

Chemical Removal Filter Engineering Specifications

Excalibur Water Systems Model EWS FD2MQCCS12 Duplex Alternating Chemical Removal Filter Electronic Metered Initiated Service Operation

Supply one (1), only Excalibur Water Systems Model EWS FD2MQCCS12 Duplex Alternating Chemical Removal Filter. The system shall be designed to operate under pressure from 40 psig (minimum) to 110 psig (maximum).

Mineral Tank

Supply two (2), only 30" diameter x 72" high 6" top flange opening premium quality PE liner with FRP filament winding mineral tank. Maximum operating pressure up to 150 psig with a maximum operating temperature of 120°F. Mineral tank must be NSF/ANSI Standard 44 as well as PED certified.

Collection & Distribution

Supply two (2), only 2.0" high impact FDA approved ABS hub and lateral high flow distributor at bottom and upper basket at top shall be utilized to evenly collect and distribute the flow of water over the entire bed.

Control System

Supply two (2) main operating 2" quick connect control valve shall be made of epoxy coated lead free brass and all wetted parts shall be non-corrosive. The control valve must have a quick connect style base with hinged clamp to allow for quick connect or disconnect to the 316 Stainless Steel 6" flange base adapter. The drain port consists of a 1.5" FNPT receives a 1.5" flow control adapter. The distributor pilot for the control valve is 2" NPS pipe. Control valve utilizes a remote inline electronic flow meter with Hall Effect sensor which must be installed on the outlet port of the control valve. Control valve will have a single main piston, patented 1-piece compressible seal/ spacer stack assembly. Valve must be a top-mount design with a 12-volt electronic microprocessor controller. Control valve shall have fully adjustable regeneration cycle duration times for backwash, fast rinse and return to service. The control valve must also be certified to NSF/ ANSI 61 and NSF/ ANSI 372.

Microprocessor Controller

The solid state microprocessors shall have a coin cell lithium battery for 8 hour time of day up keep. Microprocessor will have front panel displays to show current time of day, volume remaining, current flow rate, a system totalizer and days to regeneration if day over ride is programmed (availability range of 1 day to 28 days). The controller will allow for five methods to initiate regeneration; meter immediate, meter delayed, time clock delayed, or pressure differential delayed or immediate. It shall provide operating history for days since last regeneration, gallons used since last regeneration, total days in service, and total number of regenerations since it was installed which will all be stored in non-volatile memory.

Motorized Alternating Valve

Supply one (1), only 2" NPT full ported motorized alternating valve made of epoxy coated lead free brass. This allows one unit to be in regeneration or stand-by at a time while the other unit is in service. This system shall provide a continuous supply of filtered water with the control valves indicating which unit is on-line and in stand-by operation. Its internal non-corrosive single piston & patented 1-piece compressible seal/ spacer stack assembly allow it to be hydraulically balanced. The MAV has a sight glass that allows you to view the position of the valve to know which valve is on-line and which is on stand-by without removing any covers. This motorized alternating valve must be certified to NSF/ANSI 61 and 372.

Interconnect Cable

Supply one (1) only interlock wiring between controls must be pre-wired and electrically tested by the water filtering system manufacturer at the factory prior to shipment.

Turbine & Volumetric Meter

Supply one (1), only 2" Male X Female NPT made of 316 stainless steel meter with magnetic pulse Hall Effect turbine remote meter accuracy must be +/- 5% with a flow rate range of 1.5 – 150.0 GPM. Other meters will not be accepted. This meter must also be certified to NSF/ANSI 61 and 372.

Power Supply

Supply two (2), only North American plug in type power transformer with electrical specifications output voltage of 12 VAC with the output current not exceeding 500 mA.

Coconut Shell Media

Excalibur media shall be a virgin granular activated carbon produced from coconut shell char through a high temperature steam activation process under stringent quality control. The media must have a mesh size of 12X30 with 5% of quantity greater of less size. The media shall be ANSI/NSF 42 certified.

Performance

The unit shall be available to remove the chloramine at flow rate of 0.75 GPM per cubic foot of media, Total organic carbon removal at 1.0 GPM per cubic foot and chlorine removal at 3.0 GPM per cubic foot of media. The peak flow rate for unit shall be 4.0 GPM per cubic foot of media.

Flow Rate

The minimum flow rate shall be 4.8 GPM (0.30 l/s) and the maximum flow rate shall be 9.0 GPM (0.57 l/s) for chloramine removal, 12.0 GPM (0.76 l/s) for total organic carbon removal and 36.0 GPM (2.27 l/s) for chlorine removal. The peak flow rate for unit shall be 48.0 GPM (3.03 l/s)

Drain Flow Rate

Water shall be discharged during the regeneration process at a flow rate of 49.2 GPM (3.10 l/s) for proper regeneration bed expansion process.

Start-Up

Successful equipment provider shall follow the manufactures printed instructions to start up the system after plumbing and electrical requirements are completed. This includes raw water testing, programming, individual start-up for each filter column, system operation, and product water testing for each column and training of personnel. Set system for medium salting/capacity levels with fixed reserve and immediate regeneration. If needed, the successful bidder shall contract an approved authorization service agent from the manufacturer to assist with these procedures.

Warranty

Equipment and /or parts shall be covered by manufacturer's replacement warranty as follows:

- Fiberglass Mineral Tanks – TEN (10) YEARS
- Coconut Shell Media – TEN (10) YEARS
- Control Valves & Electronics – FIVE (5) YEARS
- All other components – ONE (1) YEAR