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Glycerin Bath Type Pressure Gauge

Overview

This stainless-steel enclosed pressure gauge is filled with liquid to protect moving parts preventing from wear of built-in link mechanism cause by vibration. This long life pressure resistant gauge is suitable for the use where vibration always presents.

Features

- Stainless steel wetted parts and case improve corrosion resistance and environmental resistance.
- It features blowout disk in case of event when bourdon tube breaks while monitoring preventing from beak of window.
- $\phi 60$ and $\phi 75$ pressure gauge can feature safety mark with arrow figure indicating target or limit of pressure value.
- Dry type available without glycerin filled.

*To maximize performance, select full scale pressure range to indicate normal operating pressure which comes to conditions below.

For constant pressure : The maximum operating pressure should not exceed three-quarters of the full-scale range.

For fluctuating pressure: The maximum operating pressure should not exceed two-thirds of the full-scale range.

Select appropriate wetted parts compatible with process fluid (gas and liquid) which the gauge will be subjected.

Please refer to JIS B 7505-1 for details.

Specifications 1

Media:

Gases, liquids

Size:

$\phi 60$, $\phi 75$, $\phi 100$, $\phi 150$

Type:

Stem ·····  A type  B type (Mounting hole)

Panel ·····  D type (Mounting clamp, Direct mount available for $\phi 60$)

Connection:

G1/4B, G3/8B, G1/2B, 1/4NPT, 1/2NPT, R1/4, R3/8, R1/2

*Consult us for nonstandard connections.

Wetted parts:

Bourdon tube · Socket SUS316
*Available SUS316L only for $\phi 100$

Case material · finish:

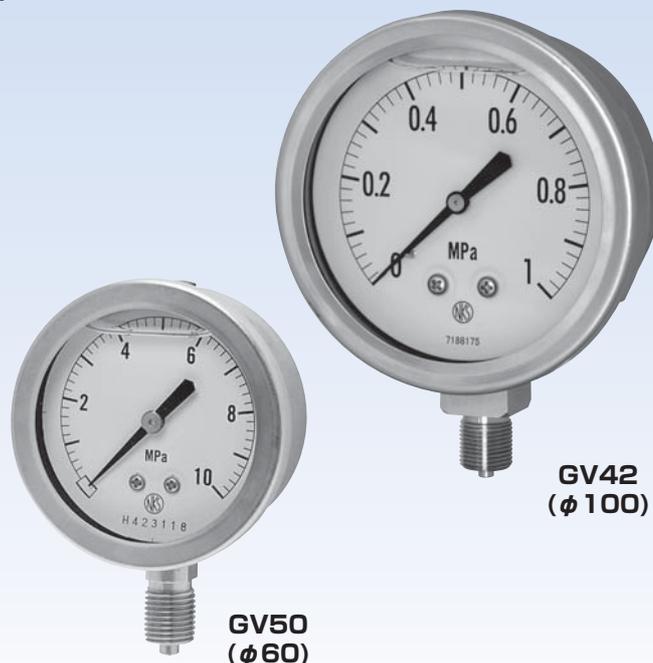
SUS304 · Not polished

Pressure range:

0 to 0.1MPa → 0 to 100MPa

-0.1 to 0MPa → -0.1 to 2MPa

*Available up to 200MPa for $\phi 100$ (SUS316 wetted parts)



*Zero box is standard for $\phi 60$ and $\phi 70$.

*Picture shows $\phi 60$ JIS Grade 1.6 dial scale gauge

Caution

This gauge is prohibited to use in application in oxygen, chlorinate, nitric acid, or hydrogen peroxide water service. The gauge can be exploded in the event of leak of filled glycerin chemically reacting with prohibited medias.

*Option includes Daifloil for stabilized filling fluid against oxidizing agent. Ensure the fill of this liquid when the pressure gauge would be exposed to oxygen, chlorinate, nitric acid, or hydrogen peroxide water.

