

# Membrane Solutions® Residential RO Membrane Elements

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Membrane Solutions

## Brief Introduction

Membrane Solutions® Residential RO Membrane Elements are mainly applicable to various water purification systems. Reverse osmosis membrane can remove microorganisms, virus, metal ions, carcinogens and other soluble salt from water effectively.

## Feature

- ☑ Low operating pressure (45psi-100psi)
- ☑ Stable permeate flux and desalination
- ☑ High removal efficiency of harmful substance
- ☑ Saving 20%-30% in costing
- ☑ ROULP-1812-60 can be used without pump or water tank



## Application

- ☑ Direct drinking machine
- ☑ Household water purifier
- ☑ Commercial water purifier
- ☑ Purifying devices in hospital and laboratory



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MSDR-RO01-01A

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## Nomenclature

ROULP 18 12 50

Permeate Flow in GPD (gallon per day)  
50 (50 GPD); 75 (75 GPD); 400 (400 GPD)

Length of Membrane Element in inch

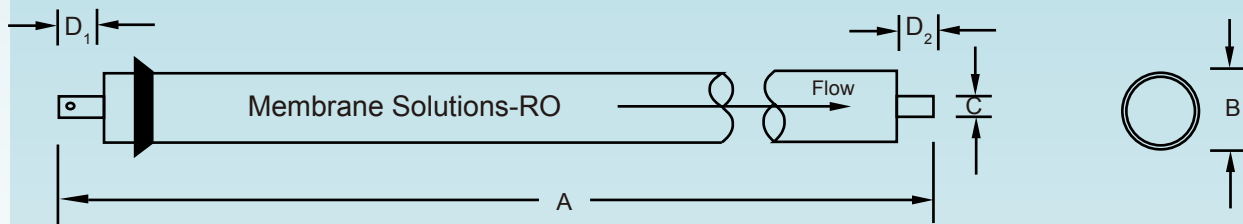
Membrane Element Diameter in inch (to be multiplied by 0.1)

1812: 1.8-inch diameter, 12-inch length  
2012: 2.0-inch diameter, 12-inch length  
2812: 2.8-inch diameter, 12-inch length  
3012: 3.0-inch diameter, 12-inch length  
3013: 3.0-inch diameter, 13-inch length

Membrane Type

ULP: Ultra-low-pressure Element

## Dimensions



Model	A inch (mm)	B inch (mm)	C inch (mm)	D <sub>1</sub> /D <sub>2</sub> inch (mm)
ROULP-1812-24	11.7 (298)	1.8 (44.5)	0.67 (17)	0.98 (25)/0.82 (21)
ROULP-1812-36	11.7 (298)	1.8 (44.5)	0.67 (17)	0.98 (25)/0.82 (21)
ROULP-1812-50	11.7 (298)	1.8 (44.5)	0.67 (17)	0.82 (21)
ROULP-1812-60	11.7 (298)	1.8 (44.5)	0.67 (17)	0.82 (21)
ROULP-1812-75	11.7 (298)	1.8 (44.5)	0.67 (17)	0.82 (21)
ROULP-1812-80	11.7 (298)	1.8 (44.5)	0.67 (17)	0.82 (21)
ROULP-2012-100	11.7 (298)	2.0 (48.2)	0.67 (17)	0.82 (21)
ROULP-2012-150	11.7 (298)	2.0 (48.2)	0.67 (17)	0.82 (21)
ROULP-2812-200	11.7 (298)	2.8 (71.1)	0.67 (17)	0.82 (21)
ROULP-3012-300	11.7 (298)	3.0 (76.2)	0.67 (17)	0.82 (21)
ROULP-3012-400	11.7 (298)	3.0 (76.2)	0.67 (17)	0.82 (21)
ROULP-3012-500	11.7 (298)	3.0 (76.2)	0.67 (17)	0.82 (21)
ROULP-3013-400	12.9 (328)	2.7 (68.0)	0.67 (17)	0.75 (19)

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### Specifications

Model	Average Permeated Flow GPD (m <sup>3</sup> /d)	Stable Rejection Rate (%)	Minimum Rejection Rate (%)	Testing Pressure (psi)
ROULP-1812-24	24 (0.1)	97	95	60
ROULP-1812-36	36 (0.14)	97	95	60
ROULP-1812-50	50 (0.2)	97	95	60
ROULP-1812-60	60 (0.23)	93	91	45
ROULP-1812-75	75 (0.28)	97	95	60
ROULP-1812-80	80 (0.30)	97	95	60
ROULP-2012-100	100 (0.40)	96	95	60
ROULP-2012-150	150 (0.57)	95	93	60
ROULP-2812-200	200 (0.76)	97	95	100
ROULP-3012-300	300 (1.14)	97	95	100
ROULP-3012-400	400 (1.52)	97	95	100
ROULP-3012-500	500 (1.90)	97	95	100

