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 76 kgf/cm²}

Valve structure

Two-way shut-off

Applicable fluids

Water | Hydraulic oil | Chemicals | Air | Gas | Steam

Note: Depending on the temperature of steam/hot water, the heat may damage seal materials. Please contact one of our distributors.

Flow is increased up to 60% for Model 6SP-A

High flow type SP Cupla is now released!
Plugs with male thread end are newly added.

Specifications

Body material		Brass				Stainless steel, 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/cm²	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	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	
	Ethylene-propylene rubber	EPDM (EPT)	−40°C to +150°C	

* Plugs with male thread end mounting nitrile rubber or ethylene-propylene rubber are made-to-order items.

Max. 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.

Flow Direction

Fluid may flow in either direction from plug or from socket side when coupled.

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

(mm²)

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

Admixture of air 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	25	29	45	84

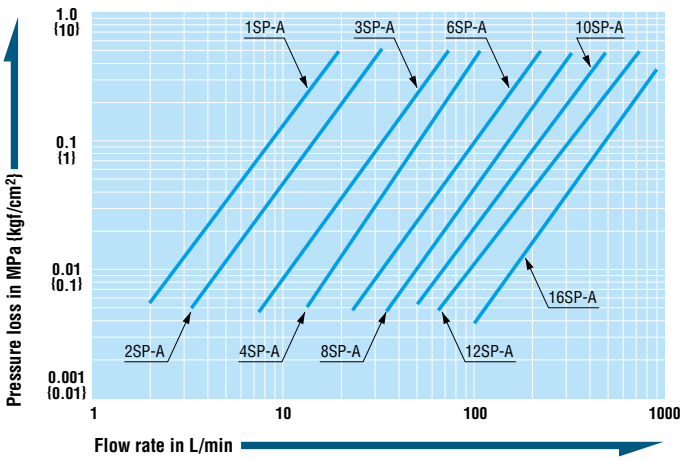
Volume of Spillage per Disconnection

Volume of spillage 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

Flow Rate – Pressure Loss Characteristics

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



Increased flow volume ratio
Compared with conventional SP Cupla, the flow volume is increased by 7 to 64%.

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).

Smooth and prompt connection
The plug with the new body design enables smooth and prompt connection.

Adoption of stainless steel SUS304
SUS304 is adopted as the standard body material of stainless steel good for the applications that require high reliability.

***Stainless steel complying with other standard, equivalent to SUS304, may be used for some parts.**

Interchangeability
Interchangeability of SP Type A with conventional SP is guaranteed, while no interchangeability with different sizes.

Flow characteristics
Regardless of the body materials, the flow characteristics remain the same.

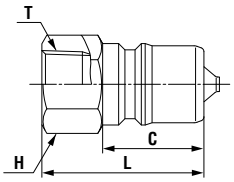
Sleeve stopper (Optional. See the pages of Accessories for details)
A sleeve snap-in stopper securely prevents accidental disconnection.

Products complied to RoHS requirements
Nickel plating is applied for the surface treatment of the steel body to reduce the load on environment.

Models and Dimensions

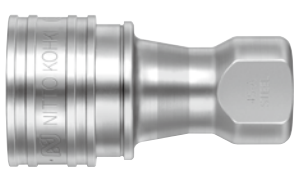
WAF : WAF stands for width across flats.

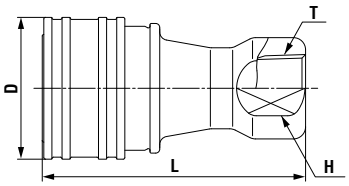
Plug Female thread



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

Socket Female thread

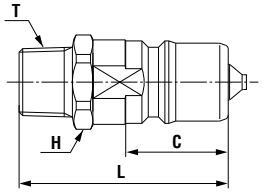




Model	Application	Mass (g)			Dimensions (mm)			
		Steel	Brass	Stainless steel	L	øD	H(WAF)	T
1S-A	R 1/8	73 *1	79	75	48	24	14	Rc 1/8
2S-A	R 1/4	119	128	130	58	28	19	Rc 1/4
3S-A	R 3/8	187	202	193	65	35	21	Rc 3/8
4S-A	R 1/2	368	397	391	72	45	29	Rc 1/2
6S-A	R 3/4	639	686	645	88	55	35	Rc 3/4
8S-A	R 1	951	1024	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

• 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 and 1S-A are made-to-order items. *2 Stainless steel: 54 x ø59 *3 Stainless steel: 63 x ø67

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 139 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.