

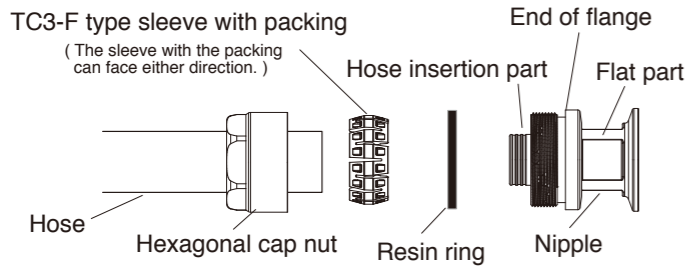
TC3-F-BL/RD/YE/GR type TOYOCONNECTOR® Handling Manual

Be sure to read this manual before using the connector.

Warning: A potentially hazardous situation which could result in death or serious injury.

This is an explanation of the "correct use" of TOYOCONNECTOR. Similar to individually sold hoses, please be aware of the restriction on use and follow the warnings below. Failure to observe these could result in injury or property damage.

Names of parts (materials)



Materials

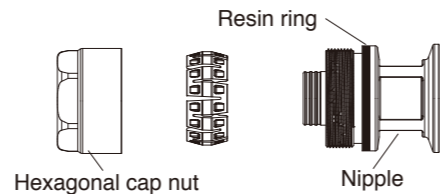
Nipple : SCS16 (SUS316L equivalent)
 Cap nut : SCS13 (SUS304 equivalent)
 Packing : Silicone rubber
 Resin ring : Polyacetal
 Sleeve : Polyacetal
 Surface finishing for the nipple and thread parts of hexagonal cap nut : PTFE

Before fitting

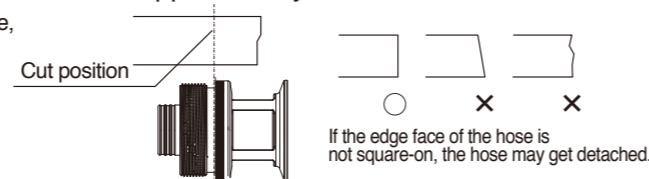
- When cutting a hose, please make sure that the edge face of the hose will become square-on.
- Make sure that the hose is inserted completely into the root of the hose insertion part.
- Warning** When inserting TOYOCONNECTOR TC3-F into hoses, never put grease on the surface of the hose insertion part. It would be a cause of hose being pulled out.
- Warning** Tighten until there is no space between the hexagon cap nut and nipple edge. If the nut becomes loose, the hose may become detached and liquid may leak. When tightening the nuts, please be careful not to get injured by slipping the " Adjustable (Power) Wrench ".
- Do not cut the hose insertion part or TC3-F type sleeve with packing in place with a knife or the like.
- After attaching the hose, make sure that the hose has not become detached and fluid does not leak at the connector.
- Use an " Adjustable (Power) Wrench " for tightening the nuts. Do not use a " Pipe Wrench ". It may damage hexagonal cap nuts.
- Take care to avoid injury from the sharp edges of the connector.

How to attach a hose

- Removing the hexagonal cap nut
Turn the hexagonal cap nut round and remove it from the nipple.
- Deciding the hose length and aligning and cutting the hose
Fix the nipple to the pipe to which the hose is to be mounted. Then, adjusting the hose length, cut the hose so that the edge face of the hose will become square-on. Please make sure that the hose is not pulled. When inserting the hose, please do not apply oil and the like to the nipple. It may cause the hose to detach.



- Note**
- If threads or hose debris is sticking out from the edge face of the hose, remove it with a nipper or the like.
 - Make sure that no hose debris or threads will get into the hose.
 - Make sure that the hose length is sufficient enough to prevent the bending stress of the hose from being applied near the joint.



3. Building in the joint

Remove the joint from the pipe before starting the assembling work. (This makes it easier to do the work.)
 Pass a hexagonal cap nut through the hose and put the TC3-F type sleeve with packing on the hose.
 Insert the hose into the end of the hose insertion part of the nipple.
 By drawing a line on the hose according to the " hose insertion depth " table right beforehand, you can insert the hose appropriately.
 This can be checked through the " insertion checking window. "

Appropriate hose insertion depth

TOYOCONNECTOR Code	mm
TC3- F15	13
TC3- F19	14
TC3- F25	17

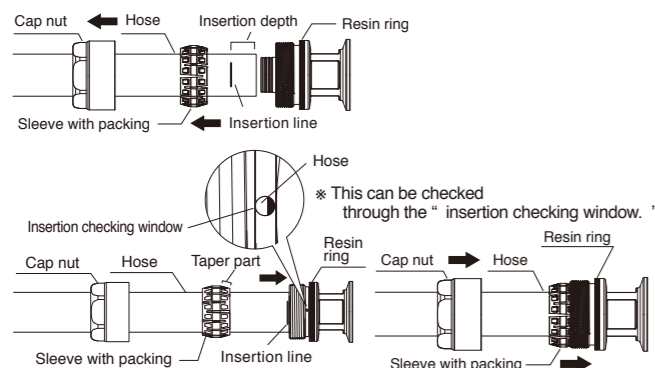


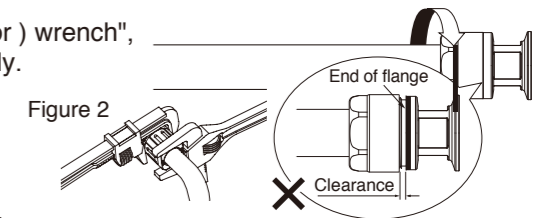
Figure 1



※ Fit the sleeve with the packing attached. If the packing comes off from the sleeve or becomes twisted, refit the packing with its outer circumferential grooves facing outwards to the recessed part of the sleeve as shown in figure .

