

[See page 5 for selection details](#)



WD70-A

Miniature Tuning Fork Level Switch

Principle of operation

The tuning fork rod is driven by the piezoelectric crystal and the natural frequency of the tuning fork, and the signal is fed back, so that the tuning fork rod resonates. When the material level touches the tuning fork rod, the tuning fork rod feeds back the frequency signal, and when the circuit detects that the frequency of this signal decreases, it is converted into the output of a contact signal. The vibration frequency of the tuning fork rod is reduced due to the damping effect when the measured object is coated with the tuning fork rod, and a switching signal is output, so there is no signal amplification circuit inside, which can avoid the trouble that the sensitivity must be adjusted frequently due to the change of material properties.

When the tuning fork switch is used for low alarm (or low position control), the medium in the container is discharged downward and flows through the tuning fork. When it is lower than the specific position of the tuning fork, the natural frequency changes, which are detected by electronic components, thus switching the output state; When it is used for high-level alarm (or high-level control), the medium in the container rises and contacts with the fork body of the tuning fork, causing the natural frequency to change and switching to the output state.

Product description

Tuning fork level switch is a general level switch, which is also often called tuning fork level gauge, tuning fork level limit switch and electric floating tuning fork level gauge. Because of the appearance of tuning fork switch in different links in industrial production, it actually plays different key roles.

Because the tuning fork liquid level switch has no moving parts, compared with the floating ball liquid level switch, it can avoid the influence of interference factors such as structure, turbulence, agitation, bubbles, vibration, etc. It is an upgraded product of the floating ball liquid level switch and has wider applicability.

Using short tuning fork technology, it can be used in all liquid application places and non-sticky powder with good fluidity.

Widely used in petroleum, light industry, food, water treatment, building materials, environmental protection and other industries, the level of the upper and lower limit alarm and automatic control of the upper and lower limit.

Functional performance

Strong adaptability: the different parameters and density of the measured material have no influence on the measurement.

Maintenance-free: Because the detection process of the tuning fork liquid level switch is completed by electronic circuit and there are no moving parts, it does not need maintenance once it is installed and put into operation.

No need to adjust: because the detection of the tuning fork liquid level switch is not affected by the dielectric constant and density of the medium to be measured, no matter what kind of liquid is measured, it does not need to be adjusted on site.

Explosion-proof place: the products have been certified for explosion-proof and can be used in petrochemical industry.




Product application

Machinery industry
Cleaning, filtration system and cooling.

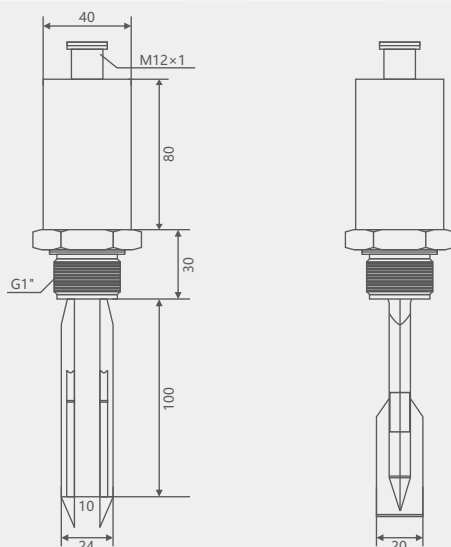
Overflow protection in lubricating container and idling protection of pump



