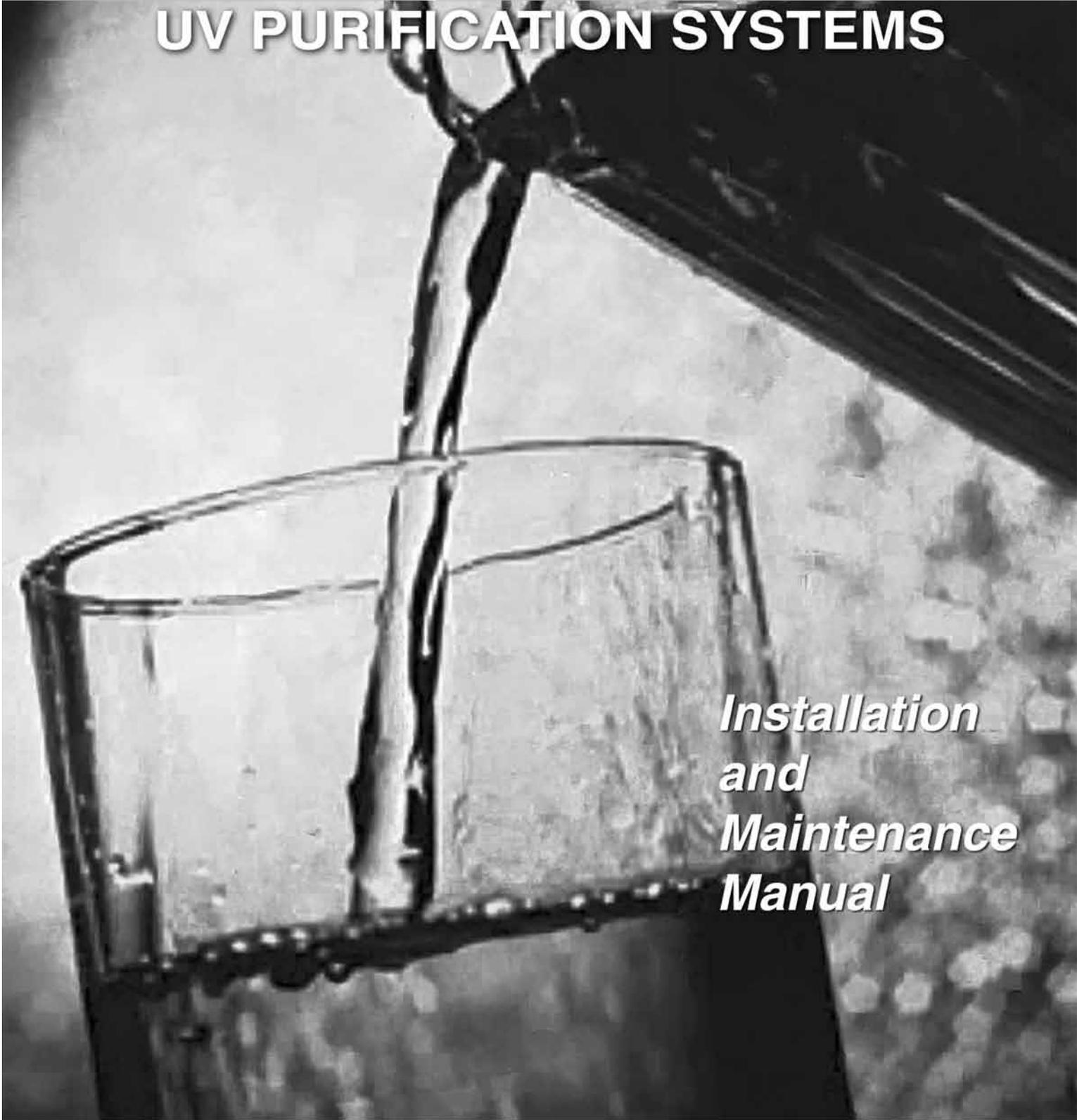




# **Wyckomar**

## **UV PURIFICATION SYSTEMS**



*Installation  
and  
Maintenance  
Manual*

**For Models;**

**Mini-Zap, UV-4, UV-250, UV-700, UV-1200, UV-1500,  
UV-2000, UV-3000 and UV-5000**



## Table of Contents

<b>Introduction</b>	<b>4</b>
<b>How the Wyckomar water purifier works</b>	<b>4</b>
<b>Installation</b>	<b>5</b>
<b>Installation Procedure</b>	<b>6</b>
<b>Parts list</b>	<b>6</b>
<b>Maintenance</b>	<b>7</b>
<b>To Re-assemble</b>	<b>8</b>
<b>To Change Filter cartridges</b>	<b>8</b>
<b>Wyckomar Warranty agreement / Registration Card</b>	<b>9</b>
<b>Troubleshooting</b>	<b>10</b>
<b>Purifier Diagrams</b>	
<b>Mini-Zap</b>	<b>11</b>
<b>UV-4</b>	<b>12</b>
<b>UV-250</b>	<b>13</b>
<b>UV-700 / 1200</b>	<b>14</b>
<b>UV-1500 / 2000</b>	<b>15</b>
<b>UV-3000</b>	<b>16</b>
<b>UV-5000</b>	<b>17</b>
<b>Filter Set Diagrams</b>	
<b>UV-4 Filter Set</b>	<b>18</b>
<b>UV-250 Filter Set</b>	<b>18</b>
<b>UV-700 / 1200 Filter Set</b>	<b>19</b>
<b>Big Blue Filter Sets</b>	<b>19</b>

### **Copyright**

Copyright by Wyckomar Inc. 2001. No part of this manual may be reproduced or transmitted in any form without the expressed, written permission of Wyckomar.

### **Notice**

Although Wyckomar has attempted to ensure the accuracy of the content of this manual, it is possible that this document may contain technical inaccuracies, typographical, or other errors. Wyckomar Inc. assumes no liability for any error in this publication, and for damages, whether direct, indirect, incidental, consequential or otherwise.

Wyckomar provides this publication "as is" without warranty of any kind, either express or implied, but not limited to implied warranties of merchantability or fitness for a particular purpose.

The published information in the manual is subject to change without notice. Wyckomar reserves the right to make changes in the product design and layout without notification to its customers.

# INTRODUCTION

## UV Water Purification

**W**yckomar UV Purifiers utilize the proven principle of ultraviolet light radiation to eliminate or reduce unacceptable levels of microorganisms in water and other liquids. Ultraviolet light energy destroys bacteria, viruses, fungi, spores, algae and other such contaminants, which are pathogenic to humans, other animals and plants. Ultraviolet purification is a completely natural, non-chemical, environmentally safe technique, which adds nothing to, and removes nothing from (such as trace minerals) the water.

### How the Wyckomar Water Purifier Unit Works

**U**ntreated water enters the lower portion of the purification chamber and flows through the unit in an upward circular path. The spiraling movement assures the maximum irradiation of the fluid and prevents larger particles from blocking the treatment of microorganisms. The purification chamber contains the ultraviolet light-producing lamp. In operation, the lamp emits a bluish glow, which is visible in the view port window on the side of the UV700, 1200, 2000, 3000, 5000 and 6000. **WARNING: DO NOT LOOK AT THE UV LIGHT DIRECTLY.** The MiniZap, UV4 and UV250 units do not contain a viewport window, operation of these units may be confirmed by the illumination of a green LED indicator lamp. So long as the appropriate indicators are glowing, the unit is functioning properly. An alarm will sound when the lamp is out. When the glow does not appear and the alarm is sounding, the lamp must be replaced for the unit to operate properly.

**NOTE:** Your Wyckomar Purifier will function automatically to produce high quality, safe drinking fluids to the maximum of its design capacity. It will provide many years of service when factory recommended installation, operation and maintenance procedures be followed.

