Overview

This precision pressure gauge is designed in accordance with Nagano's traceability chain for the use with standard gauge for inspection and calibration, and also for pressure indicator of pressure generator.



Features

- Easy-to-read large scale of pressure indication available.
- Precise pressure indication minimizing error yielded by friction by magnifying mechanism.
- •Zero adjustment can be done by simple operation for the stable measurement.

NKS Type Precision Pressure Gauge

The test gauge provides high reliable accuracy throughout the use of bourdon tube and bellows for pressuer sensing element, and compact bearing in the mechanism.





*Consult factory for $\pm 0.1\%$ F.S. for ranges 3.5MPa and below.

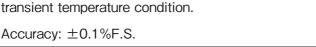
Precision Pressure Test Equipment (former PN Type)

This portable type test equipment in combination with precision pressure gauge (W&T or NKS type), control valve and cock etc. in one compact design is suitable for easy calibration and inspection performance for pressure instruments.



W&T Type Precision Pressure Gauge

This is a high precision pressure gauge minimizing error and hysteresis effect, utilizing Ni-Span-C for pressure sensing element, caused by transient temperature condition.





^{*}Pressure gauge should be selected considering media compatible with wetted parts.

NKS Type Precision Pressure Gauge

Specification

Media:

Gas or liquid

*-Pa and below is calibrated by gas. Use for liquid measurement is prohibited.

Surface mouniting (Type B), Panel (Type D)

*D type panel mounting is also available with stand with handle. Contact NKS for the details. (Applicable model: GP43-24□)

Size:

200 DIA.

Connection:

G1/2B

Wetted parts:

Refer to below table.

Pressure range:

0 to $0.1 \rightarrow 0$ to 25MPa

-0.1 to 0→-0.1 to 2.5MPa

Operating temperature range:

10 to 30℃

Accuracy:

±0.25%F.S.

Case material • finish:

Aluminium alloy casting (AC7A) • Black

Treatment: (Option)

Use no oil & water \cdots Oil/Water used in manufacturing the

gauges had been flushed out & no oil/water

residue remained inside its wetted parts.

Custom dial: (Option)

Capacity scale, dual-scale, custom letters and color dial.

Weight:

Approx. 3.1kg

Minor Graduation • Wetted Parts

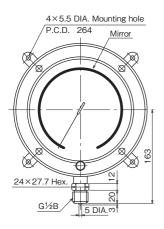
Pressure Range	Minor Graduation	Wetted Parts Sen	sing element connection
MPa	MPa	General Use	Corrosion Resistant
		GP2□-□41	GP2□-□43
0 to 0.1	0.0005		
0 to 0.2	0.001	C5212R	
0 to 0.3	0.001	CAC203	
0 to 0.4	0.002		
0 to 0.6	0.002		
0 to 1	0.005		
0 to 1.5	0.005		
0 to 2	0.01		
0 to 2.5	0.01		
0 to 3.5	0.01	SUS316	SUS316
0 to 5	0.02	CAC203	SUS316
0 to 7	0.05		
0 to 10	0.05		
0 to 15	0.05		
0 to 20	0.1		
0 to 25	0.1		

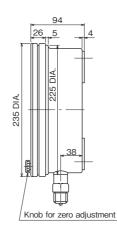
Pressure Range	Minor Graduation	Wetted Parts Sens	sing element connection	
MPa	MPa	General Use	Corrosion Resistant	
		GP2□-□41	GP2□-□43	
-0.1 to 0	0.0005			
-0.1 to 0.1	0.001	C5212R		
-0.1 to 0.2	0.001	CAC203		
-0.1 to 0.3	0.002			
-0.1 to 0.4	0.002			
-0.1 to 0.6	0.002			
-0.1 to 1	0.005	SUS316	SUS316	
-0.1 to 1.5	0.005	CAC203	SUS316	
-0.1 to 2	0.01			
-0.1 to 2.5	0.01			

