



ISO 9001/14001



ATEX



Vibrating Fork Type Level Switch

Model : SVF



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www.seojin.biz

SVF

Vibrating Fork Type Level Switch

Introduction

SVF series tuning fork level sensor is applicable for fixed point alarm or control in all kinds of storage level and liquid level in tank.

- Liquid material: Water, Oil, Milk, chemical fluid, Sludge, Pulp, Mud... etc.
- Solid material: Plastic powders & pellet, Grains, Cement, Sugars, Sands... etc.

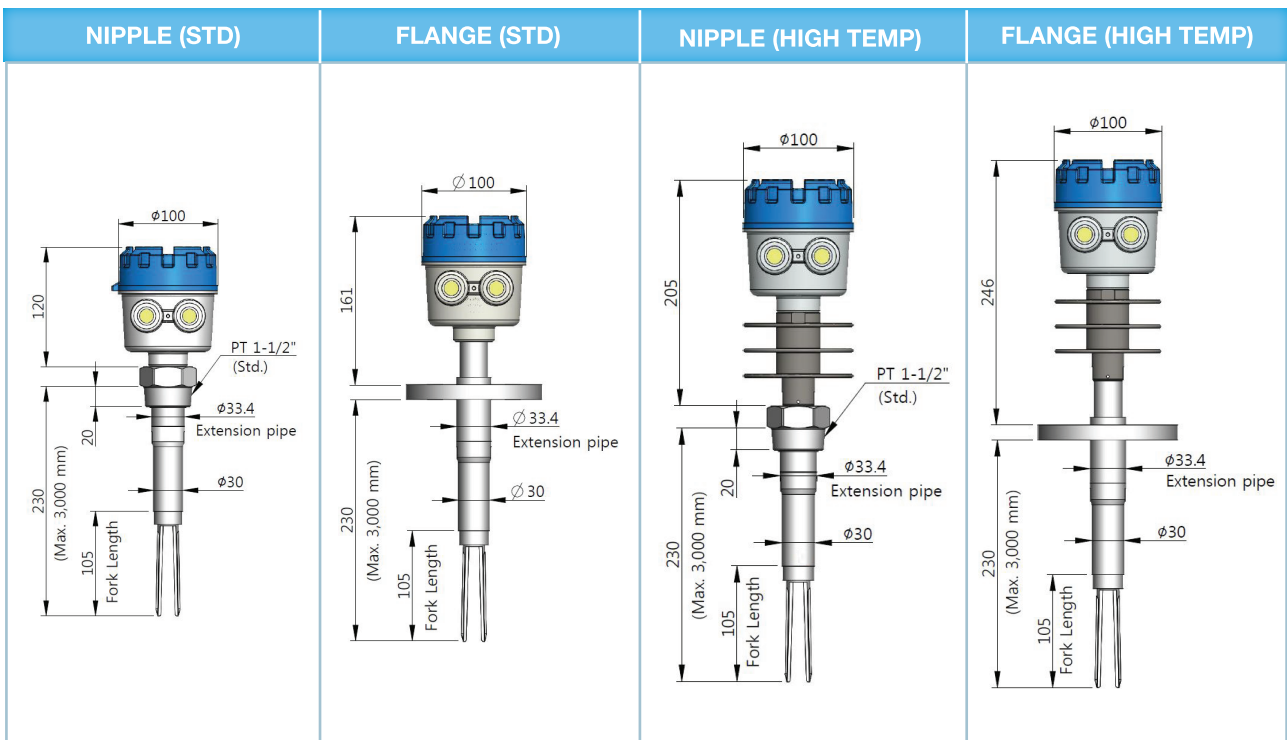
And it can detect sediment in liquid. The instrument has not a movable parts and presents merits of anti-corrosion, high sensitivity and easy mounting etc.

Features

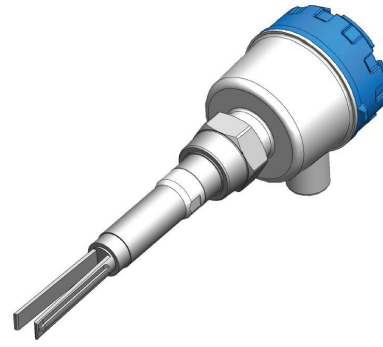
- Very high sensitivity tuning fork sensing probe (Sensitivity adjustment)
- Applicable to all kinds of liquid or ultra-light powders and solids material.
- Withstand up to 200°C (option)
- Threaded & Flanged Mountings

