



Denver Concrete Vibrator

## Vibrators for Concrete Countertops

Denver Concrete Vibrator offers a wide range of vibrators that are commonly used on shaker tables in the process of making concrete countertops. Available in electric, pneumatic or hydraulic power, we have the right vibrator for your application. Feel free to contact us at 800.392.6703 for selection assistance or for additional product information.



### Turbine Vibrators

- Use Less Air Than Other Rotary Vibrators
- Clean Aluminum Finish Will Not Rust
- Lube-Free Design
- Oversized Bearings for Longer Life
- Low Pressure Start-Up



### Ball Vibrators

- Lowest Initial Cost
- Cast Iron Housing Withstands the Harsh-est Conditions
- Over 20 Models to Choose From
- Easy and Inexpensive to Maintain



### Electric Vibrators

- Quiet Performance
- Adjustable Weights Allows the User to Change Force Output
- Low Operating Cost
- Sealed Against Dust and Moisture
- Available in 12, 24, 115, 230 and 460 Volt



### Roller Vibrators

- Ideal for a Wide Range of Applications.
- High Force Output Will Move Even the Driest of Mixes
- Operates on as Little as 30 psi
- Works in Any Position

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## Applying Vibrators to Shaker Tables

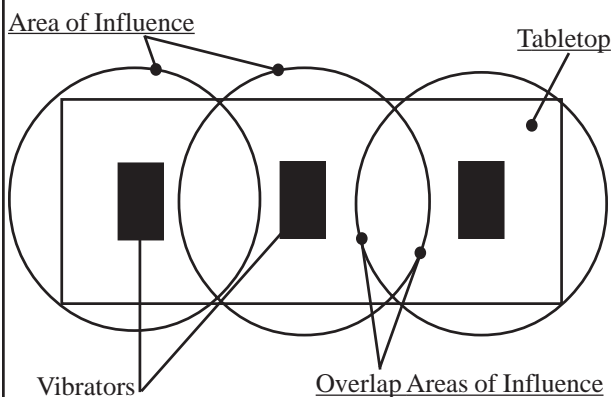
The vibrators are most effective when they are mounted underneath the tabletop. Usually, better results can be achieved if the tabletop is isolated from the legs or frame. Isolation can be done by many methods, but springs or “rubber biscuits” are more common.

If the tabletop is metal, attach the vibrator using a piece of channel iron or mounting plate that is welded underneath. The larger the plate or channel, the greater the area of influence of the vibrator will be.

On tabletops made of wood, the vibrator can be used effectively by bolting the vibrator to a piece of plate steel (3/8" x 12" x 12") and screwing the plate to the table. Depending upon your set-up, you may try screwing the vibrator to a piece of 2" x 8" x 24" board and attaching underneath the table. Please note that on wood tabletops, the effectiveness of the vibrator will be reduced by about 20 percent. Using portable brackets that are not extremely rigid will reduce the performance even more. If you use two sheets of plywood on your tabletop, make sure that the two sheets are tied together using through bolts or wood screws (8" maximum spacing between screws/bolts). Vibration will not jump across air gaps, therefore, make sure that there are no gaps between the two sheets of wood.

### **Mounting Locations for Tabletops**

Vibration waves travel away from the vibrator in a circular pattern (similar to ripples seen from dropping a stone in water). How far a particular vibrators' pattern travels is referred to as its “area of influence”. The range of this “area” is usually in a radius from 2.5 feet to 5 feet. Isolated metal table tops will have a larger area of influence; wood tops will have the smallest. To ensure proper coverage, position the vibrators so that the radius of influence of one vibrator will overlap the radius of influence of another (see below)



Because every shaker table is different in some way, it is recommended that the vibrator(s) be started at a low force, initially.

Please note that the vibrators need to have a load to operate properly. Do not operate the vibrators on a table with nothing on top. Do not operate the vibrator unless it is mounted.

When vibrating a form on a tabletop, typically, the corners of the form need more vibration than does the center. Mount the vibrator(s) under the table so that when the form is placed on top, the vibrator will be centered approximately 2' to the inside of the edge of the narrow section. For example, when pouring a 2' X 8' counter top, use two vibrators. The vibrators should be mounted so that they are centered in the middle of the form and positioned at the 2' and 6' locations.

### **How Long to Vibrate the Concrete**

Vibrating concrete is more of an art than a science. The length of time that concrete should be vibrated can vary from a several seconds to several minutes. Variables such as; wetness of the pour, force output of the vibrator, type of form used, size of aggregate, how the vibrator is attached, etc... all play a role in how long concrete should be vibrated. Typically, the best way to determine if the concrete has been vibrated enough is to visually inspect the concrete as it is being vibrated. When the vibrators are activated, the concrete will begin to spread and air bubbles can be seen escaping. When bubbles are no longer escaping and a creamy, shiny surface can be seen, the concrete has been vibrated enough. Please note that the length of time may vary from pour to pour or form to form and may require adjusting as needed. Perfection comes with experience. The more pours you perform, the more you will learn what works best for your set-up.

### **Do's and Don'ts**

#### **Do wear a safety glasses, ear protection, gloves and safety boots.**

Do start the vibrators off at the lowest force setting and increase, as needed, until the desired results are achieved. Do make sure that the table and forms are structurally sound before pouring concrete and vibrating. Do make sure that the vibrators are securely attached to the table or form being vibrated. Do make sure you have enough vibrators to do the job. Do use internal vibrator first if both internal and external vibrators are being used.

#### **Do not operate the vibrators on an empty form or table.**

Do not “under vibrate”. Too short of a vibration time will result in a poorly finished product. Under vibration is more common when low-slump mixes are used. Do not “over vibrate”. Too long of a vibration time may cause separation. This is especially true when large aggregates are used in a high-slump mix. Do not space the vibrators too far apart. If the areas of influence of the vibrators do not overlap, you may not get the desired results in the finished product.