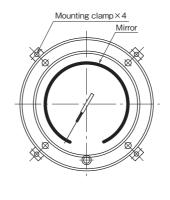
Dimensions

Unit: mm

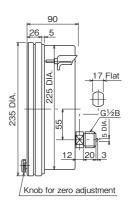
200 DIA. Type B







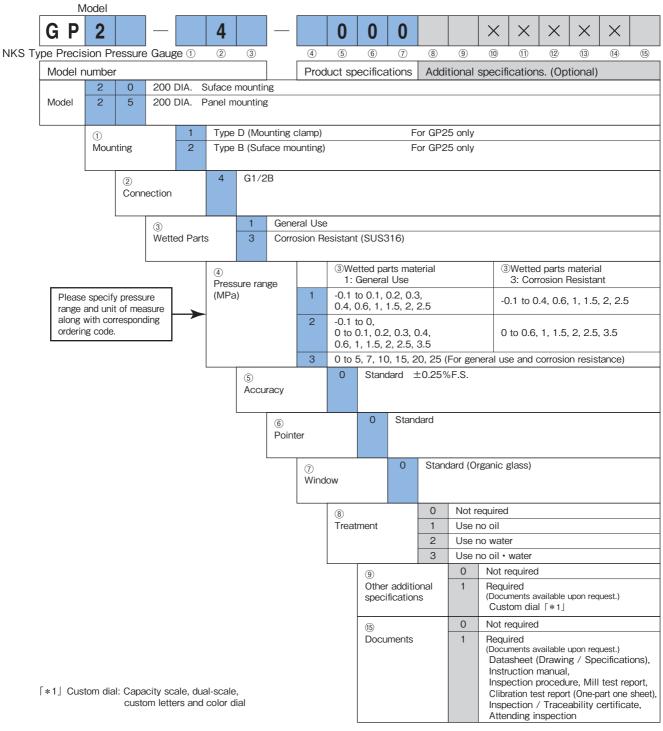
200 DIA. Type D



GP20-241 GP20-243 GP25-141 GP25-143



Model number configuration Please specify the model, each requiring specification and pressure range to order.



*Specify code "X" to refer N/A

[Attention: Replacing duplicated model numbers]

SUS316 wetted parts pressure gauge				
Model Old model number New model nur				
200 DIA. Suface mounting	GP20-F01	GP20-243		
200 DIA. Panel mounting	GP25-F01	GP25-143		

NKS Type Precision Pressure Gauge (300 DIA.)

Specification)

Media:

Gas or liquid

**Pressure ranges 3.5MPa and below are calibrated by gas. Use for liquid measurement should be avoided. For the ranges 5MPa and above, hydrogen embrittlement could cause wetted parts to lose material strength of utilized high-tensile steel where the process media is water or liquid containing media. Avoid using in the condition.

Mounting:

Surface mouniting (Type B), Panel (Type D)

* D type panel mounting is also available with stand with handle. Contact NKS for the details. (Applicable model: GP43-34□)

Size:

300 DIA.

Connection:

G1/2B

 $\$\,\text{G1/2}$ (female) comes for the ranges 100MPa and above with GP35

Wetted parts:

Refer to below table.

Pressure range:

0 to 0.1→0 to 700MPa

-0.1 to 0→-0.1 to 2.5MPa

Operating temperature range:

10 to 30℃

Accuracy:

±0.15%F.S.

 $*\pm0.5\%$ F.S. for ranges 500MPa and above.

 $*\pm0.1\%$ F.S. available for ranges 3.5MPa and below.

Case material • finish:

Aluminium alloy casting (AC7A) • Black

Treatment: (Option)

Use no oil & water ··· Oil/Water used in manufacturing the gauges had been flushed out & no oil/water

residue remained inside its wetted parts.

Custom dial: (Option)

Capacity scale, dual-scale, custom letters and color dial.

