

PNEUMATIC TURBINE VIBRATORS

- **SILENT**
- **Save 50% on
Air Consumption**
- **Below OSHA
Noise Standards**
- **Outlasts Ball Vibrators 3 to 1**
- **Directly Interchangeable
with Ball Vibrators**
- **No Lubrication
Required**



VIBCO

<http://www.VIBCO.com>

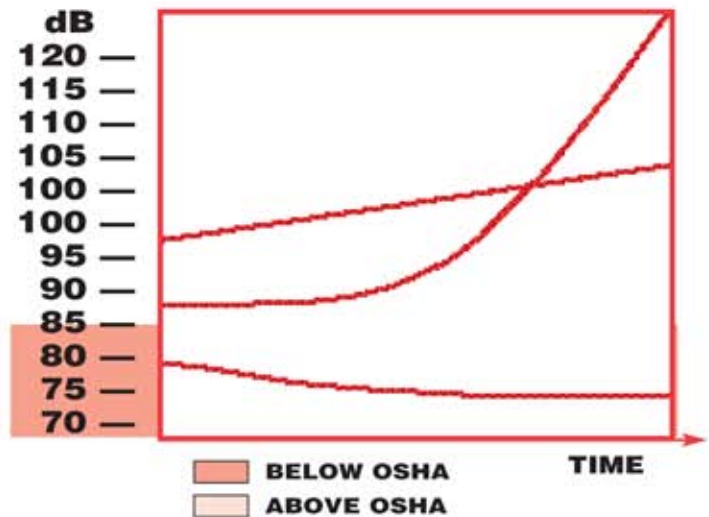
"SILENT" Pneumatic

BEST BY TEST

DBA — NOISE — LIFE CURVE

Turbine vibrators maintain 70-75 db's throughout their entire life, as compared to sharp increases in noise levels of ball roller and piston type vibrators. Turbine sound levels actually reduce after a short "break-in" period and retain a constant low sound level throughout their life. Although ball and roller vibrators start at under OSHA limits, they very quickly and steadily increase noise levels to well above OSHA, to beyond bearable range. (See curve.) This is caused by ball or roller jumping and accelerating each time it passes the air inlet, causing pitting and continuing wear to the ball and races.

A turbine vibrator outlasts a ball vibrator 3 to 1.



WHY REPLACE A BALL VIBRATOR WITH A TURBINE VIBRATOR

1. NOISE — Average turbine as low as 72db.
2. ENERGY CONSUMPTION — Turbine takes less air whereas air consumption steadily increases on the Ball, it decreases on the turbine as the bearings are "broken in".
3. LIFE — The effective life of the turbine by far exceeds the life of a ball. See above dba — NOISE — LIFE CURVE.
4. EFFICIENCY — Turbine maintains its speed during its complete life. Ball unit starts to lose its speed and efficiency from the very start due to pitting of ball and ballrace. See above dba — NOISE — LIFE CURVE.
5. NO LUBRICATION — Bearings sealed and prelubricated for life.

WHERE TO USE

Because of their fool-proof operation and their lessening of noise in production areas, the Silent Air Turbine Vibrators have quickly become the specified and standard units for many industries and in many leading plants. Examples are: parts feeding in tracks and trays in the automotive industry; on batchers, supply hoppers and chutes of chemical and plastics production and packaging lines; and on foundry match-plates, shake-outs and sand hoppers.

Other typical uses include: screening, separating and sizing of both fine and coarse powdered materials; settling, compacting and leveling in packaging; orientation and feeding of parts. Also, unjamming caps, cans and jars; aiding or controlling flow of material thru hoppers, screens, chutes. Size for size and mount same as for ball units.

LIFETIME WARRANTY

AGAINST WORKMANSHIP & MANUFACTURING DEFECTS

Turbine Vibrators

A: SILENT TURBINE VIBRATORS **SAVE AIR BY USING 50% LESS AIR THAN COMPETITIVE PNEUMATIC BALL VIBRATORS**



AIR CONSUMPTION

A ball vibrator draws up to over 50% more air than a turbine vibrator. The ball in a ball vibrator takes up only 1/20 of available space in the ball vibrator housing and the majority of the air pushing the ball around in the ballrace is wasted and exhausted without producing any work. In a turbine vibrator, the turbine fits snugly in the housing and only a very minimal amount of air can escape without producing any work.

EFFICIENCY

The turbine vibrator has a high efficiency throughout its life. Ball vibrators immediately lose speed and efficiency due to pitting of the ball and ballrace. An added plus to the turbine is, the turbine vibrator is not subject to the pitting and the turbine vibrator does not require airline lubrication like the ball vibrator.

NOISE

Turbine vibrators maintain 70-75 dB throughout their entire life as compared to sharp increases in noise levels of ball, roller and piston vibrators, reaching up to 100 dB and over.