Operating temperature:

-5 to 45°C

Accuracy:

±1.5%F.S.

*Available ±1.0%F.S. accuracy only for $\phi 100$ and $\phi 150$

Window:

Selectable organic or tempered (organic)

Treatment: (Option)

Use no oil and water ····· Oil/Water used in manufacturing the gauges had been flushed out & no oil/water residue remained inside its wetted parts.

Customized dial: (Option)

Capacity scale, dual scale, characters and circled dial
JIS Grade 1.6 dial scale available

Enclosure rating:

Equivalent to IP65

(Pulled vent plug down for 1MPa and below. IP44 for pulled vent plug up)

Weight:

$\phi 60$ Approx. 0.3kg, $\phi 75$ Approx. 0.4kg

$\phi 100$ Approx. 1kg, $\phi 150$ Approx. 2.5kg

Specifications 2

Filling liquid:

Filling liquid: Glycerin (Aqueous glycerin solution for 0.4MPa and below, and compound 0.4MPa range.)
 For oxidizing agent application: Fluorine type oil (Daifloil®) (Option for GV42/GV47)
 * Case sealing part: Fluororubber (Gasket · Blowout disk)

⚠ Caution

Rubber gasket is used for preventing leakage of filled liquid (glycerin).
 Glycerin does not dissolve or swell the rubber gasket but additive may possibly soak out in a long time use causing slight discoloration of glycerin.
 Discoloration of glycerin does not affect the function of gauges.

Blow out protection: (Equipped on the top of pressure gauge)

Blowout disk is used to protect window being blown up in case of high pressure leak happen from the failure of bourdon tube. The disc breaks and releases inner over pressure.

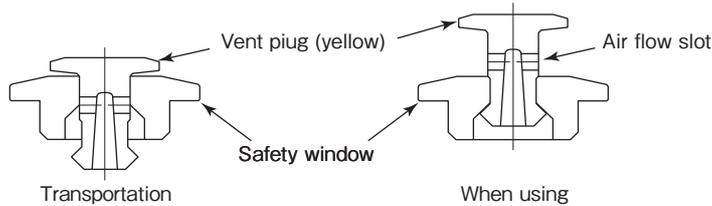
【Caution】

To maintain appropriate performance, space wider than 10mm against wall behind installing gauge is needed.
 Modification toward disk and plug, blocking out the disk are prohibited.

About vent plug

For pressure 1MPa and below, pressure, compound and vacuum gauge have a chance to indicate error due to its inner pressure change caused by ambient temperature change.

Ensure to pull up yellow vent plug on the top with vent hole to let in air. Please note that there are possibilities to slightly come out glycerin and/or aqueous glycerin solution attached to the inner part of the vent plug when the yellow vent plug is pulled up and damage nearby equipment. Please also restrict that the mounting position should be vertical only.



* Pull vent plug down when leak of glycerin is considerable, or outdoor use or place in high humidity.
 Note that indication error can be generated based on the above reason.

Safety mark (Set pointer): (Optionally available only for $\phi 60$ and $\phi 75$)

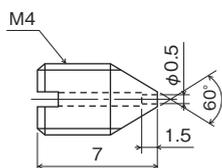
Green colored safety mark can move to arbitrary position.

For indication of set value	For indication of setting range
Combination of two marks forms arrow to indicate set value.	Two left and right safety mark move to upper and lower limit.

* Two safety marks always come when specified.

Throttle: (Standard for $\phi 100$ and $\phi 150$, optionally available for $\phi 60$ and $\phi 75$)

Throttle that fits inside the orifice of the pressure gauge for reducing pressure impact if gauge is subjected to pulsation.

