

For High Pressure

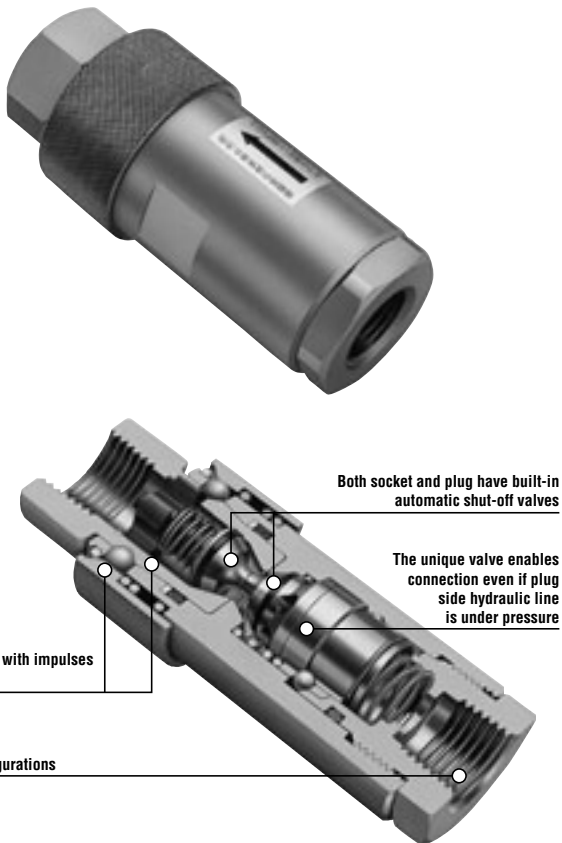
# Super HSP Cupla

Connects hydraulic piping even with residual pressure up to 20.6MPa (210kgf/cm<sup>2</sup>)

<p>Working pressure</p> <p>20.6MPa (210kgf/cm<sup>2</sup>)</p>	<p>Valve structure</p> <p>Two-way shut-off</p>	<p>Applicable fluids</p> <p>Hydraulic oil</p>
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Can be connected even with residual pressure in plug side hydraulic line. This Cupla is best for frequent connection of pressurized hydraulic lines.

- Super HSP Cupla socket can be connected easily with small power to standard HSP Cupla plug even with residual pressure on the plug side of the hydraulic line.
- For impact resistance, especially repeated impulses, special quenched steel is used for the body. This ensures original performance over a long period.
- The design reduces pressure loss, and so particularly suitable for hydraulic applications where enough fluid flow is essential. Both socket and plug have built-in automatic shut-off valves to prevent fluid spill out on disconnection.

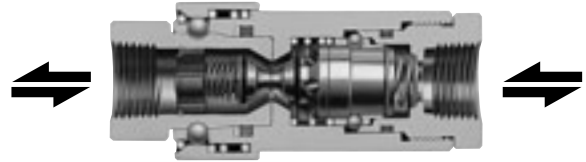


Specifications				
Body material	Special steel (Nickel-plated)			
Size	1/4" • 3/8" • 1/2" • 3/4" • 1"			
Working pressure MPa (kgf/cm <sup>2</sup> )	20.6 (210)			
Pressure resistance MPa (kgf/cm <sup>2</sup> )	31.0 (316)			
Residual pressure allowance in plug	7.0MPa (70kgf/cm <sup>2</sup> )			
Seal material	Seal material	Mark	Working temperature range	Remarks
Working temperature range	Nitrile rubber	NBR (SG)	-20°C~+80°C	Standard material

Max. Tightening Torque		N·m (kgf·cm)				
Size		1/4"	3/8"	1/2"	3/4"	1"
Torque		28 (286)	45 (459)	90 (918)	100 (1020)	180 (1836)

### Flow Direction

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



Note: When the socket is connected to the plug with residual pressure, pass fluid for at least 30 seconds from socket side at a pressure of minimum 1MPa plus the residual pressure in order to fix and keep the socket valve open.

### Interchangeability

Supre HSP socket should be used with existing HSP Cupla plug.

### Min. Cross-Sectional Area (When connected to a HSP Cupla) (mm<sup>2</sup>)

Model	2HS-RP×2HP	3HS-RP×3HP	4HS-RP×4HP	6HS-RP×6HP	8HS-RP×8HP
Min. cross-sectional area	17	30	77	77	203

### Suitability for Vacuum 1.3Pa (1 x 10<sup>-2</sup>mmHg)

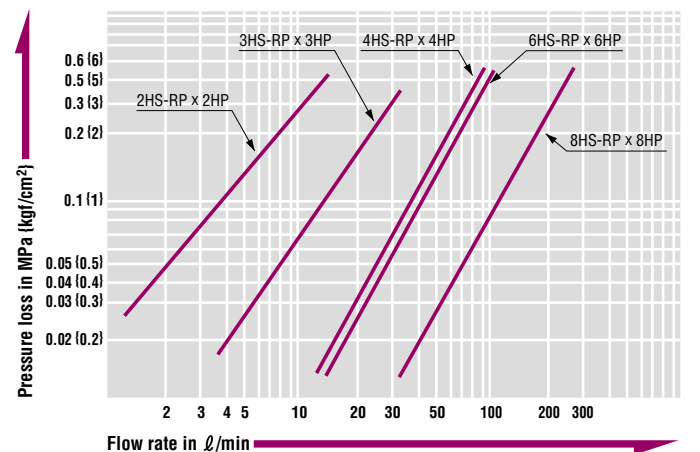
Socket only	Plug only	When connected
—	—	Operational

