

Stretch Wrapping Machines

Protecting windows for shipment is a technology that has grown dramatically over the years. Wrapping windows, however, is a very unique process. Wrapping boxes on a pallet is entirely different than wrapping windows for shipment.

Wakefield is aware of the challenges associated with window wrapping, and for this reason, we have been associated with KPS for years. Simply stated: they know our industry, they know how to wrap windows, and they have more experience in this market than anybody. Their offering consists of several different units:

The Model 939 Series:

These are vertical machines. Advantages include the ability to wrap practically any size window, and only one employee is required to operate the machine. Capacity per shift ranges from 275 to 300 windows.

The Model 800 Series:

These are horizontal machines, sometimes referred to as ringers. The basic KPS ringer has a unique feeding system designed just for windows. Capacity per shift using two employees ranges up to 1000 windows.

Machines for Lineals & Screens:

These machines are specialty units. The lineal wrapper is patterned off the 800W series while the screen wrapper uses Model 939 technology. Both have platums specifically designed for the application.

The following pages provide an overview of the machines listed above. Each machine has its own booklet with detailed descriptions. For additional information, give us a call. We're here to help.

STRETCH WRAP MACHINES

Introduction

If you've studied your packaging needs, you probably have certain requirements that are essential. Usually, a packaging operation will have four priorities:

- Attractive looking package
- Reduce shipping damage
- Eliminate bottlenecks
- Minimize labor

The advantages of film to show your product, protective corners for shipping and high speed throughout are obvious. These pages address the last concerns of zero bottlenecks and minimum labor. You should find it useful.

While looking through this booklet, keep in mind two things. First, consider packaging as a system. It's more than a single machine, but actually a series of input and output conveyers to create an efficient and seamless flow of product. Second, look at your product and the various nuances including jamb thickness, lift rails, and maximum plus minimum window width. There is a list of questions to answer before a proper proposal can be presented, and we will be glad to help you through the process from your initial inquiry to the final installation of your new systems. We know packaging for the fenestration industry better than anybody.

Protecting your finished product with film is today's preferred method, and we know how to do it better than anybody in the industry.

Two essential points to remember is to look at this as a system, and know exactly what will be wrapped.

Zero Bottlenecks

In most parts of this country, window manufacturing is a seasonal business. It makes absolutely no sense to ramp up production and then create a bottleneck in the shipping area. That's why it's important to make sure that your wrapper has more than enough capacity for your needs. An FA series machine is capable of 5 windows every two minutes- over one thousand per shift. But are your employees capable of loading and unloading this volume? Loading and unloading will be discussed later in this booklet. Not only is it an essential part of the system, it accounts for a major portion of your investment dollar. Zero bottlenecks and minimum labor for year round output can be obtained.

Film Type

The high speed ring shown on the right uses film specifically designed for wrapping windows, and we can help you with selecting the right supplier. Also, if you use protective corners, make sure that they fit tight.

Standard film rolls are either 10 or 12 inches, however a 20 inch film option is available. Although 20 inch film will reduce material costs due to less overlap, the output of the material will not be materially increased. This is mainly determined by the ability to load and unload as discussed earlier. Both the size of the film and length of window have very little to do with overall cycle time.

The advantage of 10 or 12 inch film is the ability to handle shorter windows. As a rule, 10 inch film can wrap windows as short as 20 inches long with forks or 28 inches long without forks. With 20 inch film, the shortest window is 32 inches with a fork, or 36 inches without a fork. For this reason, most fabricators choose 10 inch films unless window length is consistently over three feet long.

Machine Basics

Below are listed some basic concepts of the machine which will help guide you through the decision process. Although it is not important to understand the exact design of the FA series, some of these options are important to determine the best configuration to guarantee you the right machine.

Wrapping is completely automated. The film cylinder (shown on previous page) moves in and out to grab the film and attach it to the window. When down, it is cut with a U-shaped hot tube that is practically maintenance free. Unlike wires, there is never a problem with breakage. The entire cycle is controlled with a PLC and circuit breakers are standard.

