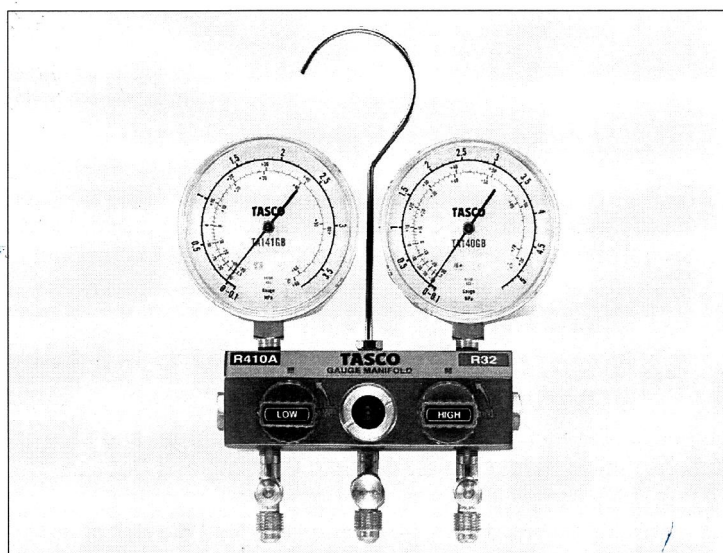




# GAUGE MANIFOLD

INSTRUCTION MANUAL



**1** ICHINEN **TASCO**  
イチキン

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### [Introduction]

Thank you for purchasing the TASCO Gauge Manifold Kit. Please read this instruction manual carefully before use so that you can use the product properly.

### [Safety Guide]

Read through this [Safety Guide] before operation for proper and safe usage. The precautions shown herein are divided into Warning and Caution.

 **Warning** Warning means that mis-operation can lead the risk of death or serious injury.

 **Caution** Caution means that mis-operation can lead the risk of injury or damage to the products or property.

### Meaning of the following marks


 Important

Important information

 Never do it.

 Be sure to follow the instructions.


 **Warning**

 **Do not operate if you are under the following conditions.**  
When you are unable to concentrate due to over-fatigue, illness, under the influence of drugs, or any other reasons.

 **Please consider the working place environment in order to avoid any accidents.**  
Be sure that the room where you are working is well-lighted. Working in a dark room can lead to the risk of accidents.

Be sure that the room where you are working is clean. Working in a messy room or work stands may lead to the risk of accidents.

 **Be sure that the room where you are working is thoroughly ventilated.**  
It may lead to suffocation or poisoning by refrigerants.


 **Be sure to check whether the hose gasket is attached to the charging hose properly, and there is no damage on the hoses.**  
Leakage of refrigerant may lead to frostbite or loss of sight.

 **Wear proper clothing.**  
Please wear proper protective clothing such as safety shoes, helmet, safety goggles while working.


 **For ensuring a safety operation, only a qualified technician who understands this instruction manual should operate the gauge manifold.**

 **Do not let anyone come near the working site except the operator.**  
It may lead to a risk of injury. Please keep children and animals away.

 **Do not use the gauge manifold beyond its specification in order to operate safely and efficiently.**  
Do not use it for any purpose other than the specified purpose.

 **Do not work in an uncomfortable position.**  
It may lead to a risk of injury.

 **Do not use the gauge manifold with refrigerants other than the specified refrigerants.**  
It may lead to a risk of injury.


 **Do not modify.**  
It may lead to a risk of injury.

 **Caution**

 **Store the gauge manifold properly.**  
Please store the gauge manifold in a dry place away from children.

 **Please inspect each part for damage before and after operation.**  
It can lead to the risk of injury due to accident.

 **If a product is found to be defective or in poor condition, please stop operation immediately.**  
It can lead to the risk of injury due to accident.

 **Please read through this instruction manual carefully.**  
Be sure to read through this instruction manual before operation for correct and safe usage.

 **Inspections should be carried out periodically, and any damaged parts should be repaired before use.**

**[General Purpose]**

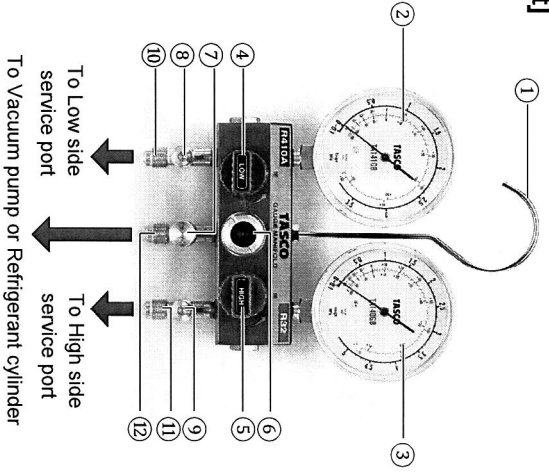
This is the product used for measuring the operation pressure of the system, evacuation, leakage test and charging in order to monitor the air conditioner and refrigerator work properly.