B: VIBCO SILENT TURBINE VIBRATORS CAN **SAVE UP TO 56% OF THE AIR CONSUMPTION OF COMPETITIVE BALL VIBRATOR MODELS.**

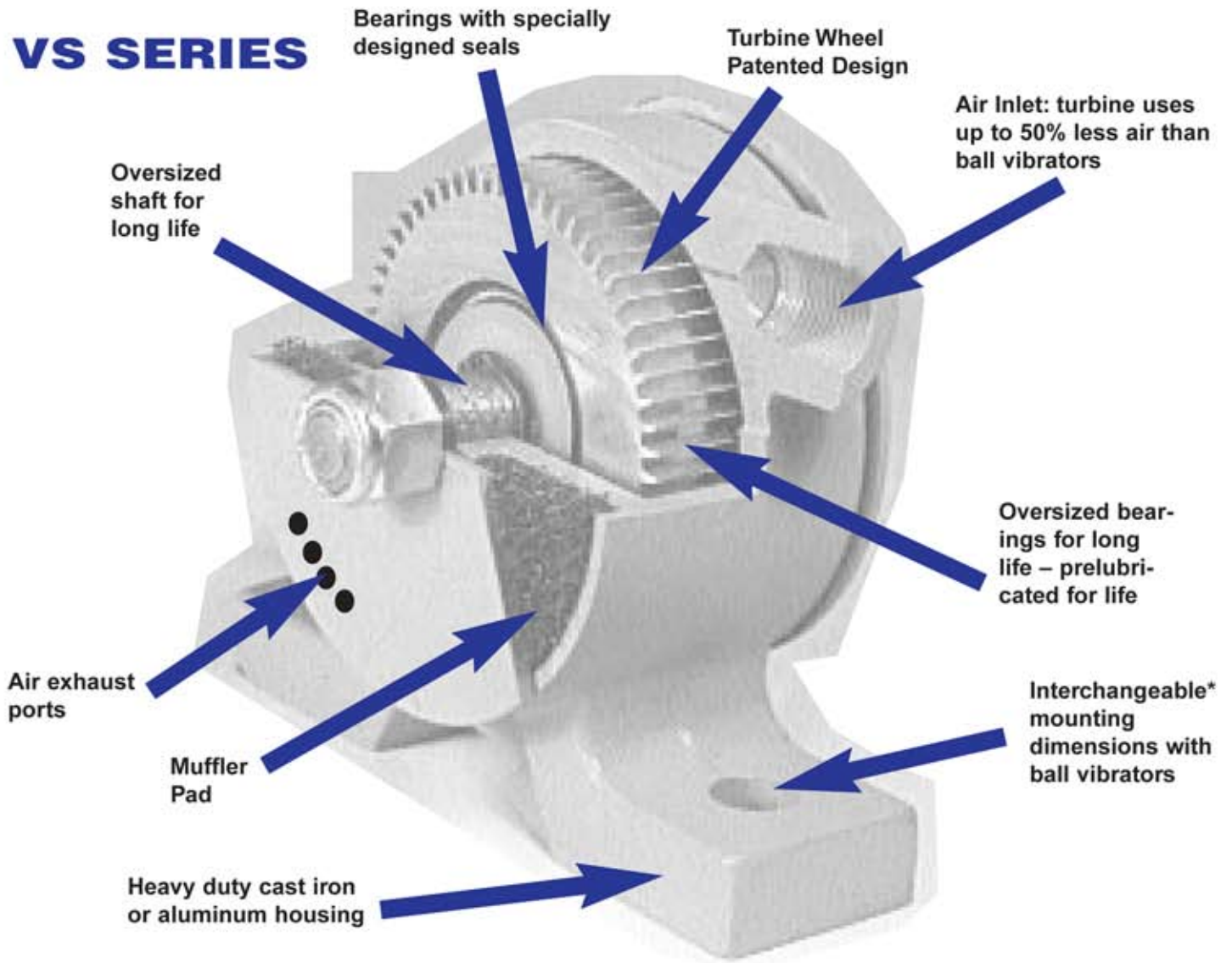
See Chart Below

VIBCO TURBINE MODEL	CFM/ 60 PSI	COMPETITIVE BALL MODELS*	SAVED CFM BY USING VIBCO TURBINE VERSUS:**		
			MARTIN	COUGAR	GLOBAL
BVS & VS 100	4	6	11%	11%	56%
BVS & VS 130	4.5	13	40%	40%	70%
BVS & VS 160	7	16	N/A	N/A	14.6%
BVS & VS 190	7.5	19	32%	32%	37.5%
BVS & VS 250	8	25	38.5%	38.5%	55.5%
BVS & VS 320	9	32	47%	47%	44%
BVS & VS 380	16	38	20%	20%	36%
BVS & VS 440	18	44	14%	14%	48.5%
BVS & VS 510	18	51	N/A	20%	33%
BVS & VS 570	21	57	***54%	N/A	N/A

*Covers ball vibrators **Values taken from published catalogs *** Roller vibrator

"SILENT" Pneumatic

VS SERIES



* All VIBCO Silent Turbine Vibrators are size by size directly interchangeable with all makes of Ball vibrators. See chart on page 10.



VS-130 on ornamental pedestal



VS-130 on feeder screw



VS-320 on wire coating machine

Turbine Vibrators

VS SERIES



VS-510

VS-380

VS-320

VS-250

VS-190

VS-130

MODEL VS: BUILT-IN MUFFLER

VS Turbine Vibrators offer the feature of a BUILT-IN-MUFFLER. Ideal for rough applications or where moving machinery might damage external accessories. Eight sizes with forces to 900 lbs. Popular for air material-conveying systems, medium size batch hoppers, etc. Available in both aluminum and malleable castings.

- Simple
- Built-In Muffler
- Totally Enclosed
- Continuous Duty
- Completely Noiseless
- Maintenance Free
- Adjustable Speed
- Sturdy Cast Housings
- Heavy Duty Turbine Wheel

TECHNICAL DATA

Model	Weight***		60 PSI		80 PSI					Max. Lbs.** Material In Bin
	lbs.	kg.	Speed VPM	CFM	Speed VPM	CFM	lbs. Force	N	dB*	
VS-100	7/13 oz.	.198/.368	12000	4			20	89	66	200
VS-130	11/21 oz.	.312/.595	8000	4.5	10500	5.5	75	334	67	750
VS-160	2	.9	10000	7	12000	8	160	712	70	1600
VS-190	3	1.4	4200	7.5	7200	9	270	1201	70	5000
VS-250	4	1.8	5500	9	7200	10.5	500	2225	70	5000
VS-320	6.5	2.9	5200	9	6800	11	600	2669	69	7000
VS-380	11.5	5.2	4600	16	5200	17	725	3226	72	7250
VS-510	15	6.8	4000	18	4500	21	900	4004	77	9000

Data obtained on Laboratory test block. Frequency and force will decrease on less rigid mount. Data subject to design changes.

* Decibel from A-scale at 1 meter and 80 PSI. N = Centrifugal force in Newton.