### Factors Affecting UV Purification

**T**he Wyckomar UV Purifier is guaranteed to eliminate microbiological contamination only if the physical qualities of the influent water supply are as follows:

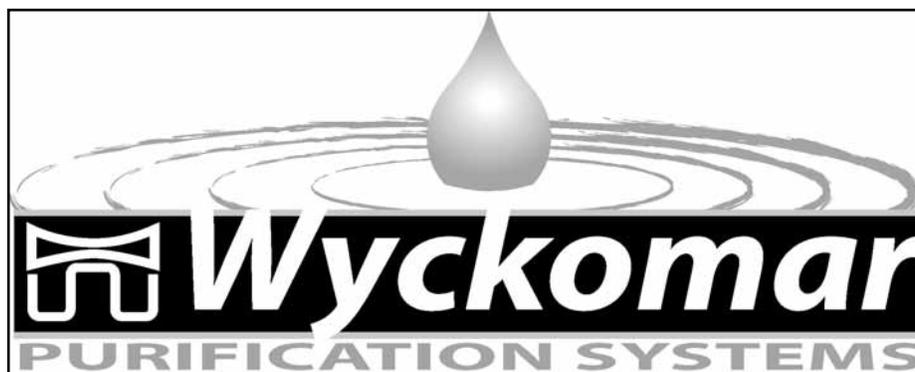
**Turbidity (Suspended Solids):** Turbidity must be less than 1.0 TU at the time of disinfection. There must be a 5-micron or less sediment prefiltration system installed before the UV system.

**Total Hardness (Sum of Calcium + Magnesium):** Must be no more than 10gpg (grains/gallon) of hardness before pretreatment is needed.

**Tannins and Colour:** There must be no more than 2.0 ppm before pretreatment is needed.

**Iron:** Must be no more than 0.3 ppm Fe.

**Manganese:** Must be no more than 0.05ppm of Mn.



## Installation

1. **W**yckomar purifiers are designed to be installed either at the main water supply line (at point-of-entry), or at point-of-use. In most plumbing installations, the unit works equally well in either location. However, in some installations, especially where plumbing is old, the water may become re-contaminated while traveling through the pipes between the purifier and the faucet. In such cases, installing the purifier as close to the faucet as possible is highly recommended. (Minizap & UV4 – point-of-use; UV250, 700 & 1200 – point-of-entry home; UV1500, 2000, 3000, 5000 & 5007 – industrial application).

2.



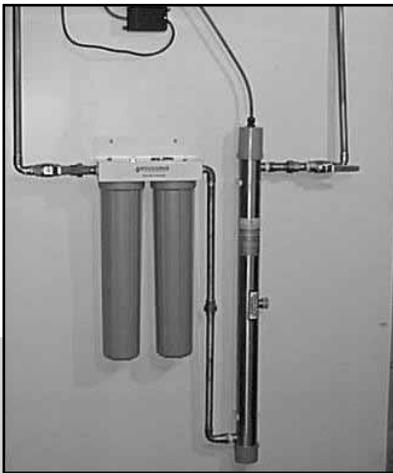
**W**yckomar purifiers are designed to be installed vertically and work best when mounted in this position. **NOTE: Electrical cord end must be at the top.** However, in cases of space problems, the unit may be installed horizontally.

3.

**T**he manufacturers guarantee is applicable **only** when prefiltered water is used. Prefilters remove suspended particles from the water, which might otherwise reduce the effectiveness of the UV lamp or damage the unit. Prefilters are inexpensive and will in themselves greatly enhance your water quality. Filters are available from Wyckomar.



4.



**A** minimum of a 36 inch clearance at one end of your purifier unit will allow most maintenance procedures to be accomplished without removing the purifier chamber from it's mounting bracket.

5. **I**f a water softener or other treatment device is installed or planned for, your purifier should be located closest to the faucet.

6. **I**nstall your Wyckomar purifier indoors in a protected area where the temperature does not fall below 4° Celsius (40° Fahrenheit) and the humidity level is low (to prevent condensation on the purification chamber). The unit functions ideally in a temperature range from 9° C to 29°C.

**NOTE: Purifier is for INDOOR USE ONLY!**

7. **A** grounded electrical outlet is required (GFCI is preferred).

8. **U**se Teflon tape liberally on all pipe connections that thread into plastic.

**DO NOT USE ANY OTHER SEALANTS!**

9. **IMPORTANT: CLEARANCE ABOVE UNIT FOR LAMP CHANGES SHOULD BE EQUAL TO LENGTH OF PURIFIER.**

**Warning: Do not allow heat near plastic threads or fittings.**

## Installation Procedure

1. **N**ote the direction of water flow in the supply line to which the unit is being connected.
2. **R**efer to the appropriate plumbing diagram and check to see that you have all the necessary fittings.

### Parts List:

- 4 screws
- 1 alcohol wipe
- 1 lamp with o-rings on each end
- 1 Allen key wrench
- 1 quartz dome sleeve
- 1 8 gpm unit includes a spring inside the quartz sleeve

3. **T**ake the long blue cap off the unit.

4.



**R**emove the nut from the end of the unit.



5. **S**lide the quartz dome with lamp inside the unit.  
**NOTE: Do not put fingerprints on the glass.**

7.



6. **B**e sure the black o-ring is secure inside the nut when you screw it onto the end of the unit to seal it. Turn the nut until snug.

**C**onnect the four pin white connector.

8. **R**eplace the long blue cap and tighten setscrews with the supplied Allen key.

9. **S**hut off the main water supply valve.

10. **F**asten unit to the wall using screws provided.



11.



**I**nstall new plumbing. If you are installing a solenoid valve or pre-filter, make sure the arrows on them point in the same direction as the water flow.

12. **W**hen new plumbing has been installed, a seal should be attached to the closed by-pass valve. This seal should not be broken unless water is required during emergency or shutdown periods.
13. **P**lug power into an appropriate power source outlet (power source voltage may vary depending on geographic location therefore a power surge protector is strongly recommended).
14. **O**pen main valve to water source.
15. **O**pen valve on either side of purifier (by-pass valve should remain closed). You should hear a sudden rush of water entering the unit at this time. Turn on any faucet that will start the flow of water through the unit.

**Your Wyckomar water purifier is now in service!**

### NOTE:

Installation of the water purifier will interrupt the electrical grounding continuity of a system. For directions on restoring the electrical grounding continuity, consult your local electrical inspector.

## IMPORTANT

**A**fter installation of your UV unit the system must be disinfected beyond the UV unit itself. The following steps must be taken to accomplish this important task:

1. Turn off the water supply to the UV unit and make sure the by-pass valve is closed. Turn on the UV unit.
2. Remove the filter bowls from the filter housing head and remove the filter cartridges.
3. Fill the filter bowls one-half full with chlorine bleach and screw the bowls back onto the filter housing head.
4. Turn on the water supply.
5. Turn on every tap in the water system of the building both inside and outside. Run the water until the smell of chlorine is evident at the farthest tap. At this time shut off the taps and let the system sit idle for 60 minutes.
6. While the UV lamp remains on, open all the taps in the water system to flush out the chlorine; approximately 15 minutes.
7. When all chlorine is flushed from the system, and while the UV lamp remains on, shut off the water supply and reinstall the filter cartridges in the filter housings.
8. Turn on the water supply.
9. Test the water for contaminants if desired.

## MAINTENANCE ULTRAVIOLET LAMP REPLACEMENT

**T**he ultraviolet lamp located in the purification chamber will operate effectively, round the clock, for approximately one year under normal conditions. The lamp will light up longer than that, but maximum UV light penetration may fall below the prescribed safety level. **NOTE: It is required that the lamp be changed every 10 months to 1 year after installation regardless of apparent condition of the lamp.**

To replace the ultraviolet lamp, follow the directions below.

