

### Liquid Filled Pressure Gauge

Model No. EFS-SS3075~8 series



EFS-SS3075



EFS-SS3078

#### Summary

This gauge is proper for measuring the pressure in place where mechanical vibration and pulsation are heavy because its interior devices are precipitated in silicon liquid and by doing this, it is able to suppress vibration which is used by the viscosity resistance of liquid. This pressure gauge guarantees its performance and the life span as it has relatively better durability than other general pressure gauges because it prevents abrasion of the interior devices using lubricative fluid.

#### Production Specification

- ▶ Diameter
  - 60, 75, 100 mm
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$
- ▶ Scale Range
  - $-0.1 \text{ MPa} \sim 3.5 \text{ MPa}$

### Receiver Gauge

Model No. EFS-SS3080 series



EFS-SS3081



EFS-SS3084

#### Summary

This gauge is used for various kinds of receiver gauges which measure the amount, flux, differential pressure, pressure of the transfer system of pneumatic pressure and it uses bourdon pipes which have high viscosity and sensitiveness as an element.

#### Production Specification

- ▶ Diameter
  - 100, 150 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - Linear Scale :  $0 \sim 100\%$
  - Square Root Scale :  $0 \sim 10 \text{ Root}$
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$

### Duplex Pressure Gauge

Model No. EFS-SS3090 series



EFS-SS3091 100mm



EFS-SS3092 100mm

#### Summary

This gauge has a structure that 2 pressure gauges are combined as a one equipment. It consists of two pressure openings, two bourdon pipes, two indicators (concentric trommel movement) and two types of amplification devices, etc. Therefore, it can measure two places' pressures with one gauge. This gauge has limitation in installation and usually it is for vehicles and has high durability.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - $0.4 \text{ MPa} \sim 3.5 \text{ MPa}$ ,  $-0.1 + 0.6 \sim 2 \text{ MPa}$   
( $\approx 1 \text{ MPa} = 10,19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$

### Level Pressure Gauge

Model No. EFS-SS3100 series



EFS-SS3100

#### Summary

This gauge has a chamber and has high accuracy and durability. It is easy to be attached and that's the difference with other level gauges.

#### Production Specification

- ▶ Diameter
  - 150 mm
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Scale Range
  - Depth of tank : 1 ~ 50(M)
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 70^{\circ}\text{C}$
  - Fluid :  $-20 \sim 120^{\circ}\text{C}$

### Pressure Recorder Gauge

Model No. EFS-SS3111 series



EFS-SS3111 [1PEN]

#### Summary

This gauge is a wall-mounted tightness test recording instrument which records pressure changes while running with a pen on a paper for recording according to the flow of time with a recording device.

#### Production Specification

- ▶ Diameter
  - 250 mm
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Scale Range
  - $-0.1 \text{ MPa} \sim 2 \text{ MPa}$ ,  $0 \sim 100 \text{ MPa}$
  - (※  $1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$

### Leak Testing Rocorder (for Portable)

Model No. EFS-SS3112 series



EFS-SS3112

#### Summary

This instrument is a wall-mounted tightness test recording instrument which records pressure changes while running with a pen on a paper for recording according to the flow of time with a recording device.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Scale Range
  - $10 \text{ kPa} \sim 50 \text{ kPa}$
  - (※  $1 \text{ kPa} = 101.9716 \text{ mmHg}$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$

### Leak Testing Recorder (200mm)

Model No. EFS-SS3113 series



EFS-SS3113

#### Summary

This instrument is a wall-mounted tightness test recording instrument which records pressure changes while running with a pen on a paper for recording according to the flow of time with a recording device.

#### Production Specification

- ▶ Diameter
  - 200 mm
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Scale Range
  - $-0.1 \text{ MPa} \sim 2 \text{ MPa}$ ,  $0 \sim 100 \text{ MPa}$
  - ( $\approx 1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

### Test Pressure Gauge

Model No. EFS-SS3121~4 series



EFS-SS3121 150mm



EFS-SS3124 150mm

#### Summary

In these days, as the service condition is diverse, the need of measuring high level pressure increases. This gauge is proper for measuring the changes of high levels or for calibrating instrument for general level (level 1.5, 3.0).

#### Production Specification

- ▶ Diameter
  - 150 mm
- ▶ Accuracy
  - $\pm 0.5\%$  of Full Scale
- ▶ Scale Range
  - $0.1 \text{ MPa} \sim 100 \text{ MPa}$
  - ( $\approx 1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

### Test Pressure Gauge

Model No. EFS-SS3122 series



EFS-SS3122 200mm

#### Summary

In these days, as the service condition is diverse, the need of measuring high level pressure increases. This gauge is proper for measuring the changes of high levels or for calibrating instrument for general level (level 1.5, 3.0).

#### Production Specification

- ▶ Diameter
  - 200 mm
- ▶ Accuracy
  - $\pm 0.5\%$  of Full Scale
- ▶ Scale Range
  - $0.1 \text{ MPa} \sim 100 \text{ MPa}$
  - ( $\approx 1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$



### Sanitary Pressure Gauge

Model No. EFS-SS3131/2 series



EFS-SS3131 100mm



EFS-SS3132 100mm

#### Summary

This gauge is designed to guarantee the performance and the lifespan of the equipment which measures pressure of fluid which is mixed with powder that has coagulation in chemical industry such as food and various devices and lines for sanitation, etc. It also guarantees the performance and the lifespan when measuring fluid which has high corrosiveness.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - SS-3131 :  $-0.1 \text{ MPa} \sim 2 \text{ MPa}$ ,  $0 \sim 10 \text{ MPa}$
  - SS-3132 :  $15 \sim 70 \text{ MPa}$
  - (※  $1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65 \text{ }^\circ\text{C}$
  - Fluid :  $-20 \sim 80 \text{ }^\circ\text{C}$

