BFC

Electromagnetic Bowl Feeder
MB Series

Instruction Manual

Thank you for purchasing BFC Parts Feeder. To ensure the right usage, please read this manual carefully before using. Also, please deliver this manual to the end user.

1. Before Using

■ Controller

For this feeder, be sure to use the electromagnetic feeder dedicated controller.

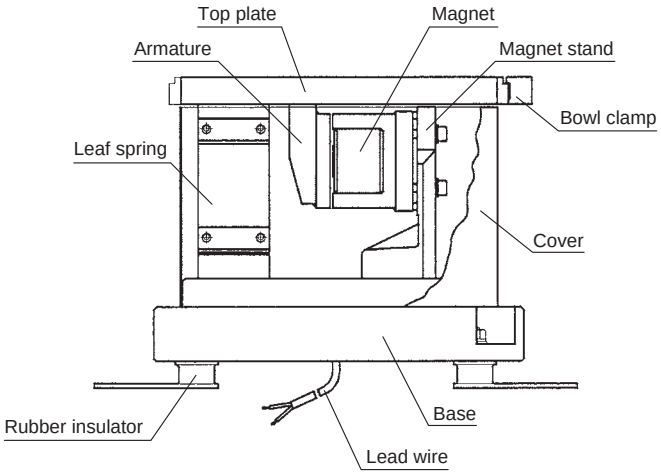
※ Do not use any controller other than electromagnetic feeder dedicated controller.

2. Safety Precautions

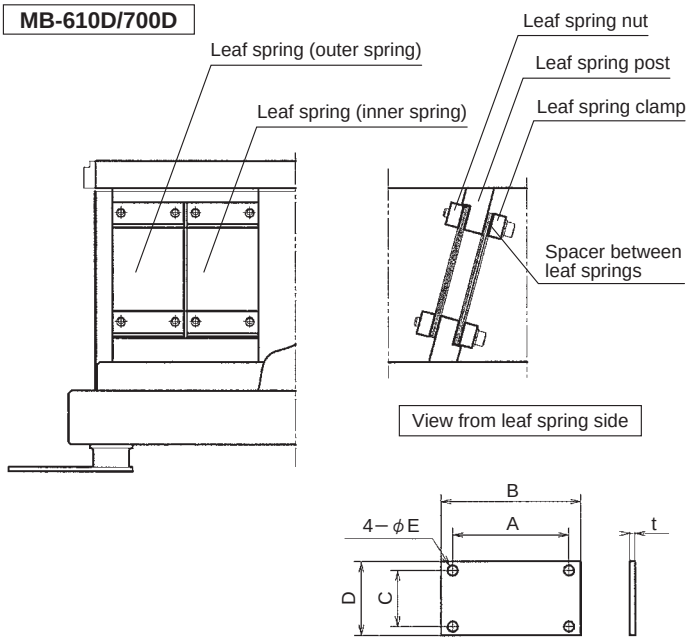
DANGER ⚠	● Do not work with this feeder in the live status, or you could have an electric shock. ● Do not use this feeder in any place where there is a dangerous material (e.g., ignitable material, inflammable material). Since it is not of explosion-proof type, using this feeder in such place could cause ignition or inflammation. ● When it is installed at a high place, since this feeder could drop or topple down under some conditions, take preventive measures against dropping or toppling down.
WARNING ⚠	● When removing the cover, turn OFF the input power source beforehand. ● Do not retrofit this feeder. Using this feeder with retrofitting could cause failure or breakage to this feeder. ● Do not place this feeder in or on piles for storage or transportation, or this feeder could drop, causing injury or breakage. ● Do not damage the lead wire, or fire or electric shock could be caused by short circuit. ● Connect an earth wire to this feeder before using.
CAUTION ⚠	● Do not install this feeder in any dusty place. ● When welding the bowl, be sure to disconnect the controller from this feeder and ground the bowl firmly beforehand. ● Being equipped with rubber legs or leaf springs to isolate vibrations, this feeder may swing during transportation, which could cause breakage not only to itself but also to other equipment. Therefore, attach the fixing brackets before transportation. ● Do not install this feeder at any hot and humid place but at a well-ventilated indoor place. ● Use this feeder at ambient temperatures ranging from 0 to 40℃.

3. Structure and Each Part Name

MB-230D/300D/390D/460D



MB-610D/700D



■ Dimensions of leaf spring

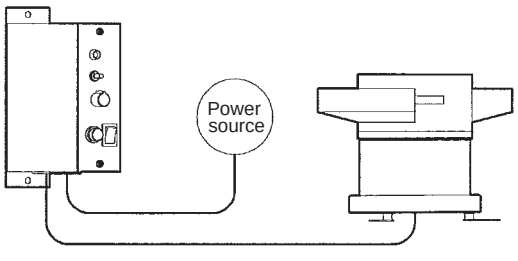
Symbol / Vibrator	Waveform	Material	A	B	C	D	E	t
MB-230D	Full-wave	Steel	79	95	38	50	7	1.0
MB-300D	Full-wave	Steel	86	105	30	55	9	1.0
								1.6
MB-390D MB-460D	Full-wave	Steel	89	108	40	65	11	1.6
								3.2
	Half-wave	Carbon						1.6
								3.0
MB-610D MB-700D	Half-wave	Carbon	145	170	50	80	12.5	4.5
								6.0

4. Wiring and Operation

Make connection to the electromagnetic feeder dedicated controller.

