


For Low Pressure (Air)

ROTARY PLUG


For pneumatic tools and devices

Working pressure




1.5 MPa
(15 kgf/cm²)

Valve structure



One-way shut-off

Applicable fluid

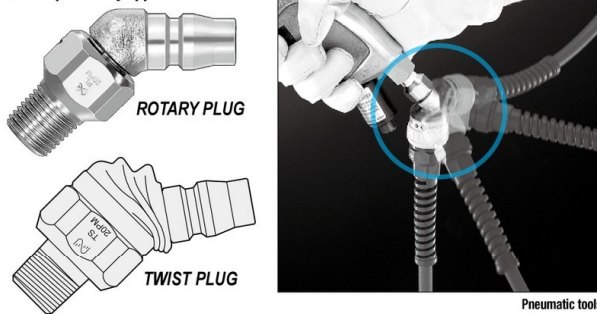


Air

Newly developed rotary function allows 360° swivelling!
Big improvement for handling of pneumatic tools!

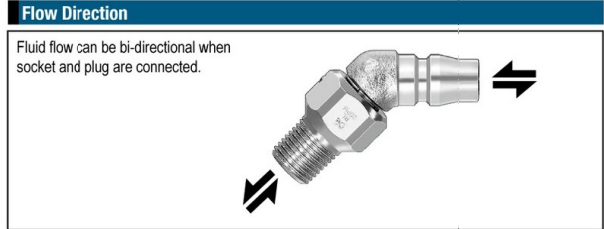
- Rotary neck plug for hose connection to pneumatic tools and pneumatic devices.
- Fits at 45° angle to the tool eliminating annoying offset load caused by connected hose.
- Ideal compact design enables optimum workability by simple body structure. Now far lighter and smaller than conventional models.
- New dust-proof design for increased durability.
- For air tackers, nailers, impact wrenches and other pneumatic tools.

Comparison by appearance



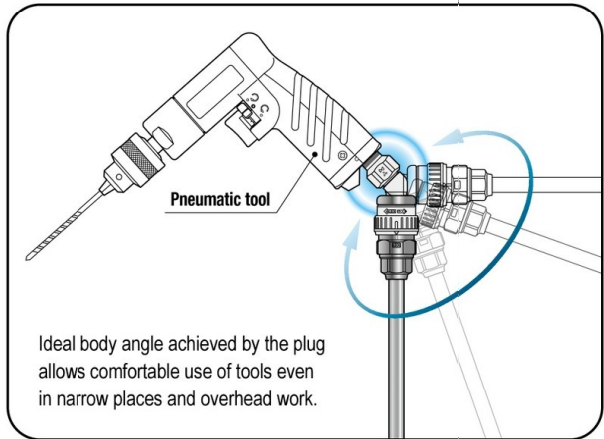
Specifications				
Body material	Steel (Nickel plated)			
Size (Thread)	1/4", 3/8"			
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	1.5	15	15	218
Seal material	Nitrile rubber	NBR (SG)	Working temperature range	Standard material
Working temperature range	-20°C to +80°C			

Maximum Tightening Torque		Nm {kgf-cm}	
Size (Thread)	1/4"	3/8"	
Torque	14 {143}	22 {224}	



Interchangeability

Interchangeable with sockets of HI CUPLA models 10, 17, 20, 30 and 40.
 Interchangeable with each models of NUT CUPLA series and HI CUPLA series (except models 400, 600, and 800).
 Please see page 19 for "HI CUPLA Series Interchangeability".



Models and Dimensions WAF : WAF stands for width across flats.

Plug PM type (Male thread)

Model	Application (Thread)	Mass (g)	Dimensions (mm)		
			L	D	T
RL-20PM	Rc 1/4	52	(52.1)	(34.1)	R 1/4
RL-30PM	Rc 3/8	73	(50.8)	(32.8)	R 3/8

Plug Model RL-20PFF type (Female thread)

● Application (Thread) : G 1/4
 ● Mass : 57 g

Dimensions (mm)


Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Low Pressure (Air)

TWIST PLUG


For pneumatic tools and devices

Working pressure




1.0 MPa
(10 kgf/cm²)

Valve structure



One-way shut-off

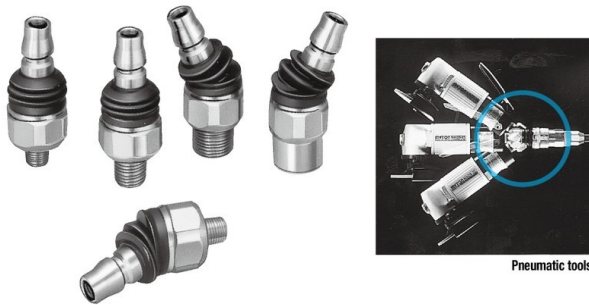
Applicable fluid



Air

Eliminates hose twisting, kinking, or bending! Greatly improves working efficiency!

- A plug with a free twisting neck for hose connections to pneumatic tools and devices.
- Free angle control (max.70° flexible) provides comfortable job positions, even in narrow spaces or with overhead works.
- The flexible part is reinforced with self-lubricating plastics to give smooth bending action and excellent durability.
- Dust protector over the flexible part prevents dirt and swarf from entering.



Specifications				
Body material	Steel (Nickel plated)			
Size (Thread)	1/8", 1/4", 3/8"			
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	1.0	10	10	145
Seal material	Nitrile rubber	NBR (SG)	Working temperature range	-20°C to +60°C
Working temperature range			Remarks	Standard material

Maximum Tightening Torque		Nm (kgf·cm)	
Size (Thread)	1/8"	1/4"	3/8"
Torque	7 {71}	14 {143}	22 {224}

Flow Direction

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

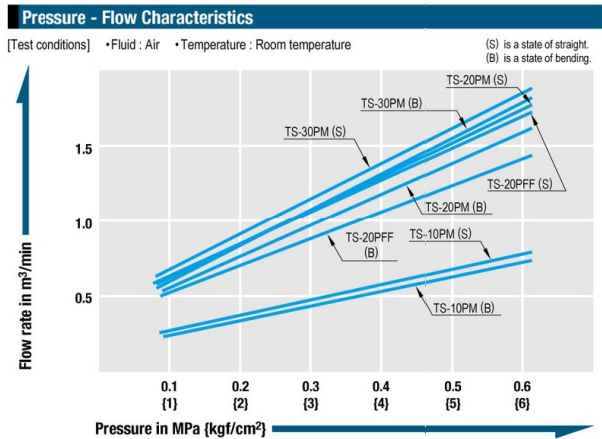
Interchangeability

Interchangeable with sockets of HI CUPLA models 10, 17, 20, 30 and 40.
Interchangeable with each models of NUT CUPLA series and HI CUPLA series (except models 400, 600, and 800). Please see page 19 for "HI CUPLA Series Interchangeability".

Suitability for Vacuum

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

Minimum Cross-Sectional Area		(mm ²)		
Model	TS-10PM	TS-20PM	TS-30PM	TS-20PFF
Min. cross-sectional area	12.5	38.5	38.5	38.5



Models and Dimensions

Plug PM type (Male thread)

Model	Application (Thread)	Mass (g)	Dimensions (mm)		
			L	øB	T
TS-10PM	Rc 1/8	59	(57.5)	4	R 1/8
TS-20PM	Rc 1/4	59	(60)	8	R 1/4
TS-30PM	Rc 3/8	65	(60)	10	R 3/8

Plug Model TS-20PFF (Female thread)

- Application (Thread) : G 1/4
- Mass : 77 g

Dimensions (mm)


Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Low Pressure (Air)

PURGE PLUG


For air lines with purge mechanism

Working pressure




1.0 MPa
{10 kgf/cm²}

Valve structure



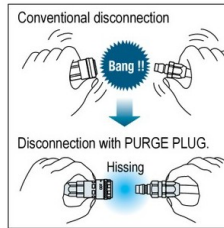
Purge valve

Applicable fluid



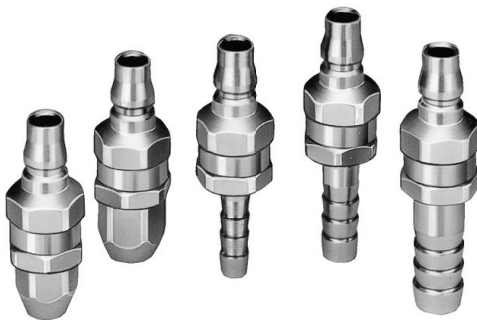
Air

Eliminates unpleasant popping noise and hose whip motion when CUPLA is disconnected.



- When the CUPLA is disconnected, the pressure left in the plug side hose is released gradually without unpleasant popping noise and hose whip motion.
- Unique design of air purge system enables the residual pressure release quickly and quietly.
- A unique but simple purge valve design is good for long and repeated use.
- The function is assured even under a high supply pressure or with a long hose.

Note: This product is not a check valve to totally stop the air flow.



Specifications				
Body material	Steel (Chrome plated)			
Size	1/4", 3/8", 1/2" / ø6.5 mm x ø10 mm, ø8.5 mm x ø12.5 mm hose			
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	1.0	10	10	145
Seal material	Nitrile rubber	NBR (SG)	Working temperature range	Remarks
Working temperature range	-20°C to +60°C		Standard material	

Tightening Torque Range		Nm (kgf·cm)
Torque	9 to 11 {92 to 112}	

To mount on urethane hose, slide it over to the hose barb and tighten the nut until it is flush against the hose barb base. It is recommended that grease is applied to the inside of the nut (threaded part and hose contact part) for easy tightening.

Flow Direction

Fluid must run from socket to plug.

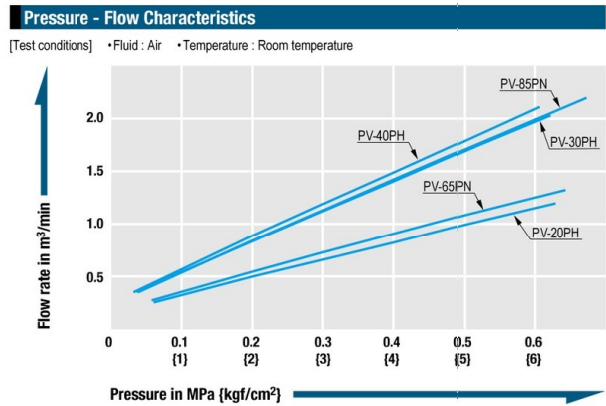
Interchangeability

Interchangeable with sockets of HI CUPLA models 10, 17, 20, 30 and 40.
Interchangeable with each models of NUT CUPLA series and HI CUPLA series (except models 400, 600, and 800). Please see page 19 for "HI CUPLA Series Interchangeability".

Minimum Cross-Sectional Area (mm ²)					
Model	PV-20PH	PV-30PH	PV-40PH	PV-65PN	PV-85PN
Min. cross-sectional area	19.6	44.1	50.4	22.0	44.1

Suitability for Vacuum

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



Models and Dimensions

WAF - WAF stands for width across flats.

Plug PH type (Hose barb)

Model	Application (Hose)	Mass (g)	Dimensions (mm)			
			L	A	øB	øT
PV-20PH	1/4"	59	(70)	28	5	8.4
PV-30PH	3/8"	62	(74)	32	7.5	11.3
PV-40PH	1/2"	76	(77)	35	9	14.8

Plug PN type (For urethane hose connection)

Model	Application (Hose)	Mass (g)	Dimensions (mm)			
			L	A	øB	T(WAF)
PV-65PN	ø6.5 mm x ø10 mm	71	(59)	17	5.3	Hex.17
PV-85PN	ø8.5 mm x ø12.5 mm	78	(61)	19	7.5	Hex.19

Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Low Pressure (Air)

ANTI-VIBRATION PLUG HOSE

Plug hose for vibrating and percussive air tools

Working pressure



1.5 MPa
(15 kgf/cm²)

Valve structure



One-way shut-off

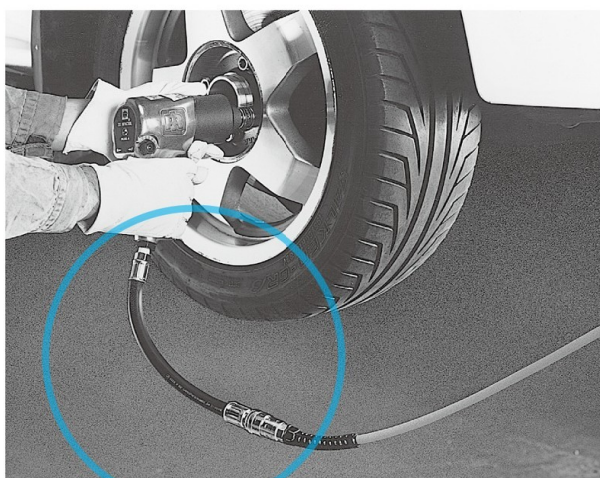
Applicable fluid



Air

Protects the CUPLA from shock generated by vibrating tools and impact tools.

- Optimizes life and prevents wear of "CUPLA" by absorbing strong shocks generated by connected vibrating tools.
- Prevents hard-to-notice flow reduction caused by "CUPLA" wear under continuous vibration.
- Flexible rubber hose allows free and wide range of tool motion.



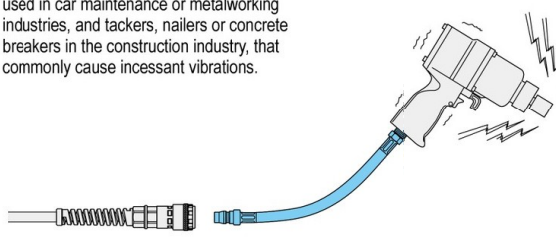
Specifications				
Applicable fluid	Air			
Model	SHA-3-2R	SHA-3-3R		
Size (Thread)	R 1/4"	R 3/8"		
Inlet (Plug)	HI CUPLA Plug 30PH			
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	1.5	15	15	218
Air hose	Rubber hose for air			
Overall length	320 mm			
Minimum bend radius	135 mm			

Maximum Tightening Torque		Nm {kgf·cm}	
Size (Thread)	R 1/4	R 3/8	
Torque	14 {143}	22 {224}	

Interchangeability
 Interchangeable with sockets of HI CUPLA models 10, 17, 20, 30 and 40.
 Interchangeable with each models of NUT CUPLA series and HI CUPLA series (except models 400, 600, and 800).
 Please see [page 19](#) for "HI CUPLA Series Interchangeability".

Application

Suitable for air tools such as impact wrenches used in car maintenance or metalworking industries, and tackers, nailers or concrete breakers in the construction industry, that commonly cause incessant vibrations.




As an intermediate connection hose between "CUPLA" and a vibrating air tool.

For Low Pressure (Air)

DUSTER CUPLA


Air line coupling with air blower function

Working pressure




1.0 MPa
(10 kgf/cm²)

Valve structure



One-way shut-off

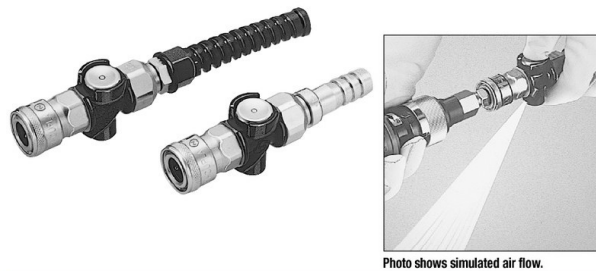
Applicable fluid



Air

Three functions in one: connection, air blow, hose twist release ! Dust blow without detaching the tool !

- HI CUPLA comes with compact air blow function.
- Improves job efficiency by air blow with tool still connected to hose.
- Ball bearing swivel mechanism prevents hose twist and relieves tension on operator's hand.
- Special design of air blow button switch is free from in line air pressure – no hard press down required.
- Also simple is routine water drain from air line before starting daily work.



Specifications				
Body material	Body : Aluminum alloy, CUPLA : Steel (Chrome plated)			
Size	For 1/4", 3/8", 1/2" hose For ø6.5 x ø10 mm, ø8.5 x ø12.5 mm polyurethane hose			
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	1.0	10	10	145
Seal material	Seal material	Mark	Working temperature range	Remarks
Working temperature range	Nitrile rubber	NBR (SG)	-20°C to +60°C	Standard material

Tightening Torque Range		Nm {kgf·cm}	
Model	65PNG	85PNG	
Torque	5 to 6 {51 to 61}	7 to 8 {71 to 82}	

To mount on urethane hose, slide it over to the hose barb and tighten the nut until it is flush against the hose barb base. It is recommended that grease is applied to the inside of the nut (threaded part and hose contact part) for easy tightening.

