



Printech Technology Corpn

Leading Manufacturer of Converting Machines

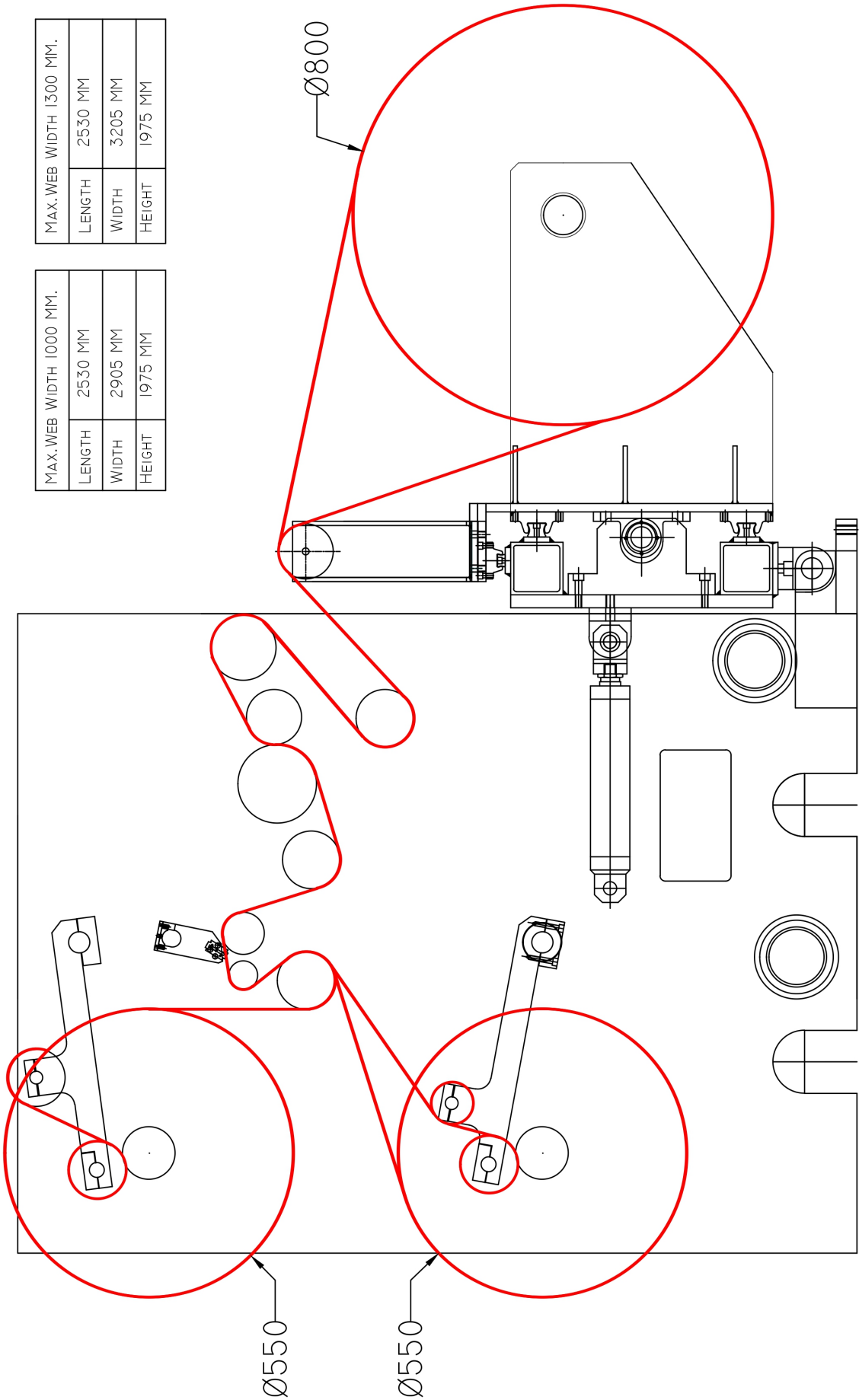


**Slitting Machine**

# Machine Layout

PRINTECH

SLITTING MACHINE LAYOUT DIAGRAM



— Web Path

# Machine Specifications

The Slitting Machine is equipped with vector-grade Digital AC Drives and AC Induction motors with Duplex Rewinder and Pneumatic disc brake for unwinder with the purpose of Slitting and Rewinding Printed or Unprinted Flexible Films / Laminates / Papers.

