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Instructions for Mounting and Operation of ARC Model DS-421 30 Watt Deuterium Light Source

Ver. 2.1

Description:

The ARC Model DS-421 is a 30 watt deuterium light source system designed for use with ARC SpectraPro™ series spectrometers. It consists of a 30 watt deuterium lamp (Hamamatsu p/n L591), housing with light source collections mirror and fan, interconnecting cable, and deuterium power supply. The lamp is factory installed and aligned prior to shipment. Adjustments are provided on the light collecting mirror mount in the event that realignment becomes necessary.

Installation Instructions

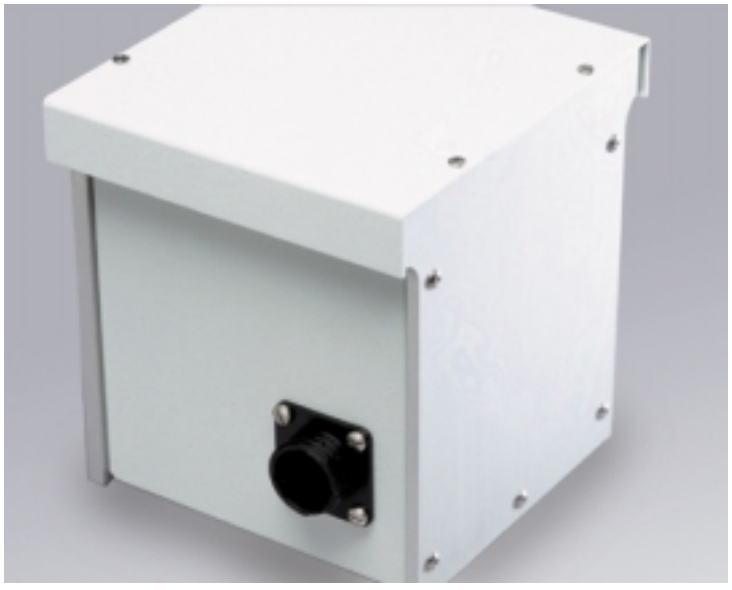
DS-421

Important: **These instructions are valid for DS-421 30 Watt Deuterium Light Sources bearing certain serial numbers.**
If the digits of the serial number that immediately follow 421 are 25 or greater please use these instructions. If the digits of the serial number that immediately follow 421 are less than 25 then disregard these instructions and use the following Mounting Instructions.

Your DS-421 30 watt Deuterium Light Source is shipped with an installation kit which includes the following parts.

Part	Quantity	Description	ARC Part No.
Mounting Screws	3	8-32 X 1¼" Black Alloy	100-120-015
Mounting Screws	2	8-32 X ½" Black Alloy	100-120-010
Shoulder Screws	2	8-32 Attached to spacer	100-107-005
Spacer	1	¾"	8401-025-66
Spacer	1	¼"	8401-025-65
Hex Wrench	1	1/16"	700-025-002
Hex Wrench	1	9/64"	700-100-008

There are two variations for the installation of the **DS-421**. One set up assumes the use of either of the two optional Filter Wheel Assemblies **FA-448** and **FA-448-2.** The other set up is designed for using the **DS-421** without a filter wheel.



DS-421

Light Source Installation (With Filter Wheel)

1) Be sure that there are no cable connections made to the DS-421 Light Source and that is has had sufficient time to cool.

2) Insert the three 8-32 x 1 ¼" black alloy screws into the recessed holes of the ¼" Spacer as shown in step one.

3) Lay the ¼" Spacer against the Filter Wheel and push the screws through the holes provided in the filter wheel as shown in step 2.

4) Using the 9/64" Hex Wrench, tighten the Filter Wheel / ¼" Spacer combination onto the entrance slit of the instrument as shown in step 3.

5) Using the 1/16" Hex Wrench, remove the cover to the DS-421. See step 5.

6) Align the DS-421's shoulder screw slots with the shoulder screws that are now attached to the ¼" Spacer. Attach the DS-421. See step 6.

7) Insert and tighten the two 8-32 X ½" black alloy screws into the mounting holes on the inside of the DS-421. See step 7.

