RoHS

**The pulling strength for the plugs and sockets has been improved. Twice as strong as the current models.**

## KK Series

- **With sleeve lock** (Except for KK2)
- **Effective area 3.8 to 82 mm²**

KK2 Series

Sleeve cover standardized

KK3/4/6 Series

## KKH Series

- **Without sleeve lock**
- **Effective area is equivalent to that of KK series.**

# Variations

## *KK* Series ..... 215 to 223

**Male thread type**

| Series | Port size | | | | | |
|---|---|---|---|---|---|---|
| | M5 | R1/8 | R1/4 | R3/8 | R1/2 | R3/4 |
| KK2 | ● | ● | | | | |
| KK3 | | ● | ● | ● | | |
| KK4 | | ● | ● | ● | ● | |
| KK6 | | | | ● | ● | ● |

**Female thread type**

| Series | Port size | | | | |
|---|---|---|---|---|---|
| | M5 | Rc1/8 | Rc1/4 | Rc3/8 | Rc1/2 |
| KK2 | ● | | | | |
| KK3 | | ● | ● | ● | |
| KK4 | | | ● | ● | |
| KK6 | | | | ● | ● |

**Nut fitting type (for fiber reinforced urethane hose)**

| Series | Applicable hose I.D./O.D. mm | | | | | |
|---|---|---|---|---|---|---|
| | 5/8 | 6/9 | 6.5/10 | 8/12 | 8.5/12.5 | 11/16 |
| KK3 | ● | ● | ● | | | |
| KK4 | ● | ● | ● | ● | ● | |
| KK6 | | | | ● | ● | ● |

**One-touch fitting type (Straight/Elbow/Bulkhead)**

| Series | Applicable tubing O.D. mm | | | | | | |
|---|---|---|---|---|---|---|---|
| | ø3.2 | ø4 | ø6 | ø8 | ø10 | ø12 | ø16 |
| KK2 | ● | ● | ● | | | | |
| KK3 | | ● | ● | ● | ● | | |
| KK4 | | | ● | ● | ● | ● | |
| KK6 | | | | | | ● | ● |

KK3/4/6 Series

KK2 Series

## *KKH* Series ..... 224 to 226

**Male thread type**

| Series | Port size | | | |
|---|---|---|---|---|
| | R1/8 | R1/4 | R3/8 | R1/2 |
| KKH3 | ● | ● | ● | |
| KKH4 | ● | ● | ● | ● |

**Female thread type**

| Series | Port size | | |
|---|---|---|---|
| | Rc1/8 | Rc1/4 | Rc3/8 |
| KKH3 | ● | ● | ● |
| KKH4 | | ● | ● |

**Nut fitting type (for fiber reinforced urethane hose)**

| Series | Applicable hose I.D./O.D. mm | | | | |
|---|---|---|---|---|---|
| | 5/8 | 6/9 | 6.5/10 | 8/12 | 8.5/12.5 |
| KKH3 | ● | ● | ● | | |
| KKH4 | ● | ● | ● | ● | ● |

## *KKA* Series Stainless steel type ..... 341 to 348

**Male/Female thread type**

| Series | Port size | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | R·Rc1/8 | R·Rc1/4 | R·Rc3/8 | R·Rc1/2 | R·Rc3/4 | R·Rc1 | R·Rc1 1/4 | R·Rc1 1/2 |
| KKA3 | ● | ● | ● | | | | | |
| KKA4 | | ● | ● | ● | | | | |
| KKA6 | | | ● | ● | ● | | | |
| KKA7 | | | | ● | ● | ● | | |
| KKA8 | | | | | ● | ● | ● | |
| KKA9 | | | | | | ● | ● | ● |

# KK Series

## The pulling strength for the plugs and sockets has been improved.

## Twice

**as strong as the current models**

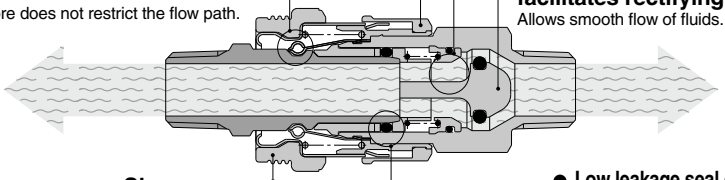
**We standardized the product with a sleeve cover. Changing the lock ring material to a shock absorbent PBT further improved the shock absorbent performance.**

**Lock ring**
Shock absorbent PBT

**No spring located in the flow path**
Loss of effective area is minimized because there is no valve spring to block the flow path.

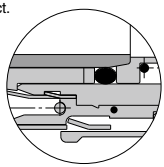
**Employs a unique connection method**
A slim body design and large effective area are achieved with a construction that does not use steel balls and therefore does not restrict the flow path.

**Check valve end configuration facilitates rectifying effect**
Allows smooth flow of fluids.



**Sleeve cover**
(Except for KK2 series)

**Low leakage seal construction**
Reliable sealing is achieved by surface contact.



### Lightweight

Together with a reduction of the body size, pressing parts and resin parts are used to achieve an overall weight reduction.

| Series | Plug no. | Socket no. | Effective area ($mm^2$) Note 1) | Body O.D. (mm) | Mass (g) Note 2) |
|---|---|---|---|---|---|
| **KK2** Series | KK2P-M5M | KK2S-M5M | 3.8 | ø10.0 | 6.1 |
| **KK3** Series | KK3P-01MS | KK3S-01MS | 20 | ø20.2 | 20.1 |
| **KK4** Series | KK4P-02MS | KK4S-02MS | 39 | ø28.0 | 44.1 |
| **KK6** Series | KK6P-04MS | KK6S-04MS | 82 | ø31.6 | 90.1 |

Note 1) Values when plug and socket are connected.
Note 2) Values for socket only.

### ■ One-touch fitting type standardized

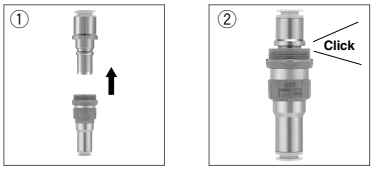
Four types from ø3.2 to ø16 added to series.


### ■ Flow is possible from the plug side or socket side.

### ■ Fluids: Air and Water

### ■ One-touch connection

Simple connection with one hand simplifies work.




### ■ Sleeve lock mechanism

Prevents accidents caused by unexpected separation.

Note) Except for M5 type (KK2 series).

## Plug (P)

**Male thread type**

| Body size | Port size | Part no. |
|---|---|---|
| M5 | M5 x 0.8 | **KK2P-M5M** |
| | R 1/8 | **-01MS** |
| 1/8 | R 1/8 | **KK3P-01MS** |
| | R 1/4 | **-02MS** |
| | R 3/8 | **-03MS** |
| 1/4 | R 1/8 | **KK4P-01MS** |
| | R 1/4 | **-02MS** |
| | R 3/8 | **-03MS** |
| | R 1/2 | **-04MS** |
| 1/2 | R 3/8 | **KK6P-03MS** |
| | R 1/2 | **-04MS** |
| | R 3/4 | **-06MS** |

**Female thread type**

| Body size | Port size | Part no. |
|---|---|---|
| M5 | M5 x 0.8 | **KK2P-M5F** |
| 1/8 | R 1/8 | **KK3P-01F** |
| | Rc 1/4 | **-02F** |
| | Rc 3/8 | **-03F** |
| 1/4 | Rc 1/4 | **KK4P-02F** |
| | Rc 3/8 | **-03F** |
| 1/2 | Rc 3/8 | **KK6P-03F** |
| | Rc 1/2 | **-04F** |

**Nut fitting type (for fiber reinforced urethane hose)**

| Body size | Applicable hose I.D./O.D. mm | Part no. |
|---|---|---|
| 1/8 | 5/8 | **KK3P-50N** |
| | 6/9 | **-60N** |
| | 6.5/10 | **-65N** |
| 1/4 | 5/8 | **KK4P-50N** |
| | 6/9 | **-60N** |
| | 6.5/10 | **-65N** |
| | 8/12 | **-80N** |
| | 8.5/12.5 | **-85N** |
| 1/2 | 8/12 | **KK6P-80N** |
| | 8.5/12.5 | **-85N** |
| | 11/16 | **-110N** |

**Straight type with One-touch fitting**

| Body size | Applicable tubing O.D. mm | Part no. |
|---|---|---|
| M5 | 3.2 | **KK2P-23H** |
| | 4 | **-04H** |
| | 6 | **-06H** |
| 1/8 | 4 | **KK3P-04H** |
| | 6 | **-06H** |
| | 8 | **-08H** |
| | 10 | **-10H** |
| 1/4 | 6 | **KK4P-06H** |
| | 8 | **-08H** |
| | 10 | **-10H** |
| | 12 | **-12H** |
| 1/2 | 12 | **KK6P-12H** |
| | 16 | **-16H** |

