

For Medium Pressure

Hot Water Cupla

HW Type

For temperature control piping

Working pressure



Valve structure



Applicable fluids *



* This product is designed for use with water from -20°C to +180°C. When used with other fluids, check the suitability of the seal and body material.

The most suitable rubber for hot water adopted. Best suited for hot water applications such as plastic moldings.

- The safety lock function prevents accidental disconnection caused by vibration or impact.
- Nickel plated on the liquid contact parts to improve corrosion resistance.
- The socket has double O-ring for improved seal.



NEW



Specifications

Body material	Brass (Nickel plated)			
Size (Thread)	Plug : R 1/4, R 3/8, R 1/2 / Socket : Rc 1/4, Rc 3/8, Rc 1/2			
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	2.0	20	20	290
Seal material	Seal material	Mark	Working temperature range	Remarks
Working temperature range	Fluoro rubber	FKM (X-100)	-20°C to +180°C	Standard material

Max. Tightening Torque

Nm {kgf·cm}

Size (Thread)	1/4"	3/8"	1/2"
Torque	9 {92}	12 {122}	30 {306}

On installation or removal always use correct size spanner/wrench on the hexagon section of socket/plug body.

Flow Direction

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



Interchangeability

Different sizes of sockets and plugs cannot be connected to each other.

SP Cupla Type A and HW Type Cuplas of the same size can be connected to each other regardless of end configurations.

However, SP Cupla Type A has different seal material characteristics, so the product specification and durability will differ. Conduct performance evaluation test under your actual operating environment and conditions within range of the working conditions of the product.

Min. Cross-Sectional Area

(mm²)

Model	HW-2S-F × HW-2P-M	HW-3S-F × HW-3P-M	HW-4S-F × HW-4P-M
Min. Cross-sectional area	26	51	73

Suitability for Vacuum

1.3×10^{-1} Pa { 1×10^{-3} mmHg}

Socket only	Plug only	When connected
—	—	Operational

Admixture of Air on Connection

May vary depending upon the usage conditions.

(mL)

Model	HW-2S-F × HW-2P-M	HW-3S-F × HW-3P-M	HW-4S-F × HW-4P-M
Volume of air	1.2	2.7	3.9

Volume of Spillage per Disconnection

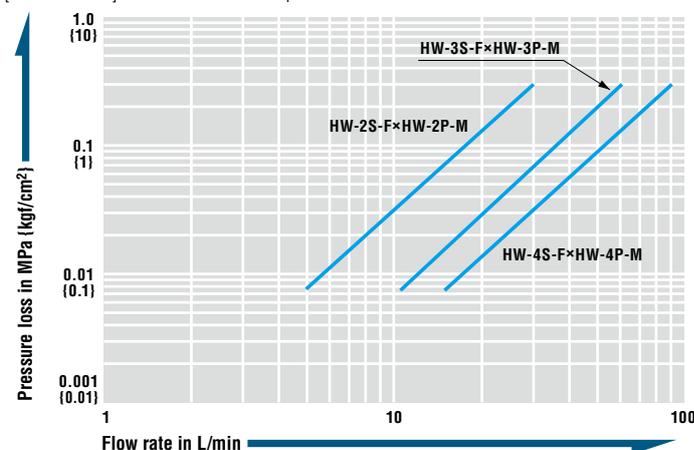
May vary depending upon the usage conditions.

(mL)

Model	HW-2S-F × HW-2P-M	HW-3S-F × HW-3P-M	HW-4S-F × HW-4P-M
Volume of spillage	0.8	2.1	3.2

Flow Rate – Pressure Loss Characteristics

[Test conditions] • Fluid : Water • Temperature : 25°C ± 5°C

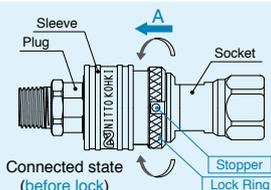


Safety lock function (Sleeve lock)



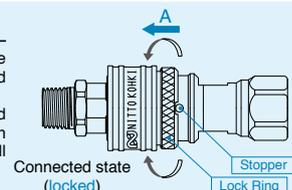
How to lock

Slide the Lock Ring in the direction of the arrow A and rotate it simultaneously. When the Stopper is aligned with the shallower cutout on the Lock Ring, the Cupla will be locked.



How to unlock

Slide the Lock Ring in the direction of the arrow A and rotate it simultaneously. When the Stopper is aligned with the deeper cutout on the Lock Ring, the Cupla will be unlocked.



