**BF Series Specification**

Top Mount Performa composite valve on fiberglass tanks

1. Scope. The softener shall consist of mineral tank(s) and internals containing resin and brine tank(s) complete with brine valve(s). Each mineral tank shall have a control valve with integral controller. Furnish a Water King Model BF Water Softener.
2. Mineral Tank. The mineral tank shall be “polyglass” consisting of an inner shell of virgin polyethylene and an external shell of continuous fiberglass roving. Tanks shall be rated at 150 psi operating pressure, 120ºF operating temperature with 4”-8 UN threaded top opening. An adaptor shall be provided to make the top opening 2½”-8 UN threaded.
3. Internals. The distributor shall be a 2½” Ø single point molded distributor head with 1½” of slotted length and a ¾” female socket welded connection. The slots shall be 0.012" - 0.016" wide to retain mineral and the total slot area shall be equal to or larger than the unit pipe size. The distributor pipe shall be ¾” schedule 40 white PVC.
4. Media. The resin shall be sodium form polystyrene 8% divinyl benzene cross linked resin with clear spherical beads. Resin beads shall be 16-50 US Standard Mesh with a particle size range of 0.3 to 1.2 mm. The resin shall be clean and packaged in sealed plastic bags weighing 55 lbs or less. Nominal exchange capacity shall be 30,000 grains per cubic foot when regenerated at 15 lbs of salt per cubic foot of resin. The bottom of this mineral tank shall be filled above the distributor with flint gravel sieved between 1/8” and 1/16” (# 20).
5. Brine System. The brine system shall be of the Accumatic™ high grid plate design. The brine tank shall be blow molded or rotationally molded HDPE, including a cover. The system shall include a float operated brine valve to prevent overflow during refill. Brine draw is to be timer controlled by the ERCt or ERCd controllers.
6. Control Valve. The main control valve(s) shall be the Performa™ controlled with electronic controller to actuate the cycles of backwash, brine, slow rinse, fast rinse, and service. The control valve(s) shall be Performa™ 5-Cycle, 100 psi, multi-port control valve(s) with glass filled Noryl-NSF listed material, camshaft, drive motor assembly, and NEMA 3 enclosure (115VAC/60Hz). The valve shall be of a single camshaft design and not use multiple plungers or diaphragm valves. Hard water by-pass shall be available during all regeneration cycles. The drain line connection shall be ¾” NPT, female.
7. Controller. The ERCt shall be 1-day to 99-day regeneration frequency. The BF series can be demand regenerated by using the ERCd Controller and the internal 1” TM meter. The ERCd Controller (optional) shall be a 28-day variable reserve. Both the ERCt and ERCd Controllers shall have a calculated brine time when salt and resin quantities are entered.
8. Skid Mounting. (Optional – must be specified at time of order.) The softener mineral tanks shall be pre-loaded with resin and mounted on an epoxy coated carbon steel skid. The brine tank shall be shipped loose. Interconnecting piping, drains and a three valve bypass shall be installed. Pipes shall be secured by Unistrut supports. Piping shall be schedule 80 PVC.
9. Other items. A standard soft water soap test kit shall be provided. A complete set of instructions, including installation, loading, start-up, adjustments, servicing, and a parts list shall be provided with the equipment.
10. Warranty. Water King, Inc. warrants to the original purchaser (“Purchaser”) that the Industrial and Commercial Water Conditioning Equipment (“Products”) are free from defects in materials and workmanship for twelve (12) months from the date of shipment. Water King will repair or replace with a rebuilt unit, at its sole option and discretion, products proven to be defective within the warranty period. In addition, the fiberglass reinforced pressure vessel(s) shall be warranted for a period of five (5) years by the vessel manufacturer. (Additional terms and conditions apply.)
11. System Operating Conditions. Maximum temperature shall be 100°F. Pressure shall be 25 to 120 psi.
12. Pressure gauge and test tap kit. A kit containing two liquid filled, stainless steel pressure gauges with 2 ½” Ø face, two stainless steel ball valve sample taps with hose barb connections and associated stainless steel connection fittings shall be provided.
13. No Hard Water Bypass. The Performa valves can be ordered with a no hard water bypass option. This is used on twin and multiple tank units.
14. Qualifications. A company that has continuously manufactured water softeners for at least twenty (20) years shall construct this equipment.