

PRODUCTS GUIDE

Solution for Oil and Gas Industry



www.fine-tek.com



Solid / Liquid Level Measurement for Field Application
Pneumatic Vibrator/Air Hammer
Temperature Controller/ Counter /Digital Panel Meter



Your BEST Partner

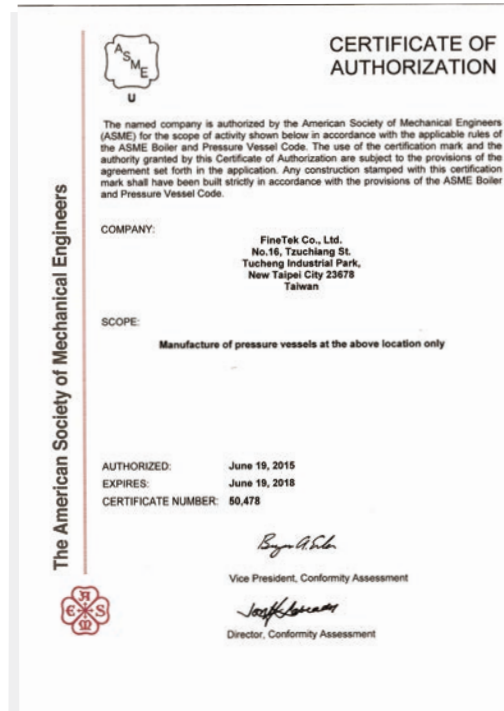
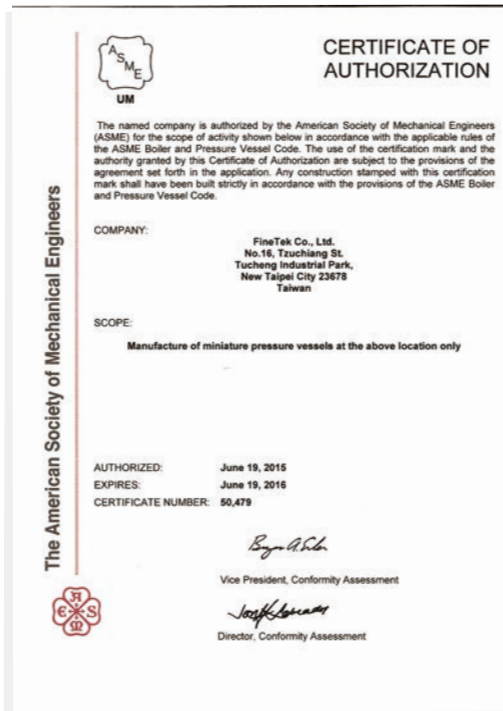


With the technologies and experiences accumulated for more than 30 years, FineTek is dedicated to the measurement and development of industrial sensing field all the time. Its professional development capability and strict process management don't only obtain ISO9001 certification, but also provide a variety of quality products that meet the requirements of different fields.

INTRODUCTION

The so-called petroleum can be separated into crude oil and natural gas. The liquid output from the ground surface is called crude oil, while the gaseous output is the natural gas. The petroleum is a type of resource exploited by underground drilling. Its composition and origins vary with the place and depth. The crude oil output from some regions is like the form of gasoline can be added into engine. Moreover, some crude oil is as viscous as asphalt, which is hard to flow. No matter for the upstream, midstream and downstream work (such as the crude oil distillation, treatment and purification of natural gas) in the oil and gas industry, environmental protection is a key issue that we must face and concern. Under the increasing pressure from governments and environmental associations of worldwide countries, it is an urgent issue about how to enhance the industrial safety and reliability. Both petroleum and natural gas are important raw materials in our industrial fields. FineTek has high requirements for our product to accommodate the safety, availability and optimal utilization rate of drilling equipment. To make assurance, the operation of measuring instrument is abrasion-free and doesn't need maintenance.

Introduction of ASME and NACE



ASME Vision

It is striving for the global leader of the evaluation procedure and the related products and services for mechanical and multidisciplinary engineering regulations, standards and conformity.

ASME Mission

For the benefits of the entire human race, it is dedicated to making the optimal and applicable evaluation procedure and developing the related products and services for the global regulations, standards and conformity. It gathers global talents to develop, carry out and promote ASME related products and services.

ASME Boiler & Pressure Vessel Code (BPVC)

To enter the international market, the boiler & pressure vessel manufacturer must learn and master the corresponding conditions of entry in the market. The ASME Boiler & Pressure Vessel Code (BPVC) is an internationally recognized regulation that has been widely accepted and applied in boiler & pressure vessel design, manufacturing and inspection.

NACE Material Certification

NACE standard covers all fields of anti-corrosion control, including the selected method, design, installation, material or system operation. Such standard can provide the details for constructing anti-corrosion control system and the methods for material surface treatment, so as to reduce the requirements for using corrosion control facilities. Moreover, it regulates the principles for normal operation and maintenance of corrosion control system, and provides the correct method of using corrosion control technology. It aims to improve the equipment or system efficiency, safety and economic benefits.

“Cathode protection” is from the electrochemical perspective. With an additional DC current, it polarizes the metal anode zone and makes the electrical potentials of the metal cathode equivalent, so as to reduce the corrosion current in the metal, achieving the purpose of metal corrosion prevention. The cathode corrosion prevention is the most effective electrochemical anti-corrosion technique currently, which is convenient, cost-effective and popular globally. Moreover, it is the most feasible Retro-Fitting engineering method.

EM01 By pass chamber for process level instrumentation

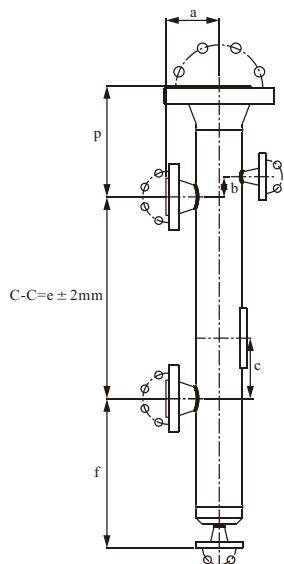
OPERATING PRINCIPLE

EM01 is an independent by-pass chamber. It mainly installs the process level instrument on the container externally. With the extended by-pass pipe chamber on the tank or pipe, it uses the equipped instrument to indicate the current level change in the tank. In this way, it allows the user to do the equipment maintenance without downtime.

