

For Medium Pressure

# SP Cupla Type A

For medium pressure general applications

Working pressure



Valve structure



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 <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 *		Seal material	Nitrile rubber		Fluoro rubber		Ethylene-propylene rubber		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	Remarks	Standard material

\* 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.

## Max. Tightening Torque

Size (Thread)		Nm (kgf·cm)									
Torque	Steel	1/8"	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.

## Flow Direction

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



## Interchangeability

Different sizes are not interchangeable each other.

Interchangeable with conventional SP Cupla in the same size.

\* Interchangeable with SP-V Cuplas but take heed of flow rate.

## Min. Cross-Sectional Area

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.

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	25	29	45	84

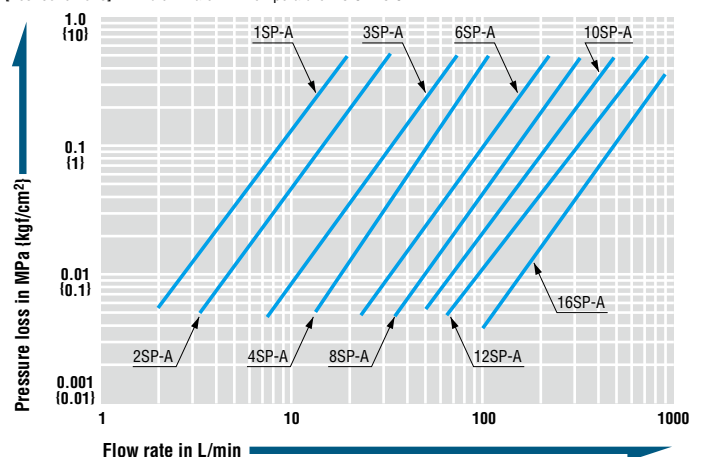
## Volume of Spillage per Disconnection

May vary depending upon the usage conditions.

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

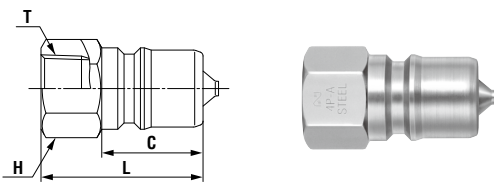
## Flow Rate – Pressure Loss Characteristics

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



**Models and Dimensions**

**Plug Female thread**

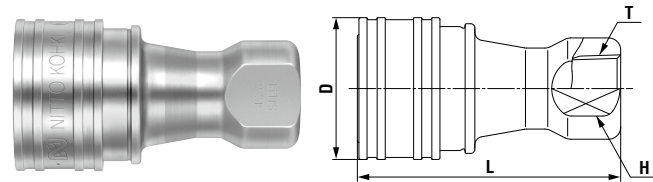


Model	Application	Mass (g)			Dimensions (mm)			
		Steel	Brass	Stainless steel	L	C	H(WAF)	T
1P-A	R 1/8	17 *1	19	17	29	19	Hex.14	Rc 1/8
2P-A	R 1/4	32	34	32	36	22	Hex.17	Rc 1/4
3P-A	R 3/8	56	61	56	40	25	Hex.21	Rc 3/8
4P-A	R 1/2	112	121	112	44	28	Hex.29	Rc 1/2
6P-A	R 3/4	190	205	190	52	36	Hex.35	Rc 3/4
8P-A	R 1	311	333	310	62	40	Hex.41	Rc 1
10P-A	R 1 1/4	590	630	620	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.

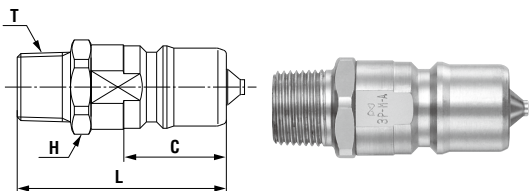
\*1 1P-A (Steel) and 1S-A (Steel) are made-to-order items. \*2 Stainless steel: 54 x ø59 \*3 Stainless steel: 63 x ø67

**Socket Female thread**



Model	Application	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	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**

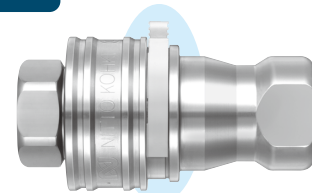
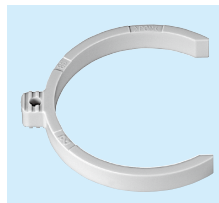
Can be screwed into Cuplas with female threads, 3/8", 1/2", 3/4"



See page 145 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 144 for the details.