

## SECTION 15517 - GLYCOL SYSTEMS

## PART 1 GENERAL

## 1.1 DESCRIPTION OF WORK:

- A. Extent of glycol system required by this section is indicated on drawings and/or specified in other Division 15 sections.
- B. Types of glycol system specialties specified in this section include the following:
  - 1. Fill tank
  - 2. Pressure sensor
  - 3. Pressure relief valve
  - 4. Check valve
  - 5. Propylene glycol
  - 6. Feed Pump
  - 7. Transfer Pump
- C. Glycol systems specialties furnished as part of factory-fabricated equipment shall meet or exceed requirements of this section.
- D. Refer to other Division 15 sections for mechanical insulation valves, meters and gauges and basic piping materials and methods.

## 1.2 QUALITY ASSURANCE:

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of glycol systems of types and sizes required, whose products have been in satisfactory use in similar service for not less than 10 years.
- B. Glycol System Types: Provide glycol system specialties of same type by same manufacturer.
- C. Codes and Standards: Provide glycol system components and materials to meet all local and national codes and standards.

## 1.3 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical product data, including installation instructions and dimensioned drawings for each type of manufactured equipment and material. Include pressure drop information. Submit schedule showing manufacturer's model or figure number, size, location and features for all equipment and material.
- B. Maintenance Data: Submit maintenance data and spare parts lists for each type of manufactured equipment. Include this data, product data, and shop drawings in maintenance manual; in accordance with requirements of Division 15.
- C. Submit glycol solution strength test results.

## PART 2 PRODUCTS

## 2.1 MANUFACTURERS:

- A. District Water Treatment Contractor is "Rocky Mountain Aquatech". All Water Treatment work to be performed by Rocky Mountain Aquatech

B. Manufacturer: Subject to compliance with requirements, provide one of the following products furnished by "Rocky Mountain Aquatech".

1. Glycol System Tank:

- a. Wetcorp
- b. Sage Industries
- c. Nalco
- d. Mogul
- e. Chem Aqua
- f. H.O.H.

2. Inhibited Propylene Glycol Solution:

- a. Dow Chemical Dowfrost
- b. Interstate Chemical Intercool NFP.

2.2 REFER TO DIVISION 15, SECTION 15055 FOR TYPE OF PIPE AND FITTINGS TO BE USED.

2.3 GLYCOL SYSTEM:

A. Tank: Provide Glycol Feed System consisting of a 35 [ ] gallon polyethylene tank with a removable polyethylene cover. A ½ inch suction and under drain with hose bib for draining the tank and a pump shut off valve shall be provided. The tank shall be supported by 4 legs with foot pads as an integral part of the tank.

<p>Edit Note: Coordinate alarm points with Temperature Control Specification. Coordinate power requirements with Electrical Engineer.</p>
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B. Controls: The control cabinet shall be a NEMA I enclosure with a large LEXAN viewing window mounted in the cabinet door. The following components shall be mounted on the inside panel: Low level liquid alarm light, low level alarm silencer switch, pump test switch and indicating light, and a 0-60 psi system pressure gauge. The low level switch shall be mounted 3 inches above the bottom of the tank. A low level audible alarm shall be mounted in the side of the panel. In addition, two extra, normally open contacts shall be provided for remote low level warning light or alarm. A 3-35 psi adjustable pressure switch shall control the system pressure.

C. Pump: The pump shall be an Oberdorfer, all bronze, rotary gear pump with a 1/3 hp-1725 rpm motor mounted integrally with the pump. The pump shall be designed to produce 1.8 gpm at 40 psi. Electrical characteristics: 120V./60Hz/1 phase/1/3 HP.

D. Piping: Type L copper pump discharge, including a 3/4inch check valve, 3/4inch threaded female "T" for connecting the Glycol Feeder to the system piping, and a Watts pressure relief valve set at 50 psi, which will dump any system over pressure back to the glycol feed tank.

E. Transfer Pump: Hand operated rotary type, 8feet-0inches long 1inch hose with 3/4inch non-sparkling nozzle, 1inch telescoping suction pipe, adaptor with 2inch thread.

## 2.4 GLYCOL SOLUTION:

- A. Provide ~~[50percent]~~ 40percent ~~[30percent]~~ glycol solution for ~~[burst]~~ freeze protection to a temperature of [ ].
- B. Provide on extra 45 gallon drum of propylene glycol.

## PART 3 EXECUTION

## 3.1 INSTALLATION:

- A. Refer to drawing and provide necessary piping to complete installation.
- B. Thoroughly clean and flush system before adding propylene glycol solution.
- C. Feed pre-mixed propylene glycol solution to system. Water used for dilution shall have a total hardness of less than 50 ppm, and a total chloride and sulfate of less than 25 ppm. Contractor shall assume that building potable water is/is not suitable, unless tested to prove otherwise.
- D. Perform tests determining strength of propylene glycol solution before system is turned over to the Owner. Provide test prior to end of the first year of operation and replenish as required.
- E. Set up glycol feeder control for proper operation. Set pressure switch to feed glycol to system at 12 psi.
- F. At time of substantial completion, glycol feeder shall be filled with a full tank of the proper solution.

END OF SECTION 15517