



# *SeaArc2*<sup>TM</sup> (HMI<sup>®</sup>/MSR)

**HIGH EFFICIENCY  
400W HMI/MSR ARC LAMPS**

**DAYLIGHT COLOR  
TEMPERATURE 5600° K**

**COLOR RENDERING  
INDEX GREATER  
THAN 90**

**SUITABLE FOR COLOR  
OR B/W VIDEO IMAGING**



The *SeaArc2*<sup>TM</sup> HMI/MSR underwater lights are 3-4 times more efficient (lumens/watt) than comparable tungsten-halogen lights. Since there is no filament to break, *SeaArc2*<sup>TM</sup> lights are less sensitive to vibration and shock. The *SeaArc2*<sup>TM</sup> HMI/MSR lights are built using the 400W MSR/400HR lamps.

HMI/MSR lamps are AC-operated discharge lamps in which the luminous arc burns in a dense vapor atmosphere comprising mercury and the halides of rare earths. The MSR in the part number indicates Medium Source Rare earth (MSR) elements, the number indicates the wattage, and the HR designates Hot Restrike.

HMI lamps have a color temperature of 5600°K. Advantages of HMI/MSR lamps over HID lamps is they warm up in 1-2 minutes and have an instant restrike ability. HMI lamps can also be dimmed when operated from a ballast with dimming circuitry.

A properly designed ballast is required to operate a *SeaArc2*<sup>TM</sup>. *SeaArc2*<sup>TM</sup> HMI/MSR ballasts can be powered from either AC or DC voltage. It accepts a nominal input voltage of 120V or 240V, ranging from 110V to 300V. The ballast provides properly conditioned AC voltage/current required by the ignitor circuit and lamp in the lighthouse.

The HMI ballast can even power DeepSea's proprietary TI/EB (Thallium Iodide/ElectronicBallast) lamp, a specially configured Thallium Iodide (TI) lamp. TI lamps produce an intense, monochromatic green light output (535 nm) which is close to the transmission "window" of seawater. The TI lamp offers maximum light penetration for long range monochromatic imaging applications such as submersible navigation and subsea surveying. TI lamps typically operate from HID magnetic ballasts. However, using a special ignitor, this lamp gives users the flexibility to use one type of ballast to power an HMI or a TI lamp. You can freely swap lighthouses with no modification to the ballast. DeepSea offers a dual ballast housing, so that users can operate a TI/EB and HMI from the same housing.

There are options available in the types of reflectors, depth rating, types of material, and types of ballasts. Please call DPS&L for assistance in determining the best combination of options to meet your requirements.

# SeaArc2™ HMI®/MSR Specifications

## MECHANICAL

### Material:

|                        |                       |
|------------------------|-----------------------|
| Lighthouse Body:       | Titanium 6AL-4V       |
| Dome Retaining Cowl:   | Black Acetal (Delrin) |
| Glass Dome:            | Borosilicate          |
| Length:                | 27.43 cm (10.8 in.)   |
| Diameter:              | 13.46 cm (5.3 in.)    |
| Air Weight:            | 3.67 kg (8.1 lbs)     |
| Water Weight (approx): | 1.8 kg (4.0 lbs)      |
| Reflector:             | Spot, medium, or wide |

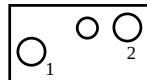
## ENVIRONMENTAL

|               |                           |
|---------------|---------------------------|
| Depth Rating: | 6,000 meters (19,680 ft.) |
| Temperature:  | -5 to +40 deg. C          |

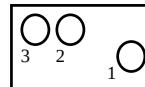
## ELECTRICAL

|                               |                                    |
|-------------------------------|------------------------------------|
| Input Voltage:                | From ballast; 400W 300 Hz Sq. Wave |
| Input Power:                  | 400 watts                          |
| Ballast Input Voltage Range:  | 100-300V AC/DC                     |
| Lamp Wattage:                 | 400 watts                          |
| Lamp Average Life Time*:      | 650 hours                          |
| Recommended Lamp Replacement: | 750 hours                          |
| Lumens:                       | 32,000                             |
| Luminous Efficacy (lm/W):     | 80                                 |
| Color Rendering Index:        | 92                                 |

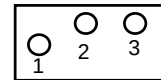
### Pin-out:



LPBH2MP  
Ballast Input  
1 = Hot  
2 = Neutral



LPBH3FS  
Ballast  
Output  
1 = High  
2 = Low  
3 = Ground



LPBH3MP  
Lighthouse  
1 = High  
2 = Low  
3 = Ground

**\*Note:** Average Life Time is related to a burning cycle of 3.5 hours on and 0.5 hours off. Because the risk of arc tube rupture increases with the increasing life time of the lamp, it is advised not to use the lamp longer than the recommended replacement time.

® HMI is a registered trademark of Osram



*Specifications subject to change without notice*

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