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Technical Data

1040-3

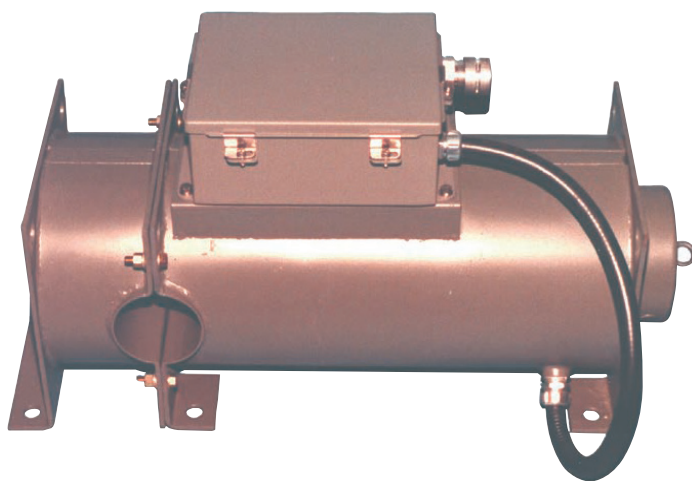
On-Line (Snowplow) Monitor

The 1040-3 On-Line (Snowplow) Monitor assures radioactive materials within liquid effluents do not exceed maximum permissible concentrations (MPC), protecting personnel against possible exposure to excessive radiation.

The Code of Federal Regulations requires any effluent that could possibly contain radioactivity be monitored, and the 1040-3 On-Line (Snowplow) Monitor meets the guidelines set forth in the United States Nuclear Regulatory Commission (USNRC) radiation protection standards. Scintillation detectors are used because of their sensitivity and reliability.

The 1040-3 On-Line (Snowplow) Monitor is an easily installed, liquid effluent monitor that clamps around a process line to be monitored. The assembly has considerable weight due to the required Pb shielding to reduce the effects of background radiation. Clearance is required at the back end of the unit for accessibility to the detector. The detector measures gross gamma radiation in the process fluid, amplifies and shapes the pulse output from the photomultiplier tube and transmits the signal to the Universal Digital Ratemeter. The ratemeter may be locally mounted or remotely located up to 1500 feet. The ratemeter also provides output alarm contacts for Alert, High Radiation and Channel Fail. Check source actuation is manual from the ratemeter, with alarms muted when in the check source mode.

The 1040-3 assembly may be furnished with the optional cooling water jacket around the standard detector or with a high temperature gamma scintillation detector (up to 300 °F) for high temperature process liquid applications. The Snowplow monitor can be oriented either horizontally or vertically to accommodate plant process piping runs.



Key features

- Horizontal or vertical configurations.
- Hinged door for ease of detector replacement.
- Air purge for hazardous locations.
- Integral junction box for cable termination.
- High temperature gamma scintillation detectors available.
- Universal digital ratemeter or microprocessor-based ratemeter with dynamic range up to 10^7 CPM
- Sensitivity comparable to in-line type.
- NaI gamma scintillation detector for sensitivity and reliability.
- Ease of installation.



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Technical specifications

Dimensions (w x d x h) Size will vary depending on process line size and background variations. For 4 inch schedule 40 process line and 4 inch Pb shielding, size will be approximately 12 in x 28 in x 16 in (30.48 cm x 71.12 cm x 40.64 cm).

Weight

Weight will vary depending on process line size and Pb shielding required. For 4 inch schedule 40 process line and 4 inch Pb shielding, weight will be approximately 750 lb (340.2 kg).

Note: Refer to the respective data sheets for the Universal Digital Ratemeter and 943/953 Series Gamma Detectors for detailed specifications.

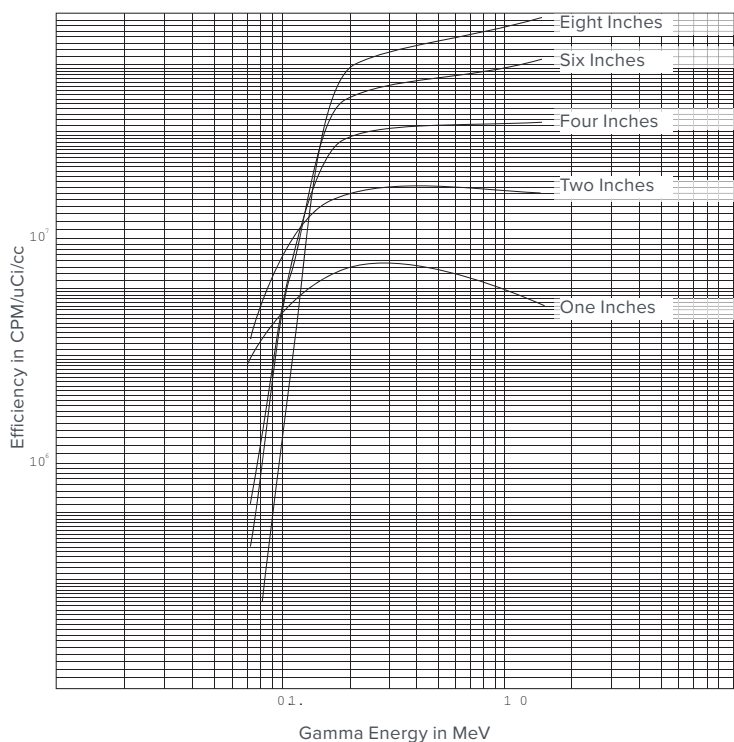
Ordering information

Model

1040-3: On-Line (Snowplow) Monitor

940-3 On-Line Snowplow Monitor available with 942 series UDRs

Liquid Sensitivity Vs Gamma Energy at One Gamma per Disintegration.
Snowplow Sampler with 953-36E Gamma Detector with Various Diameters of
Schedule 40 Pipe



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