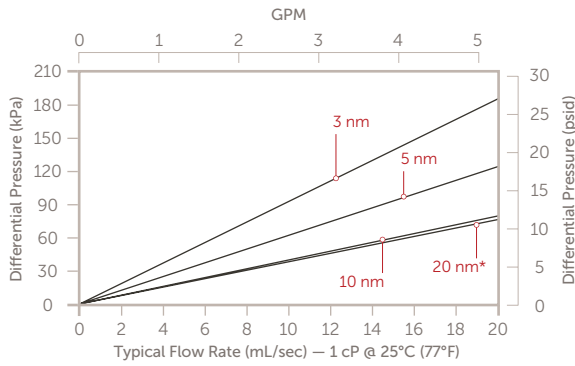
Materials	Membrane	8G, 8G-L	UPE, Nylon, Duo (UPE/Nylon), PCM*		
		8G UC, 8G-L UC	UPE (clean resin), Duo (UPE/Nylon)		
	Surface area	8G, 8G UC	UPE	1200 cm ² (1.29 ft ²)	
		8G, 8G UC	Nylon	800 cm ² (0.86 ft ²)	
		8G, 8G UC	Duo	800 cm ² (0.86 ft ²)	
		8G	PCM	1300 cm ² (1.40 ft ²)	
		8G-L, 8G-L UC	UPE	2400 cm ² (2.58 ft ²)	
		8G-L	Nylon	1600 cm ² (1.72 ft ²)	
		8G-L, 8G-L UC	Duo	1600 cm ² (1.72 ft ²)	
		8G-L, 8G-L UC	PCM	2600 cm ² (2.80 ft ²)	
Supports, core, shell	HDPE				
O-ring	Kalrez® perfluoroelastomer (OF)				
Retention rating	UPE	Standard: 3, 5, 10, 20 nm	UC: 3, 5, 10 nm		
	Nylon	Standard: 10, 20 nm	UC: 10 nm		
	Duo	Standard: 5, 10 nm	UC: 3, 5, 10 nm		
	PCM*	Standard: 10 nm	UC: None		
Maximum operating conditions	Maximum inlet pressure: 0.34 MPa (3.4 bar, 50 psi) @ 25°C (77°F) Maximum forward/reverse differential pressure: 0.27 MPa (2.7 bar, 39 psi) @ 25°C (77°F) Maximum operating temperature: 40°C (104°F)				
Hold up volume	Impact 8G, 8G UC	55 cc			
	Impact 8G-L, 8G-L UC	110 cc			
Compatibility	PGMEA, PGME, NMP, ethyl lactate, MMP, cyclohexanone and other photochemical solvents.				
Wettability	Spontaneously wets in butyl acetate, PGMEA, PGME, ethyl lactate, MMP, cyclohexanone, ECA and other photochemical solvents.				
Fittings (use Impact 2 manifold)	Refer to page 6 for more information.				

