



PHOTOPEX™ UPE FILTERS

UPE FILTERS FOR HIGH-PURITY CHEMICAL FILTRATION

With retention ratings from 1nm to 0.1µm, Cobetter Photopex™ UPE (Ultra-High Molecular Weight Polyethylene) Filter Cartridges ensure excellent retention, cleanliness and high chemical compatibility to meet the critical demands in semiconductor processes.

Cobetter's superior cleaning of the high purity HDPE (high-density polyethylene) structure ensures high cleanliness and low particle shedding. The unique UPE membrane morphology provides the highest retention of both hard particles and gels. High membrane surface area options make high flow rates and extended service life possible.

Cobetter Photopex UPE filters are available in a wide variety of sizes and configurations to meet all your requirements.

FEATURE	BENEFIT
UPE membrane	Highly efficient removal of hard and soft particles
	Wets out easily with most solvents and resists
	Resists dewetting in dilute acidic and alkaline chemistries
HDPE supports and structure	High chemical compatibility
	High cleanliness, including low metal extractables
High surface area options	High flow rate and longer life
Wide range of capsule sizes and industry fittings	Easy installation and replacement of competitive capsules
Higher cleanliness option	Meets stringent process requirements for metals, anions, and organic contaminants
Prewet option	Reduces pre-operation time
	Easy start up with aqueous-based chemicals

SPECIFICATIONS

Filter media	Hydrophobic UPE
Supports/core/cage/end caps/Shell (capsule)	HDPE
O-rings (cartridge only)	TEV or FFKM
Max. operating temperature	Cartridge: 60°C; Capsule: 38°C
Max. operating pressure	Capsule: 0.34 MPa (3.4 bar, 49 psi) at 25°C



Typical Applications

- Photoresist Filtration
- Solvent Filtration
- Photochemical Filtration
- Lower Temperature Wet Cleans
- Copper Plating

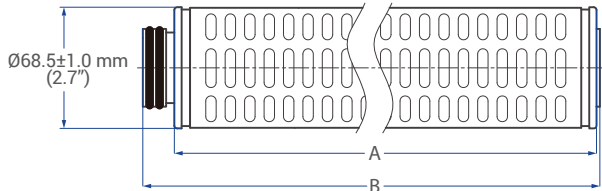
Cartridge max. differential pressure

Forward: 0.34 MPa (3.4 bar, 49 psi) at 25°C

Reverse: 0.24 MPa (2.4 bar, 35 psi) at 25°C

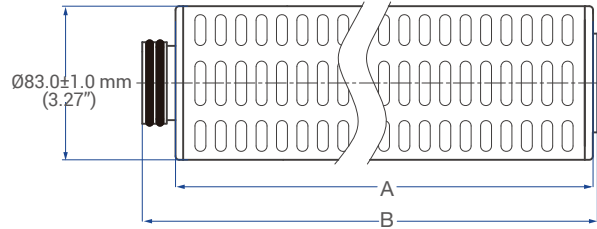
	X0	X1	X2	Z1	Z2
Effective filtration area (10")	(ø68mm) 0.8m ² (8.6ft ²)	(ø68mm) 1.3m ² (14.0ft ²)	(ø68mm) 1.8m ² (19.4ft ²)	(ø83mm) 1.9m ² (20.57ft ²)	(ø83mm) 2.6m ² (28.0ft ²)

PHOTOPEX X0, X1, X2 CARTRIDGE FILTERS (2-222/FLAT)



Length Code	A	B
04	102.0 ±1 mm (4.0")	122.0 ±1 mm (4.8")
10	242.5 ±2 mm (9.5")	262.5 ±2 mm (10.2")
20	488.0 ±3 mm (19.2")	508.0 ±3 mm (20.0")
30		

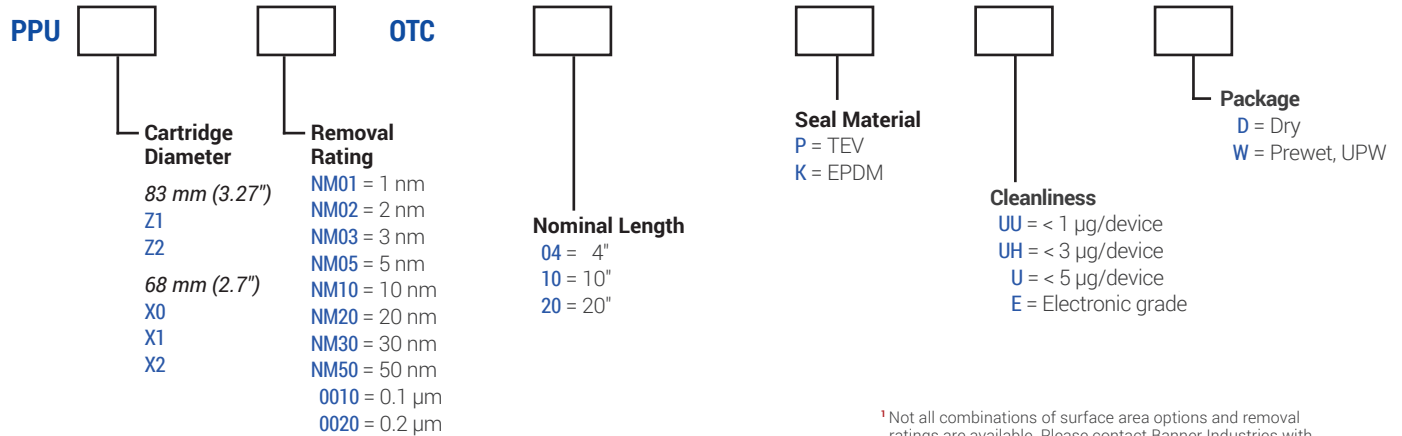
PHOTOPEX Z1, Z2 CARTRIDGE FILTERS (2-222/FLAT)



