

川盛

CHUAN SHENG

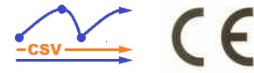
震動

VIBRATION MOTOR

馬達

Industrial and Commercial Vibrator Motor

INDUSTRY VIBRATION MOTOR



Vibration motor is the part of machine, is the source of vibrating, and is the heart of force. When heart has some problem, sometime is just not comfortable, but sometime will cause big trouble. Our mother company is professional motor production line test platform provider and more than 20 years industrial motors repair experiences. We guarantee our motor quality as well as reliability. Not only the motor design but also the material, we follow the high level manufacture requirements to produce the "heart of force". We believe better motor source will provide better vibration force." - CEO Mr. Wang

Product Description

- ✓ High-performance motor-driven vibrating generator
- ✓ Multi-model lineup meets the varied needs of customers
- ✓ Standardized screw size and location for vibrated object
- ✓ Solid housing (frame and base) design for long-life operation
- ✓ Easy maintenance & high reliability

Product Features and Options

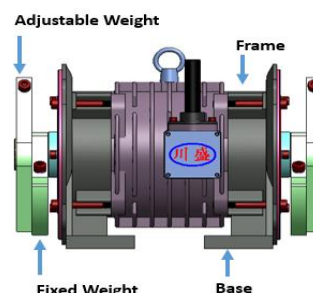
- Amplitude adjustment available
- Frequency (50/60) and Power input (220V/380V) selection by ordered
- Dust tight construction and splash-proof design
- Long life bearings and strengthen armature shaft
- Casting housing and enhancement screw base for strong protection
- Aluminum extrusion one piece formed housing for light-weight model (A-204, A-209, A-212, A-218)



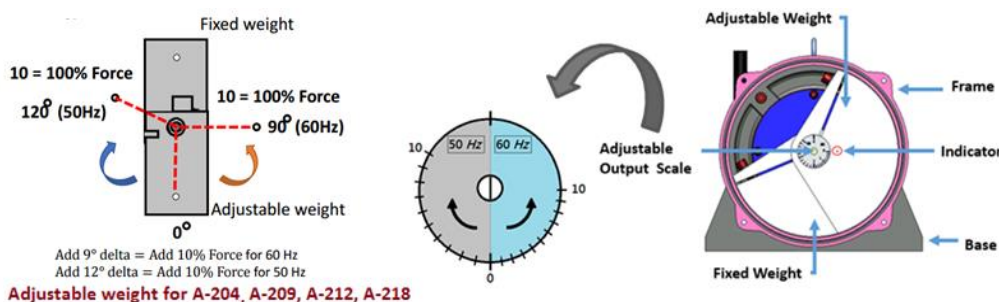
APPLICATIONS

- ✧ Preventing clotting
- ✧ Feeder
- ✧ Vibrating sifters
- ✧ Cooling conveyors
- ✧ Material conveyors
- ✧ Mold release machines
- ✧ Vibration filters

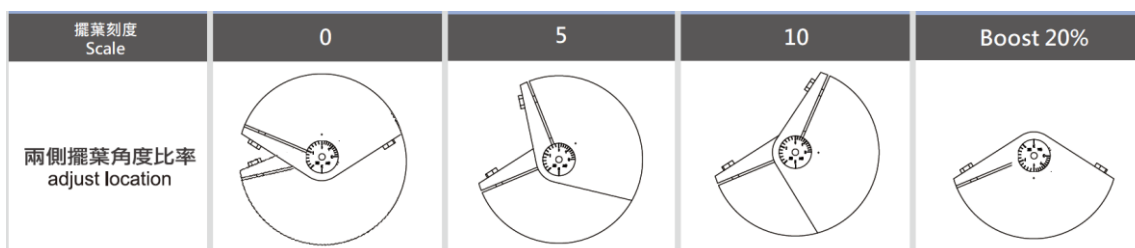
Vibrating Motor Structure



Adjustable weights are attached at both sides and the ends of the shaft. The fixed weight and one adjustable weight are varied. To adjust the vibrating force of CHUAN SHENG Vibrators is simple and easy by following steps.



