

VIBRATING ROD

for Hazardous Locations



The VR-90 is a vibrating rod used for level indication in granular and coarse-grained bulk solids contained in bins, tanks, silos, and hoppers. It features a round, stainless steel rod that resists buildup and requires minimal maintenance. The VR-90 is appropriate for a wide variety of processing industries and is used for high- or low-level detection in bulk solids or for detecting the level of sediment settled in a liquid. The VR-90 is suitable for unclassified areas and non-EX environments. It can also be manufactured to meet a wide range of hazardous location approvals.

How the VR-90 Works

The vibrating element is a polished, round rod made of 316L stainless steel. The vibrating rod of the VR-90 is energized by a piezo drive to vibrate at a set resonance frequency. When material covers the vibrating rod, the amplitude is dampened. The electronics detect this change and generate an alert indicating a full or empty condition.



VR-90

Rugged Construction Suitable for Many Materials

The VR-90 is typically used to prevent overfilling and for dry run protection. Due to its rugged construction and robust vibration measuring system, the VR-90 is virtually unaffected by the chemical and physical properties of the bulk solid being measured. The VR-90 will also work when subjected to strong external vibrations or when the stored material is changed. It is available in a stainless steel housing for use in food and pharmaceutical products.



Simple Setup and Minimal Maintenance

The VR-90 is easy to set up in an empty vessel without any material present and requires no calibration. It has a product-independent switching point, ensuring it operates reliably, regardless of material properties or when used in a new or different material. Once installed, it requires minimal maintenance, saving time and reducing costs. The smooth surface of the vibrating rod resists buildup of material and is easy to clean.

Use in Any Location or Material with Confidence

The VR-90 can be used in unclassified areas and non-EX environments for general purpose FM/CSA/CE use or can be manufactured for use in hazardous locations with a wide range of approvals.

FM (NI) Class I, Div 2, Groups A, B, C, D (DIP) Class II, III, Div 1, Groups E, F, G

FM (IS) Class I, II, III Div 1, Groups A, B, C, D, E, F

FM (XP) Class I, Div 2, Groups A, B, C, D (DIP) Class II, III, Div 1, Groups E, F, G

CSA (NI) Class I, II, III Div 2, Groups A, B, C, D, E, F, G

CSA (IS) Class I, II, III Div 1, Groups A, B, C, D, E, F, G

CSA (XP) Class I, II, III Div 1, Groups A, B, C, D, E, F, G



VR-90 Product Specifications

Process temperature: -58° to +482°F (-50° to +250°C)

Process pressure: -1 to +16 bar/-100 to +1600 kPa (-14.5 to +232 psig)

Ambient temperature: -40° to +176°F (-40 to +80 °C)

Bulk density: > 0.0007 lb./in.³ (0.02 g/cm³)

Process fittings: Threaded 1.0", 1.25" and 1.5" NPT, 2.0" flange, 2.0" clamp

Power: 20 to 253 V AC, 50/60 Hz, 20 to 253 V DC

Signal output: Relay (DPDT), transistor (NPN/PNP), two-wire output, contactless electronic switch

Switching delay: When being covered: 0.5 second, when being uncovered 1 second

Versions: Standard, detection of solids in water

Housing material: Plastic, aluminum, stainless steel (precision casting), stainless steel (electropolished)

Protection rating: IP 66/IP 68 (0.2 bar), IP 66/IP 67, IP 66/IP 68 (1 bar)

VR90-0419-BLC