- To monitor the condition of the system by measuring the pressures.
- This product can be used for evacuation and charging.

**⚠ Caution :** The manifold kit for R22 and the manifold kit for R410A/R32 or R407C/R404A/R134a have different specifications, so please use the proper one that is compatible with the refrigerant to be used. Using a different charging hose or manifold may cause damage to the system due to the mixing of different compressor oils.

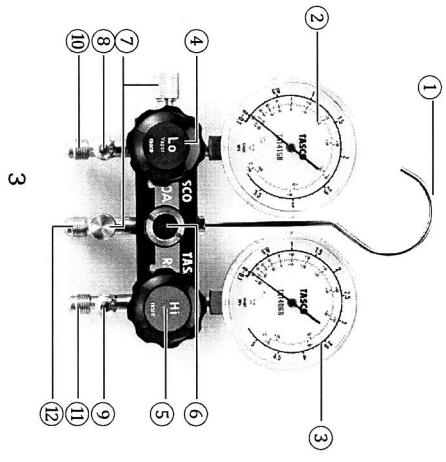
**[Name of each part]**

**Ball Valve Type**

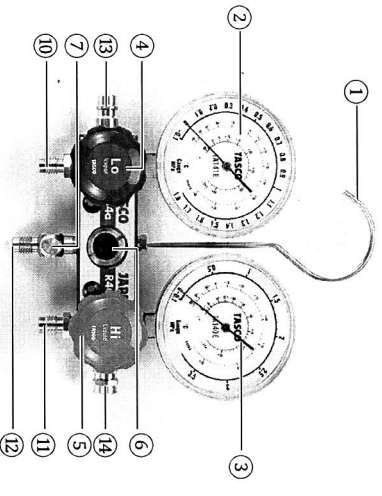


**Needle Valve Type**

\*for Hydro Carbon refrigerants



**Needle Valve Type for automotive A/C**  
\*for Japanese market only



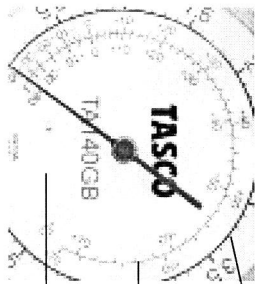
- |  |  |
|--|--|
| ① Hook   | ⑦ Port with valve core                         |
| ② Low side gauge   | ⑧ Low hose hanger*                             |
| ③ High side gauge  | ⑨ High hose hanger*                            |
| ④ Low side valve knob  | ⑩ Low side port                                |
| ⑤ High side valve knob   | ⑪ High side port                               |
| ⑥ Sight glass (Capable of checking the condition of refrigerant) | ⑫ Port for vacuum pump or refrigerant cylinder |
|  | ⑬ Low side coupler hanger                      |
|  | ⑭ High side coupler hanger                     |

\*Not included in TA122MB series.



- ② Low side gauge (Blue) and ③ High side gauge (Red)

**Pressure Scale**  
Pressure is dual displayed in psi and kPa.



**Saturation Temperature Scale**  
Capable to check temperature of refrigerant.

**Calibration access port**  
Capable to be adjusted with a flathead screwdriver.

**Important** Use the gauge manifold vertically. If you use it sideways, it will not be displayed correctly.

- For heat pump type air conditioner

During heating operation, the flow of refrigerant is reversed from that during cooling operation, and high pressure is applied to the low pressure side, which may cause the needle of the low pressure gauge to swing out and break. Please contact us if you require a manifold that is compatible with heat pump type air conditioner.

- How to operate the valve knob

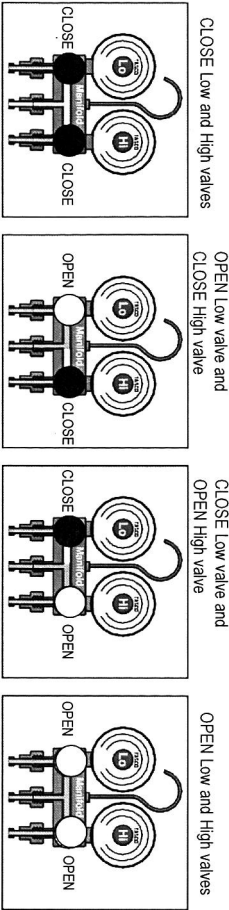
	OPEN	CLOSE
Ball Valve Type		
Needle Valve Type		

- ④ Low side valve knob (Blue) and ⑤ High side valve knob (Red)

The valve knobs (Low: Blue, High: Red) on the manifold do not close the passage to the gauge. These valve knobs open and close the passage to the side. (Please refer the diagrams below.) For pressure measurement only, close the valves.

