

Microgard™ UC Photochemical Filters

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

Microgard™ UC 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 UC filters include a choice of cleaning technologies to meet critical process demands at sub-28 nm technology nodes.

- Ultraclean (UC): Superior device cleaning method and enhanced cleanliness specifications
- Standard Clean (C): Clean, low metal UPE membrane and filter design

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" and 20" filter types for enhanced flow rate performance. See Specifications and Ordering Information for more details.

APPLICATIONS

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



FEATURES & BENEFITS

| | |
|--|---|
| 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 |

SPECIFICATIONS

| Materials | Shell, core, supports | HDPE | | |
|---|--|---|----------------|------------|
| | Membrane | Asymmetric UPE ¹ | | |
| | O-ring | E-FKM (AS568-222) | | |
| RETENTION RATINGS | | | | |
| | | <table border="1"> <thead> <tr> <th>Standard clean</th> <th>Ultraclean</th> </tr> </thead> </table> | Standard clean | Ultraclean |
| Standard clean | Ultraclean | | | |
| Surface area (based on diameter) | 4" | 83 mm: 0.9 m ² (9.7 ft ²) | 3 nm | — |
| | 10" | 70 mm: 1.31 m ² (14.1 ft ²) | 3, 5, 10 nm | 3, 5 nm |
| | | 83 mm: 1.85 m ² (19.9 ft ²) | 10 nm | — |
| | 10" HT ² | 70 mm: 1.77 m ² (19.1 ft ²) | 3, 5 nm | 3 nm |
| | | 83 mm: 2.61 m ² (28.1 ft ²) | 5 nm | — |
| | 20" | 70 mm: 2.62 m ² (28.2 ft ²) | 3, 5, 10 nm | 3, 5 nm |
| | | 83 mm: 3.71 m ² (39.9 ft ²) | 3, 5, 10 nm | 3, 5 nm |
| | 20" HT ² | 70 mm: 3.55 m ² (38.2 ft ²) | 3, 5 nm | 3 nm |
| | | 83 mm: 5.22 m ² (56.2 ft ²) | — | 3 nm |
| | 30" | 70 mm: 3.94 m ² (42.4 ft ²) | 3, 10 nm | — |
| | | 83 mm: 5.63 m ² (60.6 ft ²) | 10 nm | — |
| | Operating conditions | Maximum inlet pressure: 0.34 MPa (3.4 bar, 50 psi) @ 25°C (77°F) 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: 23 metals | | | |

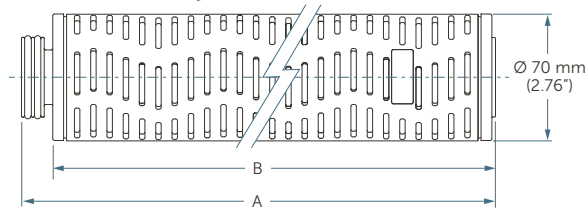
¹ UHMWPE – Long-form acronym for UPE – Ultra-High Molecular Weight Polyethylene.

² The high-throughput device design is incorporated into select 10" and 20" units, excluding those with a 10 nm retention rating.

