

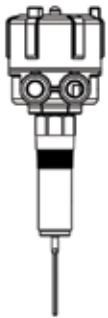


Vibrating Rod

Vibrating Rods—also known as vibrating level switches—are a reliable point level sensor used for high and low-level indication or plugged chute detection. They can be used in light, fluffy powders and flakes with bulk densities as low as 1.25 pounds per cubic feet. BinMaster vibrating rods feature a unique, sword-shaped probe that resists buildup and false alarms. Special models detect sediment under water and a mini vibrating rod fits in tight spaces and small hoppers.

Description	CODE	Part No.
POWER PAC		
VR-21 - Vibrating rod level sensor, 20 to 250V AC/DC, 7.37" insertion length, process temp to 176°F (80°C), triple thread screw-off cover, dual conduit entries, DPDT relay contacts, select- able fail-safe protection, FDA recognized powder coat finish, LED status indicator light. Ordinary locations.	VR21.X	
VR-21-X - Vibrating rod level sensor, 20 to 250V AC/DC, 7.37" insertion length, process temp to 176°F (80°C), triple thread screw-off cover, dual conduit entries, DPDT relay contacts, selectable fail-safe protection, FDA recognized powder coat finish, LED status indicator light; CSA C/US listed for Class II, Groups E, F, & G.	VR21.C	
VR-31 - Sanitary vibrating sensor, 20 to 250V AC/DC, 11.81" insertion length, with a 2" stainless steel sanitary fitting for use with tri-clover style clamp. Process temp to 176°F (80°C).	VR31.X	
VR-41 - Vibrating rod level sensor with pipe extension, 20 to 250V AC/DC, process temp to 176°F (80°C), triple thread screw-off cover, dual conduit entries, DPDT relay contacts, selectable fail-safe protection, FDA recognized powder coat finish, LED status indicator light. Must add pipe extension. Ordinary locations.	VR41.X	
VR-41-X - Vibrating rod level sensor with pipe extension, 20 to 250V AC/DC, process temp to 176°F (80°C), triple thread screw-off cover, dual conduit entries, DPDT relay contacts, selectable fail-safe protection, FDA recognized powder coat finish, LED status indicator light. CSA C/US listed for Class II, Groups E, F, & G. Must add pipe extension.	VR41.C	
VR-51 - Vibrating rod level sensor with flexible cable extension, 20 to 250V AC/DC, process temp to 176°F (80°C), triple thread screw-off cover, dual conduit entries, DPDT relay contacts, select- able fail-safe protection, FDA recognized powder coat finish, LED status indicator light. Ordinary locations.	VR51.X	
SHT-120 - Vibrating rod level sensor with 7.37" insertion length, 20 to 250V AC/DC, high temp probe assembly for maximum process temperature 480°F (250°C)	SHT120.X	
SHT-140 - Vibrating rod level sensor, 20 to 250V AC/DC, high temp probe assembly for maximum process temperature 480°F (250°C). Must add rod pipe extension.	SHT140.X	
REMOTE HOUSING		
Set of remote electronics for VR-21, 31, 41, and 51 series vibrating rods. Remote housing includes mounting plate and 20 ft. of interconnecting cable with conduit.	R	
Set of remote electronics for SHT-120 and 140 series vibrating rods. Remote housing includes mounting plate and 20 ft. of interconnecting cable with conduit.	R	
EXTENSIONS		
Inches if VR 1" galvanized pipe extension (minimum 13", maximum 13'). Sold per inch.	GXXX	
Inches if VR 1" stainless steel pipe extension (minimum 13", maximum 13'). Sold per inch.	SXXX	
Inches if VR sanitary extension (minimum 12", maximum 78"). Sold per inch.	YXXX	
Inches if VR hanging extension (minimum 19", maximum 19.5'). Sold per inch.	HXXX	
PROBES		
7.37" Standard diamond shaped vibrating rod probe 176°F (80°C)	.STD	
7.37" Diamond shaped vibrating rod probe for high temperature process 284°F (140°C)	.HIT	

