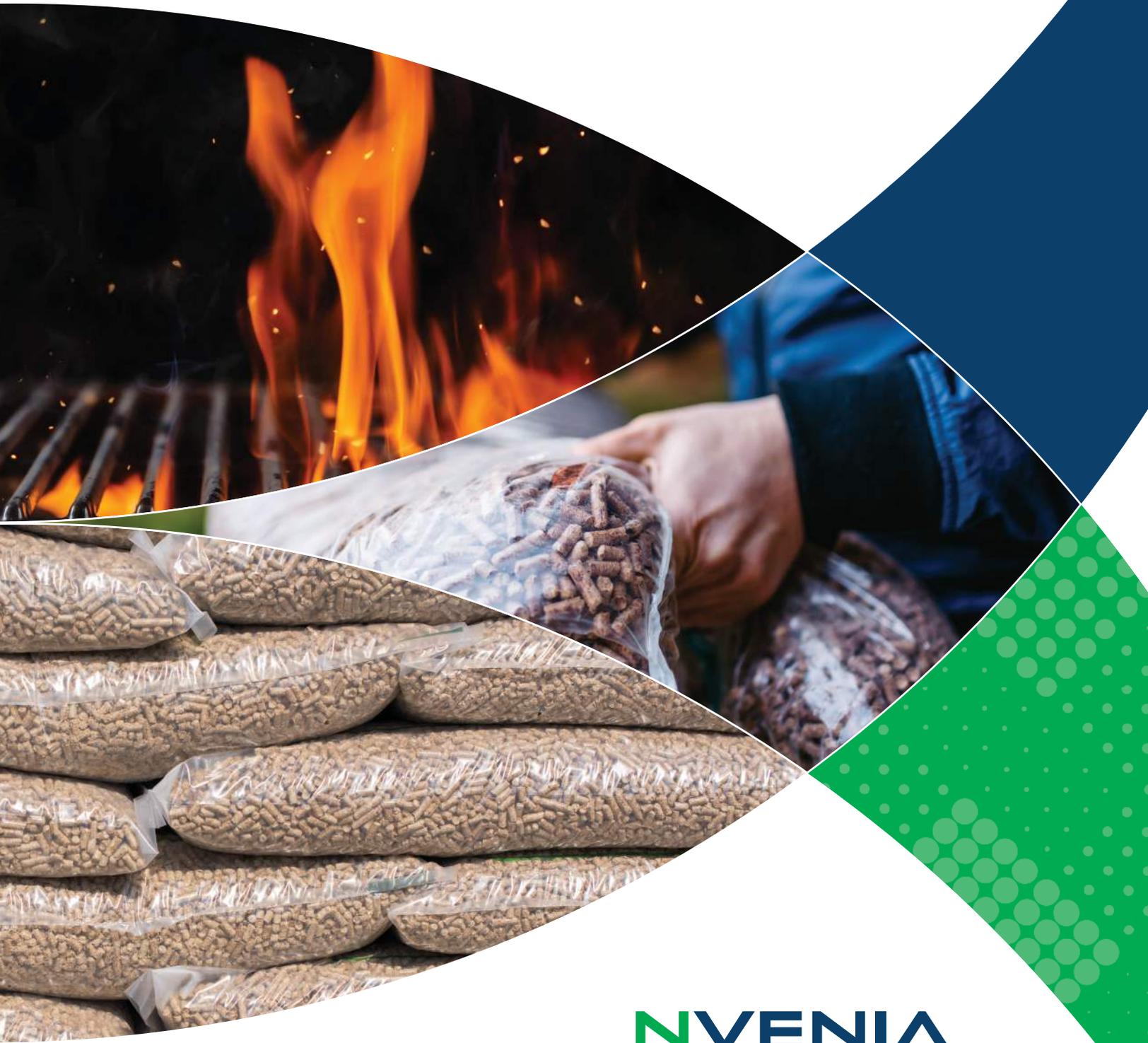


PELLET FUELS GUIDE

How to Drive ROI in Your Pellet Operation



NVENIA

A DURAVANT COMPANY

Hamer and Fischbein brands' expertise

Our Hamer and Fischbein brands have a combined 200+ years' experience automating the operations of industrial manufacturers the world over. We have improved packaging line efficiency and profitability in some of the harshest, most demanding environments in operation.

Our portfolio includes the widest range of weighing, filling and bag closing technologies; manual, semi- and fully automatic bagging systems; form-fill-seal bagging automation, conveyors and robotic bag palletizers.