Flow Direction

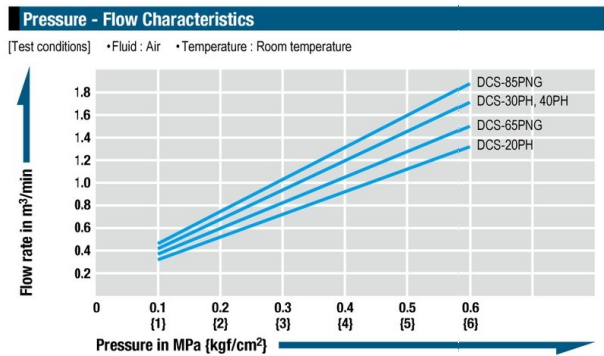
Fluid must run from socket to plug.

Interchangeability

Interchangeable with plugs of HI CUPLA models 10, 17, 20, 30 and 40. Interchangeable with each models of NUT CUPLA series and HI CUPLA series. Please see page 19 for "HI CUPLA Series Interchangeability".

Suitability for Vacuum

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



Models and Dimensions

Socket PH type (Hose barb)

Model	Application (Hose)	Mass (g)	Dimensions (mm)				
			L	A	H	øB	øT
DCS-20PH	1/4"	168	(117.9)	30	40.5	5	9
DCS-30PH	3/8"	171	(121.9)	34	40.5	7.5	11.3
DCS-40PH	1/2"	193	(123.9)	36	40.5	7.5	15

WAF : WAF stands for width across flats.

Socket PNG type (For hose with hose guard nut connection)

Model	Application (Hose)	Mass (g)	Dimensions (mm)					
			L	A	H	øB	H(WAF)	T(WAF)
DCS-65PNG	ø6.5 mm x ø10 mm	176	(176.9)	90	40.5	5.3	Hex.17	Hex.19
DCS-85PNG	ø8.5 mm x ø12.5 mm	185	(176.9)	90	40.5	7.5	Hex.19	Hex.22


Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Low Pressure (Air)

NK CUPLA HOSE NK CUPLA COIL HOSE


Couplings with polyurethane hose for air lines

Working pressure




0.7 MPa
(7 kgf/cm²) 1.0 MPa
(10 kgf/cm²)

Valve structure



One-way shut-off

Applicable fluid



Air

HI CUPLA ACE sockets with polyurethane hoses are now standard stock items. Push-to-connect design for quick piping.

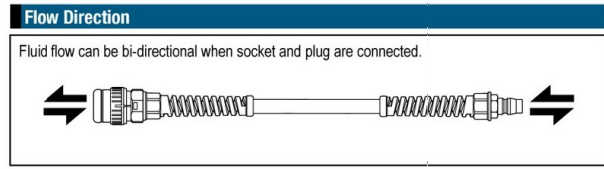
- The HI CUPLA ACE socket is mounted on pliable polyurethane hose featuring excellent durability and wear resistant with hose guard nut to prevent possible kinking.
- Plastic socket will cause minimum risk of damage even in contact with tools or equipment.
- Air flows in either direction from plug or from socket side when coupled.
- Spiral polyurethane coil hoses processed from straight tube have self-recoiling feature.

Models and Dimensions / Hose length

Plug / Socket	NK CUPLA HOSE			
	Model	Hose size	Hose length	Socket / Plug
				HI CUPLA ACE
				NUT CUPLA
	NKU-605B	ø6.5 mm x ø10 mm	5 m	HA-65SNG / 65PNG
	NKU-610B	ø6.5 mm x ø10 mm	10 m	HA-65SNG / 65PNG
	NKU-620B	ø6.5 mm x ø10 mm	20 m	HA-65SNG / 65PNG
	NKU-810B	ø8.5 mm x ø12.5 mm	10 m	HA-85SNG / 85PNG
	NKU-820B	ø8.5 mm x ø12.5 mm	20 m	HA-85SNG / 85PNG

Specifications				
Body material	Socket : Engineering plastics (PBT, POM) Plug : Steel (Chrome plated)			
Size	ø5 mm x ø8 mm, ø6.5 mm x ø10 mm, ø8.5 mm x ø12.5 mm			
Working pressure	MPa	NK CUPLA HOSE : 1.0	NK CUPLA COIL HOSE : 0.7	
	kgf/cm ²	NK CUPLA HOSE : 10	NK CUPLA COIL HOSE : 7	
	bar	NK CUPLA HOSE : 10	NK CUPLA COIL HOSE : 7	
	PSI	NK CUPLA HOSE : 145	NK CUPLA COIL HOSE : 102	
Seal material	Nitrile rubber	Mark	NBR (SG)	Working temperature range
Working temperature range			-5°C to +60°C	Remarks
Standard material				

Tightening Torque Range				Nm {kgf·cm}
Size	ø5 mm x ø8 mm	ø6.5 mm x ø10 mm	ø8.5 mm x ø12.5 mm	
Torque (Socket)	1.6 to 2.0 {16 to 20}	1.6 to 2.0 {16 to 20}	2.2 to 2.8 {22 to 29}	
Torque (Plug)	5 to 6 {51 to 61}	5 to 6 {51 to 61}	7 to 8 {71 to 82}	



Interchangeability

Interchangeable with HI CUPLA models 10, 17, 20, 30 and 40.
Interchangeable with each models of NUT CUPLA series and HI CUPLA series (except models 400, 600, and 800).
Please see [page 19](#) for "HI CUPLA Series Interchangeability".

Suitability for Vacuum

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

Plug / Socket	NK CUPLA COIL HOSE			
	Model	Hose size	Maximum extensible length	Socket / Plug
				HI CUPLA ACE
				NUT CUPLA
	NKC-503B	ø5 mm x ø8 mm	2 m	HA-50SNG / 50PNG
	NKC-505B	ø5 mm x ø8 mm	4 m	HA-50SNG / 50PNG
	NKC-603B	ø6.5 mm x ø10 mm	2 m	HA-65SNG / 65PNG
	NKC-605B	ø6.5 mm x ø10 mm	4 m	HA-65SNG / 65PNG


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For Low Pressure

MINI CUPLA


Standard type for use on equipment for welding and gas cutting, etc.

Working pressure




0.7 MPa
(7 kgf/cm²)

Valve structure



One-way shut-off

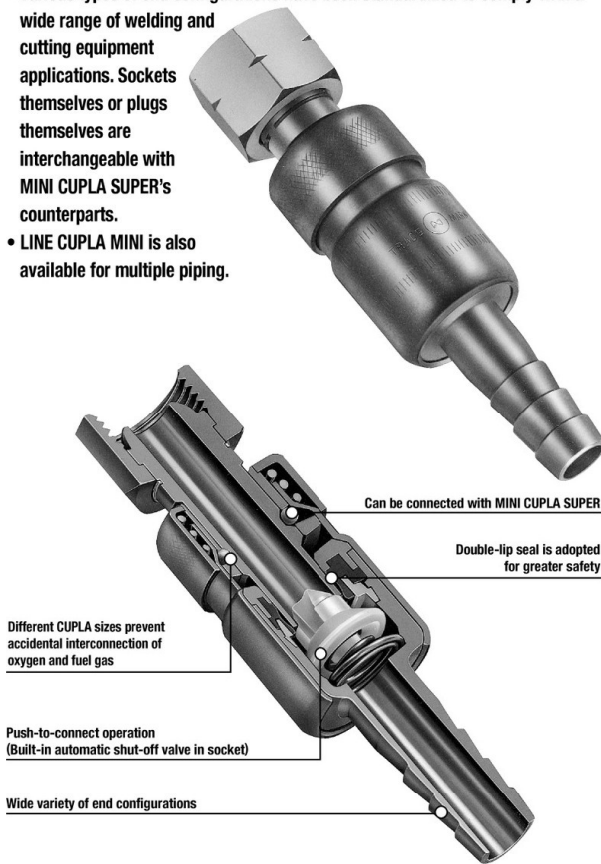
Applicable fluids



Oxygen, Fuel Gas

Exclusively for oxyacetylene equipment. Many variations with higher flow rates!

- From cylinders to torches, all piping connections associated with welding and cutting equipment are push-to-connect operations.
- Double-lip seal prevents minor leak during connection. Oxygen and fuel gas CUPLA have different sizes to prevent accidental interconnection.
- Pressure loss is minimized to achieve higher flow rate.
- Various types of end configurations have been standardized to comply with a wide range of welding and cutting equipment applications. Sockets themselves or plugs themselves are interchangeable with MINI CUPLA SUPER's counterparts.
- LINE CUPLA MINI is also available for multiple piping.



Structure and Principle of Backflow Prevention

Plug with backflow stop valve

Plugs with backflow stop valve in MINI CUPLA are designed exclusively for gas welding/cutting to prevent occurrence of gas mixing. Possible backflow of gas during operation can be stopped by cutting the back flow into the cylinder or line. Such valve is adopted in both fuel gas and oxygen plug.

Cross-section sketch showing the structure

To operate at approx. 0.1 MPa (1 kgf/cm²)

Specifications				
Body material	Brass			
Size	Thread	1/8", 1/4", 3/8" / M16, W12.5-20		
	Hose barb	1/4", 5/16", 3/8"		
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	0.7	7	7	102
Seal material	Seal material	Mark	Working temperature range	Remarks
	Nitrile rubber	NBR (SG)	-20°C to +80°C	Standard material

Maximum Tightening Torque		Nm {kgf·cm}	
Model	22PF, 22PFB, 22SF, 25PF, 33PF, 33PFB, 33SF	22SM	33SM
Torque	12 {122}	9 {92}	11 {112}

Flow Direction

Fluid must run from socket to plug.

Interchangeability

To prevent accidental connection, CUPLA for oxygen are not interchangeable with CUPLA for fuel gas. However, plugs and sockets for oxygen are interchangeable regardless of end configurations and plugs and sockets for fuel gas are interchangeable regardless of end configurations.
*Interchangeable with MINI CUPLA SUPER.

Minimum Cross-Sectional Area (mm²)

For Oxygen

Socket \ Plug	22PH	25PH	22PF	22PFF	25PF	22PHB	25PHB	22PFB	21PMT	22PMT
22SH	19.6	19.6	19.6	19.6	19.6	15.9	15.9	15.9	19.6	19.6
25SH	19.6	19.6	19.6	19.6	19.6	15.9	15.9	15.9	19.6	19.6
22SF	19.6	19.6	19.6	19.6	19.6	15.9	15.9	15.9	19.6	19.6
22SM	19.6	19.6	19.6	19.6	19.6	15.9	15.9	15.9	19.6	19.6

For Fuel Gas

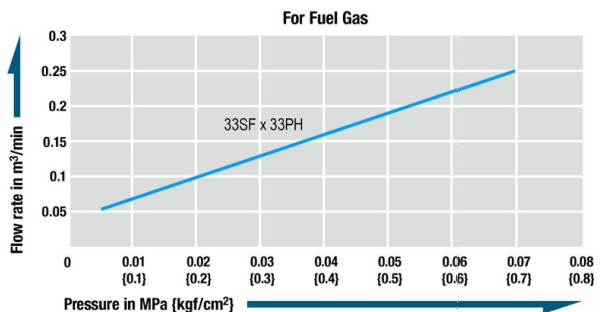
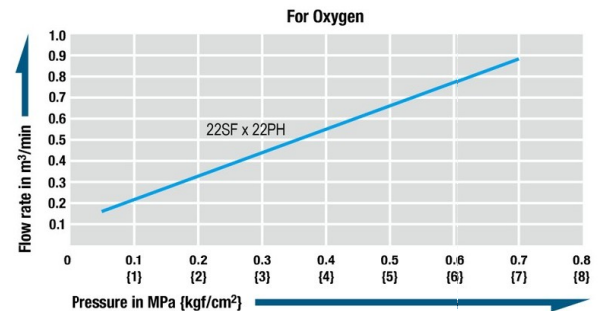
Socket \ Plug	33PH	35PH	33PF	33PHB	35PHB	33PFB
33SH	44.1	28.2	44.1	15.9	15.9	15.9
35SH	28.2	28.2	28.2	15.9	15.9	15.9
33SF	19.6	19.6	19.6	15.9	15.9	15.9
33SM	44.1	28.2	44.1	15.9	15.9	15.9

Suitability for Vacuum

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

Pressure - Flow Characteristics

[Test conditions] • Fluid : Air • Temperature : Room temperature



Models and Dimensions

Plug PH type (Hose barb)

Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)					
				L	C	A	øH	øT	øB
For Oxygen	22PH	1/4"	16	55	23.5	28	11	7.8	5
	25PH	5/16"	19					9	
For Fuel Gas	33PH	3/8"	22	57	25.5	28	14	10.5	7.5
	35PH	5/16"	20					9	

Socket SH type (Hose barb)

Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)				
				L	øD	A	øT	øB
For Oxygen	22SH	1/4"	52	(64)	(19.8)	29	7.8	5
	25SH	5/16"	55				9	
For Fuel Gas	33SH	3/8"	69	(65)	(22.6)	29	10.5	7.5
	35SH	5/16"	67				9	

Plug PF type (Female thread for torch connection)

Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)					
				L	C	H(WAF)	T	øB	
For Oxygen	22PF	For oxygen torch side	31	(43.5)	23.5	Hex.19	M16 x 1.5	5	
	22PFF		29						
	25PF		26						
For Fuel Gas	33PF	For fuel gas torch side	36	(44.5)	25.5	Hex.19	M16 x 1.5 left-hand thread	7.5	

Socket SF type (Female thread for cylinder connection)

Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	øD	T	øB	H(WAF)
For Oxygen	22SF	For oxygen gauge side	80	(52)	(19.8)	M16 x 1.5	5	Hex.19
For Fuel Gas	33SF	For fuel gas gauge side	96	(54)	(22.6)	M16 x 1.5 left-hand thread	5	Hex.19

Plug PHB type (Hose barb with backflow stop valve)

Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)					
				L	C	A	øH	øT	øB
For Oxygen	22PHB	1/4"	31	(69.6)	23.5	28	15.5	7.8	4.5
	25PHB	5/16"	34					9	
For Fuel Gas	33PHB	3/8"	41	(70.6)	25.5	28	15.5	10.5	4.5
	35PHB	5/16"	39					9	

Socket SM type (Male thread)

Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	øD	H(WAF)	T	øB
For Oxygen	22SM	Rc 1/4	51	(52)	(19.8)	12	R 1/4	7.5
For Fuel Gas	33SM	Rc 3/8	77	(55)	(22.6)	14	R 3/8	10

Plug PFB type (Female thread with backflow stop valve for torch connection)

Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	C	H(WAF)	T	øB
For Oxygen	22PFB	For oxygen torch side	36	(48.5)	23.5	Hex.19	M16 x 1.5	4.5
For Fuel Gas	33PFB	For fuel gas torch side	41	(49)	25.5	Hex.19	M16 x 1.5 left-hand thread	4.5

Socket LINE CUPLA MINI LM-32 (For three port branch piping)

Mass : 4,300 g

- Dust caps come with the product as standard.

Dimensions (mm)			
LINE CUPLA MINI contains:	For Oxygen	For Fuel Gas	Qty
Supply port	1/4"	3/8"	Each 1 pc.
Gas outlets	22SM	33SM	Each 3 pc.
Accessories (Plug with backflow stop valve)	22PHB	33PHB	Each 3 pc.

Plug PMT type (Male thread)

Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	C	H(WAF)	T	øB
For Oxygen	21PMT	Rc 1/8	22	43.5	24	Hex.14	R 1/8	5
	22PMT	Rc 1/4	27	45	24	Hex.14	R 1/4	5

Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Low Pressure

MINI CUPLA SUPER

Heavy-duty push-to-connect type for oxyacetylene piping

Working pressure

0.7 MPa
(7 kgf/cm²)

Valve structure

One-way shut-off

Applicable fluids

Oxygen, Fuel Gas

Exclusively for welding and cutting equipment.

- From cylinders to torches, all piping connections associated with welding and cutting equipment are push-to-connect operations.
- Plated body for better corrosion resistance.
- Heat-treated plugs for better durability.
- Oxygen and fuel gas CUPLA have different configuration sizes with sleeves in different appearances, silver colored plating for oxygen and copper colored plating for fuel gas, to prevent accidental interconnection.
- Smaller diameter design enables wider range of applications.
- Various types of end configurations have been standardized to comply with a wide range of welding and cutting equipment applications. Sockets themselves or plugs themselves are interchangeable with MINI CUPLA's counterparts.



Structure and Principle of Backflow Prevention

Plug with backflow stop valve

Plugs with backflow stop valve in MINI CUPLA SUPER are designed exclusively for gas welding/cutting to prevent occurrence of gas mixing. Possible backflow of gas during operation can be stopped by cutting the back flow into the cylinder or line. Such valve is adopted in both fuel gas and oxygen plug.

Cross-section sketch showing the structure

To operate at approx. 0.1 MPa (1 kgf/cm²)

Specifications				
Body material	Socket : Brass (Chrome plated) Plug : Steel (Chrome plated)			
Size	Thread	1/4", 3/8", M16		
	Hose barb	1/4", 5/16", 3/8" / 5 mm ID		
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	0.7	7	7	102
Seal material	Seal material	Mark	Working temperature range	Remarks
	Nitrile rubber	NBR (SG)	-20°C to +80°C	Standard material

Maximum Tightening Torque		Nm (kgf-cm)	
Model	S22PF, S22SF, S33PF, S33SF	S22SM	S33SM
Torque	12 (122)	9 (92)	11 (112)

Flow Direction

Fluid must run from socket to plug.

