SOURCE HOLDERS
FOR RADIATION-BASED MEASUREMENT SOLUTIONS
Why use RADIATION–BASED MEASUREMENT?

Radiation-based measurement is a proven technology with thousands of installed applications. Unlike most other level and density technologies, nuclear gauges avoid contact with process conditions. Processes with extreme temperature, pressure, or corrosive properties have no adverse effects on nuclear gauges. Radiation-based technology can be installed with no process shutdown and generally requires no modification to existing vessels or piping, reducing total installation cost.

INDUSTRIES
Radiation-based systems can be applied in virtually any industry. Ohmart/VEGA excels at radiation-based measurement in industries such as:

- Offshore
- Petrochemical
- Water and Wastewater
- Pulp and Paper
- Plastics
- Power
- Food and Beverage
- Cement
- Asphalt
- Chemical
- Mining
- And many more!
Nuclear EXPERTISE

Ohmart/VEGA is a world leader in radiation-based measurement solutions, offering the most complete line of source holders in the industry. Whether your application is level, density, weight, or point level, Ohmart/VEGA has a source holder to meet your needs.

For over fifty years, Ohmart/VEGA employees have been assisting customers with radiological concerns. We work closely with each client every step of the way: from specification through startup and operation all the way to disposal. No supplier provides more assistance than Ohmart/VEGA.

INDUSTRY APPROVALS

All sources distributed by Ohmart/VEGA are designed to meet worldwide industry approvals. Sources are registered with either the ODH (Ohio Department of Health) and Agreement State or the CNSC (Canadian Nuclear Safety Commission). Other registrations are available upon request. Many of our source holders are available with a General License (USA only and application specific). This reduces licensing paper work and radiation safety program requirements.
Models & VERSIONS

Gamma source placement and alignment is critical to measurement accuracy. Properly protecting and shielding the source assures the health and safety of your employees. Ohmart/VEGA’s large selection of source holders allows our Application Engineers to specify appropriate and cost effective solutions to your measurement needs.

SHGL

Many applications require a small source. The SHGL low level radiation source holder is the answer to those applications. Roughly the size of a 12 ounce soft drink can, the SHGL offers a light weight, low profile solution without requiring a Specific License (USA only). The SHGL requires no shutter checks or factory start-ups.

SR

The SR series is designed to provide a safe source housing at a reasonable cost. This series of source holders is a perfect fit for point level and density applications where a fireproof design is not required. The SR has a time tested design and is available in low carbon, 304 and 316 stainless steels.
Models & VERSIONS
Continued

**SHLD**
The SHLD combines a rugged cast steel housing with proven lead shielding to provide compact and cost effective source protection. The SHLD is designed to be smaller and lighter weight than typical source holders while providing certified protection. This allows for easier shipping, installation, and use.

**SHF**
Ohmart/VEGA’s SHF series is the industry’s first lead-free fireproof design. Constructed from rugged cast iron and tungsten, this popular model meets the needs of explosive or flammable environments such as refineries and chemical manufacturing plants.

**SHLG**
Designed to house high-activity sources, the SHLG Series of source holders can be used in both level and point level applications. The rugged SHLG is available in low carbon, 304 and 316 stainless steels.

**SHLM**
The SHLM is used for critical high pressure applications when vessel walls are too thick for conventional sources. The SHLM utilizes a rod or cable activator to place a source inside the vessel via dry well. This holder may be used for density, level, and interface applications.
ACCESSORIES

INTERLOCK
Used to prevent vessel access while source holder shutter is open, our range of interlock accessories can be mounted to any source holder with a moveable shutter.

SHUTTER ACTUATOR
Air or electric activation is available to remotely open/close a source holder's shutter. A visible indicator is provided for verification.

CAPTIVE LOCK & LANYARD
The captive lock can be permanently attached to the source holder ensuring the combination lock will always remain at the source holder.

SHUTTER MICRO LIMIT SWITCH
Used to provide an electric on/off signal based on the position of a source holder’s shutter, limit switches are available in general purpose and explosion proof designs.

REFERENCE ABSORBER
Primarily used with a clamp-on density system, the reference absorber provides the ability to check detector calibration by simulating a previously established process condition.