FEATURES

- Perfect design and application
- Convenient to install process level instrument externally
- Easy to maintain without stopping the machine
- Design based on ASME Piping Code with ASME
- Power Piping Code Certificate that can be presented upon demands
- Compliance with Pressure Equipment Directive (PED)
- Various process connection, and optional drain and vent
- Years of experience in designing based on international regulation and manufacturing by-pass chamber
- Products made of carbon steel and stainless steel available
- The special optimization process combines with various sensors and switches of FineTek to become the optimal sensor solution
- Custom design service available

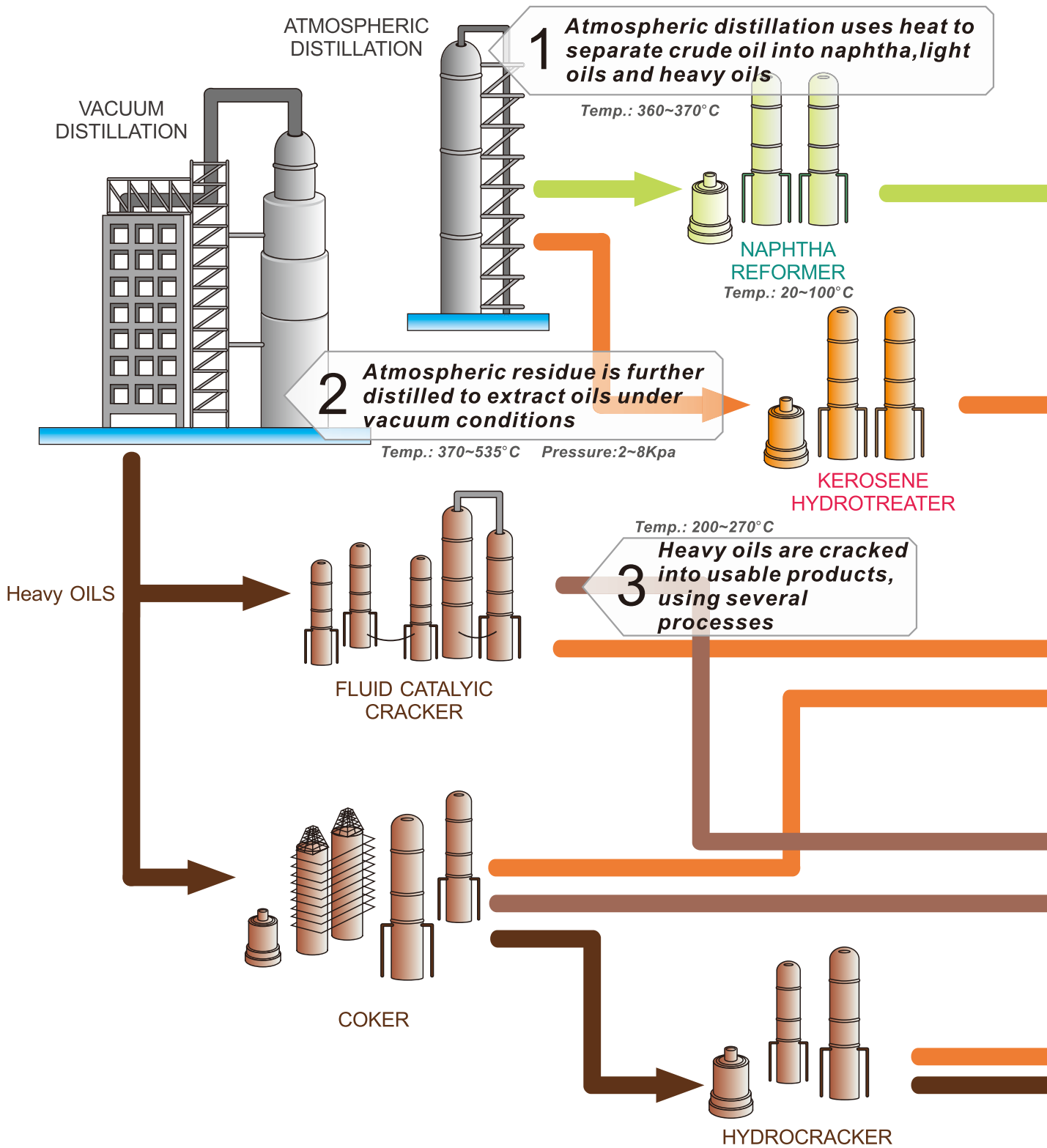
DIMENSIONS

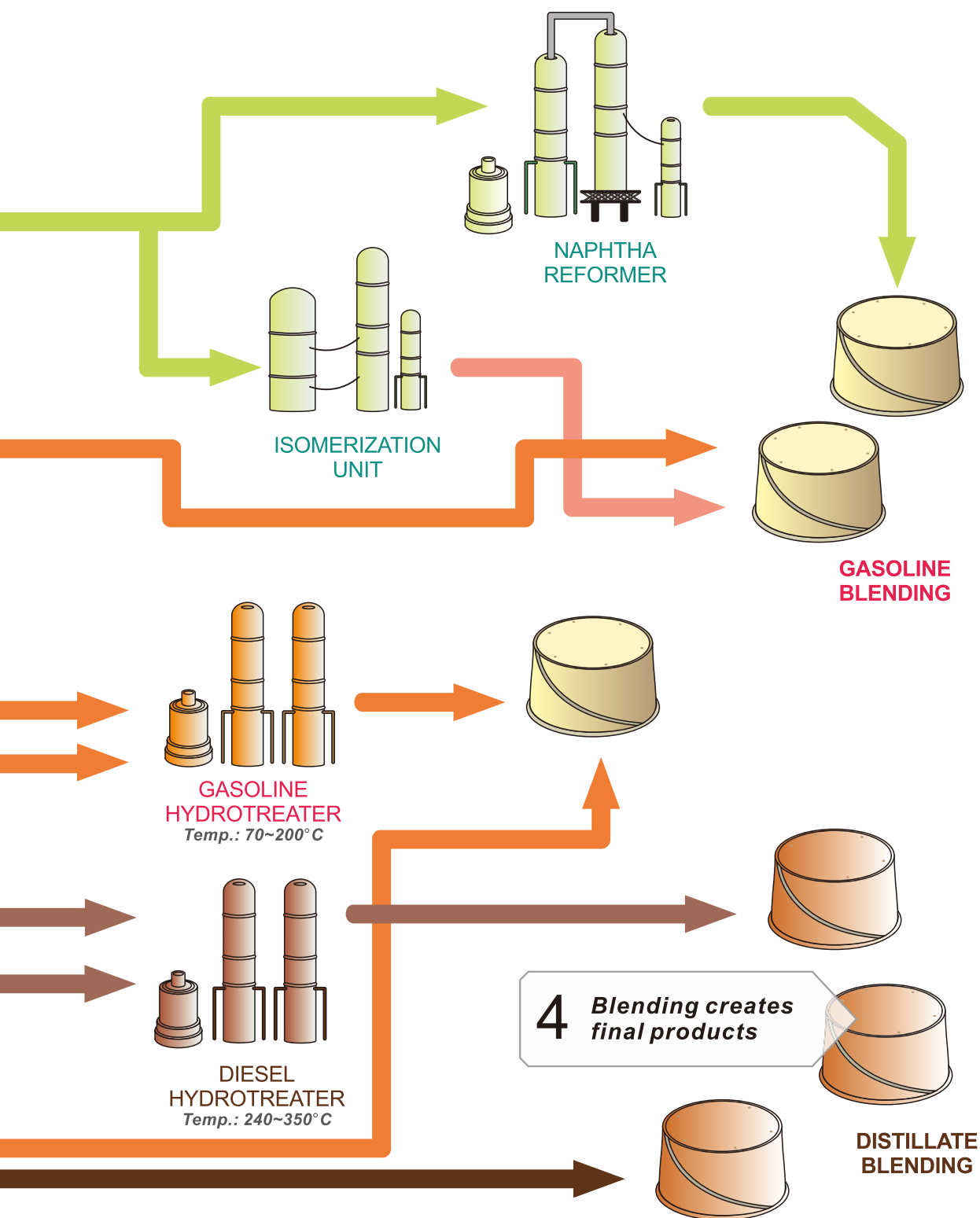


DESIGN PRINCIPLES

- Welding neck flange and complete-penetration weld conform to EN ISO 15614- 1:2004 and the regulations of Section IX in ASME BPVC
- Qualification assessment for all welding personnel based on EN ISO 15614- 1:2004 and the regulations of Section IX in ASME BPVC
- All materials are fully traced based on EN 10204 3.1 certificate
- Static pressure test is the standard test item of products
- Process connection is directly welded on the pipe, so as to minimize the number of weld beads and improve safety
- 80mm(3-inch) pipe and 25mm(1-inch) process connection available
- 100mm(4-inch) pipe, 25mm(1-inch), 40mm(1-1/2-inch) and 50mm(2-inch) process connection
- The maximum pressure level can reach ASME B16.5 1500 and EN1092PN250