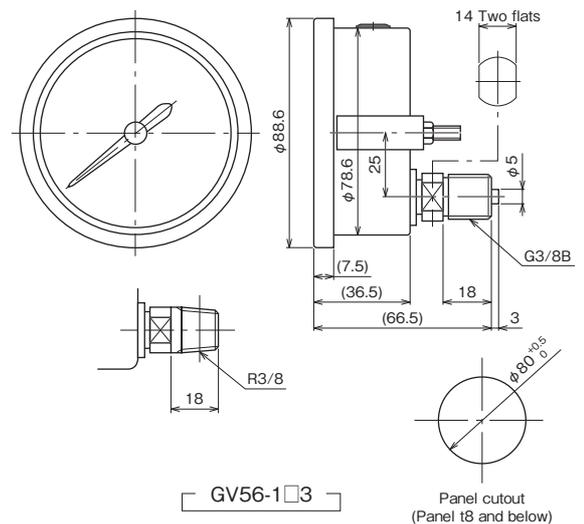
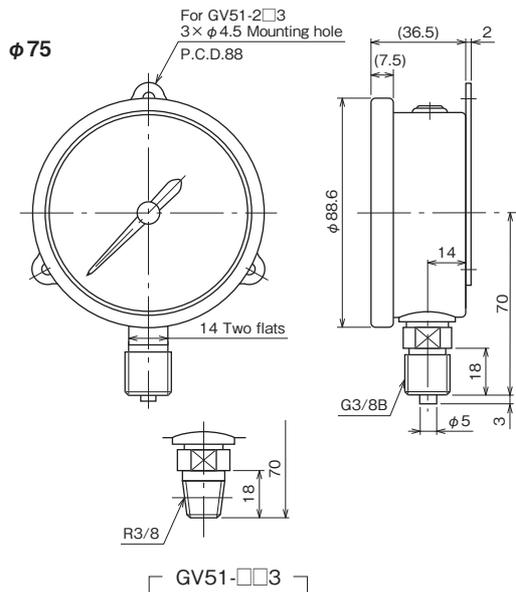
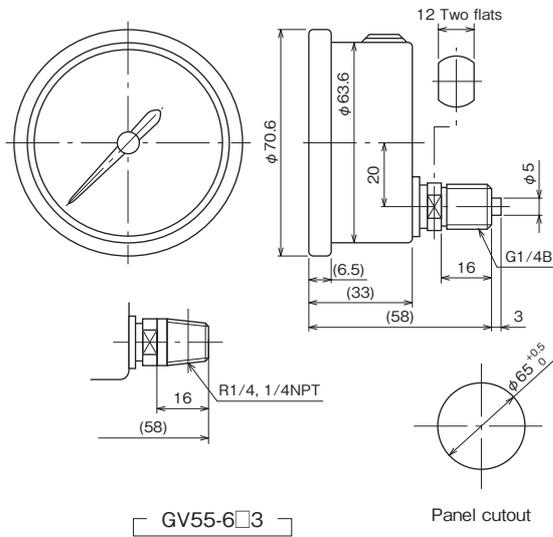
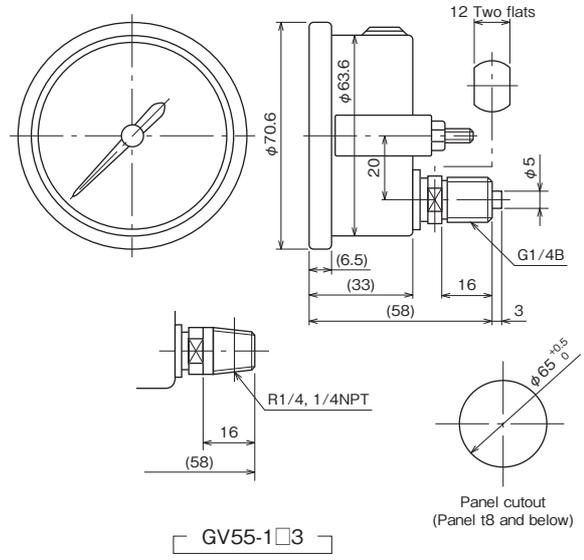
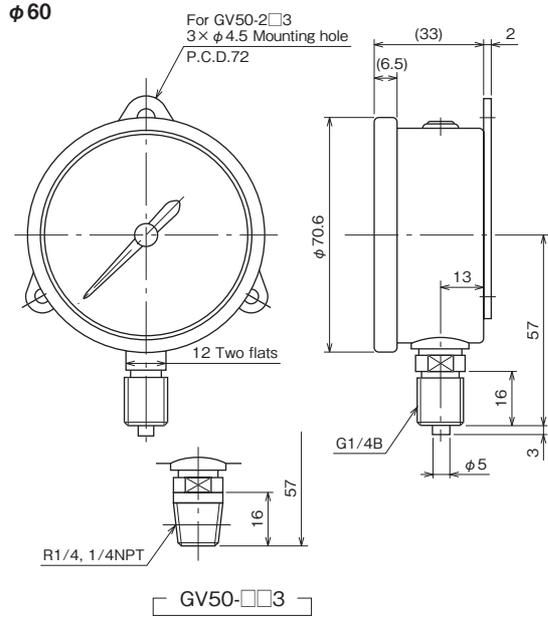


