

# Handheld LED UV Lamp

## Operating Manual

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# 1. Instrument Introduction

VM series LED UV lamp is researched and developed by our company aim for fluorescence magnetic particle inspection, fluorescence penetrant inspection etc. The handheld type and cold light source is ready for use anytime. Features of all aluminum alloy structure, ultra-high illuminance and ultra-low power dissipation. It conforms the National Pressure-bearing Equipment NDT Standard(NB/T 47013-2015).

## 2. Main Application

- ◆ Fluorescent Penetrant Testing
- ◆ Fluorescent Magnetic Particle Flaw Detection
- ◆ Fluorescent Leak Detection

### Other Application

- ◆ Oil Stain, Blot Testing
- ◆ Special Gas, Oil and Gas Pipeline Testing
- ◆ Fluorescent Reflection Detection for Special Materials
- ◆ Criminal Investigation and Legal Medical Expert Survey
- ◆ Paper Money Authentication, Jewel Appreciation
- ◆ Agriculture, Foodstuff, Medical Treatment and other relevant industries.

## 3. Description of Product

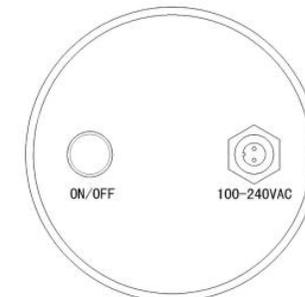
### 3.1 Characteristic and Performance

- ◆ YUSHI VM Series adopts high-power 365nm Ultraviolet band LED Lamp Beads produced by Japanese NICHIA company, free from UV-B and UV-C element, pure spectrum.
- ◆ The lifetime of Lamp Beads reach up to 20000 hours, efficient, energy conservation and environmental protection.
- ◆ High power output, quick start, can reach the maximum illuminance as soon as switched on.
- ◆ Ultra-low power, ultra-high efficiency. Low temperature operated with cold light source, long term stability output the illuminance.

- ◆ Optical filter is high UV transmittance transparent Quartz optical glass.
- ◆ The shell of the instrument is made of 6061-T6 high strength aluminium alloy precision machining. The surface is anodized, sturdy and durable.
- ◆ The built-in efficient cooling fin and low noise high speed fan dissipate the heat through aluminium alloy shell integrally. It can be used continuously for a long time.
- ◆ With anti magnetic interference function, it can be used in high-intensity magnetic field.
- ◆ Both switch and jack socket are at the end of the instrument, make it convenient to use and avoid misoperation.
- ◆ The product has passed through International Standard of IEC 60529 《Housing Protection Grade (IP66)》 dustproof and waterproof testing. Wider working environment, safe and reliable.

### 3.2 Switch and Power Supply

- ◆ On the left side is self locking key switch, the circuit will be connected after pressing.
- ◆ On the right side is the power connector. The power of VM100 mode UV lamp is supplied by alternating current directly. It is configured with three core plug power cable. The power of VM100D mode UV lamp is supplied by the two core plug power adapter or by build-in lithium battery. During using the external power adapter is also charging the lithium battery simultaneously.



### 3.3 Technical Parameters

Parameter \ Mode		VM100	VM100D
Maximum Central Intensity of Ultraviolet Ray at 38cm Distance		16000 $\mu$ W/cm <sup>2</sup>	9000uW//cm <sup>2</sup>
Irradiated Area at 38cm Distance ( $\geq 1200$ uW//cm <sup>2</sup> )		$\phi$ 250mm	$\phi$ 200mm
Visible Light Illuminance		10.89 lux	9.21 lux
Light Source		365nm UV-A LED	
Number of Leds		5	4
Input Voltage		100-240V AC 50/60Hz	16.8V DC
Battery Model		-	8 3.7 V 2600mAh ICR 18650 lithium battery
Battery Operating Time		-	7 hours
Charging Time		-	4 hours
Cooling System		Built-in fan	
Outline Dimension	Lamp Head Diameter	120mm	
	Diameter of Light Inlet Window	88mm	
	Length	190mm	
	Handle Length	120mm	
Weight ( including Battery )		1290g	1290g

### 3.4 Configuration List

Name \ Mode	VM100	VM100D
UV Lamp	1	1
Power Cable	1	-
Adapter	-	1
Portable Backpack	1	1
Protective Goggles	1	1
Glasses Case	1	1
Operation Manual	1	1
Certificate of Quality	1	1
Warranty Card	1	1
Packaging List	1	1

## 4· Attention

- ◆ Use power cable and adapter which don't match our product is strictly prohibited.
- ◆ Keep away from child.
- ◆ Do not irradiate eyes and skin.
- ◆ Keep away from fire.
- ◆ Please store in low temperature, dry and ventilation.
- ◆ If long time no use, please take out the battery. It is suggested to charge and discharge every 3 months.
- ◆ Optimum charging environment: 18-30℃, humidity 25-62%.

Statement:Disassemble the product without authorization and man-made damage are outside the scope of free warranty.

## 5· Related Files

The National Pressure-bearing .Equipment NDT Standard( NB/T 47013-2015 ) requires Black Light Lamp / Ultraviolet Lamp as follows:

- ◆ Irradiated Area at 38cm Distance exposure intensity on the workpiece surface must be greater or equal to 1000 uW/cm<sup>2</sup>.
- ◆ The wavelength should be 315nm~400nm, and the peak value wavelength should be 365nm.
- ◆ Light source should meet the specification of GB/T5097.