We serve diverse end markets from agriculture, animal feed, seed, pet food, chemical, mineral, milling and lawn & garden – but we know your pellet fuels operation inside and out.

Automate now with the best partner – nVenia.



Take it from our customers:

Marth Companies Upgrades Pellet Bagging Operation with Hamer Brand Equipment

Marth Companies in Marathon, Wisconsin was looking to upgrade their wood pellet bagging operation. They were running a first generation Hamer brand Model 2040 with another manufacturer's duplex scale that was struggling to keep up with their new bag palletizing system. Looking to improve both bagging speed and dosing accuracy Marth returned to their Hamer Brand sales representative for new technology options to improve performance.

"We had updated our Pestigo Wisconsin plant about two years ago with a new Hamer Form, Fill and Seal and Hamer's new Model 600NW net weigh scale. This system has performed very well; dosing speed and accuracy were much improved over the previous scale." Mike Oleck, Peshtigo Plant Manager.

In their Marathon Plant Marth Companies decided to install Hamer's brand 600NW simplex scale. The new simplex scale ran at rates over 20 bags per minute while maintaining accuracy. "Using a simplex met our production requirements and saved Marth Companies over \$10,000.00 from the cost of a duplex scale. Throughout our updates at both of our plants Hamer service and support has been good."

TJ Morice, V.P. Marketing and Operations

To find out how we can help save you time and make you money, speak with one of industry experts: info@nVenia.com.



The argument for automation has never been stronger.

Automate Your Line with nVenia Equipment

From the ground up the HAMER Brand Model 2090 has been designed to improve uptime and production throughput. From the new main belt path to bag size changes, operator interaction has been significantly reduced. Our exclusive double sealed, self-cleaning pulley design requires no adjustment and keeps contaminants away from the belt path bearings.

Combining these next-generation design enhancements with a 50% reduction in wear parts, heavy duty air cylinders and an all new fill opening design, the Model 2090 brings industrial plant bagging automation into the 21st century.

Specifically designed to support a wide variety of bag sizes with minimal hardware changes, the Model 2090 with QuikAdjust™ reduces the bag change time required by previous horizontal FFS machines or by vertical FFS machines by over 200%. Now even complex changes can be accomplished in less than 20 minutes. No other form, fill and seal machine can even come close.

Hot air sealing of bag tops has many benefits in industrial bagging. Fewer wear parts and efficient sealing (even with high dust products) are just a few. The new heat sealer design in the Model 2090 incorporates all we've learned in over 25 years of HFFS design.



- Durable
- Versatile
- Fast
- Easy to Operate

Double sealed bearings, reduced wear parts and a self opening feature opens the heat sealer when no bag is present. It automatically closes and is ready to seal the moment a bag is presented. By opening the sealer, pressure is removed from belts, pulleys and bearings, significantly increasing component life and reducing down time for maintenance. An optional bag jam detector can be added to stop a bag that is too full.

nVenia's solutions for manual bagging or automated systems

Hand Bagging Systems for Wood Pellet Products

When you need a simple, reliable, and accurate manual bagging line, nVenia's got you covered. Our hand bagging line for wood pellet producers is built around our proven Hamer brand bagging scales. Hamer brand gross and net weigh bagging scales were developed with a simple plan, make bagging more accurate and more reliable. Increased accuracy keeps product give away to a minimum; increased reliability means more time bagging and less time repairing worn parts.

Using a simple hand bagging chute Hamer brand 100GW (gross weigh) or 600 NW+ (net weigh) bagging scales clamp a pre-made poly bag in place as an operator hangs it for filling. Once filled the bag is transported on a Hamer brand Model 4000 upright bag conveyor and sealed with a Fischbein brand HAS 220 Hot Air Sealer.

The HAS 220 hot air sealer is the industry standard poly bag sealer meeting all environmental and operational requirements of demanding bagging applications.

We also offer a variety of Hamer brand conveyors and Arpac brand stretch wrappers for virtually any wood pellet product.



Model 4000



HAS 220



600 NW+



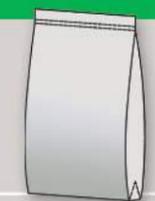
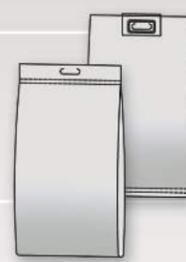
100GW

nVenia's Form-Fill-Seal machine is the most flexible bagging machine available today.

