The water temperature is one of the key factors in the performance of the reverse osmosis membrane element. The higher the temperature, the more the product flow and vice versa. All reverse osmosis membrane elements and systems are rated at 77⁰ Fahrenheit (25⁰Celsius). To find the membrane permeate rate at a different temperature, follow these steps:

 Find the temperature correction factor from the table Below.

Divide the rated permeate flow at 77 degrees Fahrenheit by the temperature correction factor. The result is the permeate flow at the desired temperature.

EXAMPLE

A thin-film membrane is rated to produce 1800 gallons a day (permeate/product water) at 77 degrees Fahrenheit.

The feed water temperature is 59 degrees Fahrenheit.

Answer
Temperature correction factor (from table) = 1.47
Permeate flow at 59 degrees Fahrenheit =   1800÷1.47 = 1224 gallons/day

Feed Water Temperature		Correction Factor
⁰C	⁰F	
5	41.0	2.58
6	42.8	2.38
7	44.6	2.22
8	46.4	2.11
9	48.2	2.00
10	50.0	1.89
11	51.8	1.78
12	53.6	1.68
13	55.4	1.61
14	57.2	1.54
15	59.0	1.47
16	60.8	1.39
17	62.6	1.34
18	64.4	1.29
19	66.2	1.24
20	68.0	1.19
21	69.8	1.15
22	71.6	1.11
23	73.4	1.09
24	75.2	1.04
25	77.0	1.00
26	78.8	0.97
27	80.6	0.94
28	82.4	0.91
29	84.2	0.88
30	86.0	0.85

*WaterTreatmentGuide.com