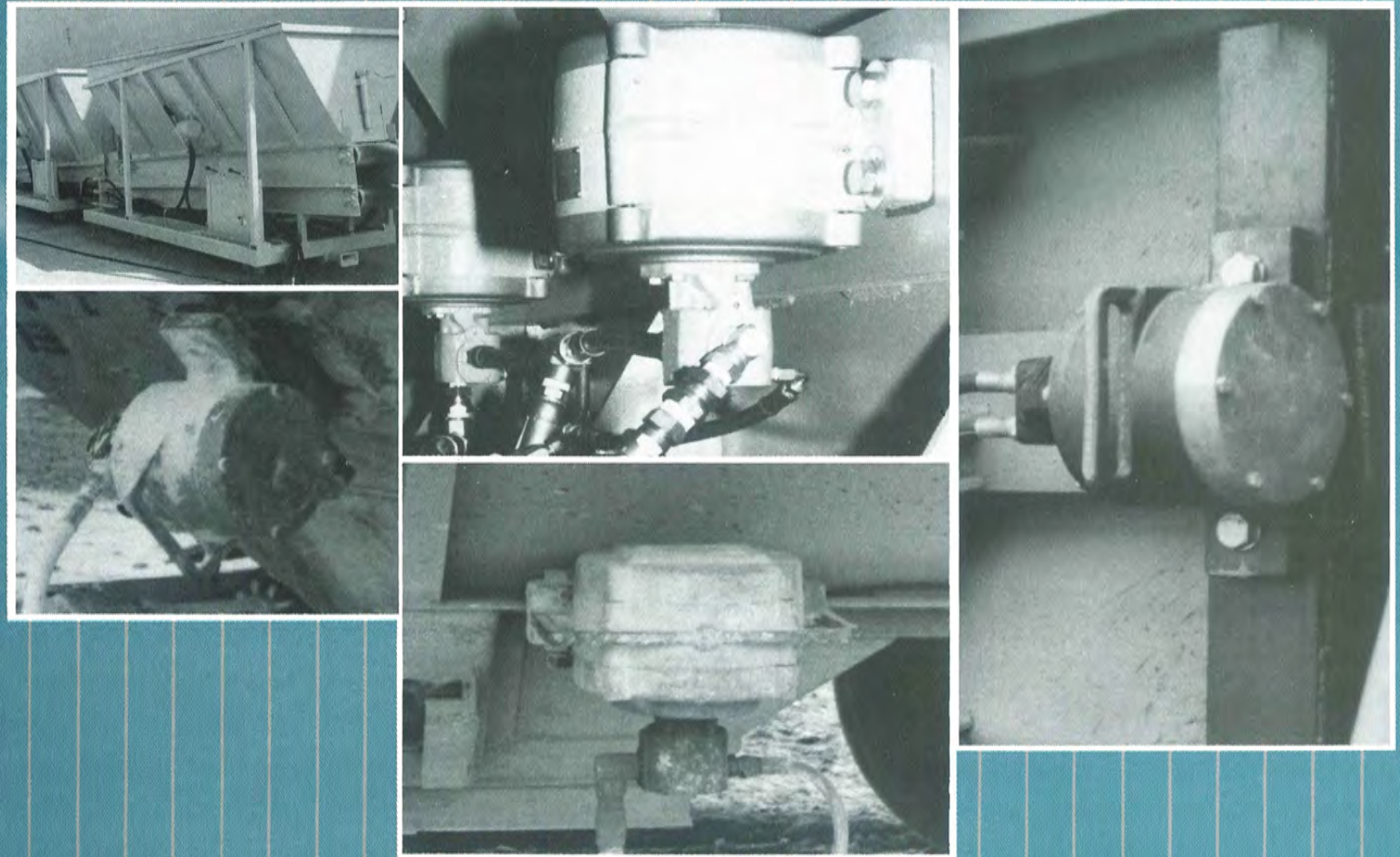


Global Design Series Vibrators



Pneumatic and hydraulic rotary vibration for handling powders, large aggregates, sludges, and other bulk solids. Provides efficient, reliable operation. Extremely effective with large loads other vibrators cannot handle. Long operating life, minimal maintenance, quiet operation.

Global Design Series Vibrators

Provide an Effective, Economical Solution to the Challenge of Moving Bulk Solids . . . Quietly, Efficiently, and Reliably.

If you need an efficient, reliable, cost-effective method of handling bulk solids in your plant, we can help.

We're Global Manufacturing, and we design, build, and support a full line of rotary and linear vibrators and Air Blasters to meet virtually any bulk solids handling requirement — regardless of the type of material or weight load.

The "Design Series" Rotary Vibrators for Handling Large Loads of Bulk Solids



Global Design Series vibrators use efficient, superbly designed pneumatic or hydraulic motors to generate powerful rotary vibrations capable of moving loads up to 70,000 pounds and higher.

Global Design Series Vibrator Selection Guide and Performance Data

NOMENCLATURE KEY:

- C3 = 2-bolt, permanent-type mounting
- D4.5 = 4-bolt, permanent-type mounting
- D7 = 6-bolt, permanent-type mounting
- CC = clamp-on, portable-type mounting

2HC, 5HC and 8HC are hydraulic motors
 4AC and 6AC are pneumatic motors
 Middle number refers to the unbalance of the eccentric weights in inch-pounds (e.g., D4.5-8-5HC has eccentric weights with 8 inch-pounds unbalance).
 The C3-6A-4AC and the C3-6A-2HC have an adjustable eccentric weight. The unbalance settings are 1.5 in.-lb., 2 in.-lb., 2.5 in.-lb., 3 in.-lb., 4 in.-lb., 5 in.-lb., and 6 in.-lb. The C3-6A adjustable weight vibrators are preset by the factory to the 6 in.-lb. setting, unless requested otherwise.

