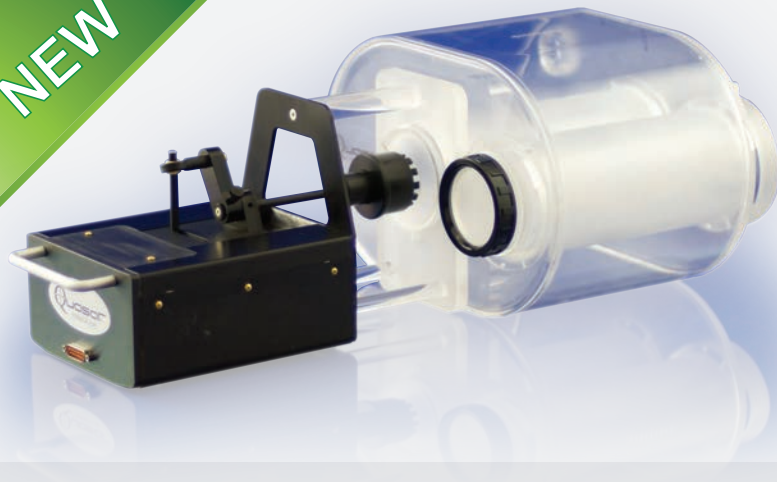


NEW



## MRI<sup>4D</sup> MOTION PHANTOM

MRI-safe 4D Motion QA for Adaptive MRgRT and Simulation

### KEY FEATURES

**100% MR Safe:**

**RF Shielded:**

**Multimodality:**

**Connectivity:**

**Waveforms:**

**Adaptable Motion:**

**Interchangeable Inserts:**

### BENEFITS

Ferrous and artifact free 4D-MRI QA on systems up to 3T

Compact design enables operation within the magnet bore with no artefacts or RF noise

MRI, CT, PET and LINAC compatible for MR4D vs CT4D, MR-PET and MRgRT 4D QA

Control the phantom directly from the console or equipment room with included software

Import, create, edit and stream patient-specific or custom waveforms

Flexibility to move inserts with translation or with translation and rotation

Configurable inserts with optional targets to increase developing and testing capabilities



The programmable QUASAR<sup>TM</sup> MRI<sup>4D</sup> Motion Phantom is designed to move liquid or gel filled cylindrical inserts within a water filled body shaped oval at varying speeds and amplitudes.

The phantom is capable of moving inserts in the S/I direction as well as producing a more complex 3D motion profile by twisting the insert during translation in the A/P and R/L directions. Interchangeable inserts are available for imaging, planning, targeting and delivery QA.

### SIMULATE PATIENT BREATHING

The QUASAR<sup>TM</sup> MRI<sup>4D</sup> Motion Phantom comes with motion QA software which allows you to create, edit and stream programmable or patient-specific respiratory waveforms with an editable respiratory range of 1 to 15 seconds per breath.

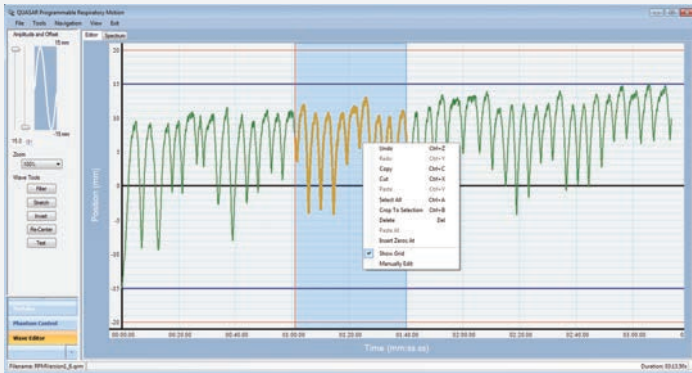
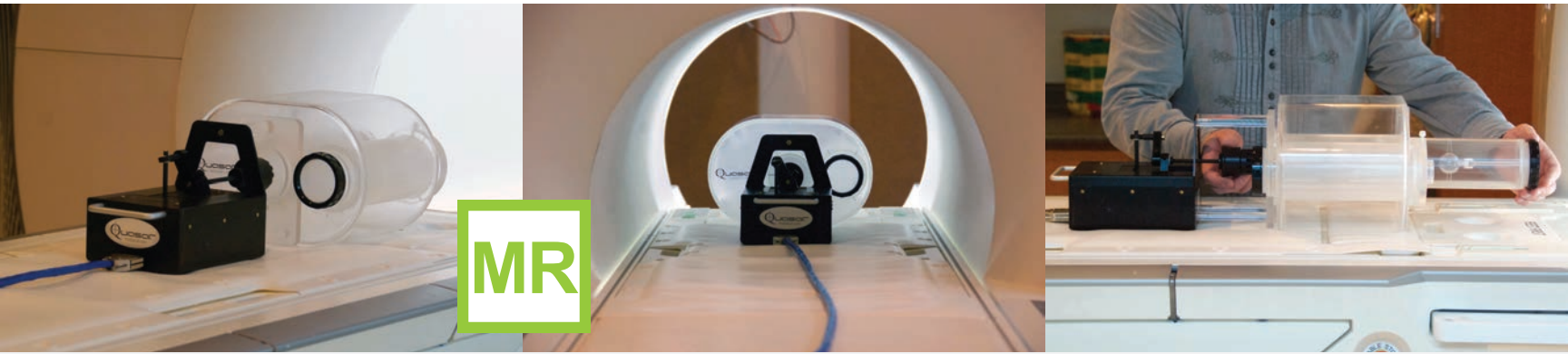
Additional edit functions include adjusting the amplitude, stretching or compressing the timeline and filtering out high frequency noise, low frequency drift and cardiac signals.



