CKD

G109-4961-A 1

2025.06.27

Handling Instructions

TVG-series

Air supply spacer

Exhaust spacer

Spacer type pilot check valve

Spacer type regulator

In-stop valve spacer

Thank you for purchasing of CKD's product.
For safe operation of this product, strictly observe the following cautions.
After reading this manual, keep it in a safe place where all concerned personnel can refer to it immediately.

CAUTION!! Do not unpack the package bag until the piping work is started.

If any foreign matter enter, this may cause fault or malfunction to the product.

Piping and mounting

⚠ WARNING

■When connecting the pipes, tighten the screws with a proper tightening torque.
If not tightened properly, this may cause air leakage or break the screw.

Tightening torque

Connection screw	Tightening torque N·m
M5	1.0～1.5

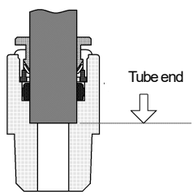
■ Before starting the piping work, always blow the air to the inside of the piping (flushing) or clean the inside of the piping to remove cutting chips, coolant, and dusts.

Push-in joint (Air supply spacer, Exhaust spacer)

■ Always insert the tube firmly until it is in contact with the tube end. Before using the push-in joint, pull the tube lightly (approximately 20N) to make sure that it is not disconnected. If the tube is not inserted into the far position firmly, this may cause disconnection of the tube or air leakage.

■ Before using the tube, cut the tube straight with the special cutter.

■ Carry out the piping work carefully so that the bending radius of the tube is the minimum bending radius or more to give a sufficient allowance.



Minimum bending radius of tube

Diameter of tube mm	Minimum bending radius mm	
	Nylon	Urethane
φ4	10	10
φ6	20	20
φ8	30	30

■Manual override (In-stop valve spacer)

The manual operation shuts down the air supply from the manifold and releases the residual pressure at the same time.

Operating procedures

●Push-lock operation
After pushing the manual button until it is in contact with the far position, turn the manual button clockwise 90° to lock it.

■If the manual button is turned without pushing, this may break the manual override or cause air leakage.

Manual override (Spacer type pilot check valve)

⚠ WARNING

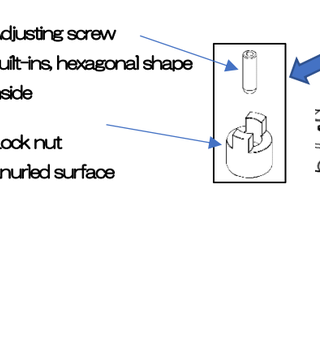
■Please do not operate manual override by excessive force.
Manual override will be damaged.
- Non-locking type 10～20N
- Locking type Please turn manual override with a tool lightly. (0.07N • m or less)

■After operating the spacer type pilot check valve's manual operation device, return it to the origin (initial position) before operating the device.
When operating in the operation position using the manual operation device, abnormal operation could occur, causing a hazard.

■When conducting manual operations, make sure that there are no people near the moving cylinder.

■Non-Locking type manual override
- When using tools
  Please push the manual override with a thin tool of the tip perpendicularly.
- When operating with a finger
  Please push the slide operation part with your finger in the direction of the arrow.

■Locking type manual override
Please Press the manual button with a minus driver in the direction of arrow ①,
And rotate in the direction of arrow ②.
After the manual override end, the manual override turns it, and,
please go back up at the original position.



Pressure reduction adjustment (Spacer type regulator)

⚠ WARNING

■Please do not operate with excessive force. Regulator will be damaged.
- Lock nut tightening torque 0.3 ～ 0.6 N • m
- Do not apply external force to the protrusion, the product will be damaged.

■Forcible operation of the locked adjusting screw will damage the product.
- Adjustment screw rotation torque 0.1 N • m or less

■When shipped, the adjusting screw is tightened so that pressure is generated to the secondary side.
Please be careful not to cause an accident if the cylinder or other parts operate.
If necessary, loosen the adjusting screw before applying pressure to the primary side.

■Operate the pressure regulator
- Loosen the lock nut by hand or with a tool.
- Turn the adjusting screw with an Allen wrench to the pressure range to be adjusted.
  If the pressure value exceeds the adjustment range, turn the adjusting screw back to the "0 MPa" position and retry the pressure adjustment operation.
  Turning the adjusting screw clockwise will increase the secondary side pressure and turning it counterclockwise will decrease the secondary side pressure.
- After adjusting the pressure, use a hexagonal wrench to position the adjusting screw. And then tighten the lock nut firmly by hand or with a tool to prevent it from loosening.

