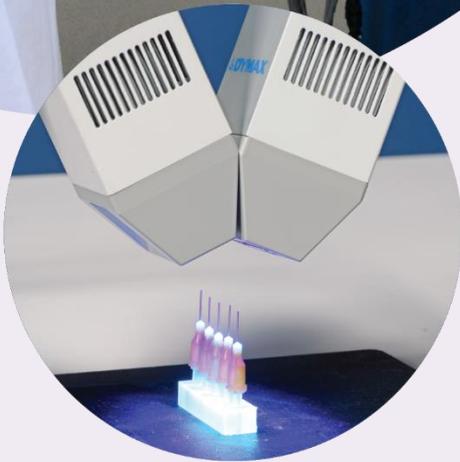


## UVCS LED Conveyors with BlueWave<sup>®</sup> AX-550 V2.0 Flood Systems



## About Dymax

UV/Visible light-curable adhesives. Systems for light curing, fluid dispensing, and fluid packaging.

Dymax manufactures industrial, light-curable, epoxy, and activator-cured adhesives. We also manufacture a complete line of manual fluid dispensing systems, automatic fluid dispensing systems, and light-curing systems. Light-curing systems include LED light sources, spot, flood, and conveyor systems designed for compatibility and high performance with Dymax adhesives.

Dymax adhesives and light-curing systems optimize the speed of automated assembly, allow for 100% in-line inspection, and increase throughput. System designs enable stand-alone configuration or integration into your existing assembly line.

Please note that most dispensing and curing system applications are unique. Dymax does not warrant the fitness of the product for the intended application. Any warranty applicable to the product, its application, and use is strictly limited to that contained in the Dymax standard Conditions of Sale. Dymax recommends that any intended application be evaluated and tested by the user to ensure that desired performance criteria are satisfied. Dymax is willing to assist users in their performance testing and evaluation by offering equipment trial rental and leasing programs to assist in such testing and evaluations. Data sheets are available for valve controllers or pressure pots upon request.

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# Introduction

This guide describes how to assemble, use, and maintain Dymax UVCS LED light-curing conveyor systems safely and efficiently when used with BlueWave® AX-550 V2.0 flood systems.

## Intended Audience

Dymax prepared this user guide for experienced process engineers, technicians, and manufacturing personnel. If you are new to UV light sources and do not understand the instructions, contact Dymax Application Engineering to answer your questions before using the equipment.

## Where to Get Help

Dymax Customer Support and Application Engineering teams are available in the United States, Monday through Friday, from 8:00 a.m. to 5:30 p.m. Eastern Standard Time. You can also email Dymax at [info@dymax.com](mailto:info@dymax.com). Contact information for additional Dymax locations can be found on the back cover of this user guide.

Additional resources are available to ensure a trouble-free experience with our products:

- Detailed product information on [www.dymax.com](http://www.dymax.com)
- Dymax adhesive Product Data Sheets (PDS) on our website
- Safety Data Sheets (SDS) provided with shipments of Dymax adhesives

## 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 UVCS LED Light-Curing Conveyors

Dymax UVCS LED light-curing conveyor systems use high-intensity light sources for fast curing of light-curable materials. UVCS bench-top conveyors can be outfitted with BlueWave AX-550 V2.0 LED flood systems available in one of three different wavelengths (365, 385, or 405 nm). The flood system consists of an LED flood array and a power supply that contains the user interface which mount together in an all-in-one design. Up to four BlueWave AX-550 V2.0s can be mounted on the conveyor.

BlueWave AX-550 V2.0 systems feature an intensity adjustment, allowing the output intensity level to be adjusted from 10 to 100% to meet process and adhesive requirements. LED technology within the BlueWave AX-550 allows for instant on/off activation without the need for a warm-up period and is also rated for continuous operation. A switch on the conveyor is provided to keep the LED array always active.

Fans on the BlueWave AX-550 V2.0 provide cooling and must not be covered or blocked. Thermal sensors in the system shut the unit down to protect the components if the internal temperature exceeds maximum limits. Please refer to the [BlueWave AX-550 V2.0 User Guide](#) for further description and explanation.

All UVCS conveyors have adjustable belt speeds and lamp-to-belt distance to address a variety of application requirements. Standard height clearance is from 1.5 to 4.5 inches; optional risers increase clearance to either 6.5 or 10.5 inches.

Due to the weight of the BlueWave AX-550 V2.0 systems, all two and four lamp configurations have a counterbalance strut installed for ease of height management.

When combined, the UVCS conveyors' consistent intensity, fast curing, and adjustable line speeds create an optimized light-curing process that enables high throughput.

### Features & Benefits

- Complete UV shielding
- Controlled and consistent cure times
- 4.5", 6.5", or 10.5" vertical clearance available
- 12" belt width (guides available to channel parts into center 6")
- Built-in exhaust fans with optional stack
- BlueWave AX-550 V2.0 LED emitters available in 365, 385, and 405nm wavelengths
- Accurate digital belt control and readout
- Adjustable array-to-belt distance
- Built-in exhaust fans with optional stack
- Bench-top conveyor (with optional transportation carrying cart)

# Assembly and Setup

## Unpacking and Inspecting Your Shipment

Your UVCS LED Light-Curing conveyor will arrive in one or two crates. Inspect the crates and boxes for damage and notify the shipper of box damage immediately.

