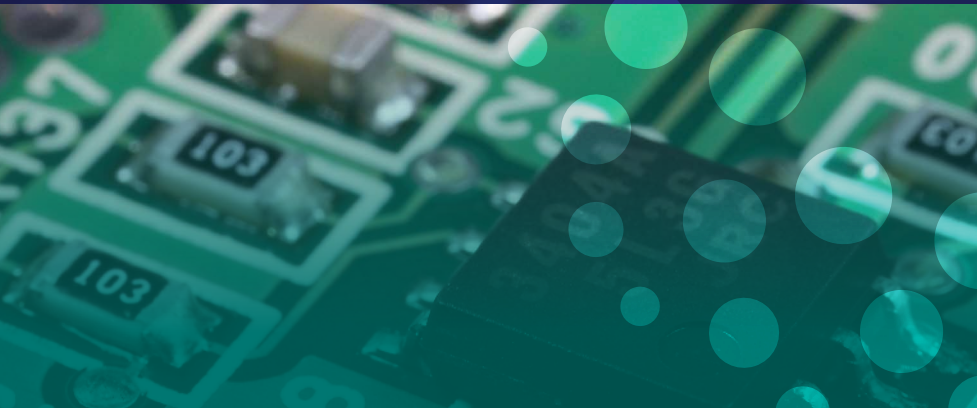


Conformal Coating & Underfill Solutions



Curing
Drying
Degassing
Preheating



Natgraph

Perfecting drying solutions

You Coat.
We Cure.

You want your conformal coating to cure perfectly, every time.

We make that happen.

You need to protect your PCBs without slowing production.

We've engineered the perfect balance.

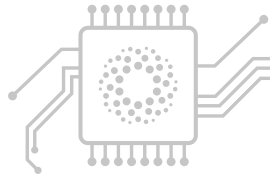
You're tired of guesswork, bottlenecks, and coating failures.

So, we've built systems to solve this.

Like you, we're problem solvers at heart, so let's talk.



Natgraph



Your coatings, your materials, your throughput, they all demand precise control. Natgraph's range of in-line curing, drying, degassing, and preheating systems are designed to give you that control, with complete confidence.

Most curing systems look the same and promise the same.

We decided it's time for change, so we've designed better, smarter machines that:

- Deliver reliable, energy-efficient curing, drying, degassing, and preheating
- Integrate effortlessly with any conformal coating process
- Work effectively with all conformal coatings: UV-curable, solvent, and water-based materials
- Cut cycle times to help you reach your goals, as well as your market, faster, more efficiently, and sustainably

At Natgraph's in-house **Technical Innovation Centre**, we invite you to run real-world trials with your materials, your coatings, and your parameters – to see your cure in action.

This is not just a demo. It's data and insight, for absolute proof that your equipment will perform from day one.

You Protect. **We Perfect.**

If you're serious about optimising your coating performance, process efficiency, and product protection, we have the perfect solution for you.

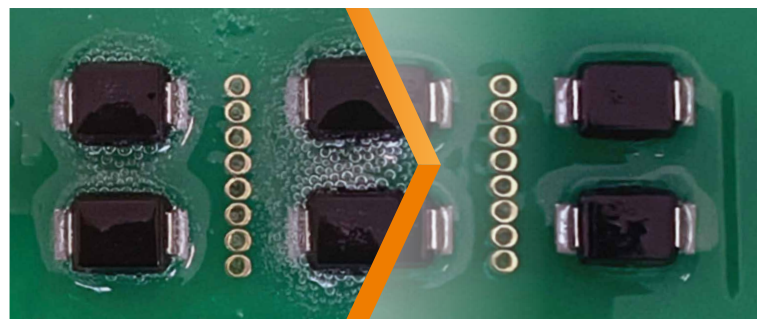
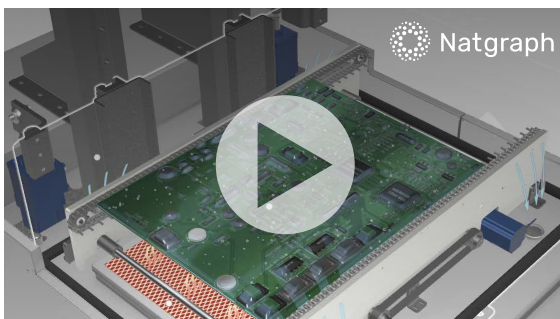
Discover what's possible with Natgraph