Description	CODE	Part No.
Sediment probe for detecting submersed solids	.SED	
Sanitary probe with 2" stainless steel sanitary fitting	.SAN	
MOUNTING PLATES		
GRMP-6 - 0° 1-1/2" NPT Powder coated carbon steel mounting plate with half coupling		730-0298
GRMP-8 - 0° 1-1/2" NPT Stainless steel mounting plate with half coupling		730-0469
GRMP-11 - 5° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0501
GRMP-12 - 10° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0502
GRMP-18 - 30° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0633
ACCESSORIES		
Tri-clover style, quick disconnect clamp for 2" sanitary fitting		215-0151
Tri-clover 2" stainless steel welding ferrule flange		175-0230
Gasket for tri-clover clamp connection		280-0084



VR-21

The VR-21 is our standard unit with a fixed insertion length of 7.37". It can be mounted on the top or side of a vessel to detect high/medium/low level indication or plugged chute detection. The standard version will operate in temperatures up to 176°F (80°C). A high temperature version is available to operate in temperatures up to 284°F (140°C). A set of remote electronics available for the VR-21 series vibrating rod includes an enclosure with mounting plate, terminal PCB and up to 20 ft. of cable to connect remote electronics.



VR-51

The VR-51 is extendable from 19" up to 19.5' through the use of a flexible cable. This unit is always top mounted and can be used to detect high/medium/low level indication. The standard version will operate in temperatures up to 158°F (70°C). A set of remote electronics available for the VR-41 series vibrating rods includes an enclosure with mounting plate, terminal PCB and up to 20 ft. of cable to connect remote electronics.



VR-41

The VR-41 is extendable from 13" up to 13', through the use of a solid galvanized or stainless steel extension tube. This unit is normally top mounted and can be used to detect high/medium/low level indication. The standard version will operate in temperatures up to 176°F (80°C). A high temperature version available to operate in temperatures up to 284°F (140°C). A set of remote electronics is available for the VR-41 series vibrating rod includes an enclosure with mounting plate, terminal PCB and up to 20 ft. of cable to connect remote electronics.



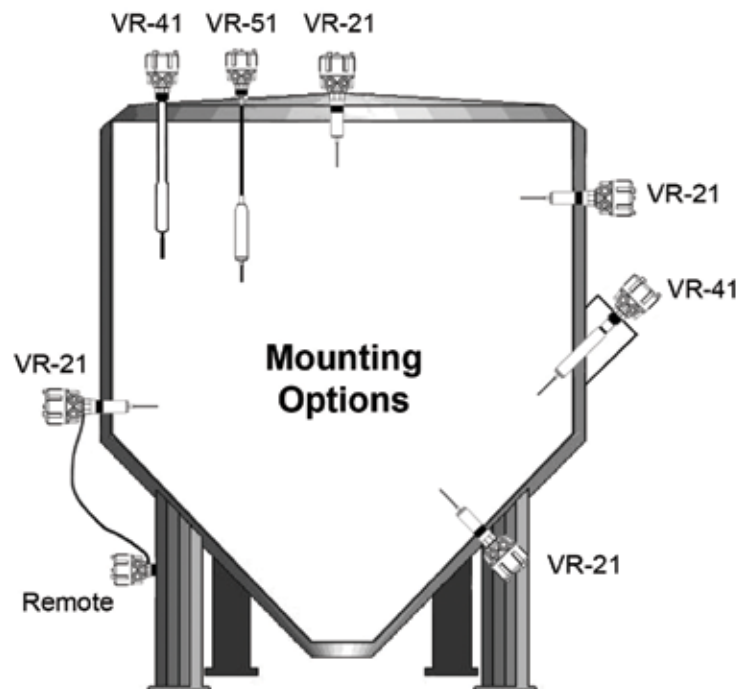
Single Rod Design

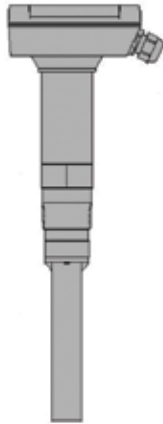
The single rod design eliminates the problem of false signaling due to material wedging and buildup associated with "tuning fork" type probes.