DENSITY PIPE BRACKETS
Available in clamp-on, large pipe, and 30° angle configurations. Density pipe brackets provide proper and easy mounting for any density system. Standard bolt patterns allow for use with a wide variety of source holders and accessories.
Nuclear SERVICES

Ohmart/VEGA is able to meet all of your radiation service needs. Our Field Service staff provides unsurpassed expertise in fulfilling mandated radiological surveys and inspections. These same technicians also perform start-up, calibration, and on-site training services. With 24-hour emergency service phone support, service personnel located worldwide, and a full production service facility, Ohmart/VEGA is always ready to provide the following:

LOGISTICS

Transporting radioactive material can be complicated. Ohmart/VEGA has assisted customers from every part of the world with logistics. Our own freight forwarders are well experienced with shipping nuclear gauges. For customers who prefer their own forwarders, our Order Management staff assists with documentation and recommendations.

LICENSING

Ohmart/VEGA’s dedicated Licensing staff works with each client to verify requirements are met. In cases where new licenses or modifications are required, we assist in this process by providing documentation and making recommendations. Our decades of experience and intimate knowledge of NRC, State, and international regulations streamlines this important process.
START-UP AND COMMISSIONING SERVICE

Top quality start-up service ensures proper functioning of the gauge with all safety and compliance issues fully addressed. Our service personnel inspect the mounting of the equipment, perform leak checks and shutter checks, and document the radiation levels around the equipment. The detector is also checked for functionality and is calibrated to the customer's process.

RADIATION SAFETY AND PRODUCT TRAINING

Ohmart/VEGA offers comprehensive training programs for radiation safety and system operations. Classes include:

- Radiation safety awareness classes (on-site)
- NRC-recognized 40 hour Radiation Safety Officer certification training
- Radiation Safety Officer recertification training
- Gauge setup, calibration and operation training (on-site)

LEAK TEST MANAGEMENT

Periodic wipe tests are required on the source holder to ensure that no radioactive material has leaked. Ohmart/VEGA provides this service plus licensed technical analysis with certificate on all leak tests.

RADIATION SAFETY PROGRAM AUDITING

Radiation safety programs may be audited by government agencies to verify compliance. Ohmart/VEGA's auditing service proactively verifies that programs match their license requirements and permissions.

METER CALIBRATION

Maintaining survey meter calibration is an important part of any radiation safety program. Ohmart/VEGA calibration service includes an annual 30-day reminder letter and calibration certificate. Meter calibration can performed on most beta/gamma radiation meters.

DISPOSAL

Disposing of radioactive material after service life is a primary concern for most customers. Ohmart/VEGA provides complete disposal services for most Cesium 137 or Cobalt 60 sources, including sources from other manufacturers.
Source Holders
AT A GLANCE

<table>
<thead>
<tr>
<th>Source Holder Model</th>
<th>SHGL</th>
<th>SR</th>
<th>SHLD</th>
<th>SHF</th>
<th>SHLG</th>
<th>SHLM</th>
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<td>Continuous Level</td>
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<td>Interface</td>
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<tr>
<td><strong>SPECIFICATIONS</strong></td>
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<tr>
<td>Maximum Cs–137 Activity for 5 mR/hr @ 12 inches</td>
<td>2 mCi (0.74 GBq)</td>
<td>5,000 mCi (185 GBq)</td>
<td>10,000 mCi (370 GBq)</td>
<td>1,600 mCi (74 GBq)</td>
<td>10,000 mCi (370 GBq)</td>
<td>Consult</td>
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<td>Fire Resistance</td>
<td>800°C / 20 min</td>
<td>538°C / 5 min</td>
<td>–</td>
<td>800°C / 30 min</td>
<td>538°C / 5 min</td>
<td>538°C / 5 min</td>
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<td>Shielding Material</td>
<td>Stainless Steel</td>
<td>Lead</td>
<td>Lead</td>
<td>Iron/Tungsten</td>
<td>Lead</td>
<td>Lead</td>
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Ohmart/VEGA Radiation-based Measurement SYSTEMS

Ohmart/VEGA’s experienced Engineering staff reviews each measurement application to develop cost effective and radiologically-responsible solutions. Our complete line of source holders and detectors optimizes system design for the following applications:

**CONTINUOUS AND POINT LEVEL**

Continuous and point level systems can use virtually any source holder. 45° collimation is common for continuous level measurement and can be based on an external or insertion style source. 0° collimation is standard for point level, or a switch can be added to an existing system and use the continuous level source.

**DENSITY**

Typically a clamp on system to a vertical pipe, density systems can use a wide variety of source holders including the SHGL low activity holder.

**INTERFACE**

The SmartScan profiler uses an integral source that is contained within the “leg” of the unit. The source is raised and lowered by a motor-driven tape to provide full vessel scanning.

**WEIGHT**

The W4800 weigh scale utilizes a low activity SHGL source which allows for a general license (USA only), saving cost on installation and service. Also available with the SHF source holder.