

# Natgraph

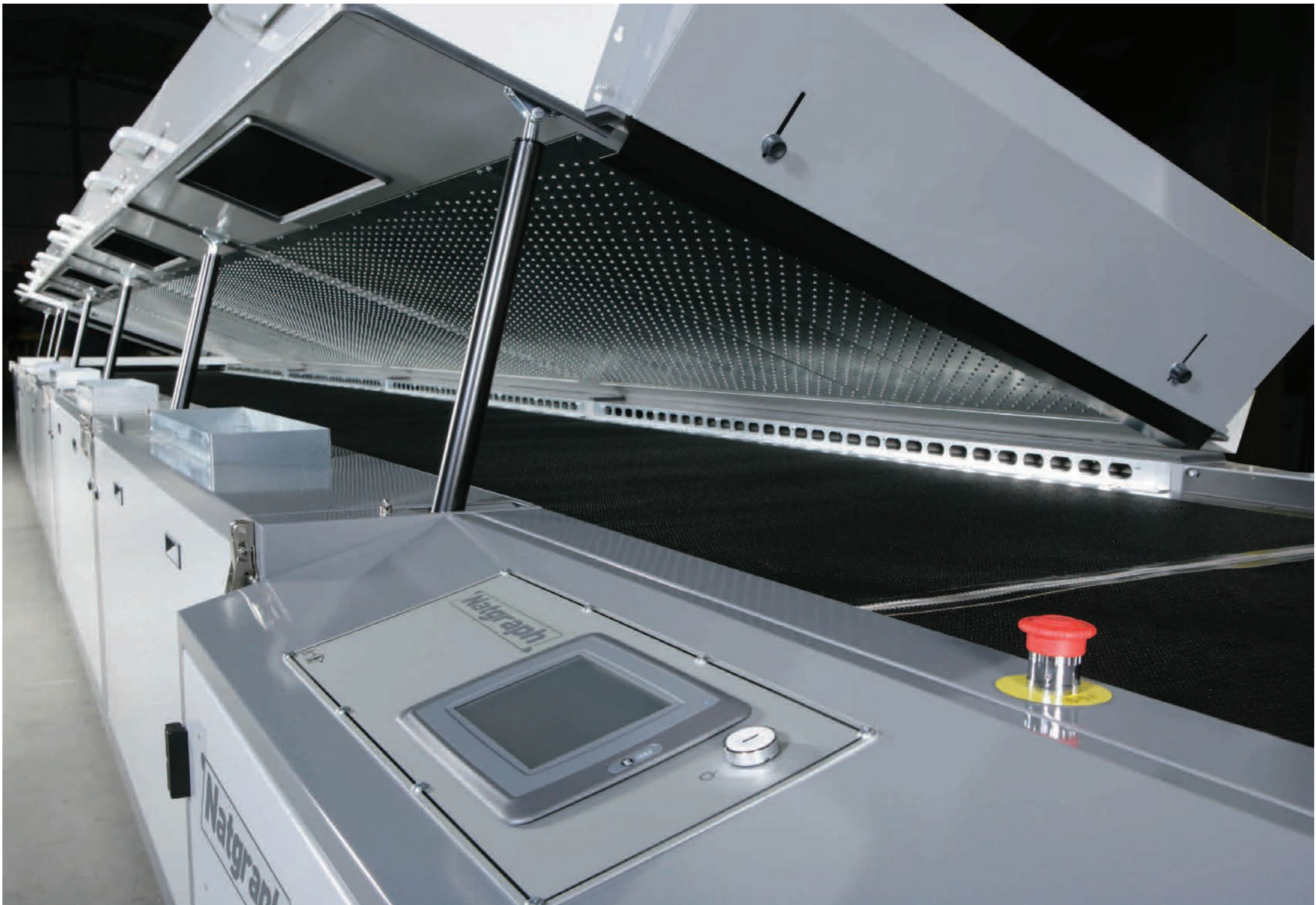


## Air Force Dryers

Natgraph manufacture a range of Air Force Dryers that has been developed from many years of experience gained in the design and production of over 700 Forced Air Conveyorised Systems, that are in use world-wide.

These units have been designed, developed and manufactured for drying surface coatings applied to graphics, glass, medical products, textiles, automotive, electronics and aerospace etc, so no matter what the application, Natgraph have a solution.

