

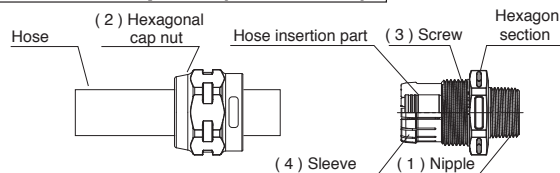
TC3-PC type TOYOCONNECTOR® Handling Manual

Be sure to read this manual before using the connector.

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

The TOYOCONNECTOR TC3-PC type is a hose coupling dedicated for TOYOX hoses, developed for factory facility piping and machinery embedding in order to increase chemical resistance and reduce the elution of metallic ions into pure water. Be sure to read the following precautions to make full use of the hose features safely. If you ignore the precautions, problems may occur due to hose disconnection or fluid leakage.

Names of parts (materials)



Materials : TC3-PC type

- (1) Nipple : PPSU (Polyphenylsulfone)
- (2) Hexagonal cap nut : PA(Nylon)
- (3) Screw : SPS (Syndiotactic polystyrene)
- (4) Sleeve : PP (Polypropylene)

Notes for installation

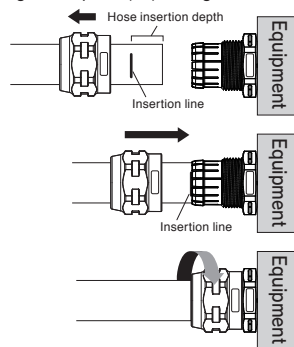
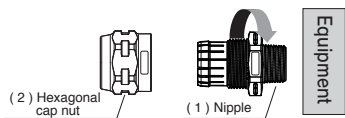
1. **⚠ Warning** Before use, make sure there are no chemicals adhering to this resin product. If harmful chemicals (solvents, surfactants, etc.) adhere, the resin will be affected and cause damage. Pay special attention to chemicals that may be on the worker's hands and tools or chemicals that may be atomized in the air of the workspace.
2. When cutting a hose, please make sure that the edge face of the hose will become square-on.
3. Be sure to have a sufficient hose length so as not to apply a hose bending stress around a coupling.
4. **⚠ Warning** When inserting TOYOCONNECTOR TC3-PC into hoses, never put grease on the surface of the hose insertion part. It would be a cause of hose being pulled out.
5. Make sure that the hose is inserted completely into the root of the hose insertion part.
6. Do not damage the surface of hose insertion part with blades and other items.
7. **⚠ Warning** Install at 10°C or above. Installing below 10°C will cause the resin to harden, possibly leading to damage under large momentary loads. After installing, use within the hose's operating temperature range should pose no problems.
8. **⚠ Warning** Use sealing tape for the pipe thread. Do not use thread sealants containing solvents. This may cause damage. When using non-solvent sealants, confirm the ingredients using the SDS, etc., and ensure that no harm will come to the customer. In addition, if using liquid sealant within the same piping or in other places, use the product only after the thread sealant has hardened.
9. **⚠ Warning** Tighten the hexagonal cap nut completely. 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 ".
10. Use an " Adjustable (Power) Wrench " for tightening the nuts. Do not use a " Pipe Wrench ". It may damage hexagonal cap nuts.
11. **⚠ Note** Be careful not to over tighten the resin box nut and nipple. Excessive tightening will cause damage. In addition, securely fasten the hexagonal portion with a " monkey (motor) wrench " until there are no gaps. Excessive fastening or the use of a non-fitting wrench on the hexagonal portion may cause damage.
12. Take care to avoid injury from the sharp edges of the connector.
13. After installation and prior to use, be sure to confirm that fluids are not leaking from the joint areas sections. Furthermore, refrain from use when damage or deformation can be recognized.

How to install a hose

* Installation method is common to each hose.

⚠ Note Be careful not to over tighten the resin box nut and nipple. Excessive tightening will cause damage. In addition, securely fasten the hexagonal portion with a " monkey (motor) wrench " until there are no gaps. Excessive fastening or the use of a non-fitting wrench on the hexagonal portion may cause damage.

1. First, attach a nipple (1) to the equipment / machine.
2. Pass a hexagonal cap nut (2) through the hose.

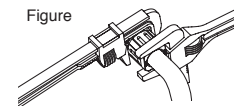


3. Insert the hose into the end of the hose nozzle of the hose insertion part. By drawing a line on the hose according to the " hose insertion depth " table below beforehand, you can insert the hose appropriately.

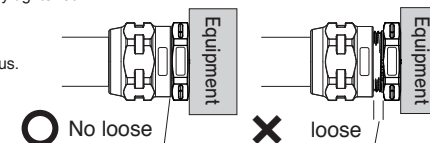
Suitable hose insertion amount (Distance from hose end)

TOYOCONNECTOR Code	mm	TOYOCONNECTOR Code	mm
TC3-PC 9	18	TC3-PC19	21
TC3-PC12	18	TC3-PC25	22
TC3-PC15	19		

4. As shown in figure, secure the hexagonal part of the nipple (1) with another " monkey (motor) wrench, " and tighten the hexagonal cap nut (2) completely. Tightening the nipple (1) without securing it may cause the nipple to turn at the same time and break the thread for the piping.
* A knocking feel while tightening the box nut indicates that the hexagonal cap nut (2) has been adequately tightened.



⚠ Warning Be sure to check the tightening status.



Notes for use

1. TOYOCONNECTOR is a hose coupling 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.
2. Use TOYOCONNECTOR within 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. Not suitable for sanitary piping (foods, etc.), as there is a bump in the screw section.
5. Do not fully bend the hose near the coupling. Do not bend the hose beyond the minimum bending radius.
6. **⚠ 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.
7. Perform periodic inspections during and before use to make sure that the hose does not become detached from the coupling and the fluid does not leak.
8. **⚠ Warning** Never use TC3-PC 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
 - 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.)
9. Refrain from outdoor use. The strength of the resin will deteriorate due to sunlight, causing shortening of the life of the product. Also refrain from use near sources of heat.
10. There are some fluids for which this product is not suitable. Usable fluids may be found in the chemical resistance data for coupling fluid contact surfaces (PPSU resin) on the TOYOX website; determine fluid suitability based on the actual devices and conditions used. Be especially cautious with regards to harmful chemicals such as solvents and surfactants as they will cause considerable harm to the resin and result in damage. The product durability (lifetime) will also vary depending on conditions including usage methods, temperature, pressure, concentration and so on.
11. Make sure that the chemical fluid passing through the product does not adhere anywhere but the nipple body. Only the nipple body is chemically resistant. As well, check thoroughly for fluid contact with the outer surface of the coupling.
12. 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.

Notes for Connector Reuse of coupling and replacement of hoses

1. **⚠ Warning** Because the TOYOCONNECTOR TC3-PC type is made of resin, it cannot be reused.
2. Please make sure to use a brand-new hose.
3. 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.

⚠ Warning

1. 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.