** Rule of thumb for sizing "One lb. Vibrator Force" to each 10 lbs. of Bin Content" at 80 PSI.

*** First Figure Aluminum 2nd - malleable iron.

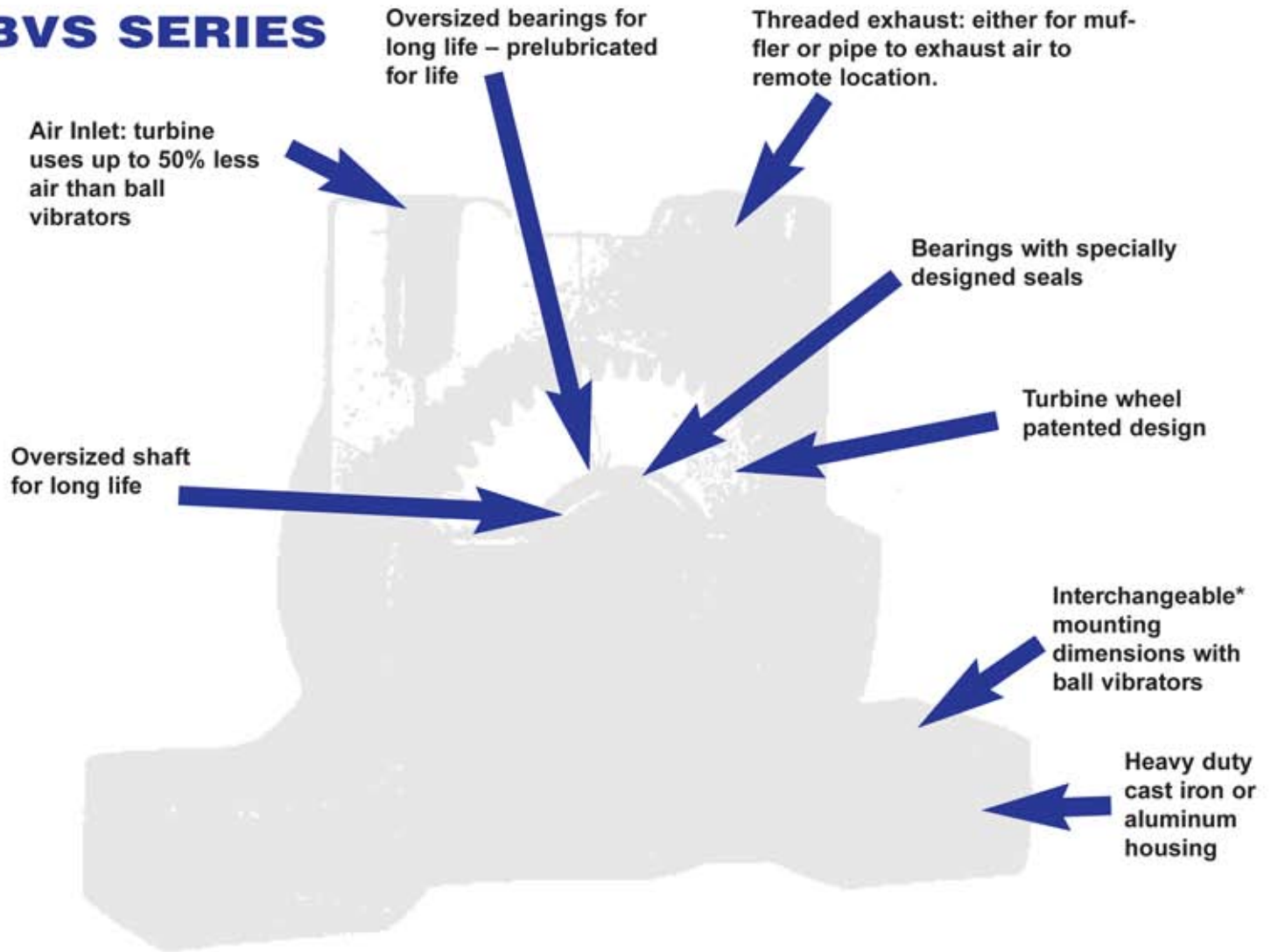
Model	A		B		C		D		E		F		G		H**		J*		K		L		M	
	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm
VS-100	2	8	3/16	16	3	76	3/16	98	1/4	6	1 1/16	33	1/8	16	1 1/16	43	1/4 - NPT	1 7/16	37	1	25	3/4	19	
VS-130	2 5/16	8	3/16	19	4	102	4 1/8	124	3/8	10	1 1/2	38	3/4	19	1 13/16	49	1/4 - NPT	1 7/8	48	1 1/4	32	13/16	24	
VS-160	2 5/16	8	3/16	22	4	102	5 1/16	129	3/8	10	1 7/8	48	7/8	22	2 1/2	64	1/4 - NPT	2 3/4	71	1 3/8	41	1 1/16	33	
VS-190	3 1/2	14	3/16	22	4	102	5 1/16	129	3/8	10	1 7/8	48	7/8	22	2 1/2	64	1/4 - NPT	2 13/16	71	1 3/8	41	1 1/16	33	
VS-250	3 1/2	14	3/16	22	4	102	5 1/16	137	1/2	12	2 1/4	57	1 1/8	29	2 13/16	87	1/4 - NPT	3 1/16	78	1 7/8	48	1 1/2	38	
VS-320	4 1/8	19	3/4	19	4	102	5 1/16	135	1/2	12	2 1/4	57	1 1/8	29	4 1/8	105	3/8 - NPT	4	102	2 3/4	70	1 1/2	38	
VS-380	4 1/8	25	1	25	5 1/2 x 1 1/4	140 x 32	6 3/8	168	3/8	10	2 7/8	73	1 1/2	38	4	102	3/8 - NPT	4 3/8	111	2 3/8	60	2 1/8	54	
VS-510	5 1/8	25	1	25	5 1/2 x 1 1/4	140 x 44	6 3/8	171	3/8	10	3 1/4	44	1 3/4	118	4 1/4	121	1/2 - NPT	4 13/16	73	2 7/8	67	2 1/8	67	