Product hold downs help to guide the window by creating tension against the powered infeed belt. Tension is required for most windows unless they are extremely heavy. The spring loaded hold downs standard with the FA series allow for 2.5" thickness range of windows, but if the range of thickness in your window line is greater than this, air powered hold downs should be considered.

Product forks are required for short windows to bridge the gap and are necessary for the film to pass underneath. If 20 inch film will be used, they become even more important because the gap is wider. The exact requirements were discussed on the previous page.

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Ring diameter is probably the easiest decision to make. Each model on the FA series ends with the number 40, 50, 60, 70 or 80, which determines the widest window that can pass through. The ring diameter is approximately one foot larger. Two considerations are the pass through height, which gets tall on the 870 and 880 series, and the limits of wrapping a small window with a large ringer. The effect known as "kilting" will occur when film catches the wind and attempts to wrap a small window. As a rule of thumb, an 850 can handle even the smallest width, an 860 can wrap 12 inches, but both the 870 and 880 can have this "kilting effect" with windows less than 24 inches wide.

The simple design of the FA series makes this an easy to use, low maintenance machine.

The basic machine along with options is primarily determined by the size of windows to be wrapped.

Loading & Unloading

Since the main constraint on output come from the ability of your workers to load and unload the product, the decision on conveyers is extremely important. It is also a major portion of your investment dollar. There are several ways to handle the assembly process leading up to the wrapper.

Vertical assembly requires that the window or door be tilted into the horizontal position. This means that a tilt conveyer to join with the infeed power table is necessary. With rollers centered on the tilt conveyer as shown here, centering becomes easy and eliminates the need for an expensive auto-centering device. The window is then pneumatically tilted and power fed into the ringer. Of course, with horizontal assembly, this is not necessary.

Buffer conveyers can also be used behind the initial loading table to keep windows separate. Although this can allow for an almost continuous feed, the physical demands and limitation of the employee must be remembered.

Outfeed can be accomplished in the same manner as infeed, but some fabricators choose a simple slide table. This is an easy way to drop the finished product into a window dolly and move it to the shipping area.

With proper study of your workflow, the type and size of conveyers can be recommended. We will be glad to help you with this process.

Making the right decision on infeed and outfeed conveyers will determine the overall efficiency of the wrapping operation.

Powered conveyers can account for up to 40% of the cost of the total system.

Designing a System

Once you're convinced that the design and capacity of the FA series is right for you, you'll need to answer a few simple questions on both your product and operation. We can then prepare a specific proposal. Information we'll need to get started includes:

- Window thickness (range)
- Window width (minimum & maximum)
- Assembly method (vertical or horizontal)
- Units per shift (maximum)

Either a representative from Wakefield or a factory technician from Kalamazoo Packaging will go over the details and cover every base. We've done this countless times before and know the right questions.

Throughout the process, remember that we will be proposing a system. More than just a machine will be offered, but a total solution which meets your requirements for an attractive package to show off your product along with productivity and the cost savings necessary in today's market.

The importance of investing in a system, and not just buying a machine cannot be overstated.

Conclusion

There are scores of companies producing machinery for packaging today. Some companies focus on generic equipment for wrapping pallets, while others focus on specific industries.

Both Wakefield and Kalamazoo Packaging are specialists in the fenestration industry. The equipment described in this booklet was designed specifically for wrapping windows, and nothing else. When you make your decision on a packaging system, ask yourself how well your supplier knows you and your business. We're sure that you will decide that we offer the best solution for the smallest investment dollar, and look forward to working with you.

The best decision that you can make is to go with somebody who knows the industry, and offers a total solution.

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Vertical Window Wrapper

Today, stretch wrap film is the preferred method of wrapping windows. And, the vertical stretch wrap design is the number one preferred method of wrapping random sizes.

Remember, the KPS line is designed for windows, and is not just another redesigned, or converted pallet wrapper. The continuous cycling with these constant demands requires a KPS in your plant.

