

## VIBRATORY - EXPANDING CROSS SYSTEM

*The FOUNDRY INDUSTRY's answer to fast, uniform compaction of dry, castable refractory linings in coreless induction furnaces.*

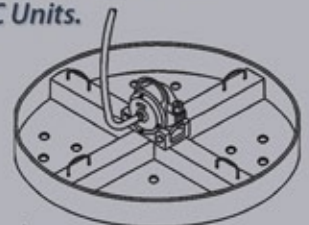
- Homogenous Compaction of Refractory is Completed in Minutes!
- Removable Vibrator Serves Both Bottom Plate and Expanding Cross Unit
- Hydraulically Operated Expanding Cross is Available in 5 Sizes
- Simple Two-Step Process Saves Time



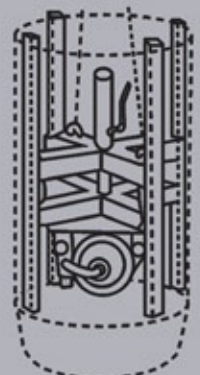
### OPERATION

The WORKMASTER® **Vibratory-Expanding Cross (WEC) System** uses a removable **Vibrator** to compact both bottom and side refractory linings in coreless induction furnaces. Photo "A" above shows the **WEC Hydraulic Model 800** with **Vibrator** attached, fully contracted (Shoes and Battens are shown in place). Photo "B" shows the **WEC 800** fully expanded, and "C" shows the smallest unit, **Model 300**, fully contracted, without shoes and battens. Two "extender" **Shoes**, shown at "D", may be used as necessary to increase the fully-expanded size of the WEC Units.

The **Bottom Plate** with the **Vibrator** bolted at its center, as shown to the right, is lowered and placed on the dry refractory material previously poured into the bottom of the furnace. This bottom lining is compacted first, then, when complete, the **Bottom Plate Assembly** is removed.



The **Vibrator** is then removed from the quick-change bracket on the **Bottom Plate** and installed in the bracket on the **WEC Unit**. A closed-end, cylindrical **Lining-Former** (The Former) is centered in the furnace, and lowered and fixed in place on the already-compacted bottom lining. Dry refractory material is poured into the space between the Former and furnace wall. The **WEC Unit**, with **Shoes** and cut-to-size oak **Battens** attached, is lowered by hoist to the location where the initial compacting of the wall lining refractory is to take place.



The **WEC Unit** is then expanded hydraulically until the **Battens** firmly contact the inside of the **Former**, and then the hoist is slacked off. When the **Vibrator** is activated, a strong and effective vibrating force (10,400 Force lbs; 11,000 VPM @ 80 PSI), is transferred through the **Former**, uniformly compacting the refractory. Depending on furnace height, the **WEC Unit** is contracted, raised, re-expanded, and vibrated again as required. The easy-to-control **Vibrator** frequency achieves a homogenous refractory compaction throughout the lining.

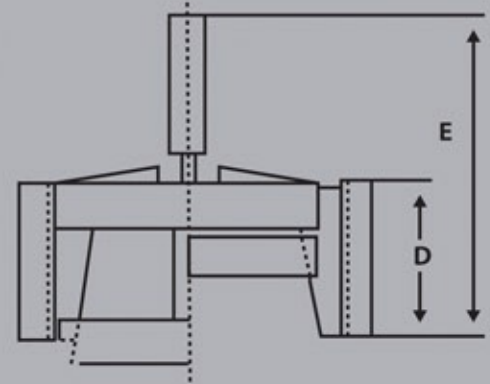
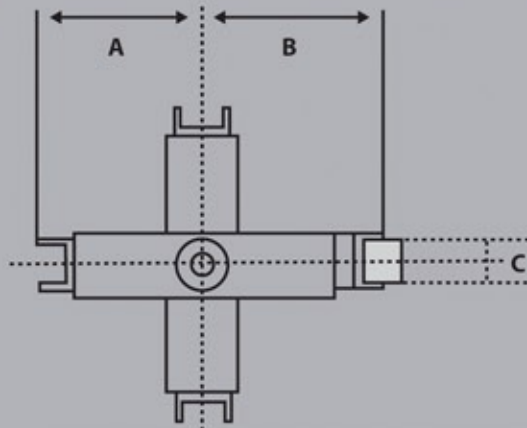


# VIBRATORY - EXPANDING CROSS SYSTEM

The WEC Unit **DOES NOT INCLUDE** Lining-Former, Bottom Plate, or Wood Battens. These items should be purchased locally. Existing Formers may be used, but should be fabricated of steel not less than 5/16" thick.

OPERATING DATA		WEC MODELS				
		300	400	500	800	900
Inside Diameter Lining - Former	inch	15.16 - 24.61	19.09 - 30.91	23.03 - 37.20	34.84 - 49.02	43.70 - 58.46
	mm	385 - 625	485 - 785	585 - 945	885 - 1245	1110 - 1485
Air Pressure (PSI)		80 - 100	80 - 100	80 - 100	80 - 100	80 - 100
Air Consumption (CFM)*		60	60	60	60	60
Lining Compaction Time (mins)		7 - 8	8 - 10	8 - 10	12 - 15 Total for 2 Positions	12 - 15 Total for 2 Positions
Bottom Compaction Time (mins)		8 - 12	8 - 12	8 - 12	8 - 12	8 - 12
Weight, less Vibrator & Battens (lbs)		65	75	100	175	270

\*3/4" ID Hose (Minimum)



DIMENSIONS		WEC MODELS				
		300	400	500	800	900
A	inch	7.09	9.06	11.02	16.93	20.87
B	inch	7.68	9.65	11.61	17.52	21.65
C	inch	1.81 ± .04	1.81 ± .04	1.81 ± .04	1.81 ± .04	1.81 ± .04
D	inch	5.91	5.91	5.91	5.91	13.39
E	inch	21.65	21.65	21.65	21.65	31.89

To convert to millimeters (mm), multiply inches by 25.4

**TO ORDER**, determine the inside diameter of the Former you intend to use. With this data in hand, simply call or fax WORKMASTER®. We will be glad to determine the exact WEC Vibratory-Expanding Cross System model you should have and we will provide full information on price and delivery.

*We look forward to serving you.*

## WORKMASTER®

WE FIND A WAY — OR MAKE ONE!

PH: 866.476.9217 FX: 866.476.9219

www.workmaster.net

FORM: WMVECS0711