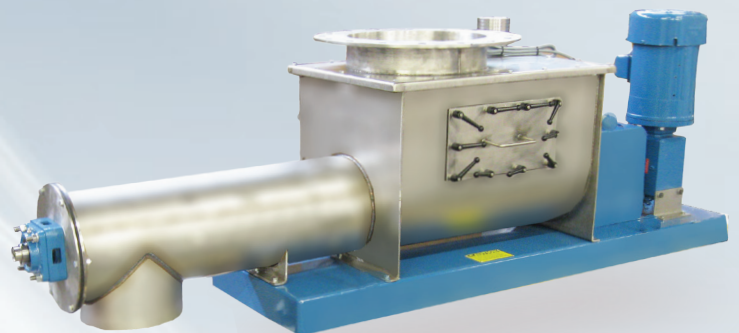
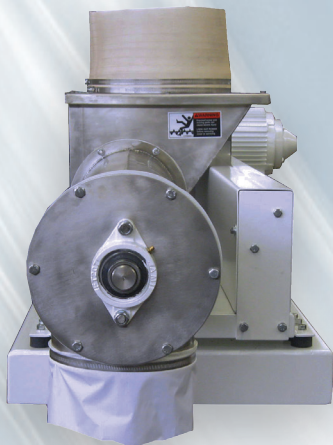
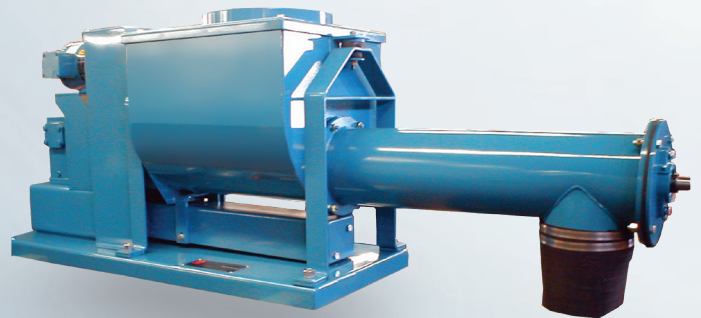
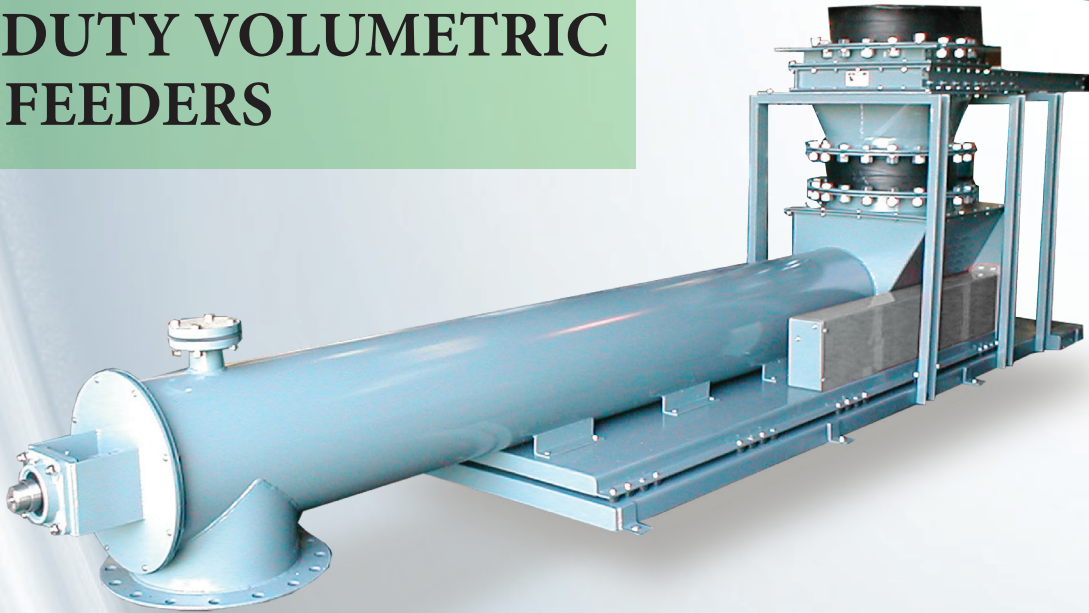


VIBRA SCREW INC.