Crude Oil Distillation Flowchart





		Exploration ➤ Production ➤ Transportation ➤ Refinement & Petroleum and Chemical ➤ Distribution ➤ Sales								
Product Code	Product Name	Crude Oil Treatment	Crude Oil Storage Tank	LNG · LPG · Ship	Oil Tank	Waste Oil	Waste water	Oil Truck	Gas Station	
FC/FD	Magnetic Float Level Switch	●	●	●	●	●				
FF	Side Mounting Float Switch	●	●							
FG	Magnetic Float Level Transmitter	●	●	●	●			●		
EG	Magnetostrictive Level Transmitter	●	●		●	●		●	●	
EF	By-Pass Level Transmitter		●	●	●					
JFR	FMCW Radar Level Transmitter	●	●		●	●	●			
JTR	Guided Wave Radar Level Transmitter	●	●		●	●	●			
EAX	Ultrasonic Level Transmitter				●	●	●			
EPD	Electromagnetic Flow Meter						●			
SB	RF-Capacitance/Admittance Level Switch	●				●				
EPM	Mass Flowmeter	●	●			●	●			
SP	Thermal Dispersion Flow Switch	●				●				
TR	Temperature Transmitter	●	●		●					
PB/PM	Bargraphic display scaling meter		●	●	●					

Application Demo



▲ Ultrasonic Level Transmitter



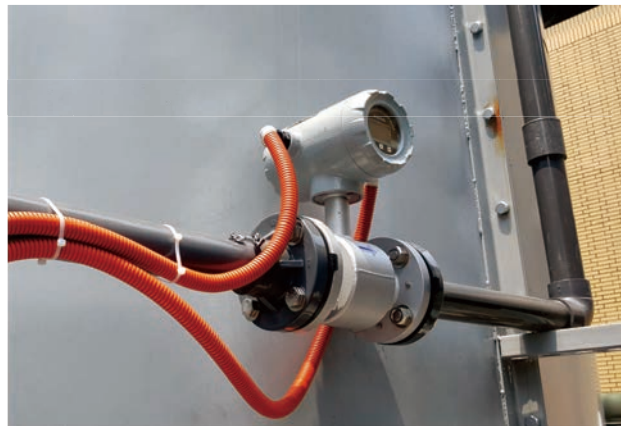
▲ Electromagnetic Flow Meter



▲ FMCW Radar Level Transmitter



▲ Magnetic Float Level Switch



▲ Electromagnetic Flow Meter

Temperature

The temperature measurement is the most frequently measured in the industrial control monitoring base on its physical quantities, either in the pipe or sink. Temperature measurement process needs, but also about plant safety in recent years due to the development of digital temperature. The degree of monitoring can easily through signal transmission. The information has come to take the scene of control can be more plus instant. FineTek provide a wide range of temperature sensing elements and accurate temperature transmitters.

Economic temperature transmitter

Temperature transmitter series use a bridge, accurately detect the input signals, and then use the output of the amplifier and impedance converter to obtain a stable input signal.



Platinum resistive temperature sensing rod

Applicable to a wide range of temperature, direct temperature measurement, good linearity, various type, can be customized, and an accuracy of 0.3°C .



Thermocouple temperature sensing rod

Suitable for high temperature and harsh environment, easy installation and use, accuracy up to 0.75%



Level

Level monitoring is very important in the water treatment industry. To get the best water treatment control in water purification / sewage, sink or dosing tanks the whole process (before & after) needs immediately level control, monitoring and measurement. From drinking water, urban wasted water to industrial water, all need water treatment to have better quality. FineTek offers appropriate level products with various types of sensors, diverse wetted materials for measuring single chemical to unable analyzed medium applications.



Magnetostrictive level transmitter

To measure the level of petrochemical natural gas, it can measure oil & water dual level indication. With high stability, reliability, quick response, highly precision and resolution (+0.05%F.S or +1.0mm); Housing protection grade is IP67 as well as passed Ex ia Certificate.



Magnetic float level transmitter

Applied for all kinds of tank to control continuous level monitoring with variety of wetted materials as well.

Used low power consumption-Loop Power electric signal technology. Explosion housing available and the length can be customized (max. length 6 meters.) Support HART / RS485 and 4~20mA / voltage output.



Magnetic float level switch

Usually applied to the dosing process of pharmaceuticals, tanks and mostly liquid applications. Product material: (PVC, PP, PVDF, NBR, SUS304/316). Float lightest adaptive specific gravity: 0.45 (relative to water). Length fully customized based on customer needs (up to 6 meters). Custom-made multi-point control, easy installation, reliable performance housing available in anti-corrosive material Max. operating temperature: 200°C for stainless steel.



Side mounting float switch

Used in high/low level control of the liquid tank, it requires clear chemical properties of the liquid in the tank. The available wetted materials contacting the liquid include SUS304/316/PP. It can perform multi-point level control. The minimum specific gravity of the floating ball is 0.25 (reactive to substance is water).



RF-capacitance /admittancelevel switch

It is used in raw material/clinker and slag warehouses.

The product is designed with a switchable FSL-FSH protection function, adjustable time delay function and sensitivity adjustment. It comes in different types and can be used at high temperature, for mixing or in narrow spaces.



By-pass level transmitter

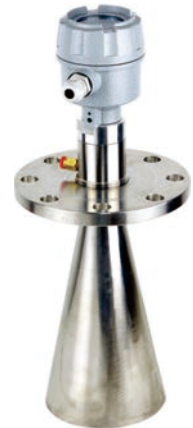
Used in containers, impurities liquid tank, for both clean and impure liquids. Visible level indication. Safer than glass type level gauges.

Magnetic switches can be installed and adjusted to control low and high level alarms. With level transducer can convert the output into analog signal.



Radar level transmitter

Using FMCW continuous FM wave technology, greatly improving measurement accuracy non contact measurement with LCD display, user friendly calibration available for High pressure, high temp. High viscosity fluid, measuring range 0.5m~40m.



Guided wave radar level transmitter

Used in level monitoring for various storage tanks, the guided wave radar level transmitter belongs to contacting measurement. It can overcome the effects from steam, foam and stirring. The unique algorithm and echo processing technology can be applied in many complicated scenarios.



Ultrasonic level transmitter

Used in the level monitoring of the tank, it belongs to non-contacting measurement, with long service life. The 2-wire output with HART of the product is convenient to install, which can measure the level 12m away at maximum. The protection grade is IP67.