RULE OF THUMB: One pound of vibrator force is required for each ten pounds of material to be resonated.

The table above represents the vibrator's performance at various speeds. It is important to note that with any rotary vibrator the load on the bearings increases as the speed increases; therefore, the life of the bearings is very sensitive to the speed. Increasing the speed by just 10% will cut the bearing life in half. Likewise, reducing the speed 10% will double the bearing life. Please remember that the speed is controlled by the hydraulic flow (GPM), not the pressure (PSI). The pressure across the motor will vary according to the rigidity of the vibrator mount and the type of material being resonated.

Metric: N-M — Newton-Meter • LPM — Liters per minute • BAR — Unit of measure • RPM — Revolutions per minute • KN — Kilonewtons • KG — Kilograms

American: LB-IN — Pounds-Inch • SCFM — Standard cubic feet per minute • PSI — Pounds per square inch • RPM — Revolutions per minute • LB — Pounds

Several vibrators can be used at one time for larger applications

PNEUMATIC VIBRATOR PERFORMANCE DATA

MODEL	40 PSI (2.8 BAR)			60 PSI (4.1 BAR)			80 PSI (5.5 BAR)			MAXIMUM WEIGHT OF MATERIAL IN SLOPED PORTION		
	UNBAL LB-IN (N-M)	START PSI (BAR)	SPEED RPM	FLOW SCFM (LPS)	FORCE LB (KN)	SPEED RPM	FLOW SCFM (LPS)	FORCE LB (KN)	SPEED RPM		FLOW SCFM (LPS)	FORCE LB (KN)
C3-6A-4AC	1.5 (0.17)	8 (0.55)	4400	41 (19)	820 (3.6)	5150	55 (26)	1130 (5.0)	5650	74 (35)	1360 (6.0)	13,600 LB (6,170 KG)
	2.0 (0.23)	8 (0.55)	4310	40 (19)	1050 (4.7)	4980	54 (25)	1410 (6.3)	5500	73 (34)	1720 (7.6)	17,200 LB (7,800 KG)
	2.5 (0.28)	8 (0.55)	4220	39 (18)	1260 (5.6)	4820	53 (25)	1650 (7.3)	5350	72 (34)	2030 (9.0)	20,300 LB (9,810 KG)
	3.0 (0.34)	8 (0.55)	4130	38 (18)	1450 (6.5)	4650	52 (25)	1840 (8.2)	5200	71 (34)	2300 (10.3)	23,000 LB (10,400 KG)
	4.0 (0.45)	10 (0.69)	4050	37 (17)	1860 (8.3)	4540	51 (24)	2340 (10.4)	5170	70 (33)	3040 (13.5)	30,400 LB (13,800 KG)
	5.0 (0.57)	13 (0.90)	3980	36 (17)	2250 (10.0)	4440	51 (24)	2800 (12.5)	5130	70 (33)	3740 (16.6)	37,400 LB (17,000 KG)
	6.0 (0.68)	18 (1.24)	3900	35 (16)	2590 (11.5)	4330	50 (24)	3220 (14.2)	5100	69 (33)	4430 (19.7)	44,300 LB (20,100 KG)
D4.5-6-4AC CC4.5-6-4AC	6.0 (0.7)	18 (1.24)	3950	35 (16)	2660 (11.8)	4250	50 (24)	3080 (13.7)	4500	65 (31)	3450 (15.3)	34,500 LB (15,600 KG)
D4.5-8-4AC CC4.5-8-4AC	8.0 (0.9)	18 (1.24)	3600	30 (14)	2940 (13.1)	3900	48 (22)	3460 (15.4)	4300	64 (30)	4200 (18.7)	42,000 LB (19,100 KG)
D4.5-10-4AC CC4.5-10-4AC	10.0 (1.1)	18 (1.24)	3350	32 (15)	3190 (14.2)	3700	47 (22)	3890 (17.3)	3900	62 (29)	4320 (19.2)	43,200 LB (19,600 KG)
D7-12-6AC CC7-12-6AC	12.0 (1.4)	15 (1.04)	4000	55 (26)	5450 (24.2)	5250	85 (40)	9390 (41.8)	Operation Not Recommended at pressures above 60 PSI			93,900 LB (42,600 KG)
D7-18-6AC CC7-18-6AC	18.0 (2.0)	18 (1.24)	3550	54 (25)	6440 (28.6)	4650	82 (39)	11050 (49.2)	5400	114 (54)	14910 (66.3)	149,100 LB (67,600 KG)
D7-25-6AC CC7-25-6AC	25.0 (2.8)	20 (1.38)	3300	52 (24)	7730 (34.4)	4400	81 (38)	13750 (61.2)	5050	109 (51)	18110 (80.6)	181,100 LB (82,100 KG)
D7-50-6AC CC7-50-6AC	50.0 (5.7)	25 (1.73)	2700	48 (22)	10350 (46.0)	3750	67 (32)	19970 (88.8)	4350	93 (44)	26870 (120)	268,700 LB (121,900 KG)

