

Photek Demagnifier Tubes

From our partners at Photek:

Photek's demagnifier tubes are rugged metal-ceramic tubes with tetrode electrostatic focusing. Change of magnification is accomplished by simultaneously adjusting the voltage on three electrodes.

The photocathode is remotely processed in a vacuum transfer system, assuring high efficiency and low-noise. It is processed on a plano-concave fiber optic window with a maximum useful diameter of 45 mm, 76 mm, or 140 mm.

Photek's demagnifier does not contain micro-channel plates (MCP)-the photon gain is dependent only on operating voltage and efficiency of the photocathode and phosphor screen.

Compared to a fiber optic taper, the electrostatic tube offers a photon gain of around 100 photons per photoelectron at 10 kV with a P433 phosphor. This is sufficient enough to overcome readout noise of scientific CCDs without a degradation in dynamic range of resolution, which is typically less than 20 μm at the output surface.

The design gives a small amount of pin-cushion distortion, which is almost zero at mid-range magnification and the construction minimizes sheer distortion and blemishes.

A gating unit is available for use with this tube, which has a rise/fall time of approximately 0.2 μs and is suitable for gating in the microsecond range.

The resolution of these detectors is dependent on factors including the electron optic design, the operating voltages, the magnification, and which phosphor screen is utilized. Photek can supply sample resolutions for common configurations.

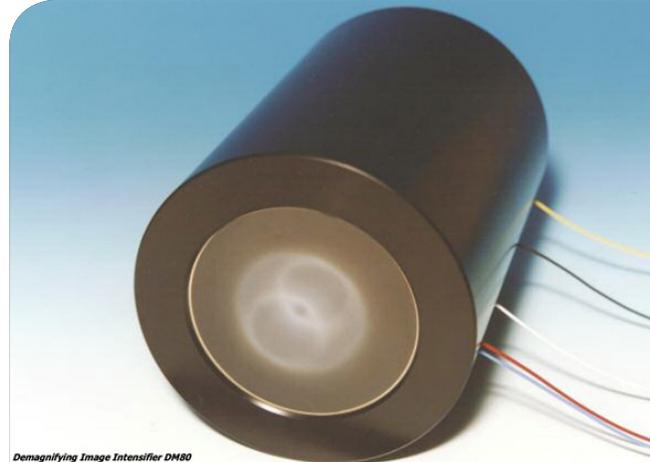
The gain of the demagnifier tube is dependent on the QE of the photocathode, the efficiency of the phosphor screen, the operating voltage, and the magnification of the detector. Again, Photek can supply sample gain values seen with common configurations.

The distortion of the detector is <5% over the majority of the active area. However, at certain magnifications, the distortion at the edges may increase. In circumstances where image distortion is a large concern, Photek recommends limiting the active area to the 42 mm or 70 mm tubes.

Mechanical

	DM47	DM80	DM150
Length	123 mm	180 mm	376 mm
Diameter	77 mm	110 mm	250 mm
Max Diameter	47 mm	80 mm	150 mm
Quality Diameter	45 mm	76 mm	140 mm
Active Output	25 mm	40 mm	40 mm

For complete product details and specifications, visit www.photek.com to review the product datasheet. Photek is accredited to ISO 9001 and ISO 14001.



Demagnifying Image Intensifier DM80

Features:

- ⊕ 6:1 zoom ratio
- ⊕ Magnification from 0.1 to 0.6
- ⊕ Gateable with Photek's gate modules
- ⊕ Distortion <5%

Applications:

- ⊕ X-ray Imaging
 - ⊕ Nuclear Physics
 - ⊕ X-ray Crystallography
 - ⊕ Non-destructive testing
- & more...

