Microgard™ C/UC/UCP Photochemical Filters

Clean, high-throughput filtration for bulk photochemical manufacturing and solvent applications

Microgard™ C/UC/UCP photochemical filters deliver best-in-class, contamination control performance in bulk photochemical manufacturing and solvent-based photolithography applications. In addition to advanced retention capabilities, Microgard C/UC/UCP filters include a choice of cleaning technologies to meet critical process demands at sub-28 nm technology nodes.

- Standard Clean (C): Clean, low metal UPE membrane and filter design

- Ultraclean (UC): Superior device cleaning method and enhanced cleanliness specifications

- Ultraclean Plus (UCP): Most advanced cleaning method for ≤1 nm rated UPE membranes

These cleaning technologies are designed to further reduce particle shedding, metal and organic extractables. A higher throughput (HT) device design is also available in select 10", 20", and 30" filter types for enhanced flow rate performance. See Specifications and Ordering Information for more details.

APPLICATIONS
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- Bulk solvent chemical filtration
- Bulk photochemical filtration
- Chemical distribution systems

FEATURES & BENEFITS
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Contamination control technologies for clean and ultraclean performance	Meets most process requirements at 28 nm or below
	Reduces particle shedding, metal and organic extractables in sub-28 nm nodes
Advanced device design	Higher chemical throughput and flow rate performance
Broad chemical compatibility	Photoresist, solvents and other ancillary chemicals

Entegris

SPECIFICATIONS

Materials	Shell, core, supports	HDPE
	Membrane	Asymmetric UPE[1]
	O-ring	E-FKM (AS568-222)

			RETENTION RATINGS		
			Standard clean (C)	Ultraclean (UC)	Ultraclean Plus (UCP)
Surface area (based on diameter)	4"	83 mm: 0.9 m² (9.7 ft²)	3 nm	—	—
	10"	70 mm: 1.31 m² (14.1 ft²)	3, 5, 10 nm	3, 5, 10 nm	—
		83 mm: 1.85 m² (19.9 ft²)	10 nm	—	—
	10" HT[2]	70 mm: 1.77 m² (19.1 ft²)	1, 3, 5 nm	3 nm	1 nm
		83 mm: 2.61 m² (28.1 ft²)	5, 10 nm	—	1 nm
	20"	70 mm: 2.62 m² (28.2 ft²)	3, 5, 10 nm	3, 5 nm	—
		83 mm: 3.71 m² (39.9 ft²)	3, 5, 10 nm	3, 5 nm	—
	20" HT[2]	70 mm: 3.55 m² (38.2 ft²)	3, 5 nm	3 nm	1 nm
		83 mm: 5.22 m² (56.2 ft²)	1, 10 nm	3 nm	1 nm
	30"	70 mm: 3.94 m² (42.4 ft²)	3, 5, 10 nm	—	—
		83 mm: 5.63 m² (60.6 ft²)	10 nm	—	—

Operating conditions	Maximum forward differential/reverse pressure: 0.24 MPa (2.4 bar, 35 psi) @ 25°C (77°F)
	Maximum operating temperature: 60°C (140°F)

| Metallic extractables	Testing conducted for Standard clean: 13 metals
	Ultraclean/Ultraclean Plus: 23 metals

[1] UHMWPE – Long-form acronym for UPE – Ultra-High Molecular Weight Polyethylene.

[2] The high-throughput device design is incorporated into select 10", 20", and 30" units, reference the Specifications table for exclusions.
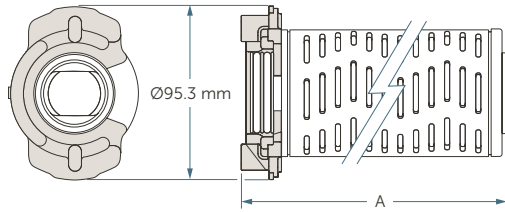
DIMENSIONS

Code 0 (70 mm width) Filters

Without Chemlock® Key

Ø70 mm
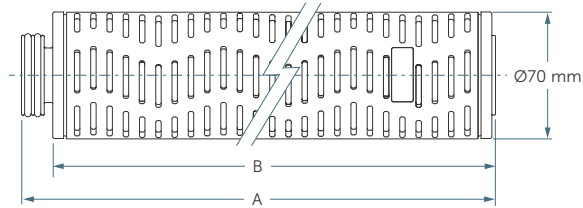
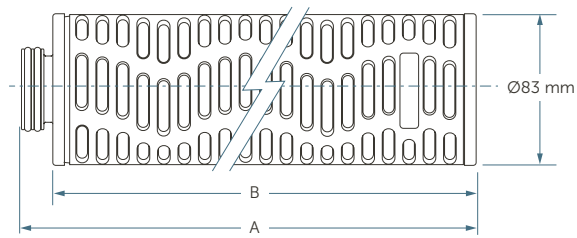| Length	A	B
10"	262.3 mm (10.33")	245.0 mm (9.65")
20"	506.5 mm (19.94")	489.2 mm (19.26")
30"	750.0 mm (29.53")	732.7 mm (28.85")

