



SVHD(/W)TM

Smart Very High Dose Probe

The SVHD(/W) probe delivers exceptional dose rate measurement capabilities – optimized for safe, precise navigation through challenging environments, ensuring reliable performance in nuclear decommissioning and underwater applications.

The SVHD(/W) probe is capable of measuring extremely high dose rates up to 1000 Sv/h, and can withstand high cumulative dose of up to 5 kSv. It features a minimalistic design in the detector head, which is exposed to high dose-rate fields, while a remotely located smart electronic box, attached via a 50-meter cable reel, incorporates all CSP functionalities. This setup allows for adjustable distancing between the detector and the host meter, facilitated by the easy deployment of the cable.



FEATURES

- ✓ H*(10) dose rate equivalent measurement from 1 mSv/h to 1000 Sv/h
- ✓ High cumulative dose live span
- ✓ Part of the proven CanberraTM Smart Probes (CSPTM) family
- ✓ Calibration via PC software
- ✓ Waterproof to 8 atm in borated water (SVHD/W)
- ✓ Plug-and-play functionality
- ✓ Small diameter for bore pipework fit or S-shape configuration (SVHD)
- ✓ Easy to integrate into third-party systems

The SVHD(/W) probe is part of the Canberra Smart Probe (CSP) family. Building on a legacy of exceptional performance, CSP probes offer versatile plug and play capabilities and fast readiness for field operations.

Learn more



SVHD(/W) SMART VERY HIGH DOSE PROBE

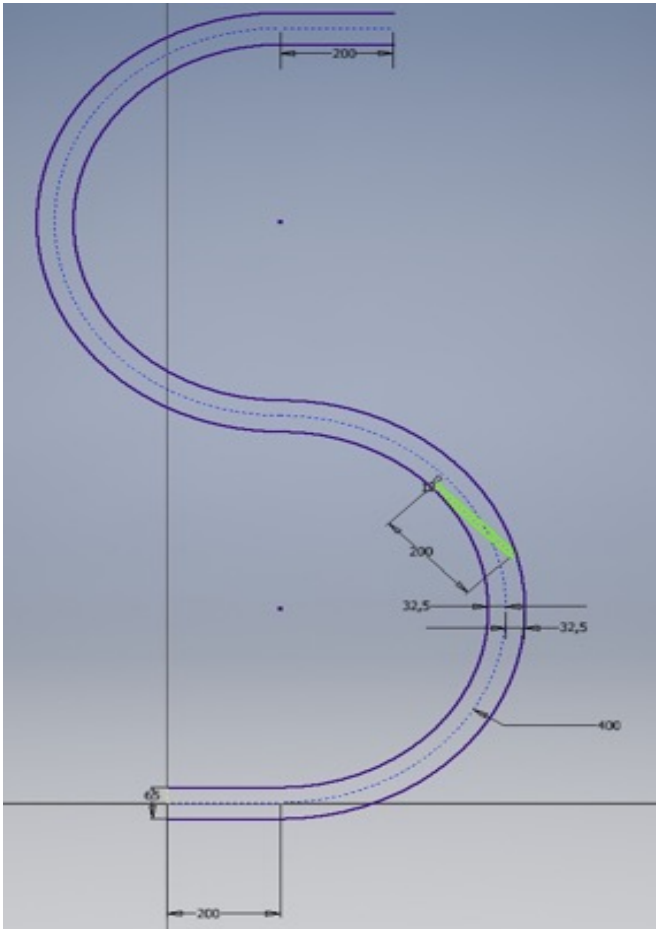
SVHD(/W) is available in two configurations designed for specific applications:

- SVHD/W for spent fuel inspection in pools: IP68 rated, waterproof up to 8 atmospheres in borated water.
- SVHD for dismantling and decommissioning tasks: IP64 rated with a small diameter of 11 mm to facilitate passage through shield plugs.

Additionally, the SVHD/W probe includes a ballast weight, making it suitable for underwater measurements in the cooling pools of Nuclear Power Plants or Fuel Recycling Plants.

SIMPLE DEPLOYMENT FOR DISMANTLING & DECOMMISSIONING

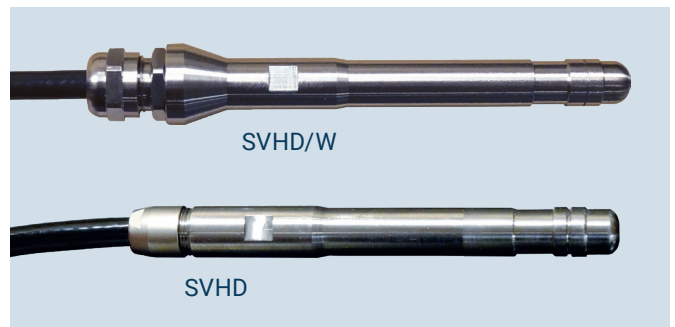
The SVHD probe has a compact detector head, measuring only 11 mm in diameter, making it highly suitable for navigating through 15 mm bore pipework and S-shaped shield crossings with a diameter of 65 mm and a radius of 400 mm. This feature renders the SVHD probe an optimal choice for dismantling and decommissioning tasks.



