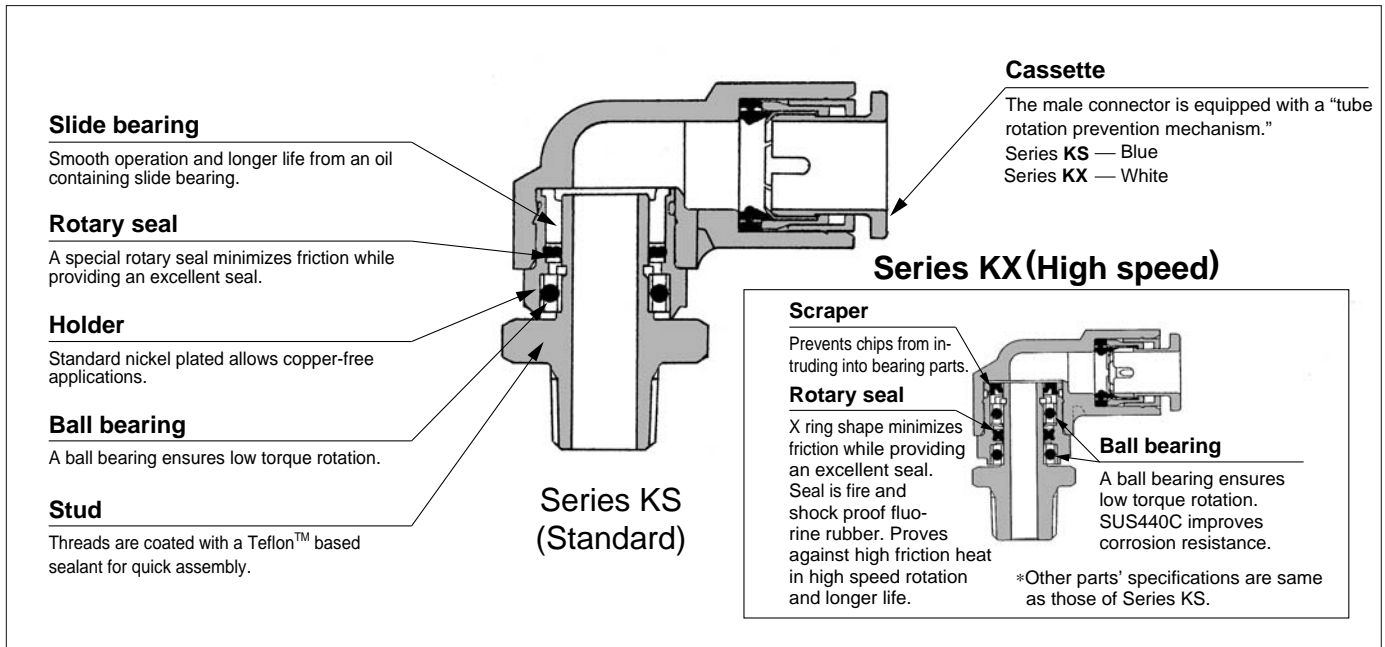


# Rotary One-touch Fittings

## Series *KS/KX*

(Standard) (High Speed)



### Low torque rotation style Rotary One-touch fittings

Applicable to use for oscillating and rotating sections in robots.

Brass parts are all electroless nickel plated.

Thread sealant is standard.



### Applicable Tubing

|                              |                                 |
|------------------------------|---------------------------------|
| Tube material <sup>(1)</sup> | Nylon, Soft nylon, Polyurethane |
| Tube O.D.                    | ø4, ø6, ø8, ø10, ø12            |

Note1) Be careful about the max. operating pressure for Soft nylon and Polyurethane.