*NPT Pipe Tap Size

**Bolt Size

"SILENT" Pneumatic

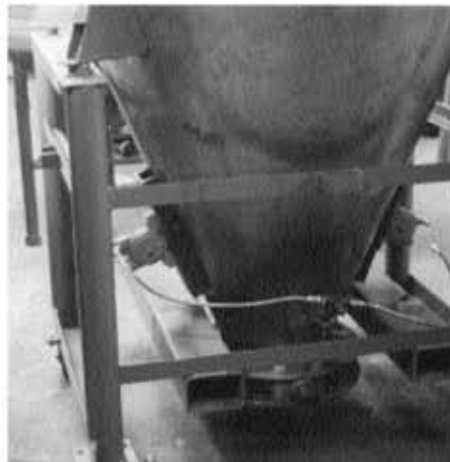
BVS SERIES



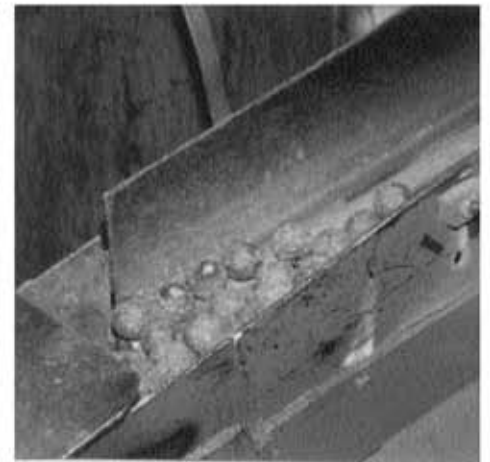
* All VIBCO Silent Turbine Vibrators are size by size directly interchangeable with all makes of Ball vibrators. See chart on page 10.



BVS-320 on screen



BVS-320 on portable batch hopper



BVS-320 unjamming grinding balls on chute

Turbine Vibrators

BVS SERIES



MODEL BVS: THREADED EXHAUST

VIBCO offers 10 models in the extra heavy duty BVS series. The use of non-lubricated air supply makes the BVS turbine vibrators perfect for applications in food and pharmaceutical (etc.) industries where oil exhaust would be objectionable. Exhaust port is threaded for piping off of air exhaust in closed, sanitized systems. Extra large amplitudes and wide range of sizes makes the BVS's ideal for quickly moving parts or materials.

- Quiet, Meets OSHA Low As 68 dB At 1 Meter
- No Lubrication Required
- Easily Repaired - One Moving Part
- Patented Design
- High Force Output
- Out Lasts Piston Vibrators 3 to 1
- Oversized Bearings

TECHNICAL DATA

Model	Weight***		60 PSI		80 PSI					Max. Lbs.** Material In Bin	
	lbs.	kg.	Speed VPM	CFM	Speed VPM	CFM	lbs.	Force	N*		dB*
BVS-60	7/13 oz.	.198/368	12000	4			20		89	66	200
BVS-130	10/20 oz.	.283/567	8000	4.5	10500	5.5	75		334	67	750
BVS-160	2	.9	9500	7	11000	8	160		712	70	1600
BVS-190	3	1.4	5500	7.5	7200	8.5	270		1201	71	2700
BVS-250	5	2.3	5200	8	7200	9	480		2136	72	4800
BVS-320	8.5	3.9	5500	9	6800	10	600		2669	70	5300
BVS-380	13	5.8	4500	16	5000	18	670		2981	74	6700
BVS-440	17	7.7	4300	18	4800	21	700		3114	76	7000
BVS-510	18	8.2	4000	18	4500	21	900		4004	77	9000
BVS-570	25	11.3	3600	21	4000	26	1050		4671	83	10500

Data obtained on Laboratory test block. Frequency and force will decrease on less rigid mount. Data subject to design changes.

* Decibel from A-scale at 1 meter and 80 PSI. N = Centrifugal force in Newton.

** Rule of thumb for sizing "One lb. Vibrator Force" to each 10 lbs. of Bin Content" at 80 PSI.

*** Fist Figure Aluminum 2nd - malleable iron.

Model	A		B		C		D		E		F		G		H**		I*		J*		K	
	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm
BVS-60	3/8	98	3/4	19	2 1/8	60	3	76	3/8	16	1 1/4	32	1 1/4	32	1/4	6	1/8 - NPT	1/8 - NPT	1 1/8	30		
BVS-130	4 1/8	124	7/8	22	2 1/8	70	4	102	3/4	19	1 7/8	37	1 7/8	37	3/8	10	1/8 - NPT	1/4 - NPT	2 1/8	48		
BVS-160	5 1/8	139	1 1/4	32	3 1/8	81	4	102	7/8	22	1 3/4	44	1 3/4	48	3/8	10	1/4 - NPT	3/8 - NPT	2 3/8	70		
BVS-190	5 3/8	139	1 1/4	32	3 7/8	81	4	102	7/8	22	1 3/4	44	1 3/4	48	3/8	10	1/4 - NPT	3/8 - NPT	3 1/8	78		
BVS-250	6 3/4	171	1 1/2	33	3 11/16	100	5	127	7/8	22	2 1/8	56	2 1/8	54	1/2	12	1/4 - NPT	3/8 - NPT	3 1/8	79		
BVS-320	6 1/2	165	1 1/2	41	4 7/8	124	5	127	1 1/8	29	2 1/4	70	2 1/4	70	1/2	12	3/8 - NPT	1/2 - NPT	4	102		
BVS-380	7 1/8	200	1 7/8	48	5 1/8	138	6	152	1 1/8	29	2 11/16	71	2 1/4	73	3/8	16	3/8 - NPT	1/2 - NPT	4 1/8	117		
BVS-440	8 13/16	224	2 11/16	56	5 3/4	146	7	178	1 1/4	32	3 1/8	87	3 3/8	79	3/8	16	1/2 - NPT	3/4 - NPT	4 3/4	121		
BVS-510	8 13/16	224	2 11/16	56	5 3/4	146	7	178	1 1/4	32	3 1/8	87	3 3/8	79	3/8	16	1/2 - NPT	3/4 - NPT	4 3/4	121		
BVS-510F	3 1/8	224	3 3/8	81	5 3/4	146	7	178	1 1/4	32	3 1/8	87	3 3/8	79	1/2	14	1/2 - NPT	3/4 - NPT	4 3/4	121		
BVS-570	10 1/16	256	2 7/8	73	7	178	8	203	3/4	19	4 1/8	105	3 11/16	97	3/4	19	3/4 - NPT	1 - NPT	5 1/8	137		

