For Low Pressure

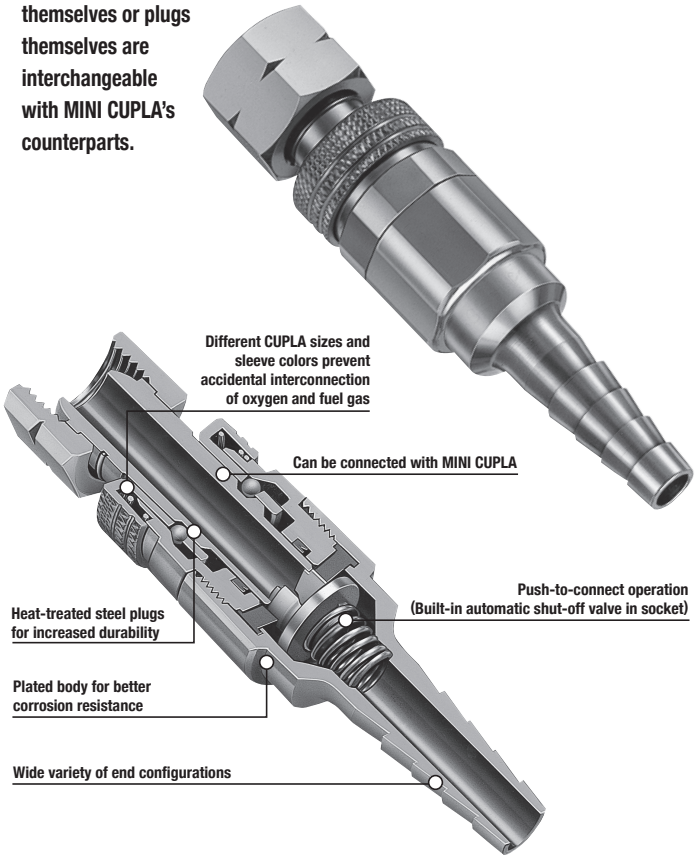
MINI CUPLA SUPER

Heavy-duty push-to-connect type for oxyacetylene piping

Working pressure	Valve structure	Applicable fluids
0.7		Ox. A.
0.7 MPa {7 kgf/cm²}	One-way shut-off	Oxygen, Fuel Gas

Exclusively for welding and cutting equipment.

- From cylinders to torches, all piping connections associated with welding and cutting equipment are push-to-connect operations.
- Plated body for better corrosion resistance.
- Heat-treated plugs for better durability.
- Oxygen and fuel gas CUPLA have different configuration sizes with sleeves in different appearances, silver colored plating for oxygen and copper colored plating for fuel gas, to prevent accidental interconnection.
- Smaller diameter design enables wider range of applications.
- Various types of end configurations have been standardized to comply with a wide range of welding and cutting equipment applications. Sockets themselves or plugs themselves are interchangeable with MINI CUPLA's counterparts.

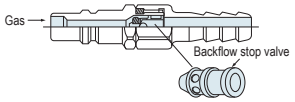


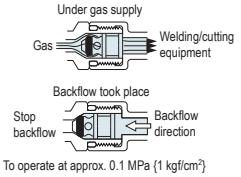
Structure and Principle of Backflow Prevention

Plug with backflow stop valve

Plugs with backflow stop valve in MINI CUPLA SUPER are designed exclusively for gas welding/cutting to prevent occurrence of gas mixing. Possible backflow of gas during operation can be stopped by cutting the back flow into the cylinder or line.
Such valve is adopted in both fuel gas and oxygen plug.

