

REAL SCIENCE FOR HVAC MAINTENANCE

ALTRU-V

V-RAY™ WD

ULTRAVIOLET LAMP DISINFECTION SYSTEM
 IDEAL FOR ANY AIR HANDLING
 APPLICATION WHICH REQUIRES POWER
 WASH DOWN (E.G. FOOD PROCESSING)

**WD: WASH
DOWN**

This design allows the entire lamp assembly to be washed down without removing the lamp from the air handling unit, saving maintenance time and equipment downtime in critical process applications. Provides continuous irradiation of coil surfaces for improved heat exchange efficiency while reducing foul odor, drain pan overflows and expensive coil cleanings.

**VALUABLE BENEFITS
 FROM THE LEADER IN THE
 APPLICATION OF UV**

- Lamp sizes come in lengths of 21", 33" and 61" to fit typical air handling coil configurations
- Uses non ozone producing germicidal lamps for added safety protection
- Lowest lamp mercury content available
- UL recognized components, ETL Listed to UL Category ABQK for use in HVAC ducts
- Ease of installation and unprecedented modular flexibility for most HVAC commercial coils
- UVC resistant materials
- Screw terminals or quick connect for easy field wiring
- Power source contains LED feature to verify system power
- Restores air handling unit coil surface to near optimal operating capacities in terms of heat transfer efficiency
- For existing air handling units, applying UV can reduce energy consumption
- Reduces costly maintenance and cleaning programs
- Eliminates foul system odors (dirty sock syndrome)
- Lowest ownership and operating costs in the industry
- Improves indoor air quality by destroying system microbes
- One-year warranty on both the fixture and the lamp

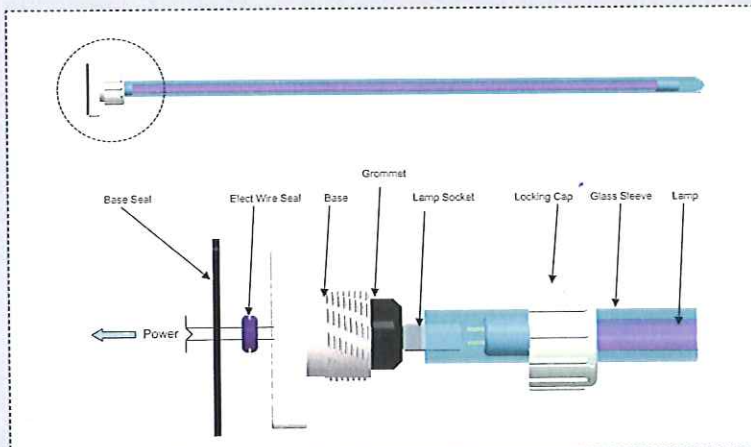
WD | 10102



V-Ray WD:
 21", 33" and 61" Lamp Sizes.

ALTRU-V WASHABLE LAMP CONSTRUCTION

- Allows wash down of the coil/drain pan and components without removal of UV lamps
- Unique lamp assembly provides a water and dust tight seal to prevent wicking of water to cause shorting of the electrical connections
- Domed quartz sleeves prevent water contacting the germicidal lamp
- Quartz sleeve provides a thermal barrier to allow for optimum UV lamp output in cold air conditions common to food processing applications
- Single electrical lamp connection to electrical UV resistant harness
- Remotely located ballast power source to allow direct wash down of lamp assembly without any disassembly required
- An accessory mounting bracket is available to support 33" and 61" UV lamps if required.



UNLEASH THE POWER OF THE V

ALTRU-V products from UVDI are transforming HVAC equipment and maintenance. By applying real science and the relentless cleaning power of ultraviolet light, ALTRU-V products are the optimal HVAC maintenance solution, replacing outdated mechanical and chemical cleanings that can be both costly and dangerous. The results are lower operating costs, safer environments for maintenance staff and occupants, and cleaner air. The **V-Ray WD** delivers an optimum level of UVC energy to kill molds and bacteria in tight air handling applications where space is at a premium.

THE VIRTUES OF CLEANER AIR

HVAC systems are the perfect breeding ground for mold and bacteria. Each time the air handling system runs, contaminants such as airborne viruses and foul odors are circulated throughout the occupied space. Research has shown that building occupants exposed to such contaminants can develop health issues including sinus congestion and headaches, allergy, asthma, upper respiratory ailments, along with colds and flu. The **V-Ray WD** continuously destroys contaminants, protecting both occupants and those who service the HVAC systems.

ALTRU-V APPLIES REAL SCIENCE AND THE
RELENTLESS CLEANING POWER OF ULTRAVIOLET LIGHT
FOR OPTIMAL HVAC MAINTENANCE SOLUTIONS.

