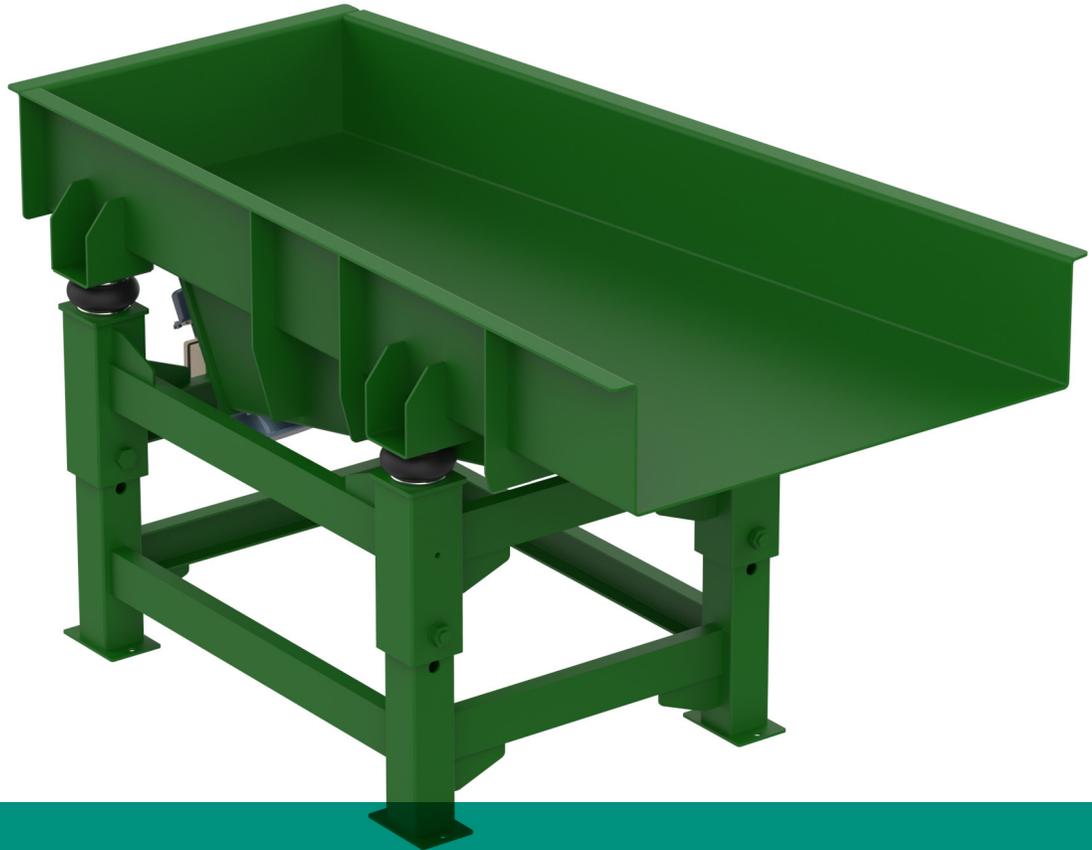


Vibratory Feeders



Control the Flow of Bulk Materials in Your Process

The Cleveland Vibrator Company's Vibratory Feeder Models are used to feed raw materials or finished products into mixers, shredders, crushers, screeners, furnaces, production processes or final containers. Available in a wide variety of styles and finishes, Vibratory Feeders are ideal for foundries or the chemical, food, metal or paper industries, just to name a few. Fully adjustable volumetric flow allows for automated or semi-automated production processes or fill stations.

BENEFITS INCLUDE

- Lower production cost and improved quality and throughput by ensuring controlled and consistent material flow
- Reduced cost of maintenance and parts replacement compared to mechanical feeders
- Flexibility in design options ensures a seamless fit into your existing production processes for your specific application
- Safety under the most hazardous conditions

Product Overview



The Cleveland Vibratory Company tailors our product to the individual needs of your business. Call today to find out how we can improve your productivity and profits.

The Cleveland Vibrator Company offers a wide range of light, medium and heavy-duty **Vibratory Feeders** for controlling the flow of your bulk materials.

Production line systems incorporating Vibratory Feeders can provide:

- Fully automated or semi-automated fill stations
- Fully adjustable volumetric flow
- Linear motion that is smooth and uniform
- Safety under the most hazardous conditions

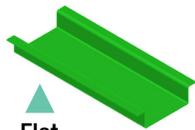
VIBRATORY FEEDERS ARE IDEAL FOR:

INDUSTRY	WHAT DO THEY DO?
Chemical Plants	For the controlled flow of ingredients to mixing tanks
Aggregate	Control the feed rate of your materials to your crushers
Foundries	For the addition of binders and carbons to sand processing systems
Pulp & Paper Industry	For chemical additive feeding in the bleaching process and chip handling systems
Metals	For feeding metal parts or scraps furnaces
Ceramics	For controlled ingredient flow in the batching process
Glass	For feeding glass cullet to the furnace
Chemical Additive Handling	Such as lime or diatomaceous earth in water and sewage treatment plants

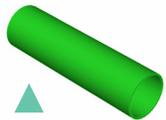
Tailored On Demand

TRAY SHAPES

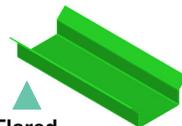
Vibratory Feeder capacity will vary with tray configuration. A tubular or vee-shaped tray will not move the same volume as a standard flat tray, Consult factory for capacity data on tubular or vee-shaped output.