### TO DIS-ASSEMBLE THE UV LAMP

1. Unplug the purifier from the electrical outlet. Note: It is not necessary to turn off the water supply.
2. With an Allen key wrench provided, loosen the two setscrews that secure the top cap containing the electrical cord. Remove the cap and set aside carefully.
3. Remove the lamp connector located at the cord end of the lamp by gently wiggling and pulling away from the lamp.
4. Carefully slide the UV lamp out of the quartz sleeve and discard.
5. Insert the replacement lamp inside the quartz sleeve. **IMPORTANT: DO NOT TOUCH THE LAMP WITH BARE HANDS. FINGER PRINTS WILL PREVENT THE SYSTEM FROM WORKING EFFECTIVELY.** If the lamp should be touched, wipe down with an alcohol wipe.
6. Gently push the lamp connector against the pins at the end of the lamp.
7. Make sure that all electrical components are dry before replacing the top cap. Secure the cap with the setscrews.
8. Plug in the power cord. The lamp should be operating at this time. To confirm that your new lamp is working correctly, check with your models pilot light indicator:

Minizap, UV4/250 – The green LED indicator will light up on the side of the unit.

UV700/1200/3000/5000 - A bluish light should be visible through the view port

**IMPORTANT:** Where water turbidity is a problem, it is advisable to clean the quartz sleeve when replacing the lamp.

### TO CLEAN AND CHANGE THE QUARTZ SLEEVE

1. Turn water off and unplug unit.
2. Remove plastic cap on the top end containing the electrical cord of the UV purifier by loosening the setscrews with Allen key provided.
3. Remove lamp – as per lamp replacement instructions.
4. Loosen and remove the retaining nut. Caution: Quartz sleeve will be stuck to the o-ring inside the retaining unit.
5. Carefully remove the quartz sleeve from the UV chamber.
6. Wipe the quartz sleeve with an alcohol wipe being careful not to touch the sleeve with your fingers.

## TO RE-ASSEMBLE

1. Reassemble using a clean cloth to hold the quartz sleeve, guide the quartz sleeve gently into the hole and screw the retaining nut down until snug.
2. Insert the replacement lamp into the quartz sleeve. Gently push the lamp connector against the pins at the end of the lamp.

COMPLETE RE-ASSEMBLY OF THE UV PURIFIER BY FOLLOWING LAMP REPLACEMENT INSTRUCTIONS FROM #7 TO #9.

## TO CHANGE FILTER CARTRIDGES

1. Turn off water supply to filter.
2. Depress pressure release button (if present) to relieve pressure in filter housing.
3. Unscrew housing using spanner wrench.

**NOTE:** *When opening filter housing to change cartridge, it is common for O-ring/Gasket to lift out of housing and stick to cap.*

4. Remove used cartridge and discard. Rinse out housing and fill about 1/3 full with water. Add about 2 to 3 tablespoons of bleach and scrub thoroughly with brush or sponge. Rinse thoroughly.
5. Remove O-ring/Gasket from sump and wipe groove and O-ring/Gasket clean. Lubricate O-ring/Gasket with a coating of clean food grade silicone grease. Place O-ring/Gasket back in place and press O-ring down into the groove with two fingers (or place gasket on rim of sump).

**NOTE:** *This step is important to ensure proper filter seal. Make sure O-ring is seated level in the groove (or gasket is on rim of sump).*

**CAUTION:** *If O-ring/Gasket appears damaged or crimped it should be replaced at this time. See your local dealer for replacement parts.*

6. Insert a new cartridge into the sump making sure that it slips down over the sump standpipe.
7. Screw the sump onto the cap and hand tighten. DO NOT OVER-TIGHTEN. Make sure cartridge slips over the cap standpipe.
8. Turn on the water supply slowly to allow housing to fill with water.
9. Depress the pressure release button (if present) to release trapped air from filter.
10. Check for leaks before leaving installation.

**WARNING:** Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfections before or after the unit.

**NOTE:** An activated carbon cartridge (Taste/Odour) may contain a small amount of carbon fines (very fine black powder) and a new cartridge, after installation, should be flushed with sufficient water to remove the fines before using the water.

Each time you use water from your filtered water tap for drinking or cooking purposes, it is recommended that you run (flush) the tap at least 10 seconds prior to using water. This is particularly important if the water tap is not used daily.

**NOTE:** Certain types of harmless bacteria will attack cellulose material. Cartridges containing cellulose may seem to disintegrate, produce a "musty" or "moldy" odour, or form a black precipitate due to the bacteria. If you notice any of the above problems while using the cellulose media cartridges, switch to a synthetic media cartridge or consult the manufacturer.

**NOTE:** This replacement cartridge has a limited service life. Changes in taste, colour and flow of the water being filtered are signals that replacement of the cartridge is or soon may be necessary.

**CAUTION:** Filter must be protected against freezing. Failure to do so may result in cracking of the filter and water leakage.

**CAUTION:** All filtration systems contain other parts that have a limited service life. Exhaustion of the service life of those parts often cannot be easily detected. Commonly, it is only after leakage has been observed or water damage has occurred that one is made aware that the service life has been exhausted.

**IMPORTANT NOTICE:** To prevent costly repairs or possible water damage we strongly recommend that the bowl or sump of all plastic housings be replaced periodically: every five years for clear sumps, and every ten years for opaque sumps. If your sump has been in use for more than the recommended period, it should be replaced immediately. Be sure to date any new or replacement sump for future reference and indicate the next recommended replacement date.