Interchangeability

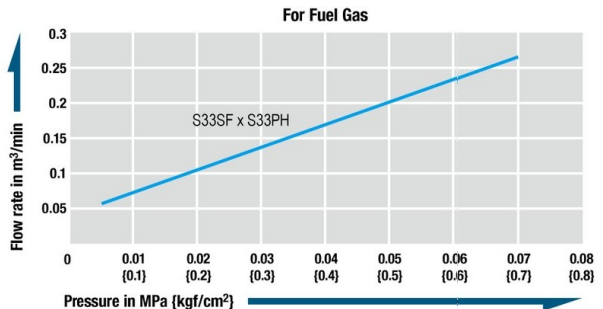
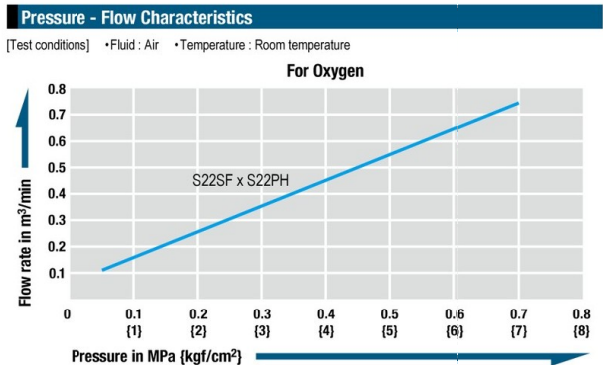
To prevent accidental connection, CUPLA for oxygen are not interchangeable with CUPLA for fuel gas. However, plugs and sockets for oxygen are interchangeable regardless of end configurations and plugs and sockets for fuel gas are interchangeable regardless of end configurations. Can be connected with MINI CUPLA series.

Minimum Cross-Sectional Area		(mm ²)			
For Oxygen					
Socket	Plug	S22PH	S225PH	S22PF	S22PN
S22SH		15.9	7.5	15.9	15.9
S225SH		7.5	7.5	7.5	7.5
S22SF		15.9	7.5	15.9	15.9
S22SM		15.9	7.5	15.9	15.9
S22SN		15.9	7.5	15.9	15.9

For Fuel Gas					
Socket	Plug	S33PH	S335PH	S33PF	S33PN
S33SH		28.2	7.5	28.2	15.9
S335SH		7.5	7.5	7.5	7.5
S33SF		28.2	7.5	28.2	15.9
S33SM		28.2	7.5	28.2	15.9
S33SN		15.9	7.5	15.9	15.9

Suitability for Vacuum

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



Models and Dimensions

Plug PH type (Hose barb)

Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)					
				L	C	A	øH	øJ	øB
For Oxygen	S22PH	1/4", 5/16"	17	58	23.5	30	11	9.5	4.5
For Oxygen	S225PH	5 mm ID	12	49	23.5	21	11	6.2	3.1
For Fuel Gas	S33PH	5/16", 3/8"	22	59.5	25.5	30	14	11	6
For Fuel Gas	S335PH	5 mm ID	15	50.5	25.5	21	14	6.2	3.1
For Fuel Gas	S32PH*1	1/4", 5/16"	20	59.5	25.5	30	14	9	4.5

Socket SH type (Hose barb)

Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)					
				L	ød	øD	A	øJ	øB
For Oxygen	S22SH	1/4", 5/16"	50	(64.5)	(19.5)	20	30	9.5	4.5
For Oxygen	S225SH	5 mm ID	54	(62.5)	(19.5)	20	21	6.2	3.1
For Fuel Gas	S33SH	5/16", 3/8"	73	(68)	(22)	22	30	11	6
For Fuel Gas	S335SH	5 mm ID	65	(63)	(22)	22	21	6.2	3.1
For Fuel Gas	S32SH*1	1/4", 5/16"	74	(72.5)	(22)	22	30	9	4.5

Plug PF type (Female thread for torch connection)

Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	C	H(WAF)	T	øB
For Oxygen	S22PF	For oxygen torch side	35	(43)	23.5	Hex.19	M16 x 1.5	5
For Fuel Gas	S33PF	For fuel gas torch side	32	(44.5)	25.5	Hex.19	M16 x 1.5 left-hand thread	7.5

Socket SF type (Female thread for cylinder connection)

Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)					
				L	ød	øD	T	H(WAF)	øB
For Oxygen	S22SF	For oxygen torch side	74	(52.5)	(19.5)	M16 x 1.5	Hex.19	4.5	
For Fuel Gas	S33SF	For fuel gas torch side	97	(57.5)	(22)	M16 x 1.5 left-hand thread	Hex.19	6	
For Oxygen	S23SF-BS*1	For oxygen torch side	82	(55.5)	(19.5)	BS 3/8	Hex.21	4.5	
For Fuel Gas	S33SF-BS*1	For fuel gas torch side	88	(59)	(22)	BS 3/8 left-hand thread	Hex.21	6	

Plug PFB type (Female thread with backflow stop valve for torch connection)

Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	C	H(WAF)	øT	øB
For Oxygen	S23PFB-2*1	For oxygen torch side	48	(51)	23.5	Hex.21	BS 3/8	4.5
For Fuel Gas	S33PFB-2*1	For fuel gas torch side	52	(51)	25.5	Hex.21	BS 3/8 left-hand thread	4.5

Socket SM type (Male thread)

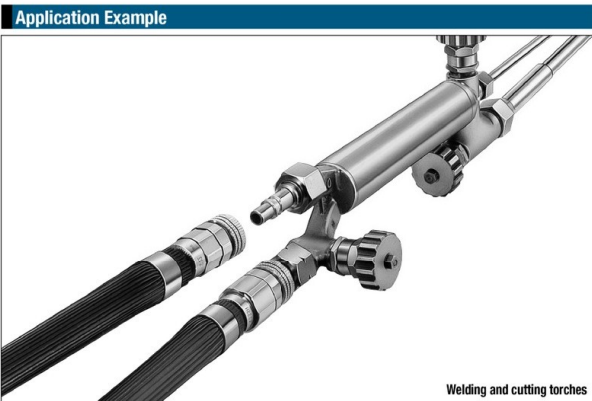
Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)					
				L	ød	øD	H(WAF)	T	øB
For Oxygen	S22SM	Rc 1/4	58	(48.5)	(19.5)	20	Hex.18	R 1/4	4.5
For Fuel Gas	S33SM	Rc 3/8	85	(52)	(22)	23	Hex.21	R 3/8	6

Plug PN type (Nut type for small diameter hose)

Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)				
				L	C	H1(WAF)	H2(WAF)	øB
For Oxygen	S22PN	5 mm ID ₂	54	(53.5)	23.5	Hex.17	Hex.19	4.5
For Fuel Gas	S33PN	5 mm ID ₂	57	(54.5)	25.5	Hex.17	Hex.19	4.5

Socket SN type (Nut type for small diameter hose)

Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)					
				L	ød	øD	H1(WAF)	H2(WAF)	øB
For Oxygen	S22SN	5 mm ID ₂	74	(52)	(19.5)	20.5	Hex.18	Hex.19	4.5
For Fuel Gas	S33SN	5 mm ID ₂	91	(57)	(22)	20.5	Hex.21	Hex.19	4.5



*1 : Made-to-order item.
*2 : Available hose sizes are ø5 mm x ø11.2 mm, ø5 mm x ø11.5 mm and ø5 mm x ø11.8 mm.

Select the combination in accordance with your own application.


Male thread	For regulator	For extension hose	For torch
Suggested combination SM x PH	Suggested combination SF x PH	Suggested combination SH x PH	Suggested combination SH x PF

For Low Pressure

MOLD CUPLA


General purpose and mold coolant port coupling

Working pressure




1.0 MPa
(10 kgf/cm²)

Valve structure



One-way shut-off

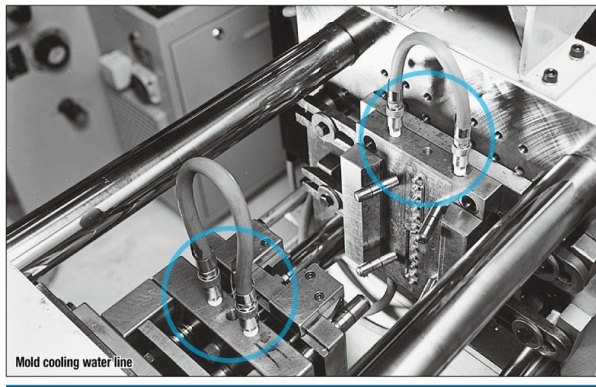
Applicable fluids



Water Heated oil

Designed for quick replacement for die and mold !
Rust resistant models having many variations.

- Space saving design for molds with closely spaced coolant ports.
- Long sleeve socket facilitates connection/disconnection with plug embedded in mold.
- Enables quick mold cooling water line connection/disconnection.
- Various sizes and end configurations to suit a wide variety of mold applications.
- Can be connected with SUPER CUPLA, excluding K3 and K4 types.
- Push-to-connect design. (Built-in automatic shut-off valve in the socket)
- Also available is CUPLA without valve (Please specify in ordering).
- CUPLA for braided hose connection requires no hose clamp. (Model K-90SN)



Specifications				
Body material	Brass			
Size	Thread	1/8", 1/4", 3/8"		
	Hose barb	Hose: 1/4", 3/8" / Braided hose: ø9 mm x ø15 mm		
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	1.0	10	10	145
Seal material	Seal material	Mark	Working temperature range	Remarks
	Nitrile rubber	NBR (SG)	-20°C to +80°C	Standard material
Working temperature range	Fluoro rubber	FKM (X-100)	-20°C to +180°C	Available on request

Maximum working pressure and working temperature range of CUPLA for braided hoses depend upon the specifications of braided hoses to be used.

Maximum Tightening Torque		Nm (kgf·cm)		
Size (Thread)		1/8"	1/4"	3/8"
Torque		5 {51}	9 {92}	11 {112}

Tighten the nut until it is flush against the hose barb base after pushing a braided hose to the end.

Flow Direction

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

Interchangeability

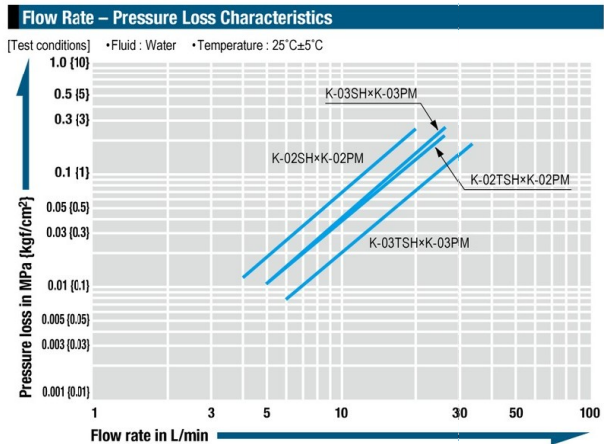
Sockets and plugs can be connected regardless of end configurations and sizes. K-0 series are not interchangeable with high flow type K3 and K4 series. Can be connected with SUPER CUPLA.

Minimum Cross-Sectional Area		(mm ²)													
Socket	Plug	K-02SH	K-02TSH	K-03SH	K-03TSH	K-02SM	K-02TSM	K-03SM	K-03TSM	K-02SF	K-02TSF	K-03SHL	K-03SHL	K-03TSHL	K-90SN
		K-02PH	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
K-03PH	19	19	28	28	28	28	28	28	28	28	28	28	28	28	28
K-01PM	19	19	23	23	23	23	23	23	23	23	23	15.5	23	23	23
K-01PM-HH	19	19	23	23	23	23	23	23	23	23	23	15.5	23	23	23
K-02PM	19	19	28	28	28	28	28	28	28	28	28	15.5	28	28	28
K-02PM-HH	19	19	23	23	23	23	23	23	23	23	23	15.5	23	23	23
K-03PM	19	19	28	28	28	28	28	28	28	28	28	15.5	28	28	28
K-01PF	19	19	28	28	28	28	28	28	28	28	28	15.5	28	28	28
K-02PF	19	19	28	28	28	28	28	28	28	28	28	15.5	28	28	28
K-03PF	19	19	28	28	28	28	28	28	28	28	28	15.5	28	28	28
K-01PML	19	19	19	19	19	19	19	19	19	19	19	15.5	19	19	19
K-02PML	19	19	28	28	28	28	28	28	28	28	28	15.5	28	28	28
K-03PML	19	19	28	28	28	28	28	28	28	28	28	15.5	28	28	28

Suitability for Vacuum

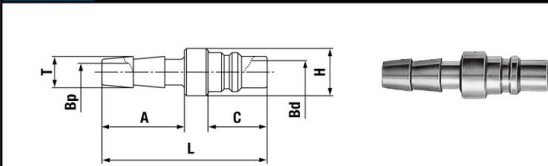
Not suitable for vacuum application in either connected or disconnected condition.

Plug Embedment Dimensions		(mm)				Remarks
Model	D*	C*	L			
K-01PM	20 or more	0 to 3	28		* Socket interference prevents connection/disconnection when C exceeds 3 mm.	
K-01PM-HH	20 or more	0 to 3	24			
K-02PM	20 or more	0 to 3	29		* Size D should be bigger than the outer diameter of the socket wrench to be used. (See JISB4636-1, JISB4636-2)	
K-02PM-HH	20 or more	0 to 3	24			
K-03PM	20 or more	0 to 3	30			



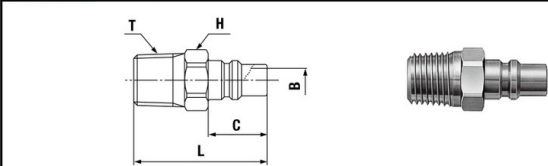
Models and Dimensions

Plug PH type (Hose barb)



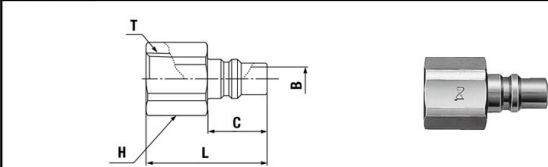
Model	Application (Hose)	Mass (g)	Dimensions (mm)						
			L	A	C	øH	øT	øBp	øBd
K-02PH	1/4"	17	42	21	15	12	8	4.5	6
K-03PH	3/8"	19	42	21	15	15	12	7	6

Plug PM type (Male thread)



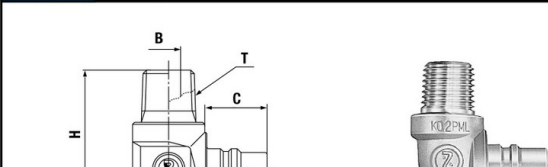
Model	Application (Thread)	Mass (g)	Dimensions (mm)				
			L	H(WAF)	C	T	øB
K-01PM	Rc 1/8	14	31	Hex.12	15	R 1/8	5.5
K-02PM	Rc 1/4	20	34	Hex.14	15	R 1/4	6
K-03PM	Rc 3/8	35	35	Hex.17	15	R 3/8	6

Plug PF type (Female thread)



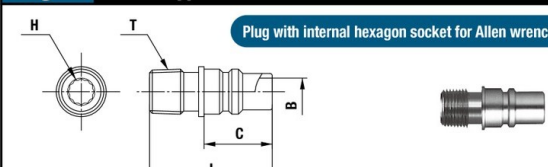
Model	Application (Thread)	Mass (g)	Dimensions (mm)				
			L	H(WAF)	C	T	øB
K-01PF	R 1/8	16	28	Hex.14	15	Rc 1/8	6
K-02PF	R 1/4	22	30.5	Hex.17	15	Rc 1/4	6
K-03PF	R 3/8	35	32	Hex.21	15	Rc 3/8	6

Plug PML type (Male thread)



Model	Application (Thread)	Mass (g)	Dimensions (mm)				
			L	C	H	T	øB
K-01PML	Rc 1/8	43	33.5	15	30.5	R 1/8	5
K-02PML	Rc 1/4	53	33.5	15	33.5	R 1/4	6
K-03PML	Rc 3/8	71	33.5	15	33.5	R 3/8	6

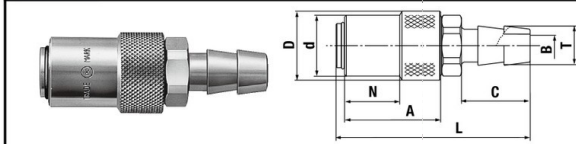
Plug PM-HH type (Male thread)



• The photo shows model K-01PM-HH.