### Sanitary Pressure Gauge

Model No. EFS-SS3133/4 series



EFS-SS3133 100mm



EFS-SS3134 100mm

#### Summary

This gauge is designed to guarantee the performance and the life span of the equipment which measures low temperature in case when measuring fluid which is mixed with powder that has coagulation in pressure measurement in chemical industry or when corrosiveness is very high.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - SS-3133 :  $-0.1 \text{ MPa} \sim 2 \text{ MPa}$ ,  $0 \sim 10 \text{ MPa}$
  - SS-3134 :  $-0.1 \sim 0.3 + 2 \text{ MPa}$ ,  $0 \sim 10 \text{ MPa}$
  - (※  $1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 80 \text{ }^\circ\text{C}$
  - Fluid :  $-20 \sim 80 \text{ }^\circ\text{C}$

### Sanitary Pressure Gauge

Model No. EFS-SS3135/6 series



EFS-SS3135 100mm



EFS-SS3136 100mm

#### Summary

This gauge is designed to guarantee the performance and the lifespan of the equipment which measures pressure of fluid which is mixed with powder that has coagulation in chemical industry such as food and various devices and lines for sanitation, etc. It also guarantees the performance and the lifespan when measuring fluid which has high corrosiveness.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - SS-3135 :  $-0.1 + 0.2 \text{ MPa} \sim 2 \text{ MPa}$ ,  $0 \sim 10 \text{ MPa}$
  - SS-3136 :  $15 \sim 70 \text{ MPa}$
  - (※  $1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 80 \text{ }^\circ\text{C}$
  - Fluid :  $-20 \sim 80 \text{ }^\circ\text{C}$

### Sanitary Pressure Gauge

Model No. EFS-SS3137/8 series



EFS-SS3137 100mm



EFS-SS3138 100mm

#### Summary

This gauge is designed to guarantee the performance and the lifespan of the equipment which measures pressure of fluid which is mixed with powder that has coagulation in chemical industry such as food and various devices and lines for sanitation, etc. It also guarantees the performance and the lifespan when measuring fluid which has high corrosiveness.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - SS-3137 :  $-0.1 \sim 0.3 \text{ MPa} + 2 \text{ MPa}$ ,  $0 \sim 3.5 \text{ MPa}$
  - SS-3138 :  $-0.1 \sim 2 \text{ MPa}$ ,  $0 \sim 10 \text{ MPa}$   
(※  $1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 80^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

### Sanitary Pressure Gauge

Model No. EFS-SS3139 series



EFS-SS3139 100mm

#### Summary

This gauge is designed to guarantee the performance and the lifespan of the equipment which measures pressure of fluid which is mixed with powder that has coagulation in chemical industry such as food and various devices and lines for sanitation, etc. It also guarantees the performance and the lifespan when measuring fluid which has high corrosiveness.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - $-0.1 \sim 0.3 \text{ MPa} + 2 \text{ MPa}$ ,  $0 \sim 10 \text{ MPa}$   
(※  $1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 80^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

### Differential Pressure Gauge (with Contact)

Model No. EFS-SS3301 series



EFS-SS3301

#### Summary

This gauge has L (low pressure side) and H (high pressure side) in pressure access port. By indicating the differential of pressure (differential pressure) of 2 places, it is able to measure the differential pressure and by using that, able to measure liquid level and flux too.

#### Production Specification

- ▶ Diameter
  - 100, 150mm
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Scale Range
  - $-5 \sim 50 \text{ kPa}$ ,  $0 \sim 1 \text{ MPa}$
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 80^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$
- ▶ Degree of Protection
  - IP65

### Differential Pressure Gauge

Model No. EFS-SS3302 series



EFS-SS3302

#### Summary

This gauge has L (low pressure side) and H (high pressure side) in pressure access port. By indicating the differential of pressure (differential pressure) of 2 places, it is able to measure the differential pressure and by using that, it is able to measure liquid level and flux too.

#### Production Specification

- ▶ Diameter
  - 100, 150mm
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Scale Range
  - 5 ~ 50 kPa, 0 ~ 1 MPa
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$
- ▶ Degree of Protection
  - IP65

### Differential Pressure Gauge (with Switch)

Model No. EFS-Magnetic 2010 series



EFS-Magnetic 2010

#### Summary

This gauge has a structure like EFS-Magnetic 2000 Model with contact signal. therefore, it produce a warning signal by sending it to buzzer, bell, polot-lamp.

#### Production Specification

- ▶ Diameter
  - 100mm
- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-0.25 \sim 0.25\text{kPa} \sim -10 \sim 10\text{kPa}$ ,  $0 \sim 50\text{kPa}$   
( $\approx 1\text{kPa} = 101.9716\text{ mmH}_2\text{O}$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-10 \sim 60^{\circ}\text{C}$

### Differential Pressure Gauge

Model No. EFS-Magnetic 2000 series



EFS-Magnetic 2000

#### Summary

This gauge has L (low pressure side) and H (high pressure side) in pressure access port. By indicating the differential of pressure (differential pressure) of 2 places, it is able to measure the differential pressure and by using that, able to measure liquid level and flux too.  
※Able to check whether the filter has blocked.

#### Production Specification

- ▶ Diameter
  - 100mm
- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-0.25 \sim 0.25\text{kPa} \sim -10 \sim 10\text{kPa}$ ,  $0 \sim 50\text{kPa}$   
( $\approx 1\text{kPa} = 101.9716\text{ mmH}_2\text{O}$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-10 \sim 60^{\circ}\text{C}$



### Differential Pressure Gauge

Model No. EFS-Magnetic 3000 series



EFS-Magnetic 3000

#### Summary

This gauge has L (low pressure side) and H (high pressure side) in pressure access port. By indicating the differential of pressure (differential pressure) of 2 places, it is able to measure the differential pressure and by using that, able to measure liquid level and flux too.  
※Able to check whether the filter has blocked.