Flow

To protect the earth can not be waited especially we are facing resource rapidly reducing period.

Every day we are consuming the limited resource in the earth from industries, commerce and family. To use resource and energy effectively, FineTek offers all kinds of flow meters can be applied in process control, factory automation to avoid unnecessary waste.

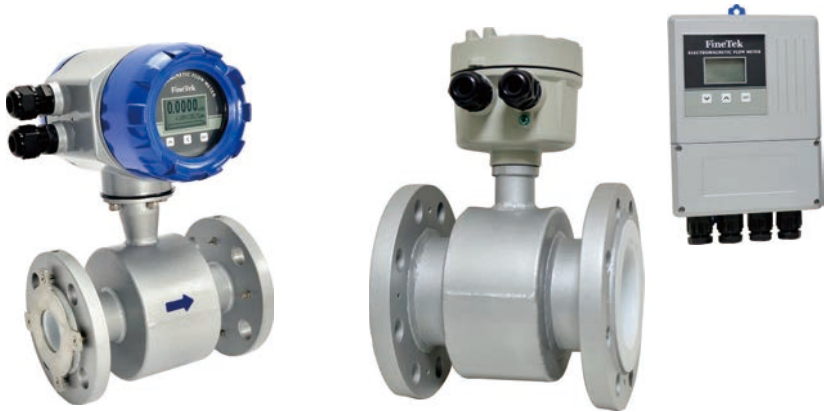
With highly precision, easy installation, long maintenance cycle and low cost.

Furthermore, each flow meter tested in the laboratory before dispatch to the world.



Mass flowmeter

Applied with all environment, without special requirement on temperature, pressure density or viscosity, also won't lose any liquid caused by pressure in the pipe. The product accuracy can reach 0.3%, with various bushing material available and the diameter range available from DN15~300.



Mass flowmeter

Commonly used in liquid natural gas flow measurement, can be directly measured. The mass flow rate of the flow, density, viscosity, temperature, etc., is precise up to 0.2%, range DN 8~250.



Thermal flow switch

Commonly used in liquid and oils. Simply use and higher sensitivity. Easy installation without mobile mechanical parts wasting. Applicable to acid-base solutions.



Paddle flow switch

Commonly used in liquids and clean fluids mass flow detection, using simple operating principles.

Easy to install with low price. Appropriate and applicable Diameter available from DN25~80.



Panel Meter

With years application experiences, FineTek has optimized design of level transmitter can satisfy mostly industrial demand.

The panel meter is able to control on-site directly if the application is not complicated (such as PLC, DCS).



PB Microcomputer digital display light bar controller

Universal type supports 4-20mA signal and itself voltage and current signal. Shows the percentage of volume or weight, additional nonlinear tanks 20 points calibration function, and tray table 101 segment light bar indicated workCan, so that field staff can be more clearKnow the level. Supports dual-channel signal input Input and output. The output signal of majority support following the electrical alarm output transfer function of analog signals. Simply operation interface making complicate setting become easy nd quick.



PM Microcomputer digital display controller

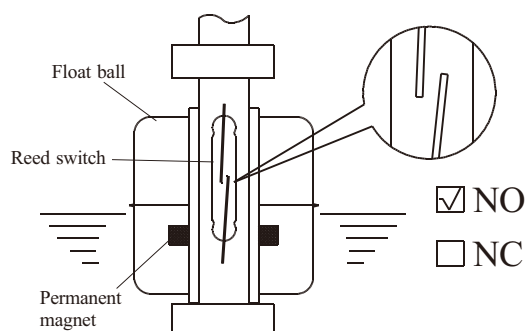
Universal type supports 4-20mA signal and itself voltage and current signal. Shows the percentage of volume or weight, additional nonlinear tanks 20 points calibration function. Supports dual-channel signal input and output. Part of the output signal of support relay alarm output, and analog signals Re-transmission function. A simple user interface, so that the orig-in al complex settings becomes easier.



FCX/ FDX Magnetic float level switch

OPERATING PRINCIPLE

In a sealed metal or plastic tube, setting a point or multi-points by magnetic reed switch then put one or more float into the hollow pipe, then using a fixed ring control the float and the reed switch in the relevant position, so that the float in the fluctuate within a certain range.



FEATURES

- The position of the control switch is customized by the user. Contact life up to one million times.
- Protection class IP65.
- The wetted materials are PVDF, PP, SUS304 and SUS316, suitable for all kinds of liquid.
- The maximum operating temperature 200°C
- Maximum operating pressure 50 Bar.



SPECIFICATIONS

Float material	PVDF / PP / SUS304 / SUS316
Operating temp.	<200°C
Contact form	SPST-NO / SPST-NC / SPDT
Contact capacity	10W / 20W / 50W
Linearity	>0.5 of water
Pressure	50bar (max.)
IP rating	IP65
Explosion-proof	ATEX 2G Ex d IIB T6~T3 Gb (Optional)

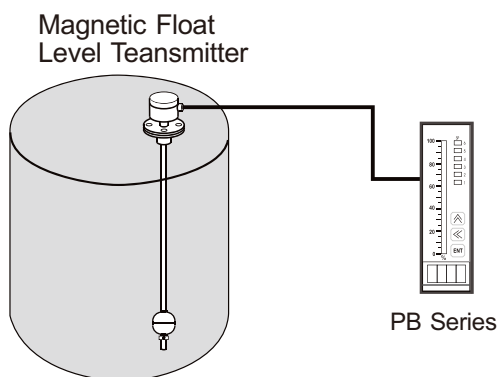
※The specification is subject to the brochure.



FGX Magnetic float level transmitter

OPERATING PRINCIPLE

Float continuous level transmitter use float within the magnet with the level change to change the resistance within the rod with the magnetic reed switch, consisting of voltage dividing circuit, the gap of the magnetic reed switch is smaller, accuracy becomes higher. Pressure signal may pass through the converter into a 4-20mA or other with standard signal. The indicator can be used with other tables head for long-distance Indicates, is a simple principle, the level indicating excellent reliability devices.



FEATURES

- Variety of wetted materials can be selected.
- Variety float specifications, can also be applied to a variety of different specific gravity of the liquid. A special reed packaging process, has a better environmental tolerance. Applied to the ultra-small density level.
- Applicable to the environment of the tank, having a pressure. Can be used in high-temperature liquid.
- Accuracy independent of temperature, pressure, and changes in the measured object.

SPECIFICATIONS

Wetted material	PVDF / PP / SUS304 / SUS316
Operating temp.	<200°C
Supply voltage	Loop Power 12~36 Vdc
Linearity	>0.45 of water
Pressure	30Bar (Max.)
IP rating	IP65
Explosion-proof	ATEX 2G Ex d IIB T6~T3 Gb (Optional)

※The specification is subject to the brochure.



TXX Isolated safety barrier

OPERATING PRINCIPLE

It limits the power energy in the circuit, so it won't ignite surrounding stuff in case of fault or short circuit. In this way, it realizes the intrinsic safety anti-explosion function for the connected device, which is also known as the safety barrier. With the safety barrier with input and output isolation function, it is called isolated safety barrier.