HEAVY DUTY VOLUMETRIC SCREW FEEDERS



Vibra Screw® Inc.

Volumetric Feeding

The Controlled Vibration Difference

How Controlled Vibration Improves Your Operation

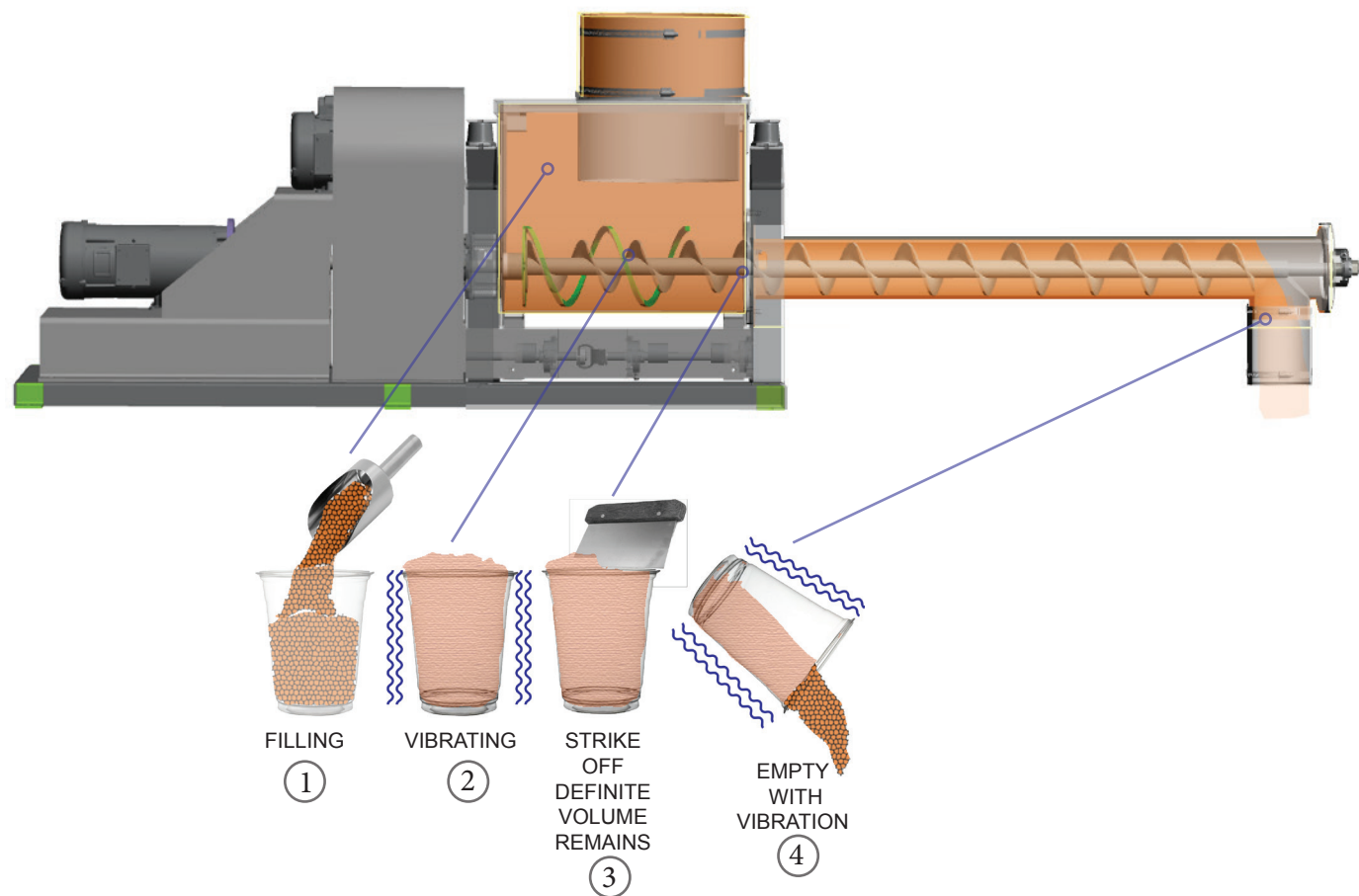
The operating principle of a vibrating Screw Feeder can be compared with the repetitive filling and emptying of cups. Most accurate filling occurs when the cup is filled with material (1), vibrated to obtain uniform density (2), and the excess struck off (3). On emptying (4), vibrating the cup also ensures complete release of the material.