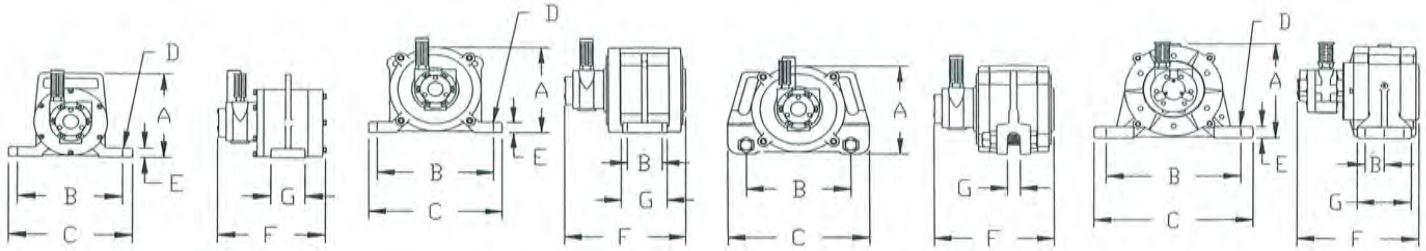
HYDRAULIC VIBRATOR PERFORMANCE DATA

MODEL	UNBAL LB-IN (N-M)	START PSI (BAR)	SPEED RPM	FLOW GPM (LPM)	FORCE LB (KN)	SPEED RPM	FLOW GPM (LPM)	FORCE LB (KN)	SPEED RPM	FLOW GPM (LPM)	FORCE LB (KN)	MAXIMUM WEIGHT OF MATERIAL IN SLOPED PORTION
C3-6A-2HC	1.5 (0.17)	80 (5.5)	3000	1.7 (6.3)	380 (1.7)	4000	2.2 (8.5)	680 (3.0)	5000	2.8 (10.6)	1070 (4.7)	10,700 LB (4,850 KG)
	2.0 (0.23)	105 (7.2)	3000	1.7 (6.3)	510 (2.3)	4000	2.2 (8.5)	910 (4.0)	5000	2.8 (10.6)	1420 (6.3)	14,200 LB (6,440 KG)
	2.5 (0.28)	130 (9.0)	3000	1.7 (6.3)	640 (2.8)	4000	2.2 (8.5)	1140 (5.1)	5000	2.8 (10.6)	1780 (7.9)	17,800 LB (8,070 KG)
	3.0 (0.34)	155 (11)	3000	1.7 (6.3)	770 (3.4)	4000	2.2 (8.5)	1360 (6.1)	5000	2.8 (10.6)	2130 (9.5)	21,300 LB (9,660 KG)
	4.0 (0.45)	200 (14)	3000	1.7 (6.3)	1020 (4.5)	4000	2.2 (8.5)	1820 (8.1)	5000	2.8 (10.6)	2840 (12.6)	28,400 LB (12,900 KG)
	5.0 (0.57)	250 (17)	3000	1.7 (6.3)	1280 (5.7)	4000	2.2 (8.5)	2270 (10.1)	5000	2.8 (10.6)	3550 (15.8)	35,500 LB (16,100 KG)
	6.0 (0.68)	300 (21)	3000	1.7 (6.3)	1530 (6.8)	4000	2.2 (8.5)	2730 (12.1)	5000	2.8 (10.6)	4260 (19.0)	42,600 LB (19,300 KG)
D4.5-6-5HC CC4.5-6-5HC	6.0 (336)	110 (7.6)	3000	5.0 (19)	1530 (6.8)	4000	6.7 (25)	2730 (12.1)	5000	8.4 (32)	4260 (19.0)	42,600 LB (19,300 KG)
D4.5-8-5HC CC4.5-8-5HC	8.0 (448)	140 (9.7)	3000	5.0 (19)	2040 (9.1)	4000	6.7 (25)	3640 (16.2)	5000	8.4 (32)	5680 (25.3)	56,800 LB (25,800 KG)
D4.5-10-5HC CC4.5-10-5HC	10.0 (560)	180 (12.4)	3000	5.0 (19)	2560 (11.4)	4000	6.7 (25)	4540 (20.2)	5000	8.4 (32)	7100 (31.6)	71,000 LB (32,200 KG)
D7-12-8HC CC7-12-8HC	12.0 (672)	120 (8.3)	3000	9.1 (34)	3070 (13.7)	4000	12.1 (46)	5450 (24.3)	5000	15.1 (57)	8520 (37.9)	85,200 LB (38,600 KG)
D7-18-8HC CC7-18-8HC	18.0 (1008)	180 (12.4)	3000	9.1 (34)	4600 (20.5)	4000	12.1 (46)	8180 (36.4)	5000	15.1 (57)	12780 (56.9)	127,800 LB (58,000 KG)
D7-25-8HC CC7-25-8HC	25.0 (1400)	250 (17.2)	3000	9.1 (34)	6390 (28.4)	4000	12.1 (46)	11360 (50.6)	5000	15.1 (57)	17750 (79.0)	177,500 LB (80,500 KG)
D7-50-8HC CC7-50-8HC	50.0 (2800)	490 (33.8)	3000	9.1 (34)	12780 (56.9)	4000	12.1 (46)	22720 (101.1)	5000	15.1 (57)	35500 (158.0)	355,000 LB (161,000 KG)

HYDRAULIC VIBRATOR PERFORMANCE DATA WITH ROLLER BEARINGS

These vibrators have regreasable roller bearings and require the optional high speed hydraulic motor to exceed 5,000 RPM.

