



HANDY-VIBRATOR SERIES WEDGE EXTERNAL VIBRATOR OPERATION MANUAL



EPS

EXEN CORPORATION

☆ SAFETY PRECAUTIONS

- ☆ This product is for vibrating ready-mixed concrete from the outside of the formworks.
Do not use the vibrator for any other purpose.
- ☆ Be sure to read and understand this operation manual carefully before using the product so that it can be operated safely and efficiently. Improper machine use may result in injury or machine failure. Keep this manual for further reference.
- ☆ The following symbols are DANGER, WARNING, and CAUTION instruction for the use of this product so that the product will not cause harm or damage to users or others.



DANGER

【DANGER】indicates an imminent dangerous situation which may lead to death or serious injury.



WARNING

【WARNING】refers to a hazard that may cause death or serious injury.



CAUTION

【CAUTION】refers to a hazard that may cause minor or moderate injury.



WARNING

(To prevent death)

-  Be sure to use power supply equipment that installs an earth leakage circuit breaker although this product has double insulation structure. Electric shock may occur if using the power supply without an earth leakage circuit breaker.
-  Do not use the vibrator where rain or water may get into the motor.
If rain or water gets into the motor, the user may suffer an electric shock.



CAUTION

(To prevent injury or damages)

-  The business operator making use of this concrete vibrator has to manage working hours and must make efforts to prevent problems due to vibration for workers.
Refer to the "Vibration total value" section for the details about the vibration strength of the vibrator.
Observe the relevant legal requirements and guidelines of the country where the vibrator is used.
-  When operating, make sure to hold the part where the vibration of this machine is weak. If you hold a portion with strong vibration and use it for a long time (30 minutes or more), it may cause vibration obstacle.
-  Use the vibrator only with the voltage specified on the nameplate.
Supplying a higher voltage will burn the motor. If the motor burns, the insulating parts may be damaged and the user may suffer an electric shock.
-  Do not swing this product around by holding the motor or cable. There is a possibility that this could cause injury or damages to objects nearby.
-  The vibration part becomes hot during operation. After use, be careful not to touch it. There is a risk of being burned.



○ INTRODUCTION

Thank you for purchasing this wedge handy external vibrator.

Be sure to read this operation manual before use.

Be sure to read and understand this operation manual carefully before using the product until it can be operated safely and efficiently. Handle and maintain the product appropriately for safety operation. Keep this manual in a safe place.

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○ SAFETY



(For personal protection during operation)

- Put on a safety helmet, anti-vibration gloves, safety boots, hearing protection, face protection (safety glasses and mask), and safety harness before using the vibrator.



Safety Helmet



Anti-vibration gloves



Safety Boots



Hearing protection



Safety face protector



Safety harness

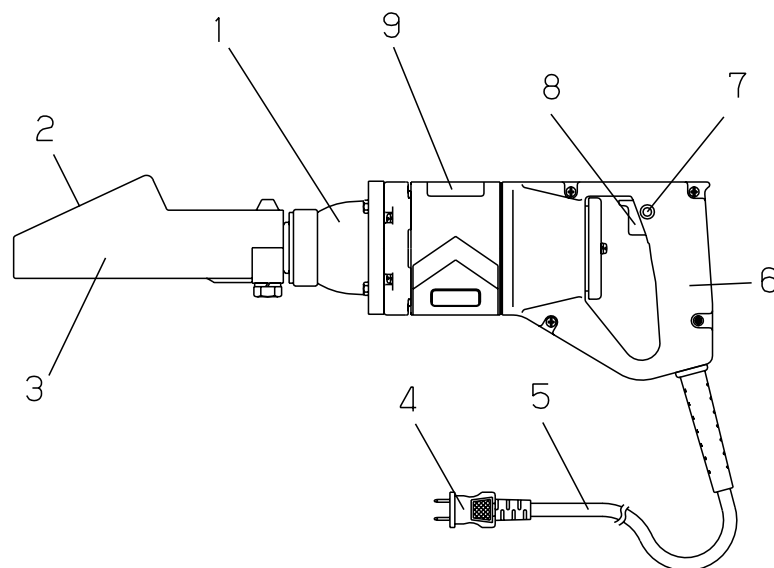
- When the work area is hard to walk in, ensure there is a scaffold by laying scaffold planks.
- If the product stops suddenly, turn the power switch OFF and remove the plug from the power supply equipment. Otherwise, the motor may burn or electric shock may occur.
- If the formwork is subjected to vibration, the concrete will splatter.
Use face protection (safety glasses and mask) to protect your eyes and mouth. Please wear hearing protection when working in noisy places.