Flat



Tubular



Flared



Vee

DISCHARGE OPTIONS:

- Standard Flute Chute
- Tapered Chute
- Circular Chute
- Side Discharge

EQUIPMENT OPTIONS:

- Levelling Gate
- Dust Cover
- Liners
- Impact Plates

ISOLATION OPTIONS:

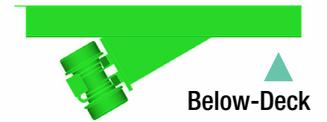
- Air Mounts
- Coil Springs
- Sandwich Rubber
- Marsh-Mellow@Mounts

Our Vibratory Feeders are available in a variety of trough shapes. Units can be furnished with special trough coatings such as neoprene, UHMW, urethane, non-stick polymer, non-stick textured surfaces or removable abrasive-resistant steel plate. The trough can be furnished in steel or polished stainless steel to meet the most demanding requirements.

CONTROL OPTIONS:

- **Electromechanical**
Magnetic Starter
Variable Frequency
Dynamic Brake
- **Air Powered**
Filter Regulator Lubricator
Explosion-Proof Solenoid
- **Electromagnetic**
Variable Amplitude
- **Special Controls**
Remote Operation
Two-Speed
Batch Weighing
Multiple Feeders

DRIVE LOCATIONS



Below-Deck

The standard below-deck mounting of air or electric vibrators is the most widely used.



Side-Mount

Side mounting of drives is also available for the EMF Series with dual Rotary Electric Motors.



Above-Deck

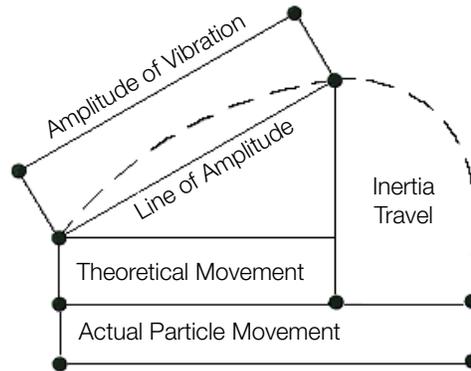
Where installation requirements dictate, the above-deck mounting can also be used.

The Cleveland Vibrator Difference

SIMPLE PRINCIPLE, GREAT SUCCESS

HOPS, NOT STREAMS

While it appears to move in a uniform flowing stream, in reality the material makes a series of short, continuous, rapid hops forward that are imperceptible to the eye. How does this happen?



The power source is attached to the feeder at a prescribed angle. The force and angle create a forward and upward motion of materials but returns back to its original position. However, the material doesn't move backwards due to the slower action of gravity happening during the return motion.

DESIGNED FOR YOU, YOUR MATERIAL AND YOUR PROCESS

DESIGN EXPERIENCE

The Cleveland Vibrator Team has over 60 years of collective experience sizing and designing vibratory feeders for 100's of materials and applications. So, you know you will get the right force, frequency, amplitude and custom options to make your project successful.

SIMPLE

Our feeders are designed and built for minimal wear parts to make maintenance an infrequent and easy task.

IN-HOUSE TESTING

Cleveland Vibrator's in house testing lab includes an EMF Electromechanical Feeder with independent variable frequency and variable amplitude controls to allow determination of optimal vibration conditions for any material AND prediction of feed rates and process outcomes.

LINEAR VIBRATION

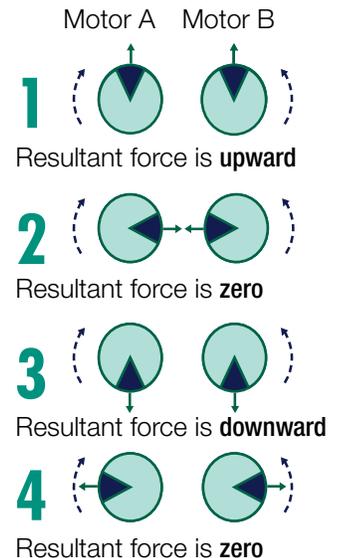
Sure, using one motor would cost less. But, 99% of feeding applications perform best with linear vibration, in line with gravitational forces, that are easily achieved with two synchronized vibrator motors, using the **Dual Motor Principle**. (Refer to diagram on right)

LARGE LOADS? NO PROBLEM

Cleveland Vibrator has experience designing and building feeders to vibrate loads at a rate of up to 300 ton per hour

QUALITY COMPONENTS

Uras or Cleveland Vibrator Motors, Yaskawa Controls, Firestone isolation mounts, Mettler-Toledo weigh modules, to name a few. We use only the best brands of components, recognized for quality and continuous duty.



SEE IT BEFORE YOU RECEIVE IT

Follow us on **Instagram** to see what we are up to in our Vibratory Equipment Department
[@Cleveland_Vibrator_Co](https://www.instagram.com/Cleveland_Vibrator_Co)

Visit The **Cleveland Vibrator Company's YouTube Channel** to see 25+ videos of Vibratory Screener Models in action.

Check in weekly for new editions of Cleveland Vibrator's Solutions In Motion Blog at solutionsinmotion.clevelandvibrator.com

Sign up today to receive 10 minutes of Vibration Education delivered to your inbox monthly. Visit clevelandvibrator.com for details

Helpful Installation Tips



CALCULATE TO FIT YOUR INDIVIDUAL FEEDER NEEDS

THE TONS-PER-HOUR CAPACITY OF OUR FEEDERS IS BASED ON THE FLOW OF DRY SAND THAT WEIGHS 100 LBS. PER CUBIC FOOT.

