

For Hydraulics

# 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

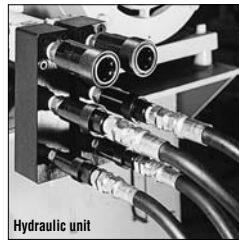


Two-way shut-off

Applicable fluids



Hydraulic oil



**Metal-touch valve system with superior durability! Sleeve stopper mechanism gives carefree safety.**

- Cupla for higher working pressure up to 44.1MPa {450kgf/cm<sup>2</sup>}.
- Mechanism to prevent involuntary 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.

## 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 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
Stand-alone leakage rate on either socket or plug	0.1m <sup>3</sup> /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.			

## Models and Dimensions

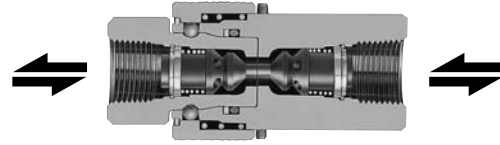
Model	Application	Mass (g)	Dimensions (mm)			
			Lp	C	Hp(WAF)	T
450B-3P	R 3/8	95	37.5	22.5	Two flats 24 x ø28	Rc 3/8
450B-4P*	R 1/2	-	50	35	Two flats 32 x ø35	Rc 1/2

\* Made-to-order item

Max. Tightening Torque		N·m (kgf·cm)
Size	3/8"	1/2"
Torque	40 {408}	85 {867}

## Flow Direction

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



## 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

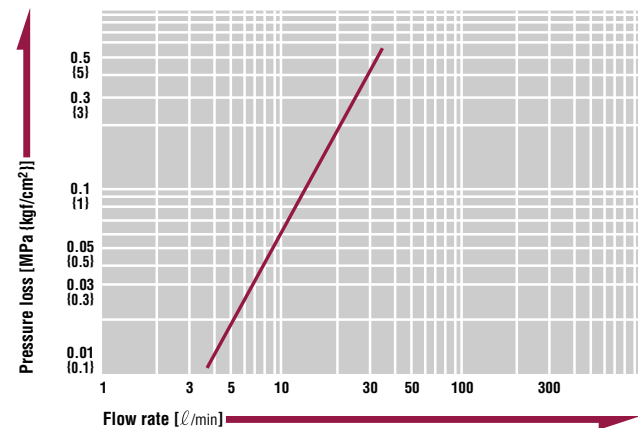
## Suitability for Vacuum

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

Admixture of Air on Connection		(m <sup>3</sup> )
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 flats.

Model	Application	Mass (g)	Dimensions (mm)			
			Ls	øD	Hs(WAF)	T
450B-3S	R 3/8	285	59.5	36	Two flats 24 x ø30	Rc 3/8
450B-4S*	R 1/2	-	85	46	Two flats 36 x ø40	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.