



WHESOE S.A.



**The Total LNG
Storage Tank Solution**

Whesoe S.A.



The Ultimate LNG Storage Tank Instrumentation System





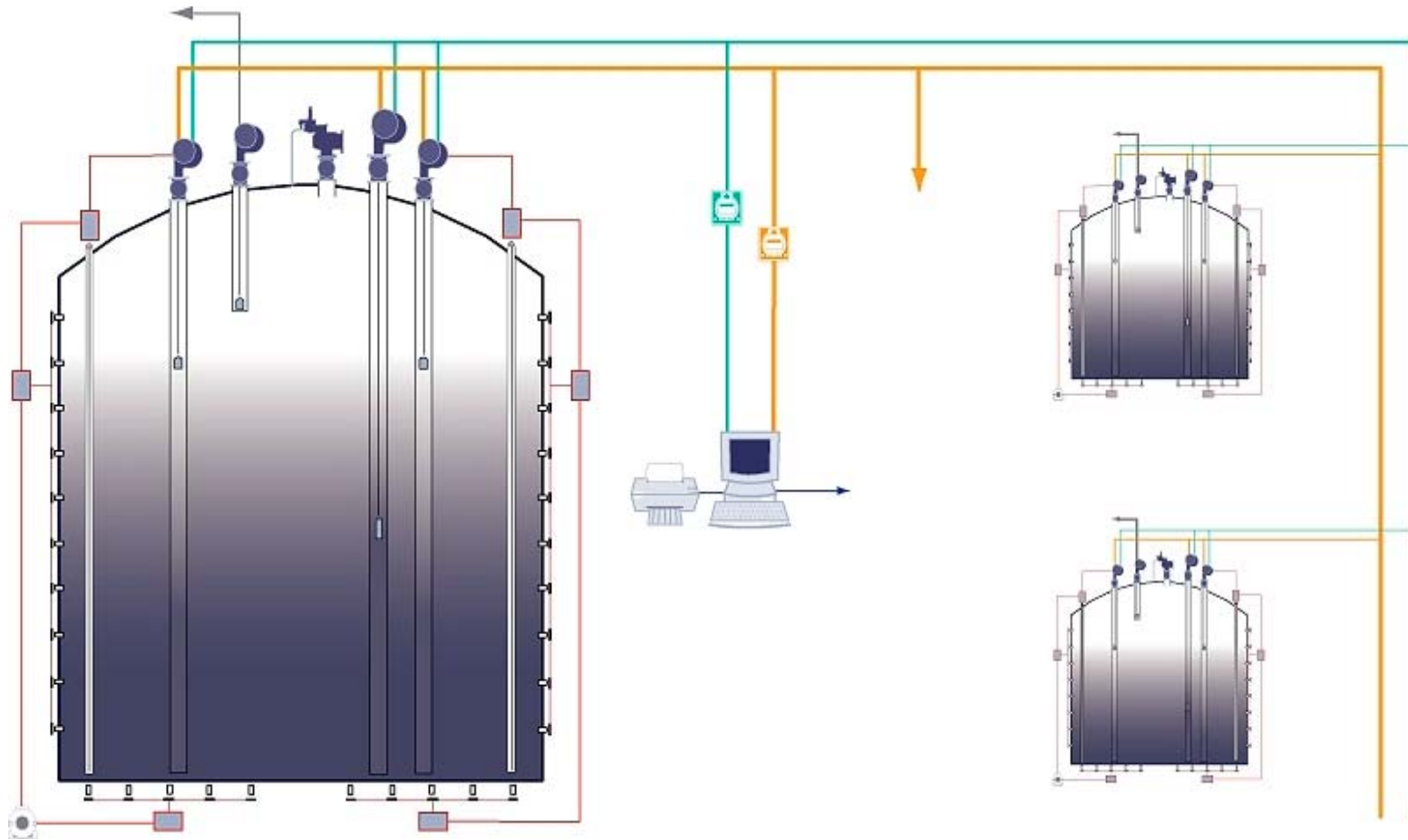
Your Specialist Partner For...

