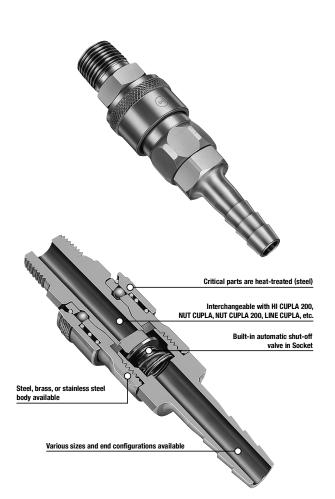


# **For Low Pressure** CUPLA Universal purpose couplings for air lines

# From factory air line to pneumatic tool connection, available in various body materials, sizes and end configurations. **Excellent durability.**

- An excellent general purpose coupling for connecting factory air supply to pneumatic tools.
- Steel coupling is suitable for air. Brass or stainless steel is suitable for water. Note that fluid will come out from the plug when disconnected.
- Critical structural parts of steel models are heat-treated for increased strength giving greater durability and resistance to wear.
- · Available in various body materials, sizes and end configurations applicable to a wide range of applications.



Specific	ations										
Body mater	rial		Steel (Chrome plated)		Brass		Stainless steel (SUS30				
Size					1/8	" to 1"					
Size	Hose b	oarb		1/4" to 1" hose							
MPa			1.5		1.0		1.5				
Working pr	essure	kgf/cm <sup>2</sup>	15		1	0		15			
g p.		bar	15		1	0	15				
		PSI	218		14	<b>1</b> 5	218				
Seal materi	-1		Seal material		Mark	Working temperature range		Remarks			
	Working temperature range		Nitrile rubber	N	BR (SG)	-20°C to +80°C		Standard material			
		Fluoro rubber	FK	M (X-100)	-20°C to +1	80°C	Standard material				

Maxim	Maximum Tightening Torque Nm {kgf·cm}											
Size (Thread)		1/8"	1/4"	3/8"	1/2"	3/4"	1"					
Torque	Steel	7 {71}	14 {143}	22 {224}	60 (612)	100 {1020}	120 {1224}					
	Brass	5 {51}	9 {92}	11 {112}	30 {306}	50 (510)	65 {663}					
	Stainless steel	-	14 {143}	22 {224}	60 (612)	100 {1020}	120 {1224}					

Flow Direction
Fluid must run from socket to plug.

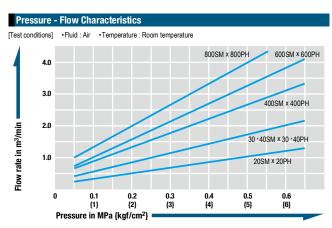
## Interchangeability

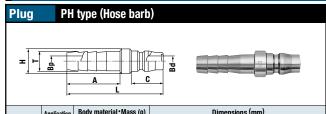
- Sockets and plugs of models 10, 17, 20, 30, and 40 can be connected with each other regardless of end configurations
- 2 Sockets and plugs of models 400, 600, and 800 can be connected with each other regardless of end configurations. • and • can not be connected across each group.
- Interchangeable with each models of NUT CUPLA series and HI CUPLA series. Please see page 19 for "HI CUPLA Series Interchangeability".

Minimum	Cross	-Secti	onal <i>l</i>	Area							(mm <sup>2</sup> )
10, 17, 20, 30, 40 type											
Socket Plug	17PH	20PH	30PH	40P	H 10PM	20PM	30PM	40PM	20F	PF 30PI	40PF
10SM	16	20	20	20	13	20	20	20	20	20	20
17SH	16	16	16	16	13	16	16	16	16	3 16	16
20SH	16	20	20	20	13	20	20	20	20	20	20
20SM, SF	16	20	33	33	13	33	33	33	33	3 33	33
30SH	16	20	33	33	13	33	33	33	33	3 33	33
30SM, SF	16	20	33	33	13	33	33	33	33	3 33	33
40SH	16	20	33	33	13	33	33	33	33	3 33	33
40SM, SF	16	20	33	33	13	33	33	33	33	3 33	33
400, 600, 8	300 type	;									
Socket Plug	400PH	600	PH 8	00PH	400PM	600PM	800PI	M 400	PF	600PF	800PF
400SH	64	64	ı	64	64	64	64	6	4	64	64
400SM, SF	64	94	ı	94	94	94	94	9	4	94	94
600SH	64	94	l l	94	94	94	94	9	4	94	94

