

Multi-Axis Lapping Fixture

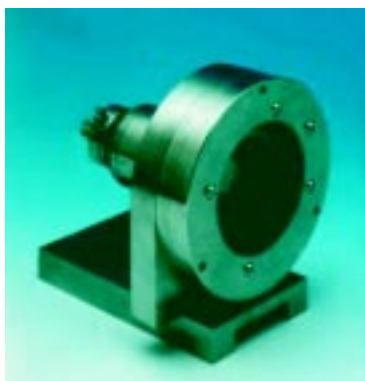


The Model 170 Multi-Axis Lapping Fixture

The Model 170 was designed in collaboration with Lawrence Livermore National Laboratory and Max Planck Institute for the precision orientation and lapping or polishing of single crystals. This design is based on the work of Mader et al at MPI and is capable of applying a controlled force to delicate samples. The advantage of the Model 170 is that it can be mounted directly on an x-ray track for Laue Back Reflection orientation. Precision of 0.1° in orientation can be obtained by double exposure with 180° rotation of the fixture in the optional Model 17011 Track mount.

Special Features

- Directly mounts to x-ray track
- Can be used with Model 920 Lapping Machine
- Orientation accuracy within 0.1°
- Solid stainless steel construction
- $\pm 5^\circ$ tilt and 360° rotation
- Model 17011 Track Mount is compatible with either 1.99" or 2.19" tracks
- Model 17011 Track Mount rotates 180°
- Replaceable tungsten carbide feet to resist wear



The Model 170 shown mounted on Model 17011 Track Mount

Application

The Model 170 is designed for precisely orienting and lapping samples up to 1" in diameter. The fixture provides a means for using Laue Back Reflection techniques to index the specimen orientation, change to the desired orientation and lap and polish the specimen at the desired orientation without removing the specimen from the Model 170. The specimen is counterbalanced by three springs located in the center slide assembly to reduce the load exerted on the specimen during lapping and polishing. A built-in 2 axis goniometer allows precise orientation of the mounted specimen to be carried out to both determine orientation and to orient to the desired zone for subsequent lapping and polishing. Three slots found at the base of the Model 170 allow the fixture to be quickly mounted to the Model 17011 Track Mount, which is in turn mounted onto an x-ray track for orientation.

Specifications

Maximum Sample Diameter:	1"
Micrometer Resolution:	25 μ
Tilt Adjustment Range:	$\pm 5^\circ$
Rotation Adjustment:	360°
Base Diameter:	4"
Fixture Height:	6"
Fixture Weight:	6 Lbs.
Minimum Sample Load:	10 grams