It is applied to provide isolated power supply for the transmitter in the hazardous zone, and convert the analog signal generated from the transmitter on the hazardous end to isolated type before transmitting it to the safe end.

SPECIFICATIONS

Supply voltage	20~35 Vdc (TX100R) 20~250 Vdc/Vac, 50/60 Hz (TX101F) 20~35Vdc/5Vdc (Only RS485)/ 20~250Vac/Vac,50/60Hz (Optional)(TX20)
Power supply protection	Power supply reverse protection (TX100R) Non-directionality input (TX101F)
Current consumption	< 100 mA @24 V, Load 20mA (TX100R/TX101F) 3W (TX20)

TX10 Hazardous Zone

Input	0~20mA/4~20mA
Open loop supply voltage	< 28 Vdc
Distribution supply voltage	> 15 Vdc (Load 20 mA)

TX20 Hazardous Zone

Open loop supply voltage	< 28Vdc
Distribution supply voltage	< 14Vdc (Load 20mA)
Output current	4~20mA or 20~4mA
Digital output	HART/RS485 (Optional)

TX20 Safe Zone

Output	4~20mA or 20~4mA
--------	------------------

FEATURES

- 1 current input port to connect with continuous current or current output products. Applicable for use in hazardous zone.
- 3 output ports - relay output, current output, and RS-485.
- LED indicator, user friendly.
- DIP switch for function selection.
- In house programming per customers' criteria.
- Self-test function for system function monitoring.
- Setting relay output as alarm for optional external sensing unit connection.
- Optional RS-485 interface enables easy system configuration & supply current data retrieve.
- Product design complies with explosion proof standard.



※The specification is subject to the brochure.

EGX Explosion-proof High accuracy magnetostrictive level transmitter

OPERATING PRINCIPLE

Magnetostrictive level transmitter is the product based on magnetostrictive principle. Its output signal is an absolute position, so don't need to zero position if power shut down.

Magnetostrictive level gauge provides output directly, without installing any output interface, which reduces the cost of the whole circuit. Accurate and reliable output can reduce the downtime maintenance. Long life don't need regular maintenance and calibration, saving lots of cost. And even available connecting to one or more sensors (by RS485) by PC for remote monitoring.

FEATURES

- Absolute position output, no need to zero position if power shut down.
- Fast response.
- High stability and reliability.
- Easy to install, and do not need regular calibration and maintenance.
- High-resolution, high-precision.
- Compact structure, environmental adaptability, stain resistant, dust-proof, resistant to high pressure.
- Enclosure protection class IP67/IP69K.
- Loop Power system, saving wiring costs.
- HART or RS485 communication interface and 4~20mA output.

SPECIFICATIONS

Be applicable	2 Wire Loop Power output, high precision, comply with HART certification
Measuring range	50~5500mm
Repeatability	± 0.05% F.S. or ± 1.0mm
Operating pressure	30 BAR (max)
Ambient temp.	-40°C~ 85°C
Operating temp.	-40°C ~ 125°C
Temp. accuracy	± 1°C
Analog output	4~20mA/ 2 Wire
Maximum load	$(VS-18) \div 0.02$ VS=voltage
Digital output	RS485(HART Option)
Supply voltage	12~30V(4 Wire), 18~30V(2 Wire), 18~28V(Explosion proof)
Housing	SUS304(SUS316 Option)
Connection	1/2"PT
Wetted material	SUS304
IP rating	IP67 (housing) / IP69 (probe)

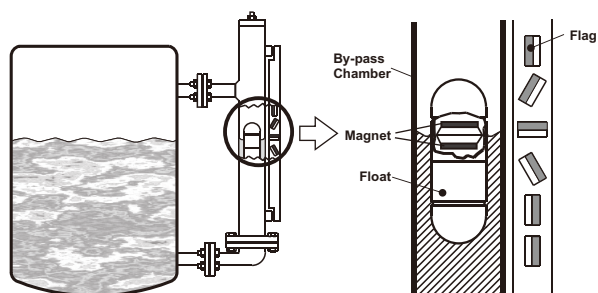
※The specification is subject to the brochure.



EFX By-pass level transmitter

OPERATING PRINCIPLE

Fine-Tek's By-pass indicator utilizes hydrostatic principle to show the liquid level in the tank. A float with a magnet inside rises and drops according to the liquid level change. Magnetic flags will flip as float passes through to indicate liquid level based on magnetic attraction method.



FEATURES

- Applicable in environment with high temp., high pressure, strong acid, strong alkaline and hazardous locations. The structure is simple but durable and reliable. It is also available with various options for upgrade.
- A level transducer or magnetic switch can be installed and adjusted during operation. It is not operated by electricity thus it will not be affected by power failure.
- Add different color of hag per 10cm that can he recognized easily.
- Multiple applications for textile dyeing, sewage water processing, power generating, boiler and petrochemical industries.



SPECIFICATIONS

Wetted material	PVDF / PP / SUS304 / SUS316
Resolution	10mm
Operation temp.	<400°C depend on wetted material
Supply voltage	None
Float S.G.	>0.55 of water
Pressure	110 Kg/cm ² (max.)
Explosion-proof	ATEX 2G Ex d IIB T6~T3 Gb (Optional)
Switch	Contact form: SPST, SPDT contact capacity: 1A/30W /200VDC/240VAC
Transmitter	Resolution : 6.35mm /0.1mm Output 4-20mA / 3-wire resistance output

※The specification is subject to the brochure.



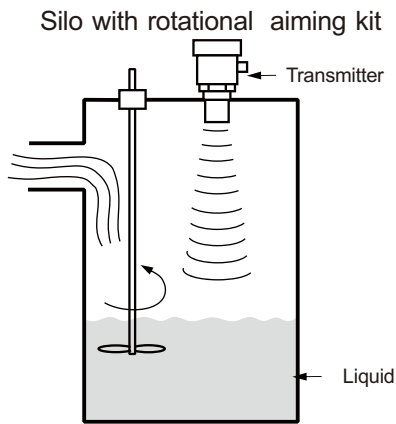
EAX Ultrasonic level transmitter

OPERATING PRINCIPLE

During in operation, the ultrasonic wave firstly emit to the measured medium level. When the ultrasonic wave reaches the surface and reflects back to the transducer, the time interval between transmission and reception will be converted to the physical parameter like the medium level or distance between the ultrasonic level indicator and medium surface.

FEATURES

- Non-contacting measurement, free from effects of pressure, viscosity and specific gravity of the material
- Easy-to-install, cost-saving and no need of maintenance under normal circumstances
- Internal temperature compensation can improve product accuracy and stability in long terms.
- Full isolated analog output



SPECIFICATIONS

Supply voltage	7~30Vdc
Measuring range	0~12m
Output	4~20mA loop power
Resolution	1mm
Accuracy	±0.25%F.S
Blind distance	250mm
Operating temp.	-40~70°C
Communication	HART
Display	4-bit LCD display
Installation connection	2" NPT Threaded flanges
Weight	1kg

※The specification is subject to the brochure.



JFR Radar level transmitter

OPERATING PRINCIPLE

FMCW radar (JFR): frequency modulated continuous wave, use high-frequency(The GHz level) scan mode, the electromagnetic wave is emitted via an antenna period of time to the measured object, reflected back to the receiving end. When the transmitted wave reflected back through the measured object, and then received via the antenna, the transmitting wave with reception wave will generate a frequency difference by using a frequency difference may be further step calculate the distance from the radiator to the analyte. Thus the application by the conversion may be measured material capacity.