In our vibrating Screw Feeders, the same process occurs. Material fills the screw flights in the trough area

- (1) is vibrated to a uniform density
- (2) and is struck off
- (3) as it enters the metering tube. Vibration of the metering tube and screw
- (4) ensures complete release of material at the discharge end.

Successive weighing of material samples will show volumetric accuracies of $\pm 1.0\%$. The gravimetric Loss-In-Weight controller easily refines this; providing gravimetric accuracies as great as $\pm \frac{1}{4}\%$.

The vibration also greatly reduces feed pulsation. At discharge, it produces a precise cutoff of flow at the end of the batch cycle without material overrun. Irregular free-fall of material overrun is the greatest source of batching error. The controlled vibrating Feeder eliminates this error and greatly enhances accuracy.



HEAVY DUTY MODEL HD-2



Versatile and Rugged

Heavy Duty Screw Feeders are extremely versatile. One unit can precisely meter many different materials with little or no adjustment. When necessary, adjustments can be made quickly and easily. Screws and tubes can also be changed on some models for a wider range of feed rates.

All feeders are fabricated of high strength steel and contain only a few moving components. They are built to operate continuously with only a minimum of maintenance.

Unique Operation

Because maximum feed accuracy is dependent upon positive material flow from storage, we designed these Heavy Duty Screw Feeders for use beneath bulk storage hoppers. Hoppers that pack or bridge should be equipped with a Vibra Screw Bin Activator to ensure consistent material flow to the feeder.

In operation, the feeder trough, screw and tube are subjected to continuous controlled vibration. This permits the material to move gently from the upper section of the trough to the feed screw without bridging, packing or flooding. Vibration further conditions the material to a constant bulk density and ensures that each flight or pitch of the screw is filled to its maximum in the filling area and completely emptied at the discharge end. The positive displacement of material is further ensured through the use of a rotating solid flight screw.

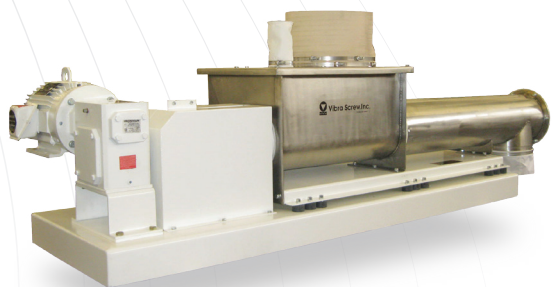
Rugged Construction and High Accuracy

Rugged construction to operate 24 hours a day, Vibra Screw's line of volumetric Heavy Duty Feeders will meter even the most difficult materials in an extremely reliable manner.

