LARGE ZEROSPILL CUPLA LNZL Type

NEW

YouTube

High flow rate

Minimized spillage CUPLA

for chemical transport and plant piping!

Two-Action Structure

The connection/disconnection operation is separated from the valve opening/closing operation for enhanced safety.

Socket

Built-in valve

Plug

Built-in valve

Smooth operation even without grease

Push-to-connect function improves workability

Handle lock mechanism / Separation prevention mechanism

Green Procurement
Products Comply with RoHS Directive

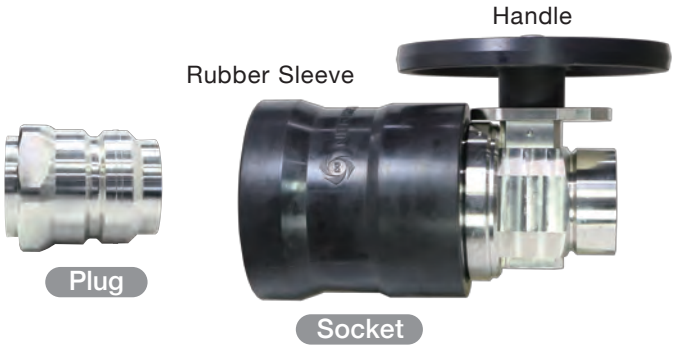
CUPLA

How to operate

POINT 1 POINT 2

Handle lock mechanism

Before connecting **Individual unit**



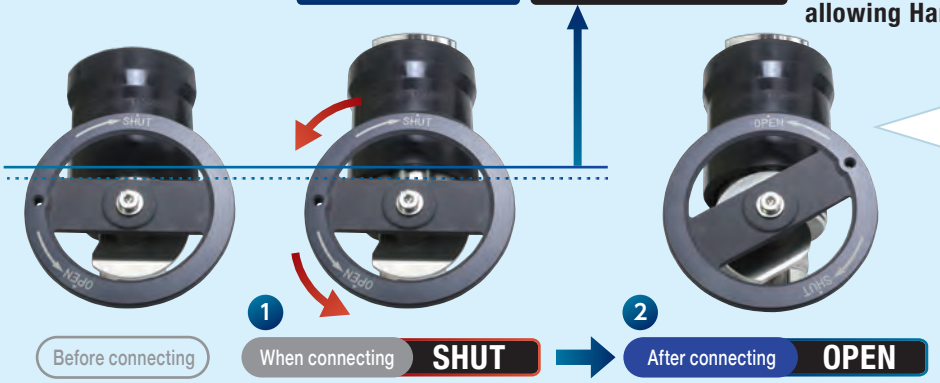
The Handle will not turn from the **SHUT** state when the plug is not connected to the socket.

Push-to-connect function

Connect **Close** valve **Open** valve

Unlocking the Handle **Rubber Sleeve behavior**

Connecting the plug unlocks the Handle, allowing Handle operation.



POINT 1 Easy operation, push-to-connect function.
The Handle is turnable to the **OPEN** state after connecting.

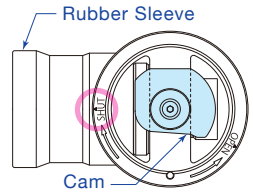
Two-action structure

Separation prevention mechanism

After connecting **Open** valve

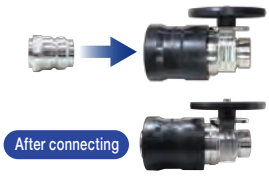
POINT 2 When the **OPEN** mark on the Handle is aligned with CUPLA, the Rubber Sleeve locks to prevent accidental disconnection of the plug.

About the mechanism



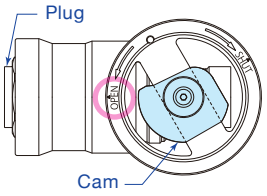
Handle lock mechanism

When the plug is not connected, the Cam interferes with the Rubber Sleeve preventing the Handle from turning in the [OPEN] direction.



Push-to-connect function

Easily connected simply by pushing the plug into the socket.



Separation prevention mechanism

When the [OPEN] mark on the Handle is aligned with CUPLA, the Cam interferes with the Rubber Sleeve, preventing its operation. This avoids accidental disconnection of the plug.