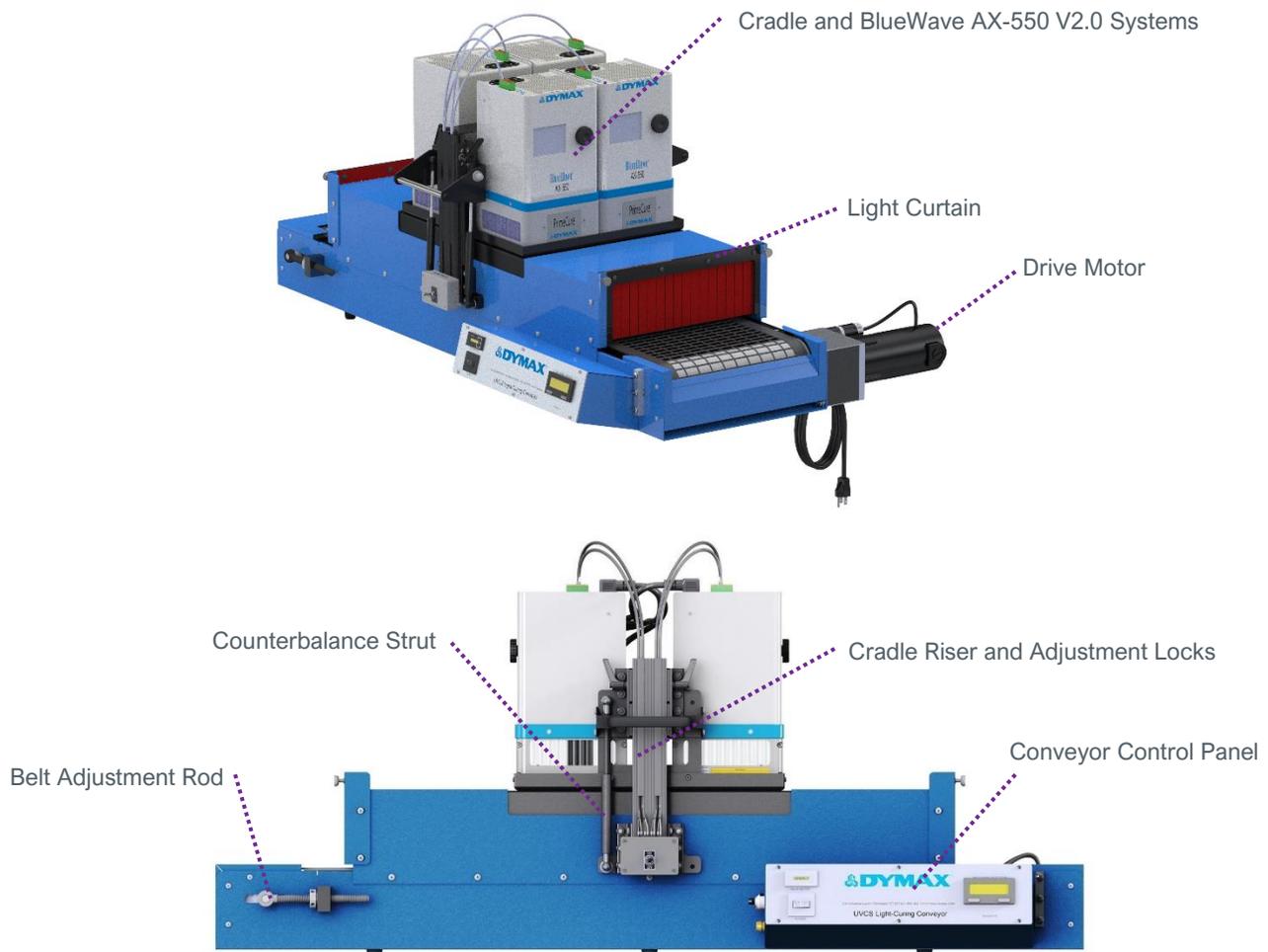
Open each box and check for equipment damage. If parts are damaged, notify the shipper and submit a claim for the damaged parts. Contact Dymax so that new parts can be shipped to you immediately.

Check that the parts included in your order match those listed below. If parts are missing, contact your local Dymax representative or Dymax Customer Support to resolve the problem.

## Parts Included

- UVCS Conveyor with Cradle Assembly installed
- BlueWave AX-550 V2.0 Flood System(s) (Controllers and Emitters)  
*Note: Refer to the [BlueWave AX-550 V2.0 User Guide](#) for unboxing information*
- UVCS LED Light-Curing Conveyor Systems User Guide (BlueWave AX-550)
- UV Protection Goggles
- Accessories Per Custom Orders (exhaust duct, carts, or spare parts)

**Figure 1.**  
Conveyor Components (Four-Array Configuration Shown)



# Setup

## Conveyor Setup

1. Carefully remove all containers from the crate.
2. Remove the conveyor system last to prevent damage to other contents.
3. Remove the protective coverings from the conveyor. Place the conveyor on the conveyor rolling cart or on a stable work surface.
4. Unpack the BlueWave AX-550 V2.0 flood system(s). Each flood system is comprised of a controller and emitter.

*Note: It is recommended to assemble each flood system and verify operation prior to installation onto the conveyor cradle.*

## Mounting the Flood System(s)

Up to four BlueWave AX-550 V2.0 flood systems can be mounted onto your conveyor. The conveyor will be configured for mounting of the emitter and controller pairs at the factory.

Installation requires the mounting of the emitter first to the cradle and securing with provided fasteners and then the installation of the controllers onto the emitters with their supplied fasteners.

