

Heat Transfer Equipment Buyer's Guide

What to Know Before Choosing a Heat Press

Choosing heat-transfer equipment starts with understanding what you're actually trying to produce.

A shop pressing individual garments has very different requirements from a manufacturer transferring full-width rolls of sublimation-printed paper onto fabric. Even two companies producing similar products may need different equipment because of their production volume, material, transfer process, available space, or workflow.

Before comparing machine models, start with the application.

This guide covers the major questions we recommend considering when evaluating heat-transfer equipment and deciding what type of machine makes sense for your operation.

What Does a Heat Press Actually Do?

A heat press uses a controlled combination of **temperature, pressure, and time** to transfer or apply a design or material to a substrate.

Those three variables need to work together.

Too little heat, pressure, or dwell time can result in an incomplete transfer. Too much can potentially damage the substrate or negatively affect the finished product.

The right settings depend on the transfer method and materials being used, which is why there isn't one temperature, pressure, or dwell-time setting that's right for every application.

More importantly, there isn't one style of heat press that's right for every manufacturer.

1. Start With What You're Producing

Before looking at equipment, define the finished product.

Are you producing:

Individual garments?

T-shirts, jerseys, uniforms, decorated apparel, panels, or other individual pieces.

Cut fabric pieces?

Applications where material is transferred before being sewn or assembled into the final product.

Full-width fabric?

Continuous production where printed transfer paper and fabric are processed in larger rolls.

Soft signage or graphics?

Dye-sublimated fabric used for SEG graphics, displays, banners, or other visual applications.

Your finished product begins narrowing down the type and size of heat-transfer equipment you should consider.

2. Platen Press or Rotary/Calender Press?

This is one of the biggest decisions.

Platen Heat Presses

A platen press uses heated surfaces to apply heat and pressure to a defined area.

These machines make sense for applications involving individual garments, cut pieces, panels, and other products that can be positioned within a specific pressing area.

Platen machines are available in a variety of configurations and sizes depending on the application and required production volume.

Rotary/Calender Heat Presses

A rotary heat press uses a heated drum and is designed for continuous material processing.

Rather than loading one item into a fixed pressing area, fabric and transfer paper travel continuously through the machine.

This makes rotary equipment particularly well suited to **roll-to-roll and higher-volume dye-sublimation applications**.

Neither design is inherently better.

They're built for different jobs.

3. Understand Your Transfer Process

“Heat transfer” covers more than one production process.

Before selecting a machine, know exactly what you're applying and how the transfer is supposed to take place.

For dye sublimation, for example, heat causes sublimation inks on transfer paper to become gaseous and migrate into compatible material.

Other heat-transfer applications can involve different transfer media, adhesives, films, or processes.

Tell the equipment supplier exactly what you're doing.

“We need a heat press” isn't enough information to properly specify a machine.

Material samples, transfer paper, finished-product examples, and information about your existing process can all be helpful when evaluating equipment.

4. Determine the Pressing Area You Actually Need

For a platen press, the size of the heated platen determines the maximum area that can be pressed at one time.

Don't automatically buy the largest machine available.

Start by looking at your largest normal application.

If you're primarily decorating shirts, your requirements may be very different from a manufacturer pressing large fabric panels.

At the same time, don't size the press so tightly around today's product that the next reasonable job won't fit.

Consider what you're producing now and what you're realistically likely to produce in the future.

5. For Rotary Equipment, Start With Fabric Width

When evaluating a rotary or calender heat press, working width becomes a major specification.

You need enough width to accommodate the material you're processing without creating unnecessary limitations.

Just like platen size, however, more isn't automatically better.

A wider machine generally means a larger equipment footprint and potentially a larger investment.

Choose a working width that supports your production requirements with reasonable room for future applications.

6. Production Volume Matters

One of the biggest mistakes when buying heat-transfer equipment is focusing on whether a machine **can produce the product** without asking whether it can produce enough of it.

A press may technically handle your application but still become a bottleneck if your production requirements exceed what the machine can reasonably deliver.

Ask yourself:

How many pieces do we currently produce per hour or shift?

How many do we want to produce?

Is heat transfer currently limiting production?

How many operators are available?

Are we trying to replace an existing press or add capacity?

A company producing occasional custom garments has very different requirements from a manufacturer trying to produce hundreds of pieces per hour.

7. Don't Look at the Press in Isolation

This becomes especially important with higher-volume platen systems.

A faster machine doesn't automatically create faster production if the operator can't load and unload products quickly enough to keep up.

Look at the entire cycle:

Prepare → Load → Press → Unload → Prepare Next Piece

If the press finishes its cycle and then sits idle waiting for an operator, the theoretical production rate doesn't tell the whole story.

Sometimes increasing capacity means changing the machine.

Other times it means improving the workflow around it.

8. Understand Dwell Time

Dwell time is the amount of time the material remains under the required heat and pressure.

Different transfer processes and materials can require different dwell times.

For a platen press, dwell time directly affects how quickly each pressing cycle can be completed.

For rotary equipment, dwell time is influenced by factors such as drum configuration and production speed.

The important thing is not simply achieving the shortest possible dwell time.

It's achieving the **correct dwell time consistently** while still meeting the production requirements of the operation.

9. Temperature Consistency Matters

A press needs to do more than get hot.