VR-21/41/51 Remote Electronics

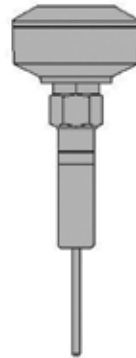
A set of remote electronics available for the VR-21/41/51 series vibrating rods includes an enclosure with mounting plate, terminal PCB and up to 20 ft. of cable to connect remote electronics.





SHT-120

The SHT-120 works in applications with high process temperatures up to 482°F (250°C). The SHT-120 is our standard unit with an insertion length of 7.24". A 2.6" temperature lag tube is standard to lag the electronics away from a heat source or to clear external insulation. A set of remote electronics available for the SHT-120 series vibrating rod includes an enclosure with mounting plate, terminal PCB and up to 20 ft. of cable to connect remote electronics.



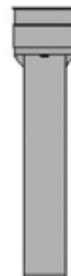
CVR-600

The CVR-600 compact vibrating rod is an economical, single-rod, compact point level control that has been designed for use in small bins and hoppers. The CVR-600 has an insertion length of 6". The small, yet rugged design allows you to use CVR-600 where other level sensors simply won't fit.



SHT-140

The SHT-140 is extendable from 13" up to 13', through the use of a solid galvanized or stainless steel extension tube. This unit is normally top mounted and can be used to detect high/medium/low level indication. The SHT-140 works in applications with high process temperatures up to 482°F (250°C). A set of remote electronics available for the SHT-140 series vibrating rod includes an enclosure with mounting plate, terminal PCB and up to 20 ft. of cable to connect remote electronics.



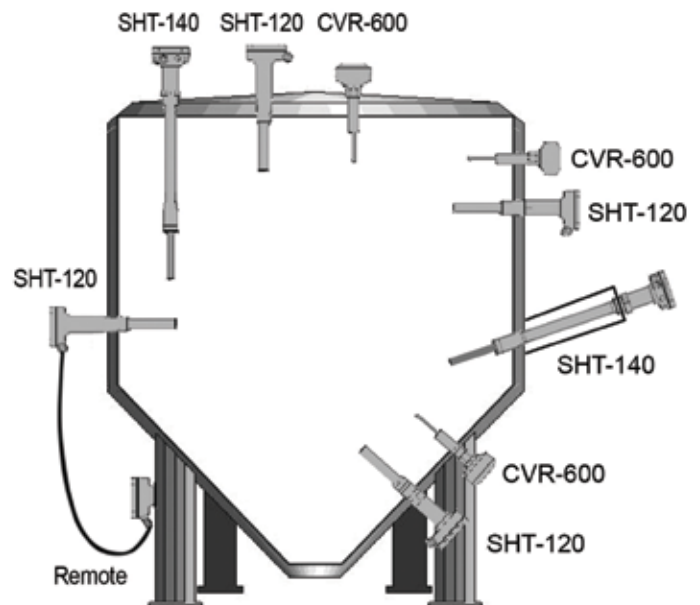
Single Rod Design

The single rod design eliminates the problem of false signaling due to material wedging and buildup associated with "tuning fork" type probes.



SHT-120/140 Remote Electronics

A set of remote electronics available for the SHT-120/140 series vibrating rods includes an enclosure with mounting plate, terminal PCB and up to 20 ft. of cable to connect remote electronics.





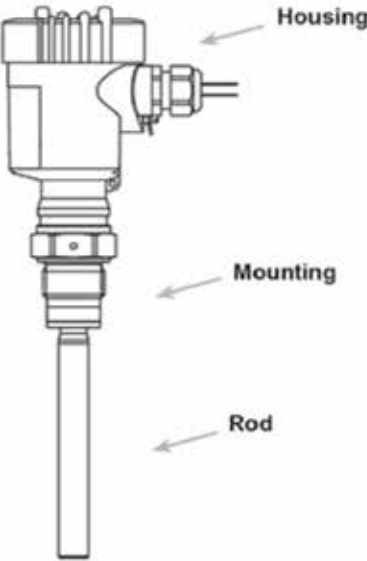
Compact Vibrating Rod

The compact vibrating rod is ideal for small bins, hoppers, and feeders. It is easy to install using a 1" or 1-1/4"NPT mounting socket and can be used in process temperatures up to 300°F. It can be mounted on the top or side of a vessel for high, medium, or low-level indication. The CVR-600 features three sensitivity adjustments allowing it to be used with very light materials (with a bulk density as low as 2) as well as heavier or clingy materials. Remote electronics via a point level alarm panel are available to alert bin levels for four up to 24 individual sensors.