**Elbow type with One-touch fitting**

| Body size | Applicable tubing O.D. mm | Part no. |
|---|---|---|
| M5 | 3.2 | **KK2P-23L** |
| | 4 | **-04L** |
| | 6 | **-06L** |
| 1/8 | 4 | **KK3P-04L** |
| | 6 | **-06L** |
| | 8 | **-08L** |
| | 10 | **-10L** |
| 1/4 | 6 | **KK4P-06L** |
| | 8 | **-08L** |
| | 10 | **-10L** |
| | 12 | **-12L** |
| 1/2 | 12 | **KK6P-12L** |
| | 16 | **-16L** |

**Bulkhead type with One-touch fitting**

| Body size | Applicable tubing O.D. mm | Part no. |
|---|---|---|
| M5 | 3.2 | **KK2P-23E** |
| | 4 | **-04E** |
| | 6 | **-06E** |
| 1/8 | 4 | **KK3P-04E** |
| | 6 | **-06E** |
| | 8 | **-08E** |
| | 10 | **-10E** |
| 1/4 | 6 | **KK4P-06E** |
| | 8 | **-08E** |
| | 10 | **-10E** |
| | 12 | **-12E** |
| 1/2 | 12 | **KK6P-12E** |
| | 16 | **-16E** |

## Socket (S)

**Male thread type**

| Body size | Port size | Part no. |
|---|---|---|
| M5 | M5 x 0.8 | **KK2S-M5M** |
| | R 1/8 | **-01MS** |
| 1/8 | R 1/8 | **KK3S-01MS** |
| | R 1/4 | **-02MS** |
| | R 3/8 | **-03MS** |
| 1/4 | R 1/8 | **KK4S-01MS** |
| | R 1/4 | **-02MS** |
| | R 3/8 | **-03MS** |
| | R 1/2 | **-04MS** |
| 1/2 | R 3/8 | **KK6S-03MS** |
| | R 1/2 | **-04MS** |
| | R 3/4 | **-06MS** |

**Female thread type**

| Body size | Port size | Part no. |
|---|---|---|
| M5 | M5 x 0.8 | **KK2S-M5F** |
| 1/8 | Rc 1/8 | **KK3S-01F** |
| | Rc 1/4 | **-02F** |
| | Rc 3/8 | **-03F** |
| 1/4 | Rc 1/4 | **KK4S-02F** |
| | Rc 3/8 | **-03F** |
| 1/2 | Rc 3/8 | **KK6S-03F** |
| | Rc 1/2 | **-04F** |

**Nut fitting type (for fiber reinforced urethane hose)**

| Body size | Applicable hose I.D./O.D. mm | Part no. |
|---|---|---|
| 1/8 | 5/8 | **KK3S-50N** |
| | 6/9 | **-60N** |
| | 6.5/10 | **-65N** |
| 1/4 | 5/8 | **KK4S-50N** |
| | 6/9 | **-60N** |
| | 6.5/10 | **-65N** |
| | 8/12 | **-80N** |
| | 8.5/12.5 | **-85N** |
| 1/2 | 8/12 | **KK6S-80N** |
| | 8.5/12.5 | **-85N** |
| | 11/16 | **-110N** |

**Straight type with One-touch fitting**

| Body size | Applicable tubing O.D. mm | Part no. |
|---|---|---|
| M5 | 3.2 | **KK2S-23H** |
| | 4 | **-04H** |
| | 6 | **-06H** |
| 1/8 | 4 | **KK3S-04H** |
| | 6 | **-06H** |
| | 8 | **-08H** |
| | 10 | **-10H** |
| 1/4 | 6 | **KK4S-06H** |
| | 8 | **-08H** |
| | 10 | **-10H** |
| | 12 | **-12H** |
| 1/2 | 12 | **KK6S-12H** |
| | 16 | **-16H** |

**Elbow type with One-touch fitting**

| Body size | Applicable tubing O.D. mm | Part no. |
|---|---|---|
| M5 | 3.2 | **KK2S-23L** |
| | 4 | **-04L** |
| | 6 | **-06L** |
| 1/8 | 4 | **KK3S-04L** |
| | 6 | **-06L** |
| | 8 | **-08L** |
| | 10 | **-10L** |
| 1/4 | 6 | **KK4S-06L** |
| | 8 | **-08L** |
| | 10 | **-10L** |
| | 12 | **-12L** |
| 1/2 | 12 | **KK6S-12L** |
| | 16 | **-16L** |

**Bulkhead type with One-touch fitting**

| Body size | Applicable tubing O.D. mm | Part no. |
|---|---|---|
| M5 | 3.2 | **KK2S-23E** |
| | 4 | **-04E** |
| | 6 | **-06E** |
| 1/8 | 4 | **KK3S-04E** |
| | 6 | **-06E** |
| | 8 | **-08E** |
| | 10 | **-10E** |
| 1/4 | 6 | **KK4S-06E** |
| | 8 | **-08E** |
| | 10 | **-10E** |
| | 12 | **-12E** |
| 1/2 | 12 | **KK6S-12E** |
| | 16 | **-16E** |

# S Couplers
# *KK Series*

RoHS

KK2 Series

KK3/4/6 Series

## Specifications

| | |
|---|---|
| **Fluid** | Air, Water Note 2) |
| **Operating pressure range** Note 1) | KK2: –100 kPa to 1 MPa<br>KK3: –90 kPa to 1 MPa<br>KK4/6: 0 to 1 MPa |
| **Proof pressure** | 1.5 MPa |
| **Ambient and fluid temperature** | Air: –5 to 60°C<br>Water: 5 to 40°C<br>(No freezing) |
| **Plating, Sealant** | Electroless nickel plated (copper-free and fluorine-free application), With male thread sealant |

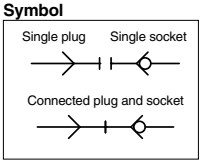
Note 1) Do not use the S couplers with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.
Note 2) Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

## Performance

| | |
|---|---|
| **Plug and socket connection** | One-touch connection and release |
| **Check valve** | Socket: Built-in check valve (standard) |
| **Sleeve lock mechanism** Note) | Manual locking type (standard) |

Note) KK2 series is not provided with lock mechanism.

**Symbol**




## Effective Area

| Body size | Plug | Socket | Effective area mm² |
|---|---|---|---|
| M5 | **KK2P-M5M** | **KK2S-M5M** | 3.8 |
| 1/8 | **KK3P-01MS** | **KK3S-01MS** | 20 |
| 1/4 | **KK4P-02MS** | **KK4S-02MS** | 39 |
| 1/2 | **KK6P-04MS** | **KK6S-04MS** | 82 |

## How to Order

**KK 4 S – 02 M S**

**Body size**

| | |
|---|---|
| **2** | M5 |
| **3** | 1/8 |
| **4** | 1/4 |
| **6** | 1/2 |

**Socket/Plug designation**

| | |
|---|---|
| **S** | Socket |
| **P** | Plug |

**With sealant (male thread)**

**Connection type**

| Symbol | Type |
|---|---|
| **M** | Male thread |
| **F** | Female thread |
| **N** | With nut fitting |
| **H** | Straight with One-touch fitting |
| **L** | Elbow with One-touch fitting |
| **E** | Bulkhead with One-touch fitting |

**Piping port size variation**

**Male/Female thread type**

| Symbol | Thread size |
|---|---|
| **M5** | M5 x 0.8 |
| **01** | R, Rc 1/8 |
| **02** | R, Rc 1/4 |
| **03** | R, Rc 3/8 |
| **04** | R, Rc 1/2 |
| **06** | R, Rc 3/4 |

**One-touch fitting type**

| Symbol | Applicable tubing O.D. mm |
|---|---|
| **23** | ø3.2 |
| **04** | ø4 |
| **06** | ø6 |
| **08** | ø8 |
| **10** | ø10 |
| **12** | ø12 |
| **16** | ø16 |

**Nut fitting type**

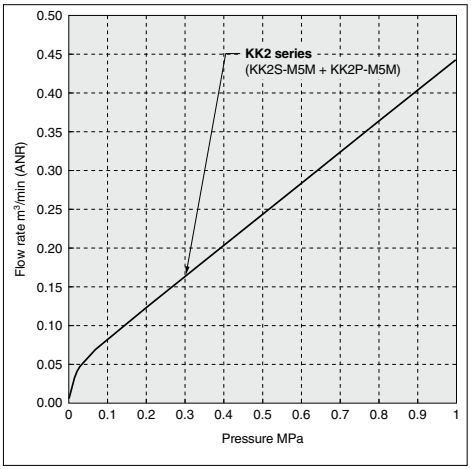
| Symbol | Applicable hose I.D./O.D. mm |
|---|---|
| **50** | 5/8 |
| **60** | 6/9 |
| **65** | 6.5/10 |
| **80** | 8/12 |
| **85** | 8.5/12.5 |
| **110** | 11/16 |

