Manufacturer:
Dymax®

Product Name:
Dymax BlueWave® MX-150 LED Spot-Curing Emitter - 405nm

Manufacturer Part Number:
42338

Click here for more details on the Dymax BlueWave® MX-150 LED Spot-Curing Emitter - 405nm

BlueWave® MX-150 LED Spot-Curing Emitters

User Guide

DYMAX

Introduction

This guide describes how to set up, use, and maintain BlueWave® MX-150 emitters safely and efficiently.

Intended Audience

This user guide is meant for experienced process engineers, technicians, and manufacturing personnel.

Safety

WARNING! *If you use this UV LED light source without first reading and understanding the information in the UV Light Safety Guide, SAF001, injury can result from exposure to high-intensity light. To reduce the risk of injury, please read and ensure you understand the information in that guide before assembling and operating the Dymax UV LED light source.*

Specific Safety statements for this device:

This device falls under IEC 62471 Risk Group 3 for UVA and Blue Light Emissions:

WARNING. *UV emitted from this product. Avoid eye and skin exposure to unshielded products.*

WARNING. *Possibly hazardous optical radiation emitted from this product. Do not look at operating lamp. Eye injury may result.*

Product Overview

Description of BlueWave MX-150 Emitters

- When paired with a MX-series controller, BlueWave MX-150 emitters function as a high-intensity spot-curing system. The system can be set up in many configurations and can be used with a lightguide if needed.
- The BlueWave MX-150 emitter is air cooled using an axial fan.
- The BlueWave MX-150 emitter can be mounted using one of two hole-patterns in the housing body.

Figure 1.
BlueWave MX-150 Emitter

Unpacking

Upon arrival, inspect all boxes for damage and notify the shipper of box damage immediately. Open each box and check for equipment damage. If parts are damaged, notify the shipper and submit a claim for the damaged parts.

WARNING! *Until the BlueWave® MX-150 emitter is attached to a controller via the interconnect cable it is susceptible to ESD damage, handle according to ESD standards using a ground strap and do not touch exposed connector pins.*

The parts below are included in every package/order.

Parts Included

LED Emitter

- BlueWave MX-150 LED Emitter Assembly
- 5-mm Lightguide Simulator
- User Guide

Installation

The BlueWave MX-150 emitter is part of a MX-series curing system and requires connection to a controller via an interconnect cable for proper operation.

Important Information

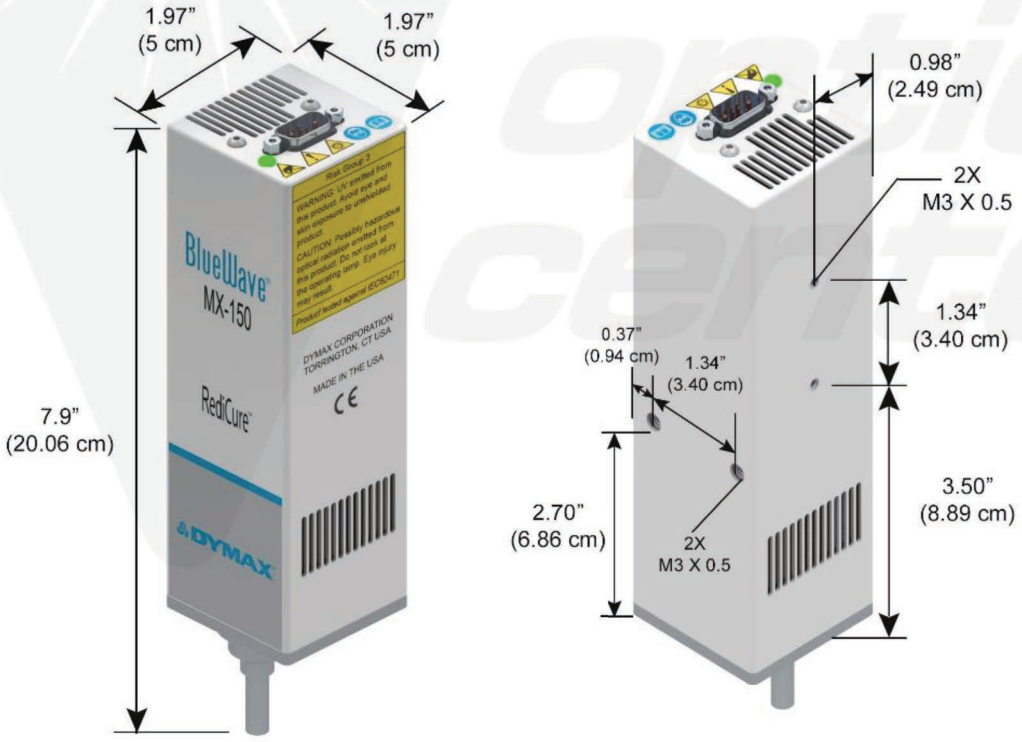
- Do not connect any components while power is applied.
- Mount the BlueWave MX-150 emitter to a rigid support, such as the emitter stand PN 42390, prior to connecting the interconnect cable to prevent handling damage.
- Do not touch the emitter aperture glass. This can result in poor performance and broken glass due to heating. Inspect before each use and clean with isopropyl alcohol if contaminated.

