



INSTRUCTION MANUAL

DIFFERENTIAL PRESSURE GAUGE

GA400-8-P02

GA400-8-P02-T1.5

GA400-8-P02-P80

GA400-8-P02-P90

Thank you very much for purchasing our Differential pressure gauge.

This manual explains basic points of installation, operation, etc. to have our Differential pressure gauge perform at their best. Be sure to read this manual before using your Gauge.

Keep this booklet handy for quick reference.

Please be advised in advance that there may be some discrepancies between products and contents of this book due to improvement of specification after printing.

1. PRODUCTS

1) Specifications

Model No.		GA400-8-P02	GA400-8-P02-T1.5	GA400-8-P02-P80	GA400-8-P02-P90
Item					
Max. working pressure (MPa)		1.0			
Withstanding pressure (MPa)		1.5			
Working temperature (°C)		5~65			
Differential pressure range (MPa)		0~0.2			
Gauge accuracy		±2.5% at full scale			
Connecting pipe	High press. side	R1/4			
	Low press. side	Rc1/4			
Treatment		Non-grease			
Mass (kg)		0.26			0.70
Option		—	•Attached nylon tube 1.5m	•Dust defense countermeasures	•Dust defense countermeasures •All stainless

2. CAUTIONS

- 1) Install the gauge as close to the pneumatic equipment serviced as possible.
- 2) Eliminate installation of the gauge of this type within the area where ambient temperature is expected to exceed 65 °C.
- 3) Install the gauge of this type within the system line where working pressure is to be kept 1.0MPa or lower.
- 4) Eliminate installation of the gauge of this type together with the equipment which pressure difference is expected to be more than 0.2MPa.
- 5) Do not use the dryer for pneumatic caisson shield or respiratory medical equipment.

*It could cause an accident includes injury.

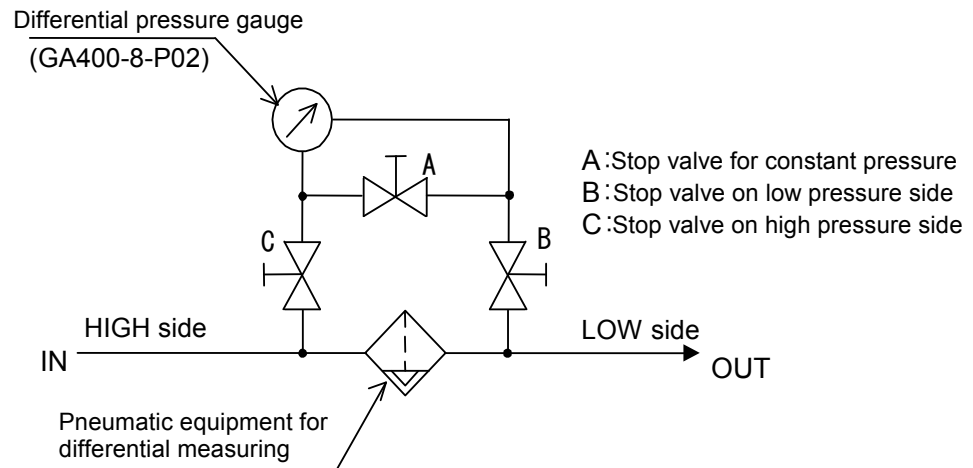
- 6) Do not use the dryer for transportation devices such as automobile, ship etc.
 *Vibration could be a cause of break down of the internal components.
- 7) Avoid using this product where ozone is generated.
- 8) Avoid direct sunlight and rain water.
- 9) Avoid use in the area containing corrosive gas.
- 10) Avoid using this product where vibration and impact are present.
- 11) Do not use it in a place that might freeze.
- 12) Do not use in a dangerous location (environment where explosions could occur, etc.).
- 13) Do not use it at the place with the mine dust.
- 14) When piping, remove cutting oil and rust proof oil, etc.
- 15) Install an air filter just upstream of this gauge to keep foreign particle or condensed humidity from falling into the gauge.
- 16) Connect each port of the gauge in accordance with the following principle.
- “High” port of the gauge to “IN” side of pneumatic equipment serviced.
 - “Low” port of the gauge to “OUT” side of pneumatic equipment serviced.
- Make use of a set of plumbing components (such as Half-unions, Elbow and Tubes) which are furnished together with the gauge on delivery.
- 17) In the case of use in the state where compressed air temperature becomes higher than ambient air temperature, the differential pressure gauge is cooled by ambient air temperature, and an inside is covered with water drop.
- 18) Material of window of scale board of differential pressure gauge is nylon resin.
- Do not use this gauge where the following chemical agents are contained in the compressed air or in atmosphere near differential pressure gauge.