(For longer service life)

- In order that the plug terminals always make good contact, remove any dirt or rust from them before inserting the plug into the outlet.
- When operating or moving the vibrator, do not pull or hang the cable. It may breakage the cable and cause malfunction.
- Do not place or drop any heavy objects on the cable. It may breakage the cable and cause a malfunction.
- If the vibrator is used at a location far from the power-supply equipment, use an extension cable. The maximum length of the extension cable should be 30m when a 2-mm² cable is used.

○ PART OF NAMES



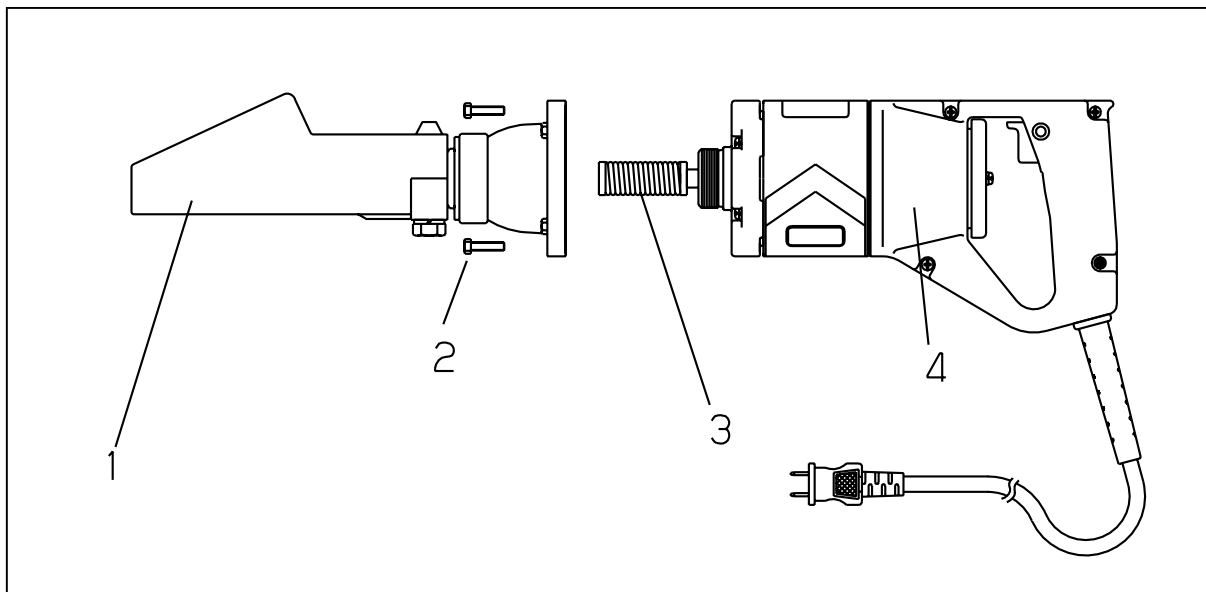
1	Rubber flange	6	Handle cover
2	Vibrating surface	7	Lock button
3	Wedge	8	Switch
4	Plug	9	NPE
5	Cable	—	—

○ HOW TO CONNECT WEDGE VIBRATOR



When connecting the motor to the vibrator assembly, turn off the motor switch and unplug it from the power supply.

