Automated Material Reclamation Systems

Packaged Material Reclamation Systems & Bag Emptying Equipment

Forward Thinking. Real Results.

NATIONAL BULK EQUIPMENT

RECLAIM: DRY

Dry Material Reclamation

Eliminate Packaged Material Loss, Reduce Total Recovery Costs

Material loss reduction, once an issue only for upstream processing operations, is now reaching into the downstream functions of packaging and logistics to find additional gains in material savings. Scrutiny of the costs and causes of material loss, together with the marketplace pursuit of sustainability initiatives, have identified as a priority the efficient reclamation of packaged material and packaging that may be off-spec, mis-labeled, or for other reasons, unsalable. NBE ProductSaver packaged material reclamation systems will immediately contribute to reducing process-wide material loss, improving labor efficiency, and providing positive data for sustainability scoring initiatives.

NBE ProductSaver® Systems for Dry Packaged Material Reclamation

Regardless of the package shape: from the smallest ampoules to 150-pound, multi-wall sacks. Regardless of the package type: pillow-style tea bags, plastic food trays, or high-barrier flexible packaging. And, regardless of the package contents: such as highly regulated powder, sanitary material, combustible dusts, or free-flowing feed and grain, NBE ProductSaver dry material reclamation systems can integrate to legacy processing operations to automatically reclaim off-spec packages, or function as a portable system to reduce loss of product and packaging waste on a periodic basis.

To view videos and download product information on the full line of NBE ProductSaver systems for dry packaged material reclamation, visit: **nbe-inc.com/productsaver**

Identifying Material Reclaim Opportunities

- **Off-spec Package Contents**

  The contents of the package are unsalable but still suitable for recovery; such contents may be out of weight, color, or other specification tolerance. Reclaiming, off-spec contents reduces material loss levels and improves total process efficiency.

- **Mis-labeled Packaging**

  Product packaging may present information that is inconsistent with the package contents and cannot go to market; perhaps an incorrect product identification or ingredients list. Reclaiming packaging materials improves sustainability data, and recovered product may, in some cases, be re-introduced into production.

- **Product Safety Considerations**

  When product contamination is an issue, the ability to separate the package from its contents may help avoid significant financial and reputational costs. Reclaimed product can be confidently collected and controlled, and reclaimed packaging can be recovered and kept from entering the municipal solid waste stream.

- **Production Overages**

  Whether the intentional outcome from starting or tuning a line, or the unintended result of errors or changes, production overruns are no longer a burden of disposal or inventory. Integrated, end-of-line reclamation systems can recover product for re-introduction to process operations and separate packaging materials for recycling.

- **Sustainability Initiatives**

  Knowing the value of sustainable business practices, manufacturers and their suppliers are analyzing sustainability metrics as a means to rank performance and identify improvement. Automated reclamation is inherently sustainable; reducing material and packaging waste, reducing logistics costs and emissions, and increasing material recovery volume.

"Our strict KPIs require easy cleanability and no residual packaging material in the recovered product. ProductSaver meets these expectations with excellent product and applications knowledge."

Len M., Food Processing Industry

Sanitary Application Dry Reclaim Systems

Small & Single-use Package Dry Reclaim Systems

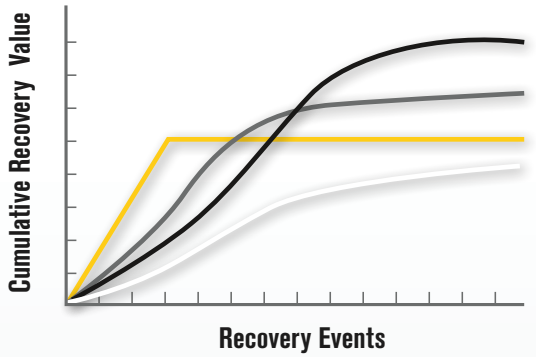
Large & Heavy Package Dry Reclaim Systems

High-volume Dry Material Reclaim Systems

Wet Material Reclamation

Improve Process Contribution with Integrated Material Recovery

Increasing Material Reclamation & Recovery Values



- **Material Recovery Values:** Those values associated with the reduction, or elimination of costs related to packaged contents material loss, such as: replacement raw material, waste treatment, or redress. These values may also include costs recovered from resale of reclaimed material.
- **Labor Recovery Values:** Those values associated with the reduction, or elimination of costs related to labor assignment, such as: allocation of labor to off-line recovery operations, overtime or contractor costs for recovery operations, or accident or injury events from manual recovery procedures.
- **Landfill Cost Recovery Values:** Those values associated with the reduction, or elimination of costs related to material disposal, such as: landfill fees and cartage, loss of energy recovery or re-use offsets, and, depending on the material, possible surcharges and fines.
- **Sustainability Contribution Values:** Those values associated with the identification and year-to-year improvement of sustainability metrics, such as: reduced energy usage, reduced material waste volume, and risk assessment compliance.