**For details on body size and port size variation combinations for each model, refer to the charts on the Dimensions page.**

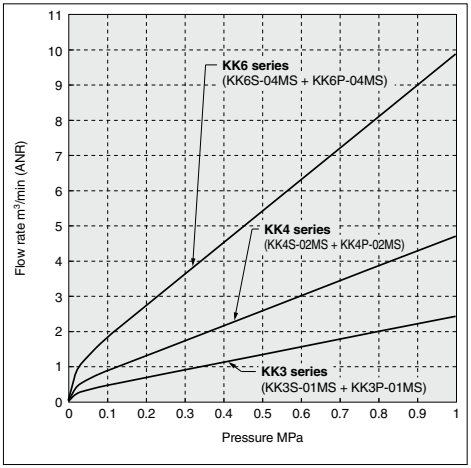
## Flow Rate Characteristics

Air (0 to 1 MPa)

**KK2**

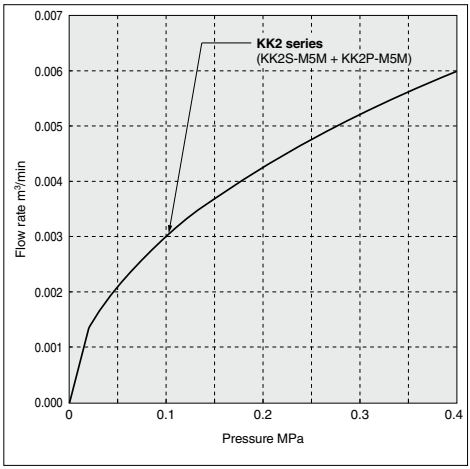



**KK3/4/6**

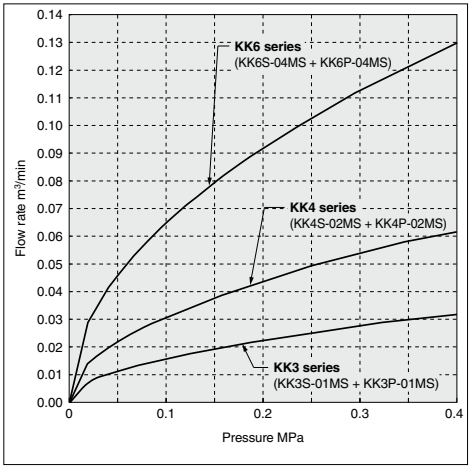



Water (0 to 0.4 MPa)

**KK2**

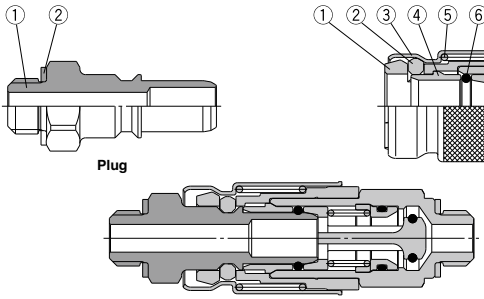



**KK3/4/6**



## Construction

### KK2




**Plug**

| No. | Description | Material | Note |
|---|---|---|---|
| 1 | **Stem** | C3604 | Electroless nickel plated |
| 2 | **Gasket** | Stainless steel 304, NBR | |

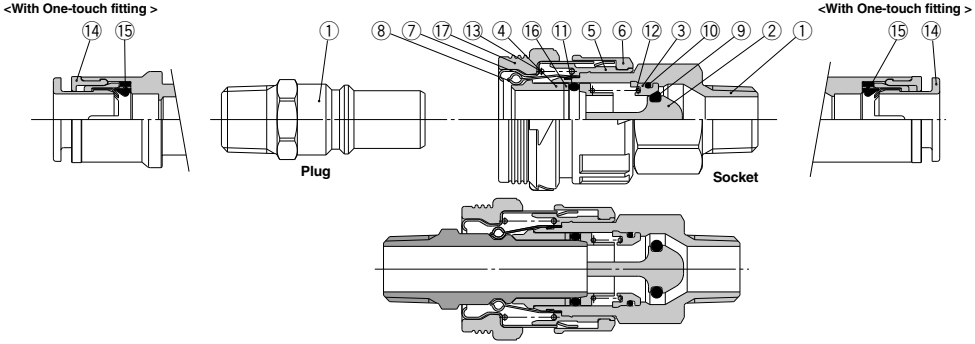
**KK2 Series Spare Parts**

| Description | Part no. | No. |
|---|---|---|
| **Gasket** | M-5G2 | Plug② |
| | | Socket⑬ |

**Socket**

| No. | Description | Material | Note |
|---|---|---|---|
| 1 | **Spacer** | PBT | |
| 2 | **Chuck** | PBT | |
| 3 | **Sleeve** | C2680 | Electroless nickel plated |
| 4 | **Collar** | C3604 | Electroless nickel plated |
| 5 | **Sleeve spring** | Stainless steel 304 | |
| 6 | **Plug O-ring** | NBR | |
| 7 | **Valve seat** | PBT | |
| 8 | **Valve spring** | Stainless steel 304 | |
| 9 | **Valve seat O-ring** | NBR | |
| 10 | **Valve O-ring** | FKM | |
| 11 | **Valve** | PBT | |
| 12 | **Socket body** | C3604 | Electroless nickel plated |
| 13 | **Gasket** | Stainless steel 304, NBR | |

### KK3/4/6




**Plug**

| No. | Description | Material | Note |
|---|---|---|---|
| 1 | **Stem** | C3604 | Electroless nickel plated |
| 14 | **Cassette** | — | |
| 15 | **Seal** | NBR | |

**KK/KKH Series Spare Parts**

| Description | Part no. | No. |
|---|---|---|
| **Sleeve cover** | KK3S-P01 | Socket⑰ |
| | KK4S-P01 | |
| | KK6S-P01 | |

**Socket**

| No. | Description | Material | Note |
|---|---|---|---|
| 1 | **Body** | C3604 | Electroless nickel plated |
| 2 | **Valve** | PBT | |
| 3 | **Valve seat** | PBT | |
| 4 | **Collar** | PBT | |
| 5 | **Spacer** | PBT | |
| 6 | **Lock ring** | Shock absorbent PBT | |
| 7 | **Sleeve** | Cold rolled carbon steel sheet | Electroless nickel plated |
| 8 | **Chuck** | Stainless steel 304 | |
| 9 | **Valve O-ring** | FKM | |
| 10 | **Valve seat O-ring** | NBR | |
| 11 | **Plug O-ring** | NBR | |
| 12 | **Valve spring** | Stainless steel 304 | |
| 13 | **Sleeve spring** | Stainless steel 304 | |
| 14 | **Cassette** | — | |
| 15 | **Seal** | NBR | |
| 16 | **Collar 2** | Stainless steel 304 | |
| 17 | **Sleeve cover** | Weather resistant NBR | |

## Dimensions/Plug (P)

### Male thread type

(mm)

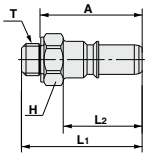
KK2

KK3/4/6

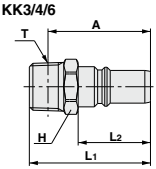
| Body size | Model | T Connection port size | H Width across flats | $L_1$ | $L_2$ | A* | Min. bore size | Effective area mm² | Weight g |
|---|---|---|---|---|---|---|---|---|---|
| M5 | **KK2P-M5M** | M5 x 0.8 | 7 | 18.8 | 12.3 | 15.8 | 2.2 | 4.4 | 2.6 |
| | **-01MS** | R 1/8 | 10 | 22.3 | | 19.2 | 3.4 | 8.1 | 3.0 |
| 1/8 | **KK3P-01MS** | R 1/8 | | 29.5 | 18.4 | 26.4 | 6.0 | 22.6 | 8.4 |
| | **-02MS** | R 1/4 | 14 | 32.9 | | 27.4 | | | 14.2 |
| | **-03MS** | R 3/8 | 17 | 34.3 | | 28.9 | | | 28.1 |
| 1/4 | **KK4P-01MS** | R 1/8 | 14 | 36.1 | 25.2 | 33.0 | 9.0 | 50.9 | 17.0 |
| | **-02MS** | R 1/4 | | 39.7 | | 34.2 | | | 20.2 |
| | **-03MS** | R 3/8 | 17 | 41.1 | | 35.7 | | | 32.5 |
| | **-04MS** | R 1/2 | 22 | 45.3 | | 38.2 | | | 57.4 |
| 1/2 | **KK6P-03MS** | R 3/8 | 19 | 46.9 | 31.0 | 41.5 | 11.0 | 76.0 | 44.7 |
| | **-04MS** | R 1/2 | 22 | 51.1 | | 44.0 | 13.0 | 106.2 | 53.7 |
| | **-06MS** | R 3/4 | 27 | 55 | | 45.5 | | | 94.4 |

∗ Reference dimension for R threads after installation.