1. Screw the spring assembly onto the motor.
2. After inserting the hexagon joint of the vibrator assembly into the hexagonal hole of the spring assembly, securely fix the rubber flange to the motor with bolts M5 (4 pcs.).



- ▶ 1. Vibrator assembly 2. Bolt M5X18W 3. Spring assembly 4. Motor

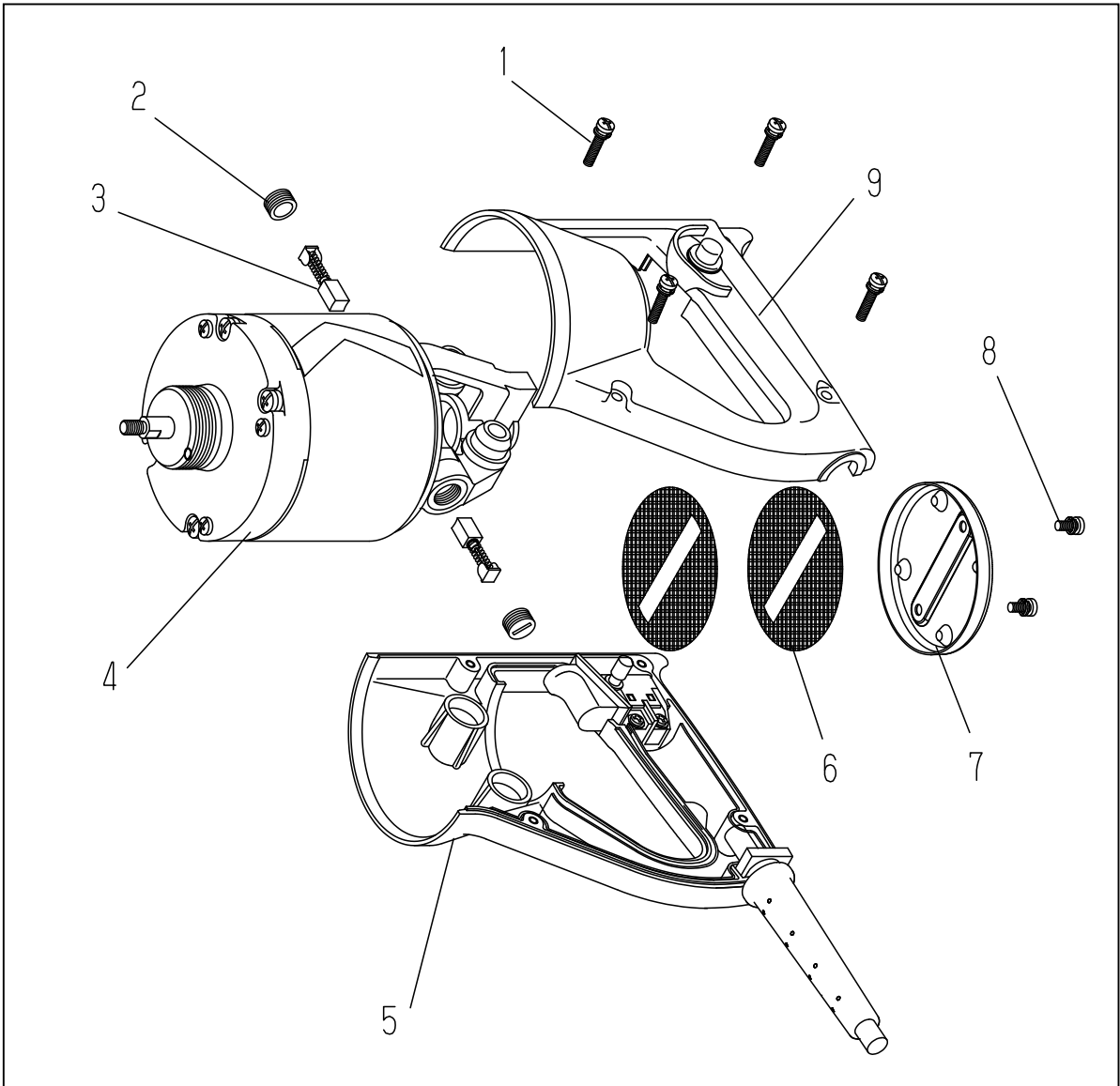
○ OPERATIONS

1. Make sure that the motor switch is OFF.
2. Make sure that the motor and vibrator assembly are securely connected.
3. Insert the motor plug into the power outlet on the power supply equipment.
4. Hold the motor and hang the vibrator.
5. Turn ON the switch of the motor.
 - ※ Push switch lock button when use continuously.
6. Insert the vibrator head into the gap between the formwork and the scaffold tube with the vibrating surface facing the formwork.
 - ※ After inserting the vibrator head between the formwork and the scaffold tube, do not use it in such a way as to pry it. Also, if you let go of your hand, the motor may lift or tilt, and the vibration will not be transmitted to the formwork effectively, so be sure to keep your hand on the motor.
7. After work has been completed turn the motor switch OFF.
8. Remove the plug from power supply equipment.

○ REPLACING THE BRUSH

⚠ Before replacing the brushes, be sure to turn OFF the power switch of the motor and unplug the power cable from the power supply.

1. Remove the two M4 screws that secure the air intake cover, and remove the Air intake cover and filter.
2. Remove the four M4 screws of the handle cover, and remove the switch handle.
3. Remove brush holder cap.
4. Pull the brush out of the brush holder and replace the brush.
※ When change armature, be sure to remove brush to avoid the brush damage.



- ▶ 1. Screw 2. Brush holder cap 3. Brush 4. Motor 5. Switch handle cover 6. Filter
7. Air intake cover 8. Screw 9. Handle cover

○ CLEANING AND TRANSPORTATION AFTER USE

- After use, should be cleaned well.
 - 1. Clean the concrete off the vibrating part before it becomes hard.
