

# Operating and Maintenance Manual



## IV

0241501  
0242501  
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## IV-D

0242601  
0243601  
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## IV-S

0242701  
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0244701



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## **Introduction**

This operating and maintenance manual is designed to facilitate familiarization with your internal concrete vibrator, and enable you to maintain the internal concrete vibrator and use it in accordance with the proper application possibilities.

When complying with the instructions in the operating and maintenance manual you help avoid hazards, reduce repair and downtime costs, and increase the reliability and service life of your internal concrete vibrator.

This operating and maintenance manual must always be available at the implementation site of the internal concrete vibrator.

If necessary, you can obtain additional information from your authorized WEBER MT dealer, or you can obtain information from one of the contact addresses on the last page.

The valid conformity declaration is enclosed with every machine delivery.

## **Safety and operating instructions**

### **General**

All safety instructions must be read and complied with, as non-compliance will result in

- danger to life and limb of the user,
- impairments to the internal concrete vibrator or other property.

In addition to the operating manual, the accident-prevention regulations in the country where the appliance is used must be complied with.

### **Intended use**

Internal concrete vibrators should only be used if in technically faultless condition, as intended, in a safety-conscious and hazard-conscious manner, and in compliance with the instructions in the operating manual. Malfunctions that impair safety must be eliminated without delay.

The IV internal concrete vibrator is designed exclusively for compacting concrete. Any other use of the converter is considered to be improper use, for which the owner shall be exclusively responsible. All liability is rejected if damage occurs due to non-compliance with this provision. This risk is borne solely by the user.


### **Easily foreseeable misuse**

Any use for which the machine is not intended.

### **Operation**

Internal concrete vibrators are only permitted to be operated by suitable persons of or above the age of 18. Operators must be instructed by the owner or the owner's assigned personnel on how to guide the internal concrete vibrator.

If instructions that affect safety are given by third parties, then the operator must be authorized to reject these instructions.

 Unauthorized persons are forbidden from being in the area of the internal concrete vibrator during the compacting process.

## Electrical voltage safety

It is prohibited to switch the internal concrete vibrator on or off by removing or inserting the connector plug into or from the power outlet.

The connecting cable of the internal concrete vibrator must not be used to pull the plug out of the power outlet.

Protect electric cables against heat, oil and sharp edges.

Connect IV internal concrete vibrators only to the voltage supply specified on the rating plate.

Do not operate IV internal concrete vibrators without a grounding conductor. It must be ensured that the power distribution on site is equipped with a ground fault circuit interrupter.

When taking a break, shut off the converter and set it down in such a way that it cannot roll away or fall down inadvertently.



If operating outside of the cooling medium concrete, internal concrete vibrators must be shut down immediately.



Operating the internal concrete vibrator in an explosive atmosphere is prohibited.

## Behavior if there are defects

If you notice defects on the safety devices or other defects that impair the safe operation of the device, notify your supervisor without delay and suspend operation immediately.

We do not accept any liability in case of non-compliance.

## Protective equipment

This machine is capable of exceeding the permissible sound level of 80 dB(A). The owner might also face additional dangers when using the machine. Precautionary action must, therefore, be taken.

Protective equipment includes:



Hearing protection



Hard hat



Safety shoes



Protective gloves

## Operation

Prior to starting work the owner of the internal concrete vibrator must be familiar with the work environment. The working environment includes obstacles in the work and traffic area, the bearing capacity of the ground, as well as the necessary safeguarding of the construction site.

The internal concrete vibrator should only be operated when the protective fixtures are mounted. The protective fixtures must all be in functional condition.

At least once per shift the internal concrete vibrator must be checked for apparent defects. If there are apparent defects, operation of the internal concrete vibrator must be stopped immediately and the responsible person must be informed. Prior to restarting, malfunctions of the internal concrete vibrator that have occurred must be corrected.

## Maintenance



The power plug of the internal concrete vibrator must be unplugged prior to any repair work.



Repair work on electrical components may only be performed by a skilled worker.



