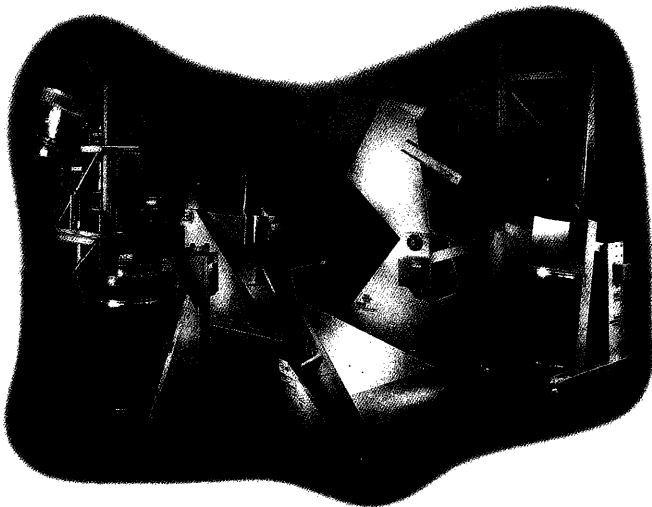


National Bulk Equipment



Designer and manufacturer of innovative equipment for material handling and dry solids processing. NBE mechanical, chemical, electrical, and professional engineers utilize the latest equipment and software to develop solutions for the most challenging material handling and dry solids processing requirements.

Container Dumping & Tilt Tables



NBE container dumpers and tilt tables allow for the controlled flow of materials from hard-to-handle loads while reducing manual labor and eliminating the need for operators to bend and lift heavy containers.

Sealed & Enclosed Container Dumpers

meet the most stringent dust control requirements. Sealed dumpers eliminate the potential for foreign material contamination from pallets or containers.



Tilt Tables

automatically tilt containers up to 2,500 lbs. Floor level tilters - an NBE original - can accommodate pallet jack, hand truck, and forklift loading of bulk containers.

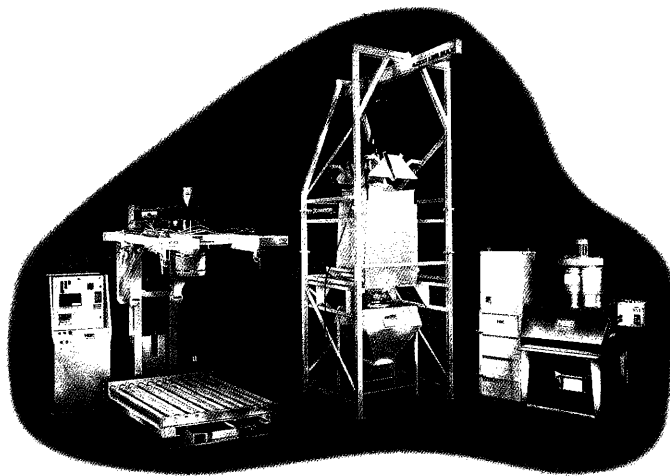


Open Bucket Bulk Material Dumpers

provide economical solutions to handling non-dust-generating materials from any type of container. All NBE dumpers and tilt tables can be built to handle virtually any container, and designed to fit any plant layout or equipment configuration.



Bag Handling



NBE offers bag unloading, filling, breaking, and compacting equipment for bulk bags as well as small, 50 lb. bags. Minimized operator involvement and increased safety result from implementation of an NBE bag handling system which can be designed to fit virtually any space constraints.

Bulk Bag Fillers & Unloaders

enable manufacturers to take advantage of cost savings inherent in purchasing and packaging materials in bulk. Safe, efficient, and dust-free handling methods are essential to gain maximum benefit from the use of bulk bags, and NBE offers a full range of equipment designed for specific processing needs.

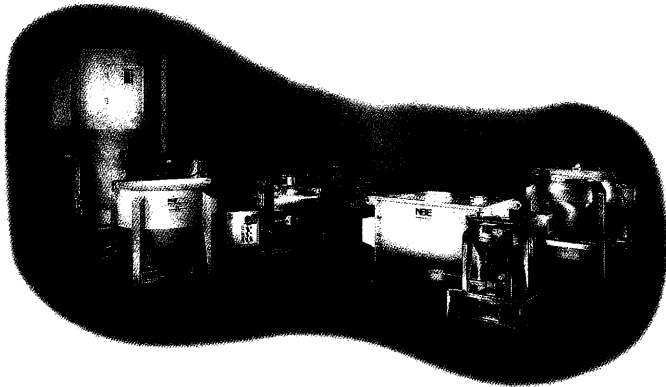


Bag Break Stations

allow operators to empty small bags or drums directly into all types of conveying, size reduction, or process equipment, thereby promoting a clean, dust-free work environment. The station incorporates an intelligently engineered dust collection system that draws dust away from the operator and allows for recovery of valuable product normally lost when using remote dust collection equipment. The addition of an NBE bag compactor allows for empty bag disposal in a dust-controlled environment.



Mixing & Blending



From pilot-scale batch mixers to full-scale continuous blenders, NBE's comprehensive line meets the unique requirements of processors in a variety of industries. Provided with samples of materials and specifications for the final mix, NBE engineers will recommend a standard unit or custom engineer, test, and verify a unit guaranteed to achieve desired results.

Vertical Screw Mixers

include the Quik Mix and Whirlwind. With capacities of up to 25,000 lbs., these mixers thoroughly mix a batch in 15 minutes or less, with consistent operating accuracy.



Vertical Ribbon Blenders

are ideal for premixing batches of minor ingredients with similar or widely varying bulk densities and particle sizes. Their easy-to-clean, portable design; thorough mixing and complete discharge capabilities; and durable construction allow for years of consistent batch-to-batch production without breakdowns or frequent maintenance.



Plow Mixers

produce homogeneous blends in the shortest possible time. These vigorous mixers handle dissimilar materials and accommodate blend ratios as wide as 1% to 99%. Available in batch or continuous operation, plow mixers can blend from a few hundred pounds to more than 5 million lbs. in an eight-hour shift.

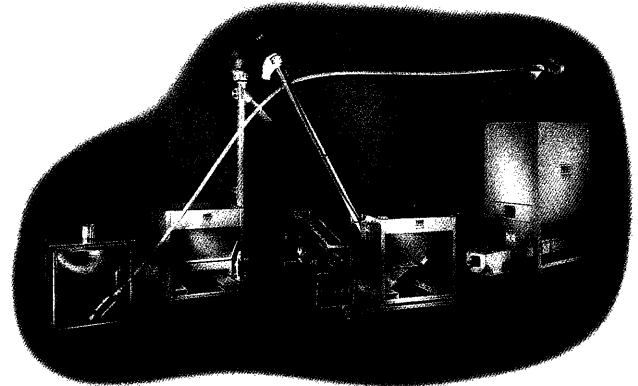


Horizontal Ribbon Blenders

feature capacities of up to 325 cu. ft., utilizing a double helix mixing ribbon to provide a thorough but gentle mixing action.



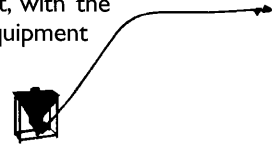
Conveying & Feeding



Mechanical screw conveying is among the least expensive, safest ways to move material within a plant. From basic carbon steel, helical auger conveyors to advanced sanitary, stainless steel feeders, NBE has a quiet, dust-free solution to most any material transfer challenge.