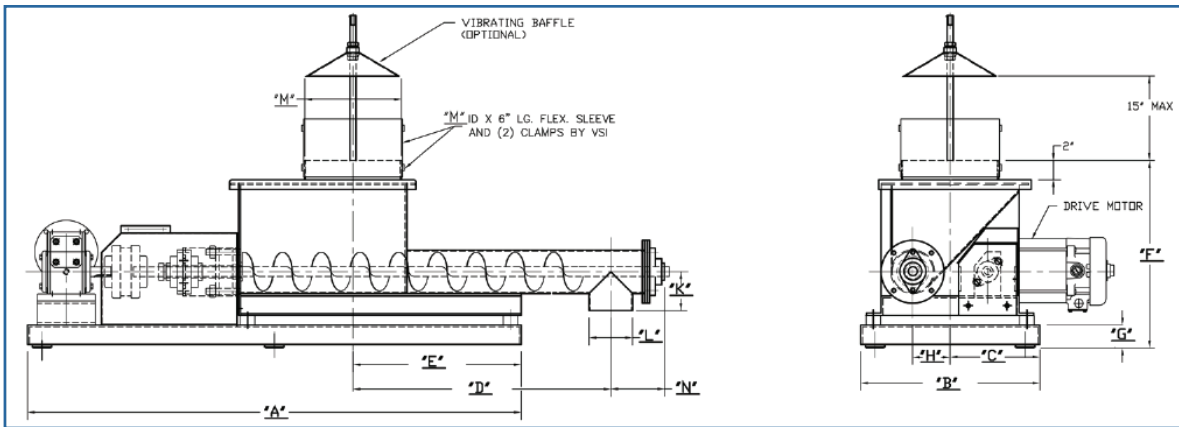
A patented controlled vibration principle ensures exceptional accuracy of $\pm 1\%$, minute-to-minute. A wide variety of products, from long fibers to micron-sized particles, and materials with bulk densities ranging from 2 to 200 lb/ft³ can be successfully handled with precision.

Application Experience

From 1956 until the present, our material handling experience allows us to provide solutions for your special requirements which can be found among our thousands of applications, world wide. This permits us to offer the best guarantee in the industry.



HEAVY DUTY MODEL HD-2



MODEL HD-2 DIMENSIONS inches (MM)

Size	A*	B*	C	D	E	F	G	H	J	K	L	M	N	Max HP	Ft ³ /Hr
2" (51)	52 (1321)	18 1/2" (470)	9 1/4" (235)	20 5/16" (516)	12 15/16" ((329)	18 3/4" (476)	2 3/8 (60)	3 1/2" (89)	6 7/8" (175)	3 5/16" (175)	2 1/2" (63)	8" (203)	4" (102)	0.75	23
3" (76)	59" (1499)	18 1/2" (470)	9 1/4" (235)	26 5/8" (676)	17 3/8" (441)	18 3/4" (476)	2 3/8 (60)	4 3/8" (111)	6 7/8" (175)	4" (102)	3 1/2" (89)	10" (254)	4 5/8" (117)	0.75	74
4" (102)	59" (1499)	18 1/2" (470)	9 1/4" (235)	26 5/8" (676)	17 3/8" (441)	19 1/4" (489)	2. 3/8" (60)	3 7/8" (98)	7 7/8" (200)	4" (102)	4.5" (114)	10" (254)	5 1/8" (130)	0.75	200
6" (152)	66" (1678)	20" (508)	10" (254)	33 7/8" (880)	24 1/4" (618)	20.1/8" (511)	3 3/8" (86)	2 3/4" (70)	9 7/8" (251)	5 3/8" (136)	7" (178)	12" (305)	6 3/8" (162)	1.0	600
8" (203)	84" (2134)	24" (610)	12" (305)	43" (1092)	32 1/2" (825)	23 1/4" (590)	4" (102)	3 1/2" (82)	11 1/2" (292)	6 5/8" (168)	9" (229)	12" (305)	7 3/8" (187)	1.5	1200
10" (254)	100" (2540)	24" (610)	12" (305)	54 1/4" (1378)	42 5/8" (1083)	28 1/4" (717)	4" (102)	3 3/4" (95)	13 1/2" (343)	8 3/8" (213)	11" (279)	14" (356)	8 3/4" (222)	2	2400
12" (305)	106" (2692)	28" (711)	14" (356)	66 1/4" (1683)	50 1/8" (1273)	28 1/4" (717)	4" (102)	2 1/2" (63)	14 1/8" (359)	9" (229)	13" (330)	16" (406)	9. 7/8" (251)	2	4140
14" (356)	112" (2845)	28" (711)	14" (356)	72" (1829)	46 1/2" (1181)	31 1/2" (800)	4" (102)	3 1/2" (82)	15 1/8" (384)	10" (254)	15" (254)	20" (508)	11.25" (286)	3	6560
16" (406)	120" (3048)	30" (762)	15" (381)	84" (2134)	48 1/4" (1225)	31 1/2" (800)	4" (102)	5" (127)	16 1/8" (409)	11" (279)	17" (432)	24" (610)	12 1/2" (318)	5	9800

