

For High Pressure

# HSP Cupla

For hydraulic pressure from 14.0 to 20.6 MPa {142 to 210 kgf/cm<sup>2</sup>}

Working pressure



14.0 to 20.6 MPa  
(14.0 to 210 kgf/cm<sup>2</sup>)

Valve structure



Two-way shut-off

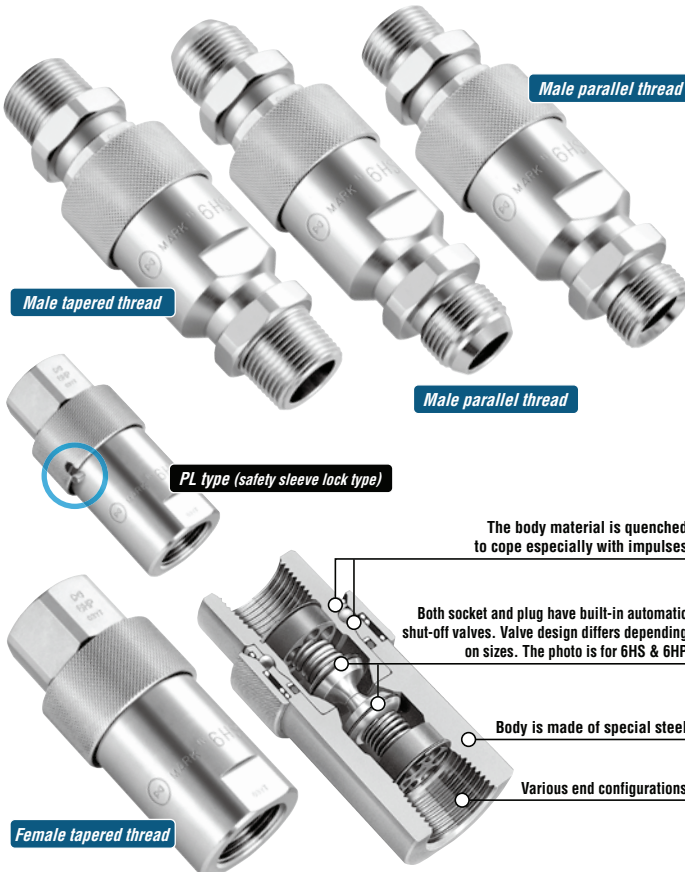
Applicable fluids



Hydraulic oil

**Special steel body is tough against vibration and impact! Male and female thread end configurations are available. Low pressure loss characteristic suits hydraulic equipment applications.**

- Quenched special steel body!  
Powerful impact resistance, especially against impulses.
- Automatic shut-off valves in both socket and plug prevent fluid spill out on disconnection. Easy to handle.
- In addition to conventional female thread type, male thread types (male tapered thread, male parallel thread with 30° flare, and male parallel thread with 30° cone-seat) are newly added. Male thread types are designed especially for direct connection to hydraulic power units effectively.
- Male parallel thread type complies with both metal seal and O-ring seal. (In case of O-ring seal, O-rings available in the market can be used.)
- Optional HSP-DC Cuplas are available for die-casting machine applications with severe pressure variation.
- The overall length of male thread type is shorter than that of female thread type plus conversion nipple available in the market.
- PL type (Safety sleeve lock type) for 2HS to 8HS (except 66HS) with female thread is also available as standard.