KK2



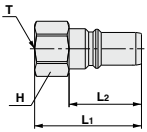

KK3/4/6




### Female thread type

(mm)

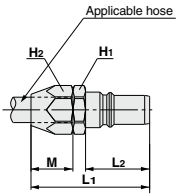
| Body size | Model | T Connection port size | H Width across flats | $L_1$ | $L_2$ | Min. bore size | Effective area mm² | Weight g |
|---|---|---|---|---|---|---|---|---|
| M5 | **KK2P-M5F** | M5 x 0.8 | 8 | 17.6 | 12.3 | 3.4 | 8.1 | 2.6 |
| 1/8 | **KK3P-01F** | Rc 1/8 | 14 | 28.3 | 18.4 | 6.0 | 22.6 | 10.4 |
| | **-02F** | Rc 1/4 | 17 | 33.5 | | | | 20.8 |
| | **-03F** | Rc 3/8 | 19 | 35.3 | | | | 23.2 |
| 1/4 | **KK4P-02F** | Rc 1/4 | 17 | 37.2 | 25.2 | 9.0 | 50.9 | 23.9 |
| | **-03F** | Rc 3/8 | 19 | 39.8 | | | | 24.6 |
| 1/2 | **KK6P-03F** | Rc 3/8 | 19 | 43.3 | 31.0 | 13.0 | 106.2 | 28.6 |
| | **-04F** | Rc 1/2 | 24 | 50.2 | | | | 43.9 |




### Nut fitting type (for fiber reinforced urethane hose)

(mm)

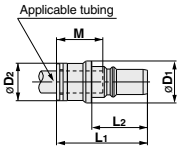
| Body size | Model | Applicable hose I.D./O.D. | $H_1$ Width across flats | $H_2$ Width across flats | $L_1$ | $L_2$ | M | Min. bore size | Effective area mm² | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | **KK3P-50N** | 5/8 | 14 | 14 | 36.1 | 18.4 | 13.7 | 4.5 | 12.7 | 21.4 |
| | **-60N** | 6/9 | 17 | 17 | 39.9 | | 16.5 | 5.4 | 18.3 | 38.8 |
| | **-65N** | 6.5/10 | | | | | | 5.9 | 21.9 | 35.9 |
| 1/4 | **KK4P-50N** | 5/8 | 17 | 14 | 43.9 | 25.2 | 13.7 | 4.5 | 12.7 | 34.7 |
| | **-60N** | 6/9 | | 17 | 46.7 | | 16.5 | 5.4 | 18.3 | 48.4 |
| | **-65N** | 6.5/10 | | | | | | 5.9 | 21.9 | 45.1 |
| | **-80N** | 8/12 | 19 | 19 | 47.6 | | 17.4 | 7.4 | 34.4 | 53.2 |
| | **-85N** | 8.5/12.5 | | | | | | 7.8 | 38.2 | 55.6 |
| 1/2 | **KK6P-80N** | 8/12 | | | 53.4 | 31.0 | | 7.4 | 34.4 | 60.5 |
| | **-85N** | 8.5/12.5 | | | | | | 7.8 | 38.2 | 62.8 |
| | **-110N** | 11/16 | 24 | 24 | 57.2 | | 20.1 | 10.2 | 65.4 | 96.5 |



## Straight type with One-touch fitting

(mm)

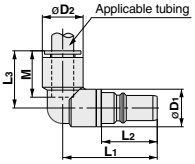
| Body size | Model | Applicable tubing O.D. | øD1 | øD2 | L1 | L2 | M | Min. bore size | Effective area mm² Urethane tubing | Effective area mm² Nylon tubing | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M5 | KK2P-23H | ø3.2 | 10.0 | 7.0 | 23.7 | 12.3 | 12.7 | 2.5 | 3.7 | 4.4 | 3.3 |
| | -04H | ø4 | | 8.0 | | | | 3.4 | 8.1 | 8.1 | 3.4 |
| | -06H | ø6 | | 10.0 | 26.7 | | 13.5 | | | | 4.0 |
| 1/8 | KK3P-04H | ø4 | 12.0 | 10.0 | 35.4 | 18.4 | 16.0 | 3.2 | 3.9 | 5.6 | 7.9 |
| | -06H | ø6 | 14.0 | 12.0 | | | 17.0 | 4.7 | 10.1 | 12.8 | 9.1 |
| | -08H | ø8 | 16.0 | 14.0 | 38.6 | | 18.5 | 6.0 | 15.7 | 22.6 | 13.2 |
| | -10H | ø10 | 19.0 | 17.0 | 39.7 | | 21.0 | | 22.6 | | 17.6 |
| 1/4 | KK4P-06H | ø6 | 14.0 | 12.0 | 46.2 | 25.2 | 17.0 | 4.7 | 10.1 | 12.8 | 22.3 |
| | -08H | ø8 | 16.0 | 14.0 | | | 18.5 | 6.2 | 19.8 | 22.6 | 23.0 |
| | -10H | ø10 | 19.0 | 17.0 | | | 21.0 | 7.7 | 27.6 | 35.3 | 27.1 |
| | -12H | ø12 | 21.0 | 19.0 | 47.5 | | 22.0 | 9.0 | 40.2 | 50.9 | 30.0 |
| 1/2 | KK6P-12H | | | | 56.1 | 31.0 | | 9.2 | 41.2 | | 44.4 |
| | -16H | ø16 | 26.0 | 23.8 | | | 25.0 | 13.0 | 63.5 | 106.2 | 50.7 |




## Elbow type with One-touch fitting

(mm)

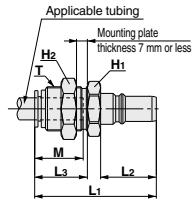
| Body size | Model | Applicable tubing O.D. | øD1 | øD2 | L1 | L2 | L3 | M | Min. bore size | Effective area mm² Urethane tubing | Effective area mm² Nylon tubing | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M5 | KK2P-23L | ø3.2 | 10.0 | 9.3 | 24.0 | 12.3 | 16.5 | 12.7 | 2.5 | 3.6 | 4.3 | 5.8 |
| | -04L | ø4 | | | | | | | | | | |
| | -06L | ø6 | | 11.6 | 25.1 | | 16.6 | 13.5 | 3.4 | 7.8 | 7.8 | 6.4 |
| 1/8 | KK3P-04L | ø4 | | 10.4 | 31.6 | 18.4 | 18.0 | 16.0 | 3.0 | 3.7 | 5.3 | 7.2 |
| | -06L | ø6 | | 12.8 | 32.8 | | 20.0 | 17.0 | 4.5 | 10.1 | 11.4 | 8.0 |
| | -08L | ø8 | 12.0 | 15.2 | 34.0 | | 23.0 | 18.5 | 6.0 | 15.0 | 16.8 | 9.7 |
| | -10L | ø10 | 17.0 | 18.5 | 36.0 | | 26.5 | 21.0 | | 18.0 | 18.5 | 23.0 |
| 1/4 | KK4P-06L | ø6 | 14.0 | 12.8 | 40.2 | 25.2 | 20.0 | 17.0 | 4.5 | 10.1 | 11.4 | 19.6 |
| | -08L | ø8 | | 15.2 | 41.4 | | 23.0 | 18.5 | 6.0 | 17.5 | 19.8 | 21.3 |
| | -10L | ø10 | 17.0 | 18.5 | 42.8 | | 26.5 | 21.0 | 7.5 | 24.7 | 27.5 | 25.7 |
| | -12L | | | 20.9 | 44.0 | | 28.5 | 22.0 | 9.0 | 29.0 | 29.6 | 28.0 |
| 1/2 | KK6P-12L | ø12 | 19.0 | | 49.9 | 31.0 | | | | 38.1 | 39.7 | 40.3 |
| | -16L | ø16 | 21.0 | 26.5 | 53.5 | | 34.0 | 25.0 | 13.0 | 42.8 | 58.7 | 48.7 |