When the repair work is complete, all protective fixtures must be reattached.



Discharged operating fluids must be collected and stored in suitable containers. Discharged fluids must be appropriately disposed of in accordance with environmental protection regulations.

## Changes and conversions

For safety reasons, do not make any unauthorized changes or conversions to the internal concrete vibrator. The manufacturer expressly excludes any liability for damage that occurs due to changes or conversions to the internal concrete vibrator. To ensure safe and reliable operation, only use original WEBER MT spare parts.

## Inspection

German social accident insurance (DGUV) regulations mandate that DGUV directive 3 be applied during the testing of electrical installations and equipment.

Owing to the specific type of protective device, which corresponds to a PRSD-S, the insulation resistance of < 1 M Ohm (0.25) applies.

Internal concrete vibrators must be inspected in accordance with appropriate implementation conditions and operating conditions, as needed. However, an inspection to ensure operationally safe status must be performed by an expert at least once every 6 months. The results of the inspection must be recorded in writing and must be stored at least until the next inspection.

## Cleaning work

Cleaning tasks should only be executed in areas that are suitable and have been approved for this purpose (oil separator amongst others).

## Disposal

All operating fluids and auxiliary materials must be disposed of in an environmentally-compatible manner in accordance with country-specific regulations.

**Important information for operating and maintenance personnel is marked by pictograms.**



Warning against irritants or materials hazardous to health



Warning against a hazardous place



Warning against a suspended load



Wear ear protection



General regulation



Environmental protection



Hard hat



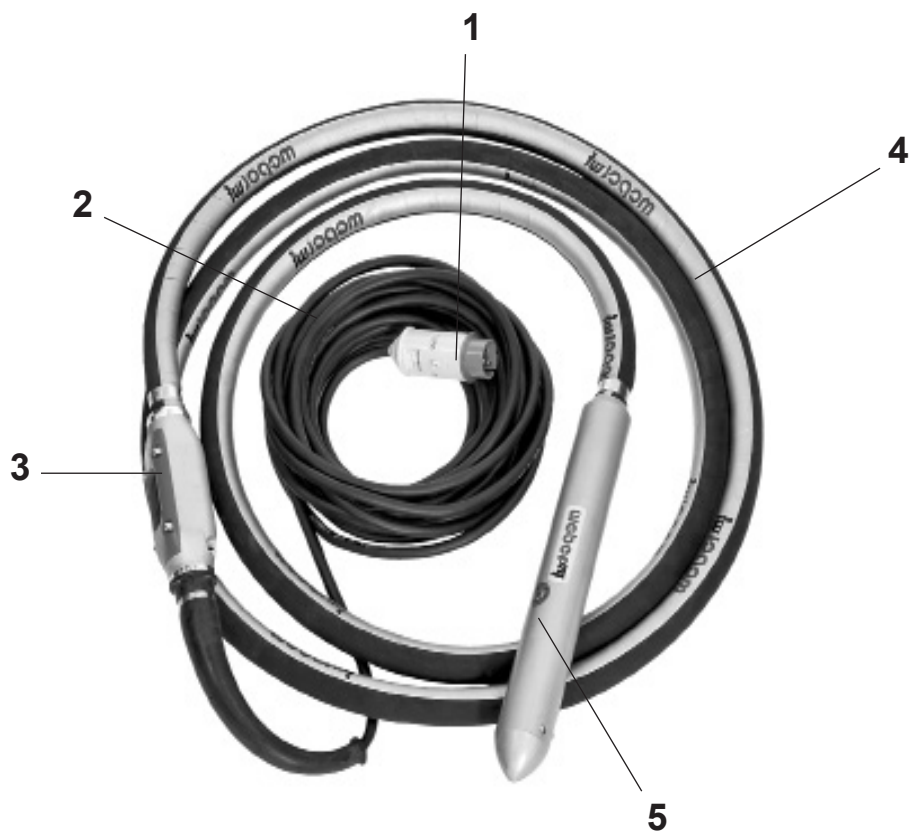
