



Your Partner in IR and UV Technology

UV LED Embosser





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Our UV LED Embosser uses advanced micro-embossing technology to produce vibrant, high-gloss holographic and optical effects on a wide range of substrates, in both sheetfed and web formats.

The process works by passing a base film through a cylinder that carries the holographic or optical design. As the film comes into contact with the cylinder, the pattern is embossed into the UV lacquer on the substrate's surface. Once cured, the holographic or optical feature is permanently bonded to the material.

This method can create a wide variety of effects, including hologram patterns, 3D lenses, optical reflection features, as well as intricate micro- and nano-scale designs.

Why Deep-Curing Matters

Incomplete curing is the root cause of sticking.

- Conventional UV only hardens the surface layer.
- Uncured lacquer beneath sticks to the master roller—especially with thick coatings.

Our solution:

- High-intensity UV penetrates through the entire layer.
- Complete curing, no residue, no sticking.
- Stable production with fewer UV lamps required.





Technical Data

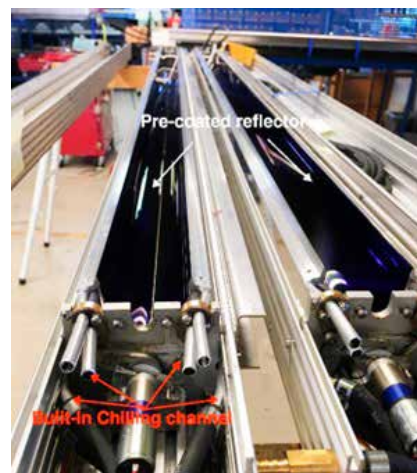
UV-LED EMBOSSE

Low Heat, High Efficiency

Traditional UV systems run hot—often above 140°C—which risks deforming films and damaging fine structures.

Our Cold UV System runs cool:

- **Surface temperature: just 35–45°C**
- Protects sensitive films and micro-structures
- Ensures consistent results run after run



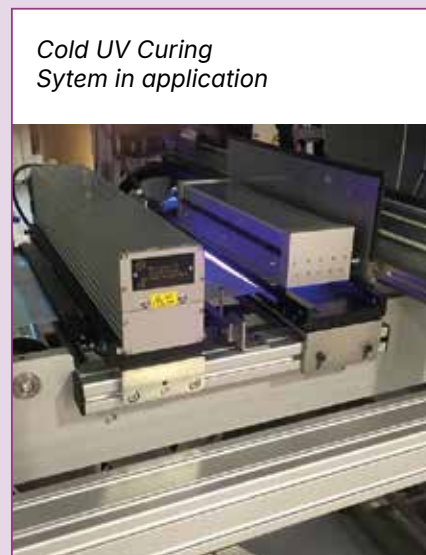
*Cold UV Curing
System Closed*



*Cold UV Curing
System Open*



*Cold UV Curing
System in application*



Key innovations include:

- LED light sources at targeted UV wavelengths (365 nm or 395 nm)
- Heat-absorbing coated reflectors to remove excess IR
- Built-in chilling channels with optional air-cooling for added control.

Result:

Up to 10% higher UV energy output with the same power input.



Engineered for Performance

Built to industrial standards, our system is designed for reliability and precision.

- **Drive motors** & tension rollers maintain perfect film handling—no shrinkage, no damage
- **Reverse coating technology** ensures exact coating weight and uniformity
- **Specially treated cylinders** work with a wide range of UV materials

Every component is optimised for stability, accuracy, and long-term performance.

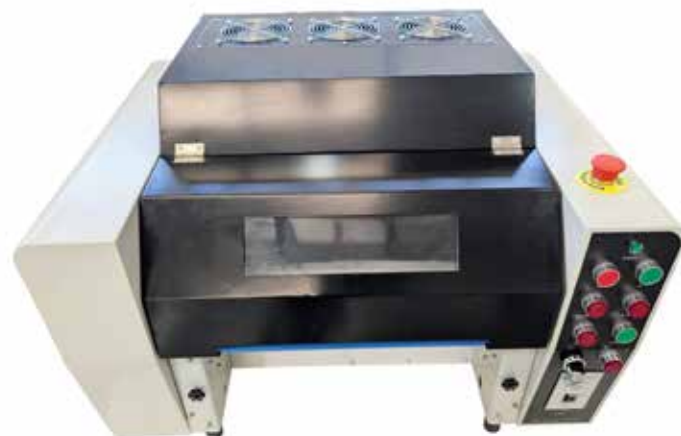
Seamless Integration with UV Systems

Our Embosser is designed to work flawlessly with both **UV LED curing** and our patented **Cold UV Curing System**. This dual compatibility gives manufacturers maximum flexibility—whether prioritizing high-intensity deep curing or ultra-low surface temperatures.

- **With UV LED curing**, you achieve precise, energy-efficient embossing at targeted wavelengths.
- **With Cold UV curing**, you benefit from low-heat processing that protects sensitive films and fine structures.

Key Features of UV LED Embosser:

- Integrates with Cold UV or UV LED Systems
- Designed for embossed or uneven surface curing
- Energy-efficient and compact
- Simple to integrate with existing printing/coating systems
- Reliable output for consistent curing results



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And learn more about our Ultraviolet technology solutions

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