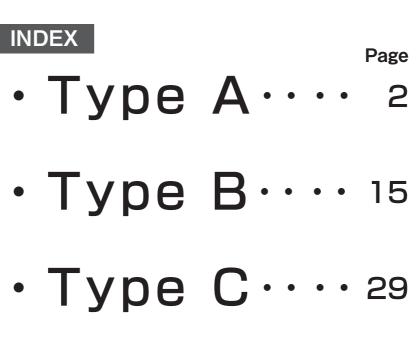
# General Industrial Pressure Gauges A 20, A 10, A 15

# 2015/11



• **Type D** • • • 41

# **A\_20** (φ75, φ100) **General Industrial Pressure Gauges** (Type A / Lower connection)

# Outline

The bourdon tube pressure gauge is offered and made in accordance with JIS B 7505-1: 2015. The gauge is easy to handle with its structured simplicity with elastic measuring element (bourdon tube) into a deflection caused by applied pressure change transmitted to a rotary geared movement carrying pointer. It is applicable to variety of applications offering wide varieties of pressure ranges.

### Features

- •7-digits part number will be printed under NKS trademark on dial.
- •Verification standard inspection mark (Type Approval) can be attached (Depending on size, precision and pressure range).
- •Available in many standard pressure ranges and can accommodate demand for use with corrosive media.
- \*To maximize performance, select full scale pressure range as normal operating pressure range 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 proper wetted parts compatible with process fluid (gas and liquid) which the gauge will be subjected.

Please refer to JIS B 7505-1 for details.

\* Please select "Use no oil" to use gauge on oxygen service. Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.





Select sealed type pressure gauge for applications where enough resistant to rain and dew is required.

Size	Mounting	Model number
φ75		AC20-1
φ100		AE20-1

\*  $\phi$  60,  $\phi$  150 is A $\square$ 10. Please refer to P9.

# Specification 1

Fluid:

Gas, liquid

#### Wetted parts material:

Wetted parts generally consist of bourdon tube and socket. These parts are exposed to or in direct contact with the medium under pressure (Gas, liquid).

Purpose	Connecting part	Bourdon tube
General use	C3604 or C3771 *	C6872 (2.5MPa or lower) SUS316 (4MPa or higher) (Varies depending on required pressure range and additional spec on performance.)
Ammonia use		
Corrosion-proof use	SUS316	SUS316

\* Connection: G1/2B or R1/2

Case

Case finish: Black (Standard color) Case material: Inner frame/Outer frame … SECC Protection: IP32

# Treatment of wetted parts (Option)

Use no oil, use no water gauge can be made upon request.

# Use no oil

Oil used in manufacturing the gauges had been flushed out & no oil residue remained inside its wetted parts.

#### Use no water

Water used in manufacturing the gauges had been flushed out & no water residue remained inside its wetted parts.

### Use no oil & water

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



\*Please select "Use no oil" to use gauge on oxygen service.
\*Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.

#### G1/4B, G3/8B, G1/2B, R1/4, R3/8, R1/2

#### Pressure range:

0 to 0.1MPa → 0 to 60MPa -0.1 to 0MPa → -0.1 to 2.5MPa \*For details, refer to the minimum scale value table in Specification 4

#### Accuracy:

JIS1.6 (JIS accuracy class)

# Specification 2

### Shape / Dimensions:

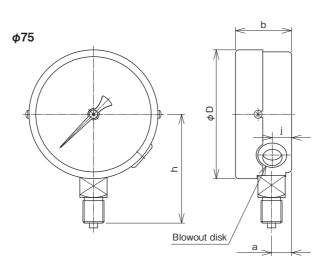
#### Lower connection

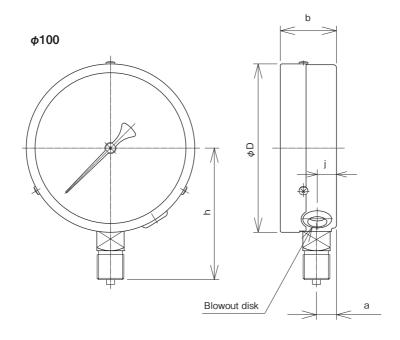
 $\textbf{Type } \textbf{A} \cdots \textbf{Direct mount pressure gauge}$ 

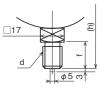
#### Unit: mm

#### Weight:

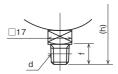
Size	Weight
75	Approx. 300g
100	Approx. 400g







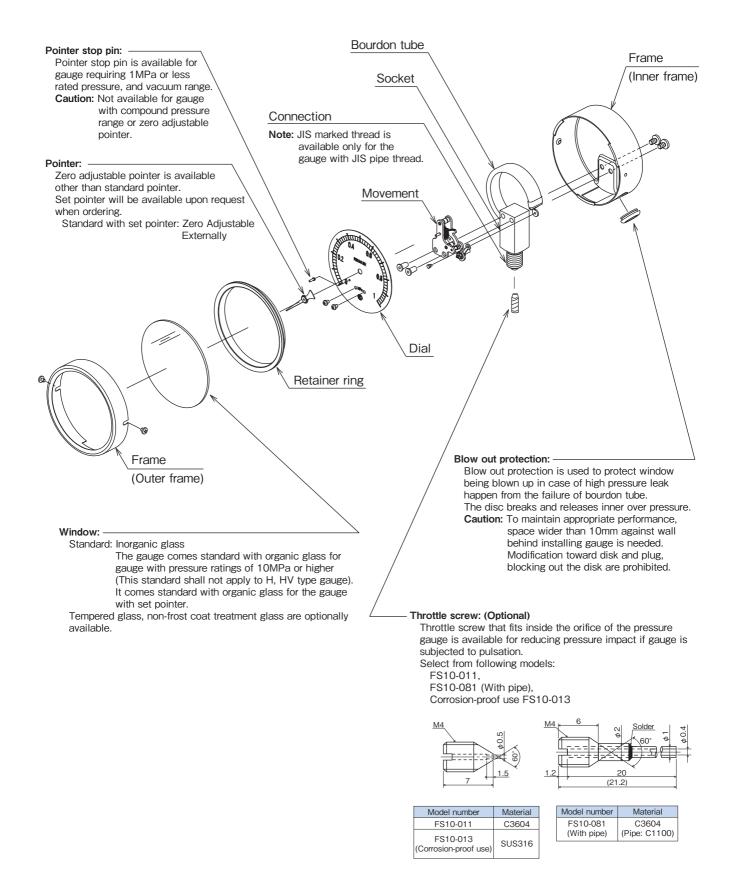
ATG []] B



ATR []]

$\backslash$	Sh	ape / Connection	on Case / Dimensions					Model number	
Size		d	D	а	b	j	f	h	
75	т	G1/4B, R1/4	80.5	12.5	35	12	16	68	AC20-1
75	1	G3/8B, R3/8	60.5	12.0	35	12	18	70	
100	т	G3/8B, R3/8	10E E	12.5	25	12	18	82	
100	I	G1/2B, R1/2	105.5	15	35	12	20	88	AE20-1

#### Specifications & additional spec.:



#### Minimum scale value:

The minimum number of minor scale for each pressure range is shown in the following table.

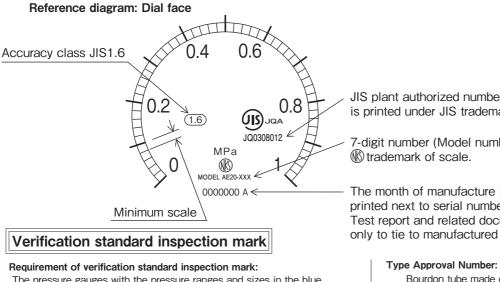
$\smallsetminus$		Size / Accuracy class					
	Pressure range (MPa)	φ75 φ100					
	(ivii d)	JIS1.6					
	0 to 0.1	0.002					
	to 0.16	0.005					
	to 0.25	0.005					
	to 0.4	0.01					
	to 0.6	0.01					
	to 1	0.02					
<b>D</b>	to 1.6	0.05					
Pressure range	to 2.5	0.05					
	to 4	0.1					
	to 6	0.1					
	to 10	0.2					
	to 16	0.5					
	to 25	0.5					
	to 40	1					
	to 60	1					
Vacuum range	-0.1 to 0	0.002					
	-0.1 to 0.1	0.005					
	to 0.16	0.005					
	to 0.25	0.01					
Compound	to 0.4	0.01					
range	to 0.6	0.02					
	to 1	0.02					
	to 1.6	0.05					
	to 2.5	0.05					

\* Gauge with 40MPa or higher range is made by corrosion-proof type.

\*[ Blue colored cell implies the gauge obtained type approval.

#### **Customized Dial:**

Customized dial with tag number, characters, and colored dial can be made upon request.



The pressure gauges with the pressure ranges and sizes in the blue frame in the specification 4 have obtained type approval, and the verification standard inspection mark printed for those approved products instead of the conventional verification mark is.

JIS plant authorized number JQ0308012 is printed under JIS trademark.

7-digit number (Model number) is printed under

The month of manufacture is provided with alphabets printed next to serial number. (A: January to L: December) Test report and related document show serial number only to tie to manufactured gauge.

Bourdon tube made of brass (Pressure range 0 to 0.1MPa  $\rightarrow$  0 to 2.5MPa): X131 Bourdon tube made of SUS (Pressure range 0 to 0.1MPa  $\rightarrow$  0 to 25MPa): X132

Designated Manufacturing Business Operator Number: 272001

# A\_20

# General Industrial Pressure Gauges (Type A / Lower Connection)

# \$\$\phi 75 General Industrial Pressure Gauges

Model number configuration Please specify the model number, each specs and the range for ordering. Model C 2 0 1 Α J Х Х  $\times$ General Industrial Pressure Gauges ( $\phi$  75) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. Lower connection Type A 1 Mounting 2 G1/4B (2) Connection 3 G3/8B 7 R1/4 8 R3/8 40MPa and over is cannot be manufactured General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 6 0 to 40 Corrosion-proof use 0 Standard (5) Performance M: Steam use A в H: Heat-proof type С V: Vibration-proof type D MV: Steam use & Vibration-proof type HV: Heat-proof & Vibration-proof type Е Standard 0 6) Pointer Zero adjustable (Spring type) 2 Verification standard inspection mark can't be supplied with this specification. Set pointer \* 1 6 Verification standard inspection mark can't be supplied with this specification. в Zero adjustable (Spring type) + Set pointer \* 1 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass\*2  $\overline{\mathbf{7}}$ Glass Organic glass Not available in H, HV specification. 1 2 Tempered glass 6 Non-frost coat treatment glass 0 Nil (8) Treatment 3Wetted parts material 1 Use no oil Connecting part Bourdon tube Connecting method 2 Purpose Use no water C3604 For the gauge with pressure ratings of 2.5MPa or lower: General use Soldered for 3 Use no oil & water brass parts General type. combination 0 Nil (9) Vibration-proof type C6872 Throttle screw FS10-011 or FS10-013 Corrosion-proof use Silver soldered 1 /Not available for brass 3 FS10-081 (With pipe) (General use) for gauge Steam use and SUS316 requiring Steam use & Vibration-proof type combination 0 Nil over 25MPa. (10) SUS316 Other additional Required 1 For the gauge with pressure ratings (Please specify the desired documents separately.) spec of 4MPa or higher Verification standard inspection mark, SUS316 dial scale \*3, case color Ammonia use J JIS specification (14) SUS316 SUS316 Tig-welding Corrosion-proof Class use 0 Nil (15) \*1 Set pointer with Document Required External adjust (Please specify the desired documents separately.) (Not available in ammonia use, H, HV specification.) Submission drawings, instruction manual inspection procedure, mill sheet,

- \*2 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher, and with set pointer (This standard shall not apply to H&HV type gauge).
- \*3 Customized dial with tag number, characters, and colored dial can be made upon request.

attended inspection
 \*Specify by code "X" if there is no applicable specification.

test report (1 pc 1 copy),

inspection / traceability certificate,

# **A**20

#### General Industrial Pressure Gauges (Type A / Lower Connection)

### 

Model number configuration Please specify the model number, each specs and the range for ordering. Model E 2 0 Α 1 J  $\times$ Х  $\times$ General Industrial Pressure Gauges (\$\$\phi100\$) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. Lower connection Type A 1 Mounting 3 G3/8B (2) Connection 4 G1/2B 8 R3/8 9 R1/2 40MPa and over is cannot be manufactured General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 6 0 to 40, 60 Corrosion-proof use 0 Standard (5) Performance M: Steam use A в H: Heat-proof type С V: Vibration-proof type D MV: Steam use & Vibration-proof type HV: Heat-proof & Vibration-proof type Е Standard 0 (6) 2 Zero adjustable (Spring type) Pointer Verification standard inspection mark can't be supplied with this specification Set pointer \* 2 6 Verification standard inspection mark can't be supplied with this specification. B Zero adjustable (Spring type) + Set pointer \*2 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass \*3  $\overline{\mathbf{7}}$ Glass Organic glass Not available in H, HV specification. 1 2 Tempered glass 6 Non-frost coat treatment glass 0 Nil (8) Treatment 1 Use no oil 3Wetted parts material 2 Connecting part Use no water Purpose Bourdon tube Connecting method For the gauge with pressure ratings of 2.5MPa or lower: General use C3604 Soldered for 3 Use no oil & water brass parts C3771\*1 0 Nil General type combination (9) Vibration-proof type Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 C6872 Silver soldered Not available for brass 3 FS10-081 (With pipe) (General use) for gauge and SUS316 Steam use Heat-proof type, Steam use & Vibration-proof type, requiring 0 Nil combinatior (10) ove 25MPa Other additional Required 1 Heat-proof & Vibration-proof type SUS316 (Please specify the desired documents separately.) spec Verification standard inspection mark, For the gauge with pressure ratings of 4MPa or higher: SUS316 dial scale \*4, case color J JIS specification (14) Class Ammonia use SUS316 SUS316 Corrosion-proof use Tig-welding 0 Nil (15) Document Required \*1 Connection: G1/2B or R1/2 (Please specify the desired documents separately.) Submission drawings, instruction manual \*2 Set pointer with inspection procedure, mill sheet, External adjust test report (1 pc 1 copy), (Not available in ammonia use, H, HV specification.) inspection / traceability certificate,

- \*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher, and with set pointer (This standard shall not apply to H&HV type gauge).
- \*4 Customized dial with tag number, characters, and colored dial can be made upon request.

