

For Inert Gas and Vacuum

SP-V Cupla

For vacuum

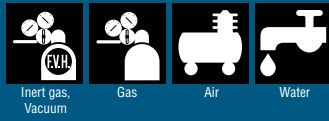
Working pressure



Valve structure

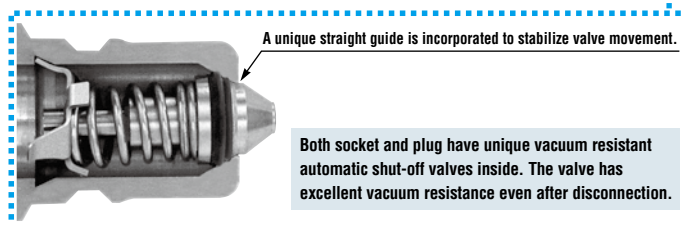
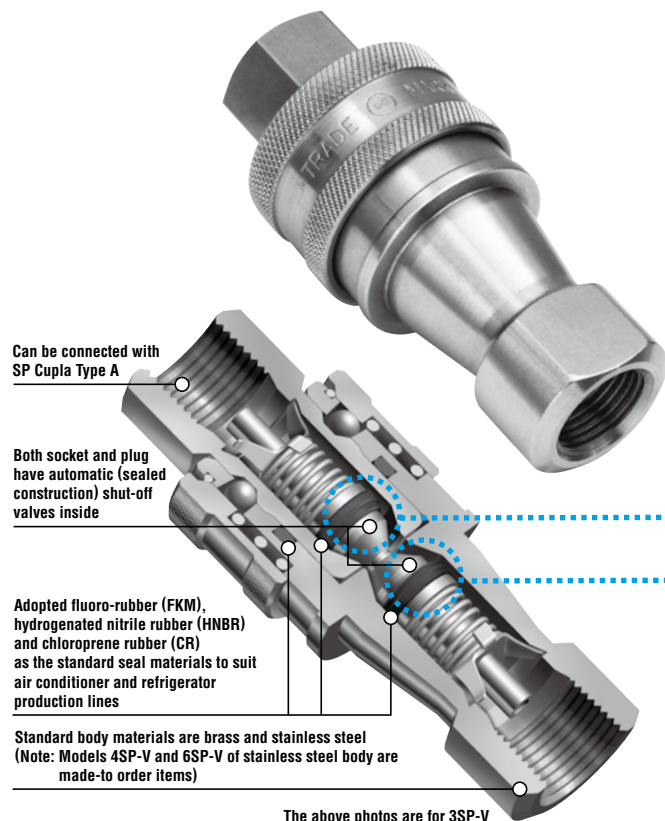


Applicable fluids



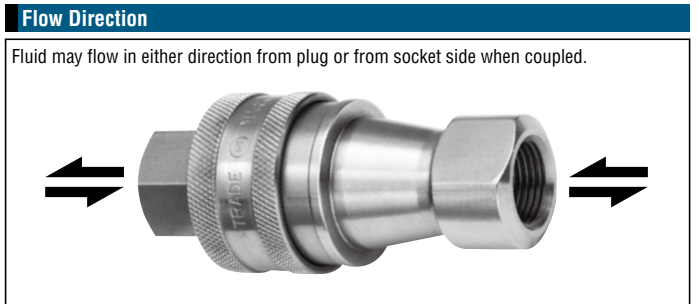
Automatic shut-off valves in both socket and plug for vacuum applications. Each can withstand a vacuum of as high as 1.3×10^{-1} Pa even when disconnected.

- Uses automatic shut-off valves with ultra-tight sealed construction in both socket and plug. Ideal for vacuum applications.
- Having automatic shut-off valves in both socket and plug facilitates easy fluid handling. Suitable for a wide range of vacuum applications as high as 1.3×10^{-1} Pa (1×10^{-3} mmHg) even when disconnected.
- Three types of seal material are available to suit any of the diversified production lines for air conditioners, refrigerators or similar.
- Can be connected with SP Cupla Type A.