Specifications				
Body material	Special steel (Nickel-plated)			
Size (Thread)	1/4", 3/8", 1/2", 3/4", 1"	1 1/4", 1 1/2"	2"	
Working pressure	MPa	20.6	18.0	14.0
	kgf/cm <sup>2</sup>	210	183	142
	bar	206	180	140
	PSI	2990	2610	2030
Seal material	Nitrile rubber	FKM (X-100)		
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	Available on request	

Max. Tightening Torque		Nm (kgf·cm)							
Size (Thread)		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Torque	Female thread	28 {286}	45 {459}	90 {918}	100 {1020}	180 {1836}	290 {2958}	350 {3570}	500 {5100}
	Male taper thread	28 {286}	45 {459}	90 {918}	100 {1020}	—	—	—	—
	Parallel male thread	25 {255}	35 {357}	60 {612}	120 {1224}	—	—	—	—

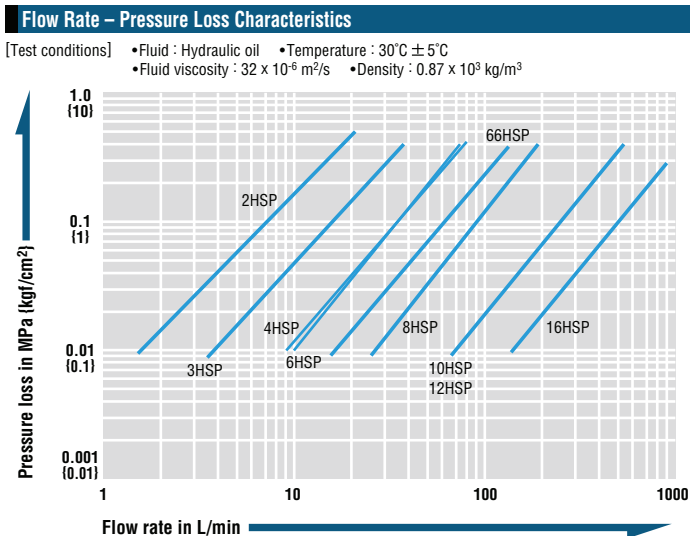


**Interchangeability**  
4HSP with 6HSP or 10HSP with 12HSP can be connected each other. Other combinations of different sizes are not connectable.

Min. Cross-Sectional Area	(mm <sup>2</sup> )									
Model	2HSP	3HSP	4HSP	6HSP	66HSP	8HSP	10HSP	12HSP	16HSP	
Min. cross-sectional area	21	37	77	77	145	203	595	595	1084	

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	Admixture of air may vary depending upon the usage conditions. (mL)									
Model	2HSP	3HSP	4HSP	6HSP	66HSP	8HSP	10HSP	12HSP	16HSP	
Volume of air	0.7	1.9	3.5	3.5	8.2	12.4	44	44	156	

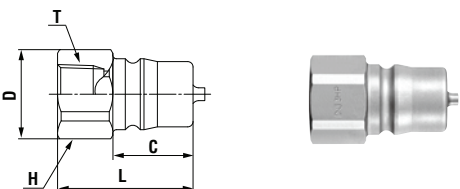


The flow volume of male thread type is increased by 5 to 10% compared with that of female thread type with conversion nipple.

**⚠ Precautions for use**

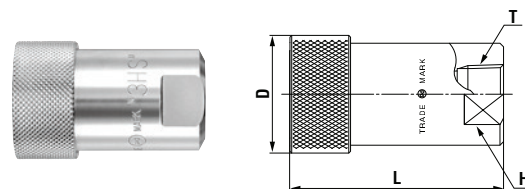
There is no interchangeability between HSP Cupla and 210 Cupla or 280 Cupla. Do not connect to each other even if sizes are similar.

**Plug HP type (Female tapered thread)**



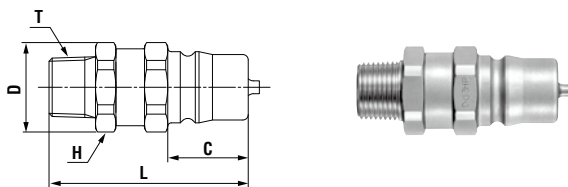
Model	Application	Mass (g)	Dimensions (mm)				
			L	øD	C	H(WAF)	T
2HP	R 1/4	40	32	20.5	17.5	Hex.19	Rc 1/4
3HP	R 3/8	68	38	25	22.5	Hex.23	Rc 3/8
4HP	R 1/2	124	44	32	27.5	Hex.29	Rc 1/2
6HP	R 3/4	148	50	35	27.5	Hex.32	Rc 3/4
66HP	R 3/4	232	51	40	28	35	Rc 3/4
8HP	R 1	361	61	47	36	41	Rc 1
10HP	R 1 1/4	886	80	64	58	58	Rc 1 1/4
12HP	R 1 1/2	810	80	64	58	58	Rc 1 1/2
16HP	R 2	3,307	115	100	83	90	Rc 2

