

For High Pressure

Flat Face Cupla FF

For hydraulic pressure up to 35.0 MPa (357 kgf/cm²) with flat contact face

Working pressure



Valve structure



Applicable fluids



Compared with Nitto's conventional 35 MPa Cuplas, the flow volume is increased 1.5 to 2 times.

*Increase ratio of each flow volume depends on the Cupla size.

- "Airless valve shut-off" design minimizes spillage volume on disconnection and admixture volume of air on connection.
 - Best suited for hydraulic lines with drastic high pressure pulsation such as in die-casting machines.
 - Sleeve stopper design preventing accidental disconnection under vibration or impacts enhances workability and safety.
 - Sizes are Rc 3/8, Rc 1/2, Rc 3/4, and Rc 1.
- *Only the same size of socket and plug can be connected.



Offset concave flat face enables quick and smooth connection

Unique flat face design

Concaved offset for the flat face on socket guides plug for quick and smooth centering and connection, but still easy to wipe off dirt and dusts.



Hexagon nut for easy mount

Specifications				
Body material	Special steel (Autocatalytic nickel-phosphorus coating)			
Size (Thread)	3/8", 1/2", 3/4", 1"			
Working pressure	MPa	35.0		
	kgf/cm ²	357		
	bar	350		
	PSI	5080		
Seal material	Nitrile rubber	Mark	NBR	Working temperature range: -20°C to +80°C Remarks: Standard material
Working temperature range				

Max. Tightening Torque				N m (kgf·cm)
Size (Thread)	3/8"	1/2"	3/4"	1"
Torque	40 (408)	80 (816)	150 (1530)	250 (2550)

Flow Direction

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

Interchangeability
Different size socket and plug cannot be connected each other.

Min. Cross-Sectional Area				(mm ²)
Model	FF-3S x FF-3P	FF-4S x FF-4P	FF-6S x FF-6P	FF-8S x FF-8P
Min. cross-sectional area	51	106	215	332

Suitability for Vacuum
Not suitable for vacuum application in either connected or disconnected condition.

Admixture of Air on Connection				(mL)
Model	FF-3S x FF-3P	FF-4S x FF-4P	FF-6S x FF-6P	FF-8S x FF-8P
Volume of air admixture	0.018	0.029	0.033	0.080

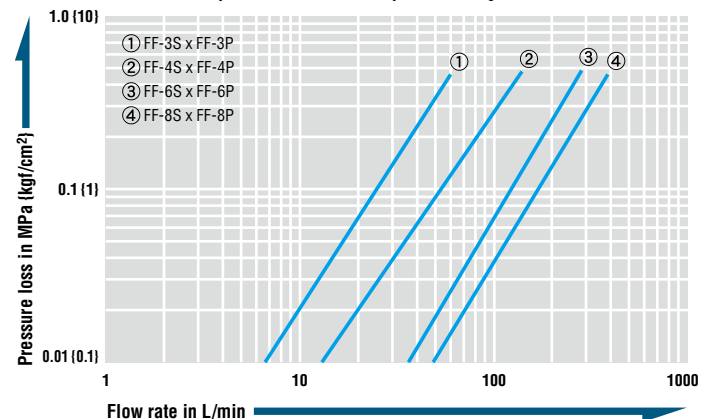
*Admixture volume of air on each connection depends on usage conditions.

Volume of Spillage per Disconnection				(mL)
Model	FF-3S x FF-3P	FF-4S x FF-4P	FF-6S x FF-6P	FF-8S x FF-8P
Volume of spillage	0.009	0.023	0.031	0.110

*Spillage volume of liquid on each disconnection depends on usage conditions.

Flow Rate – Pressure Loss Characteristics

[Test conditions] •Fluid : Hydraulic oil •Temperature : 30°C ± 5°C
•Fluid viscosity : 32 x 10⁻⁶ m²/s •Density : 0.87 x 10³ kg/m³

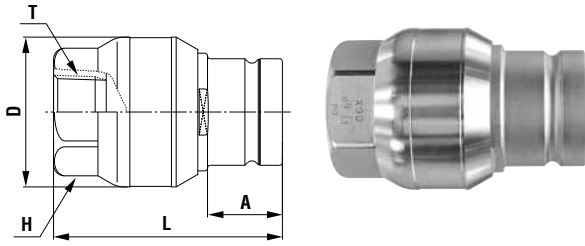


⚠ Precautions for use

Do not connect / disconnect Cuplas when pressure is applied or remaining.

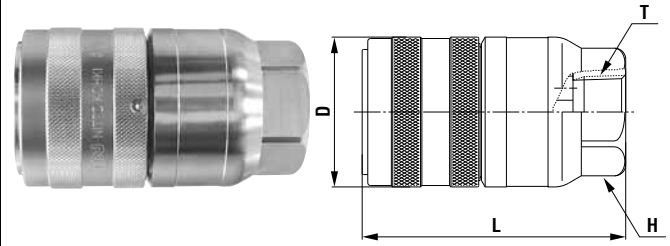
Models and Dimensions

Plug Female thread



Model	Application	Mass (g)	Dimensions (mm)				
			L	øD	A	H (WAF)	T
FF-3P	R 3/8	252	(66)	34	20.5	Hex.29	Rc 3/8
FF-4P	R 1/2	409	(74)	42	22.8	Hex.32	Rc 1/2
FF-6P	R 3/4	709	(82.5)	54	27	Hex.41	Rc 3/4
FF-8P	R 1	1314	(96.5)	66	29.5	Hex.54	Rc 1

Socket Female thread



Model	Application	Mass (g)	Dimensions (mm)			
			L	øD	H (WAF)	T
FF-3S	R 3/8	345	(71)	(35.5)	Hex.29	Rc 3/8
FF-4S	R 1/2	608	(84)	(44)	Hex.32	Rc 1/2
FF-6S	R 3/4	1053	(95)	(54)	Hex.41	Rc 3/4
FF-8S	R 1	1865	(109.5)	(66)	Hex.54	Rc 1

Applications

- Hydraulic piping for die-casting machines
- Casting machines
- Electric furnaces
- Molding presses
- Forging press
- Powdery alloy presses
- Extrusion molding machines
- Machine tools
- Iron manufacturing blast furnaces
- Continuous casting machines
- Rolling mills
- Pipe forging machines
- Furnace opening / closing machines
- Glass molding machines, etc.