DIMENSIONS

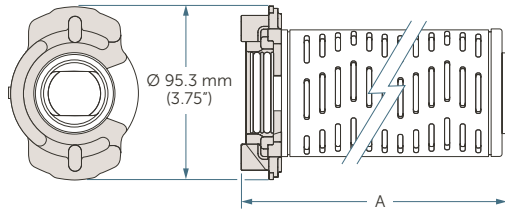
Code 0 (70 mm width) Filters

Without Chemlock® Key



| 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

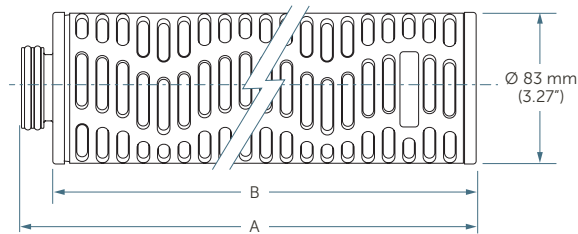


| Length | A* |
|--------|-------------------|
| 20" | 510.7 mm (20.11") |

*Cartridge with key

Code 0 (83 mm width) Filters

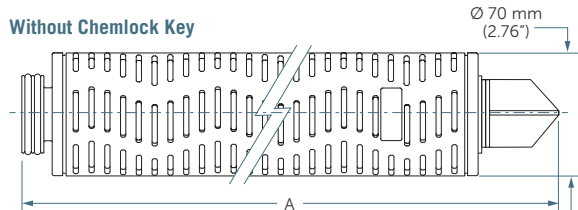
Without Chemlock Key



| 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

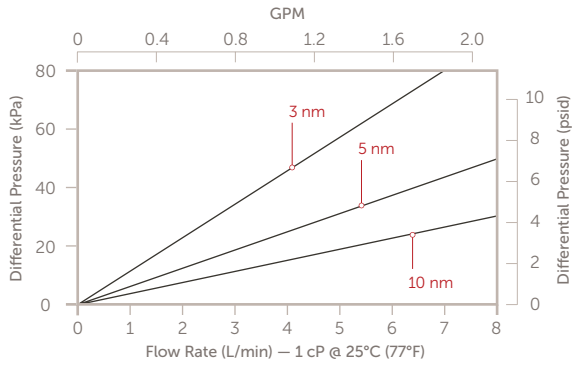
Without Chemlock Key



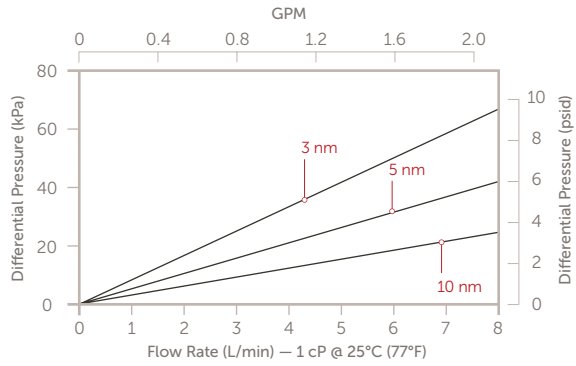
| Length | A |
|--------|-------------------|
| 10" | 309.0 mm (12.17") |
| 20" | 550.0 mm (21.85") |

PERFORMANCE DATA

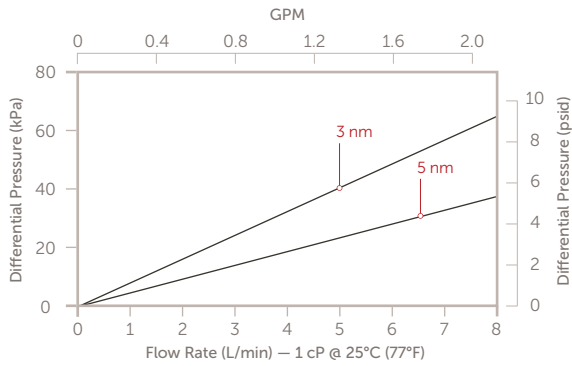
**Microgard UC Series 10" Filters
Standard Throughput (70 mm)**



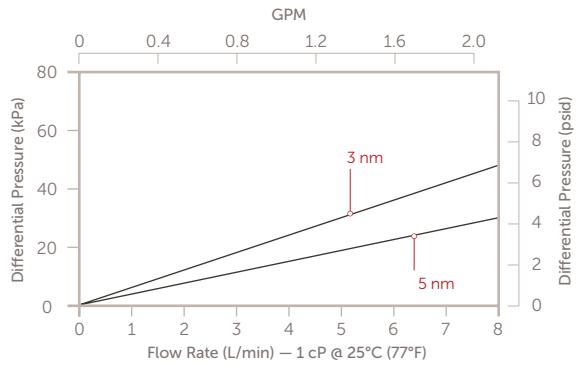
**Microgard UC Series 10" Filters
Standard Throughput (83 mm)**



**Microgard UC Series 10" Filters
High Throughput (70 mm)**



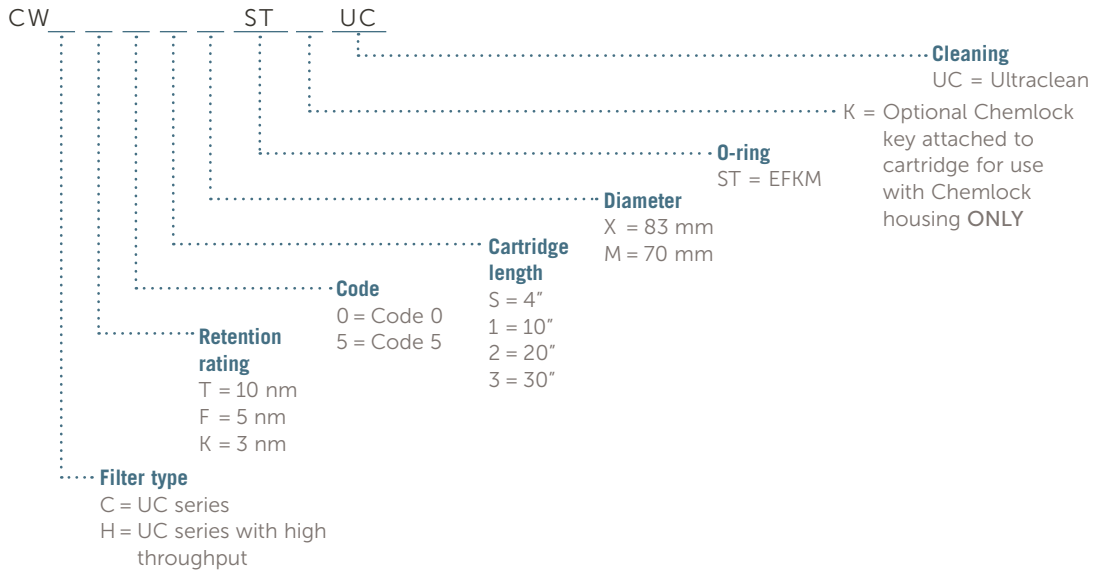
**Microgard UC Series 10" Filters
High Throughput (83 mm)**



ORDERING INFORMATION

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

Microgard UC Series Filters: part number



Note: The high-throughput device design is incorporated into select 10" and 20" units, excluding those with a 10 nm retention rating. The HT feature is not available with 4" or 30" 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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