To better utilize the charts in this catalog, follow these simple steps to determine the actual capacity of your product:

1. Determine your desired output of materials in tons-per-hour (TPH)
2. Determine the weight of your materials in pounds per cubic foot
3. Use the chart below to determine the CVC density factor
4. Multiply your required capacity by the CVC density factor

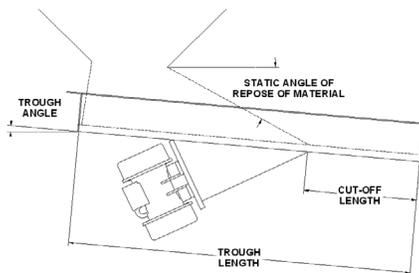
Example:

You need to move 30 tons-per-hour of a material that weighs 60 lbs/ft³. On the chart, the CVC density factor for materials weighing 60 lbs/ft³ is 1.7. Simply multiply the desired output (30) by the found CVC density factor (1.7) to determine your products equivalent to the normal capacities shown in the catalog chart. **30 x 1.7 = 51 tons per hour**

MATERIAL WT. (LBS/FT ³)	25	30	35	40	45	50	55	60	70	80	90	100	125	150	175	200
CVC DENSITY FACTOR	4.0	3.3	2.9	2.5	2.2	2.0	1.8	1.7	1.4	1.3	1.1	1.0	0.8	0.7	0.6	0.5

EMF Electromechanical Feeders can be arranged for either base or suspension installation. Here are a few helpful considerations for proper installation and maximum feeding efficiency.

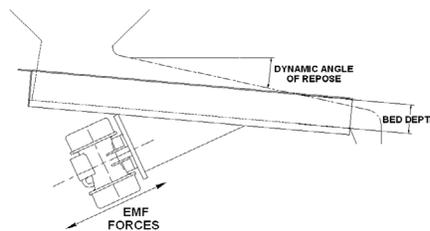
Figure #1



FEEDER AT REST

Feeder trough length is determined by the material's static angle of repose and trough slope. The feeder trough must be of sufficient enough length to assure complete material shut-off when the feeder is at rest.

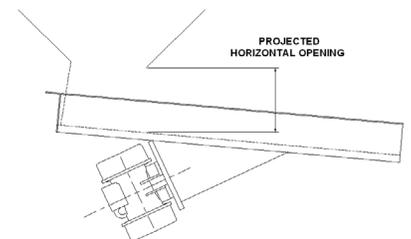
Figure #2



FEEDER OPERATION

The dynamic angle of repose is the angle the material seeks while being vibrated and conveyed.

Figure #3

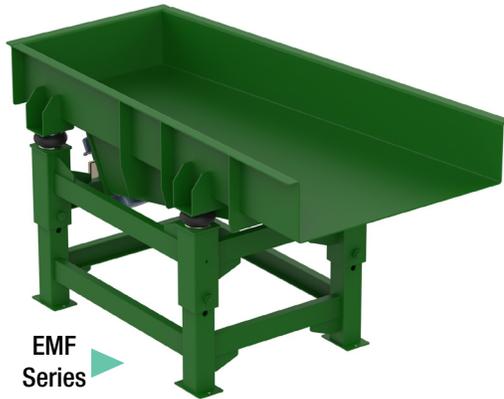


PROJECTED VERTICAL OPENING

The projected length and width of the vertical opening should be two or three times greater than the largest particle dimensions. Materials with bridging tendencies require sufficient openings to assure good product flow.

The projected horizontal opening is determined by particle size and bed depth requirements. The minimum horizontal opening should be approximately two times the largest particle dimension, but no less than the required bed depth.

Electromechanical Feeders



EMF Series



Cleveland Vibrator's Model **EMF Electromechanical Vibratory Feeder** utilizes twin Rotary Electric Vibrator Drives (RE) which are available in four speeds for medium to heavy-duty applications. These twin drives all produce a linear motion that provides smooth, uniform, volumetric flow which is fully adjustable.

Units are mounted horizontally, requiring no gravitational assistance for product conveying. The continuous duty rated vibratory motors are the only moving parts, ensuring a lower cost of maintenance than other mechanically driven feeders.



FIELD IMAGE: Vibratory Feeder in use at a Battery Recycling Plant, to consistently feed materials through processing

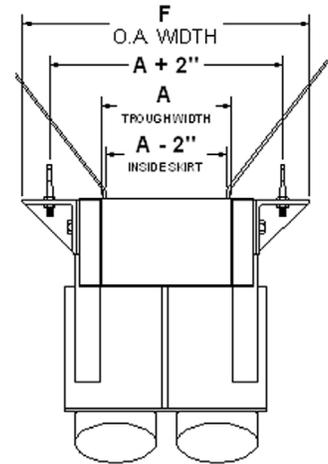
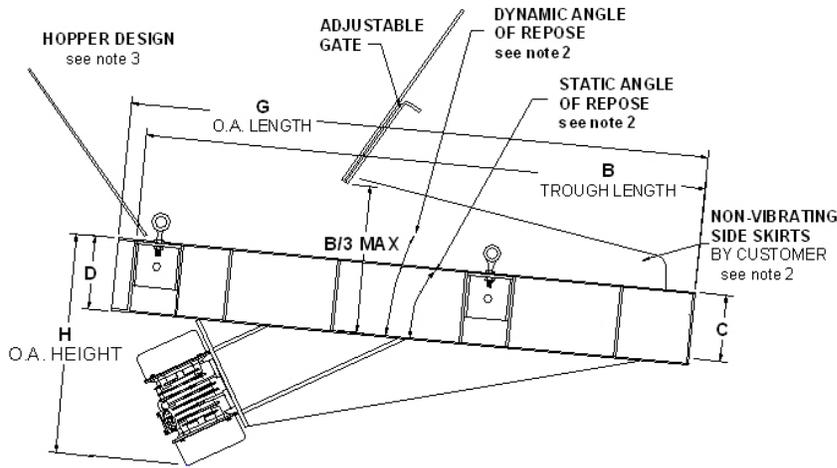


