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| Version | Date | Description of Revisions |
| 1 | November 1, 2011 | Standard Specification Release |
| 2 | April 17, 2015 | General Formatting |
|  |  |  |
|  |  |  |

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.**

# sPECIFICATION

## 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, float 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 13130 – Float 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 - General Instrumentation Requirements.

#### Provide all mounting hardware including sway control rings, hanger brackets, and pipe-mounting hardware.

#### Mount float switches on a rigidly held one-inch standpipe in small sump applications and with sway control rings and hanger brackets on larger wet well applications. Mount sway control rings and hanger brackets using cinch anchors.

#### Wire the switch using the manufacturer’s recommended flexible cable to a junction box close to the switch to facilitate removal for maintenance. Wire from the junction box to the control panel in rigid conduit.

#### Cable insulation suitable for continuous submergence in water or hydrocarbons. Conductors shall be minimum 14 AWG stranded copper. Cable length to suit the installation.

#### Strain relief to be provided for cable anchoring point.

#### Mount switch such that it is easily removable for maintenance or cleaning, without emptying the tank or sump in which it is mounted.

#### Terminate float switch cables on terminal strips mounted in a NEMA 4X junction box located for ease of maintenance. Locate weatherproof cable connectors on the bottom of the box only.

#### All mounting hardware to be stainless steel.

#### Provide galvanically isolated intrinsic barriers in electrically hazardous applications.

#### Install EYS seals as required to comply with OESC when mounting float switch in hazardous applications.

# 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** |
| 1 | Flygt |
| 2 |  |
| 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.

## Float Switches

First Named Manufacturer:

|  |  |  |  |
| --- | --- | --- | --- |
| **Service:** | Water | Sewage |  |
| **Process:** |  |  |  |
| Tag Name: | xxx-xxx | xxx-xxx |  |
| Installation DWG: | 13130x | 13130x |  |
| Liquid: | Water | Raw Sewage |  |
| Temp min/max: | 5 -15 °C | 0 to 25 °C |  |
| Specific Gravity: | .95 to 1.1 | .95 to 1.1 |  |
| Class/Div/Group: | N / A | Class I Division 1 Group C & D |  |
| **Device Data:** |  |  |  |
| **Switch:** |  |  |  |
| Type: | Mercury Free Dry Contact NO/NC | Mercury Free Dry Contact NO/NC |  |
| Contact Form: | SPDT Form C | SPDT Form C |  |
| Rating: | 10 Amp @ 250 Vac | 10 Amp @ 250 Vac |  |
| Differential: | 100 mm (4 ") | 100 mm (4 ") |  |
| **Case:** |  |  |  |
| Material: | Polypropylene | Polypropylene |  |
| Cable Length: | 6 m Potted at Float | 6 m Potted at Float |  |
| Cable: | PVC | PVC |  |
| **Accessories:** |  |  |  |
| Sway Control Rings: | Yes | Yes |  |
| Hanger Bracket: | Yes | Yes |  |
| Local Jct Box: | Yes | Yes |  |
| I.S. Relay: | No | Yes |  |
| Manufacturer: | Flygt | Flygt |  |
| Part Number: | ENM-10 | ENM-10 |  |

**END OF SECTION**