MODULAR INSTRUMENTATION BRIDLE
At a time when cost-effective level control solutions are paramount in the process industry, Orion Instruments introduces the Modular Instrumentation Bridle (MIB). Our unique approach to complementing a vessel with the appropriate instrumentation and control technologies goes beyond simply offering bolt-on level, flow, high/low level cutoff switching, etc. to a multitude of process connections. At Orion Instruments, we consider all level control needs as they affect overall costs of the project as well as performance of the specified measurement technologies. The engineering and design aspects of any vessel, along with how best to incorporate the instrumentation package, substantially reduces cost and improves performance in a variety of areas including vessel design, lower construction costs, installation and commissioning, reliability, and long-term maintenance.

A ROBUST BRIDLE SOLUTION

A NEW PERSPECTIVE ON THE BENEFITS OF A BRIDLE

- **SAVINGS**
  Reduces the number of direct process connections and valves, in turn lowering engineering, design, and construction costs of the vessel.

- **SAFETY**
  Transfers potential leak points from costly, direct-to-vessel connections to the less expensive MIB. The MIB can be removed, repaired, and pressure tested independent of the vessel.

- **SIMPLECTY**
  Simplifies the design and implementation of more comprehensive level and control solutions on critical applications/vessels with a minimum number of process connections.

- **ISOLATION**
  Isolates the level measurement from vessel process dynamics, internal obstructions, and fill/drain lines providing a much more stable indication, while at the same time minimizing startup and commissioning times.

CUSTOM ENGINEERING. ENHANCED CAPABILITIES.

- **An Orion Design From Start to Finish**
  Designed, engineered, and fabricated in-house, simplifying the cumbersome sourcing, procurement, and installation process.

- **Built to Last**
  Manufactured to the highest industry standards in our ASME Section VIII, Division I certified (U-Stamp) manufacturing facility.

- **Optimized In-House**
  Orion pre-assembles all bridle instrumentation, bringing assurance of form, fit, and function.

- **Cost-Effective Results in the Field**
  MIB solutions reduce costs by eliminating unnecessary post-fabrication vessel modifications.

- **Plug-and-Play**
  An Orion MIB significantly reduces the hassle of installation by providing a turn-key solution.

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Isolates the level measurement from vessel process dynamics, internal obstructions, and fill/drain lines providing a much more stable indication, while at the same time minimizing startup and commissioning times.
The addition of level measurement to the bridle assembly (usually in a secondary chamber) allows for precise control of liquid level, leading to optimization of the process. Options exist for a wide range of both electronic continuous level technology (guided wave radar, differential pressure, capacitance, buoyancy, etc.) and local visual indication (magnetic level indicators or sight glasses).

Manual, Automatic, or Modulated | The ability to isolate primary and secondary chambers enhances the ease of maintenance and execution of process-related control functions. A wide range of valves, including double block and bleed, gate, and ball, can be incorporated into the bridle assembly at user-defined points. This creates a structure which provides maximum safety, reliability, and control.

Many other options exist for populating a modular instrumentation bridle to provide a full spectrum of control and indication. Temperature controls such as thermowells or thermocouples; and analytical measurement such as ORP, DO, conductivity, or pH can be integrated into the bridle. Given the flexibility generated when a custom bridle is created, customers can optimize the controls which will best suit their particular process needs.

Multiple options exist for connecting the bridle assembly to the pressure vessel or storage tank. Since the bridle is custom-manufactured to user specifications, placement of process connections can be optimized while welds and fabrication at site can be minimized. Weld neck, slip on, RTJ, socket weld, and NPT, in addition to many others, can be utilized to ensure the proper fit and finish.

The addition of drain and vent valves onto the bridle assembly enhances maintenance, safety, and ease of operation. The ability to isolate and then drain a single chamber on the assembly minimizes downtime and product waste while safety and targeted maintenance can be performed.

MODULAR INSTRUMENTATION BRIDLE

THE MODULAR CONCEPT

Facilitates the integration of instrumentation, sensor options, valves, vents, and drains into a centralized and pre-fabricated form factor with minimal vessel connections.

NOTE: “Single point of failure” risks, due to media chemistry issues or process material build-up, are overcome by properly sizing MIB vessel connections and selecting the appropriate metallurgy.
Orion constructs all bridles within an ASME Sec. VIII, Div. 1 certified manufacturing facility, ensuring the best possible quality. Bridles are built to meet the industry’s highest standards, including ASME B31.1/B31.3 and NACE MR0175/MR0103. In addition, materials used in the construction of all bridles are fully traceable and documented. Non-destructive tests validate fabrication quality, from weld integrity to chamber metallurgy.

- ISO 9001:2008 Registered
- ASME Sec. VIII Div. 1 BPVC certified manufacturing facility (U & UM Stamp)
- CNC machining and laser engraving capabilities
- ASME code qualified welders
- In house non-destructive testing capabilities
- ASME construction available (B31.1 & B31.3)
- 3D modeling capability

Orion offers a wide array of construction materials to fit the conditions of each application. An unlimited number of configurations and accessories are available to truly create the perfect level control solution.

- Carbon Steel
- Stainless Steel
- Duplex Steel
- Exotic Alloys for Corrosive Media: Hastelloy, Monel, Alloy 20
- Consult Factory for Options Not Shown