Overall Dimension

► SVF-500 (Solid Type)



- Fork Length : 105mm / Density : 500 g/l

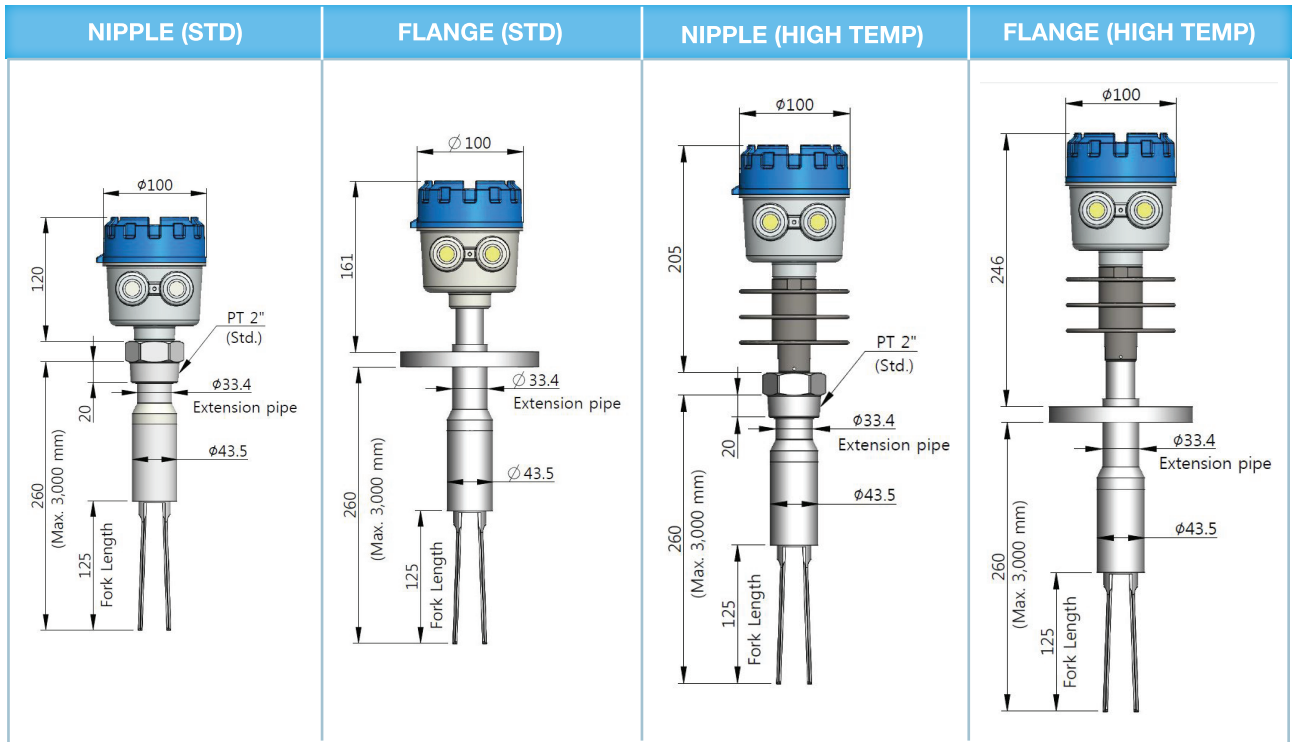


Principle

The tuning fork type vibration probe of new SVF series is using the driven piezoelectric crystal cell and the response piezoelectric crystal cell at tip end of tuning fork. When the driven piezoelectric crystal cell is energized, the driven piezoelectric crystal cell and response piezoelectric crystal cell are attracted and repulsed. This movement makes vibration. The construction of tuning fork type vibration probe is similar to the motor. When the motor is energized by the battery, the back electromotive current is generated by the influence of response piezoelectric crystal cell and coil. When the tuning fork type vibration probe is covered with all kinds of liquid, solids or powdered material, the current flowing to the lead wire is increased by damping of the back electromotive current. The amplifier detects the shifting of current level, and converts to output signal.