\* Specify by code "X" if there is no applicable specification.

# **A\_10** (φ60, φ150) **General Industrial Pressure Gauges** (Type A / Lower connection)

## Outline

The bourdon tube pressure gauge is offered and made in accordance with JIS B 7505-1: 2015. The gauge is easy to handle with its structured simplicity with elastic measuring element (bourdon tube) into a deflection caused by applied pressure change transmitted to a rotary geared movement carrying pointer. It is applicable to variety of applications offering wide varieties of pressure ranges.

#### Features

- •Verification standard inspection mark (Type Approval) can be attached (Depending on size, precision and pressure range).
- Available in many standard pressure ranges and can accommodate demand for use with corrosive media.
- \*To maximize performance, select full scale pressure range as normal operating pressure range 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

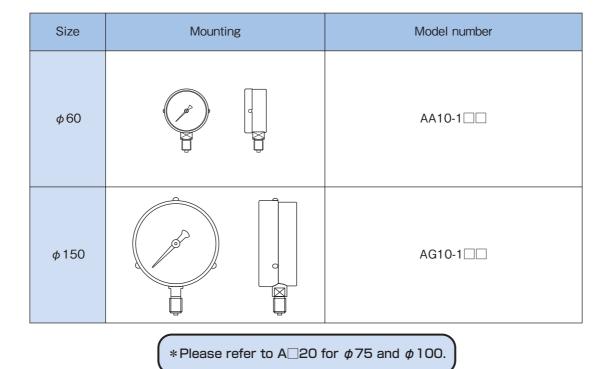
two-thirds of the full-scale range. Select proper wetted parts compatible with process fluid (gas and liquid) which the gauge will be subjected.

Please refer to JIS B 7505-1 for details.

\* Please select "Use no oil" to use gauge on oxygen service. Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.



Select sealed type pressure gauge for applications where enough resistant to rain and dew is required.



# List of products

# Specification 1

#### Fluid:

Gas, liquid

#### Wetted part material:

Wetted parts generally consist of bourdon tube and socket. These parts are exposed to or in direct contact with the medium under pressure (Gas, liquid).

Purpose	Connecting part	Bourdon tube
General use	C3604* or CAC203	C6872 or SUS316 (Varies depending on required pressure range and additional spec on performance.)
Ammonia use	SUS316*	
Corrosion-proof use	or SCS14	SUS316

\* AA10 (\$\$\phi60\$) only

# **Specification 2**

#### Shape/Dimensions:

#### Lower connection

 $\textbf{Type } \textbf{A} \cdots \textbf{Direct mount pressure gauge}$ 

#### Connection: Refer to the document JIS pipe thread in the technical sheet. G1/4B, G3/8B, G1/2B, R1/4, R3/8, R1/2, Others \*For other connections, please contact us.

#### Pressure range:

0 to 40kPa → 0 to 100MPa -0.1 to 0MPa → -0.1 to 2.5MPa \*For details, refer to the minimum scale value table in Specification 4

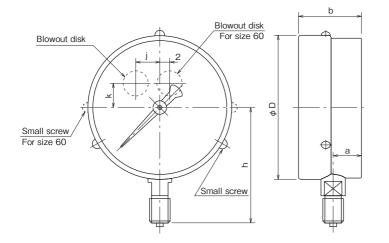
#### Accuracy:

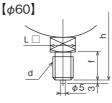
JIS1.6 (JIS accuracy class) Upon request, JIS1.0 product can be manufactured. (JIS1.0 is available for gauge requiring 1MPa or higher pressure range with nominal size of ¢150.)

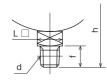
#### Unit: mm

Weight:

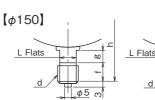
Size	Weight
60	Approx. 200g
150	Approx. 900g





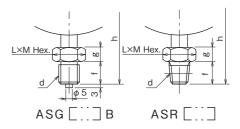






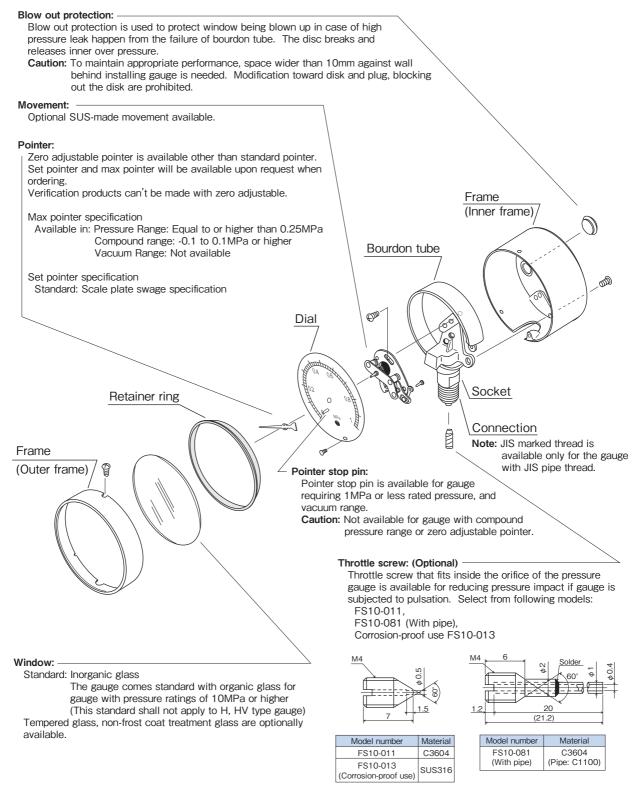
AUG

AUR



Shape		Case / Dimensions							Model number													
	d	D	а	b	j	k	f	g	L	М	h											
Т	G1/4B, R1/4	65	11.5	32	—	8	16	_	17	—	58	AA10-1										
U	G3/8B, R3/8		4.50	150	150	150	150	150	150	150	450	4.50	20 50	50	00	10	18	12	14	_	110	
S	G1/2B, R1/2, 1/2NPT	153	(30)	(60)	20	10	20	12	24	27.7	125	AG10-1										
	_	d           T         G1/4B, R1/4           U         G3/8B, R3/8	d         D           T         G1/4B, R1/4         65           U         G3/8B, R3/8         153	d         D         a           T         G1/4B, R1/4         65         11.5           U         G3/8B, R3/8         153         20 (30)	d         D         a         b           T         G1/4B, R1/4         65         11.5         32           U         G3/8B, R3/8         153         20 (30)         50 (60)	d         D         a         b         j           T         G1/4B, R1/4         65         11.5         32            U         G3/8B, R3/8         153         20         50         20	d         D         a         b         j         k           T         G1/4B, R1/4         65         11.5         32         —         8           U         G3/8B, R3/8         153         20 (30)         50 (60)         20         10	d         D         a         b         j         k         f           T         G1/4B, R1/4         65         11.5         32         -         8         16           U         G3/8B, R3/8         153         20         50         20         10         18	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	d         D         a         b         j         k         f         g         L           T         G1/4B, R1/4         65         11.5         32         -         8         16         -         17           U         G3/8B, R3/8         153         20         50         20         10         18         12         14	d         D         a         b         j         k         f         g         L         M           T         G1/4B, R1/4         65         11.5         32         -         8         16         -         17         -           U         G3/8B, R3/8         153         20         50         20         10         18         12         14         -	d         D         a         b         j         k         f         g         L         M         h           T         G1/4B, R1/4         65         11.5         32         -         8         16         -         17         -         58           U         G3/8B, R3/8         153         20         50         20         10         18         12         14         -         110										

#### Specifications & additional spec .:



Case

Case finish: Black (Standard color)

Case material: Inner frame... Aluminum alloy

Outer frame ···· SECC

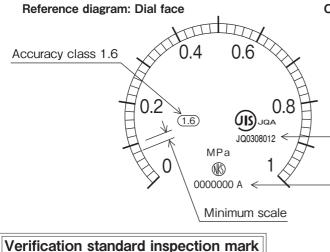
Protection: IP32

#### Minimum scale value:

The minimum number of minor scale for each pressure range is shown in the following table.

			Size / Accuracy class				
	Pressure range (MPa)	φ60	φ1	50			
	(IVIPa)	JIS1.6	JIS1.6	JIS1.0			
	0 to 40kPa	_	1	-			
	to 0.06	_	0.001	-			
	to 0.1	0.002	0.002	0.002			
	to 0.16	0.005	0.005	0.002			
	to 0.25	0.005	0.005	0.005			
	to 0.4	0.01	0.01	0.005			
	to 0.6	0.01	0.01	0.01			
	to 1	0.02	0.02	0.02			
Pressure	to 1.6	0.05	0.05	0.02			
range	to 2.5	0.05	0.05	0.05			
	to 4	0.1	0.1	0.05			
	to 6	0.1	0.1	0.1			
	to 10	0.2	0.2	0.2			
	to 16	0.5	0.5	0.2			
	to 25	0.5	0.5	0.5			
	to 40	_	1	0.5			
	to 60	_	1	1			
	to100	_	2	2			
Vacuum range	-0.1 to 0	0.002	0.002	0.002			
	-0.1 to 0.1	0.005	0.005	0.002			
	to 0.16	0.005	0.005	0.005			
	to 0.25	0.01	0.01	0.005			
Compound	to 0.4	0.01	0.01	0.01			
range	to 0.6	0.02	0.02	0.01			
	to 1	0.02	0.02	0.02			
	to 1.6	0.05	0.05	0.02			
	to 2.5	0.05	0.05	0.05			

\* Gauge with 40MPa or higher range is made by corrosion-proof type. \* Blue colored cell implies the gauge obtained type approval.



# Requirement of verification standard inspection mark:

The pressure gauges with the pressure ranges and sizes in the blue frame in the specification 4 have obtained type approval, and the verification standard inspection mark printed for those approved products instead of the conventional verification mark is.

#### Customized Dial:

Customized dial with capacity scale, double scale (Pressure and other than pressure), tag number, characters, and colored dial can be made upon request.

JIS plant authorized number JQ0308012 is printed under JIS trademark.

The month of manufacture is provided with alphabets printed next to serial number. (A: January to L: December) Test report and related document show serial number only to tie to manufactured gauge.

#### Type Approval Number:

Bourdon tube made of brass (Pressure range 0 to 0.06MPa  $\rightarrow$  0 to 2.5MPa): X951 Bourdon tube made of SUS (Pressure range 0 to 0.06MPa  $\rightarrow$  0 to 100MPa): X9618

Designated Manufacturing Business Operator Number: 272001

# **A** 10

# General Industrial Pressure Gauges (Type A / Lower Connection)

# \$\$\phi 60 General Industrial Pressure Gauges

#### Model number configuration Please specify the model number, each specs and the range for ordering. Model A 1 0 1 J Α $\times$ Х $\times$ General Industrial Pressure Gauges ( $\phi 60$ ) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. Lower connection Type A 1 Mounting 2 G1/4B (2) Connection 7 R1/4 Others\*1 General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 0 Standard (5) Performance M: Steam use A С V: Vibration-proof type D MV: Steam use & Vibration-proof type 0 Standard (6) 2 Pointer Zero adjustable (Spring type) Verification standard inspection mark can't be supplied with this specification. 5 Max pointer \*2 Verification standard inspection mark can't be supplied with this specification. 6 Set pointer \* 2 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass \* 3 $\overline{\mathbf{7}}$ Glass 1 Organic glass 2 Tempered glass 3 Non-glare treatment glass 6 Non-frost coat treatment glass Others 0 Nil (8) Treatment 1 Use no oil 3Wetted parts material 2 Use no water Connecting part Purpose Bourdon tube Connecting method For the gauge with pressure ratings of 2.5MPa or lower: General use C3604 Soldered for 3 Use no oil & water brass parts 0 Nil General type. combination (9) Vibration-proof type C6872 Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 Silver soldered for brass З FS10-081 (With pipe) Steam use and SUS316 0 Steam use & Vibration-proof type Nil combination (10) SUS316 Other additional 1 Required (Please specify the desired documents separately.) For the gauge with pressure ratings spec. of 4MPa or higher Verification standard inspection mark, SUS316 dial scale \*4, case color Ammonia use J JIS specification (14) SUS316 SUS316 Tig-welding Corrosion-proof Class 0 Nil (15) \*1 JIS marked thread is available only for the gauge with JIS pipe thread. Document Required 1 (Please specify the desired documents separately.) \*2 Max pointer specification Submission drawings, instruction manual, Range of manufacturability: Pressure gauges; 0.25MPa or higher inspection procedure, mill sheet, Compound: -0.1 to 0.1 MPa or higher test report (1 pc 1 copy), Vacuum; Cannot be manufactured

Set pointer with External adjust

\*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher, and with set pointer.