Testing Conditions	
Testing Solution Concentration (NaCl)	250 ppm
Testing Solution Temperature	25 °C (77 °F)
pH Value of Testing Solution	7.5
Recovery Rate of Single Element	15%

Operation Limits and Conditions	
Max. Feedwater Temperature	45 °C (113 °F)
Max. Working Pressure	20.7 bar (300 psi)
Max. Feedwater Flow	7.6 LPM (2.0 GPM)
pH Range of Feedwater during Continuous Operation	3~10
Max. Feedwater SDI <sub>15</sub>	5
Residual chlorine Concentration of Feedwater	≤0.1 ppm

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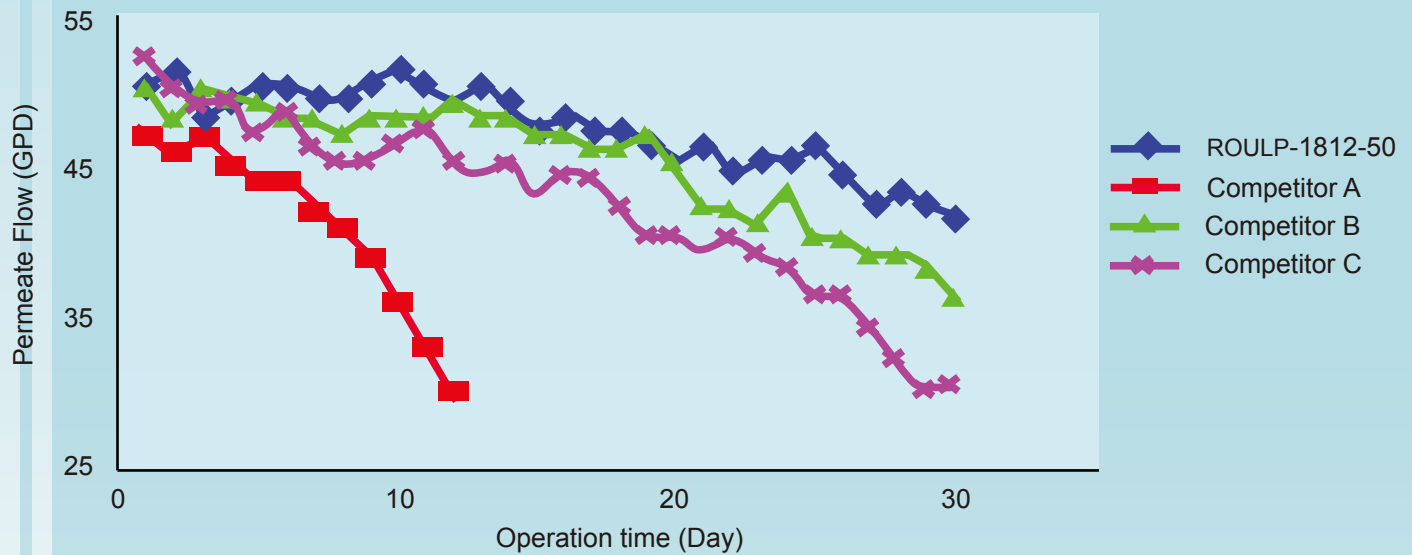
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### Comparison of Residential RO Membrane Elements

Comparison of Residential RO Elements on Flow



### Points of Attention

- 1 The permeate flow listed in the table is the average value. The permeate flow of single membrane element is with a tolerance not exceeding  $\pm 15\%$ .
- 2 Any specific application must be limited within the Operating Limits and Conditions. All data and information provided in this manual have been obtained from long-term experiment by Membrane Solutions, LLC. Discard the RO-filtered water produced during the first one hour after system star-up.
- 3 The membrane elements shall be always kept in wet condition once been moistened. In order to prevent the breeding of microbes during system standby, we recommend you to soak the membrane elements with protective solution.
- 4 In some special case, the membrane may be damaged of degradation reaction caused by active chlorine or other oxidizing agents. Membrane Solutions®RO products can resist active chlorine damage for a short time, but they will be damaged by continuous contact with active chlorine. In this case, it is strongly recommended the users to preprocess any active chlorine before using the membrane element.
- 5 During storage time and run time, it is strictly prohibited to dose any chemical medicament that may be harmful to membrane elements. In case of any violation in using this kind of chemical medicament, Membrane Solutions, LLC. assumes no liability for any outcome incurred herefrom.