

## SECTION 11240

### CHEMICAL FEED EQUIPMENT

#### PART 1 GENERAL - Sodium Hypochlorite Feed System

This specification is for the supply of one, or multiple sodium hypochlorite feed systems. By using this specification a complete panel mounted pump feed system with all related valves and appurtenances will be supplied meeting a design that automatically eliminates vapor locking of metering pumps and loss of flow due to out-gassing, without use of product bypass or mechanical moving parts.

##### 1.1 Description – Sodium Hypochlorite Panel Mounted Pump Feed System

- A. The hypochlorite feed system shall be constructed of an all PVC plastic unitized wall mounted panel which can accommodate up to two metering pumps.
- B. The panel shall provide for convenient mounting of the metering pumps, the de-gassing device and its controls, a common pump suction manifold and one or two separate discharge manifolds containing a backpressure gauge with protector, backpressure/anti-syphon valve, pressure relief valve, pulsation dampener, and pressure/drain valve.
- C. The sodium hypochlorite day / storage tank for the panel mounted pump feed system can be mounted directly under or adjacent the feed system.

#### PART 2 PRODUCT

##### 2.1 Capacity

- A. The panel mounted pump feed system shall be capable of providing feed rates in the following maximum capacities: 1-1/2GPH, 4GPH, 8GPH, 16GPH, 32GPH, 64GPH and 128GPH of sodium hypochlorite.

##### 2.2 Wall Mtd. Panel

- A. The panel (24"W x 48"L std.) (\_\_\_\_"W x \_\_\_\_"L) shall be made of corrosion resistant PVC plastic material with 1/2" thick back panel, and integrated:
  - \_\_\_ 1/2" thick shelf capable of mounting two metering pumps, 75LBS max.
  - \_\_\_ 1" thick shelf capable of mounting one metering pump, 110LBS max.
  - \_\_\_ 1" thick shelf capable of mounting up to two metering pumps, 150LBS max.

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#### 2.2 Wall Mtd. Panel cont'd:

- B. Pump shelf shall be supported via an integral strut support system.
- C. The panel shall support the Liquid Conditioning Valve (LCV) degassing system, electronic controls, suction and discharge manifolds.

#### 2.3 Liquid Conditioning Valve (LCV) System

- A. The LCV system shall be designed to effectively eliminate loss of prime outages, working under suction lift conditions utilizing the resultant partial vacuum to aid in the degassing of the process fluid. The gas shall be collected at the top of the LCV system where upon reaching a predetermined volume, it is sensed and automatically discharged from the system. The LCV system shall not contain any moving parts or recirculate product for the elimination of gases.
- B. The LCV system due to its method of operation shall eliminate the need for below product tank level penetration of suction lines.
- C. The LCV system shall incorporate the following items:
  - Gas Level Detection Element
  - Water Operated Eductor
  - Solenoid Valve
  - Cartridge Filter
  - Calibration Column - Direct reading scale (GPH)
  - Closed Pump Calibration
  - Fill / Prime Valve
  - Integral Run-Out Detection Alarm
  - Suction Discharge Manifold
- D. The LCV system shall operate at a minimum of 35PSI water pressure or 10 psi compressed air for operation of the eductor system. Typical eductor water consumption shall be up to a gallon per day of water usage depending on gas build-up.
- E. The LCV system cartridge filter shall be capable of being replaced in a timely manner without interruption of product feed.
- F. The LCV system shall provide the operator with a means of performing metering pump calibration without coming in contact with the product being pumped. Calibration shall be performed via the turning of a single Fill / Prime valve and viewing the direct reading scale of the calibration chamber, by operator. Calibration cycle shall not interfere with the metering of the product solution to the point of application.

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#### 2.4 Electronic Controls

- A. The LCV system electronics shall operate at 115VAC, single phase, 1-amp and be contained in a Nema 4x enclosure. Electronics shall be powered via a standard 115VAC power cord, capable of being plugged into a standard 115VAC ground fault outlet.

#### 2.4 Electronic Controls cont'd:

- B. The enclosure shall contain electronic components for the operation of the LCV system and provide space for the "optional" Run-Out Detection Alarm Relay.

#### 2.5 Manufacturer

- A. The entire system shall be supplied complete from a single manufacturer who has designed and manufactured similar equipment described in section 2 and has a record of not less than 3 years of successful operation. The contractor may be required to submit evidence to this effect..

- B. Manufacturers, or Equal:

H2O Controls Incorporated, Towaco, New Jersey

#### 3.01 INSTALLATION

- A. The equipment shall be installed per the contract documents and manufacturer's recommendations.

#### 3.02 WARRANTY

- A. The panel mounted pump feed system warranty, unless otherwise stated shall be:
  1. Twelve (12) months after shipment.
  2. Warranty shall consist of parts replacements only.