\*4 Customized dial: Capacity scale, dual scale, tag number, characters, colored circle, colored wire \* Specify by code "X" if there is no applicable specification.

inspection / traceability certificate,

# **A** 10

# General Industrial Pressure Gauges (Type A / Lower Connection)

# 

Model number configuration ) Please specify the model number, each specs and the range for ordering. Model G 1 0 Α 1 J Х Х  $\times$ General Industrial Pressure Gauges (\$\phi 150) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. Lower connection Type A 1 Mounting 3 G3/8B 2 Connection 4 G1/2B 1/2NPT\*1 6 8 R3/8 9 R1/2 Others \* 1 40MPa cannot be manufactured General use 1 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 0 to 40kPa, 0 to 0.06 (4) Please specify applicable Pressure range 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound range code as well as (MPa) -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 3 pressure range and 0 to 4, 6, 10 4 engineering unit. 5 0 to 16, 25 6 0 to 40, 60 Corrosion-proof use 7 0 to 100 Corrosion-proof use 0 Standard (5) Function А M: Steam use В H: Seat-proof type С V: Heat-proof type D MV: Steam use & Vibration-proof type HV: Heat-proof & Vibration proof type F Accuracy: (0.1 MPa or higher)\*2 3 0 Standard (6) Pointer 1 Zero adjustable (Micro meter type) Verification standard inspection mark can't be supplied with this specification. 2 Zero adjustable (Spring type) Verification standard inspection mark can't be supplied with this specification. 5 Max pointer \* 3 Verification standard inspection mark can't be supplied with this specification. 6 Set pointer\*3 Verification standard inspection mark can't be supplied with this specification. 3Wetted parts material Standard Inorganic glass\*4 0  $\overline{(7)}$ Purpose Connecting part Bourdon tube Connecting method Organic glass Not available in H, HV specification. Glass 1 General use CAC203 For the gauge with pressure ratings Soldered fo 2 Tempered glass of 2.5MPa or lower: brass parts General type, combination З Non-glare treatment glass Vibration-proof type Silver soldered Not available C6872 6 Non-frost coat treatment glass for brass and SUS316 for gauge Steam use Others requiring Heat-proof type Steam use & Vibration-proof type, Heat-proof & Vibration-proof type SUS316 combination over 0 Nil (8) 25MPa Treatment 1 Use no oil For the gauge with pressure ratings 2 Use no water of 4MPa or higher: SUS316 3 Use no oil & water Ammonia use 0 Nil 9 SCS14 SUS316 Corrosion-proof Tig-welding Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 З FS10-081 (With pipe) \*1 JIS marked thread is available only for the gauge with JIS pipe thread. 0 Nil (10) \*2 Verification standard inspection mark Other additional Required 1 (Please specify the desired documents separately.) cannot be attached to JIS1.0 product. spec. Verification standard inspection mark, dial scale \*5, case color \*3 Max pointer specification J JIS specification Range of manufacturability: Pressure gauges; 0.25MPa or higher (14) Compound: -0.1 to 0.1MPa or higher Class Vacuum: Cannot be manufactured 0 Nil Set pointer with Required (15) 1 Scale plate swage specification (Please specify the desired documents separately.) Document Submission drawings, instruction manual, \*4 The gauge comes standard with organic glass for gauge with pressure inspection procedure, mill sheet, ratings of 10MPa or higher test report (1 pc 1 copy), inspection / traceability certificate, (This standard shall not apply to H&HV type gauge). attended inspection \*5 Customized dial: Capacity scale, dual scale, tag number. \* Specify by code "X" if there is no applicable specification. characters colored circle colored wire

# **A\_20** (φ75, φ100) **General Industrial Pressure Gauges** (Type B / Lower connection)

## Outline

The bourdon tube pressure gauge is offered and made in accordance with JIS B 7505-1: 2015. The gauge is easy to handle with its structured simplicity with elastic measuring element (bourdon tube) into a deflection caused by applied pressure change transmitted to a rotary geared movement carrying pointer. It is applicable to variety of applications offering wide varieties of pressure ranges.

#### Features

- •7-digits part number will be printed under NKS trademark on dial.
- •Verification standard inspection mark (Type Approval) can be attached (Depending on size, precision and pressure range).
- •Available in many standard pressure ranges and can accommodate demand for use with corrosive media.
- \*To maximize performance, select full scale pressure range as normal operating pressure range 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 proper wetted parts compatible with process fluid (gas and liquid) which the gauge will be subjected.

- Please refer to JIS B 7505-1 for details.
- \* Please select "Use no oil" to use gauge on oxygen service. Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.



Select sealed type pressure gauge for applications where enough resistant to rain and dew is required.

# List of products

Size	Mounting	Model number
φ75		AC20-2
φ100		AE20-2

\*  $\phi$  60,  $\phi$  150 and  $\Phi$  200 is A 10. Please refer to P22.

# Specification 1

Fluid:

Gas, liquid

#### Wetted parts material:

Wetted parts generally consist of bourdon tube and socket. These parts are exposed to or in direct contact with the medium under pressure (Gas, liquid).

Purpose	Connecting part	Bourdon tube
General use	C3604 or C3771 *	C6872 (2.5MPa or lower) SUS316 (4MPa or higher) (Varies depending on required pressure range and additional spec on performance.)
Ammonia use		
Corrosion-proof use	SUS316	SUS316

\* Connection: G1/2B or R1/2

Case

Case finish: Black (Standard color) Case material: Inner frame/Outer frame … SECC Protection: IP32

# Treatment of wetted parts (Option)

Use no oil, use no water gauge can be made upon request.

# Use no oil

Oil used in manufacturing the gauges had been flushed out & no oil residue remained inside its wetted parts.

### Use no water

Water used in manufacturing the gauges had been flushed out & no water residue remained inside its wetted parts.

### Use no oil & water

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



\*Please select "Use no oil" to use gauge on oxygen service.
\*Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.

Connection: Refer to the document JIS pipe thread in technical sheet. G1/4B, G3/8B, G1/2B, R1/4, R3/8, R1/2

#### Pressure range:

0 to 0.1MPa → 0 to 60MPa -0.1 to 0MPa → -0.1 to 2.5MPa \*For details, refer to the minimum scale value table in Specification 4

#### Accuracy:

JIS1.6 (JIS accuracy class)

# Specification 2

#### Unit: mm

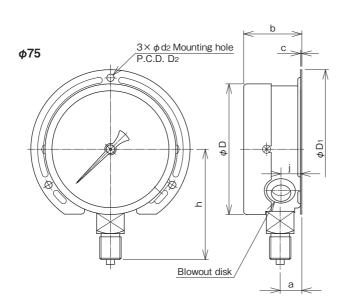
Shape / Dimensions:

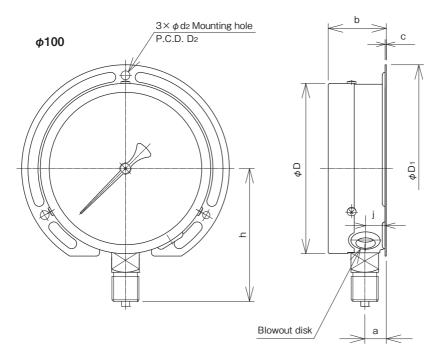
#### Lower connection

**Type B** $\cdots$ Back flange is fastened to panel by screw.

### Weight:

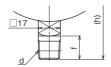
Size	Weight
75	Approx. 300g
100	Approx. 400g







BTG []] B

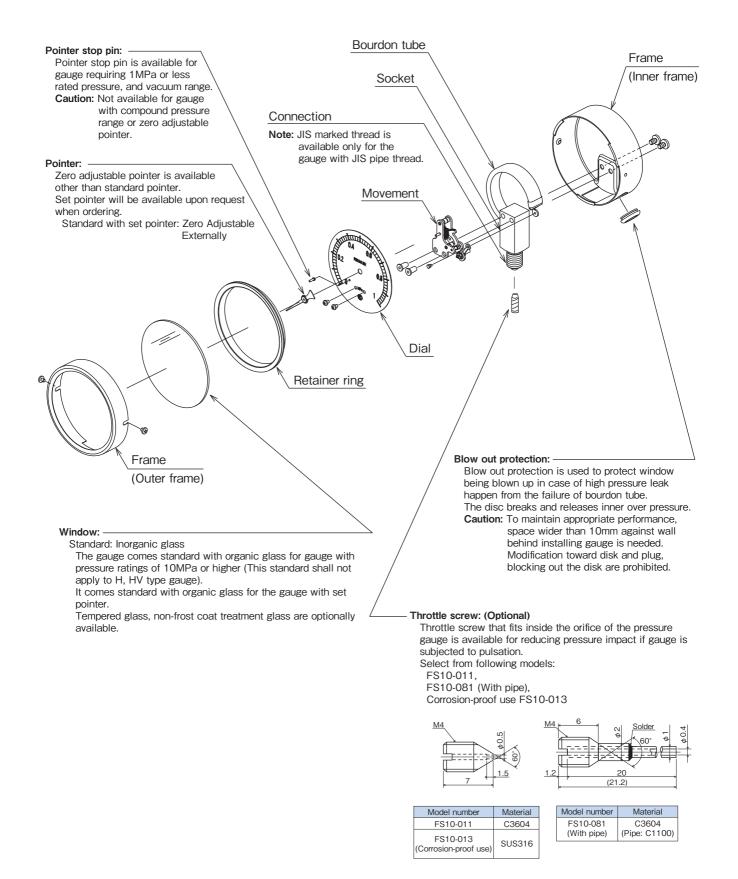


BTR []]

	Shape / Connection				Model number								
Size		d	D	D <sub>1</sub>	D <sub>2</sub>	а	b	с	d <sub>2</sub>	j	f	h	
75	-	G1/4B, R1/4	00.5	00	00	105	20	0.0	4 5	12	16	68	AC20-2
75	1	G3/8B, R3/8	80.5	98	88	13.5	36	0.8	4.5	12	18	70	
100	-	G3/8B, R3/8	1055	100		13.5	00				18	82	
100		G1/2B, R1/2			36	0.8	5.5	5.5 12		88	AE20-2		

# Specification 3)

#### Specifications & additional spec.:



#### Minimum scale value:

The minimum number of minor scale for each pressure range is shown in the following table.

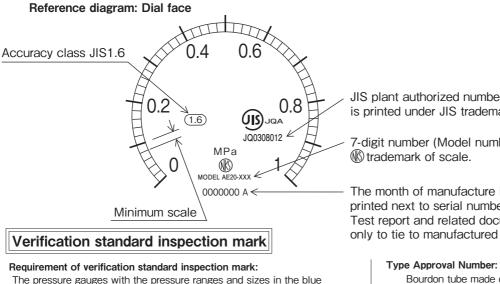
$\smallsetminus$		Size / Accuracy class							
	Pressure range (MPa)	φ75 φ100							
	(ivii d)	JIS1.6							
	0 to 0.1	0.002							
	to 0.16	0.005							
	to 0.25	0.005							
	to 0.4	0.01							
	to 0.6	0.01							
	to 1	0.02							
During	to 1.6	0.05							
Pressure range	to 2.5	0.05							
	to 4	0.1							
	to 6	0.1							
	to 10	0.2							
	to 16	0.5							
	to 25	0.5							
	to 40	1							
	to 60	1							
Vacuum range	-0.1 to 0	0.002							
	-0.1 to 0.1	0.005							
	to 0.16	0.005							
	to 0.25	0.01							
Compound	to 0.4	0.01							
range	to 0.6	0.02							
	to 1	0.02							
	to 1.6	0.05							
	to 2.5	0.05							

\* Gauge with 40MPa or higher range is made by corrosion-proof type.

\*[ Blue colored cell implies the gauge obtained type approval.

#### **Customized Dial:**

Customized dial with tag number, characters, and colored dial can be made upon request.



frame in the specification 4 have obtained type approval, and the verification standard inspection mark printed for those approved products instead of the conventional verification mark is.

JIS plant authorized number JQ0308012 is printed under JIS trademark.

7-digit number (Model number) is printed under

The month of manufacture is provided with alphabets printed next to serial number. (A: January to L: December) Test report and related document show serial number only to tie to manufactured gauge.

Bourdon tube made of brass (Pressure range 0 to 0.1MPa  $\rightarrow$  0 to 2.5MPa): X131 Bourdon tube made of SUS (Pressure range 0 to 0.1MPa  $\rightarrow$  0 to 25MPa): X132

Designated Manufacturing Business Operator Number: 272001

# φ75 General Industrial Pressure Gauges

Model number configuration Please specify the model number, each specs and the range for ordering. Model C 2 0 2 Α J Х Х  $\times$ General Industrial Pressure Gauges ( $\phi$  75) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 2 Lower connection Type B (Mounting hole) 1 Mounting 2 G1/4B (2) Connection 3 G3/8B 7 R1/4 8 R3/8 40MPa and over is cannot be manufactured General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 6 0 to 40 Corrosion-proof use 0 Standard (5) Performance M: Steam use A в H: Heat-proof type С V: Vibration-proof type D MV: Steam use & Vibration-proof type HV: Heat-proof & Vibration-proof type Е Standard 0 6) Pointer Zero adjustable (Spring type) 2 Verification standard inspection mark can't be supplied with this specification. Set pointer \* 1 6 Verification standard inspection mark can't be supplied with this specification. в Zero adjustable (Spring type) + Set pointer \* 1 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass\*2  $\overline{\mathbf{7}}$ Glass Organic glass Not available in H, HV specification. 1 2 Tempered glass 6 Non-frost coat treatment glass 0 Nil (8) Treatment 3Wetted parts material 1 Use no oil Connecting part Bourdon tube Connecting method 2 Purpose Use no water C3604 For the gauge with pressure ratings of 2.5MPa or lower: General use Soldered for 3 Use no oil & water brass parts General type. combination 0 Nil (9) Vibration-proof type C6872 Throttle screw FS10-011 or FS10-013 Corrosion-proof use Silver soldered 1 /Not available for brass 3 FS10-081 (With pipe) (General use) for gauge Steam use and SUS316 requiring Steam use & Vibration-proof type combination 0 Nil over 25MPa. (10) SUS316 Other additional Required 1 For the gauge with pressure ratings (Please specify the desired documents separately.) spec of 4MPa or higher Verification standard inspection mark, SUS316 dial scale \*3, case color Ammonia use J JIS specification (14) SUS316 SUS316 Tig-welding Corrosion-proof Class use 0 Nil (15) \*1 Set pointer with Document Required External adjust (Please specify the desired documents separately.) (Not available in ammonia use, H, HV specification.) Submission drawings, instruction manual inspection procedure, mill sheet, \*2 The gauge comes standard with organic glass for gauge with pressure test report (1 pc 1 copy), inspection / traceability certificate,

- ratings of 10MPa or higher, and with set pointer (This standard shall not apply to H&HV type gauge).
- \*3 Customized dial with tag number, characters, and colored dial can be made upon request.

attended inspection \* Specify by code "X" if there is no applicable specification.

