

HL Series

Water Softening NF Elements

The H-Series proprietary thin-film nanofiltration membrane elements are characterized by an approximate molecular weight cut-off of 150-300 daltons for uncharged organic molecules. Divalent and multivalent ion rejection is dependent upon feed concentration and composition.

HL Nanofiltration Elements are used for water softening, color removal, and reduction of THM formation potential.

Table 1: Element Specification

Membrane	H-Series, Thin-film membrane (TFM*)
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Model	Average permeate flow gpd (m3/day) ^{1,2}	Average MgSO ₄ rejection ^{1,2}	Minimum MgSO ₄ rejection ^{1,2}
HL2540FM	780 (3.0)	98.0%	95.0%
HL2540TM	780 (3.0)	98.0%	95.0%
HL4040FM	2,400 (9.1)	98.0%	95.0%
HL4040TM	2,400 (9.1)	98.0%	95.0%
HL8040F 365	10,800 (40.9)	98.0%	95.0%
HL8040F-400	11,500 (43.5)	98.0%	95.0%
HL8040N	10,100 (38.2)	97.5%	95.0%

¹ Average salt rejection after 24 hours operation. Individual flow rate may vary +25%/-15%.

² Testing conditions: 2,000ppm MgSO₄ solution at 110psi (760kPa) operating pressure, 77°F, pH7.5 and 15% recovery.

Model	Active area ft ² (m ²)	Outer wrap	Part number
HL2540FM	27 (2.5)	Fiberglass	1207230
HL2540TM	27 (2.5)	Tape	1207231
HL4040FM	89 (8.2)	Fiberglass	1207236
HL4040TM	89 (8.2)	Tape	1220990
HL8040F 365	365 (33.9)	Fiberglass	1266702
HL8040F-400	400 (37.2)	Fiberglass	1207240
HL8040N	350 (32.5)	Net	1231793

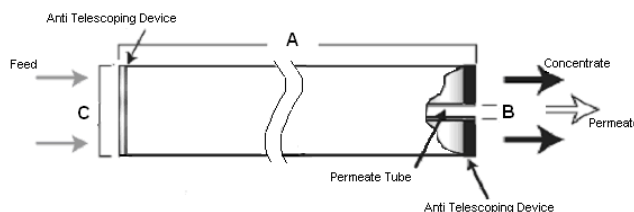


Figure 1: Element Dimensions Diagram (Female)

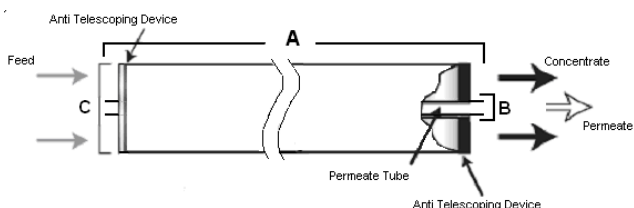


Figure 2: Element Dimensions Diagram (Male)

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Table 2: Dimensions and Weight

Model ¹	Dimensions, inches (cm)			Boxed
	A	B ²	C ³	Weight lbs (kg)
HL2540FM	40.0 (101.6)	0.75 (1.90) OD	2.4 (6.1)	5 (2.3)
HL2540TM	40.0 (101.6)	0.75 (1.90) OD	2.4 (6.1)	5 (2.3)
HL4040FM	40.0 (101.6)	0.75 (1.90) OD	3.9 (9.9)	8 (3.5)
HL4040TM	40.0 (101.6)	0.75 (1.90) OD	3.9 (9.9)	8 (3.5)
HL8040F 365	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	32 (14.5)
HL8040F-400	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	32 (14.5)
HL8040N	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	32 (14.5)

¹ These elements are dried then bagged before shipping.

² Internal diameter unless specified OD (outside diameter).

³ The element diameter (dimension C) is designed for optimum performance in GE Water & Process Technologies pressure vessels. Other pressure vessel dimension and tolerance may result in excessive bypass and loss of capacity

Table 3: Operating and CIP parameters

Typical Operating Pressure	70-300psi (483-2,069kPa)
Typical Operating Flux	10-20GFD (15-35LMH)
Maximum Operating Pressure	Tape elements: 450psi (3,103kPa) Other outer wrap: 600psi (4,140kPa)
Maximum Temperature	Continuous operation: 122°F (50°C) Clean In Place (CIP): 104°F (40°C)
pH Range	Optimum rejection: 6.0-7.0, Continuous operation: 3.0-9.0, Clean In Place (CIP): 2.0-10.5
Maximum Pressure Drop	Over an element: 12psi (83kPa) Per housing: 50psi (345kPa)
Chlorine Tolerance	1,000+ ppm-hours, dechlorination recommended
Feedwater	NTU < 1 SDI < 5