### Specifications

|                                |                          |
|--------------------------------|--------------------------|
| Operating fluid                | Air                      |
| Max. operating pressure        | 1.0MPa                   |
| Max. operating vacuum pressure | -100kPa                  |
| Proof pressure                 | 3.0MPa                   |
| Ambient and fluid temperature  | -5 to 60°C (No freezing) |
| Thread                         | JIS B0203,<br>JIS B0209  |

### Rotating Torque/Allowable Number of Rotations

| Applicable tube O.D.                | ø4               | ø6    | ø8    | ø10   | ø12   |      |
|-------------------------------------|------------------|-------|-------|-------|-------|------|
| Rotating torque (Nm) <sup>(1)</sup> | 0.006            | 0.012 | 0.014 | 0.020 | 0.022 |      |
| Allowable number of rotations (rpm) | Series <b>KS</b> | 500   | 500   | 400   | 300   | 250  |
|                                     | Series <b>KX</b> | 1500  | 1200  | 1200  | 1000  | 1000 |



Note1) Value under pressure 0.5MPa

### Component Materials

| Principal element                 | Series <b>KS</b>                            | Series <b>KX</b>    |
|-----------------------------------|---|---------------------|
| Body                              | PBT   |                     |
| Stud, Holder, Guide               | C3604BD (electroless nickel plated), SUS304 |                     |
| Chuck, Retainer                   | Stainless steel (SUS304) <sup>(1)</sup>     |                     |
| Collet, Release button, Snap ring | Polyacetal                                  |                     |
| O ring, Packing                   | NBR   |                     |
| Rotary seal                       | NBR   | FPM                 |
| Slide bearing                     | Oil-containing polyacetal                   | —                   |
| Scraper                           | —   | NBR                 |
| Ball bearing                      | Bearing steel                               | Stainless (SUS440C) |
| Gasket                            | Stainless steel (SUS304), NBR               |                     |

Note1) Retainer (C) of Series KX: C3604BD (electroless nickel plated)

## Series KS/Series KX

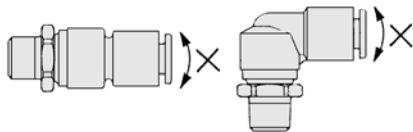
| Model  | Connection thread | Applicable tube O.D. (mm) |    |    |     |     |
|--|-------------------|---------------------------|----|----|-----|-----|
|  |                   | ø4                        | ø6 | ø8 | ø10 | ø12 |
| Male connector<br><b>KSH</b><br><b>KXH</b>  | M5                | ●                         | ●  |    |     |     |
|  | M6                | ●                         | ●  |    |     |     |
|  | R(PT) 1/8         | ●                         | ●  | ●  |     |     |
|  | R(PT) 1/4         |                           | ●  | ●  | ●   |     |
|  | R(PT) 3/8         |                           |    | ●  | ●   | ●   |
|  | R(PT) 1/2         |                           |    |    | ●   | ●   |
| Male elbow<br><b>KSL</b><br><b>KXL</b>      | M5                | ●                         | ●  |    |     |     |
|  | M6                | ●                         | ●  |    |     |     |
|  | R(PT) 1/8         | ●                         | ●  | ●  |     |     |
|  | R(PT) 1/4         |                           | ●  | ●  | ●   |     |
|  | R(PT) 3/8         |                           |    | ●  | ●   | ●   |
|  | R(PT) 1/2         |                           |    |    | ●   | ●   |

### Precautions

**Be sure to read before handling.**  
**Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalogue, and refer to p.2.0-7 and 2.0-8 for more detailed precautions of every series.**

#### Caution

① Minimize the load shown below to protect the ball bearing. A flexible polyurethane tube is recommended.


