BlueWave® 75

UV-Curing Spot Lamp with Patented Intensity Adjustment

The Process Control You Need Without the Added Cost!

The BlueWave® 75 UV-curing spot lamp offers high-intensity and user-friendly operation for any light-based curing application. The patented intensity adjustment feature provides user control of light intensity to assist users in process validation and control. Intensity measurement is easily accomplished with the Dymax ACCU-CAL™ 50 radiometer. Scheduled intensity measurements taken during the production process will indicate whether additional intensity adjustments are required. This method of measurement provides the most accurate readings as they are taken through the lightguide in the actual production setting.

The *BlueWave 75* spot lamp emits UVA and blue visible light (300-450 nm) and is designed for curing of UV and visible light-curable adhesives, coatings, and encapsulants. It contains an integral shutter which can be actuated by a foot pedal or PLC making it ideal for both manual and automated processes. An auto-ranging power supply provides consistent performance at any input voltage (90-264V, 47-63 Hz). Dymax also offers a wide range of long-lasting liquid and fiber lightguides in single, multi-legged, and various length configurations. The *BlueWave 75* with intensity adjustment is the most versatile, user-friendly, and reliable spot cure unit available.

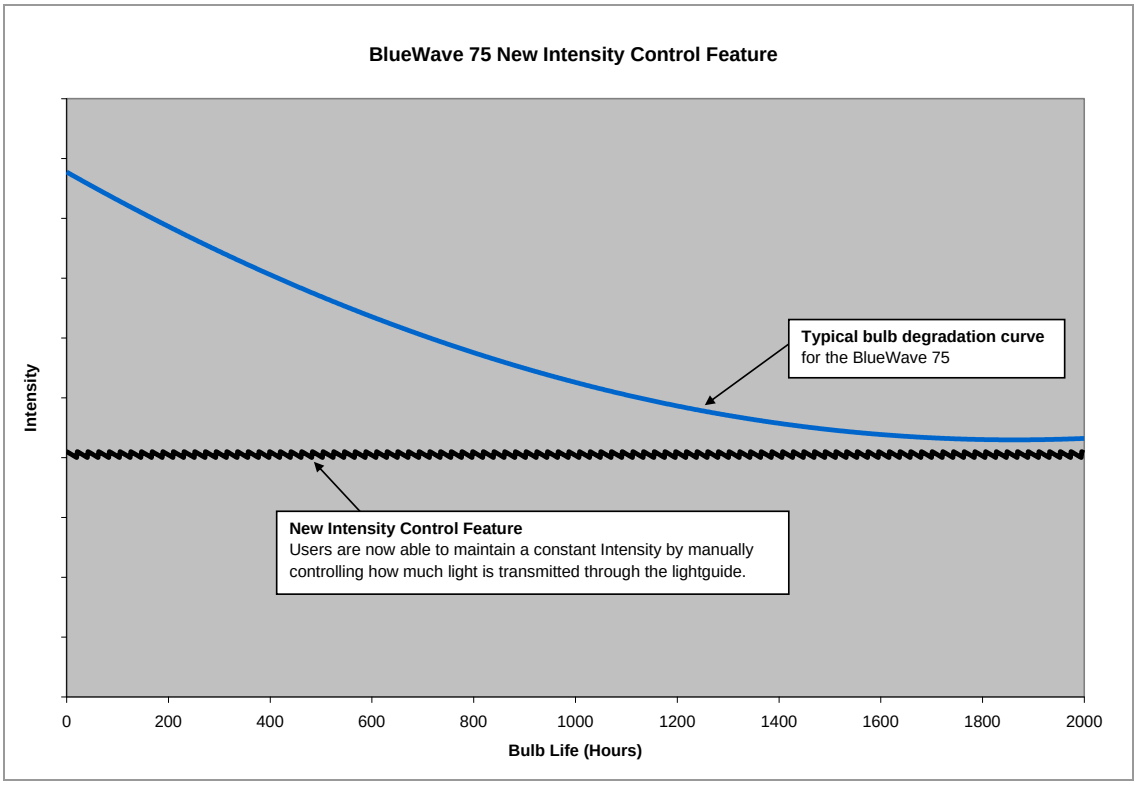
BlueWave 75 UV-Curing Spot Lamp with Patented Intensity Adjustment and Four-Pole Lightguide

FEATURES	
Patented manual intensity adjustment	>9,000 mW/cm^2 initial intensity
Simple to operate and adjust	2,000 hours useful life
Integral shutter with digital timer	Foot switch
Proprietary “Cool Blue™” filter virtually eliminates liquid lightguide degradation	Wide range of lightguides available (liquid/fiber, single/multi-pole, various lengths)
Universal input voltage for global operation	Fast bulb replacement

How Does the BlueWave® 75 Patented Intensity Adjustment Feature Work?