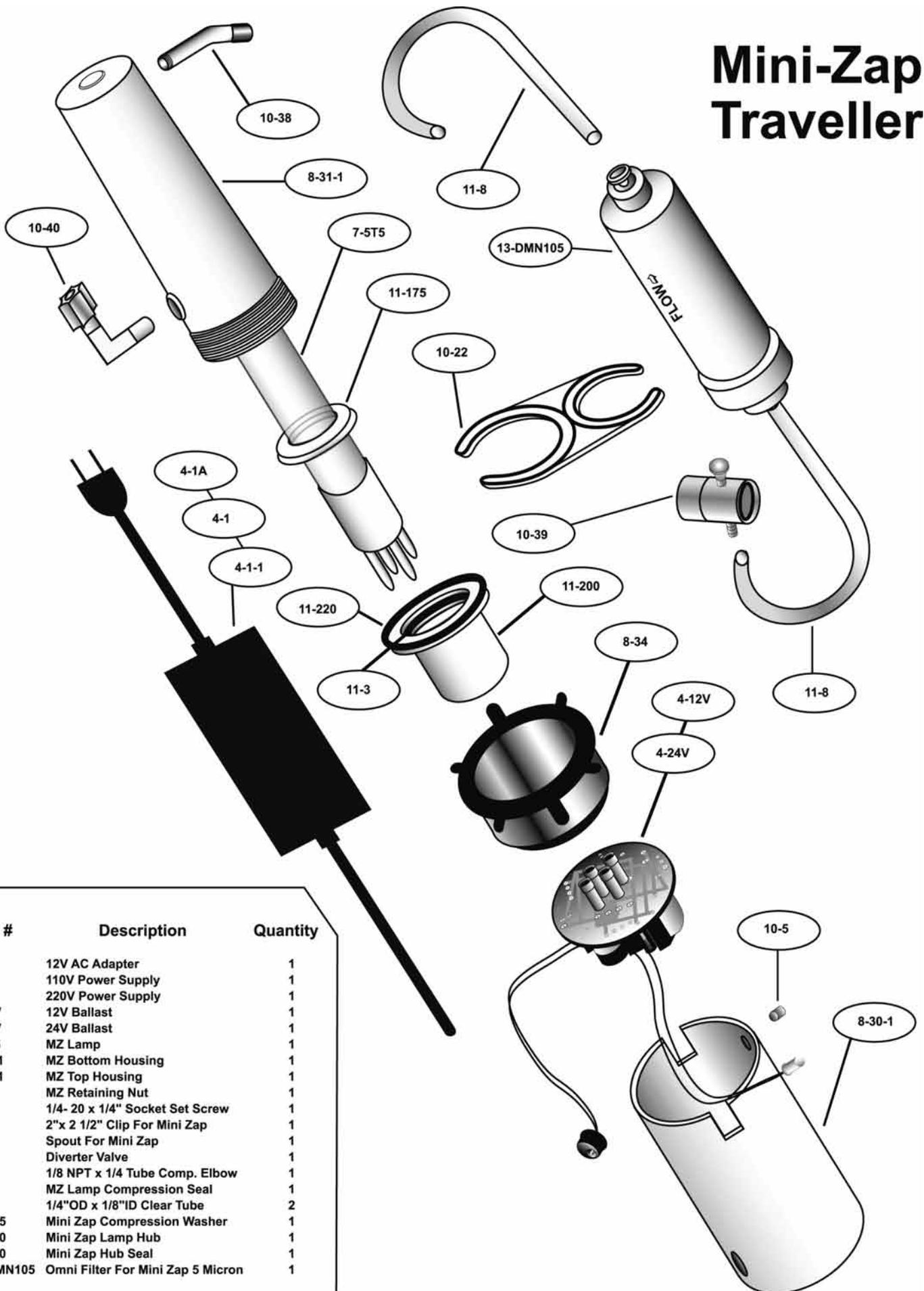
## TROUBLESHOOTING GUIDE

Before calling for assistance please check the following:

Trouble	Cause	Solution
<p><b>UV lamp will not light</b></p>	<ul style="list-style-type: none"> <li>•CHECK INPUT VOLTAGE IF BELOW OR ABOVE 120 VOLTS</li> <li>•LINE CORD DISCONNECTED OR OUTLET DEFECTIVE</li> <li>•DEFECTIVE UV LAMP</li> <li>•DEFECTIVE LAMP BALLAST</li> </ul>	<ul style="list-style-type: none"> <li>•INSTALL A VOLTAGE REGULATOR</li> <li>•CHECK, REPLACE</li> <li>•REPLACE</li> <li>•CHECK TO SEE THAT GREEN LED IS ON</li> <li>•CHECK OUTPUT VOLTAGE</li> <li>•CHECK THAT WHITE LAMP END CONNECTOR IS SECURE ON LAMP PINS</li> </ul>
<p><b>Leak at quartz sleeve</b></p>	<ul style="list-style-type: none"> <li>•DEFECTIVE OR CRACKED O-RING</li> <li>•O-RING NOT SEATED PROPERLY</li> <li>•QUARTZ FRACTURE</li> </ul>	<ul style="list-style-type: none"> <li>•REPLACE O-RING</li> <li>•REPLACE O-RING</li> <li>•REPLACE QUARTZ SLEEVE</li> </ul>

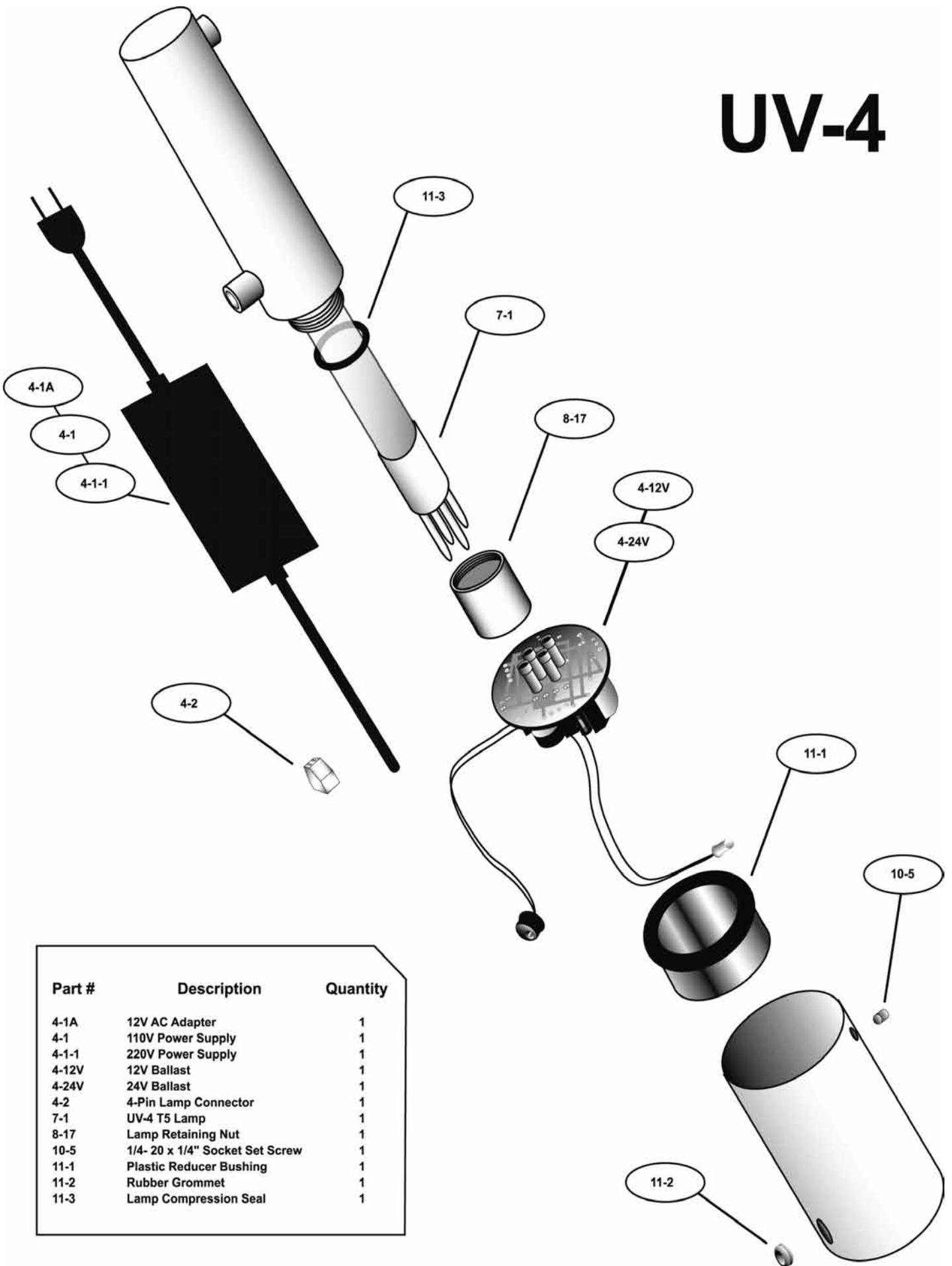
### Troubleshooting Notes:

# Mini-Zap Traveller



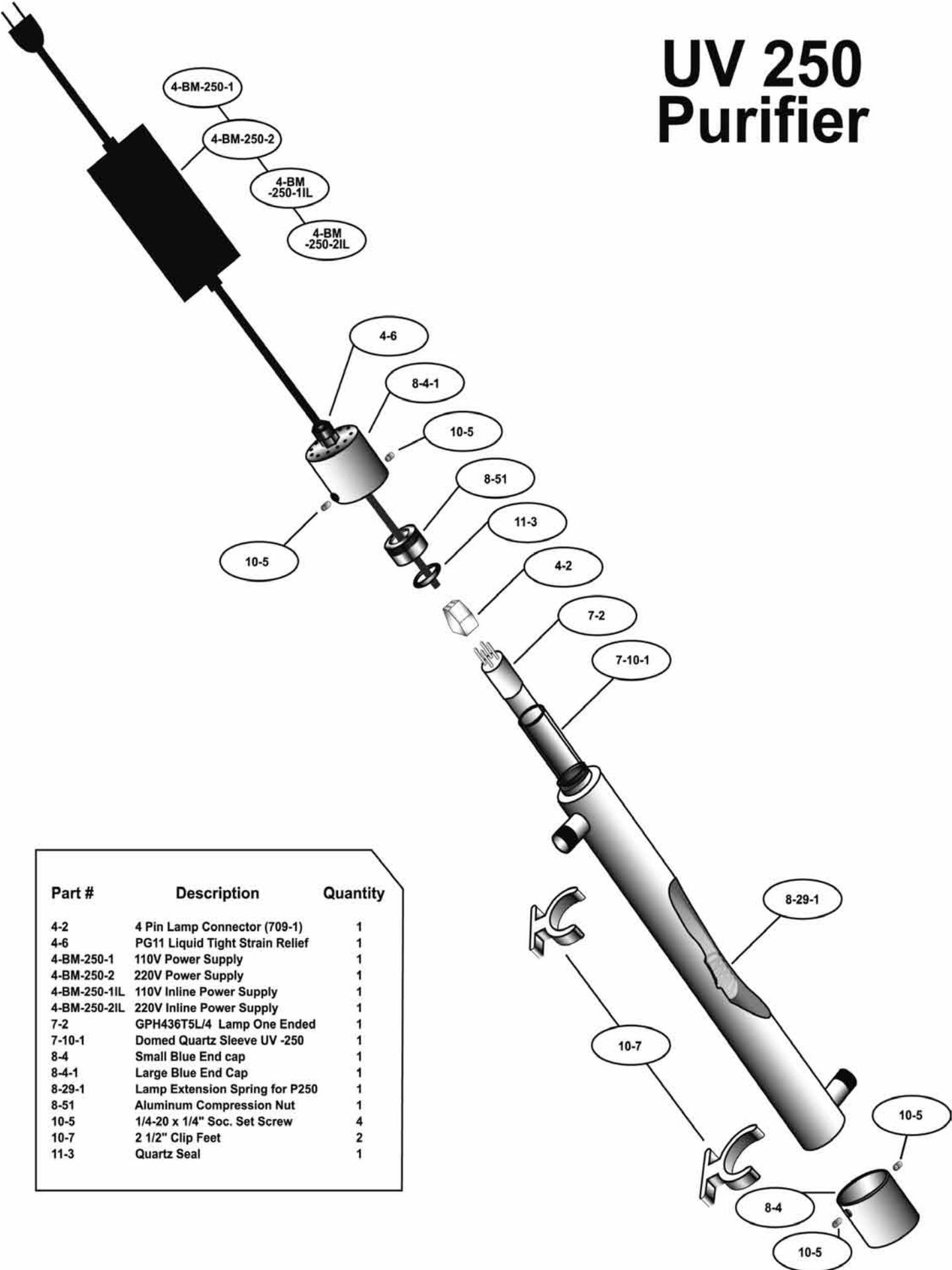
Part #	Description	Quantity
4-1A	12V AC Adapter	1
4-1	110V Power Supply	1
4-1-1	220V Power Supply	1
4-12V	12V Ballast	1
4-24V	24V Ballast	1
7-5T5	MZ Lamp	1
8-30-1	MZ Bottom Housing	1
8-31-1	MZ Top Housing	1
8-34	MZ Retaining Nut	1
10-5	1/4- 20 x 1/4" Socket Set Screw	1
10-22	2"x 2 1/2" Clip For Mini Zap	1
10-38	Spout For Mini Zap	1
10-39	Diverter Valve	1
10-40	1/8 NPT x 1/4 Tube Comp. Elbow	1
11-3	MZ Lamp Compression Seal	1
11-8	1/4"OD x 1/8"ID Clear Tube	2
11-175	Mini Zap Compression Washer	1
11-200	Mini Zap Lamp Hub	1
11-220	Mini Zap Hub Seal	1
13-DMN105	Omni Filter For Mini Zap 5 Micron	1

# UV-4



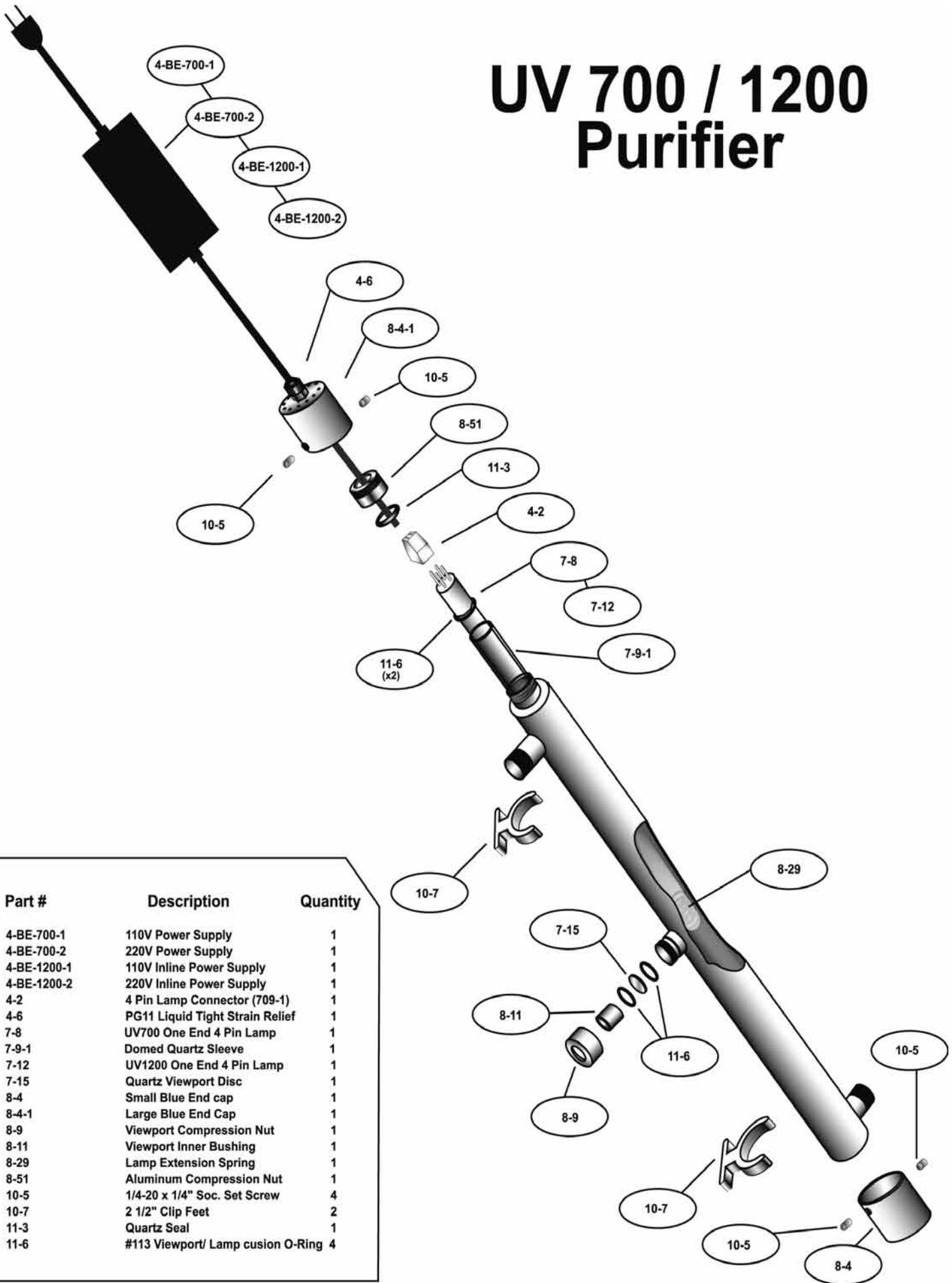
Part #	Description	Quantity
4-1A	12V AC Adapter	1
4-1	110V Power Supply	1
4-1-1	220V Power Supply	1
4-12V	12V Ballast	1
4-24V	24V Ballast	1
4-2	4-Pin Lamp Connector	1
7-1	UV-4 T5 Lamp	1
8-17	Lamp Retaining Nut	1
10-5	1/4- 20 x 1/4" Socket Set Screw	1
11-1	Plastic Reducer Bushing	1
11-2	Rubber Grommet	1
11-3	Lamp Compression Seal	1