MODEL	UNB LB-IN (N-M)	START PSI (BAR)	SPEED RPM	FLOW GPM (LPM)	FORCE LB (KN)	SPEED RPM	FLOW GPM (LPM)	FORCE LB (KN)	SPEED RPM	FLOW GPM (LPM)	FORCE LB (KN)	MAXIMUM WEIGHT OF MATERIAL IN SLOPED PORTION
D4.5-6-5HC-RB CC4.5-6-5HC-RB	6.0 (0.7)	110 (7.6)	6000	10 (38)	6130 (27.3)	7000	12 (45)	8350 (37.2)	7500	13 (49)	9590 (42.7)	95,900 LB (43,500 KG)
D4.5-8-5HC-RB CC4.5-8-5HC-RB	8.0 (0.9)	145 (10.0)	6000	10 (38)	8180 (36.4)	7000	12 (45)	11330 (49.5)	7500	13 (49)	12780 (56.9)	127,800 LB (58,000 KG)
D4.5-10-5HC-RB CC4.5-10-5HC-RB	10.0 (1.1)	175 (12.1)	6000	10 (38)	10220 (45.5)	7000	12 (45)	13920 (61.9)	7500	13 (49)	15980 (71.1)	159,800 LB (72,500 KG)



C3 — PNEUMATIC

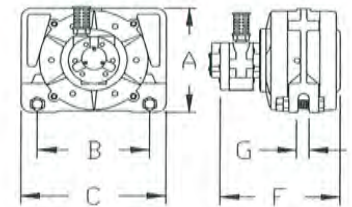
D4.5 — PNEUMATIC

CC4.5 — PNEUMATIC

D7 — PNEUMATIC

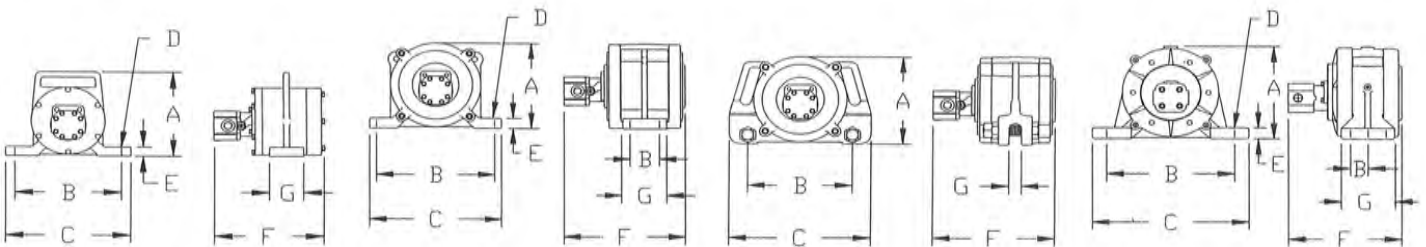
GLOBAL DESIGN SERIES PNEUMATIC VIBRATORS SPECIFICATIONS

VIBRATOR MODEL	A	B	C	D	E	F	G	AIR MOTOR PORT SIZE (2 PORTS)	WEIGHT
	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	NPT	LBS (KGS)
C3	8.2 (208)	8.0 (203)	11.1 (282)	0.78 (23)	0.9 (23)	9.6 (244)	3.0 (76)	1/2-14	44 (20)
D4.5	8.4 (213)	10.0 x 2.5 (254 x 64)	12.1 (307)	0.66 (17)	1.0 (25)	10.6 (343)	4.1 (104)	1/2-14	52 (24)
CC4.5	8.6 (218)	9.2 (234)	12.6 (320)	—	—	10.6 (270)	1.1 (28)	1/2-14	61 (28)
D7	11.5 (292)	16.0 x 2.0 (406 x 51)	18.0 (457)	0.78 (20)	1.4 (36)	13.5 (343)	6.0 (152)	3/4-14	104 (47)
CC7	11.5 (292)	11.5 (292)	14.8 (376)	—	—	13.5 (343)	1.1 (28)	3/4-14	96 (44)



CC7 — PNEUMATIC

Weight: This is the total weight with largest eccentric mounted.
Weight will be less when a smaller eccentric is mounted.
D7 = Six bolt hole base vibrator.



C3 — HYDRAULIC

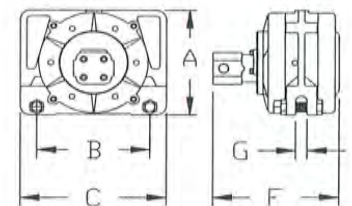
D4.5 — HYDRAULIC

CC4.5 — HYDRAULIC

D7 — HYDRAULIC

GLOBAL DESIGN SERIES HYDRAULIC VIBRATORS SPECIFICATIONS

VIBRATOR MODEL	A	B	C	D	E	F	G	HYD MOTOR PORT SIZE (2 PORTS)	WEIGHT
	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	SAE	LBS (KGS)
C3	8.2 (208)	8.0 (203)	11.1 (282)	0.78 (23)	0.9 (23)	9.2 (234)	3.0 (76)	3/4-16	40 (18)
D4.5	8.4 (213)	10.0 x 2.5 (254 x 64)	12.1 (307)	0.66 (17)	1.0 (25)	10.8 (274)	4.1 (104)	3/4-16	49 (22)
CC4.5	8.6 (218)	9.2 (234)	12.6 (320)	—	—	10.8 (274)	1.1 (28)	3/4-16	56 (25)
D7	11.5 (292)	16.0 x 2.0 (406 x 51)	18.0 (457)	0.78 (20)	1.4 (36)	13.0 (330)	6.0 (152)	3/4-14 NPTF	98 (45)
CC7	11.5 (292)	11.5 (292)	14.8 (376)	—	—	13.5 (343)	1.1 (28)	3/4-14 NPTF	90 (41)



CC7 — HYDRAULIC

Weight: This is the total weight with largest eccentric mounted.
Weight will be less when a smaller eccentric is mounted.
D7 = Six bolt hole base vibrator.