Frequency and voltage are adjusted at the leaf spring or the controller to achieve the optimum vibrations.

※ For details, refer to the instruction manual of the controller.



5. Specifications

Vibrator	Main unit mass (kg)	Max. power consumption (VA)	Max. bowl diameter(φ)	Max. bowl mass (kg)	Applicable controller
MB-230D	24	120	370	6	EMC−003
MB-300D	40	250	500	12	
MB-390D	78	400	620	20	C10-3VF (recommended) inverter controller
MB-460D	127	540	760	30	
MB-610D	260	900	1000	50	C10-5VF (recommended) inverter controller
MB-700D	330	900	1200	70	

※ For MB-610D/700D models, be sure to use the inverter controller.

6. Mounting the Bowl Feeder

6-1 The vibrator main unit is supported by the vibration-isolating rubber legs. Position and fix the vibration-isolating rubber legs so that the vibrator can be positioned horizontally via the frame and the mounting base.

■ Bowl mounting reference table

Vibrator	Mounting method	
MB-230D	Bowl clamp (3 locations)	Center bolt (M12)
MB-300D		
MB-390D		Center bolt (M15)
MB-460D	Bowl clamp (4 locations)	
MB-610D	Bowl clamp (6 locations)	
MB-700D	Bowl clamp (8 locations)	

※ For BFC bowl of MB-390D or smaller-numbered, there is no need to use the center bolt for fixing.

6-2 Mount the bowl on the vibrator.

(The following procedure is applicable to the bowl to be fixed with the center bolt.)

1 Confirm the turning direction. Loosen all bowl clamps of the vibrator.

2 Place the bowl on the top plate of the vibrator in such a way that the outer circumference of the bowl is clamped between the top plate and the all loosened clamps.

※ **3** Tighten the center bolt temporarily to fix the bowl.

4 While watching all the bowl clamps, have the outer circumference of the bowl clamped firmly.

※ **5** Lastly, retighten the center bolt.

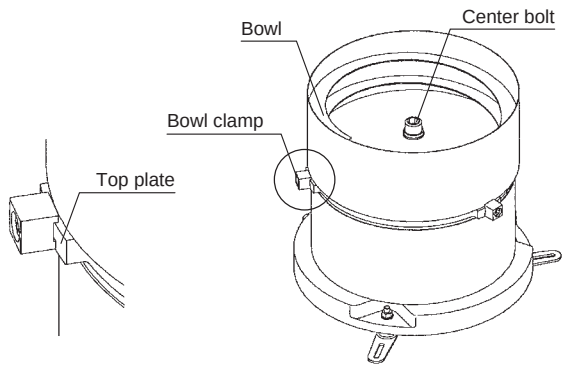
(The steps 3 and 5 are not required for the BFC standard bowl of MB-390D or smaller-numbered.)

6-3 Cautions

- After mounting the bowl, be sure to achieve a balance.
- When operating 2 or more bowl feeders together, install each bowl feeder on its own frame having sufficient rigidity.

※ The operation sound may be accompanied by beating noise. In this case, use a frame having higher rigidity to lessen the noise level.

- Mount the cover so that it does not interfere with any moving part, such as the top plate.



7. Adjusting the frequency with leaf springs

Procedures for adjusting the vibration (frequency)

① Mount the bowl. (Mount all parts to be fixed to the bowl.)

② Fix the bowl feeder to the base or the like having sufficient rigidity (so that the vibrating part does not interfere with any peripheral parts).

③ Confirm that the bowl feeder and other bolts are not loose.

④ Turn ON the controller and raise the input to around the middle of the scale.

⑤ Check whether the current leaf spring composition is appropriate or not.

Loosen one or two leaf-spring mounting bolt(s) on the front or rear side to check the change in vibration.

If the vibration is increased by loosing the bolt

→ Remove the leaf spring one by one.

If the vibration is decreased by loosing the bolt

→ Add the leaf spring(s).

※ Ensure that the bolt has enough thread exposed. Use longer bolts as necessary.

⑥ Repeat the step ⑤ for adjustment until the maximum vibration is achieved with the minimum input (at a low scale point of the controller).

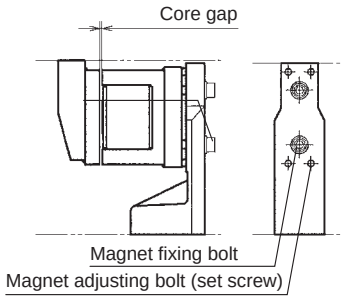
※ The composition of the leaf springs should be approximately equivalent for each set.

※ Adjusting the leaf springs may cause change in core gap.

Loosen the magnet fixing bolts (2 locations) and readjust the core gap using the magnet adjusting bolts (4 locations).

■ Specified core gap

Vibrator \ Frequency	Full-wave	Half-wave
MB-230D	0.6㎜	
MB-300D		
MB-390D		1.2㎜
MB-460D		
MB-610D		1.6㎜
MB-700D		



8. Warranty

1. **The warranty period shall be 12 months from the date of delivery** (provided that the feeder is operated 8 hours a day).
2. **In any of the following cases, the warranty shall not be applied:**
   a. The feeder was disassembled or retrofitted by the user.
   b. The feeder was broken apparently by improper usage.
   c. The feeder was broken by force majeure (e.g., fire, earthquake, flood).
   d. Expendables (e.g., rubber leg, leaf spring, mounting bolt)
3. **Repair with payment shall be fixed through deliberations with us, and the repair charge shall be invoiced by us.**

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