 K

 M

 H

 D

 MS

 T

 LQ

 Clean Room

# Series KS/KX

## Male connector: KSH (Standard)

<M5, M6>



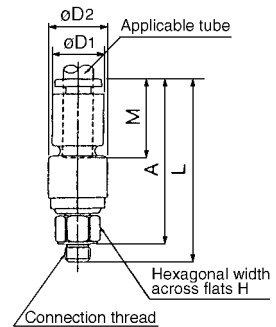
<R(PT)>



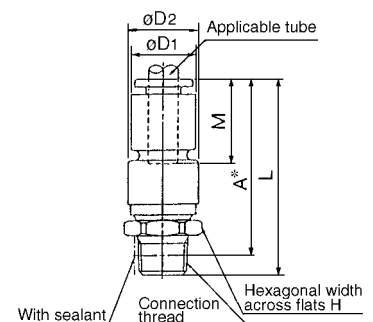
| Tube O.D. (mm) | Connection thread R(PT) | Part No.  | H (Hex.) | D1   | D2 | L    | A    | M    | Min. hole dia. | Effective area (mm <sup>2</sup> ) |          | Weight (g) |      |
|----------------|-------------------------|-----------|----------|------|----|------|------|------|----------------|-----------------------------------|----------|------------|------|
|                |                         |           |          |      |    |      |      |      |                | Nylon                             | Urethane |            |      |
| 4              | M5                      | KSH04-M5  | 8        | 10.4 | 12 | 36.5 | 33   | 16   | 2.5            | 4.0                               | 4.0      | 9          |      |
|                | M6                      | KSH04-M6  | 37       |      |    |      |      |      |                |                                   |          |            |      |
|                | 1/8                     | KSH04-01S | 12       |      |    | 38   |      |      |                |                                   |          |            | 34   |
| 6              | M5                      | KSH06-M5  | 8        | 12.8 | 14 | 37.5 | 33.5 | 17   | 2.5            | 4.0                               | 4.0      | 12         |      |
|                | M6                      | KSH06-M6  | 38       |      |    | 34   |      |      |                |                                   |          |            |      |
|                | 1/8                     | KSH06-01S | 14       |      |    | 39.5 |      |      |                |                                   |          |            | 35.5 |
|                | 1/4                     | KSH06-02S | 42.5     |      |    | 36.5 |      |      |                |                                   |          |            |      |
|                | 1/8                     | KSH08-01S | 17       |      |    | 44   |      |      |                |                                   |          |            | 40   |
| 8              | 1/4                     | KSH08-02S | 17       | 15.2 | 17 | 47   | 41   | 18.5 | 6              | 26.1                              | 18.0     | 29         |      |
|                | 3/8                     | KSH08-03S | 48       |      |    | 41.5 |      |      |                |                                   |          |            |      |
|                | 1/4                     | KSH10-02S | 22       |      |    | 54   |      |      |                |                                   |          |            | 48   |
| 10             | 3/8                     | KSH10-03S | 22       | 18.5 | 22 | 55   | 48.5 | 21   | 7              | 36.3                              | 29.5     | 63         |      |
|                | 1/2                     | KSH10-04S | 57.5     |      |    | 49.5 |      |      |                |                                   |          |            |      |
|                | 3/8                     | KSH12-03S | 24       |      |    | 57   |      |      |                |                                   |          |            | 50.5 |
| 12             | 1/2                     | KSH12-04S | 24       | 20.9 | 24 | 60   | 52   | 22   | 8              | 46.1                              | 16.1     | 81         |      |
|                | 1/2                     | KSH12-04S | 60       |      |    | 52   |      |      |                |                                   |          |            |      |

\*Reference dimensions after R(PT) thread installation.