Corrosion resistance FS10-013
 Material: SUS316

* Wetted parts: For SUS316L wetted parts, SUS316L (FS10-014) is the material.

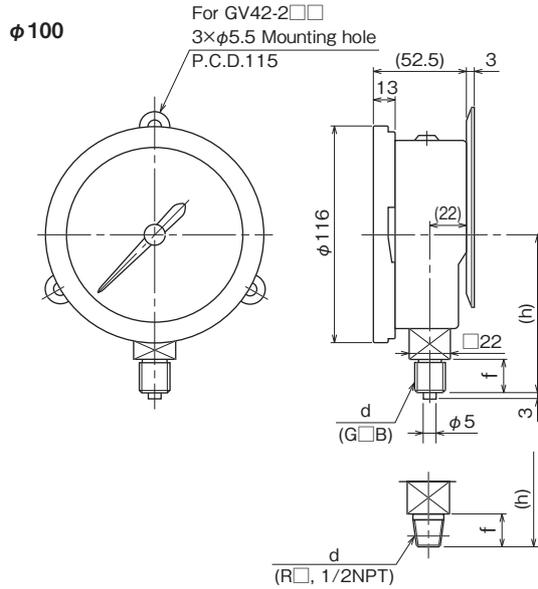
Dimensions 1

Unit: mm



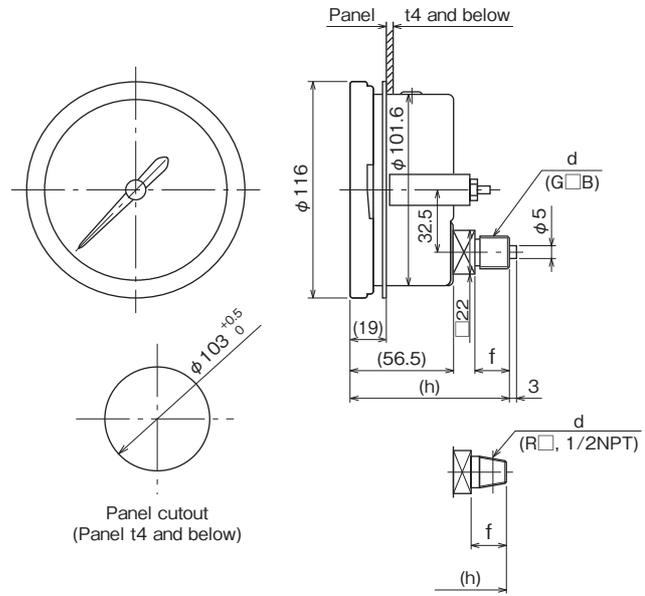
Dimensions 2

Unit: mm



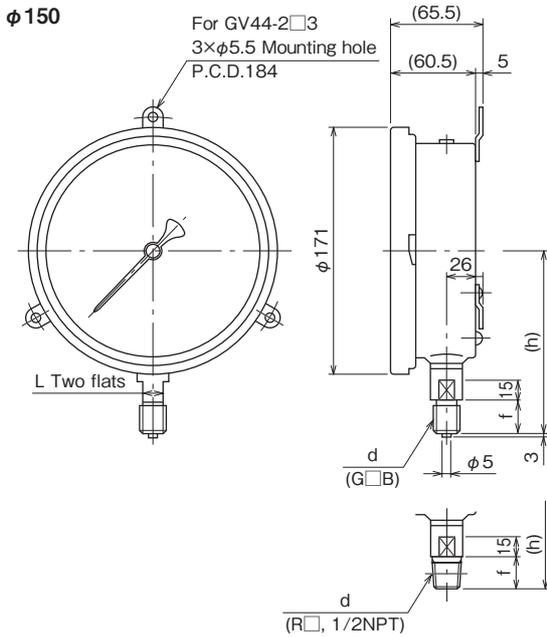
GV42-□□□

d	f	h
G3/8B	18	86
R3/8		
1/2NPT	20	88
G1/2B		
R1/2		