**Above:** Screenshot of the QUASAR<sup>TM</sup> Respiratory Motion Software, featuring the Phantom Control module.



Accuracy. Confidence.<sup>TM</sup>



Above: Screenshot of the QUASAR™ Respiratory Motion Software, featuring the Wave Editor module.

### WAVEFORM EDITING CAPABILITIES

Conveniently edit waveforms using a wide range of functions include adjusting the amplitude, stretching or compressing the timeline and filtering out high frequency noise, low frequency drift and cardiac signals. The software is compatible with Windows 7 or higher.

### MINIMUM TECHNICAL REQUIREMENTS

- ▶ **Operating System:** Windows 7 or higher
- ▶ **Available Space:** 5 GB minimum (64-bit)
- ▶ **Memory (RAM):** 1 GB or more
- ▶ **Screen Resolution:** 1280 x 1024 pixels or higher

### SPECIFICATIONS

- ▶ **MR-Safe Motor Assembly:** 50.5 cm L x 15.25 cm W x 18 cm H (dimensions), 3.2 kg (weight)
- ▶ **Linear Motion:** ± 20mm (continuous sinusoidal), ±15mm (programmable) along Z axis
- ▶ **Non-linear Motion:** user selectable ± 30° twist rotation along X/Y axis (continuous sinusoidal), ± 22° (programmable)
- ▶ **Motion Accuracy:** within 0.25 mm
- ▶ **MR Body Oval:** liquid fillable 20 cm L x 30 cm W x 20 cm H with two insert openings for central or offset imaging
- ▶ **Interchangeable Insert:** 25 cm long x 7.4 cm internal diameter, 1 kg (when liquid filled)
- ▶ **Mounting Stem & Target:** mounting stem attaches 30 mm spherical target (air or liquid filled) to seal-ring lid
- ▶ **Seal-Ring Lids:** 1-w/central mounting stem position, 1-w/dual offset mounting stem positions, 1-w/no mount position
- ▶ **Dovetail Collar:** with thumbscrew lock to secure position of fixed interchangeable insert within MR Body Oval opening
- ▶ **Cables:** quadruple shielded DB 15 male to female cables, CAT5 Ethernet cable
- ▶ **Power Supply:** DC power supply with AC power cord (110-220V, 50-60Hz)

### ORDERING INFORMATION

100-1022 QUASAR™ MRI<sup>4D</sup> Motion Phantom Includes:

- |                      |                  |                     |                            |
|----------------------|------------------|---------------------|----------------------------|
| ▶ 1-Motor Assembly   | ▶ 1-MR Body Oval | ▶ 2- Inserts        | ▶ 1-Mounting Stem & Target |
| ▶ 3-Seal-Ring Lids   | ▶ 2- Seal-Rings  | ▶ 1-Dovetail Collar | ▶ Cables/Power Supply      |
| ▶ 1-Software License | ▶ User's Guide   | ▶ Heavy Duty Case   |                            |

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