

For Hydraulics

# Hyper HSP Cupla

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

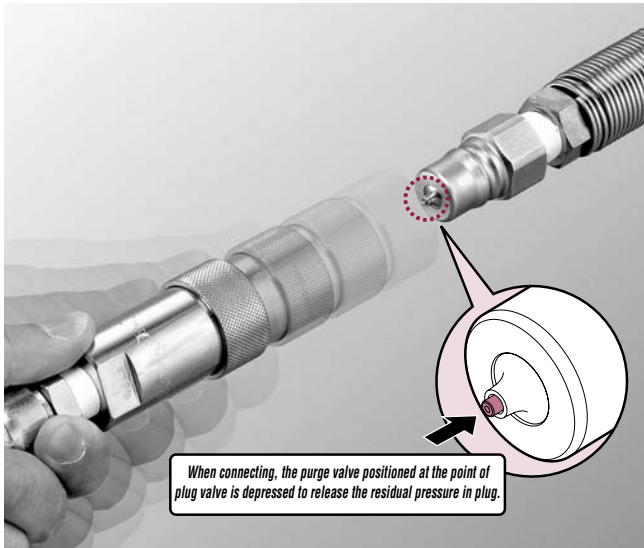
Working pressure



Valve structure



Applicable fluids



**Purge function will set you free from the troublesome residual pressure elimination before connection and let you achieve efficient and frequent hydraulic pipe line coupling.**

- The special design to keep pressure loss extremely low is particularly ideal for hydraulic applications requiring high flow rates. Both socket and plug have built-in automatic shut-off valves to prevent fluid spill out when disconnected.
- Interchangeable with standard HSP Cupla plug or socket in the same size.

## 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)			
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.



## Interchangeability

Interchangeable with standard HSP Cupla plug or socket in the same size.

## Min. Cross-Sectional Area

(mm<sup>2</sup>)

Model	2HP-PV/2HS-PV	3HP-PV/3HS-PV	4HP-PV/4HS-PV	6HP-PV/6HS-PV	8HP-PV/8HS-PV
Min. Cross-Sectional Area	21	37	77	77	203

## 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

(mℓ)

Model	2HP-PV/2HS-PV	3HP-PV/3HS-PV	4HP-PV/4HS-PV	6HP-PV/6HS-PV	8HP-PV/8HS-PV
Volume of air	0.64	1.84	3.47	3.47	12.40

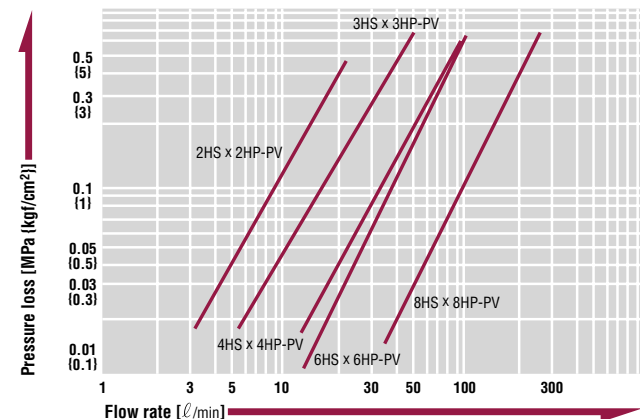
## Connection load under residual pressure (for reference)

(N)

Residual pressure / Model	2HP-PV/2HS-PV	3HP-PV/3HS-PV	4HP-PV/4HS-PV	6HP-PV/6HS-PV	8HP-PV/8HS-PV
at 5.0MPa	50	85	85	85	100
at 10.0MPa	70	85	85	85	130
at 15.0MPa	100	100	100	100	170

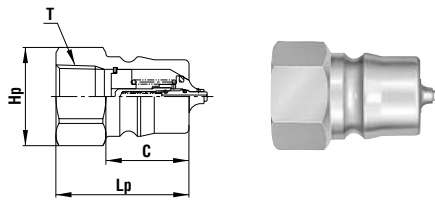
## Flow Rate – Pressure Loss Characteristics