# UV 250 Purifier

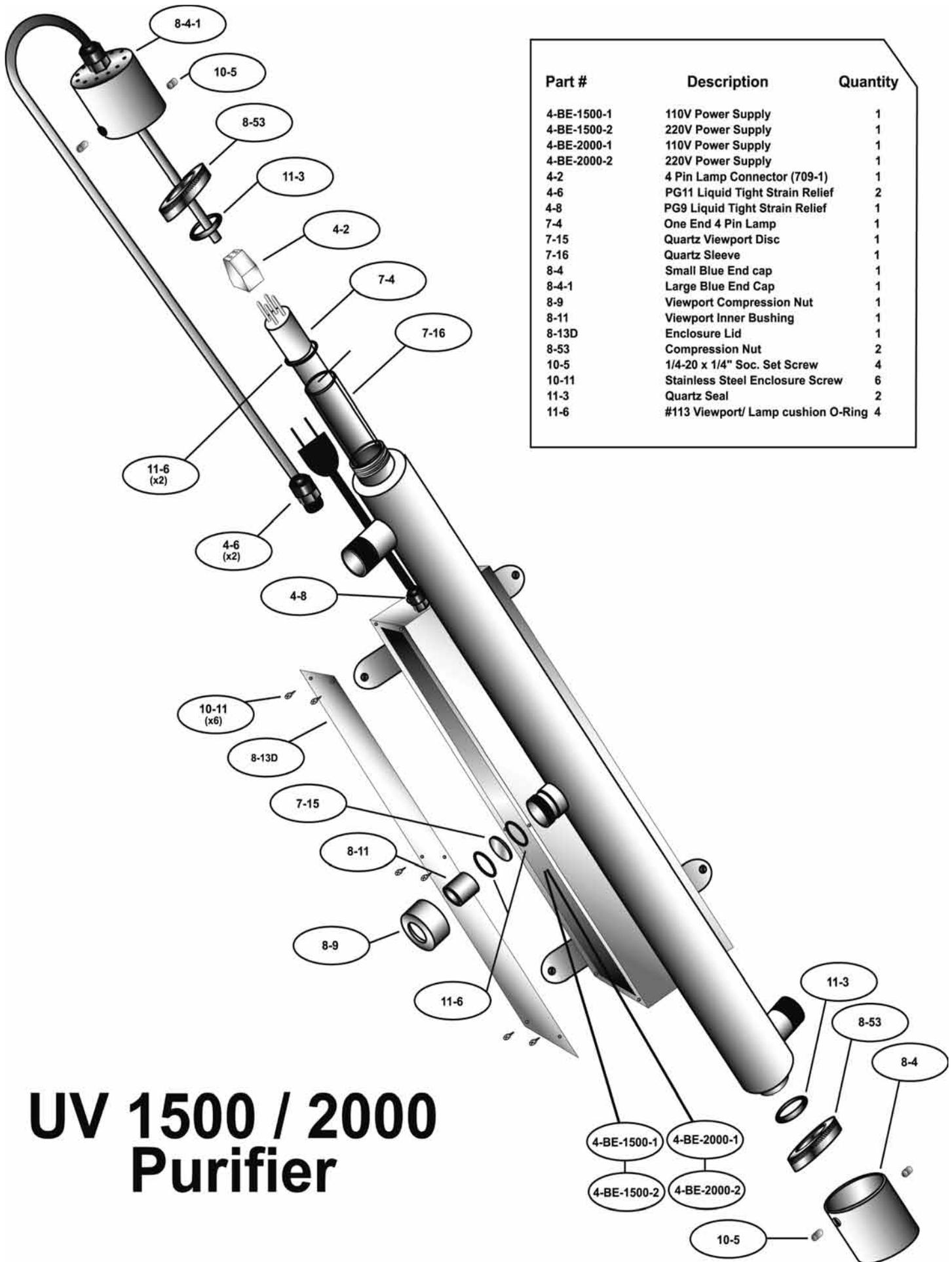


Part #	Description	Quantity
4-2	4 Pin Lamp Connector (709-1)	1
4-6	PG11 Liquid Tight Strain Relief	1
4-BM-250-1	110V Power Supply	1
4-BM-250-2	220V Power Supply	1
4-BM-250-1IL	110V Inline Power Supply	1
4-BM-250-2IL	220V Inline Power Supply	1
7-2	GPH436T5L/4 Lamp One Ended	1
7-10-1	Domed Quartz Sleeve UV -250	1
8-4	Small Blue End cap	1
8-4-1	Large Blue End Cap	1
8-29-1	Lamp Extension Spring for P250	1
8-51	Aluminum Compression Nut	1
10-5	1/4-20 x 1/4" Soc. Set Screw	4
10-7	2 1/2" Clip Feet	2
11-3	Quartz Seal	1