1. Take out the both side vibration motor cover
2. Loosen the locking bolt which is used to secure the adjustable weight
3. Select the frequency (50 or 60 Hz)
4. Align the indicator with the required output scale of the scale plate (Each interval is 10 % of output power, the range is 0 ~ 100%)



※ Boost mode will reduce the bearing life time and reliability, do not run in long time operation

Nameplate & Model Designation

Product No: CSV Motor (CHUAN SHENG Vibration Motor)



Model No:

A-2 75

Pole

Horse
Power

No	Pole
A-2	2
B-4	4
C-6	6

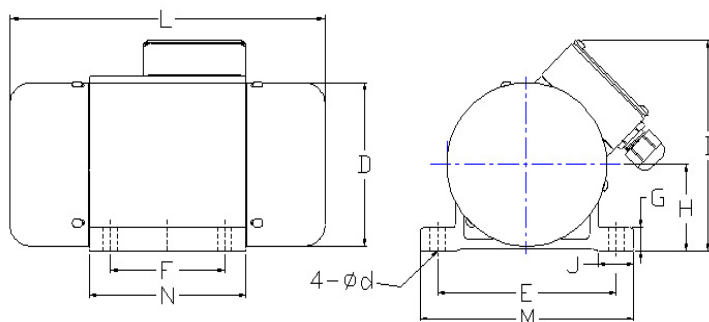
No.	HP
04	1/16
09	1/8
12	1/6
18	1/4
25	1/3
37	1/2
75	1
110	1(1/2)
150	2
220	3
370	5
550	7(1/2)

Product Drawings and Specifications

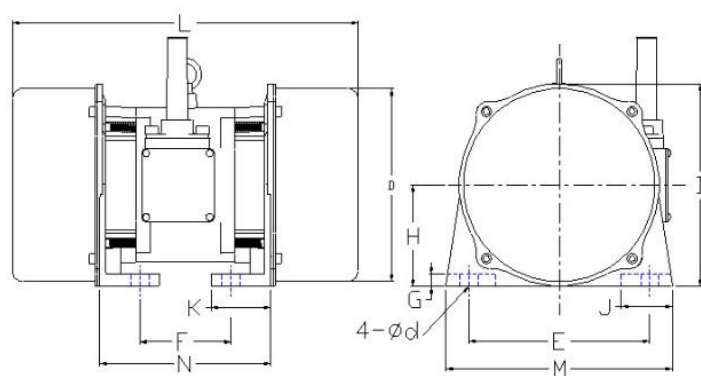
Drawings

※Paint color customize available

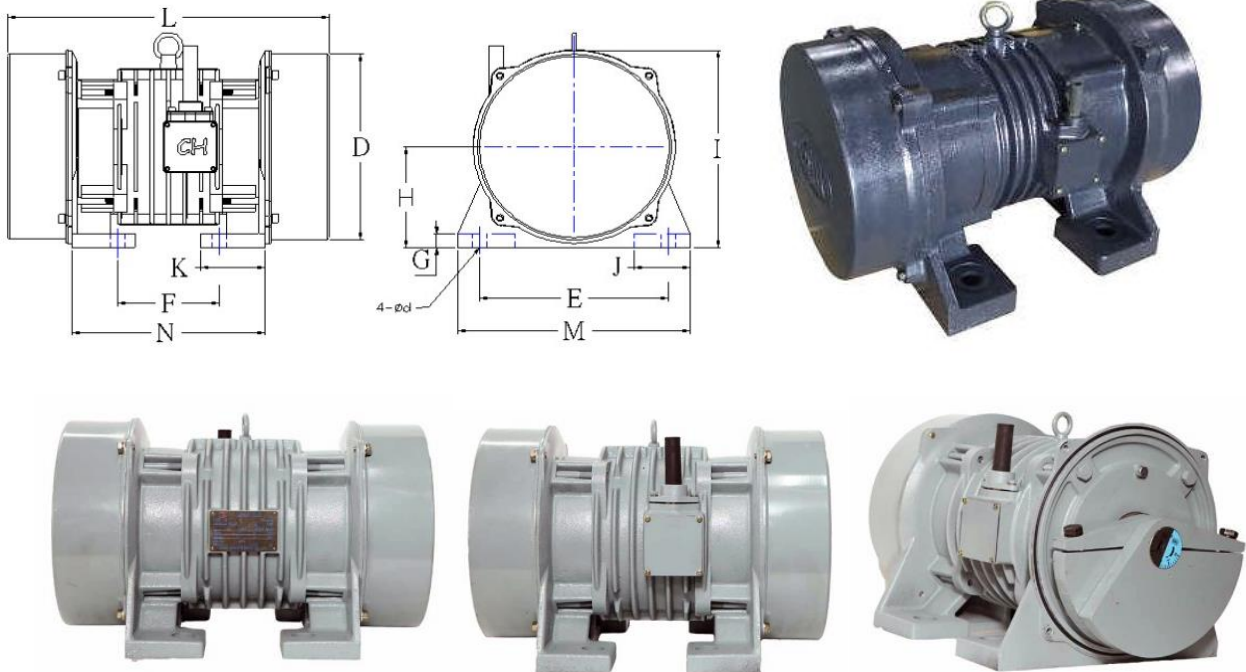
Housing A (Aluminum extrusion)