*NPT Pipe Tap Size **Bolt Size

"SILENT" Pneumatic

CC SERIES



CCF-2000



**CCF-5000
& 7000**



**CCL-2000
USE LC-2
BRACKET**

**LUG BRACKET
FOR**

**CCL-7000
CCL-5000
USE LC1
BRACKET**

MODEL CC HEAVY DUTY SERIES

- **QUIET**
- **MEETS OSHA STANDARDS**
- **NO LUBRICATION REQUIRED**

The only unit on the market that offers high force and absolutely quiet operation. Six units available. They all work on the **patented turbine principle**. Compressed air drives a specially designed turbine wheel, allowing the air to be channeled through the unit, then traveling through muffler pads, making them virtually noiseless. None of these units need lubrication, all are prelubricated for life. Oversized bearings give the units years of trouble-free service.

MODEL CCF-2000, CCF-5000 & 7000

The quiet solution for large bins, hoppers and chutes. Ideal for the packing table and screen applications. The lightweight and high force output, CCF-2000 with 2,000 lbs. of force and CCF-5000 with 5,000 lbs. of force, replaces noisy 3 and 4" piston vibrators. The CCF-7000 with 7000 lbs. of force, 7200 VPM and 78dB is ideal for precast and prestressed concrete and replaces noisy roller vibrators with 100-110 dB.

MODEL CCW-2000

For portable applications CCW-2000 comes with either a 2" or 3" wide wedge. The 2" wedge is used on septic tanks, man holes, columns, portable hoppers and tote bins. The 3" wedge is used for larger forms such as wall and utility vaults, etc.

- **EASILY REPAIRED IN THE FIELD**
- **PATENTED DESIGN**

MODEL CCW-5000

CCW-5000 the Quiet Railroad Carshaker, has in the last few years replaced the noisy piston railroad carshakers. Not only are they quiet, they need no lubrication and outlast the piston 3 to 1. Replaces 3" & 4" piston vibrators.

MODEL CCL-2000, 5000 & 7000

The portable CCL-2000 uses the LC-2 lug bracket. Its light weight makes it ideal for all small concrete precast forms. Model CCL-5000 with its 75dB rating is ideal for tables, casting concrete panels, window frames, etc. or replacing large piston vibrators 4" and up on large bins. CCL-7000 with its special turbine wheel for below OSHA operation, only 78dB and high force 7000 lbs. and 7200 VPM, is now replacing the noisy 100-110dB roller vibrators in the concrete pipe, prestressed and precast industries. No lubrication is necessary. The oversized prelubricated bearings assure a long and maintenance free life.

MODEL VSP-510

VSP-510 - A silent unit for concrete burial vaults, etc. as well as other applications where the vibrator is moved from form to form or bin to bin. They meet OSHA standards for being completely noiseless, never need lubrication and outlast standard pistons three to one.

Dimensions: 7"L x 4"W x 8"H

Pin Diameter: 1" - Fits into UPF female bracket.

Turbine Vibrators

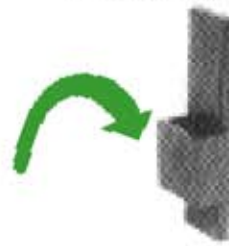


**CCW-5000 RAILROAD
CARSHAKER**



**CCW-2000-2"
CCW-2000W-3"**

**Female
Brackets**



**UWF-1 for 2"
UWF-3 for 3"**

**HEAVY DUTY
SERIES**



UPF



VSP-510

TECHNICAL DATA

Model	Weight		60 PSI		80 PSI				Max. Lbs.** Material in Bin	
	lbs.	kg.	Speed VPM	CFM	Speed VPM	CFM	Force lbs.	N*		dB*
CCF, CCL & CCW-2000	23	10.5	4000	30	6000	40	2000	8998	78	20000
CCF & CCL-5000	48	21.8	4000	35	6000	50	5000	22245	75	50000
CCW-5000	48	21.8	5000	40	7200	50	7000	31143	78	70000
CCF & CCL-7000	48	21.8	5000	40	7200	50	7000	31143	78	70000
VSP-510	15	6.8	4000	18	4500	21	1000	4004	77	9000

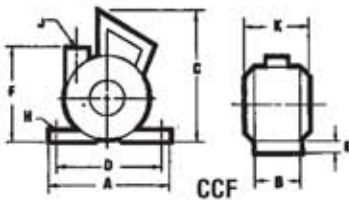
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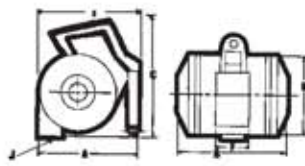
DIMENSIONS

Model	A inch/mm		B inch/mm		C inch/mm		D inch/mm		E inch/mm		F inch/mm		G inch/mm		H** inch/mm		J* inch/mm		K inch/mm	
CCF-2000	7 ³ / ₈	188	2	51	7 ³ / ₈	187	6	152	3 ¹ / ₄	19	5 ¹ / ₁₆	138	—	3 ¹ / ₈	16	3 ¹ / ₄ - NPT	7 ³ / ₄	197	—	—
CCL-2000	7 ³ / ₈	194	5 ¹ / ₁₆	138	7 ³ / ₈	187	6	152	3 ¹ / ₄	19	7 ¹ / ₈	22	—	3 ¹ / ₈	14	3 ¹ / ₄ - NPT	7 ³ / ₄	197	—	—
CCW-2000	6 ¹ / ₂	175	7 ³ / ₄	197	7 ³ / ₈	181	5 ¹ / ₈	130	12	305	2 ⁵ / ₈	60	1 ¹ / ₁₆	17	—	3 ¹ / ₄ - NPT	—	—	—	—
CCF-5000, 7000	10	254	3	76	9	229	8	203	1	25	6	153	—	3 ¹ / ₄	19	1 - NPT	8 ¹ / ₂	216	—	—
CCL-5000, 7000	9 ¹ / ₄	235	8	203	9 ¹ / ₄	235	7 ³ / ₄	197	1	25	1 ¹ / ₁₆	27	—	6	153	1 - NPT	—	—	—	—
CCW-5000	9	229	8	203	9 ¹ / ₄	235	6 ¹ / ₈	156	—	6	152	1 ¹ / ₁₆	30	—	—	1 - NPT	—	—	—	—