#### Production Specification

- ▶ Diameter
  - 50mm, 80mm, 100mm
- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - 50kPa ~ 400kPa
  - (※ 1 kPa = 0.01 bar)
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-10 \sim 60^{\circ}\text{C}$

### Differential Pressure Gauge (with Electric Contact)

Model No. EFS-Magnetic 3010 series



EFS-MAGNETIC 3010

#### Summary

This gauge has L (low pressure side) and H (high pressure side) in pressure access port. By indicating the differential of pressure (differential pressure) of 2 places, it is able to measure the differential pressure and by using that, able to measure liquid level and flux too.  
※Able to check whether the filter has blocked.

#### Production Specification

- ▶ Diameter
  - 50mm, 80mm, 100mm
- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - 50kPa ~ 400kPa
  - (※ 1 kPa = 0.01 bar)
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-10 \sim 60^{\circ}\text{C}$

### Explosion Protected Pressure Indicating Switch

Model No. EFS-KCD21 series



EFS-KCD21

[Explosion-protected of protection] Ex d IIC T4

#### Summary

This gauge is an internal explosion-proof type of pressure switch for prevention of explosion of plants, etc. The advantage is that it is easy to set the contact from outside as a switch.

#### Production Specification

- ▶ Accuracy
  - Grade :  $\pm 1.5\%$  of Full Scale
  - Repeatability :  $\pm 1.0\%$  of Adj Range
  - Dead Band :  $\pm 4.0\%$
- ▶ Scale Range
  - $-0.1 \sim 2\text{MPa}$ ,  $0 \sim 35\text{MPa}$
  - ( $\approx 1\text{MPa} = 10.19716\text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$
- ▶ Explosion-Protected of Protection
  - Ex d IIC T4

### Explosion Protected Pressure Gauge with Contact (Small Type)

Model No. EFS-KCD22 series



EFS-KCD22

[Explosion-protected of protection] Ex d IIC T4

#### Summary

This gauge is to prevent explosion disaster of plants, etc. It is an internal explosion-proof type of pressure switch. In places where combustible gas or liquid exist at petro chemistry, chemical fiber factory, be sure to use a pressure gauge which is internal explosion-proof type as an electric device.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - $-0.1 \sim 2\text{MPa}$ ,  $0 \sim 35\text{MPa}$ ,  $5 \sim 50\text{kPa}$
  - ( $\approx 1\text{MPa} = 10.19716\text{ kgf/cm}^2$ )
  - Others also can be made up
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$
- ▶ Explosion-Protected of Protection
  - Ex d IIC T4

### Explosion Protected Pressure Gauge with Contact (Small Type)

Model No. EFS-KCD23 series



EFS-KCD23

[Explosion-protected of protection] Ex d IIC T4

#### Summary

This gauge is to prevent explosion disaster of plants, etc. It is an internal explosion-proof type of pressure switch. In places where combustible gas or liquid exist at petrochemistry or chemical fiber factory, be sure to use a pressure gauge which is an internal explosion-proof type as an electric device.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - $-0.1 \sim 2\text{MPa}$ ,  $0 \sim 35\text{MPa}$ ,  $5 \sim 50\text{kPa}$
  - $\text{MPa} (\approx 1\text{MPa} = 10.19716\text{ kgf/cm}^2)$
  - Others also can be made up
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$
- ▶ Explosion-Protected of Protection
  - Ex d IIC T4



### Explosion Protected Pressure Switch

Model No. EFS-KCD30 series



EFS-KCD30

[Explosion-protected of protection] Ex d IIC T4

#### Summary

This gauge is a diaphragm type and applied to the change of processing line. The micro switch located inside the gauge works according to various fluid and pressure of atmosphere.

#### Production Specification

- ▶ Pointer Type
  - No indication
- ▶ Accuracy
  - Repeatability :  $\pm 1.0\%$  of Adj Range
  - Dead Band :  $\pm 4.0\%$
- ▶ Scale Range
  - 0.5kPa ~ 50kPa
  - (※ 1 kPa = 101.9716 mm H<sub>2</sub>O)
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient : - 20 ~ 65°C
  - Fluid : - 20 ~ 80°C
- ▶ Explosion-Protected of Protection
  - Ex d IIC T4

### Explosion Protected Differential Pressure Switch

Model No. EFS-KCD31 series



EFS-KCD31

[Explosion-protected of protection] Ex d IIC T4

#### Summary

This gauge has the same structure as KCD-21 Series. It is a contact switch for differential pressure which can measure simple differential pressure and can be used as measuring sealed tank level, flux or for the prevention of blockage of filter.

#### Production Specification

- ▶ Accuracy
  - Grade :  $\pm 1.5\%$  of Full Scale
  - Repeatability :  $\pm 1.0\%$  of Adj Range
  - Dead Band :  $\pm 4.0\%$
- ▶ Scale Range
  - 0 ~ 50 kPa, 0 ~ 1 MPa
  - (※ 1 MPa = 10,197.16 kgf/cm<sup>2</sup>)
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient : - 20 ~ 65°C
  - Fluid : - 20 ~ 80°C
- ▶ Explosion-Protected of Protection
  - Ex d IIC T4

### Explosion Protected Pressure Switch

Model No. EFS-KCD32 series



EFS-KCD32

[Explosion-protected of protection] Ex d IIB T5

#### Summary

This pressure switch is proper for pressure control, flow control, liquid level control such as oil pressure, air pressure, water pressure and so on. It was designed considering shock resistance, durability, etc. It has high accuracy, high reliability by using bourdon as an element. The micro switch works on various kinds of fluid and atmosphere pressure.

