

Instruction Manual for QuickSeal Series

1 Preparation before piping

Prepare a tube cutter, attachment tools of an appropriate size and sealing tape.



(Note)

- ☞ Select an appropriate tube cutter TC01, TC04 or HC03 for the tubing size. See [Table 1] for the applicable tubing size of each cutter.
- ☞ The seal-processed brass connector of the QuickSeal series does not require sealing tape.

- ⚠ Caution: Close the tube cutter blades when not using the cutter.
- ⚠ Caution: Check that the fitting and the tubing meet the specifications of the piping environment. Incorrect selection of products may cause an extremely serious accident.

[Table 1] Applicable tubing size of tubing cutter

Tube cutter product number	Applicable tubing outer diameter(mm)
TC01	~13(1/2inch)
TC04	~16(5/8inch)
HC03	~20(3/4inch)

2 Winding of sealant tape

The sealing tape should be bound 2-2.5 times in the correct direction, leaving one or two ridges unsealed from the end. Seal-processed brass connector of the QuickSeal series does not require sealing tape.



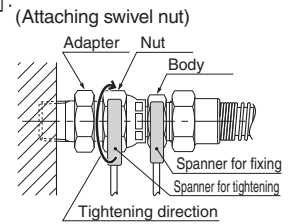
(Note)

- ☞ When the seal on brass connector becomes less effective, bind sealing tape around the seal-processed thread.
- ☞ Usually, a processed seal can be used two or three times.

- ⚠ Caution: When reattaching a seal-processed product, be careful not to let the sealing material contaminate the operating fluid.
- ⚠ Caution: When reattaching a fitting other than seal-processed products, remove the old seal on the thread and bind with new sealing tape. The old sealing tape could contaminate the operating fluid and cause problems.

3 Mounting

Use appropriate-size attachment tools to attach a fitting. Tighten the fitting to the recommended tightening torque given in [Table 2].



First, tighten by hand. Then tighten the nut with a torque wrench while fixing the nipple with a spanner.

- ⚠ Caution: The thread may become seized with high heat in the stainless type of fitting. Tighten slowly to prevent the thread from seizing.
- ⚠ Caution: Quick rotation of a torque wrench to tighten a swivel nut fitting generates small pressure on the sheet surface and could cause leakage.

[Table 2] Recommended tightening torque for QuickSeal series

Thread size (JIS B 0203 : 1999) (JIS B 0202 : 1999)	Recommended tightening torque (N · m)
R1/8	3.0-5.0
R1/4	7.0-9.0
R3/8	18.0-20.0
R1/2	20.0-22.0
G1/8	15
G1/4	25
G3/8	50
G1/2	60

4 Cut the tubing

Cutting tubes at a right angle with a tube cutter. Clean the surfaces of tubes before cutting. Select undented, undamaged, well-shaped tubes.



(Note)

- ☞ When you cut a DK tubing, be sure not to deform the tubing tip. An old blade cutter may cause deformation. Use a new tube cutter in this case.
- ☞ Use hose cutter HC01 for cutting S3/4-type nylon coil tubing.

- ⚠ Caution: Do not leave dirt, dents, damage, deformations, burrs, or fluff on the cut surface. Do not cut the tubes at a tilted angle. The seal of the connection, causing leakage.

5 Insert tubing into the nut and the sleeve

Insert tubing into the nut and the sleeve as shown in the photograph. The sleeve has a correct insertion direction. The thicker part should face the tubing end direction. Leave a space of more than 1cm long between the sleeve and the tubing end.



(Note)

☞ The millimeter and the inch size types of the QuickSeal series insertion type are distinguished by a punch mark (of tubing size) on the fitting body, the cut on the nut, and the sleeve color (millimeter: milky white, inch: black).

☞ Use a tubing insertion part (SI 3/4) for 3/4-size nylon coil tubing QuickSeal fitting.



6 Insert tubing

Insert the tubing into the fitting body until the tubing reaches the end.



(Note)

☞ The insertion length of the tubing is summarized in [Table 3]. See the table for reference.

⚠ Caution: If you use other manufacturers' tubes to make the connection, check that the outer diameter tolerance of the tubing lies in the range of the size tolerance given in [Table 4]. If it does not, leakage may occur. An improperly inserted tubing may cause disconnection or leakage.

