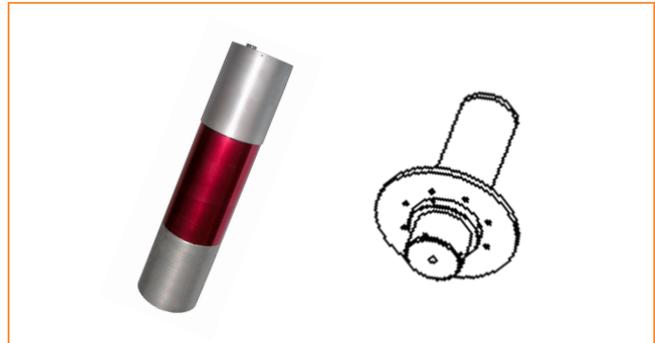


## DETECTION UNIT FOR GAMMA RADIATION WITH NaI(Tl) SCINTILLATOR

### PNAI Series

#### MAIN FEATURES

- High sensitivity gamma detector
- Connectable to stand alone rate-meters or ELSE NUCLEAR monitoring systems
- Specifically designed for real time or sampled stack monitoring
- Compact dimensions
- Built-in signal processing electronics



#### DESCRIPTION

The **PNAI** detection unit is based on a NaI(Tl) scintillator probe, designed for high sensitivity gamma radiation measurements; these probes best apply to the detection of small activity concentrations in air and in gas exhausted from controlled zones.

The series comes with two detectors versions: **PNAI** with 2" x 2" crystal dimensions; **PNAI/3** with 3" x 3" crystal dimensions.

The NaI(Tl) scintillator includes a 2" 14 pins photomultiplier, connected to the ELSE NUCLEAR photomultiplier base model PAD; the PAD provides power supply, preamplification, output signal discrimination and digital conversion, allowing to connect a reading unit and manage the acquired data.

#### ACCESSORIES AVAILABLE UPON REQUEST

1. Aluminum airtight holders with mounting flange for duct mounting: models PNAI/ATH and PNAI/3/ATH
2. In order to reach the maximum of sensitivity required in air monitoring (1 Bq/g), the high sensibility air monitoring system SDU-1M is available for the 2" x 2" PNAI detector, with 10 cm lead shielding, Marinelli 3 l beaker, and 16 m<sup>3</sup>/h air pump
3. PNAI can also be connected to a multichannel electronics module, to be used in MISTRAL XM air/stack monitoring systems (PNAI-MC)
4. Warranty extension from 12 months to 24 months

#### TECHNICAL SPECIFICATIONS

##### Detector

- Type: NaI(Tl) scintillator
- Crystal dimensions: 2"x2" or 3"x3"
- Housing material: aluminum
- Energy range: 30 keV ÷ 2 MeV
- Temperature range: 0 ÷ 40 °C
- Photomultiplier: diameter 2"

##### PAD photomultiplier base

- Available settings: HV 0 ÷ 1000 V  
Low Level Discriminator 0 ÷ 4500 mV  
Upper Level Discriminator 0 ÷ 4.5 V
- Test points: High Voltage, Threshold, Window, Output Pulse, Ground (2 points)

##### Dimensions and weight

###### PNAI

Total weight: 1.05 kg  
Dimensions: Ø=58 mm, H=271 mm

###### PNAI/3

Total weight: 1.95 kg  
Dimensions: Ø=82 mm, H=311 mm

##### SDU-1M mounting set

- Measurement geometry: Marinelli Beaker
- Volume: 3 liters
- Shield: 100 mm thick lead
- Pump flow: 16 m<sup>3</sup>/h
- Pump flow monitoring: 2% accuracy
- Total weight: 600 kg