With 7 standard belt widths, Touch Screen PLC Control System, 4 layouts and modular design, this range of dryers is extremely adaptable and offers the versatility and efficiency that is required in today's production environments.





## Air Force Dryers

The Natgraph modular range of Air Force Dryers is available in 7 belt widths from 90cm through to 215cm, therefore an Air Force Dryer can be specified for all drying requirements. These can be from small print runs on Hand Printing Tables or medium length production runs printed on semi-automatic screenprinting machines, through to continuous high speed production on fully automatic cylinder presses.

The vital element in accelerated drying of solvent based inks is high velocity, high volume air delivered efficiently to the complete substrate area. Natgraph Air Force Dryers recirculate large volumes of air (over 15,000m<sup>3</sup>/hour can be recirculated in each module, for special applications). Drying therefore takes place at lower temperatures resulting in economical operation and good substrate stability.

Air Force Dryers can be specified to be anything from a minimum of 3.5m long, depending upon the required production speed and the drying rate of the inks used. The final specification is best determined by carrying out drying trials in the Natgraph Nottingham based 'Drying Solutions Centre'. These dryers require a three phase power supply.

### Air Force Dryer Features

- Touch Screen, PLC Control System
- Motor / vee belt, fan assemblies
- Fully insulated
- Easy access hoods
- Extraction control
- Inlet vacuum hold-down
- Modular construction
- Castors & jacking feet
- Colour coded to industry standards
- Available in 7 sizes



## Options

### Extended Inlets and Outlets

The inlet and the outlet of these dryers can be extended to enable the dryer to operate with more than one printing machine, or allow extra time for 'ink flow'. These extensions are in multiples of 0.5m, or 1m sections and can be fitted with vacuum hold-down systems.

### Power Supply Socket Outlets

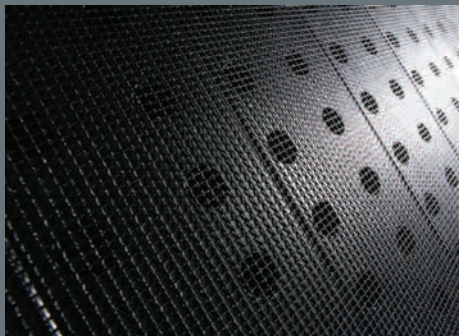
Electrical power supply socket outlets can be fitted at each end of the dryers, these are intended to provide an electrical supply for the printing machine and Stacker or Vibrating Collection Tray. This facility means that only one cable needs to be provided to supply the complete printing line, thus saving on installation costs.

### CCTV Stack Monitoring System

A colour CCTV system can be fitted to all Natgraph dryers, this system includes a freestanding, mast mounted camera above the stacker and a dedicated TV monitor mounted on a fully adjustable stand above the inlet of the dryer. This allows the operator to see the stacker without leaving the printing machine, which is very important when operating long, high speed, fully automatic printing lines.

### Layout & Paint Finish

Air Force Dryers can be manufactured in any layout to suit the intended location or printing machine, with controls and ducting on either side. This can result in significant space saving. Natgraph also have the ability to finish these units in industry standard machine colours, so that the dryer will match existing print lines, or a customer's house colours.



