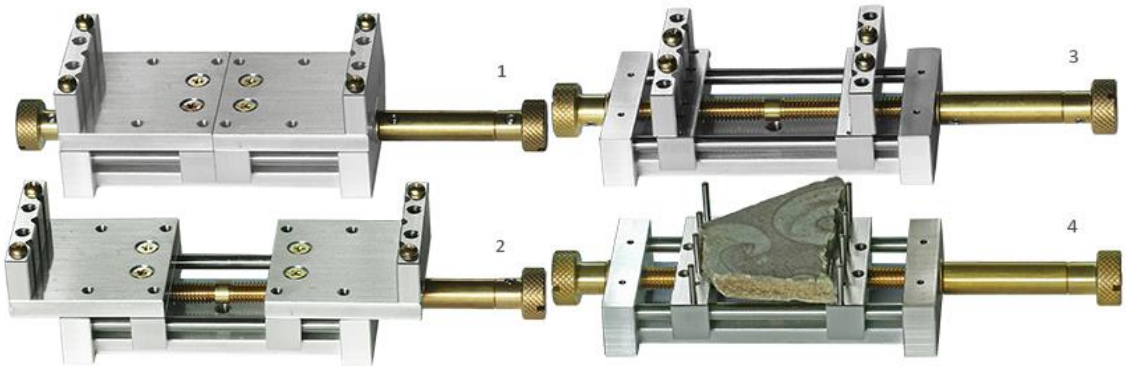
EM-Tec CV2 large centering vise

Products #12-000202, #12-000302 and #12-000602



1 – EM-Tec CV2 centering vise SEM sample holder for up to 114mm closed
2 – EM-Tec CV2 centering vise SEM sample holder for up to 114mm open
3 – EM-Tec CV2 centering vise SEM sample holder extended size closed
4 – EM-Tec CV2 centering vise SEM sample holder with pins on vise sliders

Description

The EM-Tec CV2 large centering vise enables holding large and heavy samples up to 114mm. It includes re-positionable vise jaws and removable spindle knobs. It will be shipped fully assembled with the vise jaws at the widest opening and one brass spindle knob extension rod. Available with either the standard Ø3.2mm pin, M4 threaded hole or JEOL Ø14mm stub for mounting on the appropriate SEM stage adapter.
The construction of the EM-Tec CV2 consists of a baseplate holding the dual thread brass spindle, the two stainless steel guiding rods and the aluminum vise sliders. The dual thread brass spindle with a range of 46mm contains both standard and lefthand thread to enable moving both vise jaws in opposite direction at the same time. The sample base plates with vise jaws are mounted on the vise sliders. The vise jaws can be mounted at different positions on the sample base plates to cover the complete clamping range from 0-114 mm.
The sample base plates can be easily removed from the vise sliders by removing the brass flat head Phillips screws. This will also save 5mm in height. The vise sliders allow for installing either the pins or the vise jaws, but it reduces the clamping capacity to 0-50mm or 8-54 mm respectively.

The EM-Tec CV2 large centering vise can be configured in 4 different modes:

1. Standard mode with sample base plates and vise jaws – clamping capacity 0 - 114 mm
2. Low profile mode without sample base plates and pin mounted on the vise sliders - capacity 0-50 mm
3. Low profile mode without sample base plates and vise jaws mounted directly on the vise sliders – 8-54 mm
4. Optional extension plates added – clamping capacity 0 – 159 mm

Warning

The EM-Tec CV2 large centering vise is a rather large sample holder with spindle knobs sticking out. Check carefully if this holder fits into the SEM chamber and it will not hit anything when the movements (X, Y, Z, ϴZ, Rotation, Tilt) on the SEM stage are used.

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Technical Support Bulletin

Operation

Consider wearing gloves to avoid contamination. The EM-Tec CV2 large centering vise reversible vise jaws comprise a smooth side and a side with three grooves. The grooves are more suitable for small round samples.

- To open the EM-Tec CV2 large centering vise turn the brass spindle knob anti-clockwise.
- When the EM-Tec CV2 centering vise is opened, the vise plates could slide over the spindle knobs. A large flat screwdriver can be placed in the brass spindle knob to make operation easier. The screwdriver blade fits in the slot on the face of the spindle knob.
- Place the sample in the opening.
- To close the jaws, turn the spindle knob clockwise to clamp the sample. Be careful not to over-tighten the spindle.
- To accommodate the complete clamping capacity from 0-114mm, the aluminum vise jaws are re-positionable on the vise plates; there is a choice of three positions on each base plate and two positions on each extension plate.
- The spindle knob extension rod can be removed to avoid possible interference in the SEM sample chamber.
- Samples up to 159mm can be held when the optional extension plates are attached to the sides of the vise plates. The vise jaws can be repositioned on the extension plates as well. The vise jaws are mounted on the base plate with brass M3 screws which are accessible from the top.
- The spindle movement is 46mm and with the vise jaws positioned at the three different positions on the base plates, the sample clamping range is 0-46mm, 34-82mm and 68-114mm respectively. With the extension plates installed, the additional sample clamping ranges of 102-144mm and 113-159mm are added.

Optional vise jaws are available for large round samples. By using longer M3 screws, the vise jaws can be stacked to double the jaw height from 12 to 24mm. Even very thin samples can be securely held in the EM-Tec CV1 large centering vise sample holder. For delicate samples, consider lining the jaws with conductive soft material.

Options

12-003203	EM-Tec CVE1 extension plates to expand to 155mm, set/2
12-003204	EM-Tec CVC1 standard triple groove/smooth vise jaw, 12x40x6mm, each
12-003205	EM-Tec CVC2 single large groove/smooth vise jaw, 12x40x6mm, each

Specifications of the EM-Tec CV2 large centering vise

Base plate size:	40 x 40mm (2x)
Vise jaw size, VC3 standard:	40 x 12 x 6mm (2x)
Base plate inter-spacing with M3 thread:	17mm
Extension plate (optional) size:	40 x 22.5mm (2x)
Extension plate inter spacing with M3 thread:	11mm
Dual thread spindle travel:	46mm
Standard clamping capacity:	0 - 114mm
Clamping capacity in low profile mode:	8 - 54
Clamping capacity between pins:	0-50 mm
Dimensions closed (w/o pin):	106 x 40 x 34mm

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Dimensions fully opened (w/o pin):		122 x 40 x 34mm
Maximum clamping capacity with optional plates:		0 - 159mm
Dimensions closed with optional plates (w/o pin):		146 x 40 x 34mm
Dimensions fully opened with optional plates(w/o pin):		167 x 40 x 34mm
SEM stage compatibility	- standard pin:	#12-000202
	- EM-Tec stage adapters M4:	#12-000302
	- Hitachi M4	#12-000302
	- JEOL Ø14mm stub:	#12-000602

Material for vise plates, jaws and screw plates:	Vacuum grade aluminum
Material for spindle, knobs and side plates:	Low friction brass
Materials for screws:	Brass and anti-magnetic stainless steel

Maintenance

The EM-Tec CV2 large centering vice is maintenance free. Do not use oil or grease on the screw or brass spindle; this will cause contamination in the SEM. Do not allow debris to accumulate on the brass spindle and underneath the vise plates. Keep the dual thread brass spindle clean. Do not use worn tools for removing and mounting screws.

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