<M5, M6>



<R(PT)>



## Male connector: KXH (High speed)

<M5, M6>



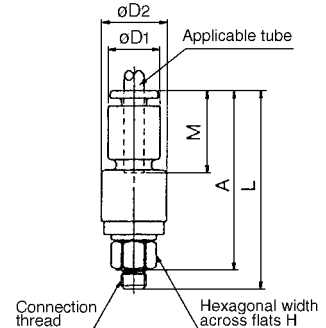
<R(PT)>



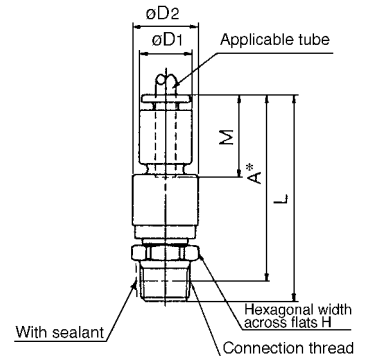
| Tube O.D. (mm) | Connection thread R(PT) | Part No.  | H (Hex.) | D1   | D2   | L    | A  | M    | Min. hole dia. | Effective area (mm <sup>2</sup> ) |          | Weight (g) |    |
|----------------|-------------------------|-----------|----------|------|------|------|----|------|----------------|-----------------------------------|----------|------------|----|
|                |                         |           |          |      |      |      |    |      |                | Nylon                             | Urethane |            |    |
| 4              | M5                      | KXH04-M5  | 8        | 10.4 | 13   | 38.5 | 35 | 16   | 2.5            | 4.0                               | 4.0      | 11         |    |
|                | M6                      | KXH04-M6  | 39       |      |      |      |    |      |                |                                   |          |            |    |
|                | 1/8                     | KXH04-01S | 12       |      |      | 40   |    |      |                |                                   |          |            | 36 |
| 6              | M5                      | KXH06-M5  | 8        | 12.8 | 15   | 39.5 | 36 | 17   | 2.5            | 4.0                               | 4.0      | 15         |    |
|                | M6                      | KXH06-M6  | 40       |      |      |      |    |      |                |                                   |          |            |    |
|                | 1/8                     | KXH06-01S | 14       |      |      | 42   |    |      |                |                                   |          |            | 38 |
|                | 1/4                     | KXH06-02S | 45       |      |      | 39   |    |      |                |                                   |          |            |    |
|                | 1/8                     | KXH08-01S | 17       |      |      | 46   |    |      |                |                                   |          |            | 42 |
| 8              | 1/4                     | KXH08-02S | 17       | 15.2 | 18   | 49   | 43 | 18.5 | 6              | 26.1                              | 18.0     | 34         |    |
|                | 3/8                     | KXH08-03S | 50       |      |      | 44   |    |      |                |                                   |          |            |    |
|                | 1/4                     | KXH10-02S | 22       |      |      | 58   |    |      |                |                                   |          |            | 52 |
| 10             | 3/8                     | KXH10-03S | 22       | 18.5 | 23.5 | 59   | 52 | 21   | 7              | 36.3                              | 29.5     | 76         |    |
|                | 1/2                     | KXH10-04S | 62       |      |      | 53   |    |      |                |                                   |          |            |    |
|                | 3/8                     | KXH12-03S | 24       |      |      | 60   |    |      |                |                                   |          |            | 54 |
| 12             | 1/2                     | KXH12-04S | 24       | 20.9 | 26   | 63   | 55 | 22   | 8              | 46.1                              | 46.1     | 105        |    |
|                | 1/2                     | KXH12-04S | 63       |      |      | 55   |    |      |                |                                   |          |            |    |

\*Reference dimensions after R(PT) thread installation.

<M5, M6>



<R(PT)>



# Rotary One-touch Fittings Series **KS/KX**

## Male elbow: KSL (Standard)

<M5, M6>

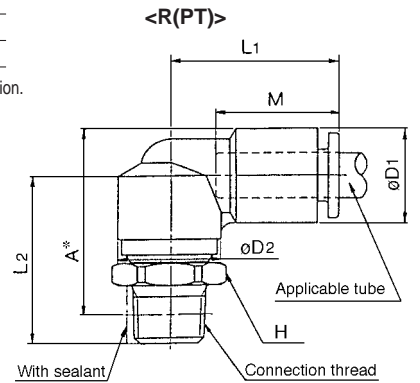
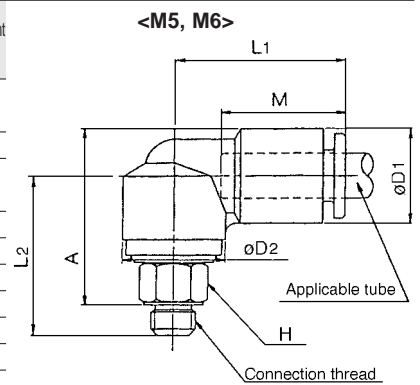


