

2014 EDITION

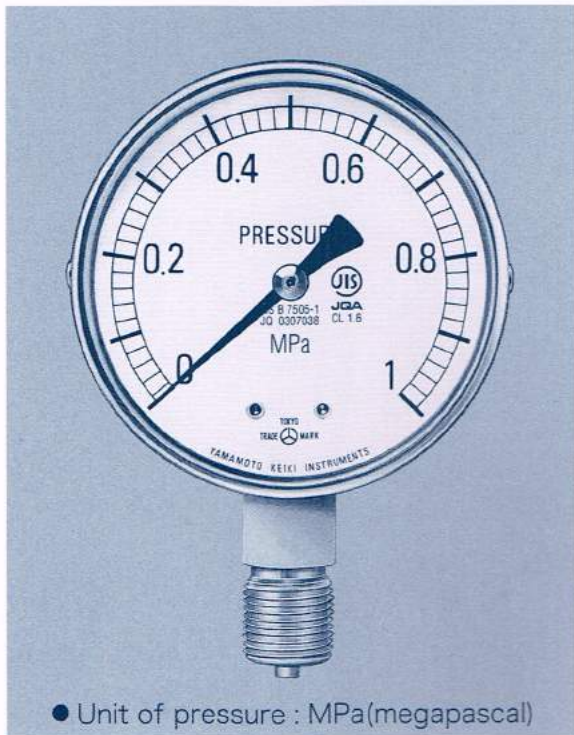


YAMAMOTO'S

**PRESSURE GAUGES
THERMOMETERS**



YAMAMOTO KEIKI MFG.CO.,LTD.



JAPANESE INDUSTRIAL STANDARD (Bourdon tube pressure gauges)

Japanese industrial standard about Bourdon tube pressure gauges was revised on April 1, 1994 and came into force from April 1, 1995.

Most important thing is alteration of unit of pressure provided. It provides that for Bourdon tube pressure gauges, MPa (megapascal) shall be used. Now we can mark JIS-mark on pressure gauges with MPa only as left picture. We can't mark on pressure gauges with kgf/cm² or double scale of MPa and other unit.

《For reference》

Pressure gauge : kgf/cm² ⇨⇨⇨⇨⇨⇨⇨⇨ MPa

Vacuum gauge

Vacuum part of Compound gauge :

cmHg ⇨⇨⇨⇨⇨⇨⇨⇨ MPa

Vacuum gauge

1MPa = 10.1972 kgf/cm² ≈ 10 kgf/cm²

— How to select the pressure gauges —
Please select according to the use.

- At the place where vibration or pulsation is strong Vibration-proof type pressure gauge
Glycerin bath pressure gauge
- At the place where the ambient temperature comes to 80°C in maximum Heatproof type pressure gauge
- For the corrosive fluid or at the corrosive circumstances Stainless steel pressure gauge
- For steam (it is necessary to use syphon) Pressure gauge for steam
- For corrosive or viscous liquid Diaphragm-seals pressure gauge

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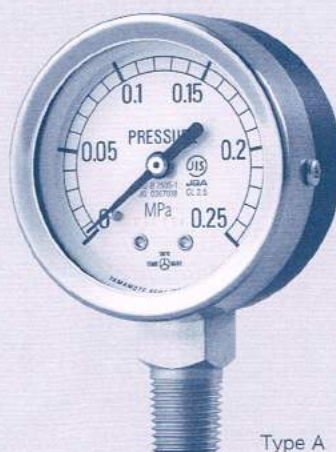
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without notice to improve quality.

PRESSURE GAUGES

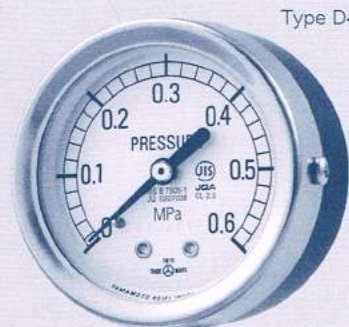
SMALL PRESSURE GAUGE

Pressure gauge suitable for use with all types of small and lightweight equipment and units.

- Size : 40 ϕ / 50 ϕ
- Pressure range :
Pressure gauge 40 ϕ : 0 ~ 2.5MPa (0 ~ 25kg/cm²)
50 ϕ : 0 ~ 6MPa (0 ~ 60kg/cm²)
Vacuum gauge
-0.1 ~ 0MPa (76cmHg ~ 0cmHg)
- Shape of casing : Standard case, Type A / Type D4
- Connecting thread : 40 ϕ ... R1/8
50 ϕ ... R1/4 (R1/8)
- Accuracy : $\pm 2.5\%$ F.S.



Type A

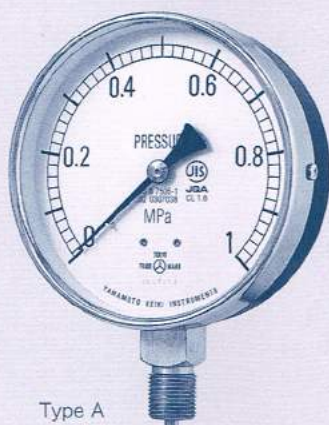


Type D4

ORDINARY PRESSURE GAUGE

A wide manufacturing range of Bourdon tube pressure gauges meeting JIS B7505 standard, including pressure gauge, vacuum gauge and compound gauge, are available.

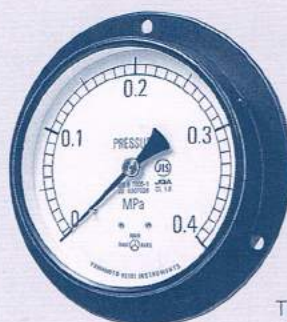
- Classification (mark) :
Ordinary type for steam (M) / Heatproof type (H) / Vibration-proof type (V) / Vibration-proof type for steam (MV) / Heat-and vibration-proof type (HV)
- Size : 60 ϕ / 75 ϕ / 100 ϕ / 150 ϕ / 200 ϕ
- Pressure range :
Pressure gauge 0 ~ 100MPa (60 ϕ : to 25MPa, 75 ϕ : to 60MPa)
[0 ~ 1000kg/cm² (60 ϕ : to 250kg/cm² 75 ϕ : to 600kg/cm²)]
Vacuum gauge -0.1 ~ 0MPa (76cmHg ~ 0cmHg)
Compound gauge -0.1 ~ 2.5MPa (76cmHg ~ 25kg/cm²)
- Shape of casing : Standard case, closed case
Type A / Type B / Type DF / Type DM
- Connecting thread : 60 ϕ ... 1/4, 75 ϕ ... 3/8, 100 ϕ ... 1/2, 150 ϕ ... 3/4, 200 ϕ ... 1
- Accuracy : $\pm 1.6\%$ F.S.
- Materials for the parts touching liquid : BS, SUS316



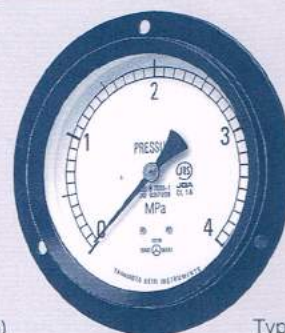
Type A



Type B



Type DC (Middle rim)



Type DF (Front rim)

Pressure gauge with "Adjustable red pointer"

It is possible to set the adjustable red pointer at expected pressure value as target by turning the external thumb screw.



Pressure gauge with "Max.Hand"

The maximum hand remains at the highest pressure attained until reset by turning the external thumb-screw.