*PCM: Surface-modified hydrophilic UPE

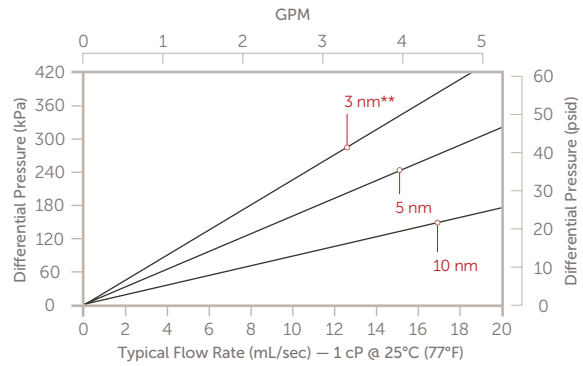
PERFORMANCE DATA

IMPACT 8G FILTERS

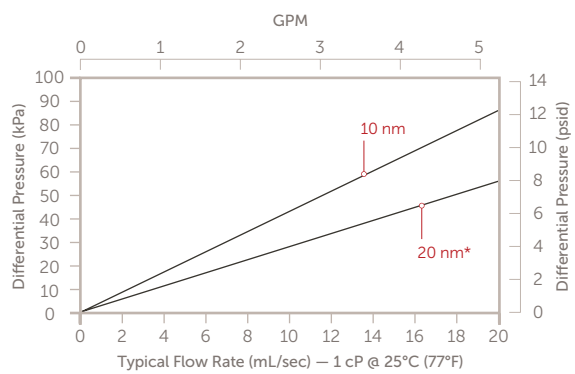
Impact 8G UPE/UPE UC



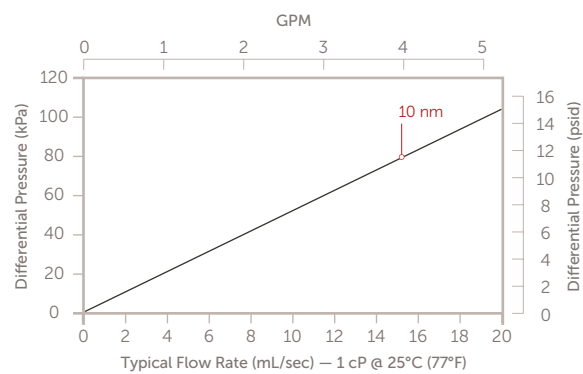
Impact 8G Duo/Duo UC



Impact 8G Nylon/Nylon UC



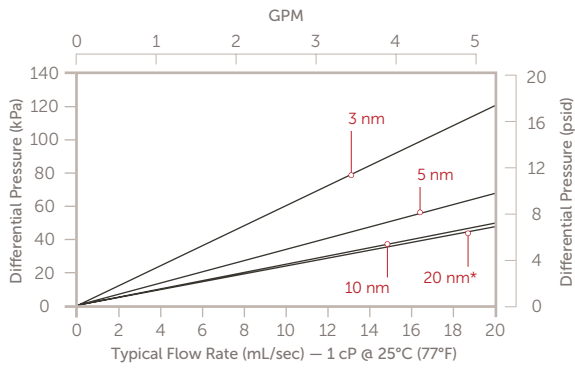
Impact 8G PCM



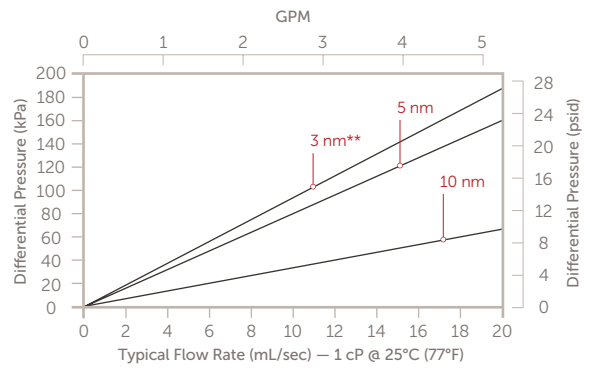
*UPE 20 nm: Standard UPE only
 **Duo 3 nm: UC only

