10 Premade Pouch Machine Questions

What to ask when purchasing Premade Pouch Packaging Machinery
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Introduction

Premade pouch fill and seal packaging, as its name suggests, is a packaging method in which machines fill preformed pouches with product and seal them closed. This process is repeated, up to 150 bags per minute on some high-end multi-lane models.

Consumer demand for premade pouches is increasing in many food and non-food industries. Because of their modern look, convenience, and portability, many top manufacturers and contract packagers are introducing premade pouch packaging machinery to their production floor lineup.

With the beneficial help of continuous technological advancements in the packaging industry, manufacturers and contract packagers can now increase their efficiency and decrease occupied floor space by utilizing packaging lines with modular rotary packaging systems achieving a sleek, professional design without incurring excessive costs. We have developed this guide to provide information for manufacturers and contract packagers interested in streamlining their production operations by incorporating premade pouch packaging systems into their facilities.

You can expect to learn the key design aspects of premade pouch machines as well as the advantages they offer in optimizing production and ease of use. When the time comes to make a purchasing decision, you will be better prepared.
Question 1

What materials are used to construct the machine?
The best premade pouch packaging machines feature welded stainless steel frames and contact parts. Stainless steel construction provides many advantages. It has a high strength-to-weight advantage, making it uniquely resistant to corrosion, chemicals, and high heat at a reduced thickness as compared to other materials.

Stainless steel packaging machines are suitable for nearly any industry and facility. Other construction materials such as iron or specialty alloys simply cannot match the corrosion resistance of stainless steel. Iron, for example, will rust in reaction to oxygen and water, making it more brittle over time.

Stainless steel’s resilient properties allow it to endure almost any conditions, from dusty shop environments to highly sensitive applications that demand frequent cleanings with harsh chemicals. This high-quality material makes it the best long-term investment for your facility.

Another way to evaluate the quality of a packaging machine’s construction is to look at the IP rating assigned to the machine’s enclosures. IP ratings, or Ingress Protection Ratings, specify the environmental protection the enclosure provides.

The higher the IP rating number, the more protection an enclosure provides against dust, liquids, and mechanical impacts. An IP55 rating is standard, but you may want an option to upgrade to IP65 for dairy specifications.
How is the machine designed?

Modular, open concept, and rotary machine designs contain all the right elements for efficient premade pouch packaging.

**Modular** allows easy service, maintenance and ease of training for operators and technicians. A modular machine is also more aesthetically pleasing and calming to the eye, which may sound inconsequential, but many studies have shown the impact of work environment design on an employee’s general emotional and mental health is substantial.

**Open Concept** allows for safe and easy machine cleaning and maintenance without maneuvering around machine parts or enclosures.

**Rotary** designed in an ergonomic style and allow for a much cleaner, efficient packaging process, while taking up minimal floor space.
The noise the machine makes while in operation is also an important factor to consider. Be sure to watch the machine do its work. Initially, sturdiness can be evaluated simply by listening to and watching the machine in operation. A loud machine with lots of vibrations will cause excess wear and tear on machine parts, which will equal more maintenance and downtime over the life of the equipment. As an added benefit, a quieter machine provides a safer and less stressful work environment for employees.

The best premade pouch machines also are designed with electrical and pneumatic wiring hidden from view in an unobtrusive fashion. Machines with the wiring contained in its frame offer a truly unencumbered and safe operator experience.

Lastly, premade pouch machines can either be designed with mechanical or servo drives. While mechanical drives get the job done, they also have their limitations.

Viking has developed proprietary premade pouch machine technologies that feature servo drives. Via position feedback, servo driven machines feature smoother operation, better accuracy, and a faster packaging process by as much as 50%.
Question 3

How complex is the machine?

When it comes to packaging machinery, less is more and simpler is better. Unnecessary complexity adds barriers to efficient production.

High-quality premade pouch packaging machines are designed for ease-of-use, featuring an accessible open design concept and a rotary configuration.

A digital control system, preferably with a touch screen human machine interface (HMI), can store multiple product formulas. This makes it easier for operators to enter packaging configurations and parameters into the system all at once.

The HMI can facilitate quick and easy changeovers by including a few minimum item requirements for the production parameter memory.

The machine’s production parameter memory should include:

- gripper size
- machine speed
- sealing temperature
- filling volume

HMI control designs that appear in devices such as pin code payment pads, self-checkout counters, and airport ticket issuers also add value to plant safety, production, and operation.
Depending on system complexity, HMI features can include:

- **streamlining communications** with sophisticated, smart messaging

- **displaying graphical content** for a more intuitive user experience

- **customizing programs** to reduce maintenance and training

- **setting safety alarms** for equipment malfunctions

- **lowering operation costs** by consolidating control panels – all while minimizing the need for space and labor.

Premade pouch machinery requires less technical expertise to operate, meaning training for your employees, (both existing and new) will be a much easier task than with other packaging equipment formats.