Housing B (Casting iron)



Housing C (Casting iron)



2 Pole Speed Vibrator

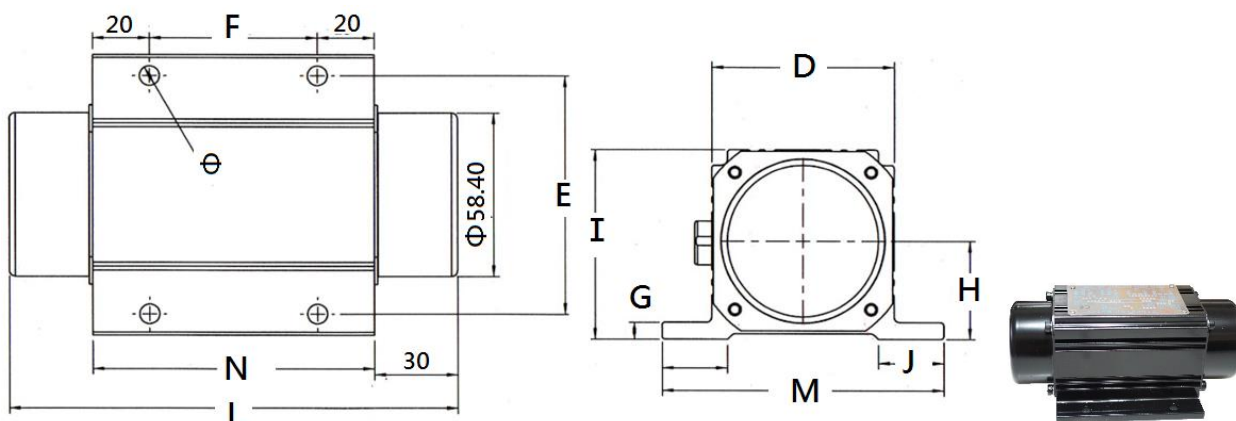
Theoretical speed in 50 Hz: 3000 rpm
Theoretical speed in 60 Hz: 3600 rpm

2 Pole Dimensions

Models	Power		Force	Outer dimensions (mm)												Base	Housing	Weight
	HP	W		D	E	F	G	H	I	J	K	L	M	N	Φd	Screw		Kg
A-204	1/16	45	50	111	125	50	16	59	150	25	—	197	150	85	11	M10	A	5.8
A-209	1/8	90	100	111	125	75	16	59	150	25	—	222	150	110	11	M10	A	7
A-212	1/6	120	180	111	125	75	16	59	150	25	—	222	150	110	11	M10	A	7.5
A-218	1/4	180	260	111	125	90	16	59	150	25	—	253	150	140	11	M10	A	9
A-225	1/3	250	360	190	180	90	13	100	200	50	57	325	230	170	18	M16	B	23
A-237	1/2	370	600	190	180	90	13	100	200	50	57	325	230	170	18	M16	B	25
A-255	3/4	550	750	190	180	90	13	100	200	50	57	325	230	170	18	M16	B	26
A-275	1	750	1000	222	220	140	16	120	238	65	60	340	275	210	20	M19	C	48
A-2150	2	1500	2000	267	260	140	20	145	285	80	90	445	320	267	28	M25	C	80