As shown in figure 2, secure the flat part of the nipple with a "monkey (motor) wrench", check that the resin ring is flat and tighten the hexagonal cap nut completely.

- Note** For fastening, cutting scrap of resin (or threadlike substance) may be in rare cases come out. Please clear it off completely before use.
- Warning** Tighten the hexagonal cap nut completely until it touches the flange of the nipple to prevent the hose from becoming detached and the fluid from leaking.



- Fasten the hose to the pipe using a commercially available sanitary clamp. Mount the hose onto the pipe, making sure that the hose is not twisted.
- Clean the inside of the pipe without a failure (every time after a pipe is connected.) After cleaning, make sure that the hexagonal cap nut is not loose. If it is loose, retighten it.

Notes for use

- TOYOCONNECTOR is a hose joint used only for the following TOYOX hoses. TOYOX is not liable for any damages caused by using TOYOCONNECTOR with any other hose including those produced by TOYOX as well as those by other manufactures as full performance may not be achieved or maintained.
 ※ Hose compatibility depends on the connector. Confirm through the catalog or the homepage.
- Use TOYOCONNECTOR within the operating temperature and pressure ranges of the applicable hose.
- Do not fully bend the hose near the joint. Do not bend the hose beyond the minimum bending radius.
- Warning** Do not assemble or disassemble the connector while fluid is in the hose because the hose may become loose and the liquid will leak.
- Do not use the hose where there is vibration or shock. The fittings and resin ring may be damaged or the hose may become loose.
- During use, perform periodic inspections to make sure that the hose does not become detached from the fittings, the fluid does not leak, and the resin rings do not change color, deteriorate or become damaged.
- Do not allow anything other than the inner surface of the couplings or hose to come in contact with fluids, because the fluids may permeate the hose reinforcement layer or remain inside the couplings, and bacteria may propagate (attach to the parts) or the hose may deteriorate. Also, dust, hose fragments (reinforcement material) and ink adhering to the outer surface may be mixed in.
- Warning** Never use TC3-F for the below applications. Hoses may rupture or become loose.
 - For piping such as electromagnetic valve piping, which would put impact pressure on the piping.
 - Where vibration or impact will be applied to the connector
 - Using the hose above the operating temperature limit
 - Where constant tensile stress may be applied to the hoses
 - In a way that may cause static buildup (There is a danger of electrical shocks.)
- Before using TC3-F, make certain to sterilize and disinfect inside the hoses. (The hoses do not go through sterilization procedures before shipping.)
- When cleaning TC3-F, do not rub their surfaces with a hard brush or other things. Bacteria may grow in any damaged surface area of the resin rings.
- Warning** Products should be disposed of in accordance with the requirements of the local region.

Notes for Connector Reuse and Hose Replacement

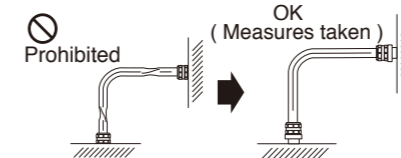
- Note** This connector should not be disassembled for cleaning on a daily basis.
- Warning** When replacing a hose or disassembling a joint, wait until the joint is cooled down to the room temperature. If not, you may get burned or the joint may get damaged.

- When you reuse TOYOCONNECTOR, a replacement TC3-Ftype sleeve with packing is required.
- The resin rings may change color, deteriorate or become damaged if they come into contact with fluid, depending on the type of fluid. Please replace the rings if you become aware of any abnormalities.
- Please make sure to use a brand-new hose.
- Before replacing a hose, always make sure to remove the fluid and dirt on the connector surface. Fluid and dirt remaining on connector may possibly cause fluid leakage and hose loosening.
- The service life of a joint varies with its use condition and other factors, but it is a good practice to replace it with a new one after it is removed five times or so.
- Do not hit the joint with a hammer or some other tools.

Warning

- The material used for the TOYOCONNECTOR flow pass (inner surface) is SCS16 (SUS316L equivalent) . Phenomena such as corrosion or fluid leaks may occur depending on the type of fluid. Before use, be sure to check data (refer to data on chemical resistance in the catalog or on the homepage) or make inquiries to the toll-free number. Please also make similar checks for fluid contact with the outer surface of joints.
- Do not use hoses when they are twisted. Partially twisted hoses are also a danger as they may cause internal structural damage leading to a " Burst ". Follow the examples below to take preventative measures.

Example 1)
Twisted hose while piping



Example 2)
Twist when bent