Flexible Augers

such as the Cobra and Helicon move material from storage areas to processing points throughout the plant, with the flexibility to go over and around existing equipment or obstructions.



Agitator Hoppers

are designed to consistently convey large volumes of non-free-flowing materials. V- or U-shaped hoppers, slowly rotating agitators, and variable pitched live bottom bin dischargers help eliminate bridging and ratholing.



Vertical Screw Conveyors

feature a space-saving design to accommodate space constraints and process retrofits while effectively transferring a wide variety of materials to elevated process equipment.

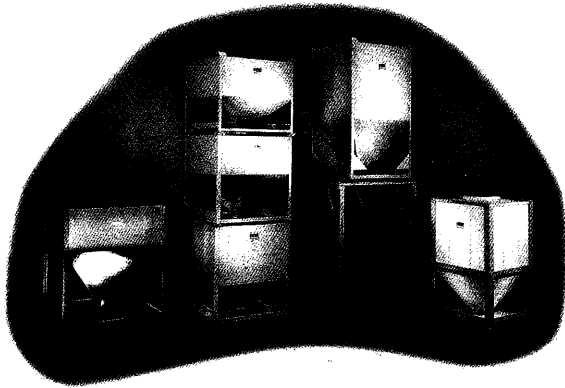


U-Trough & Tube-Type Solid-Core Augers

efficiently convey material up inclines to 60°, or horizontally over long distances. Sanitary U-trough designs are ideal for applications where cleanability is a priority.



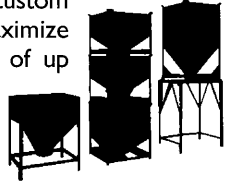
Storage



NBE's custom storage units and more than 250 standard models provide durable solutions for an array of intermediate and bulk storage requirements. A complete line of components and accessories is available to increase plant efficiency by transferring material from bulk silos to points of need with minimal operator involvement.

Hoppers & Surge Bins

available in a variety of standard and custom shapes and sizes, are designed to maximize available space while providing capacities of up to 290 cu. ft. Stainless steel hoppers and surge bins are especially suited for abrasive materials or sanitary requirements.



Round & Square Poly Bins

are economical intermediate storage units for dry chemicals, pharmaceuticals, and more. Their smooth inner surface, steep sides, and translucent bodies ensure complete discharge of materials while allowing for visual indication of material levels.



Mobile Stor Hoppers

Portable, Stackable, Space Saving Heavy Duty Material Storage Containers

NBE Mobile Stor Hoppers offer the convenience of small volume temporary storage and the added benefit of rugged material transport between work sites within your facility. Mobile Stor Hoppers save valuable floor space with their square space saving stackable design.

Specifications

- Vacuum material through a vacuum wand inserted in the discharge ports in the lower hopper.
- Place Hopper over receiving bin for gradual filling as required.
- Stack neatly out of the way until needed. Stackable up to 4 bins high.
- Offered with or without 4" vacuum ports in lower Hopper to allow material discharge through a vacuum wand. Each port with an anti-contamination lid.
- Angled stack pads allow fast, safe stacking of Mobile Hoppers.
- Fork lift channels.
- Locking, zinc plated steel slide gate on Tyvar guides assures smooth operation.

Options:

- Casters
- One and two piece covers
- Four way fork channels
- Bag opening grate and blade
- Magnet grate
- Material discharge stand
- Stainless steel construction

MODEL NO.	*CAPACITY		A	B	C	D	E
	CU. FT.	LBS.					

With four vacuum discharge ports

22-050	20	700	38"	36"	2"	44"	44"
22-100	30	1050	48"	46"	2"	44"	44"
22-110	40	1400	58"	56"	2"	44"	44"
22-120	50	1750	68"	66"	2"	44"	44"
22-130	60	2100	78"	76"	2"	44"	44"

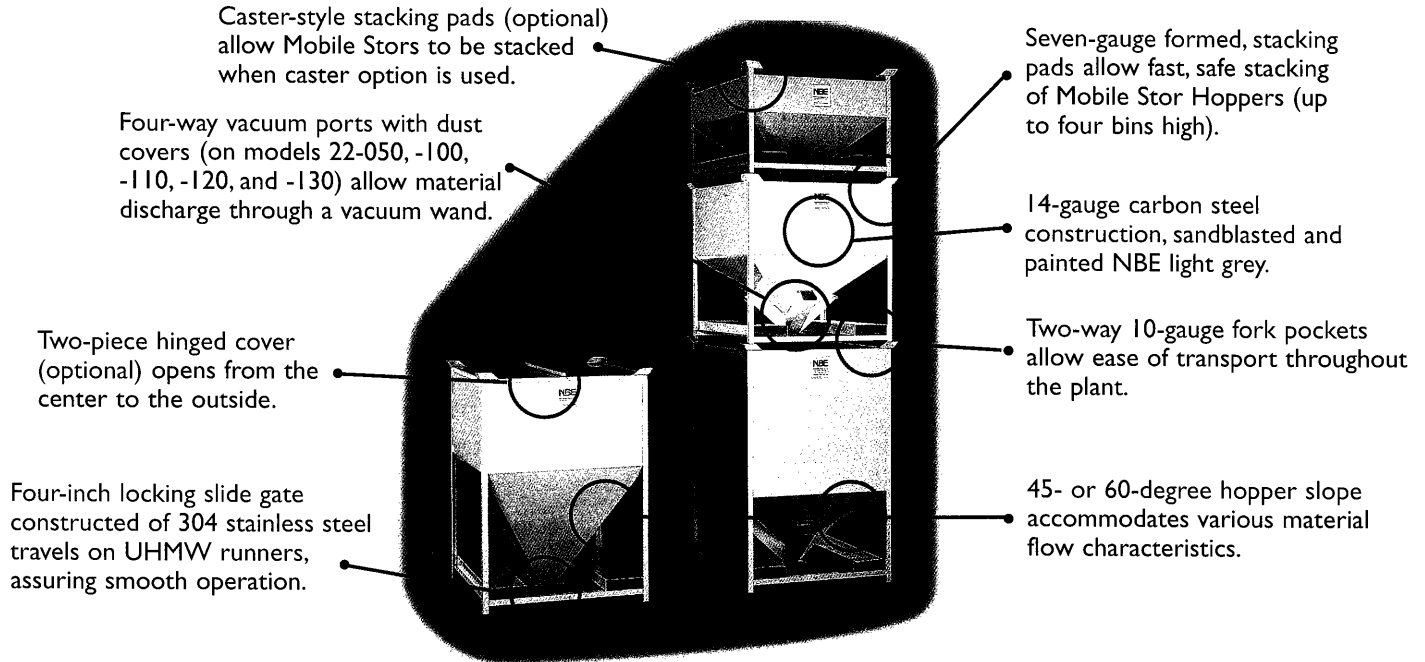
With vacuum discharge ports

22-250	20	700	32"	30"	2"	44"	44"
22-200	30	1050	42"	40"	2"	44"	44"
22-210	40	1400	52"	50"	2"	44"	44"
22-220	50	1750	62"	60"	2"	44"	44"
22-230	60	2100	72"	70"	2"	44"	44"

*Based on material with a bulk density of 35 lbs. per cubic foot.

Mobile Stor Hoppers (continued)

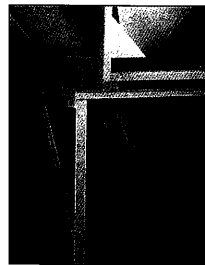
NBE Mobile Stor Hoppers provide rugged material transport between internal work sites and the convenience of small-volume temporary storage. NBE Mobile Stor Hoppers are designed to save valuable floor space with their square, stackable design and provide capacities of up to 60 cubic feet. Mobile Stor Hoppers may be stacked up to four bins high.