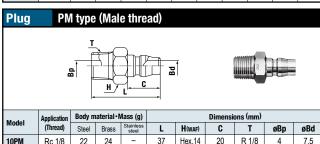
### 600SM, SF 94 94 94 94 94 94 94 94 800SH 94 94 94 94 94 94 94 800SM, SF 94 94 94 94 94 94

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

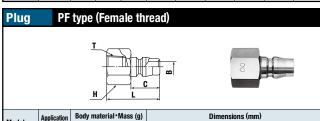




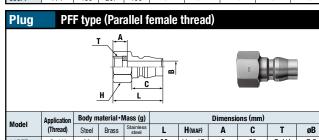
Model	Application	Body material • Mass (g)			Dimensions (mm)							
Wiouci	(Hose)	Steel	Brass	Stainless steel	L	øΗ	Α	C	øT	øBp	øBd	
17PH	1/4"	24	-	-	54	16	27	20	7.2	4.5	7.5	
20PH	1/4"	28	31	27	57	16	30	20	9	5	7.5	
30PH	3/8"	32	34	33	61	16	34	20	11.3	7.5	7.5	
40PH	1/2"	59	64	60	63	20	36	20	15	9	7.5	
400PH	1/2"	65	71	66	66	22	36	23	15	9	13	
600PH	3/4"	123	130	124	77	30	45	23	21	13	13	
800PH	1"	151	161	151	85	34	54	23	27	20	13	

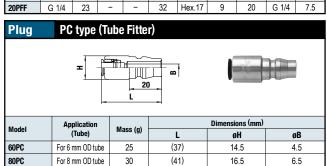


Madal	Application	Body material • Mass (g)			Dimensions (mm)						
Model	(Thread)	Steel	Brass	Stainless steel	L	H(WAF)	C	T	øBp	øBd	
10PM	Rc 1/8	22	24	1	37	Hex.14	20	R 1/8	4	7.5	
20PM	Rc 1/4	25	27	26	41	Hex.14	20	R 1/4	7.5	7.5	
30PM	Rc 3/8	40	43	41	42	Hex.19∗3	20	R 3/8	7.5	7.5	
40PM	Rc 1/2	60	65	60	46	Hex.22	20	R 1/2	12	7.5	
400PM	Rc 1/2	70	73	69	50	Hex.22	23	R 1/2	13	13	
600PM	Rc 3/4	113	121	114	55	Hex.32	23	R 3/4	19	13	
800PM	Rc 1	182	196	183	63	Hex.35	23	R1	22	13	



Madel	Application	Body material • Mass (g)			Dimensions (mm)						
Model	(Thread)	Steel	Brass	Stainless steel	L	H(WAF)	C	T	øB		
20PF	R 1/4	28	31	29	36	Hex.17	20	Rc 1/4	7.5		
30PF	R 3/8	35	41	38	37	Hex.21	20	Rc 3/8	7.5		
40PF	R 1/2	69	76	70	38	Hex.29	20	Rc 1/2	7.5		
400PF	R 1/2	82	86	81	41	Hex.29	23	Rc 1/2	13		
600PF	R 3/4	115	124	115	45	Hex.35	23	Rc 3/4	13		
800PF	R1	189	207	190	54	Hex.41	23	Rc 1	13		





(45)

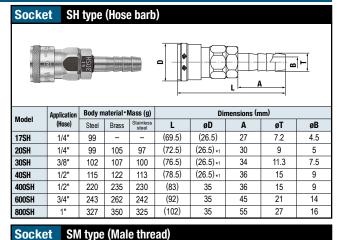
43

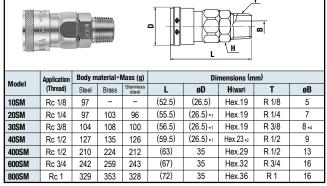
19.5

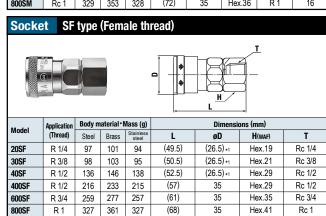
7.5

100PC

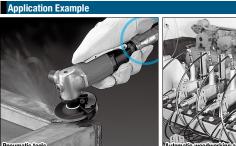
For 10 mm OD tube

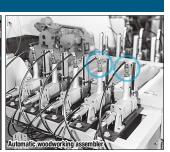


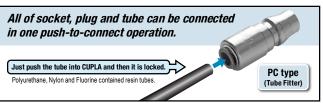




- · Above pictures are plugs and sockets of steel 20, 30 and 40 models.
- \*1 : D = 25.4 for brass and stainless steel models.
  \*2 : H = Hex. 22 for brass and stainless steel models
- \*3 : H = Hex. 17 for brass and stainless steel models.
- \*4 : B = 9 for brass and stainless steel models