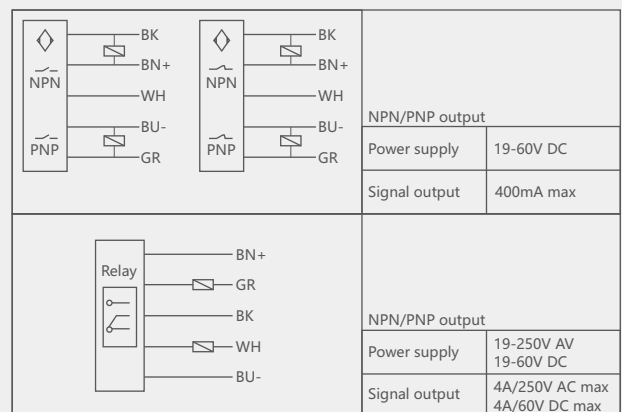
Technical parameter

Specifications	WD70-A (Aviation small fork)	WD70-AI (Aviation standard fork)	WD70-AZ (High temperature aviation fork)
Product chart			
application	liquid	Liquid/Powder	Liquid/Powder
type	Extension tube can reach up to 1 meter	Extension tube can reach up to 1 meter	Extension tube can reach up to 1 meter
material	304/316/316L	304/316/316L	304/316/316L
Process Connection	Thread from G 1/2, 1/2 NPT start/sanitary interface	Thread from G1, 1 NPT/flange/sanitary interface	Thread from G 1/2, 1/2 NPT lifting/flange/sanitary interface
Process temperature	-40~80 ° C	-40~80 ° C	-40~180 ° C
Process pressure	-1-30bar (-100-3000kPa)	-1~64bar (-100~6400kPa)	-1~64bar (-100~6400kPa)
signal output	Relay output/transistor output	Relay output/transistor output	Relay output/transistor output
source	24 VDC	24 VDC	24 VDC
Vibration frequency	1K HzK10%	1K HzK10%	1K HzK10%
Measurable density/viscosity range	Liquid: ≥ 0.7g/cm ³ Viscosity: 1-10000 cSt	Liquid: ≥ 0.7g/cm ³ Viscosity: 1-10000 cSt	Liquid: ≥ 0.7g/cm ³ Viscosity: 1-10000 cSt
Shell material	Stainless steel	Stainless steel	Stainless steel
authentication	CE / ISO9001	CE/ISO9001	CE/ISO9001
Protection level	IP65 / IP66 / IP67	IP65/IP66/IP67	IP65/IP66/IP67

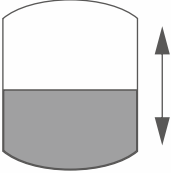
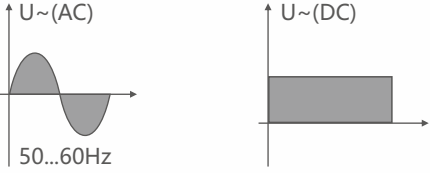
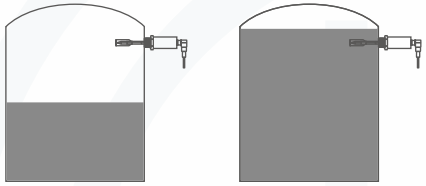
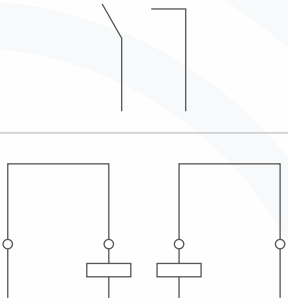
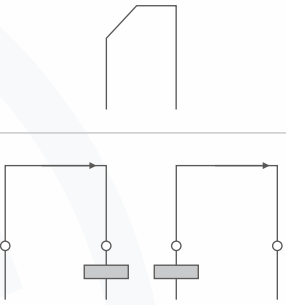
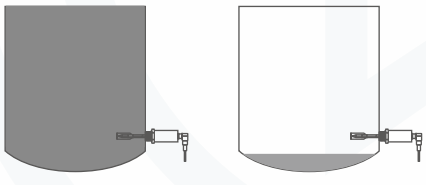
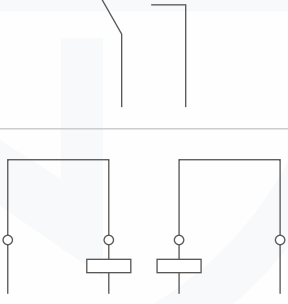
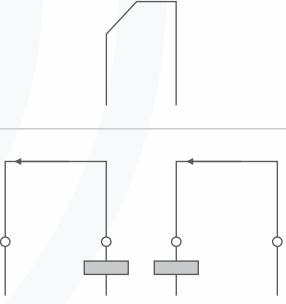
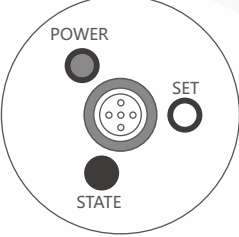



Size mm



Wiring diagram



State diagram

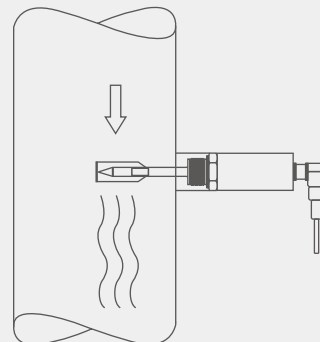
			
<p>Maximum value</p>			
<p>Minimum value</p>			
		<ul style="list-style-type: none">  Green LED, power indicator light  Red LED, working status indicator light  Set button 	