* Will vary with drive type

SPECIFICATION for Heavy Duty Feeders

Contact Materials

- Carbon Steel
- 304 or 316 Stainless Steel
- Special Alloys

External Materials

- Carbon steel painted
- Optional Stainless Steel

Coatings

- Standard external-enamel
- Optional external
- Epoxy
- Corrosion resistant paints
- Customer specified paint
- Standard Internal uncoated or machinery enamel
- Optional internal
- Epoxy paint
- Teflon coating
- Customer specified

Food Grade Applications

Standard:

- All internal seams continuously welded
- All welds ground smooth
- All internal surfaces polished, #4 finish
- Food grade gaskets and seals
- Optional sanitary
- Material contact zone covers & frames equipped with quick disconnect fasteners for ease of cleaning.
- Special TENV motors
- Structural Modifications for ease of cleaning

Pressure Applications

Feeders can be constructed for pressure applications up to 14.9 psig

High Temperature Applications

- Special modifications permit operation up to 350°F

Drives

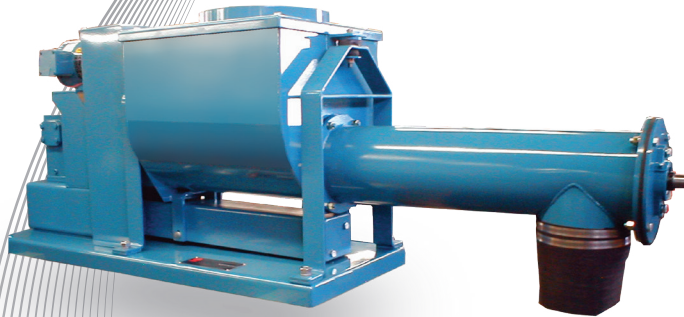
Standard

- DC/ SCR TEFC 115/1/60
- AC Inverter Duty / VFD 460/3/60
- Optional
- Analog Signal

Enclosures

- Standard: TEFC
- Optional:
- Explosion Proof
- Chemical Duty
- Customer Specified

HEAVY DUTY D.E. FEEDER



Diatomaceous earth is a dry powder, often used as a filter medium, that has a tendency to pack into lumps, especially when moist. It is a finely divided product that is pressure sensitive and weighs approximately 7 lb/ft³ aerated and 17 lb/ft³ packed.

Feeding this product introduces many problems; bridging and agglomeration make it hard to maintain a continuous flow and achieve the desired accuracy.

After extensive testing and consultation with specialist

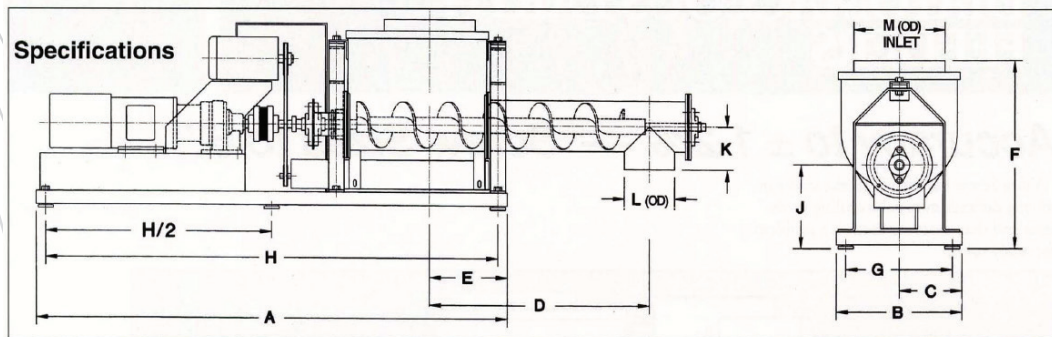
in the field, Vibra Screw developed the D.E. Feeder-- a special, heavy duty vibrating screw feeder with a "U" shaped open trough, especially designed to handle diatomaceous earth. Instead of the usual single screw, there are two: a large overwrap screw eliminates bridging and force feeds a second smaller feed screw inside.

