

**SECTION 17280
PRESSURE GAUGES**

1. GENERAL

- A. This section specifies pressure gauge assemblies shown in the drawings and specified here within.
- B. Manufacturer's product information shall be provided in accordance with Section 01300 of these specifications.
- C. All pump stations and pumps shall be equipped with Type 1 Pressure Gauges on the outlet pipes unless otherwise specified.
- D. All positive displacement pumps (sludge transfer pump and screw press feed pump) shall be equipped with pressure gauges on the suction and outlet pipes.
- E. Wafer style pressure gauges with electronic pressure sensors shall be used as shown on the plans.

2. MATERIALS

- A. Type 1 Pressure Gauge
 - 1. Ball valves for pressure gauge assemblies shall be Apollo or Neles-Jamesbury with 316 stainless steel body, or approved equal.
 - 2. Pressure Gauge
 - a. Unless otherwise specified, pressure gauge scales shall be selected so that the normal operating pressure falls between 50 and 80 percent of full scale, shall be 4½-inch, 270 degree movement, ½ percent accuracy, full scale, and suitable for bottom stem mounting. Gauges shall have a 316-SS bourdon tube. All gauges shall have a 300 series stainless steel case, shatterproof glass, and a ½-inch NPT bottom connection.
 - b. Pressure gauges for air shall be premium grade, heavy-duty bourdon-tube units (bellow type for vacuum) with Delrin bushings and pinion, and stainless-steel sector.
 - c. Gauges on liquid service shall be as noted above, except they shall be provided with an internal pulsation dampening system consisting of either a glycerin fill or a silicone fluid fill. Snubbers or orifices shall not be utilized. Gauges shall be Ashcroft Duragauge Fig. 1279, Ametck 1981L, or approved equal.
 - d. Unless otherwise specified, seals shall be diaphragm type, Type 316 stainless steel body and Type 316L diaphragm. Fill fluid shall be Silicone DC200 unless otherwise specified. Seal shall be Ashcroft Type 100, or approved equal.

- B. Type 2 Wafer Style Pressure Gauge
 - 1. Wafer style pressure sensor shall have a carbon steel body, non-wetted ANSI B 16.5 class 150 flanges, Buna-N sleeve, filled with Fluid Ethylene Glycol and Water 200 degrees F. Size the wafer pressure sensors to match pipe diameters as shown on the plans.
 - 2. Basis of design is the Red Valve Series 48W Wafer Style Pressure Gauge. Candidate manufacturers include Red Valve, Cla-Val modified to meet specifications, or approved equal. The electronic sensor shall be capable of relaying pressures from zero to 150 psi and.
 - 3. Unless otherwise specified, the Wafer Style Pressure Gauge shall be equipped with a Type 1 Pressure Gauge, mounted to the body of the wafer housing.
- C. Pressure Sensor
 - 1. Electronic pressure sensors are required for all wafer style pressure gauge in addition to the Type 1 Standard Pressure Gauge assembly. The Type 2 Wafer Style Pressure gauges shall be equipped with electronic pressure sensors that will relay pressure data to the control panels and ultimately the SCADA system.

3. WORKMANSHIP

- A. Installation of piping appurtenances shall be in accordance with the manufacturer's installation instructions.

END OF SECTION