FIELD IMAGE: Vibratory Feeder in use at a Plastics Recycling Plant, powered by two (RE) Rotary Electric Motors

Benefits of the EMF Electromechanical Feeder include:

- Control feed of bulk materials, parts or scrap from bins, hoppers and conveyors into production or melt down processes
- Rugged and low maintenance design ensure low cost over long product life
- Improved production rates and product quality
- Faster, more streamlined production lines
- Isolators with support base limits noise levels
- Controls allow you the flexibility to adjust vibration intensity and frequency
- Choose from our many options for product contact surface materials, including stainless steel, UHMW plastic lining and water cooled heat exchangers

Electromechanical Feeders



EMF • HEAVY-DUTY ELECTROMECHANICAL FEEDERS

A TROUGH WIDTH	B TROUGH LENGTH	C TROUGH DEPTH	D SIDE DEPTH	F O.A. WIDTH	G O.A. LENGTH	H O.A. HEIGHT	VIBRATORY DRIVE MODEL REQUIRED	NORMAL CAPACITY (TONS PER HOUR)
12"	36"	6	8"	28"	38"	26"	RE 5-6	42 TPH
	48"				50"	26"	RE 5-6	
	60"				62"	28"	RE 9-6	
18"	60"	6"	8"	34"	62"	28"	RE 9-6	63 TPH
	72"				74"	28"	RE 9-6	
	84"				86"	29"	RE 13-6	
	96"				97"	29"	RE 13-6	
	120"				122"	29"	RE 13-6	
24"	60"	6"	8"	40"	66"	29"	RE 13-6	84 TPH
	72"				74"	29"	RE 13-6	
	84"				86"	31"	RE 18-6	
	96"				98"	31"	RE 18-6	
	120"				122"	31"	RE 24-6	
30"	60"	6"	8"	46"	66"	29"	RE 13-6	105 TPH
	72"				74"	31"	RE 18-6	
	84"				86"	31"	RE 18-6	
	96"				98"	34"	RE 24-6	
	120"				122"	34"	RE 24-6	
36"	60"	8"	12"	52"	62"	35"	RE 18-6	168 TPH
	72"				74"	35"	RE 18-6	
	84"				86"	38"	RE 24-6	
	96"				97"	38"	RE 24-6	
	120"				122"	41"	RE 34-6	
48"	60"	10"	15"	64"	62"	41"	RE 24-6	280 TPH
	72"				74"	44"	RE 34-6	
	84"				86"	44"	RE 34-6	
	96"				96"	44"	RE 34-6	
	120"				122"	46"	RE 45-6	

NOTES

1 Capacity is based on feeding sand that weighs 100 lbs. per cubic foot with the unit installed at a 10° down slope. Maximum gate opening or bed in trough at inlet area not to exceed tray length (B) divided by 3.

2 Design parameters for the above illustration are based on free flowing sand with a static angle of repose at approximately 35° and a dynamic angle of repose at approximately 15°.

3 Non-vibrating skirt boards must be provided by others to avoid spillage over the sides of the feeder trough when capacity exceeds the side depth.

4 Hopper should be designed to facilitate adequate material flow while keeping direct head load on the trough to a minimum.



* Capacities based on material that weighs 100 lbs. per cubic foot with the feeder installed at 0° to 10° and drives selected to provide minimum flow of 40 feet per minute rate of travel. Consult factory for details on other capacities. **1-800-221-3298**

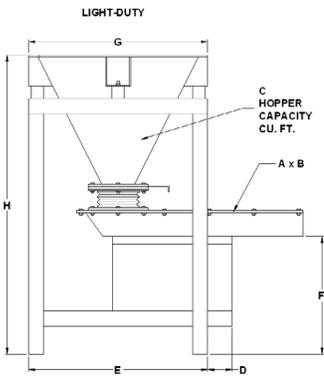
Volumetric Feeders

The Cleveland Vibrator Company's **Volumetric Vibratory Feeder** is a compact, self-contained unit that incorporates a bulk supply hopper with a vibrator and a vibratory pan feeder.