- ⊗ Improper operation may result in damage to the system.

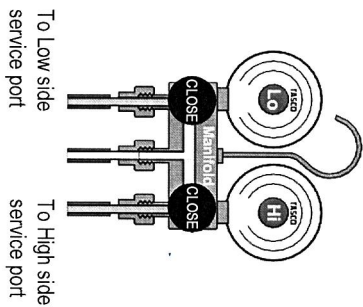
- Valve knob open/close operation and refrigerant passage



Refrigerant Passage

## [How to use]

1. Monitoring system



When monitoring low and high pressure of the system,  
Close both low side (Blue) knob and high side (Red) knob.

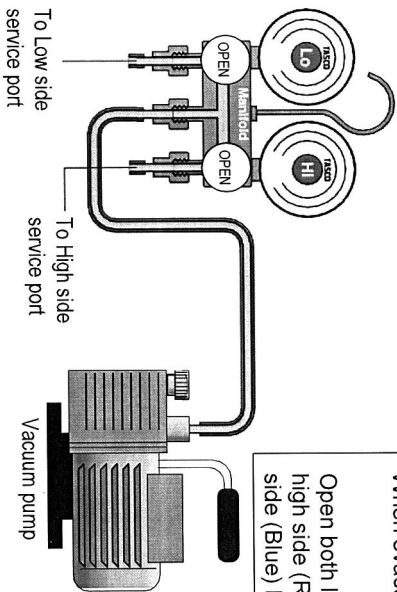
- ① Check that the needles of both gauges are pointing at 0 psi and 0 kPa.
- ② Make sure that the valves on the low and high sides of the manifold are closed.
- ③ Connect the blue hose with the low side port of manifold and low side port of the system, and the red hose with the high side port of manifold and high side port of the system. **Be sure to connect the side of the hose with the core depressor to the system port.**

- Guide to determine failure of the system

Check Items	Cooling		Heating		Failure examples
	Vapor pressure	Current (AMP)	Liquid pressure	Current (AMP)	
Test result	High	High	Low	Low	Radiation disturbance due to fill or short circuit or defective compressor
	High	Low	High	Low	
Test result	High	Low	High	High	Failure of heat exchanger or filter
	Low	Low	Low	Low	

**Important** Values of pressure and current vary depending on conditions such as type of refrigerants, units, etc. Please refer manufacturers' manuals.

## 2. Evacuation and Leakage test



1. Use the vacuum pump with the anti-oil backflow solenoid valve or the anti-oil back flow valve.
2. If the system has only a service port on low side, connect the blue hose to the low side port only. Keep the high side (Red) knob of the manifold closed.

**⚠ Caution** Before evacuation, make sure there is no residual pressure of refrigerant, etc. in the tubing or system. If vacuuming is performed with residual pressure, the vacuum pump may be damaged and cause injury, pump oil may sput out, or the vacuuming time may become abnormally long.

- ① Connect the charging hoses with low and high ports of manifold and system ports. **Be sure to connect the sides of the hoses with the core depressors to the system ports.**
- ② The valves of system ports should be open.

**Important** The valves of system ports should be closed for new installation of the system.

- ③ After connecting the hoses, make sure there is no pressure on the gauges.

- ④ Connect the middle port of the manifold to the vacuum pump with the yellow hose. **Connect the side of the hose that does not have the core depressor to the port of manifold.**

- ⑤ Turn the vacuum pump on.

- ⑥ Make sure that the gauge needles on both the low and high gauges are pointing to negative pressure. (Refer to the manufacturers' manuals about the time of evacuation.)

- ⑦ Close the blue knob on the low side and red knob on the high side, disconnect the hose connected to the vacuum pump, and turn off the vacuum pump.