NBE ProductSaver material reclamation systems provide in-use performance advantages across four primary recovery value areas. While the recovery value from each area can be considerable on its own, the cumulative recovery values of all four areas, repeated throughout multiple recovery events, can produce significant, quantifiable performance advantages that reach beyond a single process operation and extend into enterprise-wide performance measures.

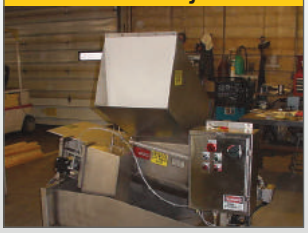
Processing and packaging operations are often forced to dispose of, or destroy, off-spec wet product and its packaging because the labor re-allocation, plant contamination risks, minimal product recovery, and clean up costs associated with manual recovery efforts are too great. NBE ProductSaver packaged material reclamation systems ensure the controlled removal from the package of free-flowing, or flow-resistant, wet contents, and the complete separation of the contents from the packaging material. The packaged material is reclaimed for proper handling, packaging is recovered for recycling, labor remains on-task, product safety is protected, and process sustainability values are increased.

NBE ProductSaver® Systems for Wet Packaged Material Reclamation

Reclaim more of your packaged wet product, recover every bit of your product's packaging; repeat these results hundreds, or thousands of times per year and the high-efficiency, compression-press design of the NBE ProductSaver wet packaged material reclamation system will quickly begin to make significant contribution to your total process performance. Engineered to integrate with automated processing and packaging operations, or designed as a self-contained system, the NBE ProductSaver wet material reclamation system turns recovery into reward.

To view videos and download product information on the full line of NBE ProductSaver systems for wet packaged material reclamation, visit: **nbe-inc.com/productsaver**

Sanitary Application Wet Reclaim Systems



Small & Single-use Package Wet Reclaim Systems

Large & Heavy Package Wet Reclaim Systems

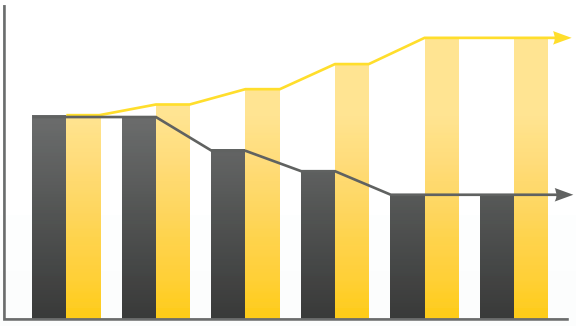
High-volume Wet Material Reclaim Systems

Bag Emptying Equipment

Increase Material In-feed Efficiency; Protect Product & Personnel

BAG EMPTYING

Improving Material In-feed Efficiency



Sequential Production Events

- **Material In-feed Cost & Resource Consumption:** Factors contributing to reduced in-feed costs and resource consumption may include: reallocating or reducing labor resources, reduction of process material loss, increased energy efficiency, and improved risk assessment response.
- **Material In-feed & Downstream Process Performance:** Factors contributing to improved in-feed and downstream performance may include: automated reliability of in-feed volume, consistent and repeatable batching, reduction of offline rework, and improved product safety.

Nowhere is the relationship between material in-feed efficiency and downstream process performance more interdependent than in the highly automated and synchronized production environments of today's processing and packaging operations. Yet, often unknown or ignored in these operations are the process costs and resources needlessly consumed by inefficient material in-feed systems. Only when downstream process operations are repeatedly compromised by in-feed inefficiencies will the attention turn upstream to find fault. NBE ProductSaver bag emptying systems remove unnecessary in-feed costs and manage process resources to provide reliable, repeatable, and highly efficient material in-feed. Immediately upon start-up, and during sequential production events, NBE ProductSaver bag emptying systems will ensure maximum end-of-line process performance is attained without interruption, material waste, or unnecessary labor allocation.

The performance of each downstream process operation, to the final end-of-line function, is dependent upon efficient, reliable material in-feed for their successful execution. Whether emptying a few bags per hour, or when emptying 1,200 bags per hour, NBE ProductSaver automated bag emptying equipment provides total process efficiency. In addition to providing optimal material in-feed volume, NBE ProductSaver automated bag emptying systems improve safety by eliminating use of razor knives, reducing repetitive motion conditions, and preventing material dust from migrating throughout the facility. Product safety is made possible with the integrated rotary separator that screens bag contents and prevents bag waste and other contaminants from entering the product stream.

