

UV Bridging Modules, UV Bridges, Table Top UV Dryers & UV Kits



stencil processing



screen printing



air force



ultra violet



infra red



Natgraph manufacture a range of UV Bridges that has been developed from many years of experience gained in the production of over 200 systems to add a UV curing capability to an existing air dryer. These UV Bridges are designed to be easily fitted onto the inlet section of the dryer to cure the UV inks before the substrate enters the forced air section.

These units have been designed for curing UV surface coatings applied to promotional, electronic, credit card, glass, display and telecommunications products. If there is a UV curable ink available for an application, Natgraph will have a solution.

UV Bridging Modules
UV Bridges

A further and very popular development is the UV Bridging Module, this is a 1m wide unit that has the UV Bridge lamphouse located on the top, this module is installed between the drying/cooling modules of the existing dryer.

Table Top UV Dryers are compact and efficient units available in 2 sizes, with high power and a comprehensive specification.

Natgraph also manufacture a range of UV Curing Kits for installation within existing printing units, dryers or reel to reel machines.

Table Top UV Dryers
UV Kits



UV Bridges

Features

- Compact unit
- Quartz infra red filter
- Fault finding circuit
- Hour meters



UV Bridge on Air Force Dryer



UV Bridge Control Panel

The Natgraph range of UV Bridges has been designed to be installed on the inlet of an existing forced air dryer to provide a cost effective, efficient and cool UV drying capability to an existing dryer. Available with 1 or 2 lamps, in 8 standard curing widths from 70cm through to 215cm, all standard print formats can be processed.

Natgraph's UV technology is acknowledged as the coolest running and most efficient available. This has been achieved with extensive knowledge of discharge lamp requirements for optimum performance and the use of Natgraph's in-house manufactured transformer systems.

The all aluminium lamphouse has high efficiency, fully focused anodised aluminium reflectors and a flat quartz infra red heat filter window fitted below the lamps, that isolates the lamp cooling air from the substrate. This filter reduces the effect of the infra red energy from the UV lamps, resulting in a much reduced 'impact temperature' on the substrate. In addition, all ozone produced by the lamp is extracted through a dedicated fan that is mounted either directly onto the end of the lamphouse, or as a separate unit, which can either be floor or wall mounted.

- Ammeters
- Warning siren
- Separate transformer cabinet
- Optional belt movement sensor system

Natgraph's technology ensures that this UV system is probably the coolest available, reducing substrate shrinkage and thus ensuring consistent print registration.

The gap at either side of the UV lamphouse has a multi element light trap fitted to prevent escape of direct UV light, whilst allowing air to enter the system. A site survey will ideally be required before installation to ensure that the correct light trapping and mounting brackets are fitted to give the optimum focus for the UV light.

A separate transformer enclosure is required with these systems, which in most cases can be interlocked into the existing dryer's power supply. This solution from Natgraph allows an existing forced air dryer, of any make, to have UV curing fitted, both efficiently and economically.

These units require a three phase power supply.

A belt Movement Sensor System should be fitted to the dryer's conveyor belt upon installation. This system is integrated into the safety control circuitry of the UV Bridge to prevent operation of the lamps if the belt is not moving.

Table Top UV Dryers

Features

- Compact unit
- Vacuum hold-down
- Ammeter/hour meter
- Ozone free lamps

The Natgraph Table Top UV Dryers have been developed for smaller print formats and are based on our proven technology ensuring the highest quality and efficiency. These dryers utilise an ozone free medium pressure mercury vapour lamp, which provides high power curing of 131 watts per cm, this being without the need for extraction. All the control gear, cooling fans, motors etc contained in the extremely compact all steel construction make these units ideal for any situation.

The model 1 uses a single lamp, curing 30cm (12"), whilst the model 2 uses 2 of these lamps positioned end to end, curing 60cm (24"). These lamps are mounted on adjustable height brackets, with the model 2 also having sideways adjustment of each lamphouse. A vacuum hold-down system is included, with an intake fan for the hinged hood, as well as a separate lamp cooling fan.

- Lamp height, adjustment
- High power
- Optional stand

An ammeter, lamp hour meter and high/low power switch are fitted as standard, with the variable belt speed controlled by a 10 turn potentiometer. The model 2 has independent control of each lamp. Light guards are fitted at the inlet and outlet of the hood to ensure there is no UV light spillage.

These units will accept objects up to 40mm high as standard, but special versions can be made to accept larger objects. Table Top UV Dryers are used in the PCB and membrane switching industries, for 3D items, as well as conventional graphics, and are equally at home in full production situations and test laboratories. An optional stand is available, with storage shelf and castors.

These dryers require a three phase power supply.



Table Top UV Dryer model 1



UV Bridging Modules



Light Guard



UV Bridging Modules Installed



2 lamp UV Bridging Module

Features

- Self contained system
- Compact unit
- Internal extraction/cooling fan
- Internal transformers
- Vacuum hold-down system

- Quartz infra red filter
- Fault finding circuit
- Hour meters
- Ammeters
- Warning siren
- Optional belt movement sensor system

The Natgraph range of UV Bridging Modules has been designed to be installed within an existing forced air dryer to provide a cost effective, efficient and cool UV drying capability that extends the dryer by only 1m. Available with 1 or 2 lamps, in 8 standard curing widths from 70cm through to 215cm, all standard print formats can be processed.

