

SPECIFICATIONS - DETAILED PROVISIONS
Section 11240.01 - DPS - Chemical Metering Pumps
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**SECTION 11240.01
DETAIL PUMP SPECIFICATION
FOR CHEMICAL METERING PUMPS**

SODIUM HYPOCHLORITE SOLUTION METERING PUMPS

PART 1 - GENERAL

1.01 SEE SECTION 11240, CHEMICAL METER PUMPS - GENERAL FOR ADDITIONAL REQUIREMENTS

PART 2 - PRODUCTS

2.01 PUMP MANUFACTURERS

- A. Milton Roy
- B. Pulsafeeder
- C. Or equal

2.02 QUANTITY

- A. One

2.03 SERVICE CONDITIONS

- A. Liquid Pumped: 20 percent Aqueous Ammonia solution
- B. Corrosion Factors: pH = 12
- C. Temperature Range: 40°F - 110°F
- D. Specific Gravity: 0.9261

2.04 PERFORMANCE REQUIREMENTS

- A. Capacity Range: 0.01 to 0.10 gph, minimum
- B. Discharge Pressure: 100 psig

2.05 EQUIPMENT DESCRIPTION

- A. The chemical metering pump(s) specified herein shall be positive displacement, hydraulically balanced, tubular diaphragm liquid end type using a simplex pumping head with double suction and discharge ball check valves. Pumps shall be hydraulically activated using a gear-driven plunger. The hydraulic oil system shall include a means to automatically relieve excess hydraulic pressure, make-up oil, and bleed off vapors, pumps shall be provided with an integral gear reducer and foot mount drive and flexible coupling, all mounted on a fabricated steel baseplate, and shall have manual stroke length adjustment knob operable while the pumping is running. All liquid end materials shall be fully compatible with the pumped liquid.
- B. Provide back pressure valves with PVC body and replaceable seat, and TFE diaphragm.
- C. Provide sight glass/calibration column to be constructed of clear PVC. The calibration column shall be equipped with a bottom fill and top vent connection. The volume of the column shall allow a residence time of approximately 15 minutes at the maximum pumping rate. The column shall have graduation in millimeter, corresponding to the actual column volume.

2.06 PUMP MOTORS

- A. Pump motors shall be ½ horsepower maximum, 120 volts, 1-phase, 60-Hz, 1,750 rpm, dripproof motors. Motors shall be compatible with variable speed drives and pumps. Provide motors designed, manufactured and tested in accordance with the latest revised edition of NEMA MG1.

2.07 CONTROLS

- A. The metering pumps shall have an adjustable metering rate with a minimum 10 to 1 turn down ratio. Rate adjustment shall be made by manual stroke length adjustments and by using a variable speed drive system. Rate adjustments shall be operable while the pumps are running. Metering rate adjustment shall be continuous from 0 to 100 percent maximum capacity and shall be as specified.

2.08 SPARE PARTS AND SPECIAL TOOLS

- A. Provide the following spare parts and special tools:

<u>Quantity</u>	<u>Item</u>
2	Working diaphragms
2	Guard diaphragms

2

Sets check valve assemblies

PART 3 - EXECUTION

3.01 MANUFACTURER'S SERVICE

- A. A manufacturer's representative for the equipment specified herein shall be present at the jobsite and/or classroom designated by the DISTRICT for the minimum person-days listed for the services hereinunder, travel time excluded:
 - 1. 1 person-day for installation assistance, inspection, and certification of the installation.
 - 2. 1 person-day for pre-startup classroom or jobsite training.
 - 3. 1 person-day for plant startup and functional testing.
- B. Startup services and training of DISTRICT's personnel shall be at such times as requested by the DISTRICT.
- C. See section MANUFACTURERS' SERVICES of Division 1, GENERAL CONDITIONS.

3.02 FIELD TESTING

- A. The CONTRACTOR shall conduct field tests on pumps to demonstrate conformance to the service conditions specified herein.

END OF SECTION 11240.01

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