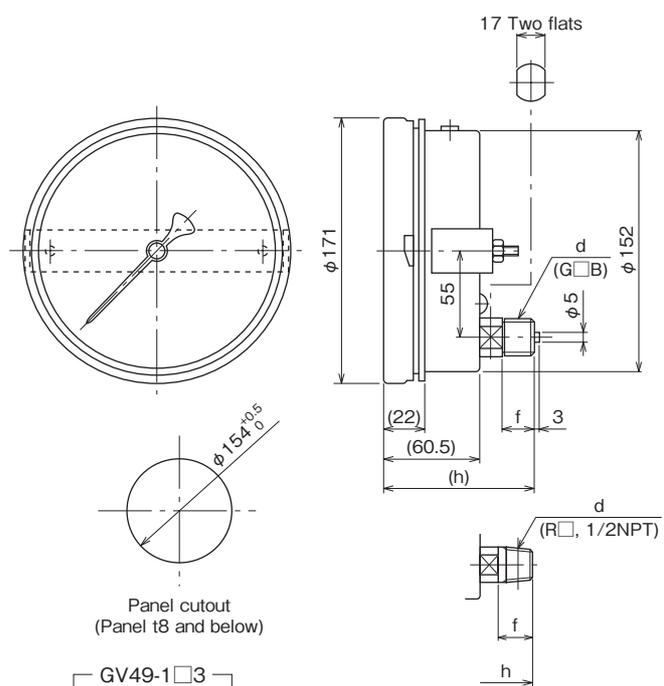
GV47-1□□

d	f	h
G3/8B	18	87
R3/8		
1/2NPT	20	89
G1/2B		
R1/2		



GV44-□□□3

d	f	h	L
G3/8B	18	123	14
R3/8			
1/2NPT	20	125	17
G1/2B			
R1/2			

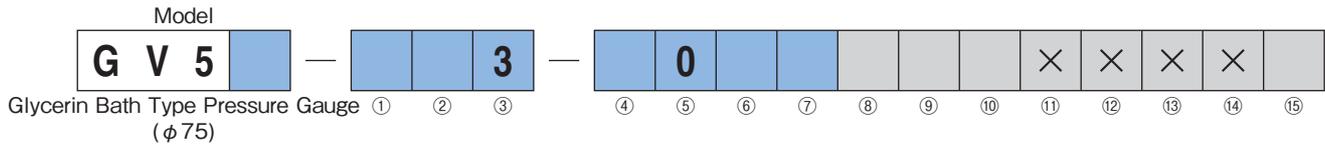


GV49-1□□3

d	f	h
G3/8B	18	91
R3/8		
1/2NPT	20	93
G1/2B		
R1/2		

Model number configuration

Please specify for ordering the model number and each specs.



