For over 50 years Ushio has been developing advanced lighting technologies for the world. Now there is EmArc® 75W - a new and exciting advancement in the world of light. This 75W compact package has precise and powerful light.

EmArc lighting technology is the culmination of a dedicated effort to bring together the inherent advantages of a number of gas discharge sources into a single light source. EmArc light sources are a series of highly efficient, Enhanced Metal Arc, DC gas discharge lamps designed for use in medical, scientific, industrial and entertainment settings. EmArc lamps are a progressive step ahead in lighting technology possessing features that offer advantages to an array of users for imaging, fiber optic and other important optical applications.

EmArc lamps have geometric designs which enable alignment in dichroic visible light or UV specific coated reflectors facilitating use in numerous applications like lighting for minimally invasive surgery, curing of light sensitive resins and adhesives, and dental whitening procedures. EmArc versatility enables its use in a number of entertainment applications including searchlights, followspots, special effects and automated fixtures.

EmArc lamps are comparable to metal halide sources in luminous efficacy but with 2 to 5 times the life. EmArc lamps have very small arc gap sizes and have more than 2 times the luminous efficacy of xenon lamps. EmArc technology differentiates itself as a new family of discharge lamps.

**APPLICATIONS**

- Industrial Fiber Optics / Borescopy
- Dental / Surgical Vision
- Medical Fiber Optics
- Bio-Technology
- Machine Vision
- Microscopy
- UV Curing
- Analytical

**FEATURES & BENEFITS**

- Power Range From 50-75 Watts - Versatility / Power Tunability
- Small Arc Gap Size (1.2mm) - Highly Effective Optical Collection Capability
- Unique Hybrid Gas Discharge Technology
  - 1,000 Hours of Life Provides Staying Power Over Other Conventional Gas Discharge Sources
  - No High Internal Pressure When Cold
- Special, Rugged, Compact, 48mm Ø Elliptical Reflector Design
- Very High Light Path Efficiencies for Small Diameter Fiber
- Optic Bundle Applications
- Highly Durable
- Precise Filling Control, Electrode Design and Tight Manufacturing Tolerances With Tipless Arc Tube Construction
  - Tightly Confined and Stable Plasma
- Discharge, Long Life
  - Minimal Color Temperature Drift Over Life
  - Better Optical Control, No Shadowing
- EmArc DC Technology - Enables Operation on Lower Cost DC Power Supplies Reducing OEM System Design Costs
- High Correlated Color Temperature - White Light for Crisp Imaging
- Unique Chemistry - High Efficacy Nearly 2 Times That of Xenon Sources
- USA Engineered and Manufactured
  - Dependability, Accessibility and Flexibility
  - Development and Engineering Support Close to the Customer
- 1,000 Hours of Life - 2 to 4 Times That of Conventional AC Short-Arc Metal Halide or Xenon Sources

**www.ushio.com** | customerservice@ushio.com
Lamp aligned for maximum throughput thru 2mm at 27.5mm distance to front rim.

DC Arc Discharge

The construction of EmArc arc tubes, electrodes and precise filling technique provide the environment for the tightly confined plasma arc discharge. EmArc lamp life exceeds that of typical DC xenon and AC short-arc metal halide lamps.

**Specifications**

<table>
<thead>
<tr>
<th>Wattage Power Range (W)</th>
<th>Ordering Code</th>
<th>Lamp Description</th>
<th>Lamp Voltage (V)</th>
<th>Ignition Voltage</th>
<th>Minimum Voltage After Start Up</th>
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</thead>
<tbody>
<tr>
<td>50 - 75</td>
<td>5002046</td>
<td>SMR-75/D1</td>
<td>55V DC (-8+12)</td>
<td>25kV (for Hot Re-ignition)</td>
<td>10 - 15V DC</td>
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</table>

<table>
<thead>
<tr>
<th>Lamp Current (A)</th>
<th>Maximum Allowable Starting Current</th>
<th>Arc Gap (mm)</th>
<th>Color Temp* (K)</th>
<th>Lumen Flux* (lm) nom</th>
<th>Average Rated Life** (h)</th>
<th>Typical Warm Up Time</th>
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</thead>
<tbody>
<tr>
<td>1.33 nom.</td>
<td>2.3A</td>
<td>1.2</td>
<td>7800</td>
<td>750</td>
<td>1000</td>
<td>90 sec. nom.</td>
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</tbody>
</table>

* Output and Correlated Color Temperature as measured through a 2mm aperture at 27.5mm from the reflector rim into a sphere. Actual values are dependent on the specific optical set-up used.

** All dimensions are in millimeters.

**Fiber Optic Efficiency**

Measured lumens vs. aperture size

**SMR-75/D1 Spectral Distribution**

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>mW/nm (measured)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
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<tr>
<td></td>
<td>20</td>
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<td>100</td>
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</table>

**UBX-76 Electronic Power Supply**

**SMARTARC™ Series**

Operates EmArc DC lamps in power ranges between 50W-75W.

Contains mercury, contient du mercure

Manage in Accord with Disposal Laws

www.lamprecycle.org 1-800-895-8842

**California Proposition 65 Warning:** These products can expose you to Mercury known to the state of California to cause birth defects or other reproductive harm. For more information, please go to: www.p65warnings.ca.gov.