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Ref: Stretch Wrap Machinery & Film 101

STRETCH WRAP MACHINERY

Selecting A Stretch Wrap Machine - Choosing the right stretch wrap machine for your packaging operation should be a carefully thought out project. Requirements should be gathered in order to narrow down the choices. The following are some questions that should be considered.

- What type of load? (Ex stable, unstable, heavy, light, fragile, uniform surface, mild or great irregularity of surface, tall, short, wide, etc.)
- What stretch wrap packaging throughput speed do you require and is floor space an issue?
- How much do you want to invest in a stretch wrapper?
- Do you want an operator run system using existing forklifts or pallet jacks to bring loads to the wrapping area? Or do you want a completely automatic system that does not require an operator and uses a powered conveyor to transport loads to and from wrapping area?
- Do you want a stretch wrap system to achieve optimal pre-stretch film performances and thereby gain more secure loads while using less film?

Types of Stretch Wrap Systems - Semi Automatics / Simple Automatics / Fully Automatics

Stretch wrap machines are either semi-automatic (good for less than 30 loads per hour), simple automatic (enables stretch wrapping start and finish without operator leaving a forklift) or fully automatic (standard choice for medium to high volume packaging operations). An important difference between semi-automatic and an automatic system, is semi automatics requires more labour resources and have lower output speeds. Review of daily output requirements by a packaging consultant will determine what type of system is most appropriate for a packaging operation.

Turntable Systems / Overhead Systems / Horizontal Systems

Turntable Stretch Wrap Systems - These stretch wrap machines use a film carriage on a fixed mast, to apply stretch film as it ascends and descends and rotates the load. This type of system can meet the needs of most applications. Semi-automatics are designed for use with a forklift

(high profile turntable) or a pallet jack (low profile turntable) and automatics are normally used with a conveyor. See Turntable Systems: **Semi-Automatic Turntable Systems, Simple-Automatic Turntable Systems** and **Fully Automatic Turntable Systems**

Straddle Stretch Wrap Systems - These stretch wrap machines use a rotating film carriage to apply stretch film as it moves around the load. Lantech stretch wrappers are freestanding and are available in semi-automatic, simple automatic, and fully automatic. This style of stretch wrapping is ideal for loads that are significantly light, fragile, and unstable or for loads that are too heavy for turntable systems. Also referred to as: Straddle Stretch Wrappers, Overhead Stretch Wrappers, Rotary Tower Stretch Wrap Machine, Rotary Arm Stretch Wrappers See Straddle Systems: **Semi-Automatic Straddle System** , **Simple-Automatic Straddle System** and **Fully Automatic Straddle System**

Horizontal Stretch Wrap Systems - These stretch wrap machines apply stretch wrap with a rotating film carriage that moves around a load as it passes through a horizontal ring. An automatic stretch bundler is ideal for products and loads that do not use a turntable system or overhead system or if banding or enhanced packaging is required. Also referred to as: lan-ringer, orbital, horizontal pallet wrapper, palletizer, pallet wrap equipment, pallet wrap machine, conveyORIZED horizontal stretchwrapper, ring. See Horizontal Stretch Wrap Systems: **Fully Automatic Stretch Wrapper**

STRETCH WRAP FILM

Which Stretch Film To Use? - Selecting the right stretch film is very important to maximizing output performance of your stretch wrap machine. Proper pairing of stretch wrap machinery and stretch film will ensure stronger loads and optimal film efficiencies. Today's high capacity stretch wrap machines require film rated for use with the RPM of the machine. As a rule of thumb use the machine stretch film levels and stretch film equipment RPM to determine what type of stretch film is required. Such as

- 250% stretch at 30 RPM = High Performance
- 200% stretch at 15 RPM = Moderate Performance
- 150% stretch at 12 RPM = Low Performance

STRETCH WRAP TERMS

Brake Roller - A mechanism on a stretch wrap machine that reduces the rate at which the film feed is dispensed to the load and as such increases tension between the stretch film and the load.

Dancer Bar - A pivoting roller found on many stretch wrap machines that measures film feed requirements. Component will accelerate and decelerate film feed on corners to sustain a continuous film force (film tension) on the load or pallet.

Film Feed - The speed at which the film is supplied to the load is the film feed. Film feed rate adjusts as needed on load corners to maintain consistent film tension.

Film Force - The retaining tension of the film put on the object wrapped is referred to as film force or film tension. This is usually measured in pounds. A film force dial is commonly placed on the carriage or control panel.

Film Force Release - Automatic stretch wrappers typically have a film force release feature so that added film tension is released when it is not wanted. This feature helps make the automatic stretch wrapping process easier to set up and detach at end of cycle

Horizontal Stretch Wrapper - Fast efficient stretch wrap solution system that wraps loads not suited for turntables or overhead straddles or require banding or enhanced packaging solutions. Common system options include: power thru conveyor, product stabilizers and accumulation conveyor. Also see: **Horizontal Stretch Wrapper**

Load Diagonal - The measurement diagonally across opposite corners of a pallet or load is referred to as the load diagonal. The dimension of the largest and smallest load diagonal is necessary to determining stretch wrap machine size. The measurement is calculated as $(L^2 + W^2)$.

Prestretching - The process of stretching the film before applying it to the load is referred to as pre-stretching. This is carried out in the pre-stretch carriage, where the stretch film threads between the two carriage rollers (primary roller and secondary roller) and is mechanically elongated as the second roller rotates faster than the primary.

Simple Automatic - A step up from semi automatics but does not include all the features offered by fully automatics. Main feature is providing remote access to initiate wrap start and finish without having to leave forklift.

Wrap parameters - Adjustable load retention settings available on the stretch wrap machine. Typical setting variables include: film force, rotation speed (turntable or rotary arm), pre-stretch carriage vertical speed, bottom wraps and top wraps.