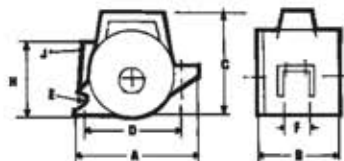
*NPT Pipe Tap Size **Bolt Size



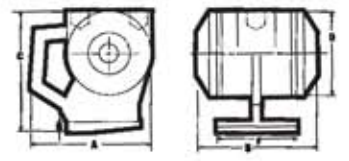
CCF



CCW-2000



CCL



CCW-5000



CCW-2000 on distribution boxes



CCW-5000 railroad car shaker



VSP-510 on burial vault forms

PHONE ORDER: 1-800-633-0032

FAX: 1-401-539-2584

"SILENT" Pneumatic Vibrators

BBS SERIES



BBS-160
BBS-190

BBS-130

BBS-100

FBS SERIES



FBS-160
FBS-190

FBS-130

FBS-100

MODEL FBS & BBS

BBS-100, 130, 160 and 190 - smallest of VIBCO turbine vibrators; with versatile mount and aluminum housing.

*Never needs oil for continuous duty operation. The FBS-100, 130, 160 and 190 are designed especially as a match

plate vibrator for the foundry industry.

For fast start, high RPM and force and low noise with a built-in muffler. The match plate vibrators to be used only for intermittent duty.

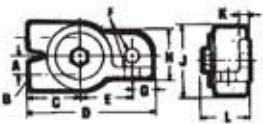
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Model	Weight***		60 PSI		80 PSI					Max. Lbs.** Material In Bin
	lbs.	kg.	Speed VPM	CFM	Speed VPM	CFM	lbs.	Force N	dB*	
FBS-100	10.5 oz.	.298	15000	5			30	133	66	For Match-Plates
FBS-130	16 oz.	.454	13000	6	15000	7	150	667	68	For Match-Plates
FBS-160	24 oz.	.680	10500	6	13000	7	225	1001	68	For Match-Plates
FBS-190	26 oz.	.737	8500	6	10000	8	250	1112	70	For Match-Plates
BBS-100	5 oz.	.142	12000	3.5			20	89	66	200
BBS-130	9 oz.	.255	8000	4.5	10500	5.5	75	334	67	750
BBS-160	12 oz.	.340	5500	5	9000	7	160	712	67	1600
BBS-190	15 oz.	.425	8500	5	10000	7	250	1112	70	2500

Data obtained on Laboratory test block. Frequency and force will decrease on less rigid mount. Data subject to design changes.

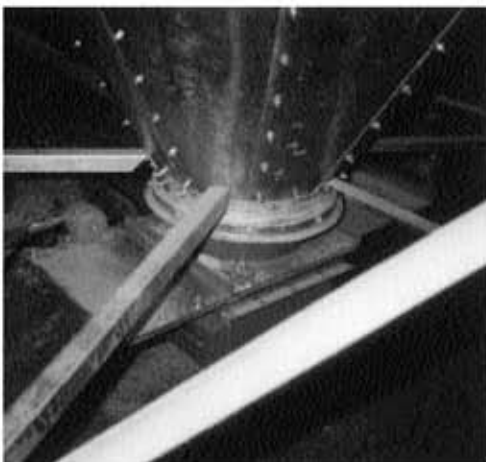
* Decibel from A-scale at 1 meter and 80 PSI. N = Centrifugal force in Newton. ** Rule of thumb for sizing "One lb. Vibrator Force" to each 10 lbs. of Bin Content" at 80 PSI.

DIMENSIONS

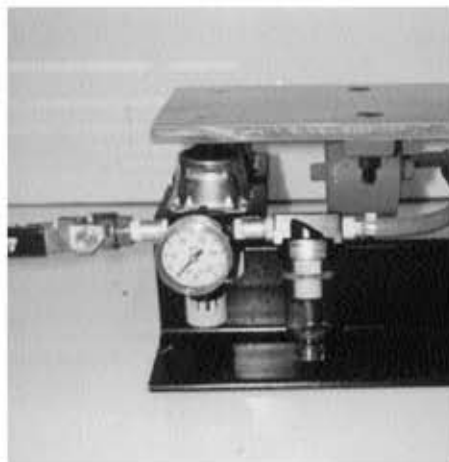


Model	A inch/mm	B inch/mm	C inch/mm	D inch/mm	E inch/mm	F** inch/mm	G inch/mm	H inch/mm	J inch/mm	K inch/mm	L inch/mm
FBS-100 BBS-100	3/16 14	1/8 - NPT	1 1/4 32	3 3/4 83	1 3/4 35	3/16 8	1/2 12	1 25	1 7/16 37	3/16 16	1 1/16 30
FBS-130 BBS-130	1/8 16	1/4 - NPT	1 3/4 44	3 3/4 95	1 7/16 40	1/8 10	3/16 14	1 1/16 30	2 1/4 57	3/16 16	1 7/16 37
FBS-160 190 BBS-160 190	3/4 19	1/4 - NPT	1 3/4 46	4 1/8 105	1 9/16 46	3/8 10	1 1/16 17	1 1/4 32	2 9/16 65	3/16 16	1 9/16 40