Description	Part No.
POWER PACS	
CVR-600 - Compact vibrating rod level sensor with 1" NPT and 6" insertion length, 20 to 250 VAC/DC	730-0474
CVR-600-HTL - Compact vibrating rod level sensor with 1" NPT and 6" insertion length, 20 to 250 VAC/DC, high temp probe assembly for temperatures up to 300°F (150°C) with 2" temperature insulating lag tube	730-0475
CVR-625 - Compact vibrating rod level sensor with 1-1/4" NPT and 6" insertion length, 20 to 250 VAC/DC	730-0653
CVR-625-HTL - Compact vibrating rod level sensor with 1-1/4" NPT and 6" insertion length, 20 to 250 VAC/DC, high temp probe assembly for temperatures up to 300°F (150°C) with 2" temperature insulating lag tube	730-0654
MOUNTING PLATES	
GRMP-10 - 0° 1" NPT Powder coated carbon steel mounting plate with half coupling	730-0488
GRMP-1 - 0° Mild carbon steel half coupling 1.25" with black neoprene gasket	730-0020
GRMP-2 - 0° Mild carbon steel full coupling 1.25", powder coated with black neoprene gasket	730-0022
GRMP-3 - 0° Stainless steel half coupling 1.25" mounting plate with black neoprene gasket	730-0021
GRMP-4 - 0° Stainless steel full coupling 1.25" with black neoprene gasket	730-0023
GRMP-9 - 10° Mild carbon steel full coupling 1.25", powder coated with black neoprene gasket	730-0489
GRMP-13 - 30° Mild carbon steel full coupling 1.25", powder coated with black neoprene gasket	730-0508
GRMP-14 - 0° Mild carbon steel half coupling 1.25" with white silicone gasket	730-0567
GRMP-15 - 0° Stainless steel full coupling 1.25" with white silicone gasket	730-0568
GRMP-16 - 20° Mild carbon steel full coupling 1.25", powder coated with black neoprene gasket	730-0663

Description	Part No.
VIBRATING ROD REPLACEMENT PARTS	
CVR Series PC board, 20 to 250V AC/DC SPDT	530-0495
SHT Series PC board, 20 to 250V AC/DC SPDT	530-0482
VR Series PC board, 20 to 250V AC/DC DPDT (square enclosure)	530-0321
VR Series PC board, 20 to 250V AC/DC DPDT (round enclosure)	530-0662

Mark X if none					
Sample					
VR-90.	XX	A	NG	R	K



Housing
K: K - Plastic single chamber
A: A - Aluminium single chamber
V: V - Stainless steel single chamber (precision casting)
8: 8 - Stainless steel single chamber (electropolished)

Output
C: C - Contactless electronic switch 20-253 V AC/DC
R: R - Relay DPDT 20-72 V DC / 20-253 V AC (3A)
T: T - Transistor (NPN/PNP) 10-55 V DC
Z: Z - Two-Wire (8/16 mA) 10-36 V DC

Mounting
NC: NC - Threaded 1.0"
NH: NH - Threaded 1.25"
NG: NG - Threaded 1.5" NPT
HA: HA - Flange 2.0"
CA: CA - 2.0" Clamp

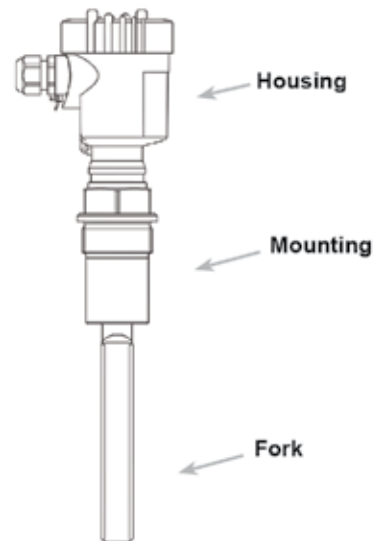
Version
Version: A - Standard
Version: B - With Adapter
Version: C - Solids in Water Detection