#### Production Specification

- ▶ Pointer Type
  - No indication
- ▶ Accuracy
  - Repeatability :  $\pm 1.0\%$  of Adj Range
  - Dead Band :  $\pm 4.0\%$
- ▶ Scale Range
  - - 0.1 ~ 0 MPa, 0.05 ~ 10 MPa
  - (※ 1 MPa = 10,197.16 kgf/cm<sup>2</sup>)
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient : - 20 ~ 65°C
  - Fluid : - 20 ~ 80°C
- ▶ Explosion-Protected of Protection
  - Ex d IIB T5

## Pressure Switch

### Model No. EFS-KCQ21 series



EFS-KCQ21

### Summary

This pressure switch is proper for various pressure controlling such as oil pressure, air pressure, water pressure, etc and also flow control, pressure control, liquid level control, etc. It is designed considering shock resistance, durability, etc. Therefore, it is enough proper for ships.

### Production Specification

- ▶ Diameter
  - Square
  - 165mm x 130mm x 60mm (W x H x D)
- ▶ Accuracy
  - Repeatability :  $\pm 1.0\%$  of Adj Range
  - Dead Band :  $\pm 4.0\%$
- ▶ Scale Range
  - $-0.1 \sim 2 \text{ MPa}$ ,  $0 \sim 35 \text{ MPa}$
  - ( $\approx 1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

## Pressure Switch

### Model No. EFS-KCQ30 series



EFS-KCQ30

### Summary

This pressure switch is proper for various pressure controlling such as oil pressure, air pressure, water pressure, etc and also flow control, pressure control, liquid level control, etc. It is designed considering shock resistance, durability, etc. Therefore, it is enough proper for ships.

### Production Specification

- ▶ Diameter
  - Square
  - 124mm x 127mm x 90mm (W x H x D)
- ▶ Accuracy
  - Repeatability :  $\pm 1.0\%$  of Adj Range
  - Dead Band :  $\pm 4.0\%$
- ▶ Scale Range
  - $-0.1 \text{ MPa} \sim 2 \text{ MPa}$ ,  $-0.1 \text{ MPa} \sim 0$ ,  $0 \sim 35 \text{ MPa}$
  - ( $\approx 1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

## Pressure Switch

### Model No. EFS-KCQ2020 series



KCQ-2020

### Summary

This pressure switch is proper for various pressure control such as oil pressure, air pressure, water pressure, etc and also flow control, pressure control, liquid level control, etc. It is designed considering shock resistance, durability, etc. Therefore, it is enough proper for ships.

### Production Specification

- ▶ Diameter
  - Square
  - 115mm x 90mm x 74mm (W x H x D)
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Scale Range
  - Proof Pressure :  $0.3 \sim 3 \text{ MPa}$
  - Differential :  $0.03 \sim 0.6 \text{ MPa}$
  - ( $\approx 1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

### Differential Pressure Gauge (with Micro Switch)

Model No. EFS-KDG17 series



EFS-KDG17

#### Summary

This gauge has a pressure inlet port. The pressure inlet port measures the differential pressure between low pressure side and high pressure side. It also measures warning liquid level of a tank, etc. It is proper in measuring high pressure and corrosive fluid.

#### Production Specification

- ▶ Diameter
  - 150mm
- ▶ Accuracy
  - Grade :  $\pm 1.5\%$  of Full Scale
  - Repeatability :  $\pm 1.0\%$  of Adj Range
  - Dead Band :  $\pm 4.0\%$
- ▶ Scale Range
  - 5 ~ 50 kPa, 0 ~ 1 MPa
  - ( $\approx 1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Base Press
  - 5 MPa
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

### Flow Switch

Model No. EFS-KFS2020 series



EFS-KFS2020

#### Summary

Flow switch is widely used for control by detecting the flow of hydraulic pump, sewage disposal plant, etc. The velocity of moving fluid is detected by paddle. By using a metal bellows, it is also designed not to get affected when detecting fluid even though there is a maximum 2MPa pressure change inside the pipe.

#### Production Specification

- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Working Temperature
  - Fluid :  $1 \sim 100^\circ\text{C}$
- ▶ Max. Pressure
  - 2 MPa (20bar)

### Flow Switch

Model No. EFS-KFS2021 series



EFS-KFS2021

#### Summary

Flow switch is widely used for control by detecting the flow of hydraulic pump, sewage disposal plant, power plant, etc. The velocity of moving fluid is detected by paddle. By using a metal bellows, it is also designed not to get affected when detecting fluid even though there is a maximum 2MPa pressure change inside the pipe.

#### Production Specification

- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Working Temperature
  - Fluid :  $1 \sim 100^\circ\text{C}$
- ▶ Max. Pressure
  - 2 MPa (20bar)



### General Pressure Gauge

Model No. EFS-SS3011~4 series



EFS-SS3011



EFS-SS3014

#### Summary

This gauge is the most widely used pressure gauge. It has high durability by doing special process in bourdon tube. It also has high elasticity because it uses copper alloy in the part of connection and it is very useful in measuring general pressure.

#### Production Specification

- ▶ Diameter
  - 40, 50, 60, 75, 100, 150, 200 mm
- ▶ Accuracy
  - 40mm :  $\pm 3.0\%$  of Full Scale
  - 50mm :  $\pm 3.0\%$  or  $\pm 1.5\%$  of Full Scale
  - 60, 75, 100, 150, 200 mm :  $\pm 1.5\%$  of Full Scale
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 40^{\circ}\text{C}$
- ▶ Scale Range
  - $-1 \sim 0$  to  $0 \sim 100$  MPa

### Pressure Gauge with Electric Contact

Model No. EFS-SS3025~8 series



EFS-SS3025



EFS-SS3028

#### Summary

This gauge has a contact device inside the indicator. Not only indicating of pressure but also it is able to control and report by sending a electric signal in a built-in contact device which was already set up.

