

Group: **Applied Systems**

Part Number: IM792

Date: June 2004

**Ultraviolet Lights on
McQuay Self-Contained Air Conditioning Systems
Models SWP/SWT/SRP/SRT/SCP/SCT**

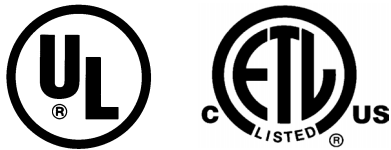


Table of Contents

Introduction..... 2
 Description..... 2
 Operation 3
 Maintenance 4
 Bulb Replacement..... 4
 Typical Parts List..... 4

Introduction

This manual provides general information about the Ultraviolet Light option for McQuay Self-Contained models SWP/ SWT/SRP/SRT/SCP and SCT. In addition to an overall description of the unit, it includes removal and installation procedures, maintenance instructions and parts identification.

Hazard Identification Information

WARNING

Warnings indicate hazardous situations which, if not avoided, can result in severe personal injury or property damage.

CAUTION

Cautions indicate hazardous situations which, if not avoided, can result in personal injury or equipment damage.

WARNING

UV-C exposure is harmful to the skin and eyes. Looking at an illuminated bulb can cause permanent blindness. Skin exposure can cause Cancer.

Always disconnect power to unit before servicing. Do not operate if disconnect switch has been disabled.

Description

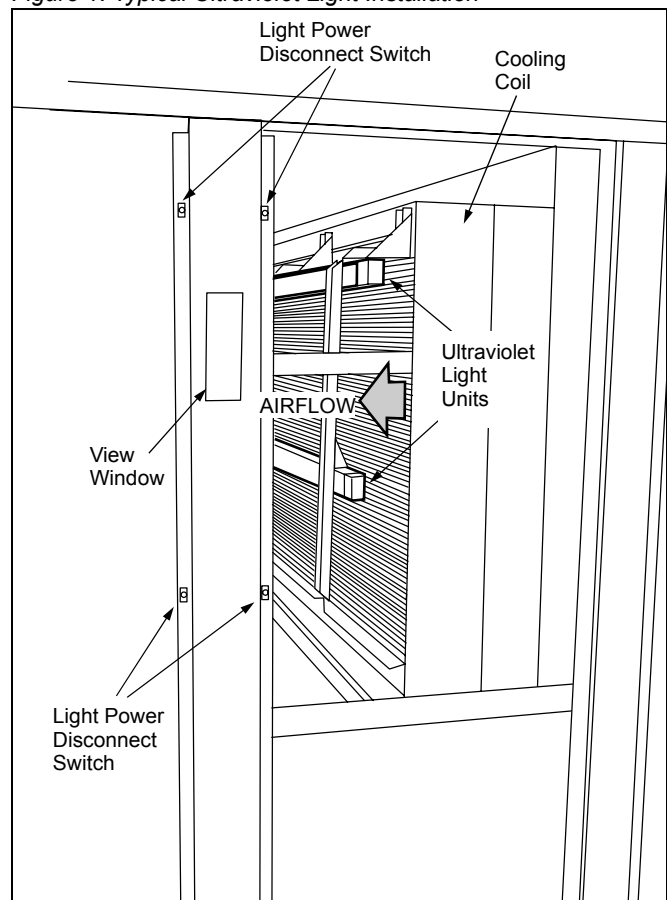
The ultraviolet light application is designed to irradiate the coil surface along with the drain pan. Germicidal protection is delivered at a wavelength of 254 nanometers in the light spectrum. Light at this wavelength is known as UV-C. Most bacteria, mold, and virus organisms are killed by exposure to UV-C light.

Ultraviolet lights are typically installed on the leaving side of the cooling coils in the unit. Each light module is mounted on a rail and is removable for convenient bulb replacement.

UV Light Power Disconnect switches (two per door) are factory installed on every access panel that allows a direct line of sight to the UV lamps when opened. These switches are designed to prevent UV exposure when cabinet access panels are opened and must not be disabled.

A viewing window near the UV lights allows viewing to determine if the lights are energized. The viewing windows use specially designed glass that blocks harmful UV light.

