

Precautions to ensure safe usage

The precautions given below are intended to ensure safe and correct use of the products.
Note that certain restrictions apply to use of these products. Failure to observe these could result in injury or property damage.

⚠ Warning	A potentially hazardous situation which could result in death or serious injury.
⚠ Caution	A dangerous situation which could result in minor or medium injury and/or in which only property damage is foreseen.

Note: See the terminology glosses on our website for words marked with a ※.

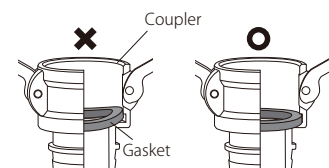
KAMLOK 633 SERIES (TWINLOK TYPE)

① Notes for installation

1. Select the main unit and gasket materials suitable for the fluid used.
2. Chemicals which are dangerous when permeating (active gases, etc.) should not be used in gaseous form.
3. Use the products within their intended working pressure range.
4. Do not apply external force (impact/vibration) to coupling units, cam arms, or parts.
This may lead to damage or cause fluid leakage or trouble with the fall-off prevention function.
5. Avoid pulling or dragging the hoses on the floor. Doing so may cause the cam arms to catch against an object and unlock, creating hazardous conditions.
6. We recommend grasping the couplers when moving the hoses.
7. Avoid applying loads on joints. This may cause fluid spills.
8. Use appropriate torque when installing a threaded product.
Apply sealing tape and sealing agents to threaded areas when installing fittings into pipes. Parts connected metal-to-metal and of the same material may stick fast and prevent disassembly.
Do not connect KAMLOK couplers or adapters to couplings made of differing materials.
10. Connection of different materials may cause fluid leakage, corrosion (electrocorrosion), or trouble opening and closing cam arms.
11. Dismantle the KAMLOK connection only after confirming that there is no residual pressure or materials.
12. To avoid burns during use with high-temperature fluids, avoid direct contact with the coupling.
13. Wear gloves and safety shoes to prevent injury during installation and operation.
14. Position the coupler on the lower side when installing KAMLOK fittings.
15. High fluid flow rates may result in cavitation that abrades or damages the inner surface of the KAMLOK. Perform inspections at the appropriate intervals.
16. 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.
17. Do not immerse the coupling body in fluid.
Take sufficient care in contexts in which liquid and highly sticky fluids may adhere to the arms and fixed parts.
18. This may affect arm fixing and disassembly if fluids adhere thereto.
Do not apply overload or drag arms up violently when cam arms are fixed.
This may lead to damage to the parts or couplings, causing arm fall-off functions and arm temporary fixing to cease to function.
20. Do not disassemble TWINLOK parts. Contact Toyox regarding replacement of arms and parts.
When connecting KAMLOK, chip dust may transpire due to cam arm tightening.
Remove chip dust before use.
21. The operating temperature range of aluminum (AL), bronze (BR) and stainless steel (SST) is in accordance with the operating temperature range of the gasket to be used.
The operating temperature range of the hose shank is in accordance with the operating temperature range of the gasket or hose to be used.
The operating temperature range of polypropylene (PP) is 0 to 60°C.
22. When crimping is used to tighten a hose connection, depending on the conditions the hose shank may become deformed or crack. Ensure there are no leaks, cracks or other abnormalities before use.

② Notes for gaskets

1. Before using the coupler, check to confirm that the gasket fits into the groove of the coupler main unit.
(See figure to the right)
2. Foreign matter adhering to the gasket seat can make it hard to close the cam arms and may lead to spills.
Inspect and remove any foreign matter.
3. When using a fluorine resin (PTFE) gasket, if the coupler and adapter size is 1/2", use a 1/2" gasket.
4. Because fluorine resin type gaskets using fluorine resin (PTFE and FEP) lack elasticity, they may leak depending on conditions of use.
5. Assess the force required to close the cam arms when connecting or disconnecting KAMLOK fittings. If the force required is too low, the gasket seal may be compromised. In this case, we recommend replacing the gasket.
※ If closing the cam arms feels too easy even after replacing the gasket, the main unit may be damaged. If so, replace the main unit.



③ Notes for inspections

1. **Startup inspections:** Before starting operations, check to confirm that the fittings are free of abnormalities and that the cam arms are fully closed.
2. **Regular inspection:** During periods in use, be sure to perform regular inspections.

What to do if an abnormality is found

If you observe signs of abnormalities like those below during startup inspections or periodic inspections, stop using the product immediately. Replace with a new product.

1. The main unit or any of the components show large scratches, cracks, deformation, or projecting pins.
(The service life of the main unit, cam arms, and gaskets depends on materials and usage conditions. We recommend replacement at periodic intervals.)
2. Closing the cam arms feels too easy when connecting or disconnecting KAMLOK fittings.

④ Notes for storage

1. Use dust plugs and dust caps to prevent accumulating dust and damage or deformation of the sealing surface.
2. Remove residual fluid from the main unit after use.
3. When not in use, store the cam arms in a fixed position so as to avoid fall-off.
When cam arms are opened, parts are exposed, leading to the risk of deformation through external force or injury.

⑤ Notes for disposal

1. Comply with all local waste separation rules when disposing of the products.
※ Please feel free to contact us with any other questions.