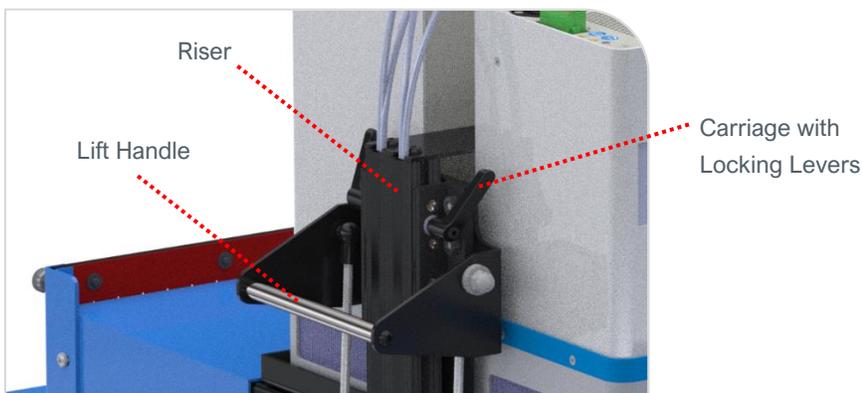
*Note: Care must be taken when handling the emitters to protect the glass lens from damage or contamination.*

### Preparation

Verify your UVCS conveyor is on a stable platform for all production purposes.

After you have installed your unit, raise the cradle by turning the locking handles and sliding the cradle up the risers to a convenient working height (Figure 2).

**Figure 2.**  
Raise the Cradle to a Convenient Working Height



## Flood System Installation

You will need to use the supplied Hex wrench and a small Philips screwdriver to install the BlueWave AX-550 V2.0 systems.

All configurations have the cradle pre-assembled at the factory. Controllers and emitters should be assembled first and then installed onto the cradle. To assemble the two parts together, please follow the instruction below:

1. Locate the 4 screws to be used to assemble the emitter to the controller.
2. Carefully place the emitter on a clean and flat surface. Align the controller and the emitter as shown in Figure 3. Plug the controller into the emitter.

**NOTE:** Be careful to keep the glass at the bottom of the emitter clean. To avoid leaving fingerprints on the glass, do not touch the glass with bare hands.

3. Install the 4 screws to secure the emitter to the controller. Tighten them snugly with the appropriate screwdriver. Failure to install the screws will leave the potential for poor electrical grounding of the system.

**NOTE:** All four screws **MUST** be installed to ensure proper grounding of the system chassis.

**Figure 3.**  
Align Emitter and Controller



**Figure 4.**  
Complete Assembly with Screws Installed



4. Using the supplied wrench, attach the spacer to the rear panel of the BlueWave AX-550 with the 2 supplied screws (Figure 5). Tighten until snug.

**Figure 5.**  
Attach the Spacer to the Rear of the Flood System



## One Flood System

1. Place the assembled BlueWave AX-550 system onto the conveyor cradle, aligning the spacer screws with the slots (Figure 6). The system may be installed facing either direction.

**Figure 6.**  
Install AX 550 on Conveyor



## Two Flood System

The two-flood system can be configured either perpendicular to, or in line with the conveyor travel direction.

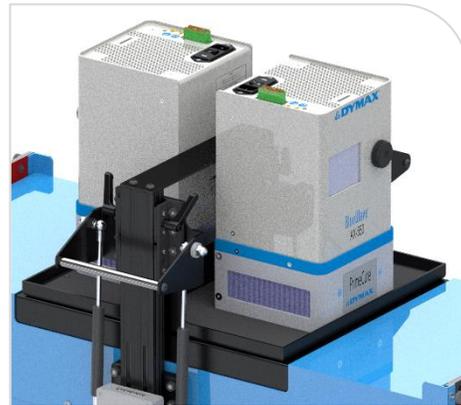
### In-Line Two Flood Configuration

1. Place an assembled BlueWave AX-550 system onto the rear conveyor cradle position, aligning the spacer screws with the slots. Repeat with the second system in the front conveyor cradle position. (Figure 7)

**Figure 7.**  
Install the BlueWave AX-550s onto Conveyor Cradle



**Figure 8.**  
In-Line Two Flood Configuration



## Perpendicular Arrangement

1. When being used side-by-side, a baffle must be installed between the emitters. Push the baffle into the exhaust opening until flush (Figure 9).

**Figure 9.**  
Install baffle



2. Place two assembled BlueWave AX-550 flood systems side-by-side onto the conveyor cradle. Align the 4 spacer screws with the 4 slots. (Figure 10).

*Note: The emitter baffles must be installed on the emitter sides that touch.*

**Figure 10.**  
Place BlueWave AX-550s onto Conveyor Cradle



## Four Flood System

1. When being used side-by-side, a baffle must be installed between the emitters. Push the baffle into the exhaust opening until flush (Figure 11).

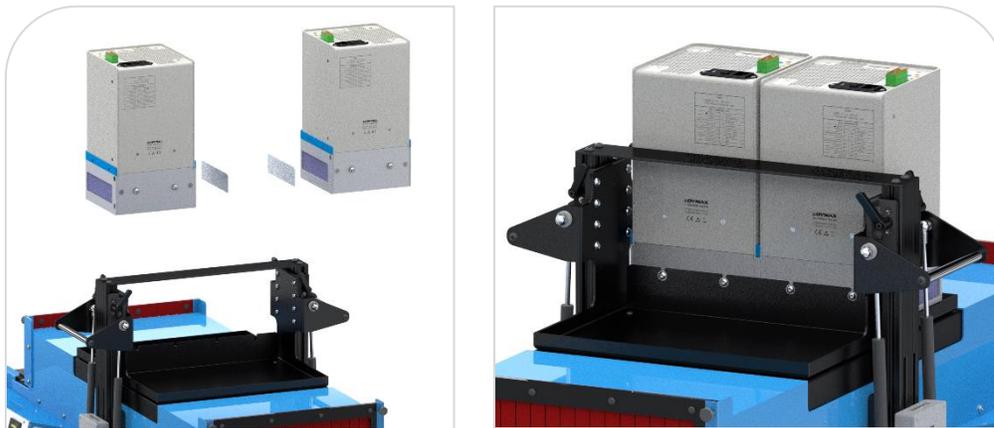
**Figure 11.**  
Install baffle



2. Place two assembled BlueWave AX-550 flood systems side-by-side onto the conveyor cradle. Align the 4 spacer screws with the 4 slots. (Figure 12).