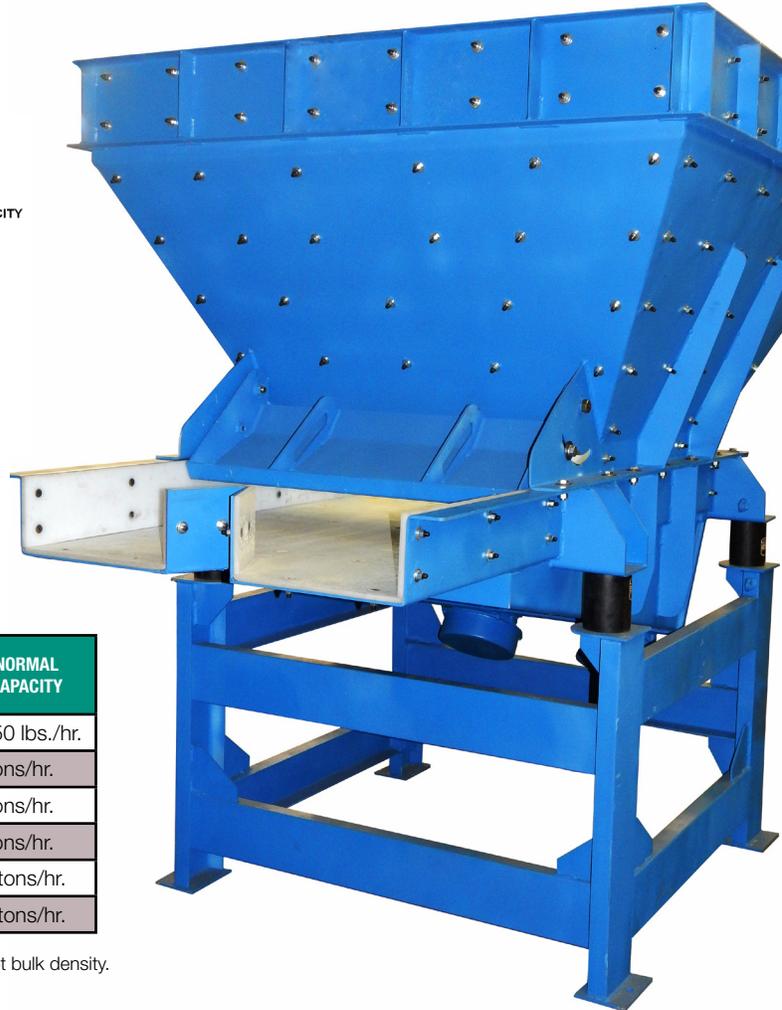
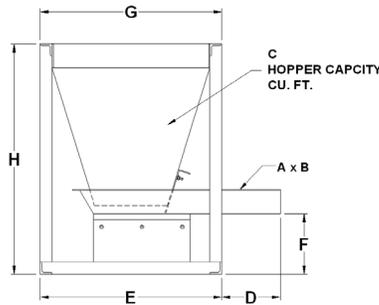
Both air and electric powered units can be equipped with independent variable controls for adjusting flow rate and vibratory intensity.

Special control features are available where timed feed rates or operation from a scale signal is required. Scale operated machines can be equipped with an automatic or manual two-station push button control. One button controls the fast speed to accomplish most of the filling, while a second button controls slow dribble feed that enables the operator's scale to stop at the desired rate.

LIGHT-DUTY DIAGRAM



HEAVY-DUTY DIAGRAM



RFM-A • VOLUMETRIC VIBRATORY FEEDERS

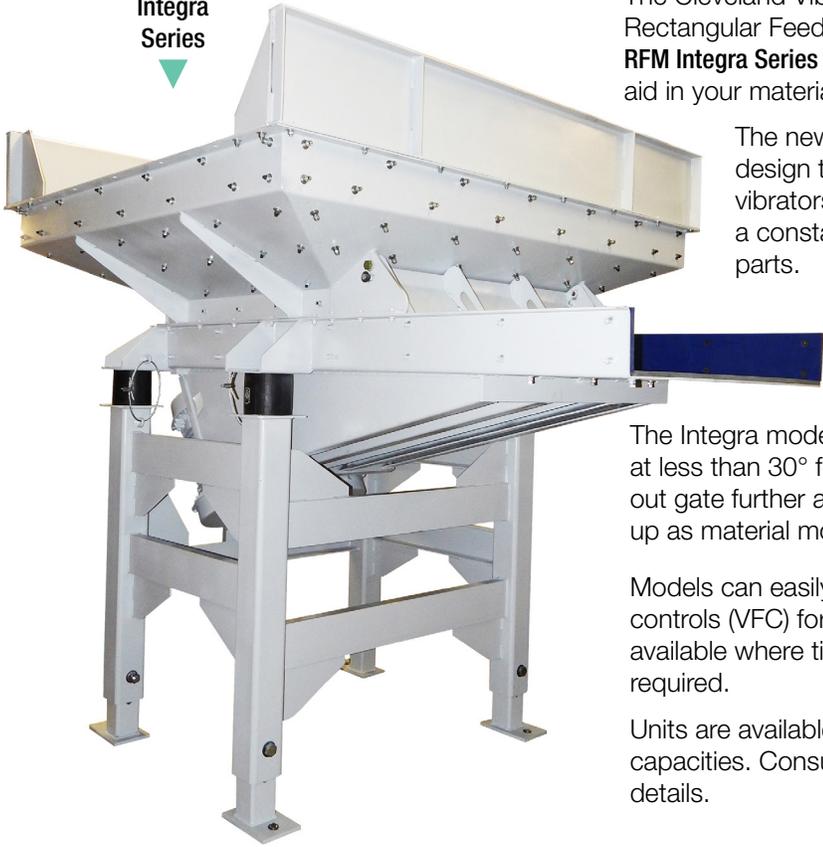
MODEL	A TROUGH WIDTH	B TROUGH LENGTH	C	D	E	F	G	H	NORMAL CAPACITY
RFM-A-216	2"	16"	¼ ft. ²	6"	17"	8"	15 in. ²	29"	1250 lbs./hr.
RFM-A-318	3"	18"	1¼ ft. ²	8"	17"	8"	19 in. ²	35"	2 tons/hr.
RFM-A-524	5"	24"	3 ft. ²	8"	27"	10"	24 in. ²	46"	5 tons/hr.
RFM-A-630	6"	30"	3 ft. ²	17"	27"	14"	27 in. ²	45"	8 tons/hr.
RFM-A-1036	10"	36"	18 ft. ²	10"	41"	17"	36 in. ²	59"	30 tons/hr.
RFM-A-1436	14"	36"	40 ft. ²	5"	56"	24"	48 in. ²	72"	30 tons/hr.