In operation, the feeder trough, screw and tube are subjected to continuous controlled vibration.

This permits the material to move gently from the upper section of the trough to the overwrap without bridging, packing or flooding. Vibration conditions materials to a constant bulk density and ensures that each flight or pitch of the screw is filled to its maximum. The screws rotate together, forcing the diatomaceous earth to feed with each rotation.

The Vibra Screw D.E. Feeder has been so successful, it is now recommended to customers by most D.E. manufacturers.

The D.E. Feeder is designed to meter diatomaceous earth with accuracies of ± 1-2%. It is available in 1" to 6" screw sizes. Screw speed, which along with screw diameter determines the feed rate, is variable in stepless increments over a 20 to 1 range.

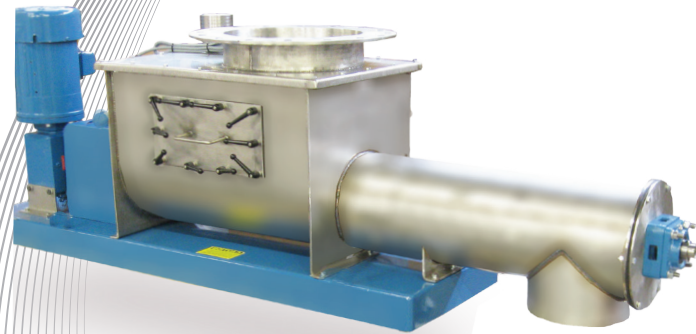


MODEL HD-2 DIMENSIONS inches (MM)

Size	A	B	C	D	E	F	G	H	J	K	L	M	Max HP	Ft ³ /Hr
1" (25.4)	55" (1397)	14 1/2" (363)	7 1/4" (184)	15" (381)	7 1/4" (184)	21 3/4" (552)	12" (304)	52 1/2" (1333)	9 3/8" (238)	2 1/4" (57)	1 1/2 (38)	8" (203)	0.75	2.8
1.5" (38.1)	55" (1397)	14 1/2" (363)	7 1/4" (184)	15" (381)	7 1/4" (184)	21 3/4" (552)	12" (304)	52 1/2" (1333)	9 3/8" (238)	2 1/4" (57)	2" (50)	8" (203)	0.75	8.8
2" (51)	55" (1397)	14 1/2" (363)	7 1/4" (184)	16 1/2" (419)	8 1/4" (209)	21 3/4" (552)	12" (304)	52 1/2" (1333)	9 3/8" (238)	2 3/4" (60)	2 1/2" (63)	10" (254)	1.0	23
3" (76)	55" (1397)	14 1/2" (363)	7 1/4" (184)	16 1/2" (419)	8 1/4" (209)	21 3/4" (552)	12" (304)	52 1/2" (1333)	9 3/8" (238)	3 1/4" (62)	3 1/2" (89)	10" (254)	1.0	74
4" (102)	58" (1473)	16 1/2" (419)	8 1/4" (209)	21" (533)	9 1/4" (235)	25 1/4" (641)	14" (355)	55 1/2" (1409)	11" (279)	3 3/4" (95)	4.5" (114)	12" (305)	1.0	200
6" (152)	58" (1473)	16 1/2" (419)	8 1/4" (209)	29" (736)	10 1/4" (260)	25 1/4" (641)	14" (355)	55 1/2" (1409)	11" (279)	4 7/8" (123)	6 5/8" (168)	12" (305)	1.0	600

HEAVY DUTY METERING CONVEYORS

None Vibrating



The Vibra Screw Metering Conveyor provides extremely reliable & economical feeding of a wide range of dry bulk materials. Standard units are available from 4 to 16 inches for a capacity range of 20 to 9,800 cubic ft per hour.