*Note: The emitter baffles must be installed on the emitter sides that touch.*

**Figure 12.**  
Place First Two Systems onto Conveyor Cradle



3. Place the remaining two systems side-by-side onto the conveyor cradle. Align the 4 spacer screws with the 4 slots. (Figure 13).

*Note: The emitter baffles must be installed on the emitter sides that touch.*

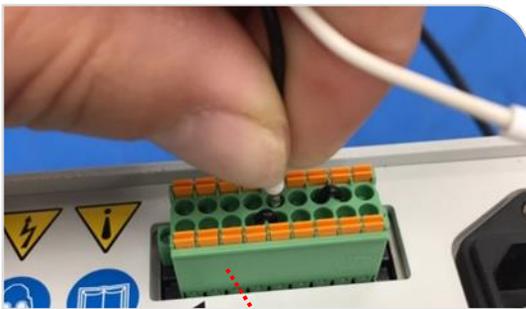
**Figure 13.**  
Place Remaining Two Systems onto Conveyor Cradle



## Wiring LED Control Switch

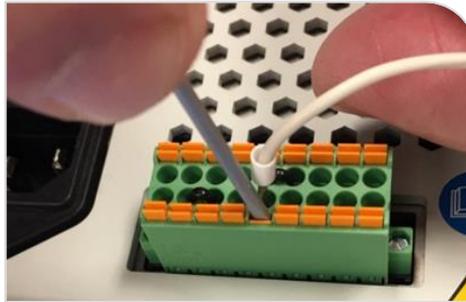
To control the BlueWave AX-550's ON and OFF states for irradiation, connect the control wires from the LED control switch to the LED On/Off pins on the BlueWave AX-550's terminal block input as shown in Figure 16. For the LED control switch connections, be sure to observe the correct polarity as shown in Figure 18. The terminal block has friction lock wire interface that will accept the crimped ferrule installed on the LED control wire assemblies by pressing them firmly into place. Reference Figure 19 for control switch schematic.

**Figure 14.**  
Insert Ferrule into Terminal



Terminal Block

**Figure 15.**  
To Remove a Wire, Use a Small Screwdriver to Depress the Orange Lock Tab and Remove the Wire



**Figure 16.**  
LED On/Off Pins 6 and A Installed with jumpers.



FUSE			
F 10 A 250 VAC			
~100-240 VAC 50/60 Hz 10 A			
PLC CONNECTOR			
▲ SPARE	1	9	SPARE
SPARE	2	10	SYSTEM HEALTH
ANALOG INTENSITY	3	11	LED STATE
PLC GND	4	12	PLC ENABLE
MASTER INTERLOCK	5	13	CHASSIS GND
LED ON/OFF	6	14	CHASSIS GND
INTENSITY INT/EXT	7	15	LED INHIBIT
PLC PWR	8	16	COM
COM	A	B	COM

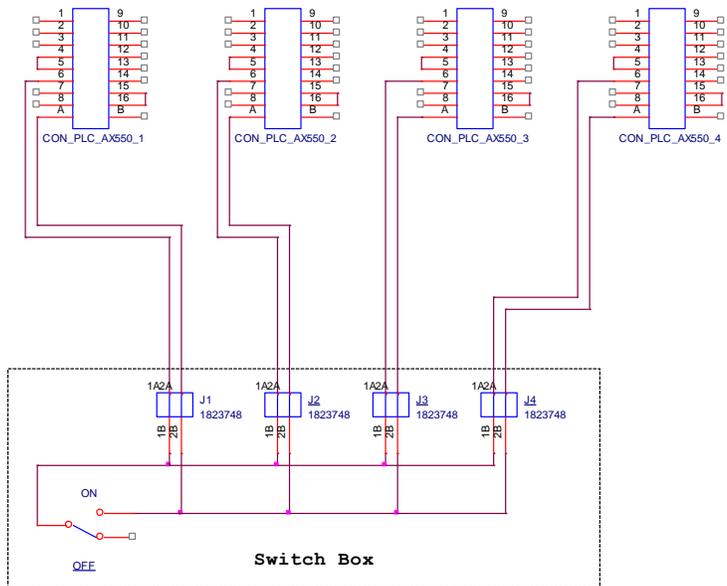
**Figure 17.**  
LED Control Switch Wiring



**Figure 18.**  
Top View of wired Control Switch



**Figure 19.**  
Schematic, Control Switch Wiring to Controllers



# Operating the Conveyor

The conveyor and the BlueWave AX-550(s) each have a power cable that needs to be plugged into a wall outlet. The systems have a power switch located on the top of the unit. The conveyor also has a power switch, located on the front panel. Plug in all the power cords and turn the conveyor on.

**Figure 20.**  
Conveyor Control Panel, Front



**Figure 21.**  
Conveyor Control Panel, Side



Conveyor belt speeds can be adjusted by turning the speed control knob, located on the side of the conveyor control panel. Belt speed is indicated on the speed display indicator. The belt speed knob is a ten-turn potentiometer and is equipped with a lock.