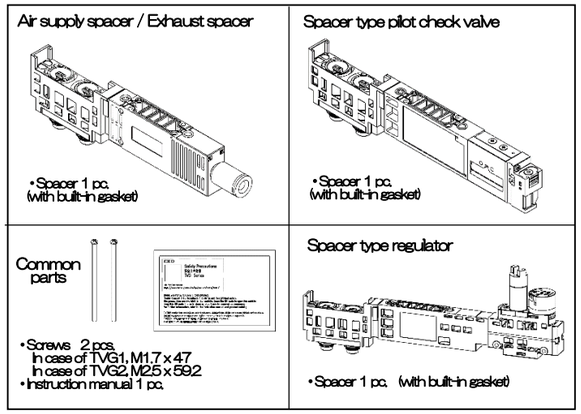
Assembling the spacer

■Before removing the solenoid valve main body, release the air supply pressure of the manifold.

■When removing the solenoid valve main body, pay special attention so that any gaskets will not be lost.

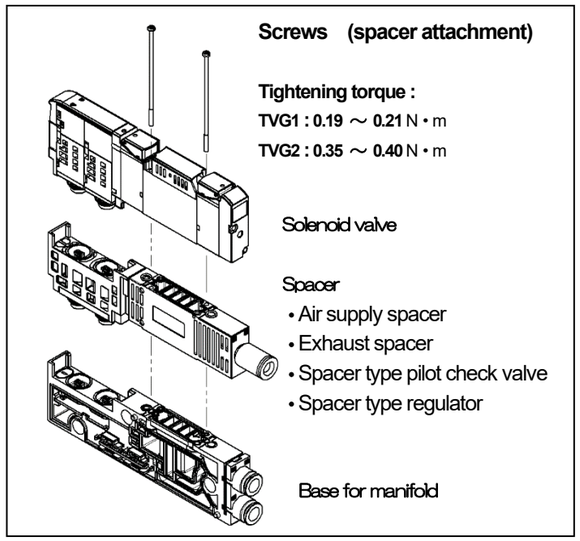
◇Air supply spacer, Exhaust spacer, Spacer type pilot check valve, Spacer type regulator

《Included parts》



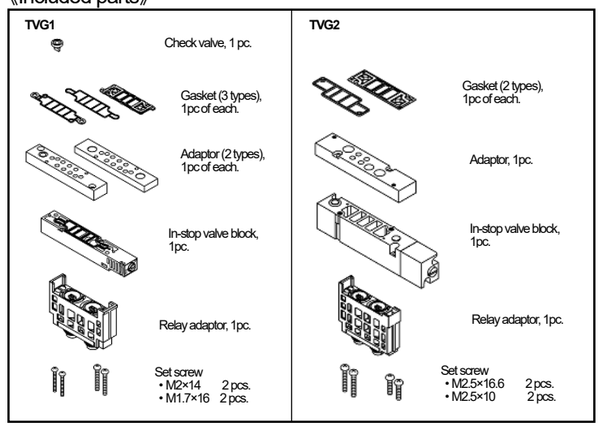
《Mounting procedures》

1. Relieve the manifold pressure.
2. Remove the solenoid valve at the point where the spacer is to be added.
3. Remove the screws fastened to the solenoid valve (drop prevention structure).
   ＊The removed screws are not used for spacer installation.
   ＊While pressing down on the screw head, rotate the screw counterclockwise for easy removal.
4. Set the parts as shown below and tighten the screws.
   ＊Thread the supplied spacer screw through the solenoid valve first.
   ＊When tightening the screws, first tighten one side temporarily, then tighten the other side fully, and finally tighten the screws temporarily.



◇In-stop valve spacer

《Included parts》



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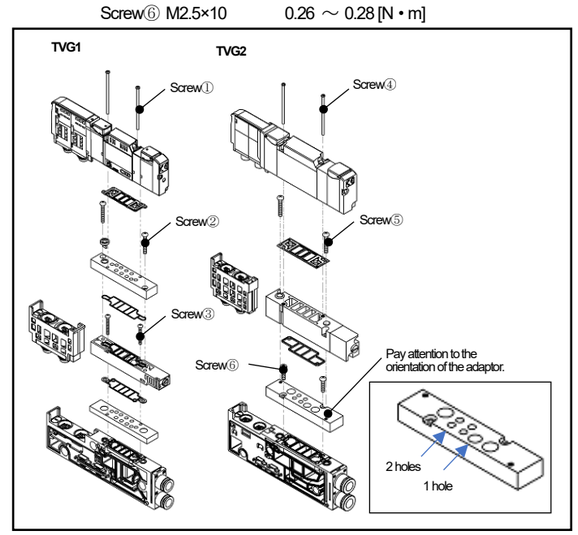
Tightening torque :

TVG1 : Screw①	M1.7×25.5	0.19 ～ 0.21 [N • m]
Screw②	M2×14	0.26 ～ 0.28 [N • m]
Screw③	M1.7×16	0.19 ～ 0.21 [N • m]
TVG2 : Screw④	M2.5×31.5	0.35 ～ 0.40 [N • m]
Screw⑤	M2.5×16.6	0.26 ～ 0.28 [N • m]
Screw⑥	M2.5×10	0.26 ～ 0.28 [N • m]



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