[Table 3] Insertion length of QuickSeal series tubing

Type	Applicable tubing outer diameter (mm)	Insertion length of tubing (mm)	Type	Applicable tubing outer diameter (mm)	Insertion length of tubing (mm)	
Insertion type (group 4) DK tubing dedicated type	4	15	Insertion type (group 2)	3.18(1/8inch)	21	
	6	15		Insertless type	4	14
	8	16			6	14
	10	17			8	15
	12	18			10	18
16	23	12	19			
Insertion type (group 1) Insertion type (group 2)	3.18(1/8inch)	15	Type	Applicable tubing product number	Insertion length of tubing (mm)	
	4.76(3/16inch)	15		S3/16	16	
	6.35(1/4inch)	15		S1/4	18	
	7.94(5/16inch)	16		S3/8	22	
	9.53(3/8inch)	17		S1/2	29	
12.70(1/2inch)	18	S3/4	31			
15.88(5/8inch)	23					

[Table 4] Outer diameter tolerance of applicable tubing

Tubing material	Outer diameter tolerance of tubing (mm)
Polyurethane tubing	±0.1
Nylon tubing	±0.1

7 Tightening nuts by hand

Tighten the nut by hand.

(Note)

☞ It is recommended to mark the nut and the fitting body at the hand tightened position in order to check the number of rotations of the nut.



8 Tightening nuts and finishing work

Tighten the hand tightened nut with a spanner or a crescent wrench according to the appropriate number of rotations for tightening the nuts given in [Table 5].



(Note)

☞ Before inserting a tubing, mark the tubing at the insertion length from the end so that you can check if the tubing is properly inserted. If the marking moves 1-2mm from the sleeve end by tightening the nut, it is a sign that the nut is properly tightened.



- ⚠ Caution: The thread may become seized with high heat in the stainless type of fitting. Tighten slowly to prevent seizing of thread.
- ⚠ Caution: The appropriate number of rotations for tightening nuts varies depending on the size and material of sleeve. Be sure to check the appropriate number of rotations.
- ⚠ Caution: For use of the QuickSeal series at a high temperature within the working temperature range, tighten the nut periodically. If the nut cannot be tightened further, cut off the tubing end as well as the sleeve and repeat the steps from "4. Cut the tubing" with a new sleeve.

[Table 5] Appropriate number of rotations for tightening nuts

Sleeve material	Applicable tubing outer diameter (mm)	Appropriate number of rotations for tightening nuts	Sleeve material	Applicable tubing outer diameter (mm)	Appropriate number of rotations for tightening nuts
Nylon sleeve	4	2~2.5	Brass sleeve	4	1~1.5
	6	2~2.5		6	1~1.5
	8	2~2.5		8	1~1.5
	10	2~2.5		10	1.5~2
	12	2~2.5		12	1.5~2
	16	2~2.5		3.18(1/8inch)	1~1.5
Nylon sleeve	3.18(1/8inch)	2~3	4.76(3/16inch)	1~1.5	
	4.76(3/16inch)	2~3	6.35(1/4inch)	1~1.5	
	6.35(1/4inch)	2~3	7.94(5/16inch)	0.75~1.25	
	7.94(5/16inch)	2~3	9.53(3/8inch)	0.75~1.25	
	9.53(3/8inch)	2~3	12.70(1/2inch)	0.75~1.25	
	12.70(1/2inch)	2~3			
	15.88(5/8inch)	2.5~3			
			Type	Applicable tubing product number	Appropriate number of rotations for tightening nuts
			Nylon coil tubing dedicated type	S3/16	1.5~2
				S1/4	2~2.5
				S3/8	2~2.5
				S1/2	2.5~3
			S3/4	2~2.5	

9 Re-connect tubing

Cut off the tubing end as well as the sleeve and repeat the steps from "4. Cut the tubing" with a new sleeve. Confirm that there is no dirt, dents, damage, and or deformations on the tubing surface.

(Note)

☞ If you reuse a nut, check that the nut is not damaged. A damaged nut could cause problems such as improper tightening or leakage.

- ⚠ Caution: In the event internal pressure or heat changes the inner and outer diameters of tubing, replace the tubing with a new one.