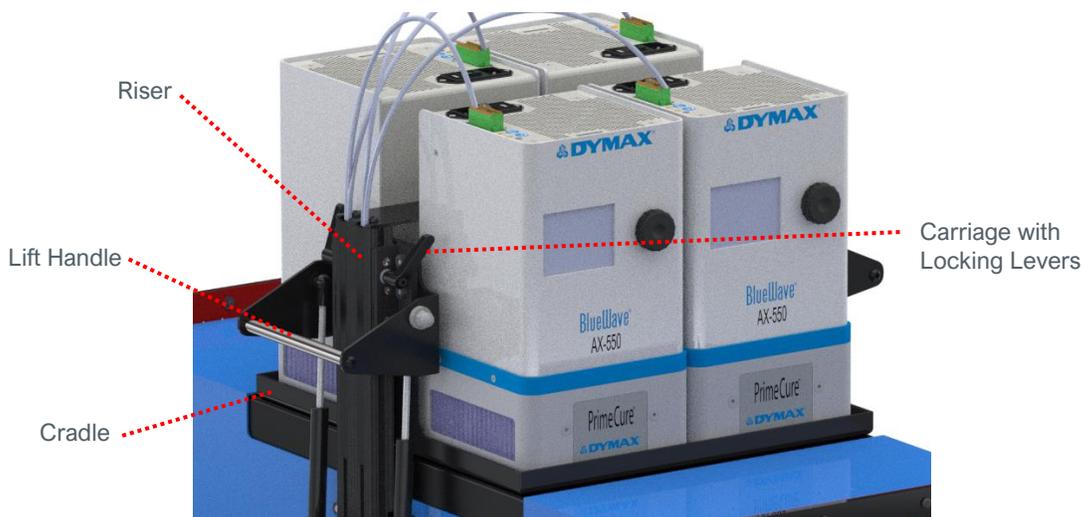
Belt speed performs two functions when curing:

- Provides a fixed exposure duration for irradiation of the target
- Allows fine tuning of cure process when using radiometric measurements

## LED System Height Adjustment

The conveyor system uses a simple height management structure using a specially designed cradle and carriage system for ease of height adjustment. The main parts are shown below.

**Figure 22.**  
Height Management Structure



## Adjustment

1. For single BlueWave AX-550 configurations, support the cradle with the handles prior to loosening the locking levers. For two and four BlueWave AX-550 configurations, the cradle is supported by struts to counter the weight and will not require support.
2. To adjust the height, loosen the locking levers on both sides of the riser and on both risers. This will allow the carriage to slide up and down the riser to the desired heights.
3. Clearance heights that are critical should be set using a measuring device or gauge inside the conveyor to ensure parts will not hit the inner tunnel.
4. Lift or press down on the handles to move the cradle up and down. Note that the struts will lift the cradle up on some configurations.
5. Level the heights of both sides of the cradle and tighten the locking levers on both risers firmly to ensure proper support and unit is locked in place.
6. Remove any measuring devices or gauges prior to starting the system.
7. Verify height setting and clearances prior to starting processes.

## Height Range and Working Distance

### Height Range

The conveyor tunnel clearance height maximum is 4.5" (114 mm) when the cradle is all the way up.

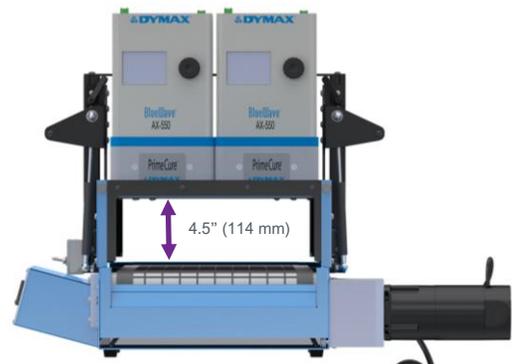
When the cradle is all the way down the conveyor tunnel clearance is 1.5" (75 mm).

### Working Distance

The distance between the glass lens on the emitter and the belt is called the working distance. Since the emitter sits flush to the cradle the height adjustment range is also the working distance range.

Parts requiring smaller working distances than 1.5" (75 mm) should be placed on a palette of appropriate thickness to lift the workpiece off the belt and closer to the emitter.

**Figure 23.**  
Cradle Clearance at Minimum & Maximum Height



Cradle at maximum height  
Tunnel clearance is 4.5" (114 mm)



Cradle at minimum height  
Tunnel clearance is 1.5" (38 mm)

# Operating the LED Light

## Operating Modes

There are three basic operating modes for the BlueWave AX-550 V2.0 flood system: manual, timer, and PLC.

***PLC and timer modes are not recommended for use with a conveyor.***

Manual mode allows the user to activate the LED array with the use of a switch and cables to the LED On/Off port(s) on the top of the controller. The LED remains active only if the control switch is engaged.

When the control switch is turned to OFF the LED shuts off. Cables to connect the side mounted control switch are provided with each LED array system. This will allow the user to turn the array on and off using the side mounted control switch on the conveyor. Manual mode is recommended for use with a conveyor.

Please consult the [BlueWave AX-550 V2.0 LED Flood System User Guide](#) for further details about each operation mode.

## Adjusting Intensity

The output intensity can be adjusted from 10% (depending on the LED flood configuration ordered) to 100% in 1% increments. To adjust the intensity, refer to the [BlueWave AX-550 V2.0 LED Flood System User Guide](#).

## LED Operation

It is recommended that BlueWave AX-550 systems be set to manual mode for conveyor operation. Activate the flood lamps by actuating the switch on the side of the conveyor.

The BlueWave AX-550 is instant-on and does not require preheating prior to use. Turning off the BlueWave AX-550 between uses will extend LED life.

1. Ensure power cords for all flood lamps are securely in place. Power up each system and adjust the operating parameters.
2. Verify the LED control switch connections to the interface cables from the switch box terminals to each BlueWave AX-550 PLC port using the LED On/Off pin locations.
3. Actuate the LED control switch to turn ON all connected flood lamp systems simultaneously.
4. Once curing has completed, and the final part retrieved from the belt turn OFF the LED control switch.
5. Verify the conveyor is clear of all parts for curing prior to turning the conveyor off.

If the controller is set to timer mode, the LED control switch will toggle the BlueWave AX-550 to turn on and it will turn off after the timer runs down. The BlueWave AX-550 will not activate again until the LED control switch is toggled OFF and back ON.