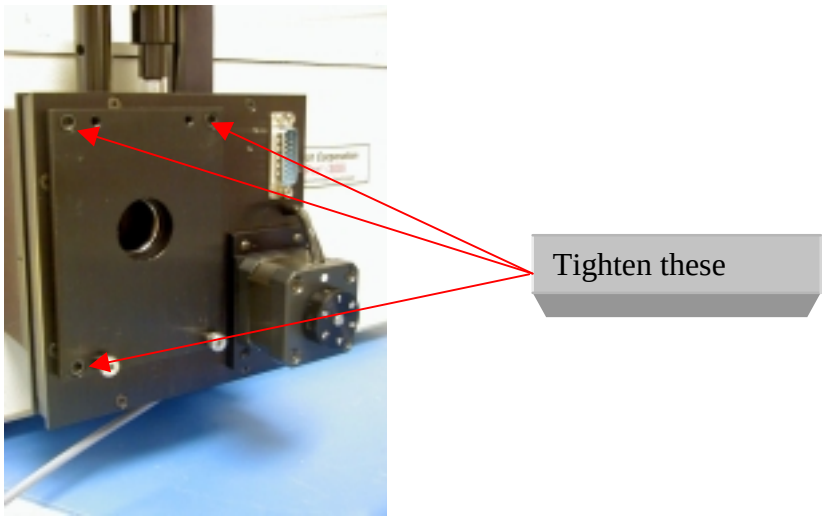
8) Replace the cover of the DS-421.



Step 1.



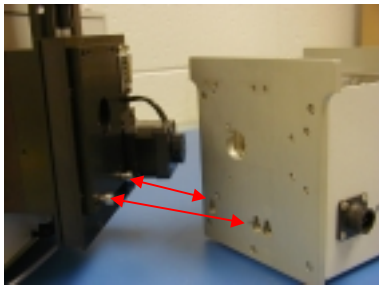
Step 2.



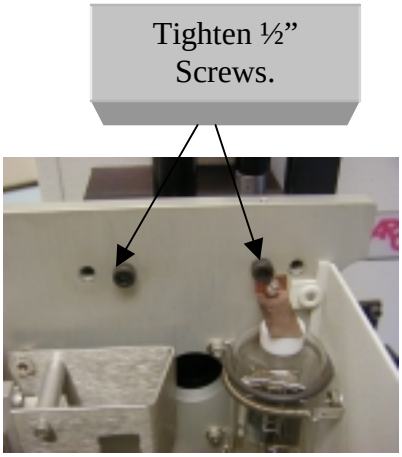
Step 3.



Step 4.



Step 5.



Step 6.

Light Source Installation (No Filter Wheel)

Perform all the above steps except substitute the ¾” Spacer for the Filter Wheel.



¾” Spacer

Mounting (for serial numbers following 421 that are less than 25 **ONLY**)**:**

For proper operation, the lamp housing should be mounted to the entrance slit of the spectrometer. The light collection mirror, located inside the lamp housing, is designed to focus light from the lamp onto the entrance slit of the spectrometer. 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 DS-421. Insert the shoulder screws into the two bottom outside tapped holes of the entrance slit of the spectrometer and tighten the screws. These are sued to mount the lamp housing.

2. Remove the four (4) slotted screws from the top of the lamp housing, then remove the cover.

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

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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 spectrometer. Insure that the top two holes of the lamp housing mounting flange align properly with the top tow tapped holes of the spectrometer entrance slit.

4. Insert the two (2) 8-32 cap screws in the top two holes of the lamp housing mounting flange and tighten the screws.
5. Replace the lamp housing cover.

Operation: (All Serial Numbers)

For operation, connect the cable between the lamp housing and the deuterium power supply. Plug the deuterium power supply into a properly fused and grounded 110V AC 50/60 Hz power source (220V AC optional). Plug the fan line cord into the 16 pin connector on the side of the lamp housing. Plug the other end of the line cord into a properly fused and grounded 110V AC 50/50 Hz power source (220V AC optional). Depress the rocker switch on the rear panel of the lamp housing to start the fan. The fan must be operating at all ties during operation of the light source. Turn "ON" the power switch on the front panel of the deuterium power supply. The lamp starts automatically after approximately 30 seconds. To shut off the light source, turn "OFF" the power switch on the deuterium power supply. Depress the rocker switch on the rear panel of the lamp housing to turn off the fan. Refer to the enclosed deuterium power supply OEM instruction manual for detailed power supply operating instructions.

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