<R(PT)>



| Tube O.D. (mm) | Connection thread R(PT) | Part No.  | H (Hex.) | D1   | D2 | L1   | L2   | A    | M    | Min. hole dia. | Effective area (mm <sup>2</sup> ) |          | Weight (g) |    |
|----------------|-------------------------|-----------|----------|------|----|------|------|------|------|----------------|-----------------------------------|----------|------------|----|
|                |                         |           |          |      |    |      |      |      |      |                | Nylon                             | Urethane |            |    |
| 4              | M5                      | KSL04-M5  | 8        | 10.4 | 12 | 21   | 20.5 | 22   | 16   | 2.5            | 3.5                               | 3.5      | 9          |    |
|                | M6                      | KSL04-M6  | 12       |      |    |      | 21   |      |      |                |                                   |          | 23.5       | 14 |
|                | 1/8                     | KSL04-01S | 12       |      |    |      | 22   |      |      |                |                                   |          | 23.5       | 14 |
| 6              | M5                      | KSL06-M5  | 8        | 12.8 | 14 | 23   | 21   | 23.5 | 17   | 2.5            | 3.5                               | 3.5      | 12         |    |
|                | M6                      | KSL06-M6  | 14       |      |    |      | 21.5 |      |      |                |                                   |          | 24         | 17 |
|                | 1/8                     | KSL06-01S | 14       |      |    |      | 23   |      |      |                |                                   |          | 25.5       | 17 |
|                | 1/4                     | KSL06-02S | 14       |      |    |      | 26   |      |      |                |                                   |          | 26.5       | 23 |
|                | 3/8                     | KSL06-03S | 14       |      |    |      | 26.5 |      |      |                |                                   |          | 30         | 23 |
| 8              | 1/8                     | KSL08-01S | 17       | 15.2 | 17 | 26   | 29.5 | 31   | 18.5 | 6              | 21.6                              | 14.9     | 29         |    |
|                | 1/4                     | KSL08-02S | 17       |      |    |      | 31   |      |      |                |                                   |          | 32         | 38 |
|                | 3/8                     | KSL08-03S | 17       |      |    |      | 31   |      |      |                |                                   |          | 32         | 38 |
| 10             | 1/4                     | KSL10-02S | 22       | 18.5 | 22 | 31.5 | 34   | 37.5 | 21   | 7              | 30.5                              | 25.0     | 56         |    |
|                | 3/8                     | KSL10-03S | 22       |      |    |      | 35   |      |      |                |                                   |          | 38         | 64 |
|                | 1/2                     | KSL10-04S | 22       |      |    |      | 38   |      |      |                |                                   |          | 39.5       | 82 |
| 12             | 3/8                     | KSL12-03S | 24       | 20.9 | 24 | 34   | 36.5 | 40.5 | 22   | 8              | 35.1                              | 35.1     | 76         |    |
|                | 1/2                     | KSL12-04S | 24       |      |    |      | 39.5 |      |      |                |                                   |          | 42         | 93 |

\*Reference dimensions after R(PT) thread installation.