Models and Dimensions

Plug Male thread

Model	Application	Mass (g)	Dimensions (mm)				
			L	C	∅D	H (WAF)	T
HW-2P-M	Rc 1/4	41	(44)	22	18.5	Hex.17	R 1/4
HW-3P-M	Rc 3/8	71	(51)	25	23	Hex.21	R 3/8
HW-4P-M	Rc 1/2	149	(62)	28	30	Hex.27	R 1/2

Socket Female thread

Model	Application	Mass (g)	Dimensions (mm)			
			L	∅D	H (WAF)	T
HW-2S-F	R 1/4	150	(66)	28	Hex.19	Rc 1/4
HW-3S-F	R 3/8	247	(74)	35	Hex.24	Rc 3/8
HW-4S-F	R 1/2	480	(87)	45	Hex.30	Rc 1/2

Approximate time for Valve / O-ring replacement

*Test results by us

Test conditions

• Testing device: Mold temperature controlling machine • Fluid: Clean water • Test temperature: 160°C, 180°C • Test condition: Continuous test with the Cupla connected

Valve

- when 180°C** Please replace the whole Cupla in approximately 1000 hours. The valve cannot be replaced.
- when 160°C** Please replace the whole Cupla in approximately 3000 hours. The valve cannot be replaced.

O-ring

- when 180°C** Please replace the O-rings of the Socket in approximately 700 hours. Please replace the two O-rings at once.
- when 160°C** Please replace the O-rings of the Socket in approximately 2000 hours. Please replace the two O-rings at once.

Before test (unused)

Hot water 180°C

After 1000 hours of use

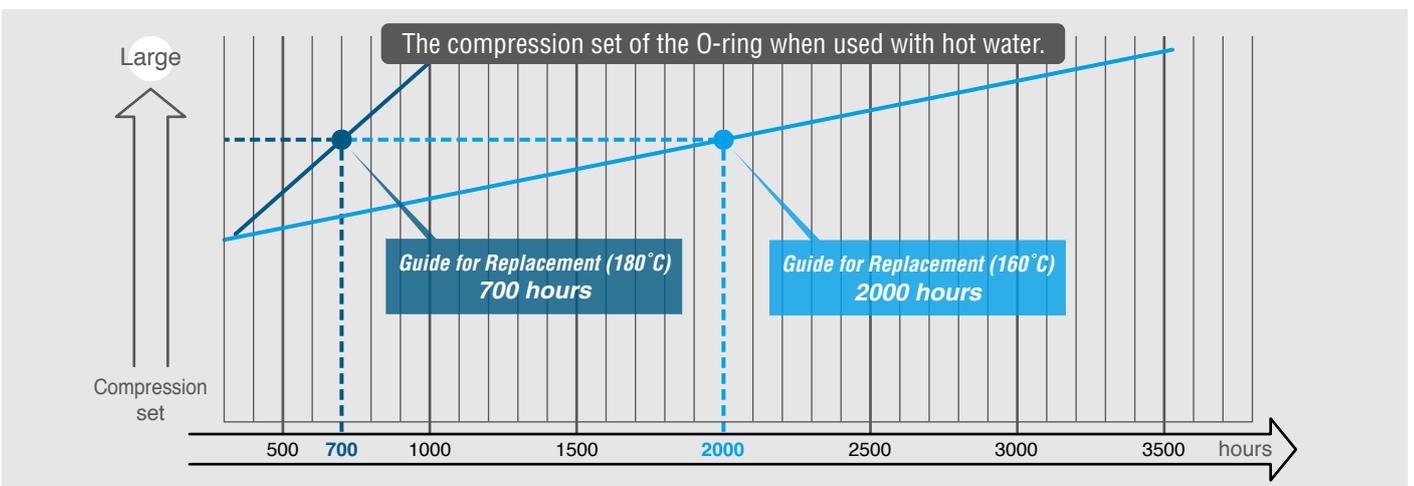
Before test (unused)

Hot water 160°C

After 3000 hours of use

The packing starts to swell

Accessory
O-ring (2 pieces/set)
Please apply grease at the replacement.



⚠ Caution

*Hot water continuous flow test by a mold temperature controller

Valve: For continuous use of 3000 hours at 160°C / 1000 hours at 180°C

O-ring: For continuous use of 2000 hours at 160°C / 700 hours at 180°C

- Air will be admixed at the time of connection. Please purge the air by the equipment side when using with hot water.
- If additives are mixed in water or the piping is filled with steam, the lifetime of the seal will be decreased. When using in such an environment, conduct performance evaluation test by actual product.

Although we have confirmed that there is no leakage, it is our experimental value and not a guaranteed value. Please consider above hours just as a guide. The durability of the seal differs depending on the customers usage conditions. (Number of connection / disconnection, fluid additives, etc.)