Finishing Technologies

MAKOR FASTDRY
Lineal Convection Oven

FASTDRY tunnel ovens are designed for in-line drying and curing of water based or solvent coatings applied manually or by a wide belt spray machine. The nature of this lineal in-line curing system provides extremely efficient focus of convection hot air and infrared energy, allowing the coating to cure in a much shorter time than with other common curing methods.

In FASTDRY's two-zone oven system, Zone 1 is the "flash off" zone that provides laminar hot air to eliminate the volatile solvents or water that must be evaporated before higher intensity curing energy is applied. Laminar means that warm air enters the tunnel at the far end of the zone and is drawn toward the tunnel entry with an extraction fan. The air temperature and velocity increases as the freshly painted part proceeds through the oven. Temperature and air speed are adjusted to prevent "blistering" of the coating as the volatiles evaporate.

Zone 2 provides the "curing" of the finish. Much higher temperatures and increased air velocity occurs in this zone. Hot air is forced into a plenum and then concentrated with nozzles to greatly increase the air velocity, and is referred to as "Wind Jet". The Wind Jet zone may also have a number of infrared emitters installed to facilitate curing in the shortest time possible.

FASTDRY is custom sized to meet the specific curing requirements of the applied coatings, taking into consideration the conveyor speed of the finishing line. Typically, zone 1 requires more time than zone 2. Once the volatiles are completely evaporated, very high energy intensity may be applied in Zone 2 without negative effect on the applied coating. A lasting, beautiful finish is the result.

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KEY FEATURES

- Independent control of temperature and air velocity by zone
- Use of IR emitters in curing zone
- Flexible lengths of each zone based on total time and line speed
- Insulated panel construction
- Choice of electric or hot water heat exchanger
- Conveyor – zinc plated rollers motorized by double row parallel chains

OPTIONS

- Configured as FTT transverse oven for moldings
- NIR (short wave) infrared
- IRM (medium wave) infrared
- IRCK (long wave) infrared
- Digital control of oven parameters
- Wind Jet zone utilized as “stand alone” oven for fast curing after ambient flash off

TECHNICAL DESCRIPTION

Special note: this is an example configuration without IR, and is intended for reference only.

Machine Dimensions:

Length	Laminar Zone 1 – 30 ft (9,000 mm) Wind Jet Zone 2 – 20 ft (6,000 mm)
Width	67 in (1700 mm)
Height	63 in (1600 mm) (fans excluded)

Workpiece Dimensions:

Maximum

Length	infinite
Width	51 in (1300 mm)
Height	2.5 in (60 mm)

Specifications: (for each zone)

Feed Speed	6.5 – 26 fpm (2 – 8 mt/min)
Intake Air Capacity	4120 cfm (7000 cu mt/min)
Extraction Air Capacity	4120 cfm (7000 cu mt/min)
Heat Source-water	160,000 btu/hr (40,000 kcal/hr)
Feed Motor Power	0.75 kW
Intake Fan Motor	3 kW
Exhaust Fan Motor	3 kW