#### Production Specification

- ▶ Diameter
  - 100, 150 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$
- ▶ Scale Range
  - $-1 \sim 0$  to  $0 \sim 100$  MPa

### Diaphragm Seal Type Pressure Gauge

Model No. EFS-SS3031/4 series



EFS-SS3031

#### Summary

This device was designed to guarantee the performance and the lifespan when measuring pressure in chemical industry even when measuring fluid is mixed with powder which has coagulation or with strong corrosiveness.

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - $-0.1 \text{ MPa} \sim 0$ ,  $-0.1 \text{ MPa} \sim 2 \text{ MPa}$ ,  $0 \sim 35 \text{ MPa}$
  - (※  $1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$



### Special Pressure Gauge

Model No. EFS-SS3021~4 series



EFS-SS3021



EFS-SS3024

#### Summary

This gauge has high corrosive resistance and it is properly built to measure fluid pressure which can withstand outside condition change. It has high accuracy because its connecting part is made of stainless steel.

#### Production Specification

- ▶ Diameter
  - 40, 50, 60, 75, 100, 150, 200mm
- ▶ Accuracy
  - 40mm :  $\pm 3\%$  of Full Scale
  - 50mm 이상 :  $\pm 1.5\%$  of Full Scale
  - 100, 150, 200 mm :  $\pm 1.0\%$  of Full Scale
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$
- ▶ Degree of Protection
  - IP67
- ▶ Scale Range
  - $-1 \sim 0$  to  $0 \sim 200$  MPa

### Euro Pressure Gauge(DIN)

Model No. EFS-SD3021~4 series



EFS-SD3021



EFS-SD3024

#### Summary

This gauge has high corrosive resistance and inner chemical capability. This is built to be proper for corrosive atmosphere. The appearance looks beautiful because the case, cover and the connecting part are made of stainless steel and it has high accuracy.

#### Production Specification

- ▶ Diameter
  - 63, 80, 100, 160 mm
- ▶ Accuracy
  - 63, 80mm :  $\pm 1.6\%$  of Full Scale
  - 100, 160mm :  $\pm 1.0\%$  of Full Scale
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$
- ▶ Degree of Protection
  - IP67
- ▶ Scale Range
  - $-1 \sim 0$  to  $0 \sim 200$  MPa

### Solid Front Safety Pressure Gauge

Model No. EFS-SF3021 series



EFS-SF3021

#### Summary

This gauge is very safe even when the pressure increases because the front side is strong and made of blow out back. The appearance is beautiful because the case, cover and the connecting part are made of stainless steel and the pressure gauge has high corrosive resistance and inner chemical capability.

#### Production Specification

- ▶ Diameter
  - 100 mm, 160 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - $-1 \sim 0$  to  $0 \sim 200$  MPa
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

### Diaphragm Seal Pressure Gauge (for High Temp.)

Model No. EFS-SS3040 series



EFS-SS3043/3044

#### Summary

This gauge is designed to be suitable in measuring high viscosity fluid pressure with room temperature and pressure measurement of an element which has high temperature melting condition.

#### Production Specification

- ▶ Diameter
  - 100, 150 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - 5 ~ 70 MPa
  - (※ 1 MPa = 10.19716 kgf/cm<sup>2</sup>)
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient : - 20 ~ 330 °C
  - Fluid : - 20 ~ 330 °C

### Ring Diaphragm Type Pressure Gauge

Model No. EFS-SS3037 series



EFS-SS3037

#### Summary

This gauge is designed to measure various fluid's pressure flowing in a pipe effectively and accurately. It also has corrosive resistance and heat resistance. We complemented the imported goods' disadvantages. Therefore, it does not get affected by the direction of the installation and we can move it as we want to after the installation.

#### Production Specification

- ▶ Diameter
  - 100 mm, 150 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - - 0.1 MPa ~ 0, - 0.1 MPa ~ 2 MPa,
  - 0 ~ 2 MPa
  - (※ 1 MPa = 10.19716 kgf/cm<sup>2</sup>)
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient : -5 ~ 40 °C
  - Fluid : - 10 ~ 60 °C

### Solid Front Safety Pressure Gauge

Model No. EFS-SF3022 series



EFS-SF3022

#### Summary

This gauge is very safe even when the pressure increases because the front side is strong and made of blow out back. For corrosive resistance and thermostability, the case and cover are built by 4 1/2 phenolic resin.

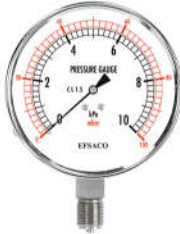
#### Production Specification

- ▶ Diameter
  - 125 mm
- ▶ Accuracy
  - 0.5% and  $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - - 1 ~ 0 to 0 ~ 200 MPa
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient : - 20 ~ 65 °C
  - Fluid : - 20 ~ 80 °C



### General Low Pressure Gauge

Model No. EFS-SS3050 series



EFS-SS3051

#### Summary

This gauge is specially designed to measure low pressure which cannot be measured by a bourdon pipe pressure gauge. This gauge uses a specially designed chamber as the element.

#### Production Specification

- ▶ Diameter
  - 75, 100 mm
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$
- ▶ Scale Range
  - $5 \sim 50 \text{ kPa}$

### Special General Low Pressure Gauge

Model No. EFS-SS3050S series



EFS-SS3051S



EFS-SS3054S

#### Summary

This gauge is specially designed to measure low pressure which cannot be measured by a bourdon pipe pressure gauge. This gauge uses a specially designed chamber as the element.

#### Production Specification

- ▶ Diameter
  - 75, 100, 150 mm
- ▶ Accuracy
  - $\pm 1.5\%$  of Full Scale
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$
- ▶ Degree of Protection
  - IP65
- ▶ Scale Range
  - $5 \sim 100 \text{ kPa}$

### Pressure Gauge (with Micro Contact)

Model No. EFS-SF3060 series



EFS-SS3062

#### Summary

This equipment is a contact pressure gauge which has a micro switch inside the equipment. It produces an electric signal of ON, OFF by working the switch. It shows the information by sending electric signal to buzzer, bell, pilot lamp, etc.