## **For Low Pressure**

# <u>HI CUPLA BL</u>

Universal purpose couplings with sleeve lock mechanism for air lines











# Sleeve-lock mechanism is engaged by rotating the sleeve after connection.

- Sleeve-lock mechanism prevents accidental disconnection.
- · An excellent general purpose coupling for connecting factory air supply to pneumatic tools.
- Steel coupling is suitable for air. Stainless steel is suitable for water. Note that fluid will come out from the plug when disconnected.
- · Critical structural parts made of steel are heat-treated for increased strength giving greater durability and resistance to wear.
- Various body materials, sizes, and end configurations are available.
- SN-BL type for connection to urethane hose requires no hose clamp.



Specifications									
Body material		Steel (Chr	ome plated)	Stainless ste	el (SUS304)				
Thread and hose barb			1/4", 3	/8", 1/2"					
Size	SN Type for urethane hose	For ø8 x ø	For ø6.5 x ø10 mm hose For ø8 x ø12 mm hose For ø8.5 x ø12.5 mm hose						
Pressure (	unit	MPa	kgf/cm <sup>2</sup>	bar	PSI				
Working pressure		1.5	15	15	218				
Seal material		Seal material	Mark	Working temperature range	Remarks				
Working to	emperature range	Nitrile rubber	NBR (SG)	-20°C to +80°C	Standard material				

Note: Working temperature range of SN-BL type is -20°C to +60°C.

Maximum Tightening Torque Nm {kgf⋅cm}									
Size (Thread)		1/4"	3/8"	1/2"					
Steel		14 {143}	22 {224}	60 {612}					
Torque	Stainless steel	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.

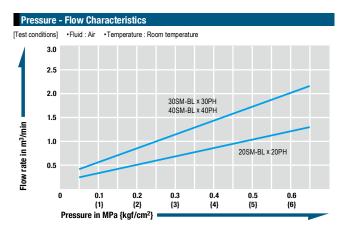
# **Flow Direction** Fluid must run from socket to plug.

### Interchangeability

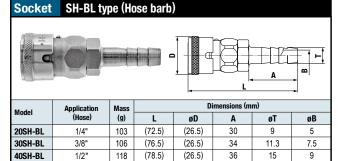
- Sockets and plugs of models 10, 17, 20, 30, and 40 can be connected with each other regardless of end configurations.
- 2 Interchangeable with each models of NUT CUPLA series and HI CUPLA series. Please see page 19 for "HI CUPLA Series Interchangeability".

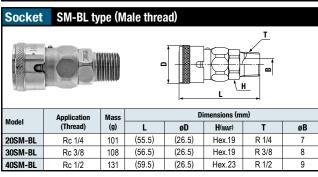
Minimum	Minimum Cross-Sectional Area (mm²)												
Socket Plug	17PH	20PH	30PH	40PH	10PM	20PM	30PM	40PM	20PF	30PF	40PF		
20SH-BL	16	20	20	20	13	20	20	20	20	20	20		
20SM-BL	16	20	33	33	13	33	33	33	33	33	33		
20SF-BL	16	20	33	33	13	33	33	33	33	33	33		
30SH-BL	16	20	33	33	13	33	33	33	33	33	33		
30SM-BL	16	20	33	33	13	33	33	33	33	33	33		
30SF-BL	16	20	33	33	13	33	33	33	33	33	33		
40SH-BL	16	20	33	33	13	33	33	33	33	33	33		
40SM-BL	16	20	33	33	13	33	33	33	33	33	33		
40SF-BL	16	20	33	33	13	33	33	33	33	33	33		
65SN-BL	16	20	22	22	13	22	22	22	22	22	22		
80SN-BL	16	20	33	33	13	33	33	33	33	33	33		
85SN-BL	16	20	33	33	13	33	33	33	33	33	33		

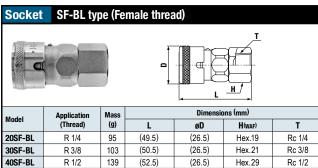
Not suitable for vacuum application in either connected or disconnected condition.