## Validation

Tests should be conducted prior to production to determine the time and light intensity required to fully cure your resin. The following approaches may be used to validate the curing process.

### Set Exposure Time, Determine Intensity

Users can specify an exposure time and, through empirical testing, determine the intensity required and duration of exposure to achieve a full cure. Intensity can be adjusted using the front control screen on each BlueWave AX-550. Duration of exposure can be adjusted by adjusting the conveyor belt speed. As with any manufacturing process, it is advisable to incorporate a safety factor.

### Control

Process validation confirms a minimum acceptable intensity. Users can then choose to operate at full intensity (using the excess intensity as an additional safety factor) or adjust the output to a specific intensity level. To ensure consistent and repeatable process results, intensity levels should be monitored with a radiometer. This enables users to identify changes in light intensity and take corrective action: either adjusting the light intensity or performing maintenance.

## Cleaning and Maintenance

### Belt-Tracking Adjustment

All Dymax UVCS conveyors are factory adjusted to provide proper tracking of the belt. Should further adjustments become necessary, there are two knurled adjustment knobs located at the input end of the conveyor (Figure 24). To adjust tracking, simply tighten the side to which the Belt is tracking.

**NOTE:** Do not over tighten the belt. This will lead to accelerated degradation of the belt. The belt should be stoppable with moderate hand pressure.

**Figure 24.**  
Belt-Tension Adjustment Knob



### Conveyor Belt Replacement

1. Disconnect the conveyor system from the power source
2. Remove the pinch guard from the motor side of the conveyor by removing the two M4x8 screws (Figure 25) on the front side of the conveyor and the M4x25 screw (Figure 26) from the motor-drive side of the conveyor.
3. Remove the pinch guard from the input side of the conveyor by removing the three M4x8 screws (Figure 27) from both sides.

**Figure 25.**  
Two M4x8 Screws



**Figure 26.**  
M4x25 Screw

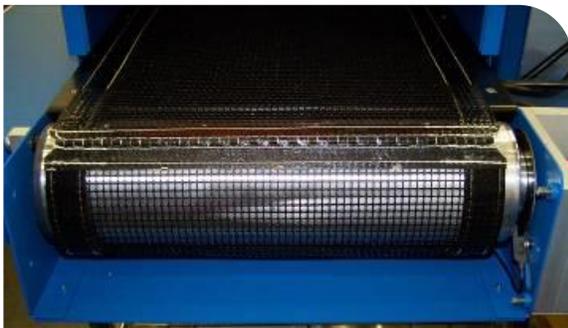


**Figure 27.**  
Three M4x8 Screws

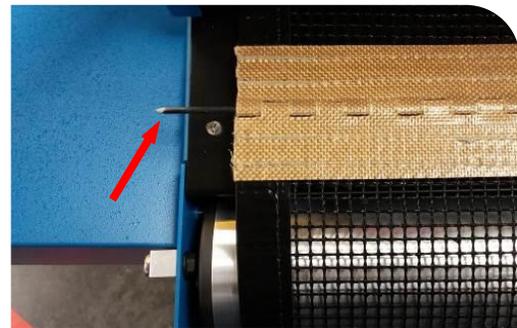


4. Remove all tension from the belt by fully backing off the belt-tension adjustment knobs (Figure 24).
5. Position the belt splice to the end of the conveyor (Figure 28). Remove the fiberglass rod that ties the ends of the belt together (Figure 29). Remove the belt.
6. Run the new Belt around the conveyor frame (Figure 30).
7. Install the fiberglass rod through the belt loops.
8. Apply some adhesive to both ends of the fiberglass rod to prevent it from moving during conveyor operation (Figure 31).

**Figure 28.**  
Spliced End of Belt



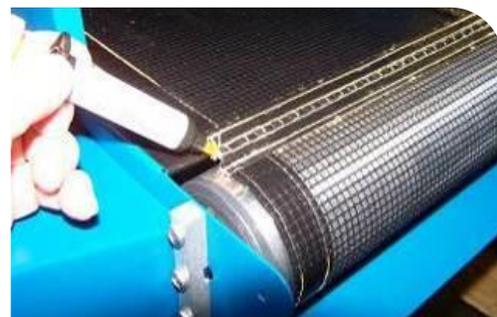
**Figure 29.**  
Fiberglass Rod



**Figure 30.**  
Replacing Belt



**Figure 31.**  
Applying Adhesive



- Equally tighten the belt-tension knobs (Figure 24) on both sides of the conveyor to remove excess slack from the Belt. Enough tension should be applied on the belt so that the belt can only be moved across the two rollers by moderate hand pressure when the conveyor is not running.

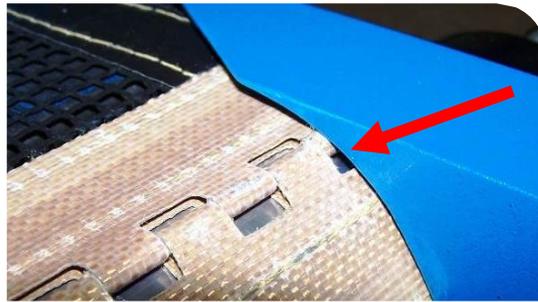
**CAUTION!** Excessive tightening of the belt will result in early belt failure. Since the two conveyor rollers have a crown in the middle, only minimum tightening is necessary.

