



**RUKS ENGINEERING LTD**

# **GERMITRON**

**ULTRA VIOLET GERMICIDAL IRRADIATION SYSTEM**



**Indoor Air Quality &  
Bactericidal Management System**



Fire and Smoke Test to UL 2043



## **Unique Features of Ruks GermiTron UVGI System**

- 90% Kill Rate of Bacteria and Virus, per pass
- Scientifically Proven Design with Computerized Selection to assure delivery of Specified or Target Kill Rate.
- Software Version of Selection available
- Custom Designed to suit airflow and duct size
- Rated Average Life of Lamps is 16,000 Hours, longest in the Industry
- High Energy output 800 mA Lamps
- Lamps installed in frame mounted Quartz Sleeve
- Eliminates physical contact with Air Stream, air borne dust, contaminants, and moisture from cooling coil. Extends Lamp Life
- Mercury spill from broken Lamp is confined to the Quartz Sleeve. Eliminates mercury spill in the duct
- Environmentally Friendly
- Easy and quick Lamp change, without withdrawal or removal of frame from duct work or access door, or Quartz Sleeve
- Lamp does not operate at ultra low wavelength. Prevents Production of Ozone
- Indicating lamp to show Lamp failure, without opening access door, or turning off power
- Option to show Ballast Failure
- Hour Meter to show Lamp change
- All wetted parts are Stainless Steel. Suitable for Hospitals and Food Processing facilities
- All electrical components factory installed and wired in powder coated CRS Control Module, and remotely mounted
- Terminals to connect to AHU Motor Interlock
- Electrical cables and Quick Connector, between Control Module and UVGI Frame. Eliminates field wiring
- Installs on factory provided Guide Rails and Mounting rails. Eliminates field provided Installation Hardware
- Unique design eliminates duct access door
- Installation materials, mounting rails, cables between Control Module and Lamp frame, and quick electrical connector, are factory provided
- Easy, quick, and cost effective Installation and Maintenance
- Electronic Ballast listed to UL 935
- Electronic Ballast meets FCC standards for EMI and RFI limits. Safe to use in Hospitals and Health Care facilities
- 3 Types of Frames to choose from
- Lamps for duct sizes 12" to 60" (300 to 1,500 mm) meets all sizes and budgets
- Suitable for new installations and retrofits
- Listed to UL 1995
- Tested for Fire and Smoke Rating to UL 2043

### **Suggested Applications**

- **Hospital Facilities**
- **Dental Facilities**
- **Senior & Long Term Care Facilities**
- **Laboratories**
- **Pharmaceutical & Capsule Filling Plants**
- **Patient Care and Convalescence Wards**
- **Post Surgery Recovery Wards**
- **Paediatric and Neonatal Wards**
- **Offices**
- **Morgue**
- **Operation Theaters**
- **Food Processing & Food Packaging Plants**
- **Juvenile Facilities**
- **Research Facilities**
- **Residences With Immune Depressed & High Allergy Prone Occupants**



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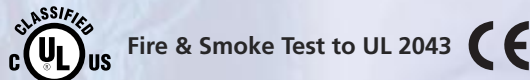


*\*The health aspects associated with the use of this product and its ability to aid in disinfection of environment air have not been investigated by UL.*

**Ruks Germitron**



Model: RUG-W-H-n-A	RUG-L-n-B	RUG-L-n-C
RUG: Ruks Germitron	RUG: Ruks Germitron	RUG: Ruks Germitron
W: Width of Duct = Length of Lamp 12" (300mm) to 60" (1500mm) in increment of 6" (150mm), 48" (1200mm) to 60" (1500mm) in increment of 12" (300mm)	L = Length of Lamp 12" (300mm) to 48" (1200mm) in increment of 6" (150mm), 48" (1200mm) to 60" (1500mm) in increment of 12" (300mm)	L = Length of Lamp 12" (300mm) to 48" (1200mm) in increment of 6" (150mm), 48" (1200mm) to 60" (1500mm) in increment of 12" (300mm)
H: Height of Germitron = Height of Duct in increment of 6" (150mm)		
n: Number of Lamps	n = number of lamps 1 = 1 Lamp per frame 2 = 2 Lamp per frame	n = number of lamps 3 = 3 Lamp per frame 4 = 4 Lamp per frame
A: Type A	B: Type B	C: Type C
Vertical / Horizontal Mount	Horizontal / Vertical Mount	Horizontal / Vertical Mount