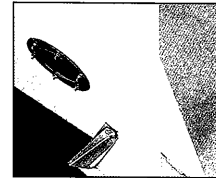
Model (Slope*)	Max. Capacity (cu. ft.)	Useable Capacity ** (@ 35 lbs/cu.ft.)	Base Dimension	Overall Height
Mobile Stors with 4" slide gate and 4 vacuum ports				
22-050 (45°)	20	700	44" x 44"	38.00"
22-050 (60°)	20	700	44" x 44"	52.00"
22-100 (45°)	30	1,050	44" x 44"	48.00"
22-100 (60°)	30	1,050	44" x 44"	62.00"
22-110 (45°)	40	1,400	44" x 44"	58.00"
22-110 (60°)	40	1,400	44" x 44"	72.00"
22-120 (45°)	50	1,750	44" x 44"	68.00"
22-120 (60°)	50	1,750	44" x 44"	82.00"
22-130 (45°)	60	2,100	44" x 44"	78.00"
22-130 (60°)	60	2,100	44" x 44"	92.00"
Mobile Stors with 4" slide gate only				
22-250 (45°)	20	700	44" x 44"	32.00"
22-250 (60°)	20	700	44" x 44"	46.00"
22-200 (45°)	30	1,050	44" x 44"	42.00"
22-200 (60°)	30	1,050	44" x 44"	56.00"
22-210 (45°)	40	1,400	44" x 44"	52.00"
22-210 (60°)	40	1,400	44" x 44"	66.00"
22-220 (45°)	50	1,750	44" x 44"	62.00"
22-220 (60°)	50	1,750	44" x 44"	76.00"
22-230 (45°)	60	2,100	44" x 44"	72.00"
22-230 (60°)	60	2,100	44" x 44"	86.00"

* Please specify slope when ordering.

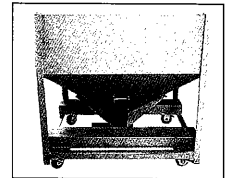
**45° slope is based on a 30° angle of repose; 60° slope is based on a 45° angle of repose.



52" discharge stand (optional) is open on one side for accessibility.



Four-inch diameter view window (optional) allows for inspection of material level within the bin.



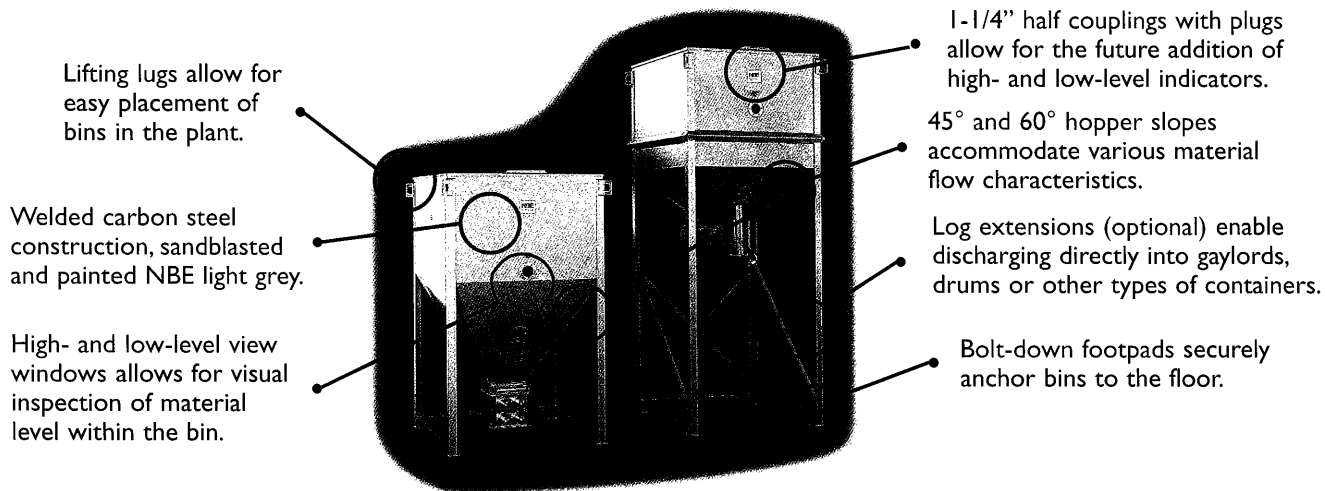
Two 4" swivel casters and two 4" locking casters (optional) allow for portability without the use of fork truck or pallet jack.

NBE Mobile Stor Hopper — Options

- 304 stainless steel construction
- Four-way fork pockets
- One-piece cover or two-piece, hinged cover
- Material agitation devices located above discharge to promote flow from the bin for semi-and non-freeflowing materials
- Bag break grate
- Grate magnets
- Material discharge stand
- Various sizes of discharge openings
- Inside hopper surface painted or finished in white, hardened epoxy
- Custom paint colors

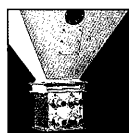
Surge Bins

NBE surge bins provide intermediate, in-plant storage of blended or virgin material. NBE surge bins are available in a range of sizes with capacities from 30 to 290 cu. ft., and either a 45° or 60° hopper slope, depending on the flow characteristics of the material being stored.



Model	Max. Capacity (cu. ft.)	Useable Capacity * (@ 35 lbs/cu.ft.)	Base Dimension	Overall Height
32-145	36	700	54" x 54"	55.50"
32-160	36	535	54" x 54"	64.25"
32-245	58	1,400	54" x 54"	68.50"
32-260	58	1,040	54" x 54"	77.25"
32-345	86	2,200	60" x 60"	77.50"
32-360	86	1,615	60" x 60"	87.75"
32-445	114	3,200	60" x 60"	91.50"
32-460	114	2,600	60" x 60"	101.75"
32-545	145	4,270	60" x 60"	106.50"
32-560	145	3,665	60" x 60"	116.75"
32-645	171	4,600	72" x 72"	97.50"
32-660	172	3,540	72" x 72"	110.75"
32-745	201	5,630	72" x 72"	107.50"
32-760	201	4,575	72" x 72"	120.75"
32-845	227	6,560	72" x 72"	116.50"
32-860	228	5,500	72" x 72"	129.75"
32-945	257	7,590	72" x 72"	126.50"
32-960	257	6,530	72" x 72"	139.75"
32-1045	286	8,625	72" x 72"	136.50"
32-1060	286	7,560	72" x 72"	149.75"
32-1245	343	10,890	84" x 84"	129.00"
32-1260	343	10,060	84" x 84"	145.00"
32-1445	400	12,880	84" x 84"	143.25"
32-1460	400	12,055	84" x 84"	159.25"
32-1645	457	14,905	84" x 84"	157.75"
32-1660	457	14,045	84" x 84"	173.50"
32-1845	514	16,900	84" x 84"	172.00"
32-1860	514	16,070	84" x 84"	188.00"
32-2045	572	18,925	84" x 84"	186.50"
32-2060	572	18,060	84" x 84"	202.25"

*45° slope is based on a 30° angle of repose; 60° slope is based on a 45° angle of repose.



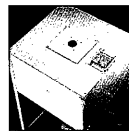
Vacuum probes: 1-1/2", 2", 2-1/2", 3", and 4" sizes provide for connection to the specific conveying line for your applications.