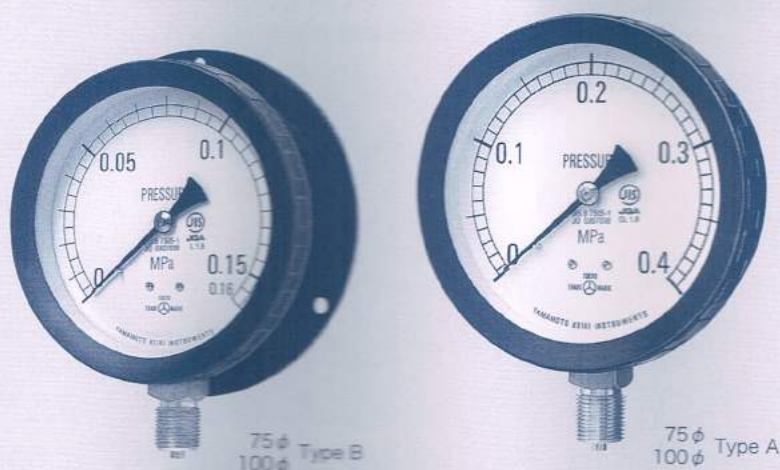
Compound gauge

Both pressure and vacuum are measured.

WEATHER-PROOF TYPE PRESSURE GAUGE

This is used for outdoor use or where corrosive gas is in atmosphere. Plastic is used for case.

- Size : 60 ϕ / 75 ϕ / 100 ϕ
- Pressure range :
Pressure gauge 0 ~ 6MPa
(0 ~ 60kg/cm²)
Vacuum gauge -0.1 ~ 0MPa
(76cmHg ~ 0cmHg)
Compound gauge -0.1MPa ~ 2.5MPa
(76cmHg ~ 25kg/cm²)
- Shape of casing : Type A / Type B
- Connecting thread : 1/4 · 3/8 · 1/2
- Accuracy : 60 ϕ \pm 2.5F.S. or \pm 1.6%F.S.
75 ϕ / 100 ϕ \pm 1.6%F.S.



GLYCERIN BATH PRESSURE GAUGE

This pressure gauge is suitable to use in places where there is strong vibration. Glycerol filled in the case controls abrasion and vibration.

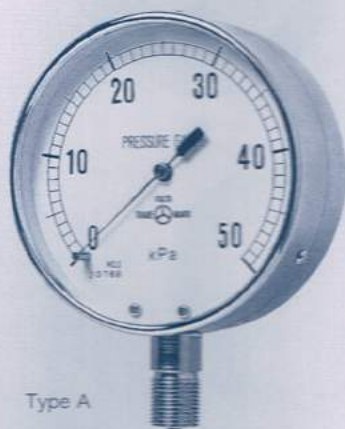
- Size : 40 ϕ / 60 ϕ / 75 ϕ / 100 ϕ
- Pressure range :
Pressure gauge 0 ~ 100MPa (0kg/cm² ~ 1000kg/cm²)
Vacuum gauge -0.1 ~ 0MPa (76cmHg ~ 0cmHg)
Compound gauge -0.1 ~ 2.5MPa
(76cmHg ~ 25kg/cm²)
- Shape of casing : Type A/ Type B/ Type D
- Connecting thread : 1/4 · 3/8 · 1/2
- Accuracy : 60 ϕ \pm 2.5%F.S. or \pm 1.6%F.S.
75 ϕ / 100 ϕ \pm 1.6%F.S.



LOW PRESSURE GAUGE

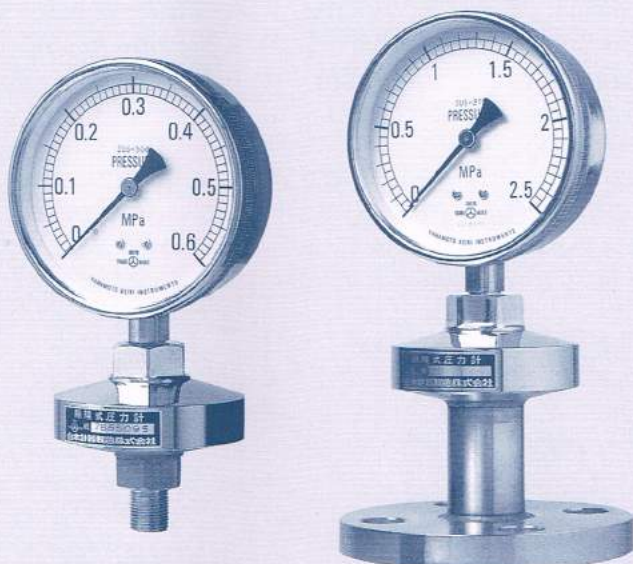
This gauge measures the low pressure which can not be measured by a Bourdon tube system gauge. For example, liquid level of an engine's suction pressure tank can be measured.

- Size : 60 ϕ / 75 ϕ / 100 ϕ
- Pressure range : 0 ~ \pm 50kPa (0 ~ \pm 5000 mmH₂O (mmAq))
- Shape of casing : Standard case, closed case
Type A/ Type B/ Type D
- Connecting thread : G 1/4 · 3/8
- Accuracy : Within 1 scale of the minimum scale
- Others : Over-pressure prevention type is provided.



Type A

DIAPHRAGM-SEALS PRESSURE GAUGE



Screw fitting type
(Low pressure)

Flange fitting type

This gauge is used for pressure measurement of liquid having high corrosion and high viscosity in chemical, food and paper manufacturing plants.

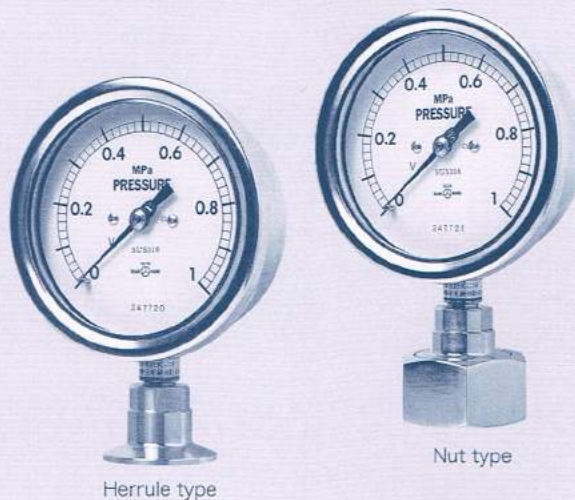
- Size : 75 ϕ / 100 ϕ / 150 ϕ
- Pressure range :
 - Pressure gauge 0 ~ 40MPa (0 ~ 400kg/cm²)
 - Vacuum gauge -0.1 ~ 0MPa (76cmHg ~ 0cmHg)
 - Compound gauge -0.1 ~ 2.5MPa (76cmHg ~ 25kg/cm²)
- Form of installation :
 - Screw fitting type / Flange fitting type / Direct-coupling flange type
- Materials for the parts touching liquid :
 - SUS-304/ SUS-316/ PVC/ Teflon
- Accuracy : $\pm 1.6\%$ F.S.

SANITARY GAUGE

This gauge has been designed for the field requiring sanitary consideration, and can be extensively applied to foods, medicines, cosmetics, and additionally biotechnology.

• Specification

Type	SAC Herrule	SAN Nut type	SAM Male type
Casing	Full water-proofing type SUS304 Electric or buff polish finish		
Size	75 ϕ / 100 ϕ 75100		
Enclosed liquid	Propylene glycol		
Pressure receiver Material	SUS316/Diaphragm : SUS316L		



Herrule type

Nut type

THE MAIN PARTS STAINLESS STEEL/ ALL STAINLESS STEEL PRESSURE GAUGE

The Stainless steel pressure gauge is excellent to corrosion resistance and in the bad conditions for process only.

