

UVCS LED Conveyor System

12"-Wide Curing with BlueWave® AX-550 LED Flood Lamps

- Complete shielding from light
- Controlled and consistent cure times
- Maximum parts height of 4.50" [10.8 cm]
- 1.5" minimum height with 4", 6", or 10" vertical clearance available
- 12" belt width (guides available to channel parts into center 6")
- BlueWave AX-550 LED emitters available in 365, 385, and 405 nm wavelengths
- Built-in exhaust fans with optional circular duct adapter

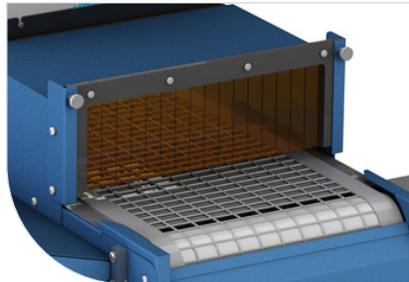
Dymax UVCS bench-top conveyor systems are designed for fast curing of adhesives, coatings, and inks that react in the UVA and/or visible spectral ranges. The conveyors can be outfitted with one of three different wavelength BlueWave AX-550 LED flood lamps (365 nm, 385 nm, or 405 nm) and can accommodate up to four emitters. If two emitters are used, they can be mounted side-by-side or front-to-back for additional process flexibility. All UVCS conveyors have adjustable belt speeds of 1 to 32 fpm, as well as adjustable lamp-to-belt distance to address a variety of application requirements. When combined, the UVCS conveyors' consistent intensity, fast curing, and adjustable line speeds create an optimized LED light-curing process that enables high throughput.

System Features

- Complete shielding from light
- Controlled and consistent cure times
- Maximum parts height of 4.50" [10.8 cm]
- 1.5" minimum height with 4", 6", or 10" vertical clearance available
- 12" belt width (guides available to channel parts into center 6")
- BlueWave® AX-550 LED emitters available in 365, 385, and 405 nm wavelengths
- Built-in exhaust fans with optional circular duct adapter
- Counterbalanced height adjustment mechanisms for ease of emitter-to-belt distance adjustments
- Accurate digital belt speed control and readout
- Bench-top conveyor (with optional transportation carrying cart)
- Greener technology – no ozone generation, mercury-free, environmentally friendly LED emitters consume less energy than conventional UV curing lamps
- Innovative, all-in-one lamp design saves space, eliminates cabling and no need to mount a separate controller in the cabinet.



Lamp Height Control



12" Belt Width



Compatible with up to Four Emitters

LED vs. Broad-Spectrum Systems

Dymax LED-curing systems using BlueWave AX-550 emitters offer many advantages over conventional broad-spectrum systems, including:

- Cooler curing for temperature-sensitive substrates. Conventional broad-spectrum lamps operate and emit energy at high temperatures, which can damage sensitive substrates or force you to make multiple passes to deliver the curing energy needed for an application.
- Large 5" x 5" curing area. Most broad-spectrum systems offer a much smaller cure area. Parts get a higher dosage with our larger cure area but with cooler cures you don't risk damage to your parts.
- Better uniformity across the cure area assure a more consistent cure results.

If you're currently curing one of our LED-optimized adhesives with a broad-spectrum lamp, our BlueWave® AX-550 LED flood emitters may also properly cure your adhesive. Visit www.dymax.com for a complete listing of Dymax LED-optimized adhesives. In addition to our LED-optimized adhesives, many of our other adhesives also cure properly with the BlueWave AX-550 LED flood. Our Application Engineering group is available to help evaluate your adhesive application to see how LED-curing technology may be successfully incorporated into your current or future application needs.

BlueWave AX-550 LED Flood Emitters

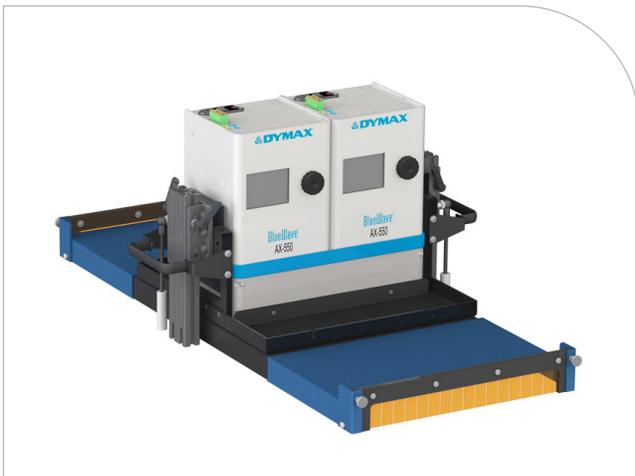
UVCS-series conveyors can be outfitted with one, two, or four BlueWave AX-550 LED flood emitters. If two emitters are used, they can be either center mounted (CM) or mounted full width (FW) as shown in the diagrams below. BlueWave AX-550 LED flood emitters provide high-intensity curing energy over a 5" x 5" (12.7 cm x 12.7 cm) curing area. 365 nm, 385 nm, and 405 nm wavelength configurations are available. The selection of the correct wavelength emitter will depend on the material being used and other application requirements. Contact Dymax Application Engineering for more information on optimizing your adhesive and curing equipment.