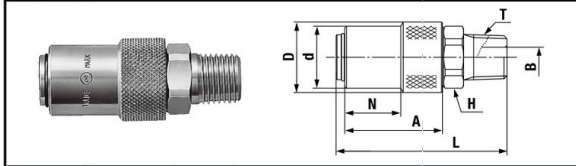
Model	Application (Thread)	Mass (g)	Dimensions (mm)					
			Outside diameter	L	H	C	T	øB
K-01PM-HH	Rc 1/8	9	ø11	27	5	15	R 1/8	6
K-02PM-HH	Rc 1/4	15	(ø13.4)	29	5	15	R 1/4	6

Socket SH type (Hose barb)



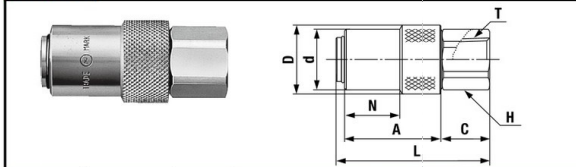
Model	Application (Hose)	Mass (g)	Dimensions (mm)							
			L	øD	ød	N	A	C	øT	øB
K-02SH	1/4	52	(67)	(21)	18.5	16.8	29	29	8	5
K-02TSH-1	1/4	52	(67)	(21)	18.5	16.8	29	29	8	5
K-03SH	3/8	60	(59)	(21)	18.5	16.8	29	21	12	7
K-03TSH-1	3/8	60	(59)	(21)	18.5	16.8	29	21	12	7

Socket SM type (Male thread)



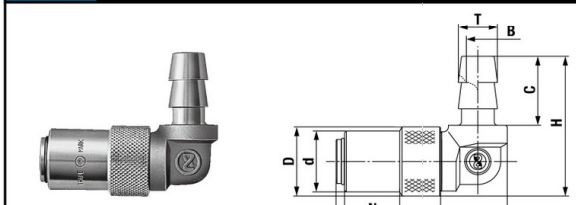
Model	Application (Thread)	Mass (g)	Dimensions (mm)							
			L	øD	ød	N	A	H(WAF)	T	øB
K-02SM	Rc 1/4	70	(51)	(21)	18.5	16.8	29	Hex.17	R 1/4	6
K-02TSM-1	Rc 1/4	70	(51)	(21)	18.5	16.8	29	Hex.17	R 1/4	6
K-03SM	Rc 3/8	82	(52)	(21)	18.5	16.8	29	Hex.19	R 3/8	6
K-03TSM-1	Rc 3/8	82	(52)	(21)	18.5	16.8	29	Hex.19	R 3/8	6

Socket SF type (Female thread)



Model	Application (Thread)	Mass (g)	Dimensions (mm)							
			L	øD	ød	N	A	C	T	H(WAF)
K-02SF	R 1/4	57	(46.5)	(21)	18.5	16.8	29	14.5	Rc 1/4	Hex.17
K-02TSF-1	R 1/4	57	(46.5)	(21)	18.5	16.8	29	14.5	Rc 1/4	Hex.17

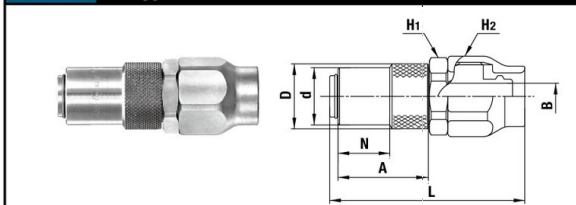
Socket SHL type (Hose barb)



Model	Application (Hose)	Mass (g)	Dimensions (mm)								
			L	øD	ød	N	A	C	øT	H	øB
K-02SHL	1/4	79	(52)	(21)	18.5	16.8	29	21	8	(42.5)	4.5
K-03SHL	3/8	87	(52)	(21)	18.5	16.8	29	21	12	(42.5)	7
K-03TSHL-1	3/8	87	(52)	(21)	18.5	16.8	29	21	12	(42.5)	7

*1: Also available without socket valve (Made-to-order item), identified by product code TS (e.g. K-03SH without valve is K-03TSH). Also available are sockets with sleeve stopper (Made-to-order item).

Socket SN type (For braided hose connection)



Model	Application (Hose) (mm)	Hose wall thickness (mm)	Mass (g)	Dimensions (mm)							
				L	øD	ød	N	A	H1(WAF)	H2(WAF)	øB
K-90SN	ø9 x ø15	3±0.3	122	(63)	(21)	18.5	16.8	29	Hex.23	Hex.24	8.5

Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Low Pressure

MOLD CUPLA

High Flow Type

High flow type mold coolant port coupling

Working pressure

1.0 MPa
(10 kgf/cm²)

Valve structure

One-way shut-off

Applicable fluids

Water Heated oil

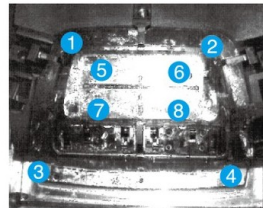
Flow rate has doubled to increase productivity.

- High flow type K3 and K4 series are added to MOLD CUPLA series for mold coolant and heated oil port coupling.
- Almost double flow rate compared with our standard K-01, K-02 and K-03 series, increasing productivity.
- Space saving design for molds with closely spaced coolant ports.
- Long sleeve socket facilitates connection / disconnection with plug embedded in mold.
- Enables quick mold coolant hose connection / disconnection.



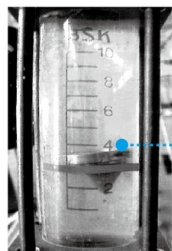
Results of reduced cooling time in the field

A customer replaced conventional K-0 series MOLD CUPLA with the K3 series and shortened the cooling time from 30 seconds to 21 seconds meaning an 18% reduction per shot and increased productivity by 20%. Temperature checks at 8 positions on the mold showed that surface temperatures on average had fallen by 3°C, providing evidence of the high cooling efficiency.



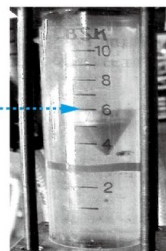
Flow comparison

Coolant water flow rate was checked with a flow meter, which confirmed increase by 1.7 to 1.8 times, when MOLD CUPLA K3 series are used.



Conventional K-0 series MOLD CUPLA were used.

Increased by 1.7 to 1.8 times UP



K3 series are used.

Specifications				
Body material	Brass			
Size	Thread	1/4", 3/8", 1/2"		
	Hose barb	3/8", 1/2" hose		
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	1.0	10	10	145
Seal material	Seal material	Mark	Working temperature range	Remarks
	Nitrile rubber	NBR (SG)	-20°C to +80°C	Standard material
	Fluoro rubber	FKM (X-100)	-20°C to +180°C	Available on request

Maximum Tightening Torque			Nm (kgf-cm)
Size (Thread)	1/4"	3/8"	1/2"
Torque	9 {92}	11 {112}	20 {204}

Flow Direction

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

Interchangeability

K3 series sockets and plugs can be connected regardless of end configuration and sizes. K4 series sockets and plugs can be connected regardless of end configuration and sizes. K3 series and K4 series are not interchangeable with each other. Also not interchangeable with other K-0 series.

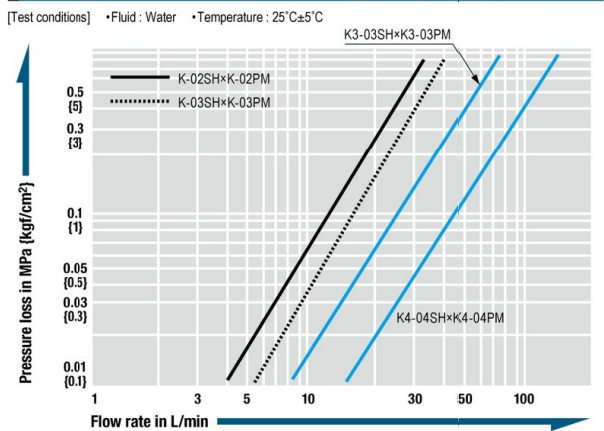
Minimum Cross-Sectional Area (mm ²)					
Plug \ Socket	K3-03SH	K3-04SH	K3-03SM	K3-03SF	K4-04SH
K3-03PH	38	38	38	38	-
K3-02PM	38	62.5	62.5	62.5	-
K3-03PM	38	62.5	62.5	62.5	-
K3-03PF	38	62.5	62.5	62.5	-
K4-04PM	-	-	-	-	78.5

Suitability for Vacuum

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

Plug Embedment Dimensions (mm)					
Model	D*	C*	L	Remarks	
				K3-02PM	24 or more
K3-03PM	24 or more	0 to 3	31	* Size D should be bigger than the outer diameter of the socket wrench to be used. (See JISB4636-1, JISB4636-2)	
K4-04PM	32 or more	0 to 3	39		

Flow Rate – Pressure Loss Characteristics (Comparison with MOLD CUPLA)



MOLD CUPLA (High Flow Type) / FLOW METER

Models and Dimensions

WAF : WAF stands for width across flats.

Plug PH type (Hose barb / High flow type)

Model	Application (Hose)	Mass (g)	Dimensions (mm)						
			L	A	C	øH	øT	øBp	øBd
K3-03PH	3/8"	19	42.5	21	17.5	14	12	7	9.5

Socket SH type (Hose barb / High flow type)

Model	Application (Hose)	Mass (g)	Dimensions (mm)							
			L	øD	ød	N	A	C	øT	øB
K3-03SH	3/8"	100	(65)	(24)	22.5	19	25.5	21	12	7
K3-04SH	1/2"	102	(67)	(24)	22.5	19	25.5	23	15	10
K4-04SH	1/2"	226	(82)	(32)	30	26.5	34	23	15	10

Plug PM type (Male thread / High flow type)

Model	Application (Thread)	Mass (g)	Dimensions (mm)				
			L	C	H(WAF)	øT	øB
K3-02PM	Rc 1/4	16	36	17.5	Hex.14	R 1/4	9
K3-03PM	Rc 3/8	25	36	17.5	Hex.17	R 3/8	9.5
K4-04PM	Rc 1/2	50	46	21.5	Hex.22	R 1/2	13

Socket SM type (Male thread / High flow type)

Model	Application (Thread)	Mass (g)	Dimensions (mm)							
			L	øD	ød	N	A	H(WAF)	T	øB
K3-03SM	Rc 3/8	90	(56)	(24)	22.5	19	25.5	Hex.21	R 3/8	12

Plug PF type (Female thread / High flow type)

Model	Application (Thread)	Mass (g)	Dimensions (mm)				
			L	H(WAF)	C	T	øB
K3-03PF	R 3/8	30	33	Hex.21	17.5	Rc 3/8	9.5

Socket SF type (Female thread / High flow type)

Model	Application (Thread)	Mass (g)	Dimensions (mm)						
			L	øD	ød	N	A	T	H(WAF)
K3-03SF	R 3/8	87	(49)	(24)	22.5	19	25.5	Rc 3/8	Hex.21

Notes: Also available without socket valve (Made-to-order item), identified by product code TS (e.g. K3-03SH without valve is K3-03TSH). Also available are CUPLA with sleeve stopper (Made-to-order item).

For Low Pressure

FLOW METER

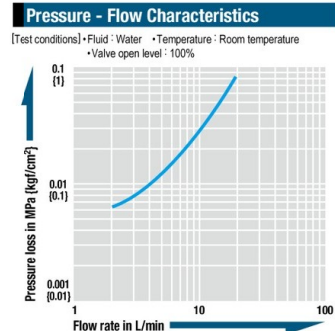
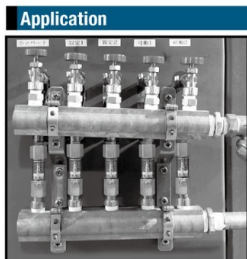
Flow meter with special valve for mold cooling line

Working pressure: 0.5 MPa (5 kgf/cm²)

Applicable fluids: Water

For stable and accurate coolant flow rate.

- Graduated scale enables easy visual check of coolant flow rate regardless of operator.
- Built-in flow rate adjustment valve enables desired setting of mold conditions for each machine.
- Easy resumption of previously set molding conditions to cut lead times.
- T2 side is equipped with rotary function. Even after fixing the body on T1 side to the piping, additional screw tightening on T2 side is possible.



Specifications

Body material	Body: Brass Graduated tube: Polycarbonate		
Size (Thread)	Both ends Rc 3/8 female thread		
Pressure unit	MPa	kgf/cm ²	bar
Working pressure	0.5	5	5
Working pressure			72.5
Maximum flow rate	18 L/min (5 to 18 L/min adjustable)		
Seal material	Seal material	Mark	Working temperature range
Working temperature range	Nitrile rubber	NBR (SG)	-20°C to +60°C
			Standard material

* Use within the temperature range of +10°C to +60°C due to plastic float material.

Maximum Tightening Torque

Torque	11 {112}
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Models and Dimensions / Flow Direction

WAF : WAF stands for width across flats.

Flow must flow in the direction of the arrows.

Model	Mass (g)	Dimensions (mm)					
		L	D	H1(WAF)	H2(WAF)	T1	T2
FM-03-B	190	(89)	(33)	Hex.23	Hex.26	Rc 3/8	Rc 3/8

Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Low Pressure

LEVER LOCK CUPLA

Metal Body / Plastic Body

For bulk flow, low pressure applications

Working pressure

0.7 to 1.8

0.7 to 1.8 MPa
(7 to 18 kgf/cm²)

Working pressure

0.2 to 0.5

0.2 to 0.5 MPa
(2 to 5 kgf/cm²)

Valve structure

Straight through

Designs and specifications are subject to change for improvement without notice

Applicable fluids (plastic body CUPLA are for water or air only)

Water

Hydraulic oil

Air

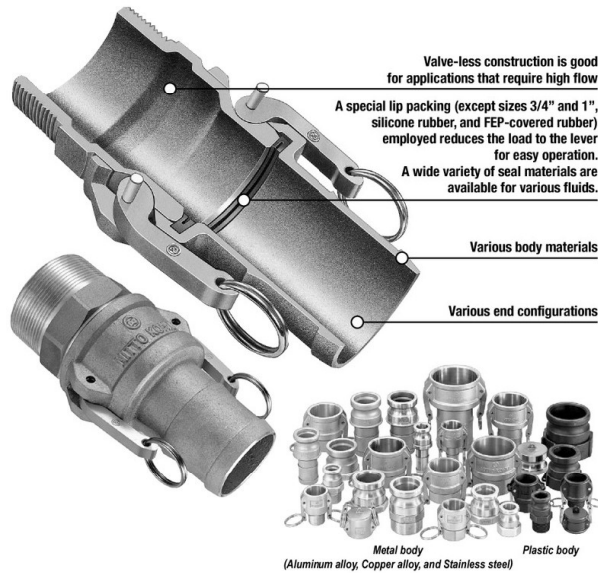
Powder

Steam

Note: Depending on the temperature of steam / hot water, the heat may damage seal materials.

Light lever pull-down will connect the plug and socket without fail ready to flow liquid or gases.

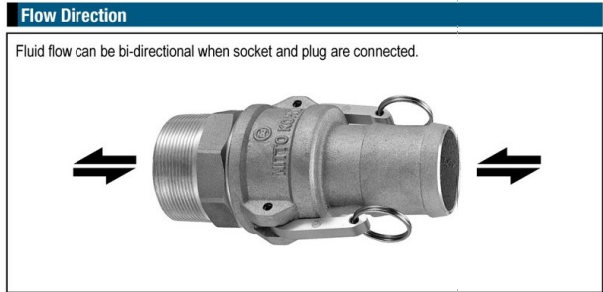
- This CUPLA complies with diversified applications in liquid or gas transportation.
- End-face seal structure enables no bumps or hollows on the internal fluid passage, and ensures smooth fluid transportation.
- A special lip packing (except sizes 3/4" and 1", silicone rubber, and FEP-covered rubber) employed reduces the load to the lever for easy operation.
- Connection part dimensions comply with US military specifications MIL-A-A-59326.
- The variety of body materials, sizes and end configurations has been standardized to comply with wide range of applications.
- Additional stopper function design will enhance safety (only for made-to-order metal body product).