※ 1. A-204, A-209, A-212 have single phase (1 Φ) 110~120, 220~240 and three phase (3 Φ) options · A-218 have single phase (1 Φ) 220~240 and three Phase (3 Φ); others are only three Phase (3 Φ)

2 Pole Single Phase (1Φ) Micro Vibrator motor



Models	Power		Force	Outer dimensions (mm)												Base	Housing	Weight
	HP	W	Kg	D	E	F	G	H	I	J	K	L	M	N	Φd	Screw		Kg
A-202	1/32	20	30	58	85	60	6	35	67.5	23	—	160	100	100	7	M6	M	2.3

※ 1. A-202 only single phase (1 Φ) with 110V;120V;220V;240V

4 Pole Speed Vibrator

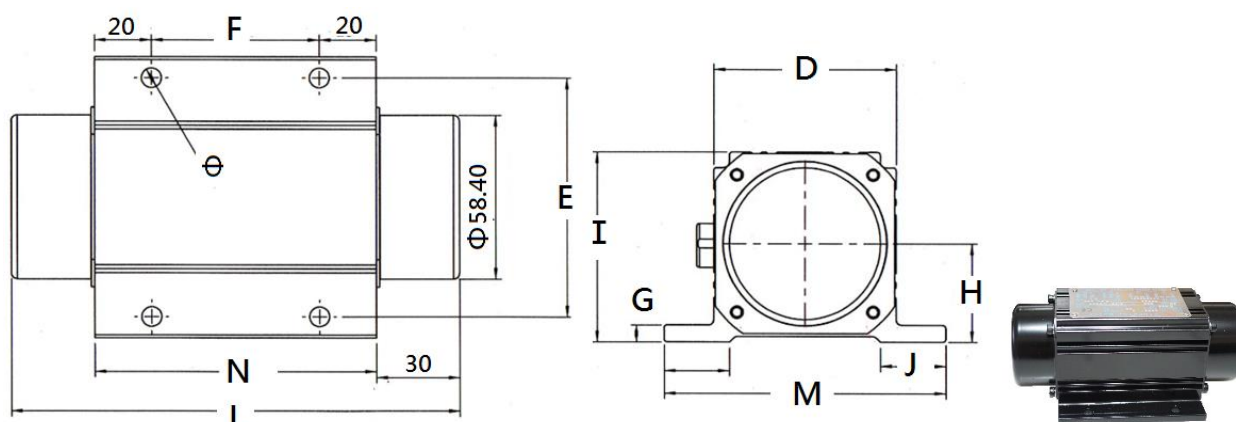
Theoretical speed in 50 Hz: 1500 rpm
Theoretical speed in 60 Hz: 1800 rpm

4 Pole Dimensions

[illegible]

- ※ 1. B-404, B-409 have single phase (1 Φ) 110~120,220~240 and three phase (3 Φ) options; B-412 A-218 have single phase (1 Φ) 220~240 and three Phase (3 Φ) ; others are only three Phase (3 Φ)
- ※ 2. Red word means customize

4 Pole Single Phase (1Φ) Micro Vibrator motor



Models	Power		Force	Outer dimensions (mm)												Base	Housing	Weight
	HP	W		D	E	F	G	H	I	J	K	L	M	N	Φd	Screw		Kg
B-402	1/32	20	20	58	85	60	6	35	67.5	23	—	160	100	100	7	M6	M	2.3

