



Toray Membrane America, Inc.
TORAY Reverse Osmosis Element Design Guidelines

Operating Parameters	RO Permeate	Well Water Softened Supply	Surface Supply	MF/UF Pretreatment	Filtered Tertiary Effluent	Seawater Well Open	
SDI	<1	<3	3-4	2-3	<4	<4	<3
Max.Recovery 40-inch element, %	30	20	17	14	12	12	12
Max. Permeate Flow Rate per element, GPD (m3/d)							
4-inch elements							
TM710	1880 (7.1)	1640 (6.2)	1400 (5.3)	1000 (3.8)	820 (3.1)		
TMG10	1880 (7.1)	1640 (6.2)	1400 (5.3)	1000 (3.8)	820 (3.1)		
TM810	1820 (6.9)	1590 (6.0)	1370 (5.2)	970 (3.7)	780 (3.0)	1400 (5.3)	1260 (4.8)
8-inch elements							
TM720 -365	9100 (34.4)	7800 (29.5)	6680 (25.3)	4830 (18.3)	3960 (15.0)		
TM720-430	10800 (40.8)	9200 (34.8)	7920 (30.0)	5730 (21.7)	4700 (17.8)		
TMG20 -365	9100 (34.4)	7800 (29.5)	6680 (25.3)	4830 (18.3)	3960 (15.0)		
TMG20 -430	10800 (40.8)	9200 (34.8)	7920 (30.0)	5730 (21.7)	4700 (17.8)		
TM820 -370	9220 (34.9)	7900 (29.9)	6790 (25.7)	4900 (18.5)	4020 (15.2)	7000 (26.5)	6300 (23.8)
Max. Feed Flow Rate , GPM (m3/h)							
4-inch Diameter	15 (55)	15 (55)	15 (55)	15 (55)	15 (55)	15 (55)	15 (55)
8-inch Diameter	70	65	60	60	60	60	60
Minimum Concentrate Flow Rate , GPM (m3/h)							
4-inch Diameter	2. (7.6)	3 (11.4)	3 (11.4)	3 (11.4)	3 (11.4)	3 (11.4)	3 (11.4)
8-inch Diameter	10 (37.9)	15 (56.8)	15 (56.8)	15 (56.8)	15 (56.8)	15 (56.8)	15 (56.8)

The table on the front page represents Toray Membrane America, Inc. reverse osmosis design guidelines. Only first hand site-specific data should be used in designing an RO/NF system. However, often there are no other systems operating on similar conditions from which to compare and that eventually these guidelines should be used. Designing systems in excess of these guidelines will result in written warnings when using the Toray Membrane America, Inc. Design Program. Unless specific experience dictates that exceeding the guidelines will in no way inhibit successful operation of the system, it is wise to consult with a TMA applications Engineer before implementing a design.

Toray Membranes:

Distributed By:

Applied Membranes, Inc.

2325 Cousteau Ct.
Vista, CA 92083-8346
USA

Phone: (760) 727-3711
Fax: (760) 727-4427

<http://www.AppliedMembranes.com>
Sales@AppliedMembranes.com

The Toray logo consists of the word "TORAY" in a bold, blue, sans-serif font. The letters are three-dimensional with a glossy finish, giving them a metallic appearance. The 'T' and 'Y' have small, dark blue, wing-like shapes extending from their top and bottom respectively, suggesting motion or aerodynamics. The entire logo is centered horizontally.