Model number		Product specifications		Additional specifications (Optional)	
Type	1	Stem			
	6	Panel			
① Type	1	A type		D type (Mounting clamp)	
	2	B type		_____	
② Connection	3	G3/8B			
	8	R3/8			
③ Wetted parts	3	Bourdon tube: SUS316 Socket: SUS316			
	4	_____			
④ Pressure range (MPa)	1	-0.1 to 0.1, 0.2, 0.3, 0.4, 0.6, 1, 1.5, 2 Compound range			
	2	0 to 0.1, 0.2, 0.3, 0.4, 0.6, 1, 1.5, 2, 2.5, 3.5, -0.1 to 0			
	3	0 to 5, 7, 10			
	4	0 to 15, 25, 35			
	5	0 to 50, 70			
	6	0 to 100			
⑤ Accuracy	0	Standard (±1.5%F.S.)			
	6	_____			
⑥ Pointer	0	Standard			
	6	Safety mark* (Set pointer)			
⑦ Window	0	Standard (Acrylic)			
	2	Tempered (Inorganic)			
⑧ Treatment	0	Not required			
	1	Use no oil			
	2	Use no water			
	3	Use no oil & water			
⑨ Throttle	0	Not required			
	1	FS10-013			
⑩ Other additional spec.	0	Not required			
	1	Required (Specify required additional spec below.) Customized dial [Note]			
⑮ Documents	0	Not required			
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Mill test report Calibration test report (One-part one sheet) Inspection / Traceability certificate Attending inspection			

Please specify pressure range and unit of measure along with corresponding ordering code. Note that dial scale specification of Glycerin type is different from the one with JIS grade 1.6.

* Two safety marks always come when specified. (Refer to specification 2)

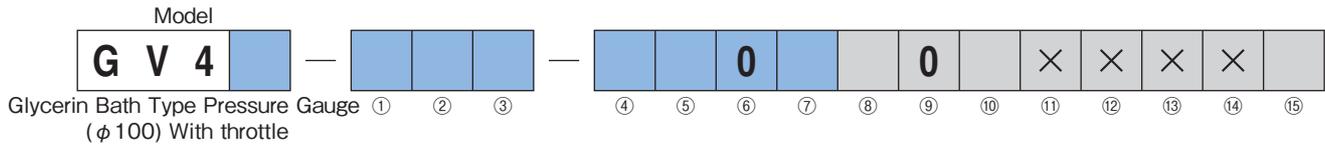
[Scope of manufacturing]
 • Filling fluid: Glycerin
 Aqueous glycerin solution for 0.4MPa and below,
 and compound 0.4MPa range.
 • Weight: φ 75 Approx. 0.4kg

[Note] Customized dial: Custom letters, customer's logo, red line and red painted dial.

* Specify code "X" to refer N/A

Model number configuration

Please specify for ordering the model number and each specs.



Model number		Product specifications	Additional specifications (Optional)
Type	2	Stem	
	7	Panel	
① Type	1	A type	D type (Mounting clamp)
	2	B type	_____
② Connection	3	G3/8B	
	4	G1/2B	
	6	1/2NPT	
	8	R3/8	
	9	R1/2	
		Others	
③ Wetted parts	3	SUS316	
	4	SUS316L (Not available for range 100MPa and above)	
④ Pressure range (MPa)	1	-0.1 to 0.1, 0.2, 0.3, 0.4, 0.6, 1, 1.5, 2 Compound range	
	2	0 to 0.1, 0.2, 0.3, 0.4, 0.6, 1, 1.5, 2, 2.5, 3.5, -0.1 to 0	
	3	0 to 5, 7, 10	
	4	0 to 15, 25, 35	
	5	0 to 50, 70	
	6	0 to 100	Wetted parts SUS316L
	7	0 to 150, 200	not available
⑤ Accuracy	0	Standard (±1.5%F.S.)	
	2	±1.0%F.S.	
⑥ Pointer	0	Standard	
⑦ Window	0	Standard (Acrylic)	
	2	Tempered (Inorganic)	
⑧ Treatment	0	Not required	
	1	Use no oil	
	2	Use no water	
	3	Use no oil & water	
⑨ Throttle	0	Standard (with FS10-013)*	
⑩ Other additional spec.	0	Not required	
	1	Required (Specify required additional spec below.) Customized dial [Note]	
⑮ Documents	0	Not required	
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Mill test report Calibration test report (One-part one sheet) Inspection / Traceability certificate Attending inspection	

Please specify pressure range and unit of measure along with corresponding ordering code. Note that dial scale specification of Glycerin type is different from the one with JIS grade 1.6.