Kind of chemicals	Classification of chemicals	Major products of each chemicals	Ordinal application	nylon
Inorganic compound	Acid	Hydrochloric acid · Sulfuric acid · Nitric acid · Fluoride acid · Phosphoric acid · Chromate acid, etc	Acid washing off metal parts, degreasing, oil film washing	×
	Alkali	Canstic soda · Canstic potassium · Hydrated lime · Ammonia solvent · Carbonate soda	Alkali washing off metal parts	○
	Inorganic hydrochlorine	Sulfide soda · Potassium nitrate · Chromic potassium · Sulfa soda		○
Organic compound	Aromatic hydrocarbons	Benzene · Toluene · Xylene · Ethyl benzene · Styrene	Contained in the thinner of painting material (Benzene, toluene, xylene)	×
	Chlorinated aliphatic hydrocarbons	Methyl chloride · Ethylene chloride · Methylene chloride · Acetylene chloride · Chloroform · Trichloroethylene · Perchlene · Carbon tetrachloride	Washing rinse of organic solvent off metal components (Trichloro ethylene, perchlene, carbon tetrachloride)	○
	Chlorinated aromatic hydrocarbons	Chlorobenzene · Dichloro benzene · Benzene hexachloride	Farm chemicals	○
	Petroleum solvent	Solvent · Naphtha · Gasoline		○
	Alcohol	Methyl alcohol · Ethyl alcohol · Cyclohexanol · Benzyl alcohol	Anti-freezer	×
	Phenol	Carbolic acid · Cresol · Naphthol	Disinfectant	×
	Ether	Methyl ether · Methyl-ethyl ether · Ethyl ether	Additive to brake fluid	○
	Ketones	Acetone · Methyl-ethyl keton · Cyclohexanone · Acetophenone		×
	Carbonic acid	Formic acid · Acetic acid · Butylene acid · Acrylic acid · Oxalic acid · Biphthalate acid	Dying ditargent. Oxalic acid as aluminum treatment compound. Biphthalate acid as basic compound of painting	×
	Phosphoric ester	Dimethyl phthalate (DMP) · Diethyl phthalate (DEP) · Dibuthyl phthalate (DBP) · Diothyl phthalate (DOP)	Additive to lubricant, synthetic hydraulic fluid, rust preventive oil and prasticizer to synthetic	○
	Oxy acid	Glycol acid · Lactic acid · Malic acid · Citrate acid · Tartaric acid		×
	Nitro compound	Nitromethane · Nitro ethane · Nitro ethylene · Nitro benzene		○
	Amin	Methyl amin · Diothyl amin · Ethyl amin · Aniline · Aceto anilido	Additive to brake fluid	×
	Nitril	Acetonitrile · Acrylonitrile · Benzenitrile · Acetoirinitril	Raw material of nitril rubber	○

3. OPERATIONS

- 1) Don't mount the valve between a differential pressure gauge and a pneumatic equipment for differential measuring to prevent failure accident of the gauge from valve's maloperation as a rule.

Please use the stop valve for constant pressure, if you assemble the system such as giving line pressure on one side of pneumatic equipment for differential measuring rapidly. See the following procedure.



《Starting operation》

- ① Close the valve A,B,C at first.
- ② Open the valve A.
- ③ Open the valve B for the pointer of the differential pressure gauge not to come off scale range slowly. If you open it rapidly, Rapid pressure is added on one side for the cause of difference between hyperbaric chamber's contents and low pressure chamber's contents, and it is liable to damage bourdon tube.
- ④ If the pointer of the differential pressure gauge indicate 0 stably. Close the valve A.
- ⑤ Open the valve C slowly.

《Measuring stop, maintenance》

- ① Close the valve C.
 - ② Open the valve A.
 - ③ Close the valve B.
- 2) In the case of the system which stops air in front of the pneumatic equipment for differential measuring, when passing air, it is careful that rapid air does not flow to the pneumatic equipment. It leads to damage of the differential pressure gauge. (example: when attaching a coupler directly)
 - 3) Do not let air flow backwards to the differential pressure gauge. It leads to breakage of the differential pressure gauge.
 - 4) Make certain that plumbing is firmly fixed as the coming off piping, of course, results the gauge getting out of order or sometimes causing its mechanical damage.

●Specifications are subject to change without notice.