Quick Facts About nVenia HAMER Brand Industrial Form-Fill-Seal Machines

- Hamer brand Horizontal Form, Fill and Seal (FFS) designs are based on 45 years of experience and over 2,000 units sold.
- Our machines are built to withstand dirty, dusty products and produce clean, reliable seals.
- Same Day/Next Day Parts – we offer same day/next day parts delivery on all of our machines to help keep your production line up and running.
- Our industrial FFS machines are experienced in diverse wood pellet applications including pellet fuels for wood stoves, and for pellet grills.
- As part of Lifecycle Services, we have the most qualified service team in the industry – phone or field, our customers speak with knowledgeable helpful service employees.
- Ease of Operation – All of our FFS packaging machines are built with the same operator goals in mind – they're easy to run and easy to maintain
- A variety of options are available including horizontal roll stands, bag handling conveyors, and robotic bag palletizers.

WHAT BAGS CAN I USE ON A 2090?

<p>Bottom Gusset Three to six inch bottom bag gusset.</p> 	<p>Miter Corner 45° seal across corner improves pallet wrapping, reduces corner damage</p> 
<p>Top Trimmed Top two inches of bag removed.</p> 	<p>Handle A variety of bag handle styles are available.</p> 



HAMER Brand Model 2090 pictured with optional second Vertical Roll Holder.

A typical manual bagging system may include:

- gross weigh scales
- sealers
- conveyors
- palletizing systems
- stretch wrappers

Bagging can only go as fast as your scale. Use the gold standard.

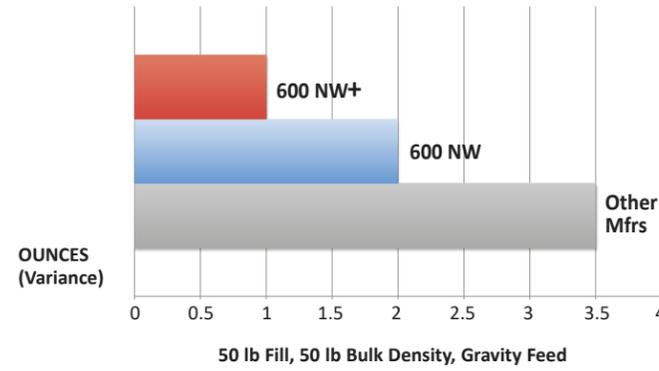
A Fast Running, Accurate Scale Helps Pace Your Entire Bagging System

Demand in the pellet fuels industry is skyrocketing. In order to maintain a competitive advantage companies must reassess their bagging equipment to make sure they are getting the fill accuracy, technology, and durability needed to run a well paced and profitable bagging operation. Wood pellet bagging customers are reaping the benefits of utilizing the Hamer brand 600 NW+ Net Weigh scale.

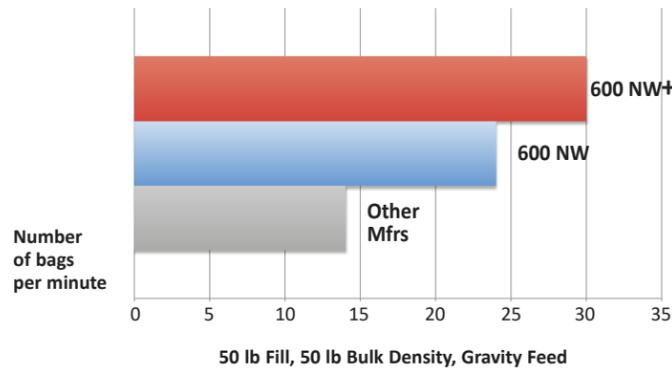
A key advantage of the 600 NW+ is its extreme accuracy achieved through direct mounted load cells. Much faster at responding, and more accurate than traditional scale designs, which depend on transfer rods, flexures and suspended weigh hoppers, the 600 NW+'s proprietary load cell technology combined with a solid weigh bucket design helps to ensure the most repeatable fill accuracy rates possible.

Speed is another area where customers are seeing significant improvement. Older simplex (single) configuration scales do not have the speed that can be achieved with newer bagging scales. They could only run about 10-12 bags per minute, compared to the fast rates that can now be achieved – upwards of 18-22 BPM for gravity feed systems.