Approvals
XX: XX - Unclassified Area
UX: UX - FM (NI) Class I, (DIP) Class II, III
UF: UF - FM (IS) Class I, II, III
UD: UD - FM (XP) Class I, (DIP) Class II, III
KX: KX - CSA (NI) Class I, II, III
KF: KF - CSA (IS) Class I, II, III
KD: KD - CSA (XP) Class I, II, III

Base Unit
VR-90: Vibrating Rod Level Sensor

Description	CODE	Part No.
BASE		
VR-90 - Vibrating rod level sensor with 4.92" buildup resistant round rod	VR-90.	
APPROVALS		
Approvals: XX - Designed for unclassified area, non-EX environment, general purpose FM/CSA/CE	XX	
Approvals: UX - FM (NI) Class I, Div 2, Groups ABCD, (DIP) Class II, III, Div 1, Groups E, F, G	UX	
Approvals: UF - FM (IS) Class I, II, III Div 1, Groups A, B, C, D, E, F	UF	
Approvals: UD - FM (XP) Class I, Div 2, Groups ABCD, (DIP) Class II, III, Div 1, Groups E, F, G	UD	
Approvals: KX - CSA (NI) Class I, II, III Div 2, Groups A, B, C, D, E, F, G	KX	
Approvals: KF - CSA (IS) Class I, II, III Div 1, Groups A, B, C, D, E, F, G	KF	
Approvals: KD - CSA (XP) Class I, II, III Div 1, Groups A, B, C, D, E, F, G	KD	
VERSION		
Version: A - Standard -58°F to 302°F (-50°C to 150°C)	A	
Version: B - With Adapter -58°F to 482°F (-50°C to 250°C)	B	
Version: C - Solids in Water Detection -58°F to 302°F (-50°C to 150°C)	C	
MOUNTING		
Process Connection: NC - Threaded 1.0" PN16, ASME B1.20.1 / 316L (min. 1.15" core hole diameter)	NC	
Process Connection: NH - Threaded 1.25" PN16, ASME B1.20.1 / 316L	NH	
Process Connection: ND - Threaded 1.5" NPT PN16, ASME B1.20.1 / 316L	ND	
Process Connection: HA - Flange 2.0" 150lb RF ASME B16.5 / 316/316L	HA	
Process Connection: CA - 2.0" Clamp PN16 316L	CA	
Process Connection: CD - 1.5" Clamp PN16 316L	CD	
OUTPUT		
Output: C - Contactless electronic switch 20-253 V AC/DC	C	
Output: R - Relay DPDT 20-72 V DC / 20-253 V AC (3A)	R	
Output: T - Transistor (NPN/PNP) 10-55 V DC	T	
Output: Z - Two-Wire (8/16 mA) 10-36 V DC	Z	
HOUSING		
Housing: K - Plastic single chamber / IP66/IP67	K	
Housing: A - Aluminium single chamber / IP66/IP68 (0.2bar)	A	
Housing: V - Stainless steel single chamber (precision casting) / IP66/IP68 (0.2 bar)	V	
Housing: 8 - Stainless steel single chamber (electropolished) / IP66/IP68 (0.2 bar)	8	
MOUNTING PLATES		
GRMP-11 - 5° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0501
GRMP-6 - 0° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0298
GRMP-8 - 0° 1-1/2" NPT Stainless steel mounting plate with half coupling		730-0469
GRMP-18 - 30° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0633
GRMP-12 - 10° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0502
Swivel mount with 1.5" NPT female connector. Can swivel in one direction up to 40°.		SWVL-40

Mark X if none					
Sample					
VF-95.	XX	A	NG	R	K



Housing

K: K - Plastic single chamber
A: A - Aluminium single chamber
V: V - Stainless steel single chamber (precision casting)
8: 8 - Stainless steel single chamber (electropolished)

