

For High Pressure

# 450B Cupla

For hydraulic pressure up to 44.1MPa {450kgf/cm<sup>2</sup>}

Working pressure

**44.1**

44.1MPa  
{450kgf/cm<sup>2</sup>}

Valve structure



Two-way shut-off

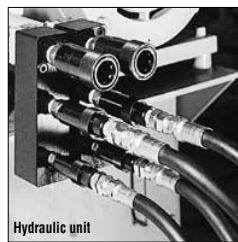
Applicable fluids



Hydraulic oil

## Metal-touch valve system with superior durability! Sleeve stopper mechanism gives secure connection.

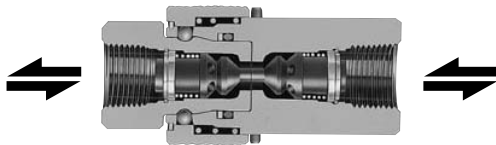
- Cupla for higher working pressure up to 44.1MPa {450kgf/cm<sup>2</sup>}.
- Mechanism to prevent accidental disconnection maintains tight connection even under vibration or impact when connected.
- Both socket and plug have metal-touch automatic shut-off valves that prevent fluid spill out on disconnection.



Hydraulic unit

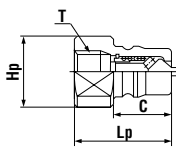
### Flow Direction

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



### Models and Dimensions

#### Plug Female thread



Model	Application	Mass (g)	Dimensions (mm)			
			Lp	C	Hp (WAF)	T
450B-3P	R 3/8	95	37.5	22.5	24 × ø28	Rc 3/8
450B-4P*	R 1/2	-	50	35	32 × ø35	Rc 1/2

\* Made-to-order item

### Specifications

Body material	Special steel (Nickel-plated)		
Size	3/8" • 1/2"		
Working pressure MPa (kgf/cm <sup>2</sup> )	44.1 {450}		
Pressure resistance MPa (kgf/cm <sup>2</sup> )	68.6 {700}		
Seal material	Seal material	Mark	Working temperature range
	Nitrile rubber	NBR (SG)	-20°C~+80°C
Working temperature range	Fluoro rubber	FKM (X-100)	-20°C~+180°C
	Remarks		
Stand-alone leakage rate on either socket or plug	0.1mℓ/min at 0.3MPa {3kgf/cm <sup>2</sup> }		
	* Owing to the metal contact seal structure design, there will be very minimal amount of leakage from both socket and plug respectively, when they are separated.		

### Max. Tightening Torque

N·m (kgf·cm)

Size	3/8"	1/2"
Torque	40 {408}	85 {867}

### Interchangeability

Different sizes are not connectable.

### Min. Cross-Sectional Area

(mm<sup>2</sup>)

Model	450B-3SP	450B-4SP
Min. cross-sectional area	37	66

### Suitability for Vacuum

Can be used to for vacuum applications up to 1.3Pa {1x10<sup>-2</sup>mmHg} only when socket and plug are connected.

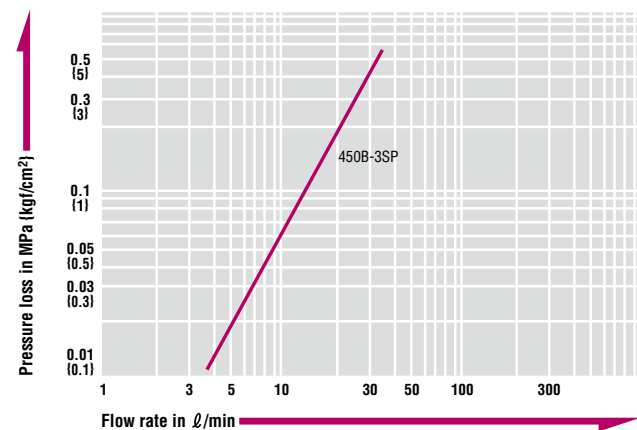
### Admixture of Air on Connection

(mℓ)

Model	450B-3SP	450B-4SP
Volume of air	1.43	3.44

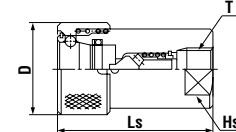
### Flow Rate – Pressure Loss Characteristics

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



WAF : WAF stands for width across flat.

#### Socket Female thread



Model	Application	Mass (g)	Dimensions (mm)			
			Ls	øD	Hs (WAF)	T
450B-3S	R 3/8	285	59.5	36	24	Rc 3/8
450B-4S*	R 1/2	-	85	46	36	Rc 1/2

\* Made-to-order item

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