Aluminum airboxes with 1, 2, 4, or 9 holes (opt) for vacuum unloading of bins to single or multiple locations.



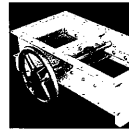
Drain tube with 4" butterfly valve or slide gate (opt) enables discharging directly into gaylords, drums or other types of containers.

12" sq. discharge accommodates optional slide gates, air boxes, screw conveyors, rotary airlocks, etc.



12-1/2" x 9" inspection hatch in cover, shown with optional air filter.

Bolt-on-top cover with mounting plate for vacuum loader or cyclone is drilled to match customer's specifications.



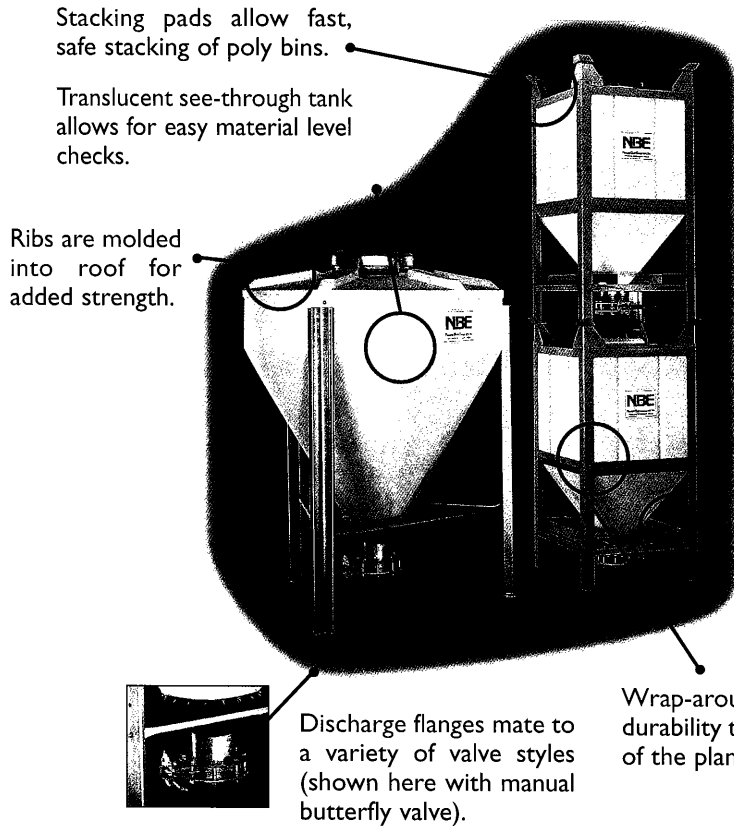
Manual, pneumatic, or rack-and-pinion slide gates (opt) are located at the bin discharge to control flow of product from the bin.

NBE Surge Bins — Options

- 304 stainless steel construction
- High- and low-level indicators
- Platform with ladder
- Mounting plate strengthening support for vacuum loaders or cyclones exceeding 1,000 lbs.
- Auger or air take-away discharge options.
- Material delumpers
- Square-to-round discharge adaptor
- Drawer-style grate magnets
- Agitator located above the discharge (choose from a variety of styles)
- Inside hopper surface can be painted or finished in white, hardened epoxy.
- Custom paint colors available

Poly Bins

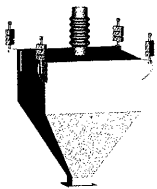
NBE round and square poly bins are the perfect, economical solution for intermediate material storage needs. NBE poly bins hold a variety of dry materials, including chemicals, pharmaceuticals, sawdust, plastic pellets, powders, regrind, and more. The inner surface of NBE poly bins is smooth, without seams or crevices. Steep 60° sloping sides assure complete material flow and clean-out.



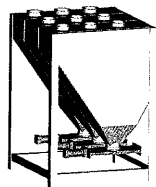
NBE Poly Bins — Options

- Stainless steel lid and discharge unit
- Variable-height legs
- 4" casters
- Portable or stationary design
- Adaptable to accept a variety of discharge valves
- Indoor or outdoor use
- Easily steam-cleaned
- Stores most corrosive materials

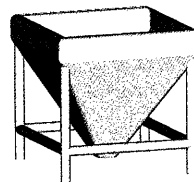
Custom Bin Solutions



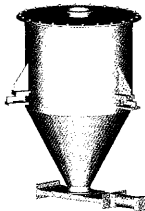
Square Weigh Bins



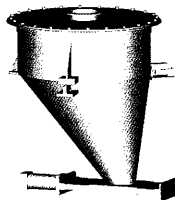
Common Wall Bins



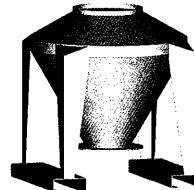
Sanitary Bins



Conical Weigh Bins



Eccentric Cone and Offset Discharge Bins



Application-Specific Bin Designs

NBE provides custom equipment for even the most challenging applications. Our engineers analyze your specific materials and requirements to design equipment that best meets your unique needs.

NBE provides custom bins in any size or shape. Choose from stainless, carbon, or galvanized steel construction.

NBE custom material flow devices ensure continuous discharge of your semi- or non-freeflowing materials.

Round & Square Poly Bins

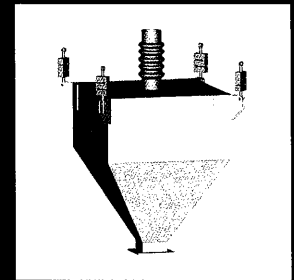
The Perfect Solution for Low Cost, Low Capacity Material Storage Needs

Available in either round, or space saving square design these molded polyethylene bins will hold a variety of materials including dry chemicals and pharmaceuticals, sawdust, plastic pellets, powders, regrinds, and more.

The inner surfaces of the Poly Bin are smooth (no seams or crevices) with steep 60° sloping sides to assure complete materials flow and clean out.

Poly Bin tanks are supported by a sturdy wrap around welded steel frame. Heavy duty 2- or 4-way fork lift channels allow for quick, safe transport of the entire unit from fill site to work station.

NBE provides a range of optional equipment for the Poly Bins to allow for easy installation into your existing material handling system.



Portable or Stationary Indoor Bulk Storage

Features

- Portable or stationary design
- Indoor or outdoor use
- Store most corrosive materials
- Bins are adaptable to accept a variety of discharge boots (see options)
- Translucent see through tank for easy material level checks
- Wrap around steel frame for added stability
- Easily steam cleaned

Specifications

	CAPACITY	MODEL NO.	HOPPER SLOPE	HOPPER OPENING	FILL HOLE	OVERALL HEIGHT
ROUND	67 cu. ft.	28-600	60	16"	22"	96"
SQUARE	22 cu. ft.	28-300	60	7"	16"	56"
	35 cu. ft.	28-320	60	7"	16"	70"

Options

- Slide gate shut-off
- Air or auger discharge box
- Stainless steel lid and discharge unit
- Variable height legs
- Ladder (round only)
- 4" casters

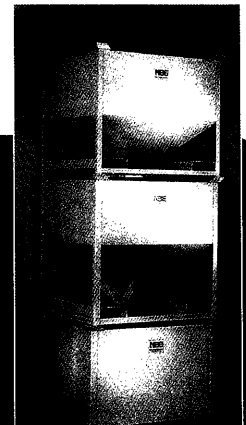
Mobile Power Hopper

The Portable Material Hopper with a Screw Conveyor Discharge

NBE's Mobile Power Hopper offers both speed and convenience in the transfer of materials into storage vessels or for direct machine hopper loading. The design features and available options of the Power Hopper make it the one unit that can be used to convey a wide variety of materials including powders, fines granulars and regrinds.