- ※ 1. B-402 only single phase (1 Φ) with 110V;120V;220V;240V

6 Pole Speed Vibrator

Theoretical speed in 50 Hz: 1000 rpm
Theoretical speed in 60 Hz: 1200 rpm

6 Pole Dimensions

Models	Power		Force	Outer dimensions (mm)												Base	Housing	Weight
	HP	W		D	E	F	G	H	I	J	K	L	M	N	Φd	Screw		Kg
C-618	1/4	180	300	190	180	90	13	100	200	50	57	325	230	170	18	M16	B	31
C-637	1/2	370	800	222	220	140	16	120	238	65	60	385	275	210	20	M19	C	55
C-675	1	750	1500	267	260	140	20	145	285	80	90	445	320	267	28	M25	C	96
C-6110	1(1/2)	1100	1800	267	260	140	20	145	285	80	90	445	320	267	28	M25	C	106
C-6150	2	1500	2500	295	310	170	25	160	310	87	—	590	380	240	32	M30	C	152
C-6220	3	2200	3800	360	360	210	30	185	365	110	105	620	450	339	35	M33	C	
C-6370	5	3700	5000	410	380	290	45	220	425	145	135	687	507	441	38	M39	C	294
C-6550	7(1/2)	5500																
C-6750	10	7500																

- ※ 1. Red word means customize
- ※ 2. 8 poles customize available

Mechanical vibration applications

2 Pole

- Preventing coagulation in materials storage bins and feeder conveyance pipes used by manufacturers.
- Deal with powder and other tiny granular material in containers to load maximize capacity.
- Dislodging dust and partialities into collectors to control air pollution.
- Non-destructive vibration testing machines used in the computer and electronics industries.
- Vibrating topple over concrete forms.
- De-bubbling epoxy resin products such as PCBs. etc.

4 Pole

- ✧ Preventing pipe clogging on small size materials storage tanks.
- ✧ Deal with powder and other tiny granular material in containers.
- ✧ Dual motor resonance-type bilge machines.
- ✧ Materials conveyance and sandblasters in casting plants.
- ✧ Vibrating liquid filtration machines for sludge.
- ✧ Vibration-type electrostatic filters.
- ✧ PVC granule sifting machines having a processing capacity.
- ✧ Medium to small size conveyor and sifting machines.

6 Pole

- ✧ Preventing pipe clogging on medium and small size materials storage tanks.
- ✧ Vertical vibrating coolers and conveyors for grainy materials.
- ✧ Water or air type vibrating coolers.
- ✧ Mold release machines, recirculating sandblasters, and cooling sifters in casting plants.
- ✧ Vibrating sifters for raw material such as food or chemical (plastic, PCX granules).
- ✧ Conveyor sifter machines used in mineral extraction plants and mines.
- ✧ Medium distance conveyors and sifting machines.

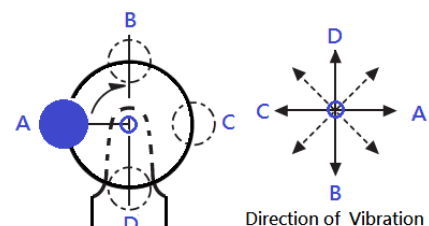
8 Pole

- ✧ Large scale packing conveyor machines.
- ✧ Vibrating sifters and vertical coolers for wet chemical ingredients.
- ✧ Heated glass waste water cooling conveyors.
- ✧ Food and chemical raw materials dehydrating and cooling conveyors.
- ✧ Food cleaning, drying and sifting machines.
- ✧ Earthquake simulation machines (power adjustable).
- ✧ Long-distance material conveyors (six meters or less).
- ✧ Low-speed, long-distance conveyors (utilized for electroplating, casting, etc.)
- ✧ Vibration testing machines for large items

Vibrating Motion

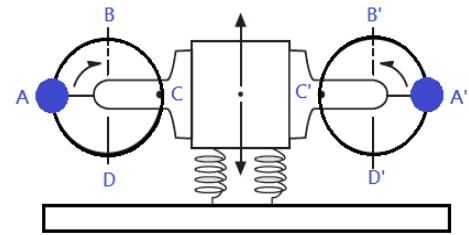
➤ Circulation- Using one CSV motor

When one CSV Motor is used to generate vibration, rotation occurs while the position of the unbalanced weight changes instantaneously in the sequence of A, B, C and D. This means that the vibration direction also changes in the same way to generate circular vibration. Examples of the uses of circulation vibration include the prevention of blockages in hoppers as well as applications in vibration milling machines and barrel finishing machines