About chemical transport

Using LARGE ZEROSPILL CUPLA adapted for ISO containers, enables high flow rate transport of fluid, in and out of containers.

Features

Overall plug length: 92 mm — The overall length of CUPLA on the container side is short.

Grease free — No malfunction such as valve-return failure occurs even without grease.

Working pressure	Valve structure	Applicable fluids
1.1		
1.1 MPa {11 kgf/cm²}	Two-way shut-off (Minimized spillage)	Water / High purity chemicals

*Check the specifications for body and seal materials to ensure they are suitable for the fluid to be used.

Accessories

Product name	Product code	Model	Appearance
Optional accessory **Adapter** for LARGE ZEROSPILL CUPLA	CB67592	LNZL-12SP-10GFAD	
Standard accessories **Dust cap** for LARGE ZEROSPILL CUPLA	CQ70380	LNZL-12P-D	
	CQ70372	LNZL-12S-D	

Optional accessory Adapter

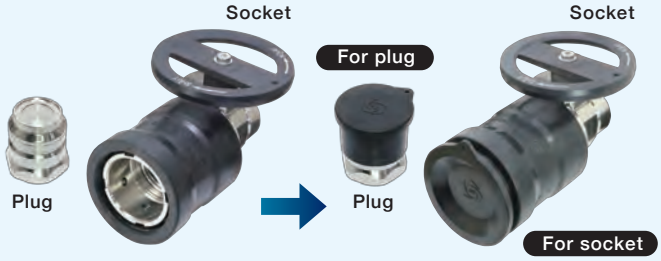
Conversion adapter from G1 1/2 to G1 1/4 (for both plug and socket)

LNZL-12SP-10GFAD

Material: Stainless steel (SUS316)

Standard accessories Dust cap

Ethylene propylene rubber (EPDM) dust caps are included. Prevents dust from entering the piping and prevents foreign matter from adhering to the sealing part, thereby increasing the lifetime of CUPLA and preventing leakage.



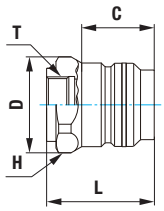
When Dust cap is attached

Models and Dimensions

The mass of the plug and socket includes the mass of the dust cap. WAF: WAF stands for width across flats.

Plug Parallel female thread LNZL-12PF-G

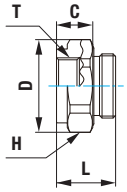
Standard



Model	Application (Thread)	Mass (g)	Dimensions (mm)				
			L	C	øD	H(WAF)	T
LNZL-12PF-G	G1 1/2	1638	92	62	82	Hex.75	G1 1/2

Adapter Parallel female thread LNZL-12SP-10GFAD

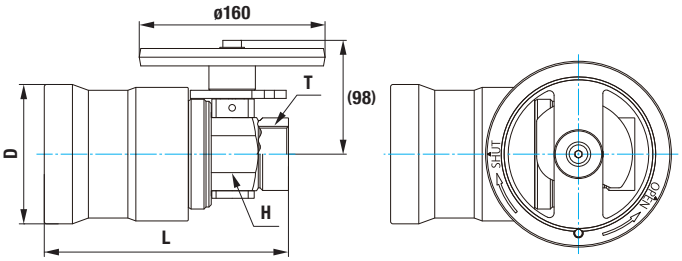
Optional accessory



Model	Application (Thread)	Mass (g)	Dimensions (mm)				
			L	C	øD	H(WAF)	T
LNZL-12SP-10GFAD	G1 1/4	442	44	27	69	Hex.63	G1 1/4

Socket Parallel female thread LNZL-12SF-G

Standard



Model	Application (Thread)	Mass (g)	Dimensions (mm)			
			L	øD	H(WAF)	T
LNZL-12SF-G	G1 1/2	6398	210	120	58	G1 1/2

