

LITHOGUARD®-12 CABINET

The **Lithoguard®-12** cabinet is a high-efficiency chemical filtration system, with integrated HEPA filters, that removes gas-phase contaminants such as volatile bases, acid gases, and condensable organics at greater than 99% efficiency. Designed for high-end lithography tools, including 248 nm, 193 nm "dry" and 193 nm immersion exposure tools and beyond, it provides an ultra-clean environment that enables critical chemical processes and helps prevent the degradation and contamination of optical elements.

CABINET SPECIFICATIONS

PART NO.	CHEMICAL FILTER KIT NO.		DESIGN AIRFLOW		DIMENSIONS						APPROXIMATE WEIGHT (with filters installed)	
	BSMMAX	LPS	CFM	M ³ /H	W		D		H		LBS	KG
					IN	MM	IN	MM	IN	MM		
KAX007890*	KAX011439**	KAX011428***	1,530	2,600	34	850	47	1,200	73	1,850	1,320	600

* LG-12 Cabinet + 6 permanent HEPA filters

** 12 BSMmax filters (P512612) included in kit

***6 upstream (P515501) and 6 downstream filters (P515502) included in kit

BSMMAX AND LPS FILTERS

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 and LPS filters to offer the maximum protection, filter life, and flexibility for the broadest spectrum of contaminants that can degrade tools and processes.



FILTER SPECIFICATIONS

PART NO.	PRESSURE DROP		DESIGN AIRFLOW		DIMENSIONS						APPROXIMATE WEIGHT	
	"WG	PA	CFM	M ³ /H	W		L		D		LBS	KG
					IN	MM	IN	MM	IN	MM		
P512612 ¹	0.9	225	255	433	21.9	555	16.9	430	7.4	188	44	20
P515501 ²	0.9	225	255	433	21.9	555	16.9	430	7.4	188	44	20
P515502 ²	0.84	210	255	433	21.9	555	16.9	430	7.4	188	44	20

¹BSMmax
²LPS

FEATURES & BENEFITS

- Removal capacity for:
 - Acids (SO₂, HCl, HBr)
 - Bases (NH₃, NMP, amines)
 - Condensable organics (HMDSO, TMS)
- More capacity than current carbon filters of comparable size
- These filters are eligible for the **Donaldson Refill Program**
- Donaldson can provide life estimate based on your actual fab contaminant concentrations

LITHOGUARD 2-FILTER, 5-FILTER, AND 7-FILTER CABINETS

LITHOGUARD cabinets are a high-efficiency chemical filtration system that remove gas-phase contaminants such as volatile bases, acid gases and condensable organics. These cabinets are designed for 248 nm, 200 nm and 193 nm lithography tools. In addition, many customers use these cabinets to provide ultra-clean environments for various fab processes.

CABINET SPECIFICATIONS

PART NO.	SYSTEM	DESIGN AIRFLOW		DIMENSIONS						APPROXIMATE WEIGHT (with filters installed)	
				W		D		H			
		CFM	M ³ /H	IN	MM	IN	MM	IN	MM	LBS	KG
P198625*	2-Filter	420	714	26.88	683	27.85	707	48	1,219	286	130
P199181	5-Filter	1,050	1,785	26.88	683	27.85	707	69	1,747	650	295
P199870	7-Filter	1,470	2,500	26.88	683	27.85	707	87	2,210	910	413

* powered (UL or CE)

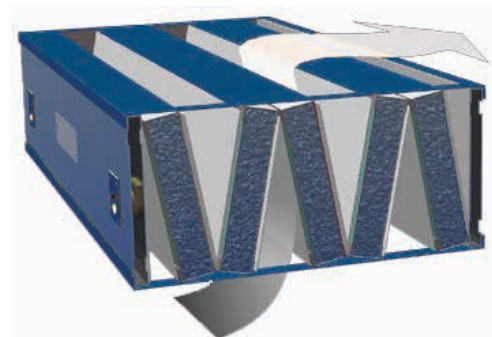
FILTER SPECIFICATIONS

for 2-Filter, 5-Filter, and 7-Filter with a flow rate of 355 m³/hr

PART NO.	PRESSURE DROP		DESIGN AIRFLOW		DIMENSIONS						APPROXIMATE WEIGHT	
	W				L		D					
	"WG	PA	CFM	M ³ /H	IN	MM	IN	MM	IN	MM	LBS	KG
P510610	1.2	300	210	357	13.2	335	24.8	630	6.1	155	36	16.3