- If emitter aperture glass is permanently contaminated it must be replaced for safe operation.

Mounting/Connections

- Each emitter has two sets of M3 x 0.5 mm holes (Figure 1) that align with Dymax stands and holders.
- When connecting the emitter to the controller, ensure proper strain relief to prevent pinching or kinking of the interconnect cable.
- The cooling air intake on top of unit must be free flowing, do not cover.
- Exhausting air on sides must be given at least 1 mm (0.04”) of clear space to obstructions for safe use.

Figure 2.
Bluewave MX-150 Emitter Dimensions



Troubleshooting & Maintenance

Problem	Possible Cause	Corrective Action
BlueWave MX-150 LED does not produce light	LED intensity adjustment set to 0% or too low	Increase LED intensity setting.
	LED cycle time is set to 0 seconds	0 Seconds sets manual mode and requires a trigger.
	Interlock is open	Verify interlock jumpers are in place. Verify PLC command structure for PLC mode.
	Interface cable connections loose or damaged	Check connections and condition of interface cable.
	Trigger setting not matched to input	Trigger setting on admin screen should match the desired input trigger channel.
	LED head is not connected to the correct port/channel	Verify that the head is connected to the desired port/channel.
BlueWave MX-150 LED suddenly stops producing light	Lightguide not inserted	Ensure the lightguide simulator or any lightguides installed with the unit are fully seated into the Wolf connector.
	Over-temperature shutdown was triggered	Verify alarms.
	Footswitch defective	Activate unit using the front control panel. Replace the footswitch if the unit operates from the front control panel.
	Interlock is open	Verify interlock jumpers are in place. Verify PLC command structure for PLC mode.
BlueWave MX-150 LED provides only low-intensity light	LED intensity adjustment set to minimum	Increase LED intensity setting on admin settings or I/O input for PLC mode.
	Contaminated/dirty lens optics	Clean the surface of the lens.

Product Cleaning and Care

- Product cleaning is limited to wiping the product with a damp cloth. Do not soak. Isopropanol Alcohol or household cleaners may be used for cleaning the product.
- Always inspect the quartz window for cleanliness before use. Foreign material can cause permanent damage to the window. Clean with Isopropanol Alcohol to remove smudges or foreign material. Damaged or permanently etched windows should be replaced.
- Do not use compressed air to removed particle debris inside the emitter as it may damage the high-speed cooling fan.

Spare Parts

Item	Part Number
5-mm Lightguide Simulator	36987

Compatible Devices

Item	Part Number
Controllers	
BlueWave® MX Series 2-Channel Controller/Power Supply - US	43185
BlueWave® MX Series 4-Channel Controller/Power Supply - US	43182
Emitters	
BlueWave MX-150, VisiCure® (405 nm)	42338
BlueWave MX-150, PrimeCure® (385 nm)	42337
BlueWave MX-150, RediCure® (365 nm)	42336
BlueWave MX Series System Components	
Interconnect Cable Assembly - 12 Inches	43453
Interconnect Cable Assembly - 2 meter	42287
Interconnect Cable Assembly - 5 meter	42889
Extended Interconnect Cable - 10 meter*	43010
Extended Interconnect Cable - 20 meter*	43011
5-mm Lightguide Simulator	36987
5-mm x 1,000-mm Liquid Lightguide	35102
3-mm x 1,000-mm Bifurcated Guide (5-mm Rod)	37043
Adjustable Focusing Lens	41148
Radiometer	
ACCU-CAL™ 50-LED Radiometer	40505
Stands	
Array Stand	43070
Single Emitter Mounting Stand	42390
Dual Emitter Mounting Bracket for MX Controller	60868
Personal Protection Equipment	
Three-Sided Acrylic Shield	41395
Protective Goggles — Green	35286
Protective Goggles — Gray (standard model included with unit)	35285
Face Shield	35186

