

MODEL 44-172 YSO SCINTILLATOR



The Ludlum Model 44-172 YSO (Yttrium Oxyorthosilicate) detector is used primarily for the detection of low-energy gamma radiation, from approximately 5 keV to 145 keV.

The Model 44-172 will also detect beta energy as low as 49 keV. The detector consists of a 1-inch diameter by 1-millimeter thick YSO scintillator. The window area is approximately 5 cm² and is constructed of 1.2 mg/cm² metalized mylar.

The Model 44-172 may be used with Ludlum instruments or equivalent instruments that can provide a voltage of 500 to 1200 Vdc and an input sensitivity of approximately -35mV.

INDICATED USE:	Detection of low-energy gamma radiation
RECOMMENDED ENERGY RANGE OPERATION:	5keV to 145 keV
SCINTILLATOR:	1" diameter by 1 mm thick YSO crystal (non-hygroscopic)
EFFICIENCY (4pi geometry):	Typically 25%- ¹²⁹ I, 8%- ¹⁴ C, 7%- ⁵⁵ Fe, 10%- ⁵⁷ Co, 11%- ²⁴¹ Am
WINDOW AREA:	5 cm ²
WINDOW DENSITY:	1.2 mg/cm ²
BACKGROUND:	300 cpm or less (in a 10 μR/hr field)
INPUT SENSITIVITY:	Typically -35mV
PHOTOMULTIPLIER TUBE:	1.125" (2.9 cm) diameter, head-on type, magnetically shielded
CONNECTOR:	Standard series "C" (other types available upon request)
SIZE:	2" (5.1 cm) diameter by 7"(17.8 cm) long
CONSTRUCTION:	Aluminium
WEIGHT:	1 lb (0.5 kg)
FINISH:	Beige powdercoat