## Bulkhead type with One-touch fitting

(mm)

| Body size | Model | Applicable tubing O.D. | T Threads | H1 Width across flats | H2 Width across flats | L1 | L2 | L3 | M | Min. bore size | Effective area mm² Urethane tubing | Effective area mm² Nylon tubing | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M5 | KK2P-23E | ø3.2 | M8 x 0.75 | 10 | 10 | 28.3 | 12.3 | 12.5 | 12.7 | 2.5 | 3.7 | 4.4 | 6.0 |
| | -04E | ø4 | M9 x 0.75 | | 11 | | | | | 3.4 | 8.1 | 8.1 | 6.6 |
| | -06E | ø6 | M11 x 0.75 | 14 | 14 | 28.6 | | 12.7 | 13.5 | | | | 9.7 |
| 1/8 | KK3P-04E | ø4 | M12 x 1 | 17 | | 39.3 | 18.4 | 16.9 | 16.0 | 3.2 | 3.9 | 5.6 | 16.6 |
| | -06E | ø6 | M14 x 1 | | 17 | 40.2 | | 16.8 | 17.0 | 4.7 | 10.1 | 12.8 | 22.3 |
| | -08E | ø8 | M16 x 1 | | 19 | 43.4 | | 20.0 | 18.5 | 6.0 | 15.7 | 22.6 | 30.2 |
| | -10E | ø10 | M20 x 1 | 22 | 24 | 46.4 | | 22.0 | 21.0 | | 22.6 | | 54.7 |
| 1/4 | KK4P-06E | ø6 | M14 x 1 | 17 | 17 | 47.0 | 25.2 | 16.8 | 17.0 | 4.7 | 10.1 | 12.8 | 30.6 |
| | -08E | ø8 | M16 x 1 | | 19 | 50.2 | | 20.0 | 18.5 | 6.2 | 19.8 | 22.6 | 38.2 |
| | -10E | ø10 | M20 x 1 | 22 | 24 | 53.2 | | 22.0 | 21.0 | 7.7 | 27.6 | 35.3 | 61.4 |
| | -12E | ø12 | M22 x 1 | 24 | 27 | 54.2 | | 23.0 | 22.0 | 9.0 | 40.2 | 50.9 | 75.2 |
| 1/2 | KK6P-12E | | | | | 60.1 | 31.0 | | | 9.2 | 41.2 | | 86.1 |
| | -16E | ø16 | M28 x 1.5 | 30 | 32 | 62.6 | | 24.5 | 25.0 | 13.0 | 63.5 | 106.2 | 125.0 |




Click here for applicable color caps.

## Dimensions/Socket (S)

### Male thread type

(mm)

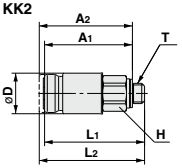
KK2

KK3/4/6

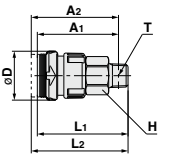
| Body size | Model | T Connection port size | H Width across flats | øD | $L_1$ | $L_2$ When connected | $A_1$* | $A_2$* When connected | Min. bore size | Effective area mm² | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M5 | **KK2S-M5M** | M5 x 0.8 | 8 | 10.0 | 24.7 | 26.2 | 21.3 | 23.2 | 2.2 | 3.8 | 6.1 |
| | **-01MS** | R 1/8 | 10 | | 24.4 | 25.9 | | 22.8 | 4.7 | 5.8 | 9.1 |
| 1/8 | **KK3S-01MS** | R 1/8 | 14 | 20.2 | 36.6 | 39.1 | 33.5 | 36.0 | 6.0 | 20.4 | 20.1 |
| | **-02MS** | R 1/4 | | | 37.0 | 39.5 | 31.5 | 34.0 | 9.0 | 21.1 | 19.2 |
| | **-03MS** | R 3/8 | 17 | | 37.6 | 40.1 | 32.2 | 34.5 | | | 29.0 |
| 1/4 | **KK4S-01MS** | R 1/8 | 19 | 28.0 | 49.5 | 53.2 | 46.4 | 50.1 | 6.0 | 22.9 | 47.5 |
| | **-02MS** | R 1/4 | | | 50.5 | 54.2 | 45.0 | 48.7 | 9.0 | 38.9 | 44.1 |
| | **-03MS** | R 3/8 | | | 48.9 | 52.6 | 43.5 | 47.2 | 11.0 | 40.4 | 50.9 |
| | **-04MS** | R 1/2 | 22 | | 48.8 | 52.5 | 41.7 | 45.4 | 13.0 | 42.7 | 61.2 |
| 1/2 | **KK6S-03MS** | R 3/8 | 24 | 31.6 | 59.1 | 64.4 | 53.7 | 59.0 | 11.0 | 71.7 | 87.9 |
| | **-04MS** | R 1/2 | | | 59.3 | 64.6 | 52.2 | 57.5 | 13.0 | 82.3 | 90.1 |
| | **-06MS** | R 3/4 | 27 | | 60.2 | 65.5 | 50.7 | 56.0 | 15.0 | 83.8 | 113.3 |

* Reference dimension for R threads after installation.

KK2




KK3/4/6




### Female thread type

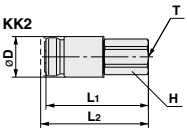
(mm)

KK2

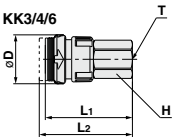
KK3/4/6

| Body size | Model | T Connection port size | H Width across flats | øD | $L_1$ | $L_2$ When connected | Min. bore size | Effective area mm² | Weight g |
|---|---|---|---|---|---|---|---|---|---|
| M5 | **KK2S-M5F** | M5 x 0.8 | 8 | 10.0 | 25.3 | 26.8 | 4.2 | 5.4 | 6.4 |
| 1/8 | **KK3S-01F** | Rc 1/8 | 14 | 20.2 | 36.0 | 38.5 | 8.2 | 20.6 | 23.6 |
| | **-02F** | Rc 1/4 | 17 | | 40.1 | 42.6 | | 21.1 | 34.4 |
| | **-03F** | Rc 3/8 | | | 41.9 | 44.4 | | | 38.8 |
| 1/4 | **KK4S-02F** | Rc 1/4 | 19 | 28.0 | 50.4 | 54.1 | 10.9 | 39.6 | 56.9 |
| | **-03F** | Rc 3/8 | | | 51.1 | 54.8 | 14.4 | 42.7 | 46.2 |
| 1/2 | **KK6S-03F** | | 24 | 31.6 | 58.6 | 63.9 | | 83.1 | 93.6 |
| | **-04F** | Rc 1/2 | | | 61.0 | 66.3 | 18.0 | 83.8 | 87.4 |

KK2



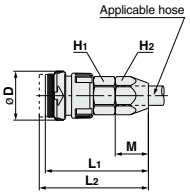

KK3/4/6




### Nut fitting type (for fiber reinforced urethane hose)

(mm)

| Body size | Model | Applicable hose I.D./O.D. | $H_1$ Width across flats | $H_2$ Width across flats | øD | $L_1$ | $L_2$ When connected | M | Min. bore size | Effective area mm² | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | **KK3S-50N** | 5/8 | 14 | 14 | 20.2 | 42.6 | 45.1 | 13.7 | 4.5 | 12.2 | 32.1 |
| | **-60N** | 6/9 | 17 | 17 | | 44.4 | 46.9 | 16.5 | 5.4 | 18.3 | 48.7 |
| | **-65N** | 6.5/10 | | | | | | | 5.9 | 19.2 | 46.4 |
| 1/4 | **KK4S-50N** | 5/8 | 19 | 14 | 28.0 | 54.1 | 57.8 | 13.7 | 4.5 | 12.2 | 55.8 |
| | **-60N** | 6/9 | | 17 | | 56.8 | 60.5 | 16.5 | 5.4 | 20.4 | 69.3 |
| | **-65N** | 6.5/10 | | | | | | | 5.9 | 24.1 | 66.8 |
| | **-80N** | 8/12 | | 19 | | 55.4 | 59.1 | 17.4 | 7.4 | 35.1 | 68.5 |
| | **-85N** | 8.5/12.5 | | | | | | | 7.8 | 36.6 | 71.1 |
| 1/2 | **KK6S-80N** | 8/12 | 24 | | 31.6 | 66.0 | 71.3 | | 7.4 | | 107.5 |
| | **-85N** | 8.5/12.5 | | | | | | | 7.8 | 41.2 | 110.2 |
| | **-110N** | 11/16 | | 24 | | 64.4 | 69.7 | 20.1 | 10.2 | 68.4 | 119.8 |



## Straight type with One-touch fitting

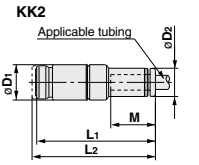
(mm)