#### Production Specification

- ▶ Diameter
  - 100, 150 mm
- ▶ Accuracy
  - Grade :  $\pm 1.5\%$  of Full Scale
  - Dead Band :  $\pm 4.0\%$  of Full Scale
- ▶ Scale Range
  - $-0.1 \text{ MPa} \sim 2 \text{ MPa}$ ,
  - $-0.1 \text{ MPa} \sim 0 \text{ MPa}$ ,  $0 \sim 35 \text{ MPa}$
  - ( $\approx 1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2$ )
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^{\circ}\text{C}$
  - Fluid :  $-20 \sim 80^{\circ}\text{C}$

### Pressure Gauge (with Electric Contact)

Model No. EFS-SS3065~6 series



EFS-SS3065 100mm

#### Summary

This gauge has a contact device in the indicator. Not only indicating the pressure but also it is able to control and report by sending an electric message from the built-in contact device where the pressure was set up beforehand

#### Production Specification

- ▶ Diameter
  - 100 mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - $-0.1 \text{ MPa} \sim 0$ ,  $-0.1 \text{ MPa} \sim 2 \text{ MPa}$ ,  
 $0 \sim 100 \text{ MPa}$   
 $(\approx 1 \text{ MPa} = 10.19716 \text{ kgf/cm}^2)$
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$

### Liquid Filled Pressure Gauge

Model No. EFS-SS3071~4 series



EFS-SS3071



EFS-SS3074

#### Summary

This gauge is proper for measuring the pressure in place where mechanical vibration and pulsation are heavy because its interior devices are precipitated in silicon liquid and by doing this, it is able to suppress vibration which is used by the viscosity resistance of liquid. This pressure gauge guarantees its performance and the life span as it has relatively better durability than other general pressure gauges because it prevents abrasion of the interior devices using lubricative fluid.

#### Production Specification

- ▶ Diameter
  - 60, 75, 100, 150 mm
- ▶ Accuracy
  - 60, 75mm :  $\pm 1.5\%$  of Full Scale
  - 100, 150mm :  $\pm 1.0\%$  of Full Scale
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$
- ▶ Degree of protection
  - IP67
- ▶ Scale Range
  - $-0.1 \text{ MPa} \sim 200 \text{ MPa}$

### Liquid Filled Euro Pressure Gauge (DIN)

Model No. EFS-SD3071~4 series



EFS-SD3071



EFS-SD3074

#### Summary

This gauge is proper for measuring the pressure in place where mechanical vibration and pulsation are heavy because its interior devices are precipitated in silicon liquid and by doing this, it is able to suppress vibration which is used by the viscosity resistance of liquid. This pressure gauge guarantees its performance and the life span as it has relatively better durability than other general pressure gauges because it prevents abrasion of the interior devices using lubricative fluid.

#### Production Specification

- ▶ Diameter
  - 63, 80, 100, 160 mm
- ▶ Accuracy
  - 63, 80mm :  $\pm 1.6\%$  of Full Scale
  - 100mm :  $\pm 1.0\%$  of Full Scale
- ▶ Working Pressure
  - Static pressure : 75% of Full Scale
  - Fluctuating pressure : 60% of Full Scale
- ▶ Working Temperature
  - Ambient :  $-20 \sim 65^\circ\text{C}$
  - Fluid :  $-20 \sim 80^\circ\text{C}$
- ▶ Scale Range
  - $-0.1 \text{ MPa} \sim 200 \text{ MPa}$

### Liquid Filled Type Thermometer

Model No. EFS-SS4011~2 series



EFS-SS4010

#### Summary

The scale interval of this instrument is divided equally. Therefore, it is easy to read the scale when measuring the temperature. As the driving power is strong, the indicator indicates certainly and it is widely used for industrial use because the temperature transmission speed is very fast.

#### Production Specification

- ▶ Diameter
  - 100 mm · 150 mm
- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale

### Liquid Filled Type Thermometer (with Contact)

Model No. EFS-SS4021~2 series



EFS-SS4020

#### Summary

The principle and structure of this temperature measurement instrument is the same as the filled thermometer but it produces a contact signal when there is an increase or decrease of temperature by installing the indicator for high and low set-up.

#### Production Specification

- ▶ Diameter
  - 100 mm , 150 mm
- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale

### Bimetal Thermometer

Model No. EFS-SS4061~8 series



#### Summary

This instrument is joined by two different metal plates which have different coefficient of expansion. The structure is simple and it is easy to use. Therefore, it is easy to read the scale when measuring and as the price of it is inexpensive, it can be used widely.

#### Production Specification

- ▶ Diameter
  - 75mm, 100mm , 125mm, 150mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 600^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale



### Liquid Filled Thermometer (with Micro Contact)

Model No. EFS-SS4025~6 series



EFS-SS4025/6

#### Summary

This instrument has a micro switch that produces a contact signal when there is an increase or decrease of temperature by controlling the setting temperature.

#### Production Specification

- ▶ Diameter
  - 100, 150 mm
- ▶ Accuracy
  - Grade :  $\pm 2.0\%$  of Full Scale
  - Repeatability :  $\pm 1.0$  of Adj Range
  - Dead Band :  $\pm 4.0\%$
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale

### Liquid Filled Type Thermometer (Direct)

Model No. EFS-SS4030 series



EFS-SS4031



EFS-SS4032

#### Summary

The scale interval of this instrument is divided equally. Therefore, it is easy to read the scale when measuring the temperature. As the driving power is strong, the indicator indicates certainly and depending on the special condition of the installation place, it can be ordered in various form of bend and can be made by many other ordering ways.