IMPACT 8G-L FILTERS

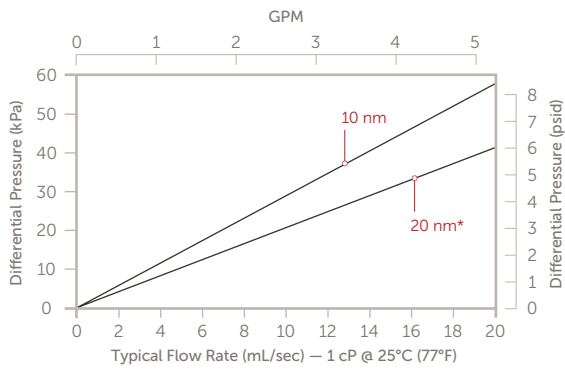
Impact 8G-L UPE/UPE UC



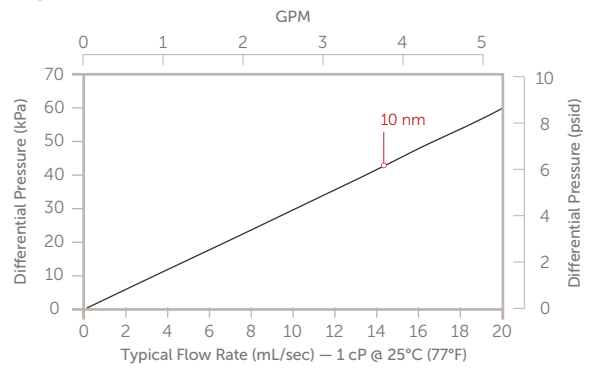
Impact 8G-L Duo/Duo UC



Impact 8G-L Nylon/Nylon UC



Impact 8G-L PCM



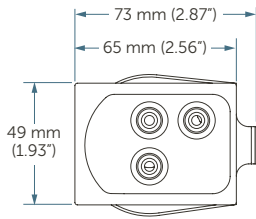
*UPE 20 nm: Standard UPE only

**Duo 3 nm: UC only

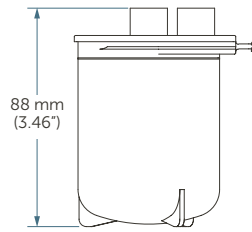
DIMENSIONS

Impact 8G/8G-L, 8G UC/8G-L UC

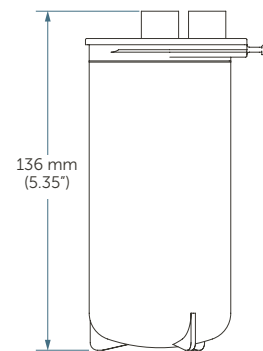
Top View: Impact 8G, 8G-L, 8G UC, 8G-L UC



Side View: Impact 8G, 8G UC

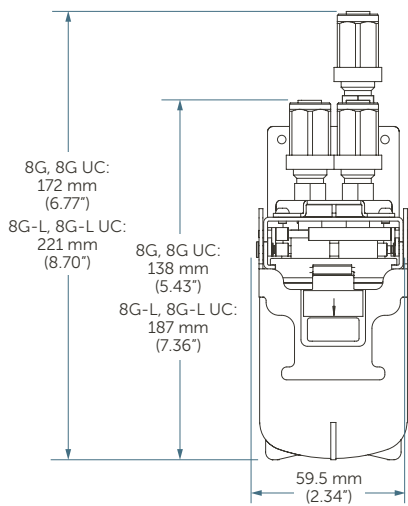


Side View: Impact 8G-L, 8G-L UC

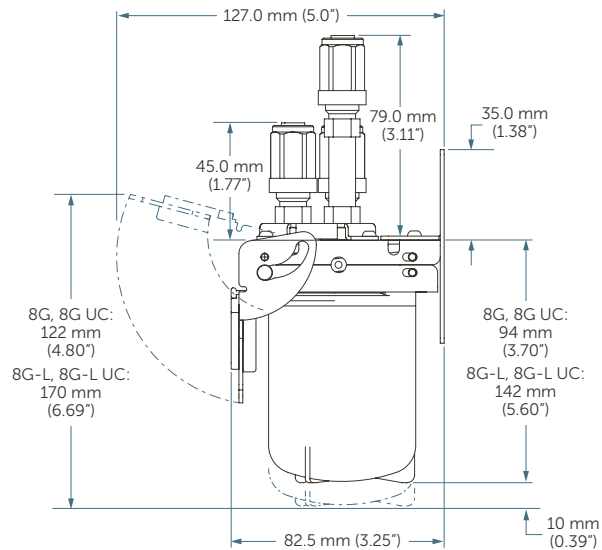


Impact 8G, 8G UC, 8G-L, 8G-L UC with Impact 2 Manifold – 6.35 mm Flowell™ 60 Type

Front View

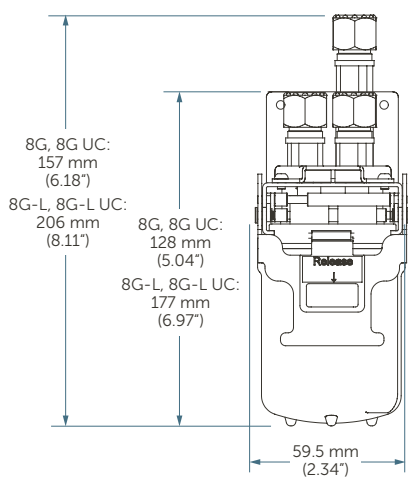


Side View

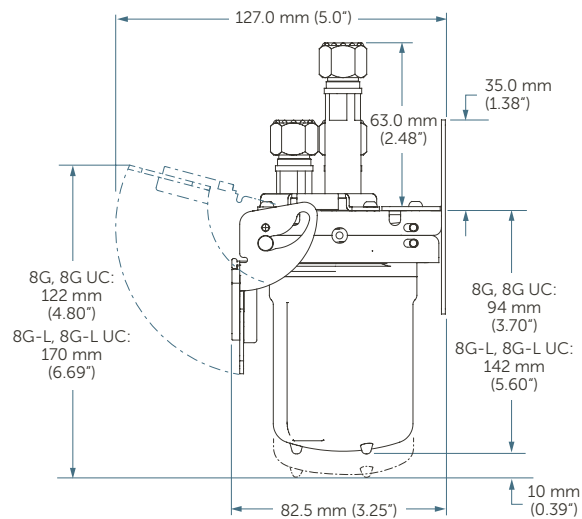


Impact 8G, 8G UC, 8G-L, 8G-L UC Filter with Impact 2 Manifold – 6.35 mm Super Type Pillar®