Cross-section sketch showing the structure





To operate at approx. 0.1 MPa {1 kgf/cm²}

Specifications

Body material		Socket : Brass (Chrome plated) Plug : Steel (Chrome plated)			
Size	Thread	1/4", 3/8", M16			
	Hose barb	1/4", 5/16", 3/8" / 5 mm ID			
Pressure unit		MPa	kgf/cm²	bar	PSI
Working pressure		0.7	7	7	102
Seal material Working temperature range		Seal material	Mark	Working temperature range	Remarks
		Nitrile rubber	NBR (SG)	-20˚C to +80˚C	Standard material

Maximum Tightening Torque — Nm {kgf·cm}

Model	S22PF, S22SF, S33PF, S33SF	S22SM	S33SM
Torque	12 {122}	9 {92}	11 {112}

Flow Direction

Fluid must run from socket to plug.

Interchangeability

To prevent accidental connection, CUPLA for oxygen are not interchangeable with CUPLA for fuel gas. However, plugs and sockets for oxygen are interchangeable regardless of end configurations and plugs and sockets for fuel gas are interchangeable regardless of end configurations.
Can be connected with MINI CUPLA series.

Minimum Cross-Sectional Area — (mm²)

For Oxygen

Socket \ Plug	S22PH	S225PH	S22PF	S22PN
S22SH	15.9	7.5	15.9	15.9
S225SH	7.5	7.5	7.5	7.5
S22SF	15.9	7.5	15.9	15.9
S22SM	15.9	7.5	15.9	15.9
S22SN	15.9	7.5	15.9	15.9

For Fuel Gas

Socket \ Plug	S33PH	S335PH	S33PF	S33PN
S33SH	28.2	7.5	28.2	15.9
S335SH	7.5	7.5	7.5	7.5
S33SF	28.2	7.5	28.2	15.9
S33SM	28.2	7.5	28.2	15.9
S33SN	15.9	7.5	15.9	15.9

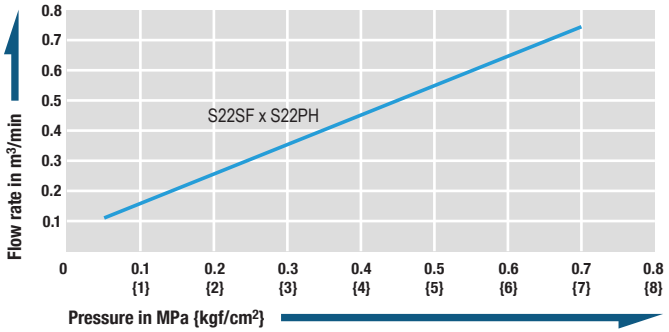
Suitability for Vacuum

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

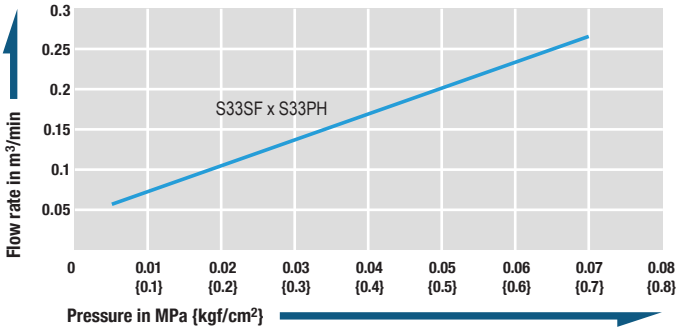
Pressure - Flow Characteristics

[Test conditions] •Fluid : Air •Temperature : Room temperature

For Oxygen

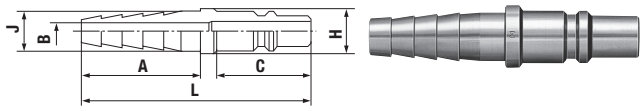


For Fuel Gas



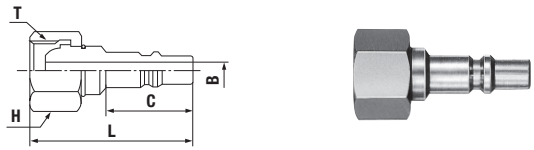
WAF : WAF stands for width across flats.

