

NANOCHEM® Purification Systems

Hardware Mechanical Specifications

(Note that Matheson reserves the right to change specifications without notice.)

Model	L-Series		L-Series High Flow		H-Series	HP-Series
Model Numbers	L-60 L-300 L-500 L-2000		L-300-HF L-500-HF L-2000-HF		H-500	HP-300 HP-500
Media Bed Volume	60 mL 300 mL 500 mL 2000 mL		300 mL 500 mL 2000 mL		500 mL	300 mL 500 mL
Connection Type	1/4" face seal (female inlet, male outlet)					
Valve Type	1/4" springless diaphragm valve				1/4" springless diaphragm or bellows valve	
Valve Actuation	Manual				Manual or Pneumatic	
Wetted Part Materials	316L Stainless Steel Nickel 200 gaskets Elgiloy diaphragm PCTFE valve seat				316L Stainless Steel Nickel 200 gaskets 300 Series Stainless Steel bellows, or Elgiloy diaphragm PCTFE valve seat or insert	
Outlet Filter Material	316L Stainless Steel or PTFE					
Outlet Filter Performance	99.999999% (9-log) of all particles ≥ 0.003 μm, except L-500-HF which is 99.99% (4-log) of all particles ≥ 0.003 μm ⁽⁵⁾					
Inboard Leak Rate	1 x 10 ⁻⁹ sccs of helium					
Maximum Pressure (psig)	L-60 500 L-300 500 ⁽¹⁾ L-500 500 ⁽¹⁾ L-2000 500 ⁽¹⁾		500 ⁽¹⁾		2,850	
Temperature Range	-40°C to 70°C					
Maximum Typical Flow ⁽²⁾ (slpm of nitrogen)	L-60 8 L-300 15 L-500 50 L-2000 50	L-300-HF 50 L-500-HF 75 L-2000-HF 150		50		50
Bypass	3-Valve Bypass, Optional and Retrofittable				Standard	
Endpoint Detection	Available for NANOCHEM® OMX, OMX Plus, OMA and OMS media only (except L-60)					N/A
Exhausted Enclosure	Please contact Matheson Equipment Customer Service Center at (800) 828-4313					

Note 1: The endpoint detector, if fitted, limits the maximum pressure rating to 150 psig.

Note 2: The maximum typical flow is dependent both on the allowable pressure drop through the filter element, and the characteristics of the purification media. Higher flows may be possible. Contact Matheson Equipment Customer Service Center at (800) 828-4313, for recommendations for specific applications and/or refer to the pressure drop curves for that purifier model.

Note 3: All MS-4, MS-8, MS-16 and MS-32 purifiers for ammonia service come with a filter which removes 99.999999% (9-log) of all particles $\geq 0.003\text{mm}$. This filter limits the maximum flow to 150 slpm of nitrogen.

Note 4: Valves on all MS-Series purifiers have 1/2" VCR type inlet and outlet connections, but are connected to 3/8" Stainless Steel tubing.

Note 5: Filters on all L-Series purifiers provide 9-log retention at the highest rated flow rate for particles $\geq 0.003\mu\text{m}$. The exception is the filter on the L-500-HF. While it offers 9-log retention at low flow rates (up to 6 lpm), the removal efficiency decreases to 4-log retention at the maximum rated flow rate of 75 slpm.



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Hardware Mechanical Specifications - continued

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Model	MegaShield	A-Series		White Knight		
Model Numbers	MS-4	A-60		WK-75	WK-9000	
	MS-8	A-300		WK-500		
	MS-16	A-500		WK-2500		
	MS-32	A-2000				
Media Bed Volume	4 liters	60 mL		55 mL	9000 mL	
	8 liters	300 mL		500 mL		
	16 liters	500 mL		2500 mL		
	32 liters	2000 mL				
Connection Type	1/2"face seal (female) ⁽⁴⁾	1/4" face seal (female inlet, male outlet)		1/4" male face seal (inlet and outlet)	1/2"face seal (female inlet, male outlet)	
Valve Type	3/8" springless diaphragm valve ⁽⁴⁾	1/4" springless diaphragm valve		Poppet valve	3/8" springless diaphragm valve	
Valve Actuation	Manual	Manual		Manual during installation	Manual	
Wetted Part Materials	316L Stainless Steel	316L Stainless Steel		316L Stainless Steel	316L Stainless Steel	
	Nickel 200 gaskets	Nickel 200 gaskets		Nickel 200 gaskets	Nickel 200 gaskets	
	PCTFE valve seat	Elgiloy diaphragm			Elgiloy diaphragm	
	TFE comp. ring	PCTFE valve seat			PCTFE comp. ring	
Outlet Filter Material	316L Stainless Steel	316L Stainless Steel or PTFE		316L Stainless Steel	PTFE	
Outlet Filter Performance	100 μm	99.999999% (9-log) of all particles ≥ 0.003 μm				
Inboard Leak Rate	1 x 10 ⁻⁹ sccs of helium					
Maximum Pressure (psig)	350	500		WK-75 3000	150	
				WK-500 500		
				WK-2500 150		
Temperature Range	-40°C to 70°C					
Maximum Typical Flow ⁽²⁾ (slpm of nitrogen)	1000	A-60	8	WK-75	5	1000
		A-300	15	WK-500	60	
		A-500	50	WK-2500	300	
		A-2000	150			
Bypass	3-Valve Bypass, Optional and Retrofittable			N/A		
Endpoint Detection	Available for NANOCHEM® OMX, OMA and OMS media only	Available for NANOCHEM® OMX, OMX-Plus, OMA and OMS media only (except A-60)			N/A	
Exhausted Enclosure	Special Order	SideCar			N/A	

Note 1: The endpoint detector, if fitted, limits the maximum pressure rating to 150 psig.

Note 2: The maximum typical flow is dependent both on the allowable pressure drop through the filter element, and the characteristics of the purification media. Higher flows may be possible. Contact Matheson Equipment Customer Service Center at (800) 828-4313, for recommendations for specific applications and/or refer to the pressure drop curves for that purifier model.

Note 3: All MS-4, MS-8, MS-16 and MS-32 purifiers for ammonia service come with a filter which removes 99.999999% (9-log) of all particles ≥ 0.003mm. This filter limits the maximum flow to 150 slpm of nitrogen.

Note 4: Valves on all MS-Series purifiers have 1/2" - VCR type inlet and outlet connections, but are connected to 3/8" Stainless Steel tubing.

Note 5: Filters on all L-Series purifiers provide 9-log retention at the highest rated flow rate for particles ≥ 0.003µm. The exception is the filter on the L-500-HF. While it offers 9-log retention at low flow rates (up to 6 lpm), the removal efficiency decreases to 4-log retention at the maximum rated flow rate of 75 slpm.

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