Fulflo® Slurry-Mate™ Filter Cartridges

■ Polypropylene

Pleated Series

Maximise Planarisation Yield with Slurry-Mate Filter Cartridges

Parker's Fulflo CMP Slurry-Mate Filter Cartridges provide uniform slurry delivery while optimising the chemical mechanical planarisation of wafer interlayer dielectric (ILD) and tungsten and copper metal layers. A unique proprietary melt blown media provides a particle classification effect, which improves service life while maintaining optimum polishing characteristics of alumina and silica based slurries.

Several particle classification matrices are available to match the wide range of CMP oxide and metal polishing slurries in recirculation and distribution loops as well as point-of-use CMP tools.

Applications

Oxide Polishing Slurries:	**Metal Polishing Slurries:**
Point of Use	Point of Use
Distribution	Distribution
Recirculation Loop	Recirculation Loop

Features and Benefits

- Classification matrix extends slurry life and maintains consistent slurry delivery.
- All polypropylene construction provides excellent compatibility for both acidic and basic slurries
- Sieve-like filtration matrix provides sharp particle size cutoff to remove only agglomerated particles causing wafer surface damage.
- Heavy duty construction handles rigors of CMP process fluid conditions
- Increase wafer yield by removing oversized, agglomerated or foreign particulate matter.
- Large surface area provides high flux rate.
- All polymeric construction is totally incinerable.
- Thermal bonding eliminates particle bypass
- Parker's TQM system assures consistent performance
- Several classification matrices are available to accomodate wide range of polishing slurry formulations.
- Fits standard Fulflo and similar competitive filter vessels.

Process Filtration Division

Parker Filtration

Specifications

Particle Classification Codes:

- 02, 04, 06, 08, 10, 12, 14, 16

Materials of Construction:

- Filter Medium: Melt Blown Polypropylene
- Filter Medium Support: Polypropylene
- Structural Components: Natural Polypropylene
- O-Ring Material: EPDM, Viton, PFA/Viton
- Gasket Material: Polyethylene Foam
- Sealing Method: Thermal bonding

Dimensions:

- Diameter: 2.5 in (63 mm)
- Lengths: 4-30 in (102-764 mm)

Maximum Recommended Operating Conditions:

- Temperature:
  200ºF (93ºC) @ 10 ΔP (0.7 bar)
- Differential Pressure:
  70 psi (4.8 bar) @ 77ºF (25ºC)
  10 psi (0.7 bar) @ 200ºF (93ºC)
- Flow Rate:
  18.9 lpm per 10 in cartridge
- Changeout Net ΔP:
  10 psi (0.7 bar)

Flow Factors (m bard/l/min @ 1 cks per 10-inch cartridge)

Code	Flow Factors
02	18
04	13.5
06	9
08	2.3
10	0.5
12	0.4
14	0.2
16	0.2

ΔP=Flow Rate X Viscosity (cks) X Flow Factor

Cartridge Selection Guide

Slurry Particle Size Range (micrometers	Recommended Cartridge Code	Typical Application
0.05 - 0.1	02	Point of Use
0.10 - 0.2	04	
0.20 - 0.4	06	
0.50 - 1.0	08	
1.00 - 2.0	10	Distribution
2.00 - 4.0	12	
4.00 - 8.0	14	Recirculation Loop
7.00 -14.0	16	

Note: Cartridge selection based on removing particles larger than the slurry particle size range specified.

Ordering Information

SMC	12	—	10	N	V	—	TC
Cartridge Code	*Particle Classification Code*		*Nominal Length*	*Support Construction*	*Seal Options*		*End Cap Configuration*
SMC = Slurry-Mate Cartridge	02 04 06 08 10 12 14 16		Code (in) (mm) 04 4 102 10 9 13/16 249 20 19 15/16 506 30 30 1/16 764	N = Natural Polypropylene	A = Polyethylene Gasket (DO Only) E = EPDM O-ring T = PFA/Viton* O-ring V = Viton* O-ring		DO = Double Open End TC = 222 O-ring/Cap

* A trademark of E. I. du Pont de Nemours & Co.

** Consult factory for gas flow data.

Process Filtration Division

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