THE POWER OF THE V MEANS SAVING VALUABLE TIME AND MONEY

V-Ray WD technology allows UVC, the most cost-effective HVAC maintenance tool, to be used in places not possible before. A typical installation of the **V-Ray WD** can pay for itself quickly through maintenance and operation savings. When installed, the lamps eradicate contaminants in the HVAC system including molds and bacteria (sources of musty, damp odors) and restore the system to a "like new" condition (dispenses the need for costly and sometimes impossible coil cleanings). The cleaner system delivers energy savings through improved heat transfer and improved system heating/cooling capacity. The **V-Ray WD** also provides occupant comfort by destroying the source of allergens and odor. ALTRU-V series provides the latest technology and the lowest lifecycle cost among today's UVC products, while offering lamps with the highest output retention and lowest mercury content in the industry.



Healthcare



Schools

Air Quality

Airborne particles, known as bioaerosols, account for 60-80% of indoor air quality problems. According to the World Health Organization, these contaminants account for a substantial portion of absences from school and work, and can lead to lower productivity.

THE **V** ALSO STANDS FOR SAFETY AND RELIABILITY

V-Ray WD products were specifically designed with occupant comfort and reliable operation in mind. Highest lamp output retention and lowest lamp mercury content are important issues when considering UVC products for small air handling systems. The **V-Ray WD** product line is ETL Listed for specific use within HVAC units of all shapes and sizes. The product is manufactured in an ISO9001:2000 certified plant for unmatched quality. Unlike other cleaning regimens that can expose maintenance workers and building occupants to dangerous chemicals or toxic fumes, the **V-Ray WD** offers a passive, non-chemical approach to continuous HVAC system efficiency maintenance.

APPLICATION

The **V-Ray WD** design allows for ease of installation in almost any system size from 21" to 61" in width with power requirements from 120Vac to 277Vac. **V-Ray WD** can be mounted in any orientation to properly irradiate the target surface. The **V-Ray WD** can be installed to irradiate coils and drain pans where they degrade organic and microbial build-up that causes foul odors and clogged drain pans resulting in overflow of water that can cause significant damage to surrounding materials (e.g. ceiling tiles, carpets, etc.). The V-Ray comes with ETL listing to ABQK product category.

REAL SCIENCE FROM THE FAMILY BEHIND UV

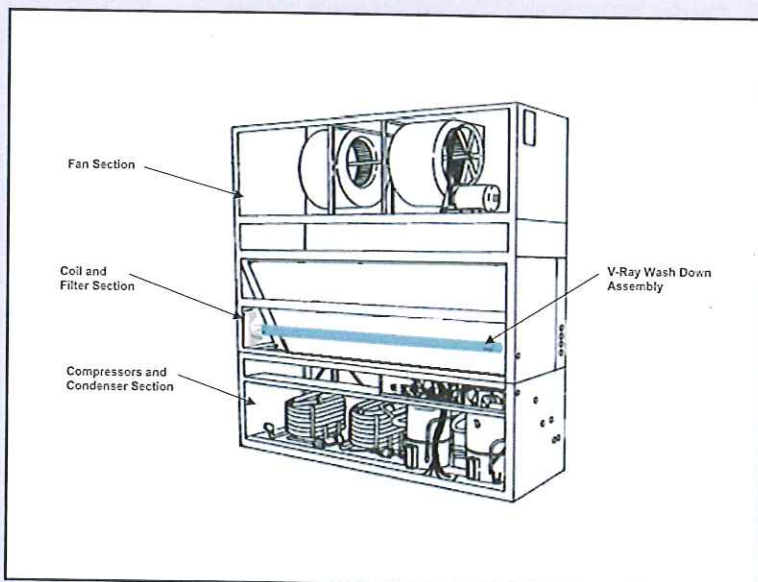


Coil Surface Sample Before Installing V-Ray WD



Coil Surface Sample After Installing V-Ray WD

ALTRU-V
UV



REPRESENTED BY:

ALTRU·V

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SPECIFICATIONS

UVC Fixturing – Fixturing consists of a lamp, quartz sleeve, lamp assembly mounting bracket with water proof seal, UVC resistant wiring harness, power supply and power supply housing.

Lamps – Each lamp contains no more than 5 milligrams of mercury. Lamp life is 9000 hours with no more than a 20% output loss at the end of the lamp's life. Lamps are constructed with UVC proof synthetic material bases and they do not produce ozone. When used for surface irradiation, the lamp selected will be equal to or no less than 90% of the coil width.

Irradiation – Lamps are to be installed in sufficient quantity and in such a manner as to provide an equal distribution of UVC energy. When installed, the UVC energy produced will be optimized to insure consistent uniform coverage of the coil surface. Note: The applied energy and its distribution shall be verifiable using third party algorithm.

