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| Version | Date | Description of Revisions |
| 1 | November 1, 2011 | Standard Specification Release |
| 2 | April 21, 2015 | General formatting |
| 3 | June 13, 2022 | 1.3 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 O&M documentation; 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, capacitance level meters/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 13290 – Conductive Level Meters/Switches as indicated in the Bid Form.

## Transmitter / Controller

### Signal Cable: Manufacturer's recommended sensor signal cable connection direct from sensor to instrument without joints or splices via flexible weatherproof conduit.

### Tagging: Equipment tag wired to transmitter and to sensor in accordance with Section 01080 – Process Equipment Location Tagging.

# 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.

#### The probe is to be hung in turbulent area of the well but not directly below inflow.

#### Do not install probe in a stagnant area or corner where grease and debris may collect. Stilling wells are not acceptable.

#### Ensure a minimum of 300mm clearance from any surface.

#### Ensure bottom of probe is 12mm above minimum pumping level.

#### Do not use the bottom sensor as earth or ground.

#### When mounting, ensure there is a good electrical conductive connection between the process connection and the tank.

#### The probe must be buried (outside the well) in a separate metal conduit ad shielded for correct operation of the level sensing device.

#### Most pits are adequately earthed or grounded and do not require any reference rods, however PVC or fiberglass tanks without pumps or metallic grounded pipe require reference rods.

#### Stainless steel mounting bracket (MTAK1) and probe cleaner to be installed.

#### Provide all stainless steel mounting hardware for surface, panel or handrail mounting as required by location.

# 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.

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| --- | --- | --- |
| Preference | Manufacturer | Model |
| 1 | MultiTrode Inc. | MultiTrode Probe |
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|  |  |  |

### 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.

## Conductive Level Meters

First Named Manufacturer:

|  |  |
| --- | --- |
| **Service:** | Discrete and Continuous Level in Liquids |
| **Process:** |  |
| Tag name: | xx-xx |
| Installation DWG: | 13290x |
| Fluid: | Sewage |
| Temp min/max: | 0 to 40 °C |
| Max Submersion Depth: | 20 m |
|  |  |
| **Probe Device Data:** |  |
| Probe Type (Standard Probe/Duo Probe): | Standard Probe |
| Probe Length: | 9.0m (366”) |
| Number of Sensors: | 10 |
| Sensor Separation: | 900mm (40”) |
| Cable Length: | 30m (100’) |
| Fail Safe Option: | No |
| Manufacturer: | MultiTrode Inc. |
| Part Number: | 9.0/10-30 |
| **Accessories**: |  |
| Stainless Steel Mounting Bracket and Probe Cleaner: | MTAK1 |
| Extended Stainless Steel Mounting Bracket and Probe Cleaner: | MTAK2 |
| Indicator Controller: | MTIC |
| Intrinsically Safe Barrier 10 Channel: | MTISB10 |
|  | *Additional added as necessary* |

**END OF SECTION**