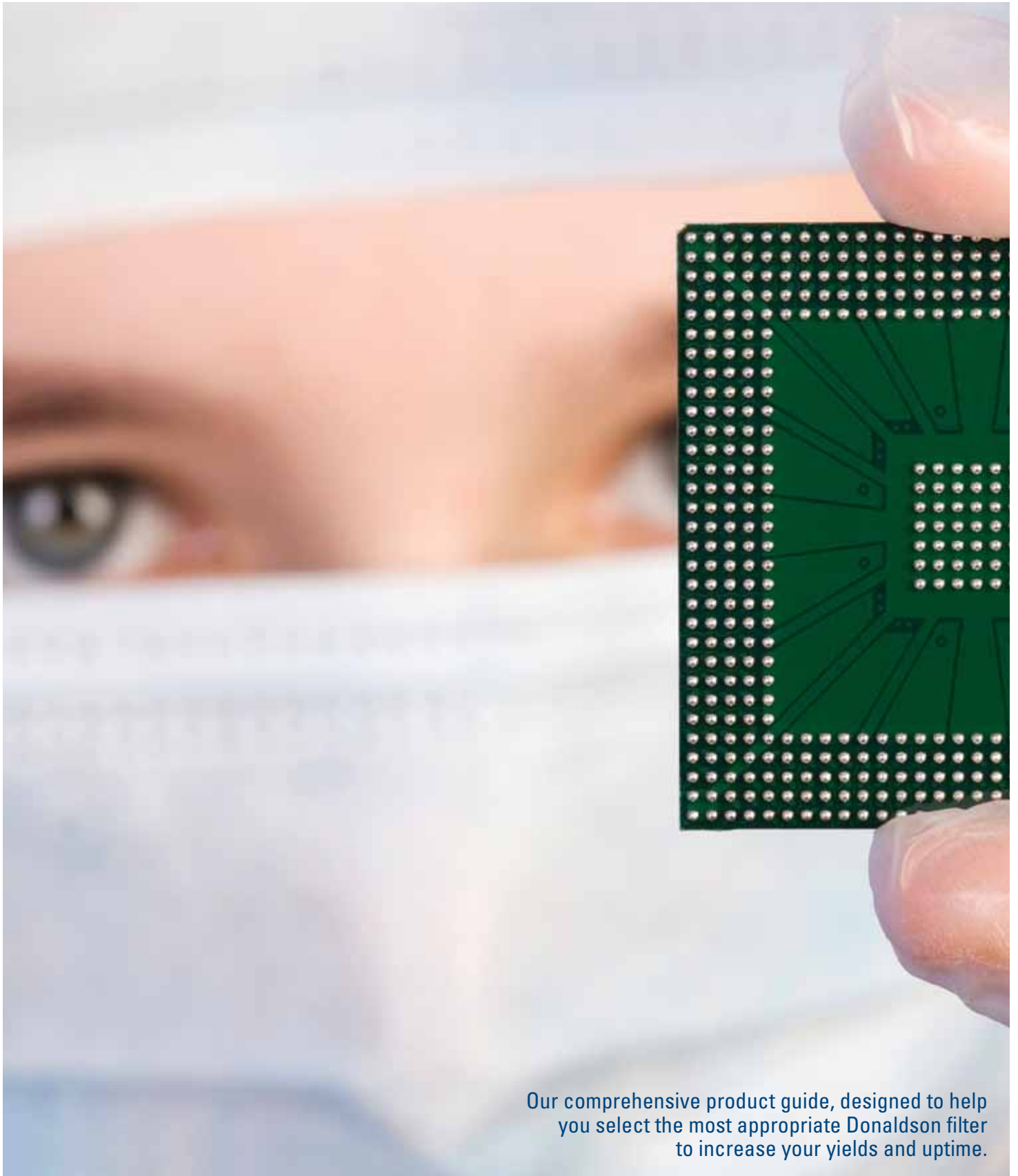




**Donaldson**  
FILTRATION SOLUTIONS

## PRODUCT SELECTION GUIDE

Semiconductor Filtration



Our comprehensive product guide, designed to help you select the most appropriate Donaldson filter to increase your yields and uptime.

## PRODUCT SELECTION GUIDE

### LITHOGUARD®-12 CABINET

The Lithoguard-12 cabinet is a high-efficiency chemical filtration system, with an integrated HEPA filter, that removes gas-phase contaminants such as volatile bases, acid gases, and condensable organics. Designed for high-end lithography tools, including 248 nm, 193 nm "dry" and 193 nm immersion exposure tools, it provides an ultra-clean environment that enables critical chemical processes and helps prevent the degradation and contamination of optical elements.

