

## Application Notes for Propane Tank Monitoring with Centeron™

(Revised 07/17/2009)

When configuring a propane tank in WebView always select "Gauge" from the Measuring Type dropdown menu. This will bring up the correct screen for entering the characteristics of a propane tank.

### There are 3 basic types of propane tanks:

1. **Horizontal** - The long axis of the tank is parallel to the ground and one gauge reads the entire range of tank capacity. The tank may be located above or below ground level but this does not affect how it is configured in WebView.



- a. Select "Horizontal Propane" under Tank Type

2. **Vertical Single Gauge** – The long axis of the tank is perpendicular to the ground and the tank only has one gauge.



- a. Select "Vert 1 Dial 10-80%" if one gauge reads the entire range of tank capacity
- b. Select "Vert 1 Dial 30-60%" for tanks that use a single gauge to measure the middle 1/3 of the tank capacity.

3. **Vertical, Multiple Gauges** – The long axis of the tank is perpendicular to the ground and the tank has two to four gauges, each reading a portion of the tank capacity.



- a. Select "Vertical 2 Dial" for tanks with 2 dials per tank
- b. Select "Vertical 3 Dial" for tanks with 3 dials per tank
- c. Select "Vertical 4 Dial" for tanks with 4 dials per tank

Notes:

- An offset amount can be entered for all types of propane tanks to adjust the reading that is displayed in WebView. For example, if WebView reports that a tank is 50% percent full but the mechanical gauge indicates that it is 55% full then an offset of +5% can be entered to adjust the WebView reading to match the gauge.
- After selecting the tank type, enter the nominal water capacity of the tank expressed in the selected units of measure (typically gallons). This is the only “dimension” that must be entered to define the size of a particular propane tank.
- Since propane gauging mechanisms are mechanical systems, there may be as much as a +/- 5% difference between the actual tank level and the indicated level in WebView. Propane gauge mechanisms are most accurate near 50% of tank capacity and less accurate at the upper and lower ends of their scale.

Current Path: \Demo\Propane Distributor\Knoxville\North Knoxville\Hill Station\

**Propane Tank #255** Information History  
Setup

**Monitor Setup**

Controller S/N: D00000545 + Model: CONTROLLER, GENERAL WITH TEMP  
Monitor S/N: D001185 Validate Model: GM240EI0000F900 - Gauge Monitor  
Measuring Type: Gauge

**Tank Setup**

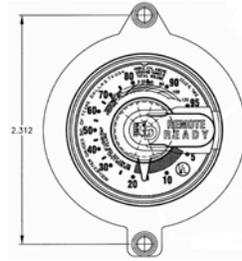
Tank Name: Propane Tank #255 Tank Type: Horizontal Propane Units: Gallons  
Product: Propane + Units: Horizontal Propane Capacity: 500  
Orientation: Down Horiz Vertical 3 Dial Max Fill: 80 Percent  
Bulk Storage:  Vertical 2 Dial Unuseable Amt.: 0  
Vert 1 Dial 30-60% Useable Amt.: 400 Gallons  
Vertical 4 Dial Base Usage: 3.79  
Vert 1 Dial 10-80%

WebView Propane Tank Setup Screen

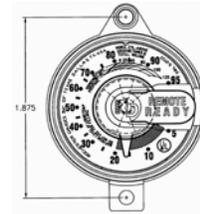
**Centeron™ features the following gauge dials:**

**Horizontal Tanks for Above Ground Installation (See Tank Type 1 above):**

Rochester Senior: **GSDSR0HAE00**



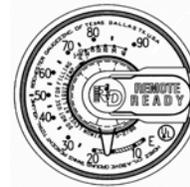
Rochester Junior: **GSDJR0HAE00**



Taylor 'A': **GSDTA0HAE00**

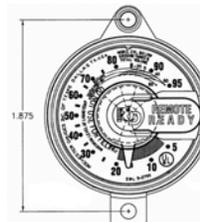


Taylor 'B': **GSDTB0HAE00**



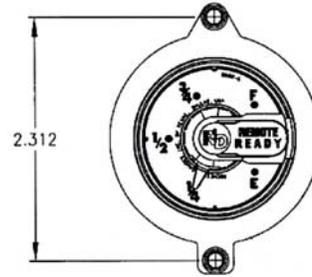
**Horizontal Tanks for Underground Installation (See Tank Type 1 above):**

Rochester Junior: **GSDJR0HUE00**

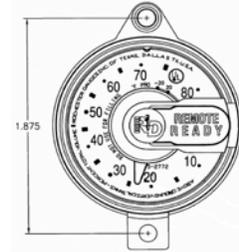


**Vertical Tanks for Above Ground Installation (See Tank Types 2 and 3 above):**

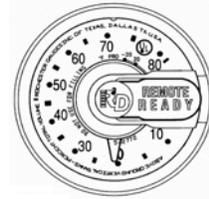
Rochester Senior (fractional): **GSDFS0VAE00**