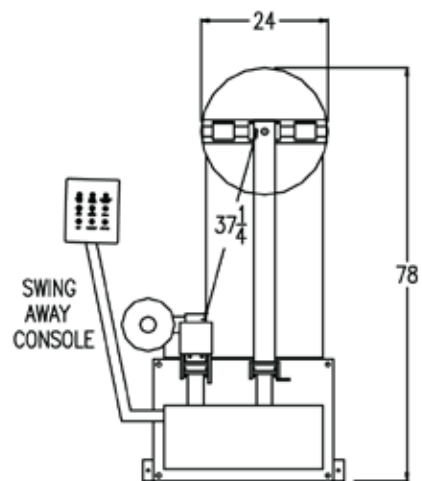
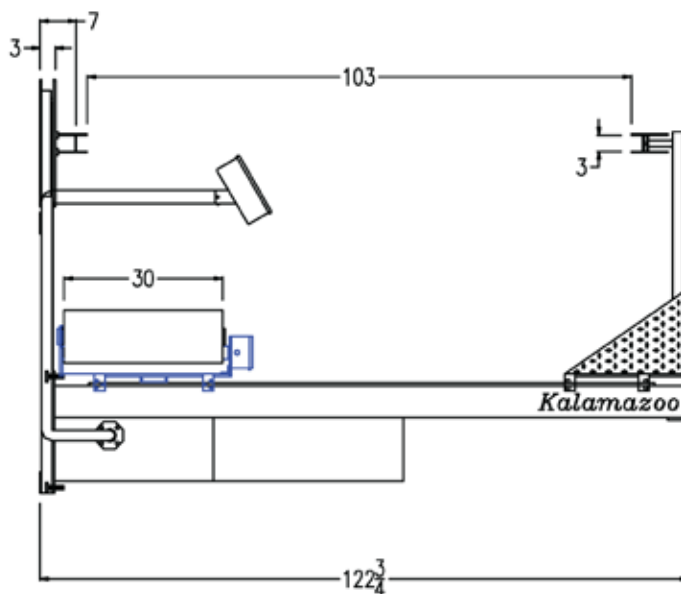
So, if packaging random size windows is a problem, we have your answer. The KPS line of Model 938 and 939 vertical stretch wrap machines offer:

- Increased Productivity with a high speed design.
- More flexibility to wrap a wide variety of sizes.
- Reliability with 15 years of experience.
- Easy operation with a low profile table and swing out control panel.



Remember, KPS is the only major manufacturer of stretch wrap equipment to build machines exclusively to wrap windows. Tell us your requirements, and we'll tell you a solution.

MAXIMUM WINDOW/PANEL HEIGHT 96"
 MAXIMUM WINDOW/PANEL WIDTH 60"



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Horizontal Window Wrapper

Horizontal wrappers, sometimes known as “ringers”, come in a variety of sizes. Typically, a 60 or 72 inch ring is used. Input and output conveyers are common, although, some ringer operations use a direct feed of the window into the ring without pre-staging it on a conveyer. The unit shown below uses a direct feed.