Vacuum Conditioning Module (VCM)

Automated, In-Line Vacuum
Degassing of Conformal Coatings

**Innovative, customisable, multi-stage vacuum
degassing for 'bubble-free' conformal coatings.**

- Effectively removes air bubbles and voids that can form during the conformal coating dispensing process
- Ensures a uniform, defect-free coating that improves the overall reliability of the finished assembly
- Designed to integrate with full PCB conformal coating SMT lines
- Compatible with UV-curable, solvent-based, and water-based conformal coatings
- Supports the transition to safer, water-based coatings, which are more prone to 'bubbling' - helping to protect your products, your people, and our planet



Without VCM...

...With VCM

Visit natgraph.co.uk
to see the VCM
in action

natgraph.co.uk

LED Conditioning Module (LCM) UV Conditioning Module (UCM)

Fast and Consistent UV & UV LED Curing

High-intensity, energy-efficient UV output for optimal curing and coating integrity.

Fine-tuned UV control delivers full polymerisation and surface integrity with % power adjustment for every coating or ink.

LCM

UV LED sources emit a narrow, precise wavelength for highly controlled curing

UCM

Traditional mercury, iron or gallium doped lamps, producing a broad UV spectrum across multiple wavelengths



- Water-cooled or air-cooled options
- Variable lamp height for precise adjustment of intensity and spread
- Bi-directional conveyor enables multi-pass processing
- Total board coverage avoids shadowing

UVC

UVB

UVA

UV-V

200 —
220 —
240 —
260 —
280 —
300 —
320 —
340 —
360 —
380 —
400 —
420 —
440 —

Hot Air Conditioning Module (ACM) Infra-red Conditioning Module (ICM)

Precise and Efficient Thermal Curing

Optimal temperature and airflow control for even and efficient curing.

Energy-efficient performance with convection (ACM) or infra-red (ICM) technology for maximum coating integrity and long-term reliability.

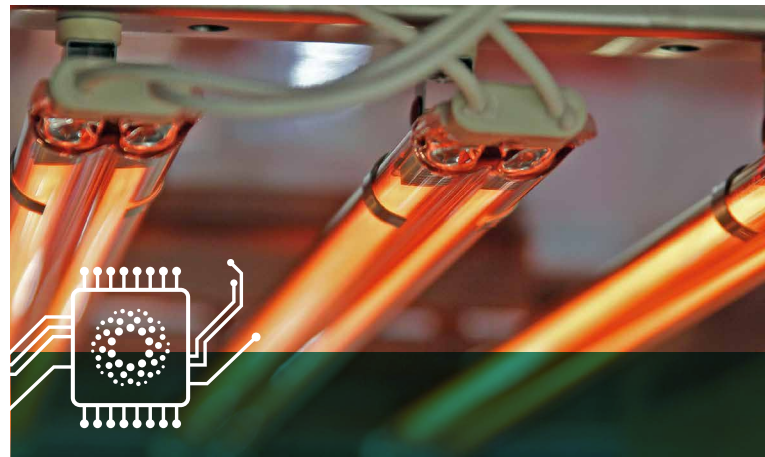
ACM

- Controlled convection heating and airflow accelerate the curing process
- Air recirculation to achieve efficient heating
- Closed-loop temperature control using PID control



ICM

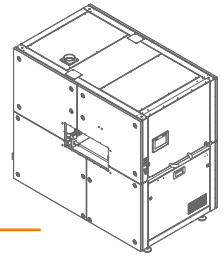
- Infra-red energy penetrates deep into the conformal coating for fast, effective curing
- Infra-red panel with overall % control variable between 0 - 100%
- Exhaust levels maintained for safe solvent / moisture extraction