Front View



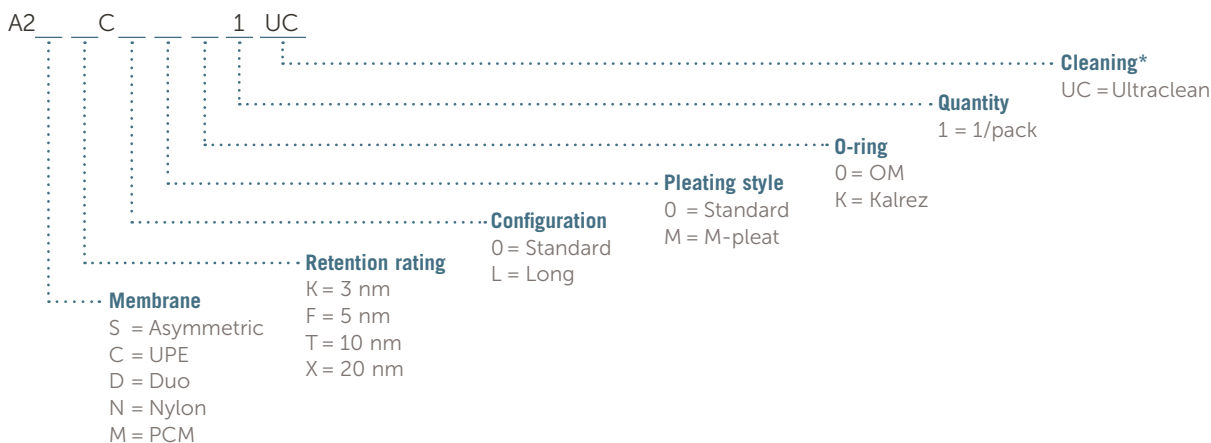
Side View



ORDERING INFORMATION

This information serves as a guide. Please contact your local representative to confirm part numbers.

Impact 8G and 8G UC Series Filters: part number



*Cleaning only applies to Impact 8G UC series filters

Impact 2 Manifolds (1/pack)

Fitting	Tube size (OD – ID)	OF type	OM type (Kalrez)	OM type (EPDM)
Flowell 60 series	6.35 mm – 3.95 mm	A2MX22201	A2MX222K1	—
Flowell 60 series	6.35 mm – 4.35 mm	A2MX2220T	A2MX222KT	A2MX222ET
Flowell 60 series	6 mm – 4 mm	A2MX66601A	—	—
Flowell 60 series	5 mm – 3 mm	A2MX55501A	—	—
Flowell 60 series	4 mm – 3 mm	A2MX44401A	—	—
Super Type Pillar	6.35 mm – 3.95 mm	A2MP22201	A2MP222K1	—
Super Type Pillar	6.35 mm – 4.35 mm	A2MP2220T	A2MP222KT	—

Impact 8G Flushing Shell

SPECIFICATIONS

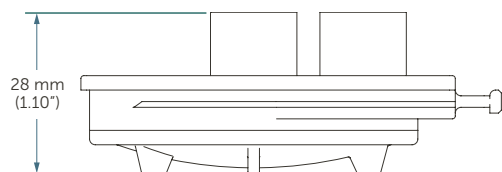
	FLUSHING SHELL TYPE	
	Impact 8G	Impact 2*
Hold-up volume	1 mL	9 mL
Resin	Ultraclean	Standard
Internal surface area	1.4 cm ² (0.22 in ²)	33 cm ² (5.12 in ²)

Internal Test Results

Durability air pulse test (0–0.6 MPa)	>6.0 million cycles	1.5 ~ 2.0 million cycles
Burst pressure	4.6 ~ 5.5 MPa	3.5 ~ 4.2 MPa
Particle shedding	≤20 particles/1 mL (≥0.05 μm H ₂ O after 5 min flush)	—
Metal (10% HCl extract)	<2.0 μg/unit (23 metals)	—
Organics (reference data) (GC-FID test)	0.01 ~ 0.03 mg/unit	2.7 ~ 3.4 mg/unit

*Impact 2 flushing shell specifications are included for comparison.

DIMENSIONS



ORDERING INFORMATION

Part number	Recommended flow
A2AMC00K1	Impact 8G flushing shell with Kalrez o-ring
A2AMC0001	Impact 8G flushing shell with no o-ring

FOR MORE INFORMATION

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