

# Grafica's **nano-screen maker** <sup>5 in 1</sup>

IMPROVE QUALITY, INCREASE PROFIT

**COAT**



**EXPOSE**



**INSPECT**



**STRETCH**



**DRY**



# nano-screen maker <sup>5 in 1</sup>

## IMPROVE QUALITY, INCREASE PROFIT

Grafica introduces first time in the world, most compact, space saving and a revolutionary product "NANO-SCREEN MAKER 5-in-1™". The innovative idea of producing 5-in-1 system not only saves space but also saves transport and packing cost. This compact system is mounted on a smooth castor wheel for easy mobility within department.

### Screen Exposure:

It's highly compact, yet strong and sturdy, provided with all advance features required to produces high quality screens in-house.



Unlike conventional outdated tube light exposing box, this system is perfectly designed using Metal Halide Lamp with

mirror polished reflector, which delivers faster exposure and increases light efficiency. Its considered to be the most advance lighting system to reproduce fine details and its best suited amongst all modern photopolymer emulsions, capillary films and even thick films available today. Metal halide lamps superior hardening characteristics delivers higher production from each screens compare to any ordinary conventional tube light exposing box.

A light integrator is incorporated with a sensor to make sure there are no failure of screens due to over/under exposures, which mainly occurs due to voltage fluctuations. Even this unique tool automatically compensates the exposure time as the lamp ages. Light integrator not only ease pressure but maintains consistency in exposure time. It also switches off the lamp automatically once the set counts are completed.

The transparent glass frame coupled with two gas cylinders allows to place the screen frame on the vacuum blanket comfortably. A powerful vacuum pump connected with highly stretchable rubber blanket ensures excellent contact between positive and screen. This benefits to produce consistent quality of halftone dots with excellent edge definition.

### Screen Dryer:

A very essential element of emulsion drying. Screen dryer avoids stronger dust particles to settle on the emulsion

while drying. The system is designed to dry screens horizontally to get uniform emulsion thickness all over.

Proper air circulation with ventilation system coupled with low powered fan and efficient heater ensures quick drying thus minimizes downtime for additional coats. The heater is



connect with high quality digital temperature controller to set desired heat inside the dryer.

The thermal insulation is sandwiched between solid steel fabricated drying cabinet to retain heat inside the dryer.

This unique

fundamental minimizes power consumption and increases drying efficiency.

Its provided with maximum storage capacity of 3 screen while maintaining appropriate distance between each frames to ensure proper air circulation for fast drying of emulsions and films.

### Screen Inspector:



The inspector is properly designed to spread uniform light across the screen to ensure no spots are left unnoticed. Its compact and productive thus saves lot of space keeping a separate table for screen inspection.

A sliding inspector is mounted on a guide rails for easy movement thus a clever idea is applied to push the inspector along with the screen frame to avoid waste of time keeping half untouched screen frame on the floor and restart again keeping it back on the inspector. Its not only clever but also intelligent to switch the lights ON when pulled out and switches OFF when pushed in.

### Emulsion Coating Stand with Trough:

A unique spring loaded quick clamping device holds the screen vertically while operator coats the emulsion



manually. This avoids any kind of shake while coating the emulsion on the screen ensuring trouble free operation plus saves one additional person for just holding the frame while other coats. This adjustable clamp locks

various size of screen frame quickly and easily.

Fully anodized coating trough with superior edge quality obtains smooth emulsion finish leaving no marks and streaks. Highly recommended stuff for applying proper emulsion on the screen.

A shelf is provided to stack coating trough to avoid any type of damages.

### Mechanical Fabric Stretcher with Tension Meter:

This simple, sturdy, foldable, space saving device is designed to achieve perfect screens with optimum screen tension as desired with the help of Tension Meter. It's easy mechanism allows to adjust screen frame size from min 16" x 16" to max 34" x 40" OD and yet does not require power, expensive air compressor or any type of tools to stretch the fabric.

Special aluminum extruded locking device holds the fabric very firmly on all four sides and does not allow to slip even at higher tensions. Unlike



conventional mechanical fabric stretching systems, this unique fabric locking device reduces massive fabric waste, which is normally used just for clamping. To improve registration accuracy, 8 independent stretching knobs are provided to set optimum tension for wrap and weft thus enables to set even tension all over the screen.

There are many great advantages of using high tension screen, here are few important ones:

1. Enhances image definition
2. Improves print quality
3. Reduces ink consumption
4. Increases production speed
5. Avoids solvent ink choking
6. Deliver even ink deposition
7. Improves register accuracy

“SCREEN IS THE HEART OF PRINTING. GOOD SCREENS MEANS GOOD QUALITY PRINTS”. Grafica's NANO-SCREEN MAKER 5-in-1™ is a perfect and advance solution for developing high quality screens in-house.