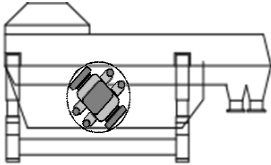

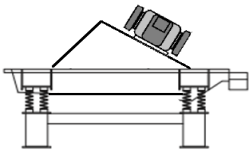

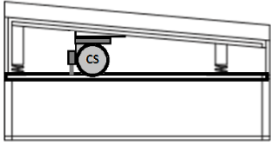
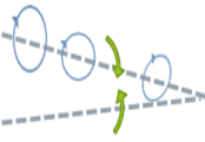
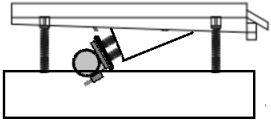

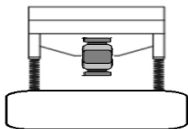



➤ Linearly- Using a pair (two) CSV motors

Pair of two the same model CSV motors configure to the same vibrating force are supported by soft springs as shown in the figure on the right and their vibrator shafts are installed in parallel. These CSV motor are run concurrently in mutually opposing directions. In this structure, a synchronous torque is produced and, even without transmission through gears or other mechanisms, the two vibrators start a synchronous operation in which the forces in the horizontal direction cancel each other out while only vertical vibration is generated. This principle is used for forced packers, vibrating feeders, conveyors, screens, and many other kinds of machines that apply vibration.



CSV Motor Motion and Machine Application Reference

Mechanical Type	Vibration Direction	Description of Application Structure
		The two vibration motors are installed on the left and right side of straight-line vibration in the same direction. Due to varying the installation angles of the vibration motors, different projection angles can be achieved the operating requirements of the machine platform
		The two vibration motors are installed on the upper end of the mechanism. Inside is a multi-layer sieve net structure that functions at better efficiency according to granularity specifications
		One vibration motor is installed on the lower end of the mechanism. The installation angle enables the production of circular movement for sifting and conveyance functions, wherein the different functions are based on the adjusted angle
		This is most suitable for use in the food and chemical industries The vibrations produced by the vibration motor depends on the particular model installed frequency variance is utilized to change the outputted vibration intensity and amplitude.
		Utilizing a vertical-type vibration motor enables the sieving to produce a three-cycle movement that is quite effective for sifting powder of fine and ultra-fine granularity and furthermore, without clogging the sieve net: can also be utilized in wet-type sieve sifters

Vibration Amplitude and Strength Formula

Vibration Frequency $f = \frac{R_{[rpm]}}{60_{[s]}}$ in Hz

Angle speed $\omega = 2\pi f$ in 1/s

Vibration Force = Centripetal Force $F = mr\omega^2$ in Newtown and m is mass weight in Kg

Amplitude is $r \rightarrow r = \frac{F}{m\omega^2}$ in meter (1 meter is 1000 mm)

Vibration Strength $T = \frac{\text{Vibration Force}}{\text{Gravity Force}} = \frac{F}{m \times g}$ where g is gravity acceleration

- ※ All calculation values are theoretical values and not fit real situation values. The real values are affected by real environmental conditions, so above formula calculation just for your references.
- ※ During calculation process, please confirm your units are correct (Kg, N, Pound, cm, inch, meter etc.), different format units will cause different values and do not mix together.

Mounting Instructions Checklist

- ☐ Determine vibrator placement on equipment.
- ☐ Determine length of channel iron and style of mounting plate.
- ☐ Attach vibrator to mounting plate. Check the mounting plate for warping & Shim if necessary.
- ☐ Install safety chain or cable.
- ☐ Take a voltage reading while vibrator is running.
- ☐ Take an amperage reading while vibrator is running.

Instruction Reminders & Suggestions

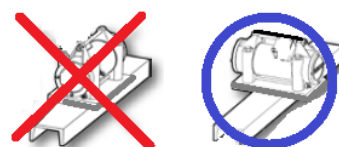
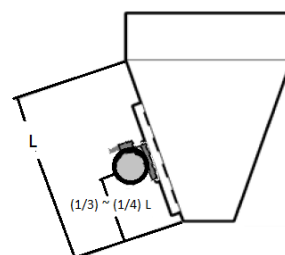
➤ Vibration Motor placement

For coarse materials: mount vibrator 1/3 of the distance from the discharge opening to the top of the sloped portion of the bin.