At NBE our staff of experienced Engineers will take the time to carefully review and even pretest your material to determine the best screw size (solid core or coreless) drive size and design needed to meet your individual needs.

Increase material handling efficiency with this uniquely designed portable Power Hopper.



The Mobile Power Hopper can be transported to different points of use throughout your plant or permanently installed for use as a dedicated material conveyor.

The Power Hopper is available in a variety of sizes with convenient operator access to the top of the hopper. Each features a 12" x 12" square bottom opening to the critical inlet point of the screw conveyor. This large inlet helps reduce the risk of material bridging or packing above the screw flighting offering positive flow of a wider variety of materials.

The unique base driven screw conveyor design makes it easier to

move the Power Hopper between points of use while offering easy access for routine maintenance. The drive size will vary based on particular material characteristics.

The screw conveyor assembly is built to last. The steel screw flighting turns inside a rigid steel tube to a vertical gravity discharge outlet. The screw assembly can be easily unbolted from the hopper body for easy maintenance or cleaning.

When used with a coreless screw conveyor discharge, the Power Hopper can deliver material around corners or be used to feed multiple bins or machine hoppers.

Mobile Power Hopper *(continued)*

Specifications

- Construction:** Heavy gauge welded hopper with formed angle legs and bracing. Durable 2-way fork lift channels are standard. Heavy gauge stacking pads.
- Dimensions:** 44" x 44" square base.
46" high (9 standard 20 cu. ft. model).
- Capacity:** 20 cu. ft. (standard). Capacities can be varied to meet specific needs.
- Conveyor Screw:** Either solid core (up to 6" dia.) or coreless (up to 3.8" dia.). Steel conveyor tube. Auger incline can be provided up to 60°.
- Drive:** Base drive. Provided to meet each application requirement based on material characteristics and delivery rate requested.

Options

- Bag Break Grate
- Vibrator, Air or Electric
- 2-Piece Hopper Cover
- 1-Piece Hopper Cover
- Aerator Package
- Material Level Indicator
- Stainless Steel Construction

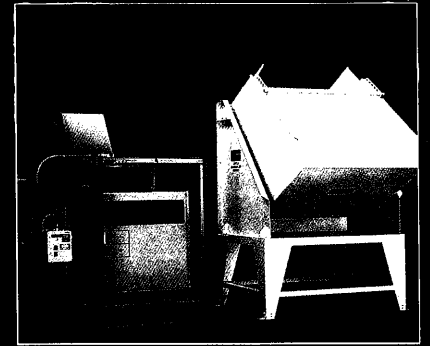
PowerMaxx Hydraulic Dumpers

The **NBE PowerMaxx hydraulic dumper** reduces manual labor requirements and increases productivity. Floor-level loading of boxes and other containers is provided in an automated, durable, economical package.

NBE PowerMaxx dumpers provide greater operator safety than manually dumping containers. The dumper's hydraulic velocity fuse automatically locks the bucket in place in case of hydraulic failure. The operator must press and hold the control push-button to activate the dumper. An optional safety cage enclosure is available.

Choose from a variety of motor options. Because the 1.5 hp motor is independent of the hydraulic pump, a variety of options can be accommodated, including explosion proof, single or three-phase, and wash-down.

NBE provides comprehensive systems for duning and tilting, bag handling, mixing, blending, conveying, feeding, and storage, to meet all your dry bulk solids handling needs.

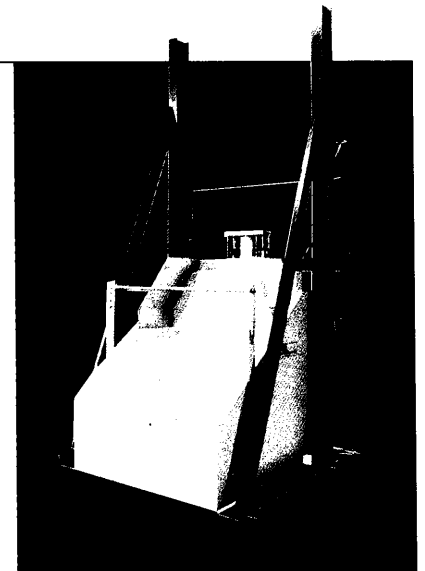


Vertical Lift Tipper

NBE's Vertical Lift Tipper Saves Time, Manpower and Material

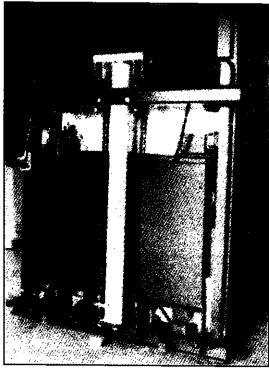
NBE's Vertical Lift Tipper rises to the challenge of providing safe dumping of boxed material into larger storage vessels or processing equipment.

- Sturdy welded construction with a solidly built bucket and framework for years of dependable use.
- The electric/hydraulic power system drives the large lifting cylinder and dump action cylinders. The Vertical Lift Tipper provides a smooth and safe method of raising and dumping large boxes or drums of material.
- Lifting capacities start at 1500 lbs..
- Discharge materials to heights of 8-15 feet above the floor.
- Load boxes conveniently at floor level with fork or hand truck.



Vertical Lift Tipper *(continued)*

Features



As with other NBE Box Dumpers, the *Vertical Lift Tipper* allows for safe dumping of boxes, barrels, and small hoppers providing operator safety while virtually eliminating material loss.

The bucket of the Tipper is mounted to a heavy gauge steel lifting carriage. The single hydraulic mast cylinder raises the carriage and bucket along two heavy I-Beam stations. The motor and pump drive pack are completely self contained and set apart from the Tipper main frame for easy maintenance.

When the specified dump height is reached, two smaller hydraulic cylinders rotate the bucket a full 135 degrees (standard) for complete emptying of material. In cases where a greater dump angle is needed to discharge material, NBE can provide up to a full 180 degree bucket rotation to completely invert the box container.

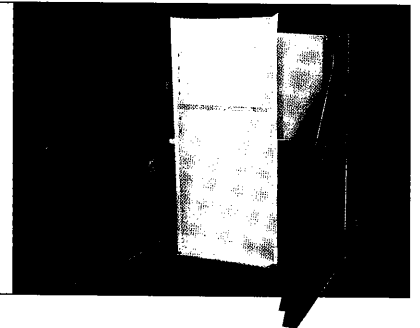
Safety overload stops, limit switches and other devices are standard equipment on these NBE Vertical Lift Tippers to assure plant and operator safety at all times.

Drum Dumper

Drums and/or Barrels Take A Turn For The Better

Barrel and drum containers are awkward, heavy, often difficult to maneuver and impossible to lift and dump by hand. NBE solves these problems and more with this versatile design Drum Dumper.

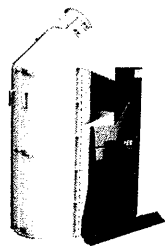
Built to handle most any size steel, polyethylene, or fiber type drum container. Extensive research history and quality materials have gone into this machine to assure ease of use and operator safety. The Drum Dumper is constructed of heavy gauge welded steel throughout and offered with a wide range of optional special features.