|                               |   |
|-------------------------------|---|
| Maximum Web Width             | 1000 MM / 1300 MM                                       |
| Minimum Web Width             | 500 MM  |
| Typical Material Range        | Hard & Soft film, paper & laminates (10 to 150 microns) |
| Maximum noise level at ground | 84 dBA at 1 meter level around machine                  |
| Operation Speed               | 450 MPM*  |

*\*Dependent on the Material Type and Gauge, Slitting Width and Core Quality*

## Unwinder

|                  |           |
|------------------|-----------|
| Maximum Roll Dia | 1000 MM   |
| Inside Core Dia  | 76/152 MM |

## Rewinder

|                        |        |
|------------------------|--------|
| Maximum Roll Dia       | 550 MM |
| Inside Core Dia        | 76 MM  |
| Minimum Slitting Width | 50 MM  |

## Electricity Range

|                               |   |
|-------------------------------|---|
| Electric Supply Voltage       | 415 V AC $\pm$ 10%, 50 Hz $\pm$ 2%, 3ph+N+E |
| Control Voltage               | 24 V DC                                     |
| Total Installed Electric Load | 17.36 KW (approx.)                          |

## Air

|                         |                              |
|-------------------------|------------------------------|
| Air pressure at machine | Minimum 6 kg/cm <sup>2</sup> |
| Water Content           | Below 0.01%                  |
| Max. Air Consumption    | 5 M <sup>3</sup> / Hr.       |

# Machine Composition

## Shaftless & Floor lifting type Unwind

The machine is equipped with a shaftless unwind arrangement. The Floor lifting feature of the unwinder helps the operator to load and unload jumbo rolls.

## Floating Platform

The unwind unit oscillates through the actuator and line guide system to position the unwind as per the telescopic. A lead screw driven by a geared motor is provided for shaftless chucking and unchucking of the parent roll.

## Unwind Tension Control System

One auto tension controller by electronic calculation system controls the web tension between the unwind and pull station. The tension selection (manual/auto) is available on the unwind control. An ultrasonic sensor type diameter sensor, mounted on the unwinder, provides diameter tension control. Another ultrasonic sensor located at the rewinder enables roll diameter measurement & tension management. A rotating operator panel is provided at the machine station. The web passes over a roller arrangement positioned between the unwinder and the pull unit. The torque applied to unwind roll changes based on the diameter to maintain the set web tension in the unwind zone.

## Pneumatic Brake

The pneumatic brake provided at unwind consists of 64 kgM of braking torque. The running/maintenance cost, and wear & tear is negligible in pneumatic brakes as compared to magnetic powder brakes. Brake tension is maintained throughout the range of diameter, hence torque changes continuously according to the unwind roll diameter.

## Pull Unit

One rubber pull roller, driven by a digital AC drive and AC Induction motor, is nipped by a pneumatic pressure roller. The rubber pull roller acts as the master drive on which two pneumatic regulators and a display gauge are provided to maintain the pressure of the nip roller at both ends.

# Machine Composition

## Web Guide System

The web guide system ensures reliability at high web speeds through precise scanning and selection of lines, print edges, or web edges. The colour sensor enables contrast transitions and sensor movement enables scanning positions that are difficult to access. The LED lighting creates the optimal lighting conditions.

## Slitting Station

The slitting station consists of one blade holder assembly, one groove roller, and one roll system to transport slit web to rewind spools. The groove roller with a 1mm gap is used for mounting razor blades. A set of circular top and bottom knives can be provided with the machine (optional). The blade holder assembly is pivoted at a fixed position and can be swung in and out of engagement. The arrangement can be supplied for kiss shear knife slitting with appropriate shear knives. The desired slit width is set by magnetic blade holders (10 nos.). Slit webs are transported on one of the take-off rollers to rewinder.

## Laser Light for Core Positioning

Laser light at rewind helps in core positioning and reducing changeover time. Laser project lines on both rewind shafts indicate the exact position of each rewind core. This eliminates errors during setup and changeover of rewind rolls.