- Start the conveyor and adjust the belt-tensioning knobs (Figure 16) until the belt runs in the center of the loading end of the conveyor. There should be enough tension on the belt so that the Belt does not slip on the rollers, but loose enough so that it can be stopped by moderate hand pressure when the conveyor is running. If stopping the belt stalls the conveyor motor, the belt is too tight and must be loosened.
- Monitor the tracking of the belt as the conveyor operates and use the belt-tensioning knobs (Figure 16) to make fine adjustments. To adjust tracking, simply tighten the side to which the Belt is tracking.
- Reinstall the pinch guards on both ends of the conveyor. This step is critical to belt-speed sensor operation. The pinch guard on the unloading end of the conveyor contains a shield for the sensor to prevent damage if the belt contacts it while operating.
- Verify that there is proper clearance between the belt's seam and the pinch guard (Figure 32). If the pinch guard is too close to the belt, contact Dymax for a replacement pinch guard.

**Figure 32.**  
Verify Pinch Guard



Left Side



Right Side

## Inspect and Replace Fuses

The BlueWave AX-550 power supply has a fuse holder located on the top of the unit. Refer to the *BlueWave AX-550 User Guide* for instructions on replacing fuses.

## Glass Cleaning

Periodic inspection for contamination on the emitter's glass lens should be performed to ensure proper operation.

1. Turn off the BlueWave AX-550 systems and allow to cool for 10 minutes prior to handling.
2. Remove the controllers from the emitters in reverse order of installation. Loosen the emitter mounting screws to be able to remove the emitters.
3. Turn the emitters over on a worktable being careful not to touch the glass lens surface.
4. Any contamination that is visible should be removed by cleaning with a lint free cloth and Isopropyl Alcohol.
5. Adhesive that is cured and adhering to the surface of the glass lens requires careful removal or replacement of the lens using a replacement kit.

Dymax Kits	
Glass Replacement Kit	60966

6. Once complete carefully reassemble the AX-550 units into the cradle and verify function prior to starting any curing processing.

# Troubleshooting

The BlueWave AX-550 flood system constantly verifies its performance. If a problem is detected, a diagnostic screen is displayed. Refer to the [BlueWave AX-550 V2.0 User Guide](#) for error code definition.

Please take note of the contents of the screen and contact Dymax for support.

**Table 1.**  
Troubleshooting – BlueWave AX-550 V2.0 Issues

Problem	Possible Cause	Corrective Action
Unit does not power up	The power cord is not plugged in or damaged	Check the connections and condition of the power cord
	The onboard fuse is blown	Check onboard fuse
	There is no electrical power at the receptacle	Test the receptacle for power
Unit powers up but LED is not producing light	The LED intensity adjustment is set to the minimum	Increase the LED intensity setting.
	Controller is not mated with emitter correctly	Recheck the BlueWave® AX-550 assembly for connection. Inspect for bent pins on the interface connector.
	The activation switch on the conveyor is not in the “on” position	Verify that the activation switch is in the “on” position
Unit is operating normally, and LED suddenly stops producing light	The over-temperature shutdown was triggered	Check that the flow of cooling air into the power supply or array is not restricted.  If the LED does not illuminate after restarting, contact Dymax Application Engineering
LED array provides only low-intensity light	The LED intensity adjustment is set to the minimum	Increase the LED intensity setting
	The lens optics are contaminated/ dirty	Clean the surface of the lens
	Lamp height may have changed since last operated	Verify the lamp height and adjust as needed

**Table 2.**  
Troubleshooting – Conveyor Issues

Problem	Possible Cause	Corrective Action
Conveyor not operating	Main line circuit breaker deployed	Toggle power switch off, then on, to reset the circuit breaker. Check the amp rating of the breaker. Compare it to specifications.
	Improperly fastened connections	Check all connections. Verify that the power cord is properly fastened.
	Fuses for motor controller blown	Remove the fuses from the fuse holders (located in the left side of control box) and check with an ohmmeter, replace if defective.
	Belt is hung up	Inspect the belt for any signs of a mechanical bind. Tighten the belt if it is slipping on the drive roller.
	Tension too low on belt (power switch lights and motor turns but belt does not move)	Use the tracking adjustment knobs to increase the tension on the belt. Both knobs should be turned the same amount to not affect the alignment.
Belt tracks to one side	Belt adjustment knobs are out of position	Tighten the adjustment knob (located on the side to which the belt is tracking towards) until the belt tracks straight. Only minor adjustments should be made at one time.

## Spare Parts and Accessories

### Options/Accessories

Item	Part Number
<b>Personal Protection Equipment</b>	
Protective Goggles — Green	35286
Protective Goggles — Gray (standard model included with unit)	35285
Face Shield	35186
<b>Radiometers</b>	
Dymax ACCU-CAL™ 160 (LED)	41585
<b>Conveyor</b>	
Exhaust Duct Assembly**	43625
Conveyor Rolling Cart Kit	39215
Riser Kit, 2''*	39218
Riser Kit, 6''*	39280

\*Available on new conveyors only and installed at the factory

\*\*Available factory-installed at the time of order or installed separately at the factory

Spare/Replacement Parts

Item	Part Number
<b>BlueWave AX-550 Key System Components</b>	
Controller	60943
RediCure Emitter, 365 nm	60753
PrimeCure Emitter, 385 nm	60752
VisiCure Emitter, 405 nm	60754
Glass Replacement Kit	60966
<b>AC Power Cords</b>	
Power Cord, North American	41274
Power Cord, China	41275
<b>Conveyor Components</b>	
Circuit Breaker, 115 VAC	39128
Curtain Assembly (2 Required)	39207
DC Motor Controller	40179
DC Motor Controller Resistor	40178
DC Motor Speed Indicator Sensor	39136
Gear Motor, 90 VDC	43391
Hour Meter	35981
Mesh Belt	39134
Mesh Belt, Fine	39772
Pinch Guard, Conveyor Discharge	39119
Pinch Guard, Conveyor Inlet	39118
Potentiometer Assembly for Conveyor Speed	40958
Red Lion Counter Timer 50020	39132
Red Lion 12V Power Supply	39133
Shield, Solid Acrylic (2 Required)	39205
Speed Controller Knob	40143