With Chemlock Key

Ø95.3 mm

Length	A*
20"	510.7 mm (20.11")

Cartridge with key

Code 0 (83 mm width) Filters

Without Chemlock Key

Ø83 mm

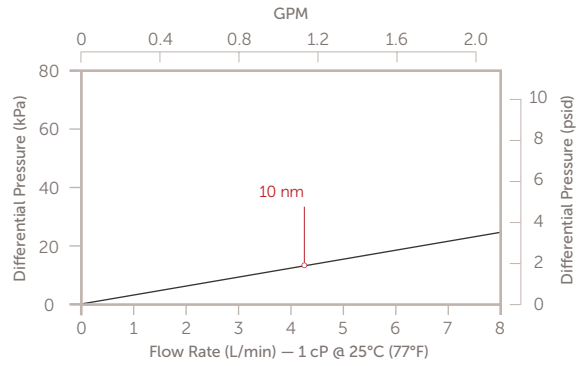| Length	A	B
4"	127.3 mm (5.01")	110.0 mm (4.33")
10"	242.3 mm (9.54")	225.0 mm (8.86")
20"	471.0 mm (18.5")	453.7 mm (17.9")
30"	698.5 mm (27.5")	681.2 mm (26.8")

Code 5 (70 mm width) Filters

Without Chemlock Key

Ø70 mm
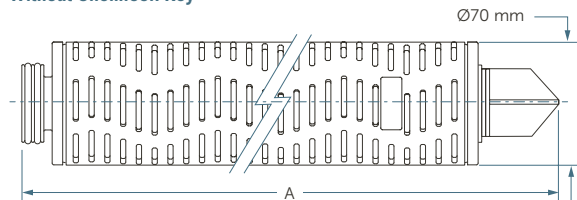
Length	A
10"	309.0 mm (12.17")
20"	550.0 mm (21.85")

PERFORMANCE DATA

Microgard Series 10" Filters
Standard Throughput (70 mm)
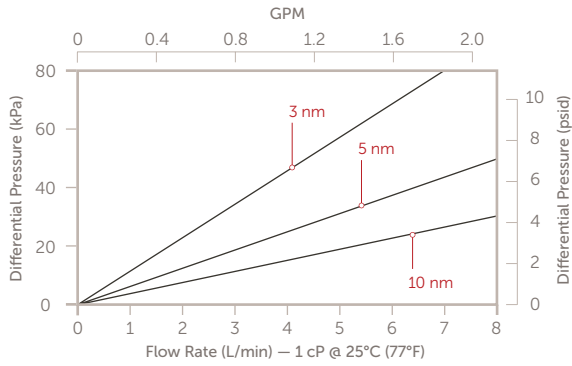
GPM

Differential Pressure (kPa) / Differential Pressure (psid)

Flow Rate (L/min) — 1 cP @ 25°C (77°F)

3 nm
5 nm
10 nm

Microgard Series 10" Filters
Standard Throughput (83 mm)

GPM

Differential Pressure (kPa) / Differential Pressure (psid)

Flow Rate (L/min) — 1 cP @ 25°C (77°F)

10 nm

Microgard Series 10" Filters
High Throughput (70 mm)

GPM

Differential Pressure (kPa) / Differential Pressure (psid)

Flow Rate (L/min) — 1 cP @ 25°C (77°F)

1 nm
3 nm
5 nm

Microgard Series 10" Filters
High Throughput (83 mm)

GPM

Differential Pressure (kPa) / Differential Pressure (psid)