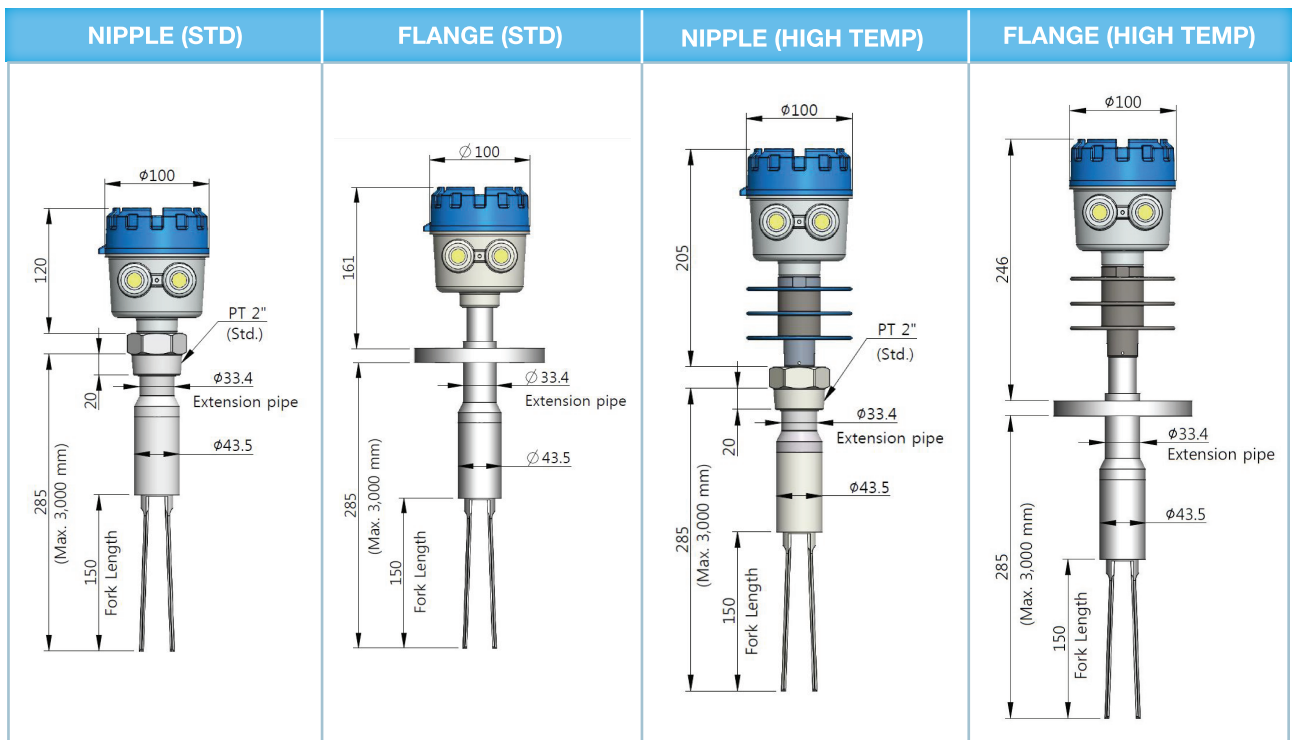
Overall Dimension

► SVF-500S (Solid type)



- Fork length : 125mm / Density : 75g/l

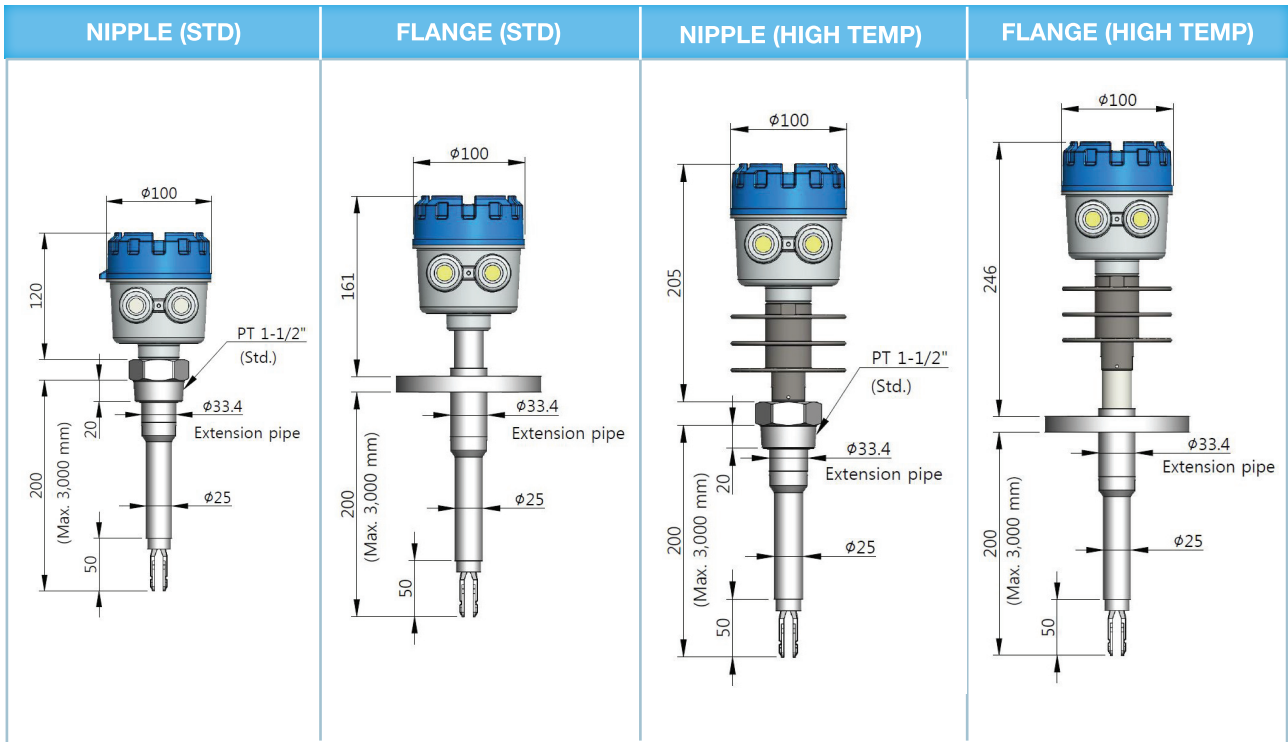
► SVF-500SS (Solid Type)