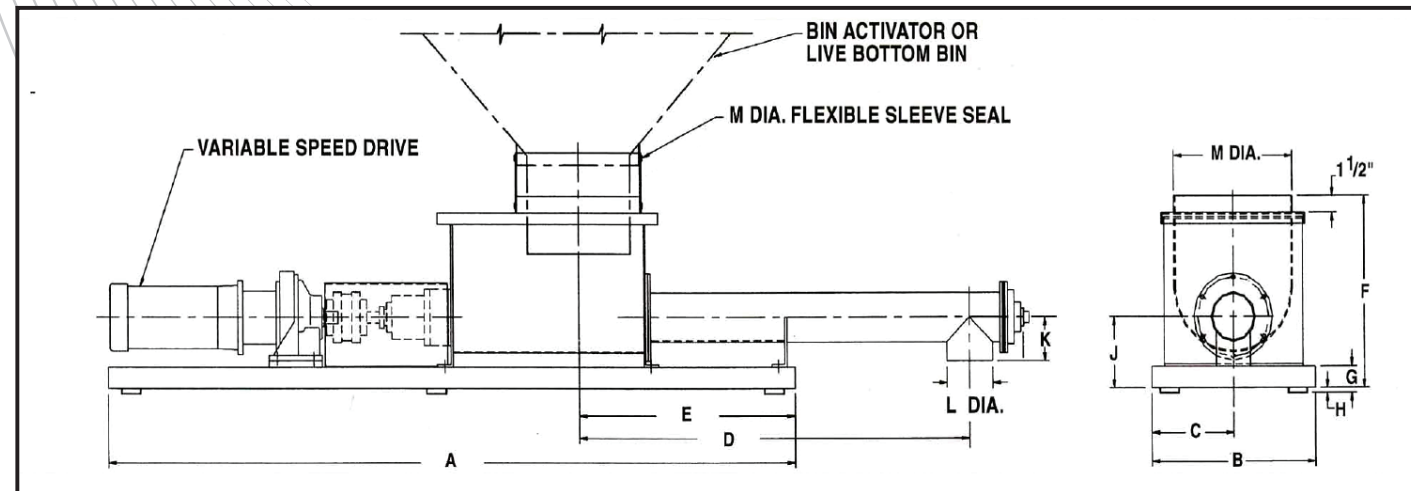
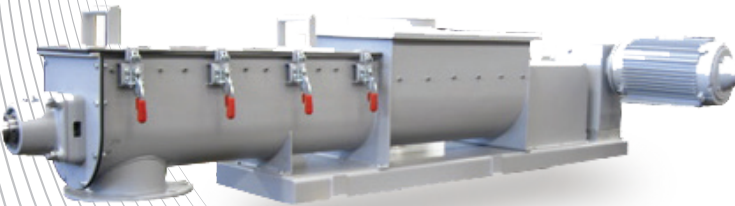
Extended screw lengths of up to 12 feet from center of inlet to outlet permit the unit to meet most short distance conveying needs.

Equipment System Integration

When combined with vibratory pre-feed equipment such as a Vibra Screw Bin Activator, or Live Bin, the Metering Conveyor will deliver minute-to-minute feed accuracies of $\pm 2\%$. The pre-feed equipment ensures complete filling of the screw flights with uniformly dense material.

Rugged Construction

Construction is simple and rugged with heavy duty transmission, sealed and greased bearings, and a solid flight screw with through shaft and trough end seals.



