



Economy Sieve Shaker



General:

This test method determines the particle size distribution of fine and coarse aggregates by sieving. Refer to ASTM C136. The sieve shaker consists basically of a cradle for holding the sieves, a power unit and a base. The cradle consists of a platform fastened to the lower ends of two vertical support rods. The upper ends of which are shock mounted to a horizontal support that are free to pivot about its mounting. A sieve holder, a retaining ring and nuts on the vertical support rods hold the top bar firmly against the nest of sieves.



Installation & Method

Humboldt sieve shakers are shipped complete and ready for operation. Remove all packing materials and place the machine on a sturdy and level surface. Plug the power cord into an appropriate grounded outlet.

Collect the field sample according to ASTM D75 and reduce to a test sample according to ASTM C702. Dry to constant weight.

Operation

Select the sieves with mesh sizes that are to be used and stack them together beginning with a pan at the bottom. Then the finest sieve followed by increasing coarser sieves with the coarsest on top. Place a stack of sieves in the shaker with the bottom pan resting on the cradle platform. Cover the top sieve so that the stack can be easily secured in the shaker. Secure the stack with the sieve hold-down bar on the top of the stack and screw the nuts on the vertical support rods firmly against the holder. Adjust and tighten the nuts at the top of the vertical support rods according to the weight of the material in the sieves. The greater the weight of the load, the tighter the nuts should be. Start the motor and observe the initial sieving action to see if the sieves are fastened securely.

Set the built-in timer for the desired shake time and turn the machine on. The machine will stop when the timer is complete.

Adjusting Instruction

Select the sieves with mesh sizes that will supply the information needed and nest them beginning with a pan on the bottom. Then the finest sieve followed by increasingly coarser sieves with the coarsest sieve on top. Place a sample into the top sieve and place a cover on it. Place the stack of sieves on the shaker and secure with the hold-down bar, clamping it into place with the knobs on each side.

Depending on the weight of the sieve stack, an adjustment upward of the lower cradle will be needed. Turn the large pulley and note when the eccentric drive has moved the bottom cradle to the extreme right or left of its travel. At this point the shoulder bolt and plastic sleeve should be in the middle of the vertical slot. If not, loosen the top clamp knobs and the hex nuts which position the bottom cradle on the threaded rods. Then adjust them upward lifting the stack until the shoulder bolt with plastic sleeve is centered. Retighten the fasteners.

When operating correctly, the movement upward and downward of the rod springs should be approximately equal. Test this by hand turning the pulley one revolution and note the spring deflections at the top and bottom of the travel. If they are not equal repeat the adjustment until they are exact. Normal operation can begin once adjustment is complete.

Maintenance

- Oil the main pulley driven shaft weekly
- Maintain the nuts on the springs tight
- Check for properly adjusted sieve stacks
- Periodically check all fasteners for tightness

NOTE: Keep hands, clothing and other objects away from moving parts when the machine is in operation.