- ▶ Storage tank instrumentation
- ▶ Control & data handling platforms
- ▶ Storage optimization software



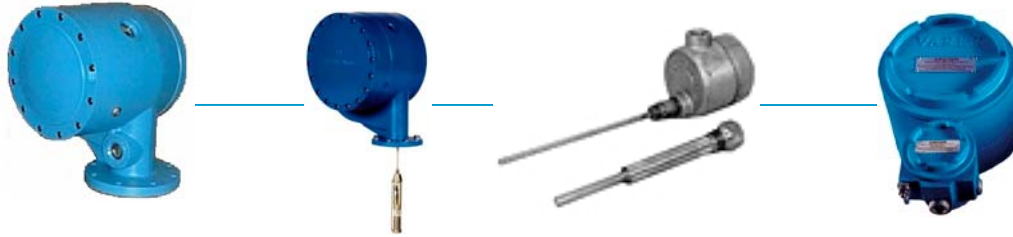


Total LNG Tank Instrumentation Solution





All LNG Tank Instrumentation Supplied From A Single Source



- Redundant servo level gauges
- High/high level alarm gauge
- LTD gauge
- Product spot temperature sensing elements
- Temperature element transmitters
- Data handling / control software
- LNG tank management software





A Total System To Perform...

- ▶ Overall storage process safety
- ▶ Stratification management
- ▶ Volume and mass calculation
- ▶ Total site inventory management

By measurement of:

- Density
- Level
- Temperatures
- Alarm conditions



LNG Master[®]



Upper layer

Height m

Temperature °C

Density kg/m³

Composition SKIKDA

Lower layer

Height m

Temperature °C

Density kg/m³

Composition ARZEW GL1Z

Exchange zone

Width m

Emptying

Yes No

MONTOIR RV1
D = 62.74 m, H = 39.3 m
Bottom = 24.6 W/m² Border = 24.9 W/m²

SKIKDA, -162.4°C, 453.8kg/m³, 5.0m

ARZEW GL1Z, -161.6°C, 466.2kg/m³, 25.0m

Note!

The differences in temp. and density of both layers, trigger a rollover



Specifications

Data Points

- **No. of Data Points** 250 points on selectable range (for more points consult factory)
- **Minimum Interval** 50 mm

Density Measurement

- **Sensitivity** $\pm 0.1 \text{ kg/m}^3$
- **Repeatability** $\pm 0.1 \text{ kg/m}^3$
- **Accuracy** $\pm 0.5 \text{ kg/m}^3$

Level Measurement

- **Range** 0 - 65 meters (consult factory for higher range)
- **Sensitivity** $\pm 1 \text{ mm}$
- **Repeatability** $\pm 1 \text{ mm}$
- **Accuracy** $\pm 2 \text{ mm}$ at full travel

Temperature Measurement

- **Sensitivity** $\pm 0.01 \text{ }^\circ\text{C}$
- **Accuracy** $\pm 0.5 \text{ }^\circ\text{C}$