Rochester Junior: **GSDJR0VAE00**



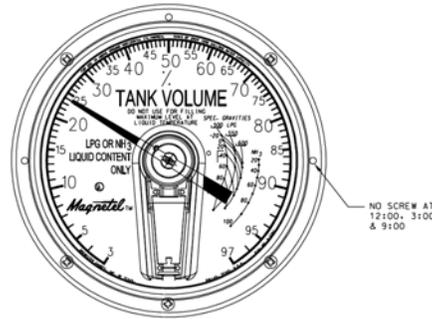
Rochester Snap-on: **GSDSN0VAE00**



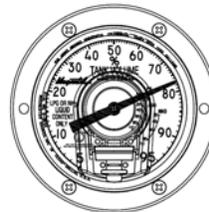
## Large Dials for bulk storage applications

Centeron™ offers gauge kits for remote monitoring large propane storage tanks with 4” or 8” diameter Rochester or 8” J. Y. Taylor dial assemblies. The nominal dial diameter refers only to the printed face so the outside perimeter of the mounting flange may be a few inches larger.

Rochester 8” dials often have the word “Magnatel” written on the dial face and are secured with three screws (located at the 9:00, 12:00, and 3:00 positions). These dials should be replaced with the **GSLRH10I00** Large Tank Adapter for remote monitoring.



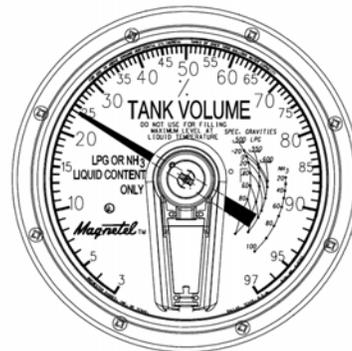
Some Rochester 4” dials have a mounting flange that is secured around the perimeter with several screws. These dials should be replaced by **GSLMH10I00** for remote monitoring.



Other Rochester 4” dials have a flange that is not secured with perimeter screws. These dials should be replaced by part number **GSLSH10I00** for remote monitoring.



J. Y. Taylor 8” dials often have the word “Mastervisible” written on the dial face and are secured with two screws (located at the 12:00 and 6:00 positions). These dials should be replaced with the **GSLTH10I00** Large Tank Adapter for remote monitoring. Note that Rochester now manufactures J.Y. Taylor products and all replacement dials will say “Rochester Magnatel”.



Notes:

- Centeron™ Gauge Monitors detect the dial pointer position using very small electrical currents. For this reason it is very important to protect the sensor wiring harness electrical connections from contamination and corrosion. Always apply dielectric grease to the sensor connector terminals when installing a new Monitor or changing sensors. It is also a good practice to add dielectric grease to the three terminals at the base of the Monitor circuit board (inside the Monitor housing) each time the battery is changed or whenever the Upper Housing is removed.
- Fractional dials, above ground dials, and underground dials of the same size differ only in the markings that are silk screened on their faces. In the event that one of these dials is substituted for another there will be a discrepancy between the data displayed in WebView and the volume indicated on the dial. However, WebView will indicate the correct tank volume.
- It is not possible to tell the difference between Taylor “A” and Taylor “B” dials by looking at their faces. Two methods for distinguishing between these dials follow:

Method 1) Remove the existing dial (simple pointer only, not Remote Ready) from the mounting base by extracting the two small hex screws at the 12:00 and 6:00 positions on the dial face. **DO NOT REMOVE THE GAUGE BASE FROM THE TANK - PROPANE WILL BE RELEASED!** Orient the gauge so that it is facing up and the 50% mark is at the 12:00 position. Carefully flip the gauge over from side to side (3:00 flips toward 9:00 or vice-versa). If the large (0.125" diameter) index hole on the back side of the gauge is at the 8:00 position then the gauge is a Taylor "A". If the large index hole on the back of the gauge is at the 4:00 position then the gauge is a Taylor "B". **NOTE THAT THIS PROCEDURE ONLY WORKS ON SIMPLE POINTER GAUGES - NOT ON DIALS THAT ARE WIRED FOR ANY TYPE OF REMOTE MONITORING.**

Method 2) Verify that the tank is NOT completely empty and note the indicated tank level using the original dial. Replace the original dial with either a Taylor "A" or Taylor "B" Remote Ready dial. If the indicated tank level using the new dial matches the original reading within +-5% then the correct replacement has been selected. Otherwise install the other type of Taylor dial (either "A" or "B") and verify that the indicated level matches the original gauge reading.

- When installing large tank dials it is extremely important to mount the new large dial kit on the tank BEFORE installing the small gauge and wiring harness assembly. It is also important to verify that the small gauge pointer aligns with the large dial pointer as the small gauge is installed. Carefully following the mounting instructions included with the large dial kit will insure a successful installation.