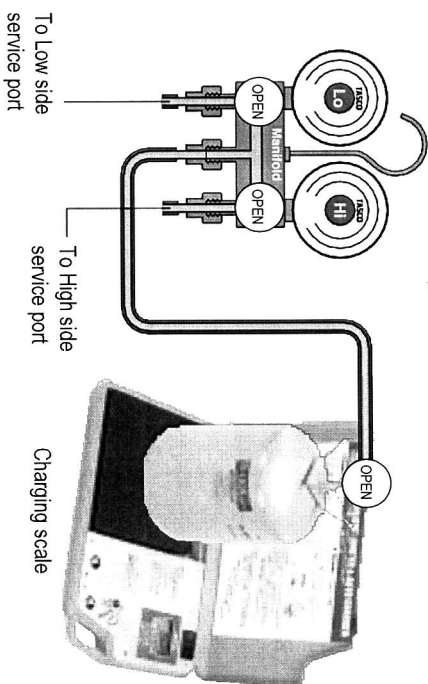
- ⑧ Leakage test: Make sure that the gauge needles do not return from the negative pressure for a certain period of time. (Refer to the manufacturers' manuals about the time of the leakage test.)

## Leakage test

- ① Close the valve knobs on the low side (Blue) and high side (Red) of the manifold, and turn the vacuum pump off.
- ② Leave it for a certain period of time. (Refer to the manufacturers' manuals about the time of the leakage test.)
- ③ Make sure that the gauge needles do not return from the negative pressure.

**⚠ Caution** : This is not the same as a pressure-resistant airtightness test. Please use proper tools for it.

## 3. Charging



**Important** Use the charging scale for charging.

- ① After the leakage test, connect the manifold and the refrigerant cylinder with a hose as shown above, and open the valve of the cylinder. Connect the side of the hose that does not have the core depressor to the port of manifold.
- ② Press the valve core in the middle port of the manifold to remove the air in the hose.
- ③ Open the valve knob of low and high (Blue and Red) of the manifold.
- ④ If the desired amount cannot be charged, close the high valve (Red knob) of manifold, run the system and charge from the low pressure side. The low valve (Blue knob) should be opened slightly to prevent the system from being charged with a large amount of liquid refrigerant.
- ⑤ When the refrigerant charge is complete, close the high valve (Red knob) and low valve (Blue knob) of the manifold and remove the hoses from the system ports, paying attention to the remaining refrigerant in the hoses.

## [Maintenance]

The gauge attached to the manifold will be damaged if dropped or vibrated, so handle with care. If the parts cannot be operated properly due to a defect, replace them immediately.

## [Specifications]

Valve Type	TA122G/GB/MB Series	TA124W/KV Series	TA120W Series
Ball Valve			
Refrigerants	<b>R410A, R32</b>	<b>R404A, R407C, R507A, R134a</b>	<b>R22, R12, R502</b>
HI Gauge	-30inHg ~ 750psi -100 ~ 5200kPa	-30inHg ~ 540psi -100 ~ 3700kPa	-30inHg ~ 510psi -100 ~ 3400kPa
LO Gauge	-30inHg ~ 540psi -100 ~ 3800kPa	-30inHg ~ 260psi -100 ~ 1800kPa	-30inHg ~ 220psi -100 ~ 1500kPa
Gauge Diameter	TA122G : 68mm TA122GB : 80mm TA122MB : 50mm	80mm	80mm
Gauge Connection	1/8NPT		
Fitting	5/16" ( UNF1/2-20 )	1/4" ( UNF7/16-20 )	

	TA127 Series
Valve Type	Needle Type
Refrigerants	<b>R600a, R290</b>
HI Gauge	-30inHG ~ 220psi
LO Gauge	-30inHG ~ 150psi
Gauge Diameter	80mm
Gauge Connections	1/8NPT
Fitting	1/4" ( UNF7/16-20 )

**Important** Specifications and design of products are subject to change without notice.



**[Warranty]**

No. \_\_\_\_\_

**Warranty**  
**Terms of Warranty**

1. This product is to be repaired free of charge if a failure occurs despite proper use during the period of warranty.
2. This warranty is valid for 1 year starting from the date of purchase and only domestic use.
3. In any of the following cases, this product is to be excluded from free-of-charge repair.
  - 1) Failures incurred by improper use.
  - 2) Failures due to handling and storage beyond its specifications.
  - 3) Failures due to modifications or repairs not done by the manufacturer or its entrusted technicians.
  - 4) Failures due to consumable components.
  - 5) Other failures not deemed to be the manufacturer's responsibilities.

Product Name: <b>TASCO Gauge Manifold</b>	
Model:	Serial number:
Date of purchase: M:     /D:     /Y:	
Period of warranty: For 1 year starting from M:     /D:     /Y:	
Customer	
Name:	
_____	
Address:	
_____	
Phone number:	
_____	
Dealer	
Address and name:	
_____	

\* To the dealer: Kindly take a few minutes and fill out the above form.

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