These modules are only 1m wide, yet contain the transformers, control circuitry, extraction fan and vacuum system, with the UV lamphouse and light traps mounted on the top. On wheels and jacking feet for final location, these comprehensive units can easily be installed within the existing dryer, in the ideal location after the last heated air module and before the first cooling module. This position allows the UV ink time to 'flow' and gases to come out of clear varnishes, thus producing a flat image.

Natgraph's UV technology is acknowledged as the coolest running and most efficient available. This has been achieved with extensive knowledge of discharge lamp requirements for optimum performance and the use of Natgraph's, in-house manufactured transformer systems.

The all aluminium lamphouse has high efficiency, fully focused anodised aluminium reflectors and a flat quartz infra red heat filter window fitted below the lamps, that isolates the lamp cooling air from the substrate. This filter reduces the effect of the infra red energy from the UV lamps, resulting in a much reduced 'impact temperature' on the substrate.

In addition, all ozone produced by the lamp is extracted and a dedicated vacuum system holds the substrate in position whilst also cooling the belt. Natgraph's technology ensures that this UV system is probably the coolest available, reducing substrate shrinkage and thus ensuring consistent print registration.

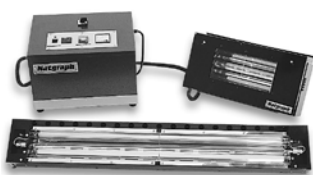
The gap at each side of the UV lamphouse allows the UV Bridging Module and the existing dryer's modules to take in ambient air as is needed, whilst the multi element light traps stop direct UV light from escaping. The extraction duct connection is on the top of the unit, therefore saving on valuable work area. Modification of the existing dryer's electrical wiring will be required as well as the installation of a new transport belt, all of which can be confirmed by a site survey carried out before installation.

External transformer enclosures and extraction fans are not required with these compact systems, which in most cases can be interlocked into the existing dryer's power supply. This solution from Natgraph allows an existing forced air dryer, of any make, to have UV curing fitted in technically the best location, both efficiently and economically.

These units require a three phase power supply.

A belt Movement Sensor System should be fitted to the dryer's conveyor belt upon installation. This system is integrated into the safety control circuitry of the UV Bridge to prevent operation of the lamps if the belt is not moving.

UV Curing Kits



UV Curing Kits

UV Curing Kits are available to fit into existing production machinery including web systems. These kits can be made to fit into restricted spaces, with multiples of lamps, heat filters, supplementary reflectors etc. Control systems can be designed to

operate with ink drying, adhesive curing or paint application. Custom designed UV is available from Natgraph to operate in a wide range of applications.



Specifications

UV Bridges & UV Bridging Modules

UV Bridges (1 and 2 Lamp)

Model No	70	90	110	130	155	170	185	215
Curing width	70cm (28")	90cm (36")	110cm (43")	130cm (51")	155cm (61")	170cm (67")	185cm (73")	215cm (84")
Height	30cm (12")							
Width	40cm (16") (Excluding light traps)							
Length	173cm (68")	193cm (76")	213cm (84")	233cm (92")	258cm (102")	273cm (108")	288cm (114")	318cm (125")
Voltage	Three Phase 400 Volts 50/60Hz. AC							
Lamp Power	120 watts/cm (300 watts/inch)							
Power – 1 Lamp	10kW	13kW	15kW	19kW	22kW	24kW	26kW	29kW
Current (Max. Amps)	23	28	30	38	45	49	55	63
Power – 2 Lamp	20kW	27kW	34kW	40kW	47kW	51kW	57kW	67kW
Current (Max. Amps)	45	55	67	80	95	105	119	136

Transformer cabinets

	1 Lamp Unit	2 Lamp Unit
Height	67cm (27")	67cm (27")
Width	97cm (39")	130cm (52")
Depth	66cm (26")	66cm (26")
Weight	tbc	tbc

UV Bridging Modules

	(1 and 2 Lamp Units are as above, except as follows)							
Height	113cm (45")							
Width	1m (39")							
Length	189cm (75")	209cm (83")	229cm (91")	249cm (98")	274cm (108")	289cm (114")	304cm (120")	334cm (132")

Table Top UV Dryers

Model No.	1	2
Curing Width	30cm (12")	60cm (24")
Belt Width	35cm (14")	65cm (26")
Height	58cm (23")	58cm (23")
Width	140cm (55")	173cm (68")
Depth	72cm (29")	110cm (44")
Weight	120kgs. (265lbs.)	225kgs. (495lbs.)
Belt Speed	2-30m (6-100') per minute	
Lamp Power (Full)	131 Watts per cm (333 Watts per inch)	
Lamp Power (Low)	98 Watts per cm (250 Watts per inch)	
Voltage	Three Phase 400 Volts 50/60Hz. AC	
Power	4.25 kW	8.5 kW
Current (Full Power)	15 Amps.	30 Amps.

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