FEATURES

- Measurable corrosive and toxic liquids, hydrocarbons, and mud.
- Not material specific gravity, temperature, viscosity, foam, dust change action.
- Echo graphical display, show tank within the signal waveform. Can be excluded from the barrel fixed obstacles.
- Distance, level, the percentage of current 4-20mA. The isolated circuit architecture interference ability.
- With CE certificate (EMC)(EFT 2000V, B class above)

SPECIFICATIONS

Measuring range	Max. 70M
Accuracy	±3mm(optimal)
Communication	RS485 (Isolated)
Ambient temp.	-40~85°C
Operating temp.	-40~200°C
Operating pressure	0~40Bar
Frequency	K Band
Analog output	4~20mA/HART
IP rating	IP67
Mining dielectric constant	1.5
Power supply	9.5~30Vdc
Live display	Five-digit backlight LCM
Housing	Aluminum alloy material
Antenna type	High gain horn(100D/140D)
Antenna material	SUS 304/316
Blind distance	500mm

※The specification is subject to the brochure.



JTR Guided wave radar level transmitter

OPERATING PRINCIPLE

The guided wave radar emits a high-frequency pulse wave to be transmitted along with the detection medium (steel cable or connecting rod). When it comes in contact with the medium, the pulse wave will be reflected and part of the energy will be reflected as well due to the different dielectric constant between air and the medium. The time difference between the reflection wave and the emission wave can be converted into distance between the surface of the measured object and the guided wave radar level sensor.

FEATURES

- It meets the measurement requirements of different temperatures, pressures and media.
- Handles vapour, steam, buildup and turbulence well
- 2-Wire design for easy wiring
- Local display for easy on-site installation
- Unique algorithm and echo processing technology can be applied in various complicated scenarios.

SPECIFICATIONS

Model	JTR302/JTR301/JTR305
Application	solid / liquid / low dielectric liquid
Measuring range	Guide rod: 0.5~6m Cable type: 1~30m
Connection size	Guide rod/cable: 3/4"PF(JTR301) 1"PF(JTR302) Coaxial: 3/4"PF(JTR305)
Material	SUS304/SUS316
Operating temp.	-40~150°C
Operating pressure	0~40Bar
Accuracy	± 5 mm @(Standard Test Conditions)
Output	A. 4~20mA(2-wire) B. 4~20mA(2-wire)+HART
Supply voltage	16~36Vdc
Blind distance	300mm @(Standard Test Conditions) 50mm @(Standard Test Conditions)(JTR305)
IP rating	IP67

※The specification is subject to the brochure.



GPX/ GKX Thermocouple

OPERATING PRINCIPLE

Two metal conductors of different materials, generate a closed electrical connection to heat at the weld end to generate the temperature difference, then the current flow in the loop this phenomenon is called "Seebeck-there will be a current flow, effect "

FEATURES

- Measuring a wide temperature range, the maximum available to 1200°C.
- The response is fast, the error generated due to the time difference is very small.
- The temperature detected by thermal electromotive, the temperature measurement, regulating, transform signal processing is relatively easy.
- The thermocouple price is cheap compared to other temperature components.
- Platinum resistor (PT), high reproducibility.

SPECIFICATIONS

Measuring range	0-1200°C
Accuracy	0.3%(PT), 0.75%
IP rating	IP65
Isolation resistance	>1000 MΩ
Wetted material	SUS304,SUS316,Ti,PTFE

※The specification is subject to the brochure.



TRX Economic temperature transmitter

OPERATING PRINCIPLE

Temperature transmitter series use a bridge, accurately detect the input signals, and then use the amplifier and impedance converter to obtain a stable input signal.

To use high-speed low-power microprocessor to process linear curve conversion to provide high accuracy analog output through isolated D / A converter.

FEATURES

- Power supply 24Vdc, 2-wire 4-20mA output.
- Input signal: mV, V, mA, thermocouple, RTD or Ohm.
- Disconnection and alarm current output beyond the range of measurement.

SPECIFICATIONS

Supply voltage	18~36 Vdc(loop power)
Input voltage	0~500 mV, 0~1 V, 0~5 V, 0~10 V, 0~20 V,
Input current	4~20 mA
Input T/C	K / J / T / E / R / S / B / N
Input resistance	PT 100, 0~400 Ω
Output	4-20 mA / 20-4 mA
Operation temp.	-40~85 $^{\circ}\text{C}$

※The specification is subject to the brochure.



Input Type	Unit	Accuracy*
Voltage	-10~100mV	$\leq \pm 0.1\text{mV}$
B	250~1820 $^{\circ}\text{C}$	$\leq \pm 4^{\circ}\text{C}$
E	-200~1000 $^{\circ}\text{C}$	$\leq \pm 3^{\circ}\text{C}$
J	-210~1200 $^{\circ}\text{C}$	$\leq \pm 3^{\circ}\text{C}$
K	-200~1370 $^{\circ}\text{C}$	$\leq \pm 3^{\circ}\text{C}$
N	-200~1300 $^{\circ}\text{C}$	$\leq \pm 3^{\circ}\text{C}$
R	-50~1760 $^{\circ}\text{C}$	$\leq \pm 3^{\circ}\text{C}$
S	-50~1760 $^{\circ}\text{C}$	$\leq \pm 3^{\circ}\text{C}$
T	-200~400 $^{\circ}\text{C}$	$\leq \pm 2^{\circ}\text{C}$
Resistance	0~400 Ω	$\leq \pm 0.4\Omega$
PT100	-200~850 $^{\circ}\text{C}$	$\leq \pm 0.5^{\circ}\text{C}$

FFX Side mounting float switch

OPERATING PRINCIPLE:

The reed switch relies on two basic scientific principles namely: buoyancy and magnetism. Buoyancy causes the float (which contains a magnet) to rise with the liquid and magnetism helps open and close the switch.

A change in liquid levels raises or lowers the float up or down. The start of the pivot arm (non float side) contains a permanent magnet that repels the switch (inside the housing).

FEATURES:

The side mounted float level sensor (FF series) are manufactured specifically for horizontal mounting on tanks or vessels. They work well as high or low level controls.

- Both Micro-Switch types and Reed Switches are available. The MicroSwitch type is usable even at ambient temperatures of 100° C maximum.
- Mounting flanges are custom-made. (JIS, DIN,ANSI).
- A wide variety of floats for different solution's specific gravities (S.G.) are available.
- Wetted parts material ranges from plastics, stainless steel, anti-corrosive and explosion proof types.

SPECIFICATIONS

Operating temp.	-20~100 °C
Contact form	SPDT(1C)
Contact rating	3A/250 Vac
Contact component	Micro switch
Housing	SUS316
Explosion-proof	Ex d IIC T3~T6
Specific gravity	0.25~0.7
Process pressure	30kg/cm ² (max.)