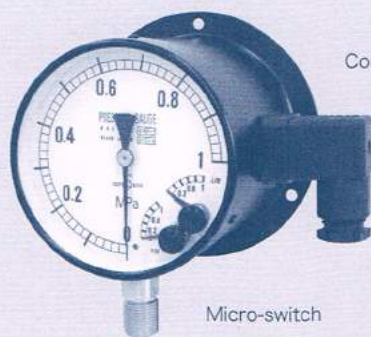
- Size : 60 ϕ / 75 ϕ / 100 ϕ
150 ϕ (The main parts Stainless steel only.)
- Pressure range : Pressure gauge : 0 ~ 40MPa (0 ~ 400kg/cm²)
Vacuum gauge : -0.1 ~ 0MPa (76cmHg ~ 0cmHg)
Compound gauge : -0.1 ~ 2.5MPa (76cmHg ~ 25kg/cm²)
- Shape of casing : Standard case, closed case
Type A/ Type B/ Type D
- Connecting thread : 1/4 • 3/8 • 1/2
- Accuracy : 60 ϕ ... $\pm 2.5\%$ F.S. or $\pm 1.6\%$ F.S.
75 ϕ , 100 ϕ , 150 ϕ ... $\pm 1.6\%$ F.S.



PRESSURE GAUGE WITH ELECTRIC CONTACTS

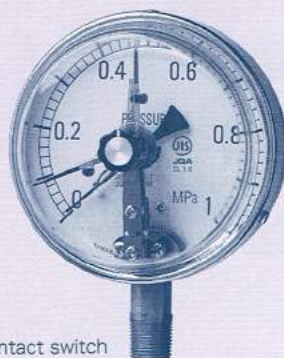
This gauge is used for alarm and control functions. It consists of an indicating meter and contact mechanism and switches electric contacts by using the previously set pressure with the use of the built-in contacts other than the pressure indication function.

- Size : 100 ϕ / 150 ϕ
- Pressure range : Pressure gauge : 0 ~ 40MPa (0 ~ 400kg/cm²)
Vacuum gauge : -0.1 ~ 0MPa (76cmHg ~ 0cmHg)
Compound gauge : -0.1 ~ 2.5MPa (76cmHg ~ 25kg/cm²)
- Shape of casing : Standard case, closed case
Type A/ Type B/ Type D
- Contacts and electric rating :
Micro-switch <YEC-M> (electric rating : AC250V,5A or DC125V,0.4A)
Contact switch <YEC-C> (electric rating : AC100V,0.5A, or AC200V, 0.2A)
- Material for the parts touching liquid : BS/ SUS-304/ SUS-316
- Connecting thread : G 3/8 · G 1/2



Micro-switch

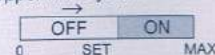
Connector type



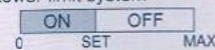
Contact switch

• Operating system :

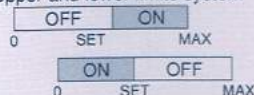
Upper limit system



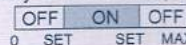
Lower limit system



Upper and lower limits system



Center connection system (only for microswitch)



CLASS 0.6 PRESSURE GAUGE

This gauge is the most suitable to use for high level measurement at factory to control and standard gauge for research.

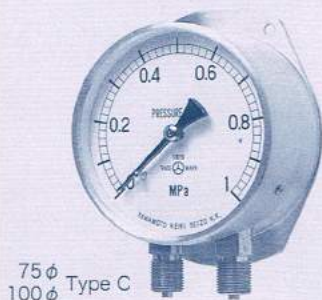
- Size : 100 ϕ / 150 ϕ
- Pressure range :
Pressure gauge : 0 ~ 25MPa
Vacuum gauge : -0.1 ~ 0MPa
Compound gauge : -0.1 ~ 2.5MPa
- Shape of casing : Type A/ Type B
- Connecting thread : G 3/8 · 1/2
- Accuracy : $\pm 0.6\%$ F.S.



100 ϕ B type
150 ϕ

DUPLEX PRESSURE GAUGE

This gauge is mainly used for railway rolling stock as this can simultaneously perform pressure measurements of two spots by using the built-in two pressure receiving parts.

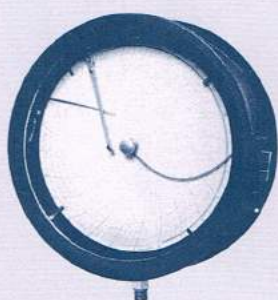


75 ϕ Type C
100 ϕ



75 ϕ Type D
100 ϕ

- Size : 75 ϕ / 100 ϕ
- Pressure range :
Pressure gauge : 0 ~ 6MPa (0 ~ 60kg/cm²)
Vacuum gauge : -0.1 ~ 0MPa (76cmHg ~ 0cmHg)
- Shape of casing : Type B/ Type C/ Type D
- Connecting thread : G 3/8 (D-type 75 ϕ ... 1/4)
- Accuracy : $\pm 1.6\%$ F.S.



RECORDING PRESSURE GAUGE

Pressure variation with passage of time is continuously and automatically recorded on round-shaped chart paper. It is mainly used in chemical plants and can perform high accuracy pressure control rationally and efficiently.

- Size : 200 ϕ / 250 ϕ
- Pressure range : 0 ~ 10MPa
- Shape of casing : Wall hanging type
- Recording time : 24 hours
- Operating system :
Battery system, quartz
- Connecting thread : G 3/8 · 1/2
- Accuracy : Within $\pm 1/2$ scale of the minimum scale

COMBINATION BOILER GAUGE

This gauge incorporates a bimetal thermometer which indicates the temperature and pressure of the hot water boiler on the same scale board for easy reading.

- Size : 100 ϕ (standard)
- Temperature range : 0 ~ 130°C
- Pressure range : 0 ~ 150m (0 ~ 1.5MPa)
- Type : Angle type (T) / Straight type (S)
- Dimensions of temperature sensitive part :
Angle type (T) 7 ϕ \times 60mm
Straight type (S) 7 ϕ \times 45mm
- Connecting thread : R 1/2
- Accuracy : Temperature Within $\pm 1/2$ scale
of the minimum scale
Pressure $\pm 1.6\%$ F.S.

Angle type (T)



Straight type (S)



VALVE LESS T&P STAR GAUGE (TEMP.&PRESS. GAUGE)

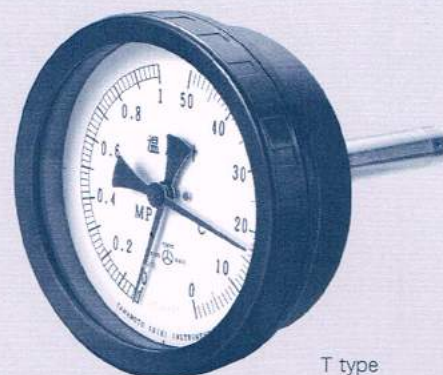
This gauge is easy to put and measure the temperature and pressure of fluid for building air-conditioning.

- We don't have to put a pressure gauge and thermometer separately. This gauge perform double service.
- This gauge can reduce the putting part from 2 to 1.
- By putting the special well (inner pipe/with valve system), it is possible to put and pull without running out the fluid.



Structure of Specialty Well

There is a valve system within the special well. When this gauge is put to the well, the inner pipe in the well is pushed and it makes open the valve of the bottom of well and leads to measuring part the fluid. The inner pipe shuts the return valve and doesn't allow the fluid to out when this gauge is put out because the edge is pushed by the spring.