Weight:

Approx. 4.5kg

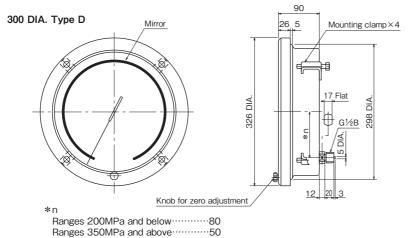
Minor Graduation • Wetted Parts

Droop, iro Dongo	Minor Graduation	Wetted Parts Sen	sing element connection
Pressure Range MPa	MPa	General Use	Corrosion Resistant
۵		GP35-141	GP35-143
0 to 0.1	0.0002		
0 to 0.2	0.0005	C5212R	
0 to 0.3	0.0005	CAC203	
0 to 0.4	0.001		
0 to 0.6	0.001		
0 to 1	0.002		
0 to 1.5	0.005	SUS316	SUS316
0 to 2	0.005	CAC203	SUS316
0 to 2.5	0.005		
0 to 3.5	0.005		
0 to 5	0.01		
0 to 10	0.02		
0 to 15	0.05	High tensile steel	
0 to 25	0.05	SUS316	
0 to 35	0.05		
0 to 50	0.1		

Droop, iro Dongo	Minor Graduation Wetted Parts Sens		sing element connection	
Pressure Range MPa	MPa	General Use	Corrosion Resistant	
&		GP35-141	GP35-143	
0 to 70	0.1	Little Assessing season		
0 to 100	0.2	High tensile steel SUS316		
0 to 200	0.5	000010		
0 to 350	0.5	Little Assessing season		
0 to 500	1.0	High tensile steel High tensile steel		
0 to 700	1.0	Ther tensile steel		
-0.1 to 0	0.0002			
-0.1 to 0.1	0.0005	C5212R		
-0.1 to 0.2	0.0005	CAC203		
-0.1 to 0.3	0.001			
-0.1 to 0.4	0.001			
-0.1 to 0.6	0.001			
-0.1 to 1	0.002	SUS316	0110010	
-0.1 to 1.5	0.005	CAC203	SUS316 SUS316	
-0.1 to 2	0.005		333010	
-0.1 to 2.5	0.005			

Dimensions

Unit: mm

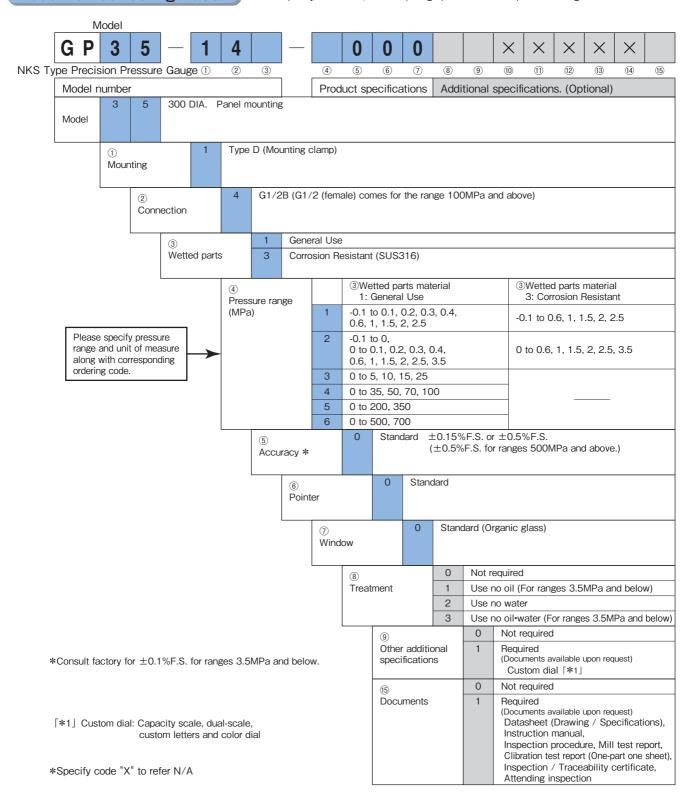


Ranges 100MPa and above

— GP35-141 GP35-143



Model number configuration Please specify the model, each requiring specification and pressure range to order.



