

## SP-V Cupla

### For vacuum

#### Working pressure

3.0 to 7.5  
MPa  
(31 to 76 kgf/cm<sup>2</sup>)

#### Valve structure



Two-way shut-off

#### Applicable fluids



Inert gas,  
Vacuum



Gas



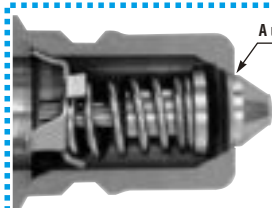
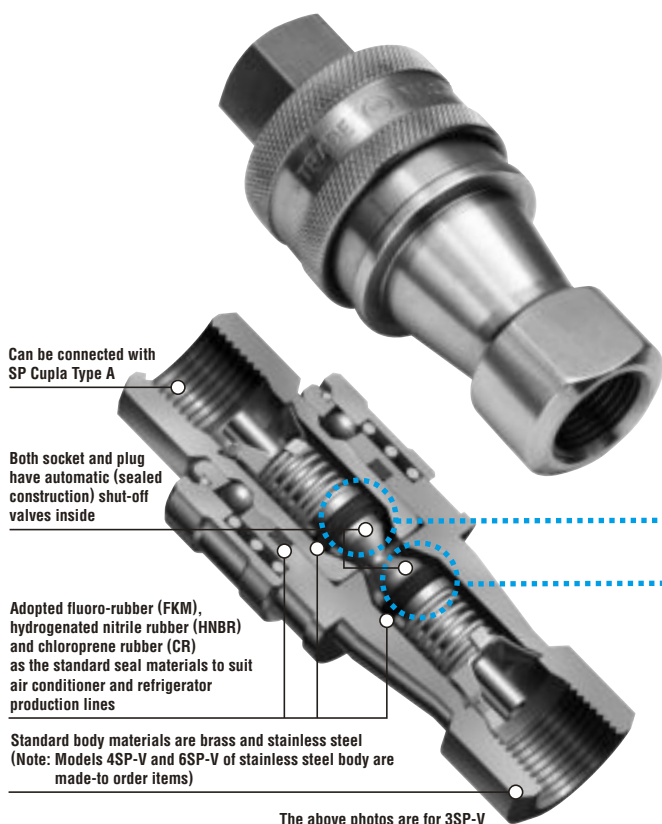
Air



Water

**Automatic shut-off valves in both socket and plug for vacuum applications. Each can withstand a vacuum of as high as  $1.3 \times 10^{-1}$  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  $1.3 \times 10^{-1}$  Pa ( $1 \times 10^{-3}$  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.



A unique straight guide is incorporated to stabilize valve movement.

Both socket and plug have unique vacuum resistant automatic shut-off valves inside. The valve has excellent vacuum resistance even after disconnection.

### Specifications

| Body material             |                     | Brass<br>(Standard material) |             | Stainless steel<br>(Standard material) | Stainless steel<br>(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                                    | 4.5                                     |
|                           | kgf/cm <sup>2</sup> | 51                           | 31          | 76                                     | 46                                      |
|                           | bar                 | 50                           | 30          | 75                                     | 45                                      |
|                           | PSI                 | 725                          | 435         | 1090                                   | 653                                     |
| Seal material             |                     | Mark                         |             | Working temperature range              | Remarks                                 |
| Working temperature range |                     | Chloroprene rubber           | CR (C308)   | -20°C to +80°C                         | Standard material                       |
|                           |                     | Fluoro rubber                | FKM (X-100) | -20°C to +180°C                        | Standard material                       |
|                           |                     | Hydrogenated nitrile rubber  | HNBR (H708) | -20°C to +120°C                        | Standard material                       |

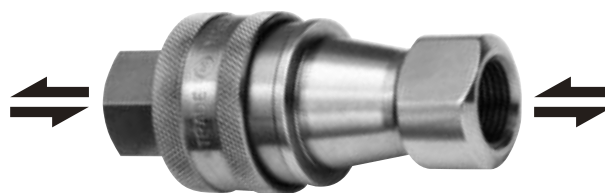
### Max. Tightening Torque

Nm {kgf·cm}

| Size (Thread) |                 | 1/4"     | 3/8"     | 1/2"     | 3/4"     |
|---------------|-----------------|----------|----------|----------|----------|
| Torque        | Brass           | 9 {92}   | 12 {122} | 30 {306} | 50 {510} |
|               | Stainless steel | 14 {143} | 22 {224} | 60 {612} | 90 {918} |

### Flow Direction

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



### 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<sup>2</sup>)

| Model                     | 2SP-V | 3SP-V | 4SP-V | 6SP-V |
|---------------------------|-------|-------|-------|-------|
| Min. cross-sectional area | 18    | 38    | 71    | 110   |

### Suitability for Vacuum

$1.3 \times 10^{-1}$  Pa [ $1 \times 10^{-3}$  mmHg]

| Socket only | Plug only   | 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  |

### Flow Rate – Pressure Loss Characteristics

[Test conditions] • Fluid : Water • Temperature: 24°C ± 6°C