KK2

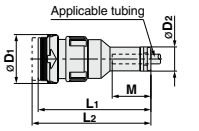
KK3/4/6

| Body size | Model | Applicable tubing O.D. | øD1 | øD2 | L1 | L2 When connected | M | Min. bore size | Effective area mm² Urethane tubing | Effective area mm² Nylon tubing | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M5 | KK2S-23H | ø3.2 | 10.0 | 7.0 | 33.8 | 35.3 | 12.7 | 2.5 | 3.8 | 4.6 | 6.4 |
| | -04H | ø4 | | 8.0 | 33.6 | 35.1 | | 3.4 | 4.0 | 4.8 | 6.5 |
| | -06H | ø6 | | 10.0 | 33.9 | 35.4 | 13.5 | 4.7 | 5.8 | 5.8 | 7.9 |
| 1/8 | KK3S-04H | ø4 | 20.2 | 10.0 | 46.6 | 49.1 | 16.0 | 3.2 | 3.8 | 5.8 | 22.5 |
| | -06H | ø6 | | 12.0 | 47.1 | 49.6 | 17.0 | 4.7 | 10.4 | 13.4 | 24.4 |
| | -08H | ø8 | | 14.0 | 48.9 | 51.4 | 18.5 | 6.2 | 16.8 | 18.9 | 27.3 |
| | -10H | ø10 | | 17.0 | 49.9 | 52.4 | 21.0 | 7.7 | 19.1 | 19.1 | 37.1 |
| 1/4 | KK4S-06H | ø6 | 28.0 | 12.0 | 58.2 | 61.9 | 17.0 | 4.7 | 10.4 | 13.4 | 51.4 |
| | -08H | ø8 | | 14.0 | 60.1 | 63.8 | 18.5 | 6.2 | 18.3 | 21.8 | 51.3 |
| | -10H | ø10 | | 17.0 | 61.5 | 65.2 | 21.0 | 7.7 | 27.0 | 29.4 | 54.8 |
| | -12H | ø12 | | 19.0 | 62.5 | 66.2 | 22.0 | 9.2 | 30.5 | 32.0 | 59.4 |
| 1/2 | KK6S-12H | | 31.6 | | 70.1 | 75.4 | | | 42.7 | 48.8 | 84.1 |
| | -16H | ø16 | | 25.7 | 72.3 | 77.6 | 25.0 | 13.2 | 53.4 | 62.5 | 99.9 |

KK2




KK3/4/6




## Elbow type with One-touch fitting

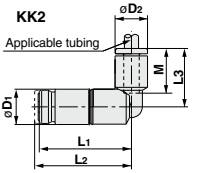
(mm)

KK2

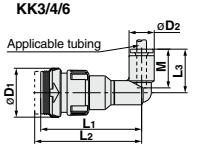
KK3/4/6

| Body size | Model | Applicable tubing O.D. | øD1 | øD2 | L1 | L2 When connected | L3 | M | Min. bore size | Effective area mm² Urethane tubing | Effective area mm² Nylon tubing | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M5 | KK2S-23L | ø3.2 | 10.0 | 9.3 | 26.0 | 27.5 | 16.5 | 12.7 | 2.5 | 3.7 | 4.4 | 6.7 |
| | -04L | ø4 | | 11.6 | 27.2 | 28.3 | 16.6 | 13.5 | 4.5 | 5.6 | 5.6 | 7.2 |
| 1/8 | KK3S-04L | ø4 | 20.2 | 10.4 | 41.7 | 44.2 | 18.0 | 16.0 | 3.0 | 3.7 | 5.3 | 23.2 |
| | -06L | ø6 | | 12.8 | 42.9 | 45.4 | 20.0 | 17.0 | 4.5 | 10.1 | 11.4 | 24.0 |
| | -08L | ø8 | | 15.2 | 43.1 | 45.6 | 23.0 | 18.5 | 6.0 | 15.0 | 16.8 | 25.0 |
| | -10L | ø10 | | 18.5 | 42.9 | 45.4 | 26.5 | 21.0 | 7.5 | 18.0 | 18.5 | 34.4 |
| 1/4 | KK4S-06L | ø6 | 28.0 | 12.8 | 54.3 | 58.0 | 20.0 | 17.0 | 4.5 | 10.1 | 11.4 | 53.5 |
| | -08L | ø8 | | 15.2 | 55.5 | 59.2 | 23.0 | 18.5 | 6.0 | 17.5 | 19.8 | 53.1 |
| | -10L | ø10 | | 18.5 | 54.2 | 57.9 | 26.5 | 21.0 | 7.5 | 24.7 | 27.5 | 54.7 |
| | -12L | ø12 | | 20.9 | 55.4 | 59.1 | 28.5 | 22.0 | 9.0 | 29.0 | 29.6 | 57.0 |
| 1/2 | KK6S-12L | | 31.6 | | 66.3 | 71.6 | | | 13.0 | 38.1 | 39.7 | 91.4 |
| | -16L | ø16 | | 26.5 | 66.9 | 72.2 | 34.0 | 25.0 | | 50.3 | 58.7 | 93.5 |

KK2




KK3/4/6




## Bulkhead type with One-touch fitting

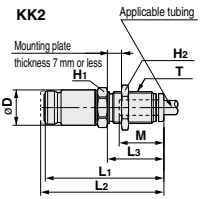
(mm)

KK2

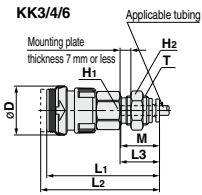
KK3/4/6

| Body size | Model | Applicable tubing O.D. | T Threads | H1 Width across flats | H2 Width across flats | øD | L1 | L2 When connected | L3 | M | Min. bore size | Effective area mm² Urethane tubing | Effective area mm² Nylon tubing | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M5 | KK2S-23E | ø3.2 | M8 x 0.75 | 10 | 10 | 10.0 | 33.8 | 35.3 | 13.0 | 12.7 | 2.5 | 3.8 | 4.6 | 9.6 |
| | -04E | ø4 | M9 x 0.75 | | 11 | | 33.5 | 35.0 | | | 3.4 | 4.0 | 4.8 | 9.1 |
| | -06E | ø6 | M11 x 0.75 | 14 | 14 | | 33.9 | 35.4 | 13.1 | 13.5 | 4.7 | 5.8 | 5.8 | 12.6 |
| 1/8 | KK3S-04E | ø4 | M12 x 1 | | 14 | 20.2 | 46.6 | 49.1 | 16.9 | 16.0 | 3.2 | 3.8 | 5.8 | 29.0 |
| | -06E | ø6 | M14 x 1 | 17 | 17 | | 47.1 | 49.6 | 16.8 | 17.0 | 4.7 | 10.4 | 13.4 | 39.4 |
| | -08E | ø8 | M16 x 1 | | 19 | | 49.0 | 51.5 | 20.0 | 18.5 | 6.2 | 16.8 | 18.9 | 43.4 |
| | -10E | ø10 | M20 x 1 | 22 | 24 | | 49.9 | 52.4 | 22.0 | 21.0 | 7.7 | 19.1 | 19.1 | 68.3 |
| 1/4 | KK4S-06E | ø6 | M14 x 1 | 19 | 17 | 28.0 | 58.2 | 61.9 | 16.8 | 17.0 | 4.7 | 10.4 | 13.4 | 57.2 |
| | -08E | ø8 | M16 x 1 | | 19 | | 60.1 | 63.8 | 20.0 | 18.5 | 6.2 | 18.3 | 21.8 | 60.6 |
| | -10E | ø10 | M20 x 1 | 22 | 24 | | 61.7 | 65.4 | 22.0 | 21.0 | 7.7 | 27.0 | 29.4 | 86.8 |
| | -12E | ø12 | M22 x 1 | 24 | 27 | | 62.7 | 66.4 | 23.0 | 22.0 | 9.2 | 30.5 | 32.0 | 105.7 |
| 1/2 | KK6S-12E | | | | | 31.6 | 70.1 | 75.4 | 24.5 | 25.0 | | 42.7 | 48.8 | 116.0 |
| | -16E | ø16 | M28 x 1.5 | 30 | 32 | | 72.5 | 77.8 | | | 13.2 | 53.4 | 62.5 | 183.2 |

KK2



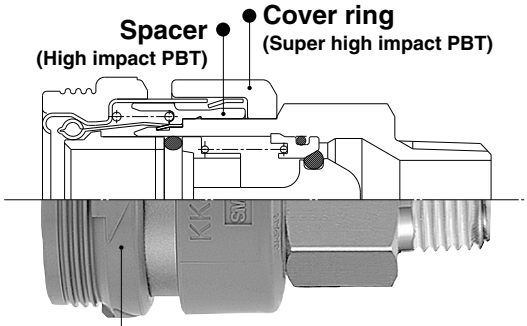

KK3/4/6




Click here for applicable color caps.