Safety shoes



Protective gloves



## Graphic presentation



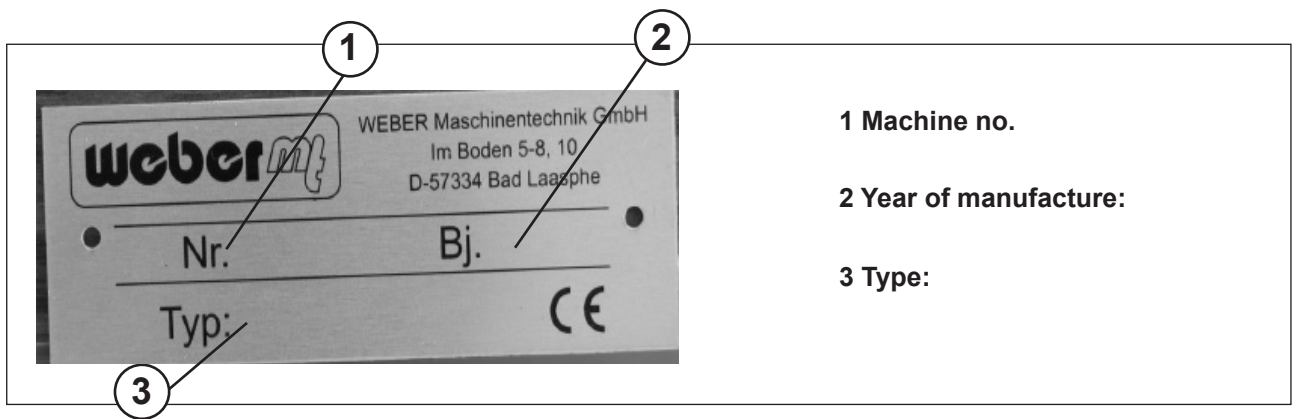
## Overall view IV

- 1 Plug
- 2 Connecting cable
- 3 Switch
- 4 Protective tube
- 5 Internal concrete vibrator

## Technical data

	<b>IV 31</b>	<b>IV 40</b>	<b>IV 50</b>	<b>IV 58</b>	<b>IV 68</b>	<b>IV 80</b>	<b>IV 40 D</b>	<b>IV 50 D</b>	<b>IV 58 D</b>	<b>IV 40 S</b>	<b>IV 50 S</b>	<b>IV 58 S</b>
<b>Weight</b>												
Operating weight CECE (in kg)	10	11	14	15.5	25	32	8	10	11	12	16	17
Effective diameter approx. mm	300	400	500	600	700	800	400	500	600	400	500	600
<b>Dimensions</b>												
Vibrator diameter mm	31	40	50	58	68	80	40	50	58	40	50	58
Vibrator length mm	330	330	370	420	450	480	330	370	420	330	370	420
Connecting cable (m)	15	15	15	15	15	10	15	15	15	15	15	15
<b>Connection vibrator section</b>												
Input voltage (V)	48	48	48	48	48	48	48	48	48	220	220	220
Rated current (A)	10	8	15	16	22	26	8	15	16	1.8	2.8	3
Frequency (Hz)	200	200	200	200	200	200	200	200	200	200	200	200
Rated power (W)	750	550	850	1050	1450	1700	550	850	1050	650	850	1050
Protective tube length (mm)	5000	5000	5000	5000	5000	5000	800	800	800	5000	5000	5000
<b>Degree of protection</b>	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68	IP 68

	<b>IV 31</b>	<b>IV 40</b>	<b>IV 50</b>	<b>IV 58</b>	<b>IV 68</b>	<b>IV 80</b>	<b>IV 40D</b>	<b>IV 50 D</b>	<b>IV 58 D</b>	<b>IV 40D</b>	<b>IV 50 S</b>	<b>IV 58S</b>
<b>Noise and vibration values</b>												
Sound pressure level LPA (at the operating station in accordance with 2000/14/EC, in dB(A))	72	72	75	81	85	85	72	75	81	72	75	81
Hand/arm vibration (effective weighted value of the accel- eration on the guide handle, determined in accordance with 2006/42/EC, Part 1, in m/s <sup>2</sup> )	0.7	0.7	2.0	2.7	2.5	3.2	0.7	2.0	2.7	0.7	2.0	2.7




## Transport


When transported on vehicles, the internal concrete vibrator must be secured against slipping or rolling away using suitable means.


