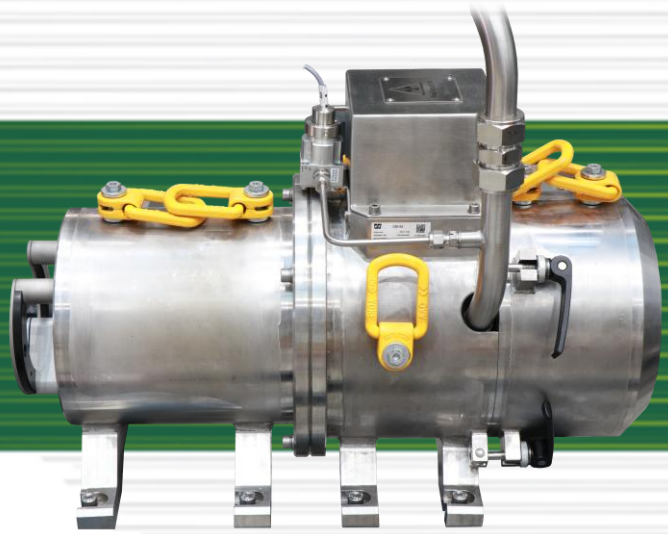
bertin vf nuclear

NUCLEAR FACILITIES

WASTE MANAGEMENT

CID-03

CONTINUOUS IODINE DETECTOR



KEY FEATURES

- Easy replacement of the iodine cartridge
- The detector is designed for continuous measurement during the normal, emergency, or post-emergency conditions at the NPP
- Seismic resistance
- Remote control
- Indication of a clogged filter

PURPOSE

The CID-03 is designed to detect radioactive iodine in the air across a wide range of concentrations, starting from very low levels. The CID-03 signals the presence of iodine to personnel in the radiation-controlled area to ensure their protection against internal contamination.

The air is filtered through an iodine cartridge filled with impregnated activated carbon, which retains the iodine. The radioactive iodine activity in the cartridge is measured by the NaI(Tl) scintillation detector.

The CID-03 detector contains a pressure drop sensor on the iodine cartridge, which allows the device to indicate whether the filter is clogged and request the operator to replace it.

Easy cartridge replacement is ensured by a simple mechanism. A ^{137}Cs control source is used for detector stabilization.

The detection system is shielded with 5 cm thick lead as standard. Optionally, the detector can be supplied with 1 cm or 10 cm thick lead shielding.

SPECIFICATION

Detector type	scintillation NaI(Tl)
Scintillator dimensions	Ø2“x 1“
Filter media	iodine cartridge TC-45
Cartridge capture efficiency	96 %
Measuring range (^{131}I) *)	1,8E+00 to 4E+06 Bq/m^3
Shielding (Pb)	1 / 5 / 10 cm
Flow	30 l/min
Weight	
- shielding 1 cm	61 kg
- shielding 5 cm	247 kg
- shielding 10 cm	611 kg
Dimensions (W × H × D)	
- shielding 1 cm	(542 × 317 × 333) mm
- shielding 5 cm	(609 × 473 × 338) mm
- shielding 10 cm	(668 × 495 × 425) mm

*) The measuring range is valid for the detectors with 5 cm and 10 cm shielding

OPTIONAL ACCESSORIES

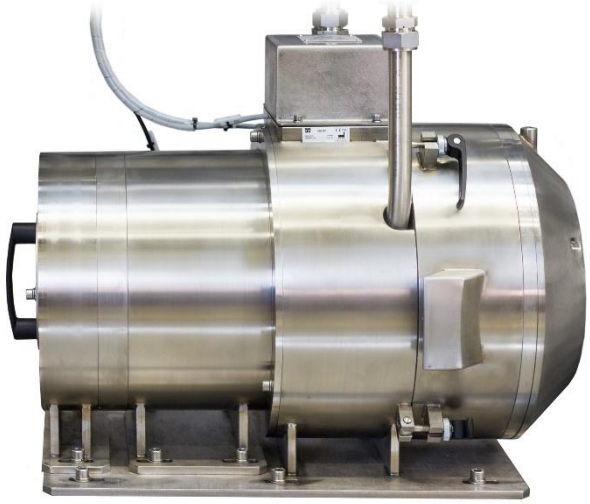
1-7004-00003	Iodine cartridge with activated carbon impregnated with 5 % TEDA
59-A-0010062	Calibration fixture for EG-type check sources
1-0401-00032	EG3 check source, Ba-133, 80kBq
1-0401-00033	EG3X check source, Ba-133, 150 kBq
1-0401-00042	EG1 check source, Cs-137, 18kBq

CID-03

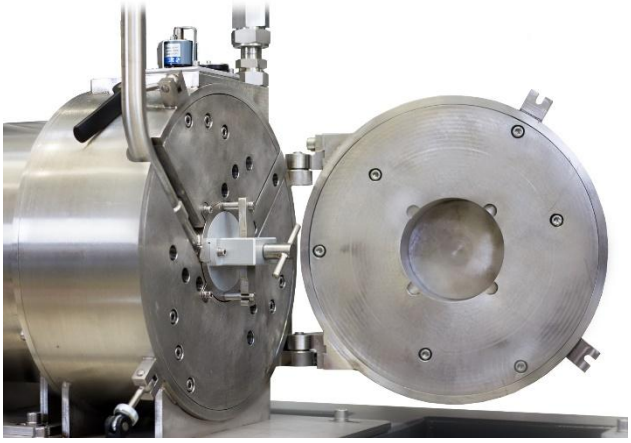
CONTINUOUS IODINE DETECTOR

CIM-303 Continuous Iodine Monitor

CID-03 detector with 5 cm lead shielding and open lid for iodine cartridge replacement



CID-03 detector with 10 cm lead shielding



CID-03 detector with 10 cm lead shielding and open lid for iodine cartridge replacement

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Specification subject to change without prior written notice.