[Test conditions] •Fluid : Hydraulic oil •Temperature : 30°C ± 5°C  
•Fluid viscosity : 32 x 10<sup>-6</sup>m<sup>2</sup>/s •Density : 0.87 x 10<sup>3</sup>kg/m<sup>3</sup>



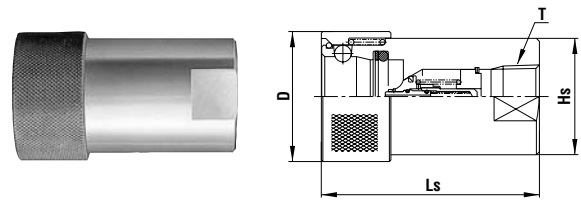
Note: Either socket or plug of Hyper HSP Cupla must be used on the line where the residual pressure remains. The counterpart of Hyper HSP must be either plug or socket of standard HSP Cupla.

**Plug HP type (Female thread)**



Model	Application	Mass (g)	Dimensions (mm)			
			Lp	C	Hp(WAF)	T
2HP-PV	R 1/4	44	32	17.5	Hex.19 x ø20.5	Rc 1/4
3HP-PV	R 3/8	72	38	22.5	Hex.23 x ø25	Rc 3/8
4HP-PV	R 1/2	138	44	27.5	Hex.29 x ø32	Rc 1/2
6HP-PV	R 3/4	147	50	27.5	Hex.32 x ø35	Rc 3/4
8HP-PV	R 1	360	61	36	Two flats 41 x ø47	Rc 1

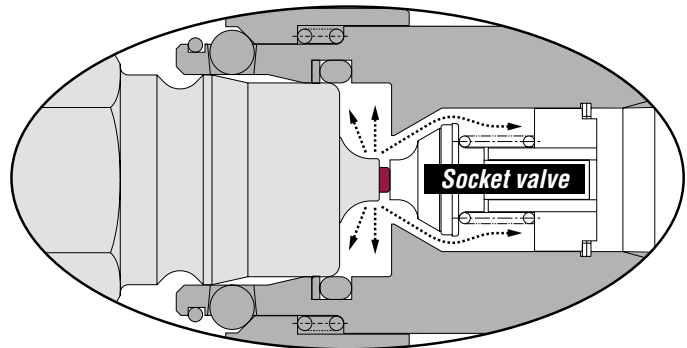
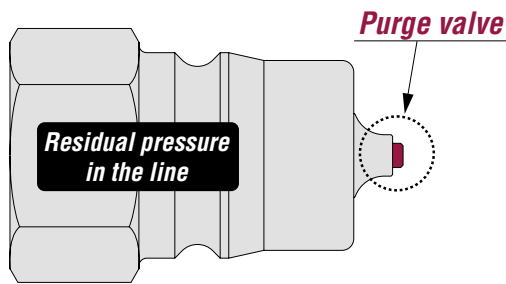
**Socket HS type (Female thread)**



Model	Application	Mass (g)	Dimensions (mm)			
			Ls	øD	HS(WAF)	T
2HS-PV	R 1/4	136	49	27.5	Two flats 19 x ø23.9	Rc 1/4
3HS-PV	R 3/8	225	60	33	Two flats 23 x ø28.6	Rc 3/8
4HS-PV	R 1/2	485	72	43	Two flats 35 x ø38.5	Rc 1/2
6HS-PV	R 3/4	460	72	43	Two flats 35 x ø38.5	Rc 3/4
8HS-PV	R 1	1050	93	58	Two flats 46 x ø52.2	Rc 1

**Residual pressure release (or purge) mechanism**

While connecting, the purge valve indicated with a circle is being pushed and releasing the residual pressure



**Note:** Either socket or plug of Hyper HSP Cupla must be used on the line where the residual pressure remains. The counterpart of Hyper HSP must be either plug or socket of standard HSP Cupla. Hyper HSP Cupla can be connected under the residual pressure in the line, but cannot during pressurizing. It may lead to incomplete connection, durability deterioration or possible valve fly out.