## Activities prior to starting work


### Electrical connection

 Before putting the internal concrete vibrator into operation, make sure the mains voltage (1) corresponds to the voltage specified for the converter on the rating plate.


The connection must be made to 48/230 Volt/200 Hz of alternating current.

 The power source is only suitable if its input voltage does not deviate from the rated voltage by more than 15 %.

 Operate only with an approved ground fault circuit interrupter.

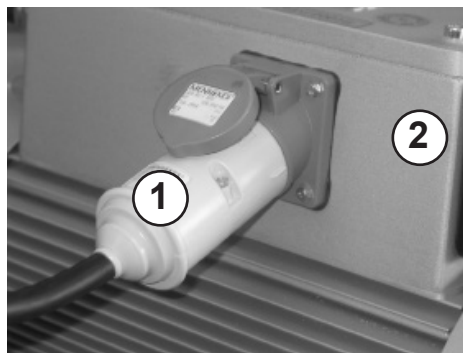
 Damages resulting from non-compliance will void any warranty claims.


### Commissioning of the IV internal concrete vibrator


 The internal concrete vibrator must not be connected to the converter unless the power plug has been unplugged.


Insert the plug (1) of the internal concrete vibrator into the outlet (2) of the converter.

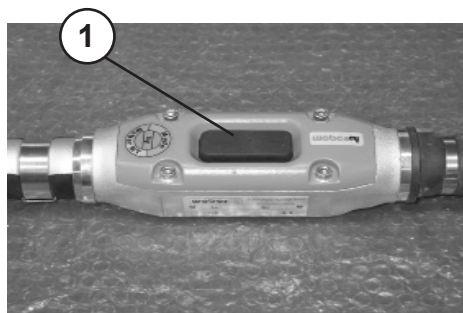
Connect the converter to the mains as described in the operating manual.



 Put the internal concrete vibrator into operation by pressing the switch (1) to position "1".

 The internal concrete vibrator reaches its maximum speed after approx. 5 seconds.

 If this is not the case, shut down the internal concrete vibrator immediately and determine the fault.



## Commissioning of the IV internal concrete vibrator (D)

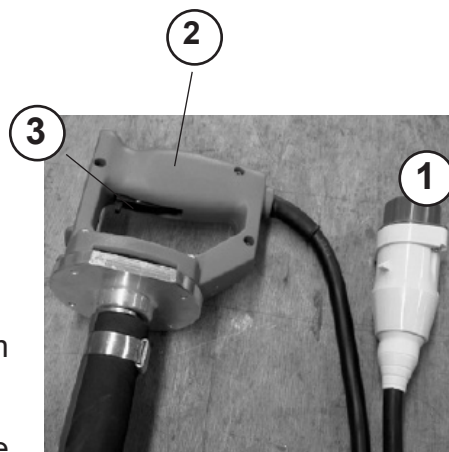
- ⚠ Before putting the internal concrete vibrator into operation, make sure the converter voltage corresponds to the input voltage of the internal concrete vibrator.
- ⚠ Always insert the power plug into the power outlet before switching on the converter.

Insert the power plug (1).



Connect the converter to the mains as described in the operating manual.

Switch on the internal concrete vibrator by pressing the switch (3). The internal concrete vibrator starts up. Once the internal concrete vibrator has reached maximum speed, use the lever (3) to lock the switch (2) for continuous operation.