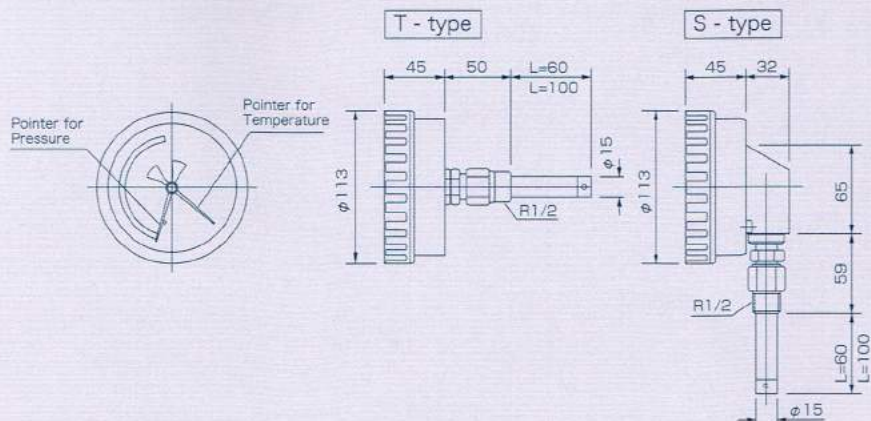


T type

• Spec

100φ									
T - type				Pressure Range (MPa)	S - type				
50℃		100℃			50℃		100℃		
60mm	100mm	60mm	100mm		60mm	100mm	60mm	100mm	
F101	F102	F141	F142	▼ 0.6	F106	F107	F146	F147	
F111	F112	F151	F152	1	F116	F117	F156	F157	
F121	F122	F161	F162	1.6	F126	F127	F166	F167	

※ option : with red pointer



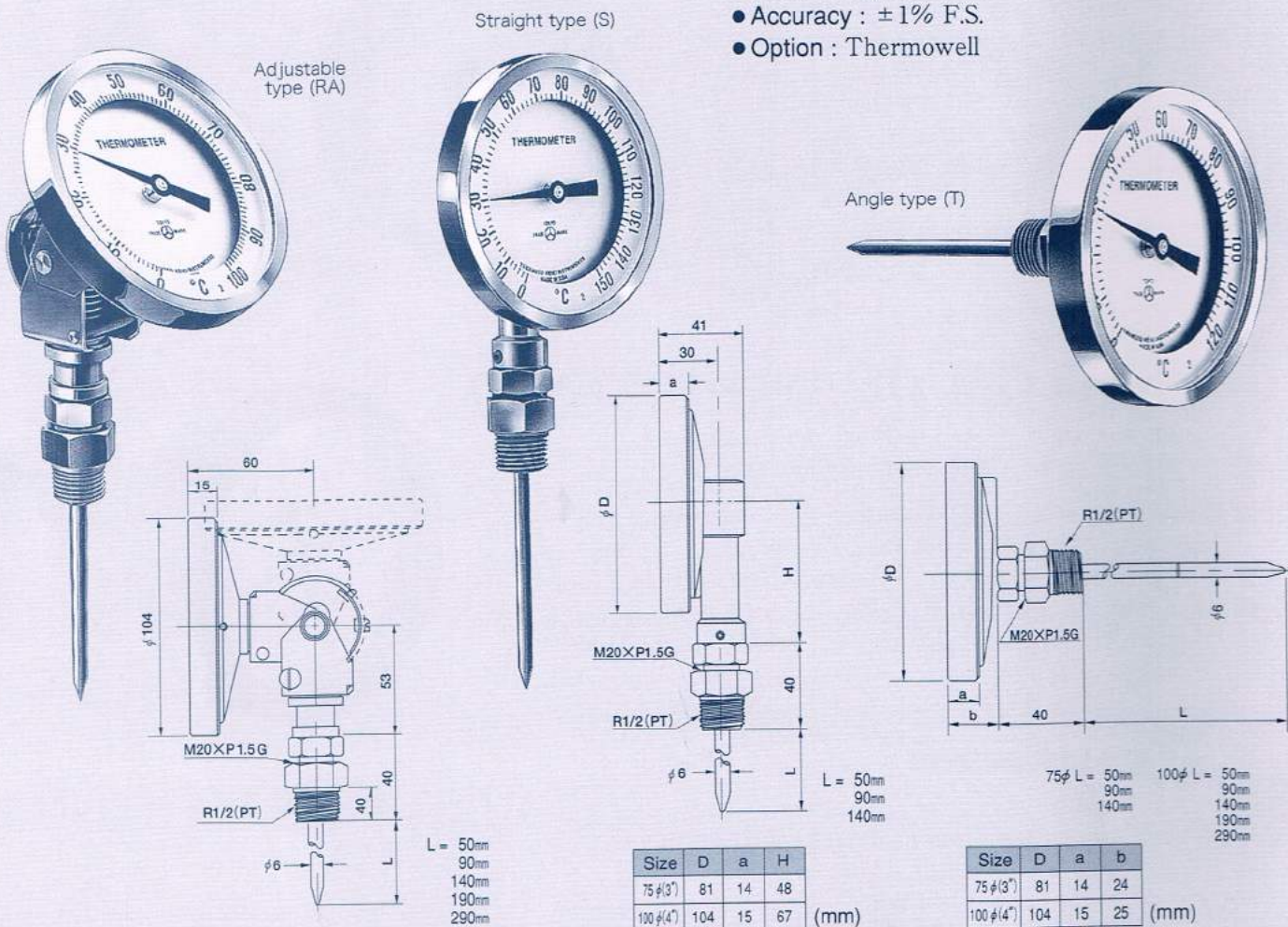
- Size : 100 ϕ
- Range :
temperature 0 ~ 50°C, 0 ~ 100°C
pressure 0 ~ 0.6, 1, 1.6MPa
- Sensor :
out dia. 15 \times 60mm or 100mm
- Sensor material : C3604
- Connection : R 1/2

THERMOMETERS

ALL STAINLESS STEEL BIMETAL THERMOMETER

This thermometer is made of stainless steel and hermetically sealed. Therefore it is rust proof, dust proof, leakproof and inner dewproof and excellent to corrosion resistance.

- Size : 75 ϕ / 100 ϕ
- Temperature range : $-30^{\circ}\text{C} \sim +200^{\circ}\text{C}$
- Shape : Angle type (T) / Straight type (S) / Adjustable type (RA)
- Dimensions of sensor :
Min. length 50mm ~ Max. length 300mm
Outer dia. 6 ϕ
- Material : SUS-304
- Connecting thread : R1/2
- Accuracy : $\pm 1\%$ F.S.
- Option : Thermowell



Inventory											
Straight type(S)			Shape	Angle type(T)					Adjustable type(RA)		
75 ϕ	100 ϕ		Size	75 ϕ	100 ϕ				100 ϕ		
TS75	TS100		Model	TT75	TT100				TA100		
50 mm	90 mm	140 mm	Range	50 mm	90 mm	140 mm	50 mm	90 mm	140 mm	190 mm	290 mm
			$-30 \sim 50^{\circ}\text{C}$				V190	V200	V210	V220	V240
V101	V111	V121	$0 \sim 50^{\circ}\text{C}$	V161	V171		V191	V201	V211	V221	V231
V102	V112	V122	$0 \sim 100^{\circ}\text{C}$	V162	V172	V182	V192	V202	V212	V222	V232
			$0 \sim 120^{\circ}\text{C}$	V163	V173		V193	V203			
			$0 \sim 150^{\circ}\text{C}$	V164	V174		V194	V204			
			$0 \sim 200^{\circ}\text{C}$	V165			V195	V205			V245

Additional dial, ranges and stem lengths available.
But type is OTHER BIMETAL THERMOMETER in page 9.

[Option]
Thermowell

Material	Stem length				
	60 mm	100 mm	150 mm	200 mm	300 mm
SUS316 Solid type	R1/2	V902	V904	V906	V908
Brass(BS) welded type	R1/2	V922	V924	V926	—
	R3/4	V942	V944	V946	—
Titanium	R1/2	V962	V964	V966	—



Caution

Thermowells made of stainless steel are recommended for high pressure, corrosive fluid, high velocity of flow (above 2m/s) or long stem (above 150mm) applications.