### Admixture of Air on Connection (mℓ)

Model	2HS-RP	3HS-RP	4HS-RP	6HS-RP	8HS-RP
Volume of air	0.64	1.84	3.47	3.47	12.4

### Flow Rate – Pressure Loss Characteristics

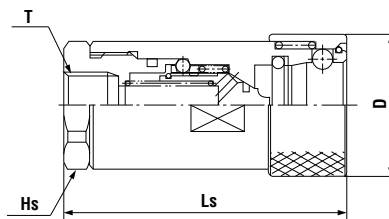
[Test conditions] • Fluid : Hydraulic oil • Temperature : 30°C ± 5°C  
• Fluid viscosity : 46 x 10<sup>-6</sup>m<sup>2</sup>/s • Density : 0.87 x 10<sup>3</sup>kg/m<sup>3</sup>



Note: Use in combination of Super HSP Cupla Socket and HSP Cupla Plug.

Models and Dimensions

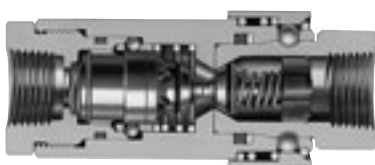
Socket HS type (Female thread)



Model	Application	Mass (g)	Dimensions (mm)			
			Ls	φD	HS(WAF)	T
2HS-RP	R 1/4	160	(57.5)	27.5	Hex.21	Rc 1/4
3HS-RP	R 3/8	275	(72.0)	33	Hex.27	Rc 3/8
4HS-RP	R 1/2	570	(88.5)	43	Hex.35	Rc 1/2
6HS-RP	R 3/4	550	(90.5)	43	Hex.35	Rc 3/4
8HS-RP	R 1	1,230	(114)	58	Hex.46	Rc 1

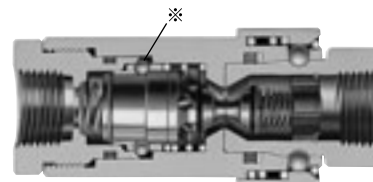
How to Use Super HSP Cupla

① Connected to plug with residual pressure.



When the socket is connected to the plug under residual pressure, the socket valve opens but the valve on the plug side does not open because of the internal residual pressure. However, in this state, the connection of socket and plug is completed.

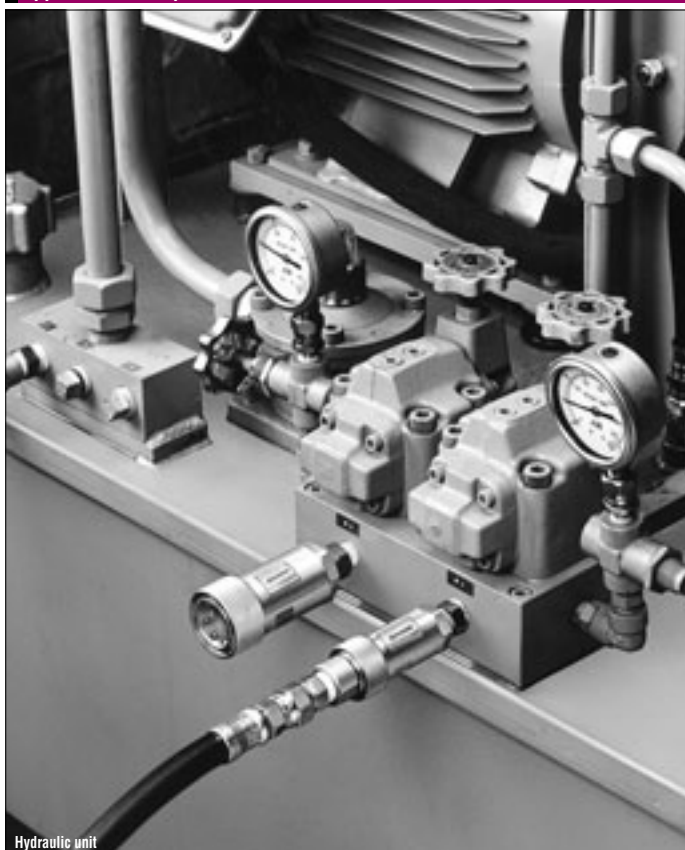
② Valve is opened with appropriate pressure (residual pressure plus 1.0MPa (10kgf/cm<sup>2</sup>) or more) from the socket side and then locked.



In condition ①, if fluid with pressure (residual pressure plus 1.0MPa) flows, the plug valve is pushed in by socket valve under that pressure and open to flow the fluid. At this time the balls indicated by an asterisk on the sketch completely lock the socket valve. When the socket valve is locked completely, fluid may flow in either direction from plug to socket or from socket side.

When pressurized from the socket, it takes a few seconds until the valve of socket is locked.

Application Example



Hydraulic unit

Hydraulic unit

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