Flow Rate (L/min) — 1 cP @ 25°C (77°F)
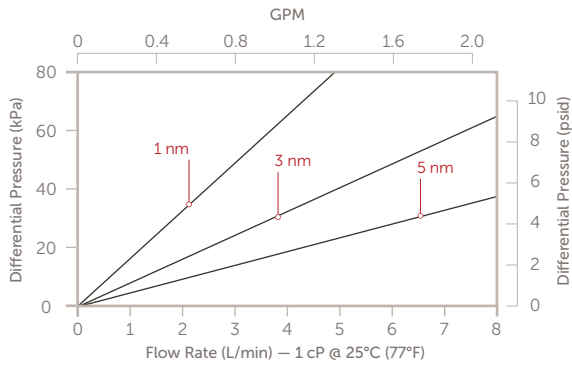
1 nm
3 nm
5 nm
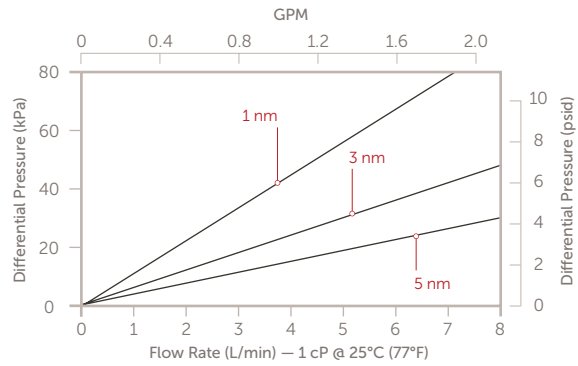
ORDERING INFORMATION

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

Microgard C/UC/UCP Series Filters: part number

C W _ _ _ _ _ ST _ _ _

Cleaning
UC = Ultraclean
UCP = Ultraclean Plus*

K = Optional Chemlock® key attached to cartridge for use with Chemlock housing **ONLY**

O-ring
ST = E-FKM

Diameter
X = 83 mm
M = 70 mm

Cartridge length
S = 4"
1 = 10"
2 = 20"
3 = 30"

Code
0 = Code 0
5 = Code 5

Retention rating
T = 10 nm
F = 5 nm
K = 3 nm
E = 1 nm

Filter type
C = Standard
H = High throughput
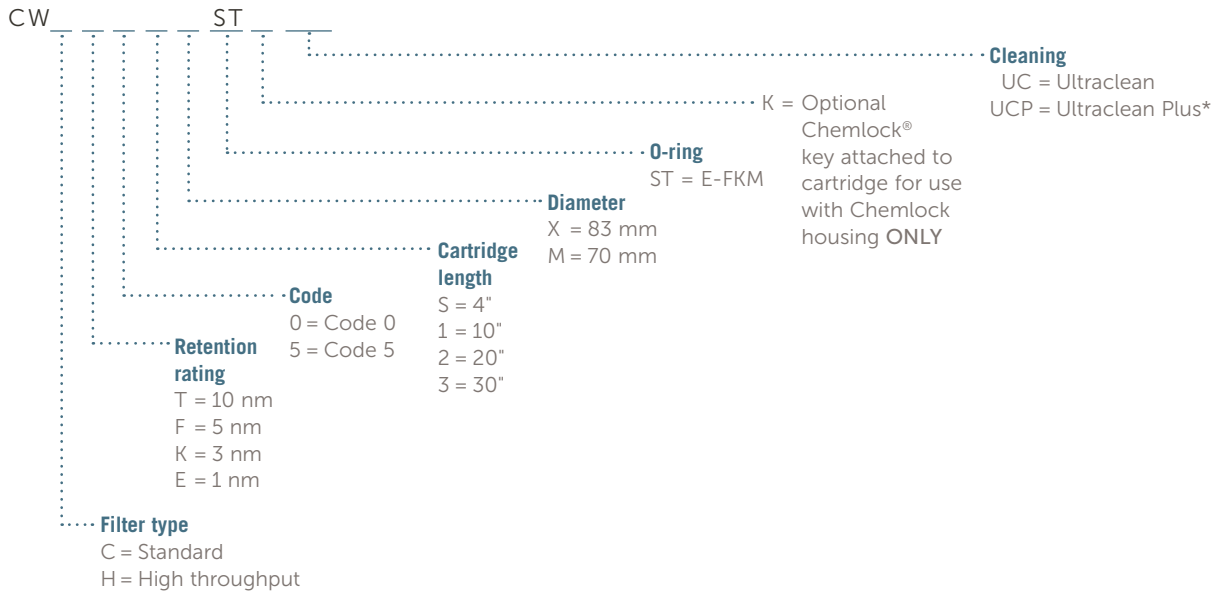
*-UCP for the 1 nm retention rating filter.
Note: The high-throughput device design is incorporated into select 10", 20", and 30" units; reference the Specifications table for exclusions. The HT feature is not available with 4" units.

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.

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