

RESPIRATORY MOTION ROTATION STAGE

Add Non-Linear Motion to the Respiratory Motion Phantom

The Rotation Stage adds rotational motion to the QUASAR™ Respiratory Motion Phantom for an increased range of QA options.



The new accessory allows inserts to rotate as they translate with a 60° total range of motion ($\pm 30^\circ$ from the horizontal).

Offset Inserts

Three cedar inserts, each with an off-center 30 mm spherical tumor, allow testing with more complex lateral motion during translation. These inserts feature the same characteristics as the existing Cedar Series respiratory motion inserts (500-3311, 500-3312, 500-3313) but with a modified tumor location.

Testing with the 4D CT imaging insert (500-3317) is also supported because of the off-center positioning of the various geometric objects within the insert.

Key Features

- Rotation provides more complex motion and expands the range of possible tests
- A number of inserts are available with off-center tumors and geometric objects



Above: Rotation Stage and extended thumbscrew

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Installation Instructions

Procedure:

1. Remove existing thumbscrew completely and slide translation stage out of motion assembly.
2. Slide modified translation stage into motion assembly, note location of thumbscrew T-nut.
3. Slide extended thumbscrew through opening in keyhole, and then carefully insert into T-nut through opening in translation stage.
4. Adjust location of T-nut to maximum 20 mm amplitude.
5. Finger tighten the thumbscrew.
6. Review alignment of motion assembly relative to oval / insert. Slight variations will cause the mechanism to bind and the motor to skip. Begin with a slow speed on the insert to verify that alignment is without binding.
7. Solid acrylic inserts are limited to no more than 25 bpm. Faster speeds may result in the motor skipping. Cedar inserts are not speed limited.

Ordering Information

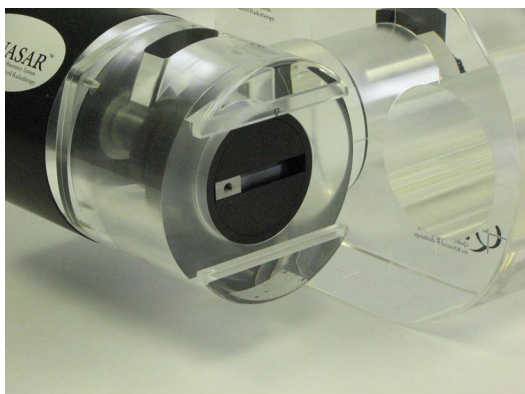
500-3330 Respiratory Motion Rotation Stage

Optional Items

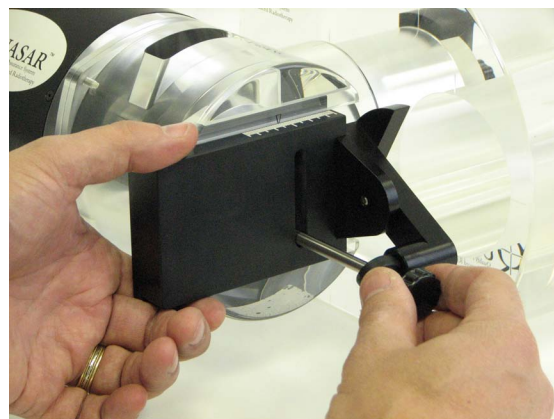
500-3331 Offset Cedar Insert with solid tumor

500-3332 Offset Cedar Insert with solid tumor (drilled)

500-3333 Offset Cedar Lung Tumor Insert (split)



Left: Respiratory Motion Assembly with translation stage removed. Note T-nut at outer edge of slide opening.



Right: Attaching the rotation stage to the Respiratory Motion Assembly with extended thumbscrew

The Quality Assurance System for Advanced Radiotherapy (QUASAR™) supports the testing of a wide variety of dosimetric and nondosimetric functions of planning systems, CT simulators and delivery systems.

QUASAR™ is a valuable part of any quality assurance program. From respiratory motion and MLC beam geometry to daily on-board imaging QA, QUASAR™ phantoms and software are ready to be incorporated into your QA protocols for regularly scheduled testing. They are also effective for commissioning new systems and upgrades, and testing repairs.

Designed by and for medical physicists, QUASAR™ quality assurance tools provide you with confidence that every patient is getting the best possible treatment.

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