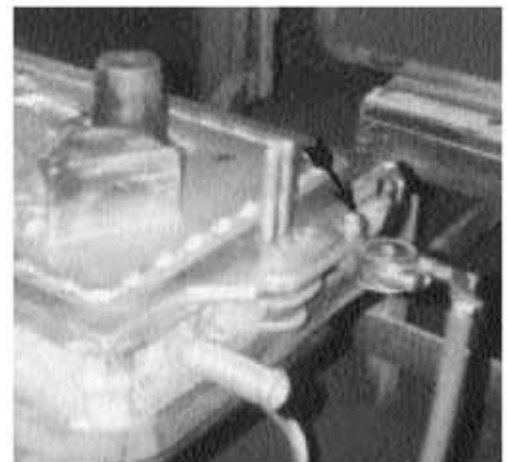
*NPT Pipe Tap Size **Bolt Size



VS-250 on transfer chute



VS-190 on test table



FBS-190 on molding machine

HOW TO SELECT PROPER VIBRATOR - IN THREE EASY STEPS -

A. FIND NEEDED VIBRATOR FORCE FOR YOUR APPLICATION. B. FIND AVAILABLE VIBRATOR MODELS.

FIND NEEDED VIBRATOR CENTRIFUGAL FORCE (IMPACT) FOR YOUR APPLICATION

1. BINS, HOPPERS.

A. To move the material in a bin or hopper, the friction between the material and bin skin has to be broken. Once this is done the material cannot cling to the bin sides and it will flow out through the discharge. The vibrator force needed to accomplish this, is for 80% of all applications, very simply calculated as follows:

Calculate the weight of the material in the transition or sloping part of the bin. Normally this is the only place where the friction between the material and the bin sides has to be broken.
- DO NOT CALCULATE THE TOTAL WEIGHT, ONLY WHAT IS IN THE TRANSITION PART.

For CONICAL BINS, calculate as follows: $261 \times \text{dia.}^2 \times \text{height} \times \text{material density in lbs/cu. ft.}$

For RECTANGULAR BINS, $\text{length} \times \text{width} \times \text{height} \times 1/3 \times \text{material density.}$

B. When the weight has been calculated, divide by 10 - the figure you get is the force or impact needed on your vibrator. _____ lbs. See technical data under "force".

For example: The conical part of a 25 ton bin contains 7000 lbs. Divide 7000 by 10, you need a vibrator with 700 lbs. of centrifugal force or impact Find suitable vibrator on page 4 for VS-380 on page 6 BVS-440.

NOTE: Additional considerations when sizing vibrator to bins.

1. If bin side angle is below 30°, select next larger vibrator.
2. If bin thickness is extra heavy select next larger vibrator.
3. On real sticky and hard to move materials, it is better to use two (2) small vibrators instead of a large one (find the smaller one by figuring half the force needed).

2. FOR OTHER APPLICATIONS CONSULT THE FACTORY

COMPARISON AND REPLACEMENT CHART Turbine — Ball — Roller — Piston — Vibrators

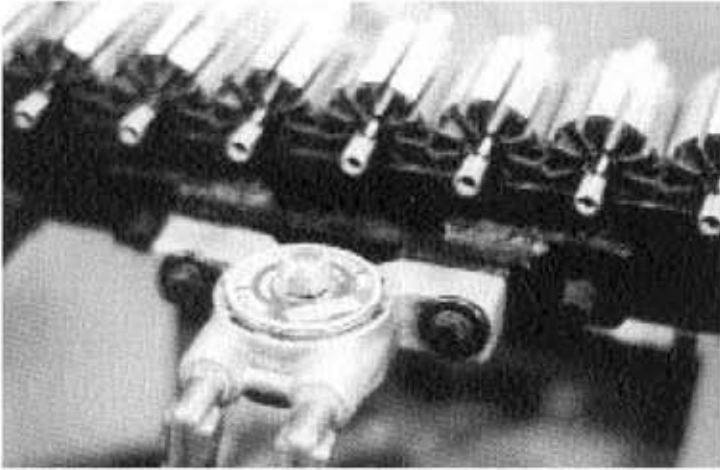
VIBCO Quiet Turbines	dB*	Equivalent Size Ball Vibrators					Roller Vibrator		Piston Vibrator			
		Vibco	Martin	Cougar	Global	dB*	Martin	dB*	Houston	Navco	Cleveland	dB*
BBS-100	66	BB-100	BD-10	ABL-10	BS-10	75	BDR-10	87			SAEP 1/2	85
BBS-130	67	BB-130	BD-13	ABL-13	—	89	BDR-13	88		MP 3/8	SAEP 3/8	87
BBS-160	67	BB-160	BD-16	ABL-19	BS-16	79				MP 3/4	SAEP 3/4	88
BVS-60	66	BV-60	UCV-6			83					SAEP 1/2	85
BVS-130	67	BV-130	UCV-13		US-13	89				MP 3/8	SAEP 3/8	86
BVS-190	71	BV-190	UCV-19		US-19	93			BV-112	BH-1	VMS-1100	89
BVS-250	72	BV-250	UCV-25		US-25	85			BV-150	BH- 1 1/4	VMS-1125	90
BVS-320	70	BV-320	UCV-32			87	UCVR4-.5	91	BV-175	BH- 1 3/8	VMS-1150	91
BVS-380	74	BV-380	UCV-38		US-38	94			BV-225	BH-2	VMS-1200	93
BVS-440	76	BV-440	UCV-44		US-44	83						
BVS-510	77											
BVS-570	83						UCVR6-.5	91	BV-312	BH-3	VMS-1300	93
VS-100	66	V-100	CV-10	ABF-10		97	CVR-10	88			SAEP 1/2	85
VS-130	67	V-130		ABF-13						MP 3/8	SAEP 3/8	87
VS-190	70	V-190	CV-19	ABF-19	CS-19	93			BV-112	BH-1	VMS-1100	89
VS-250	70	V-250	CV-25	ABF-25	CS-25	92			BV-150	BH-1 1/4	VMS-1125	90
VS-320	69	V-320	CV-35	ABF-35	CS-35	88			BV-175	BH-1 3/8	VMS-1150	91
VS-380	72	V-380	DV-41	ABF-41	DS-41	98			BV-225	BH-2	VMS-1200	93
VS-510	77	—	DV-51	ABF-51	DS-51	98	—	—	BV-312	BH-3	VMS-1300	95