Features

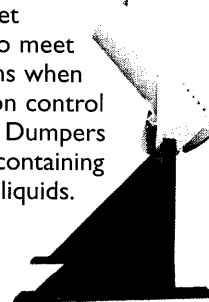
The unique design of our Drum Dumper finds the base of the tilt bucket flat on the floor, which allows easy loading and unloading with a hand truck. A push button control is conveniently located at shoulder level right on the side post.

During operation the bucket lifts the drum to a full 45 degrees for complete emptying. The bucket will stop and lock at any



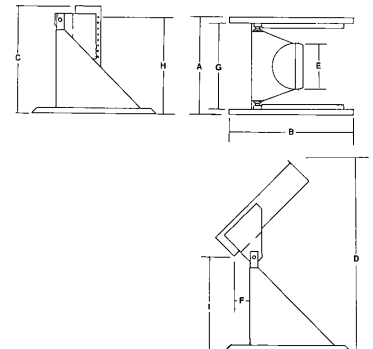
position up to a full rotation allowing more control over the rate of material discharge.

Special enclosed bucket designs are available to meet customer specifications when dust and contamination control is necessary. Enclosed Dumpers provide added safety containing splash when dumping liquids.



Specifications

- Capacity:** 750 pounds
- Base frame:** Welded heavy gauge carbon steel
- Tilter actuator:** Single hydraulic cylinder
- Electrical:** Fractional HP/115V/ single phase motor
- Finish:** Sandblasted and painted with 2-part epoxy



Dimensions (Inches)

A	B	C	D	E	F	G	H	I
52	66.4	56.5	103	24	7	46	51	50

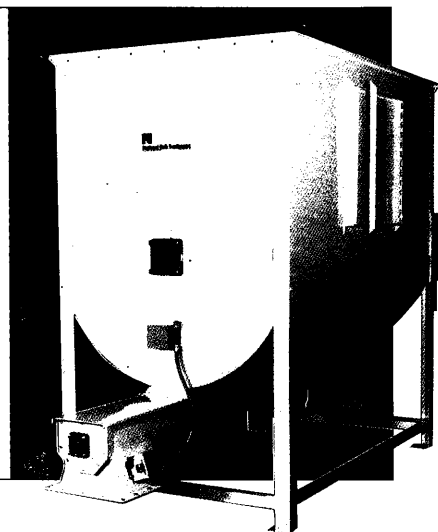
Options

- Enclosed bucket
- Customer specified dump height
- Casters
- Stainless steel material contact surfaces
- Custom designs to meet specific applications

Agitator Discharge Hopper

Designed Specifically for Trouble-Free Dispensing of Non Free-Flowing Materials

The NBE Agitator Discharge Hopper is engineered and constructed to assure consistent flow of hard-to-handle materials without bridging or ratholing. That includes most any non free-flowing materials such as regrinds, strapping, latex, styrofoam, film, fluff, etc. The handling and discharge of these different materials are made possible by the proper combinations of features from NBE. The steep angle of the hopper sides and continuous welds on inside seams prevents material from catching or accumulating. The agitator sweep arms are angled and strategically placed to keep material moving into the discharge trough. They're also adjustable in length to compensate for different material consistency. The discharge trough covers the entire hopper base, further eliminating bridging and hang-ups. And the discharge trough can be specified to accommodate a 4, 6 or 8" auger. The NBE Agitator Discharge Hopper is not only effective at simplifying a difficult job, it is versatile. You can specify several capacities or various take-away systems.



Other Options

Model No.	Description
25-175	Hinged cover (standard models)
25-176	Hinged cover (25-500, 535)
25-177	Material level indicator switch
25-131	Access door in side of hopper

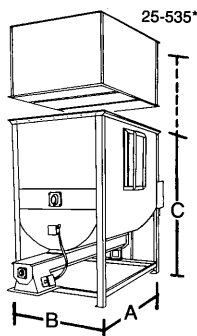
Discharge Options

Model No.	Description
25-285	4" Auger/10' discharge height
25-290	4" Auger/20' discharge height
25-315	6" Auger/10' discharge height
25-320	6" Auger/20' discharge height
36-100	4-hole vacuum takeaway box w/out probes

Model No.	Description
36-112	2-hole vacuum takeaway box w/out probes
36-113	1-hole vacuum takeaway box w/out probes
36-116	Probe-1 1/2"
36-117	Probe-2"
36-118	Probe 2 1/2"
36-119	Probe-3"

Standard "U" Shaped Hopper

Model No.	Capacity		A	B	C	Trough Auger
	Cu. Ft.	Lbs.				
25-100						4"
25-190	30	1050	54"	36"	51"	6"
25-400						8"
25-200						4"
25-205	50	1750	54"	36"	69"	6"
25-250						8"
25-300						4"
25-215	70	2450	54"	36"	87"	6"
25-260						8"
High Capacity						
25-500	110	3850	82"	52"	80"	9"
25-535	200	7000	82"	52"	122"	9"

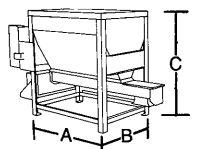


Features

- Heavy 14 gauge steel construction
- Separate industrial/electric motor coupled with gear reducer to provide powerful, low rpm agitator shaft drive.
- Separate industrial/electric motor for auger discharge.
- Motors are available in single or three phase. H.P. varies depending on auger size specified.
- Heavy duty, ball bearing assemblies for agitator shaft and shaft drive system.
- Supports for bearing assemblies are 1/4" steel channel.
- Drive train is completely guarded for safe operating
- On/off switches for both motors.
- Solid core auger (4, 6, or 8") in 12 gauge steel trough.
- Entire unit is sand blasted and epoxy painted (desert sand beige standard).
- Removable inspection plate in dispensing end of discharge auger.
- 4 different take-away systems available; auger, vacuum, blower and bucket elevator.

"V" Shaped Hopper 60° Slope

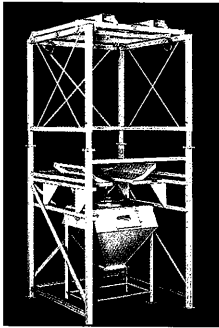
Model No.	Capacity		A	B	C	Trough Auger
	Cu. Ft.	Lbs.				
25-325	30	1050	54"	36"	58"	Avail.
25-340	50	1750	54"	36"	76"	4-8"
25-355	70	2450	54"	36"	94"	as
25-370	80	2800	82"	52"	103"	required



Bulk Bag Unloaders

Two-ton electric hoist with hand-held control allows for floor-level loading of bags; optional power trolley allows for easy positioning of the bag over the receiving hopper. Also available in forklift spreader attachment for manual loading.

Unique A-frame design, developed using the latest FEA software, provides the most structurally sound frame available.



Manual bulk bag unloading frame for forklift loading of bulk bags into frame.



NBE's patent pending Forceflo™ options guarantee optimum bag discharge.

Funnel flow mechanical bag loop lifters and linear tensioners ensure total product discharge

Hammer arm pneumatic mid-bag agitators eliminate the potential for material ratholing.

Bridgebuster pneumatic lower bag agitators continuously induce material flow through the discharge spout.

Iris valve bag closure is used for dust and product flow control when untying and retying the bag discharge spout. It can be manually or pneumatically operated. NBE also offers a glove-host bag spout access design.

Receiving hopper can be designed to accommodate a complete range of material handling transfer options.

Bulk Bag Unloaders enable manufacturers to take advantage of the cost savings inherent in purchasing and packaging dry solids in bulk bags. Safe, efficient and dust free handling methods are essential to gain maximum benefit from the use of bulk bags, and NBE offers a full range of equipment that are unmatched in these areas.