Figure 1. Typical Ultraviolet Light Installation

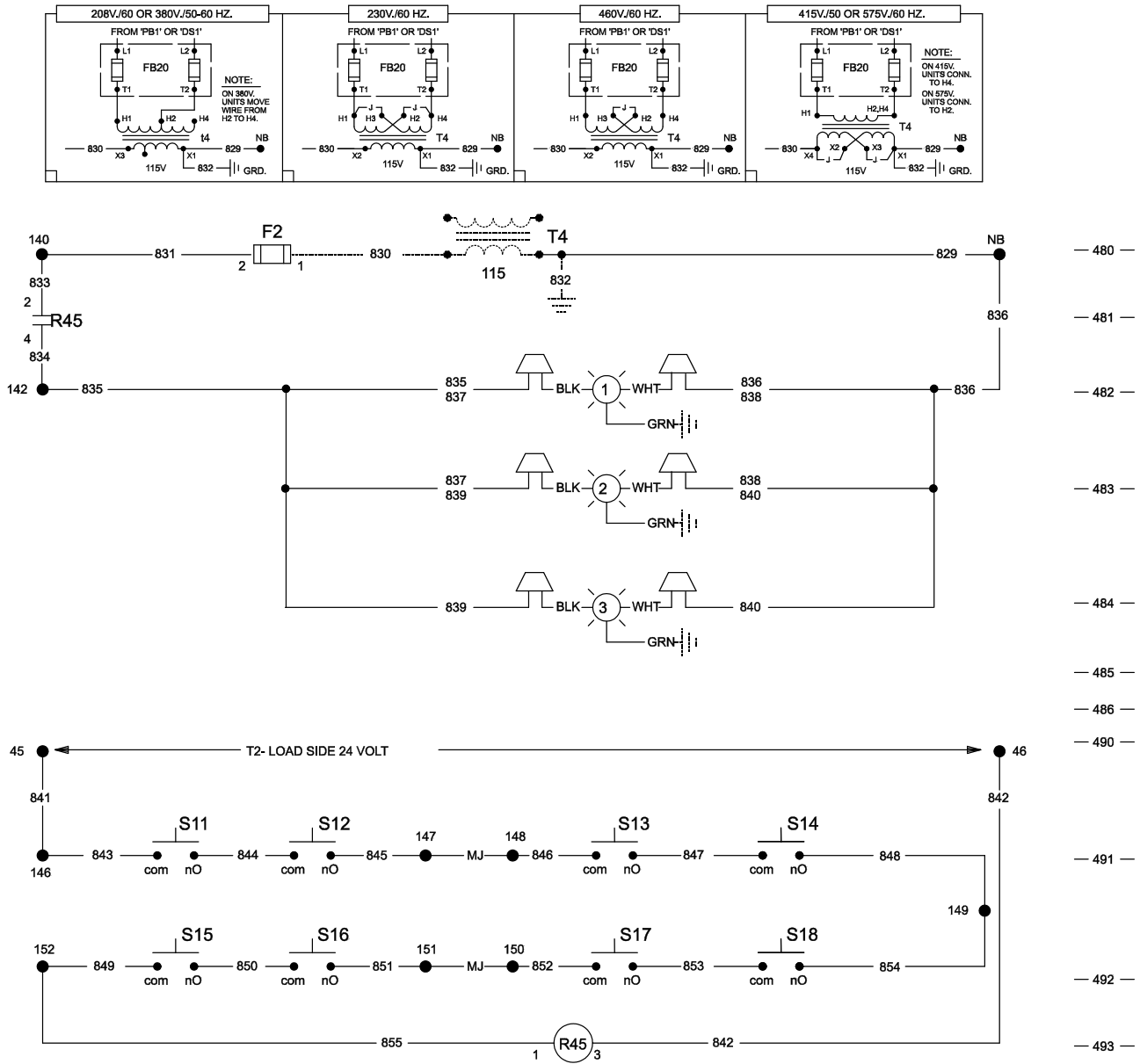


Operation

Refer to the Wiring Schematic below. 115 VAC power for the UV lights is provided by control circuit transformer T4. The lights operate whenever the unit is powered and all access panel power disconnect switches are closed. To turn the lights off, disconnect power to the entire unit.

The normally open disconnect switches are wired in series in a circuit that supplies 24VAC to the coil of relay R45. When all access panels are closed, relay R45 is energized, and its normally open contacts provide 115VAC to the UV lights.

Figure 2. Typical Ultraviolet Light Wiring Schematic



NOTE TO FIELD:

Switches are shown with the access panels in the open position.

Lights are on when the access panels are closed and off when the access panels are open.

Maintenance

Bulb Replacement

Replace all bulbs every 12 months regardless of their condition. Refer to the manufacturer's suggested replacement interval.

NOTE: A glowing lamp indicates only that the UV light is powered, not that it is emitting the necessary UV-C wavelength for germicidal effect.

Disconnect power to the unit before servicing. Verify the power has been disconnected. Before opening the access panels, use the viewing window to make sure the UV lights are off.