Global's Engineering Expertise Can Make a Difference . . .

Global has a staff of Applications Engineers who are ready to assist you in sizing, specifying, and installing the right industrial vibrator to meet your needs.

The two most common installation errors are **incorrect sizing and improper mounting**. An oversized vibrator can damage hoppers and bins, while an undersized unit provides insufficient force pounds to move the bulk material.

A weak mount may have a low resonant frequency which will trap vibration and prevent the Design Series vibrator from reaching optimum speed. At Global, we work closely with our customers to ensure proper selection and mounting for optimum performance and results. It is this knowledge and experience that can help you solve your material-handling problems — quickly and correctly.

What Applications are Global Design Series Vibrators Best at Handling?

Because they use a separate motor to generate rotary vibration, Global Design Series can produce substantial force-pounds. That means the Design Series can efficiently and effectively put large masses of "stuck" solids into motion — quickly and easily.

Global Design Series vibrators handle almost any type of bulk solid. Typical applications include: dry sand, flour, fine chemicals, sugar, cement, powders, spices, clay, lignite, coal, dust, and many others.



Global Design Series vibrators are used to enhance material flow in large structures, such as this self-unloading cargo ship.

The Design Series High-Performance Motors Offer Efficient, Reliable Operation Unmatched by Any Other Manufacturer in the Industry Today.

For handling larger loads, using a vibrator powered by a separate motor is more efficient and effective than using a piston or ball vibrator.

Global's hydraulic and pneumatic motors are bi-rotational. Our hydraulic motors are among the most reliable in the industry. The vanes in our pneumatic motors never stick due to superior ejector ring design which does not require vane springs or push pins.



"C3" Design Series vibrators have a permanent-type mounting with two bolts.



"D4.5" Design Series vibrators have a permanent-type mounting with four bolts.



"CC" Design Series vibrators use a clamp-on mounting for temporary installation, allowing them to be easily moved.



PNEUMATIC MOTOR PERFORMANCE DATA

	STANDARD MOTORS	
	4AC	6AC
PORT SIZE	1/2" - 14 NPT	3/4" - 14 NPT
MINIMUM HOSE SIZE	1/2" I.D.	3/4" I.D.
MAXIMUM SPEED CONTINUOUS OPERATION	4,000 RPM	3,000 RPM
MAXIMUM SPEED INTERMITTENT OPERATION	5,000 RPM	5,000 RPM
MAXIMUM PRESSURE	100 PSI (6.9 BAR)	100 PSI (6.9 BAR)
MAXIMUM FLOW	100 SCFM (47 LPS)	150 SCFM (70 LPS)
FILTRATION REQUIRED	64 MICRON	64 MICRON
LUBRICATION REQUIRED FOR CONTINUOUS OPERATION	4 - 5 DROPS PER MINUTE 5 WEIGHT OIL	5 - 6 DROPS PER MINUTE 5 WEIGHT OIL
LUBRICATION REQUIRED FOR INTERMITTENT OPERATION	8 - 12 DROPS PER MINUTE 5 WEIGHT OIL	10 - 12 DROPS PER MINUTE 5 WEIGHT OIL

HYDRAULIC MOTOR PERFORMANCE DATA

	SIDE MOTOR PORTS	STANDARD MOTORS			SPECIAL MOTOR
		2HC	5HC	8HC	5HC-RB
PORT SIZE		3/4 - 16 SAE O'RING	3/4 - 16 SAE O'RING	3/4 - 14 NPTF	3/4 - 16 SAE O'RING
MINIMUM HOSE SIZE	I. D.	1/2"	5/8"	3/4"	3/4"
DISPLACEMENT	CU. IN. /REV (CC/REV)	0.129 (2.11)	0.388 (6.36)	0.698 (11.43)	0.388 (6.36)
MAXIMUM SPEED	RPM	5000	5000	5000	7500
FLOW AT MAXIMUM SPEED	GPM (LPM)	2.8 (12.7)	8.4 (38)	15.1 (69)	12.6 (57)
MAXIMUM CONTINUOUS PRESSURE	PSI (BAR)	3000 (207)	1600 (110)	2000 (138)	1600 (110)
MAXIMUM INTERMITTENT PRESSURE	PSI (BAR)	4000 (276)	2500 (172)	3000 (207)	2500 (172)
MAXIMUM BACK PRESSURE	PSI (BAR)	350 (24)	350 (24)	350 (24)	350 (24)

The Global Design Series Vibrators Offer a Number of Advantages Over Other Commercially Available Rotary Vibrators:

VIBRATOR COMPONENT ALIGNMENT

All manufactured equipment contains slight alignment variation due to manufacturing tolerances. Typically, vibrators are connected by the conventional "shaft-in-a-shaft" design (drive motor shaft slips into vibrator shaft). This design works only if both shafts remain in virtually perfect alignment regardless of operating conditions. Often, the result of this arrangement is motor shaft flexing and fretting within the vibrator shaft. This condition leads to premature motor failure and a worn out vibrator shaft. Global vibrators are manufactured to exacting manufacturing tolerances. To compensate for alignment variations that exist when two shafts are connected, Global's Design Series vibrators incorporate a drive coupling to allow the motor and vibrator shafts to operate independently without expansion and misalignment. Consequently, Global's vibrators are more durable and efficient due to its superior design.

