

PROGRAMMABLE RESPIRATORY MOTION PLATFORM

Move Existing Phantoms

The QUASAR™ Programmable Respiratory Motion Platform is designed to move your existing phantoms with sinusoidal and programmable respiratory motion profiles for patient-specific QA.



The Platform's unique multi-directional motion simulation capability allows it to move in the superior/inferior direction but can also generate a lateral hysteresis motion with amplitudes up to 1.0 cm. This allows testing with phase separation.

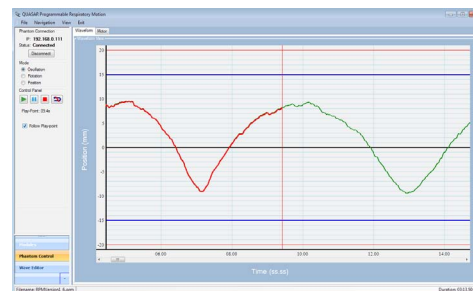
With a weight-bearing capacity of 20 kg, the Respiratory Motion Platform can be used to move any QUASAR™ phantom and most third-party phantoms and 2D detector arrays.

The Respiratory Motion Platform includes a Chest Wall Platform, moving in the anterior/posterior direction, which is compatible with motion tracking systems from several different vendors.

The Platform comes with a software application which allows you to display, edit, and run respiratory waveforms. Waveforms are created in the application or imported from respiratory tracking systems from multiple vendors, including the Varian RPM system, or from tab delimited spreadsheet files. The Software Application is compatible with Windows XP, Vista and 7, and runs on desktop or laptop computers.

Key Features

- Accommodates phantoms weighing up to 20 kg on a 35 x 35 cm platform
- Generates lateral hysteresis motion for phase separation testing
- Simulates patient-specific respiratory and sinusoidal motion profiles
- Communicate with the phantom through local area network (LAN)
- Compatible with motion tracking systems from multiple vendors



Screen shot – recorded respiratory waveform running in Oscillation Mode, which produces programmable motion using a stepping motor.

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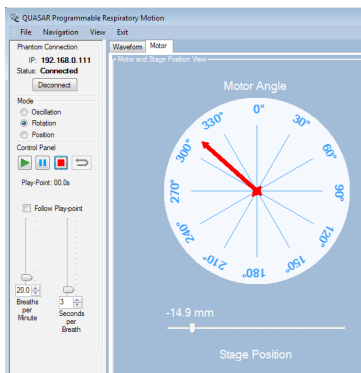
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Respiratory Motion Software

With the QUASAR™ Respiratory Motion Software application you can import, create, edit, and save respiratory waveforms.

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

In Oscillation Mode (programmable), Rotation Mode and Position Mode the phantom operates under software control. It can also run in Rotation Mode and Position Mode without a computer, under local control.



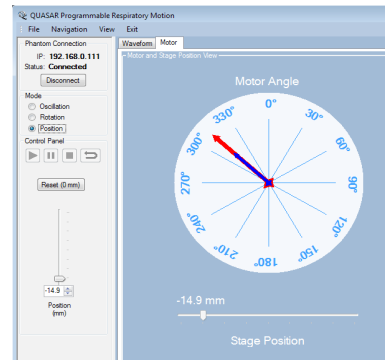
Left: Rotation Mode produces sinusoidal motion profiles by rotating the motor at constant speed.

Ordering Information

100-1010 QUASAR™ Programmable Respiratory Motion Platform

Optional Items

500-2005 Heavy Duty Shipping Case



Right: Position Mode produces accurate stationary positioning.

QUASAR™ Programmable Respiratory Motion Platform Specifications

- Moving Platform; 35 cm x 35 cm, carries up to 20 kg
- Overall dimensions; 51 cm x 35 cm x 15 cm high
- Mass; 3 kg excluding third party phantoms
- Chest wall platform: 13 cm diameter, carries up to 1 kg
- Power supply: Input, 100 – 240 V AC, 47 – 63 Hz, International power cords available on request. Output, 24 V DC 2.1 A, 50 W. Approvals; CE, UL/CSA 60950-1

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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