ACCURACY (High speed, repeatable)



MAXIMUM SPEED (Simplex)



600 NW+ Duplex Configuration, Optional Stainless Steel Construction

EXAMPLES

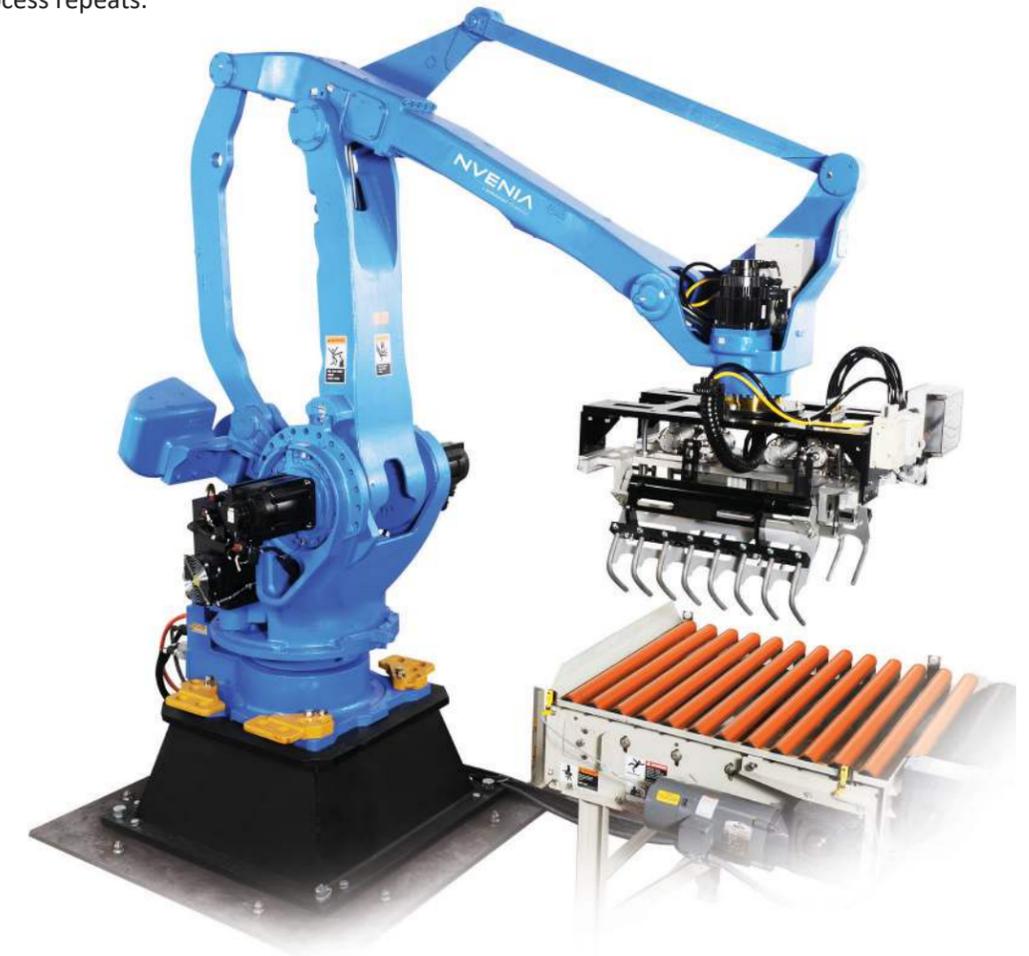


Robotic bag palletizers for your pellet fuel operation

Cost Effective, Low Maintenance, and Easy to Run

Robotic Palletizers are proving to be an outstanding low cost solution for pellet fuels bagging automation. The number of customers choosing our Robotic Palletizing Module over traditional palletizers or hand stacking continues to grow. A variety of free flow materials like wood pellets are more effectively handled with robot palletizers, which are a preferred choice for automation. With a smaller footprint and much lower maintenance than traditional mechanical palletizers, they offer a much lower cost, leading to faster return on investment. Robotic palletizers also reduce risk of back injury due to hand stacking, and keep product lines running at consistent rates day in and day out. Two configurations are available:

- Semi-Automatic Palletizing with dual cells where 2 pallets are set on 2 floor locations. Once pallet 1 is complete, robot moves to pallet 2 to continue stacking and a fork truck removes the first full pallet and places another empty pallet. When pallet 2 is complete, robot automatically shifts back to pallet 1 and the process repeats.
- Fully-Automatic Palletizers, where pallet and slip sheet dispensers feed pallets into the robot palletizing area, and full pallet transfer conveyors automatically transfer full loads into integrated wrapping or stretch hooding equipment.



Demonstrating outstanding throughput, low maintenance and fast return on investment, robotic palletizing solutions for pellet fuel production are the best way to add immediate value to your process.



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