# UV 700 / 1200 Purifier

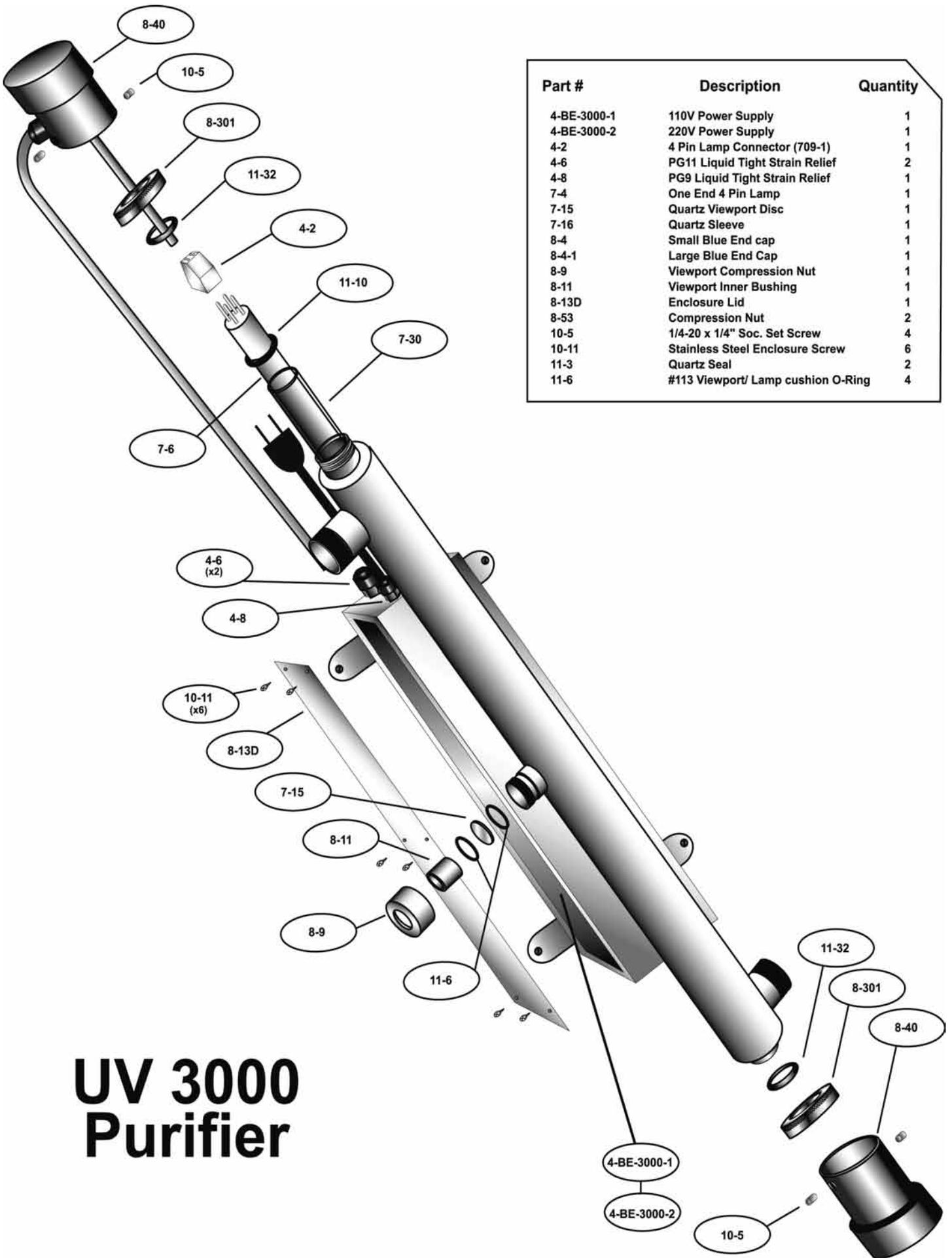


Part #	Description	Quantity
4-BE-700-1	110V Power Supply	1
4-BE-700-2	220V Power Supply	1
4-BE-1200-1	110V Inline Power Supply	1
4-BE-1200-2	220V Inline Power Supply	1
4-2	4 Pin Lamp Connector (709-1)	1
4-6	PG11 Liquid Tight Strain Relief	1
7-8	UV700 One End 4 Pin Lamp	1
7-9-1	Domed Quartz Sleeve	1
7-12	UV1200 One End 4 Pin Lamp	1
7-15	Quartz Viewport Disc	1
8-4	Small Blue End cap	1
8-4-1	Large Blue End Cap	1
8-9	Viewport Compression Nut	1
8-11	Viewport Inner Bushing	1
8-29	Lamp Extension Spring	1
8-51	Aluminum Compression Nut	1
10-5	1/4-20 x 1/4" Soc. Set Screw	4
10-7	2 1/2" Clip Feet	2
11-3	Quartz Seal	1
11-6	#113 Viewport/ Lamp cushion O-Ring 4	

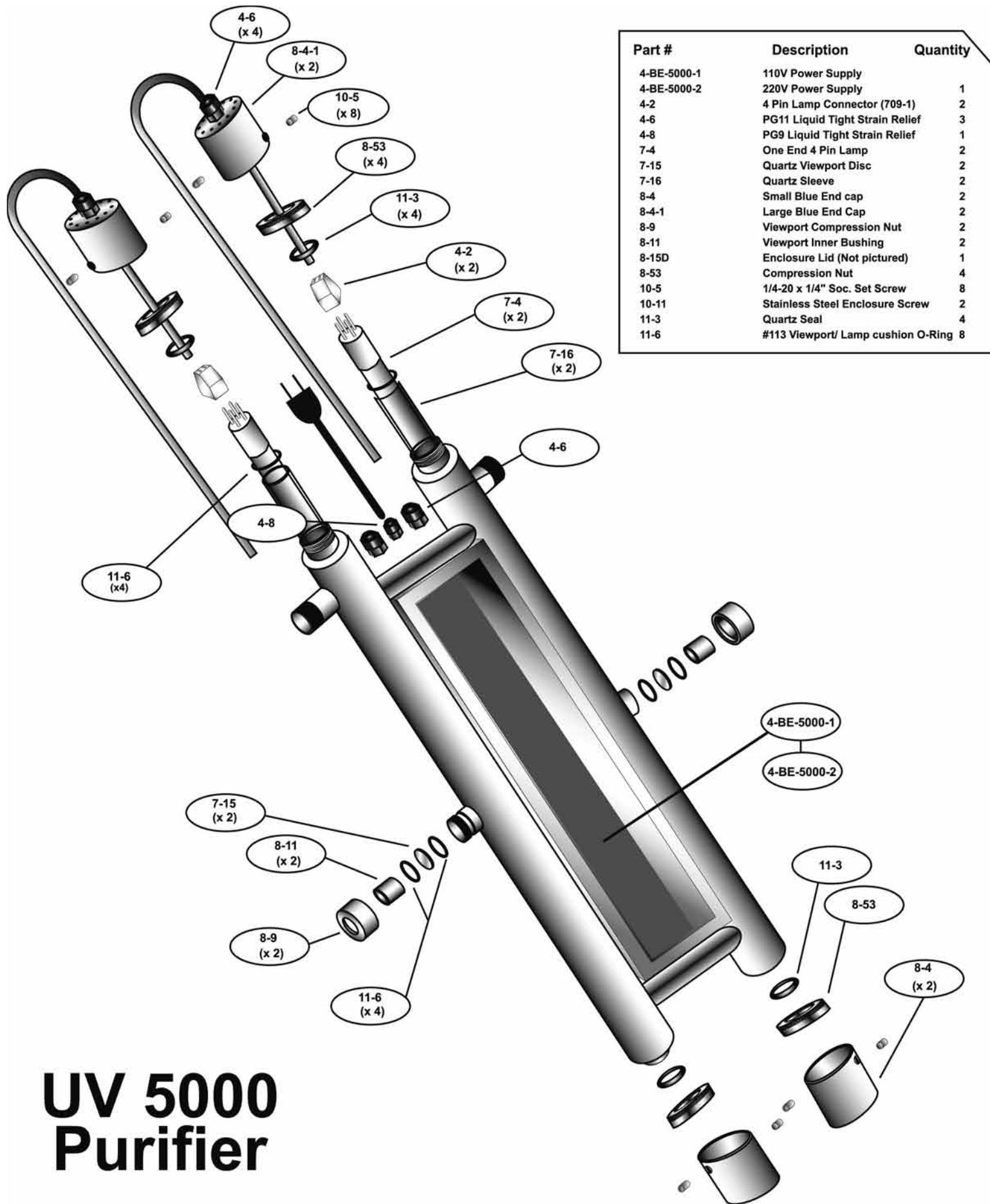


Part #	Description	Quantity
4-BE-1500-1	110V Power Supply	1
4-BE-1500-2	220V Power Supply	1
4-BE-2000-1	110V Power Supply	1
4-BE-2000-2	220V Power Supply	1
4-2	4 Pin Lamp Connector (709-1)	1
4-6	PG11 Liquid Tight Strain Relief	2
4-8	PG9 Liquid Tight Strain Relief	1
7-4	One End 4 Pin Lamp	1
7-15	Quartz Viewport Disc	1
7-16	Quartz Sleeve	1
8-4	Small Blue End cap	1
8-4-1	Large Blue End Cap	1
8-9	Viewpoint Compression Nut	1
8-11	Viewpoint Inner Bushing	1
8-13D	Enclosure Lid	1
8-53	Compression Nut	2
10-5	1/4-20 x 1/4" Soc. Set Screw	4
10-11	Stainless Steel Enclosure Screw	6
11-3	Quartz Seal	2
11-6	#113 Viewport/ Lamp cushion O-Ring	4