DRIVE COUPLING ASSEMBLY

The Global Design Series vibrators feature a unique drive coupling assembly between the motor and the vibrator shaft. The drive coupling compensates for misalignment and allows the motor and vibrator shaft to operate as an assembly without expansion or misalignment fretting and stress. Any wear that occurs due to alignment or shaft expansion takes place in the inexpensive and easily replaced coupling rather than in the motor and vibrator shaft. The presence of the coupling greatly enhances the reliability and reduces operating costs of Global Design Series Vibrators. There are no other known vibrator manufacturers that incorporate our exceptional design.

BEARINGS

Global's unique coupling design isolates the unbalanced load from the motor, so the motor bearings and shaft seal see only a balanced load, extending bearing and seal life. Our patented oil lubrication system helps extend the life of the bearings. Grease lubrication is also available.

Additional Benefits of Using Global Design Series Rotary Vibrators

The Global Design Series vibrators are rotary devices offering a number of advantages:

DISPERSED VIBRATION. The Global Design Series vibrator distributes a rotary vibration evenly which resonates the material inside the hopper. Localized vibration is avoided. Material flows more uniformly.

MINIMIZES PLANT NOISE LEVELS. Global Design Series vibrators feature efficient, smooth-running motors to assure relatively quiet operation. There's no hitting or pounding of the hopper wall.

RUGGED CONSTRUCTION. The vibrator body is fabricated from ductile iron to better withstand shock and vibration. Front and back covers are lightweight, hardened aluminum. The bearings are sealed to keep grease in and contaminants out. Use of spherical and cylindrical bearings in larger models extends life and provides the capacity to handle heavy-duty service.

EASY REPAIR AND MAINTENANCE. The Global Design Series is designed for easy change-out of bearings, motors,

couplings, weights, and other standard components. Replacing these items refurbishes the Design Series vibrator to like new condition, enabling extended use of the equipment and eliminating the need to purchase new vibrators.

How Do Global Design Series Vibrators Work?

PRINCIPLE OF OPERATION

1. The Global Design Series vibrator is not mounted directly on the hopper or bin wall. Instead it is mounted to channel iron stiffeners to achieve the desired degree of rigidity and help transduce the vibrational energy.
2. The Design Series vibrator, a rotary device, helps the flow of bulk solids by vibrating the material, not the hopper. There is no flexing of the hopper wall.
3. The Design Series vibrator creates a sinusoidal wave of energy. This "wave" generates a resonant frequency. Every material has a "natural frequency" — a frequency at which it most easily vibrates and moves. By selecting a Design Series vibrator capable of generating the vibrations per minute to match this natural frequency, one causes the bulk solid inside the hopper or bin to resonate.
4. For most applications, the Design Series vibrator should produce one pound of force for every ten pounds of material inside the sloped portion of the hopper. This means you should select a Global Design Series vibrator capable of generating force-pounds equal to one-tenth the weight of your load.
5. Weights are attached to the Design Series vibrator shaft. Rotation of these weights produces the centrifugal force. The centrifugal force produced by the vibrator may be decreased or increased by adjusting the flow of air or oil to the vibrator or by changing or adjusting the eccentric weights.
6. Causing the bulk solid to vibrate starts the flow of material. Once the solid flows freely, gravity takes over. Therefore, the Global Design Series vibrator may be cycled on and off rather than operated continuously.

Global Design Series Vibrators can be Customized to Meet Specialized Application Needs

The Global Design Series offers a diversity of configurations and sizes to meet any need. We can help you select the motor type (hydraulic or pneumatic), motor size, mounting configuration, vibrator model, weights, and bearings to handle your load requirements.

In addition, your Design Series vibrator can be customized to fit the application. Special features include:

- your choice, in some models, of grease or oil for bearing lubrication
- interchangeable weights for adjusting vibrational output in force-pounds
- optional adjustable weights for varying force without changing weights
- custom-designed weights that produce the degree of unbalance required to produce the force needed
- a wide range of nonstandard bearings for specialized requirements
- special designs for underwater usage
- special paint and coatings for corrosive, hazardous, and sanitary duty
- electric or pneumatic solenoid for automatic operation.

Let us know what your special needs are and we will customize a Global vibrator to meet your specifications.

The Global Design Series Vibrators Offer a Number of Advantages Over Other Commercially Available Rotary Vibrators:

VIBRATOR COMPONENT ALIGNMENT

All manufactured equipment contains slight alignment variation due to manufacturing tolerances. Typically, vibrators are connected by the conventional "shaft-in-a-shaft" design (drive motor shaft slips into vibrator shaft). This design works only if both shafts remain in virtually perfect alignment regardless of operating conditions. Often, the result of this arrangement is motor shaft flexing and fretting within the vibrator shaft. This condition leads to premature motor failure and a worn out vibrator shaft. Global vibrators are manufactured to exacting manufacturing tolerances. To compensate for alignment variations that exist when two shafts are connected, Global's Design Series vibrators incorporate a drive coupling to allow the motor and vibrator shafts to operate independently without expansion and misalignment. Consequently, Global's vibrators are more durable and efficient due to its superior design.