**Socket HS type (Female tapered thread)**



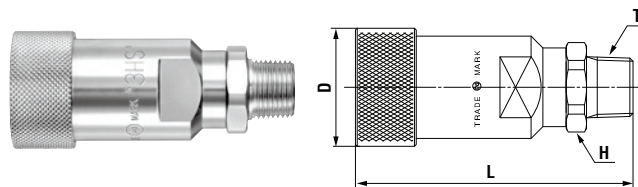
Model	Application	Mass (g)	Dimensions (mm)			
			L	øD	H(WAF)	T
2HS	R 1/4	134	49	(27.5)	19	Rc 1/4
3HS	R 3/8	226	60	(33)	23	Rc 3/8
4HS	R 1/2	485	72	(43)	35	Rc 1/2
6HS	R 3/4	460	72	(43)	35	Rc 3/4
66HS	R 3/4	569	78.5	(47)	35	Rc 3/4
8HS	R 1	1,042	93	(58)	46	Rc 1
10HS	R 1 1/4	2,586	138	87	58	Rc 1 1/4
12HS	R 1 1/2	2,510	138	87	58	Rc 1 1/2
16HS	R 2	7,286	198	123	80	Rc 2

**Plug HP-R type (Male tapered thread)**



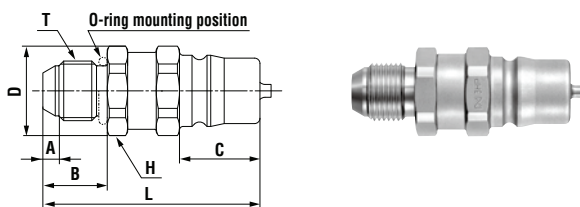
Model	Application	Mass (g)	Dimensions (mm)				
			L	øD	C	H(WAF)	T
2HP-R	Rc 1/4	60	(49)	21	17.5	Hex.19	R 1/4
3HP-R	Rc 3/8	102	(55.5)	25	22.5	Hex.23	R 3/8
4HP-R	Rc 1/2	171	(63)	31	27.5	Hex.29	R 1/2
6HP-R	Rc 3/4	197	(66)	35	27.5	Hex.32	R 3/4

**Socket HS-R type (Male tapered thread)**



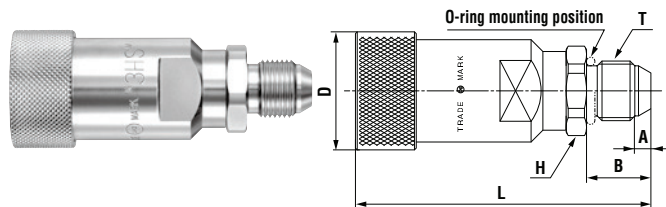
Model	Application	Mass (g)	Dimensions (mm)			
			L	øD	H(WAF)	T
2HS-R	Rc 1/4	148	(66)	(27.5)	Hex.19	R 1/4
3HS-R	Rc 3/8	245	(77.5)	(33)	Hex.23	R 3/8
4HS-R	Rc 1/2	466	(90)	(43)	Hex.29	R 1/2
6HS-R	Rc 3/4	493	(93)	(43)	Hex.32	R 3/4

