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**30 Watt Deuterium / Tungsten
Dual Light Source / Model TDS-429
Operating Manual**

Lamp Specifications:

Tungsten lamp: GE Part DZA

Deuterium Lamp: Hamamatsu part Number L591

Description:

The TDS-429 is a dual light source consisting of a deuterium (D2) lamp and a tungsten (W) lamp. Either lamp can be switched into viewing position by a control lever located on the end of the lamp housing. The deuterium lamp is a 30 watt lamp (Hamamatsu Part #L591). The tungsten lamp is a 30 watt lamp (GE Part #DZA). The lamp housing contains the lamps and a cooling fan. A deuterium power supply powers the deuterium lamp, and a tungsten/cooling fan power supply powers the tungsten lamp and the cooling fan.

Installation:

The TDS-429 lamp housing is designed to mount directly to the entrance slit of ARC SpectraPro™ Series monochromators. To mount the lamp housing to the entrance slit, the following procedure is recommended:

1. Locate the two (2) shoulder screws and the two (2) 8-32 cap screws supplied with the TDS-429. Insert the shoulder screws into the two bottom outside tapped holes of the entrance slit of the monochromator and tighten. These are used to mount the lamp housing.
2. Remove the four (4) slotted screws from the top of the lamp housing, then remove the cover.

CAUTION: DO NOT TOUCH THE LAMP (BULB) OR THE SURFACE OF THE FOCUSING MIRROR.

3. Carefully slide the two (2) “key hole” type slots of the lamp housing mounting flange over the shoulder screws in the entrance slit of the monochromator. Insure that the top two holes of the lamp housing mounting flange align properly with the top two tapped holes of the monochromator entrance slit.
4. Insert the two (2) 8-32 cap screws in the top two holes of the lamp housing mounting flange and tighten.
5. Replace the lamp housing cover.

6. Connect the interconnecting cables from the two power supplies to the lamp housing.
7. Assure the power switches on the front panels of the power supplies are “OFF”. Connect the power supplies to a fused and properly grounded 120V 60Hz power source.
8. The TDS-429 dual light source is now ready for use.

Operation:

To operate the deuterium lamp, the following procedure is recommended:

1. Move the control lever on the end of the lamp housing to the “blue” dot position.
2. Turn on the “fan” power switch located on the front panel of the tungsten/cooling fan power supply.
3. Turn on the power switch on the front panel of the deuterium power supply. The deuterium lamp starts automatically after approximately 30 seconds delay. Refer to the OEM instruction manual enclosed for detailed operating instructions for the deuterium power supply.
4. To turn off the deuterium lamp, turn off the deuterium power supply and the fan switch on the tungsten/cooling fan power supply.

CAUTION: THIS LIGHT SOURCE PRODUCES STRONG ULTRAVIOLET RADIATION, AND MUST NOT BE VIEWED DIRECTLY WITHOUT PROPER EYE PROTECTION. ULTRAVIOLET RAYS WILL “SUN BURN” EXPOSED SKIN. EXPOSED SKIN SHOULD BE PROPERLY PROTECTED!

To operate the tungsten lamp, the following procedure is recommended:

1. Move the control lever on the end of the lamp housing to the “red” dot position.
2. Turn the “fan” power switch and the “W” switch on the tungsten / cooling fan power supply. The lamp should light immediately.
3. To turn off the tungsten lamp, turn off the “w” and “fan” switches on the tungsten / cooling fan power supply.

CAUTION

- * THE COOLING FAN SHOULD BE “ON” DURING THE OPERATION OF EITHER LAMP
- * ONLY ONE LAMP SHOULD BE OPERATED AT A TIME, AND SHOULD BE TURNED “OFF” WHEN NOT IN USE