 - 2. Remove dust and concrete attached to the motor and/or cable completely.
 - 3. For transportation, hold the motor or the vibrating part and carry the vibrator. Do not pull the cable.

○ INSPECTION

- Before carrying the vibrator to the worksite and also after use, be sure to check the followings. It will greatly help prevent problems during operation.
 - 1. Is there any damage or wear on the vibrator?
 - 2. Is there any looseness in the fixing bolts of the vibration portion?
 - 3. Is there any wear or cracks in the cable?
 - 4. Is there any dirt or rust on the terminals of the plug?
 - 5. Can the switch be turn ON and OFF properly?
(Switch is always off at the time of shipment.)
 - 6. Is the switch lock function normal? (Lock/Release)
 - 7. Is the insulation resistance of the motor normal? (DC 500 V, 10 MΩ or more)
 - 8. Is the operation sound normal?

○ REPLACEMENT PERIOD FOR CONSUMABLES

○ Consumables should be replaced periodically according to the table below.

Consumables	Replacement period. (visual and auditory check)	Replacement frequency (in: hours)
Wedge	Determined wear status (visual)	Upon found
Lubricating oil	Determine from noise during operation (auditory)	100 -200
Bearing	Determine from noise during operation (auditory)	100 -300
Brush	Determined wear status (visual)	200

○ TROUBLESHOOTING

Operation	Phenomenon	Cause	Solution
Vibrator operates	Noise (metallic or other noise)	Bearing abnormality (Rough, Worn)	Replace the bearings
		Insufficient grease	Apply grease
	Weak vibration	Field coil abnormality	Replace the field coil
		Armature abnormality	Replace the armature
	No vibration	Damage to spring assembly	Replacement of spring assembly
Vibrator does not start	Humming noise	Bearing abnormality (Locking/Broken)	Replace the bearings
		Field coil abnormality	Replace the field coil
		Armature abnormality	Replace the armature
	No sound	Field coil abnormality	Replace the field coil
		Armature abnormality	Replace the armature
		Broken cable	Repair or replace the cable
		Worn brush	Replace the brush