[Attention: Replacing old model number]

SUS316 wetted parts pressure gauge			
Model	Old model number	New model number	
300 DIA. Panel mounting	GP35-F01	GP35-143	

Stand with handle

NKS Type Precision Pressure Gauge

Specification

Media:

Gas or liquid

*Pressure range 3.5MPa and below is calibrated by gas. Use for liquid measurement should be avoided.

Mounting:

Stand with handle

Size:

200 DIA.

Connection:

G1/2B

Wetted parts:

Refer to below table.

Pressure range:

0 to 0.1→0 to 25MPa

-0.1 to 0→-0.1 to 2.5MPa

Operating temperature range:

10 to 30℃

Accuracy:

±0.25%F.S.

Case material • finish:

Aluminium alloy casting (AC7A) · Black

Treatment: (Option)

Use no oil & water ··· Oil/Water used in manufacturing the

gauges had been flushed out & no oil/water

residue remained inside its wetted parts.

Custom dial: (Option)

Capacity scale, dual-scale, custom letters and color dial.

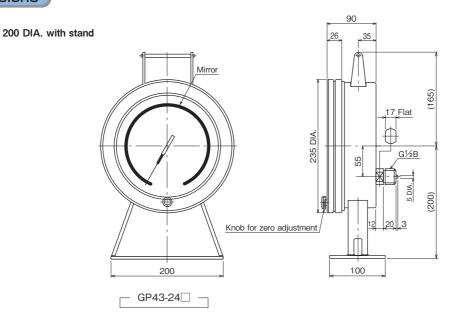
Minor Graduation • Wetted Parts

Drocouro Dongo	Minor Graduation	Wetted Parts Sen	sing element connection
Pressure Range MPa	MPa	General Use	Corrosion Resistant
		GP43-241	GP43-243
0 to 0.1	0.0005		
0 to 0.2	0.001	C5212R	
0 to 0.3	0.001	CAC203	
0 to 0.4	0.002		
0 to 0.6	0.002		
0 to 1	0.005		
0 to 1.5	0.005		
0 to 2	0.01		
0 to 2.5	0.01		
0 to 3.5	0.01	SUS316	SUS316
0 to 5	0.02	CAC203	SUS316
0 to 7	0.05		
0 to 10	0.05		
0 to 15	0.05		
0 to 20	0.1		
0 to 25	0.1		

Droop, iro Dongo	Minor Graduation	Wetted Parts Sens	sing element connection
Pressure Range MPa	MPa	General Use	Corrosion Resistant
		GP43-241	GP43-243
-0.1 to 0	0.0005		
-0.1 to 0.1	0.001	C5212R	
-0.1 to 0.2	0.001	CAC203	
-0.1 to 0.3	0.002		
-0.1 to 0.4	0.002		
-0.1 to 0.6	0.002		
-0.1 to 1	0.005	SUS316	SUS316
-0.1 to 1.5	0.005	CAC203	SUS316
-0.1 to 2	0.01		
-0.1 to 2.5	0.01		