Output

C: C - Contactless electronic switch 20-253 V AC/DC
R: R - Relay DPDT 20-72 V DC / 20-253 V AC (3A)
T: T - Transistor (NPN/PNP) 10-55 V DC
Z: Z - Two-Wire (8/16 mA) 10-36 V DC

Mounting

NC: NC - Threaded 1.0"
NH: NH - Threaded 1.25"
ND: ND - Threaded 1.5" NPT
HA: HA - Flange 2.0"
CA: CA - 2.0" Clamp

Version

Version: A - Standard
Version: B - With Adapter
Version: C - Solids in Water Detection

Approvals

XX: XX - Unclassified Area
UX: UX - FM (NI) Class I, (DIP) Class II, III
UF: UF - FM (IS) Class I, II, III
UD: UD - FM (XP) Class I, (DIP) Class II, III
KX: KX - CSA (NI) Class I, II, III
KF: KF - CSA (IS) Class I, II, III
KD: KD - CSA (XP) Class I, II, III

Base Unit

VF-95: Vibrating Fork Level Sensor

Description	CODE	Part No.
BASE		
VF-95 - Vibrating rod level sensor with 316L stainless steel 5.91" tuning fork	VF-95.	
APPROVALS		
Approvals: XX - Designed for unclassified area, non-EX environment, general purpose FM/CSA/CE	XX	
Approvals: UX - FM (NI) Class I, Div 2, Groups ABCD, (DIP) Class II, III, Div 1, Groups E, F, G	UX	
Approvals: UF - FM (IS) Class I, II, III Div 1, Groups A, B, C, D, E, F	UF	
Approvals: UD - FM (XP) Class I, Div 2, Groups ABCD, (DIP) Class II, III, Div 1, Groups E, F, G	UD	
Approvals: KX - CSA (NI) Class I, II, III Div 2, Groups A, B, C, D, E, F, G	KX	
Approvals: KF - CSA (IS) Class I, II, III Div 1, Groups A, B, C, D, E, F, G	KF	
Approvals: KD - CSA (XP) Class I, II, III Div 1, Groups A, B, C, D, E, F, G	KD	
VERSION		
Version: A - Standard -58°F to 302°F (-50°C to 150°C)	A	
Version: B - With Adapter -58°F to 482°F (-50°C to 250°C)	B	
Version: C - Solids in Water Detection -58°F to 302°F (-50°C to 150°C)	C	
MOUNTING		
Process Connection: NC - Threaded 1.0" PN16, ASME B1.20.1 / 316L (min. 1.15" core hole diameter)	NC	
Process Connection: NH - Threaded 1.25" PN16, ASME B1.20.1 / 316L	NH	
Process Connection: ND - Threaded 1.5" NPT PN16, ASME B1.20.1 / 316L	ND	
Process Connection: HA - Flange 2.0" 150lb RF ASME B16.5 / 316/316L	HA	
Process Connection: CA - 2.0" Clamp PN16 316L	CA	
Process Connection: CD - 1.5" Clamp PN16 316L	CD	
OUTPUT		
Output: C - Contactless electronic switch 20-253 V AC/DC	C	
Output: R - Relay DPDT 20-72 V DC / 20-253 V AC (3A)	R	
Output: T - Transistor (NPN/PNP) 10-55 V DC	T	
Output: Z - Two-Wire (8/16 mA) 10-36 V DC	Z	
HOUSING		
Housing: K - Plastic single chamber / IP66/IP67	K	
Housing: A - Aluminium single chamber / IP66/IP68 (0.2bar)	A	
Housing: V - Stainless steel single chamber (precision casting) / IP66/IP68 (0.2 bar)	V	
Housing: 8 - Stainless steel single chamber (electropolished) / IP66/IP68 (0.2 bar)	8	
MOUNTING PLATES		
GRMP-11 - 5° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0501
GRMP-6 - 0° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0298
GRMP-8 - 0° 1-1/2" NPT Stainless steel mounting plate with half coupling		730-0469
GRMP-18 - 30° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0633
GRMP-12 - 10° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0502
Swivel mount with 1.5" NPT female connector. Can swivel in one direction up to 40°.		SWVL-40