

Be sure to read this manual before using the coupling.

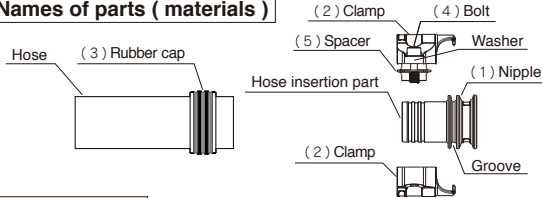
Warning A potentially hazardous situation which could result in death or serious injury.

This is an instruction for the correct use of TOYOCONNECTOR. Like the hoses itself, there are also limitations for the use of TOYOCONNECTOR. Please observe the following safety precautions fully. Failure to observe these could result in injury or property damage.

The TOYOCONNECTOR TC6-FN ferrule (Hereinafter referred to as " coupling ") is a coupling designed for exclusive use with the HYBRID TOYOFOODS-N HOSE.

Using this coupling with hoses other than the HYBRID TOYOFOODS-N HOSE could result in problems such as leakage or disconnection.

Names of parts (materials)



Materials

- (1) Nipple (Hose nozzle) : SCS16 (SUS316L equivalent)
- (2) Clamp : SCS14 (SUS316 equivalent)
- (3) Rubber cap : EPDM
- (4) Bolt : SUSXM7 (SUS304 equivalent)
- (5) Spacer : Polyacetal
- Washer (TC6-FN50 only) : Polyacetal
- Lubricant of the bolt screw portion : NSF " H1 " registered grease

Before fitting

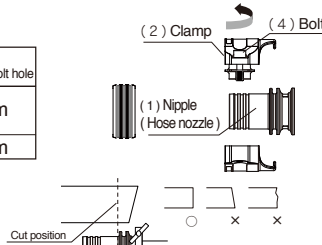
- Note** This coupling should not be disassembled for cleaning on a daily basis.
- Warning** When replacing a hose or disassembling a coupling, wait until the coupling is cooled down to the room temperature. If not, you may get burned or the coupling may get damaged.

1. When cutting a hose, please make sure that the edge face of the hose will become square-on.
2. If there are any loose strings or hard wires coming out from the end of the hose, be sure to remove such with nippers, etc. Take care such that the hose scraps, loose strings, or hard wires do not enter the hose.
3. Be sure to have a sufficient hose length so as not to apply a hose bending stress around a coupling.
4. Make sure that the hose is inserted completely into the root of the hose insertion part.
5. **Warning** When inserting hoses into TOYOCONNECTOR, never put grease on the surface of the hose insertion part. It would be a cause of hose being pulled out.
6. Fasten the clamp after confirming the direction of each component.
7. Be careful of injuries caused by tools slipping during the fastening process.
8. Be sure to use a " hex wrench " that is at least 180mm long to fasten the bolts (at least 200mm long for TC6-FN50). Fasten the 2 bolts evenly while alternating and fasten these until there are no gaps. When used in a state where there are gaps, trouble due to leaked fluids and detached hoses will occur. Refrain from using an impact driver when fastening the bolts. Doing so may damage the screws of the clamp.
9. **Note** Complete fastening cannot be achieved with uneven fastening.
10. **Note** A lubricant (Extreme pressure grease) registered with NSF " H1 " approved for use in areas that may accidentally come into contact with food " is applied to the screw portion of the clamp of TC6-FN.
11. **Note** When fastening the unit, there rarely may be cases when resin or metal dust (or stringy shavings) is generated. Be sure to remove such prior to use.

How to attach a hose

1. Loosen the (4) bolt and remove the (2) clamp from the (1) nipple.
2. Fix the (1) nipple onto the piping to which it will be attached. Next, while adjusting the length of the hose, cut the end of the hose vertically. Take care such that the tensile element of the hose is not applied.

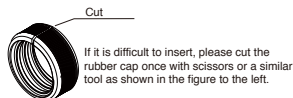
TOYOCONNECTOR Code	Size of hexagonal bolt hole
TC6-FN32	6mm
TC6-FN38	6mm
TC6-FN50	8mm



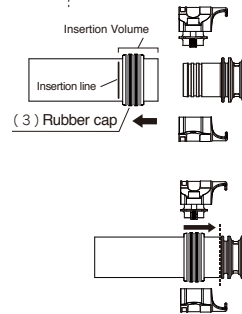
3. Remove the (1) nipple from the piping and perform the assembly. Place the (3) rubber cap over the hose. By marking a line in advance on the hose according to the " Appropriate Rubber Cap Insertion Volume " table on the right, it will be possible to appropriately align the position of the rubber cap.