Intensity – The optimum UVC energy striking a surface is sufficient to continuously destroy a monolayer of mold and bacteria in less than 3 hours when at 55-135°F. The third party modeling shall be available to determine the destruction time for the most common fan coil surface microbes.

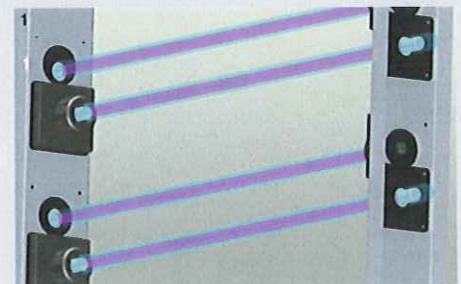
Lamp Wire Harness – Is of sufficient length to facilitate lamp connection to remotely located ballast. It includes a grommet to provide safe passage through sheet metal and into the ballast housing. Lamps are capable of being mounted anywhere in the system and in a vertical or horizontal orientation.

Power Supply – Power supplies are of the high efficiency electronic type, matched to the lamp and designed to optimize UVC photon production and reliability. They are UL Listed and labeled for use in air-streams of 55-135°F. They are capable of producing the specified output and organism destruction as listed under irradiation and intensity above. They

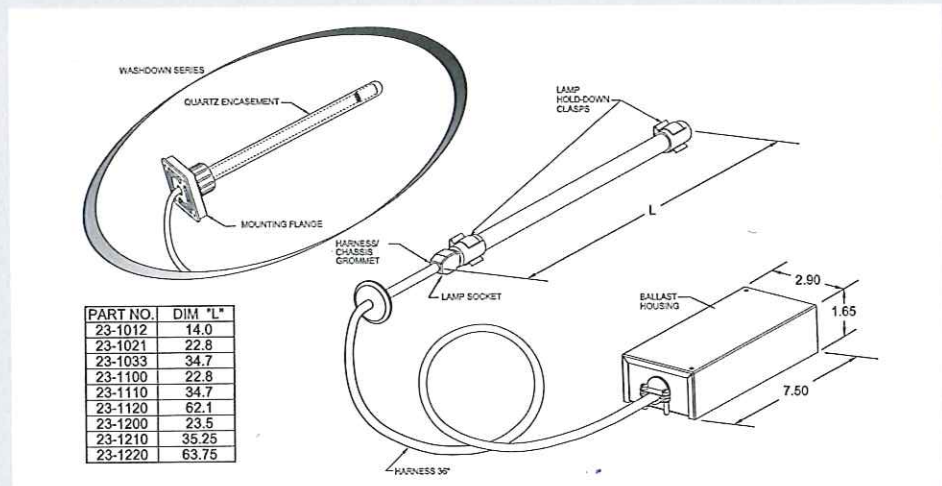
incorporate a universal voltage input for connection to voltage sources from 120Vac to 277Vac at 50Hz or 60Hz. They ensure 9000 hours of lamp operation while maintaining greater than 80% of the initial (new lamp) stabilized output.

Independent Testing of the V-Ray WD provides for complete safety as products are tested and recognized with an ETL mark for certification against UL1598 & CSA C22.2 No. 250, UL 1995 & CSA C22.2 No. 236-95, UL 482 and UL 484 for application in ambient temperatures from 40°F to 135°F. They are also FCC compliant to part 18 as an RF emitting lighting device and pass a surge immunity up to 2kV.

Safety – To protect maintenance personnel, all access panels and doors to the UVC assembly and/or within view of the UVC assembly must include mechanical interlock switch(es) to insure that the UVC assembly will be de-energized when any of these accesses are opened.



1. V-Ray WD Accessory Mounting Bracket
 2. V-Ray WD Magnetic Clip



Model No.	Description	Lamp Dim.	Electrical	Weight	Part Number
VRWD 21	V-Ray UVC Fixture	21"	120-277Vac, 50-60 Hz, XX Watts	3 lbs.	23-1200
VRWD 33	V-Ray UVC Fixture	33"	120-277Vac, 50-60 Hz, XX Watts	3 lbs.	23-1210
VRWD 61	V-Ray UVC Fixture	61"	120-277Vac, 50-60 Hz, XX Watts	5 lbs.	23-1220
VR - MC	V-Ray UV Magnetic Clip			0.5 lbs.	23-1063
VRWD -MB	V-Ray Mounting Bracket Accessory			0.5 lbs.	23-5000

Hg LAMP CONTAINS MERCURY. Manage in accordance with Disposal Laws.
 See: www.lamprecycle.org or call 877-PUREUVC

Specifications subject to change without notice

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ISO Certified
 9001:2000