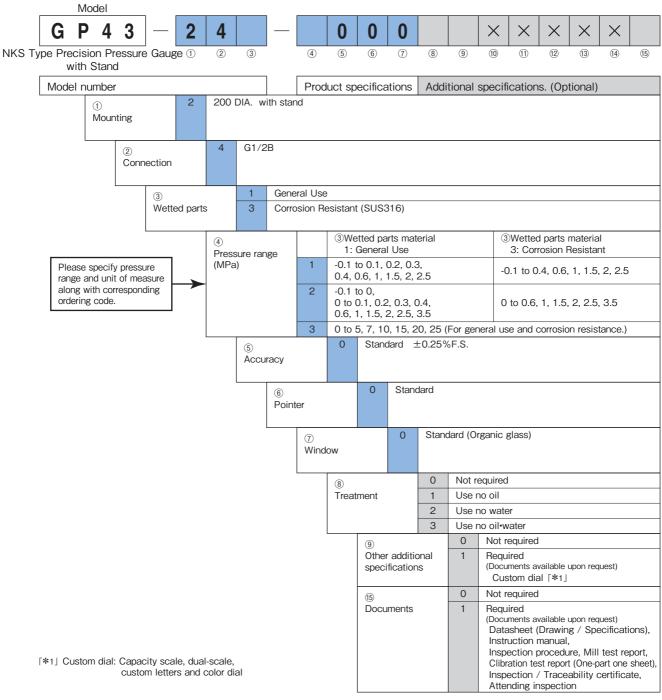
Dimensions

Unit: mm





Model number configuration Please specify the model, each requiring specification and pressure range to order.



*Specify code "X" to refer N/A

[Attention: Replacing old model number]

Mandal Old mandal mimban Navi m	SUS316 wetted parts pressure gauge			
Model Old model number New mo	odel number			
200 DIA. with stand GP43-F03 GP	43-243			

Stand with handle

NKS Type Precision Pressure Guage (300 DIA.)

Specification

Media:

Gas or liquid

*Pressure ranges 3.5MPa and below are calibrated by gas. Use for liquid measurement should be avoided. For the ranges 5MPa and above, hydrogen embrittlement could cause wetted parts to lose material strength of utilized high-tensile steel where the process media is water or liquid containing media. Avoid using in the condition.

Mounting:

Stand with handle

Size:

300 DIA.

Connection:

G1/2B

*G1/2 (female) comes for the range 100MPa and above.

Wetted parts:

Refer to below table.

Pressure range:

0 to 0.1→0 to 700MPa

-0.1 to 0→-0.1 to 2.5MPa

Operating temperature range:

10 to 30℃

Accuracy:

±0.15%F.S.

 $\pm 0.5\%$ F.S. for ranges 500MPa and above

Case material • finish:

Aluminium alloy casting (AC7A) • Black

Treatment: (Option)

Use no oil & water ··· Oil/Water used in manufacturing the

gauges had been flushed out & no oil/water residue remained inside its wetted parts.

Custom dial: (Option)

Capacity scale, dual-scale, custom letters and color dial.

Minor Graduation • Wetted Parts

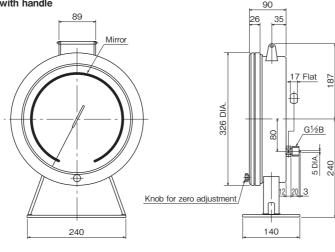
Drood in Dongo	Minor Graduation	Wetted Parts Sen	sing element connection
Pressure Range MPa	MPa	General Use	Corrosion Resistant
		GP43-341	GP43-343
0 to 0.1	0.0002		
0 to 0.2	0.0005	C5212R	
0 to 0.3	0.0005	CAC203	
0 to 0.4	0.001		
0 to 0.6	0.001		
0 to 1	0.002		
0 to 1.5	0.005	SUS316	SUS316
0 to 2	0.005	CAC203	SUS316
0 to 2.5	0.005		
0 to 3.5	0.005		
0 to 5	0.01		
0 to 10	0.02		
0 to 15	0.05	High tensile steel	
0 to 25	0.05	SUS316	
0 to 35	0.05		
0 to 50	0.1		