One Emitter, Center-Mounted, 5" Wide Single Exposure



Two Emitters, Mounted Front-to-Back, 5" Wide Double Exposure



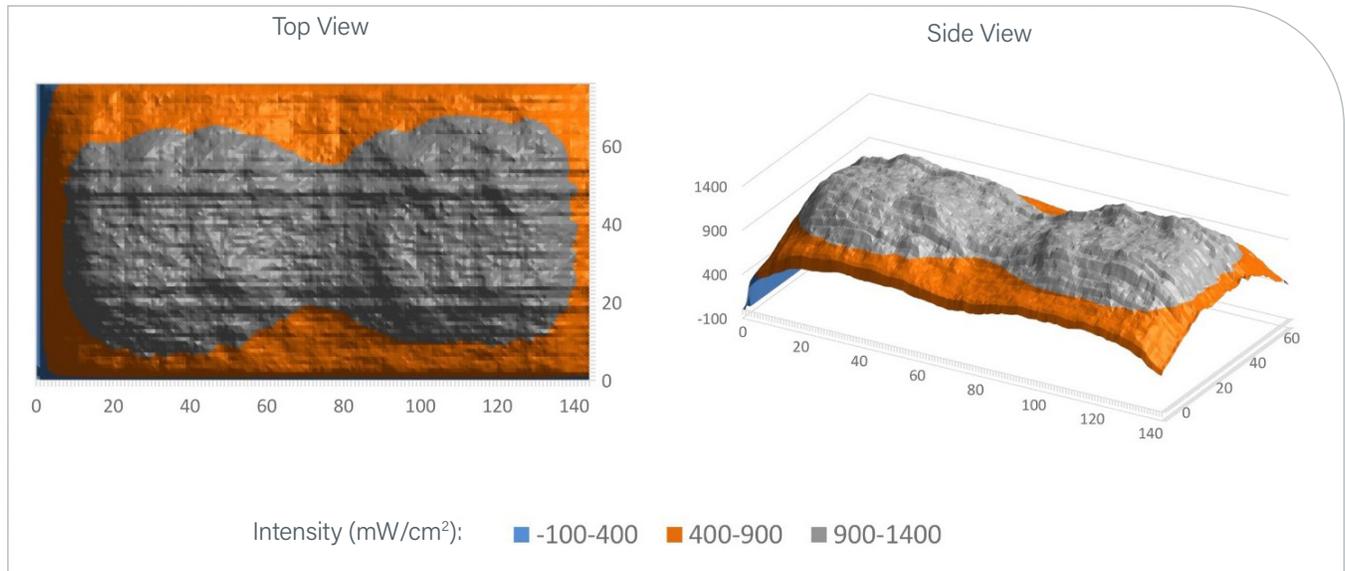
Two Emitters, Mounted Side-by-Side, 10" Wide Single Exposure



Four Emitters, 10" Wide Double Exposure

BlueWave AX-550 LED flood emitters offer high uniformity when multiple emitters are assembled next to each other, making them ideal for conveyor applications where a consistent cure across the entire substrate is important. The graphs in Figure 1 demonstrate the uniformity achieved when two VisiCure® emitters are assembled side-by-side on a conveyor.

Figure 1. Intensity Distribution of Two BlueWave® AX-550 VisiCure® (405 nm) Emitters Mounted Side-by-Side



Configure the Conveyor to Meet Your Needs

| | | 1 Head Conveyor | 2 Head Conveyor | | 4 Head Conveyor |
|--|-----------------|-----------------|-----------------|---------------|-----------------|
| | | | Side-by-Side | Front-to-Back | |
| Chose base conveyor configuration | 120V | 43555 | 43556 | 43557 | 43558 |
| | 220V | 43559 | 43560 | 43561 | 43562 |
| Select matching emitter(s) | VisiCure® | 43250 | 43250 (QTY 2) | 43551 | 43551 (QTY 2) |
| | PrimeCure® | 43249 | 43249 (QTY 2) | 43550 | 43550 (QTY 2) |
| | RediCure® | 43248 | 43248 (QTY 2) | 43549 | 43549 (QTY 2) |
| Controller universal for all configurations | BlueWave AX-550 | 43331 | 43331 (QTY 2) | | 43331 (QTY 4) |

Configuring an UVCS Conveyor with BlueWave AX-550 Emitters:

1. Choose the part number for the base conveyor configuration – voltage and number of emitters.
2. Select matching emitters based on the number of heads and the wavelength for the application.
3. Add in the appropriate number of controllers.

