

Instruction Manual for PushOne™ A and E Series

1 Preparation before piping

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



(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.
- Seal-processed thread of the PushOne 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 tube cutter

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

2 Attaching a fitting (re-attaching a fitting)

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



(Note)

- Usually, processed seal can be used two or three times.
- When the processed seal becomes less effective, bind sealing tape around the seal-processed thread. The sealing tape should be bound 2-2.5 times in the correct direction, leaving one or two ridges unsealed from the end.



- Caution:** When a hexagon spanner is used for hexagon socket connector, be sure not to touch the lock ring part or the tubing seal part of the fitting to prevent disconnection of tubing and leakage.
- Caution:** Over-tightening of M thread could break the thread part or deform gasket, causing leakage. Be sure to tighten the thread to the recommended torque.
- Caution:** When reattaching a fitting, be careful not to let the sealing material of the seal-processed part contaminate operating fluid.

[Table 2] Recommended tightening torque for PushOne series

Thread size (JIS B 0205 : 2001) (JIS B 0203 : 1999)	Recommended tightening torque (N · m)
M3	0.7
M5	1.2
M6	2.0
R1/8	3.0-5.0
R1/4	7.0-9.0
R3/8	18.0-20.0
R1/2	20.0-22.0

3 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.



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

4 Connect tubing and finishing work.

Insert the tubing steadily straight into the fitting until the tubing reaches the end. After inserting the tubing, try to pull it out gently and check that it will not pop out.



(Note)

- The insertion length of the tubing is summarized in [Table 3]. See the table for reference.
- 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. See [Table 3] for the tubing insertion length. If the mark comes to the edge of the release sleeve and if the tubing would not be pulled out easily, the tubing connection work is completed.
- The millimeter and the inch size types of the PushOne E series are distinguished by a punch mark (of tubing size) on the release sleeve and the release sleeve color (millimeter: blue, inch: white). $\phi 8$ and $\phi 5/16$ types share a release sleeve mold with the same size mark, and therefore should be distinguished only by the release sleeve color.



- ⚠ Caution: An improperly inserted tubing may cause disconnection or leakage.
- ⚠ 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.

[Table 3] Insertion length of PushOne series tubing

PushOne series	Applicable tubing outer diameter(mm)	Insertion length of tubing (mm)
PushOne A series Mini type	3	9
	4	10
	6	11
PushOne A series PushOne E series	4	13
	6	15
	8	16
	10	19
	12	20
	16	27
	6.35(1/4inch)	15
	7.94(5/16inch)	16
	9.53(3/8inch)	19
	12.70(1/2inch)	21

[Table 4] Outer diameter tolerance of applicable tubing

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

5 Disconnect tubing

Re-insert the tubing into the fitting body until the tubing reaches the end, and pull it out straight from the fitting while pushing the release sleeve evenly with two fingers. Do not twist the tubing when pulling it out.



- ⚠ Caution: If you try to pull out or twist a tubing without re-inserting it until it reaches the end and without sufficiently pressing the release sleeve, the tubing will not come out.
- ⚠ Caution: Be sure to make the internal pressure zero before disconnecting a tubing.

6 Re-connect tubing

Repeat the steps from “3. Cut the tubing”. If you re-connect a disconnected tubing, cut off the tip where a claw pattern is left. Also, confirm that there is no dirt, dents, damage, or deformations on the tubing.

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