

## A Simple Guideline to Choose Your Next Wrapping Machine

Packaging is an established requirement for the protection of the product for handling, locking of unstable products arranged on pallets, protection of the product from atmospheric agents and any situation which requires the use of stretch film to wrap the product.

Types of packaging are various – **Castle** offers the Complete Package

Essential for clients who want to investigate buying a pallet wrapping machine, is to have an easy to use guide to accompany them in choosing the right tool.

### **Automatic or Semi-automatic?**

First thing to think about is the amount of work to be done. In general, for a **semi-automatic** machine when we must wrap up to **20 pallets per hour** while an **automatic** machine is the right choice for **50 pallets per hour** and over.

- The **automatic machine** is characterized by completely autonomous operation with load, start, loop and automatic unload. The automatic machine should be protected with safety fences and with “muting” safety barriers as required by law, to protect the operator during the cycle. **Castle** provides, on request, complete automatic lines of chain or transport rollers, with all the safety systems required by the regulations.
- The **semi-automatic machine** is characterised by versatility of use in any condition the customer must operate, have the possibility of having a “fork mounted” frame to be easily transported from one production department to another and there is also the version having a rotating table with fork housing. The loading and unloading of the product to be wrapped are borne by the operator as to the cycle start, using the control panel on the column of the machine. The semi-automatic machine does not require the use of safety fences because the movements of the machine are all lower than those established by the legislation and, in the design phase, solutions have been studied to bring in safety.

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## Rotating Table or Arm? ... or maybe a Robot?

Second thing to think about is the type of wrapping machine:

Rotating table (where the pallet is loaded on a platform that rotates to wrap) or rotating arm (where there's an arm that rotates around the pallet).

- We usually have a machine with **rotating table** when the weight of our product does not exceed 1500/2000 kg. The load capacity of the rotating table is limited.
- We use a machine with **rotating arm** when the weight of our product exceeds 1500/2000 kg. However, this is not the only reason. Even if the machine with rotating table is equipped with advanced management of the rotation, we can prefer the rotating arm when we must wrap unstable products.

A separate discussion must be made regarding **self-propelled wrapping machines (robots)**. These special machines, in fact, are equipped with wheels and powered by high-performance batteries that allow them to be moved anywhere you want. These are not "minor" machines at all, in fact they can automatically wrap the product or pallet according to advanced wrapping programs. Choosing a self-propelled wrapping machine allows you to wrap your products without having to move them.

## Do we save stretch film?

It is not just an ecological choice to opt for an extensible film saving. The consumer product has a significant impact on the logistics costs of the company and represents a "hidden cost". Let's see what the possibilities are.

The consumption of film depends on the type of reel holder installed on the wrapping machine. The economic model has a reel holder unit with pre-stretch (this is the name that defines the group that supports the coil and dispenses the film processed between the rollers on the package to be wrapped) **mechanical** or with **magnetic brake**. This model has exclusively the tension adjustment of the film between the machine and the package.

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The most performing model (also for film consumption) is the **motorized pre-stretch**, available with one or two engines.

The motorized pre-stretch with one motor has a fixed pre-stretch ratio, obtained by distributing the motion of the rollers with gears. You can have different types of pre-stretch ratios (**100%, 150%, 200%, 250%, 300%, 350%**) based on the gear ratio reduction (gear change ratio with gear pair replacement). If 100 mm of film is distributed, after passing through the motorized rollers the same will reach a length of 300mm (in the ratio 200%) with a **considerable saving of film**.

The motorized pre-stretch with two engines easily arrives at a ratio of **400%**.

This solution also makes it possible to reduce the tension of the film on the package and therefore the winding of unstable and non-homogeneous products (the wrapped pre-stretched film continues to recover the elastic elongation for about a day. Obviously, the film also has a plastic phase which will allow it to be elongated without return and without breakage during the wrapping cycle).

The film can be arranged manually on the package to be wrapped (in semi-automatic machines) or a pair of clamps provides to block the film on the rotating table for dragging during the wrapping cycle.

The cut of the film can be manual or automatic with hot wire enabled only during the cycle, at the pre-established time.

The welding of the film strip which remains at the end of the cycle takes place either manually or automatically according to the Customer's needs. The welding pad, at a temperature of 115°C, automatically welds the flap of film on the film previously wrapped on the package. If the package to be wrapped is not homogeneous, a contrast plate for the welder is interposed between the pad and the package to safeguard the product.

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## What do we need?

Having said all this, what is the best machine? In fact, the most sensible advice is to talk to one of our qualified technicians, who will certainly be able to suggest the appropriate solution. There are countless needs and as many possibilities to manage them, perhaps combining the wrapping machine with one or more accessories that make it perfect for the work that needs to be done. So, now that you have an idea, [contact Castle](#).



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