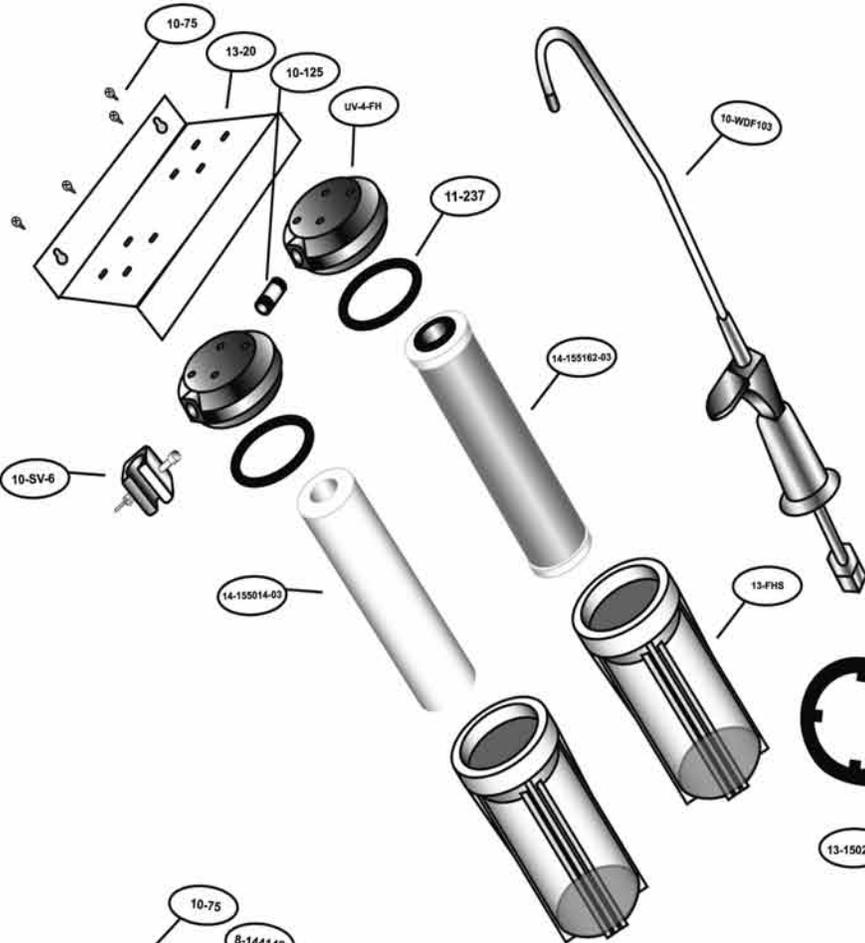
# UV 1500 / 2000 Purifier



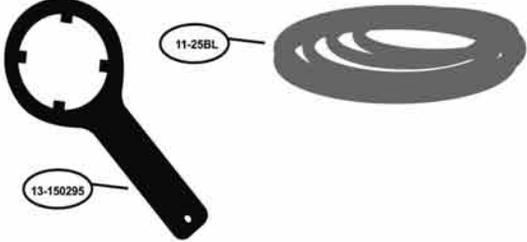
# UV 3000 Purifier



# UV-4 Filter Set



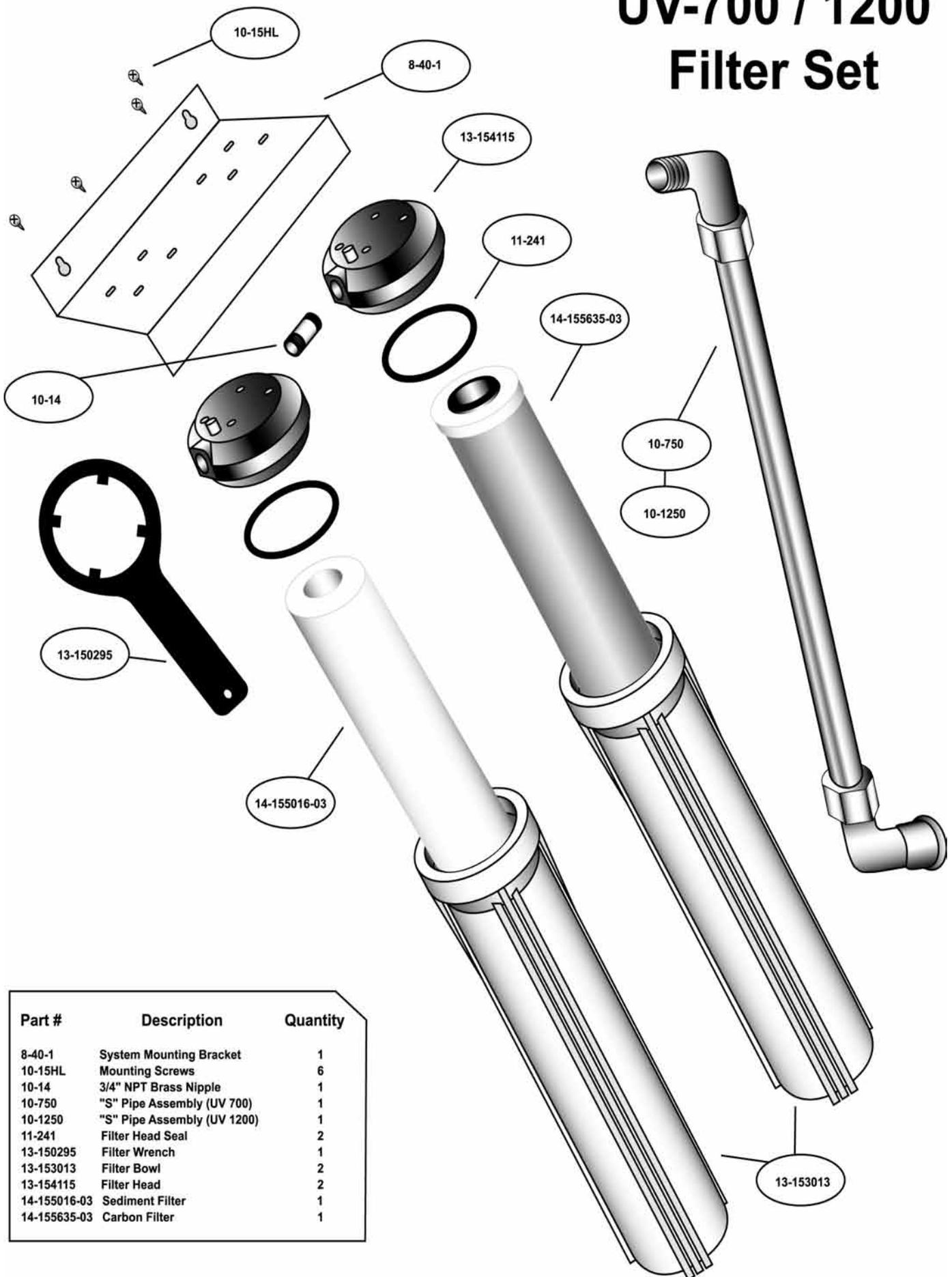
Part #	Description	Quantity
10-75	#10 x 3/4" Screw	6
10-125	1/4" NPT Brass Nipple	1
10-SV-6	Faucet Assembly	1
10-WDF103	Saddle Valve Assembly	1
11-237	Filter Head Seal	2
13-20	System Mounting Bracket	1
13-150294	Filter Wrench	1
13-FHS	Filter Bowl	2
14-15514-03	Sediment Filter	1
14-155162-03	Carbon Filter	1
UV4-FH	Filter Head	2



# UV-250 Filter Set

Part #	Description	Quantity
8-144142	System Mounting Bracket	1
10-75	#10 x 3/4" Screw	6
10-14-1	1/2" NPT Brass Nipple	1
10-250	"S" Pipe Assembly	1
11-237	Filter Head Seal	2
13-150294	Filter Wrench	1
13-153018	Filter Bowl	2
13-154175	Filter Head	2
14-155014-03	Sediment Filter	1
14-155634-03	Carbon Filter	1

# UV-700 / 1200 Filter Set



Part #	Description	Quantity
8-40-1	System Mounting Bracket	1
10-15HL	Mounting Screws	6
10-14	3/4" NPT Brass Nipple	1
10-750	"S" Pipe Assembly (UV 700)	1
10-1250	"S" Pipe Assembly (UV 1200)	1
11-241	Filter Head Seal	2
13-150295	Filter Wrench	1
13-153013	Filter Bowl	2
13-154115	Filter Head	2
14-155016-03	Sediment Filter	1
14-155635-03	Carbon Filter	1

**Distributed By:**

--