# **A**20

### General Industrial Pressure Gauges (Type B / Lower Connection)

# *φ*100 General Industrial Pressure Gauges

Model number configuration Please specify the model number, each specs and the range for ordering. Model E 2 0 2 Α J  $\times$ Х  $\times$ General Industrial Pressure Gauges (\$\$\phi100\$) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 2 Lower connection Type B (Mounting hole) 1 Mounting 3 G3/8B (2) Connection 4 G1/2B 8 R3/8 9 R1/2 40MPa and over is cannot be manufactured General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 6 0 to 40, 60 Corrosion-proof use 0 Standard (5) Performance M: Steam use A в H: Heat-proof type С V: Vibration-proof type D MV: Steam use & Vibration-proof type HV: Heat-proof & Vibration-proof type Е Standard 0 6) 2 Zero adjustable (Spring type) Pointer Verification standard inspection mark can't be supplied with this specification Set pointer \* 2 6 Verification standard inspection mark can't be supplied with this specification. B Zero adjustable (Spring type) + Set pointer \*2 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass \*3  $\overline{\mathbf{7}}$ Glass Organic glass Not available in H, HV specification. 1 2 Tempered glass 6 Non-frost coat treatment glass 0 Nil (8) Treatment 1 Use no oil 3Wetted parts material 2 Connecting part Use no water Purpose Bourdon tube Connecting method For the gauge with pressure ratings of 2.5MPa or lower: General use C3604 Soldered for 3 Use no oil & water brass parts C3771\*1 0 Nil General type, combination (9) Vibration-proof type Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 C6872 Silver soldered Not available for brass 3 FS10-081 (With pipe) (General use) for gauge and SUS316 Steam use Heat-proof type, Steam use & Vibration-proof type, requiring 0 Nil ombinatior (10) ove 25MPa Other additional Required 1 Heat-proof & Vibration-proof type SUS316 (Please specify the desired documents separately.) spec Verification standard inspection mark, For the gauge with pressure ratings of 4MPa or higher: SUS316 dial scale \*4, case color J JIS specification (14) Class Ammonia use SUS316 SUS316 Corrosion-proof use Tig-welding 0 Nil (15) Document Required \*1 Connection: G1/2B or R1/2 (Please specify the desired documents separately.) Submission drawings, instruction manual \*2 Set pointer with inspection procedure, mill sheet, External adjust test report (1 pc 1 copy), (Not available in ammonia use, H, HV specification) inspection / traceability certificate,

- \*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher, and with set pointer (This standard shall not apply to H&HV type gauge).
- \*4 Customized dial with tag number, characters, and colored dial can be made upon request.

\* Specify by code "X" if there is no applicable specification.

# **A\_10** (φ60, φ150, φ200) **General Industrial Pressure Gauges** (Type B / Lower connection)

## Outline

The bourdon tube pressure gauge is offered and made in accordance with JIS B 7505-1: 2015. The gauge is easy to handle with its structured simplicity with elastic measuring element (bourdon tube) into a deflection caused by applied pressure change transmitted to a rotary geared movement carrying pointer. It is applicable to variety of applications offering wide varieties of pressure ranges.

#### Features

- •Verification standard inspection mark (Type Approval) can be attached (Depending on size, precision and pressure range).
- Available in many standard pressure ranges and can accommodate demand for use with corrosive media.
- \*To maximize performance, select full scale pressure range as normal operating pressure range 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 proper wetted parts compatible with process fluid (gas and liquid) which the gauge will be subjected.

Please refer to JIS B 7505-1 for details.

\* Please select "Use no oil" to use gauge on oxygen service. Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.

# List of products



Select sealed type pressure gauge for applications where enough resistant to rain and dew is required.

Size	Mounting	Model number
φ60		AA10-2
φ150		AG10-2
φ200		AJ10-2

\*Please refer to A  $\supseteq$  20 for  $\phi$  75 and  $\phi$  100.

# Specification 1

#### Fluid:

Gas, liquid

#### Wetted part material:

Wetted parts generally consist of bourdon tube and socket. These parts are exposed to or in direct contact with the medium under pressure (Gas, liquid).

Purpose	Connecting part	Bourdon tube
General use	C3604* or CAC203	C6872 or SUS316 (Varies depending on required pressure range and additional spec on performance.)
Ammonia use	SUS316*	
Corrosion-proof use	or SCS14	SUS316

\* AA10 (\$\$\phi60\$) only

# Specification 2

#### Shape/Dimensions:

#### Lower connection

Type B...Back flange is fastened to panel by screw.

#### Connection: Refer to the document JIS pipe thread in the technical sheet. G1/4B, G3/8B, G1/2B, R1/4, R3/8, R1/2, Others \*For other connections, please contact us.

#### Pressure range:

0 to 40kPa → 0 to 100MPa -0.1 to 0MPa → -0.1 to 2.5MPa \*For details, refer to the minimum scale value table in Specification 4

#### Accuracy:

JIS1.6 (JIS accuracy class) Upon request, JIS1.0 product can be manufactured. (JIS1.0 is available for gauge requiring 1MPa or higher pressure range with nominal size of  $\phi$ 150,  $\phi$ 200.)

#### Unit: mm

Weight

Approx. 200g

Approx. 900g

Approx.1200g

#### Weight:

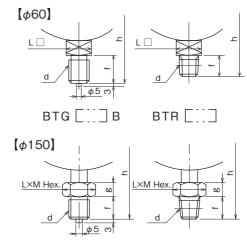
Size

60

150

200

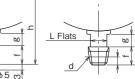
3-d2 Mounting hole	b 	
Blowout disk For size 60		X
Small screw For size 60		¥





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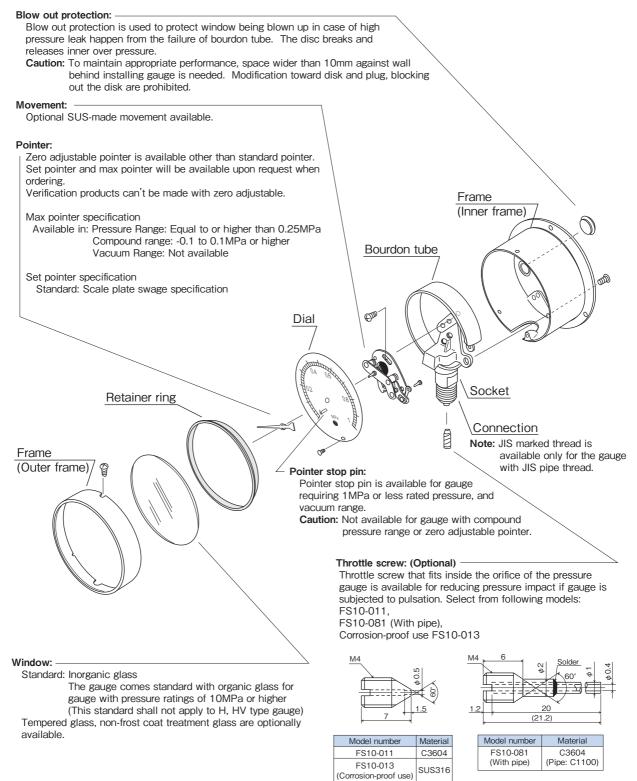
BSR []]

		Shape		Case / Dimensions													Model number
Size	d		d D D <sub>1</sub> D <sub>3</sub> a b c d <sub>2</sub> j k		f	g	L	М	h								
60	Т	G1/4B, R1/4	65	80	72	11.5	32	2	4.5	_	8	16	—	17		58	AA10-2
150	U	G3/8B, R3/8	153	178	165	105 20 5	50	0.5	<b>F F</b>	5.5 20	10	18	12	14	—	110	AG10-2
150	S	G1/2B, R1/2, 1/2NPT	155	170	105	(30)	1 1 2 4	2.5	5.5			20	12	24	27.7	125	
200	U	G1/2B, R1/2	204	235	220	24	58.5	2.5	5.5	20	10	20	15	17	_	152	AJ10-2

 $\ast\,$  For surface mounting, please provide a 25mm dia hole in the wall for blowout disk.

\* ( ) is 0.09MPa and under.

#### Specifications & additional spec.:



### Case

Case finish: Black (Standard color)

Case material: Inner frame… Aluminum alloy

Outer frame ···· SECC

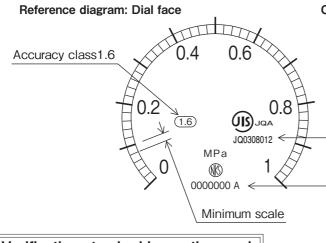
Protection: IP32

#### Minimum scale value:

The minimum number of minor scale for each pressure range is shown in the following table.

			Si	ze / Accuracy cla	SS	
	Pressure range (MPa)	φ60	φ1	150	φ2	200
	(IVIPa)	JIS1.6	JIS1.6	JIS1.0	JIS1.6	JIS1.0
	0 to 40kPa	_	1	—	1	—
	to 0.06	_	0.001	—	0.001	_
	to 0.1	0.002	0.002	0.002	0.002	0.002
	to 0.16	0.005	0.005	0.002	0.005	0.002
	to 0.25	0.005	0.005	0.005	0.005	0.005
	to 0.4	0.01	0.01	0.005	0.01	0.005
	to 0.6	0.01	0.01	0.01	0.01	0.01
	to 1	0.02	0.02	0.02	0.02	0.02
Pressure	to 1.6	0.05	0.05	0.02	0.05	0.02
range	to 2.5	0.05	0.05	0.05	0.05	0.05
	to 4	0.1	0.1	0.05	0.1	0.05
	to 6	0.1	0.1	0.1	0.1	0.1
	to 10	0.2	0.2	0.2	0.2	0.2
	to 16	0.5	0.5	0.2	0.5	0.2
	to 25	0.5	0.5	0.5	0.5	0.5
	to 40	_	1	0.5	1	0.5
	to 60	_	1	1	1	1
	to100	_	2	2	2	2
Vacuum range	-0.1 to 0	0.002	0.002	0.002	0.002	0.002
	-0.1 to 0.1	0.005	0.005	0.002	0.005	0.002
	to 0.16	0.005	0.005	0.005	0.005	0.005
	to 0.25	0.01	0.01	0.005	0.01	0.005
Compound	to 0.4	0.01	0.01	0.01	0.01	0.01
range	to 0.6	0.02	0.02	0.01	0.02	0.01
	to 1	0.02	0.02	0.02	0.02	0.02
	to 1.6	0.05	0.05	0.02	0.05	0.02
	to 2.5	0.05	0.05	0.05	0.05	0.05

\* Gauge with 40MPa or higher range is made by corrosion-proof type. \* Blue colored cell implies the gauge obtained type approval.



# Verification standard inspection mark

Requirement of verification standard inspection mark:

The pressure gauges with the pressure ranges and sizes in the blue frame in the specification 4 have obtained type approval, and the verification standard inspection mark printed for those approved products instead of the conventional verification mark is. (Not possible to support because that  $\phi$  200 product has not received the type approval.)

#### Customized Dial:

Customized dial with capacity scale, double scale (Pressure and other than pressure), tag number, characters, and colored dial can be made upon request.

JIS plant authorized number JQ0308012 is printed under JIS trademark.

The month of manufacture is provided with alphabets printed next to serial number. (A: January to L: December) Test report and related document show serial number only to tie to manufactured gauge.

#### Type Approval Number:

Bourdon tube made of brass (Pressure range 0 to 0.06MPa  $\rightarrow$  0 to 2.5MPa): X951 Bourdon tube made of SUS (Pressure range 0 to 0.06MPa  $\rightarrow$  0 to 100MPa): X9618

Designated Manufacturing Business Operator Number: 272001

# *¢*60 General Industrial Pressure Gauges

Model number configuration Please specify the model number, each specs and the range for ordering. Model A 1 0 2 J Α  $\times$ Х  $\times$ General Industrial Pressure Gauges ( $\phi$  60) ① 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Model number Additional spec. (Option) Selective spec. 2 Lower connection Type B (Lower connection) 1 Mounting 2 G1/4B (2) Connection 7 R1/4 Others\*1 General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 0 Standard (5) M: Steam use Performance A С V: Vibration-proof type D MV: Steam use & Vibration-proof type 0 Standard (6) 2 Pointer Zero adjustable (Spring type) Verification standard inspection mark can't be supplied with this specification. 5 Max pointer \*2 Verification standard inspection mark can't be supplied with this specification. 6 Set pointer \* 2 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass \* 3  $\overline{\mathbf{7}}$ Glass 1 Organic glass 2 Tempered glass 3 Non-glare treatment glass 6 Non-frost coat treatment glass Others 0 Nil (8) Treatment 1 Use no oil ③Wetted parts material 2 Use no water Purpose Bourdon tube Connecting part Connecting method 3 Use no oil & water For the gauge with pressure ratings of 2.5MPa or lower: General use C3604 Soldered for 0 brass parts Nil (9) General type. combination Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 Vibration-proof type C6872 Silver soldered З FS10-081 (With pipe) for brass and SUS316 0 Steam use Nil (10 Steam use & Vibration-proof type combination Other additional 1 Required SUS316 (Please specify the desired documents separately.) spec. For the gauge with pressure ratings Verification standard inspection mark, of 4MPa or higher: SUS316 dial scale \*4, case color J JIS specification (14) Ammonia use Class Corrosion-proof SUS316 SUS316 Tig-welding 0 Nil (15) \*1 JIS marked thread is available only for the gauge with JIS pipe thread. Document Required 1 (Please specify the desired documents separately.) \*2 Max pointer specification Submission drawings, instruction manual, Range of manufacturability: Pressure gauges; 0.25MPa or higher inspection procedure, mill sheet, Compound: -0.1 to 0.1MPa or higher test report (1 pc 1 copy), Vacuum; Cannot be manufactured inspection / traceability certificate, Set pointer with attended inspection External adjust

\*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher, and with set pointer.

\*4 Customized dial: Capacity scale, dual scale, tag number, characters, colored circle, colored wire \* Specify by code "X" if there is no applicable specification.