With an intuitive interface and simple, modular design, operation and maintenance are much less technically complex.
Premade pouch packaging machines have the ability to change over to different bag styles or sizes seamlessly, without any tools required.

The resulting decrease in changeover time and subsequent cost savings helps companies optimize productivity, production, and profitability for their unique business.

It also facilitates a shorter learning curve for new packaging line and maintenance employees.

The changeover process for a well-made machine can be accomplished in two simple steps.

**Changeover Process**
1. **push a button** on the HMI
2. **load new bags** into the feeding area
Question 5

Can multiple SKUs be packaged on one machine?
A versatile premade pouch machine can effectively replace the need for multiple packaging lines.

With easy tool-free changeover, the same machine can quickly and easily switch among different bag styles and sizes to package a variety of products with unique features (like zippers) and custom bag shapes in a relatively short period of time.

Premade pouch machine design versatility and simplicity allows manufacturers and contract packagers to effectively and efficiently handle a proliferation of SKUs on one machine in lieu of many, thereby providing a cost effective alternative to operating multiple machines in-house.
Question 6

Can the machine be used in dusty/wet environments?

There are several design elements that can protect premade pouch machines from dusty, wet, or otherwise harsh environments.

A robust stainless steel frame allows the machinery to operate in almost any facility, while upgrades to electrical and pneumatic enclosures with a higher IP Rating protect vital machine components from potentially harmful dust and moisture in the environment.

This is especially important for industries that package powder or liquid products like drink mixes, ground coffee, or sauces. Even some solid products like pasta and dry pet food can release airborne particulates when packaging that can cause major maintenance issues if allowed to penetrate into vital moving machine parts.

While dust and moisture may not be a concern for some manufacturers and contract packagers at the current moment, recognizing the implications of differing packaging environments is key to creating a custom packaging solution best suited to your operations, both now and in the future.
How durable are the machine components?

In a quality rotary premade pouch packaging process the machine needs to grip the pouch and lift it into the packaging area of the machine.

These gripper arms will be tasked with holding the pouch as it completes every step of the packaging process, including product filling.

When a premade pouch is filled, the extra package weight places stress upon these grippers, so they must be able withstand heavier package fills without sagging.

The best premade pouch equipment features a grip strength of at least 10 kg or 22 pounds. This grip strength must stand the test of time, which necessitates a durable, robust build.

If vital machine parts are constructed with plastic or other non-durable materials, these parts can require frequent maintenance and must be replaced at shorter intervals.

Time spent maintaining the machine, while necessary, should be kept to an absolute minimum to maximize throughput and plant efficiency. Inferior construction has a deleterious effect on production line efficiency.
Question 8

What is involved in the package sealing process?

Creating a strong package seal is one of the most important parts of any packaging process.

One small leak from an improperly sealed package can spell disaster for your product.

A poor seal can result in:
- degradation
- spoilage
- oxidation
- contamination

That’s why the best premade pouch machines feature a two-step sealing process.

Two-Step Sealing:
1. A strong package seal is created with heat seal jaws.
2. A cooling seal jaw rapidly decreases the temperature of the seal area, solidifying a clean, strong package seal.
Question 9

Where is the (HMI) Human Machine Interface located?

The HMI is an integral part of the premade pouch machine operation and has the ability to move as needed to satisfy different needs.

When cleaning or changing over the machine, the ability to move the HMI out of the way makes the process unencumbered and more efficient.

When attached to the machine but placed at the end of a swivel arm, the HMI offers much more flexibility than one that is fixed in place or rests on the floor separately from the machine.
Question 10

Where is the machine's control platform?

A programmable logic controller (PLC) is a digital computer that can be programmed to control packaging machinery.

A human can interact with the PLC to program the machine through the HMI (human machine interface).

Basically, the PLC reads inputs from various sensors, executes a user-defined program for machine operation, and writes digital and analog outputs to machine elements for optimal operation.

Many companies produce quality PLCs for packaging machinery.

The primary PLC suppliers for OEMs:

- **United States**
  - Allen Bradley, Siemens, & Schneider

- **Europe**
  - Allen Bradley & Siemens

Modern premade pouch machinery can come standard with a certain controls platform like Siemens, but should also offer upgrades to a different platform if the customer prefers.

Allen Bradley is the most widely used in the United States and Europe, and thus has become a preferred controls platform for premade pouch packaging machinery.

Internationally competitive packaging OEMs like Viking offer their reliable premade pouch machinery with Allen Bradley controls.
About Viking Masek

Viking Packaging Technologies manufactures, sells, and services flexible packaging machinery for food and non-food markets worldwide. With over two decades of industry experience, we offer a broad range of Simplex, Duplex, and Quadplex Premade Pouch packaging machines – each with completely customizable features – to ensure every customer receives a solution that matches their unique needs. Our baggers integrate seamlessly with weighers and fillers, infeed and outfeed equipment, metal detectors and X-ray systems, cartoners and casepackers, and other automated packaging equipment. Viking Masek has flexible packaging covered from Tote to Pallet™.

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