JEOL JCM-7000 NeoScope™ Stage Adapter Kit for PELCO Specimen Holders

Product No. 15398-7000

***Figure 1**: JEOL JCM-7000 NeoScope™ Stage Adapter*

DESCRIPTION

The JCM-7000 NeoScope™ Stage Adapter Kit has been developed to enable the use of M4 threaded PELCO® Specimen Holders on the NeoScope™ sample stage. Only one NeoScope™ Stage Adapter Kit needs to be purchased separately to fit the many available specimen holders. This wide range of specimen holders allows for investigation of a greater variety of specimens. Easy mounting of specimens makes the NeoScope™ Benchtop SEM more productive and accessible for more applications.

SCOPE OF DELIVERY

The #15398 NeoScope™ Stage Adapter Kit consists of:

- NeoScope™ stage adapter plate
- Pillar holder
- 23mm height pillar, M4 screw on top
- 38.1mm height pillar, M4 screw on top
- M6 adapter
- 50mm height gauge.

***Figure 2**: Kit includes two different length pillars.*

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HOW TO USE

***Figure 3**: 50mm height gauge being used to check the sample height.*

The JEOL JCM-7000 NeoScope™ Stage Adapter Kit includes two pillar lengths, 23 and 38.1mm. These rods have an M4 threaded screw on top where the M4 threaded base of the specimen holder is attached. The total height of the sample, specimen holder, and pillar should be 50mm above the adapter base. A 50mm height gauge is included to verify this height (see ***Figure 3*** above).

1. Mount or clamp the specimen to the appropriate specimen holder. Specimen holders are sold separately from the adapter kit; see our JEOL Neoscope™ Specimen Mounts & Holders webpage for available options.
2. Choose the appropriate pillar height to go with specimen/holder assembly. The longer pillar will be used with shorter assemblies, whose combined height is about 4 to 19mm. The shorter pillar will be used with taller assemblies, approximately 17 to 34mm tall.
3. Attach specimen holder to appropriate length pillar. The base of the holders are M4 threaded and can be attached to the M4 threaded screw on top of the pillar.
4. Place the stage adapter onto a flat surface. The adapter plate has a hole through the center of it and the pillar can go through it; however, it is necessary to ensure the pillar is not lower than the base of the adapter.
5. Insert pillar into pillar holder attachment on stage adapter. To do this, it may be necessary to loosen the set screw (using 5/64” hex key) on the pillar holder.
6. While holding the sample, position the height gauge vertically (with the longer side upwards) on top of the adapter base. Adjust the total height of the specimen holder with the specimen to be level with the top of the height gauge (as shown above in ***Figure 3***), then tighten setscrew until just snug.
7. After securing, verify with height gauge that the total height is 50mm above adapter base plate, adjust and recheck if necessary. The complete assembly is now ready for loading onto the NeoScope™ sample stage.

OPTIONS

The pillar holder is attached to the base by two screws. These can be removed using a 5/64” hex key and replaced with the included M6 adapter. The M6 adapter allows the stage adapter to be used with the optional threaded rods (part #’s 15373-2, 15365-2, and 15374-2). These rods are three different lengths: 12, 18, and 25mm respectively. The height of the threaded rod can only be adjusted a few mm, so a rod close to the height needed should be used. When using the threaded rods, the total height of the rod, sample, and holder will need to be verified to be 50mm above the top of the adapter plate with the height gauge (see previous section).

***Figure 4**: M6 adapter installed on stage adapter, with and without optional threaded rod installed.*

RESTRICTIONS

1. For investigations in an SEM, samples need to exhibit enough conductivity to avoid an electrical charge built-up. Non-conductive samples (plastics, ceramics, paper, biological material) need to be coated with a thin metal or carbon film and a conductive path has to be established to the stage plate.
2. The X and Y stage movements are 35mm; although larger samples (and larger specimen mounts) can be loaded in the NeoScope™, the maximum viewable area is restricted. When loading a large sample, make sure it is not larger than the maximum allowable dimensions for the SEM.
3. The NeoScope™ allows a maximum sample height of 50mm above the adapter plate; do not load assemblies exceeding this height.

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