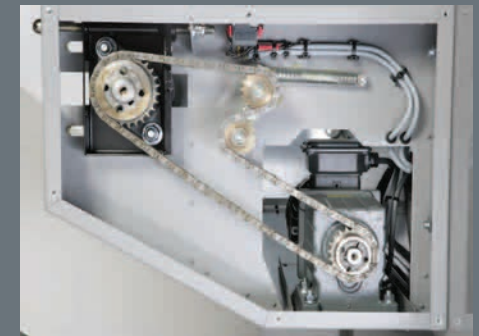
Vacuum hold down system



Touch Screen PLC Control



Natgraph's longest dryer - 23m

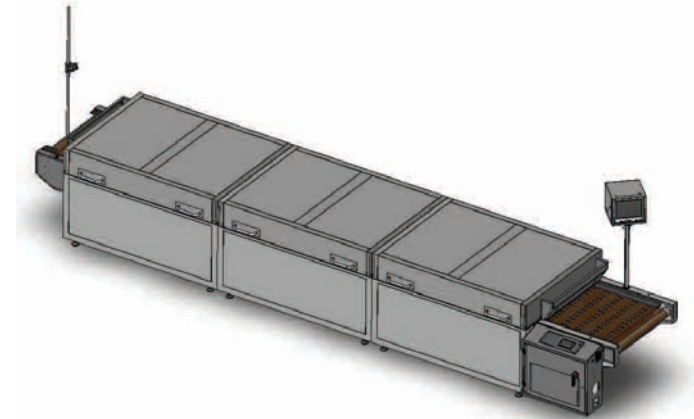


Inverter belt drive system

# Specifications: Air Force Dryers

The following specifications are common to all Air Force Dryers							
Belt Height	79cm - 90cm (31" - 37") Adjustable by the feet, higher options available						
Belt Speed	3-50m per minute (10' - 166') Slower speeds are available to order						
Height	114cm - 129cm (45" - 51") Adjustable by the dryer's feet						
Module Length	2m (78")						
Voltage	Three Phase 400V 50Hz.AC						
These figures apply to individual model sizes.							
Model No.	90	110	130	155	170	185	215
Belt / Drying / Curing Width	90cm (36")	110cm (43")	130cm (51")	155cm (61")	170cm (67")	185cm (73")	215cm (84")
Module Width	158cm (62")	178cm (70")	198cm (78")	223cm (88")	238cm (94")	253cm (100")	283cm (112")
(Weights can be confirmed by Natgraph depending upon the size / type and number of modules used.)							
<b>Electrical</b>							
Module Type	2m, high pressure, warm (85°C maximum), air modules						
Model No.	90	110	130	155	170	185	215
Heating Elements	18kW	18kW	18kW	24kW	24kW	24kW	24kW
Current (Max. Amps)	26	26	26	34	34	34	34
Motor(s)	2.2kW	3kW	3kW	4kW	4kW	6kW	8kW
Current (Max. Amps)	5	7	7	10	10	14	17
Module Type	2m, high pressure, cold (ambient), air modules						
Model No.	90	110	130	155	170	185	215
Motor(s)	2.2kW	3kW	3kW	4kW	4kW	6kW	8kW
Current (Max. Amps)	5	7	7	10	10	14	17
Module Type	2m, 2 lamp UV / cold (ambient), air modules, (UV lamp power 120 watts/cm - 300 watts/inch)						
Model No.	90	110	130	155	170	185	215
Lamp Power	25kW	31kW	36kW	43kW	47kW	51kW	59kW
Current (run) (Amps)	50	60	70	85	95	105	120
Motor(s)	2.2kW	3kW	4kW	4kW	4kW	6kW	8kW
Current (Max. Amps)	5	7	10	10	10	14	17
Air	Figures are in 1,000m <sup>3</sup> /hour, per 2m module						
Model No.	90	110	130	155	170	185	215
Module Type	2m, high pressure, warm (85°C maximum), air modules						
Recirculated Air	6.8	8.2	9.5	11.5	12.6	13.1	15.8
Exhaust Air (adjustable)	1.9	2.1	2.3	2.6	2.5	2.6	2.9
Module Type	2m, high pressure, cold (ambient), air modules						
Intake Air	4.3	5.6	6.7	7.7	8.4	8.9	10.3
Module Type	2m, 2 lamp UV/cold (ambient), air modules						
Intake Air	2.8	3.2	3.8	4	4.3	4.8	5.6
Exhaust Air	2.9	3.4	4	4.2	4.6	5	5.8
NOTE: When calculating power supply sizes for Air Force Dryers, add all the motor and heating element currents of the modules involved together to give the final figure. For Air Force/UV Combinations, add all the motor currents of the modules involved to the lamp current, but do not include the heating elements. This is because a safety interlock ensures that the air heating elements and UV lamps cannot be used at the same time. The UV lamp currents are calculated with 2 lamps at full power.							
Example: Model 110 Air Force Dryer, 2m warm, 2m cold = 26 + 7 + 7 = 40 Amps., Model 110 Air Force UV/Combination Dryer, 2m warm, 2m 2 lamp UV cold = 7 + 60 + 7 = 74 Amps.							
Typical power consumption of a Model 110 Air Force Dryer, 2m warm, 2m cold, running at 50°C with an ambient temperature of 20°C is 10kW per hour (including all motors), at average U.K. power costings, this represents a running cost of below 70p per hour.							

The manufacturer's policy is one of continuous improvement and the manufacturer therefore reserves the right to change or modify the design without prior notice. The technical specifications given are therefore for information only.



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