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	99.9999999% (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 99.9999999% (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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NANOCHEM® Purification Systems

Hardware Mechanical Specifications - continued

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Model	MegaShield	A-Series	White Knight	
Model Numbers	MS-4 MS-8 MS-16 MS-32	A-60 A-300 A-500 A-2000	WK-75 WK-500 WK-2500	WK-9000
Media Bed Volume	4 liters 8 liters 16 liters 32 liters	60 mL 300 mL 500 mL 2000 mL	55 mL 500 mL 2500 mL	9000 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 Nickel 200 gaskets PCTFE valve seat TFE comp. ring	316L Stainless Steel Nickel 200 gaskets Elgiloy diaphragm PCTFE valve seat	316L Stainless Steel Nickel 200 gaskets	316L Stainless Steel Nickel 200 gaskets Elgiloy diaphragm PCTFE comp. ring
Outlet Filter Material	316L Stainless Steel	316L Stainless Steel or PTFE	316L Stainless Steel	PTFE
Outlet Filter Performance	100 μm	99.9999999% (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 WK-500 500 WK-2500 150	150
Temperature Range	-40°C to 70°C			
Maximum Typical Flow[2] (slpm of nitrogen)	1000	A-60 8 A-300 15 A-500 50 A-2000 150	WK-75 5 WK-500 60 WK-2500 300	1000
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 99.9999999% (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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