WARNING

Florescent bulbs contain mercury, which can cause personal injury if breathed or ingested.

Use appropriate protective gear to clean up broken bulbs.

WARNING

Personal Injury Hazard. Power supply can cause electrical shock.

Always disconnect power to unit before servicing.

WARNING

UV-C exposure is harmful to the skin and eyes. Looking at an illuminated bulb can cause permanent blindness. Skin exposure can cause Cancer.

Verify the UV lights are off by using the view window.

Remove Lamp Units

Do not open modular UV Lamp units. There are no user serviceable components inside.

1. Allow lamps to cool for 5 minutes before handling.
2. Unplug the power receptacle from the row of lamps by pulling it apart from the lamp unit and sliding the receptacle off the rail.
3. Carefully slide the lamp units off the rail. Use the slots in the rail if needed to help in removal. Place the lamp unit on a flat surface.

Figure 3. Removing Lamp Units - Step 1

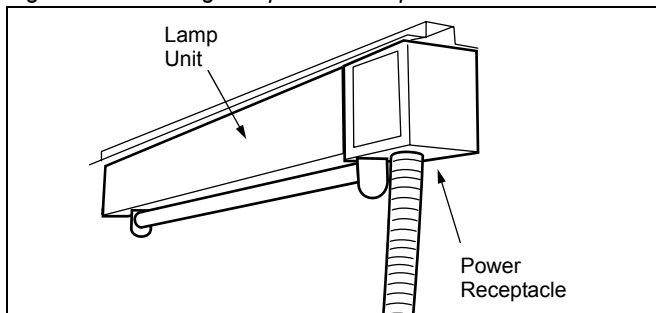


Figure 4. Removing Lamp Units - Step 2

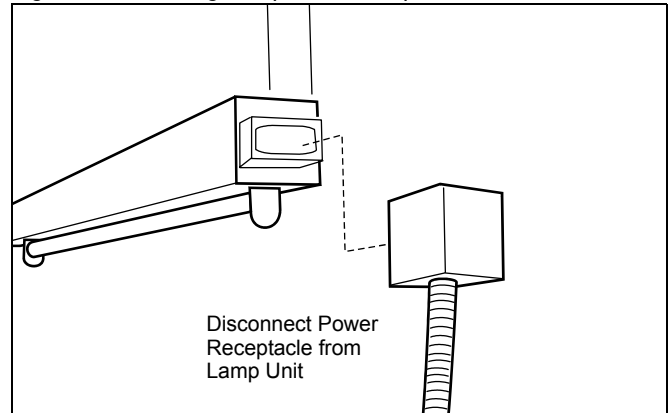
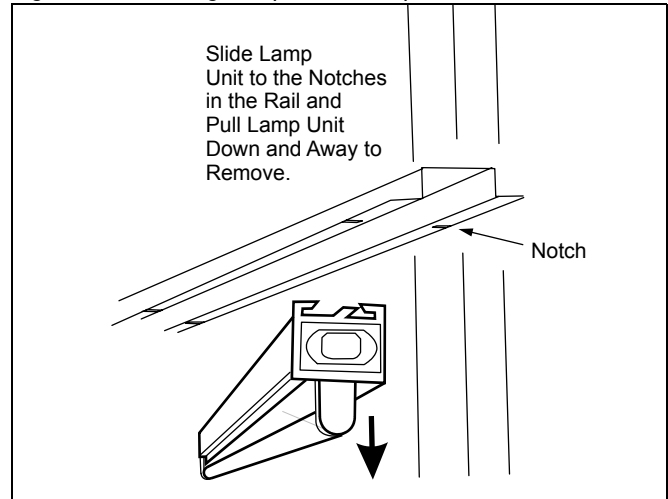


Figure 5. Removing Lamp Units - Step 3



Removing Bulbs

1. Allow bulbs to cool for 5 minutes before handling.
2. Grasp body of bulb firmly at each end.
3. Rotate bulb 90 degrees in either direction.
4. Remove bulb.
5. Reverse process to install replacement bulb.
6. Wipe down bulb with clean cloth and alcohol. Avoid touching bulb as fingerprints can degrade performance.
7. Dispose of removed bulbs in accordance with local environmental regulations.

Replacement Parts List

McQuay PN	Description
033696300	Power Disconnect Switch
205484001	18 in. Lamp Holder
205484101	24 in. Lamp Holder
205484201	36 in. Lamp Holder
205485501	Hard Wire Module
205484501	18 in. Lamp
205484601	24 in. Lamp
205484701	36 in. Lamp

This document contains the most current product information as of this printing. For the most up-to-date product information, please go to www.mcquay.com.