## Male elbow: KXL (High speed)

<M5, M6>

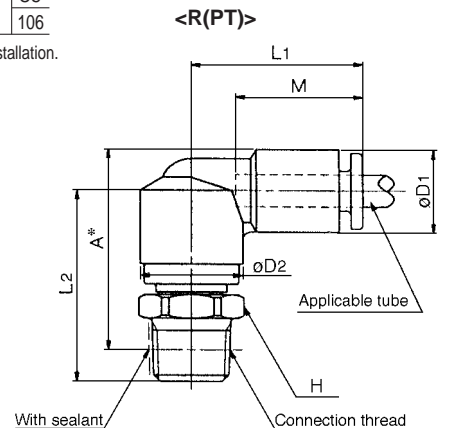
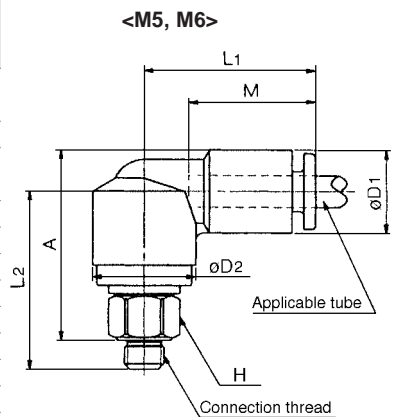


<R(PT)>



| Tube O.D. (mm) | Connection thread R(PT) | Part No.  | H (Hex.) | D1   | D2   | L1 | L2   | A  | M    | Min. hole dia. | Effective area (mm <sup>2</sup> ) |          | Weight (g) |     |
|----------------|-------------------------|-----------|----------|------|------|----|------|----|------|----------------|-----------------------------------|----------|------------|-----|
|                |                         |           |          |      |      |    |      |    |      |                | Nylon                             | Urethane |            |     |
| 4              | M5                      | KXL04-M5  | 8        | 10.4 | 13   | 22 | 22.5 | 24 | 16   | 2.5            | 3.5                               | 3.5      | 11         |     |
|                | M6                      | KXL04-M6  | 12       |      |      |    | 23   |    |      |                |                                   |          | 24         | 16  |
|                | 1/8                     | KXL04-01S | 12       |      |      |    | 24   |    |      |                |                                   |          | 25         | 16  |
| 6              | M5                      | KXL06-M5  | 8        | 12.8 | 15   | 24 | 23.5 | 26 | 17   | 2.5            | 3.5                               | 3.5      | 15         |     |
|                | M6                      | KXL06-M6  | 14       |      |      |    | 24   |    |      |                |                                   |          | 26         | 15  |
|                | 1/8                     | KXL06-01S | 14       |      |      |    | 25   |    |      |                |                                   |          | 28         | 20  |
|                | 1/4                     | KXL06-02S | 14       |      |      |    | 28   |    |      |                |                                   |          | 29         | 26  |
|                | 3/8                     | KXL06-03S | 14       |      |      |    | 29   |    |      |                |                                   |          | 32         | 28  |
| 8              | 1/8                     | KXL08-01S | 17       | 15.2 | 18   | 27 | 32   | 33 | 18.5 | 6              | 21.6                              | 14.9     | 34         |     |
|                | 1/4                     | KXL08-02S | 17       |      |      |    | 32   |    |      |                |                                   |          | 33         | 43  |
|                | 3/8                     | KXL08-03S | 17       |      |      |    | 33   |    |      |                |                                   |          | 34         | 43  |
| 10             | 1/4                     | KXL10-02S | 22       | 18.5 | 23.5 | 32 | 38   | 42 | 21   | 7              | 30.5                              | 25.0     | 69         |     |
|                | 3/8                     | KXL10-03S | 22       |      |      |    | 39   |    |      |                |                                   |          | 43         | 77  |
|                | 1/2                     | KXL10-04S | 22       |      |      |    | 42   |    |      |                |                                   |          | 43         | 95  |
| 12             | 3/8                     | KXL12-03S | 24       | 20.9 | 26   | 35 | 40   | 44 | 22   | 8              | 35.1                              | 35.1     | 89         |     |
|                | 1/2                     | KXL12-04S | 24       |      |      |    | 43   |    |      |                |                                   |          | 45         | 106 |

\*Reference dimensions after R(PT) thread installation.



**K** □

**M** □

**H** □

**D** □

**MS**

**T** □

**LQ**

**Clean Room**