Specifications (Metal Body)									
Body material (Material symbol)	Aluminum alloy (AL), Copper alloy (BR)				Stainless steel (SUS)				
Size (Thread and hose)	3/4" to 2"	2 1/2"	3"	4"	3/4" to 2"	2 1/2" to 3"	4"		
Working pressure	MPa	1.8	1.1	0.9	0.7	1.8	1.6	1.1	
	kgf/cm ²	18	11	9	7	18	16	11	
	bar	18	11	9	7	18	16	11	
	PSI	261	160	131	102	261	232	160	
Seal material	Nitrile rubber		Silicone rubber		Fluoro rubber		Ethylene-propylene rubber		
Working temperature range	-20°C to +80°C		-40°C to +180°C		-20°C to +180°C		-40°C to +150°C		
Optional seal material	Seal material	Nitrile rubber		Silicone rubber		Fluoro rubber		Ethylene-propylene rubber	
	Mark	NBR (SG)		SI		FKM (X-100)		EPDM (EPT)	
	Working temperature range	-20°C to +80°C		-40°C to +180°C		-20°C to +180°C		-40°C to +150°C	
	Working temperature range	-20°C to +80°C		-40°C to +180°C		-20°C to +180°C		-40°C to +150°C	
Seal material	Nitrile rubber		Silicone rubber		Fluoro rubber		Ethylene-propylene rubber		
Working temperature range	-20°C to +80°C		-40°C to +180°C		-20°C to +180°C		-40°C to +150°C		
Seal material	Nitrile rubber		Silicone rubber		Fluoro rubber		Ethylene-propylene rubber		
Mark	NBR (SG)		SI		FKM (X-100)		EPDM (EPT)		
Working temperature range	-20°C to +80°C		-40°C to +180°C		-20°C to +180°C		-40°C to +150°C		
Working temperature range	-20°C to +80°C		-40°C to +180°C		-20°C to +180°C		-40°C to +150°C		

Specifications (Plastic Body)									
Body material (Material symbol)	Polypropylene (PP)								
Size (Thread and hose)	3/4", 1", 1 1/2"				2", 3"				
Working pressure*	MPa	0.5				0.2			
	kgf/cm ²	5				2			
	bar	5				2			
	PSI	72.5				29			
Seal material	Nitrile rubber		Silicone rubber		Fluoro rubber		Ethylene-propylene rubber		
Working temperature range	-20°C to +80°C		-40°C to +180°C		-20°C to +180°C		-40°C to +150°C		
Optional seal material	Seal material	Nitrile rubber		Silicone rubber		Fluoro rubber		Ethylene-propylene rubber	
	Mark	NBR (SG)		SI		FKM (X-100)		EPDM (EPT)	
	Working temperature range	-20°C to +80°C		-40°C to +180°C		-20°C to +180°C		-40°C to +150°C	
	Working temperature range	-20°C to +80°C		-40°C to +180°C		-20°C to +180°C		-40°C to +150°C	

Maximum Tightening Torque		Nm (kgf·cm)							
Size (Thread)		3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Torque	Aluminum alloy	50	70	120	140	260	350	410	470
	Copper alloy	{510}	{714}	{1224}	{1428}	{2652}	{3570}	{4182}	{4794}
	Stainless steel	90	120	220	260	350	480	520	590
		{918}	{1224}	{2244}	{2652}	{3570}	{4896}	{5304}	{6018}



Interchangeability

Sockets and plugs can be connected regardless of end configurations if the size is same. Can be connected with products whose mating part dimensions are in compliance with MIL-A-A-59326.

Suitability for Vacuum (Metal Body)			53.0 kPa {400 mmHg}
Socket only	Plug only	When connected	
-	-	Operational	

Suitability for Vacuum (Plastic Body)

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

Dimensions with Lever Fully Opened

Metal	Size	Dimensions E (mm)		
		Body material		
		AL	BR	SUS
	3/4"	(122.5)	(122.5)	(111)
	1"	(132)	(132)	(125)
	1 1/4"	(183)	(183)	(179)
	1 1/2"	(191)	(191)	(187)
	2"	(201)	(201)	(196)
	2 1/2"	(213)	(209)	(209)
	3"	(249)	(249)	(251)
	4"	(280)	(278)	(277)

Dimensions with Lever Fully Opened

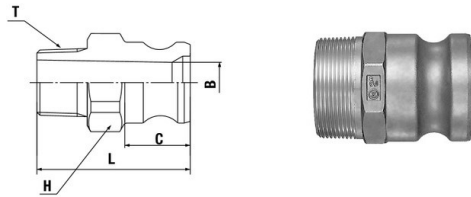
Plastic	Size	Dimensions E (mm)
	3/4"	(115)
	1"	(126)
	1 1/2"	(187)
	2"	(195)
	3"	(249)

LEVER LOCK CUPLA (Metal)

Dimensions of products may differ according to body material. / WAF : WAF stands for width across flats.

Models and Dimensions

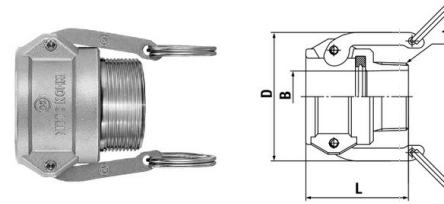
Plug LF type (Male thread)



Material	Model	Application (Thread)	Mass (g)	Dimensions (mm)			Oct. stands for octagon. Dod.stands for dodecagon.	
				L	C	H(WAF)	øB	T
Aluminum alloy	LF-6TPM	3/4"	70	61	26	Hex.36	16	R 3/4
	LF-8TPM	1"	90	73	34	Hex.41	22	R 1
	LF-10TPM	1 1/4"	140	81	40	Hex.50	28	R 1 1/4
	LF-12TPM	1 1/2"	150	80.5	42	Oct.55	34.5	R 1 1/2
	LF-16TPM	2"	220	89.5	48	Oct.65	44.5	R 2
	LF-20TPM	2 1/2"	370	101	50	Oct.80	56	R 2 1/2
Copper alloy	LF-6TPM	3/4"	185	59	27	Oct.34	20	R 3/4
	LF-8TPM	1"	280	69	32	Oct.41	24	R 1
	LF-10TPM	1 1/4"	460	81	40	Hex.50	28	R 1 1/4
	LF-12TPM	1 1/2"	500	80.5	42	Oct.55	36	R 1 1/2
	LF-16TPM	2"	750	89.5	48	Oct.65	45	R 2
	LF-20TPM	2 1/2"	1290	98	50	Dod.83	56	R 2 1/2
Stainless steel	LF-6TPM	3/4"	175	59	27	Oct.33	19	R 3/4
	LF-8TPM	1"	255	69	33	Oct.41	24	R 1
	LF-10TPM	1 1/4"	415	80	42	Oct.50	29.5	R 1 1/4
	LF-12TPM	1 1/2"	575	80	40	Oct.58	36.5	R 1 1/2
	LF-16TPM	2"	680	90	46.5	Oct.69	46	R 2
	LF-20TPM	2 1/2"	1020	99	49	Dod.83	56	R 2 1/2
	LF-24TPM	3"	1415	103	51	Dod.96	73	R 3
	LF-32TPM	4"	2275	112	53	Dod.124	100	R 4

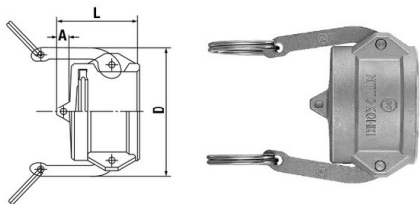
Socket LB type (Male thread)

Model LB-6TSM made of aluminum alloy has no rings.



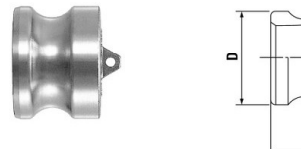
Material	Model	Application (Thread)	Mass (g)	Dimensions (mm)			
				L	D	øB	T
Aluminum alloy	LB-6TSM	3/4"	110	53	(60.5)	(17)	R 3/4
	LB-8TSM	1"	170	65	(61)	(235)	R 1
	LB-10TSM	1 1/4"	310	72	(82)	29.5	R 1 1/4
	LB-12TSM	1 1/2"	340	71.5	(90)	36	R 1 1/2
	LB-16TSM	2"	400	79.5	(100)	(46)	R 2
	LB-20TSM	2 1/2"	530	88.5	(112)	(57.5)	R 2 1/2
Copper alloy (Made-to-order item)	LB-6TSM	3/4"	260	52	(53)	19.5	R 3/4
	LB-8TSM	1"	355	63	(62)	26	R 1
	LB-10TSM	1 1/4"	620	71	(84)	28	R 1 1/4
	LB-12TSM	1 1/2"	700	71	(91)	36	R 1 1/2
	LB-16TSM	2"	950	81	(100)	51	R 2
	LB-20TSM	2 1/2"	1250	86	(113)	63	R 2 1/2
Stainless steel (available on request)	LB-6TSM	3/4"	210	52.5	(55)	20	R 3/4
	LB-8TSM	1"	300	63	(63)	25.5	R 1
	LB-10TSM	1 1/4"	520	70.5	(85)	34	R 1 1/4
	LB-12TSM	1 1/2"	580	71.5	(87)	38	R 1 1/2
	LB-16TSM	2"	780	78.5	(101)	50.5	R 2
	LB-20TSM	2 1/2"	980	84	(113)	66	R 2 1/2
	LB-24TSM	3"	1490	92	(139)	78.5	R 3
	LB-32TSM	4"	2080	92	(167)	103.5	R 4

Plug L-PD type (Plug cap)



Material	Model	Size	Mass (g)	Dimensions (mm)		
				L	A	D
Aluminum alloy	L-6PD	3/4"	100	46	12	(54)
	L-8PD	1"	145	54	11.5	(62)
	L-10PD	1 1/4"	230	60	13	(83)
	L-12PD	1 1/2"	295	68	17	(91)
	L-16PD	2"	360	68	11	(100)
	L-20PD	2 1/2"	435	72	15	(113)
Copper alloy	L-24PD	3"	690	72	10	(139)
	L-32PD	4"	870	76	15	(167)
	L-6PD	3/4"	220	45	11	(53)
	L-8PD	1"	315	53	12	(62)
	L-10PD	1 1/4"	610	61	13	(84)
	L-12PD	1 1/2"	645	69	17.5	(91)
Stainless steel	L-16PD	2"	830	68	11	(100)
	L-20PD	2 1/2"	980	71	14	(113)
	L-24PD	3"	1380	81	20	(139)
	L-32PD	4"	2700	90	26	(168)
	L-6PD	3/4"	180	45	12	(55)
	L-8PD	1"	265	52	11	(63)
	L-10PD	1 1/4"	475	60	11	(85)
	L-12PD	1 1/2"	545	63	15	(87)
	L-16PD	2"	720	65	11	(101)
	L-20PD	2 1/2"	945	71	15	(113)
	L-24PD	3"	1420	72	12	(139)
	L-32PD	4"	2055	77	14	(167)

Socket L-SD type (Socket cap)



Material	Model	Size	Mass (g)	Dimensions (mm)		
				L	A	øD
Aluminum alloy	L-6SD	3/4"	35	32	8	32
	L-8SD	1"	45	44	10	36.7
	L-10SD	1 1/4"	70	57	14	45.5
	L-12SD	1 1/2"	90	54	15	53.4
	L-16SD	2"	140	62	13	63
	L-20SD	2 1/2"	210	69	20	75.8
Copper alloy	L-24SD	3"	290	71	15	91.5
	L-32SD	4"	960	74	16	119.4
	L-6SD	3/4"	160	34	8	32.1
	L-8SD	1"	150	44	10	36.7
	L-10SD	1 1/4"	210	55	12	45.5
	L-12SD	1 1/2"	290	54	15	53.4
Stainless steel	L-16SD	2"	420	61	12	63
	L-20SD	2 1/2"	630	69	19	75.7
	L-24SD	3"	860	71	15	91.5
	L-32SD	4"	1780	74.5	16	119.4
	L-6SD	3/4"	95	39	12	32
	L-8SD	1"	145	45	12	37
	L-10SD	1 1/4"	250	51	10	45
	L-12SD	1 1/2"	300	54	14	53
	L-16SD	2"	490	59.5	12.5	63
	L-20SD	2 1/2"	710	64	14	76
	L-24SD	3"	930	68	14	92
	L-32SD	4"	1275	68	14	120

LEVER LOCK CUPLA (Plastic)

Models and Dimensions Designs and specifications are subject to change for improvement without notice. / WAF : WAF stands for width across flats.

Plug LE type (Hose barb)

Material	Model	Application (Hose)	Mass (g)	Dimensions (mm)					
				L	A	C	øH	øT	øB
Plastic	LE-6TPH	3/4"	16	74.5	51.5	(23)	(32)	20.7	14.2
	LE-8TPH	1"	29	87.5	57.5	(30)	(36.5)	26.3	19
	LE-12TPH	1 1/2"	73	103	61.5	(41.5)	(53.5)	40	30
	LE-16TPH	2"	122	119	71	(48)	(63)	52.5	41
	LE-24TPH	3"	221	151.5	106.5	(45)	(91.5)	77	64.5

Socket LC type (Hose barb)

Material	Model	Application (Hose)	Mass (g)	Dimensions (mm)				
				L	A	H	øT	øB
Plastic	LC-6TSH	3/4"	64	83	52	(63.5)	20.2	14
	LC-8TSH	1"	104	97.5	56.5	(73)	26.2	20
	LC-12TSH	1 1/2"	242	109.5	58	(95)	39	29.5
	LC-16TSH	2"	269	125	70.5	(105.5)	52.5	41
	LC-24TSH	3"	527	161	102	(136.5)	77	64.5

Plug LA type (Female thread)

Material	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	C	H(WAF)	øB	T
Plastic	LA-6TPF	3/4"	19	42	(26)	Hex.43	21.3	Rc 3/4
	LA-8TPF	1"	27	59	(34)	Hex.43	22	Rc 1
	LA-12TPF	1 1/2"	65	67	(42)	Ribbed 65	34	Rc 1 1/2
	LA-16TPF	2"	102	73	(47.5)	Ribbed 78	42	Rc 2
	LA-24TPF	3"	211	90	(52.5)	Ribbed 108	71	Rc 3

Socket LD type (Female thread)

Material	Model	Application (Thread)	Mass (g)	Dimensions (mm)			
				L	H(WAF)	øB	T
Plastic	LD-6TSF	3/4"	65	49	Hex.32	21.5	Rc 3/4
	LD-8TSF	1"	98	61	Hex.41	27	Rc 1
	LD-12TSF	1 1/2"	260	77.5	Ribbed 68	39	Rc 1 1/2
	LD-16TSF	2"	285	83	Ribbed 80	51	Rc 2
	LD-24TSF	3"	444	90.5	Ribbed 109	77.5	Rc 3

Plug LF type (Male thread)

Material	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	C	H(WAF)	øB	T
Plastic	LF-6TPM	3/4"	23	60	(26)	Hex.32	19	R 3/4
	LF-8TPM	1"	19	71	(34)	Hex.37	23	R 1
	LF-12TPM	1 1/2"	72	77	(42)	Ribbed 63	32	R 1 1/2
	LF-16TPM	2"	105	84.5	(48)	Ribbed 74	44.5	R 2
	LF-24TPM	3"	210	102.5	(51.5)	Ribbed 100	72	R 3

Socket LB type (Male thread)

Material	Model	Application (Thread)	Mass (g)	Dimensions (mm)			
				L	H	øB	T
Plastic	LB-6TSM	3/4"	58	49.5	(63.5)	19	R 3/4
	LB-8TSM	1"	88	61	(73)	23.5	R 1
	LB-12TSM	1 1/2"	227	77.5	(95)	37	R 1 1/2
	LB-16TSM	2"	251	82.5	(105.5)	48	R 2
	LB-24TSM	3"	397	88	(136.5)	75	R 3

Plug L-PD type (Plug cap)

Material	Model	Size	Mass (g)	Dimensions (mm)		
				L	A	H
Plastic	L-6PD	3/4"	60	45	12	(63.5)
	L-8PD	1"	94	55.5	12	(73)
	L-12PD	1 1/2"	214	65	15	(95)
	L-16PD	2"	219	70.5	16	(106)
	L-24PD	3"	408	77	17.5	(136)

Socket L-SD type (Socket cap)

Material	Model	Size	Mass (g)	Dimensions (mm)		
				L	A	øD
Plastic	L-6SD	3/4"	10	35.5	12	(32.1)
	L-8SD	1"	18	42.5	11	(36.5)
	L-12SD	1 1/2"	46	53.5	14	(53.2)
	L-16SD	2"	68	63	16	(63)
	L-24SD	3"	102	71	17.5	(109)

Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Medium Pressure

TSP CUPLA


For medium pressure general applications

Working pressure

1.5 to 7.5

1.5 to 7.5 MPa
(15 to 75 kgf/cm²)







Valve structure



Straight through

Applicable fluids for braided hose connection type depend upon the specifications of braided hoses to be used.

Applicable fluids

Note: Depending on the temperature of steam / hot water, the heat may damage seal materials.

Valveless structure suits high viscosity fluids! Various body materials, sizes and end configurations.

Braided hose connection types are newly added.

- Valveless construction drastically saves pressure loss and achieves high flow rate.
 - Suitable for high viscosity fluids (such as grease).
 - Available in various standard body materials, sizes and end configurations to cope with diversified applications and operating situations.
 - No hose clamp required! Simple and secure connection to braided hose.
- Note: See the pages of Seal Material Selection Table at the end of this catalog for the suitability of seal materials to fluids.



