

For Gases and Liquids

SP Cupla

For medium pressure general applications

Working pressure

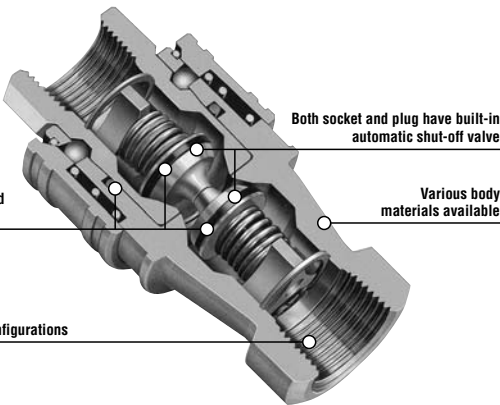
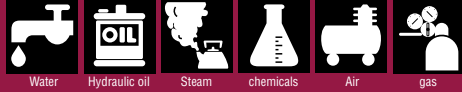
1.5~7.5
1.5~7.5MPa
(15~76kgf/cm²)

Valve structure



Two-way shut-off

Applicable fluids



Both socket and plug have built-in automatic shut-off valve

Wide range of seal materials for diversified applications with fluids

Various body materials available

Wide variety of end configurations

Socket and plug both have automatic shut-off valve for medium pressure applications! Available with various body and seal materials, or sizes.

- Both socket and plug have automatic shut-off valve inside so that the fluid in the line will not flow out on disconnection.
- Various semi-standard seal materials are available to suit a variety of fluids.
- Various semi-standard body materials and sizes are available to suit a wide range of medium pressure applications.

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•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		Standard material		
	Perfluoroelastomer	P		0°C~+50°C		Available on request		
	Ethylene-propylene rubber	EPDM (EPT)		-40°C~+150°C		Available on request		

* Standard stainless steel SUS304 and SUS316 are available as semi-standard body materials.

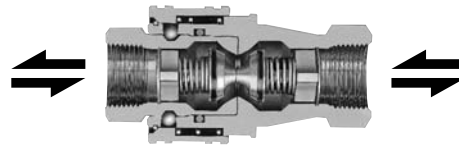
Max. Tightening Torque

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.

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

Min. Cross-Sectional Area

(mm²)

Model	1SP	2SP	3SP	4SP	6SP	8SP	10SP	12SP	16SP
Min. Cross-Sectional Area	13	17	48	73	94	212	395	553	803

Suitability for Vacuum

1.3 x 10⁻¹Pa {1 x 10⁻³mmHg}

Socket only	Plug only	When connected
—	—	Operational

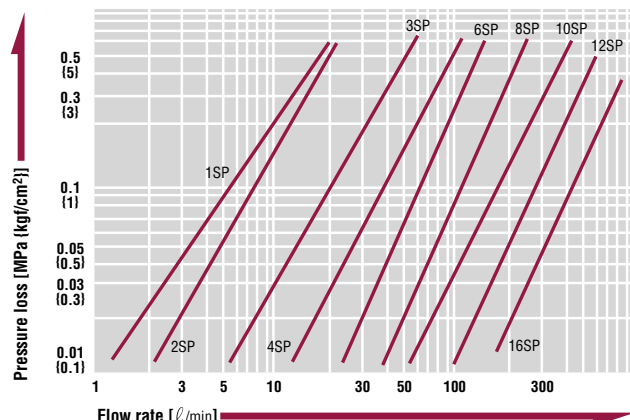
Admixture of air on connection

(mℓ)

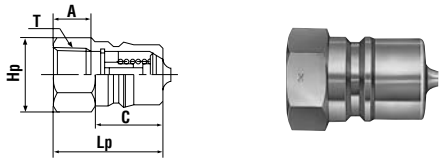
Model	1SP	2SP	3SP	4SP	6SP	8SP	10SP	12SP	16SP
Volume of spillage	0.52	1.02	2.4	3.2	10.5	17	29	45	84

Flow Rate – Pressure Loss Characteristics

[Test conditions] • Fluid : Hydraulic oil • Temperature : 30°C ± 5°C
• Fluid viscosity : 32 x 10⁻⁶m²/s • Density : 0.87 x 10³kg/m³

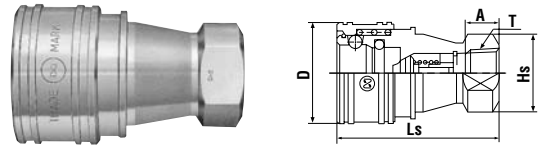


Plug Female thread



Model	Application	Mass (g)			Dimensions (mm)				
		Steel	Brass	Stainless steel	Lp	C	A	Hp(WAF)	T
1P	R 1/8	19 ⁺¹	21	19	29	19	11	Hex.14	Rc 1/8
2P	R 1/4	35	38	35	36	22	13	Hex.17	Rc 1/4
3P	R 3/8	60	65	60	40	25	13	Hex.21	Rc 3/8
4P	R 1/2	123	134	124	44	28	15	Hex.29	Rc 1/2
6P	R 3/4	212	231	213	52	36	17	Hex.35	Rc 3/4
8P	R 1	350	381	332	62	40	20	Hex.41	Rc 1
10P	R1 1/4	590	610	590	70	45	24	Hex.54 ⁺³	Rc1 1/4
12P	R1 1/2	820	880	840	75	49	24	Hex.63 ⁺²	Rc1 1/2
16P	R 2	1430	1530	1450	80	52	27	Two flats 77x ø84	Rc 2

Socket Female thread



Model	Application	Mass (g)			Dimensions (mm)				
		Steel	Brass	Stainless steel	Ls	øD	A	HS(WAF)	T
1S	R 1/8	85 ⁺¹	93	86	48	24	11	Two flats 14 x ø18	Rc 1/8
2S	R 1/4	133	145	134	58	28	13	Two flats 19 x ø22	Rc 1/4
3S	R 3/8	208	227	209	65	35	13	Two flats 21 x ø25	Rc 3/8
4S	R 1/2	428	466	431	72	45	15	Two flats 29 x ø35	Rc 1/2
6S	R 3/4	710	773	714	88	55	17	Two flats 35 x ø41	Rc 3/4
8S	R 1	1000	1089	980	102	65	20	Two flats 41 x ø48	Rc 1
10S	R1 1/4	1570	1680	1580	115	77	24	Two flats 54 x ø59	Rc1 1/4
12S	R1 1/2	2320	2490	2350	124	88	24	Two flats 63 x ø69	Rc1 1/2
16S	R 2	3590	3860	3620	132	108	27	Two flats 77 x ø86	Rc 2

*1 : 1-S and 1-P steel are made-to-order items. *2 : Stainless steel: Hex.63 x 67mm dia. *3 : Stainless steel: Hex.54 x 59mm dia.
 • Semi-standard stainless steels (SUS304, 316) have different appearances from the above drawings.

Application example