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Model number configuration Please specify the model number, each specs and the range for ordering. Model G 1 0 2 Α J Х Х  $\times$ General Industrial Pressure Gauges (\$\phi 150) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Model number Additional spec. (Option) Selective spec. 2 Lower connection Type B (Lower connection) 1 Mounting 3 G3/8B 2 Connection 4 G1/2B 1/2NPT\*1 6 8 R3/8 9 R1/2 Others \* 1 40MPa cannot be manufactured General use 1 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 0 to 40kPa, 0 to 0.06 (4) Please specify applicable Pressure range 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound range code as well as (MPa) -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 3 pressure range and 0 to 4, 6, 10 4 engineering unit. 5 0 to 16, 25 6 0 to 40, 60 Corrosion-proof use 7 0 to 100 Corrosion-proof use 0 Standard (5) Function А M: Steam use В H: Seat-proof type С V: Heat-proof type D MV: Steam use & Vibration-proof type HV: Heat-proof & Vibration proof type F Accuracy: (0.1 MPa or higher)\*2 3 0 Standard (6) Pointer 1 Zero adjustable (Micro meter type) Verification standard inspection mark can't be supplied with this specification. 2 Zero adjustable (Spring type) Verification standard inspection mark can't be supplied with this specification. 5 Max pointer \* 3 Verification standard inspection mark can't be supplied with this specification. 6 Set pointer\*3 Verification standard inspection mark can't be supplied with this specification. 3Wetted parts material Standard Inorganic glass\*4 0 (7)Purpose Connecting part Bourdon tube Connecting method Organic glass Not available in H, HV specification. Glass 1 General use CAC203 For the gauge with pressure ratings Soldered fo 2 Tempered glass of 2.5MPa or lower: brass parts General type, combination З Non-glare treatment glass Vibration-proof type Silver soldered Not available C6872 6 Non-frost coat treatment glass for brass and SUS316 for gauge Steam use Others requiring Heat-proof type Steam use & Vibration-proof type, Heat-proof & Vibration-proof type SUS316 over combination 0 Nil (8) 25MPa Treatment 1 Use no oil For the gauge with pressure ratings 2 Use no water of 4MPa or higher: SUS316 3 Use no oil & water Ammonia use 0 Nil 9 SCS14 SUS316 Corrosion-proof Tig-welding Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 3 FS10-081 (With pipe) \*1 JIS marked thread is available only for the gauge with JIS pipe thread. 0 Nil (10) \*2 Verification standard inspection mark Other additional Required 1 (Please specify the desired documents separately.) cannot be attached to JIS1.0 product. spec. Verification standard inspection mark, dial scale \*5, case color \*3 Max pointer specification J JIS specification Range of manufacturability: Pressure gauges; 0.25MPa or higher (14) Compound: -0.1 to 0.1MPa or higher Class Vacuum: Cannot be manufactured 0 Nil Set pointer with Required (15) 1 Scale plate swage specification (Please specify the desired documents separately.) Document Submission drawings, instruction manual, \*4 The gauge comes standard with organic glass for gauge with pressure inspection procedure, mill sheet, ratings of 10MPa or higher test report (1 pc 1 copy), inspection / traceability certificate, (This standard shall not apply to H&HV type gauge). attended inspection \*5 Customized dial: Capacity scale, dual scale, tag number. \* Specify by code "X" if there is no applicable specification. characters colored circle colored wire

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#### Model number configuration Please specify the model number, each specs and the range for ordering. Model J 1 0 2 Α J $\times$ Х $\times$ General Industrial Pressure Gauges ( $\phi 200$ ) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 2 Lower connection Type B (Lower connection) 1 Mounting 4 G1/2B (2) Connection 6 1/2NPT\*1 9 R1/2 Others \* 1 40MPa and over is cannot be manufactured General use 3 Wetted parts 2 Ammonia use SUS material 3 Corrosion-proof use SUS 0 to 40kPa, 0 to 0.06 4 Please specify applicable Pressure range 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound range code as well as (MPa) 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 pressure range and 4 0 to 4, 6, 10 engineering unit. 5 0 to 16, 25 6 0 to 40, 60 Corrosion-proof use 0 to 100 Corrosion-proof use 0 Standard (5) M: Steam use Performance A 3 Accuracy: JIS1.0 (0.1MPa or higher) 0 Standard (6) Zero adjustable (Micro meter type) Pointer 1 2 Zero adjustable (Spring type) 5 Max pointer\*2 6 Set pointer\*2 0 Standard Inorganic glass \*3 $\overline{(7)}$ Glass 1 Organic glass 2 Tempered glass 3 Non-glare treatment glass Others 0 Nil 8 Treatment 1 Use no oil ③Wetted parts material 2 Use no water Purpose onnecting part Bourdon tube Connecting method General use CAC203 For the gauge with pressure ratings Soldered for 3 Use no oil & water of 2.5MPa or lower brass parts of 2.5ivii c. •General type C6872 combination 0 Nil 9 Not available Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 Silver soldered for gauge for brass and SUS316 requiring over 25MPa. Steam use 3 FS10-081 (With pipe) SUS316 combination 0 Nil (10) For the gauge with pressure ratings Other additional 1 Required of 4MPa or higher SUS316 spec. (Please specify the desired documents separately.) dial scale \*4, case color Ammonia use SCS14 SUS316 Tig-welding Corrosion-proof J JIS specification 14 USE Class Verification standard inspection mark 0 Nil (15) cannot be attached to $\phi$ 200 product. Document Required 1 (Please specify the desired documents separately.) Submission drawings, instruction manual \*1 JIS marked thread is available only for the gauge with JIS pipe thread. inspection procedure, mill sheet, test report (1 pc 1 copy), \*2 Max pointer specification inspection / traceability certificate, Range of manufacturability: Pressure gauges; 0.25MPa or higher attended inspection Compound; -0.1 to 0.1 MPa or higher

\* Specify by code "X" if there is no applicable specification.

\*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher

Vacuum; Cannot be manufactured

\*4 Customized dial: Capacity scale, dual scale, tag number, characters, colored circle, colored wire

Scale plate swage specification

Set pointer with

# **A\_20** (φ75, φ100) **General Industrial Pressure Gauges** (Type C / Lower connection)

## Outline

The gauge is easy to handle with its structured simplicity with elastic measuring element (bourdon tube) into a deflection caused by applied pressure change transmitted to a rotary geared movement carrying pointer. It is applicable to variety of applications offering wide varieties of pressure ranges.

### Features

- •7-digits part number will be printed under NKS trademark on dial.
- Verification standard inspection mark (Type Approval) can be attached (Depending on size, precision and pressure range).
- Available in many standard pressure ranges and can accommodate demand for use with corrosive media.
- •Smaller design of flange than type B gauge provides excellent space efficiency for its installation.
- \* To maximize performance, select full scale pressure range as normal operating pressure range 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 proper wetted parts compatible with process fluid (gas and liquid) which the gauge will be subjected.
- Please refer to JIS B 7505-1 for details.
- \* Please select "Use no oil" to use gauge on oxygen service. Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.

# List of products



Size	Mounting	Model number				
φ75		AC20-8				
φ100		AE20-8				
$*\phi$ 60 is AA10. Please refer to P36.						

# Specification 1

Fluid:

Gas, liquid

#### Wetted parts material:

Wetted parts generally consist of bourdon tube and socket. These parts are exposed to or in direct contact with the medium under pressure (Gas, liquid).

Purpose	Connecting part	Bourdon tube
General use	C3604 or C3771 *	C6872 (2.5MPa or lower) SUS316 (4MPa or higher) (Varies depending on required pressure range and additional spec on performance.)
Ammonia use		
Corrosion-proof use	SUS316	SUS316

\* Connection: G1/2B or R1/2

Case

Case finish: Black (Standard color) Case material: Inner frame/Outer frame … SECC Protection: IP32

# Treatment of wetted parts (Option)

Use no oil, use no water gauge can be made upon request.

# Use no oil

Oil used in manufacturing the gauges had been flushed out & no oil residue remained inside its wetted parts.

#### Use no water

Water used in manufacturing the gauges had been flushed out & no water residue remained inside its wetted parts.

#### Use no oil & water

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



\*Please select "Use no oil" to use gauge on oxygen service.
\*Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.

Connection: Refer to the document JIS pipe thread in technical sheet. G1/4B, G3/8B, G1/2B, R1/4, R3/8, R1/2

#### Pressure range:

0 to 0.1MPa → 0 to 60MPa -0.1 to 0MPa → -0.1 to 2.5MPa \*For details, refer to the minimum scale value table in Specification 4

#### Accuracy:

JIS1.6 (JIS accuracy class)

Specification 2

#### Unit: mm

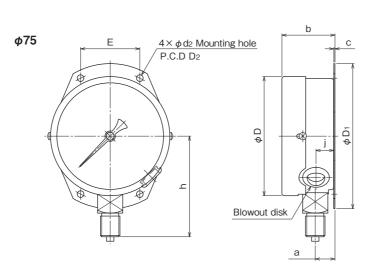
Shape / Dimensions:

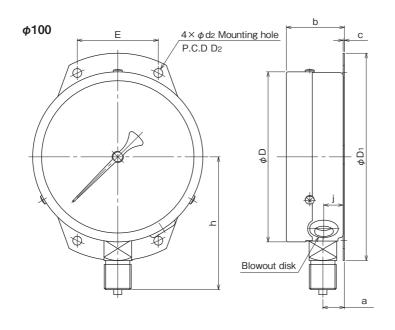
# Lower connection

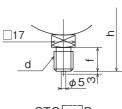
**Type C** $\cdots$ Back flange is fastened to panel by screw.

# Weight:

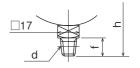
Size	Weight
75	Approx. 300g
100	Approx. 400g







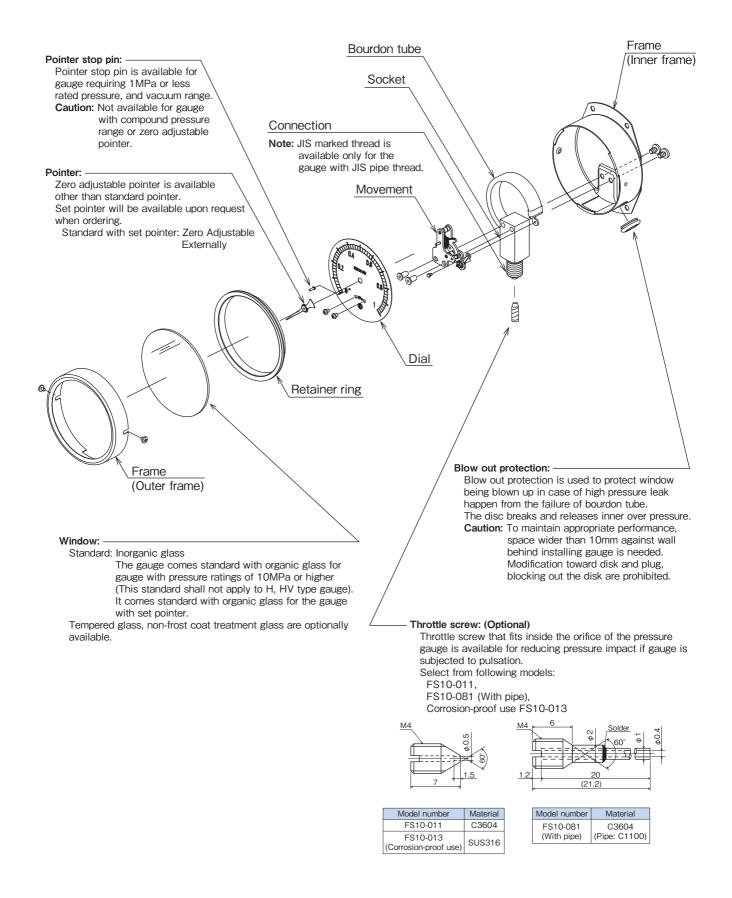




CTR []]

	Sh	ape / Connection	Case / Dimensions											Model number
Size		d	D	D <sub>1</sub>	D <sub>2</sub>	Е	а	b	С	d <sub>2</sub>	j	f	h	Nodel Humber
75	-	G1/4B, R1/4	00 F	30.5 98	88	40	13.5	36	0.8	4.5	12	16	68	AC20-8
75	1	G3/8B, R3/8	80.5									18	70	
100	Ŧ	G3/8B, R3/8	105 5	100	115		13.5	36 0.	0.0	0.8 5.5	12	18	82	AE20-8
100		G1/2B, R1/2	105.5	120	115	50	16		0.0			20	88	

#### Specifications & additional spec.:



#### Minimum scale value:

The minimum number of minor scale for each pressure range is shown in the following table.

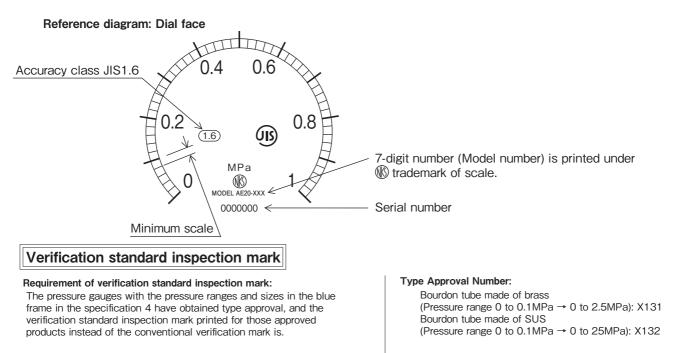
$\smallsetminus$		Size / Accuracy class							
	Pressure range (MPa)	φ75 φ100							
	(ivii d)	JIS1.6							
	0 to 0.1	0.002							
	to 0.16	0.005							
	to 0.25	0.005							
	to 0.4	0.01							
	to 0.6	0.01							
	to 1	0.02							
Pressure range	to 1.6	0.05							
	to 2.5	0.05							
	to 4	0.1							
	to 6	0.1							
	to 10	0.2							
	to 16	0.5							
	to 25	0.5							
	to 40	1							
	to 60	1							
Vacuum range	-0.1 to 0	0.002							
	-0.1 to 0.1	0.005							
	to 0.16	0.005							
	to 0.25	0.01							
Compound	to 0.4	0.01							
range	to 0.6	0.02							
	to 1	0.02							
	to 1.6	0.05							
	to 2.5	0.05							

 $\ast$  Gauge with 40MPa or higher range is made by corrosion-proof type.

\* Blue colored cell implies the gauge obtained type approval. Φ60 is not obtained type approval.