Dunner Wa Danier	Minor Craduation	Wetted Parts Sens	sing element connection
Pressure Range MPa	Minor Graduation MPa	General Use	Corrosion Resistant
		GP43-341	GP43-343
0 to 70	0.1	I limb tomoile etaal	
0 to 100	0.2	High tensile steel SUS316	
0 to 200	0.5	000010	
0 to 350	0.5		
0 to 500	1.0	High tensile steel High tensile steel	
0 to 700	1.0	Ther tensile steel	
-0.1 to 0	0.0002		
-0.1 to 0.1	0.0005	C5212R	
-0.1 to 0.2	0.0005	CAC203	
-0.1 to 0.3	0.001		
-0.1 to 0.4	0.001		
-0.1 to 0.6	0.001		
-0.1 to 1	0.002	SUS316	0110040
-0.1 to 1.5	0.005	CAC203	SUS316 SUS316
-0.1 to 2	0.005		333310
-0.1 to 2.5	0.005		

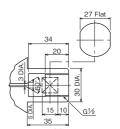
Dimensions

Unit: mm





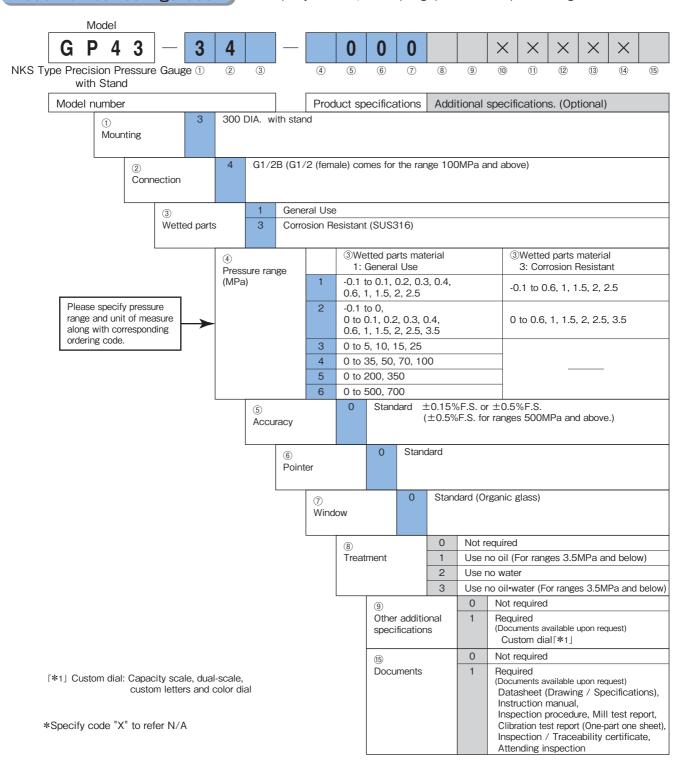
GP43-34□ -



Ranges 100MPa and above.



Model number configuration Please specify the model, each requiring specification and pressure range to order.



[Attention: Replacing old model number]

SUS316 wetted parts pressure gauge			
Model	Old model number New model number		
300 DIA. with stand	GP43-F01	GP43-343	

■ Precision Pressure Test Equipment (PN Type)

Specification |

Media:

Gas or liquid

*Pressure ranges 3.5MPa and below are calibrated by gas. Use for liquid measurement should be avoided. For the ranges GP41 with 5MPa and above, hydrogen embrittlement could cause wetted parts to lose material strength of utilized high-tensile steel where the process media is water or liquid containing media. Avoid using in the condition.

Application:

Pressure, differential pressure measurement (GP42 only)

Indicator:

GP41 NKS Type 300 DIA. (GP35-141) GP42 W&T Type (GP15-201)

Connection:

GP41 Rc1/4 GP42 Rc1/8

Wetted parts:

Refer to below table.

Pressure range:

GP41 0 to 0.1→0 to 35MPa GP42 0 to 0.1→0 to 0.4MPa

Operating temperature range:

10 to 30℃

Accuracy:

GP41 ±0.15%F.S. GP42 ±0.1%F.S.

Finish:

Black leather tension

Treatment: (Option)

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

Custom dial: (Option)

Capacity scale, dual-scale, custom letters and color dial.