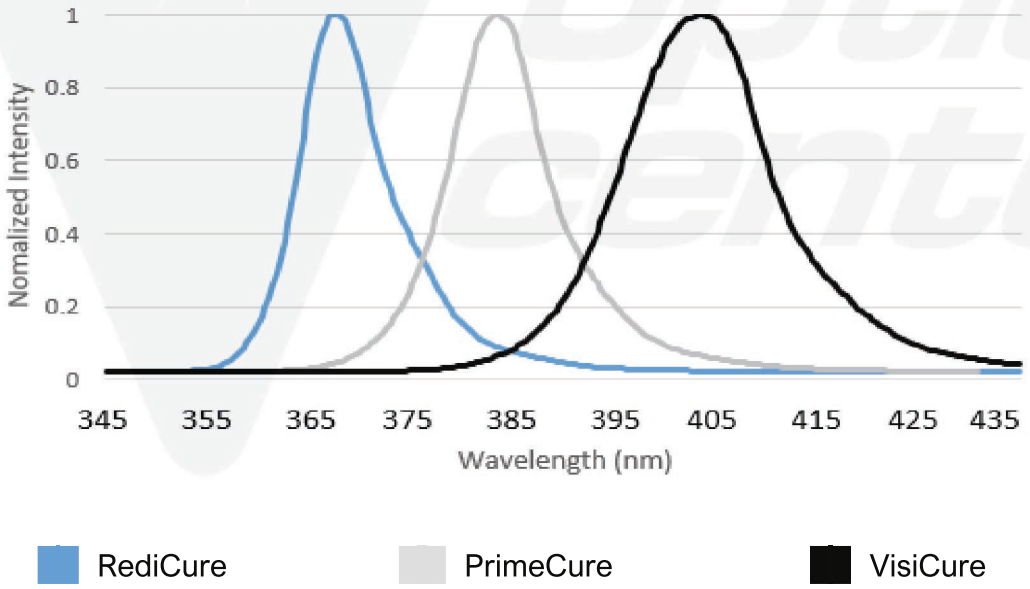
* Intended for machine installations only.

Specifications

Property	Specification		
Emitter	RediCure	PrimeCure	VisiCure
Output Frequency	365 nm	385 nm	405 nm
Typical Intensity Output*	24 W/cm^2	38 W/cm^2	36 W/cm^2
Emitter Dimensions (W x D x H)	1.97" x 1.97" x 7.9" [5 cm x 5 cm x 20.06 cm]		
Weight	1.4 lbs. [0.64 kg]		
Unit Warranty	1 year from purchase date		
Operating Environment	10 to 40°C (50°F to 104°F), 0-80% relative humidity, non-condensing		

* Measured using an ACCU-CAL™ 50-LED radiometer with a 5-mm lightguide at a distance of 0 mm.

Figure 3.
BlueWave MX Series Spectral Output



Declaration of Conformity

Figure 4.
Declaration of Conformity - CE

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EU Declaration of Conformity

Manufacturer:
Dymax Corporation
318 Industrial Lane
Torrington CT 06790, USA

Product description: BlueWave® MX-150™ LED Spot-Curing System
Model name(s): **BlueWave® MX-150 LED Emitter**

This product complies with the following relevant Union Harmonization Legislation:

Applicable EU Directives:
Electromagnetic Compatibility Directive(2014/30/EU)

Low Voltage Directive(2006/95/EC)

RoHS Directive 2011/65 EU (2015/863)
Other Regulatory Compliance

Applicable Harmonized Standards:
EN55011:2016/A1:2017/A11:2020
EN 61000-3-2:2014 Class A
EN 61000-3-3:2013
EN 61326-1:2013
EN 61010-1:2010, AMD1:2019

EN IEC 63000:2018
Photo-biological Safety
IEC 62471 (2006)

Declaration:
This declaration of conformity is issued under the sole responsibility of the manufacturer.
Signed for and on behalf of:

CE

T Li Tr 6/5/2023 Torrington, CT
Name Date Location

Authorized Signatory:
Toby Trudeau
Engineering Manager, Equipment
Dymax Corporation
Torrington CT., USA

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Figure 5.
Declaration of Conformity - UKCA

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UK Declaration of Conformity

Manufacturer:
Dymax Corporation
318 Industrial Lane
Torrington CT 06790, USA

Product description: BlueWave® MX-150™ LED Spot-Curing System
Model name(s): **BlueWave® MX-150 LED Emitter**

This product complies with the following relevant UK Legislation:

Applicable UK Legislation:	**Applicable Harmonized Standards:**
Electromagnetic Compatibility Regulations 2016	EN55011:2016/A1:2017/A11:2020 EN 61000-3-2:2014 Class A EN 61000-3-3:2013 EN 61326-1:2013
Electrical Equipment Safety Regulations 2016	EN 61010-1:2010, AMD1:2019
The Restriction of the Use of Certain Hazardous Substances in Electrical And Electronic Equipment Regulations 2012	EN IEC 63000:2018
Other Regulatory Compliance	**Photo-biological Safety** IEC 62471 (2006)

Declaration:
This declaration of conformity is issued under the sole responsibility of the manufacturer.
Signed for and on behalf of:

UK CA

T Trudeau 6/5/2023 Torrington, CT
Name Date Location

Authorized Signatory:
Toby Trudeau
Engineering Manager, Equipment
Dymax Corporation
Torrington CT., USA

DYMAX