

## 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/cm<sup>2</sup>)

Valve structure

Two-way shut-off

Water
 Hydraulic oil
 Chemicals
 Air
 Gas
 Steam

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 <sup>2</sup>	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

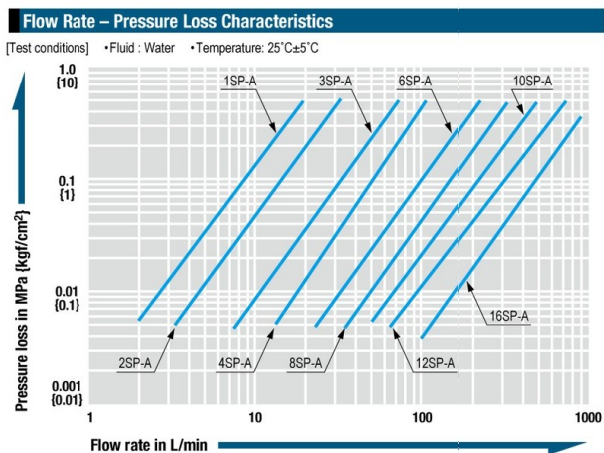
Socket and plug of different sizes cannot be connected.  
Interchangeable with conventional SP CUPLA in the same size.  
\*Can be connected with SP-V CUPLA but take heed of flow rate change.

Minimum Cross-Sectional Area										(mm <sup>2</sup> )	
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 <sup>-1</sup> Pa (1 x 10 <sup>-3</sup> 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			

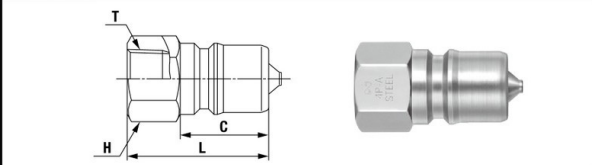
Volume of Spillage per Disconnection										May vary depending upon the usage conditions.		(mL)	
Model	1SP-A	2SP-A	3SP-A	4SP-A	6SP-A	8SP-A	10SP-A	12SP-A	16SP-A				
Volume of spillage	0.4	0.8	2.1	3.4	9.5	15	29	45	84				



WAF: WAF stands for width across flats.

Models and Dimensions

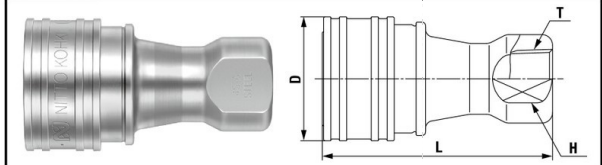
Plug Female thread



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

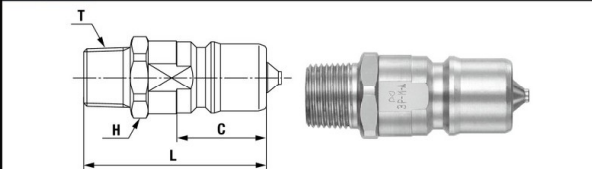
\* The photos above show steel coupling. \* The appearance of stainless steel coupling (SUS304) differs slightly from that shown in the photos above.  
 \*1 1P-A (Steel) and 1S-A (Steel) are made-to-order items. \*2 Stainless steel: 54 x ø59 \*3 Stainless steel: 63 x ø67

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"

See page 152 for the details.

### 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.

Attached to SP CUPLA Type A

See page 151 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.