### LITHOGUARD-12 CABINET SPECIFICATIONS

Part No.	Chemical Filter Part No.	Dimensions W x H x D	Design Airflow	Approx. Weight with Filters Installed
KAX007890 (LG-12 Cabinet + 6 permanent HEPA filters)	P512612 (12 BSMmax filters required)	850 x 1,850 x 1,200 mm (34" x 73" x 47")	2,600 m <sup>3</sup> /hr (1,530 cfm)	600 kg (1320 lbs)

### BSMmax FILTER



Since Donaldson first introduced broad spectrum filter media for the semiconductor industry, considerable studies have gone into the actual levels of contaminant types in ambient air. Simultaneously, tool manufacturers have shown increasing concern about the presence of Si-containing compounds in cleanroom air and the resulting irreversible damage to optical elements. To meet these increasingly complex and stringent demands, Donaldson developed the BSMmax filter that offers the maximum protection, filter life, and flexibility for the broadest spectrum of contaminants that can degrade tools and processes.

Part No.	Dimensions W x H x D	Design Airflow	Pressure Drop	Approx. Weight
P512612	552 x 185 x 430 mm (21.7" x 7.5" x 16.9")	433 m <sup>3</sup> /hr (255 cfm)*	225 Pa (0.9" water gauge)*	20 kg (44 lbs)*

\* Results per filter.

### LITHOGUARD MEDIA TYPE GUIDE

- **Non-impregnated Carbon (NIC)** - Removes organic contamination.
- **Standard LITHOGUARD Media (Std.)** - Provides ammonia, amine, and NMP—free air combined with protection from organic contamination.
- **Life Span Plus (LSP)** - Provides greater protection from ammonia and amines with moderate protection from organic contamination.
- **Broad Spectrum Media (BSM)** - Comprehensive gas-phase contaminant filter. Removes ammonia, amines, acid gases, and organic contamination.
- **Broad Spectrum Media (BSMmax)** - Most comprehensive gas-phase contaminant filter. Removes ammonia, amines, acid gases, and organic contamination.

## PRODUCT SELECTION GUIDE

### LITHOGUARD® 2-HIGH, 5-HIGH, AND 7-HIGH CABINETS

The LITHOGUARD cabinet is a high-efficiency chemical filtration system that removes gas-phase contaminants such as volatile bases, acid gases and condensable organics. These cabinets are designed for 248 nm and 193 nm lithography tools. In addition, many customers use these cabinets to provide ultra-clean environments for various fab processes.

### LITHOGUARD CABINET SPECIFICATIONS

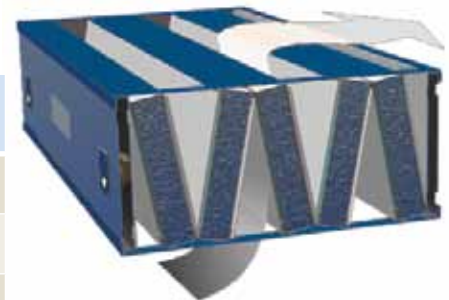
Part No.	Filters per Cabinet	Rated Airflow per System	Dimensions W x H x D	Approx. Weight with Filters Installed
P198605	2	714 m <sup>3</sup> /hr (420 cfm)	683 x 744 x 707 mm (27" x 29" x 28")	118 kg (260 lbs)
P198625*	2	714 m <sup>3</sup> /hr (420 cfm)	683 x 1219 x 707 mm (27" x 48" x 28")	130 kg (286 lbs)
P198900	5	1785 m <sup>3</sup> /hr (1050 cfm)	674 x 1274 x 705 mm (27" x 50" x 28")	250 kg (550 lbs)
P199100	7	2500 m <sup>3</sup> /hr (1470 cfm)	674 x 1737 x 705 mm (27" x 68" x 28")	306 kg (673 lbs)

\* powered (UL or CE)

### LITHOGUARD FILTER SPECIFICATIONS

for v1.0, v2.0, v3.0 with a flow rate of 355 m<sup>3</sup>/hr

Media Type	Part No.	Dimension (mm) W x H x D	Pressure Drop (Pa)	Approx. Weight (kg)
BSMmax	P510610	630 x 335 x 155	300	16
NIC	P199160	630 x 335 x 155	210	14
STD	P197950	630 x 335 x 155	210	14
LSP	P198205	630 x 335 x 155	210	14



Multi-V packed-bed design ensures high efficiency single-pass removal of contaminants.