# KKH Series

- **Able to absorb drop impact (equivalent to impact energy of 0.5 J).**
- **The pulling strength for the plugs and sockets has been improved. Twice as strong as the current models.**




- **Same effective sectional area as that of KK series.**

## Plug (P)

### Male thread type

| Body size | Connection port size | Part no. |
|---|---|---|
| 1/8 | R 1/8 | **KK3P-01MS** |
| | R 1/4 | **-02MS** |
| | R 3/8 | **-03MS** |
| 1/4 | R 1/8 | **KK4P-01MS** |
| | R 1/4 | **-02MS** |
| | R 3/8 | **-03MS** |
| | R 1/2 | **-04MS** |

### Female thread type

| Body size | Connection port size | Part no. |
|---|---|---|
| 1/8 | Rc 1/8 | **KK3P-01F** |
| | Rc 1/4 | **-02F** |
| | Rc 3/8 | **-03F** |
| 1/4 | Rc 1/4 | **KK4P-02F** |
| | Rc 3/8 | **-03F** |

### Nut fitting type (for fiber reinforced urethane hose)

| Body size | Applicable hose I.D./O.D. mm | Part no. |
|---|---|---|
| 1/8 | 5/8 | **KK3P-50N** |
| | 6/9 | **-60N** |
| | 6.5/10 | **-65N** |
| 1/4 | 5/8 | **KK4P-50N** |
| | 6/9 | **-60N** |
| | 6.5/10 | **-65N** |
| | 8/12 | **-80N** |
| | 8.5/12.5 | **-85N** |

## Socket (S)

### Male thread type

| Body size | Connection port size | Part no. |
|---|---|---|
| 1/8 | R 1/8 | **KKH3S-01MS** |
| | R 1/4 | **-02MS** |
| | R 3/8 | **-03MS** |
| 1/4 | R 1/8 | **KKH4S-01MS** |
| | R 1/4 | **-02MS** |
| | R 3/8 | **-03MS** |
| | R 1/2 | **-04MS** |

### Female thread type

| Body size | Connection port size | Part no. |
|---|---|---|
| 1/8 | Rc 1/8 | **KKH3S-01F** |
| | Rc 1/4 | **-02F** |
| | Rc 3/8 | **-03F** |
| 1/4 | Rc 1/4 | **KKH4S-02F** |
| | Rc 3/8 | **-03F** |

### Nut fitting type (for fiber reinforced urethane hose)

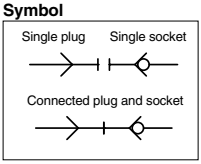
| Body size | Applicable hose I.D./O.D. mm | Part no. |
|---|---|---|
| 1/8 | 5/8 | **KKH3S-50N** |
| | 6/9 | **-60N** |
| | 6.5/10 | **-65N** |
| 1/4 | 5/8 | **KKH4S-50N** |
| | 6/9 | **-60N** |
| | 6.5/10 | **-65N** |
| | 8/12 | **-80N** |
| | 8.5/12.5 | **-85N** |

KKH series are only available as sockets.
KK series should be used as plugs.

# S Couplers
# *KKH Series*

RoHS

**Symbol**




## Specifications

| | |
|---|---|
| **Fluid** | Air, Water Note 2) |
| **Operating pressure range** Note 1) | KKH3: –90 kPa to 1 MPa<br>KKH4: 0 to 1 MPa |
| **Proof pressure** | 1.5 MPa |
| **Ambient and fluid temperature** | Air: –5 to 60°C<br>Water: 5 to 40°C<br>(No freezing) |
| **Plating, Sealant** | Electroless nickel plated (copper-free and fluorine-free application), With male thread sealant |
| **Connection plug** | KK series plug |

Note 1) Do not use the S couplers with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.
Note 2) Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

## Performance

| | |
|---|---|
| **Plug and socket connection** | One-touch connection and release |
| **Check valve** | Socket: Built-in check valve (standard) |
| **Sleeve lock mechanism** | ——— |

## Effective Area

| Body size | Plug | Socket | Effective area mm² |
|---|---|---|---|
| 1/8 | **KK3P-01MS** | **KKH3S-01MS** | 20 |
| 1/4 | **KK4P-02MS** | **KKH4S-02MS** | 39 |

The flow rate characteristics are the same as those of KK series.
Please refer to page 218.

## How to Order

**KKH 4 S – 02 M S**

**Body size**

| | |
|---|---|
| **3** | 1/8 |
| **4** | 1/4 |

**Socket/Plug designation**

| | |
|---|---|
| **S** | Socket |

**With sealant (male thread)**

**Connection type**

| Symbol | Type |
|---|---|
| **M** | Male thread |
| **F** | Female thread |
| **N** | With nut fitting |

**Piping port size variation**

**Male/Female thread type**

| Symbol | Connection port size |
|---|---|
| **01** | R, Rc 1/8 |
| **02** | R, Rc 1/4 |
| **03** | R, Rc 3/8 |
| **04** | R, Rc 1/2 |

**Nut fitting type**

| Symbol | Hose I.D./O.D. mm |
|---|---|
| **50** | 5/8 |
| **60** | 6/9 |
| **65** | 6.5/10 |
| **80** | 8/12 |
| **85** | 8.5/12.5 |

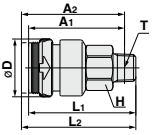
**For details on body size and port size variation combinations for each model, refer to the charts on the Dimensions page.**

## Dimensions/Socket (S)

### Male thread type

(mm)

| Body size | Model | T Connection port size | H Width across flats | ø D | L1 | L2 When connected | A1* | A2* When connected | Min. bore size | Effective area mm2 | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | KKH3S-01MS | R 1/8 | 14 | 20.2 | 36.6 | 39.1 | 33.5 | 36.0 | 6.0 | 20.4 | 20.3 |
| | -02MS | R 1/4 | | | 37.0 | 39.5 | 31.5 | 34.0 | 9.0 | 21.1 | 19.4 |
| | -03MS | R 3/8 | 17 | | 37.6 | 40.1 | 32.2 | 34.5 | 9.0 | | 27.7 |
| 1/4 | KKH4S-01MS | R 1/8 | 19 | 28.0 | 49.5 | 53.2 | 46.4 | 50.1 | 6.0 | 22.9 | 48.7 |
| | -02MS | R 1/4 | | | 50.5 | 54.2 | 45.0 | 48.7 | 9.0 | 38.9 | 45.3 |
| | -03MS | R 3/8 | | | 48.9 | 52.6 | 43.5 | 47.2 | 11.0 | 40.4 | 52.1 |
| | -04MS | R 1/2 | 22 | | 48.8 | 52.5 | 41.7 | 45.4 | 13.0 | 42.7 | 62.4 |

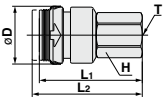



* Reference dimension for R threads after installation.

### Female thread type

(mm)

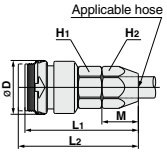
| Body size | Model | T Connection port size | H Width across flats | ø D | L1 | L2 When connected | Min. bore size | Effective area mm2 | Weight g |
|---|---|---|---|---|---|---|---|---|---|
| 1/8 | KKH3S-01F | Rc 1/8 | 14 | 20.2 | 36.0 | 38.5 | 8.2 | 20.6 | 23.8 |
| | -02F | Rc 1/4 | 17 | | 40.1 | 42.4 | | 21.1 | 33.1 |
| | -03F | Rc 3/8 | 19 | | 41.9 | 44.3 | | | 37.1 |
| 1/4 | KKH4S-02F | Rc 1/4 | 19 | 28.0 | 50.4 | 54.1 | 10.9 | 39.6 | 58.1 |
| | -03F | Rc 3/8 | | | 51.1 | 54.8 | 14.4 | 42.7 | 47.4 |




### Nut fitting type (for fiber reinforced urethane hose)

(mm)

| Body size | Model | Applicable hose I.D./O.D. | H1 Width across flats | H2 Width across flats | ø D | L1 | L2 When connected | M | Min. bore size | Effective area mm2 | Weight g |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | KKH3S-50N | 5/8 | 14 | 14 | 20.2 | 42.6 | 45.1 | 13.7 | 4.5 | 12.2 | 32.3 |
| | -60N | 6/9 | 17 | 17 | | 44.4 | 46.9 | 16.5 | 5.4 | 18.3 | 48.9 |
| | -65N | 6.5/10 | | | | | | | 5.9 | 19.2 | 46.6 |
| 1/4 | KKH4S-50N | 5/8 | 19 | 14 | 28.0 | 54.1 | 57.8 | 13.7 | 4.5 | 12.2 | 57.0 |
| | -60N | 6/9 | | 17 | | 56.8 | 60.5 | 16.5 | 5.4 | 20.4 | 70.5 |
| | -65N | 6.5/10 | | | | | | | 5.9 | 24.1 | 68.0 |
| | -80N | 8/12 | | 19 | | 55.4 | 59.1 | 17.4 | 7.4 | 35.1 | 69.7 |
| | -85N | 8.5/12.5 | | | | | | | 7.8 | 36.6 | 72.3 |




KKH series are only available as sockets. KK series should be used as plugs. For dimensions, please refer to page 220.