* Capacities based on air-powered/flat tray units with no down-slope and 100 lbs. per cubic foot bulk density.

RFM Integra Series



RFM
Integra
Series



The Cleveland Vibrator Company has extended their line of Volumetric Rectangular Feeder machines to include the compact, self-contained **RFM Integra Series Vibratory Feeders** with a built-in bulk hopper inlet to aid in your material flow.

The new series has an integrated hopper and feeder design that relies on the actuation of two electrical vibrators, typically our **(RE) Rotary Electric Motors**, to ensure a constant, reliable flow of castings, billets and other large parts.

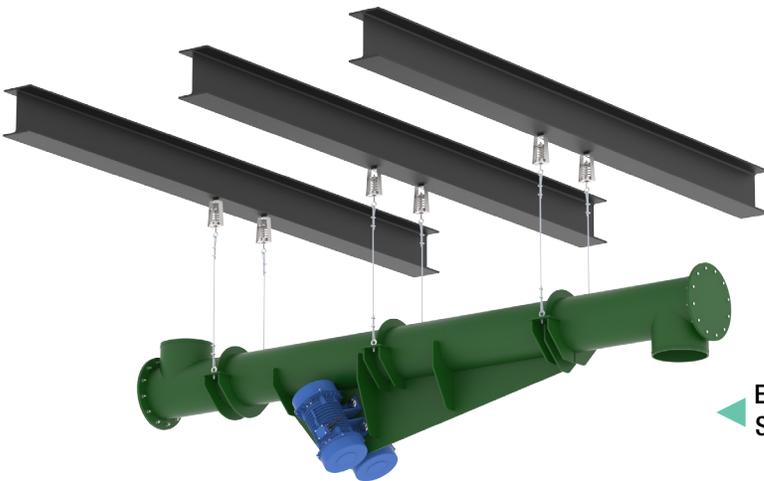
Engineered for continuous flow control, the RFM Integra eliminated the need for steeply angled hopper walls associated with gravity hoppers.

The Integra models offer a lower overall height and hopper walls angled at less than 30° for reduced material dump height. An adjustable swing-out gate further aids in flow control and reduces the potential for hang up as material moves from the hopper to the feeder tray.

Models can easily be equipped with independent variable frequency controls (VFC) for adjusting flow rate. Special control features are available where timed feed rates or operation from a scale signal are required.

Units are available in a wide range of feeder tray sizes and hopper capacities. Consult our **Sales Department** at **1-800-221-3298** for more details.

Tube Feeders



EMF-T
Series

Cleveland Vibrator's Tube Feeder model provides an enclosed tubular shaped feed tray that allows for materials to feed consistently and effectively without being exposed to external environmental factors.

Variety of power options are available to fit your unique application:

- Electromechanical (Rotary Electric Motors)
- Pneumatic (VMSAC/VMS)
- Electromagnetic

Air Powered Feeders

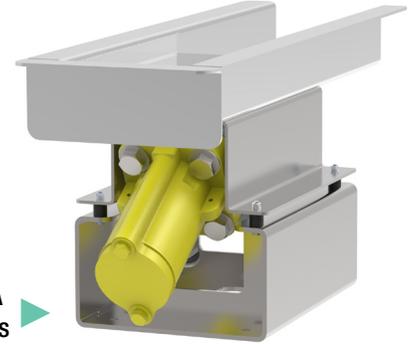


Cleveland Vibrator's **Air Powered Feeders** are primarily used in applications where simple, economical control of the feed rate is desired. Air Powered Feeders are recommended for hazardous areas instead of more expensive electric alternatives.

The drive is a dependable air-cushioned piston vibrator. The double diameter piston vibrator guarantees starting at any mounting angle without the use of a return spring. An exhaust muffler is provided to reduce noise level, while further noise reduction can be achieved by porting the exhausting air way from the work area.

Coating the bore to enable operation without lubricated air is available. Standard air controls include a quick acting solenoid valve (115/1/60) lubro control and 5' hose with fittings. Explosion proof valves are also available.

Capacities are based on standard flat tray models using materials that weighs 100 lbs. per cubic foot. Other tray options available.

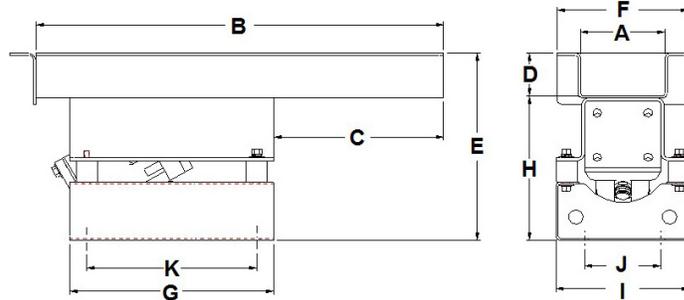


CF-A Series

CF-A • LIGHT-DUTY AIR POWERED FEEDERS

MODEL	A TRAY WIDTH	B TRAY LENGTH	C	D	E	F	G	H	I	J	K	NORMAL CAPACITY
CF-A-1½-12-125	1½"	12"	3½"	1"	11"	4"	8¼"	10"	6"	3½"	6¼"	1250 lbs./hr.
CF-A-318-125	3"	18"	6½"	1½"	11½"	5¼"	10"	10"	6½"	4"	8"	2 tons/hr.
CF-A-524-200	5"	24"	10"	2½"	11"	7¾"	12"	8½"	7⅞"	4½"	10"	5 tons/hr.
CF-A-630-300	6"	30"	12½"	4"	16"	9½"	15"	12"	9¾"	6"	12"	8 tons/hr.
CF-A-1036-350	10"	36"	11"	4"	16"	13½"	18"	12"	11"	7"	14½"	15 tons/hr.