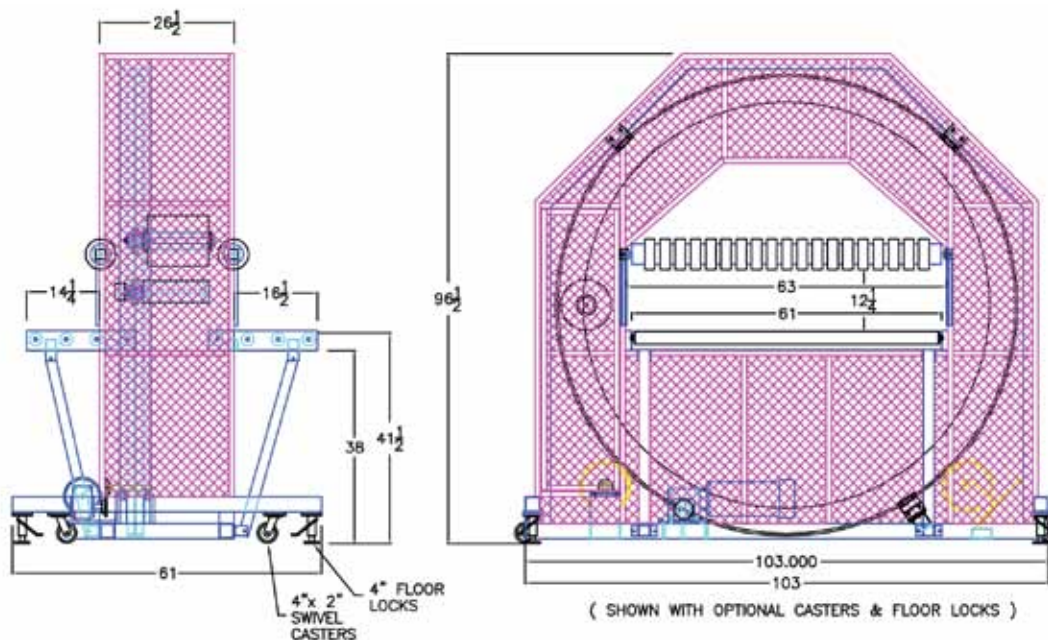
The 850W series from KPS is unique for several reasons. This design was developed through years of experience in wrapping windows, and includes:

- Bottom rollers have a special polyurethane cover which helps “grab” the window for an easy feed.
- Top “donuts” ride over grooves and ridges in profile and keep windows straight during the wrapping process.
- Special Pro Gaff tape on donuts made with cloth help the window to track a straight line.
- Distance between rollers and donuts is easily adjustable to accommodate any size window.

The actual means to feed the machine is up to the customer. Two workers are normally required. Sometimes, infeed tables for staging are used. They can be either a slide type, or rollers. Contact us for suggestions on your applications.

The 800W Series can wrap from 500 to 1000 windows per shift depending upon size. Test details are available.

If you would like to see a video of these tests which feature the 800W series, let us know. We’ll also be glad to send you a detailed proposal, and answer your questions. We’re here to help.



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Stretch Wrap Equipment for Lineals

Wrapping lineals properly is critical to avoid shipping damage and present the right product to your customer. As specialists in the fenestration market, we know the type of equipment that is required. This horizontal wrapper, or "ringer" is designed to do the job quickly and cost effectively.

Suggested film is 12" wide by 80 gauge fed with a rotating ring. The specialized rollers may be either steel or have a specialized polyurethane cover to minimize scratches and maintain appearance. The ring diameter in this photo is 30 inches and will take 22 inch bundles. Other sizes are available.

The adjustable top guide is removable, and may be either a "V" as shown or straight. The infeed table is usually manual feed while the outfeed can be manual or powered which allows one operator to handle the entire process.

For more details, including a video or a quotation for a machine to fit your application, give us a call. We've been helping fabricators for years with their wrapping needs.



Stretch Wrap Equipment for Screens

Wrapping screens is a specialty operation which requires knowledge and experience within the fenestration industry. As specialists, we have developed a machine for this purpose which is not only cost effective, but ideally suited for the application.

We have found that the best way to wrap screens is to bundle them first. This makes an ideal size package for handling and shipping to your customer. Note that the wrapper is on rollers to easily move as your needs change, and it is powered by 110 volt to make set up simple.

Each bundle is then placed on the bottom plate which has been specifically designed for screens. The top platum, which is also designed specifically for screens, is then lowered and the variable speed drive takes over.

This top platum (shown at left) is in a "V" configuration to accommodate different sized bundles. It is spring loaded with a cut-off switch to prevent damage, and was developed after extensive research into the application and industry.

For more details on this screen wrapper including a video and proposal, give us a call. We've been helping fabricators for years with their wrapping needs, and we are available to help you.