Minor Graduation • Wetted Parts

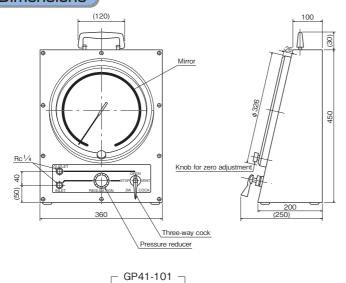
GP41

Pressure Range MPa	Minor Graduation MPa	Wetted Parts Sensing element connection				
0 to 0.1	0.0002	050405				
0 to 0.2	0.0005	C5212R CAC203				
0 to 0.4	0.001					
0 to 0.6	0.001					
0 to 1	0.002					
0 to 1.5	0.005	SUS316 CAC203				
0 to 2	0.005					
0 to 3.5	0.005					
0 to 5	0.01					
0 to 10	0.02	High tensile steel SUS316				
0 to 15	0.05					
0 to 25	0.05					
0 to 35	0.05					

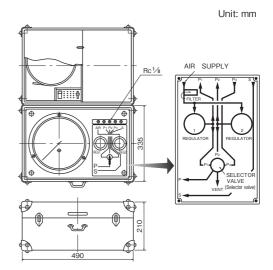
GP42

Pressure Range MPa	Minor Graduation MPa	Wetted Parts
0 to 0.1	0.0001	Sensing element side: Ni-Span-C, Solder, Brass, Stainless steel, Silver solder
0 to 0.2	0.0002	Case side: Ni-Span-C, Brass, Stainless steel, Phosphor bronze, Beryllium copper,
0 to 0.4	0.0005	Magnesium, Aluminum, Nylon, ELGILOY, Solder, Silver solder, HYPALON

Dimensions



External appearance is differ from showing picture where GP41-501 is required with 0.6MPa and above.



┌ GP42-101 ┐



Model number configuration Please specify the model, each requiring specification and pressure range to order.

	Model																		
	G P 4		_		0	1	_		0	0	0			×	×	×	X	X	
Precision	on Pressure Te	st Equ	ipmen	t ①	2	3	1	4	(5)	6	7	8	9	10	11)	(12)	13	14)	15
	Model number							Prod	luct sp	ecifica	tions	Addi	tional	specifi	cation	s. (Op	tional)		
	India							ator Range (MPa)											
	Model 1 — 1 GP35-141 0 to 0.1, 0.2, 0.4																		
	1 — 5 GP35-141 0 to 0.6, 1, 1								1, 1.5,	, 1.5, 2, 3.5, 5, 10, 15, 25, 35									
2 — 1 GP15-201 0 to 0.1, 0.2, 0.4																			
	- I				④ Pressure range (MPa)			1 0 to 0.1, 0.2, 0.4 GP41-101, GP42-101											
	Please specify range and uni																		
	along with co			\rightarrow				3 0 to 5, 10 GP41-501											
	ordering code				4 0 to														
								5	0 to	_			GP41	1-501					
						(5) Accu	⑤ O Accuracy				Standard GP41: ±0.15%F.S. GP42: ±0.1 %F.S.								
						(6)				0 Standard									
							Pointer												
							⑦ Wind	ow	O Standard (Organic glass)										
									(8)		0 Not required								
									_	tment		1	Use no oil (For ranges 3.5MPa and below)						
												2	Use no water						
												3	Use r	Use no oil•water (For ranges 3.5MPa and below)					
										9			0	Not required					
											addition		1	Required (Documents available upon request) Custom dial[*1]					
										(15)			0	Not re	equired				
ſ	Scope of produc						Docu	ments		1	Data Instru Inspe	ments and sheet (uction is section is section to the section is section to the section is section to the secti	Drawin manual procedu st repor		ecification	sheet),			
	*1] Custom dial	: Capac	ity sca m letter												nding ir			JOI HILLO	ισ,

[·] GP42 comes with the followings 6 DIA. x 6m nylon pipe R1/8 x 6 DIA. x 6m nylon pipe fitting

^{*}Specify code "X" to refer N/A

W&T Type Precision Pressure Gauge

Specification

Media:

Gas

Mounting:

GP15: 62-075 Series 1500 Pressure measurement, differential pressure measurement

GP16: 62-050 Series 1500 Pressure measurement, vacuum measurement

GP17: 61-075 Series 1500 Absolute pressure measurement, atmospheric pressure measurement

Connection:

1/8NPT flemale,

1/4NPT flemale (Available model GP16-201

0 to 2, 3.5MPa only)

Wetted parts:

Refer to below table.