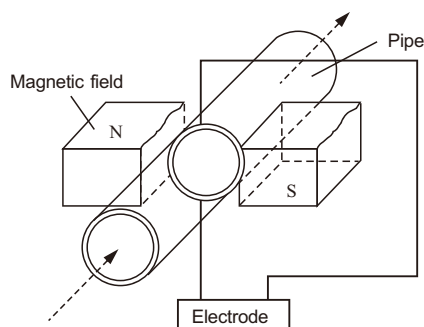
※The specification is subject to the brochure.



EPD Electromagnetic flowmeter

OPERATING PRINCIPLE

The working principle of the electromagnetic flow meter is based on the Faraday law of electromagnetic induction. When the conducting liquid flows in the orthogonal direction of the magnetic line direction, it will cut the magnetic lines and generate induced voltage, which shows linear relationship with the flowing speed. Thus, the fluidic volume flow can be calculated.



FEATURES

- The measurement results are not affected by the change in liquid density, viscosity, temperature, pressure and conductivity.
- It can be widely applied in the conducting liquids that may contain fiber, solid granules and suspended matters.
- Enclosure protection rating: IP67/NEMA 4X
- Suitable for all kind of acid/alkaline environment



Standard Type

SPECIFICATIONS

Accuracy	$\pm 0.5\%$ 、 $\pm 0.3\%$ 、 $\pm 0.2\%$
Medium temp.	20°C~120°C(PTFE Lining)
Ambient temp.	-40°C~70°C
IP rating	IP67/NEMA4X
Electrode material	Stainless steel, Hastelloy, titanium, tantalum
Lining material	PTFE, Synthetic rubber, neoprene
Flange material	Carbon steel
Analog output	4~20mA
Communication interface	RS485
Supply voltage	AC100~240Vac

※The specification is subject to the brochure.



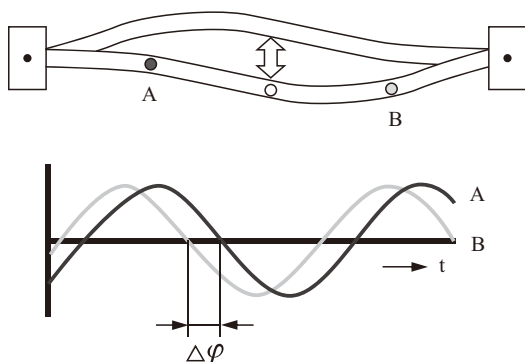
Remote Type

EPM Mass flowmeter

OPERATING PRINCIPLE

The sensor is a measuring chamber with inlet and outlet flanges for mounting on a pipeline. Inside the measuring chamber there are two parallel U-shaped flow tubes, which vibrate by means of an electromagnetic coil and a magnet.

Liquid flowing into the tube creates resistance to its upward movement and downward pressure on the tube. Absorbing vertical momentum by driving around the tube's bend, the liquid, flowing out of the pipe, pushes the tube up. This makes the tube twist. When the tube is moving down in the second half of the oscillation cycle, it twists in the opposite direction. This twisting is called coriolis effect and allows the mass flow values to be calculated.



FEATURES

- High accuracy.
- Digital signal processing.
- Straight upstream / downstream piping not required.
- High viscosity liquids measuring.



SPECIFICATIONS

Accuracy	± 0.2%, ± 0.5%
Ambient temp.	-25°C~55°C
Density measuring	0.2~2.0 g/cm ³
Temp. measuring	-50°C~125°C
IP rating	IP65
Flange material	carbon steel stainless steel
Output	4-20mA/0-10mA 1-10KHz
Communication interface	RS-485
Supply voltage	24Vdc 110/220Vac@50/60Hz

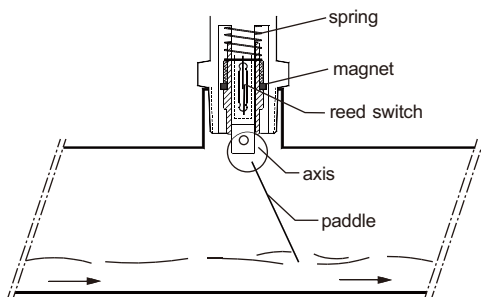
※The specification is subject to the brochure.



SFX Paddle flow switch

OPERATING PRINCIPLE

Paddle-type flow switch works when the flow of water forces the blade to close the switch. When the liquid in the pipe flows, the paddle and spring push the blade up actuating the switch. When the flow stops and the paddle hangs perpendicularly, the switch is opened.



Switch on in case of liquid flowing in pipes

FEATURES

- Simple structure, easy to install, without adjustment.
- Long life.
- Maximum pressure up to 25kg/cm².



SPECIFICATIONS

Material of wetted parts	Aluminum, Exd IIC T6~T4
Repetitive error	5%
Operating temp.	-30°C~100°C(Max:150°C)
IP rating	IP65
Contact capacity	60W/220Vac,200Vdc
Contact form	SPDT

※The specification is subject to the brochure.

FLOW CONTROL RANGE TABLE

Pipe spec. Flow Volume Gallon Paddle Length Min.	1"		1-1/2"		2"		2-1/2"		3"	
	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.
1"	4.7	3.9	10.9	8.3	19.9	16.1				
1-1/4"			7.7	6.1	16.5	12.3	31.3	22.8		
1-1/2"			5.7	4.5	13.4	9.5	25.2	18.5		
2"					8.4	6.3	15.1	12.8	29.7	21.9
2-1/2"							13.9	10	20.4	15.4
3"									17.1	12.8

※1 Gallon=3.7854 Litter

SPX Thermal flow switch

OPERATING PRINCIPLE

Thermal dispersion flow switches measure the velocity of a liquid inside a pipe or channel. The switch's probe contains two key components a heating sensor and temperature sensor. The heating sensor is positioned closest to the flowing liquid and provides a consistent heat. The temperature sensor measures the temperature emitted from the heating sensor.

When liquid is flowing, there is a temperature difference between the two sensors. The temperature difference has an inverse relationship with the flow velocity.

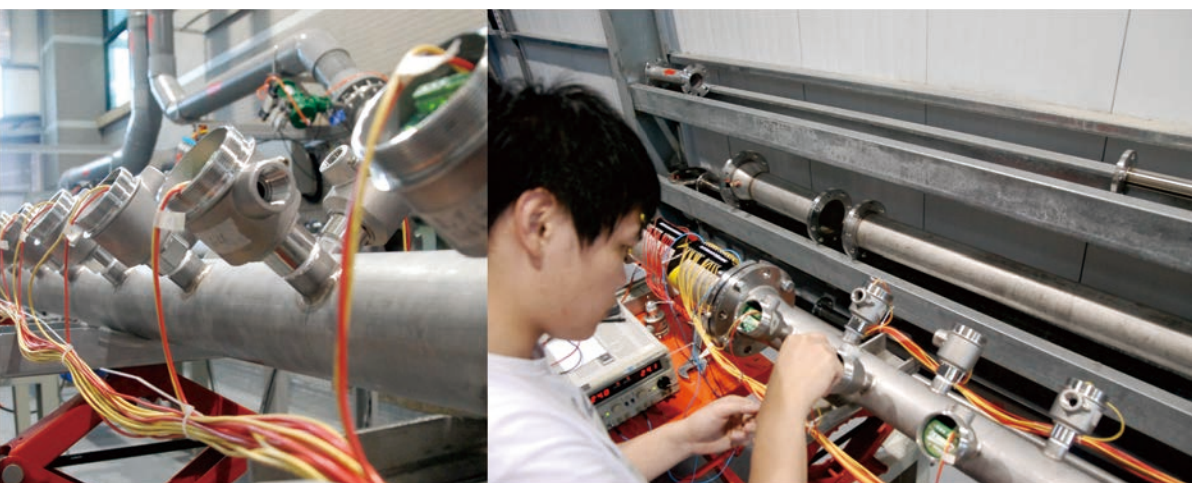
SPECIFICATIONS

Flow rate range	Water: 1 to 150 cm / s oil: 3 to 300 cm / s
Warm-up time	15 seconds
Operating temp.	-25°C ~ 80°C (fluid temperature)
Pressure	100 bar max
IP rating	IP67
Operating power	19 ~ 30Vdc

※The specification is subject to the brochure.

