



FULL-BLOW CUPLA

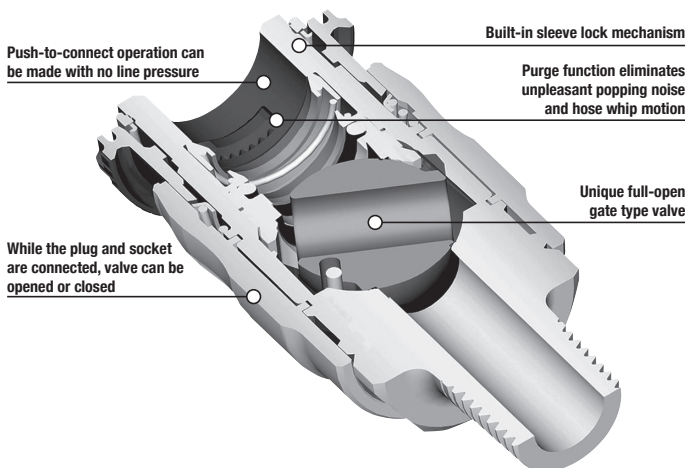
Air line coupling with low pressure loss and high flow rate

Working pressure 1.5 1.5 MPa {15 kgf/cm ² }	Valve structure  One-way shut-off	Applicable fluid  Air
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Unique full-open gate type valve mechanism realizes low pressure loss and high flow rate, which reduces required source air volume.

- The flow rate is increased by up to 40% more than that of conventional CUPLA.
- During connection and disconnection, the valve is closed, enabling connection/disconnection under zero line pressure.
- When the sleeve of socket is returned to its original position, the purge mechanism releases the residual air pressure in the plug, eliminating unpleasant popping noise and hose whip motion on disconnection.
- Built-in sleeve lock mechanism prevents accidental disconnection of CUPLA, ensuring safe operation.
- The valve can be opened and closed while the socket and plug are connected.
- The weight is reduced by 30 to 45% compared with that of conventional CUPLA.

Note: Direct mounting of FULL-BLOW CUPLA to percussive and vibrating tools should be avoided.



Specifications				
Body material	Aluminum alloy			
Size	Thread and hose barb	1/4", 3/8", 1/2"		
	SN type for urethane hose	For ø6.5 mm x ø10 mm, ø8 mm x ø12 mm polyurethane hose For ø8.5 mm x ø12.5 mm, ø11 mm x ø16 mm polyurethane hose		
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	1.5	15	15	218
Seal material	Seal material	Mark	Working temperature range	Remarks
Working temperature range	Nitrile rubber	NBR (SG)	-20°C to +60°C	Standard material

Maximum Tightening Torque			
Size (Thread)	1/4"	3/8"	1/2"
Torque	14 {143}	22 {224}	60 {612}

Tightening Torque Range	
Nm {kgf·cm}	
SN Type for urethane hose	
9 to 11 {92 to 112}	

To mount on urethane hose, slide it over to the hose barb and tighten the nut until it is flush against the hose barb base. It is recommended that grease is applied to the inside of the nut (threaded part and hose contact part) for easy tightening.

Flow Direction

Fluid must run from socket to plug.

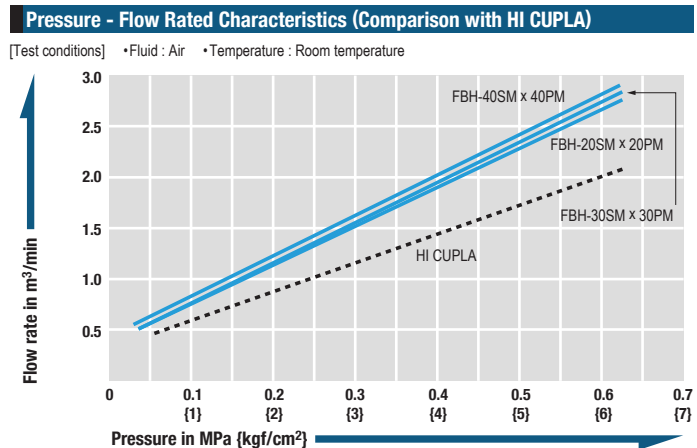
Interchangeability

Interchangeable with plugs of HI CUPLA models 10, 17, 20, 30 and 40.
Interchangeable with each models of NUT CUPLA series and HI CUPLA series.
Not interchangeable with some plugs of plastic HI CUPLA 250 (discontinued product).
Please see page 19 for "HI CUPLA Series Interchangeability".

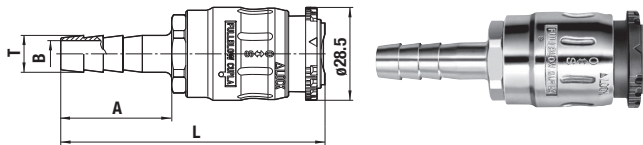
Minimum Cross-Sectional Area (mm ²)												
Socket	Plug	17PH	20PH	30PH	40PH	10PM	20PM	30PM	40PM	20PF	30PF	40PF
		FBH-20SH	16	20	24	24	13	24	24	24	24	24
FBH-30SH	16	20	44	44	13	44	44	44	44	44	44	44
FBH-40SH	16	20	44	44	13	44	44	44	44	44	44	44
FBH-20SM	16	20	44	44	13	44	44	44	44	44	44	44
FBH-30SM	16	20	44	44	13	44	44	44	44	44	44	44
FBH-40SM	16	20	44	44	13	44	44	44	44	44	44	44
FBH-20SF	16	20	44	44	13	44	44	44	44	44	44	44
FBH-30SF	16	20	44	44	13	44	44	44	44	44	44	44
FBH-40SF	16	20	44	44	13	44	44	44	44	44	44	44
FBH-65SN	16	20	24	24	13	24	24	24	24	24	24	24
FBH-80SN	16	20	44	44	13	44	44	44	44	44	44	44
FBH-85SN	16	20	44	44	13	44	44	44	44	44	44	44
FBH-110SN	16	20	44	44	13	44	44	44	44	44	44	44

Suitability for Vacuum

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

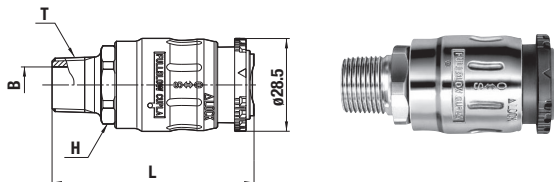


Socket SH type (Hose barb)



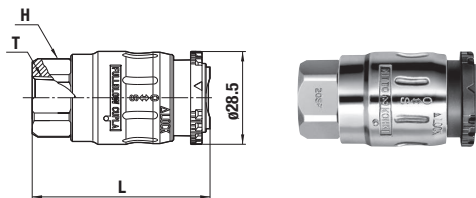
Model	Application (Hose)	Mass (g)	Dimensions (mm)			
			L	A	øT	øB
FBH-20SH	1/4"	70	(77)	30	9	5.5
FBH-30SH	3/8"	74	(81)	34	11.3	8
FBH-40SH	1/2"	85	(83)	36	15	10

Socket SM type (Male thread)



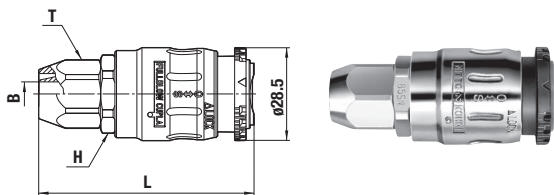
Model	Application (Thread)	Mass (g)	Dimensions (mm)			
			L	H(WAF)	T	øB
FBH-20SM	Rc 1/4	71	(62)	Hex.22	R 1/4	8
FBH-30SM	Rc 3/8	75	(62)	Hex.22	R 3/8	11
FBH-40SM	Rc 1/2	86	(66)	Hex.22	R 1/2	15

Socket SF type (Female thread)



Model	Application (Thread)	Mass (g)	Dimensions (mm)		
			L	H(WAF)	T
FBH-20SF	R 1/4	77	(54.5)	Hex.22	Rc 1/4
FBH-30SF	R 3/8	69	(54.5)	Hex.22	Rc 3/8
FBH-40SF	R 1/2	90	(61)	Hex.26	Rc 1/2

Socket SN type (For urethane hose connection)

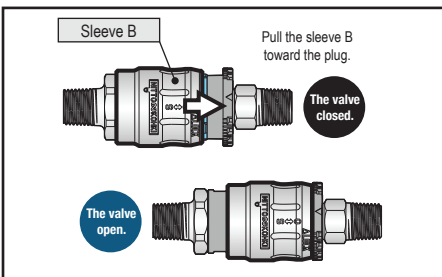


Model	Application (Hose)	Mass (g)	Dimensions (mm)			
			L	H(WAF)	T(WAF)	øB
FBH-65SN	ø6.5 mm x ø10 mm	64	(64)	Hex.22	Hex.17	5.5
FBH-80SN	ø8 mm x ø12 mm	67	(66)	Hex.22	Hex.19	7.5
FBH-85SN	ø8.5 mm x ø12.5 mm	68	(66)	Hex.22	Hex.19	7.5
FBH-110SN	ø11 mm x ø16 mm	86	(71)	Hex.26	Hex.24	10

How It Works

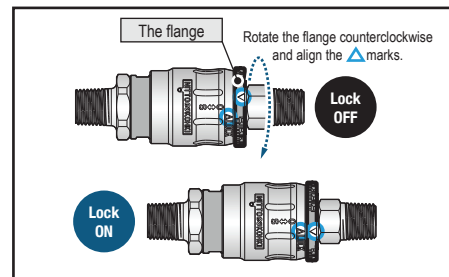
1. Open the valve

Only after connection with the plug, you can slide the socket sleeve B toward the plug in order to open the built-in valve. Full flow path is then obtained.



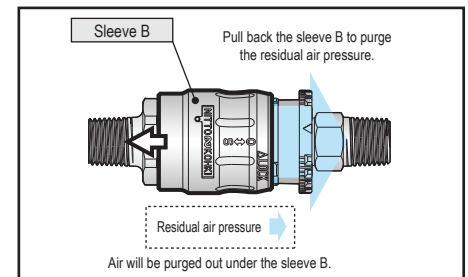
2. Lock the sleeve

Rotate the flange counterclockwise to lock the sleeve B. Without unlocking the plug you cannot disconnect.



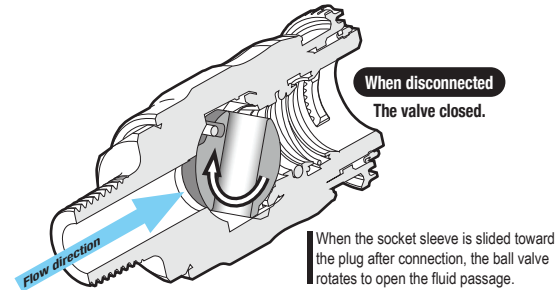
3. Purge the residual air

To disconnect the plug, first turn the flange back to its original position for unlocking and then pull the sleeve B back to the original position. The built-in valve will be closed to purge the residual air pressure.

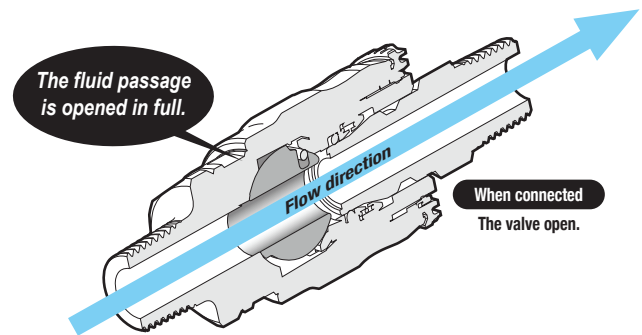


Up to about 40% increase in flow rate.

Pressure loss is reduced to the ultimate level. Up to about 40% increase in flow rate compared with conventional CUPLA.



When the socket sleeve is slid toward the plug after connection, the ball valve rotates to open the fluid passage.



The fluid passage is opened in full.

When connected The valve open.