Length Code	A	B
04	110.0 ±1 mm (4.3")	130.5 ±1 mm (5.1")
10	225.0 ±2 mm (8.9")	245.5 ±2 mm (9.7")
20	452.0 ±3 mm (17.8")	472.5 ±3 mm (18.6")

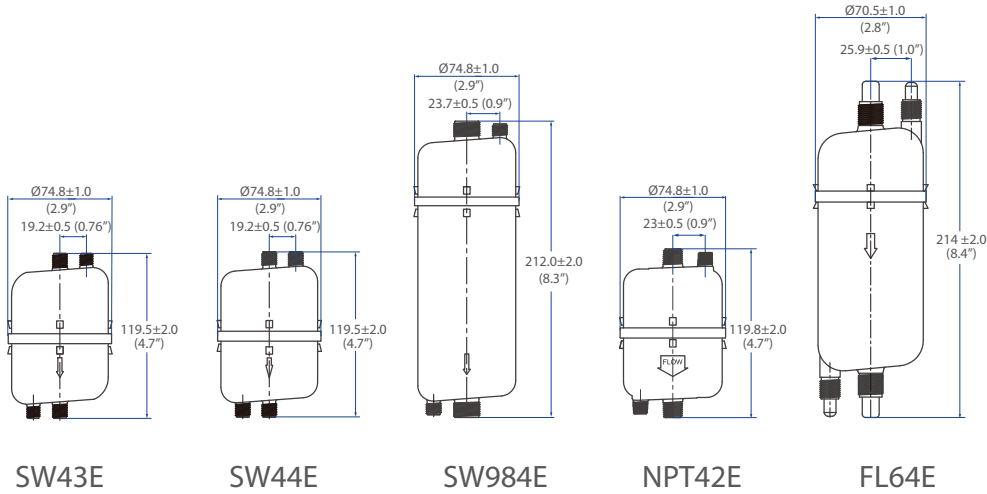
PHOTOPEX CARTRIDGE ORDERING INFORMATION¹

EXAMPLE: **PPUZ1NM100TC10PUW** = 83 mm, 10 nm, 10", TEV seals, < 5 µg/device, prewet



¹ Not all combinations of surface area options and removal ratings are available. Please contact Banner Industries with any questions about part number availability.

PHOTOPEX CAPSULE FILTERS



PHOTOPEX CAPSULE ORDERING INFORMATION¹

EXAMPLE: **PPUNM02SW44EUHW** = 2 nm, compression 1/4, 1/4, < 3 µg/device, prewet

PPU



Removal Rating

- NM01 = 1 nm
- NM02 = 2 nm
- NM03 = 3 nm
- NM05 = 5 nm
- NM10 = 10 nm
- NM20 = 20 nm
- NM30 = 30 nm
- NM50 = 50 nm
- 0010 = 0.1 µm
- 0020 = 0.2 µm



Connection Type

- SW43E = Compression
- SW44E = Compression
- SW984E = Compression
- NPT42E = NPT
- FL64E = Flare Type



Inlet/Outlet

- 1/4"
- 1/4"
- 1/2"
- 1/4"
- 3/8"

Vent/Drain

- 4 mm
- 1/4"
- 1/4"
- 1/8"
- 1/4"

Cleanliness

- UU = < 1 µg/device
- UH = < 3 µg/device
- U = < 5 µg/device
- E = Electronic grade

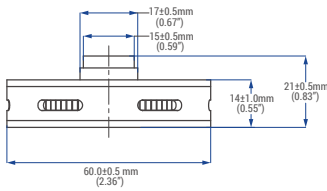


Package

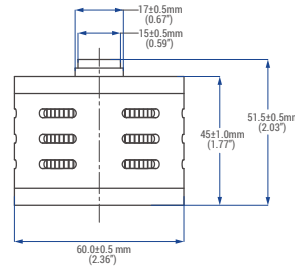
- D = Dry
- W = Prewet, UPW

¹ Not all combinations of surface area options and removal ratings are available. Please contact Banner Industries with any questions about part number availability.

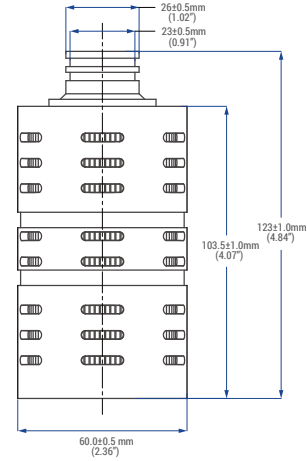
PHOTOPEX F004, F016, AND 118 SERIES FILTERS



F004



F016



118

PHOTOPEX F004, F016, AND 118 SERIES FILTERS ORDERING INFORMATION

EXAMPLE: **PPUS1NM50F004EUHD** = 50nm, F004E, EPDM seals, < 3ug/device, dry

<p>PPU PPF¹</p> <p>S1</p> <p>Diameter S1 = 60 mm</p>	<p>Removal Rating NM20 = 20 nm NM50 = 50 nm 0010 = 0.1 µm 0020 = 0.2 µm 0100 = 1.0 µm</p> <p>PPU/PPF PPF</p>	<p>Length F016E = 51.5 ± 0.5 mm F004E = 21.0 ± 0.5 mm 118E = 123.5 ± 1.0 mm</p>	<p>O-ring P = TEV E = EPDM V = FKM</p>	<p>Cleanliness UU = < 1 µg/device UH = < 3 µg/device U = < 5 µg/device E = Electronic grade</p>	<p>Package D = Dry W = Prewet, UPW</p>
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¹ PPF = PTFE membrane



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