LIGHT-DUTY DIAGRAM

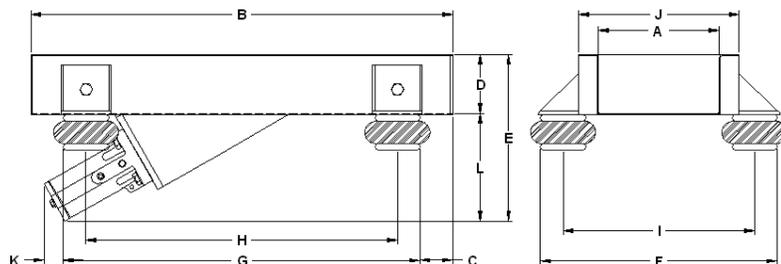


CF-A • MEDIUM & HEAVY-DUTY AIR POWERED FEEDERS

MODEL	A TRAY WIDTH	B TRAY LENGTH	C	D	E	F	G	H	I	J	K	L	NORMAL CAPACITY
CF-A-1436-400	14"	36"	6"	6"	23"	25"	30"	26"	21"	17"	6½"	17"	30 tons/hr.
CF-A-1830-500	18"	30"	11"	6"	25½"	30"	24"	20½"	26"	22"	11"	19½"	50 tons/hr.

Have dimensions certified for installations purposes. For more information on sizing, capacity ratings, installation and additional options, call our **Sales Department** at **1-800-221-3298**

MEDIUM & HEAVY-DUTY DIAGRAM



Other Vibratory Equipment

THE CLEVELAND VIBRATOR COMPANY OFFERS A FULL RANGE OF FABRICATED VIBRATORY EQUIPMENT SUITABLE FOR ANY SIZE JOB. All equipment is fully customizable and can be incorporated into automated or semi-automated production lines. Vibratory Equipment can ensure less waste of space and materials, faster production times, and more thorough feeding and screening.

Vibratory Screening



**Model EMBS
Electromechanical
Screener with Ball Tray
Deck**

Relieve screen deck plugging and clogging while saving costs of maintenance and provides high efficiency in your screening process.



**Model PSC-E
Portable Slope Deck
Screener**

Offers a customizable screening option with lightweight portability for use across multiple applications dealing with fine bulk materials.



**Model SF-A Air Powered
Screener**

Primarily used in applications where simple, economical control of the feed rate is desirable. Also, these screeners are recommended for hazardous-duty areas.



**Model RSM Volumetric
Screener**

The all in one unit enables production efficiencies for easily dumping material from an inexact process and getting a controlled and uniform product outcome.

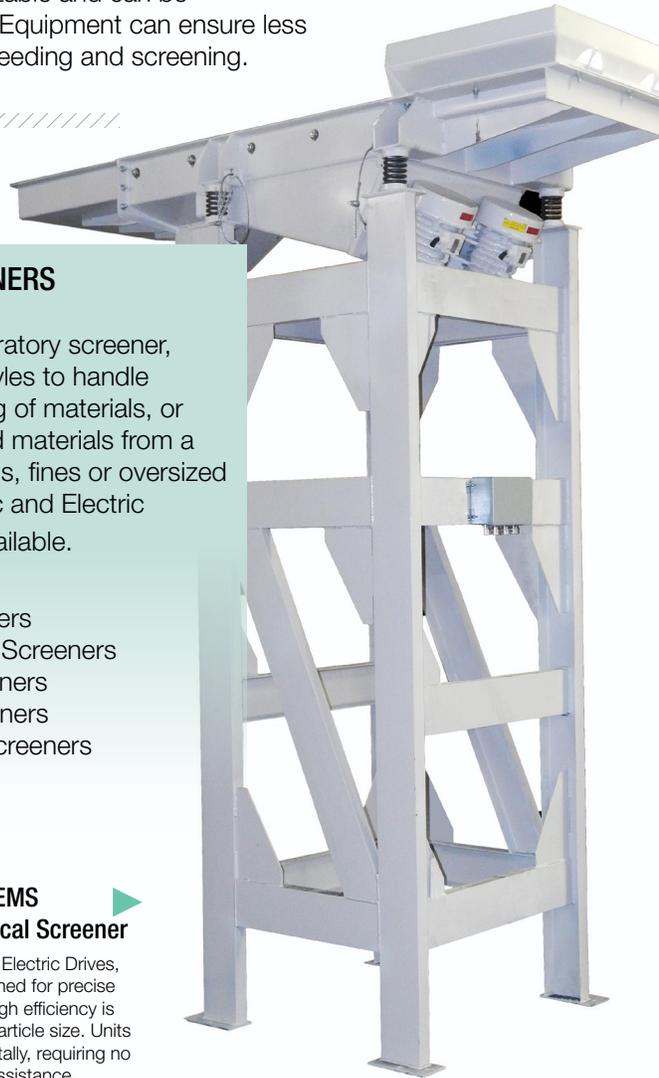
VIBRATORY SCREENERS

We offer multiple vibratory screener, scalper and sieve styles to handle separation and sizing of materials, or removal of unwanted materials from a batch, such as liquids, fines or oversized products. Pneumatic and Electric Powered Models Available.

