

MCP Neutron Detector



APPLICATIONS

- ❖ Nuclear Technology
- ❖ Material Research
- ❖ Non Destructive Testing
- ❖ Medical Science
- ❖ Biology
- ❖ Archeology/Paleontology
- ❖ Homeland Security
- ❖ Defense

FEATURES

- ❖ Excellent Neutron Detection Efficiency
- ❖ Fast Timing for Single Neutron Detection
- ❖ Lightweight and Compact
- ❖ Robust against Environmental Stress
- ❖ Wide Dynamic Range

Currently Available Products

Physical Data	ND 25	ND 40	ND 40 DL
Detection Unit	Neutron-Sensitive MCP		
Active Diameter	25 mm	40 mm	40 mm
Output	Phosphor Screen	Phosphor Screen	Direct Electronic Detection
Spatial Resolution	50 μm^*	50 μm^*	50 μm^*
Single Neutron Timing	-	-	<1 μs
Cold and Thermal (5 meV-25 meV) Neutron Sensitivity	30-50%	30-50%	30-50%
Gamma Ray Sensitivity	~1%	~1%	~1%
Background	< 1 ct/s/cm ²	< 1 ct/s/cm ²	< 1 ct/s/cm ²
<i>* dependent upon neutron beam dispersion</i>			
Geometry			
Housing	Circular, without / with Ring Power Supply		
Weight	90 g / 150 g	220 g / 350 g	170 g / 300 g
Outer Diameter	50 mm / 75 mm	70 mm / 90 mm	70 mm / 90 mm
Thickness	22 mm	22 mm	15 mm

Options for Phosphor Screen

- *NDCam*: ND 25 / ND 40 with 45° Front Surface Mirror and CCD Camera
- *NMod*: ND 25 / ND 40 Mounting Enclosure and Stand for Optical Bench or Stage
- Computer / Data Acquisition Board
- Special Housing with Pistol Grip incl. Battery Pack
- High-Voltage Ring Power Supply (Input 5 – 15V) or Rectangular PS (Input 3 – 24V)
- Different phosphor screens: P43 (high luminescent green), P46 (fast green), P47 (fast blue)

Options for Direct Electronic Readout

- ND40 Camera System (PV_ND40_ThermalNeutron_ToF_camera_kit_201606)