Specifications					
Body material	Brass (Standard material)		Stainless steel (Standard material)	Stainless steel (Made-to-order item)	
Size (Thread)	1/4", 3/8"	1/2", 3/4"	1/4", 3/8"	1/2", 3/4"	
Working pressure	MPa	5.0	3.0	7.5	
	kgf/cm ²	51	31	76	
	bar	50	30	75	
	PSI	725	435	1090	
Seal material	Seal material	Chloroprene rubber	CR (C308)	-20°C to +80°C	Standard material
	Working temperature range	Fluoro rubber	FKM (X-100)	-20°C to +180°C	Standard material
		Hydrogenated nitrile rubber	HNBR (H708)	-20°C to +120°C	Standard material
		Mark			

Max. Tightening Torque				Nm (kgf·cm)
Size (Thread)	1/4"	3/8"	1/2"	3/4"
Torque	Brass	9 (92)	12 (122)	30 (306)
	Stainless steel	14 (143)	22 (224)	60 (612)



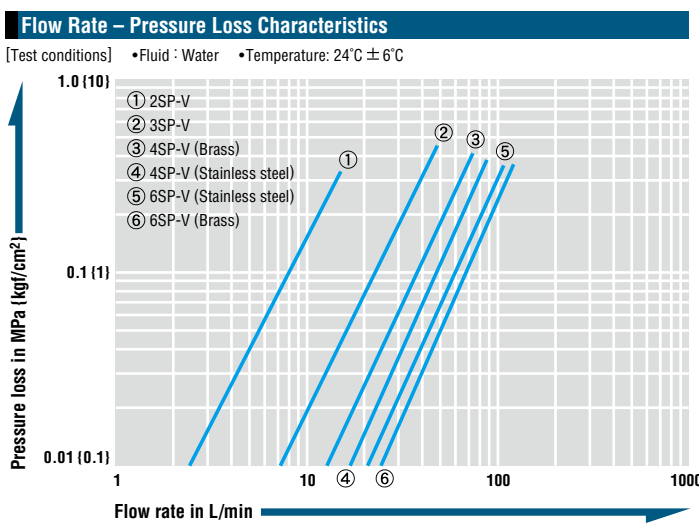
Interchangeability

Socket and plug with different sizes cannot be connected to each other. Interchangeable with SP Cupla Type A but take heed of flow rate reduction.

Min. Cross-Sectional Area	(mm ²)			
Model	2SP-V	3SP-V	4SP-V	6SP-V
Min. cross-sectional area	18	38	71	110

Suitability for Vacuum	1.3×10^{-1} Pa [1×10^{-3} mmHg]		
Socket only	Operational	Operational	Operational
Plug only	Operational	Operational	Operational
When connected	Operational	Operational	Operational

Admixture of Air on Connection	Admixture of air may vary depending upon the usage conditions. (mL)			
Model	2SP-V	3SP-V	4SP-V	6SP-V
Volume of air	1.0	2.4	3.2	10.5



Models and Dimensions

Plug Female thread

Model	Application	Mass (g)		Dimensions (mm)			
		Brass	Stainless steel	L	H(WAF)	C	T
2P-V	R 1/4	39	34	36	Hex.17	22	Rc 1/4
3P-V	R 3/8	67	59	40	Hex.21	25	Rc 3/8
4P-V	R 1/2	123	118	44	Hex.29	28	Rc 1/2
6P-V	R 3/4	211	202	52	Hex.35	36	Rc 3/4

Socket Female thread

Model	Application	Mass (g)		Dimensions (mm)			
		Brass	Stainless steel	L	øD	H(WAF)	T
2S-V	R 1/4	136	127	58	(28)	19	Rc 1/4
3S-V	R 3/8	217	197	65	(35)	21	Rc 3/8
4S-V	R 1/2	421	393	72	(45)	29	Rc 1/2
6S-V	R 3/4	709	658	88	(55)	35	Rc 3/4

• The sleeve shape of 4S-V and 6S-V differs from that of the above photo.

Seal Materials for Refrigerants

Various eco-friendly refrigerants for air conditioner and refrigerator have been developed. Nitto Kohki, having invested years in the research and development of excellent seal materials to withstand refrigerants and refrigerant oils, has made early attempts to develop and manufacture the seal materials for these eco-friendly refrigerants.

	Seal material	
	Hydrogenated nitrile rubber	Chloroprene rubber
Mark	HNBR (H708)	CR (C308)
Features	Resistant to hydrofluorocarbons (HFC-134a, HFC-407C, HFC-410A, HFC-404A), and PAG type and ester type oils. Also resistant to heat up to 120°C	Excellent resistance to hydrofluorocarbons (HCFC-22 and HFC-134a)
Application	Refrigerator production lines Air conditioner production lines	Air conditioner production lines

Comparison of External Appearance

When two different gases are used simultaneously in the production lines, SP-V-GN type and SP-V-GNN type (non-interchangeable with standard SP-V and each others) may be required in order to prevent connections to improper lines by mistakes. They are made-to-order items. For details please contact Nitto Kohki direct or its distributor in your country.

	Socket	Plug
SP-V Cupla		
SP-V-GN Cupla		
SP-V-GNN Cupla		

X indicates incompatibility.

Application Example