DRIVE COUPLING ASSEMBLY

The Global Design Series vibrators feature a unique drive coupling assembly between the motor and the vibrator shaft. The drive coupling compensates for misalignment and allows the motor and vibrator shaft to operate as an assembly without expansion or misalignment fretting and stress. Any wear that occurs due to alignment or shaft expansion takes place in the inexpensive and easily replaced coupling rather than in the motor and vibrator shaft. The presence of the coupling greatly enhances the reliability and reduces operating costs of Global Design Series Vibrators. There are no other known vibrator manufacturers that incorporate our exceptional design.

BEARINGS

Global's unique coupling design isolates the unbalanced load from the motor, so the motor bearings and shaft seal see only a balanced load, extending bearing and seal life. Our patented oil lubrication system helps extend the life of the bearings. Grease lubrication is also available.

Additional Benefits of Using Global Design Series Rotary Vibrators

The Global Design Series vibrators are rotary devices offering a number of advantages:

DISPERSED VIBRATION. The Global Design Series vibrator distributes a rotary vibration evenly which resonates the material inside the hopper. Localized vibration is avoided. Material flows more uniformly.

MINIMIZES PLANT NOISE LEVELS. Global Design Series vibrators feature efficient, smooth-running motors to assure relatively quiet operation. There's no hitting or pounding of the hopper wall.

RUGGED CONSTRUCTION. The vibrator body is fabricated from ductile iron to better withstand shock and vibration. Front and back covers are lightweight, hardened aluminum. The bearings are sealed to keep grease in and contaminants out. Use of spherical and cylindrical bearings in larger models extends life and provides the capacity to handle heavy-duty service.

EASY REPAIR AND MAINTENANCE. The Global Design Series is designed for easy change-out of bearings, motors,

couplings, weights, and other standard components. Replacing these items refurbishes the Design Series vibrator to like new condition, enabling extended use of the equipment and eliminating the need to purchase new vibrators.

How Do Global Design Series Vibrators Work?

PRINCIPLE OF OPERATION

1. The Global Design Series vibrator is not mounted directly on the hopper or bin wall. Instead it is mounted to channel iron stiffeners to achieve the desired degree of rigidity and help transduce the vibrational energy.
2. The Design Series vibrator, a rotary device, helps the flow of bulk solids by vibrating the material, not the hopper. There is no flexing of the hopper wall.
3. The Design Series vibrator creates a sinusoidal wave of energy. This "wave" generates a resonant frequency. Every material has a "natural frequency" — a frequency at which it most easily vibrates and moves. By selecting a Design Series vibrator capable of generating the vibrations per minute to match this natural frequency, one causes the bulk solid inside the hopper or bin to resonate.
4. For most applications, the Design Series vibrator should produce one pound of force for every ten pounds of material inside the sloped portion of the hopper. This means you should select a Global Design Series vibrator capable of generating force-pounds equal to one-tenth the weight of your load.
5. Weights are attached to the Design Series vibrator shaft. Rotation of these weights produces the centrifugal force. The centrifugal force produced by the vibrator may be decreased or increased by adjusting the flow of air or oil to the vibrator or by changing or adjusting the eccentric weights.
6. Causing the bulk solid to vibrate starts the flow of material. Once the solid flows freely, gravity takes over. Therefore, the Global Design Series vibrator may be cycled on and off rather than operated continuously.

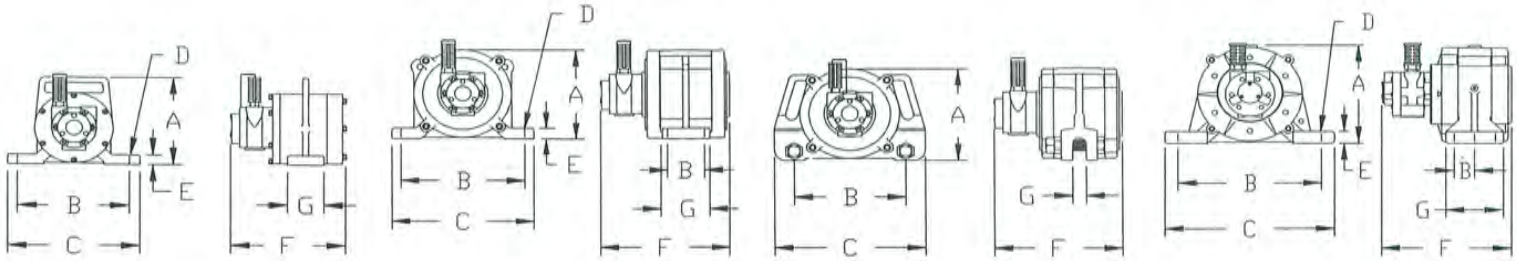
Global Design Series Vibrators can be Customized to Meet Specialized Application Needs

The Global Design Series offers a diversity of configurations and sizes to meet any need. We can help you select the motor type (hydraulic or pneumatic), motor size, mounting configuration, vibrator model, weights, and bearings to handle your load requirements.

In addition, your Design Series vibrator can be customized to fit the application. Special features include:

- your choice, in some models, of grease or oil for bearing lubrication
- interchangeable weights for adjusting vibrational output in force-pounds
- optional adjustable weights for varying force without changing weights
- custom-designed weights that produce the degree of unbalance required to produce the force needed
- a wide range of nonstandard bearings for specialized requirements
- special designs for underwater usage
- special paint and coatings for corrosive, hazardous, and sanitary duty
- electric or pneumatic solenoid for automatic operation.

Let us know what your special needs are and we will customize a Global vibrator to meet your specifications.