- Fork length : 150mm / Density : 15g/l

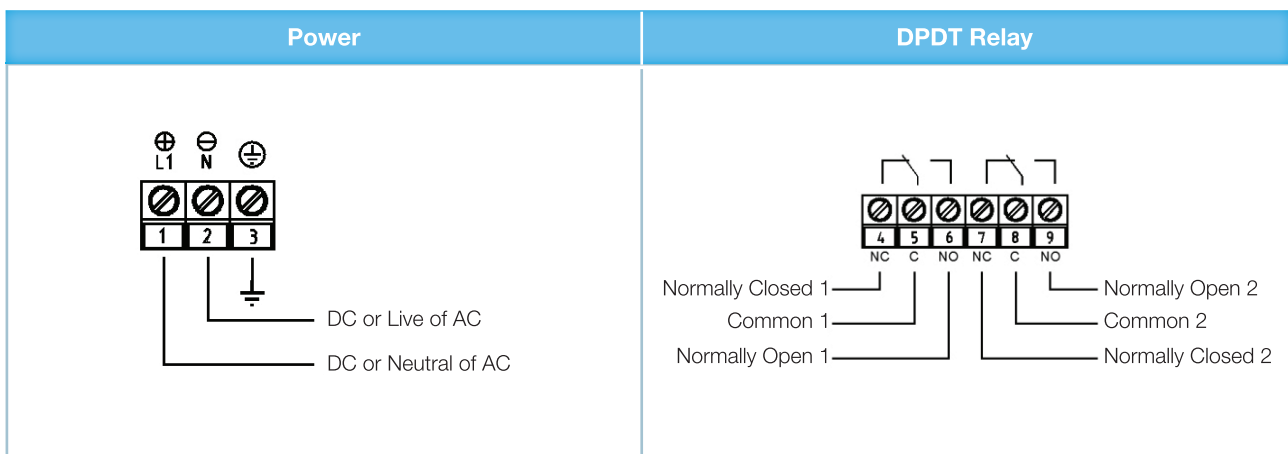
Overall Dimension

► SVF-600 (Liquid type)