**LITHOGUARD®
5-Filter Cabinet**
P199181

**LITHOGUARD®
7-Filter Cabinet**
P199870



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

**LITHOGUARD®
2-Filter Cabinet**
P198625 (w/fan)

LITHOGUARD POINT-OF-USE FILTERS

Designed for removal of moisture, acid, base, and organic gas phase contaminants, Donaldson LITHOGUARD® Point-of-Use (POU) filters are ideal for clean, dry pressurized air, nitrogen, and other inert gases which require extremely high purity environments. POU filters enable a tight focus on a particular set of process contaminants. Donaldson LITHOGUARD stainless steel, Point-of-Use filters are pre-purged and ready for immediate use.



Custom filters can be designed for your specific application.

PART NO.	CONTAMINANTS REMOVED			FLOW RATE (SLPM)	PRESSURE DROP ΔP @ 1 BAR (MBAR)	APPROX. DIMENSIONS L X DIA. (MM)	FITTING
	ACIDS	BASE	ORGANICS				
> 99.999% EFFICIENT @ 0.3 MICRON							
P516065	X	X	X	2	< 10	10 x 3	1/2" VCR female inlet 1/2" VCR male outlet
P511554	X	X	X	10	< 62	169 x 64	1/4" tube
P511885	X	X	X	50	< 50	216 x 102	1/4" tube
P512886	X	X	X	100	< 231	372 x 102	8mm tube
P510885	X	X	X	40 - 120	145 - 430	166 x 64	1/4" VCR male
P510988			X	40 - 120	121 - 467	166 x 61	1/4" VCR male
P513202	X	X	X	150	< 179	384 x 127	3/8" BSPT
P512925	X	X	X	170	< 35	520 x 127	3/4" VCR female
P512098			X	180	< 500	166 x 64	1/2" VCR female
P510978	X	X	X	200	< 178	236 x 102	1/2" VCR male inlet 1/2" VCR female outlet
P510979	X	X	X	200	< 350	620 x 102	1/2" VCR male inlet 1/2" VCR female outlet
P516530	X	X	X	200	< 300	440 x 127	1/2" BSPT
P515989	X	X	X	250	< 210	12 x 5	3/8" tube
P516527	X	X	X	500	< 650	550 x 152	1/2" BSPT
P516187	X	X	X	539	< 600	319 x 102	3/8" BSPT
P516162	X	X	X	216	< 150	229 x 102	3/8" BSPT
> 99.97% EFFICIENT @ 0.3 MICRON							
P512045	X	X	X	170	< 35	384 x 127	1" BSPP
X009989	X	X	X	170	< 35	512 x 127	1/2" BSPP
X009994	X	X	X	170	< 35	520 x 127	3/4" VCR female
X009992	X	X	X	170	< 35	448 x 127	1/2" VCR female
> 99.883% EFFICIENT @ 0.3 MICRON							
P510673	X	X	X	130	< 65	319 x 102	1" BSPP inlet 1/2" BSPP outlet
X009995	X	X	X	130	< 65	319 x 102	1" BSPP
PARTICULATE EFFICIENCY N/A							
P513374	X	X	X	500	< 120	454 x 127	3/4" VCR female

FILTER REFILL PROGRAM – CABINET FILTERS

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
- Most Donaldson Lithoguard Cabinet filters are eligible for refill

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.

Important Notice

Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, product specifications, availability and data are subject to change without notice, and may vary by region or country.



Donaldson Company, Inc.
Semiconductor
PO Box 1299
Minneapolis, MN 55440-1299 U.S.A.

donaldson.com
semiconductor@donaldson.com

United States of America
+1-952-887-3700

Europe, Middle East, & Africa
+32 1638 3983

Japan
+81 42 540 4119

Korea
+82 2 517 3333

Singapore & Malaysia
+65 6311 7373

Taiwan, Hong Kong, & China
+886 2 8692 5558