#### Production Specification

- ▶ Diameter
  - 100, 150 mm
- ▶ Accuracy
  - Grade :  $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale
- ▶ Degree Of Protection
  - IP65

### Recoding Thermometer

Model No. EFS-SS4041 series



EFS-SS4041 250mm

#### Summary

This instrument is designed to record change of pressure with a pen on a record paper by a recording device according to the flow of the time

#### Production Specification

- ▶ Diameter
  - 250 mm
- ▶ Accuracy
  - Grade :  $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale

### Temperature Switch

Model No. EFS-SS4050 series



EFS-SS4050

#### Summary

This instrument has a micro switch that produces a contact signal when there is an increase or decrease of temperature by controlling the setting temperature.

#### Production Specification

- ▶ Diameter (1P)
  - 170mm x 135mm x 61mm (W x H x D)
- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale

### Liquid Filled Thermometer Transformer

Model No. EFS-SS4023 series



EFS-SS4023

#### Summary

The principle and structure of this temperature measurement instrument is the same as the filled thermometer but it produces a contact signal when there is an increase or decrease of temperature by installing the set-up indicator for high and low.

#### Production Specification

- ▶ Diameter
  - 100, 150 mm
- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale

### Angle Type Special Thermometer

Model No. EFS-SS4071~3 series



EFS-SS4071

#### Summary

This instrument is designed to adjust the measuring angle as you want to . Therefore, you can change the location as your own discretion and measure it.

#### Production Specification

- ▶ Diameter
  - 100mm, 125mm, 150mm
- ▶ Accuracy
  - $\pm 1.0\%$  of Full Scale
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale

### Explosion Protected Thermometer Indicating Switch

Model No. EFS-KTD21 series



EFS-KTD21

[Explosion-Protected of Protection] Ex d IIC T4

#### Summary

As the driving power is strong, the indicator indicates certainly and it is widely used for industrial use because its transmission speed of temperature is very fast.

This instrument has a micro switch which produces a contact signal when there is an increase or decrease of temperature by controlling the setting temperature outside.

#### Production Specification

- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Dead Band :  $\pm 4\%$
- ▶ Repeatability :  $\pm 1\%$
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale
- ▶ Explosion-Protected of Protection
  - Ex d IIC T4

### Explosion Protected Thermometer Indicating Switch

Model No. EFS-KTD22 series



EFS-KTD22

[Explosion-Protected of Protection]  
Ex d IIC T4

#### Summary

As the driving power is strong, the indicator indicates certainly and it is widely used for industrial use because its transmission speed of temperature is very fast.

This instrument has a micro switch that produces a contact signal when there is an increase or decrease of temperature by controlling the setting temperature outside.

#### Production Specification

- ▶ Accuracy
  - $\pm 2.0\%$  of Full Scale
- ▶ Scale Range
  - $-30^{\circ}\text{C} \sim 650^{\circ}\text{C}$
- ▶ Common Temperature
  - 75% of Full Scale
- ▶ Explosion-Protected of Protection
  - Ex d IIC T4



### Piezoresistive Silicon Gauge Pressure Transmitter

Model No. EFS-JPT3051P series



With the JPT3051P pressure transmitter, you'll gain more control over your plant. You'll be able to product variation and complexity as well as your total cost of ownership by leveraging one device across a number of pressure, level and flow applications. You'll have access to information you can use to diagnose, correct and even prevent issues. And with unparalleled reliability and experience, the JPT3051P is the industry standard will help you perform at higher levels of efficiency and safety so you can remain globally competitive.

▲ Measuring Range	0~10KPa~60MPa
▲ Accuracy	0.075%、0.1%、0.2%
▲ Operating Voltage	12~36V
▲ Output Signal	4~20mA/HART
▲ Type of Measurement	gage pressure/absolute pressure/negative pressure
▲ Field application	used in electric power, chemical industry, metallurgy, oil&gas, etc

### Piezoresistive Single Crystal Silicon Differential Pressure Transmitter

Model No. EFS-JPT3051DP series



JPT3051DP single crystal silicon pressure transmitter is a high performance pressure transmitter with international leading technology meticulously designed by JINGE instrument, using the world's most advanced single crystal silicon pressure sensor technology and patent encapsulation technology. It has strong anti-interference ability and high accuracy. The sealing material for user's choice is very complete such as stainless steel, hartz alloy, tantalum, almost all compatible with all media.

▲ Measuring Range	0~200pa~0~40Mpa
▲ Accuracy	±0.075%、0.1%、0.2%
▲ Operating Voltage	12~36V
▲ Output Signal	4~20mA、HART
▲ Type of Measurement	liquid, gas pressure & differential pressure
▲ Field application	used in electric power, chemical industry, metallurgy, oil&gas, etc

### Diaphragm Differential Pressure Transmitter

Model No. EFS-JPT3051DL series



JPT3051DL series diaphragm type pressure transmitter is designed for process industry applications, which can measure the pressure and differential pressure of liquid, steam and gas. Direct contact medium, high temperature, easy to clean, prolong the service life of the transmitter. The material for users is very complete, such as stainless steel, Hastelloy, tantalum, etc., almost all compatible with all media. Widely used in petroleum, chemical, electric power, food, medicine and other industries.

▲ Measuring Range	0~6KPa~0~2.1MPa
▲ Accuracy	0.1%、0.2%、0.5%
▲ Operating Voltage	12~36V
▲ Output Signal	4~20mA、RS485、HART
▲ Measuring Type	liquid, steam flow, gas pressure and liquid level, differential pressure
▲ Field application	used in electric power, chemical industry, metallurgy, food&medical, etc.

## Digital Temperature Transmitter

Model No. EFS-JTT644x series



Digital temperature transmitter is specially designed for digital oil and gas fields, metallurgy and other harsh environment. The sensor has the advantages of high quality, high precision, corrosion resistance, impact resistance, vibration resistance, high stability and other advantages. The signal processor adopted the advanced intelligent conversion and digital compensation technology. It has strong anti-interference ability and lightning protection function, and the measuring range can almost meet the requirements of all operating conditions.