#### **Customized Dial:**

Customized dial with tag number, characters, and colored dial can be made upon request.



Designated Manufacturing Business Operator Number: 272001

# **Ø 75** General Industrial Pressure Gauges

#### Model number configuration Please specify the model number, each specs and the range for ordering. Model C 2 0 8 J Α $\times$ Х $\times$ General Industrial Pressure Gauges ( $\phi$ 75) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 8 Lower connection Type C 1 Mounting 2 G1/4B (2) Connection 3 G3/8B 7 R1/4 8 R3/8 40MPa cannot be manufactured General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 6 0 to 40 Corrosion-proof use 0 Standard (5) Performance M: Steam use A в H: Heat-proof type С V: Vibration-proof type D MV: Steam use & Vibration-proof type HV: Heat-proof & Vibration-proof type Е Standard 0 6) Pointer Zero adjustable (Spring type) 2 Verification standard inspection mark can't be supplied with this specification Set pointer \* 1 6 Verification standard inspection mark can't be supplied with this specification. в Zero adjustable (Spring type) + Set pointer \* 1 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass\*2 $\overline{\mathbf{7}}$ Glass Organic glass Not available in H, HV specification. 1 2 Tempered glass 6 Non-frost coat treatment glass 0 Nil (8) Treatment Use no oil 3Wetted parts material 1 Connecting part Bourdon tube Connecting method 2 Purpose Use no water C3604 For the gauge with pressure ratings of 2.5MPa or lower: General use Soldered for 3 Use no oil & water brass parts General type. combination 0 Nil (9) Vibration-proof type C6872 Throttle screw FS10-011 or FS10-013 Corrosion-proof use Silver soldered 1 /Not available for brass 3 FS10-081 (With pipe) (General use) for gauge Steam use and SUS316 requiring Steam use & Vibration-proof type combination 0 Nil over 25MPa. (10) SUS316 Other additional Required 1 For the gauge with pressure ratings (Please specify the desired documents separately.) spec of 4MPa or higher Verification standard inspection mark, SUS316 dial scale \*3, case color Ammonia use J JIS specification (14) SUS316 SUS316 Tig-welding Corrosion-proof Class use 0 Nil (15) \*1 Set pointer with Document Required External adjust (Please specify the desired documents separately.) (Not available in ammonia use, H, HV specification.) Submission drawings, instruction manual inspection procedure, mill sheet, \*2 The gauge comes standard with organic glass for gauge with pressure test report (1 pc 1 copy), inspection / traceability certificate,

- ratings of 10MPa or higher, and with set pointer (This standard shall not apply to H&HV type gauge).
- \*3 Customized dial with tag number, characters, and colored dial can be made upon request

attended inspection \* Specify by code "X" if there is no applicable specification.

\*4 Not available for JIS mark.

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Model number configuration Please specify the model number, each specs and the range for ordering. Model E 2 0 8 Α J  $\times$ Х  $\times$ General Industrial Pressure Gauges (\$\$\phi100\$) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 8 Lower connection Type C 1 Mounting 3 G3/8B 2 Connection 4 G1/2B 8 R3/8 9 R1/2 40MPa cannot be manufactured General use 3 Wetted parts 2 Ammonia use SUS material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 6 0 to 40 Corrosion-proof use 0 Standard (5) Performance M: Steam use A в H: Heat-proof type С V: Vibration-proof type D MV: Steam use & Vibration-proof type HV: Heat-proof & Vibration-proof type Е Standard 0 6) 2 Zero adjustable (Spring type) Pointer Verification standard inspection mark can't be supplied with this specification. Set pointer \* 2 6 Verification standard inspection mark can't be supplied with this specification. B Zero adjustable (Spring type) + Set pointer \*2 Verification standard inspection mark can't be supplied with this specification. Standard Inorganic glass \* 3 0  $\overline{\mathbf{7}}$ Glass Organic glass H and HV cannot be manufactured 1 2 Tempered glass 6 Non-frost coat treatment glass 0 Nil (8) Treatment 1 Use no oil 3Wetted parts material 2 Connecting part Use no water Purpose Bourdon tube Connecting method For the gauge with pressure ratings of 2.5MPa or lower: General use C3604 Soldered for 3 Use no oil & water brass parts C3771\*1 0 Nil General type combination (9) Vibration-proof type Throttle screw FS10-081 (With pipe) 1 C6872 Silver soldered Not available for brass FS10-011 or FS10-013 Corrosion-proof use 3 for gauge and SUS316 Steam use Heat-proof type, Steam use & Vibration-proof type, requiring 0 Nil combinatior (10) ove Required 25MPa Other additional 1 Heat-proof & Vibration-proof type SUS316 (Please specify the desired documents separately.) spec Verification standard inspection mark, For the gauge with pressure ratings of 4MPa or higher: SUS316 dial scale \*4, case color J JIS1.6\*5 (14) Class Ammonia use SUS316 SUS316 Corrosion-proof use Tig-welding 0 Nil (15) Document Required \*1 Connection: G1/2B or R1/2 1 (Please specify the desired documents separately.) Submission drawings, instruction manual \*2 Set pointer with inspection procedure, mill sheet, External adjust test report (1 pc 1 copy), (Not available in ammonia use, H, HV specification) inspection / traceability certificate,

- \*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher, and with set pointer (This standard shall not apply to H&HV type gauge).
- \*4 Customized dial with tag number, characters, and colored dial can be made upon request.

\*5 Not available for JIS mark.

\* Specify by code "X" if there is no applicable specification.

# **AA10** (φ60) **General Industrial Pressure Gauges** (Type C / Lower connection)

# Outline

The gauge is easy to handle with its structured simplicity with elastic measuring element (bourdon tube) into a deflection caused by applied pressure change transmitted to a rotary geared movement carrying pointer. It is applicable to variety of applications offering wide varieties of pressure ranges.

#### Features

- •Verification standard inspection mark (Type Approval) can be attached (Depending on size, precision and pressure range).
- Available in many standard pressure ranges and can accommodate demand for use with corrosive media.
- \*To maximize performance, select full scale pressure range as normal operating pressure range 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 proper wetted parts compatible with process fluid (gas and liquid) which the gauge will be subjected.

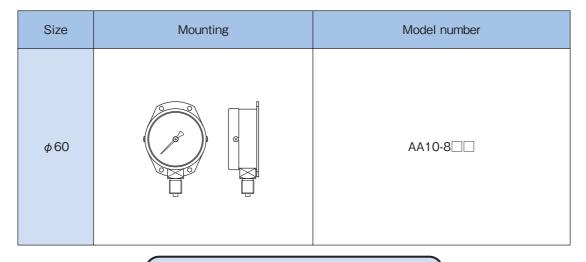
Please refer to JIS B 7505-1 for details.

\* Please select "Use no oil" to use gauge on oxygen service. Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.



Not available for JIS mark.

# List of products



\*Please refer to A $\square$ 20 for  $\phi$ 75 and  $\phi$ 100.

#### Specification 1

#### Fluid:

#### Gas, liquid

Wetted part material:

Wetted parts generally consist of bourdon tube and socket. These parts are exposed to or in direct contact with the medium under pressure (Gas, liquid).

Purpose	Connecting part	Bourdon tube
General use	C3604	C6872 (2.5MPa or lower) SUS316 (4MPa or higher) (Varies depending on required pressure range and additional spec on performance.)
Ammonia use		
Corrosion-proof use	SUS316	SUS316

### **Specification 2**

#### Shape/Dimensions:

#### Lower connection

Type C...Back flange is fastened to panel by screw.

Connection: Refer to the document JIS pipe thread in technical sheet. G1/4B, R1/4 \*For other connections, please contact us.

#### Pressure range:

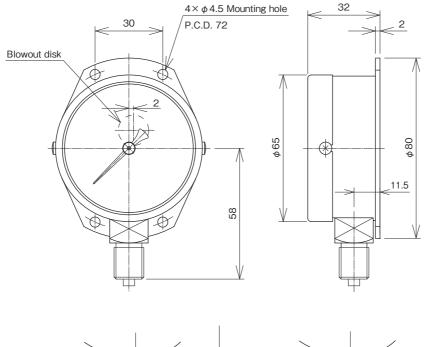
0 to 40kPa → 0 to 25MPa -0.1 to 0MPa → -0.1 to 2.5MPa \*For details, refer to the minimum graduation table in Specification 4

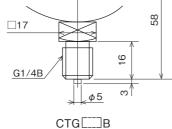
#### Accuracy:

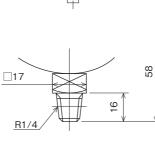
JIS1.6 (JIS accuracy class)

#### Unit: mm

Size	Weight					
60	Approx. 200g					

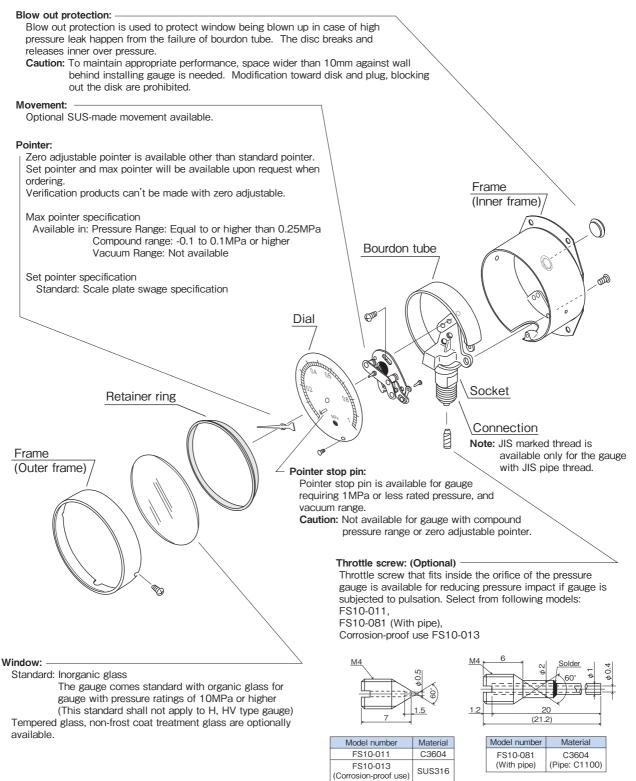






\*For surface mounting, please provide a 25mm dia hole in the wall for blowout disk.

#### Specifications & additional spec.:



#### Case

Case finish: Black (Standard color)

Case material: Inner frame… Aluminum alloy

Outer frame… SECC

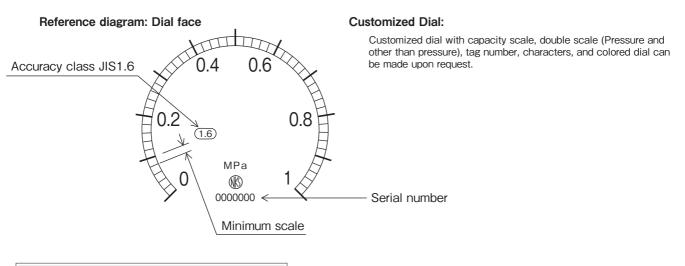
Protection: IP32

#### Minimum scale value:

The minimum number of minor scale for each pressure range is shown in the following table.

$\smallsetminus$		Size / Accuracy class					
	Pressure range (MPa)	φ60					
	(IVIPa)	1.6					
	0 to 0.1	0.002					
	to 0.16	0.005					
	to 0.25	0.005					
	to 0.4	0.01					
	to 0.6	0.01					
	to 1	0.02					
Pressure range	to 1.6	0.05					
101.180	to 2.5	0.05					
	to 4	0.1					
	to 6	0.1					
	to 10	0.2					
	to 16	0.5					
	to 25	0.5					
Vacuum range	-0.1 to 0	0.002					
	-0.1 to 0.1	0.005					
	to 0.16	0.005					
	to 0.25	0.01					
Compound	to 0.4	0.01					
range	to 0.6	0.02					
	to 1	0.02					
	to 1.6	0.05					
	to 2.5	0.05					

\* Blue colored cell implies the gauge obtained type approval.



#### Verification standard inspection mark

#### Requirement of verification standard inspection mark:

The pressure gauges with the pressure ranges and sizes in the blue frame in the specification 4 have obtained type approval, and the verification standard inspection mark printed for those approved products instead of the conventional verification mark is.

Type Approval Number:

Bourdon tube made of brass (Pressure range 0 to 0.1MPa  $\rightarrow$  0 to 2.5MPa): X951 Bourdon tube made of SUS (Pressure range 0 to 0.1MPa  $\rightarrow$  0 to 2.5MPa): X9618

Designated Manufacturing Business Operator Number: 272001

#### *<b>60 General Industrial Pressure Gauges*

Model number configuration Please specify the model number, each specs and the range for ordering. Model A 1 0 8 J Α  $\times$ Х  $\times$ General Industrial Pressure Gauges ( $\phi 60$ ) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 8 Lower connection Type C 1 Mounting 2 G1/4B (2) Connection 7 R1/4 Others\*1 General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 0 Standard (5) M: Steam use Performance A С V: Vibration-proof type D MV: Steam use & Vibration-proof type 0 Standard (6) 2 Pointer Zero adjustable (Spring type) Verification standard inspection mark can't be supplied with this specification. 5 Max pointer \*2 Verification standard inspection mark can't be supplied with this specification. 6 Set pointer \* 2 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass \* 3  $\overline{\mathbf{7}}$ Glass 1 Organic glass 2 Tempered glass 3 Non-glare treatment glass 6 Non-frost coat treatment glass Others 0 Nil (8) Treatment 1 Use no oil 3Wetted parts material 2 Use no water Connecting part Purpose Bourdon tube Connecting method For the gauge with pressure ratings of 2.5MPa or lower: General use C3604 Soldered for 3 Use no oil & water brass parts 0 Nil General type. combination (9) Vibration-proof type C6872 Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 Silver soldered for brass 3 FS10-081 (With pipe) Steam use and SUS316 0 Steam use & Vibration-proof type combination Nil (10) SUS316 Other additional Required 1 (Please specify the desired documents separately.) For the gauge with pressure ratings spec. of 4MPa or higher Verification standard inspection mark, SUS316 dial scale \* 4, case color Ammonia use J JIS1.6\*5 (14) SUS316 SUS316 Tig-welding Corrosion-proo Class US 0 Nil (15) \*1 JIS marked thread is available only for the gauge with JIS pipe thread. Document Required 1 (Please specify the desired documents separately.) \*2 Max pointer specification Submission drawings, instruction manual, inspection procedure, mill sheet,

Range of manufacturability: Pressure gauges; 0.25MPa or higher Compound: -0.1 to 0.1MPa or higher Vacuum; Cannot be manufactured

Set pointer with External adjust

\*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher, and with set pointer.