## Duplex Rewinder

The upper & lower rewinder shafts are powered through a single AC Induction motor having variable speed digital AC drive. They are held rigidly on front support assemblies mounted on rewind arm support and actuated through pneumatic cylinders. Differential air pressure setting for both rewind shafts is controlled by individual E to P pressure regulators. Both shafts are pre-set to an adjustable over speed, creating a differential slippage between shafts and friction rings. Differential slippage allows each rewind roll to rotate at its speed to compensate for any material thickness variation across web width. The cork tape roller avoids slippage of laminates. Winding of both shafts can be pre-set for constant or taper tension mode. Differential shafts with ball lock allows for fast changeover. The THK guide allows for the clamping & unclamping of differential shafts.

# Machine Composition

Alternate slit webs are led to two rewind differential shafts that are driven from a single AC Induction motor through a timing belt to give drive to each spool. An ultrasonic sensor provides automatic diameter feedback, traces the changing roll dia, and maintains the roll spool surface speed concerning the main drive.

Direction is reversible to allow the material to be rewound with printing inside or outside of the rewind package. To do this, the direction of the friction rings must be changed. The lay-on roller pressure on the rewind web is pneumatically adjustable. Lay-on rollers are used to avoid air bubble traps & proper winding.

The roll unloading stand used to unload finished rolls has two horizontal shafts, which are located at a distance matching both rewind shafts.

## Electrical and Control Panel

The electrical panel consists of AC Digital Drives, pneumatic controls, and a programmable logic control system to control the machine functions. A 10.1" touch panel is placed on the laminator column of the machine (front/operator side). This HMI has an inbuilt Wi-Fi option, which enables remote diagnostic in the machine. Push buttons for machine operations are placed on both Rewind & Unwind sides.

## Electric Load

| Item                | Load (KW) | Quantity | Total Load (KW) |
|---------------------|-----------|----------|-----------------|
| Main Motor          | 3.70 KW   | 1        | 3.70 KW         |
| Rewind Motor        | 7.50 KW   | 1        | 7.50 KW         |
| Trim Blower Motor   | 3.70 KW   | 1        | 3.70 KW         |
| Line Guide system   | 0.10 KW   | 1        | 0.10 KW         |
| Brake / Cooling Fan | 0.06 KW   | 3        | 0.18 KW         |
| Control Load        | 0.5 KW    | 1        | 0.5 KW          |
| Chuck Unchuck       | 0.18 KW   | 1        | 0.18 KW         |
| Floor Lifting Motor | 1.5 KW    | 1        | 1.5 KW          |
| Total Load          |           |          | 17.36 KW        |

## Make of Main Components

| Item                                     | Make                    | Origin        |
|--|-------------------------|---------------|
| Pneumatic Fittings, Tubing & Controlling | Pneumax / SMC / Festo   | Japan / Italy |
| Turret Chuck Unchuck Unwind              | Rotomotive / Bongfigoli | India / Italy |
| AC Induction Motor (Main & Rew.)         | Siemens                 | India         |
| Digital AC Drive                         | Siemens                 | Germany       |
| Touch Screen (HMI)                       | Weintech                | Taiwan        |
| Line Guide System                        | BST                     | Germany       |
| Pneumatic Brake                          | Re                      | Italy         |
| E to P Regulator                         | SMC                     | Japan         |
| Trim Blower                              | Ventilayer              | India         |
| Time Winder                              | Printech                | India         |
| Laser Core Positioning System            | Printech                | India         |
| Ultrasonic Sensor                        | Banner                  | USA           |

Trim removal arrangement is an optional attachment supplied with the machine. The 2 types of trim removal attachments - **Trim Removal Blower** (removes the trim by forced air) and **Trim Winder** (winds the trim into rolls).

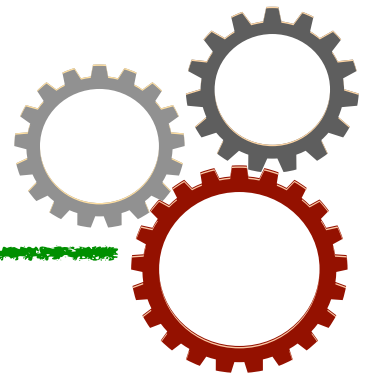


**Trim Winder**



**Trim Blower**





**Planning to expand your horizons and business, a Printech-made machine is the answer to your converting needs.**

# PRINT**7**TECH



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