Appropriate Rubber Cap Insertion Volume

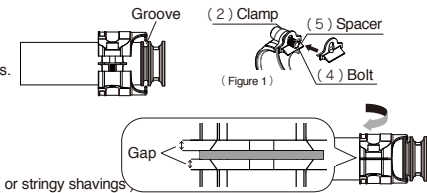
TOYOCONNECTOR Code	mm
TC6-FN32	40
TC6-FN38	45
TC6-FN50	55



4. Insert the hose equipped with the (3) rubber cap into the base of the hose opening of the hose insertion part.



5. Provisionally assemble the (2) clamp in line with the grooves on the (1) nipple. * If the (5) spacer has fallen off of the (4) bolt, provisionally assemble the (2) clamp after attaching the (5) spacer onto the (4) bolt. (Figure 1)
6. Fasten the 2 (4) bolts evenly while alternating and fasten these until there are no gaps. If there is any gap between the clamp components and you cannot fasten the clamp fully, leave the unit for a while and tighten the clamp again until there is no gap left.



- Note** Be sure to use a " hex wrench " that is at least 180mm long to fasten the bolts (at least 200mm long for TC6-FN50).
- Note** When fastening the unit, there rarely may be cases when resin or metal dust (or stringy shavings) is generated. Be sure to remove such prior to use.

7. Fasten the hose to the piping using a commercially available sanitary clamp. Mount the hose onto the pipe, making sure that the hose is not twisted.
- Note** Clean the inside of the pipe without a failure (every time after a pipe is connected.)

Notes for use

1. The TOYOCONNECTOR TC6-FN is a coupling designed for exclusive use with the HYBRID TOYOFOODS-N HOSE. If connected with hoses from other manufacturers or incompatible hoses, performance may not be fully demonstrated or maintained, and no guarantee can be provided in such case. (Applicable hose code : HTF-N)
2. Use TOYOCONNECTOR with in the operating temperature and pressure ranges of the applicable hose.
3. Hoses usable under negative pressures may not be applicable depending on applications and conditions (temperature, movement, etc.).
4. Do not use a hose that is extremely bent near a coupling. The bend radius of a hose should be larger than its minimum bend radius.
5. **Warning** Do not assemble or disassemble the coupling while fluid is in the hose because the hose may become loose and the liquid will leak.
6. Do not use the hose where there is vibration or shock. It may cause the coupling to break or the hose to become detached.
7. Perform a start-up inspection and routine inspections thereafter to ensure that the hose has not come away from the coupling, no fluid is leaking, and the bolt is tight while in use.
8. Do not allow anything other than the inner surface of the couplings or hose to come in contact with fluids (food, etc.), 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.
9. **Warning** Never use TC6-FN for the below applications. Couplings may be damaged, 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
 - Purposes that exceed the maximum temperature of use
 - 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.)
10. Before using TC6-FN make certain to sterilize and disinfect inside the hoses. (The hoses do not go through sterilization procedures before shipping.)
11. When cleaning TC6-FN, do not rub their surfaces with a hard brush or other things because doing so may damage the surfaces, and bacteria may propagate.
12. Please store the coupling at low temperature and humidity. Ensure the coupling is sealed for protection against dust and foreign matter.
13. Products should be disposed of in accordance with the requirements of the local region.

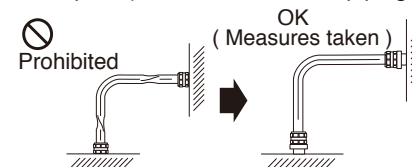
Notes for Connector Reuse and Hose Replacement

1. When reusing a TOYOCONNECTOR product, make sure that each of its components are not damaged prior to use. Be sure to replace the rubber cap. Please be sure to fasten the bolts after applying a commercially available lubricant (Extreme pressure grease) to the screw portions of the bolts and the clamp. Use of a lubricant (Extreme pressure grease) registered with NSF " H1 " approved for use in areas that may accidentally come into contact with food " is recommended.
2. Before replacing a hose, always make sure to remove the fluid and dirt on the coupling surface. Fluid and dirt remaining on coupling may possibly cause fluid leakage and hose loosening.
3. When reusing a TOYOCONNECTOR product, please make sure to use a brand-new hose.
4. Although this may differ depending on conditions of use, replace the unit with components or a new clamp set after it has been removed approximately 5 times.
5. Do not hit the joint with a hammer or some other tools.

Warning

1. 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). Please also make similar checks for fluid contact with the outer surface of couplings.
2. 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

