

Shrink Wrapping Machine with Web Sealer Attachment



(Photograph is for the reference purpose only. Machine Construction & Specification are subject to change without prior Notice due to Continues up-gradation Process)

Overview of the Equipments

- After filling capping and labeling, product containers are fed automatically onto the in feed conveyor of the wrapping station and continue moving in a single lane onto the collating table
- Here, a pneumatic pusher collates the containers into the pre-selected pack formation, which upon completion is transferred forward into the welding position.
- At this stage the pack is clamped, the welding bar descends to complete the wrap, and the pusher returns to prepare the next collation of product.
- As the welding bar ascends, the pusher advances to transfer the new collation into the welding position, at the same time displacing the previously wrapped collation onto continuously moving shrink tunnel conveyor.
- The wrapped collation soon enters the shrink tunnel chamber where re-circulated hot air causes the wrap to shrink and tightly conform to the contours of the contents.
- Once the pack is out of the hot chamber, forced air cooling is used to tighten sleeve wrap to achieve a strong, secure pack ready for stacking on pallet or a placing on a shipping carton.
- With Integral Horizontal Collator

Operation of Shrink Wrapping Machine

Pusher: The Pneumatic Pusher will be in line with the machine. It will carry the products arranged in the required matrix up to the wrapper. After the operator presses two hand operated switches, the Pusher then returns to the normal position for the next cycle. After the Pusher returns the operator places the bottles for the next cycle. The Pusher side guides are adjustable to accommodate various sizes and matrix of bottles.

Film Wrapper: The pack which is transferred from the feeding table to wrapper conveyor carries the film along with it. A Motorized Film Unwinding system shall be provided to unwind adequate amount of film required for wrapping. A film guide roll and guide bush shall be provided. The necessary sensor photocell shall be provided to ensure an availability of free unwinded film during the sealing operation. A dancing roller with a proximity switch shall be provided to unwind the necessary film. The front sealing jaw shall have a sealing of suitable width. This jaw will have a continuous arrangement for cutting and sealing of film. The temperature of the sealing head shall be controlled with help of a Temperature Controller (Continuous Heating). The necessary air cooling arrangement for the sealing head will be provided. In case of machine with side sealers the same shall be provided. At the time of wrapping the pack shall also be held from top with the help of a Pneumatic arrangement. The push of the next pack transfers the bottles onto the Shrink tunnel Conveyor Belt.

Shrink Tunnel: The Shrink Tunnel shall be fabricated from Mild Steel structural with Mild steel paneling duly primed and painted. The design of the machine shall be suitable to accept your pack of maximum size 450 x 300 mm (W x H). The Shrink Tunnel shall consist of a Heating chamber, which shall be well insulated with Rock-wool, to reduce loss of heat. The Heating chamber shall also have a top mounted Blower to blow temperature controlled Hot Air onto the product. The Air inside the chamber shall be heated with the help of U - Shaped S. S. Tubular Heaters. An Electronic Temperature controller shall be mounted for accurate control of temperature between 0°C to 250°C. The Shrink Tunnel also consists of a chain conveyor linked with G. I. Mesh. The conveyor motion shall be of continuous type. The conveyor shall be driven by a D.C. Motor through a Gear Box, to achieve speed variation for ensuring a proper shrinkage. A cooling fan shall be provided at the exit end to ensure a tight wrap. The necessary idle conveyor shall be given for easy collection of pack.

Control Panel: An aesthetic control panel made from Mild steel shall be fitted alongside the machine. All the components used like contactors, relays, rotary switches, timer, limit switches shall be of reputed makes and shall have capacities taking into consideration the safety factor of the worker and the machine. A Logic Controller will be provided for automatic functioning and operation of the machine in the required sequence. All the parameters of the system shall be controlled by the Panel. The sequence of operations of the machine shall be suitably interlocked for optimum safety.

Technical Details of the Equipment

Sealing Dimension	24" (Inch) sealing arm for front sealer
Machine Output	4 To 5 Packs/Minute (Depending Upon the Product Size)
Sealing Knife	Continuously heating Teflon Coated Sealing Knife 16" Long with film Guard.
Pneumatics Parts	Cylinder Solenoid Valve, FRL, Flow Control Valve, Tubing
Heater Specification	1 KW Tubular Heater for fast heating.
Control Panel	In this Panel all Contactors are TELEMACHINC Make. All Proxy switch, Rotary switch & Photo Cell With SELECTRON Timer, Digital Timer & Digital Temperature Controller ELECTROQUEP make AC Drive,
Top Un-winding	Auto unwinding with Pneumatic Cylinders.
Film Carriage Roller	Fully Stainless Steel material with buffing.
Air Consumption	Constant Air Pressure 100 PSI
Conveyor Belt	S.S. ROLLER CONVEYOR.
Motor	1 HP AC Motor
Heater Specification	600mm Long 1 KW Stainless Steel tube fined heater.
AC Motor Specification	1 HP 2800 RPM motor with 7" Impeller
Cooling Zone	Cooling Fan for Fast Cooling.
Idler Conveyor	For Idling the Product.
Power	3 Phase, 440 VAC 50 Hz, 9-11Kw.
Compressed Air	7 to 9 CFM at 80 PSI

Components Used:

Contactors & Relays	L & T or Telemecanique Make
Switches	Kaycee or Equivalent Make
Tem. Controller	Selectron or Equivalent Make
Variable Frequency Drive	Delta Make
Pneumatic	Festo Make or Equivalent Make
A.C. Motor	Bonfiglioli / Hindustan or equivalent Make.
Gear Box	Bonfiglioli / Hindustan or equivalent Make.
Chain	Roll-on Make
MOC	Contact Parts S.S. 304 and all Covering S.S. 304 Cladded or M.S Painted