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| --- | --- | --- |
| Version | Date | Description of Revisions |
| 1 | November 1, 2011 | Standard Specification Release |
| 2 | April 17, 2015 | General formatting |
| 3 | March 1, 2017 | Updated for NSF 372. (AV) |
| 4 | June 13, 2022 | 2.1 Tagging requirement revised (BM) |

NOTE:

This is a CONTROLLED Document. Any documents appearing in paper form are not controlled and should be checked against the on-line file version prior to use.

**For each project the consulting engineer is responsible for the correct application of the specifications and for updating and modifying all highlighted items, as well as updating and modifying those sections that are directly applicable to the project. All updates and modifications to this standard document are to be highlighted to the Region for review and acceptance on each project.**

**Notice:** This Document hardcopy must be used for reference purpose only.

**The on-line copy is the current version of the document.**

# GENERAL

## General

### The specifications in this section define additional requirements to those set forth in Section 13105 – Process Control: General Instrumentation Requirements. Where a conflict exists, the more stringent requirement is to be provided.

### The contractor is to clearly identify on the shop drawings any deviation from the specification.

### Contractor required to provide the following O&M documentation: manufacturers’ printed recommendations; installation instructions; specifications; operation manuals, including electrical drawings, and plumbing diagrams; sales literature; materials; and training materials as applicable.

### Contractor is to furnish copies of the manufacturer’s warranties.

### Contractor is to provide, through the Instrumentation Supplier, pressure switches, complete and operable, in accordance with the Contract Documents.

## Measurement and Payment

### The work outlined in this section shall be included in the lump sum price for Section 13150 – Pressure Switch as indicated in the Bid Form.

# INSTALLATION

## General

### The following installation requirements are in addition to or deviations from the requirements set forth for instrumentation in Section 13105 – Process Control: General Instrumentation Standard.

#### Wetted parts: As required by the process, 316 SS minimum NSF certified drinking water system components to be used for all potable water applications (NSF 61 and NSF 372).

#### Install with all accessories as required including isolation ball valves, nipples, reducers to match seal and process connection to main piping.

#### Pressure switches are not to be mounted directly on top of pipes. Sample point is to be taken from the side of the pipe.

#### Provide compound type switches on suction side of pumps.

#### For water applications, isolation valve and block and bleed with calibration port are to be provided with all installations.

#### Install a pressure gauge at all locations where there is a pressure transmitter or a pressure switch.

#### Provide equipment tag wired to switch in accordance with Section 01080 – Process Equipment Location Tagging.

# ACCEPTABLE MANUFACTURERS

### Acceptable manufacturers are listed in the following table in order of preference. The design has been completed around the first named supplier. The contractor is responsible for all costs associated with any changes required to the design to accommodate one of the other manufacturers.

|  |  |  |
| --- | --- | --- |
| **Preference** | **Manufacturer** | **Model** |
| 1 | Ashcroft | Type 400 |
| 2 | United Electric | J402 |
| 3 |  |  |

### The Contractor is to select the appropriate options to suit the application and the requirements of the specification.

### Where second and third named manufacturers are provided, they are to meet the performance specifications of the first named manufacturer.

## Pressure Switches

First Named Manufacturer:

|  |  |
| --- | --- |
| **Service:** | Clean |
| **Process:** |  |
| Tag name: | xxx-xxx |
| Installation DWG: | 13150x |
| Fluid: | Water |
| Temp min/max: | 0 - 40 °C |
| Press min/max: | 0-700 kPa |
| **Device Data:** |  |
| Enclosure: | Pressure switch, type 400, watertight  enclosure meets NEMA 3, 4, 4X and 13,  IP66 requirements |
| Switch Element: | Dual General Purpose  15A, 125/250/480 VAC |
| Actuator Seal: | Buna N  -32 – 65°C (0-150°F) |
| Options: | 2” Pipe Mounting Bracket |
| Nominal Pressure Range: | 4200kPa (600psi) |
| Proof Pressure: | 16,560kPa (2,400psi) |
| Burst Pressure: | 20,700kPa (3,000psi) |
| Manufacturer: | Ashcroft |
| Part Number: | B464BXTM600PSI |

Second Named Manufacturer:

|  |  |  |
| --- | --- | --- |
| **Service:** | Clean | Clean |
| **Process:** |  |  |
| Tag name: | xxx-xxx | xxx-xxx |
| Installation DWG: | 13150x | 13150x |
| Fluid: | Water | Water |
| Temp min/max: | 0 - 40 °C | 0 - 40 °C |
| Press min/max: | 0-690kPa | 0-1,380kPa |
| **Device Data:** |  |  |
| Range: | For Pressures < 690kPa | For Pressures < 1,380kPa |
| Type: | J402 | J402 |
| Sensor Housing Material: | 316L Stainless Steel | 316L Stainless Steel |
| Dimension: | 160.3mm | 160.3mm |
| Pressure Connection: | 1/2” NPTF | 1/2” NPTF |
| Nominal Pressure Range: | 0-690kPa | 0-1,380kPa |
| Max. Over Pressure: | 690kPa | 1.38MPa |
| Proof Pressure: | 860kPa | 1.38MPa |
| Model: | S156B | S164B |
| Approvals: | UL Listed, CSA Certified, NEMA 4 | UL Listed, CSA Certified, NEMA 4 |
| Options: | *Additional added as necessary* | *Additional added as necessary* |
| Accessories: | *Additional added as necessary* | *Additional added as necessary* |
| Manufacturer: | United Electric | United Electric |
| Part Number: | J402-S156B | J402-S164B |

**END OF SECTION**