HEAVY DUTY METERING CONVEYOR Dimensions inches (MM)

Size	A	B	C	D	E	F	G	H	J	K	L	M	N	Max HP	Ft ³ /Hr
4" (102)	61" (1549)	16.5" (419)	8.25" (210)	26" (660)	17" (432)	17.875" (454)	2.375" (60)	0.375" (10)	7" (178)	4" (102)	4.5" (114)	12" (305)	5.125" (130)	0.75	200
6" (152)	68" (1727)	18.5" (470)	9.25" (235)	34" (864)	24" (610)	18.125" (460)	3.375" (86)	0.375" (10)	8.375" (213)	5.375" (137)	7" (178)	14" (356)	6.375" (162)	1.0	600
8" (203)	90" (2286)	18.5" (470)	9.25" (235)	43" (1092)	32" (813)	21" (533)	4" (102)	1" (25)	9.75" (248)	6.625" (168)	9" (229)	14" (356)	7.375" (187)	1.5	1200
10" (254)	103" (2616)	20.5" (521)	10.25" (260)	54" (1372)	42" (1067)	25.625" (641)	4" (102)	1" (25)	11" (279)	8.375" (213)	11" (279)	16" (406)	8.75" (222)	2	2400
12" (305)	110" (2794)	22.5" (572)	11.25" (286)	66" (1676)	50" (1270)	25.625" (651)	4" (102)	1" (25)	12" (305)	9" (229)	13" (330)	18" (457)	9.875" (251)	2	4140
14" (356)	110" (2794)	26.5" (673)	13.25" (337)	72" (1829)	46" (1168)	26.625" (676)	4" (102)	1" (25)	13" (330)	10" (254)	15" (254)	22" (559)	11.25" (286)	3	6560
16" (406)	118" (2997)	30.5" (775)	15.25" (387)	84" (2134)	48" (1219)	27.625" (702)	4" (102)	1" (25)	14" (356)	11" (279)	17" (432)	26" (660)	12.50" (318)	5	9800

Keeping Dry Materials Moving

With a wealth of knowledge and experience in the use of controlled vibration to process dry bulk materials, Vibra Screw engineers have devised systems to handle most materials -- probably your material included.

As the leader in dry solids processing, our name is recognized and trusted worldwide in such diverse industries as:

FOODS

Flour, Soy, Meal, Sugar, Vitamin Supplements

MINING

Aggregate, Kiln Feed, Crushed Ores, Coal, Lime

CHEMICAL

Pigments, Additives, Starch, Carbon Black

STEEL

Foundry Sand, Ores, Binders, Ferrous & Non-Ferrous Additives

FOREST PRODUCTS

Chips, Sawdust, Waste-by-products

PLASTICS

Regrind, Virgin, Colorant, Talc

ENVIRONMENTAL CONTROL

Filter Aids, Resource Recovery, Lime, Soda Ash, Activated Carbon, Fly Ash, Solid Wastes, Scrap

ORDNANCE

Ammonium Nitrate, Oxidizing Salts, Solid Base Propellants, Ammonium Perchlorate, HMX, RDX

AGRICULTURE

Cattle Feed, Soy Bean Meal, Nutritional Supplements, Mill Feed, Spent Grain

PHARMACEUTICALS

Calcium Carbonate, Aspirin, Sodium Bicarbonate, Ascorbic Acid



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The Vibra Screw Product Line

For additional information, ask for literature on the following:

- AccuFeed™
- Batching Systems
- Bin Activator
- Bulk Bag Filler
- Bulk Bag Unloader
- D.E. Feeder
- Heavy Duty Screw Feeder
- Loss-In-Weight Feeder
- Live Bottom Bin
- Live Bin
- Live Bin Screw Feeder
- Pan & Tube feeder
- Portable Bin Unloader
- Screener
- Storage Pile Activator
- VersiFeeder
- Vibra-Blender
- Vibrating Screens
- Volumetric Belt Feeder
- Weigh Belt Feeder
- Water Treatment Systems

THE VIBRA SCREW GUAR-

If your Vibra Screw equipment doesn't perform in the service for which it was sold, we'll refund your money. Ask any other equipment manufacturer to put that in writing.