SPECIFICATION
VF-100 VOLUMETRIC CHEMICAL FEEDER

Part 2 - PRODUCTS

2.01 MANUFACTURERS

Eagle Microsystems, Inc. Model VF-100

2.02 COMPONENTS

A. General

Under this item, the contractor shall furnish and install to manufacturer's recommendations, a complete dry chemical feeding system a shown on the plans and specified herein.

Electrical contractor shall provide an appropriately sized power service for operation of the specified equipment. The feeder and accessories shall operate on a 120 Vac, 60 Hz, 1 phase supply.

B. Feeder

1. The dry chemical feeder shall be a horizontal, helical screw type. The single helical screw shall be driven by a variable speed, SCR drive, non-sparking, non-heat generating, TENV DC gear motor which shall be directly coupled to the screw shaft. No drive belts or chains shall be required. The motor and screw shall be sized to provide feed rates of ___ min. to ___ max. lbs./hour of _____ at a bulk density of ___ lbs/cf. Auger shall be all stainless steel and shall be of the closed type ___-inch in diameter. All rotating drive components shall be a minimum of 7/16-inch diameter to insure performance under high torque conditions.

2. All components of the system either in contact with the chemical or where the possibility of contact from spillage exists shall be non-reactive. Material of construction shall be Type 304 stainless steel for the all metal components which may be in contact with the chemical being fed. Structural components shall be a minimum of 12 gauge while all other components shall be a minimum of 14 gauge. All other components shall be manufactured of materials resistant to corrosion from the material being fed or shall be protected with a corrosion resistant finish.

3. To prevent material bridging, the hopper shall have mechanically pulsed, flexible side walls of Buna-N rubber. The feeder shall be designed to provide complete access to the metering mechanism for cleaning or metering screw change by removing the one piece spout assembly. Disassembly of the hopper or removal of the solution tank shall not be required.

4. The feeder shall be maintenance free. All wear points shall provided with low friction, corrosion resistant, plastic bearing surfaces for long life. Bearings shall not require lubrication. Speed, and thereby, feed rate adjustment shall be accomplished using an SCR drive with either local

manual adjustment. Automatic control of feed rate shall be optionally available.

5. The feeder hopper shall be supplied with an integral supply hopper to provide 1.6 cubic feet of storage capacity. The feeder hopper shall have a rectangular inlet shall, be constructed of minimum 14 gauge, 304 stainless steel and be furnished complete with a gasketed cover. Hoppers constructed of FRP or plastic will not be considered. The feeder shall be optionally available with a 14 gauge, 304 stainless steel bag dump hopper with bag break and loading door to permit manual loading of _____ bags.

6. Feeder accuracy shall be 2% or better, based on volume feed rate. True accuracy shall be determined through actual field testing on material supplied by others.

7. The feeder shall be mounted on a variable height feeder stand capable of supporting 1000 lbs. consisting of the feeder, accessories and chemical. Stand shall be constructed of 304 stainless steel. The feeder shall be supported on the stand by a weigh plate to accurately measure the weight of material in feeder hopper and to provide an alarm which shall alert the operator that the feeder is close to empty and to load additional carbon.

8. The feeder controller shall be housed in a fiberglass, NEMA-4X, surface mounting enclosure and shall include the following control devices: a speed control dial indicating 0-100% of full capacity feed rate for manual speed control, a feeder power on/off switch and 'power on' indicator, and an on/off control and 'power on' indicator for the solution tank mixer. The basic controller shall be capable of accepting a remote contact closure input for basic on/off control of the feeder. All feeder controls shall operate on 120 Vac, 60 Hz, single phase power.

9. The dry chemical feeder system shall be Model VF-100 as manufactured by Eagle Microsystems, Inc., Pottstown, PA.

C. Solution Tank

1. A ___ gallon solution tank with downspout and bulkhead fittings for water inlet, solution outlet, drain/clean out, and overflow shall be provided. Solution tank shall be constructed of HDPD and be furnished with a full, gasketed cover.

2. The solution tank shall be provided with a 1/4 HP mixer and a float-type level control valve to ensure proper wetting of the material. The mixer shall be provided with a stainless steel shaft and propeller. The mixer motor shall be TEFC, AC type for operation on 120 Vac. Mixer shall operate at rotational speed of 1725 RPM. The mixer shall be rigidly mounted to a stainless steel bracket bolted to the tank cover.