Plug PH type (Hose barb)



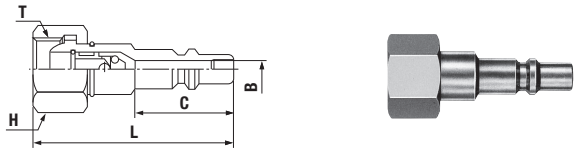
Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)					
				L	C	A	øH	øJ	øB
For Oxygen	S22PH	1/4", 5/16"	17	58	23.5	30	11	9.5	4.5
For Oxygen	S225PH	5 mm ID	12	49	23.5	21	11	6.2	3.1
For Fuel Gas	S33PH	5/16", 3/8"	22	59.5	25.5	30	14	11	6
For Fuel Gas	S335PH	5 mm ID	15	50.5	25.5	21	14	6.2	3.1
For Fuel Gas	S32PH *1	1/4", 5/16"	20	59.5	25.5	30	14	9	4.5

Plug PF type (Female thread for torch connection)



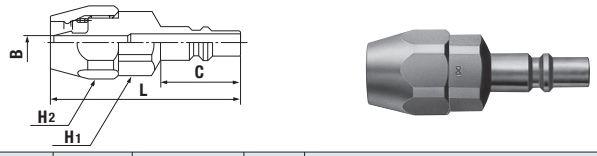
Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	C	H(WAF)	T	øB
For Oxygen	S22PF	For oxygen torch side	35	(43)	23.5	Hex.19	M16 x 1.5	5
For Fuel Gas	S33PF	For fuel gas torch side	32	(44.5)	25.5	Hex.19	M16 x 1.5 left-hand thread	7.5

Plug PFB type (Female thread with backflow stop valve for toch connection)



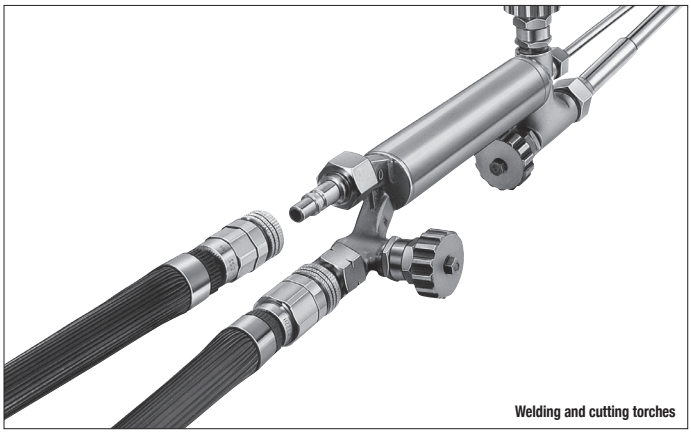
Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	C	H(WAF)	øT	øB
For Oxygen	S23PFB-2 *1	For oxygen torch side	48	(51)	23.5	Hex.21	BS 3/8	4.5
For Fuel Gas	S33PFB-2 *1	For fuel gas torch side	52	(51)	25.5	Hex.21	BS 3/8 left-hand thread	4.5

Plug PN type (Nut type for small diameter hose)



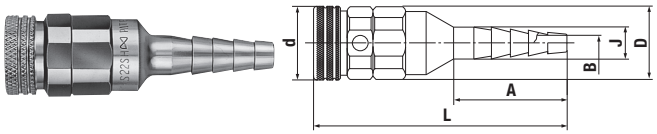
Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)				
				L	C	H1(WAF)	H2(WAF)	øB
For Oxygen	S22PN	5 mm ID *2	54	(53.5)	23.5	Hex.17	Hex.19	4.5
For Fuel Gas	S33PN	5 mm ID *2	57	(54.5)	25.5	Hex.17	Hex.19	4.5