Specifications										
Body material		Brass				Stainless steel (SUS304), Steel (Nickel plated)				
Size (Thread and hose)		1/8", 1/4" 3/8", 1/2"	3/4" 1"	1 1/4" 1 1/2"	2"	1/8", 1/4" 3/8", 1/2"	3/4" 1"	1 1/4" 1 1/2"	2"	
Working pressure		MPa	5.0	3.0	2.0	1.5	7.5	4.5	3.0	2.0
		kgf/cm ²	51	31	20	15	76	46	31	20
		bar	50	30	20	15	75	45	30	20
		PSI	725	435	290	218	1090	653	435	290
Seal material Working temperature range		Seal material	Nitrile rubber		FKM (X-100)		Ethylene-propylene rubber		EPDM (EPT)	
		Mark	NBR (SG)		FKM (X-100)		EPDM (EPT)			
		Working temperature range	-20°C to +80°C		-20°C to +180°C		-40°C to +150°C			
								Standard material		


- SUS316 is available as option.
- Maximum working pressure and working temperature range of TSP CUPLA for braided hoses depend upon the specifications of braided hoses to be used.
- Seal material available for braided hoses is nitrile rubber only.
- Seal material available for steel body is nitrile rubber only.

Maximum Tightening Torque										
Nm (kgf·cm)										
Size (Thread)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	
Torque	Steel		9 {92}	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}	260 {2652}	500 {5100}
	Brass		5 {51}	9 {92}	12 {122}	30 {306}	50 {510}	65 {663}	150 {1530}	260 {2652}
	Stainless steel		9 {92}	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}	260 {2652}	500 {5100}

• Tighten the nut for braided hoses until it is flush against the hose barb base.

Flow Direction

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

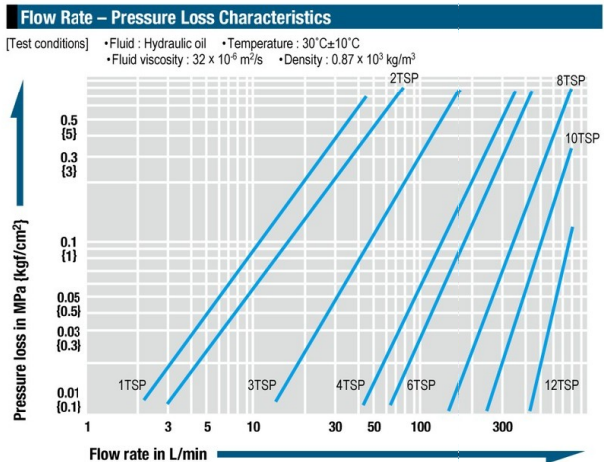


Interchangeability

Sockets and plugs can be connected regardless of end configurations if the first number(s) of the model is the same.

Minimum Cross-Sectional Area (mm ²)									
Model	1TSP	2TSP	3TSP	4TSP	6TSP	8TSP	10TSP	12TSP	16TSP
End configurations									
H type (Hose barb)	7.0 (ø3)	19.6 (ø5)	38.4 (ø7)	78.5 (ø10)	176 (ø15)	283 (ø19)	530 (ø26)	804 (ø32)	1256 (ø40)
M type / F type (Male thread / Female thread)	15.9 (ø4.5)	33.1 (ø6.5)	78.5 (ø10)	132 (ø13)	226 (ø17)	452 (ø24)	804 (ø32)	1134 (ø38)	1885 (ø49)
Model	2TSN-60 2TPN-60	3TSN-90 3TPN-90	4TSN-120 4TPN-120	4TSN-150 4TPN-150	6TSN-190 6TPN-190	8TSN-250 8TPN-250			
End configurations									
N type (For braided hose connection)	23.7 (ø5.5)	56.7 (ø8.5)	95.0 (ø11)	132 (ø13)	226 (ø17)	415 (ø23)			

Suitability for Vacuum		
1.3 x 10 ⁻¹ Pa (1 x 10 ⁻³ mmHg)		
Socket only	Plug only	When connected
—	—	Operational




For Low Pressure

TSP CUPLA Socket with Ball Valve


For low pressure general applications

Working pressure




1.0 MPa
{10 kgf/cm²}

Valve structure



One-way shut-off

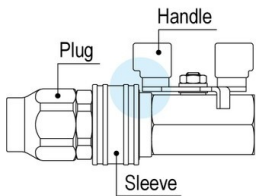
Applicable fluids



Water Hydraulic oil Air Gas

One-piece design of TSP CUPLA socket and ball valve. Sleeve stopper mechanism prevent accidental disconnection during connection. (when the valve is open.)

- Socket valve can be opened and shut off while socket and plug are connected.
- Ball valve design provides for high flow rate.
- High viscosity fluids such as grease can be applied.



The handle of the ball valve locks the sleeve to prevent disconnection of the plug during use.



Interchangeable with standard TSP CUPLA plug in the same size.



Specifications					
Model	BV-2TSF	BV-3TSF	BV-4TSF	BV-6TSF	BV-8TSF
Size (Thread)	1/4"	3/8"	1/2"	3/4"	1"
Body material	Brass				
Pressure unit	MPa	kgf/cm ²	bar	PSI	
Working pressure	1.0	10	10	145	
Seal material	Seal material		Mark		Working temperature range
	CUPLA Part	Fluoro rubber	FKM		-5°C to +120°C
Working temperature range	Ball Valve Part	Fluoropolymer resin	-		

Maximum Tightening Torque					
Model	BV-2TSF	BV-3TSF	BV-4TSF	BV-6TSF	BV-8TSF
Torque	9 {92}	12 {122}	30 {306}	50 {510}	65 {663}

Flow Direction

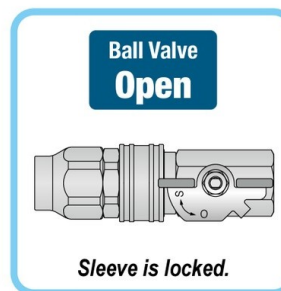
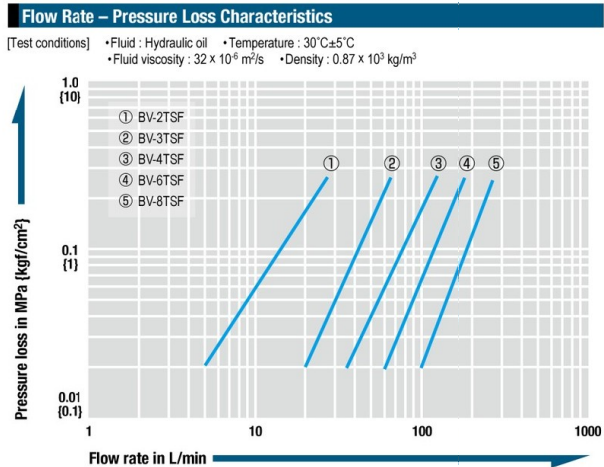
Fluid flow can be bi-directional when socket and plug are connected.

Interchangeability
TSP CUPLA plugs of the same size can be connected regardless of end configurations.

Minimum Cross-Sectional Area (mm ²)					
Model	BV-2TSF	BV-3TSF	BV-4TSF	BV-6TSF	BV-8TSF
Min. cross-sectional area	19.6	44.1	63.6	122	201

* Value of BV type only. The minimum cross-sectional area may vary depending upon the end configuration of the plug.

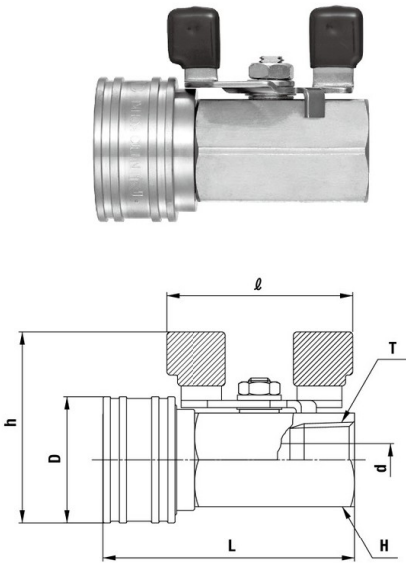
Suitability for Vacuum
Not suitable for vacuum application in either connected or disconnected condition.



TSP CUPLA Socket with Ball Valve

Models and Dimensions WAF: WAF stands for width across flats.

Socket BV-TSF type (Female thread)

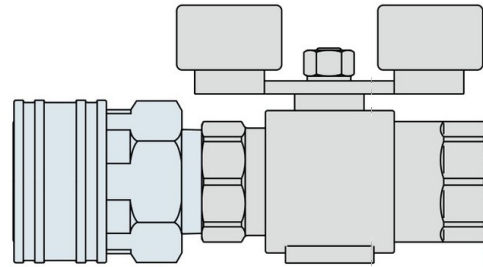


Model	Application (Thread)	Mass (g)	Dimensions (mm)						
			L	h	øD	H(WAF)	T	ød	ℓ
BV-2TSF	R 1/4	104	(52.3)	(43)	24	Hex.17	Rc 1/4	5	(38.5)
BV-3TSF	R 3/8	163	(60.5)	(47.5)	28	Hex.21	Rc 3/8	7.5	(44)
BV-4TSF	R 1/2	270	(70.3)	(53)	35	Hex.26	Rc 1/2	9	(52)
BV-6TSF	R 3/4	491	(82.8)	(66.1)	45	Hex.32	Rc 3/4	12.5	(60.5)
BV-8TSF	R 1	904	(102.3)	(76.6)	58	Hex.41	Rc 1	16	(76)

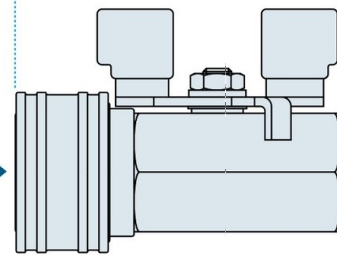
Application

TSP CUPLA Socket with Ball Valve

TSP CUPLA Socket + Commercially Available Ball Valve



Overall length reduced by around 30%



Compact and enhanced sealing design

Connection part between a Standard TSP CUPLA socket and a commercially available ball valve is eliminated for enhanced sealing and the overall length is reduced by around 30%.

Accessory

CUPLA ADAPTER for Braided Hose Connection

Can be screwed into CUPLA with female threads, 3/8", 1/2", 3/4"



See page 152 for the details.

Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Medium Pressure

SP CUPLA

Type A

For medium pressure general applications

Working pressure

1.5 to 7.5
1.5 to 7.5 MPa
(15 to 75 kgf/cm²)

Valve structure

Two-way shut-off

Applicable fluids

Note: Depending on the temperature of steam / hot water, the heat may damage seal materials.

For medium pressure applications, with automatic shut-off valves in both socket and plug. Various body materials, sizes and end configurations. Plugs with male thread end are also available.

- Automatic shut-off valves in both socket and plug prevent fluid spill out on disconnection.
- Available in various standard body materials, sizes and end configurations to cope with diversified applications and operating situations.



New self-aligned valve design provides better seal

The new design of the valve head makes smooth self-aligned return to its original position when socket and plug are disconnected. This mechanism enhances safety sealing of individual socket or plug when disconnected (1 to 8SP-A Type).



Specifications											
Body material		Brass						Stainless steel (SUS304), Steel (Nickel plated)			
Size (Thread)		1/8", 1/4" 3/8"	1/2", 3/4" 1"	1 1/4" 1 1/2"	2"	1/8", 1/4" 3/8"	1/2", 3/4" 1"	1 1/4" 1 1/2"	2"		
Working pressure		MPa	5.0	3.0	2.0	1.5	7.5	4.5	3.0	2.0	
		kgf/cm ²	51	31	20	15	76	46	31	20	
		bar	50	30	20	15	75	45	30	20	
		PSI	725	435	290	218	1090	653	435	290	
Seal material * Working temperature range		Seal material	Nitrile rubber		Fluoro rubber		Ethylene-propylene rubber		Mark	Working temperature range	Remarks
			NBR (SG)		FKM (X-100)		EPDM (EPT)			-20°C to +80°C	Standard material
										-20°C to +180°C	
								-40°C to +150°C			

* Plugs with male thread with nitrile rubber or ethylene-propylene rubber are made-to-order items.
* Seal material available for steel body is nitrile and fluoro rubber.

Maximum Tightening Torque										Nm (kgf·cm)		
Size (Thread)		1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"		
Torque	Steel	9 {92}	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}	260 {2652}	280 {2856}	500 {5100}		
	Brass	5 {51}	9 {92}	12 {122}	30 {306}	50 {510}	65 {663}	150 {1530}	180 {1836}	260 {2652}		
	Stainless steel	9 {92}	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}	260 {2652}	280 {2856}	500 {5100}		

Plug with male thread type is only available in brass material.

Flow Direction

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

Interchangeability

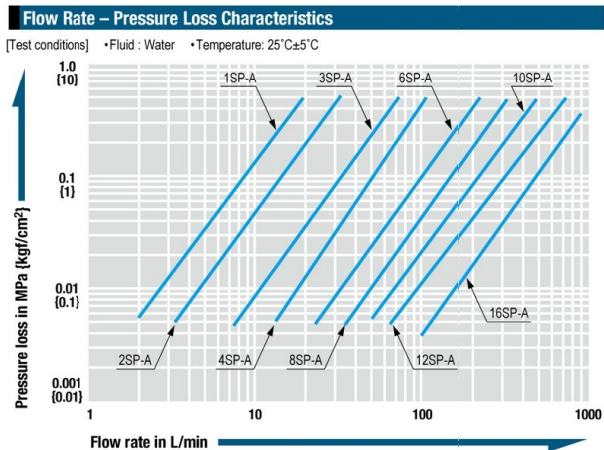
Socket and plug of different sizes cannot be connected.
Interchangeable with conventional SP CUPLA in the same size.
*Can be connected with SP-V CUPLA but take heed of flow rate change.

Minimum Cross-Sectional Area										(mm ²)	
Model	1SP-A	2SP-A	3SP-A	4SP-A	6SP-A	8SP-A	10SP-A	12SP-A	16SP-A		
Min. Cross-sectional area	14	26	51	73	178	229	395	553	803		

Suitability for Vacuum			1.3 x 10 ⁻¹ Pa (1 x 10 ⁻³ mmHg)		
Socket only	Plug only	When connected			
—	—	Operational			

Admixture of Air on Connection									May vary depending upon the usage conditions.		(mL)	
Model	1SP-A	2SP-A	3SP-A	4SP-A	6SP-A	8SP-A	10SP-A	12SP-A	16SP-A			
Volume of air admixture	0.6	1.1	2.7	3.9	11	17	29	45	84			

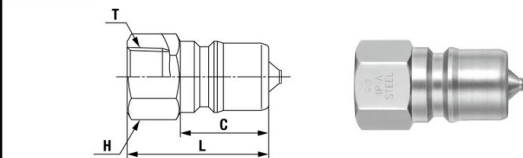
Volume of Spillage per Disconnection										May vary depending upon the usage conditions.		(mL)	
Model	1SP-A	2SP-A	3SP-A	4SP-A	6SP-A	8SP-A	10SP-A	12SP-A	16SP-A				
Volume of spillage	0.4	0.8	2.1	3.4	9.5	15	29	45	84				



WAF: WAF stands for width across flats.

Models and Dimensions

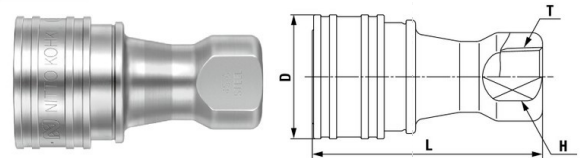
Plug Female thread



Model	Application (Thread)	Mass (g)			Dimensions (mm)			
		Steel	Brass	Stainless steel	L	C	H(WAF)	T
1P-A	R 1/8	17 *1	19	17	29	19	Hex.14	Rc 1/8
2P-A	R 1/4	32	34	32	36	22	Hex.17	Rc 1/4
3P-A	R 3/8	56	61	56	40	25	Hex.21	Rc 3/8
4P-A	R 1/2	112	121	112	44	28	Hex.29	Rc 1/2
6P-A	R 3/4	190	205	190	52	36	Hex.35	Rc 3/4
8P-A	R 1	311	333	310	62	40	Hex.41	Rc 1
10P-A	R 1 1/4	590	630	520	70	45	Hex.54 *2	Rc 1 1/4
12P-A	R 1 1/2	870	920	880	75	49	Hex.63 *3	Rc 1 1/2
16P-A	R 2	1540	1640	1560	80	52	77 x ø84	Rc 2

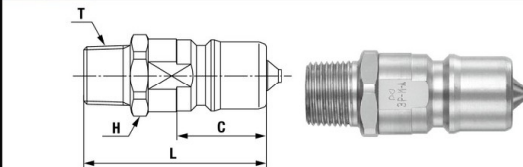
* The photos above show steel coupling. * The appearance of stainless steel coupling (SUS304) differs slightly from that shown in the photos above.
 *1 1P-A (Steel) and 1S-A (Steel) are made-to-order items. *2 Stainless steel: 54 x ø59 *3 Stainless steel: 63 x ø67

Socket Female thread



Model	Application (Thread)	Mass (g)			Dimensions (mm)			
		Steel	Brass	Stainless steel	L	ØD	H(WAF)	T
1S-A	R 1/8	73 *1	79	75	48	24	14	Rc 1/8
2S-A	R 1/4	119	128	130	58	28	19	Rc 1/4
3S-A	R 3/8	187	202	193	65	35	21	Rc 3/8
4S-A	R 1/2	368	397	391	72	45	29	Rc 1/2
6S-A	R 3/4	639	686	645	88	55	35	Rc 3/4
8S-A	R 1	951	1024	962	102	65	41	Rc 1
10S-A	R 1 1/4	1430	1520	1440	115	77	54	Rc 1 1/4
12S-A	R 1 1/2	2130	2270	2150	124	88	63	Rc 1 1/2
16S-A	R 2	3280	3510	3310	132	108	77	Rc 2

Plug Male thread



Model	Application (Thread)	Mass (g)			Dimensions (mm)		
		Brass	L	C	H(WAF)	T	
1P-M-A	Rc 1/8	24	(40)	19	Hex.14	R 1/8	
2P-M-A	Rc 1/4	41	(44)	22	Hex.17	R 1/4	
3P-M-A	Rc 3/8	71	(51)	25	Hex.21	R 3/8	
4P-M-A	Rc 1/2	149	(62)	28	Hex.27	R 1/2	
6P-M-A	Rc 3/4	295	(75)	36	Hex.35	R 3/4	
8P-M-A	Rc 1	406	(83)	40 *4	Hex.41	R 1	

*4 Model 8P-M-A indicates an approximate insertion length because there is no difference in level on the body.

