

Ultra low pressure low fouling RO T L F - 4 0 0 D G

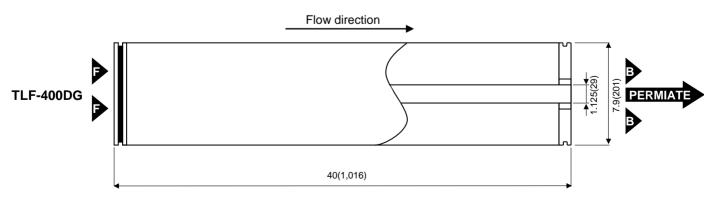
Туре	Diameter Inch	Membrane Area ft ² (m ²)	Salt Rejection %	Product Flow Rate	Feed Spacer Thickness
				gpd(m³/d)	mil
TLF-400DG	8"	400(37)	99.5	11,500(43.5)	34

1. Membrane Type		Cross Linked Fully Aromatic Polyamide Composite
2. Test Conditions		
	Feed Water Pressure	150 psi(1.05 MPa)
	Feed Water Temperature	77 ° F(25 °C)
	Feed Water Concentration	2,000 mg/l NaCl
	Recovery Rate	15 %
	Feed Water pH	7
3. Minimum Salt Rejection		99.2 %
4. Minimum Product Flow Rate		9,300 gpd(35.2 m ³ /d)(TLF-400DG)

Dimensions

All dimensions shown in Inches (millimeter).





Operating Limits

Maximum Operating Pressure—————————————————————————————————	600psi (4.1 MPa)
Maximum Feed Water Temperature—————	113° F (45°C)
Maximum Feed Water SDI15	5
Feed Water Chlorine Concentration—	<0.1ppm
Feed Water pH Range, Continuous Operation————	2-11
Feed Water pH Range, Chemical Cleaning————	1-13
Maximum Pressure Drop per Element —	15 psi (0.10 MPa)
Maximum Pressure Drop per Vessel ——————————————————————————————————	50 psi (0.34 MPa)

Operating Information

- 1. For the recommended design range, please consult the latest Toray technical bulletin, design guide lines, computer design program, and/ or call an application specialist. If the operating limits given in this Product Information Bulletin are not strictly followed, the Limited Warranty will be null and void.
- 2. All elements are wet tested, treated with a 1% by weight percent sodium bisulfite storage solution, and then vacuum packed in oxygen barrier bags, or treated with tested feed water solution, and then vacuum packed in oxygen barrier bags with deoxidant inside. To prevent biological growth during short term storage, shipment, or system shutdown, it is recommended that Toray elements be immersed in a protective solution containing 500 - 1,000 ppm of sodium bisulfite (food grade) dissolved in permeate.
- 3. The presence of free chlorine and other oxidizing agents under certain conditions, such as heavy metals which acts as oxidation catalyst in the feed water will cause unexpected oxidation of the membrane. It is strongly recommended to remove these oxidizing agents contained in feed water before operating RO system.
- 4. Permeate from the first hour of operation shall be discarded.
- 5. The customer is fully responsible for the effects of chemicals that are incompatible with the elements. Their use will void the element Limited Warranty.

Notice

- 1. Toray accepts no responsibility for results obtained by the application of this information or the safety or suitability of Toray's products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each product combination for their own purposes.
- 2. All data may change without prior notice, due to technical modifications or production changes.

Asia and Oceania: Toray Industries, Inc. **RO Membrane Products Department**

1-1. Nihonbashi muromachi 2-chome Chuo-ku, Tokyo 103-8666, Japan Tel: +81 3 3245 4540 Fax: +81 3 3245 4913 http://www.toraywater.com

Americas: Toray Membrane USA, Inc. Sales Office (TMUS)

13435 Danielson St. Poway, CA 92064, USA Tel: +1 858 218 2390 Fax: +1 858 486 3063

Europe and Africa: Toray Membrane Europe AG (TMEu)

Grabenackerstrasse 8 CH-4142 Münchenstein 1, Switzerland Tel: +41 61 415 87 10 Fax: +41 61 415 87 20

CHINA: Toray BlueStar Membrane Co., Ltd. (TBMC)

NO.28 Yuan Road, Zone B, Airport Industrial Zone. Shunyi District, Beijing, China 101318

Fax: +86-10-6590-8611

Tel: +86 10-6590-8365

Middle East and North Africa: Toray Membrane Middle East LLC.(TMME)

PO Box 20279, Al Khobar 31952, Kingdom of Saudi Arabia Tel: +966-13-568-0091 Fax: +966-13-568-0093