Technical Overview

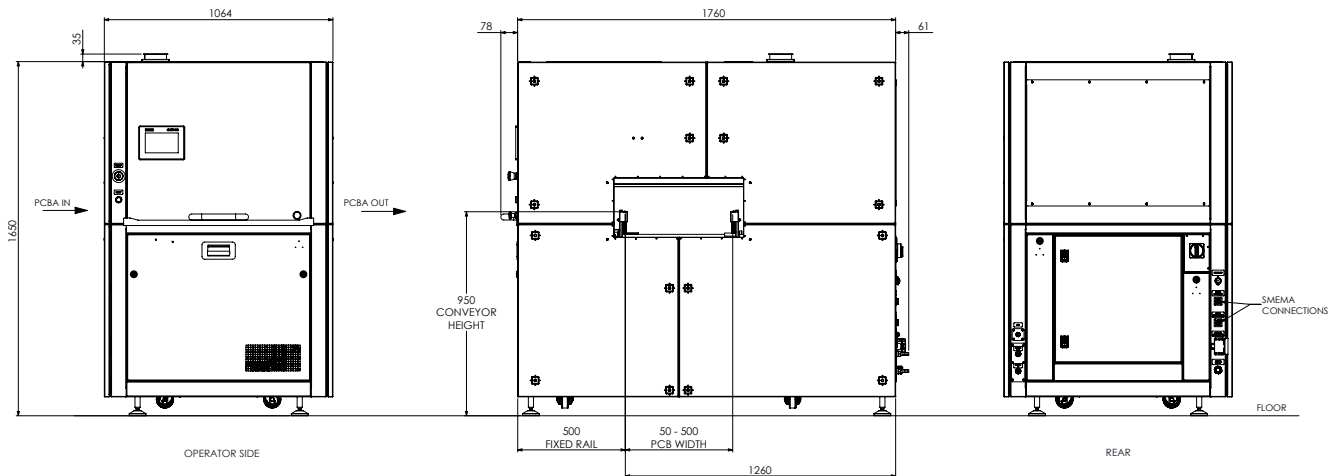
Natgraph's conformal coating solutions are available as a standalone unit or part of a fully automated manufacturing line.

Either way, we've got you covered.



Your process drives our continuous innovation... from standard modules to fully customised designs, every Natgraph system is engineered to perform and built to last.

- Upstream and downstream SMEMA communications interface
- Conveyor heights 890 - 965mm
- Adjustable conveyor widths 50mm - 500mm, front fixed rail
- Variable speed conveyor
- Large, vertical, sliding door for easy-access to set and maintain machine
- 3 Phase operation
- Siemens PLC with integrated HMI
- MES compatibility with data collection for process and recipe settings via OPC UA

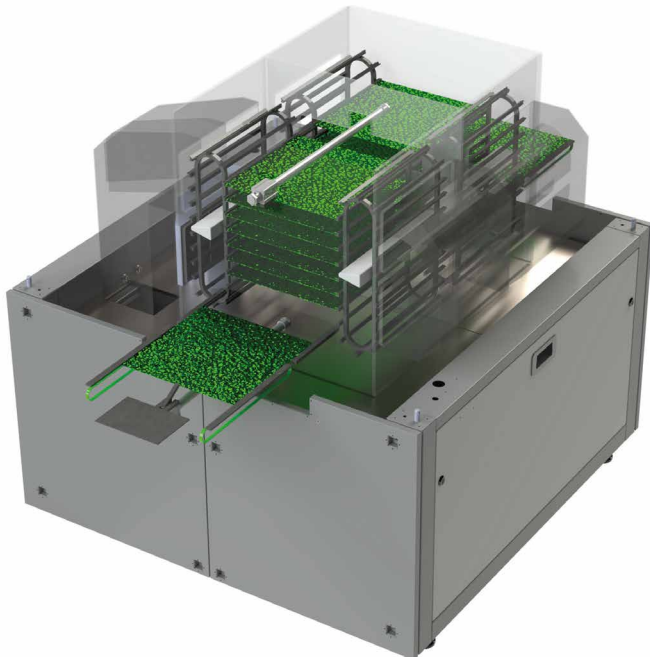


Underfill - Preheated Buffer

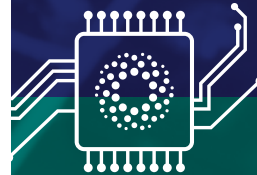
Smarter, high-capacity preheating

The Natgraph Preheated Buffer warms PCBs to precise, controlled temperatures prior to underfill or upstream processes, eliminating thermal bottlenecks to increase line efficiency.

- Preheats up to 16 PCBs simultaneously in an energy-efficient chamber using recirculated air
- Compact, space-saving, vertical design minimises machine footprint
- Adjustable conveyor width for PCB sizes between 100 – 450mm
- Fully configurable to match your production rate and process flow



In-line curing, drying, degassing, and preheating systems for precise control.
With complete confidence.



You Coat. We Cure.
**Discover what's possible
with Natgraph**



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Training
Technical Innovation Centre
Trials & Testing