### LITHOGUARD TARGET CONTAMINATION GUIDE\*

Media Type	Part No.	Ammonia	Amines	NMP	Acid Gases	Silanes & Siloxanes	Organics
NIC	P199160			x		x	x
Std.	P197950	x	x	x		x	x
LSP	P198205	x	x	x		x	x
BSMmax	P510610	x	x	x	x	x	x

# PRODUCT SELECTION GUIDE

## LITHOGUARD® POINT-OF-USE FILTERS

Designed for removal of base, acid and organic gas phase contaminants, Donaldson LITHOGUARD® Point-of-Use (POU) filters are ideal for pressurized air and nitrogen, which require extremely high purity environments. POU filters enable a tight focus on a particular set of process contaminants.



### LITHOGUARD POINT-OF-USE FILTERS SPECIFICATIONS

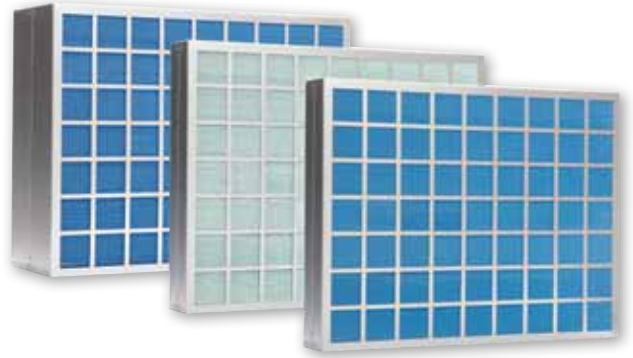
	Part Number	Contaminants Removed	Flow Rate (SLPM)	Pressure Drop $\Delta P$ @ 1 bar (mbar)	Particulate Media	Approx. Dimensions L x Diam. (mm)	Fitting	Approx. Weight (kg)
N <sub>2</sub> / CDA	P511885	Acid, base & organics	50	< 50	> 99.999% eff. @ 0.3 $\mu$ m	216 x 102	1/4" tube	4.0
	P512886	Acid, base & organics	100	231	> 99.999% eff. @ 0.3 $\mu$ m	372 x 102	8 mm tube	4.5
	P510830	Acid, base & organics	130	< 90	> 99.883% eff. @ 0.3 $\mu$ m	362 x 102	12 mm inlet 8 mm outlet	4.4
	P513202	Acid, base & organics	150	< 179	> 99.999% eff. @ 0.3 $\mu$ m	384 x 127	3/8" BSPT	10
	P510978	Acid, base & organics	200	178	> 99.999% eff. @ 0.3 $\mu$ m	236 x 102	1/2" VCR male inlet 1/2" VCR female outlet	3.2
	P510979	Acid, base & organics	200	350	> 99.999% eff. @ 0.3 $\mu$ m	620 x 102	1/2" VCR male inlet 1/2" VCR female outlet	8.0
	P514278	Acid, base & organics	200	< 300	> 99.999% eff. @ 0.3 $\mu$ m	711 x 102	1/2" VCR male inlet 1/2" VCR female outlet	7.5
	P511554	Acid, base & organics	10	< 62	> 99.999% eff. @ 0.3 $\mu$ m	169 x 64	1/4" tube	1.3
	P510885	Acid, base & organics	40 - 120	145 - 430	> 99.999% eff. @ 0.3 $\mu$ m	166 x 64	1/4" VCR male	1.3
	P510988	Organics	40 - 120	121 - 467	> 99.999% eff. @ 0.3 $\mu$ m	166 x 61	1/4" VCR male	1.1
	P512098	Organics	180	< 500	> 99.999% eff. @ 0.3 $\mu$ m	166 x 64	1/2" VCR female	1.3
	P513374	Acid, base & organics	500	< 120	N/A	454 x 127	3/4" VCR female	9.0
	Compressed Air	P514527	Acid, base & organics, H <sub>2</sub> O	5	< 138	> 99.999% eff. @ 0.3 $\mu$ m	439 x 102	1/2" VCR male
P513752		Acid, base & organics	130	< 55	> 99.883% eff. @ 0.3 $\mu$ m	383 x 102	1" BSPP	8.0
P510673		Acid, base & organics	130	65	> 99.883% eff. @ 0.3 $\mu$ m	319 x 102	1" BSPP inlet 1/2" BSPP outlet	4.3
P510172		Acid, base & organics	130	71	> 99.883% eff. @ 0.3 $\mu$ m	391 x 102	1" BSPP	6.6
P512045		Acid, base & organics	170	< 35	> 99.999% eff. @ 0.3 $\mu$ m	384 x 127	1" BSPP	8.0
P512925		Acid, base & organics	170	35*	> 99.999% eff. @ 0.3 $\mu$ m	520 x 127	3/4" VCR female	9.0
P513400		Acid, base & organics	360	< 500	> 99.999% eff. @ 0.3 $\mu$ m	130 x 64	1/2" BSPP	7.0