- Volumetric Screeners
- Electromechanical Screeners
- Air Powered Screeners
- Gravity Flow Screeners
- Portable Sloped Screeners

**Model EMS
Electromechanical Screener**

Fit with dual Rotary Electric Drives, this model is designed for precise screening where high efficiency is required in the end particle size. Units are mounted horizontally, requiring no gravitational assistance.



Fine Mesh Screening

**HK Dual Drive
Lab Shaker**



Providing advanced ultrasonic sieving technology combined with electromechanical or electromagnetic vibration, this model virtually eliminates screen blinding or clogging during a sieve test analysis process.

**HK Quik Siv
Hand Sieve**



Utilizing a high-speed, stainless steel Turbomite Model CVT-S-10 Turbine Vibrator capable of producing over 20,000 vibrations per minute (VPM), this high-frequency vibration is ideal for rapid and consistent throughput even on fine mesh.

**HK-12 Laboratory
Screener**



This model is an effective tool for lab or pilot plants evaluating small powder batches of wet or dry materials. Screen sizes to 635 mesh (20 micron) available.

**HK Twin
Motor Sifter**



The ultra-low-profile design allows minimum space consumption while offering high capacity wet or dry scalping. Unit provides a three dimensional motion thus allowing for greater throughput of difficult to screen products.

HK Technologies, Inc.

AN AFFILIATE OF CLEVELAND VIBRATOR COMPANY

FINE MESH SCREENERS

Used for sizing, fines removal or liquid/solid separation, HK Technologies' Fine Mesh Screening Equipment can handle screening dry or wet materials from 5 micron to #10 mesh. Add Ultrasonics to achieve maximum throughput of materials and increase sieving rates while utilizing 100% of the screen surface.

- Ultrasonic Deblinding System
- Fine Mesh Screening
- Ultrasonic Screeners
- Laboratory Sieves

Other Vibratory Equipment

VIBRATORY TABLES

Handle tough material challenges of condensing, settling, densifying, de-airing and packing and built to fit your needs in production, filling and packing or weighing.

- Light-Duty Packers
- Jogger Tables
- Shake-Out Tables
- Speciality Systems
- Flat Deck Tables
- Grid Top Tables
- Weigh-Scale Packers
- Vibratory Conveyor Systems



**Model FA
Flat Deck**

Our most popular Vibratory Table option, Model FA is typically used to settle material in cartons, drums, kegs, boxes and bags or for removing air from poured concrete and refractories.

**Model WFT
Weigh Scale Flat Deck**

Weigh Scale Packers allow for filling, weighing, and vibration of bulk containers. Tables can be fitted with digital scale instruments that incorporate set points to control the start and stop of the fill device, as well as the vibration sequence.

**Weigh Scales are available in a variety of deck options to meet any requirements.*



**Live Beam Vibratory Table
Model**

Built primarily for the consolidation of concrete or castable materials in large forms and moulds. Ideally suited for pre-stressed concrete forms, the beams can be spaced apart as much as 10 to 15 feet for handling long and narrow, yet extremely heavy loads.



**Model BT
Belt Conveyor**

The Belt Table Conveyor is designed to simultaneously settle product within its container while transporting the container to a closing and sealing machine. Linear vibration aids in settling the material in its container before the container is closed.



**Model GT
Grip Top**

Ideal for automatic and semi-automatic packaging and filling lines that use roller conveyor systems. The table is installed at the filling or compaction station of an in-line conveyor system. GT Grid Top Tables are available in standard, low profile or custom configurations.



**Foundry
Shake-Out**

Shake-Out Tables feature a low profile design and quiet operation, with no noise generated from the steel isolation springs, belts, pulleys, or vibrating crank arms of other designs. Units with UHMW coated side deflectors are available. Able to handle loads up to 12,000 lbs. depending on deck size.



Vibratory Packers & Joggers



**Model VJ
Electromagnetic Vibratory Jogger**

Ideal for filling small moulds in the plastic and fuse industries, it has also been used in the chocolate and candy industry. This rugged unit comes with a HDPE (High Density Polyethylene) deck and built-in controls. The unit is designed for 115/1/60 operation and the frequency is fixed at 3600 VPM.



**Model VP
Light Duty Tables**

Commonly used for compacting coffee, pharmaceuticals, or other powdered products in small containers such as bottle, cans or bags. Force and frequency of Air Powered Models are adjustable by air pressure regulation, while electric tables are adjustable by mechanical means or an optional (VFC) Variable Frequency Controller.



**Drum Packer
Model**

Eliminate dead space in large drums before shipping, reducing container costs. Common applications include compacting granules, powders, pellets, molded or stamped rubber, plastics and steel parts. It's rugged yet compact design takes up less than 6 square feet of floor space and is rated for continuous duty. Air Powered and Electric Powered options available. Meets OSHA Noise Requirements.



FOR MORE INFORMATION

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ABOUT THE
CLEVELAND
VIBRATOR
COMPANY

The Cleveland Vibrator Company has been driving innovations in materials handling since 1923. From our corporate headquarters in Cleveland, Ohio, and in partnership with HK Technologies located in Salem, Ohio, we've met the challenges of more

than 15,000 customers all around the globe in a vast array of industries. Our comprehensive product line includes air-piston, rotary electric, electromagnetic, turbine and ball vibrators, as well as a wide variety of fabricated feeders, vibratory screeners,

ultrasonic screeners, vibratory conveyers and vibratory tables used for light, medium and heavy-duty industrial applications.