# S Couplers
# Specific Product Precautions 1

**Be sure to read this before handling the products.**
**Refer to back page 50 for Safety Instructions and pages 13 to 17 for Fittings and Tubing Precautions.**

## Selection

### ⚠ Warning

1. Cannot be used as a stop valve that requires zero leakage. A certain amount of leakage is allowed during operation.
2. S coupler connection possibilities are shown in the table below.

| Series | KK | KKH | KKA | KK130 |
|---|---|---|---|---|
| **KK** | ○ | ○ | | |
| **KKH** | ○ | ○ | | |
| **KKA** | | | ○ | |
| **KK130** | | | | ○ |

∗ Before using a KK130 series S coupler with another manufacturer's product, be sure to confirm compatibility with the manufacturer, etc.

3. Do not couple or uncouple the S coupler during pressurization or while residual pressure remains. The coupler may shoot out under the influence of the pressure.
4. Never apply pressure to an S coupler without check valve when it is uncoupled. The piping may move violently and cause danger.
5. An S coupler without check valve experiences leakage of fluid inside piping when it is uncoupled. Pay special attention in using fluid that can cause danger such as fluid of a high temperature and pressure. Additional use of a stop valve is recommended.
6. The S coupler becomes extremely hot when the product is operated at a high temperature. Be sure to refrain from touching it as doing so may result in burns. Insert or remove the plug and socket only after the product has returned to a normal temperature.

### ⚠ Caution

1. For a plug and socket connection, select a plug and socket with the same body size. If their body sizes are different, they cannot be connected. This will cause leakage, damage, and disconnection of the plug. Inserting a plug other than the specialized plug into the socket may result in equipment damage.
2. Do not use couplers with flammable, explosive, or toxic substances, such as gas, gas fuel, and refrigerant. They may leak from inside the tubing to the outside.
3. Do not use the S coupler with steam. Corrosion of the metal material and deterioration of the sealing material may result from long-term use with steam.

## Mounting

### ⚠ Warning

1. Do not use couplers where rotation normally occurs. The couplers may be damaged.
2. Avoid applications in which vibration or shock is directly applied to the fittings.
3. Fittings with sleeve lock mechanism must be locked during operation in order to prevent sudden disconnection.
4. Install a stop valve at the supply pressure side of the socket. Emergency shutdown may not be possible without it.

### ⚠ Caution

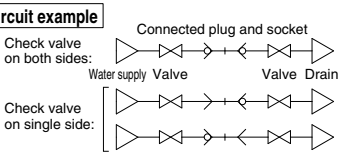
1. Mount so that couplers and tubing are not subjected to twisting, pulling or moment loads. This can cause damage to couplers and flattening, bursting or disconnection of tubing, etc.

## Handling

### ⚠ Warning

1. When connecting the plug, hold the plug securely. The plug may be uncoupled due to reaction at the time of connection.
2. When connecting KK, KKH, and KKA series plugs, push the plug in until you hear it click into the socket. In addition, be sure to refrain from touching the sleeve until you are sure that the plug has been pushed all the way in. Failure to do so may result in a malfunction. When connecting KK130 series plugs, after pulling the sleeve straight back, push the plug in until you are sure that it has been pushed all the way in. For all S couplers, after inserting the plug, pull on it gently to make sure that it doesn't come out from the socket. If the plug is not properly inserted into the socket, the plug may fly out of the product due to pressure.
3. When connecting the plug, insert it straight into the socket. If not inserted straight, the socket and/or plug may be damaged or cause a malfunction.
4. When releasing the plug, hold it securely. The connection pipe may move due to reacting stress and/or residual pressure on the plug side.
5. Be sure to move the sleeve straight in relation to the socket. If it is rotated at all, a malfunction may result.
6. Do not press the inside of the socket with an incompatible plug and/or with a stick. The internal fluid may be ejected and cause a dangerous situation. Also, the ejecting internal fluid may cause the sealings to come apart resulting in the product not functioning.
7. If foreign matter adheres to the plug O-ring, be sure to wipe it off. If air blow is performed with the air gun air outlet in close proximity to the plug O-ring, the plug O-ring may come off.
8. For products with a sleeve lock mechanism, do not apply pressure when rotating the sleeve. If the KK130 series is pressurized during rotation, the detent of the locked and released positions may become unclear due to the pressure. In addition, operate the product in accordance with the arrows on the sleeve surface. Failure to do so may result in problems with the attaching and detaching of the mechanism.
9. If the plug and socket cannot be separated due to a malfunction of the sleeve, do not try to forcibly pull out the plug. Instead, turn the sleeve clockwise (viewed from the plug insertion side) 3 to 5 times, and then check to see if the sleeve moves properly. If the sleeve still doesn't move properly, try turning it counter-clockwise in the same manner, and check it again.
   If the aforementioned method fails to work, loosen the plug and socket connection thread and remove it from the piping.
10. Water is an incompressible fluid. Design the piping while taking the characteristics of the fluid into consideration.
    If the plug or socket piping of the type with a check valve is filled with water and the valve above said piping is closed, removing the plug or socket will result in the piping between the check valve and the closed valve filling with water. (Refer to the circuit example.)
    In order to reinsert the plug or socket while in the aforementioned state, the water would need to be compressed to allow room for the plug or socket. However, as this is not possible, the plug and socket cannot be reinserted while in this state.

**Circuit example**

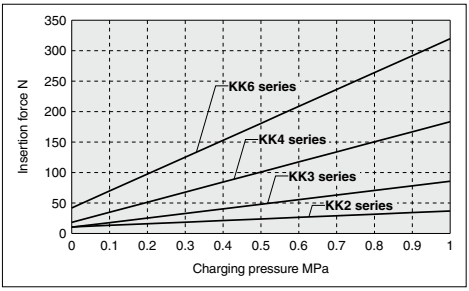


# S Couplers
# Specific Product Precautions 2

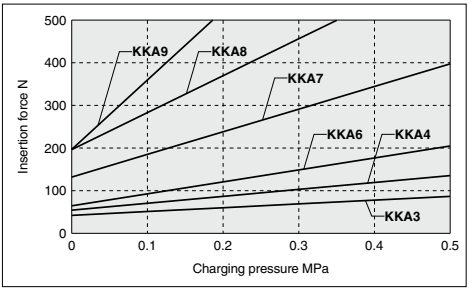
**Be sure to read this before handling the products.**
**Refer to back page 50 for Safety Instructions and pages 13 to 17 for Fittings and Tubing Precautions.**

## Plug Insertion Force in Pressurized Condition

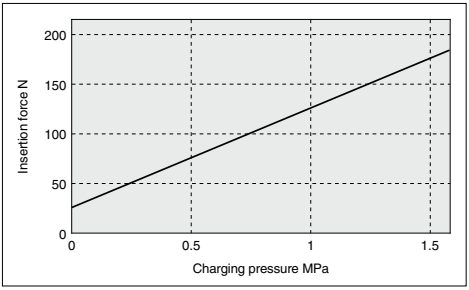
### Insertion Force of KK series




### Insertion Force of KKA series




### Insertion Force of KK130 series




## Handling of Barb Fittings and Nut Fittings

### ⚠ Caution

1. When using a nut fitting, insert the hose all the way to the end and securely tighten it with the nut. When the insertion of the hose or the tightening of the nut are not sufficient, the hose may slip out.
2. Disconnection may occur depending on the material or the O.D. accuracy of the hose; therefore be sure to confirm the applicability of the hose.
3. Prepare a hose band separately when using a barb fitting. If the hose band is not used, the hose may come off.

## Handling of Fittings

### ⚠ Caution

1. Tightening of the fittings with a sealant

   Tighten fittings with sealant using the proper tightening torques in the table below. As a rule, they should be tightened 2 to 3 turns with a tool after first tightening by hand.

| Connection thread size | Proper tightening torque N·m |
|---|---|
| NPT, R 3/4 | 28 to 30 |
| NPT, R 1 | 36 to 38 |
| NPT, R 1 1/4 | 40 to 42 |
| NPT, R 1 1/2 | 48 to 50 |