

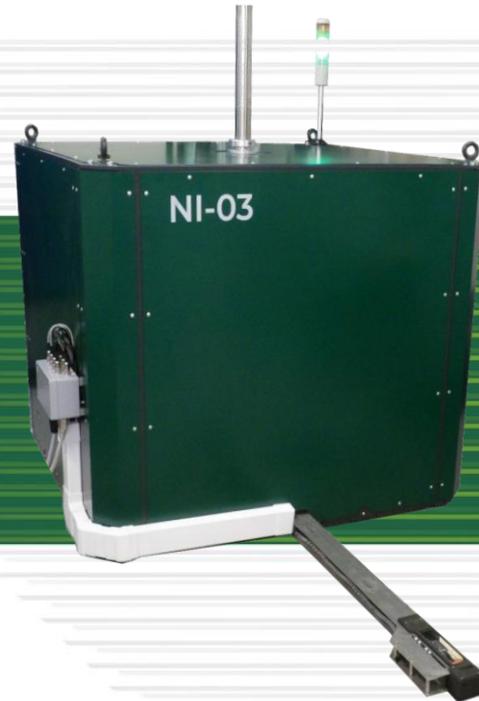


VF NUCLEAR



NI-03

# NEUTRON IRRADIATOR



## MAIN ADVANTAGES

- Up to 3 different neutron sources, optionally also gamma
- Mechanical indicator of a source in the exposure position
- Fully automated irradiation process
- Integrated safety interlocks

## PURPOSE

The NI-03 Neutron Irradiator, fitted with appropriate radionuclide sources, serves as a reference source primarily of the neutron flux, optionally also gamma.

Usually, it is a part of neutron dose and dose rate meters calibration laboratories.

The irradiator consists of a rotary carousel for up to three sources, vertical source-lifting mechanism, which enables to eject the source to the required height, a neutron-stop, polyethylene, and lead shielding.

The irradiator is installed on the floor level. The sources are placed in the rotary carousel. The carousel is equipped with three nests for placing sealed radionuclide sources and one empty nest (parking position) securing safe status of the irradiator when all sources are safely shielded.

For irradiation, the selected source is placed into the source-lifting mechanism, which takes it to the exposure position above the floor of the irradiation room so as it could irradiate in all directions. All the time the source remains in a protective tube.

The irradiator is equipped with the safety system enabling automatic exposure termination in case of non-standard or emergency situations. In case of the power failure the exposed source automatically returns to the shielded position by gravity.

## SPECIFICATION

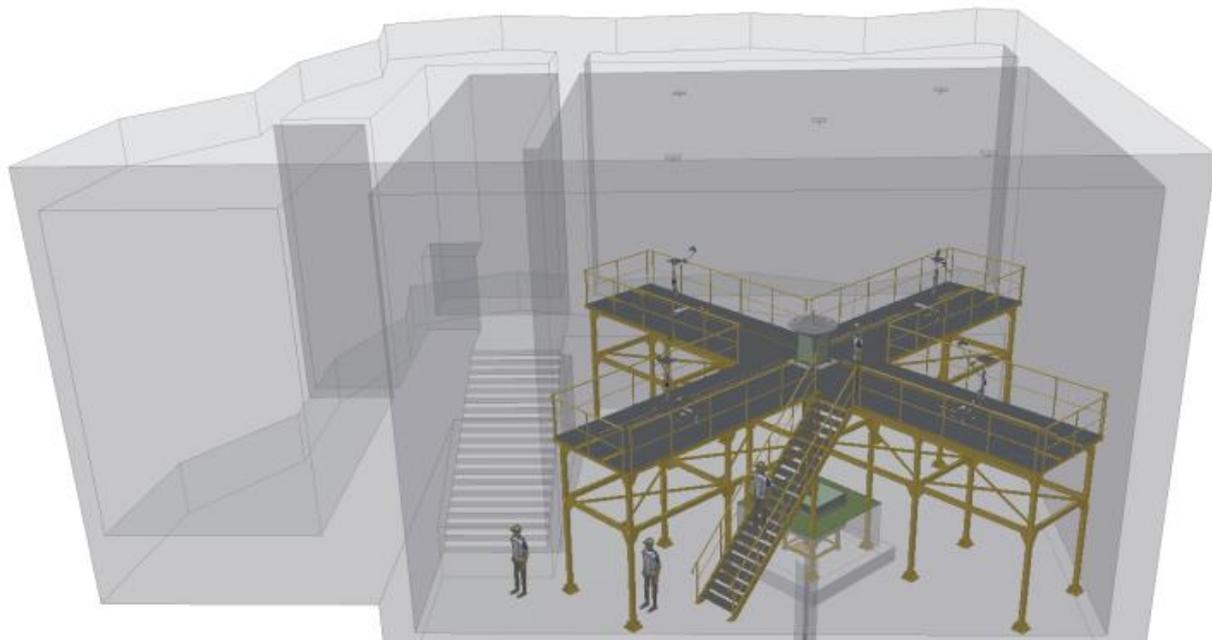
Total number of nests	4
Number of nests for the sources	3
Max. dimensions of sources (ø × h)	40 × 85 mm
Max. neutron emission (Cf-252)	3E8 nps
Max. neutron emission (Am/Be-241)	1E8 nps
Maximum activity of a gamma source	100 GBq
Dose rate in 1 m	< 10 µSv/h
Power supply	230 V / 50 Hz / 160 W
Weight	app. 3 500 kg (can vary depending on the shielding for specific sources)
Shielded container dimensions (H × W × L)	2000 × 1400 × 1400 mm (can vary depending on the shielding for specific sources)
Operating temperature	from 10 to 45 °C

NI-03

# NEUTRON IRRADIATOR

## RELATED PRODUCTS

CB-60	Calibration Bench
NI-01	Neutron Irradiator for one source
NI-08	Neutron Irradiator for seven sources
GI-07	Gamma Irradiator for seven sources
GI-01L	Gamma Irradiator for one Cs-137 source
GI-01H	Gamma Irradiator for one Co-60 source
IG-13	Gamma Irradiator for three sources



*Example of a neutron calibration laboratory with four diagonal benches*



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Specification subject to change without prior written notice.

VF2302100073 / 01 / 2023-06-19