Installation diagram

Correct installation

Correct installation method

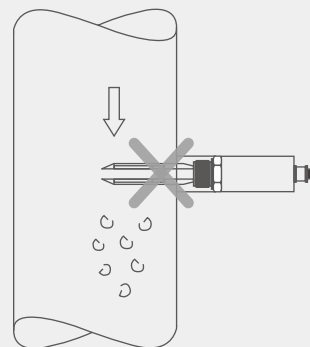
- Top-mounted, the vibrator is vertically downward, and can be installed at any place on the top (far from the feed inlet).
- Location.
- Horizontal installation, the vibrator is inclined downward by 15-20 degrees to reduce the impact and hanging of materials.
- The occurrence of material phenomenon.
- Horizontal installation, the vibrator is inclined downward by 15-20 degrees, and there is a baffle above the material level switch (long
- The degree is about 10"(250mm) and the width is about 8"(200mm), which can prevent (d) the material from being in the.
- Improper accumulation around the material level switch can reduce the impact of materials on the material level switch.
- Installed in the discharge hopper, the maximum distance between the bottom of the screw thread of the material level switch and the barrel wall is not
- More than 2.4"(60mm), which can avoid false alarm due to improper accumulation of materials.
- Situation.



Wrong installation

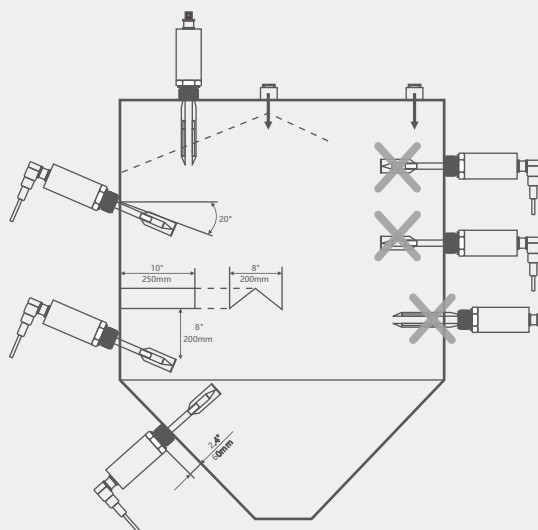
Wrong installation method

- Horizontally installed at an unknown position above the filling wall or below the feed inlet.
- Incorrect installation angle (the surface of the vibrating rod is subjected to high load pressure during feeding and unloading)It is easy to malfunction due to force.
- If the distance between the bottom of the screw tooth of the material level switch and the barrel wall exceeds 2.4 "(60mm), the materialThe position switch will not function properly.



Installation dimensions, examples, and precautions for storage tanks

- During installation, the switch can be installed at an angle of 15-20 degrees horizontally downwards to reduce material impact and hanging.
- When installing, it should be as far away as possible from the feeding port of the barrel groove to avoid material impact and false alarms. If unavoidable, a partition must be installed between the feeding port and the material level for protection.
- The wire inlet of the junction box must face downwards, and the fixing nut of the power wire inlet must be locked tightly.
- When working in the barrel groove, it is strictly prohibited to use a vibrating rod to climb or hang any ropes and objects.



WD70-A-Selection composition

 Selection examples **WD70-A** **B** **G** **J** **O** **R** **3.15** **N** **G**

1.Fork type	A	Aviation small fork
	B	Aviation standard fork
	C	High temperature aviation fork body
2.Working power supply	E	110V
	F	220VAC
	G	24VAC
	H	24VDC
	T ()	Other voltage types
3.Output contact signal	J	Normally open
	K	Normally closed
	L	Relay output
	T ()	Other output contact signals
4.Material quality	O	304 stainless steel
	P	316 stainless steel
	T ()	Other material types
5.Installation method	R	Side mounted
	S	Top mounted
6.Medium density	D ()	(Note density)
7.Threaded connection installation	N	G1/2
	O	G1
	P	1"NPT
	Q	1/2"NPT
	R	3/4"NPT
	S	M20*1.5
	U	M27*2
T ()	Other connections	
8.Fork length (unit: mm)	G	100
	H	150
	I	200
	J	250
	T ()	Other lengths

Instructions:

It indicates that WD70-A tuning fork level switch is aviation standard, with power supply of 24VDC, normally open output contact signal, made of 304 stainless steel, installed by side, medium density of 3.15, threaded connection of G1/2, and fork length of 100mm.

Product Certification

Compliance and approval; Rodwig flow meters meet key standards and certifications for process measurement technology; To ensure the highest reliability in such settings;