COMPARABLE ROLLER & HIGH FREQUENCY VIBRATORS

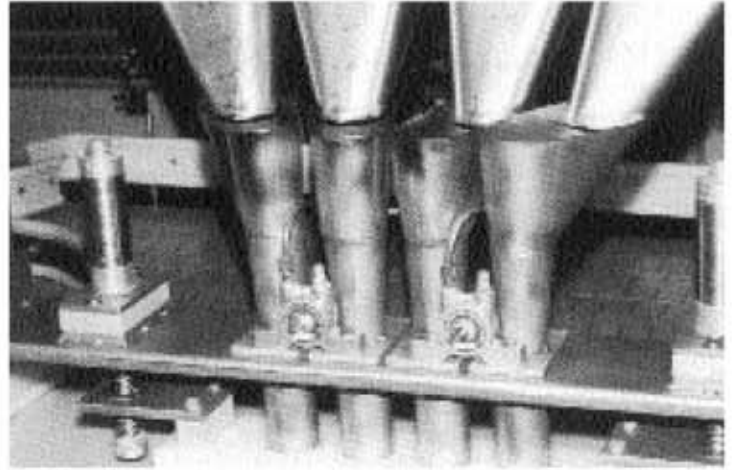
CCF-2000*	77	SVRLS-4000	CCR-2600	AA4-3300	—	98	UCVR-8-8	98	—	—	RA-40	98
CCL-5000*	78	SVRLS-4000	CCR-4400	—	GCD-4000	98	CCR-4400	98	—	—	RA-40	98
CCL-7000*	78	SVRLS-5500	CCR-5500	AG11-5000	GCL-5500	98	—	—	HFDR-5500	—	RA-56	98

*Also CCF, CCW or CCF Models

"SILENT" Turbine Vibrators In Action



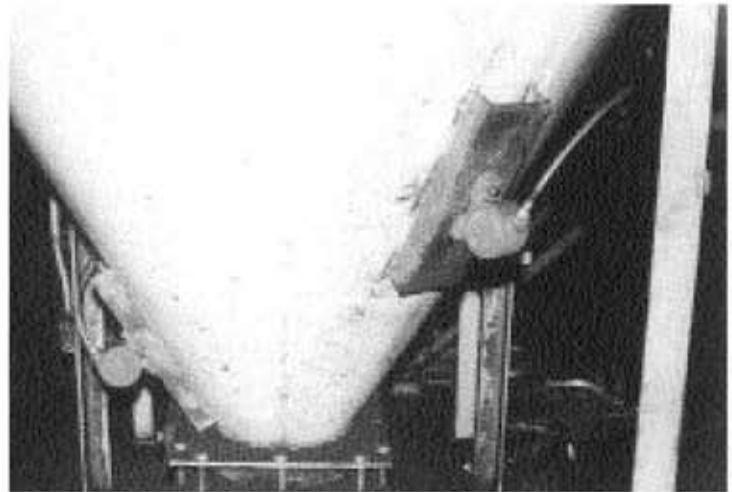
Small SILENT Turbine mounted to automated parts alignment track. Helps keep parts moving freely.



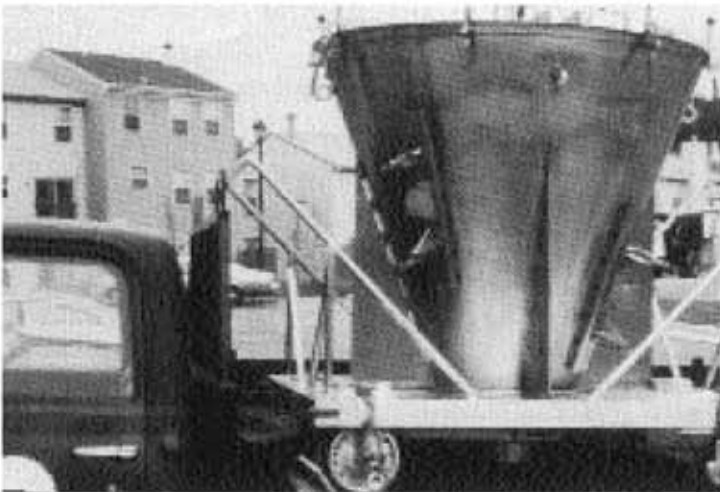
SILENT Turbines mount on a track to consolidate pills in bottles while filling.



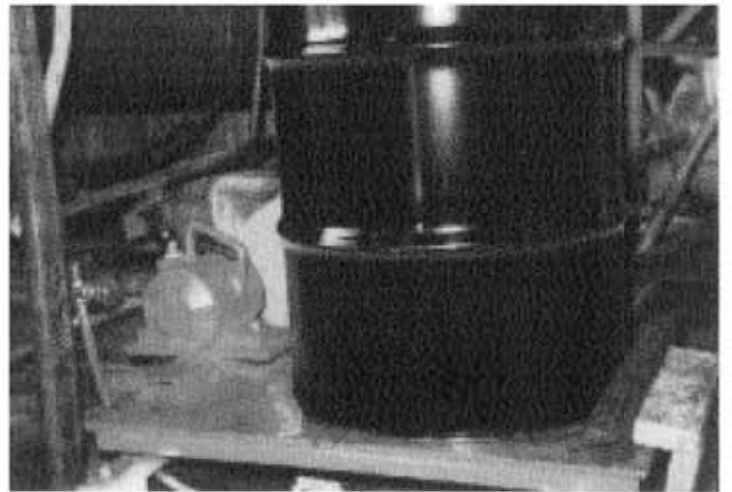
SILENT Turbine mounted to a fly ash chute to keep ash flowing.



Two SILENT Turbines on a bin with chemicals to help stop bridging.



Two small SILENT Turbines mounted to cement hopper.



Big SILENT Turbine on a table to insure full capacity packaging of 55 gallon drums.



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