ORDINARY (PLASTIC CASE) BIMETAL THERMOMETER

- Size : 75 ϕ / 100 ϕ
- Temperature range :
- 30°C ~ 50°C / 0 ~ 50°C / 0 ~ 100°C / 0 ~ 120°C / 0 ~ 150°C
- Shape :
Angle type (T) / Straight type (S) / Slanted type with 45° (R)
- Dimensions of sensor :
Min. length : 50mm ~ Max. length : 300mm
Outer dia. 8 ϕ
- Material of sensor : BS
- Connecting thread : R 1/2 (3/4) Union type
- Material of case : Plastic (above 200°C: Metal)
- Accuracy : Within ± 1 scale
- Option : Thermowell, Flanged thermowell

Angle type (T)

Straight type (S)

Slanted type with 45° (R)

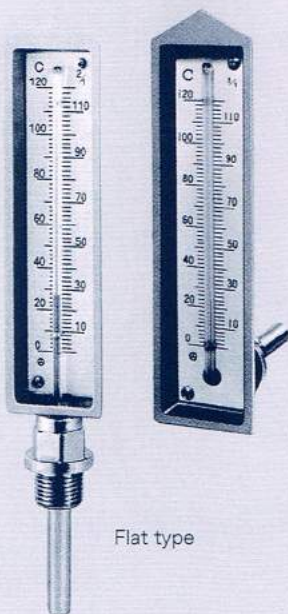
GLASS INDUSTRIAL THERMOMETER

A stick-type glass thermometer is mounted in a metal case.

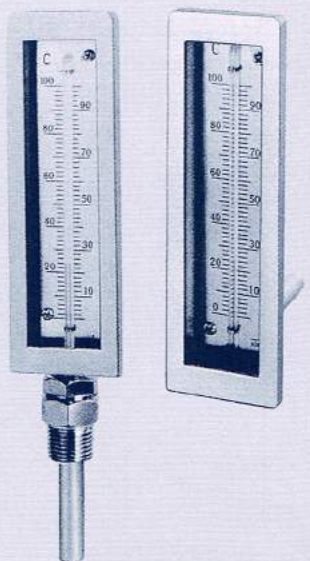
The thermometer is utilized for all kinds of equipment to measure the temperature.

The thermometer enjoys wide use for heating, boilers, floor heating, ships and dryers as it provides many advantages in terms of accuracy, handling and economy.

- Shape of casing : Flat type / Ticos type / Diesel type / Round-shaped type
- Temperature range : Alcohol -50 ~ +200°C
- Fitting form : Angle type (L) / Straight type (S) / Slanted type with 45° (R)
- Dimensions of sensor :
Min. length : 20mm ~ Max. length : 300mm
- Material of sensor : BS / SUS-304 / SUS-316
- Thread specifications : Fixed type / Union type
- Connecting thread : R 3/8 · 1/2 · 3/4
- Accuracy : Within ± 1 scale
- Option : Thermowell, Flanged thermowell



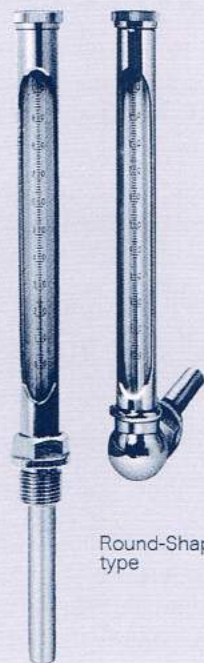
Flat type



Ticos type
(C/W Thermowell & Glass cover)



Diesel type



Round-Shaped type

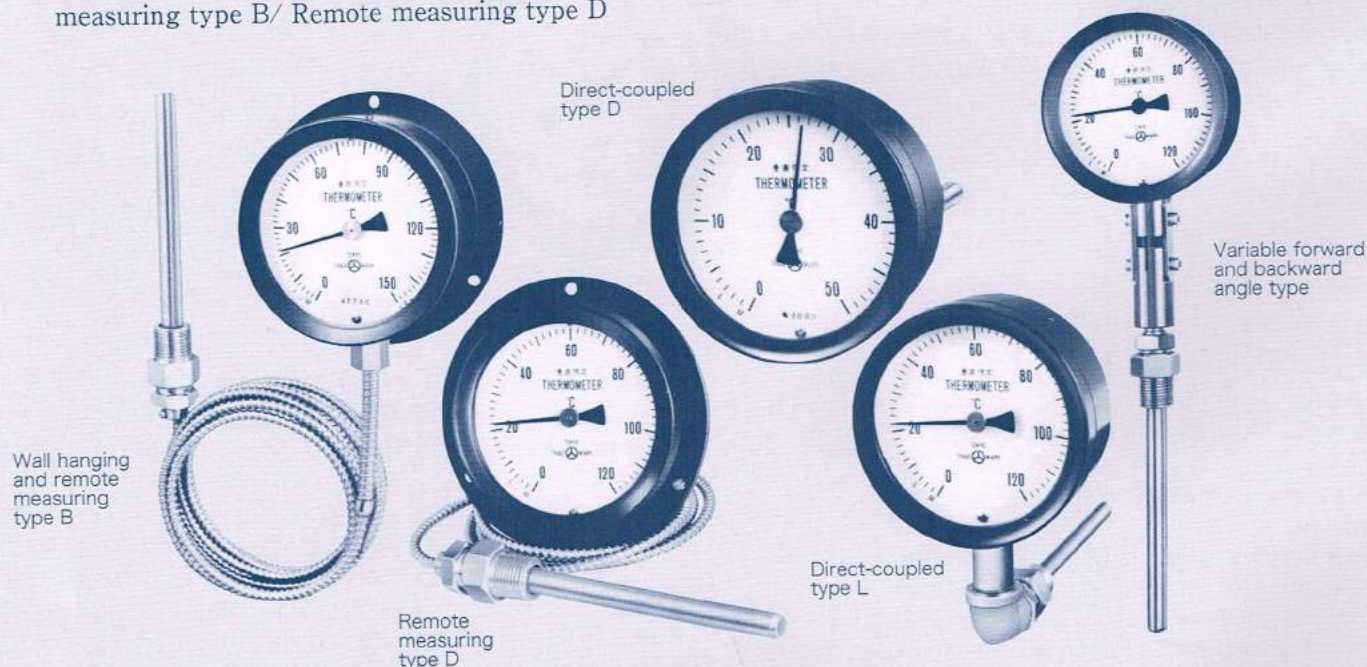
INDICATING THERMOMETER

SEALING LIQUID : NON-MERCURY

This thermometer indicates the temperature through expansion and contraction of liquid filled in the sensor. Uniform scale is easy-to-read and the thermometer is widely used as a microswitch equipped with alarm contacts for industry and as a recording thermometer.