Accessory

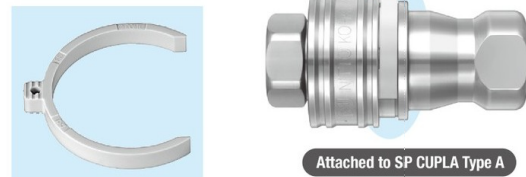
CUPLA ADAPTER for Braided Hose Connection

Can be screwed into CUPLA with female threads, 3/8", 1/2", 3/4"



SLEEVE STOPPER for SP CUPLA Type A

Sleeve stopper exclusively for SP CUPLA Type A sockets. Attaching the sleeve stopper after connection of socket and plug locks the sleeve of the socket and prevents unexpected disconnection.



Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For Medium Pressure

HOT WATER CUPLA

HW Type

For temperature control piping

Working pressure

2.0

2.0 MPa
(20 kgf/cm²)

Valve structure

Two-way shut-off

Applicable fluids *

Water
Steam

* 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.

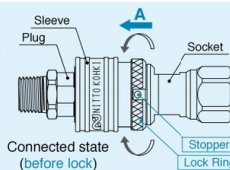


Safety lock function (Sleeve lock)



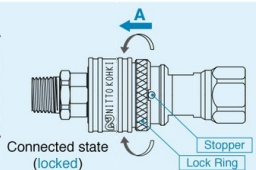
How to lock

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.



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	Fluoro rubber	FKM (X-100)	Working temperature range	Standard material
Working temperature range	-20°C to +180°C			

Maximum 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

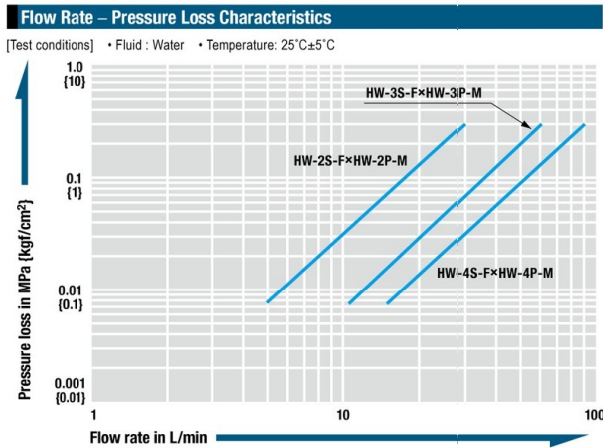
Socket and plug of different sizes cannot be connected. SP CUPLA Type A and HW Type CUPLA of the same size can be connected regardless of end configurations. However, SP CUPLA Type A has different seal material characteristics, so the product specification and durability will differ. Conduct performance evaluation test under your actual operating environment and conditions within range of the working conditions of the product.

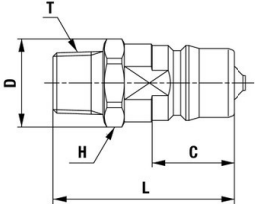
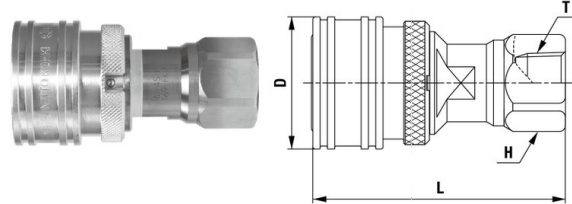
Minimum Cross-Sectional Area				(mm ²)
Model	HW-2S-F × HW-2P-M	HW-3S-F × HW-3P-M	HW-4S-F × HW-4P-M	
Min. Cross-sectional area	26	51	73	

Suitability for Vacuum			1.3 × 10 ⁻¹ Pa {1 × 10 ⁻³ mmHg}
Socket only	Plug only	When connected	
—	—	Operational	

Admixture of Air on Connection				(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				(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	

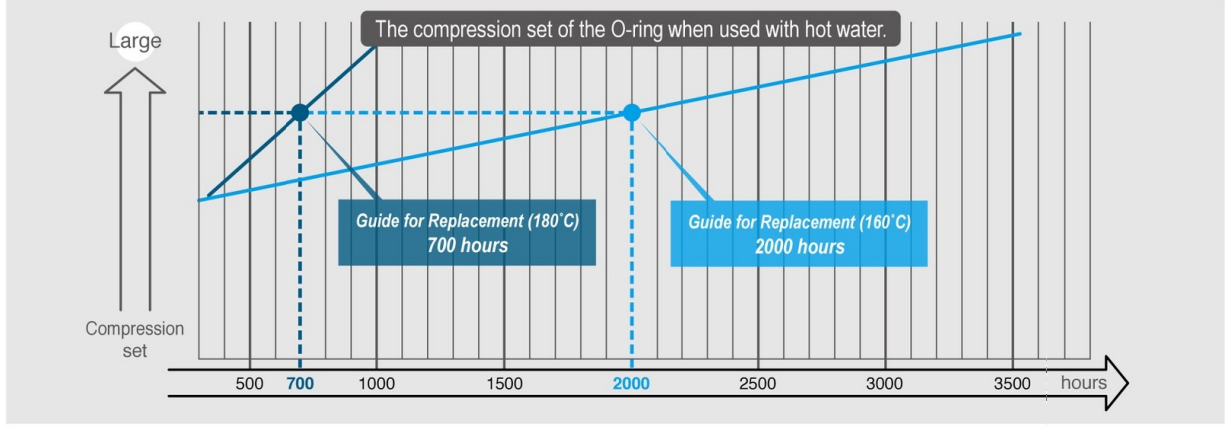
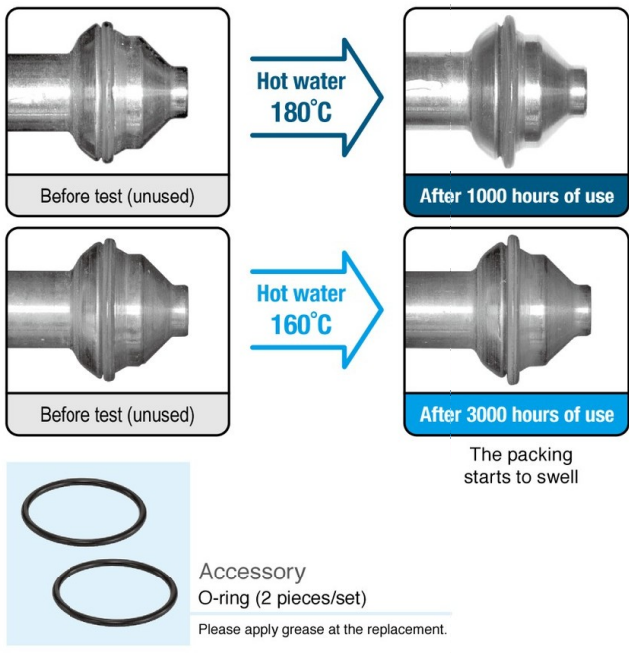


Models and Dimensions								WAF: WAF stands for width across flats.						
Plug Male thread				Socket Female thread										
														
Model	Application (Thread)	Mass (g)	Dimensions (mm)					Model	Application (Thread)	Mass (g)	Dimensions (mm)			
			L	C	øD	H (WAF)	T				L	øD	H (WAF)	T
HW-2P-M	Rc 1/4	41	(44)	22	18.5	Hex.17	R 1/4	HW-2S-F	R 1/4	150	(66)	28	Hex.19	Rc 1/4
HW-3P-M	Rc 3/8	71	(51)	25	23	Hex.21	R 3/8	HW-3S-F	R 3/8	247	(74)	35	Hex.24	Rc 3/8
HW-4P-M	Rc 1/2	149	(62)	28	30	Hex.27	R 1/2	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.



Caution

***Hot water continuous flow test by a mold temperation 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

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.)

- 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.

For Medium Pressure

ZEROSPILL CUPLA

Low spill type for medium pressure use

Working pressure



3.5 MPa
(35 kgf/cm²)

Valve structure



Two-way shut-off
(Non-Spill)

Applicable fluids



Water Hydraulic oil Chemicals Air Gas

Unique seal design reduces both liquid spillage and air ingress.

- New valve design offers smooth zero-friction movement.
- Push to connect design.
- The variety of body materials, sizes and end configurations has been standardized to comply with wide range of applications.
- Automatic shut-off valves in both socket and plug prevent fluid spill out on disconnection.




Specifications				
Body material	Brass		Stainless steel (SUS 304)	
Size (Thread)	1/4", 3/8", 1/2", 3/4", 1"			
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	3.5	36	36	508
Seal material	Seal material	Mark	Working temperature range	Remarks
	Nitrile rubber	NBR (SG)	-20°C to +80°C	Standard material
	Fluoro rubber	FKM (X-100)	-20°C to +180°C	Standard material
Working temperature range	Ethylene-propylene rubber	EPDM (EPT)	-40°C to +150°C	Standard material

Note: Applicable fluids depend on the body material and seal material.
Acceptable working temperature range depends on operating conditions.

Maximum Tightening Torque		Nm (kgf·cm)				
Size (Thread)		1/4"	3/8"	1/2"	3/4"	1"
Torque	Brass	9 {92}	12 {122}	30 {306}	50 {510}	65 {663}
	Stainless steel	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}

Flow Direction

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



Interchangeability

Socket and plug of different sizes cannot be connected.

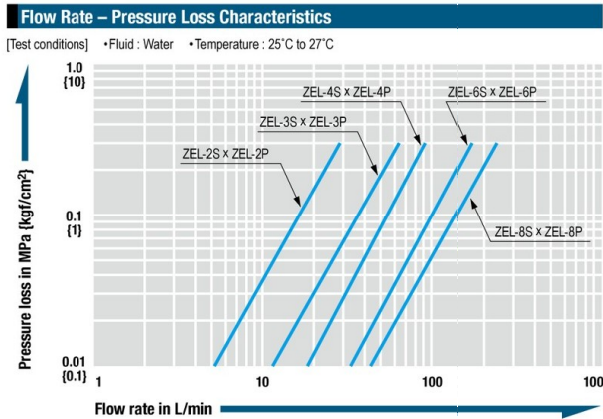
Minimum Cross-Sectional Area		(mm ²)				
Model	ZEL-2SP	ZEL-3SP	ZEL-4SP	ZEL-6SP	ZEL-8SP	
Min. cross-sectional area	31	60.5	86.5	160.6	188.7	

Suitability for Vacuum		1.3 x 10 ⁻¹ Pa {1 x 10 ⁻³ mmHg}		
Socket only	Plug only	When connected		
—	—	Operational		

Admixture of Air on Connection		May vary depending upon the usage conditions. (mL)				
Model	ZEL-2SP	ZEL-3SP	ZEL-4SP	ZEL-6SP	ZEL-8SP	
Volume of air admixture	0.16	0.21	0.37	1.12	1.52	

Volume of Spillage per Disconnection		May vary depending upon the usage conditions. (mL)				
Model	ZEL-2SP	ZEL-3SP	ZEL-4SP	ZEL-6SP	ZEL-8SP	
Volume of spillage	0.06	0.12	0.20	0.43	0.55	

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



Models and Dimensions

Plug Female thread

Model	Application (Thread)	Mass (g)		Dimensions (mm)				
		Brass	Stainless steel	L	C	øD	H (WAF)	T
ZEL-2P	R 1/4	34	32	39	26.1	19	Hex.17	Rc 1/4
ZEL-3P	R 3/8	67	63	44.5	32	25	Hex.23	Rc 3/8
ZEL-4P	R 1/2	117	109	52.5	36.8	32	Hex.29	Rc 1/2
ZEL-6P	R 3/4	264	248	68.5	48	39.5	Hex.36	Rc 3/4
ZEL-8P	R 1	359	339	76.5	56	46	Hex.42	Rc 1

Socket Female thread

Model	Application (Thread)	Mass (g)		Dimensions (mm)			
		Brass	Stainless steel	L	øD	H (WAF)	T
ZEL-2S	R 1/4	133	125	(56)	28	Hex.21	Rc 1/4
ZEL-3S	R 3/8	255	239	(66)	35	Hex.27	Rc 3/8
ZEL-4S	R 1/2	404	382	(76)	42	Hex.32	Rc 1/2
ZEL-6S	R 3/4	829	784	(95.5)	55	Hex.42	Rc 3/4
ZEL-8S	R 1	1406	1326	(114.5)	65	Hex.50	Rc 1

* The photos above show stainless steel model ZEL-8P and ZEL-8S. The profiles of brass couplings are the same as those of the stainless steel couplings.

Main Features

Unique seal design reduces both liquid spillage and air ingress

To compare with SP CUPLA Type A.

Volume of spillage:
about 96% less vs SP CUPLA Type A

SP CUPLA Type A

Connected → Disconnected

Volume of air ingress:
about 94% less vs SP CUPLA Type A

ZEROSPILL CUPLA

Connected → Disconnected

*blue colored water is used to show volume of spillage clearly.

Reliable zero friction valve

New valve design offers smooth zero-friction movement resulting in reduced chance of malfunction caused by deterioration of valve parts.

Push-to-connect design One-hand easy operation

Just push the plug into the socket for simple and secure connection. This reduces connection time and improves efficiency.

Just push the plug into the socket → Simple and secure connection

Accessory

CUPLA ADAPTER for Braided Hose Connection

Can be screwed into CUPLA with female threads, 3/8", 1/2", 3/4"

See page 152 for the details.

For High Pressure

HSP CUPLA

For hydraulic pressure from 14.0 to 20.6 MPa {142 to 210 kgf/cm²}

Working pressure

14.0 to 20.6 MPa
{142 to 210 kgf/cm²}

Valve structure

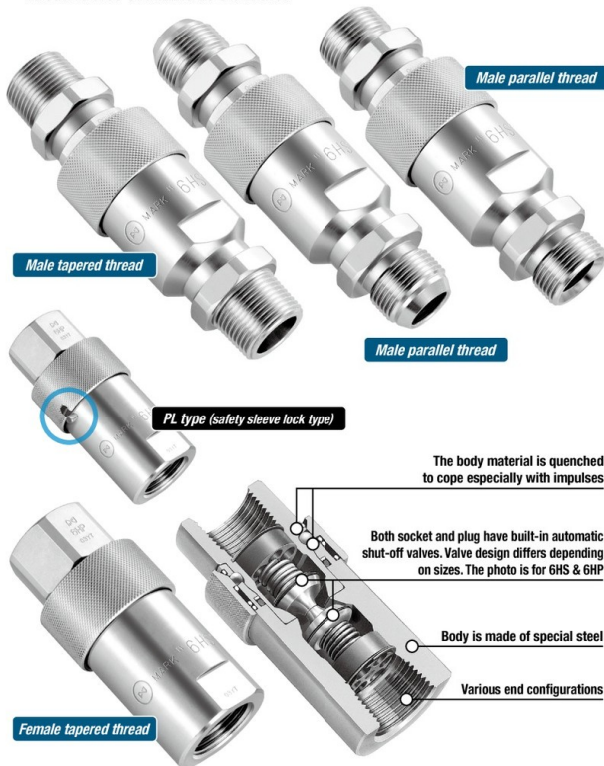
Two-way shut-off

Applicable fluid

Hydraulic oil

Special steel body is tough against vibration and impact! Male and female thread end configurations are available. Low pressure loss characteristic suits hydraulic equipment applications.