- **Expendability** - Standard modular options provide expendability and flexibility as your bulk bag handling needs change and/or grow. By simply adding one or more of our standard bolt-on modules you can easily accommodate changes in bag designs, material flow characteristics, production demands or a multitude of other possibilities.
- **Complete and Dust Free Product Discharge** - NBE has designed a comprehensive line of material flow aids, flow control valves, inflatable seals and other available options to promote material discharge from the bag without additional operator involvement. Discharging the material in a controlled and safe manner that effectively eliminates dusting and other related industrial hygiene issues is an added benefit. Standard range of options designed to accommodate all types of bag sizes and styles.
- **Safety** - NBE's unique bulk bag unloader framework was developed using the latest Finite Element Analysis techniques to assure unsurpassed safety and reliability.
- **Value** - Purchasing a NBE Unloader offers you the security of knowing that you will receive a competitively priced, safe, effective, and efficient piece of equipment that has a dedicated and knowledgeable support staff to stand behind your decision every step of the way.

Bulk Bag Fillers

Bag/liner pre-inflation pneumatic venturi package pre-sizes the bag for more precise filling.

Flow control valve consists of a three-position pneumatically operated 8" knife gate for bulk and dribble settings.

Concentric fill spout with pneumatic inflatable dust seal features USDA/FDA-approved rubber bladder, proving positive gripping of bag spout, which eliminates dusting during filling cycle.

The Freestanding control panel includes all pneumatic and electric controls, pre-plumbed and pre-wired for easy installation.

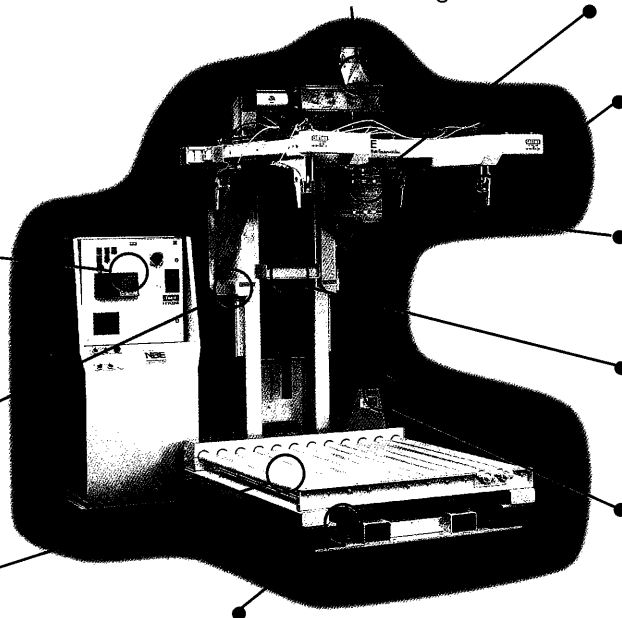
Roller wear guards increase longevity of frame.

Indexing conveyor allows for automatic staging and indexing of bags into or out of the filling station

Mettler-Toledo weigh system (optional) has dual display advanced digital indicator with multiple set-points; NEMA 4 enclosure; and flex-mount load cell system. Platform scales or hanging tension load cells are also available.

Drum/gaylord/tote fill adaptors allow for dust-free filling of any customer-specified container.

Densification platform allows for densifying of material to increase productivity while maximizing the volume of product in the bag.



Adjustable bag loop hangers securely hold bags of various sizes (patent pending).

Powered rear loop hangers automatically slide from back to front, enabling the operator to attach the bag easily without the need to lean into the equipment (patent pending).

Power screw height adjustment with soft start/stop reduces stress on the framework when raising and lowering the fill head.

4,000 lbs. capacity framework was designed using the latest FEA software for outstanding safety and reliability.

Bulk Filling Station

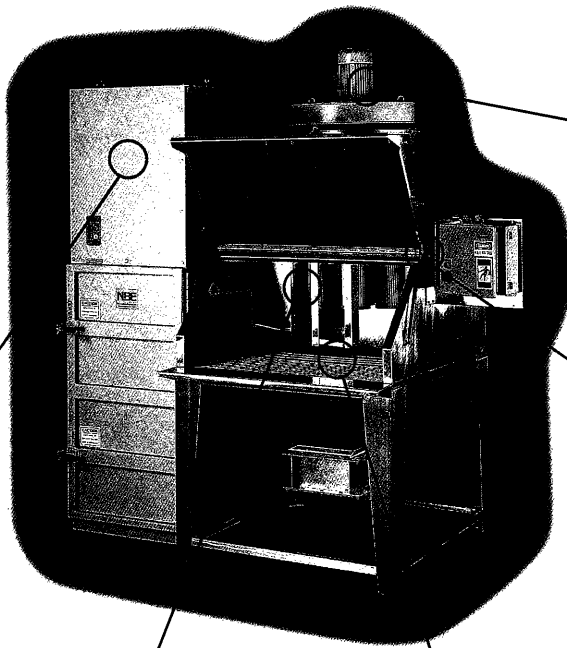
- Ergonomic, space-saving design allows for the most advanced, yet operator friendly design on the market. Cantilevered frame design allows for convenient operator access to the filled container. There are no front posts to interfere with the operator or fork lift truck.
- Powered height adjustment option, and optional hook package allow the machine to quickly and easily accommodate a wide range of bulk bag sizes.
- Wide variety of modular options allows NBE to tailor a custom designed filling station to meet a customer's needs while maintaining a standard product delivery time.
- Modular adapter pieces can be included for filling boxes, drums and custom sized containers.
- Award winning Mettler-Toledo Flexmount load cell scale package and Lynx programmable digital indicator, along with name brand components are easily serviced and supported world wide. The scale system provides a range of programmable set points that can be used to provide bulk/dribble settings and automated densification cycles.
- The scale system can be tied into existing PLC systems for automated system control and management. Optional label printers can provide printed records of the filled batch.
- Extensive custom design capabilities allow NBE to provide specialized designs to meet specific applications. These include hazardous areas, special materials of construction and portable designs.
- Fill station can be operated efficiently using one operator. The container is filled, weighed and densified on the pallet, so the finished product can be easily removed once the container is filled. A variety of other options, such as pallet dispensers, automated conveyor systems and accumulating conveyor systems allow a completely automated process, eliminating the need for a fork lift truck to remove filled containers from the station.

Bag Break Stations

NBE bag break stations with integral pulse-jet dust collectors allow operators to empty small bags and drums directly into all types of conveying, size reduction, or process equipment in a dust-free environment. The unified construction of the dust hood and seven cu. ft. hopper minimizes crevices and cracks where material can accumulate, while ensuring easy cleaning and maintenance. The dust and inconvenience of handling empty bags is controlled through use of NBE's optional bag compactor.

Circuit board controls frequency and duration of compressed air blasts to inflate the filter material, dislodging dust particles which then fall to the bottom.

Hydraulic bag compactor (optional) reduces refuse volume and eliminates the industrial hygiene and housekeeping concerns related to handling empty bags with traces of product left on them.



Dust collector offers extended life filters available in polyester or Gortex filter media, 99.9% filter efficiency, pressure blower fan, low air-to-cloth ratio; and 304 stainless steel body and product contact parts.

Removable baffle directs air flow under bag grate and into dust collector cartridges.

Bag break grate is removable for easy cleaning.