\*4 Customized dial: Capacity scale, dual scale, tag number, characters, colored circle, colored wire

\*5 Not available for JIS mark

attended inspection \* Specify by code "X" if there is no applicable specification.

test report (1 pc 1 copy),

inspection / traceability certificate,

#### Outline

The bourdon tube pressure gauge is offered and made in accordance with JIS B 7505-1: 2015. The gauge is easy to handle with its structured simplicity with elastic measuring element (bourdon tube) into a deflection caused by applied pressure change transmitted to a rotary geared movement carrying pointer. It is applicable to variety of applications offering wide varieties of pressure ranges.

#### Features

- Verification standard inspection mark (Type Approval) can be attached (Depending on size, precision and pressure range).
- •Available in many standard pressure ranges and can accommodate demand for use with corrosive media.
- \*To maximize performance, select full scale pressure range as normal operating pressure range 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 proper wetted parts compatible with process fluid (gas and liquid) which the gauge will be subjected.

Please refer to JIS B 7505-1 for details.

\* Please select "Use no oil" to use gauge on oxygen service. Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.



Select sealed type pressure gauge for applications where enough resistant to rain and dew is required.

Size	Mounting	Model number		Size	Mounting	Model number
φ60		AA15-□□□		φ150		AG15-□□□
φ75		AC15-□□□	-			
φ100		AE15-□□□		φ200		AJ15-🗆 🗆

## List of products

#### Specification 1

#### Fluid:

Gas, liquid

#### Wetted part material:

Wetted parts generally consist of bourdon tube and socket. These parts are exposed to or in direct contact with the medium under pressure (Gas, liquid).

Purpose	Connecting part	Bourdon tube					
General use	CAC203	C6872 or SUS316 (Varies depending on required pressure range and additional spec on performance.)					
Ammonia use	SUS316*	0110010					
Corrosion-proof use	or SCS14	SUS316					

\*SUS316 for the gauge with 0 to 40kPa with  $\phi$ 75 nominal size. SUS316 for the gauge with 0 to 0.06MPa with  $\phi$ 75 nominal size.

#### Case

Case finish: Black (Standard color)

Case material: Inner frame ··· Aluminum alloy

Outer frame ··· SECC

Protection: IP32

#### Treatment of wetted parts (Option)

Use no oil, use no water gauge can be made upon request.

#### Use no oil

Oil used in manufacturing the gauges had been flushed out & no oil residue remained inside its wetted parts.

#### Use no water

Water used in manufacturing the gauges had been flushed out & no water residue remained inside its wetted parts.

#### Use no oil & water

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

#### Caution -

\*Please select "Use no oil" to use gauge on oxygen service.
\*Please select "Use no oil" and "Corrosion-proof" type to use gauge on acetylene service.

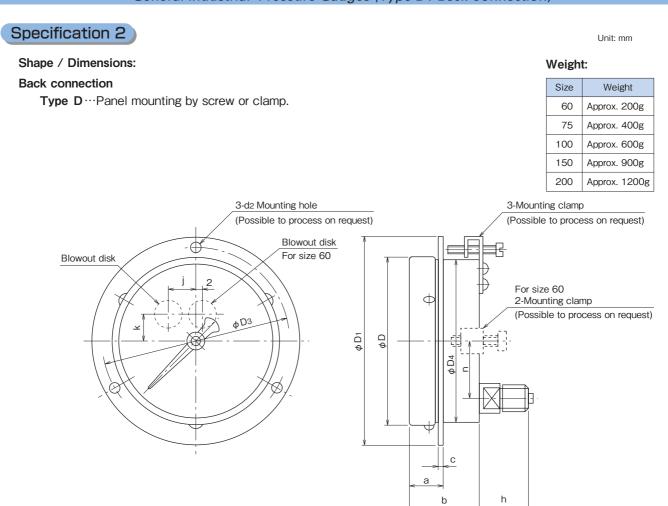
Connection: Refer to the document JIS pipe thread in the technical sheet. G1/4B, G3/8B, G1/2B, R1/4, R3/8, R1/2, Others \*For other connections, please contact us.

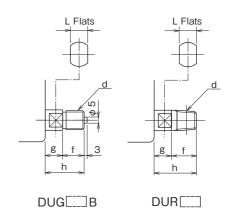
#### Pressure range:

0 to 40kPa → 0 to 100MPa -0.1 to 0MPa → -0.1 to 2.5MPa \*For details, refer to the minimum scale value table in Specification 4

#### Accuracy:

JIS1.6 (JIS accuracy class) Upon request, JIS1.0 product can be manufactured. (JIS1.0 is available for gauge requiring 1MPa or higher pressure range with nominal size of  $\phi$ 100,  $\phi$ 150,  $\phi$ 200.)

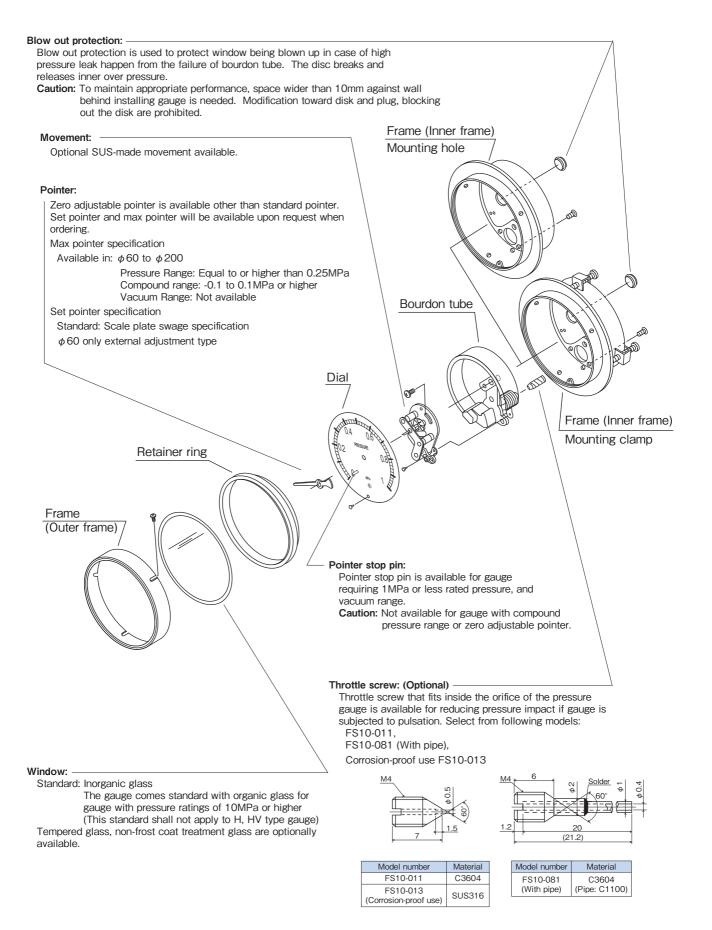




Size	Panel Shape / Connection Case / D								e / Dimensions																		
Size	size		d	D	D <sub>1</sub>	D <sub>3</sub>	D 4	а	b	С	d2	n	j	k	f	g	L	h	Model number								
60	65	U	G1/4B, R1/4	65	80	72	64	14	32	2	4.5	20	—	8	16	10	12	28	AA15-								
75	5 78 U G1/4B, R1/4 G3/8B, R3/8	70	00	00			40						16	10	12	28											
75		U			0	G3/8B, R3/8	78	98	88	77	18.5	(49)	2	4.5	25	15	10	18	12	14	30	AC15-					
100 103	100	U	U	U	U	U	U				G3/8B, R3/8	102	100	8 115 102	100	0.01	45	2.5	5.5	35	00	10	18	12	14	30	
	0							G1/2B, R1/2, 1/2NPT	103	128	115	102	21	(52)	2.5	5.5	30	20	10	20	12	17	32	AE15-			
150	154			G3/8B, R3/8	150			150		50			55	20	10	18	12	14	30								
150	154	U	G1/2B, R1/2, 1/2NPT	153	178	165	152	24	(61)	2.5	5.5	55	20	10	20	12	17	32	AG15-								
200	205	U	G1/2B, R1/2	204	235	220	203	18.5	50 (61.5)	3	5.5	55	20	10	20	12	17	32	AJ15-🗆								

\*( ) is 0.09MPa and under.

#### Specifications & additional spec.:

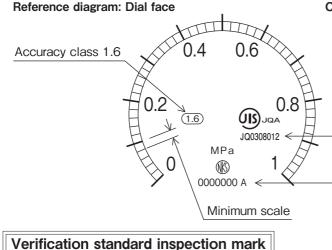


#### Minimum scale value:

The minimum number of minor scale for each pressure range is shown in the following table.

$\smallsetminus$	_			Size / Acc	uracy class		
	Pressure range (MPa)	φ60	φ75	φ100	/ 150	φ2	200
	(IVIFa)	1.6 1.6		1.6	1.0	1.6	1.0
	0 to 40kPa	—	1	1	_	1	_
	to 0.06	—	0.001	0.001	—	0.001	_
	to 0.1	0.002	0.002	0.002	0.002	0.002	0.002
	to 0.16	0.005	0.005	0.005	0.002	0.005	0.002
	to 0.25	0.005	0.005	0.005	0.005	0.005	0.005
	to 0.4	0.01	0.01	0.01	0.005	0.01	0.005
	to 0.6	0.01	0.01	0.01	0.01	0.01	0.01
	to 1	0.02	0.02	0.02	0.02	0.02	0.02
Pressure	to 1.6	0.05	0.05	0.05	0.02	0.05	0.02
range	to 2.5	0.05	0.05	0.05	0.05	0.05	0.05
	to 4	0.1	0.1	0.1	0.05	0.1	0.05
	to 6	0.1	0.1	0.1	0.1	0.1	0.1
	to 10	0.2	0.2	0.2	0.2	0.2	0.2
	to 16	0.5	0.5	0.5	0.2	0.5	0.2
	to 25	0.5	0.5	0.5	0.5	0.5	0.5
	to 40	—	1	1	0.5	1	0.5
	to 60	—	_	1	1	1	1
	to 100	_	_	2	2	2	2
Vacuum range	-0.1 to 0	0.002	0.002	0.002	0.002	0.002	0.002
	-0.1 to 0.1	0.005	0.005	0.005	0.002	0.005	0.002
	to 0.16	0.005	0.005	0.005	0.005	0.005	0.005
	to 0.25	0.01	0.01	0.01	0.005	0.01	0.005
Compound	to 0.4	0.01	0.01	0.01	0.01	0.01	0.01
range	to 0.6	0.02	0.02	0.02	0.01	0.02	0.01
	to 1	0.02	0.02	0.02	0.02	0.02	0.02
	to 1.6	0.05	0.05	0.05	0.02	0.05	0.02
	to 2.5	0.05	0.05	0.05	0.05	0.05	0.05

\* Gauge with 40MPa or higher range is made by corrosion-proof type. \* Blue colored cell implies the gauge obtained type approval.



#### \_\_\_\_\_

Requirement of verification standard inspection mark:

The pressure gauges with the pressure ranges and sizes in the blue frame in the specification 4 have obtained type approval, and the verification standard inspection mark printed for those approved products instead of the conventional verification mark is. (Not possible to support because that  $\phi$  200 product has not received the type approval.)

#### Customized Dial:

Customized dial with tag number, characters, and colored dial can be made upon request.

JIS plant authorized number JQ0308012 is printed under JIS trademark.

The month of manufacture is provided with alphabets printed next to serial number. (A: January to L: December) Test report and related document show serial number only to tie to manufactured gauge.

#### Type Approval Number:

Bourdon tube made of brass (Pressure range 0 to 0.06MPa  $\rightarrow$  0 to 2.5MPa): X951 Bourdon tube made of SUS (Pressure range 0 to 0.06MPa  $\rightarrow$  0 to 100MPa): X9618

Designated Manufacturing Business Operator Number: 272001

#### *<b>60 General Industrial Pressure Gauges*

#### Model number configuration Please specify the model number, each specs and the range for ordering. Model A 1 5 J Α $\times$ Х $\times$ General Industrial Pressure Gauges ( $\phi 60$ ) ① 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 1 Back connection Type D (Mounting clamp) 1 Mounting 2 Back connection Type D (Mounting hole) 2 G1/4B (2) Connection R1/4 7 Others\*1 General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound 4 Please specify applicable Pressure range 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 range code as well as (MPa) 4 0 to 4, 6, 10 pressure range and 5 0 to 16, 25 engineering unit. 0 Standard (5) M: Steam use Performance A С V: Vibration-proof type D MV: Steam use & Vibration-proof type 0 Standard (6) 2 Pointer Zero adjustable (Spring type) Verification standard inspection mark can't be supplied with this specification. 5 Max pointer \*2 Verification standard inspection mark can't be supplied with this specification. 6 Set pointer \* 2 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass \* 3 $\overline{\mathbf{7}}$ Glass 1 Organic glass 2 Tempered glass 3 Non-glare treatment glass 6 Non-frost coat treatment glass Others 0 Nil (8) Treatment 1 Use no oil 3Wetted parts material 2 Use no water Purpose Bourdon tube Connecting part Connecting method 3 Use no oil & water For the gauge with pressure ratings of 2.5MPa or lower: General use CAC203 Soldered for 0 brass parts Nil (9) General type. combination Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 Vibration-proof type C6872 Silver soldered 3 FS10-081 (With pipe) for brass and SUS316 0 Steam use Nil (10 Steam use & Vibration-proof type combination Other additional 1 Required SUS316 (Please specify the desired documents separately.) spec. For the gauge with pressure ratings Verification standard inspection mark, of 4MPa or higher: SUS316 dial scale \*4, case color J JIS specification (14) Ammonia use Class Corrosion-proof SCS14 SUS316 Tig-welding 0 Nil (15) \*1 JIS marked thread is available only for the gauge with JIS pipe thread. Document Required 1 (Please specify the desired documents separately.) \*2 Max pointer specification Submission drawings, instruction manual, Range of manufacturability: Pressure gauges; 0.25MPa or higher inspection procedure, mill sheet, Compound: -0.1 to 0.1MPa or higher test report (1 pc 1 copy), Vacuum; Cannot be manufactured inspection / traceability certificate, Set pointer with attended inspection

\*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher, and with set pointer.

