

For Gases and Liquids

SP Cupla Type A

For medium pressure
general applications

Working pressure



1.5~7.5MPa
(15~76kgf/cm²)

Valve structure



Two-way shut-off

Applicable fluids



Water Hydraulic oil Steam chemicals Air Gas

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



Large flow type SP Cupla is
now released!



Specifications

Body material	Brass				Stainless steel • Steel (Nickel-plated)			
Size	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 (kgf/cm ²)	5.0 (51)	3.0 (31)	2.0 (20)	1.5 (15)	7.5 (76)	4.5 (46)	3.0 (31)	2.0 (20)
Pressure resistance MPa (kgf/cm ²)	7.5 (76)	4.5 (46)	3.0 (31)	2.3 (24)	10.0 (102)	6.5 (66)	4.5 (46)	3.0 (31)
Seal material Working temperature range	Seal material	Mark	Working temperature range	Remarks				
	Nitrile rubber	NBR (SG)	-20°C~+80°C	Standard material				
	Fluoro rubber	FKM (X-100)	-20°C~+180°C					
	Perfluoroelastomer	P	0°C~+50°C	Available on request				
	Ethylene-propylene rubber	EPDM (EPT)	-40°C~+150°C					

Max. Tightening Torque

N•m (kgf•cm)

Size	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)

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 10⁻¹Pa (1 x 10⁻³mmHg)

Socket only	Plug only	When connected
—	—	Operational

Admixture of air on connection

(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

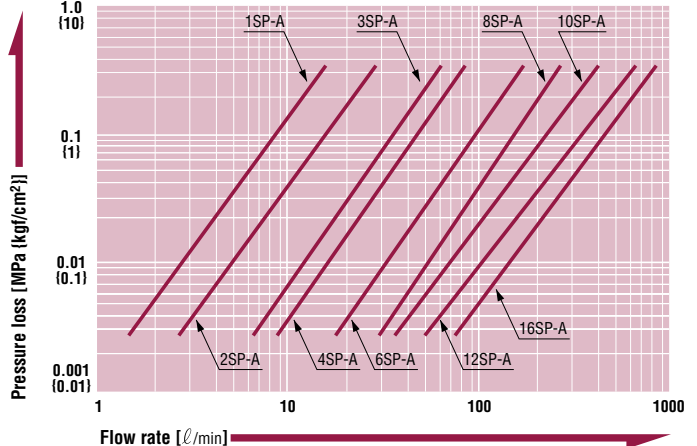
Volume of spillage per disconnection

(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

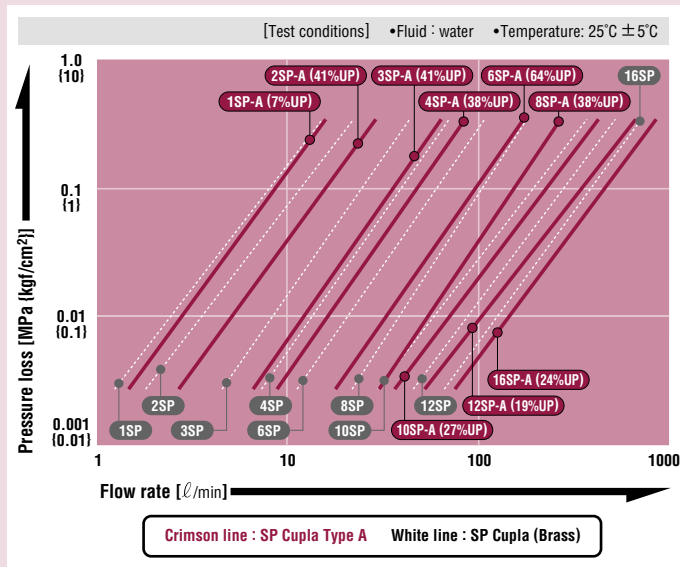
Flow Rate – Pressure Loss Characteristics

[Test conditions] • Fluid : water • Temperature: 25°C ± 5°C
Note that the flow rate-pressure loss characteristics are slightly different when the packing material Perfluoroelastomer is used.



Increased flow volume ratio

Compared with conventional SP Coupla, 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 (1~8SP-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.

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.

Flow ratio increase of SP Coupla Type A with conventional SP Coupla sets. (Fluid: water)

Model	SP Type A is located upstream side.	SP Type A is located downstream side.
1SP	0%	7% UP
2SP	18% UP	18% UP
3SP	8% UP	12% UP
4SP	17% UP	8% UP
6SP	28% UP	20% UP
8SP	25% UP	9% UP
10SP	15% UP	9% UP
12SP	9% UP	5% UP
16SP	17% UP	2% UP

Sleeve Stopper (Optional. See the pages of Accessories for details)

A new sleeve snap-in stopper securely prevents unexpected and improper 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.

Model	Application	Mass (g)			Dimensions (mm)			
		Steel	Brass	Stainless steel	Lp	C	Hp(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	Two flats 77 x ø84	Rc 2

Model	Application	Mass (g)			Dimensions (mm)			
		Steel	Brass	Stainless steel	Ls	øD	HS(WAF)	T
1S-A	R 1/8	73 ^{*1}	79	75	48	24	Two flats 14	Rc 1/8
2S-A	R 1/4	119	128	130	58	28	Two flats 19	Rc 1/4
3S-A	R 3/8	187	202	193	65	35	Two flats 21	Rc 3/8
4S-A	R 1/2	368	397	391	72	45	Two flats 29	Rc 1/2
6S-A	R 3/4	639	686	645	88	55	Two flats 35	Rc 3/4
8S-A	R 1	951	1024	962	102	65	Two flats 41	Rc 1
10S-A	R 1 1/4	1430	1520	1440	115	77	Two flats 54	Rc 1 1/4
12S-A	R 1 1/2	2130	2270	2150	124	88	Two flats 63	Rc 1 1/2
16S-A	R 2	3280	3510	3310	132	108	Two flats 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: Two flats 54 x ø59 *3 Stainless steel: Two flats 63 x ø67

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