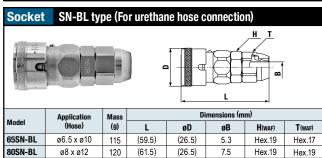


## Steel









ø8.5 x ø12.5 · Above pictures are sockets of 30 and 80 models.

120

(61.5)

(26.5)

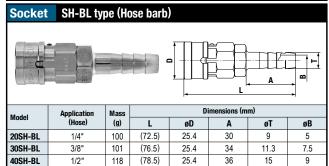
7.5

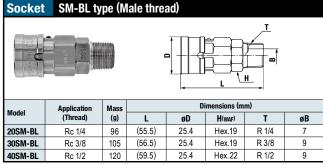
Hex.19

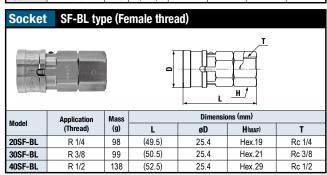
Hex.19

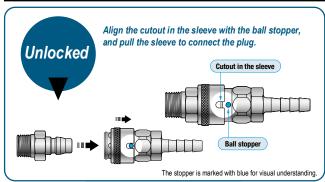
85SN-BL



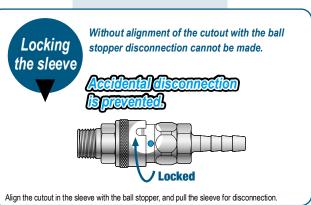












# For Low Pressure (Air)

# HI CUPLA 200

Push-to-connect type for air lines







# Simple and secure push-to-connect type! Big flow rate! **End-face seal design.** Gives excellent handling touch.

- Just push the plug into the socket for simple and secure connection. This reduces connection time and improves efficiency.
- New valve design for low pressure loss to achieve flow rate increase (15% up over the conventional model).
- End-face seal is achieved when connected.
- Enhanced operability with low connection resistance.
- End-face seal design is superior to external seal with an O-ring due to no seal damage caused by exhausted lubrication.
- Available only with steel body. Not suitable for water or oil.
- Also available with quick connect/disconnect Tube Fitter type.





Specifications										
Body mat	erial		Steel (Chr	ome plated)						
Thread and hose barb			1/4", 3	/8", 1/2"						
Size	Tube barb (Tube fitter)	Polyam	ide tube: Outer d		05 , ø10 <sup>+0.05</sup>					
Pressure	unit	MPa	kgf/cm²	bar	PSI					
Working p	ressure	1.5	15	15	218					
Seal material		Seal material	Mark	Working temperature range	Remarks					
Working t	emperature range	Nitrile rubber	NBR (SG)	-20°C to +60°C	Standard material					

Above specifications apply only to CUPLA. Maximum working pressure and working temperature range may vary depending on materials of the tube and the working temperature

<b>Maximum Tightening To</b>	Nm {kgf•cm}		
Size (Thread)	1/4"	3/8"	1/2"
Torque	14 {143}	22 {224}	60 (612)

# **Flow Direction** Fluid must run from socket to plug

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 (except models 400, 600, and 800). Please see page 19 for "HI CUPLA Series Interchangeability".

Minimum Cross-Sectional Area (mm²)											mm²)
Socket Plug	17PH	20PH	30PH	40PH	10PM	20PM	30PM	40PM	20PF	30PF	40PF
200-17SH	16	16	16	16	13	16	16	16	16	16	16
200-20SH	16	20	20	20	13	20	20	20	20	20	20
200-30SH	16	20	41	41	13	41	41	41	41	41	41
200-40SH	16	20	41	41	13	41	41	41	41	41	41
200-20SM	16	20	41	41	13	41	41	41	41	41	41
200-30SM	16	20	41	41	13	41	41	41	41	41	41
200-40SM	16	20	41	41	13	41	41	41	41	41	41
200-20SF	16	20	41	41	13	41	41	41	41	41	41
200-30SF	16	20	41	41	13	41	41	41	41	41	41
200-40SF	16	20	41	41	13	41	41	41	41	41	41

### **Suitability for Vacuum**

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

Test conditions1