[Scope of manufacturing]

- Filling fluid: Glycerin
Aqueous glycerin solution for 0.4MPa and below, and compound 0.4MPa range.
- : Daifloil® (For oxidizing agent service: Option)

• Specify [Oxidizing agent service (filled with Daifloil)] when required. Either [Use no oil] or [Use no oil and water] are also mandatory to specify.

• Weight: φ 100 Approx. 1kg

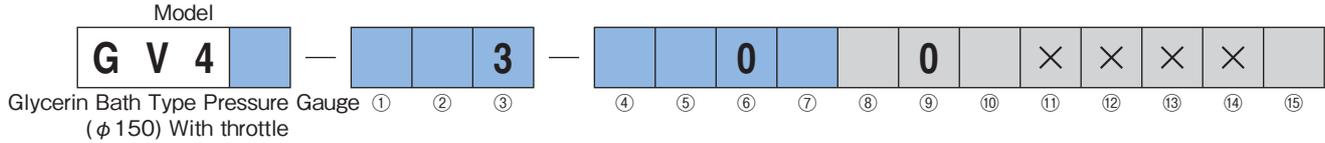
[Note] Customized dial: Capacity scale, dual scale, characters and circled dial.

* For SUS316L wetted parts, SUS316L (FS10-014) is the material.

* Specify code "X" to refer N/A

Model number configuration

Please specify for ordering the model number and each specs.



Model number		Product specifications	Additional specifications (Optional)
Type	4	Stem	
	9	Panel	
① Type	1	A Type	D type (Mounting clamp)
	2	B Type	_____
② Connection	3	G3/8B	
	4	G1/2B	
	6	1/2NPT	
	8	R3/8	
	9	R1/2	
	Others		
③ Wetted parts	3	SUS316	
④ Pressure range (MPa)	1	-0.1 to 0.1, 0.2, 0.3, 0.4, 0.6, 1, 1.5, 2 Compound range	
	2	0 to 0.1, 0.2, 0.3, 0.4, 0.6, 1, 1.5, 2, 2.5, 3.5, -0.1 to 0	
	3	0 to 5, 7, 10	
	4	0 to 15, 25, 35	
	5	0 to 50, 70	
	6	0 to 100	
⑤ Accuracy	0	Standard (±1.5%F.S.)	
	2	±1.0%F.S.	
⑥ Pointer	0	Standard	
⑦ Window	0	Standard (Acrylic)	
	2	Tempered (Inorganic)	
⑧ Treatment	0	Not required	
	1	Use no oil	
	2	Use no water	
	3	Use no oil & water	
⑨ Throttle	0	Standard (with FS10-013)	
⑩ Other additional spec.	0	Not required	
	1	Required (Specify required additional spec below.) Customized dial [Note]	
⑮ Documents	0	Not required	
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Mill test report Calibration test report (One-part one sheet) Inspection / Traceability certificate Attending inspection	

Please specify pressure range and unit of measure along with corresponding ordering code. Note that dial scale specification of Glycerin type is different from the one with JIS grade 1.6.

[Scope of manufacturing]

• Filling fluid: Glycerin
Aqueous glycerin solution for 0.4MPa and below, and compound 0.4MPa range.

• Weight: φ 150 Approx. 2.5kg

[Note] Customized dial: Custom letters, customer's logo, red line and red painted dial.

* Specify code "X" to refer N/A