



Specialized services and solutions to minimize costly repairs & downtime while maximizing performance

AVOIDING THE SIGHT GLASS PITFALL

- Steam cuts
- Integral valve failure
- Gasket/Seal leakage: multiple points & pressure boundaries
- Glass erosion & fatigue: pressure boundary
- Fugitive emissions
- Compromised visibility: etched & scaled glass
- Expensive to purchase
- Expensive to maintain
- Personnel safety

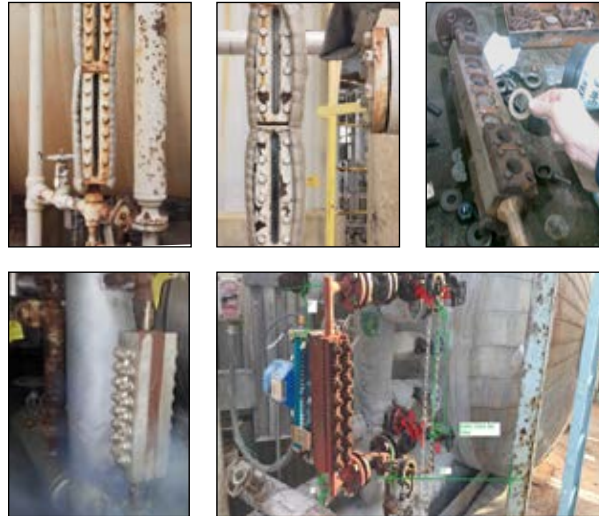
AUDITS & INSPECTIONS

Periodic maintenance inspections and comprehensive surveys can identify and help predict potential issues. We will work with your team to survey your sight glass installations and offer plug-and-play solutions to replace problematic units and preempt unscheduled process or plant shutdown.

OUR GOAL

To reduce cost of ownership, enhance process monitoring and optimization while eliminating unscheduled downtime and streamlining turnarounds.

Sight Glass Gauges – the Hidden Cost Center



Orion Instruments®, a subsidiary of Magnetrol International, offers extensive options to replace, streamline and enhance costly sight glass installations on a variety of applications to include those governed by the Boiler Pressure Vessel Code (BPVC) – boilers, steam drums, etc.

Sight glass gauges have become a hidden cost center in their own right when it comes to high pressure and temperature applications throughout heavy industry. Their upfront cost and repetitive need of repair can have a substantial negative impact on their functionality as well as a plant's maintenance budget.

A host of benefits are realized when retrofitting your sight glass gauges with our Magnetic Level Indicator (MLI). It's all about safety, functionality and reliability. You no longer need to sideline your investment in level control due to the numerous pitfalls of sight glass gauges.

High visibility and performance gains are equally exciting! A scalable platform offering multiple and customizable configurations with bolt-on expansions to include a variety of transmitter and switch options.

- Comprehensive survey delivers solutions to eliminate sight glass gauges and their associated costs while improving process control
- In-house expertise on BPVC requirements to ensure compliance while enhancing the visual experience, performance and personnel safety
- Service & Inventory to facilitate rapid response to retrofit demands to improve uptime and meet turnaround and production schedules
- Extend your warranty when working with our local survey & inspection team
- No need to sideline (valve out) level indicators. Get the most from your instrumentation investment



No flashlights or backlights required with Orion Instruments Magnetic Level Indicators

SURVEYS THAT DRIVE CUSTOMER VALUE

- Pre- and post-survey team meetings
- Comprehensive inspection checklist
- Detailed analysis report on units identified as out-of-tolerance
- Thermal imaging for leak detection, fugitive emissions or hot spots on all sight gauges
- Guidance in compliance with BPVC (Boiler Pressure Vessel Code)
- Cost analysis on repair versus retrofitting to Magnetic Level Indicators
- Service support to commission retrofits
- Inspections accomplished on all installed sight gauges without shutting down the process



FACTORY TRAINED

To meet the exacting standards and expectations of our clients, all surveys are accomplished locally by factory-trained technicians and supported at the factory level

LOCAL SERVICES

We put the experience and expertise where you need it most to support and complement your maintenance & turnaround teams.

LOCAL INVENTORY

After a comprehensive survey of your sight glass installations under your guidance, we will stock complete Magnetic Level Indicators and isolation valves to replace those on your most critical applications. Local inventory and our OrionXpress program aligns delivery with your turnaround and day-to-day maintenance schedules. We will help ensure your unit will never be down for long.

CONTACT US

For more information on any of our services or to request a consultation contact us:
630.969.4000 or
turnarounds@magnetrol.com

magnetrol.com

Surveys & Solutions to Reduce Total Cost of Ownership

TYPICAL REPAIR COSTS

| | |
|-------------------------------------|-------------------------|
| Repair Kit: | |
| Seals/Gaskets Kit with Glass | \$660.00 |
| | \$1,600.00 |
| Shop Time | \$140.00 |
| 4 hrs @ \$35.00/hr (Est) | |
| Removal and Replacement Time | \$140.00 |
| 4 hrs @ \$35.00/hr (Est) | |
| Vessel/Process Downtime | 1 day @ \$\$\$\$ |



COMMON ISSUES

| |
|---|
| Steam Cuts |
| Gasket/Seal Leakage |
| Integral Valve Failure |
| Multiple Points of Failure |
| Glass Erosion & Fatigue |
| Compromised visibility (Etched & Scaled Glass) |
| \$\$\$\$ Purchase & Maintain Personnel Safety |

*"If you had a dollar for every sight glass gauge at your facility that is sidelined to protect it from day-to-day process rigors or is unreadable to the point it can no longer serve its intended purpose, **would we be having this conversation?**"*

ENHANCED & SCALABLE SOLUTIONS

- ASME code and NACE construction
- Vector™ Magnetic Level Indicator
- Atlas™ Magnetic Level Indicator
- Aurora® Magnetic Level Indicator with integral Eclipse® Guided Wave Radar
- Gemini™ Magnetic Level Indicator with secondary chamber for advanced level controls
- After-the-fact transmitter and switch bolt-on options
- Multiple types and sizes for process connection, alloys/plastic materials of construction, and scale/ruler options available

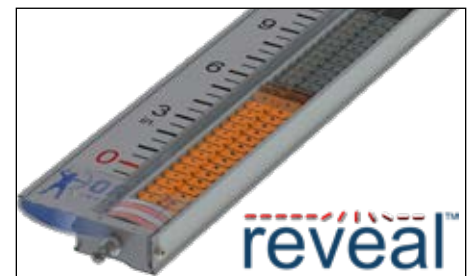


AVAILABLE SERVICES

- BPVC Expertise & Guidance (Boilers, steam drums as applicable)
- Comprehensive Survey, inspection & recommendations
- ASME 31.1, 31.3, S, U and Um construction
- Stocking Solutions
- Quick Turnaround



- Specialize Factory Training (on-site or at the factory)
- Extended Warranty



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BULLETIN: 41-239.0
EFFECTIVE: February 2021