# Specifications

**Table 3.**  
Mechanical Specifications

	RediCure 365 nm Array			PrimeCure 385 nm Array			VisiCure 405 nm Array		
<b>LED Array Voltage</b>	90V - 260V			90V - 260V			90V - 260V		
<b># of Lamps</b>	1	2	4	1	2	4	1	2	4
<b>Width of Illuminated Area*</b>	5" (13 cm)	CM – 5" (13 cm) FW – 10" (25 cm)	10" (25 cm)	5" (13 cm)	CM – 5" (13 cm) FW – 10" (25 cm)	10" (25 cm)	5" (13 cm)	CM – 5" (13 cm) FW – 10" (25 cm)	10" (25 cm)
<b>Belt Speeds</b>	0.8 – 32.0 ft/min [0.3 – 9.7 m/min]								
<b>Belt Width</b>	12" [30 cm]								
<b>Vertical Clearance (Working Distance)</b>	1.5" - 4.5" [38 mm - 114 mm] **								
<b>Overall Dimensions (L x W x H)</b>	50.5" x 30.5" x 22.0" [128 cm x 78 cm x 56 cm]								

\* CM – Center Mounted    FW – Full Width    \*\* Larger part heights are achievable with the installation of optional riser kits.

**Table 4.**  
Conveyor Electrical Specifications

Property	Specification	
<b>Voltage Requirements</b>	120 or 230 VAC, 50 or 60 HZ	
<b>AC Current Values (Start/Run Current)</b>	At 115 VAC 50/60 Hz	Total Conveyor - 4.8A / 2.4A rms Fans – 0.1 A max. Motor Control - 400 mA rms
	At 200-230 VAC 50/60 Hz	Total Conveyor – 2.4A / 1.2A rms Fan – 0.05 A max. Motor Control - 200 mA rms

# Definition of Terms

**Brightness**, also known as **Luminance** - Description of energy in the visible region of the spectrum (approximately from 400 to 700 nm) and recorded in photometric units. “**Intensity**” (see below) of visible light energy is called Illuminance.

**Dose** - irradiance integrated over time, or Irradiance ( $W/cm^2$ ) x Time (s) = Dose (Joules/cm<sup>2</sup>).

**NOTE:** Watt is the power that gives rise to the production of energy at the rate of 1-joule (J) per second (s).

**Flood Array System** - set of components arranged to generate, collect, condition and direct UV radiant energy to perform curing of engineering adhesives, coatings, and inks within a safe and controlled process. It includes an array housing and power supply and may also include a shutter, workstation, UV enclosure, Dymax light shield, and/or accessories.

**Illuminance** - Luminous flux (energy of visible light) incident per unit area, and measured in **Lx** (lux) or **Lumen/cm<sup>2</sup>**.

**Intensity** - a measure of light energy over the unit of surface area (usually the surface at the specified working distance from the bottom of the reflector housing) in  $W/cm^2$  or  $mW/cm^2$ .

**Array** – LED light source generating ultraviolet, visible, and infrared radiant energy from burning matter stimulated by electrical power conditioned by a proper power supply.

**Ozone** - oxidizing agent (O<sup>3</sup>) produced by the action of ultraviolet radiant energy (below 185 nm) or electrical corona discharge of oxygen on air.

**Ultraviolet (UV)** - The invisible region of the spectrum just beyond the violet end of the visible region. Wavelength ranges in general from 1.0 to 400 nm. Dymax Arrays do not radiate energy in deep ultraviolet; there are very minute amounts below 220 nm and practically nothing can be sensed below 200 nm. This is due to the use of ozone-blocking quartz bulb envelope (See Ozone).

Ultraviolet is used beneficially in various fields of industry and medicine. In order to standardize light sources used in medicine, the International Congress on Light, in Copenhagen in 1932, recommended dividing the ultraviolet spectrum into three spectral parts:

- Ultraviolet A (UV-A) - UV of long wavelength from within approximately 400 to 320 nm of the spectral band (4000 to 3200 $\oplus$ ) - predominately produced by Dymax flood arrays.
- Ultraviolet B (UV-B) - UV of medium wavelength from within approximately 320 to 280 nm - Dymax LED flood arrays produce some amount of their energy within this bandwidth.
- Ultraviolet C (UV-C) - UV of short wavelength below 280 nm (we say from 280 to 200 nm) – a large amount of this energy is present in the sunlight.

OSHA 1910.145: “Regulation of Accident prevention Signs and Tags” defines the following headers as:

- WARNING – is used when there is a hazardous situation that has some probability of severe injury.
- CAUTION - is used to indicate a hazardous situation that may result in minor or moderate injury.
- NOTICE - is used to convey a message related directly or indirectly to the safety of personnel, or protection of property.

# Warranty

From date of purchase, Dymax Corporation offers a one-year warranty against defects in material and workmanship on all system components (excluding LED array) with proof of purchase and purchase date. Unauthorized repair, modification, or improper use of equipment may void your warranty benefits. The use of aftermarket replacement parts not supplied or approved by Dymax Corporation will void any effective warranties and may result in damage to the equipment.

***IMPORTANT NOTE: DYMAX CORPORATION RESERVES THE RIGHT TO INVALIDATE ANY WARRANTIES, EXPRESSED OR IMPLIED, DUE TO ANY REPAIRS PERFORMED OR ATTEMPTED ON DYMAX EQUIPMENT WITHOUT WRITTEN AUTHORIZATION FROM DYMAX. THOSE CORRECTIVE ACTIONS LISTED ABOVE ARE LIMITED TO THIS AUTHORIZATION.***

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