EASY INSTALL, QUICK TO USE

The detector/cable assembly can be disconnected from the remote electronic box to simplify its installation through shielding and can be replaced by similar spare part when the detector reached its maximum cumulative dose. Any detector replacement requires a mandatory new calibration.

Once calibrated, the probe is ready to be used as a plug-and-play probe to start a quality assurance measurement in rem/h or Sv/h depending on meter regional settings. The SVHD(/W) probe connects to CSP instruments connector via a CSP cable of various length, via CSP-COM communication modules to either Colibri (Bluetooth) or host system (Ethernet) and becomes a sub assembly of a larger system.



SVHD(/W) SMART VERY HIGH DOSE PROBE

SPECIFICATIONS

NUCLEAR

- Unit to display: Sv/h, Sv or rem/h, rem depending on meter connected, H*(10) ambient gamma dose rate equivalent according to ICRP60.
- Emitter: Gamma
- Detector: Energy compensated Silicon diode
- Energy Range: Withing - 29% to + 67% for Gamma from 65 keV to 1.3 MeV and 0° to ± 45° following IEC 60846
- Sensitivity: 22 c/s per mSv/h (¹³⁷Cs) or 45 µSv/h/c/s
- Measurement Range: 1 mSv/h to 1000 Sv/h (100 mrem/h to 100 000 rem/h). Within -15 % to 22 % up to 400 Sv/h and +/- 30 % from 400 Sv/h to 1000 Sv/h.
- Response Time:
 - < 2 s for a 10 factor variation above initial value 1 mSv/h (100 mrem/h)
 - < 4 s for a 10 factor variation above initial value 0.1 mSv/h (10 mrem/h)
 - < 30 s for a 10 factor variation between initial value 10 µSv/h (1 mrem/h) and 100 µSv/h (10 mrem/h)
- Maximum Integrated Dose: 5 kSv (500 krem)

ERGONOMIC

- Display: Provided by meter or host system
- Alarm Setpoints: 10 values for each unit to display. Saved in probe memory. Can be changed for CSPS and PC. Default alarm threshold chosen in a list from survey meter keypad.

ELECTRICAL

- Power: +5V supplied by host instrument (low voltage only)
- Consumption: 15 mA maximum

MECHANICAL

- Detector Head: Stainless steel housing.
SVHD/W: 117 mm (4.6 in) long (cable gland included);
17 mm (0.67 in.) diameter; weight: 60 g (2.12 oz) without cable
SVHD: 101 mm (4 in) long; 11 mm (0.43 in.) diameter;
weight: 40 g (1.4 oz) without cable
- CSP Electronic Box: 98 x 64 x 38 mm (3.86 x 2.52 x 2.52 in)
(L x W x D)
- Detector Head to CSP electronic box: 50 m +/- 0.5 m
(164 ft +/- 1.6 ft) pig tail cable on detector end
and Binder connector on other end

- CSP Electronic Box to Meter: Fisher type connector for CSP cable connection
- Cable Reel: The 50 m (164 ft) long cable is wound onto a reel that integrates the CSP electronic box
- Ballast weight for attaching to SVHD/W probe end of cable, removable (two halves)
- Total Weight: 5200 g (183.5 oz)

ENVIRONMENT

- Operating Temperature: -30 °C to + 50 °C (-22 °F to + 122 °F)
- Storage Temperature: -30 °C to 70 °C (-22 °F to 158 °F)
- Relative Humidity: 96% at 35 °C (95°F)
- Ingress protection:
SVHD/W Detector head with cable gland -
IP68 Waterproof to 8 atm in borated water (10g/l of boric acid)
SVHD: Detection head with cable - IP64
CSP: Electronic box - IP65

NORM

- EMC: Conform EN 55011/A2 (04/2021) Class B
EN 61000-6-2 (02/2019)
- CE: Meets CE requirements
IEC 60846 starting from 1 mSv/h.
Some exceptions apply (See test report)

ORDERING REFERENCES

SVHD:

- NOM007640: SVHD/W
- NOM008784: SVHD
- NOM006282: CSP Cable (1.5 m – 4.9 ft)
- NOM006288: CSP-PC USB cable
- NOM006406: CSP-PL
- NOM006512: CSP Cable (20 m – 65.6 ft)
- NOM006513: CSP Cable (10 m – 32.8 ft)

Calibration/Setup Software (CSPS):

- NOM006289: CSPS-F (French – SI units)
- NOM006299: CSPS-E (English – SI/US units)

RDS-32:

- 1233-318: RDS-31/32 cable adapter for CSP probes with 0.4 m straight cable length
- 1233-319: RDS-31/32 cable adapter for CSP probes with 1.5 m straight cable
- 1233-320: RDS-31/32 cable adapter for CSP probes with coiled cable 0.7 m -1.6 m