- **Direct-coupled type** : Direct-coupled type S/
Direct-coupled type L/ Direct-coupled type D/
Variable forward and backward angle type
- **Remote measuring type** : Wall hanging and remote measuring type B/ Remote measuring type D

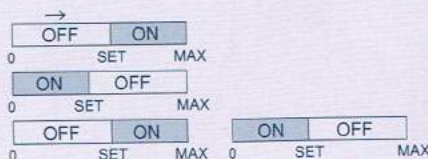
- **Size** : 100 ϕ / 150 ϕ
- **Temperature range** : $-30^{\circ}\text{C} \sim +500^{\circ}\text{C}$
- **Length of capillary** : Standard 3m (Max. length 20m)
- **Dimensions of sensor** :
Standard 12 $\phi \times 100\text{mm}$ (Max. length 1.5m)
- **Material of sensor** : SUS-304 / SUS-316
- **Installing form** : Screw fitting type/ Throw-in type
- **Connecting thread** : R 1/2 · (R 3/4)
- **Accuracy** : ± 1 scale
- **Option** : Thermowell, Flanged thermowell



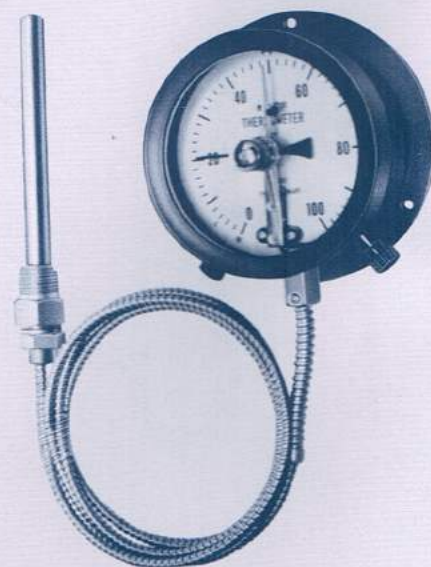
INDICATING THERMOMETER WITH ELECTRIC CONTACTS

This comprises an indicating meter and contact mechanism. It switches electric contacts by using the previously set temperature through the use of built-in contacts other than the temperature indicating function. It is used for alarm and control functions.

- **Type** : Wall hanging type / Panel mounting type / Direct-coupled type
- **Size** : 100 ϕ / 150 ϕ
- **Temperature range** : $-30^{\circ}\text{C} \sim +500^{\circ}\text{C}$
- **Contacts** : Microswitch : (Electric rating ; AC250V, 5A or DC125V, 0.5A)
Contact switch : (Electric rating ; AC100V, 0.5A or AC200V, 0.2A)
- **Operating system** :
Upper limit system
Lower limit system
Upper and lower limits system



- **Length of capillary** : Standard 3m (max. length 20m)
- **Dimensions of sensor** : Standard 13 $\phi \times 100\text{mm}$ (max. length 1m)
- **Material of sensor** : SUS-304 / SUS-316
- **Connecting thread** : R 1/2 · 3/4

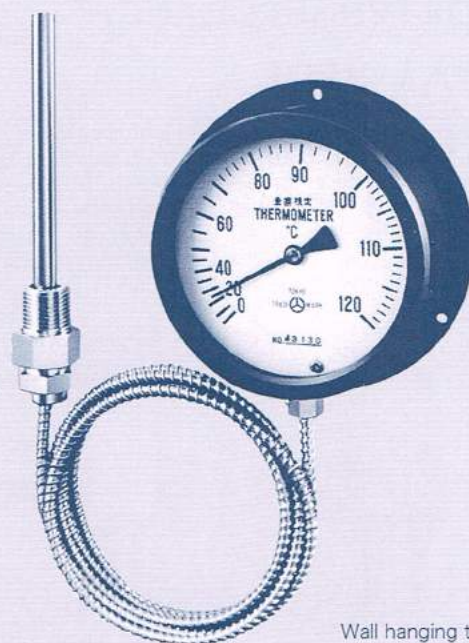


Wall hanging type

VAPOUR PRESSURE THERMOMETER

This thermometer indicates the temperature with a Bourdon tube employing the vapour pressure of a volatile liquid sealed in the sensor. Scale of high temperature section is magnified for easy reading and the thermometer is suitable for temperature measurement of foods due to its safety design.

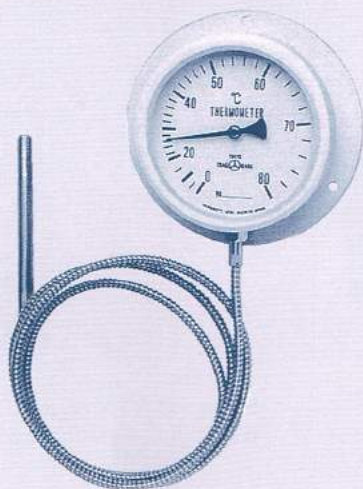
- Type : Wall hanging type/ Panel mounting type/ Direct-coupled type
- Size : 75 ϕ / 100 ϕ
- Temperature range : -30 ~ 50°C, -20 ~ 50°C, 0 ~ 50°C, 0 ~ 100°C, 0 ~ 120°C, 0 ~ 150°C, 40 ~ 200°C,
- Length of capillary : Standard 2m (max. length 10m)
- Dimensions of sensor : Standard 8 ϕ \times 100 (max. length 1m)
- Material of sensor : CuT/ SUS-304/ SUS-316
- Installing : Screw fitting type/ Throw-in type
- Connecting thread : R 1/2 \cdot 3/4
- Accuracy : ± 1 scale
- Option : Thermowell, Flanged thermowell.



Wall hanging type

BATH THERMOMETER

This thermometer measures temperature in bath by sensor thrown into bath. It is water-proof type and capillary and sensor are made of stainless steel.

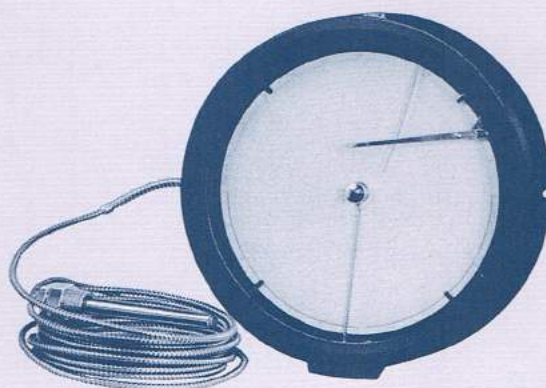


- Type : Wall hanging and throw-in type
- Size : 100 ϕ
- Temperature range : 0 ~ 80°C
- Length of capillary : 1.5m (SUS-304)
- Dimensions of sensor : 10 ϕ \times 115mm (SUS-304)
- ※Not recommended for fluid that corrode SUS-304

RECORDING THERMOMETER

Variation of temperature related with passage of time is continuously and automatically recorded on the round-shaped chart paper. High precision temperature control can be performed more rationally and efficiently. It is mainly used in the chemical industry.

- Size : 200 ϕ / 250 ϕ
- Temperature range : -40°C ~ +200°C
- Recording time : 24 hours
- Connecting thread : R1/2
- Operating system : Battery system, Quartz type
- Length of capillary : Standard 3m
- Dimensions of sensor : Standard 12 ϕ \times 130mm
- Material of sensor : SUS-304/ SUS-316
- Accuracy : Within $\pm 1/2$ scale of the minimum scale



ACCESSORIES

FOR PRESSURE GAUGE

DAMPERS

Where strong pulsating vibration occurs, a large load will be loaded on the elements of the pressure gauge or on the interior unit. By this accelerated abrasion correct measurement can not be performed. The life of the pressure gauge will also be shortened. This damper is suitable for use under such conditions.