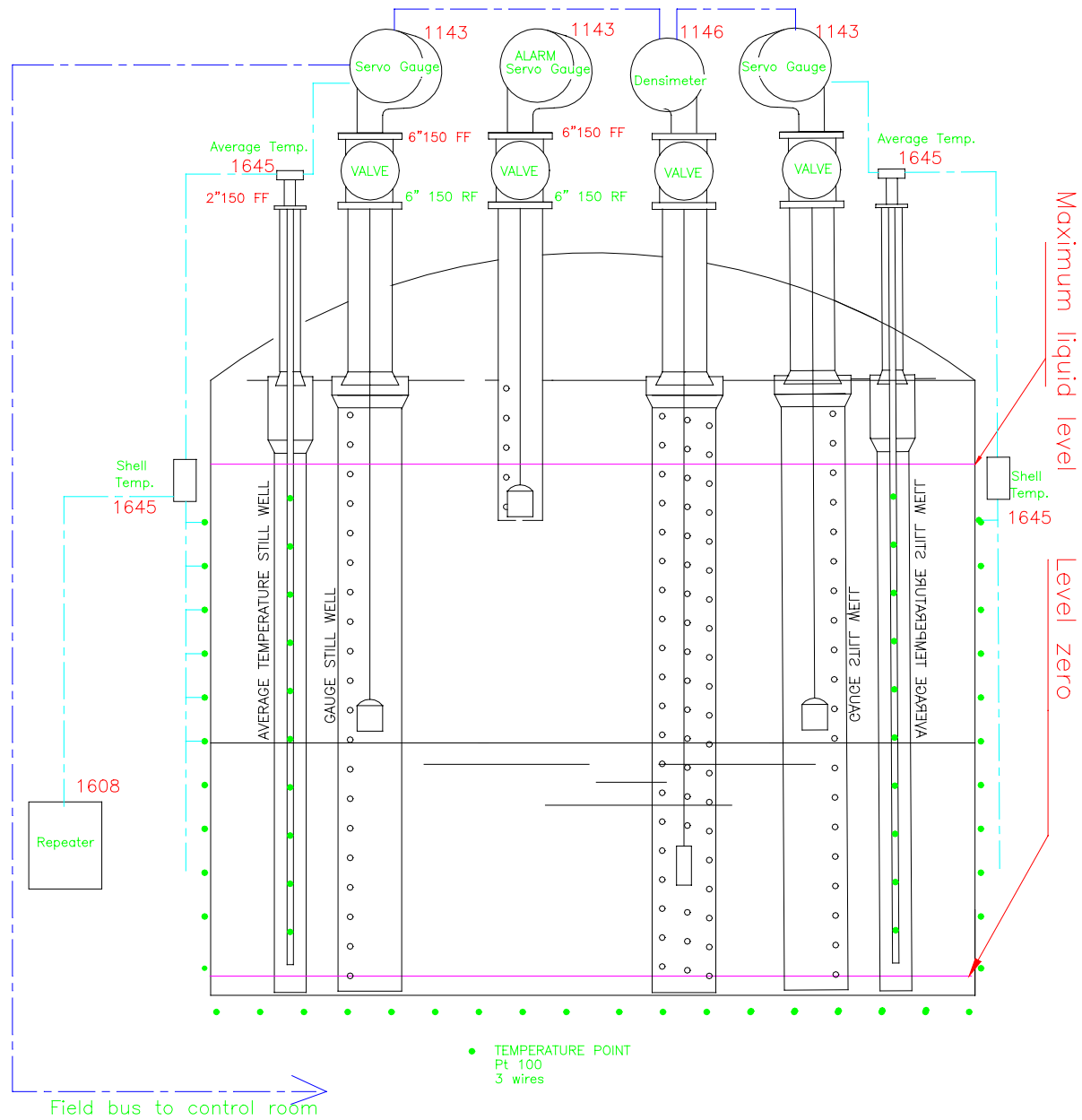


Specifications

Continued

| | |
|----------------------|---|
| Display | 8 alphanumeric |
| Eng. Units | Selectable (Metric, Imperial) |
| Mounting | Tank top |
| Range | 0 - 65 meters (higher range possible, consult factory) |
| Pressure | Up to 0.25 bar |
| Range Density | 400 - 1000 kg/m ³ |
| Power supply | 110/220 Vac, 50 w |
| Approvals | Flameproof, Cenelec en 50018 I.S. Cenelec 50020 |
| Transmission | Whessmatic 660/RS 485/20 ma loop |
| Option | 2nd Fieldbus, RS 485/20 ma loop |







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The Power of Know-How