

Operating Instructions

Centrifugal Barrel Finisher

Model CB-100

VIBRA FINE™

CB-100



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IMPORTANT: READ BEFORE OPERATING UNIT

1. **SHIPPING BOLTS AND SPACERS MUST BE REMOVED BEFORE WIRING** the Variable AC Motor Drive or operating the machine. Damage will occur to unit and motor if operated without removing the shipping bolts and spacers.
2. Shut off and lock out power before removing any machine guards or doors.
3. All doors and guards must be kept in place at all times during operation of the machine to avoid exposure to parts rotating at high speeds. Severe injury can occur if hands or feet reach inside unit while power is on.
4. To avoid electric shock, attach ground lead, labeled "0" in power cord to ground. NEVER REMOVE grounding strap to bowl unit.
5. Securely tighten all bolts/nuts on vibrating unit according to instructions in this manual. Special attention must be paid to motor mounting bolts. If a motor vibrates loose, damage to power cord and structure may result as well as risk of personal injury.
6. When maintaining or adjusting eccentric weights, extreme caution must be used to correctly attach all keys, retainers and fasteners. Failure to lock weights securely in place can result in parts being thrown from machine at high speed, endangering personnel.
7. Higher amplitudes occur during machine start up and shut down. Caution should be taken to provide adequate clearance from accessory equipment to avoid contact during these cycles.



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SPECIFICATIONS: (CB-100)

Speed of Barrels (RPM)	0-160
Motor (HP)	7.0
Barrels Capacity (Cu. Ft.)	3.5
Dimensions (Inches)	60 x 53 x 64
Weight (Lbs.)	1984
Maximum Loading (Lbs.)	132



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FUNCTION:

The CB-100 centrifugal barrel finisher features high-efficiency, ease of operation, wide operating speed range and low noise level all in an attractive machine enclosure.

The drive system is composed of four hexagonal shaped barrels. The barrels are driven in opposite directions on an independent axis and nylon gears creating a dual centrifugal working force that delivers aggressive and efficient chamfering, deburring and polishing action. The internal polyurethane cartridges can be replaced when they become worn. Suitable for small quantities of workparts and various media including ultrathin for chamfer, debur and polish or for working parts not suitable for mobile or other vibratory polishers.

MACHINE COMPONENTS OVERVIEW:

The machine is composed of cover, basement, control panel, media trough and rotary barrel plate assembly.

The cover is welded steel plate with shutters on both the left and right side. The front side sliding door is equipped with an electromagnetic safety lock. The control panel on the right side of the unit must be separated from the cover and dismantled before separating the cover from the base of the machine, otherwise the electric circuit can be damaged.

The basement is constructed of welded steel plate. The motor base is fixed with a bolt welded to the bottom of the basement and the motor base can be moved up or down along the bolt to adjust the motor belt tension. The upper part of the machine base is connected to the rotary barrel plate assembly and cover.

On the inner right side of the machine is the barrel turning device and at the center of the unit is a media trough for loading the mixture of workparts, water and media. There is a hand-brake to serve as a back-up to the electromagnetic brake.



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MACHINE COMPONENTS (cont'd):

ROTARY BARREL PLATE ASSEMBLY

The rotary barrel plate assembly is composed of belt assembly, rotary plate assembly, chief axis, gear and chain assembly and fixed four-barrel groups. The interior PU cartridges can be changed when they are worn out. The barrels on the machine are fixed, and cannot be removed from the unit, they are rotated by the turning device composed of motor, decelerator and gear.

ELECTRIC CABINET

The electrical cabinet is constructed of welded steel plate and fixed by arch steel to the base of the machine. To remove the cover, screws on both sides of the cabinet must first be loosened and the cover rotated 20° to clear the electrical system. The electrical cabinet is fixed on the right side of the machine base.

WORKING PRINCIPLE

When the motor drives the rotary plate and planetary gear groups, the barrel groups revolve on independent axis in the opposite directions creating dual centrifugal forces that create an efficient and uniform chamfer, debur or polishing action.

ELECTRICAL SYSTEM

The machine is equipped with a world-class inverter. Control panel adjustment of the rotary plate assembly can be made to match specific speed requirements of different workparts. The barrel angle can also be adjusted downward using the control panel to facilitate unloading. The unit is also equipped with an AC electromagnetic brake and a two-way ON/OFF switch for safe operation. When the sliding door is open the main motor is stopped but the barrels can be rotated to facilitate unloading. When the sliding door is closed the rotary plate and barrels are locked in position and cannot be adjusted.



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IMPORTANT: Installation Tips

The machine should be installed on a smooth and level concrete floor. All mounting feet must touch floor or should be shimmed with steel shims.

The motor winding, the magnetizing windings and the speed windings should be tested using 500 ohm megameter, the insulation must be over 0.38 megaohm. otherwise it should be dried.

When the power is ON, the barrel assembly should be rotating counter-clockwise or from the top of the unit toward the bottom. Make sure the grounding wire is attached and in good condition.

Check the tightness of the barrel chain by adjusting the bracket of the decelerator.



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IMPORTANT: Read this section prior to machine operation.

Use the buttons on the control panel to arrange the barrels in the desired position. To empty the unit of workparts and media, first remove the lock bar from the steel jacket. The barrel can be angled forward 15° to pour out media and workparts.

To load the unit. Open the barrel cover and load degreased workparts and media in a ratio of 1:2 into the barrel. The volume should be roughly 70% of the barrel capacity. Next add compound and water to a height just above the workparts and media. Finally, put the cover evenly into position and fasten the lock bar to prevent water from leaking out of the barrel.

Shut the sliding front door after all four barrels (or two opposite barrels) have been readied, then adjust the rotary plate to the correct speed using the buttons on the control panel.

IMPORTANT: All four barrels or at least two barrels opposite to each other should be loaded to safely operate the machine. Otherwise the unbalanced barrels will cause excessive vibration and could damage the machine.



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IMPORTANT: Key tips for proper maintenance & service

1. Keep all parts of the machine clean and oil free.
2. Once a month, check the tightness of all bolts.
3. Every 500 hours add 30 grams of ZL-3 calcium-based lubricant to all bearings on machine properly
4. Periodically check the tightness of the motor belt and driving chain, adjust them if they are not fitting
5. Check and adjust the tightness of the electromagnetic lock if and when it is not stopping the machine efficiently.
6. The two ends of the barrel bar must be totally in the holes before you fasten them. Make sure the bar is securely tightened.
7. If abnormal noise occurs during operation, check all bolts and bearings to ensure they are in proper working condition and securely tightened.



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