- Material : BS / SUS



DAMPER (Model SA)

[for low pressure]

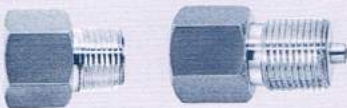
- MAX. pressure (Proof pressure) : 10 (18) MPa
- Connecting thread (Gauge port × inlet port) : G 1/4 × 1/4 G 3/8 × 3/8



DAMPER (Model SAH)

[for high pressure]

- MAX. pressure (Proof pressure) : 35 (63) MPa
- Connecting thread (Gauge port × inlet port) : G 1/4 × 1/4 G 3/8 × 3/8



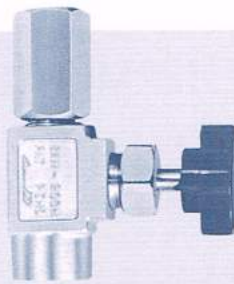
GAUGE JOINT

- Material : BS · SUS
- Connecting thread (Gauge port × inlet port) : G 1/4 × R 1/8 G 1/4 × G 3/8 G 1/4 × R 1/4 G 3/8 × G 1/4 G 1/4 × R 3/8 G 3/8 × G 1/2 G 3/8 × R 1/4 G 1/2 × G 3/8 G 3/8 × R 3/8 G 3/8 × R 1/2



METER COCK (Model SG)

- Max. pressure (Proof pressure) : 0.5 (1) MPa
- Connecting thread : G 3/8



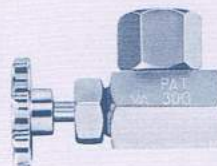
DAMPER GAUGE VALVE (Model SAN)

- Max. pressure (Proof pressure) : 35 (63) MPa
- Connecting thread (Gauge port × inlet port) : G 1/4 × Rc 1/4 G 3/8 × Rc 1/4 G 3/8 × Rc 3/8



DAMPER GAUGE VALVE (Model SAV)

- Max. pressure (Proof pressure) : 25 (45) MPa
- Connecting thread (Gauge port × inlet port) : G 3/8 × 3/8



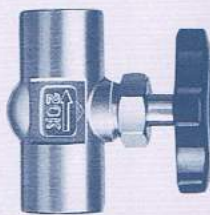
PANEL TYPE GAUGE VALVE (Model VA)

- Max. pressure (Proof pressure) : 25 (45) MPa
- Connecting thread (Gauge port × inlet port) : G 1/4 × Rc 1/4 G 3/8 × Rc 1/4



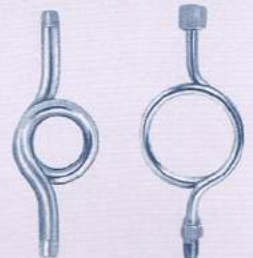
DRAIN TYPE DAMPER GAUGE VALVE (Model CA)

- Max. pressure (Proof pressure) : 25 (45) MPa
- Connecting thread (Gauge port × inlet port × drain port) : Rc 1/4 × 1/4 × 1/4



NEEDLE VALVE GR-TYPE (BS) GRS-TYPE (SUS)

- Max. pressure (Proof pressure) : 2 (2.5) MPa
- Connecting thread : G 3/8 × Rc 3/8



SIPHON

- Material : SS · SUS-316
- Max. pressure (Proof pressure) : 20 (30) MPa
- Connecting thread : R 3/8 × R 3/8 G 3/8 × G 3/8

FOR THERMOMETER



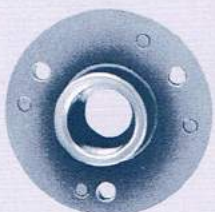
THERMOWELL

When it is used at the boiler or the water pipe, be able to change thermometers without draining water off.

- Connecting thread : R 3/8 · 1/2 · 3/4
- Material : BS · SUS-304 · SUS-316



Caution Thermowells made of stainless steel are recommended for high pressure, corrosive fluid, high velocity of flow (above 2m/s) or long stem (above 150mm) applications.



AIR CONDITIONING FLANGE FOR BIMETAL THERMOMETER

- 20H/50H :
- Thermometer fitting up screw : R 1/2
- Material : AL



MB-30ST

MB-55ST

THE VELOCITY OF THE WIND MEASUREMENT FLANGE (thermometer flange)

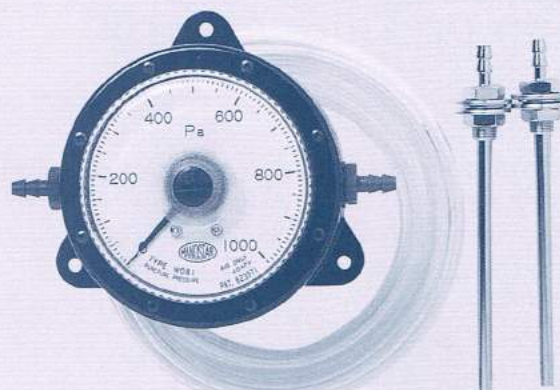
- With chain preventing nut from falling
- With three screws
- Material : Zn alloy (Chrome-plated)

OTHER INSTRUMENTS

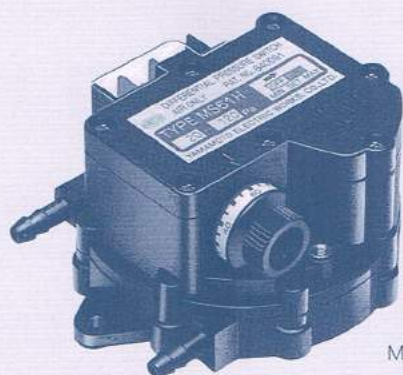
MANOSTAR GAUGE (WO - 81)

This product is highly sensitive precision low differential pressure gauge. Handling is easy, make use of industrial measurement and high level physics and chemistry measurement. Measurement of the pressure, the velocity of the moving fluid and the flow rate is easy.

- **Model :** F (Surface mounting) PC (Flush mounting/circle) PR (Flush mounting/square)
- **Measurement range :** 0 ~ 100kPa
(0~50Pa · 100Pa · 200Pa · 300Pa · 500Pa · 1000Pa · 2kPa · 3kPa · 5kPa · 10kPa · 20kPa · 30kPa · 50kPa · 100kPa)
- **Applicable gas :** Air or non-corrosive gas
- **Ambient temp. range :** -10°C ~ 50°C
- **Fixtures :** Vinyl tubing inner diameter $\phi 6$ (standard) or Metal tubing outer diameter $\phi 6$ mm.



WO81FN



MS61

MANOSTAR SWITCH (MS-61)

This switch is ultra-sensitive precision low differential pressure switch and suited for pressure control of the small equipment.

- **Setting range :** 20~120Pa · 50~300Pa · 100~600Pa · 0.2~1.2kPa · 0.5~3kPa · 1~6kPa
- **Applicable gas :** Air or non-corrosive gas
(Do not use for inflammable gas.)
- **Ambient temp. range :** -10°C ~ +50°C
(This is temperature where the switch is setting, not gas temperature.)

DIGITAL THERMOMETER (ET-130)

This digital thermometers can read the temperature range from -30°C to +130°C directly and direct-coupled type and remote measuring type are available.

- **Type :** Direct-coupled type S (DS) / Direct-coupled type L (DL) / Remote measuring type (RS) / Remote measuring type L (RL).
- **Installing form :** Screw fitting type / Throw-in type

Main Specifications of ET-130

Item	Specification
Temperature measuring range	-30°C to +130°C
Measuring accuracy	$\pm 1^\circ\text{C}$
Ambient temperature for indicator	-20°C to +80°C
Waterproofness of indicator	Water drip test of JIS C0920
Power supply	DC9V (battery : S - 006P)
Display	LC thermometer mode : °C
Weight	Standard direct-coupled type:450g Standard remote measuring type:550g

Direct-Coupled type

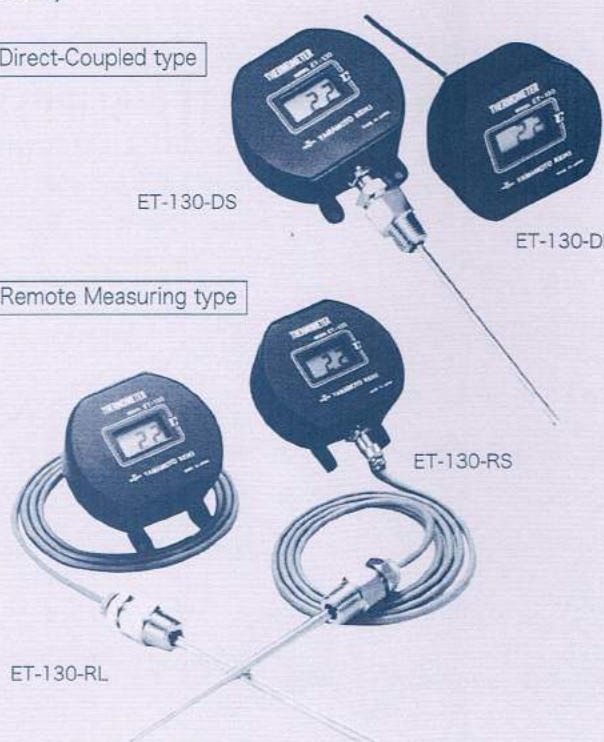
ET-130-DS

ET-130-DL

Remote Measuring type

ET-130-RS

ET-130-RL



Transmission Gauge with pressure ADS100

This is a gauge that combine a great precision bourdon tube type pressure gauge and pressure sensor. A direct reading pressure gauge and pressure sensor that remote measurement by a signal from pressure transmitter and it is possible to control automatically, are built into one gauge. There are a diaphragm type and sanitary-type.