Specifications

| | RediCure 365 nm | | | PrimeCure 385 nm | | | VisiCure 405 nm | | |
|---|--|---|----------------|---|---|----------------|------------------------|---|----------------|
| LED Emitter Voltage | 90V - 260V | | | 90V - 260V | | | 90V - 260V | | |
| # of Lamps | 1 | 2 | 4 | 1 | 2 | 4 | 1 | 2 | 4 |
| Width of Illuminated Area* | 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] |
| Maximum Intensity*** | 425 mW/cm ² | | | 800 mW/cm ² | | | 650 mW/cm ² | | |
| Belt Speeds | 0.8 - 32.0 ft/min [0.3 - 9.7 m/min] | | | | | | | | |
| Belt Width | 12" [30 cm] | | | | | | | | |
| Vertical Clearance (Working Distance) | 1.5" - 4.5" [38 mm - 114 mm]** | | | | | | | | |
| Overall Dimensions (L x W x H) | 50.5" x 30.5" x 22.0" [128 cm x 78 cm x 56 cm] | | | | | | | | |
| Conveyor Voltage Requirements | 115 or 220 VAC, 50 or 60 HZ | | | | | | | | |
| Conveyor AC Current Values (Start/Run Current) | 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 | | | | | |

* CM - Center Mounted, FW - Full Width

** Larger part heights are achievable with the installation of optional riser kits.

*** Intensity readings vary widely depending on the make and model of the radiometer. These are typical output intensities measured with the ACCU-CAL™ 160-LED Radiometer at a 25mm working distance.

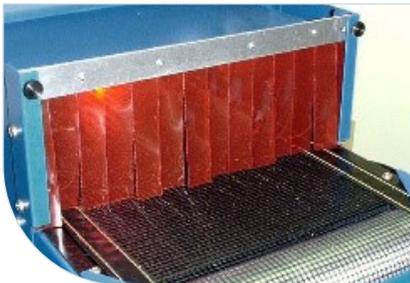
Accessories and Replacement Parts

| Accessories | Quantity | Part Number |
|--------------------------|----------|-------------|
| ACCU-CAL™ 160 Radiometer | 1 | 41590 |
| Risers Kit 2" * | Pair | 39218 |
| Risers Kit 6" * | Pair | 39280 |
| Exhaust Duct Assembly** | 1 | 43625 |
| Transportation Cart | 1 | 39215 |
| Guides for 6" Curing | 1 | 39277 |
| Circular Duct Adapter | 1 | 43625 |

| Replacement Parts | Quantity | Part Number |
|-----------------------|----------|-------------|
| Acrylic Tunnel Shield | 1 | 39205 |
| Tunnel Light Curtain | 1 | 39207 |
| Replacement Belt | 1 | 39134 |

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

** Available factory-installed at the time of order or installed separately on-site.



Tunnel Light Curtain



Transportation Cart



Acrylic Tunnel Shield

Compatible Materials & Applications

The BlueWave AX-550 is ideally suited for a number of applications in the medical, consumer electronics, automotive, aerospace and defense, optical, and appliance industries. The chart below displays some of the materials commonly used in those industries and where the BlueWave AX-550 can be considered as a curing system.

| Materials | | |
|--------------------------------|---|--|
| Adhesives |  | <p>✓ Medical device (catheter, needles, tube set, facemask) assembly; glass bonding (stemware, furniture, etc.); automotive headlamp assemblies; camera module assemblies; appliance assembly; speaker assembly; optical display bonding</p> |
| Conformal Coatings |  | <p>✓ Printed circuit board protection in aerospace avionics, automobiles, appliances, and consumer electronics; camera module assembly; electric vehicle battery management systems</p> |
| Potting Compounds |  | <p>✓ Tamper proofing; potting electrical connectors, switches, and sensors; cable potting; medical potting*</p> |
| Maskants |  | <p>✓ Surface protection for turbine blades and rotorcraft components during processing; protection for surfaces during metal finishing processes; protection of orthopaedic parts during processing; protection of PCB components for consumer electronics, automotive electronics, avionics, and medical electronics; protection for surfaces during metal finishing processes*</p> |
| Encapsulants |  | <p>✓ Chip encapsulation on PCBs used in automobiles, plane and helicopter control panels, consumer electronics, appliance, and medical diagnostic equipment*</p> |
| Ruggedization Materials |  | <p>Flex circuit reinforcement; wire tacking; ball grid array (BGA) ruggedization; Videos graphics arrays (VGA) ruggedization; shock absorption; underfill alternative</p> |

✓ BlueWave AX-550 compatible with this material

* Materials cured with BlueWave AX-550 to be evaluated in customer application to their performance requirements.



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