Hinged access door has spring loaded gas cylinders that allow for easy opening and closing of door and hold the door open during operation.

Sequence of Operation

Blower Activation - Opening the door automatically activates the pressure blow fan, which quietly draws ambient air across the door opening, through the loading grate, and into multiple cartridge filters.



back into the hopper for complete product recovery. The clean, filtered air is exhausted to the atmosphere or plumbed to a remote location through the flanged exhaust port at the top of the station.

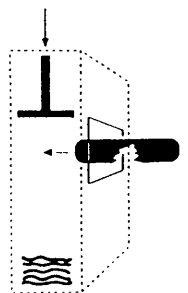
Bag Break - the operator places the bag on the grating and splits open the bag to dump the material through the grate into the discharge hopper.



Dust Collection & Exhaust - As the product drops into the hopper, dust particles collected on the exterior of the filter bags are automatically removed by pulses of compressed air introduced into the cartridge, which causes the dust to drop



Bag Compaction - When dumping is completed, the bag is placed in the bag compactor through a side opening in the station. The compaction cycle is activated by closing the station access door and activating a push-button located on the bag break station. For the increased safety, the compactor is interlocked with the access door of the bag break station to prevent compaction when the door is open.



Gauge Hatches

Enardo hatches are utilized as an important means of controlling vapor losses and a convenient access to storage tanks. We offer both dead weight and spring-loaded gauge hatches. Dead weight units are generally used in very low pressure applications with 1, 2, 3, or 4 ounce pressure settings and a 4/10 ounce vacuum relief. Spring-loaded models are generally utilized in low pressure

applications and are available with 2, 4, 6, 8, 12, 16, 24, 32 ounce pressure settings and 4/10 oz., 1 oz., and 3.5 ounce vacuum settings. Enardo product features include; the use of a patented envelope pressure gasket on all spring-loaded units; models with bleeder attachments; and combination gauge hatch/by-pass pipeway models.

Series 1000 Lock Down Hatch

The Series 1000 hatch provides access into storage tanks. When closed, it assures a vapor tight seal that prevents leakage and evaporation loss. It is designed for easy installation, inspection, and maintenance providing trouble-free operation.

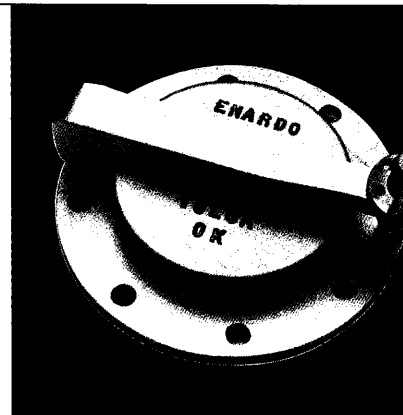
Construction: Aluminum base, arm, and lid.

Bolting Pattern: ANSI-(8) 7/8" holes on an 11-3/4" circle. API-(16) 11/16" holes on a 10-3/8" circle.

Approximate Shipping Weights: 20 lbs. each

Design Specifications

- Series Number 1008
- Bolt Pattern: ANSI or API
- Gasket Material: Neoprene, Viton or Special Compounds
- Options



Model 660B Spring-Loaded Gauge Hatch

The 660B has an 8" round base with standard settings of 4 oz. pressure and 4/10 oz. vacuum relief. This model also incorporates a bleeder attachment which pre-releases tank pressure to prevent spray when hatch cover is lifted. (Also available without bleeder in Model 660.)

Construction: Iron and aluminum castings

Bolting Pattern: (16) 5/8" holes on an 10-3/8" Circle API for normal 8" tank opening.

Options:

- Plastic Trim (PT) for Corrosive Service
- Pressure Setting - 2, 4, 6, 8, 12, 16, 24, & 32 oz.
- Vacuum Setting - 4/10, 1, or 3.5 oz.
- Bolt and Gasket Set
- Base Gasket only
- Non-Corrosive Coating

Design Specifications

- Series Number 660 or 660B
- Pressure and Vacuum Setting
- Options



Model 660LB Spring-Loaded Gauge Hatch

The 660LB utilizes a long basin on a round base which acts as a shelf and leveling basin. This model incorporates a bleeder attachment which pre-releases tank pressure to prevent spray when hatch cover is lifted. Standard settings are 4 oz.

Construction: Iron and aluminum castings

Bolting Pattern: (16) 5/8" holes on an 10-3/8" Circle API for normal 8" tank opening.

Options:

- Plastic Trim (PT) for Corrosive Service
- Pressure Setting - 2, 4, 6, 8, 12, 16, 24, & 32 oz.
- Vacuum Setting - 4/10, 1, or 3.5 oz.
- Bolt and Gasket Set
- Base Gasket only
- Non-Corrosive Coating

Design Specifications

- Series Number 660L or 660LB
- Pressure and Vacuum Setting
- Options



Gauge Hatches *(continued)*

Model 570LB Spring-Loaded Gauge Hatch

The 570LB incorporates a pipeaway by-pass with automatic check valve on a long basin with automatic check valve on a long basin with a bleeder attachment. This design equalizes the vapor pressure in a multiple tank vapor control hookup while isolating the individual tank when it is opened. Standard settings are 4 oz. pressure and 4/10 oz. vacuum relief.

Construction: Cast iron base and by-pass with cast aluminum cover

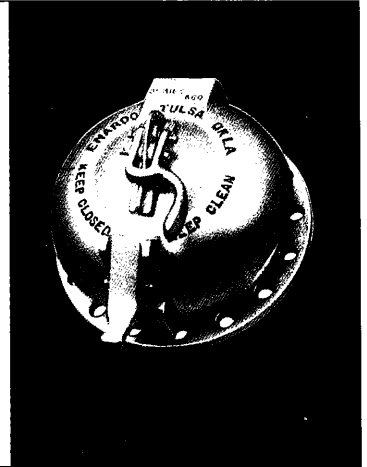
Bolting Pattern: (16) 5/8" holes on an 10-3/8" Circle API for normal 8" tank opening

Options:

Plastic Trim (PT) for Corrosive Service
 Pressure Setting - 2, 4, 6, 8, 12, 16, 24, & 32 oz.
 Vacuum Setting - 4/10, 1, or 3.5 oz.
 Bolt and Gasket Set
 Base Gasket only
 Non-Corrosive Coating

Design Specifications

- Series Number 570LB or 570LB-PT
- Pressure and Vacuum Setting
- Options



Model A Hatch

The model A is deadweight pressure-vacuum relief gauge and thief hatch with a round base. This hatch was specifically designed to meet the demand for an inexpensive valve yet to maintain the Enardo quality standards. It is designed for use on steel or fiberglass storage tanks.

Construction: Iron and aluminum castings

Bolting Pattern: (10) 3/8" Circle API, for normal 8" tank

Options:

Base Gasket
 Weld Neck Base
 Galvanized Coating
 Epoxy Coating
 Viton Gaskets
 Personalized Name

Design Specifications

- Model Information
- Pressure Setting
- Options



Model 200 Thief Hatch

The series 200 is a deadweight gauge and thief hatch with an oblong base. It is designed for use with low pressure, steel and fiberglass tanks.

Construction: Cast iron base and by-pass with cast aluminum cover

Bolting Pattern: (16) 5/8" holes on an 10-3/8" Circle API for normal 8" tank opening.

Options:

Bolt and Gasket Set
 Base Gasket only
 Non-Corrosive Coating

Design Specifications

- Model Information
- Pressure Setting
- Options