Application Example



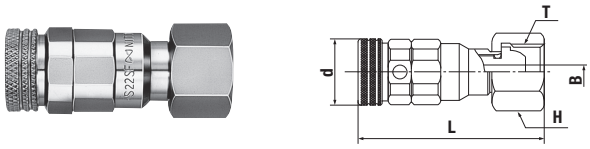
Welding and cutting torches

Socket SH type (Hose barb)



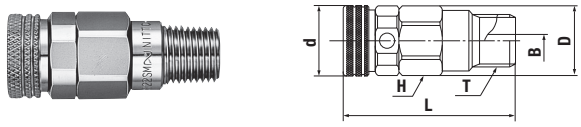
Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)					
				L	ød	øD	A	øJ	øB
For Oxygen	S22SH	1/4", 5/16"	50	(64.5)	(19.5)	20	30	9.5	4.5
For Oxygen	S225SH	5 mm ID	54	(62.5)	(19.5)	20	21	6.2	3.1
For Fuel Gas	S33SH	5/16", 3/8"	73	(68)	(22)	22	30	11	6
For Fuel Gas	S335SH	5 mm ID	65	(63)	(22)	22	21	6.2	3.1
For Fuel Gas	S32SH *1	1/4", 5/16"	74	(72.5)	(22)	22	30	9	4.5

Socket SF type (Female thread for cylinder connection)



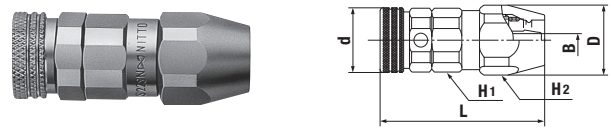
Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)				
				L	ød	T	H(WAF)	øB
For Oxygen	S22SF	For oxygen torch side	74	(52.5)	(19.5)	M16 x 1.5	Hex.19	4.5
For Fuel Gas	S33SF	For fuel gas torch side	97	(57.5)	(22)	M16 x 1.5 left-hand thread	Hex.19	6
For Oxygen	S23SF-BS *1	For oxygen torch side	82	(55.5)	(19.5)	BS 3/8	Hex.21	4.5
For Fuel Gas	S33SF-BS *1	For fuel gas torch side	88	(59)	(22)	BS 3/8 left-hand thread	Hex.21	6

Socket SM type (Male thread)



Usage	Model	Application (Thread)	Mass (g)	Dimensions (mm)					
				L	ød	øD	H(WAF)	T	øB
For Oxygen	S22SM	Rc 1/4	58	(48.5)	(19.5)	20	Hex.18	R 1/4	4.5
For Fuel Gas	S33SM	Rc 3/8	85	(52)	(22)	23	Hex.21	R 3/8	6

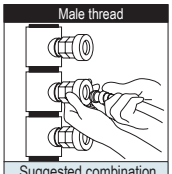
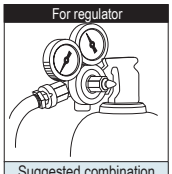
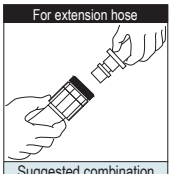
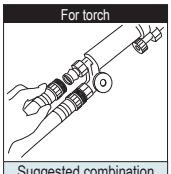
Socket SN type (Nut type for small diameter hose)



Usage	Model	Application (Hose)	Mass (g)	Dimensions (mm)					
				L	ød	øD	H1(WAF)	H2(WAF)	øB
For Oxygen	S22SN	5 mm ID *2	74	(52)	(19.5)	20.5	Hex.18	Hex.19	4.5
For Fuel Gas	S33SN	5 mm ID *2	91	(57)	(22)	20.5	Hex.21	Hex.19	4.5

*1 : Made-to-order item.
*2 : Available hose sizes are ø5 mm x ø11.2 mm, ø5 mm x ø11.5 mm and ø5 mm x ø11.8 mm.

Select the combination in accordance with your own application.

Male thread	For regulator	For extension hose	For torch
			
Suggested combination	Suggested combination	Suggested combination	Suggested combination
SM x PH	SF x PH	SH x PH	SH x PF