○ SPECIFICATIONS

■ Specification

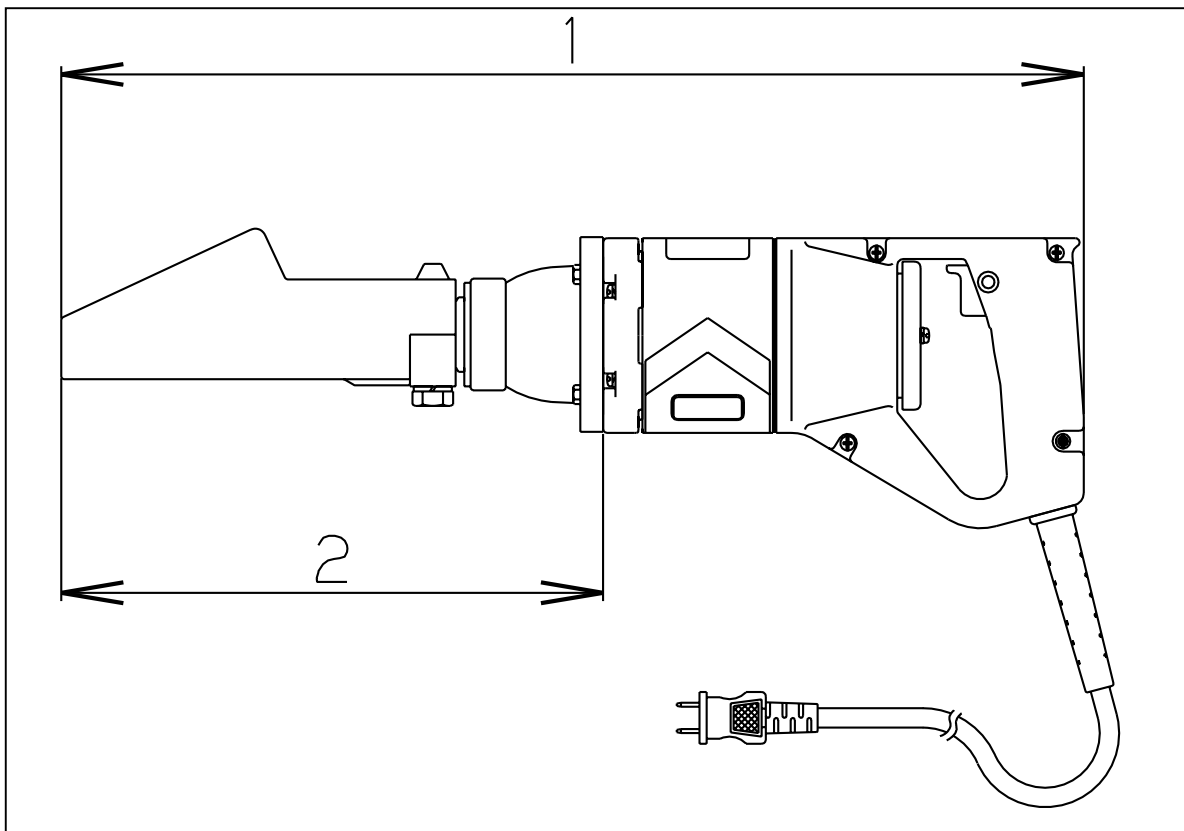
Model	Output (W)	Voltage (V)	Current (A)	Frequency (Hz)	Total length (mm)	Head length (Diam. × Length) (mm)	Mass (kg)
EPS	280	100	5	250~300	504	80×191	5.3

■ Vibration total value

Model	Vibration total value (m/s ²)
EPS	Less than 2.5

※Vibration total value is a value which used the measuring instrument based on JIS B7761-1, and was measured by the method based on JIS B7761-2.

■ Dimension drawing



▶ 1.Total length 2.Vibrator assembly

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