P-220S SCRUBBER SERIES VALVES BIDDING SPECIFICATIONS

Valve(s) shall be 1", 1.5", 2" or 3" TORO-manufactured P-220S Scrubber Series globe/angle models.

The P-220S Scrubber Series valve body and bonnet shall be constructed of rust- and electrolysis-resistant glass-filled nylon (GFN). The valve shall have a minimum operating pressure of 20 PSI and a maximum operating pressure of 220 PSI, and a flow range of 5 to 300 gallons per minute (GPM), dependent on size. The valve's diaphragm and valve seat seal shall be made of nylon-reinforced EPDM. All valve parts shall be fully-serviceable from the top of the valve without the need of having to remove the valve from the line. The valve may be installed at any angle without affecting its operation. All fasteners and other internal components of the valve shall be made of stainless steel, brass, or plastic to ensure corrosion resistance.

The valve shall have a patented continuous scrubbing mechanism that actively removes dirt, algae, and other particles from the filtration area. The valve shall have an internal manual downstream bleed to prevent flooding of the valve box, as well as an external bleed for system flushing. The valve shall have a removable self-cleaning, stainless-steel metering system. The valve shall have a manual flow control that is adjustable down to zero flow via a hand-operated, rising-type flow-control stem made from brass. The valve shall have a slow-closing design to prevent the occurrence of water hammer.

For the 1" model, friction loss with an inlet flow of 40 GPM shall not exceed 10.75 PSI in a globe orientation or 9.46 PSI in an angle orientation. For the 1.5" model, friction loss at 100 GPM shall not exceed 17.20 PSI in a globe orientation or 14.6 PSI in an angle orientation. For the 2" model, friction loss at 150 GPM shall not exceed 11.61 PSI in a globe orientation or 9.37 PSI in an angle orientation. For 3" model, friction loss at 300 GPM shall not exceed 10.23 PSI in a globe orientation or 9.31 PSI in an angle orientation. The burst pressure safety rating shall be no less than 450 PSI. When operating at 220 PSI, the valve must open or close in less than one minute without water hammer.

The valve shall have a fully-encapsulated plastic solenoid that features a captured hex plunger and spring. The solenoid shall have a removable retainer for servicing of the spring and plunger. The 24V A.C. solenoid shall open with a 22.5 V A.C. minimum at 220 PSI. At 24V A.C. average inrush, the current shall not exceed 0.4 amps. Average holding current shall not exceed 0.2 amps. The valve shall have a built-in, Schrader-type valve for attaching a pressure gauge to verify downstream pressure. The valve shall be able to field retrofit with an optional EZReg® pressure-regulating module that can be factory- or field-installed. The regulator shall be able to be field-installed or serviced while the valve is under pressure.

For Pressure-Regulating Electric Models: the EZReg pressure regulator shall be a dial design to permit visual setting of pressure with or without the use of a pressure gauge. The regulator shall be of a screw-in design and shall regulate precisely over a 5-100 PSI range with a maximum inlet pressure of 220 PSI. The regulator shall maintain the set pressure within ± 3 PSI (when inlet pressure is no less than 10 PSI greater than desired outlet pressure).

The [1", 1.5", 2", 3"] P-220S Series Scrubber valve shall be of an [electric, electric pressure-regulating] configuration with female-threaded inlet and outlet connections. The valve shall be developed, manufactured, qualified and released in North America. The valve shall come with a 5-year trade warranty.

Note: These specifications were current at the time of publication, but are subject to change at any time without notice. Please confirm the accuracy of these specifications with TORO and/or the distributor prior to installation.

END OF SECTION