Tension Meter



Coating Trough



Light Integrator



Temp Controller & Timer



Foldable Stretching Device

### TECHNICAL DATA

#### NANO-SCREEN MAKER 5-in-1 GF-1824 NSM 5-in-1

Min - Max Frame Size	16" x 16" OD to 34" x 40" OD
Max Exposing Area	18" x 24"
Power Supply	120 VAC / Single Phase 20 Amps / 60 Hz
Total Power Consumption	3.84 kW
Overall Dimension (In feet)	10.5' W x 4.5' D x 6.5' H
<b>Mechanical Stretcher/Tension Meter</b>	
Max. Tension Permitted	16 to 20 Newtons (Depending on Fabric)
<b>Emulsion Coating Stand &amp; Trough</b>	
Coating Trough Length with 2 End Cover	27"
<b>Screen Dryer</b>	
Auto Switch-off Timer	1 to 60 Mins
Max. Heating Capacity	122°F (50°C)
Power Consumption	2.6 kW
<b>Screen Exposer</b>	
Exposing Lamp	Metal Halide - 400 Watts
Power Consumption	0.80 kW
<b>Screen Inspector</b>	
Power Consumption	0.10 kW

- Continues improvement is an on going process at Grafica Flextronica, hence technical specifications, features and data are subject to change without notice.
- Servo stabilizer is not supplied along with the machine

## Unique Features:

- 1. Space saving**
  - a. Screen Stretcher/Coater/Dryer/Exposure/Inspector 5 in 1
- 2. Single phase**
  - a. Plug and play
- 3. Castor wheel**
  - a. For easy mobility

## Screen Exposure

- 1. High quality metal halide lamp**
  - a. Delivers faster exposure
  - b. Best for dual cure and photopolymer emulsions
- 2. Mirror finish reflector**
  - a. Increases light efficiency
- 3. Digital light integrator**
  - a. Ensures perfect exposure due to voltage fluctuation and lamp aging
  - b. For consistency and repetition accuracy
- 4. Top cover to avoid light reflection in dark room**
  - a. Avoids pre-exposure if coated screens are stored in the same room
- 5. Highly stretchable good quality vacuum rubber blanket**
  - a. Makes perfect contact between fabric and positives for quality reproduction
  - b. Exposes finer details
  - c. Reproduces sharp edges
- 6. Powerful low maintenance vacuum pump**
  - a. For fast production
- 7. Gas cylinder**
  - a. For comfortable loading of glass frame
- 8. High quality curtain**
  - a. For safety of human eyes

## Screen Dryer

- 1. 3 screens storage capacity**
  - a. Maximizes production
- 2. Horizontal screen drying**
  - a. Equalizes emulsion thickness
  - b. Delivers better Rz value (Smooth flat emulsion)
- 3. Double wall fabrication with thermal insulation**
  - a. To retain heat
  - b. Minimizes power consumption
- 4. Compact low power low noise fans**
  - a. Ensures perfect air circulation all over

- 5. High efficient heaters**
  - a. Dry's emulsion faster
  - b. Reduces down time for additional coats
- 6. High quality digital temperature controller**
  - a. Maintain desired temperature for consistency

## Screen Inspector

- 1. Uniform light**
  - a. Provides conveniency in spot touching and screen inspection
- 2. Screen inspector mounted on guide rails**
  - a. Saves space
  - b. Slide in with screen frame, saves time
- 3. Automatic lights ON/OFF**
  - a. Light automatically turns ON when screen inspector pulled out, switches OFF when pushed in.

## Mechanical Fabric Stretcher with Tension Meter

- 1. Mechanical**
  - a. No expensive air compressors required
  - b. No electricity required
- 2. Easy adjustable clamping device**
  - a. Stretches min 16" x 16" to max 34" x 40" OD frames
- 3. Quick fabric locking**
  - a. For faster setup
- 4. 8 adjustable stretching knobs**
  - a. Enables to maintain proper tension on wrap and weft
- 5. Foldable device**
  - a. For better space management
- 6. Tension Meter**
  - a. Tool to stretch fabric to its optimum

## Emulsion Coating Stand with Trough

- 1. Unique spring loaded clamp**
  - a. Holds screen firmly to avoid shake while coating
  - b. Saves on additional person to hold the screen while coating
- 2. Easy adjustable clamping device**
  - a. To suit various screen frame size
  - b. Helps turn screen faster for coating both sides
- 3. Fully anodized coating trough with superior edge quality**
  - a. Obtains smooth emulsion finish
  - b. Avoids marks and streaks
- 4. Emulsion coater storage shelf**
  - a. Avoids dust and pre-exposure of emulsion



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