All bulbs used to power high-intensity UV-curing spot lamps degrade over time from normal use. This typically results in a gradual decrease in total intensity as the bulb ages (shown in Chart 1). Recognizing this, UV-curing processes are usually validated using the lowest acceptable intensity level to maximize bulb life. However, this means that for the majority of the production process, curing is done with a higher intensity level than is actually necessary, and it can be expected that the intensity will decrease over time. With the BlueWave® 75's patented intensity adjustment feature, users can maintain the qualified intensity range by manually increasing intensity output to offset this degradation. The adjustment is easily accomplished with the provided adjusting tool or using the removable knob as shown in the photographs below. This feature is useful for both process validation and subsequent process control during production.

Chart 1.



Validation

Prior to production, Dymax advises customers to conduct testing to determine the exposure time and intensity required to achieve full cure. Validating a UV-curing process can be accomplished in one of two ways:

Set Exposure Time, Determine Intensity
Users can specify a cure time and through empirical testing, determine the intensity required to achieve full cure.

Set Intensity, Determine Exposure Time
Users can specify intensity (perhaps one that maximizes bulb life) using Table 1 on page 3 and through empirical testing to determine the exposure time required to achieve full cure.

Note: As with any manufacturing process, it is advisable to incorporate a safety factor.

Control

Process validation identifies a minimum acceptable intensity range that ensures complete cure in an acceptable cycle time. Users can choose to operate at full intensity (intensity adjusted to 100%) or maintain a constant intensity (at some lower level) through periodic manual adjustments. The average *BlueWave 75* bulb will typically degrade <1% per eight hours of normal use. The good manufacturing practice of routine intensity measurement with a calibrated radiometer will determine when and if any adjustments are required.

Intensity Adjustment Options:

Intensity adjustment knob for fingertip adjustment

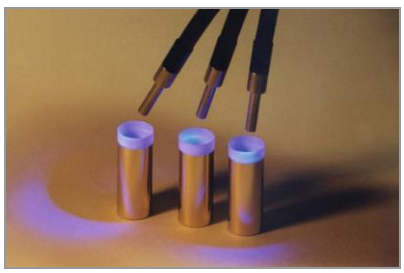
Intensity adjustment, with knob removed, performed with adjustment tool

SPECIFICATIONS	
Initial Intensities	**Total** (280-450 nm) 19+ W/cm^2 **Visible** (400-450 nm) 9+ W/cm^2 **UVA*** (320-395 nm) 9+ W/cm^2 **UVB** (280-320 nm) 1.5 W/cm^2
Intensity Adjustment	Manual from 1% to 100% output
Power Requirements	90-264VAC, 50-60 Hz
Power Supply	Solid-state, 75 Watt
Bulb	75 Watt high-pressure, short-arc bulb included; replacement in less than one minute
Reflector	Elliptical; glass with dichroic coating to reflect UV and minimize IR
Shutter Timer	Digital LCD timer up to 99.99 seconds; manual or timed shutter
Shutter Activation	Foot switch or PLC
Cooling	Filtered, single arrangement; thermally controlled to maintain proper lamp temperature
Hour Meter	Digital LCD; total unit operating hours (non re-settable) and total bulb hours (re-settable)
Overall Dimensions	30.5 cm x 30.5 cm x 16.5 cm
Weight	6 kg
System Warranty	One year from purchase
Bulb Warranty	Ignition warranted for 2,000 hours
Replacement Bulb	**40205**
PART NUMBER	**40183** *Contains the appropriate power cord for Europe*

***** *As measured through a 5 mm liquid lightguide with a Dymax ACCU-CAL™ 50 Radiometer (320-395 nm)*

STANDARD LIGHTGUIDES		
Part Number	**Lightguide Description** *(all noted are liquid filled, quartz fiber are also available)*	
5720	Single pole	5 mm x 1 Meter
5721	Single pole	5 mm x 1.5 Meters
5722	Single pole	8 mm x 1 Meter
38476	Two pole	3 mm x 1 Meter
38477	Three pole	3 mm x 1 Meter
38478	Four pole	3 mm x 1 Meter

[1] *As measured with a Dymax ACCU-CAL™ 50 Radiometer (320-395 nm). Excessive on/off cycles and improper cooling may affect bulb degradation and therefore no warranty is expressed or implied.*



Trifurcated wand curing metal-to-plastic assembly

ACCU-CAL™ 50 Radiometer
for measuring the UV intensity of spot lamps, flood lamps, and conveyor systems
PN **39560**

UV Protective Safety Goggles
Grey PN **35285**
Green PN **9162044**

Rod Lenses
Shown: *BlueWave 75* with 8 mm rod lens
(rod lenses require an 8 mm lightguide)
50 mm x 50 mm Area (~100 mW/cm^2)
PN **38699**
127 mm x 127 mm Area (~30 mW/cm^2)
PN **38698**

Liquid Lightguides available in 1, 2, 3 and 4-pole configurations *(see Table 1 on page 3 for sizes and part numbers)*

Angled Terminators for Lightguides
3 mm/60° PN **39029** ■ 3 mm/90° PN **39030**
5 mm/60° PN **38042** ■ 5 mm/90° PN **38049**

Lightguide Mounting Stand
(fits 3 mm, 5 mm and 8 mm lightguides)
PN **39700**

DYMAX EQUIPMENT EVALUATION

Contact your Dymax representative to initiate rental of Dymax UV light-curing equipment.

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