- **Quenched special steel body!**
Powerful impact resistance, especially against impulses.
- **Automatic shut-off valves in both socket and plug prevent fluid spill out on disconnection.**
- **In addition to conventional female thread type, male thread types (male tapered thread, male parallel thread with 30° flare, and male parallel thread with 30° cone-seat) are available. Male thread types are designed especially for direct connection to hydraulic power units effectively.**
- **Male parallel thread type complies with both metal seal and O-ring seal. (In case of O-ring seal, O-rings available in the market can be used.)**
- **Optional HSP-DC CUPLA series are available for die-casting machine applications with severe pressure variation.**
- **The overall length of male thread type is shorter than that of female thread type plus conversion nipple available in the market.**
- **PL type (Safety sleeve lock type) for 2HS to 8HS (except 66HS) with female thread is also available as standard.**



Specifications				
Body material	Special steel (Nickel plated)			
Size (Thread)		1/4", 3/8", 1/2", 3/4", 1"	1 1/4", 1 1/2"	2"
Working pressure	MPa	20.6	18.0	14.0
	kgf/cm ²	210	183	142
	bar	206	180	140
	PSI	2990	2610	2030
Seal material	Seal material	Mark	Working temperature range	Remarks
Working temperature range	Nitrile rubber	NBR (SG)	-20°C to +80°C	Standard material
	Fluoro rubber	FKM (X-100)	-20°C to +180°C	Available on request

Maximum Tightening Torque		Nm {kgf·cm}							
Size (Thread)		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Torque	Female thread	28 {286}	45 {459}	90 {918}	100 {1020}	180 {1836}	290 {2958}	350 {3570}	500 {5100}
	Male tapered thread	28 {286}	45 {459}	90 {918}	100 {1020}	—	—	—	—
	Parallel male thread	25 {255}	35 {357}	60 {612}	120 {1224}	—	—	—	—

Flow Direction

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

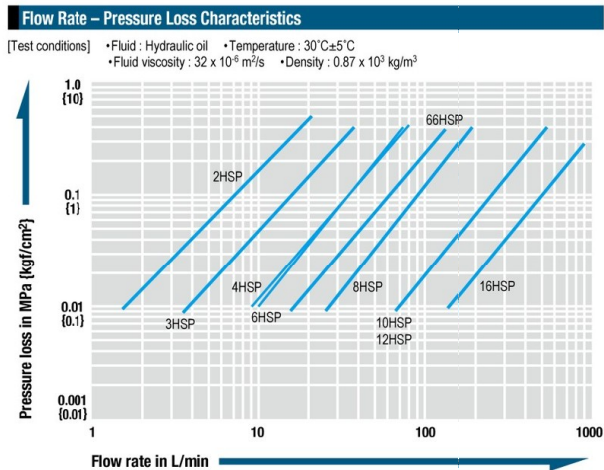
Interchangeability

4HSP with 6HSP or 10HSP with 12HSP can be connected with each other. Other combinations of different sizes are not connectable.

Minimum Cross-Sectional Area		(mm ²)								
Model		2HSP	3HSP	4HSP	6HSP	66HSP	8HSP	10HSP	12HSP	16HSP
Minimum cross-sectional area		21	37	77	77	145	203	595	595	1084

Suitability for Vacuum		1.3 x 10 ⁻¹ Pa {1 x 10 ⁻³ mmHg}		
		Socket only	Plug only	When connected
		—	—	Operational

Admixture of Air on Connection		May vary depending upon the usage conditions. (mL)								
Model		2HSP	3HSP	4HSP	6HSP	66HSP	8HSP	10HSP	12HSP	16HSP
Volume of air		0.7	1.9	3.5	3.5	8.2	12.4	44	44	156



The flow volume of male thread type is increased by 5 to 10% compared with that of female thread type with conversion nipple.

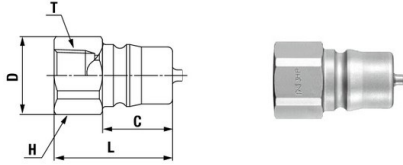
⚠ Precautions for use

There is no interchangeability between HSP CUPLA and 210 CUPLA or 280 CUPLA. Do not connect to each other even if sizes are similar.

Models and Dimensions

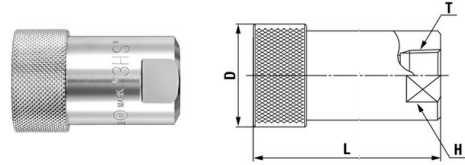
Product appearance may vary by size. / WAF: WAF stands for width across flats.

Plug HP type (Female tapered thread)



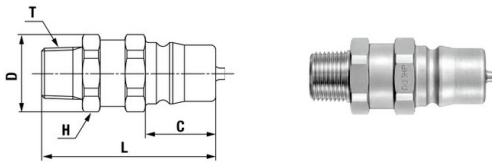
Model	Application (Thread)	Mass (g)	Dimensions (mm)				
			L	øD	C	H(WAF)	T
2HP	R 1/4	40	32	20.5	17.5	Hex.19	Rc 1/4
3HP	R 3/8	68	38	25	22.5	Hex.23	Rc 3/8
4HP	R 1/2	124	44	32	27.5	Hex.29	Rc 1/2
6HP	R 3/4	148	50	35	27.5	Hex.32	Rc 3/4
66HP	R 3/4	232	51	40	28	35	Rc 3/4
8HP	R 1	361	61	47	36	41	Rc 1
10HP	R 1 1/4	886	80	64	58	58	Rc 1 1/4
12HP	R 1 1/2	810	80	64	58	58	Rc 1 1/2
16HP	R 2	3,307	115	100	83	90	Rc 2

Socket HS type (Female tapered thread)



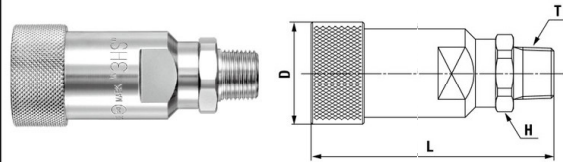
Model	Application (Thread)	Mass (g)	Dimensions (mm)			
			L	øD	H(WAF)	T
2HS	R 1/4	134	49	(27.5)	19	Rc 1/4
3HS	R 3/8	226	60	(33)	23	Rc 3/8
4HS	R 1/2	485	(72)	(43)	35	Rc 1/2
6HS	R 3/4	460	(72)	(43)	35	Rc 3/4
66HS	R 3/4	569	78.5	(47)	35	Rc 3/4
8HS	R 1	1,042	93	(58)	46	Rc 1
10HS	R 1 1/4	2,586	138	87	58	Rc 1 1/4
12HS	R 1 1/2	2,510	138	87	58	Rc 1 1/2
16HS	R 2	7,286	198	123	80	Rc 2

Plug HP-R type (Male tapered thread)



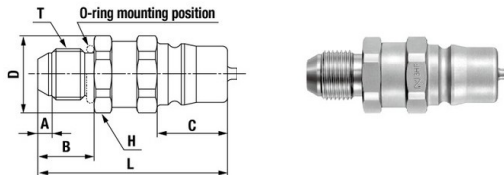
Model	Application (Thread)	Mass (g)	Dimensions (mm)				
			L	øD	C	H(WAF)	T
2HP-R	Rc 1/4	60	(49)	21	17.5	Hex.19	R 1/4
3HP-R	Rc 3/8	102	(55.5)	25	22.5	Hex.23	R 3/8
4HP-R	Rc 1/2	171	(63)	31	27.5	Hex.29	R 1/2
6HP-R	Rc 3/4	197	(66)	35	27.5	Hex.32	R 3/4

Socket HS-R type (Male tapered thread)



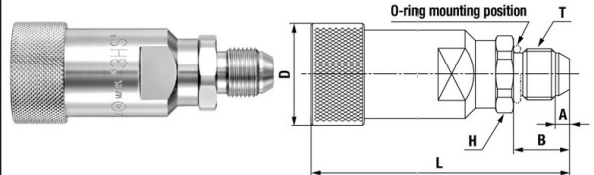
Model	Application (Thread)	Mass (g)	Dimensions (mm)			
			L	øD	H(WAF)	T
2HS-R	Rc 1/4	148	(66)	(27.5)	Hex.19	R 1/4
3HS-R	Rc 3/8	245	(77.5)	(33)	Hex.23	R 3/8
4HS-R	Rc 1/2	466	(90)	(43)	Hex.29	R 1/2
6HS-R	Rc 3/4	493	(93)	(43)	Hex.32	R 3/4

Plug HP-GP type (Male parallel thread with 30° flare)



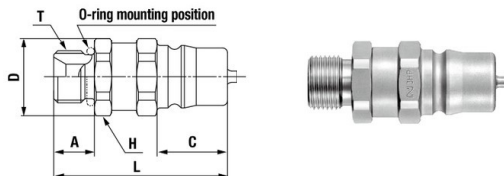
Model	Application* (Thread)	Mass (g)	O-ring size	Dimensions (mm)						
				L	øD	A	B	C	H(WAF)	T
2HP-GP	G 1/4	62	P-11	(62.5)	21	(4.5)	16	17.5	Hex.19	G 1/4B
3HP-GP	G 3/8	103	P-14	(60.5)	25	(4.5)	18	22.5	Hex.23	G 3/8B
4HP-GP	G 1/2	173	P-18	(66)	31	(5.5)	20	27.5	Hex.29	G 1/2B
6HP-GP	G 3/4	203	P-24	(69)	35	(5.5)	22	27.5	Hex.32	G 3/4B

Socket HS-GP type (Male parallel thread with 30° flare)



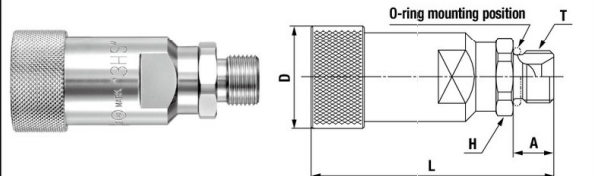
Model	Application* (Thread)	Mass (g)	O-ring size	Dimensions (mm)					
				L	øD	A	B	H(WAF)	T
2HS-GP	G 1/4	149	P-11	(69.5)	(27.5)	(4.5)	16	Hex.19	G 1/4B
3HS-GP	G 3/8	246	P-14	(82.5)	(33)	(4.5)	18	Hex.23	G 3/8B
4HS-GP	G 1/2	476	P-18	(93)	(43)	(5.5)	20	Hex.29	G 1/2B
6HS-GP	G 3/4	498	P-24	(96)	(43)	(5.5)	22	Hex.32	G 3/4B

Plug HP-GS type (Male parallel thread with 30° cone-seat)



Model	Application* (Thread)	Mass (g)	O-ring size	Dimensions (mm)					
				L	øD	A	C	H(WAF)	T
2HP-GS	G 1/4	59	P-11	(48)	21	11.5	17.5	Hex.19	G 1/4B
3HP-GS	G 3/8	99	P-14	(55.5)	25	13	22.5	Hex.23	G 3/8B
4HP-GS	G 1/2	167	P-18	(60.5)	31	14.5	27.5	Hex.29	G 1/2B
6HP-GS	G 3/4	191	P-24	(63.5)	35	16.5	27.5	Hex.32	G 3/4B

Socket HS-GS type (Male parallel thread with 30° cone-seat)



Model	Application* (Thread)	Mass (g)	O-ring size	Dimensions (mm)					
				L	øD	A	H(WAF)	T	
2HS-GS	G 1/4	146	P-11	(65)	(27.5)	11.5	Hex.19	G 1/4B	
3HS-GS	G 3/8	242	P-14	(77.5)	(33)	13	Hex.23	G 3/8B	
4HS-GS	G 1/2	469	P-18	(87.5)	(43)	14.5	Hex.29	G 1/2B	
6HS-GS	G 3/4	485	P-24	(90)	(43)	16.5	Hex.32	G 3/4B	

*The counterpart of GP type must be the female parallel thread specified in JIS B 8363 with 30° cone-seat or the coupling with O-ring seal.

The counterpart of GS type must be the female parallel thread JIS B 8363 with 30° flare or the coupling with O-ring seal.

• Sleeve stopper design is available for models 2HS to 8HS (except 66HS).


Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.

For High Pressure

HYPER HSP CUPLA

Connects hydraulic piping even with residual pressure up to 20.6 MPa (210 kgf/cm²)

Working pressure



20.6 MPa
(210 kgf/cm²)

Valve structure



Two-way shut-off

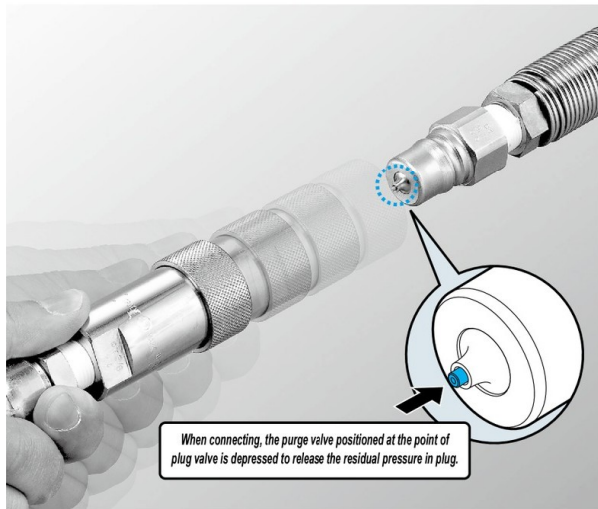
Applicable fluid



Hydraulic oil

Purge function will set you free from the troublesome residual pressure elimination before connection and let you achieve efficient and frequent hydraulic pipe line coupling.

- Both socket and plug have built-in automatic shut-off valves to prevent fluid spill out when disconnected.
- Interchangeable with standard HSP CUPLA plug or socket in the same size.



Specifications				
Body material	Special steel (Nickel plated)			
Size (Thread)	1/4", 3/8", 1/2", 3/4", 1"			
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	20.6	210	206	2990
Seal material	Nitrile rubber	NBR (SG)	-20°C to +80°C	Standard material

Maximum Tightening Torque		Nm {kgf·cm}				
Size (Thread)		1/4"	3/8"	1/2"	3/4"	1"
Torque		28 {286}	45 {459}	90 {918}	100 {1020}	180 {1836}

Flow Direction

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

Interchangeability

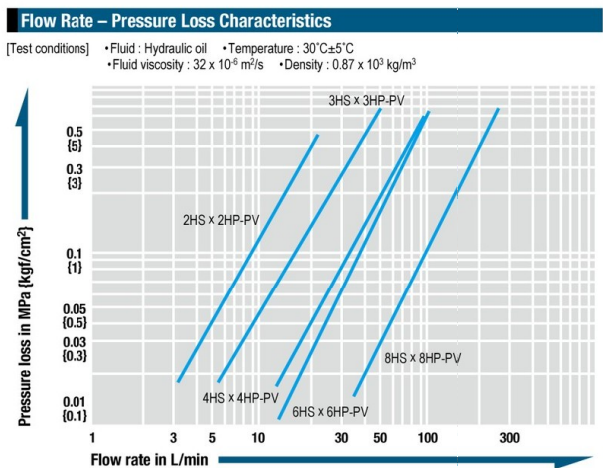
Interchangeable with standard HSP CUPLA plug or socket in the same size. Avoid connecting HYPER HSP CUPLA socket with HYPER HSP CUPLA plug. The residual pressure will not release.

Minimum Cross-Sectional Area		(mm ²)				
Model		2HP-PV/2HS-PV	3HP-PV/3HS-PV	4HP-PV/4HS-PV	6HP-PV/6HS-PV	8HP-PV/8HS-PV
Minimum cross-sectional area		21	37	77	77	203

Suitability for Vacuum		1.3 x 10 ⁻¹ Pa {1 x 10 ⁻³ mmHg}		
Socket only		Operational		
Plug only			Operational	
When connected				Operational

Admixture of Air on Connection		May vary depending upon the usage conditions. (mL)				
Model		2HP-PV/2HS-PV	3HP-PV/3HS-PV	4HP-PV/4HS-PV	6HP-PV/6HS-PV	8HP-PV/8HS-PV
Volume of air		0.7	1.9	3.5	3.5	12.4

Connection Load under Residual Pressure (For reference)		(N)				
Residual pressure / Model		2HP-PV/2HS-PV	3HP-PV/3HS-PV	4HP-PV/4HS-PV	6HP-PV/6HS-PV	8HP-PV/8HS-PV
at 5.0 MPa		50	85	85	85	100
at 10.0 MPa		70	85	85	85	130
at 15.0 MPa		100	100	100	100	170



Note: Either socket or plug of HYPER HSP CUPLA must be used on the line where the residual pressure remains. The counterpart of HYPER HSP must be either plug or socket of standard HSP CUPLA.