Pressure range:

GP15: 0 to 0.1→0 to 1MPa GP16: -0.1 to 0, 0 to 2, 3.5MPa

GP17: 0 to 0.1, 0.3MPa abs., 0 to 1060 mbar abs.

Proof pressure for case:

0.25MPa

Operating temperature range:

10 to 30℃

Accuracy:

±0.1%F.S.

Case material • finish:

Aluminium alloy casting (AC7A) · Black

Treatment: (Option)
Use no oil & wate

Custom dial: (Option)

Capacity scale, dual-scale, custom letters and color dial

Weight:

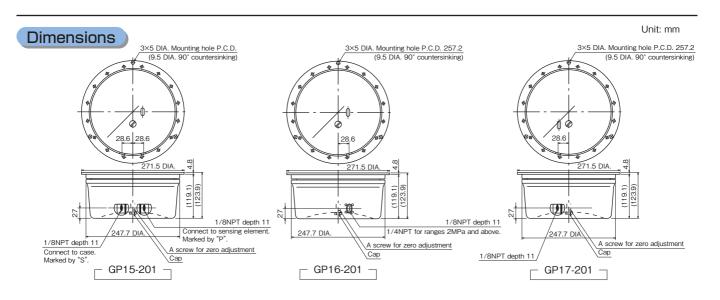
Approx. 3.8kg

Minor Graduation • Characteristics

Model Number	Туре	Pressure Range MPa	Minor Graduation MPa	Connection	Hysteresis %F.S.	Sensitivity %F.S.	Max. * 1 Temperature Error	Capacity ml	Material in Contact with Process Media		
		0 to 0.1	0.0001	1/8NPT female	0.1	0.01	0.1	7	Sensing element side: Ni-Span-C, Solder, Brass,		
GP15-201 Series	62-075 Series	0 to 0.2	0.0002						Stainless steel, Silver solder Case side: Ni-Span-C, Brass, Stainless steel, Phosphor bronze, Beryllium copper, Magnesium, Aluminum, Nylon,		
	1500	0 to 0.4	0.0005								
		0 to 1	0.001		0.2				ELGILOY, Solder, Silver solder, HYPALON		
	62.050	-0.1 to 0	0.0001	1/8NPT female 1/4NPT female	0.1	0.0125	0.1	7	-0.1MPa range: Ni-Span-C, Brass, Stainless steel, Solder,		
	Series 1500	0 to 2	0.002					10	Silver solder 2MPa and above:		
		0 to 3.5	0.005						Ni-Span-C, Stainless steel, Nylon, Silver solder, Free cutting brass		
GP17-201 S	61-050 Series 1500	0 to 0.1(abs.)	0.0001	1/8NPT female	0.15	0.01			Ni-Span-C, Brass, Phosphor bronze, Solder, Beryllium copper, Magnesium, Aluminum,		
		0 to 0.3(abs.)	0.0005				0.019	3070 (Case side)	Nylon, Stainless steel, ELGILOY, Silver solder, HYPALON		
	. 500	1060(mbar abs.)	1 (mbar abs.)								

^{*1} The maximum temeratures error is a percentage of the full span. %F.S./10°C at 20°C

^{*2} Leakage amounts of GP17-201 case 1.04×10⁻⁴ Pa·m³/s (1.03×10⁻³ atm cc/s) or less.





Model number configuration Please specify the model, each requiring specification and pressure range to order.