▲ Measuring Range	-200~1600℃
▲ Accuracy	0.25%、0.5%、1.0%
▲ Working Voltage	8~28VDC
▲ Output Signal	4~20mA+RS485、HART
▲ Types of Sensor	RTD、TC
▲ Field of Application	used in electric power, chemical industry, metallurgy, oil&gas, etc



*Manifold Valve*

*Model No. Manifold Valve series*



**Summary**

Those accessories' performance and lifespan are dependent on selection of the gauge, correct installation and using method. Therefore, before installing a pressure gauge, it is important to select a proper accessory for the purpose of use. This manifold valve is to block fluid measurement temporarily when repairing, inspecting and fixing the pressure gauge. It is generally used in low pressure.





### Thermowell

Model No. EFS-SS5090 series



EFS-SS5090

#### Material :

- 304SS : STS304
- 316SS : STS316
- 310SS : STS310
- 321SS : STS321
- 446SS : STS446
- OTHER

#### Insert Connection Type :

- PT1/2(F) : PT1/2(Female)
- NPT1/2(F) : NPT1/2(Female)
- PT1/2(M) : PT1/2(Male)
- NPT1/2(M) : NPT1/2(Male)

#### Insert Length :

- 50 ~ 1200mm

#### Process Connection Type :

- PT1/2
- PT3/4
- PT1
- Flange Size

#### Bar & Tube Out DIA. :

- Ø14      - Ø16
- Ø17      - Ø19

### Tank Syphon

Model No. EFS-SSTS Tank Syphon series



Tank Syphon

#### Summary

Those accessories' performance and lifespan are dependent on selection of gauge, correct installation and using method. Therefore, before installing a pressure gauge, it is important to select a proper accessories for purpose of use. Tank Syphon is a apparatus for radiation of heat and it is used in high temperature.

#### Production Specification

- ▶ Materials
  - Steel (Ni-plating)
  - Stainless Steel
- ▶ Connection

Material	Gauge	Pipe
STS	PF 3/8	PF 3/8
	PF 1/2	PF 1/2

- ▶ Test Pressure
  - 20 MPa
- ▶ Tank Capacity
  - 120 cc
- ▶ Maximum Working Pressure
  - 15 MPa
- ▶ Maximum Working Temperature
  - 350 °C

### Snubber

Model No. EFS-SSSB Snubber series



Snubber

#### Summary

Those accessories' performance and lifespan are dependent on selection of the gauge, correct installation and using method. Therefore, before installing a pressure gauge, it is important to select a proper accessory for purpose of use. Snubber is used for a filter or a shock absorber because it includes a breathable metal disc. It can suppress the effect of pressure pulsation, and due to its appearance of big filter, there is less blockage than orifice type, and it can filter tetrachloride, benzene and naphtha.

#### Production Specification

- ▶ Materials
  - Brass
  - Stainless Steel
- ▶ Connection

Material	Gauge	Pipe
BS STS	PF 1/4	PF 1/4
	PF 3/8	PF 3/8
	PF 1/2	PF 1/2

- ▶ Test Pressure
  - 30 MPa
- ▶ Maximum Working Pressure
  - 20 MPa
- ▶ Maximum Working Temperature
  - 200 °C



## Seal Pot

Model No. EFS-SSSP Seal Pot series



Seal Pot

### Summary

This accessory is used for measuring the steam pressure which is easy to be condensed in room temperature. It is also used for the protection of the instrument by the prevention of the fluid influx which is produced during the producing process inside the instrument, or used for reducing the number of errors of hydraulic head by providing the constant hydraulic head.

### Production Specification

- ▶ Materials
  - Steel (Ni-plating)
  - Stainless Steel

#### ▶ Connection

Material	Gauge	Pipe
STS	PF 3/8	PF 3/8
	PF 1/2	PF 1/2

- ▶ Test Pressure
  - 20 MPa
- ▶ Tank Capacity
  - 600 cc
- ▶ Maximum Working Pressure
  - 15 MPa
- ▶ Maximum Working Temperature
  - 350 °C

## Gauge Protector

Model No. EFS-SSGP Gauge Protector series



EFS-SSGP Series

### Summary

The Overpressure protector consist of a spring loaded piston valve. under normal pressure conditions the spring hold the valve open. when the system pressure exceeds the set pressure, the force exerted by the spring is over-come and the valve closes. The valve will remain closed until the system pressure drops approximately 25% below the closing pressure, where-upon the force of the spring will open the valve.

### Production Specification

- ▶ Pressure Connection
  - 3/8" PF & 1/2" NPT male inlet, female outlet
  - 1/2" NPT to 1/4" NPT adaptors available
- ▶ Body
  - 316Ti stainless steel
- ▶ Piston Valve
  - 316Ti stainless steel
- ▶ O-Ring
  - FPM (Viton)
- ▶ Operating Temperature (Media)
  - 80 °C maximum

## Dampener

Model No. EFS-SSDP Dampener series



Dampener

### Summary

Those accessories' performance and lifespan are dependent on selection of the gauge, correct installation and using method. Therefore, before installing a pressure gauge, it is important to select a proper accessory for purpose of use. A Dampener (kind of a needle valve) which is a joint instrument of variable type is attached with a pressure gauge in a place where the pressure pulsation works, and used for the prevention of damage by pulsation. It is used by controlling the indicating valve of the pressure gauge after installing it.

### Production Specification

- ▶ Materials
  - Brass
  - Stainless Steel

#### ▶ Connection

Material	Gauge	Pipe
BS STS	PF 1/4	PF 1/4
	PF 3/8	PF 3/8
	PF 1/2	PF 1/2

- ▶ Test Pressure
  - 30 MPa
- ▶ Maximum Working Pressure
  - 20 MPa
- ▶ Maximum Working Temperature
  - 200 °C