## PRODUCT SELECTION GUIDE

### CHEMCORE™ ADVANCED AMC FILTERS

ChemCore is Donaldson's innovative alternative to packed-bed carbon filters. Designed to control contaminants that can negatively affect tools and processes, our lighter weight, lower pressure drop filter offers long life and high removal efficiency.

Our knowledge of airborne molecular contamination (AMC) control and semiconductor chemistry, combined with our experience with filter substrates that operate in the harshest industrial environments, have produced a field-proven, robust, and durable filter media alternative.

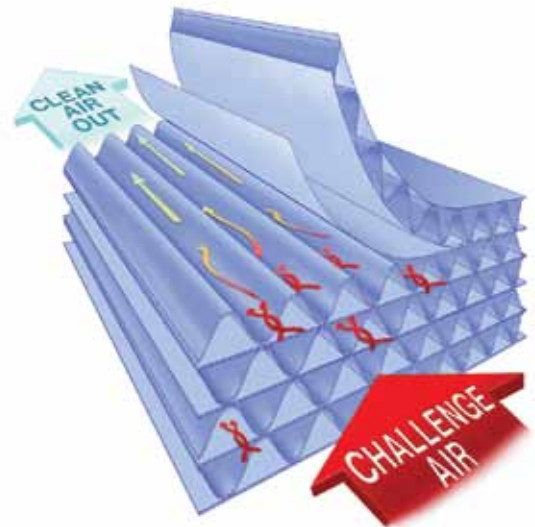


### CHEMCORE B - BASE GAS FILTER

ChemCore B removes ammonia (NH<sub>3</sub>) and amines from ambient air.

### CHEMCORE B - FILTER SPECIFICATIONS

Part No.	Width (mm)	Length (mm)	Depth (mm)	Weight (kg)
P512921	500	500	70	3.3
P512852	400	600	70	3.2
P512917	500	500	150	7.0
P512853	400	600	150	6.8
P514180	615	155	155	2.8
P514181	155	165	155	0.7
P512897	200	360	155	2.0
P513131	360	460	155	4.9
P512884	385	460	155	5.3
P513140	460	460	155	6.4
P512885	310	615	155	5.7
P513130	360	620	155	6.8
P512972	460	620	155	8.8
P513510	710	630	155	11.3
P512896	270	720	155	5.9
P512898	400	1120	155	14.7



ChemCore's chemically-treated filter material allows for filtration by diffusion.

### TYPICAL APPLICATIONS

Reticle Stockers	Cleanrooms	FFU
Wafer Stockers	Scanners	MUA
Exhaust Systems	Tracks	AHU

## FILTER REFILL PROGRAM

The Donaldson Refill Program is the only one of its kind in the Semiconductor industry. Customers who opt for this eco-friendly initiative significantly reduce their cost-of-ownership. Best of all, refilled filters are guaranteed to perform like new.

### Program Features and Benefits

- OEM approved
- Fresh, new carbon media replaces used media
- Guaranteed: Refilled filters perform like new
- Reduced cost-of-ownership: Refilled filters cost 30 - 50% less than new ones
- Eco-friendly
- Short time lead: Refilled filters are typically delivered in just 3 - 4 weeks

### Filters Eligible for Refill

- Most Donaldson packed-bed carbon filters
- Donaldson Point-of-Use filter P510172

## INSTRUCTIONS

To get your eligible Donaldson filters refilled:

- 1** Contact the Donaldson Semiconductor customer service nearest you for a Return Materials Authorization (RMA) number. Know your PO number, the Donaldson part number, and quantity of filters to be refilled.
- 2** Donaldson customer service will enter your order and provide you with an RMA number and a shipping document to enclose with your filters.
- 3** Using the information obtained above, you will ship the filters to the address listed on the shipping document. Allow one week for shipping.
- 4** Allow approximately 2-3 weeks for your filters to be processed.
- 5** Processed filters will be shipped back to the address you provided on the PO. Allow one week for shipping.



Contact Donaldson today for more information!



Donaldson.

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