NBE ProductSaver® Systems for Automatic Bag Emptying

Beyond the minimum function of common, mechanical bag emptying equipment, NBE ProductSaver automatic bag emptying systems are designed with Forward Thinking: looking upstream and downstream, evaluating every process influence and its effect on the application, the equipment, the material, the operator, and the surrounding facility. From integrated automation that protects operators and reduces labor requirements, to separation technologies that ensure over 99.95% of contents reach production and in-fed product is contaminant-free; NBE ProductSaver automatic bag emptying systems ensure your operation is running at optimal uptime availability.

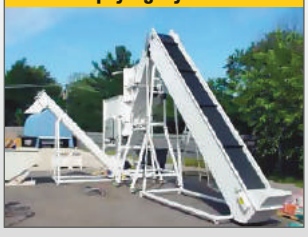
To view videos and download information on the full line of NBE ProductSaver systems for automatic bag emptying, visit: **nbe-inc.com/productsaver**

Sanitary Application Bag Emptying System

Small Bag Emptying Systems

Large Bag Emptying Systems

High-volume Bag Emptying Systems



SYSTEM RENTALS

ProductSaver® Rental Program

A Proactive Approach to Material Reclamation and Capital Conservation

For Unexpected Reclamation Projects with an Unreal Timeline

Immediate turnaround time. Extraordinary project volume. Limited labor resources. When short-term circumstances have you facing a particular reclamation project that does not align with your installed reclamation system's capabilities, the NBE ProductSaver Rental Program provides the necessary, and temporary, equipment placement to ensure that you continue to minimize material loss, protect your total process efficiency levels, and conserve your capital equipment budget.

Get Full-scale Material In-feed with Part-time Capital Investment

Scaling capacity for high-volume orders. Responding to seasonal requirements. The need for a short-term increase in production material supply can take many forms. The NBE ProductSaver Rental Program provides a full line of bag and box emptying equipment capable of capacities up to 1,200 units per hour, and suitable for package material including: multi-wall bags up to 150 pounds; plastic, burlap, or jute bags; poly-wrapped bundles; even corrugated cartons, and foil containers.

Increase Contract Reclamation Volume and Channel Versatility

Build business throughout the supply chain. Sell deeper into your customers' operations. Provide manufacturers and retailers additional reclaim capabilities beyond just those of your installed equipment list. The NBE ProductSaver Rental Program provides wet material, and dry material reclamation equipment with application-specific features including: regulatory-compliant designs, viscous material handling, and data reporting. Expand your capabilities and control your capital with the NBE ProductSaver Rental Program.

NBE ProductSaver® Rental Advantages

- **Dry and wet packaged material reclamation systems and bag emptying equipment.**
- **Application-specific equipment, including regulatory-compliant and sanitary systems.**
- **Systems can be sanitary-certified by a certified microbial consultant prior to shipping.**
- **NBE ProductSaver specialists available for start-up services and operator training.**
- **Project-specific rental terms are based on the unique circumstances of each rental.**

To reserve an NBE ProductSaver rental system, view videos, and download product information on the full line of NBE ProductSaver systems, visit: **nbe-inc.com/productsaver**

NBE ProductSaver® Packaged Material Reclamation Applications Experience

Dry packaged material reclamation systems, including:

- Multi-wall sacks
- Filter packs
- Foil laminate pouches
- Polyethylene (PE) bags
- Fiberboard boxes
- Dissolvable film packets
- Paper packets
- Fractional packs
- Cracker tubes
- Polypropylene (PP) bags
- Rigid (PP) trays
- Jute & Burlap bags

Wet packaged material reclamation systems, including:

- High-density polyethylene (HDPE) jugs
- Gabletop, coated paperboard cartons
- Wax-coated papers
- (PP) dairy containers
- (PP) and (PT) portion cups
- PET bottles
- Aseptic cartons
- Poly-based tubes
- Aluminum cans
- Roll stock packs

Bulk Bag Fillers

Bulk Bag Dischargers

Drum & Container Fillers

Drum & Container Dischargers

Agitator Hoppers

Bag Dump Stations

Bulk Material Mixers

Storage Bins, Hoppers & Silos

Material Handling

Reclamation Systems

Forward Thinking. Real Results.

NATIONAL BULK EQUIPMENT

Visit: **nbe-inc.com** Call: **616.399.2220**

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