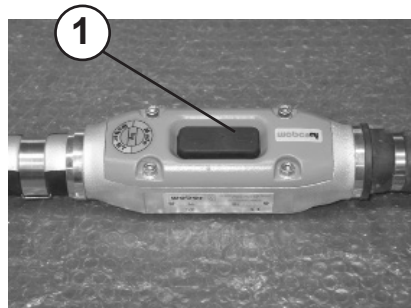


- ⚠ The internal concrete vibrator reaches its maximum speed after approx. 5 seconds.
- ⚠ If this is not the case, shut down the internal concrete vibrator immediately and determine the fault.

## Shutdown of the IV internal concrete vibrator

Shut down the internal concrete vibrator by pressing the switch (1) to position "0".  
Pull the plug out of the power outlet.

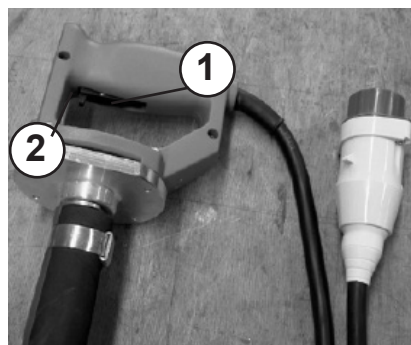
- ⚠ Do not pull on the cable to remove the plug of the internal concrete vibrator from the power outlet.



## Shutdown of the IV internal concrete vibrator (D)


Switch off the internal concrete vibrator by pressing the switch (1). This automatically releases the locking lever (2).  
Pull the plug out of the power outlet.

- ⚠ Do not pull on the cable to remove the plug of the internal concrete vibrator from the power outlet.



## Maintenance

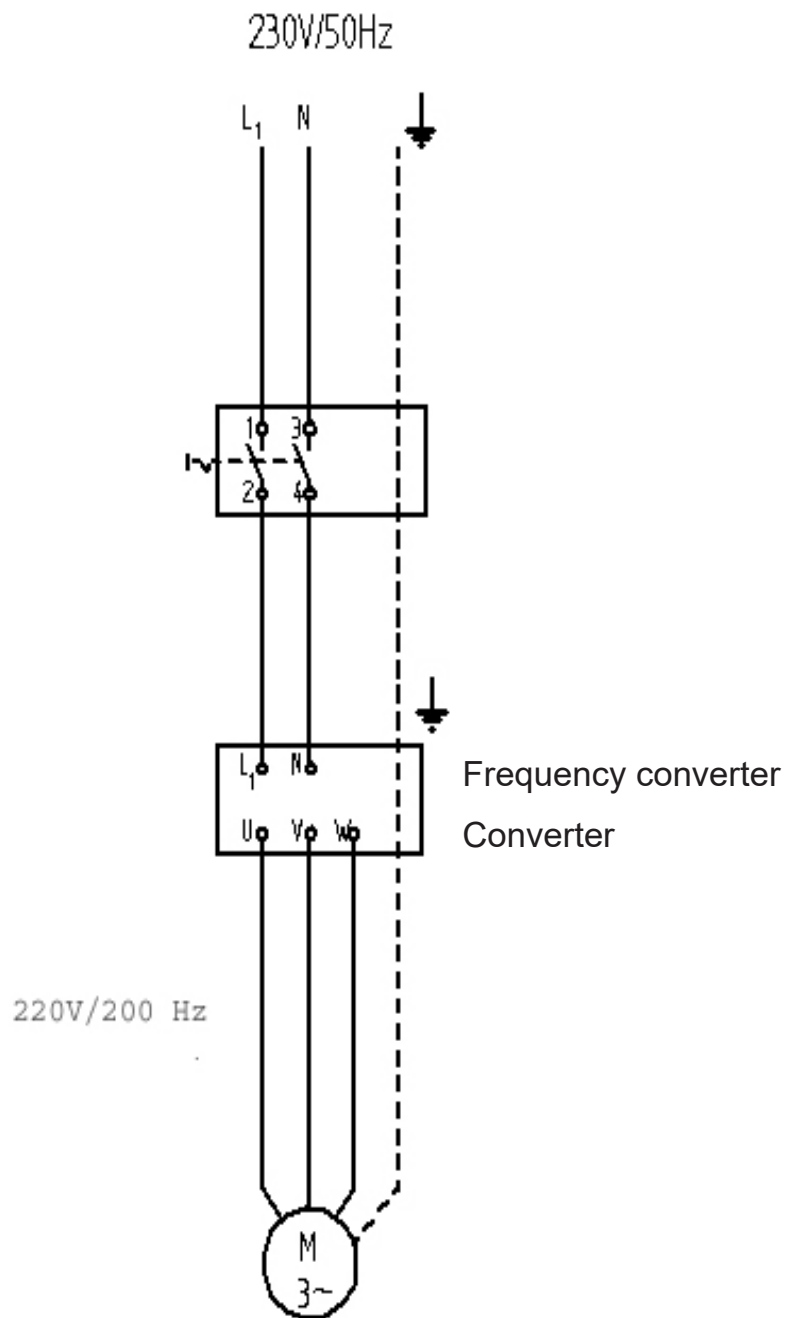
Maintenance interval	Maintenance point	Maintenance activity
Daily	Entire machine	<ul style="list-style-type: none"> <li>– Clean unit</li> <li>– Check connecting cable and plug for exterior damage</li> </ul>
Every 200 operating hours	Cylinder pipe Cylinder head	<ul style="list-style-type: none"> <li>– Check for wear, replace if necessary</li> </ul>