■ Specification of pressure gauge

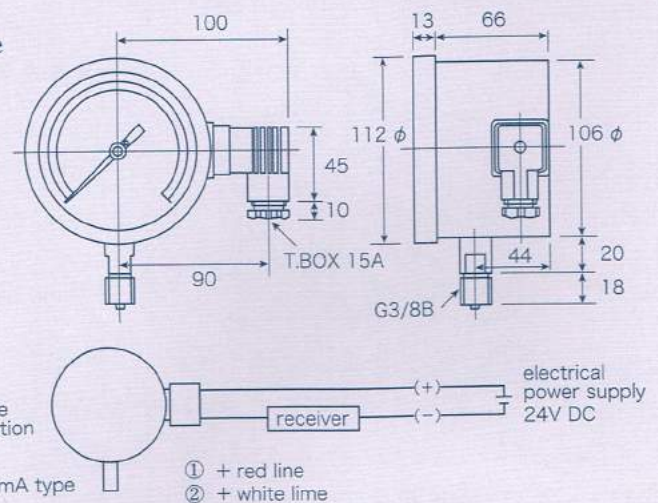
- Dial: 100 φ
- Material of case : ALD (black painting), SUS304
- Shape of case : A-type, panel flush-mounted D-type
- Material of receiving part pressure : SUS316 BSBM
- Connection : 3/8G, R screw type Flange type, Sanitary-type

■ Specification of sensor part

- Power : 4~20mA, 1~5VDC
- Supply : 24VDC
- Accuracy : $\pm 0.5\%$ F.S., $\pm 1\%$ F.S. Diaphragm type
- Connection : 1/4, 3/8, 1/2, 3/4, 1, G/B, R
- Material of connection : SUS304, SUS316, SUS316L, PVC, PP, Teflon
- Material of coat : SUS316L, Teflon, Viton, Tantalum, Titan Sanitary type
- Type of Connection : Ferrule, Nut, Male
- Material of connection : SUS316, SUS316L
- Material of coat : SUS316L



For "checking the pressure" "control" "recording", this gauge is easily viewable and direct reading gives the secure feeling to the job site.



MEASURING INSTRUMENT FOR STOPCOCK OF WATER SUPPLY (MODEL WPN-10)

This instrument can measure a moment pressure from stopcock. Water pressure in new or old plumbing can be maintained and adjusted. It can be connected to Precorder (Model CR).

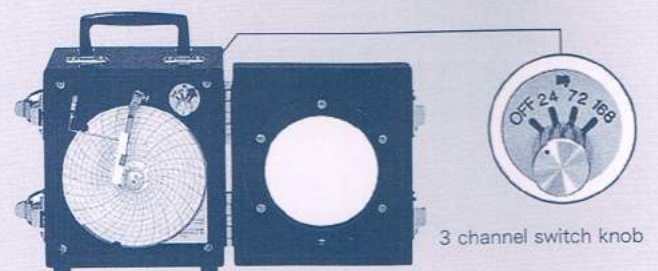
- Fixtures : Carrying case/ Pressure gauge/ Connector/ Adapter
- Work pressure : 1MPa



PRECORDER (PORTABLE TYPE)

Change for long hours of water pressure is recorded to a recording chart by a clock and pressure sensitive system. Pressure sensitivity is excellent especially in durability and elasticity and water-proofing. It can be fitted with a hydrant and a stop-cock.

Model NO.	Measurement range	Record time
TCR-1501	0~1MPa	15 · 30 · 60 minutes
TCR-1502	0~2MPa	
TCR-2401	0~1MPa	24 · 72 · 168 hours
TCR-2402	0~2MPa	



MANOMETER·TESTER

MANOMETER

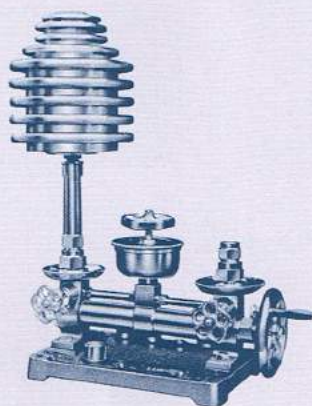
They are usually used for inspection and proofreading for pressure gauge, bellows and diaphragm pressure gauge. And they are used as basic instrument for low pressure for measurement of flow different pressure, vacuum and liquid density.

• Spec

scale range	min. scale	joint	exterior	cover
±100 mm	2 mm	Standard : for rubber tube φ 11	Body : A6063S gray painting	clearness ACRYL
±150				
±200				
±250				
±300				
±350				
±400				
±500				



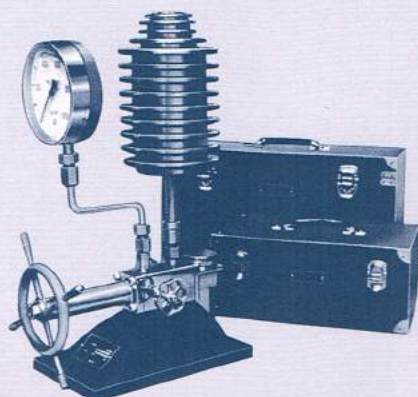
PRESSURE GAUGE TESTER



Model K STANDARD WEIGHT PRESSURE GAUGE

This type is a basic carrying pressure instrument with high pressure system and so many good points. Each parts are made with original technics and it is excellent in handling and durability.

- Measurement range :
Max. pressure 5MPa ; The lowest pressure 0.005MPa
Max. pressure 10MPa ; The lowest pressure 0.1MPa
- Attachment : Middle coupler tube screws 1/4, 1/2 each 1pce.
3/8 2pcs / Spanners diameter 32 mm, 26 mm each 1pce /
Pressurize cylinder ring packings 3pcs / Leather packings each
15pcs / Screwdriver 1pce / Tool of pull out pointer 1 pce.



Model KH STANDARD WEIGHT PRESSURE GAUGE

Substantial test weight is about 1/5 light more than as usual weight, and can measure from 10 kg/cm² to 1000 kg/cm². This tester is light and compact, and handling is easy and safe.

- Measurement range :
Max. pressure 50MPa ; The lowest pressure 1MPa
Max. pressure 100MPa ; The lowest pressure 2MPa
- Attachment :
Middle coupler tube screws 1/4, 3/8 each 2pcs / Coupler tube
screw 1/2, 1pce / Ring packings 10pcs / Tool of fitting up
gauge 1pce / Tool of pull out pointer 1 pce / Screwdriver
1pce / Spanners 21×26mm 2pcs / Packing for pressurize
piston 1set / Adding tube 1pce / Holeless flange 1pce.