Specifications

		Plug		Socket	
Body material *1	CUPLA body	Stainless steel			
	Wetted parts	Stainless steel (SUS316・SUS316L)		Stainless steel (SUS316)	
	Handle			Aluminum alloy	
	Rubber Sleeve			Ethylene propylene rubber (EPDM)	
Surface treatment (Wetted part)		Chemical polishing		Chemical polishing, passivation treatment	
Applicable fluid *1		High purity chemicals and water			
Size (Thread) *2		G1 1/2			
Pressure unit		MPa	kgf/cm²	bar	PSI
Working pressure *3		1.1	11	11	160
Seal material (Mark)		Perfluoroelastomer (FFKM)		Perfluoroelastomer (FFKM) and Fluoropolymer resin (PTFE)	
Working temperature range*4		0˚C to +50˚C			

*1: Applicable fluids differ depending on the body and seal materials.
*2: Conforms to ISO1179. Adapters for converting to G1 1/4 size are available as made-to-order products.
*3: The normal allowable fluid pressure under continuous use. Exceeding the working pressure may cause damage and leakage. Do not open or close the valve under pressure.
*4: The operable temperature range depends on the operating condition.
No grease is applied to the seal material.

Maximum Tightening Torque

N·m {kgf·cm}

Size (Thread)	G1 1/2	G1 1/4
Torque	100 {1019}	100 {1019}

When connecting to G1 1/4 adapter (Model: LNZL-12SP-10GFAD, made-to-order item)

Flow Direction

Fluid flow can be bi-directional when socket and plug are connected.

Suitability for Vacuum

Not suitable for vacuum application in either connected or disconnected condition.

Admixture of Air on Connection

May vary depending upon the usage conditions. (mL)

Volume of air admixture	4.3

Volume of Spillage per Disconnection

May vary depending upon the usage conditions. (mL)

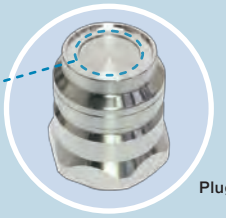
Volume of spillage	0.31

Repeated connections and disconnections of CUPLA or the use of fluids with low viscosity may cause some spillage.

Minimized spillage

Flat contact surface

The smoother contact surface makes it easier to wipe off liquid spillage.



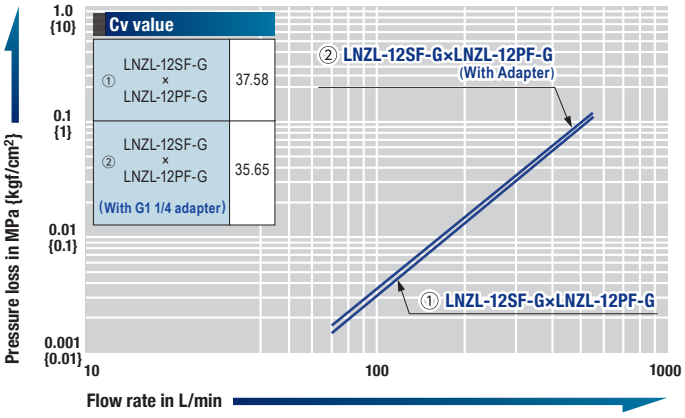
Minimum Cross-Sectional Area

(mm²)

Minimum Cross-Sectional Area	819

Flow Rate – Pressure Loss Characteristics

[Test conditions] - Fluid : Water - Temperature : 23˚C±5˚C



⚠ Safety Guide

Please read and comply with the "Instructions for LARGE ZEROSPILL CUPLA" and the "Precautions Relating to the Use of All CUPLA products" in the Quick Connect Couplings General Catalog.

- Care must be taken when installing CUPLA not to overtighten or cross thread.
- The valve will not open while CUPLA socket is disconnected. Forcing the handle to turn may damage the Rubber Sleeve.
- After connection, try to pull the socket and plug apart to confirm secure connection, and then turn the handle.
- Open the shut-off valve of the piping prior to operating the valve of CUPLA. Otherwise, the valve of CUPLA may not open or close properly.
- The CUPLA socket and plug cannot be separated when CUPLA valve is open. Be sure to turn the handle to close the CUPLA valve before disconnecting the socket and plug.
- Do not use with any fluid or medium other than what is specified.
- Use it in the state that the fluid does not freeze.
- Design and keep the fluid flow speed through CUPLA below 8 m/s.

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