



**Summary of Substantive Changes
between the 2015 and the 2016 editions of
NSF/ANSI 58 “Reverse Osmosis Drinking Water Treatment Systems”**

Presented to the IAPMO Standards Review Committee on February 13, 2017

General: The changes to this standard may have an impact on currently listed products. The substantive changes are:

- Changed the system conditioning requirement to specify the use the test contaminant during conditioning (see Sections 7.1.1.1, 7.1.1.2, 7.1.2, and 7.1.3)
- Added a requirement to condition two systems and changed the required pressure used in testing (see Section 7.1.3):
- Revised the claims statements to allow only statements of the actual pressure tested (see Sections 8.1, 8.2 and 8.3)
- Added a column for the Chemical Abstract Service (CAS) Number of the Analytes (See Table 4.1)

Sections 7.1.1.1, VOC reduction claims – accelerated method, and 7.1.1.2 VOC reduction claims – Non accelerated: Changed the system conditioning requirement to specify the use the test contaminant during conditioning as indicated in the following example:

7.1.1.1.6 Method

Two systems shall be conditioned in accordance with the manufacturer’s instructions [using the test contaminant specified in 7.1.1](#) and the test water specified in 7.1.1.1.4. The system shall be tested using VOC influent challenge water as specified in 7.1.1.1.5 at an initial dynamic pressure of 350 ± 18 kPa (50 ± 3 psig). The pressure shall not be readjusted, although the system may experience some change in dynamic pressure. The accelerated flow rate, specified by the manufacturer, shall be greater than the maximum flow rate determined when the system is operated with the permeate outlet opened. Before the carbon filter is tested for VOC reduction, it shall be removed from the RO system.

7.1.2 Inorganic chemical reduction claims: Changed the system conditioning requirement to specify the use the test contaminant during conditioning as follows:

7.1.2.6 Method

Two systems shall be conditioned in accordance with the manufacturer's instructions using the [test contaminant specified in table 7.2](#) and the appropriate general test water specified in 7.1.2.4.1 or 7.1.2.4.2. The systems shall be tested using the appropriate influent challenge water at an initial dynamic pressure of 350 ± 18 kPa (50 ± 3 psig). The pressure shall not be readjusted, although the system may experience some change in dynamic pressure. Pre-membrane and post-membrane filters shall be removed prior to testing.

Section 7.1.3 Nitrate/nitrite reduction claims: Changed the system conditioning requirement to specify the use the test contaminant during conditioning and added a requirement to condition two systems and changed the required pressure used in testing as follows:

7.1.3.4 Method



Two systems shall be conditioned in accordance with the manufacturer's instructions using the test contaminant specified in table 7.3 and the appropriate general test water specified in 7.1.3.3.

The method specified in 6.9.6 shall be followed, except that the initial dynamic pressure shall be applicable to the intended end use. The pressure shall not be readjusted, although the system may experience some change in dynamic pressure. Pre-membrane and post-membrane filters shall be removed prior to testing.

~~7.1.3.4.1 Systems recommended for a minimum influent water system pressure lower than 280 kPa (40 psig) and higher than 140 kPa (20 psig) shall be tested at 210 kPa (30 psig).~~

~~7.1.3.4.2 Systems recommended for a minimum influent water system pressure of 280 kPa (40 psig) or greater shall be tested at 350 kPa (50 psig).~~

Systems shall be tested at 350 ± 18 kPa (50 ± 3 psig) or the manufacturer's minimum recommended inlet pressure, whichever is lower.

Sections 8.1, Installation, operation, and maintenance instructions, 8.2, Data Plate and 8.3, Performance data sheet: Revised the claims statements to allow only statements of the actual pressure tested as follows:

8.1.1 A performance data sheet shall be made available to potential buyers for each system and shall include the following information:

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- maximum and minimum working pressure in kPa (psig). Minimum working pressure shall not be less than the pressure specified for testing;
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8.1.2 Where applicable and appropriate, the following information shall also be included:

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- a statement for systems claiming nitrate/nitrite reduction shall include the pressure used for testing as the minimum application pressure. For example, systems that are were tested at 210 kPa (30 psig) shall state: "This system is acceptable for treatment of influent concentrations of no more than 27 mg/L nitrate and 3 mg/L nitrite in combination measured as N and is certified for nitrate/nitrite reduction only for water supplies with a pressure of ~~140 kPa (20 psig)~~ 210 kPa (30 psig) or greater;"
- ~~a statement for systems claiming nitrate/nitrite reduction that are tested at 350 kPa (50 psig): "This system is acceptable for treatment of influent concentrations of no more than 27 mg/L nitrate and 3 mg/L nitrite in combination measured as N and is certified for nitrate/nitrite reduction only for water supplies with a pressure of 280 kPa (40 psig) or greater;"~~
- a statement for systems claiming higher levels of nitrate/nitrite at a total influent concentration of 70 mg/L as N that are tested ~~at 50 psig and~~ with an internal booster pump that raises the pressures to higher levels, shall include the pressure used for testing as the minimum application pressure. For example, systems that were tested at 350 kPa (50 psig) shall state: "This system is acceptable for treatment of influent concentrations of no more than 65 mg/L nitrate and 5 mg/L nitrite in combination measured as N and is certified for nitrate/nitrite reduction only for water supplies with a pressure of ~~280 kPa (40 psig)~~ 350 kPa (50 psig) or greater along with an internal built in booster pump;"
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Table 4.1 – Extraction testing parameters: Added a column in Table 1 for the Chemical Abstract Service (CAS) Number of the Analytes.