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# TECHNICAL SPECIFICATIONS

## Ruks GermiTron Ultra Violet Germicidal Irradiation System - Type A, B and C

1. The UVGI System shall be designed to achieve Kill Rate not less than 90% per pass, based on Specified Kill Rate, or default rate of 3,000  $\mu\text{wsec}/\text{cm}^2$ .
2. The Manufacturer shall provide Computerized Selection to prove the delivery of designed intensity of Kill Rate based on duct width, height, air velocity on UVGI, length of Contact Ducts, and Lamp Energy intensity. Individual Selection shall be provided for each unit based on above parameters.
3. The system shall be sized to deliver the design kill rate on bacteria, and suitable for installation in any duct height from 6" (150 mm) and over.
4. The system shall be suitable for installation in vertical or horizontal mount.
5. The Lamps shall be high output type 800 mA each to provide Rated Average Life of 16,000 Hrs. Low intensity Lamp 425 mA is not acceptable.
6. The design intensity of the Lamp shall be based on wavelength 253.7 nM. Lamp shall not perform at wavelength 180 nM or lower, to prevent release of uncontrolled and unmodulated ozone.
7. Each Lamp shall be provided with externally and readily visible indication to show lamp operation or failure, without the need to open access door, or shut down the System.
8. Lamp shall be fitted with uniquely designed Holder and Pins to prevent Lamp replacement with unqualified and unsuitable Lamp.
9. The Lamps shall be installed in Germicidal Quartz Sleeve equivalent to GE Type 214/219, rated for high transmission of UVC at 253.7 nM. It shall be possible to replace lamp safe without removing the Quartz Sleeve, or access door, or drawing the UVGI frame out of the duct.
10. The Lamps shall not be exposed to nor have direct contact with air in the duct.
11. The Quartz Sleeve shall also prevent impregnation of dust, particle matter, and moisture from cooling coil or humidifier or condensation, on the Lamp.
12. The Quartz Sleeve shall confine and hold mercury spill for environmentally safe disposal, in the event of breaking of Lamp, and prevent mercury spill into the duct.
13. Ballasts shall be electronic type, rated for greater than 15,000 starts, and conform to Sound Rating A.
14. The Ballasts shall meet FCC Part 18 (Class A) for EMI and RFI non consumer limits, and ANSI Standard C62.41.
15. The Ballast shall be Listed to UL 935.
16. All electrical components such as Ballasts, Disconnect Switch, Fuse, Hour Meter etc shall be housed in remotely mounted 18G CRS powder coated Electrical Box. UL Listed cable harness between Electrical Box and UVGI frame shall be factory provided, with UL Listed error safe Electrical Quick Connector.
17. An UL Listed Hour Meter shall be provided in the remotely mounted Electrical Box to indicate Lamp change.
18. The Control System shall be provided with Terminal Block, fire rated to UL 94 V0.
19. Installation of UVGI frame in the duct shall be with factory provided Guide Rails and Installation Rails. Cover Plates and all necessary hardware required for installation shall be provided by Manufacturer. No field provided material or hardware shall be required for installation of the system.
20. Terminals shall be provided to interlock UVGI with AHU fan motor, if required.
21. All wetted parts shall be Stainless Steel to render it suitable for use in Hospitals, Health Care Facilities, and in Food Processing Plants. All non wetted parts shall be CRS powder coated or Galvanized Steel.
22. The System shall be suitable for operation in air flow 0°F (-18°C) to 140°F (60°C), RH 0 to 100% condensing or non condensing, and with water droplets due to carry over moisture from Cooling Coil.
23. As an option, or if specified, UV Intensity Sensor shall be factory installed on the UVGI frame, together with UV Intensity Monitor. Control wiring between the two shall be factory provided to indicate UV Intensity in percentage of full intensity. The Monitor shall also deliver 0-10 VDC Analog Signal to BAS.
24. The operating voltage shall be 110 to 277 Volts, 1 Ph, 50/60 Hz.
25. The UVGI Equipment shall be listed to UL 1995, and certified for Smoke and Fire Safety to UL 2043.
26. All individual Parts and Components shall be UL Listed or Recognized.
27. Appropriate Safety and Caution Notice shall be screen printed on the cover plate of UVGI frame and on the electrical box.
28. The Equipment shall be of North American Manufacture, with parts and components from USA and Canada.



Fire & Smoke Test to UL 2043



INTERNATIONAL SALES AND DISTRIBUTION:

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