It needs to provide appropriate and consistent temperature across the working area.

Temperature inconsistencies can contribute to uneven transfers, color variation, incomplete sublimation, and other quality problems.

This becomes increasingly important as the pressing area becomes larger.

When evaluating equipment, don't focus only on the maximum temperature listed on the specification sheet.

Consider **how the machine controls and maintains temperature during actual production.**

10. Pressure Is Part of the Process Too

Heat gets most of the attention, but pressure is another important part of many heat-transfer applications.

The machine needs to provide the pressure required by the transfer process and apply it consistently.

The amount and type of pressure required will depend on the application.

This is another reason it's important to discuss the actual materials and transfer method with an equipment supplier rather than choosing a press based only on dimensions and maximum temperature.

11. Manual, Semi-Automatic, or Automated Production?

As production volume increases, machine configuration becomes increasingly important.

A lower-volume operation may be perfectly productive with a relatively straightforward platen press.

Higher-volume production may benefit from configurations that allow an operator to prepare one item while another is being pressed.

At even greater volumes, multi-station equipment can keep several products moving through the process.

The question isn't:

“What's the most automated machine available?”

It's:

“At our production volume, where does automation actually save us time or labor?”

Automation should solve a production problem—not simply add complexity.

12. How Many Operators Will the Process Require?

Labor should be part of the equipment decision from the beginning.

Consider who will:

Load products.

Position transfers.

Operate the machine.

Remove completed products.

Prepare the next item.

Handle finished goods.

With higher-production equipment, operator organization can have a significant effect on actual throughput.

A machine capable of high production still needs a workflow capable of feeding it.

13. Consider Your Available Floor Space

Heat-transfer equipment can require considerably more space than the dimensions of the machine itself.

You may need room for:

Operator movement.

Loading and unloading.

Material staging.

Transfer paper.

Finished products.

Roll handling.

Maintenance access.

Electrical or other utility connections.

For rotary equipment in particular, consider the space needed around both the machine and the rolls of material feeding into and exiting the process.

Measure the area before ordering equipment—not when the truck arrives.

14. Think About Utilities and Facility Requirements

Larger heat presses can have significant electrical requirements.

Before purchasing a machine, confirm that your facility can support it.

Depending on the equipment, you may need to consider electrical service, voltage, amperage, compressed air, ventilation, and other installation requirements.

These aren't exciting parts of buying a machine, but discovering a facility limitation after equipment arrives can quickly turn into an expensive problem.

Get the installation requirements early and involve the appropriate facility or electrical personnel before delivery.

15. Think About Service Before You Need It

Production equipment eventually requires maintenance.

Heating components, controls, moving parts, belts, sensors, pneumatic components, and other machine systems can require attention over the life of the equipment.

Before purchasing, ask:

Who supports the machine?

Are replacement parts available?

Who do we call when there's a technical problem?

Can someone help troubleshoot the equipment?

What routine maintenance does the machine require?

The purchase price matters.

So does what happens five years after the machine has been used in everyday production.

16. New Capacity or Replacement Equipment?

The reason you're buying the machine matters.

If you're replacing an existing press, start by identifying what isn't working with the current setup.

Is it:

Too slow?

Too small?

Unreliable?

Labor intensive?

Producing inconsistent results?

Expensive to maintain?

No longer supported?

If you're adding capacity, determine exactly where the current bottleneck exists.

You don't want to spend money solving a problem you don't have.

Questions to Answer Before Requesting a Quote

Before contacting an equipment supplier, try to have answers to these questions:

What are you producing?

What heat-transfer process are you using?

What materials are you transferring onto?

Are you processing individual pieces, cut panels, or continuous rolls?

What is your maximum product or material size?

What is your current production volume?

What production volume are you trying to reach?

What dwell time and temperature does your process require?

How many operators will be available?

How much floor space do you have?

What electrical service is available?

Are you replacing equipment or adding capacity?

What problem are you trying to solve with the new machine?

You don't need to know every technical specification before contacting a supplier.

In many cases, **samples and a clear explanation of the production process are more useful than trying to specify the machine yourself.**

Common Mistakes When Choosing Heat-Transfer Equipment

One common mistake is buying based entirely on **price**.

Another is buying based entirely on **maximum production speed**.

And another is assuming the machine with the most automation must be the best option.

All three overlook the application.

A less expensive press that can't maintain your required production level isn't necessarily a bargain. A high-production machine that spends half the day idle isn't necessarily productive. And automation that doesn't solve a real labor or throughput problem may simply add unnecessary cost.

The best equipment is the equipment that fits the **product, process, production requirements, people, and facility**.

Choosing the Right Heat-Transfer Equipment

Start with what you're producing.

Then work backward.

Determine the transfer process, material dimensions, required production volume, available labor, facility requirements, and what happens immediately before and after the press.

Once those questions are answered, comparing machines becomes much easier.

At **Advanced Innovative Technologies**, we work with manufacturers to evaluate heat-transfer applications and determine which equipment configuration makes sense for their production requirements. AIT supplies platen and rotary heat-transfer equipment and provides parts, technical service, and ongoing equipment support.

If you're considering a new heat press, expanding production capacity, or replacing existing equipment, tell us what you're producing and what you're trying to accomplish.

We'll help you determine what equipment actually fits the application.

AIT Buyer Guide

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