

Ø28mm end-on photomultiplier housing

The photomultiplier tube (PMT) is a very popular device for sensitive photon detection. These detectors work from the extreme vacuum ultraviolet (EUV) through the Visible and into the near Infrared. They provide large photosensitive areas, secondary emission multiplication (high gain!), low dark noise and fast time response. Photomultipliers are ideal for a broad range of spectroscopy applications.

The Model 658 accommodates 28 mm diameter end on PM-tubes and comes with socket and dynode network for a specified tube. PMTs are specified separately. The housing has connectors for signal-current output and high voltage (HV) input. Some models are equipped with scintillators for vacuum ultraviolet (VUV) operation. The scintillator down converts invisible ultraviolet light to a blue light emission.



This detector housing assembly is available with 2.75" CF flange, NW40 Quik flange, and McPherson slit flange terminations.

Adapts to ISO NW40 or McPherson slits | 30 to 300 nm response | O-ring light seals

Frequently Used End-on Photomultiplier (PMTs)

Type	Range, nm	Peak, nm	Max. Vdc	Sensitivity, uA/lm	Typ Amplification	Rise Time	Transit Time
R6095	300 - 650	420	1500	88	2.1×10^6	4 ns	30 ns
R374	185 - 850	420	1500	64	5.3×10^5	15 ns	60 ns

Scintillator Coating

Sodium salicylate is the most popular scintillator we use today. It has excellent 50-65% fluorescent efficiency, nearly constant response in the 30 to 300nm spectral region, is easy to prepare, and does not affect vacuum pressure. It is our first choice for preparing photomultipliers for spectroscopy in the vacuum ultraviolet.

- **Emission Wavelength:** 420nm
- **Decay Time:** 7-12 nanoseconds
- **Characteristic:** Crystalline layer of approximately 1-2mg/cm²
- **Fluorescence Efficiency:** ~60% for incident wavelengths 40 to 300nm



Ordering Information

Part Number	Description
8105-0658-0	Model 658 Atmospheric photomultiplier tube detector housing (for end-on 28mm dia tubes) with magnetic shielding, dynode network and socket. Requires PMT. Provided with a mounting flange fitting McPherson slits.
8105-0658-1	Model 658 Vacuum photomultiplier tube detector housing (for end-on 28mm dia tubes) with magnetic shielding, dynode network and socket. Requires PMT. Provided with a mounting flange fitting McPherson slits and a scintillator coated window for use in the vacuum ultraviolet.
8105-0658-2	Model 658 Vacuum photomultiplier tube detector housing (for end-on 28mm dia tubes) with magnetic shielding, dynode network and socket. Requires PMT. Provided with a ISO NW40KF flange and a scintillator coated window for use in the vacuum ultraviolet.
100-110470	Model 658 UHV photomultiplier tube detector housing (for end-on 28mm dia tubes) with magnetic shielding, dynode network and socket. Requires PMT. Provided with a DN40CF scintillator coated window flange for use in the vacuum ultraviolet and UHV.
8446-1003-0	Replacement Sodium Salicylate coated window for Model 658
8446-1003-0	Replacement Sodium Salicylate coated window for ISO NW40KF terminated Model 658

Outline Drawing

