For Hydraulics

HSP Cupla

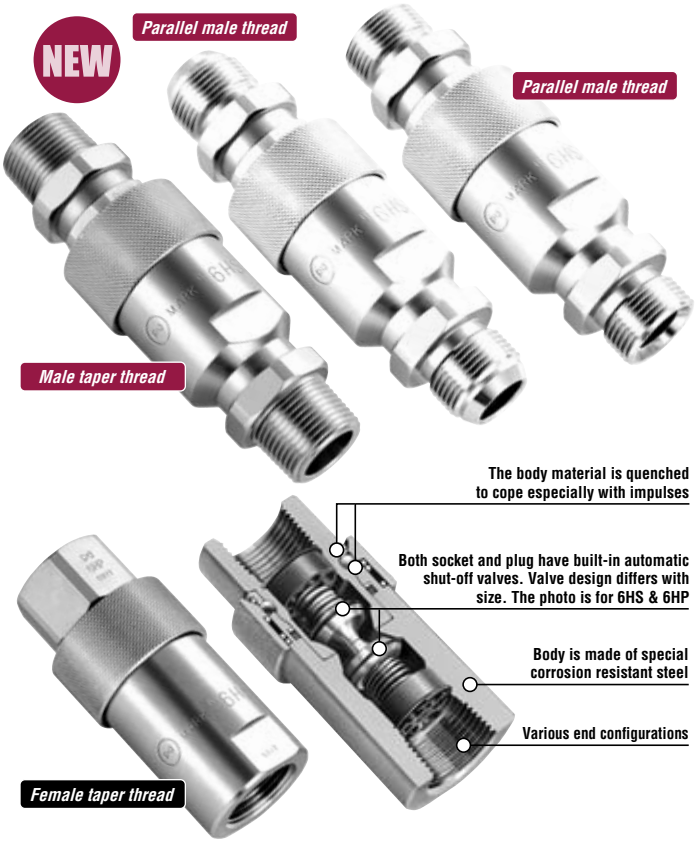
For hydraulic pressure from 14.0 to 20.6MPa {142~210kgfcm²}

Working pressure

20.6	18.0	14.0
20.6MPa {210kgf/cm²}	18.0MPa {183kgf/cm²}	14.0MPa {142kgf/cm²}

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.
- Valve is designed to suppress pressure loss, particularly suitable for hydraulic applications which need big fluid flow rates.
- 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 taper thread, parallel male thread with 30° flare, and parallel male thread with 30° cone-seat) are newly added. Male thread types are designed especially for direct connection to hydraulic power units effectively.
- Parallel male 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.)
- HSP-DC Cuplas are available for diecasting 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.

Specifications

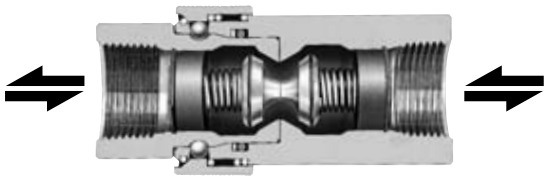
Body material	Special steel (Nickel-plated)			
Size	1/4" • 3/8" • 1/2" • 3/4" • 1"		1 1/4" • 1 1/2"	2"
Working pressure MPa {kgf/cm²}	20.6 {210}		18.0 {183}	14.0 {142}
Pressure resistance MPa {kgf/cm²}	31.0 {316}		26.5 {270}	20.6 {210}
Seal material Working temperature range	Seal material	Mark	Working temperature range	Remarks
	Nitrile rubber	NBR (SG)	−20°C~+80°C	Standard material
	Fluoro rubber	FKM (X-100)	−20°C~+180°C	Available on request

Max. Tightening Torque N•m {kgf•cm}

Size		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}	—	—	—	—

Flow Direction

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



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 (mm²)

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 10⁻¹Pa {1 x 10⁻³mmHg}

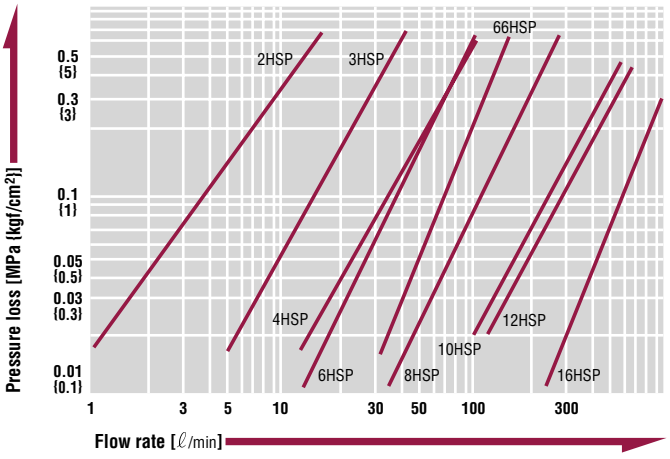
Socket only	Plug only	When connected
—	—	Operational

Admixture of Air on Connection (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

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



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