National Association of Home Builders

Summary Test Report for Jason's Water Softener's
Water Softener Pressure vs. Flow

Report Number: WS – 101081702
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BACKGROUND

Plumbing codes list minimum performance requirements for potable water supply and distribution systems. Since water softening devices are an integral part of many residential water supply systems, it is imperative for water softeners to be constructed, sized and installed in accordance with the provisions of nationally recognized performance standards and model plumbing codes. According to the International Plumbing Code 2000 (IPC) and 2002 Accumulative Supplement to the International codes, water treatment systems shall meet the requirements of NSF 42, NSF 44, NSF 53, or NSF 62.

TEST PROTOCOLS

The unit was tested for pressure drop and flow rate in accordance with NSF 44, section 6.6 with the following expections:

- Resin was conditioned with potable water supply as opposed to challenge water.
- Flow rate was tested up to 25GPM.
- Water temperature was 86F, but was corrected using Table 6 of the NSF 44.

A model was selected according to the criteria set forth in section 6.8 that would allow calculation for all units.

TABLE 1
SECTION 6.8.1 CALCULATION LIMITATION CRITERIA

Model	Tank Diameter (FT)	Tank Area (FT^2)	Area % Diff	Resin Depth (FT)	Resin Depth % Diff		Resin Volume (FT^3)	Resin Per Rated Flow	Resin Per Rated Flow % Diff	Pass/Fail
3000	0.83	0.54	50.33	1.56	91.23		0.84	0.05	47.25	Pass
4000	1.00	0.79	73.05	1.71	100.00		1.34	0.08	76.06	Pass
5000	1.17	1.08	100.00	1.71	100.00		1.84	0.10	100.00	Pass
6000	1.17	1.08	100.00	2.56	149.71		1.75	0.10	98.53	Pass

*The model highlighted indicates actual unit tested.

The unit was setup according to Figure 1 of NSF 44 using a recirculation system consisting of a reservoir, pressure supply pump, and pressure relief lines. Flow was measured at the inlet side with 0.1 GPM. Pressure was monitored on both the inlet side using a single pressure gage connect to two-way valve and a "T". The temperature was recorded from the reservoir.

Supply pressure was set at 40 PSIG. Flow rate was adjusted to meet each of the values, and the inlet and outlet pressures were recorded. Throughout the test, the temperature was recorded. The unit was tested both with and without media.

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