FEATURES

- High sensitivity and accuracy.
No moving mechanical structure.
- Can be measured to a liquid containing impurities.
- Suitable for corrosive and hazardous conditions.



PBX / PMX Bargraphic display scaling meter

OPERATING PRINCIPLE

A commonly used industrial A / D converter with high zero stability. To accurate detection of input signal, the second signal amplifier and resistance a stable anti-converter input signal through a high-speed microprocessors rely on precision signal operations, and output control the parameters of the system point links, and signals through the D / A converter, the values do re-transmission in order to achieve the control purpose.

FEATURES

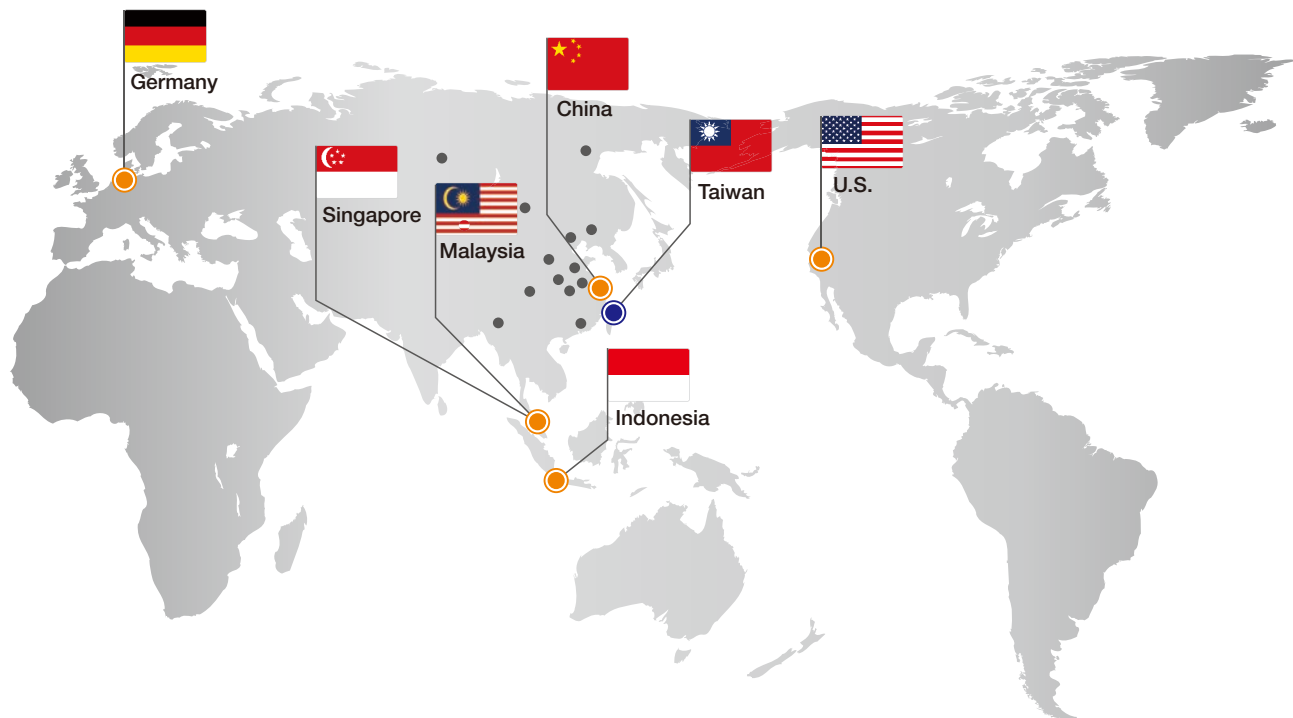
- Two sets of signals can also accept input, range from so With custom.
- Measurement commonly used industrial the instrument AC, DC signal.Up to do a 8:00 level control.
- Communication with PLC, supports RS-485 interface.The product complies with IEC60092-504 / IEC60947-2.

SPECIFICATIONS

Supply voltage	85~265 Vac, 18~36 Vdc
Input signal	0-20mA, 0-200mA, 0-5V, 0-10V, 0-20V, 0-200V
Sampling	4Hz
Display range	-1999~9999
Digit size	0.36"Red
Panel degree of protection	IP54
Operation temp.	0~55°C
Communication interface	RS-485
Protocol	Modbus



Global Network



■ Asia

● Taiwan

FineTek Co., Ltd. - Taipei Head Quarter
No.16, Tzuchiang St., Tucheng Industrial Park
New Taipei City 236, Taiwan
TEL: 886-2-2269-6789
FAX: 886-2-2268-6682
EMAIL: info@fine-tek.com

● China

Fine automation Co., Ltd. - Shanghai Factory
No.451 DuHui Rd, MinHang District, Shanghai,
China 201109
TEL: 86-21-6490-7260
EMAIL: info.sh@fine-tek.com

● Singapore

FineTek Pte Ltd. - Singapore Office
No. 60 Kaki Bukit Place, #07-06 Eunos
Techpark 2 Lobby B, Singapore 415979
TEL: 65-6452-6340
EMAIL: info.sg@fine-tek.com

● Indonesia

FineTek Co., Ltd. - Indonesia Office
Ruko Golden 8 Blok H No.38
Gading Serpong, Tangerang, Indonesia
TEL: 62 (021)-2923-1688
EMAIL: info.id@fine-tek.com

● Malaysia

FineTek Co., Ltd. - Malaysia Office
8-05, Plaza Azalea, Persiaran Bandaraya,
Seksyen 14, 40000 Shah Alam, Selangor, Malaysia
TEL: 603-5524-7168
EMAIL: info.my@fine-tek.com

■ North America

● California, U.S.

Aplus Finetek Sensor Inc. - US Office
355 S. Lemon Ave, Suite D, Walnut,
CA 91789
TEL: 1 909 598 2488
FAX: 1 909 598 3188
EMAIL: info@aplusfine.com

■ Europe

● Germany

FineTek GmbH - Germany Office
Bei den Kämpen 26
21220 Seevetal-Ramelsloh, Germany
TEL: +49-(0)4185-8083-12
FAX: +49-(0)4185-8083-80
EMAIL: info@fine-tek.de

● Müttec Instruments GmbH - Germany Office

Bei den Kämpen 26
21220 Seevetal-Ramelsloh, Germany
TEL: +49-(0)4185-8083-0
FAX: +49-(0)4185-8083-80
EMAIL: muetec@muetec.de



Distributor: