

## Safety Precautions

The safety precautions provide instructions for the safe use of NITTO KOHKI coupling "CUPLA" to avoid the potential danger of bodily harm or damage to surrounding property. The safety precautions are categorized under the headings **Danger, Warning and Caution**, in accordance with the degree of potential hazard to the body or surrounding property, if CUPLA is used incorrectly. They are all important notes for safety and must be followed as well as in accordance with International standards #1 and other local safety regulations #2.

#1: ISO 4413, Hydraulic Fluid Power – General rules relating to systems    ISO 4414, Pneumatic Fluid Power – General rules relating to systems  
#2: Industrial Health & Safety law (for example)



**DANGER**

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



**DANGER**  
Stop using the product immediately if there is any anticipated danger of operation or reduced safety.



**WARNING**

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**WARNING**  
The enclosed safety precautions are only a guideline. When using CUPLA, you are requested to pay particular attention to possible hazardous situations for the application which are not stated in the safety precautions.



**CAUTION**

Indicates a potentially hazardous situation which, if not avoided, may result in personal injury or property damage.

## Caution When Selecting CUPLA



**DANGER**

- Connection to a coupling of another brand may cause imperfect connection or disconnection, reduced air tightness, impaired pressure resistance or durability, reduced flow rate and potentially result in an unexpected accident and therefore must be avoided. Nitto Kohki cannot accept liability for any accident that may result by mixed use with the coupling of another brand. Please be sure to check for our marks on the right hand side of this page, which are always inscribed on NITTO KOHKI coupling "CUPLA" when you order and purchase.
- Do not use CUPLA under conditions and environments other than specified in the catalog.



**WARNING**

- Please consult us prior to use if CUPLA is required for use on machines, equipment or systems (hereafter referred to as "equipment, systems, etc.") for sustaining or controlling human life or body.
- When CUPLA is used for the purpose of ensuring safety, please consult us beforehand.
- The compatibility of the product with specific equipment, systems, etc. must be determined by the person designing the equipment, systems, etc. or the person who decides its specifications based on necessary analysis and test result. The expected performance and safety assurance of the equipment, systems, etc. will be the responsibility of the person who has determined its compatibility with the product.
- If CUPLA is to be used for the following applications, please consult us:
  - Vehicles, aircraft and associated equipment systems that accommodate people
  - Medical facilities or suction equipment that directly affects human body
  - Equipment that directly comes into contact with and runs food, drugs or medicines, drinking water, atomic energy equipment or equipment that ensures safety.
- Selecting the wrong type of seal material may cause a leak. In making your selection, please check the compatibility of the seal material with the type of fluid and temperature used in the application.
- Please consult us prior to selection or use of CUPLA when they are intended for use with corrosive or flammable gases/liquids and/or in atmospheres of these types of gases and liquids.

### Warranty and Disclaimer

**Our responsibilities for the defects in our products shall be as follows:**

- We shall be responsible for any defects in design, material or workmanship of our products, if it is apparent that such defects are due to reasons solely attributable to us.
- Our responsibilities shall be limited to one of the following, as determined by us:
  - (a) repair of any defective products or parts thereof,
  - (b) replacement of any defective products or parts thereof; or
  - (c) compensation for loss and damages incurred by you, which shall in no case exceed the amount of your purchase price for the defective products.
- We shall in no case be liable for any special, indirect or consequential loss or damages, whether such loss or damages are those arising from work stoppage, impairment of other goods or death or personal injury.

### Performance, Dimensions and Its Limitation

Please note the performance charts and outside dimensions in this catalog do not take into account any tolerances found in mass production. The information is an average or standard value to be a guide for selecting models and to enable technical appraisal by users.

### Beware of Imitations

Recently, similar products which invite misidentification or confusion with NITTO KOHKI coupling "CUPLA" have appeared on the market. Connection with such a similar product to NITTO KOHKI coupling "CUPLA" may cause:

1. Imperfect connection or disconnection
2. Reduced air tightness
3. Impaired pressure resistance or durability
4. Reduced flow rate

and could result in unexpected accidents.

Therefore, connection other than with NITTO KOHKI coupling "CUPLA" must be avoided.

Please be sure to check for our original marks on the right hand side of this page, which are always inscribed on NITTO KOHKI coupling "CUPLA" products, when you order and purchase.

### Note:

**Nitto Kohki cannot accept any liability for any accident that may occur as a result of using couplings of another brand in conjunction with our own.**

### Markings



# Safety Guide

The following precautions must be taken when using CUPLA. Please contact Nitto Kohki or the outlet / supplier where you purchased the product with regard to repair procedures, certification on the specification or applications of the products.



## Precautions Relating to the Use of All CUPLA products

Be sure to read the "Instruction Sheet" that comes with the product or "Caution" on the package before use.

### CUPLA for Low Pressure (Air)

#### ⚠ Caution

- Prior to use, check the compatibility of the seal material and body material against the temperature and the fluid to be used. Selecting the wrong seal material will lead to leakage.
- As to the use of any special paint or solvent, make thoroughly sure of the material compatibility.
- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- Only use CUPLA that are within their rated temperature range. Otherwise this can lead to leakage through seal deterioration or damage. It cannot be used continuously at its lowest or highest rated working temperature.
- The durability of CUPLA differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions. Also, stress corrosion cracking may occur if used under corrosive environment. Take note of usage conditions.
- The working pressure and working temperature range for hose barb types and braided hose connection types differs depending on the hose to be used.
- Prior to use, confirm that the temperature and the type of fluid to be used is suitable for the hose.
- When cleaning CUPLA, care must be taken not to use any material that will affect the seal and body materials.
- Apply a fluoropolymer resin sealant tape on male tapered pipe threads to ensure no leak. (Applies to thread type)
- Do not exceed the recommended maximum torque when screwing in to the male or female thread of CUPLA for installation. It will cause damage. (Applies to thread type, Nut type)
- Care must be taken when installing CUPLA not to overtighten or cross thread, this can cause damage and lead to leakage. (Applies to thread type, Nut type, especially body material: stainless steel)
- Do not use anything other than the applicable hose or tube sizes. It will cause leakage. (Applies to hose or tube fitter connection type)
- Insert the barb (tail) fully into a hose or a tube and secure it tightly with a hose clamp or a nut. Incomplete insertion or insufficient clamping will lead to leakage or sliding off of a hose or a tube from the barb (tail). (Applies to hose or tube fitter connection type)
- Never strike CUPLA when inserting barb (tail) into hose or tube. This could cause poor connection. (Applies to hose or tube fitter connection type)
- Do not use damaged (cracked) or deteriorated hoses or tubes. It will lead to leakage or bursting of hoses or tubes. (Applies to hose or tube fitter connection type)
- Cut off the hose or tube at a designated length from the end when reusing it. Failure to do so will lead to leakage or bursting of the hose or tube. See the "Instruction manual" enclosed with the product for the normal length. (Applies to hose or tube fitter connection type)
- Prior to use, always perform a leak test after installing CUPLA.
- After connection, try to pull the socket and plug apart to confirm secure connection. If the connection is incomplete, the socket and plug may disconnect when pressurized.
- Care should be taken when disconnecting CUPLA whilst still pressurized. To prevent injury due to the Plug popping out, the Socket should be held firmly in one hand and the Plug in the other.
- If the medium is gas, an audible bang may be heard on disconnection. We recommend disconnecting this CUPLA in an unpressurized state. (Except for CUPLA with purge function)
- Put a designated dust cap on CUPLA after disconnection when there is a possibility of foreign matter such as dirt sticking to the seal surface.
- Always install a shut-off valve between the pressure source and CUPLA.
- Do not use with any fluid or medium other than what is specified, to do so could cause leakage or damage.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA.
- Always let fluid flow from socket to plug. It will result in reduced flow. (Except for HI CUPLA Two Way Type)
- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. It will lead to malfunction or leakage.
- Do not let paint stick to CUPLA. It will cause malfunction or leakage.
- Be careful not to put scratches or dents on CUPLA. Especially, scratches on the sealing parts will cause leakage.
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime. The use of a 'Leader' or 'Whip' hose of approx. 30 cm in length between CUPLA and equipment is recommended to help alleviate this.
- Use only as quick connect couplings for fluid pipelines. (It cannot be used as a swivel joint)
- Only use CUPLA in a combination with NITTO KOHKI coupling "CUPLA".
- Do not disassemble CUPLA. It will cause leakage or damage.

### Cautions on Handling CUPLA HOSE

#### ⚠ Caution

- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- Only use CUPLA that are within their rated temperature range. Otherwise the hose will get damaged or deteriorate and cause leakage. It cannot be used continuously at its lowest or highest rated working temperature.
- Do not use on systems that have a high water content, such as drain discharge, this can damage the hose.
- The durability of the Hose differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions.
- Make sure that there is no twist or bend on the hose before use.
- Do not exceed the maximum extensible length, to do so will damage the hose. See catalogue page for full specification details. (Applies to NK CUPLA COIL HOSE)
- Do not bend the hose less than the minimum-bending radius. It will cause damage to the hose. (ø6.5xø10 mm minimum-bending radius :40 mm, ø8.5xø12.5 mm minimum-bending radius : 50 mm : Applies to NK CUPLA HOSE)
- Do not use with any fluid or medium other than what is specified, to do so could damage the hose.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA. The inclusion of foreign matter in the fluid could damage the hose.
- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. This may cause damage to the hose.
- Do not use near fire. It will soften or deform the hose and cause damage to the hose.
- Take care not to damage the hose by dragging over rough ground or concrete. It is also important to ensure that the hose does not become kinked or crushed for long periods.
- Do not use for lifting or hoisting, this can damage the hose.
- Store in a shaded, dry and well-ventilated place.
- Cut off the hose at least 3 cm from the end when reusing it. Failure to do so will lead to leakage or bursting of the hose.
- Prior to use, always perform a leak test after installing CUPLA.

### CUPLA for Oxygen / Fuel Gas

#### ⚠ Warning

- Do not use with any fluid or medium other than what is specified, to do so could cause leakage or damage.
- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- Replace CUPLA with a new one if backfire occurs. Backfire damages the body and the seal and will lead to leakage or damage.
- Do not use damaged (cracked) or deteriorated hoses. It will lead to leakage or bursting of hoses. (Applies to hose barb type)
- Never let oil adhere to CUPLA when installing a hose. It will cause spontaneous fire.
- Insert the barb (tail) fully into a hose and secure it tightly with a hose clamp or a nut. Incomplete insertion or insufficient clamping will lead to leakage or sliding off of a hose from the barb (tail). (Applies to hose barb type)
- Prior to use, always perform a leak test after installing CUPLA. Always check for leakage on CUPLA before use. If any leakage is found, stop using immediately.
- Cut off the hose at least 3 cm from the end when reusing it. Failure to do so will lead to leakage or bursting of the hose. (Applies to hose barb type)
- Do not use CUPLA near fire or places where gas accumulates. It will lead to fire or explosion.
- Make sure that the valve on the torch is closed before connecting to CUPLA. If connected with valve open, the gas will flow out and could cause a fire or explosion.
- Do not disassemble CUPLA. It will cause leakage or damage.

#### ⚠ Caution

- Only use CUPLA that are within their rated temperature range. Otherwise this can lead to leakage through seal deterioration or damage. It cannot be used continuously at its lowest or highest rated working temperature.
- The durability of CUPLA differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions. Also, stress corrosion cracking may occur if used under corrosive environment. Take note of usage conditions.
- Make sure that O-rings and Packing seals are lubricated with our designated lubricant at all times. The O-rings will get damaged and cause leakage. Not using the designated lubricant will lead to spontaneous fire. (Ask us for the designated lubricant)
- Apply a fluoropolymer resin sealant tape on male tapered pipe threads to ensure no leak. (Applies to thread type)
- Do not exceed the recommended maximum torque when screwing in to the male or female thread of CUPLA for installation. It will cause damage. (Except for hose barb type)
- Do not use anything other than the applicable hose sizes. It will cause leakage. (Applies to hose barb type)
- Never strike CUPLA when inserting barb (tail) into hose. This could cause poor connection. (Applies to hose barb type)
- Do not use damaged (cracked) or deteriorated hoses. It will lead to leakage or bursting of hoses. (Applies to hose barb type)
- After connection, try to pull the socket and plug apart to confirm secure connection. If the connection is incomplete, the socket and plug may disconnect when pressurized.
- Care should be taken when disconnecting CUPLA whilst still pressurized. To prevent injury due to the Plug popping out, the Socket should be held firmly in one hand and the Plug in the other.
- If the medium is gas, an audible bang may be heard on disconnection. We recommend disconnecting this CUPLA in an unpressurized state.
- Always install a shut-off valve between the pressure source and the socket.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA.
- Always let fluid flow from socket to plug. It will result in reduced flow.
- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. It will lead to malfunction or leakage.
- Do not let paint stick to CUPLA. It will cause malfunction or leakage.
- Be careful not to put scratches or dents on CUPLA. Especially, scratches on the sealing parts will cause leakage.
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime.
- Use only as quick connect couplings for fluid pipelines. (It cannot be used as a swivel joint)
- Only use CUPLA in a combination with NITTO KOHKI coupling "CUPLA".
- Store CUPLA in a dry environment. Moisture will cause corrosion and may also freeze in low temperatures, which may cause malfunction of CUPLA or other equipment.



## Precautions Relating to the Use of All CUPLA products

Be sure to read the "Instruction Sheet" that comes with the product or "Caution" on the package before use.

### MOLD CUPLA / FLOW MONITOR / FLOW METER / HOT WATER CUPLA

#### Warning

- Do not apply pressure to CUPLA socket while it is disconnected. It will cause leakage or damage. (Applies to MOLD CUPLA or HOT WATER CUPLA)
- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- The fluid in the piping of the plug side will spill out upon disconnection. When using for hazardous fluids (such as hot fluid), discharge all the fluid inside CUPLA before disconnecting, in order to prevent burns, etc. (Applies to MOLD CUPLA)

#### Caution

- Prior to use, check the compatibility of the seal material and body material against the temperature and the fluid to be used. Selecting the wrong seal material will lead to leakage.
  - As to the use of any special paint or solvent, make thoroughly sure of the material compatibility.
- Only use CUPLA that are within their rated temperature range. Otherwise this can lead to leakage through seal deterioration or damage. It cannot be used continuously at its lowest or highest rated working temperature.
- Even if used within the rated operating temperature range, prolonged use of the FLOW METER when under pressure and with the temperature in the upper regions will cause leakage. (Especially when the valve is fully open)
- The durability of CUPLA or FLOW METER differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions.
  - Also, stress corrosion cracking may occur if used under corrosive environment. Take note of usage conditions.
- The working pressure and working temperature range for hose barb types and braided hose connection types differs depending on the hose to be used.
  - Prior to use, confirm that the temperature and the type of fluid to be used is suitable for the hose. (Applies to MOLD CUPLA)
- Make sure that O-rings and Packing seals are lubricated with grease at all times. If not, the O-rings will get damaged and cause leakage.
- Apply a fluoropolymer resin sealant tape on male tapered pipe threads to ensure no leak. (Applies to MOLD CUPLA thread type or FLOW MONITOR or FLOW METER or HOT WATER CUPLA)
- Do not exceed the recommended maximum torque when screwing in to the male or female thread of CUPLA for installation. It will cause damage.
  - When installing FLOW METER, in order to protect the spherical surface of the ball valve, install it with the valve in a fully opened state as a rule. (Applies to MOLD CUPLA thread type or FLOW MONITOR or FLOW METER or HOT WATER CUPLA)
- When the valve is fully open or closed, there will be a void between valve body and the ball valve which can trap a small amount of fluid under pressure.
  - Before taking the body off from the piping, partially open the valve to allow the pressure to discharge. (Applies to FLOW METER)
- Do not use anything other than the applicable hose sizes. It will cause leakage. (Applies to hose barb type)
- Insert the barb (tail) fully into a hose and secure it tightly with a hose clamp. Incomplete insertion or insufficient clamping will lead to leakage or sliding off of a hose from the barb (tail). (Applies to hose barb type)
- Never strike CUPLA when inserting barb (tail) into hose. This could cause poor connection. (Applies to hose barb type)
- Do not use damaged (cracked) or deteriorated hoses. It will lead to leakage or bursting of hoses. (Applies to hose barb type)
- Cut off the hose at least 3 cm from the end when reusing it. Failure to do so will lead to leakage or bursting of the hose. (Applies to hose barb type)
- Prior to use, always perform a leak test after installing CUPLA.
- After connection, try to pull the socket and plug apart to confirm secure connection. If the connection is incomplete, the socket and plug may disconnect when pressurized. (Applies to MOLD CUPLA or HOT WATER CUPLA)
- Do not connect/disconnect with fluid still under dynamic pressure or static residual pressure. It will cause damage to the valve. (Applies to MOLD CUPLA or HOT WATER CUPLA)
- Always install a shut-off valve between the pressure source and CUPLA.
- Do not use with any fluid or medium other than what is specified, to do so could cause leakage or damage.
- Use it in the state that the fluid does not freeze in the case of water. If it freezes, it will cause damage to CUPLA.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA.
- Design and keep the fluid flow speed through CUPLA below 8 m/s. It will cause damage to the packing if used at 8 m/s or over.
- When using FLOW METER, operate the ball valve slowly to prevent water hammer from occurring.
- Let fluid flow in the direction of the arrow shown on the FLOW METER. (Applies to FLOW METER)
- The FLOW METER may cause malfunction of the float due to contamination of foreign matter, water scale or air bubbles inside the fluid.
- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. It will lead to malfunction or leakage.
- Do not let paint stick to CUPLA. It will cause malfunction or leakage.
- Be careful not to put scratches or dents on CUPLA. Especially, scratches on the sealing parts will cause leakage. (Applies to MOLD CUPLA or HOT WATER CUPLA)
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime.
- Use only as quick connect couplings/flow meter for fluid pipelines. (It cannot be used as a swivel joint)
- Only use CUPLA in a combination with NITTO KOHKI coupling "CUPLA". (Applies to MOLD CUPLA or HOT WATER CUPLA)
- Do not disassemble CUPLA. It will cause leakage or damage.
- When storing FLOW METER, ensure that the valve is fully open. If stored with the valve partially open, the packing will deform and cause leakage.
- Do not replace the Flow Vane ASSY when FLOW MONITOR is in high temperature state, pressurized state or when pressure is remaining.
- Do not replace the Flow Vane ASSY with the stop valve open. Be sure to install a stop valve on the source pressure side of FLOW MONITOR. The impeller may stop even if fluid is flowing due to foreign matter. (Applies to FLOW MONITOR)
- FLOW MONITOR is designed mainly for water. If water containing oil or rust preventive agent is used, the durability of plastic parts may be reduced.
  - After checking with the actual machine under your operating environment conditions, please determine whether FLOW MONITOR can be used.
- Prior to use, always perform a leak test after installing FLOW MONITOR and replacing the Flow Vane ASSY. (Applies to FLOW MONITOR)
- Attach the Stopper to the notch on the main unit. (Applies to FLOW MONITOR)
- Be sure to purify the working fluid through a mesh filter smaller than 40 mesh. (Applies to FLOW MONITOR)
- Use FLOW MONITOR in the flow rate range of 2 L/min to 20 L/min. (Applies to FLOW MONITOR)
- When flowing air into FLOW MONITOR (Air purge of mold temperature controller, etc.), do not flow continuously for a long time. It may cause malfunction of the impeller and damage to plastic parts. (Applies to FLOW MONITOR)
- Do not use it for any purpose other than visual inspection of fluid flow. (Applies to FLOW MONITOR)
- FLOW MONITOR has a swivel structure, but do not rotate it except for installation and removal.
- When cleaning FLOW MONITOR, use a method that will not affect the seal material, plastic and body material.

### CUPLA for Low Pressure (Water, Liquid) and for Medium Pressure

#### Warning

- Do not apply pressure to CUPLA socket or plug while they are disconnected. It will cause leakage or damage. (Applies to Valve Structures: Two-way shut-off type and One-way shut-off type)
- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- The fluid in the piping will spill out upon disconnection. When using for hazardous fluids (such as hot fluid), discharge all the fluid inside CUPLA before disconnecting, in order to prevent burns, etc. (Applies to Valve Structures: Straight through type and One-way shut-off type)

#### Caution

- Prior to use, check the compatibility of the seal material and body material against the temperature and the fluid to be used. Selecting the wrong seal material will lead to leakage.
  - As to the use of any special paint or solvent, make thoroughly sure of the material compatibility.
- Only use CUPLA that are within their rated temperature range. Otherwise this can lead to leakage through seal deterioration or damage. It cannot be used continuously at its lowest or highest rated working temperature.
- Even if used within the rated operating temperature range, prolonged use of TSP CUPLA Socket with Ball Valve when under pressure and with the temperature in the upper regions will cause leakage. (Especially when the valve is fully open)
- The durability of CUPLA differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions.
  - Also, stress corrosion cracking may occur if used under corrosive environment. Take note of usage conditions.
- The working pressure and working temperature range for hose barb types and braided hose connection types differs depending on the hose to be used.
  - Prior to use, confirm that the temperature and the type of fluid to be used is suitable for the hose or tube.
- When cleaning CUPLA, care must be taken not to use any material that will affect the seal and body materials.
- Make sure that O-rings and Packing seals are lubricated with grease at all times. If not, the O-rings will get damaged and cause leakage. (Except CUPLA with end face seal construction)
- Apply a fluoropolymer resin sealant tape on male tapered pipe threads to ensure no leak. (Applies to thread type)
- Do not exceed the recommended maximum torque when screwing in to the male or female thread of CUPLA for installation. It will cause damage.
  - When installing TSP CUPLA Socket with Ball Valve, in order to protect the spherical surface of the ball valve, install it with the valve in a fully opened state as a rule. (Applies to thread type, Nut type)
- Care must be taken when installing CUPLA not to overtighten or cross thread, this can cause damage and lead to leakage. (Applies to thread type, Nut type, especially body material: stainless steel)
- When the valve is fully open or closed, there will be a void between valve body and the ball valve which can trap a small amount of fluid under pressure.
  - Before taking the body off from the piping, partially open the valve to allow the pressure to discharge. (Applies to TSP CUPLA Socket with Ball Valve)
- Do not use anything other than the applicable hose or tube sizes. It will cause leakage. (Applies to hose or tube fitter connection type)
- Insert the barb (tail) fully into a hose or a tube and secure it tightly with a hose clamp or a nut. Incomplete insertion or insufficient clamping will lead to leakage or sliding off of a hose or a tube from the barb (tail). (Applies to hose or tube fitter connection type)
- Never strike CUPLA when inserting barb (tail) into hose or tube. This could cause poor connection. (Applies to hose or tube fitter connection type)
- Do not use damaged (cracked) or deteriorated hoses or tubes. It will lead to leakage or bursting of hoses or tubes. (Applies to hose or tube fitter connection type)
- Cut off the hose or tube at a designated length from the end when reusing it. Failure to do so will lead to leakage or bursting of the hose or tube. See the "Instruction manual" enclosed with the product for the normal length. (Applies to hose or tube fitter connection type)
- Prior to use, always perform a leak test after installing CUPLA.
- After connection, try to pull the socket and plug apart to confirm secure connection. If the connection is incomplete, the socket and plug may disconnect when pressurized.
- Put a designated dust cap on CUPLA after disconnection when there is a possibility of foreign matter such as dirt sticking to the seal surface.
- Do not connect/disconnect with fluid still under dynamic pressure or static residual pressure. It will cause damage to the valve. (Applies to Valve Structures: Two-way shut-off type and One-way shut-off type)
- Always install a shut-off valve between the pressure source and CUPLA.
- Do not strike the tip of an automatic shut-off valve with a hammer or a similar tool. It will cause leakage or malfunction. (Applies to medium pressure, Valve Structure: Two-way shut-off type) However, if you need to relieve residual pressure, please consult us.
- Do not use with any fluid or medium other than what is specified, to do so could cause leakage or damage.
- Use it in the state that the fluid does not freeze in the case of water. If it freezes, it will cause damage to CUPLA.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA.
- Design and keep the fluid flow speed through CUPLA below 8 m/s. It will cause damage to the valve if used at 8 m/s or over. (Applies to Valve Structures: Two-way shut-off type and One-way shut-off type)
- When using TSP CUPLA Socket with Ball Valve, operate the ball valve slowly to prevent water hammer from occurring. Also be careful not to get fingers caught when operating the handle.

# Safety Guide



## Precautions Relating to the Use of All CUPLA products

Be sure to read the "Instruction Sheet" that comes with the product or "Caution" on the package before use.

### CUPLA for Low Pressure (Water, Liquid) and for Medium Pressure

#### ⚠ Caution

- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. It will lead to malfunction or leakage.
- Do not let paint stick to CUPLA. It will cause malfunction or leakage.
- Be careful not to put scratches or dents on CUPLA. Especially, scratches on the sealing parts will cause leakage.
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime.
- Use only as quick connect couplings for fluid pipelines. (It cannot be used as a swivel joint)
- Only use CUPLA in a combination with NITTO KOHKI coupling "CUPLA". (Except LEVER LOCK CUPLA)
- Do not disassemble CUPLA. It will cause leakage or damage.
- When storing TSP CUPLA Sockets with Ball valve, ensure that the valve is fully open. If stored with the valve partially open, the packing will deform and cause leakage.

### CUPLA for High Pressure

#### ⚠ Danger

- Do not apply pressure to CUPLA socket or plug while they are disconnected. It will cause leakage or damage.

#### ⚠ Warning

- Do not use CUPLA continuously exceeding the rated working pressure. Also, do not use 700R CUPLA in an environment where there is impulse pressure. It will cause leakage or damage.
- Do not connect/disconnect with fluid still under dynamic pressure or static residual pressure. It will cause damage to the valve. However, the HSP-PV type can be connected under static residual pressure.
- After connection, try to pull the socket and plug apart to confirm secure connection. If the connection is incomplete, the socket and plug may disconnect when pressurized.
- Only use CUPLA in a combination with NITTO KOHKI coupling "CUPLA". However, 280 CUPLA is interchangeable with couplers complying with ISO7241-1A.
  - When using by connecting 280 CUPLA with other brand's, compare the pressure specifications and use under the lower pressure.
- Do not disassemble CUPLA. It will cause leakage or damage.

#### ⚠ Caution

- Prior to use, check the compatibility of the seal material and body material against the temperature and the fluid to be used. Selecting the wrong seal material will lead to leakage.
  - As to the use of any special paint or solvent, make thoroughly sure of the material compatibility.
- Only use CUPLA that are within their rated temperature range. Otherwise this can lead to leakage through seal deterioration or damage. It cannot be used continuously at its lowest or highest rated working temperature.
- The durability of CUPLA differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions. Also, stress corrosion cracking may occur if used under corrosive environment. Take note of usage conditions.
- When cleaning CUPLA, care must be taken not to use any material that will affect the seal and body materials.
- Make sure that O-rings and Packing seals are lubricated with grease or oil at all times. If not, the O-rings will get damaged and cause leakage.
- Apply a fluoropolymer resin sealant tape on male tapered pipe threads to ensure no leak.
- Do not exceed the recommended maximum torque when screwing in to the male or female thread of CUPLA for installation. It will cause damage.
- Care must be taken when installing CUPLA not to overtighten or cross thread, this can cause damage and lead to leakage. (Applies to HSU CUPLA, S210 CUPLA)
- Prior to use, always perform a leak test after installing CUPLA.
- Put a designated dust cap on CUPLA after disconnection when there is a possibility of foreign matter such as dirt sticking to the seal surface.
- Always install a shut-off valve between the pressure source and CUPLA.
- Do not strike the tip of an automatic shut-off valve with a hammer or a similar tool. It will cause leakage or malfunction. However, if you need to relieve residual pressure, please consult us.
- Do not use with any fluid or medium other than what is specified, to do so could cause leakage or damage. Do not use 280 CUPLA with water-glycol operating oil. The plating will dissolve.
- Use it in the state that the fluid does not freeze in the case of water. If it freezes, it will cause damage to CUPLA.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA.
- Design and keep the fluid flow speed through CUPLA below 8 m/s. It will cause damage to the valve if used at 8 m/s or over.
- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. It will lead to malfunction or leakage.
- Do not let paint stick to CUPLA. It will cause malfunction or leakage.
- Be careful not to put scratches or dents on CUPLA. Scratches on the sealing parts will cause leakage. Especially, be careful about the seating surface of HSP CUPLA with male parallel thread with 30° flare.
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Do not drop CUPLA. It will cause leakage or malfunction. If FLATFACE CUPLA FF plug is dropped, there is a possibility that the valve may open, to re-set, connect the Socket to the Plug and disconnect, the valve will return to its original position.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime.
- Use only as quick connect couplings for fluid pipelines. (It cannot be used as a swivel joint)
- When using O-Ring seals for GP Type or GS Type of HSP CUPLA, use the O-Ring size described on the "Instruction manual" enclosed with the product.
- Due to the metal-touch valve structure, 450B CUPLA and 700R CUPLA will slightly leak when not coupled.
- Contact us when using CUPLA for high pressure gases.

### MULTI CUPLA Series

#### Overall MULTI CUPLA

#### ⚠ Caution

- Prior to use, check the compatibility of the seal material and body material against the temperature and the fluid to be used. Selecting the wrong seal material will lead to leakage.
  - As to the use of any special paint or solvent, make thoroughly sure of the material compatibility.
- Only use CUPLA that are within their rated temperature range. Otherwise this can lead to leakage through seal deterioration or damage. It cannot be used continuously at its lowest or highest rated working temperature.
- The durability of CUPLA differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions. Also, stress corrosion cracking may occur if used under corrosive environment. Take note of usage conditions.
- When cleaning CUPLA, care must be taken not to use any material that will affect the seal and body materials.
- Apply a fluoropolymer resin sealant tape on male tapered pipe threads to ensure no leak. (Applies to Snap ring mount Type, MAM Type, MAM-A Type, MAM-B Type)
- Do not exceed the recommended maximum torque when screwing in to the male or female thread of CUPLA for installation. It will cause damage.
- Prior to use, always perform a leak test after installing CUPLA.
- Always install a shut-off valve between the pressure source and CUPLA.
- Do not use with any fluid or medium other than what is specified, to do so could cause leakage or damage.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA.
- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. It will lead to malfunction or leakage.
- Do not let paint stick to CUPLA. It will cause malfunction or leakage.
- Be careful not to put scratches or dents on CUPLA. Scratches on the sealing parts will cause leakage.
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime.
- Use only as quick connect couplings for fluid pipelines.
- Only use CUPLA in a combination with NITTO KOHKI coupling "CUPLA".

#### MAM Type

#### ⚠ Warning

- Do not connect/disconnect with fluid still under dynamic pressure or static residual pressure exceeding the maximum working pressure. It will cause damage to CUPLA.
- Do not drop MULTI CUPLA. It will cause deformation of the plate.

#### ⚠ Caution

- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- Make sure that O-rings and Packing seals are lubricated with grease or oil at all times. If not, the O-rings will get damaged and cause leakage.
- Do not deform the stop ring when installing CUPLA. If the stop ring is widened, it may come off from its groove and lead to poor connection or damage of CUPLA. Also change the stop ring with a new one when replacing CUPLA.
- Install hoses symmetrically from the locking unit when they are connected to CUPLA in order to distribute the reaction force evenly. Failure to do so will lead to breakage.
- Connect after making sure that the lever is in the "connect" position. It will not connect if it is not in the "connect" position.
- Do not force turning the lever. It will cause breakage.
- Do not disassemble CUPLA. It will cause leakage or damage.



## Precautions Relating to the Use of All CUPLA products

Be sure to read the "Instruction Sheet" that comes with the product or "Caution" on the package before use.

### MULTI CUPLA Series

#### MAM-A Type / MAM-B Type

##### Warning

- Do not connect or disconnect CUPLA while they are pressurized or residual pressure of more than 0.6 MPa remains. It will cause damage to CUPLA.
- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- Do not drop MULTI CUPLA. It will cause deformation of the plate.

##### Caution

- Make sure that O-rings and Packing seals are lubricated with grease or oil at all times. If not, the O-rings will get damaged and cause leakage.
- Install the C type retaining ring by using a pair of snap ring pliers. If the C type retaining rings are expanded too much, it will come off from its groove and lead to poor connection or breakage. Also change the retaining ring with a new one when replacing CUPLA.
- Install hoses symmetrically from the locking unit when they are connected to CUPLA in order to distribute the reaction force evenly. Failure to do so will lead to breakage.
- Connect after making sure that the lever is in the "connect" position. It will not connect if it is not in the "connect" position.
- Do not force turning the lever. It will cause breakage.
- Do not strike the tip of an automatic shut-off valve with a hammer or a similar tool. It will cause leakage or malfunction.
- Use it in the state that the fluid does not freeze in the case of water. If it freezes, it will cause damage to CUPLA.
- Design and keep the fluid flow speed through CUPLA below 8 m/s. It will cause damage to the valve if used at 8 m/s or over.
- Do not disassemble CUPLA. It will cause leakage or damage.

#### MAS Type / MAT Type

##### Warning

- Do not apply pressure to CUPLA socket or plug while they are disconnected. It will cause leakage or damage.
- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.

##### Caution

- Make sure that O-rings and Packing seals are lubricated with grease or oil at all times. If not, the O-rings will get damaged and cause leakage.
- Keep the center axis eccentricity of the Socket and Plug within 0.6 mm diameter. Failure to do so will lead to leakage or breakage.
- Install the C type retaining ring by using a pair of snap ring pliers. If the C type retaining rings are expanded too much, it will come off from its groove and lead to poor connection or breakage. Also change the retaining ring with a new one when replacing CUPLA. (Applies to MAS Type CUPLA)
- Care must be taken when installing CUPLA not to overtighten or cross thread, this can cause damage and lead to leakage.
- When connecting, connect socket and plug together tightly without a gap. If the gap exceeds 0.5 mm the flow will be reduced.
- For the load required to maintain connection when CUPLA is connected, see the page in this catalog where MAS Type/MAT Type is described. Connection exceeding the maximum acceptable load will cause breakage. Connecting below the minimum load required to maintain connection will result in reduced flow.
- Do not connect/disconnect with fluid still under dynamic pressure or static residual pressure. It will cause damage to the valve.
- Do not strike the tip of an automatic shut-off valve with a hammer or a similar tool. It will cause leakage or malfunction.
- Use it in the state that the fluid does not freeze in the case of water. If it freezes, it will cause damage to CUPLA.
- Design and keep the fluid flow speed through CUPLA below 8 m/s. It will cause damage to the valve if used at 8 m/s or over.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Do not disassemble CUPLA. It will cause leakage or damage.

#### MALC-01 Type

##### Caution

- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- Keep the center axis eccentricity of the Socket, Plug and/or hole in the plate within 2 mm diameter. Failure to do so will lead to leakage or breakage. For the dimensions of end configurations for processing on plates, see the page in this catalog where MALC-01 Type is described.
- Obliquity of socket and plug must be within 0.5 degrees during connection or disconnection. If installed exceeding 0.5 degrees, it will cause leakage or damage.
- When connecting, connect socket and plug together tightly without a gap. However, it can be used even when the gap is 0.5 mm. If the gap exceeds 0.5 mm the flow will be reduced.
- For the load required to maintain connection when CUPLA is connected, see the page in this catalog where MALC-01 Type is described. Connection exceeding the maximum acceptable load will cause breakage. Connecting below the minimum load required to maintain connection will result in reduced flow.
- When using water, judge whether CUPLA can be used or not by conducting a performance evaluation test under your actual operating environment and conditions. Leakage may occur according to rust or foreign matter in the piping or solidified minerals. Use it in the state that the fluid does not freeze in the case of water. If it freezes, it will cause damage to CUPLA.
- Design and keep the fluid flow speed through CUPLA below 8 m/s. It will cause damage to the valve if used at 8 m/s or over.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Do not disassemble CUPLA. It will cause leakage or damage.

#### MALC-SP Type / MALC-HSP Type

##### Danger

- Do not use uncoupled socket or plug continuously exceeding its rated working pressure. It will cause leakage or damage. (Applies to MALC Type CUPLA)

##### Warning

- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- Do not disassemble CUPLA. It will cause leakage or damage.

##### Caution

- Keep the center axis eccentricity of the Socket and Plug within 2 mm diameter. Failure to do so will lead to leakage or breakage.
- Obliquity of socket and plug must be within 0.5 degrees during connection or disconnection. If installed exceeding 0.5 degrees, it will cause leakage or damage.
- Install the C type retaining ring by using a pair of snap ring pliers. If the C type retaining rings are expanded too much, it will come off from its groove and lead to poor connection or breakage. Also change the retaining ring with a new one when replacing CUPLA. (Applies to Snap ring mount Type)
- Care must be taken when installing CUPLA not to overtighten or cross thread, this can cause damage and lead to leakage. (Applies to MALC-SP Type CUPLA)
- When connecting, connect socket and plug together tightly without a gap. However, it can be used even when the gap is 0.5 mm. If the gap exceeds 0.5 mm the flow will be reduced.
- For the load required to maintain connection when CUPLA is connected, see the page in this catalog where MALC-SP Type or MALC-HSP Type is described. Connection exceeding the maximum acceptable load will cause breakage. Connecting below the minimum load required to maintain connection will result in reduced flow.
- Do not strike the tip of an automatic shut-off valve with a hammer or a similar tool. It will cause leakage or malfunction.
- Use it in the state that the fluid does not freeze in the case of water. If it freezes, it will cause damage to CUPLA.
- Design and keep the fluid flow speed through CUPLA below 8 m/s. It will cause damage to the valve if used at 8 m/s or over.
- Do not drop CUPLA. It will cause leakage or malfunction.

### SEMICON CUPLA Series

##### Warning

- Do not apply pressure to CUPLA socket or plug while they are disconnected. It will cause leakage or damage.
- Prior to use, check the compatibility of the seal material and body material against the temperature and the fluid to be used. Selecting the wrong seal material will lead to leakage. (The "Seal Material Selection Table" and "Body Material Selection Table" described in our product catalog is for reference only.)
- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- Only use CUPLA that are within their rated temperature range. Otherwise this can lead to leakage through seal deterioration or damage. It cannot be used continuously at its lowest or highest rated working temperature.
- When using hazardous fluids, always wear protective clothing which are suitable for the fluid being used and will protect the whole body. Any spillage or leakage should be dealt with by an expert in that product.
- Do not connect/disconnect with fluid still under dynamic pressure or static residual pressure. It will cause damage to the valve.
- When using pressure tanks, connect/disconnect as follows:
  - Connection: Connect CUPLA on the nitrogen gas side first, and then reduce the nitrogen gas pressure to ambient pressure. Only after then, connect CUPLA on the liquid side.
  - Disconnection: Reduce the nitrogen gas pressure to ambient pressure, and confirm that the internal pressure has become ambient pressure. Only after then, disconnect CUPLA on the liquid side.
- Do not strike the tip of an automatic shut-off valve with a hammer or a similar tool. It will cause leakage or malfunction. However, if you need to relieve residual pressure, please consult us.

##### Caution

- The durability of CUPLA differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions. Also, stress corrosion cracking may occur if used under corrosive environment. Take note of usage conditions. O-rings are consumable items. Replace them periodically.
- If necessary, conduct an elution test and confirm the suitability of the material.
- When cleaning CUPLA, care must be taken not to use any material that will affect the seal and body materials.
- Apply a fluoropolymer resin sealant tape on male tapered pipe threads to ensure no leak.
- Do not exceed the recommended maximum torque when screwing in to the male or female thread of CUPLA for installation. It will cause damage. (Applies to SP Type, SCS Type, SCY Type)

# Safety Guide



## Precautions Relating to the Use of All CUPLA products

Be sure to read the "Instruction Sheet" that comes with the product or "Caution" on the package before use.

### SEMICON CUPLA Series

#### ⚠ Caution

- Care must be taken when installing CUPLA not to overtighten or cross thread, this can cause damage and lead to leakage. (Applies to SP Type, SCS Type, SCY Type)
- When installing SCT Type or SCAL Type CUPLA, firstly apply a fluoropolymer resin sealant tape on the male tapered pipe thread and tighten firmly by hand. Then, additionally tighten with a wrench by turning it 1 3/4 to 2 turns. At this time, overtightening will damage the thread and cause leakage, so be careful.
- Do not use anything other than the applicable tube sizes. It will cause leakage.
- Contact us if detail dimensions of the fixing part is required, such as 19/32-18UNS (for SP Type or SCS Type) or application shape for plugs of SCF Type CUPLA.
- Prior to use, always perform a leak test after installing CUPLA.
- For the purpose of reducing the insertion load on connection and to prevent O-ring from damage, apply pure water or a lubricant that is suitable for the operational environment to the Plug tip and sealing surface. (Applies to SP Type, SCS Type)
- After connection, try to pull the socket and plug apart to confirm secure connection. If the connection is incomplete, the socket and plug may disconnect when pressurized.
- For fluoropolymer resin CUPLA, continuous use under dynamic pressure will result in reduced performance. To extend lifetime, it is recommended to be kept unpressurized unless it is necessary.
- Since the bellows of the SCAL Type CUPLA Socket is made of polytetrafluoroethylene (PTFE), a small amount of gas will escape.
- When using for hazardous fluids, discharge all the fluid inside CUPLA with nitrogen gas, etc., before disconnecting. If disconnected without discharging the fluid, a small amount of fluid will spill out.
- Always mount a designated dust cap after disconnection. Any foreign matter adhering to the sealing surface will cause leakage.
- Always install a shut-off valve between the pressure source and CUPLA.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA.
- Design and keep the fluid flow speed through CUPLA below 8 m/s. It will cause damage to the valve if used at 8 m/s or over.
- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. It will lead to malfunction or leakage.
- Do not let paint stick to CUPLA. It will cause malfunction or leakage.
- Be careful not to put scratches or dents on CUPLA. Scratches on the sealing parts will cause leakage. Especially, CUPLA made of fluoropolymer resin are deformed easily, so be careful.
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime.
- Use only as quick connect couplings for fluid pipelines. (It cannot be used as a swivel joint)
- Do not disassemble CUPLA. It will cause leakage or damage.
- Check CUPLA regularly. Stop using immediately if anything unusual is found on CUPLA.

### CUPLA for Inert Gas

#### ⚠ Warning

- Do not apply pressure to CUPLA socket or plug while they are disconnected. It will cause leakage or damage. (Applies to SP-V CUPLA TypeA)
- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- The fluid in the piping will spill out upon disconnection. Take extra care when using at places where it is liable to cause anoxia. (Applies to PCV PIPE CUPLA)

#### ⚠ Caution

- Prior to use, check the compatibility of the seal material and body material against the temperature and the fluid to be used. Selecting the wrong seal material will lead to leakage.
- Only use CUPLA that are within their rated temperature range. Otherwise this can lead to leakage through seal deterioration or damage. It cannot be used continuously at its lowest or highest rated working temperature.
- The durability of CUPLA differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions. Also, stress corrosion cracking may occur if used under corrosive environment. Take note of usage conditions. Please replace PCV PIPE CUPLA at approximately 5000 times connections/disconnections. (It differs depending on the operating environment and conditions)
- When cleaning CUPLA, care must be taken not to use any material that will affect the seal and body materials.
- Apply thread sealants on male tapered pipe threads to ensure no leak.
- Do not exceed the recommended maximum torque when screwing in to the male or female thread of CUPLA for installation. It will cause damage.
- Care must be taken when installing CUPLA not to overtighten or cross thread, this can cause damage and lead to leakage. (Applies to SP-V CUPLA TypeA Body material: Stainless steel)
- Prior to use, always perform a leak test after installing CUPLA.
- Make sure that O-rings are lubricated with grease at all times. If not, the O-rings will get damaged and cause leakage. (Applies to SP-V CUPLA TypeA seal materials: CR, FKM)
- For the purpose of reducing the insertion load on connection and to prevent O-ring from damage, apply a lubricant that is suitable for the operational environment to the Plug tip and sealing surface. (Applies to SP-V CUPLA TypeA Seal material: HNBR)
- Do not use pipe sizes other than the suitable sizes. It will cause leakage. Contact us if required to use Aluminum alloy pipes. (Applies to PCV PIPE CUPLA)
- Chamfer the edge of the copper pipe to be used. If not chamfered, it will damage the packing and cause leakage. Do not use pipes with deformation or burrs. It will lead to leakage or poor connection. (Applies to PCV PIPE CUPLA)
- When connecting copper pipes, push down the lever only after confirming that the end of the copper pipe is pressed against the packing inside CUPLA. At this time, be careful not to get fingers caught. (Applies to PCV PIPE CUPLA)
- After connection, try to pull the socket and plug apart or CUPLA and pipe apart to confirm secure connection. If the connection is incomplete, the socket and plug or CUPLA and pipe may disconnect when pressurized.
- Do not disconnect with fluid still under dynamic pressure or static residual pressure. (Applies to PCV PIPE CUPLA)
- Contact us if it is required to connect/disconnect SP-V CUPLA TypeA under dynamic pressure or static residual pressure.
- When connected with the copper pipe, do not rotate the pipe. It will damage the packing and cause leakage. (Applies to PCV PIPE CUPLA)
- Put a designated dust cap on CUPLA after disconnection when there is a possibility of foreign matter such as dirt sticking to the seal surface. (Applies to SP-V CUPLA TypeA)
- When disconnected, store CUPLA with the lever in the 'Open' position. (Applies to PCV PIPE CUPLA)
- Always install a shut-off valve between the pressure source and CUPLA.
- Do not strike the tip of an automatic shut-off valve with a hammer or a similar tool. It will cause leakage or malfunction. (Applies to SP-V CUPLA TypeA) However, if you need to relieve residual pressure, please consult us.
- Do not use with any fluid or medium other than what is specified, to do so could cause leakage or damage.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA.
- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. It will lead to malfunction or leakage.
- Do not let paint stick to CUPLA. It will cause malfunction or leakage.
- Be careful not to put scratches or dents on CUPLA. Especially, scratches on the sealing parts will cause leakage.
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime.
- Stop using CUPLA if the lever is deformed. (Applies to PCV PIPE CUPLA)
- Ensure that any copper residue or swarf that has adhered to the inside of CUPLA is removed after use. (Applies to PCV PIPE CUPLA)
- Use only as quick connect couplings for fluid pipelines. (It cannot be used as a swivel joint) (Applies to SP-V CUPLA TypeA)
- Only use CUPLA in a combination with NITTO KOHKI coupling "CUPLA". (Applies to SP-V CUPLA TypeA)
- Do not disassemble CUPLA. It will cause leakage or damage.

### PAINT CUPLA

#### ⚠ Warning

- Make sure that a hose containing a ground wire is connected to a ground. Insufficient grounding will lead to fire or dangerous explosion caused by possible sparks of static electricity.
- Wear appropriate clothes and protective equipment such as safety glasses, face guard and gloves at all times. Otherwise it could be potentially hazardous when paint or solvent splashes on to operators.

#### ⚠ Caution

- This CUPLA is designed for paints diluted by solvents. Do not use this CUPLA for any other applications such as Powder coating, Electrostatic coating or Electrodeposition coating. The seal material will deteriorate and cause leakage. As to the use of any special paint or solvent, make thoroughly sure of the material compatibility.
- Do not use CUPLA continuously exceeding the rated working pressure. It will cause leakage or damage.
- Only use CUPLA that are within their rated temperature range. Otherwise this can lead to leakage through seal deterioration or damage. It cannot be used continuously at its lowest or highest rated working temperature.
- The durability of CUPLA differs depending on the operating environment and conditions (pressure and temperature etc.). If necessary, conduct performance evaluation test under your actual operating environment and conditions. Also, stress corrosion cracking may occur if used under corrosive environment. Take note of usage conditions.
- Do not exceed the recommended maximum torque when screwing in to the male or female thread of CUPLA for installation. It will cause damage.
- Prior to use, always perform a leak test after installing CUPLA.
- After connection, try to pull the socket and plug apart to confirm secure connection. If the connection is incomplete, the socket and plug may disconnect when pressurized.
- The fluid in the piping of the plug side will spill out upon disconnection. Be careful so that it will not contact the human body.
- Clean CUPLA each time after use. Otherwise paint will dry out and will cause malfunction, insufficient color mix or poor grounding. When cleaning CUPLA, care must be taken not to use any material that will affect the seal and body materials.
- When cleaning, do not try to open the valve by inserting something except the plug into the socket. It will cause leakage.
- Always install a shut-off valve between the pressure source and CUPLA.
- The use of inline filters is strongly advised and recommended. To prevent damage, the fluid should be clean before reaching CUPLA.
- Always let fluid flow from socket to plug.
- Do not use CUPLA in areas or environment where dust such as sand or metal powder can get in to CUPLA. It will lead to malfunction or leakage.
- Be careful not to put scratches or dents on CUPLA. Especially, scratches on the sealing parts will cause leakage.
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime.
- Use only as quick connect couplings for fluid pipelines. (It cannot be used as a swivel joint)
- Only use CUPLA in a combination with NITTO KOHKI coupling "CUPLA".
- Do not disassemble CUPLA. It will cause leakage or damage.

## ⚠ Precautions Relating to the Use of All CUPLA products

Be sure to read the "Instruction Sheet" that comes with the product or "Caution" on the package before use.

### HYGIENIC CUPLA

#### ⚠ Warning

Any residual fluid remaining in the passage will spill out on disconnection. Drain any residual fluid before disconnection to avoid burns or injury to the skin when dangerous fluid such as chemical agent or high temperature fluid is used. If the fluid comes into contact with the skin, stop the disconnecting work and consult a doctor if necessary.

#### ⚠ Caution

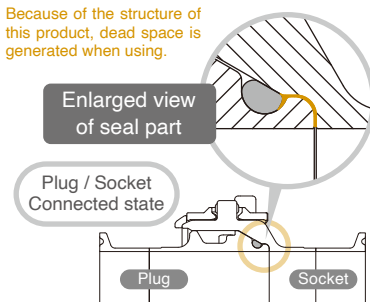
Observe the cautions below. If not observed, it could result in burns, injury to the skin, damage to the product or other machinery when dangerous fluid such as chemical agent or high temperature fluid is used. Stop using CUPLA immediately if this happens.

- CUPLA can be easily disassembled for cleaning. CUPLA should be evaluated before use to determine the suitability with regard to sanitation and safety. Especially when using O-rings of other brands than Nitto Kohki, be sure to evaluate the O-ring at your end.
- Prior to use, check the compatibility of the seal material and body material against the temperature and the fluid to be used. Selecting the wrong seal material will lead to leakage.
- Do not use CUPLA continuously under any pressure exceeding the rated working pressure. This may cause leakage or damage.
- Use only within range of its rated temperature. May cause damage or deterioration to the sealing and leak if used otherwise.
- Also, do not use continuously at the lowest or highest working temperature.
- The durability of CUPLA differs depending on the operating environment and conditions (pressure and temperature etc.).
- If necessary, conduct performance evaluation test under your actual operating environment and conditions.
- When assembling, disassembling and washing, do not drop the disassembled parts, or put scratches on the sealing surface. It will cause malfunction or leakage.
- When washing, do not deform the lock plate by applying excessive force. It will cause bad connection.
- When assembling or disassembling, do not put scratches on the O-ring. Also do not attach the O-ring in a twisted state. It will cause leakage.
- When welding to CUPLA, do so with CUPLA in disassembled state. Welding in assembled state will deform the parts or damage the O-ring and cause leakage.
- The outer diameter and thickness of the pipe to be welded to CUPLA must conform to JIS G 3447.
- After welding to CUPLA, please polish the welded part. (Surface roughness Ra  $\leq$  1.0  $\mu$ m recommended for the liquid contact parts. Surface roughness on the weld line should not exceed Ry=16  $\mu$ m.)
- If it is not polished or if the surface roughness becomes rougher than the recommended value, it may potentially cause the spread of bacteria.
- Malfunction caused by welding (directly or otherwise) is not included in the warranty.
- For the ferrule type, please use ferrule couplings conforming to IDF/ISO 2852.
- Prior to use, always perform a leak test after installing CUPLA.
- When a high temperature fluid is applied to CUPLA, be careful in handling CUPLA as it also becomes hot. If CUPLA is used in a high temperature atmosphere, the cam handle may not rotate smoothly.
- In such case, please apply water, etc. to the part where the cam handle and the lock plate ASSY is in contact.
- When powder is applied to CUPLA, static electricity may be generated. Please take countermeasure against this if required.
- When CUPLA remains connected for long periods of time, it may become difficult to disassemble.
- In this case, do not forcefully turn the socket and plug to disconnect as this may damage the seal material and cause leakage.
- Do not disconnect with fluid still under dynamic pressure or static residual pressure.
- Do not drop CUPLA. It will cause leakage or malfunction.
- Always install a shut-off valve between the pressure source and CUPLA.
- Do not apply any artificial impact, bend or tension. It will cause leakage or damage.
- Connecting CUPLA directly to vibrating or impacting equipment will result in reduced lifetime.
- Use only as quick connect couplings for fluid pipelines.
- Only use CUPLA in a combination with NITTO KOHKI coupling "CUPLA".
- Check CUPLA regularly. Stop using immediately if anything unusual is found on CUPLA.
- When storing CUPLA, remove the O-ring from the plug. Otherwise, it may become difficult to remove due to adsorption.
- Before using CUPLA, disassemble and clean it in the way that is appropriate to your usage conditions and not affecting the seal material and body material.



#### Seal part (cross section)

Because of the structure of this product, dead space is generated when using.



- The O-ring and Lock plate ASSY are consumable items.
- Please replace the Lock plate ASSY at approximately 1,000 times connections/disconnections.
- When the Lock plate ASSY is deformed, replace it with a new one regardless of connection/disconnection times.
- The durability of the O-ring differs depending on the operating environment and conditions (pressure and temperature etc.).

### SEMI-STANDARD CUPLA Series

Contact us separately for detail cautions for the SEMI-STANDARD CUPLA series.

## Maintenance of CUPLA

### O-ring Replacement Procedure

The internal O-ring is a consumable item. If the O-ring in the socket has failure such as wear and tear or deterioration, take the following steps to replace it with a new one. Always use genuine Nitto Kohki O-rings.

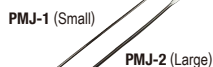
#### Accessories for O-ring maintenance

##### Grease for O-ring

5 mL container



##### O-ring replacement Jig



- GRE-M1 (Mineral grease) for NBR and FKM
- GRE-HC1 (Hydrocarbon grease) for NBR and FKM
- GRE-S1 (Silicone grease) for NBR, FKM, and EPDM
- GRE-S2 (Silicone grease) for NBR, FKM, and EPDM (NSF H1, NSF 61 registered product)
- GRE-S3 (Silicone grease) for NBR, FKM, and EPDM

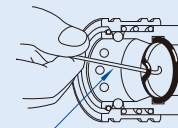
#### ⚠ Caution for Storing CUPLA

- Store CUPLA in a place where no dust or foreign matter gets in. If fluid flows while the dust or foreign matter is present inside CUPLA, the dust or foreign matter may go into the equipment connected to CUPLA and may cause malfunction.
- Store CUPLA indoors away from water or moisture.
- Store CUPLA in a shaded, dry and well-ventilated place.
- Do not to drop CUPLA. It will deform or damage CUPLA.
- If CUPLA is stored or not being used for a long period of time, check their appearance, function and performance before use.

CUPLA should be inspected periodically to ensure safe operation and to prevent them from a performance drop or malfunction. If there is a malfunction in CUPLA or wear and tear, please replace it with a new one. If you have any concerns, contact Nitto Kohki or the distributor from whom you purchased your CUPLA.

#### How to Remove the O-ring

- 1 Use an optional O-ring replacement Jig to remove the O-ring. Be careful not to damage the groove of O-ring with the jig. Used O-rings with wear and tear or deterioration can be removed easily with the jig.
- 2 After removing the O-ring, wipe the groove clean with a cloth.



O-ring replacement Jig

#### How to Install a New O-ring

- 1 After making sure that no dust or foreign matter exists in the groove of O-ring, push in part of the O-ring and the remaining part can be easily pressed in with the jig.
- 2 HSP CUPLA has a backup ring. Insert an O-ring in the place as shown in the figure. If CUPLA connection/disconnection is hard and not smooth after the O-ring has been replaced, apply a little grease to the O-ring.