**Plug HP-GP type (Male parallel thread with 30° flare)**



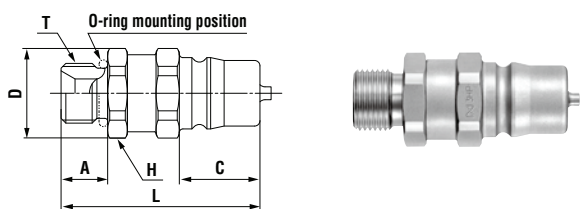
Model	Application*	Mass (g)	O-ring size	Dimensions (mm)						
				L	øD	A	B	C	H(WAF)	T
2HP-GP	G 1/4	62	P-11	(52.5)	21	(4.5)	16	17.5	Hex.19	G 1/4B
3HP-GP	G 3/8	103	P-14	(60.5)	25	(4.5)	18	22.5	Hex.23	G 3/8B
4HP-GP	G 1/2	173	P-18	(66)	31	(5.5)	20	27.5	Hex.29	G 1/2B
6HP-GP	G 3/4	203	P-24	(69)	35	(5.5)	22	27.5	Hex.32	G 3/4B

**Socket HS-GP type (Male parallel thread with 30° flare)**



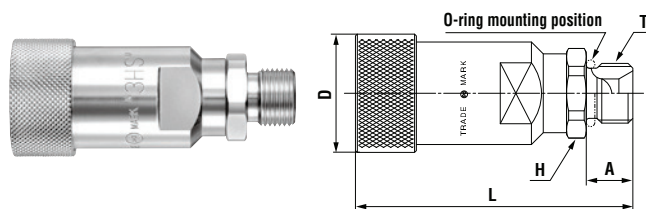
Model	Application*	Mass (g)	O-ring size	Dimensions (mm)						
				L	øD	A	B	H(WAF)	T	
2HS-GP	G 1/4	149	P-11	(69.5)	(27.5)	(4.5)	16	Hex.19	G 1/4B	
3HS-GP	G 3/8	246	P-14	(82.5)	(33)	(4.5)	18	Hex.23	G 3/8B	
4HS-GP	G 1/2	476	P-18	(93)	(43)	(5.5)	20	Hex.29	G 1/2B	
6HS-GP	G 3/4	498	P-24	(96)	(43)	(5.5)	22	Hex.32	G 3/4B	

**Plug HP-GS type (Male parallel thread with 30° cone-seat)**



Model	Application*	Mass (g)	O-ring size	Dimensions (mm)					
				L	øD	A	C	H(WAF)	T
2HP-GS	G 1/4	59	P-11	(48)	21	11.5	17.5	Hex.19	G 1/4B
3HP-GS	G 3/8	99	P-14	(55.5)	25	13	22.5	Hex.23	G 3/8B
4HP-GS	G 1/2	167	P-18	(60.5)	31	14.5	27.5	Hex.29	G 1/2B
6HP-GS	G 3/4	191	P-24	(63.5)	35	16.5	27.5	Hex.32	G 3/4B

**Socket HS-GS type (Male parallel thread with 30° cone-seat)**



Model	Application*	Mass (g)	O-ring size	Dimensions (mm)					
				L	øD	A	H(WAF)	T	
2HS-GS	G 1/4	146	P-11	(65)	(27.5)	11.5	Hex.19	G 1/4B	
3HS-GS	G 3/8	242	P-14	(77.5)	(33)	13	Hex.23	G 3/8B	
4HS-GS	G 1/2	469	P-18	(87.5)	(43)	14.5	Hex.29	G 1/2B	
6HS-GS	G 3/4	485	P-24	(90)	(43)	16.5	Hex.32	G 3/4B	

\*The counterpart of GP type must be the female parallel thread specified in JIS B 8363 with 30° cone-seat or the coupling with O-ring seal.  
The counterpart of GS type must be the female parallel thread JIS B 8363 with 30° flare or the coupling with O-ring seal.

• Sleeve stopper design is available for models 2HS to 8HS (except 66HS).