CITY OF FORT WAYNE MASTER UPDATED: 1/9/2015

SECTION 40 73 00

PRESSURE MEASUREMENT

NTS: This specification section shall be used as a template for all Process System Instruments. Engineer shall maintain the following format, provide applicable specification name and number and include project specific information for each Process System Instrument. Common Process System Instruments sections include: 40 71 00 Flow Measurement, 40 72 00 Level Measurement, 40 73 00 Pressure Measurement, 40 74 00 Temperature Measurement and 40 75 00 Process Liquid Analytical Instruments.

1. – GENERAL

NTS: Insert the type of instrument at (--1--) below. Engineer shall include specific requirements below for required water and wastewater applications (Eg. Approved for use in potable water).

* 1. SUMMARY
     1. Items specified in this section shall conform to general requirements of Section 40 61 13 Process Control Systems General Provisions. Items shall be agency-approved for municipal potable water service.
     2. Section includes (--1--) for Process Instrumentation and Control.
  2. SUBMITTALS
     1. General:
        1. Submit Product Data in sufficient detail to confirm compliance with requirements of this Section. Submit Product Data and Shop Drawings in one complete submittal package for this section.
     2. Product Data:
        1. Catalog cuts and product specifications for instrumentation specified.
     3. Shop Drawings:
        1. Installation and assembly drawings and specifically prepared data for instrumentation specified.
        2. Submit in accordance with Section 01 33 00.
     4. Operation and Maintenance (O&M) Data
        1. Operating instructions and maintenance data for materials and products for inclusion in O&M Manual.
        2. Manufacturer's written instructions for periodic test/calibration/cleaning for instrumentation and controls in service.
        3. Submit in accordance with Section 01 78 23.

1. – PRODUCTS

NTS: Engineer shall maintain the following format and provide project specific information for each applicable instrument. Section 2.1 and 2.2 below are examples and should be edited with project specific information. Additional sections and tables should be added for each type of Pressure Measurement.

* 1. (P4) PRESSURE GAUGE/ INDICATOR

|  |  |  |
| --- | --- | --- |
| **Tag** | **Description** | **Range**  **(PSI)** |
| 4140-PG-0104 | WESTSIDE PUMP STATION PUMP NO. 4 SUCTION PRESSURE | 0-100 |
| 4140-PG-0204 | WESTSIDE PUMP STATION PUMP NO. 4 DISCHARGE PRESSURE | 0-150 |
|  |  |  |
|  |  |  |

* + 1. Manufacturers:
    2. Sensing Element Material: 316 Stainless Steel
    3. Mounting: Stem
    4. Dial Size: 3 1/2 inch
    5. Units shall be bellows or Bourdon tube actuated pressure gauges. Gauges shall be stem mounting with 3-1/2-inch dial size, unless otherwise noted. Scale range shall be as noted and accuracy shall be plus or minus 1/2 percent of span.
    6. The sensing element material shall be phosphor-bronze, unless otherwise noted.
    7. Element shall sense pressure, vacuum or differential pressure as specified.
  1. (P7) DUAL PRESSURE SWITCH, FIXED DEAD BAND

|  |  |  |
| --- | --- | --- |
| **Tag** | **Description** | **Trip Point** |
| 4110-PS-0104 | SOUTHWEST PUMP STATION PUMP NO. 4 DISCHARGE PRESSURE SWITCH | Match Existing Pumps  (Field Verify) |
| 4110-PS-0105 | SOUTHWEST PUMP STATION PUMP NO. 5 DISCHARGE PRESSURE SWITCH | Match Existing Pumps  (Field Verify) |
|  |  |  |
|  |  |  |

* + 1. Manufacturers:
    2. Dual adjustment pressure switches.
    3. Output: SPDT snap action rated at 10 amps, 120 vac.
    4. Pressure connection: ¾ inch NPT.
    5. Type: Housed diaphragm type.
    6. Diaphragm: Buna-N.
    7. Housing: NEMA 4, stainless steel.
    8. Adjustment: External tamperproof.
    9. Accessories:
       1. Include isolation valve to isolate from process when being serviced.
       2. When noted in Section 13481, provide with diaphragm seal as specified in this Section.

1. – EXECUTION

NTS: Engineer shall include specific requirements below if different from manufacturer’s recommendations. Eg. mounting requirements, splice restrictions, and testing procedures.

* 1. INSTALLATION
     1. Install and wire in accordance with System Supplier’s and/or Equipment manufacturer’s written instructions and approved submittals, applicable requirements of the NEC, NECA “Standard of Installation”, and recognized industry practices.

+ + END OF SECTION + +