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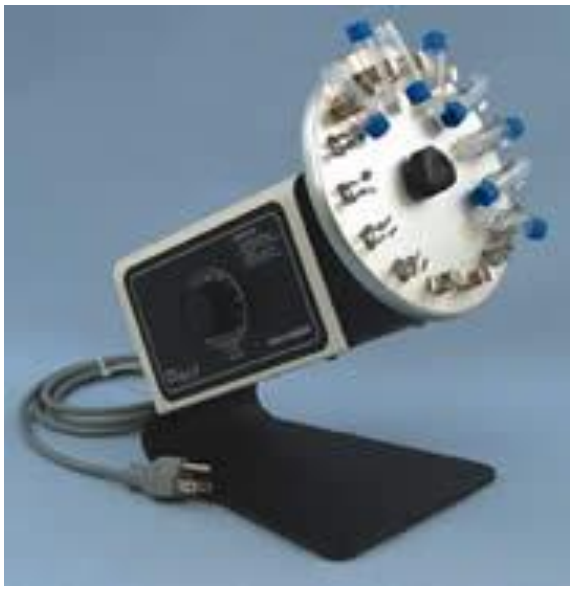
INSTRUCTIONAL MANUAL
CAT. 65100-10, 65100-20 Mini Rotator



The EMS Mini Rotator is a benchtop rotator designed to organize and hold your laboratory test tubes of all kinds. A notable feature of this item is that is has varying drive speeds ranging from 2 to 80 revolutions per minute. Depending on your application, this can be adjusted.

Instructions for Set-Up

1. Unpack the rotator and be sure to set it on a stable bench top.
2. Plug the power cord from the back of the unit into a grounded 120V outlet.

NOTE: The power switch and fuse can be found on the back of the unit. The speed dial is located on the left side of the mini rotator.

The unit is equipped with a test tube holder that can hold tubes of 5-10mm and 12-14mm tubes. The unit can hold up to 15 tubes at one time. 15 small tubes (5-10mm) will require the larger clips. Large and small clips can be attached to the disk to hold large and small tubes at the same time.

Attaching the Clips to the Disk

Please note that the test tubes are not shipped with clips attached to the disk, which allows the user the freedom to attach whichever clip size is desired for application. To attach the clips to the disk, see Figure 1.

1. Using a wrench to hold the nut on the back side of the disk, tighten the screw as necessary for proper securing of the tube.
2. If using small clips, tighten the screw to reach a distance if 1/16˝ between the fingers at the top of the clip.

NOTE: This tension will accept a tube from 5mm to 10mm in diameter. See Figure 2.

3. The large clips, on the other hand, though attached in the same manner as in the aforementioned, it is crucial that every other hole in the disk is used, simply due to the size of the clips themselves.

NOTE: The tension to which the large clip is adjusted will accept tube sizes 12mm to 14mm in diameter. Also refer to Figure 2.

Figure 1

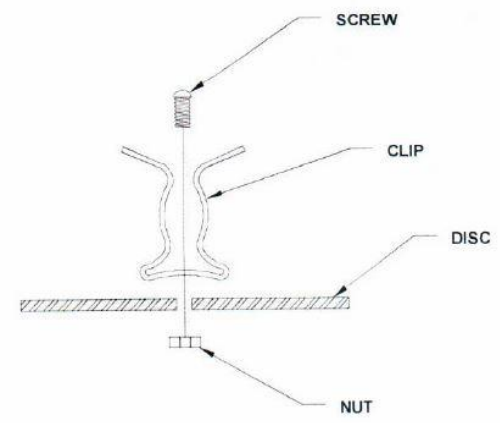
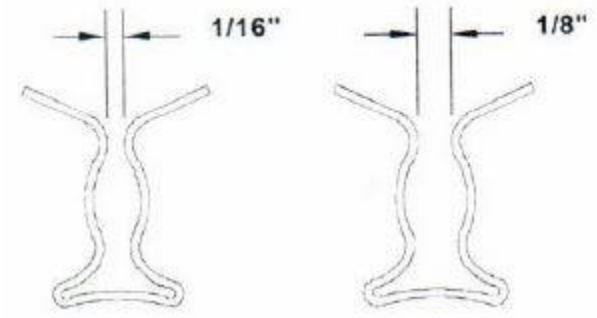


Figure 2



Attaching the Disk to the Rotator	1. Place the disk with the clips on the black plastic bushing (found on the end of the motor shaft). **NOTE**: The bushing is secured to the motor shaft with a set, secured screw. 2. Align the dimple on the disk with the indentation on the bushing. 3. Insert the tri knob through the center hole of the disc and carefully secure it to the bushing.
Placing the Tubes in the Clips	Tubes can be inserted or removed in one of two ways: (1) Slide the tubes radically from the side of the clip (preferably method, as the tube is less likely to become damaged or even break, in some cases). As the diameter of the tube increases, inserting them via this method required quite a significant bit more effort than other methods; (2) Tubes can be inserted from the top area, and removed in the same manner. **NOTE**: Use extreme caution when handling glassware, especially when inserting into the clips.
Operating the Unit	Make sure that all test tubes are secured and will clear the workbench before turning the speed control. 1. Turn the switch ON with the motor speed control set to the lowest speed possible. 2. Observe the rotator as it makes its first revolution at the slow speed. 3. Once it is evident that the rotating vessels clear the work bench, set the motor speed to the desired setting, according to your application.

Maintenance of the Mini Rotator

- Check the unit periodically every 6 months to ensure the unit is functioning properly, free of any unusual elevated temperatures, etc.
- Check the brushed by unplugging the unit and removing the housing cover (brushes are located at the end of the motor).
- The brush can be removed by turning the motor on its side and allowing the brush to fall out of the holder. Check the brush size. **NOTE**: Brush lengths of 3/16” or less should be replaced with new ones.
- When replacing new brushes, slide the new brush into the holder, curved surface first, then replace the cap and tighten securely.
- Any spills onto the unit should be cleaned immediately.

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