C3 — PNEUMATIC

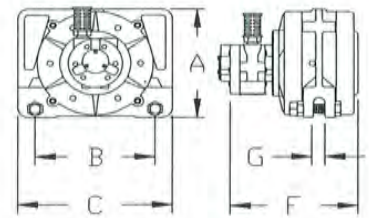
D4.5 — PNEUMATIC

CC4.5 — PNEUMATIC

D7 — PNEUMATIC

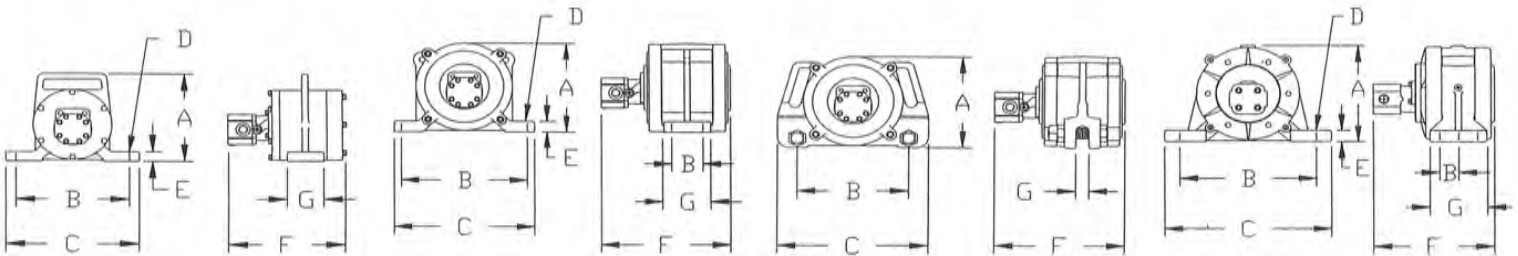
GLOBAL DESIGN SERIES PNEUMATIC VIBRATORS SPECIFICATIONS

VIBRATOR MODEL	A	B	C	D	E	F	G	AIR MOTOR PORT SIZE (2 PORTS)	WEIGHT
	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	NPT	LBS (KGS)
C3	8.2 (208)	8.0 (203)	11.1 (282)	0.78 (23)	0.9 (23)	9.6 (244)	3.0 (76)	1/2-14	44 (20)
D4.5	8.4 (213)	10.0 x 2.5 (254 x 64)	12.1 (307)	0.66 (17)	1.0 (25)	10.6 (343)	4.1 (104)	1/2-14	52 (24)
CC4.5	8.6 (218)	9.2 (234)	12.6 (320)	—	—	10.6 (276)	1.1 (28)	1/2-14	61 (28)
D7	11.5 (292)	16.0 x 2.0 (406 x 51)	18.0 (457)	0.78 (20)	1.4 (36)	13.5 (343)	6.0 (152)	3/4-14	104 (47)
CC7	11.5 (292)	11.5 (292)	14.8 (376)	—	—	13.5 (343)	1.1 (28)	3/4-14	96 (44)



CC7 — PNEUMATIC

Weight: This is the total weight with largest eccentric mounted.
Weight will be less when a smaller eccentric is mounted.
D7 = Six bolt hole base vibrator.



C3 — HYDRAULIC

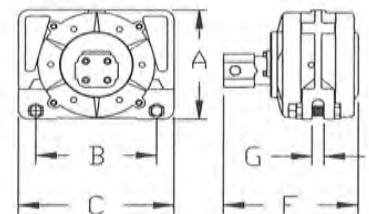
D4.5 — HYDRAULIC

CC4.5 — HYDRAULIC

D7 — HYDRAULIC

GLOBAL DESIGN SERIES HYDRAULIC VIBRATORS SPECIFICATIONS

VIBRATOR MODEL	A	B	C	D	E	F	G	HYD MOTOR PORT SIZE (2 PORTS)	WEIGHT
	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	IN (MM)	SAE	LBS (KGS)
C3	8.2 (208)	8.0 (203)	11.1 (282)	0.78 (23)	0.9 (23)	9.2 (234)	3.0 (76)	3/4-16	40 (18)
D4.5	8.4 (213)	10.0 x 2.5 (254 x 64)	12.1 (307)	0.66 (17)	1.0 (25)	10.8 (274)	4.1 (104)	3/4-16	49 (22)
CC4.5	8.6 (218)	9.2 (234)	12.6 (320)	—	—	10.8 (274)	1.1 (28)	3/4-16	56 (25)
D7	11.5 (292)	16.0 x 2.0 (406 x 51)	18.0 (457)	0.78 (20)	1.4 (36)	13.0 (330)	6.0 (152)	3/4-14 NPTF	98 (45)
CC7	11.5 (292)	11.5 (292)	14.8 (376)	—	—	13.5 (343)	1.1 (28)	3/4-14 NPTF	90 (41)



CC7 — HYDRAULIC

Weight: This is the total weight with largest eccentric mounted.
Weight will be less when a smaller eccentric is mounted.
D7 = Six bolt hole base vibrator.

Global's Engineering Expertise Can Make a Difference . . .

Global has a staff of Applications Engineers who are ready to assist you in sizing, specifying, and installing the right industrial vibrator to meet your needs.

The two most common installation errors are **incorrect sizing and improper mounting**. An oversized vibrator can damage hoppers and bins, while an undersized unit provides insufficient force pounds to move the bulk material.

A weak mount may have a low resonant frequency which will trap vibration and prevent the Design Series vibrator from reaching optimum speed. At Global, we work closely with our customers to ensure proper selection and mounting for optimum performance and results. It is this knowledge and experience that can help you solve your material-handling problems — quickly and correctly.