 Work must be carried out using regulation tools, and the operating and maintenance manual must be complied with for all work.

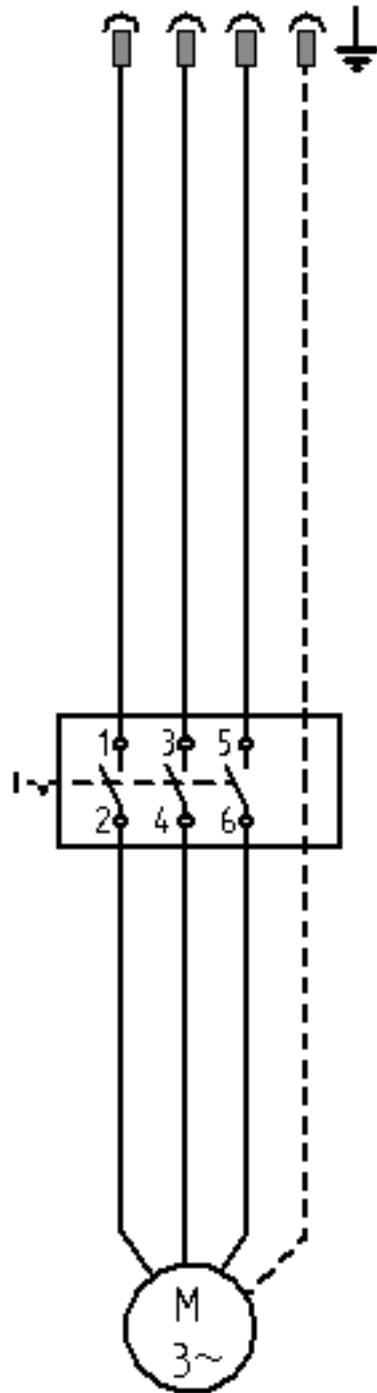
## Troubleshooting

Fault	Poss. Cause	Remedy
Internal concrete vibrator cannot be put into operation	Operating error	Put the unit into operation as specified in the operating manual
Internal concrete vibrator is without function when switched on	Automatic shutoff	Switch off the internal concrete vibrator and wait approx. 30 s before switching it back on
A creepage current can be detected on the conductive parts of the unit (leakage current)	Grounding conductor not present Ground fault circuit interrupter missing/defective Power distribution on site not grounded	Check/replace connecting cable Check/replace ground fault circuit interrupter Check power distribution on site, provide for proper grounding of power distribution on site

# Circuit diagram IV



# Circuit diagram IVS













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