- Fork Length : 50mm / Density : 0.5 g/cm³

Wiring



Specifications

DESCRIPTION		SVF-500	SVF-500S	SVF-500SS	SVF-600
		Solid Type			Liquid Type
Power	Supply	15 ~260 VAC 50/60 Hz. or 15~50 VDC			
	Consumption	Max. 5W			
Relay Output		1 DPDT Relay (Resistive Load) 5A @ 220 Vac, 24 Vdc			
Configuration		Sensitivity Control, Failsafe Select, Covered / Uncovered Time Delay (5 second)			
Operating Temperature	Electronics Housing	-20 ~ +60°C			
	Sensing Probe	-20 ~ +80°C Std. / -30 ~200°C (Option)			
Operating Pressure		15 Bar			
Application	Measures Sensitivity	Min. 500 g/l (0.5 g/cm ³) Fork length: 105mm	Min. 75 g/l (0.075 g/cm ³) Fork length: 125mm	Min. 15 g/l (0.015 g/cm ³) Fork length: 150mm	Min. 0.5 g/cm ³ Fork length: 50mm
Sensitivity Adjustment		Variable Volume			
Vibration Frequency & Width		Approx. 200~250Hz / Approx. 0.5mm			
Material	Housing	ADC12			
	Vibration Fork	316LSS			
	Extension	304SS / 316LSS			
Cable Entry		1 or 2 Way Cable Entry / PF 3/4" & PF 1/2" or Option			
Enclosure		Weather Proof (IP66 / Std.) KCs Explosion Proof (Ex db IIC T6...T3 Gb, IP66) KCs Dust Ignition Proof (Ex tb IIIC T85°C Db, IP66) IECEX /ATEX (Ex db IIC T6...T3 Gb, IP66) IECEX / ATEX (Ex tb IIIC T85°C Db, IP66)			
Approval		KC Mark Certificated			
Indication		Alarm Indicating LED / Power ON LED Indicator			
Mounting	Nipple Type	PT 1-1/2" (SVF-500, 600), PT 2" (SVF-500S, 500SS), Option			
	Flange Type	JIS 5K 50A FF or Option			
Measuring Length		Std.230mm Max 3,000mm	Std.260mm Max. 3,000mm	Std.285mm Max.3,000mm	Std.200mm Max.3000mm

Precaution

- Feed inlet can not directly aim at tuning fork, if it can not be avoid, for prevent massive material compacted falling on tuning fork, it should be mounted protection guard so that avoids tuning fork body damage.
- At strong vibrating occasion, it can be used flexible metal tube to suspending tuning fork head.
- It can not be placed instrument in the sun directly, if in the sun directly, it can be mounted an thermal isolation plate.
- Ground line should be a good connection with vessel or earth, grounding resistor <2Ω

Ordering Information

■ Vibrating Fork Level Switch

SVF 500 S 1 A 1 A 1 A

CONDUIT CONNECTION (2 Way Cable Gland Type)

A = PF 3/4" (Std.)
 B = PT 3/4"
 C = PF 1/2"
 D = PT 1/2"
 E = NPT 1/2"
 F = NPT 3/4"
 OP = etc.

ENCLOSURE

1 = Weather Proof (IP66/Std.)
 2 = KCs Explosion Proof (Ex db IIC T6...T3 Gb, IP66)
 3 = KCs Dust ignition Proof (Ex tb IIIC T85°C Db, IP66)
 4 = IECEx / ATEX (Ex db IIC T6...T3 Gb, IP66)
 5 = IECEx / ATEX (Ex tb IIIC T85°C Db, IP66)

LENGTH EXTENSION

A = 230 mm SVF-500 (Std.)
 B = 260 mm SVF-500S (Std.)
 C = 285 mm SVF-500SS (Std.)
 D = 200 mm SVF-600 (Std.)
 E = 231 ~ 1,000mm SVF-500 (Extension Type)
 F = 261 ~ 1,000mm SVF-500S (Extension Type)
 G = 286 ~ 1,000mm SVF-500SS (Extension Type)
 H = 201 ~ 1,000mm SVF-600 (Extension Type)
 I = 1,001 ~ 2,000mm (Extension Type)
 J = 2,001 ~ 3,000mm (Extension Type)
 OP = etc.

MOUNTING SIZE

1 = PT 1-1/2" (SVF-500/600 Std.)
 2 = PT 2" (SVF-500S/500SS Std.)
 3 = JIS 5K 50A FF
 4 = JIS 10K 50A FF
 5 = ANSI 150# 2" RF
 OP = etc.

POWER SUPPLY & OUTPUT

A = Universal Power Supply (15-80V DC & 15-260V AC) & 1 DPDT

FORK MATERIAL

1 = 316LSS (Std.)

OPERATING TEMPERATURE

S = Standard Type (-20 ~ 80°C)
 T = High Temperature Type (-30 ~ 200°C)

PROBE TYPE

500 = Solid Type, Fork length 105mm (Density 500g/l min.)
 500S = Solid Type, Fork length 125mm (Density 75g/l min.)
 500SS = Solid Type, Fork length 150mm (Density 15g/l min.)
 600 = Liquid type, Fork length 50mm (Density 0.5g/cm³ min.)



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■ Specifications subject to change without notice