\*4 Customized dial: Capacity scale, dual scale, tag number, characters, colored circle, colored wire

External adjust

\* Specify by code "X" if there is no applicable specification.

#### *q*75 General Industrial Pressure Gauges

#### Model number configuration Please specify the model number, each specs and the range for ordering. Model C 1 5 Α X J $\times$ Х General Industrial Pressure Gauges ( $\phi$ 75) ① 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 1 Back connection Type D (Mounting clamp) 1 Mounting 2 Back connection Type D (Mounting hole) 2 G1/4B (2) Connection 3 G3/8B 7 R1/4 8 R3/8 Others \* 1 40MPa or higher is cannot be manufactured General use 3 Wetted parts 2 Ammonia use SUS material 3 Corrosion-proof use SUS 0 to 40kPa, 0.06 (4) Please specify applicable Pressure range 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound range code as well as (MPa) 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 pressure range and 4 0 to 4, 6, 10 engineering unit. 5 0 to 16, 25 6 0 to 40 Corrosion-proof use 0 Standard (5) M: Steam use Performance A С V: Vibration-proof type D MV: Steam use & Vibration-proof type Standard 0 6) Zero adjustable (Micro meter type) Pointer 1 Verification standard inspection mark can't be supplied with this specification 2 Zero adjustable (Spring type) Verification standard inspection mark can't be supplied with this specification. 5 Max pointer\*2 Verification standard inspection mark can't be supplied with this specification. 6 Set pointer\*2 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass \* 3 $\overline{(7)}$ Glass Organic glass 1 2 Tempered glass 3 Non-glare treatment glass 6 Non-frost coat treatment glass Others ③Wetted parts material 0 Connecting part Nil Bourdon tube (8) Purpose Connecting method General use CAC203 For the gauge with pressure ratings Soldered for Treatment 1 Use no oil of 2.5MPa or lower brass parts 2 Use no water General type. combination Vibration-proof type 3 Use no oil & water C6872 Silver soldered Not available for brass 0 Nil for gauge (9) Steam use and SUS316 requiring Steam use & Vibration-proof type SUS316 FS10-011 or FS10-013 Corrosion-proof use combination Throttle screw 1 over 25MPa 3 FS10-081 (With pipe) For the gauge with pressure ratings 0 Nil of 4MPa or higher: SUS316 Other additional 1 Required (Please specify the desired documents separately.) spec. Ammonia use SUS316\* Verification standard inspection mark, Corrosion-proo SUS316 Tig-welding dial scale \* 4, case color SCS14 use \* Pressure range 0 to 40kPa, 0 to 0.06MPa is SUS316 JIS specification J (14) Class \*1 JIS marked thread is available only for the gauge with JIS pipe thread. 0 Nil \*2 Max pointer specification Required (15) 1 Range of manufacturability: Pressure gauges; 0.25MPa or higher Document (Please specify the desired documents separately.) Compound; -0.1 to 0.1 MPa or higher Submission drawings, instruction manual, Vacuum; Cannot be manufactured inspection procedure, mill sheet, Set pointer with test report (1 pc 1 copy). Scale plate swage specification inspection / traceability certificate, attended inspection \*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher \* Specify by code "X" if there is no applicable specification.

\*4 Customized dial: Capacity scale, dual scale, tag number, characters, colored circle, colored wire

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#### Model number configuration Please specify the model number, each specs and the range for ordering. Model E 1 5 Α X J Х Х General Industrial Pressure Gauges ( $\phi 100$ ) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 1 Back connection Type D (Mounting clamp) 1 2 Mounting Back connection Type D (Mounting hole) 3 G3/8B 8 B3/8 (2) Connection 4 G1/2B 9 R1/2 6 1/2NPT\*1 Others \* 1 40MPa or higher is cannot be manufactured 1 General use 3 Wetted parts 2 SUS Ammonia use material 3 Corrosion-proof use SUS 0 to 40kPa, 0 to 0.06 (4) Please specify applicable Pressure range 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound range code as well as (MPa) 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 pressure range and 4 0 to 4, 6, 10 engineering unit. 5 0 to 16.25 0 to 40, 60 6 Corrosion-proof use 0 to 100 7 Corrosion-proof use 0 Standard (5) Performance А M: Steam use В H: Heat-proof type С V: Vibration-proof type D MV: Steam use & Vibration-proof type E HV: Heat-proof & Vibration-proof type Accuracy: JIS1.0 (0.1MPa or higher)\*2 3 0 Standard (6) Pointer Zero adjustable (Micro meter type) 1 Verification standard inspection mark can't be supplied with this specification. 2 Zero adjustable (Spring type) Verification standard inspection mark can't be supplied with this specification. 5 Max pointer \* 3 Verification standard inspection mark can't be supplied with this specification. 6 Set pointer \* 3 Verification standard inspection mark can't be supplied with this specification. ③Wetted parts material 0 Standard Inorganic glass\*4 7 Purpose Connecting par Bourdon tube Connecting method Glass 1 Organic glass Not available in H, HV specification. General use CAC203 For the gauge with pressure ratings of 2.5MPa or lower Soldered for brass parts 2 Tempered glass combinations ·General type 3 Non-glare treatment glass Vibration-proof type C6872 Silver Soldered 6 Not available Non-frost coat treatment glass for brass •Steam use, Heat-proof type, Steam use & Vibration-proof type, Heat-proof & Vibration-proof type SUS316 for gauge and SUS316 Others requiring over combinations 0 Nil (8) 25MPa Treatment 1 Use no oil 2 For the gauge with pressure ratings of 4MPa or higher SUS316 Use no water 3 Use no oil & water 0 Nil (9) Ammonia use FS10-011 or FS10-013 Corrosion-proof use SUS316 Throttle screw SCS14 Tig-welding 1 Corrosion-proo 3 FS10-081 (With pipe) \*1 JIS marked thread is available only for the gauge with JIS pipe thread. 0 Nil (10) Other additional 1 Required Verification standard inspection mark (Please specify the desired documents separately.) \*2 spec Verification standard inspection mark, cannot be attached to JIS1.0 product. dial scale \* 5, case color J JIS specification \*3 Max pointer specification (14) Range of manufacturability: Pressure gauges; 0.25MPa or higher Class Compound; -0.1 to 0.1 MPa or higher 0 Nil Vacuum; Cannot be manufactured 1 Required Set pointer with (15) (Please specify the desired documents separately.) Document Scale plate swage specification Submission drawings, instruction manual, inspection procedure, mill sheet, \*4 The gauge comes standard with organic glass for gauge with pressure test report (1 pc 1 copy), ratings of 10MPa or higher inspection / traceability certificate, (This standard shall not apply to H&HV type gauge). attended inspection \*5 Customized dial: Capacity scale, dual scale, tag number, \* Specify by code "X" if there is no applicable specification. characters, colored circle, colored wire

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#### Model number configuration Please specify the model number, each specs and the range for ordering. Model G 1 5 Α X J Х Х General Industrial Pressure Gauges ( $\phi$ 150) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 1 Back connection Type D (Mounting clamp) 1 2 Mounting Back connection Type D (Mounting hole) 3 G3/8B 8 B3/8 (2) 4 G1/2B 9 Connection R1/2 6 1/2NPT\*1 Others \* 1 General use 40MPa or higher is cannot be manufactured 1 3 2 Wetted parts SUS Ammonia use material 3 Corrosion-proof use SUS 0 to 40kPa, 0 to 0.06 (4) Please specify applicable Pressure range 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound range code as well as (MPa) 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 pressure range and 4 0 to 4, 6, 10 engineering unit. 5 0 to 16.25 0 to 40, 60 6 Corrosion-proof use 0 to 100 7 Corrosion-proof use 0 Standard (5) Performance А M: Steam use В H: Heat-proof type С V: Vibration-proof type D MV: Steam use & Vibration-proof type E HV: Heat-proof & Vibration-proof type Accuracy: JIS1.0 (0.1MPa or higher)\*2 3 0 Standard (6) Pointer Zero adjustable (Micro meter type) 1 Verification standard inspection mark can't be supplied with this specification. 2 Zero adjustable (Spring type) Verification standard inspection mark can't be supplied with this specification. 5 Max pointer \* 3 Verification standard inspection mark can't be supplied with this specification. 6 Set pointer \* 3 Verification standard inspection mark can't be supplied with this specification. 0 Standard Inorganic glass\*4 (7)3Wetted parts material Glass 1 Organic glass Not available in H, HV specification. Connecting method Purpose Connecting part Bourdon tube 2 General use CAC203 For the gauge with pressure ratings of 2.5MPa or lower: Soldered for Tempered glass brass parts З Non-glare treatment glass General type. combinations Vibration-proof type 6 Non-frost coat treatment glass Not available C6872 Silver Soldered Others for gauge Steam use for brass Heat-proof type, Steam use & Vibration-proof type, Heat-proof & Vibration-proof type and SUS316 requiring 0 Nil combinations (8) over 25MPa. Treatment 1 Use no oil SUS316 For the gauge with pressure ratings 2 Use no water of 4MPa or higher 3 Use no oil & water SUS316 0 Nil Ammonia use (9) SCS14 SUS316 Tig-welding Corrosion-proof FS10-011 or FS10-013 Corrosion-proof use Throttle screw 1 FS10-081 (With pipe) 3 \*1 JIS marked thread is available only for the gauge with JIS pipe thread. 0 Nil (10) Other additional \*2 Verification standard inspection mark 1 Required (Please specify the desired documents separately.) spec. cannot be attached to JIS1.0 product. Verification standard inspection mark, dial scale \* 5, case color \*3 Max pointer specification Range of manufacturability: Pressure gauges; 0.25MPa or higher J JIS specification (14) Compound; -0.1 to 0.1 MPa or higher Class Vacuum; Cannot be manufactured 0 Nil Set pointer with Scale plate swage specification 1 Required (Please specify the desired documents separately.) Document Submission drawings, instruction manual, \*4 The gauge comes standard with organic glass for gauge with pressure inspection procedure, mill sheet, ratings of 10MPa or higher test report (1 pc 1 copy), (This standard shall not apply to H&HV type gauge). inspection / traceability certificate, attended inspection \*5 Customized dial: Capacity scale, dual scale, tag number, characters, colored circle, colored wire \* Specify by code "X" if there is no applicable specification.

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#### Model number configuration Please specify the model number, each specs and the range for ordering. Model J 1 5 Α X J Х Х General Industrial Pressure Gauges ( $\phi 200$ ) (1) 2 3 (4) (5) (6) 7 (8) (9) (10) (11) (12) (13) (14) (15) Additional spec. (Option) Model number Selective spec. 1 Back connection Type D (Mounting clamp) 1 Mounting 2 Back connection Type D (Mounting hole) 4 G1/2B (2) Connection 6 1/2NPT\*1 9 R1/2 Others \* 1 40MPa or higher is cannot be manufactured General use 3 Wetted parts 2 Ammonia use SUS material 3 Corrosion-proof use SUS 0 to 40kPa, 0 to 0.06 4 Please specify applicable Pressure range 2 -0.1 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 Compound range code as well as (MPa) 3 -0.1 to 0, 0 to 0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5 pressure range and 4 0 to 4, 6, 10 engineering unit. 5 0 to 16, 25 6 0 to 40, 60 Corrosion-proof use 0 to 100 Corrosion-proof use 7 0 Standard (5) M: Steam use Performance A 3 Accuracy: JIS1.0 (0.1MPa or higher) 0 Standard 6) Zero adjustable (Micro meter type) Pointer 1 2 Zero adjustable (Spring type) Max pointer\*2 5 6 Set pointer\*2 0 Standard Inorganic glass \*3 $\overline{(7)}$ Glass 1 Organic glass 2 Tempered glass 3 Non-glare treatment glass Others 0 Nil 8 Treatment 1 Use no oil 2 Use no water ③Wetted parts material 3 Use no oil & water Bourdon tube Connecting method Purpose Connecting part 0 Nil For the gauge with pressure ratings of 2.5MPa or lower: 9 General use CAC203 Soldered for of 2.5IVIF a . •General type C6872 brass parts Throttle screw FS10-011 or FS10-013 Corrosion-proof use 1 combination 3 FS10-081 (With pipe) Not available Silver soldered for gauge 0 Nil Steam use for brass and SUS316 (10) requiring SUS316 over 25MPa Other additional 1 Required combination spec. (Please specify the desired documents separately.) For the gauge with pressure ratings of 4MPa or higher: SUS316 Dial scale \*4, case color J JIS specification 14 Ammonia use Class SUS316 Corrosion-proof SCS14 Tig-welding 0 Nil \*1 JIS marked thread is available only for the gauge with JIS pipe thread. (15) Document Required 1 (Please specify the desired documents separately.) Verification standard inspection Submission drawings, instruction manual mark cannot be attached. inspection procedure, mill sheet, test report (1 pc 1 copy), inspection / traceability certificate, \*2 Max pointer specification attended inspection Range of manufacturability: Pressure gauges; 0.25MPa or higher Compound; -0.1 to 0.1 MPa or higher

\* Specify by code "X" if there is no applicable specification.

\*3 The gauge comes standard with organic glass for gauge with pressure ratings of 10MPa or higher

Vacuum; Cannot be manufactured

\*4 Customized dial: Capacity scale, dual scale, tag number, characters, colored circle, colored wire

Set pointer with

Scale plate swage specification