

Ancillary Equipment and Accessories

Optional enhancements for new systems and upgrades for existing systems

Hopewell Designs, Inc. can augment irradiator systems with a wide range of ancillary equipment. We offer custom designed linear positioning systems, jigs and fixtures, attenuators and much more.

T20 Linear Positioning System

The Hopewell Designs, Inc. Linear Positioning System (LPS) positions instruments, dosimetry badges, and phantoms precisely and consistently. The computer-controlled LPS is linked to the exposure calculator. Exposure rate and distance are linked so that entry of one will recalculate the other variable.



- Positioning within 1 mm (.04 in.) over 10 meters (33 feet) of travel
- Four axes of motion:
 - X - horizontal parallel to the beam - up to 10 meters (33 feet)
 - Y - horizontal perpendicular to the beam - 1 meter (39 inches)
 - Z - vertical - 30 cm (14 inches)
 - R - rotary - 360°
- Quick, repeatable instrument positioning
- Each axis may be computer or manually controlled
- Manually controlled axes may be motorized or fully manual
- Rigid extruded aluminum framework
- Adjustable feet for leveling prior to anchoring
- Precision ball bushings riding on hardened steel rails minimize backlash and side play
- Black anodized platform engraved with 1 cm square grid
- Platform drilled and tapped at 10 cm intervals for mounting jigs and phantoms

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- Non-rotating platforms are 40 cm (15 3/4 inches) square; rotating platforms are 40 cm diameter
- Platforms support 50 kg (110 pounds)

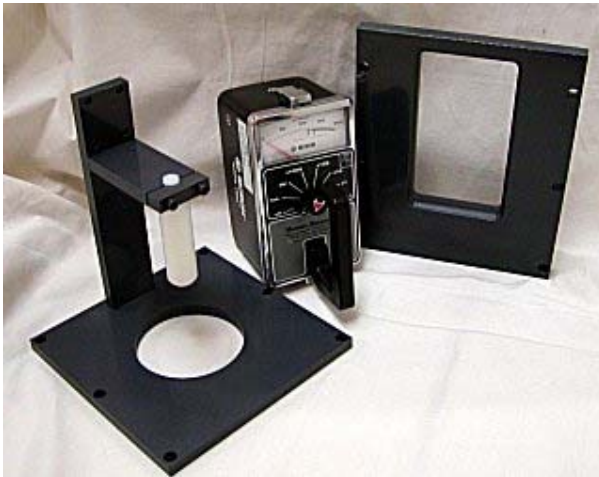
Video-100 Instrument Camera

The Instrument Camera allows an operator to monitor an instrument remotely while it is exposed to radiation. A small, but easy to view, LCD monitor is provided to facilitate camera setup with the video signal brought out to the control panel. An optional interface is available for computer-controlled systems to display the video on the computer monitor.

- Low light level, solid state, black and white video camera
- Auto-iris, vari-focal-length (5 - 50 mm) zoom lens
- Adjustable camera mounting attached to LPS Instrument Platform Carrier
- Small LCD monitor (for setup) attached to LPS Instrument Platform Carrier

Jigs and Fixtures

Jigs and fixtures provide quick, accurate, and repeatable positioning of instruments, dosimetry badges, ion chambers, and phantoms on the instrument platform.



- Available for a wide variety of survey meters, electronic pocket dosimeters (EPDs), and ion chambers
- Alignment holes in jigs match dowels in the instrument platform
- Machined pockets or clamps in jigs match the instrument or device shape
- Finger and wrist phantoms are also available

Calibration Phantoms

- Phantoms may be used to simulate tissue when calibrating dosimetry equipment
- Available in two sizes: 40cm x 40cm x 15cm and 30cm x 30cm x 15 cm
- Machined from a single polymethyl methacrylate plate
- Removable front plate facilitates mounting dosimetry
- Two front plates provided so that one may be set up while the other is being irradiated

Laser Alignment System

The Laser Alignment System accurately traces the centerline of the radiation beam and can be used to align the LPS or to verify that an instrument or dosimeter is positioned precisely in the center of the beam.

- Class II laser attached to an adjustable bracket
- Adjustment screws allow precise positioning
- May be mounted on LPS framework or wall opposite the beam port

Atten-8000X Attenuator Set

The Atten-8000X Attenuator Set permits one source to function at up to sixteen virtual activity levels. The attenuator set is installed against the beam port / collimator of the irradiator.



- Four lead shields of different thicknesses provide 2X, 4X, 10X, and 100X attenuation
- Inserted in the beam in sixteen combinations:
None, 2X; 4X; 8X; 10X; 20X; 40X; 80X; 100X; 200X; 400X; 800X; 1000X;
2000X; 4000X; and 8000X
- Mounted on ball bearings to roll in machined grooves
- Pneumatic or manual operation available

Environmental Monitoring

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Temperature and pressure sensors can be added to the computer controlled irradiator system. Temperature, pressure, and a correction factor are displayed on the control screen and saved to a database after each exposure.



- RS-232 serial interface; driver and software included
- Temperature range 50 - 100° ±0.3°F (10 - 38° ±0.2°C)
- Barometric Pressure 0 - 15 PSIA (760 - 0 mm Hg) ±0.5%

Electrometers and Ion Chambers

Hopewell Designs, Inc. offers electrometers and ionization chambers to precisely monitor the dose delivered during an exposure. Information collected by the electrometer and ionization chambers is also used to calibrate the irradiator.

- Ionization chambers are calibrated with certification traceable to NIST