For fine materials: mount vibrator 1/4 of the distance from the discharge to the top of the sloped portion of the bin.

➤ Mount on iron/steel channel

Overall length of vibration motor unit should be perpendicular to length of channel, otherwise it may cause flexing & the vibrator may overload or standard burn out.



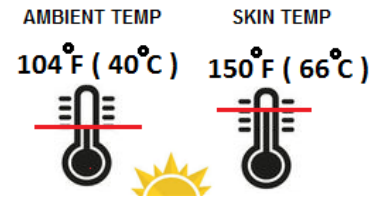
➤ Restraint

Always Install Safety Cable or Chain: Mount one end to the vibrator and the other to the hopper or bin above the vibrator. Do Not Attach To the Mounting Plate



➤ Operation temperature

If the ambient temperature of the area exceeds 104°F (40°C) OR if the skin temperature of the application exceeds 150°F (66°C), Please check situation of vibration motor, over temperature may reduce the life-time of bearing



General Maintenance

Under normal usage conditions, the suggestion check and maintenance should be conducted once every 3,000 hours or 4.5 months of operation especially in dust operation environment. Please follow “Bearing maintenance” and “Mounting instructions checklist” to check.

Bearing Maintenance

➤ For Horsepower 2HP and up models (2 HP included)

CSV recommends the use of Shell Oil's Alvania Grease #3 as a bearing lubricant. This is a special lubricant designed for motor vibrator bearings and similar applications where shock is involved. Alternate greases are Shell's #2 and Mobile Oil's Mobilux #2 or #3. Suggestion time is 1500 hours but do not over 2000 hours or 3 months

➤ For Horsepower below 2HP models

The bearings are sealed and factory lubricated for the life of the bearing. When the bearing life expires on these models, simply replace the bearing entirely. If you need suggestion bearing, please contact CSV

Fuse/Overload Protection

All Model CSV motors require a proper protective overload circuit. If the CSV motor is not operated with the proper overload protection (heaters), all factory warranties are null and void.

Troubleshooting Checklist

➤ My material still in not moving

1. Did you put your vibrator in the right location?
2. Did you mount your vibrator properly?
3. Do you have the right vibrator for the job?
4. Does it provide enough force?
5. Is it the right frequency?
6. Is it set to the maximum force?

➤ The vibration motor do not start

1. Check power supply to unit. Are you getting the proper voltage?
2. Check for blown fuses in fuse/overload protection circuit
3. Are you running the vibrator continuously? Check bearing condition and doing maintenance.
4. If fuse/ protective overload circuit is in working status and power is correct provides, please check current status

General Precautions

1. Observe the safety regulations that are applicable to the equipment that will be used with the CSV motor and the location where the CSV motor will be installed. (These regulations include the safety, health and occupational regulations, the technical standards for electrical equipment, the interior wiring regulations, the explosion protection guidelines for factories, Building Standards Law and so on.)
2. Select the CSV motor that is applicable to the intended application and usage environment.
3. In food processing equipment or other equipment that must be protected from oil, install oil pans or other forms of protection against oil leakage resulting from equipment failure or problems caused by the equipment nearing the end of its service life.
4. Before using the CSV motor, read the whole related documentations and regulations carefully to ensure correct usage.

About Us

CHUAN SHENG ELECTRIC CO., LTD. established in 2009 and located in Great Taichung Industry Area, Taiwan, where has convenient transportation access. We are professional manufacturer, supplier and exporter in motor related area. Our more than 30 years experienced R&D team with capable manufacture produce high quality and cost effective motor with CE certification as well as customize vibration motor.



Contact Us

I AND I INTERNATIONAL CO., LTD.
CHUAN SHENG ELECTRIC CO., LTD.

- › TEL: +886-4-2278-0677
- › FAX: +886-4-2275-3287
- › E-mail: iniint.sales@gmail.com
- › Website: www.chuan-sheng.com.tw
- › Website: www.iniint.com
- › ADD: No.6, Aly. 3, Ln. 130, Xizhou Rd., Taiping Dist., Taichung City 411, Taiwan

