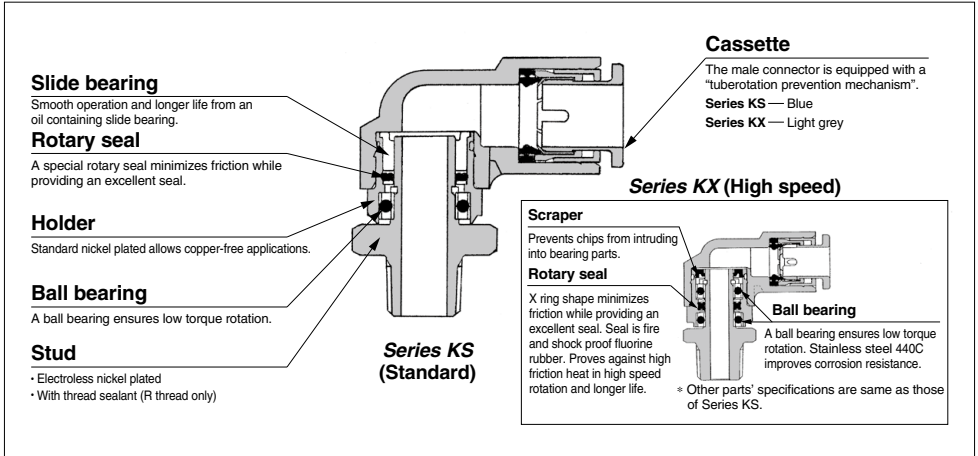


# Rotary One-touch Fittings Standard Type/High Speed Type Series **KS/KX**

RoHS



## Low torque rotation style Rotary One-touch fittings

Applicable to use for  
oscillating and rotating  
sections in robots.

Copper-free specifications  
Brass parts are all  
electroless nickel plated.  
Sealant is standard.



## Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø4, ø6, ø8, ø10, ø12

## Specifications

Fluid	Air
Operating pressure range <sup>(1)</sup>	-100 kPa to 1 MPa
Proof pressure	3 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Thread	JIS B 0203 (Taper thread for piping), JIS B 0205 (Metric coarse thread)

Note 1) Please avoid using in a vacuum holding application such as a leak tester, since there is leakage.  
Also, when using in a vacuum, grease may attach the inside due to the nature of its construction.

## Rotating Torque/Allowable Number of Rotations

Applicable tubing O.D.		ø4	ø6	ø8	ø10	ø12
Rotating torque (N·m) <sup>(2)</sup>		0.006	0.012	0.014	0.020	0.022
Allowable number of rotations(S <sup>-1</sup> ) <sup>(3)</sup>	Series KS	8.4	8.4	6.7	5	4.2
	Series KX	25	20	20	16.7	16.7



Note 2) Rotating torque under pressure 0.5 MPa

Note 3) Number of rotations per second

## Principal Parts Material

Principal parts	Series KS	Series KX
Body	PBT	
Stud, Holder, Guide	C3604 (Electroless nickel plated), Stainless steel 304	
Chuck, Retainer	Stainless steel (Stainless steel 304) (Retainer (C) of Series KX, C3604 (electroless nickel plated))	
Collet, Release button, Retaining ring	Polyacetal	
O-ring, Packing	NBR	
Rotary seal	NBR	FKM
Slide bearing	Oil-containing polyacetal	—
Scraper	—	NBR
Ball bearing	Bearing steel	Stainless steel 440C
Gasket	Stainless steel 304, NBR	

**Series KS/Series KX**

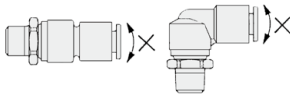
Model	Connection thread	Applicable tubing O.D. (mm)				
		ø4	ø6	ø8	ø10	ø12
Male connector <b>KSH</b> <b>KXH</b> 	M5 x 0.8	●	●			
	M6 x 1	●	●			
	R 1/8	●	●	●		
	R 1/4		●	●	●	
	R 3/8			●	●	●
	R 1/2				●	●
Male elbow <b>KSL</b> <b>KXL</b> 	M5 x 0.8	●	●			
	M6 x 1	●	●			
	R 1/8	●	●	●		
	R 1/4		●	●	●	
	R 3/8			●	●	●
	R 1/2				●	●

**⚠ Precautions**

**Be sure to read before handling.**  
**Refer to front matter 56 for Safety Instructions and pages 13 to 16 for Fittings and Tubing Precautions.**

**⚠ Caution**

1. Implement the tube piping in such a way that lateral load should not be applied on the ball bearings at the rotating part, otherwise it may adversely affect the life expectancy.  
 A flexible polyurethane tube is recommended when lateral load is applied.



2. Do not use in an environment where it will be exposed to water.  
 Contact with water will cause outflow of the lubricating oil used in the ball bearings, and adversely affect rotating performance and equipment lifespan.
3. Fluorine grease is used on the rotating portions.

- KQ2
- KQB2
- KS
- KX
- KM
- KF
- M
- H/DL
- L/LL
- KC
- KK
- KK130
- DM
- KDM
- KB
- KR
- KA
- KQG2
- KG
- KFG2
- MS
- KKA
- KP
- LQ
- MQR
- T

# Series KS/KX

## Male connector: KSH (Standard)

<M5, M6>



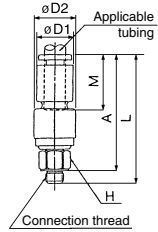
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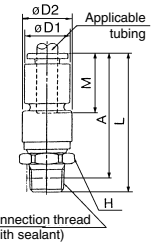
Applicable tubing O.D. (mm)	Connection thread R/M	Model	H (width across flats)	D1	D2	L	A *	M	Min. port size	Effective area (mm <sup>2</sup> )		Weight (g)
										Nylon	Urethane	
4	M5 x 0.8	KSH04-M5	8	10.4	12	36.5	33	16	2.5	4.0	4.0	9
	M6 x 1	KSH04-M6	37			34						
	1/6	KSH04-01S	37.1			34						
6	M5 x 0.8	KSH06-M5	8	12.8	14	37.5	33.5	17	2.5	4.0	4.0	12
	M6 x 1	KSH06-M6	38			34						
	1/6	KSH06-01S	38.6			35.5						
	1/4	KSH06-02S	42			36.5						
8	1/6	KSH08-01S	14	17	15.2	43.1	40	18.5	6	26.1	18.0	23
	1/4	KSH08-02S	46.5			41						
	3/6	KSH08-03S	46.9			41.5						
	1/4	KSH10-02S	53.5			48						
10	3/6	KSH10-03S	22	18.5	22	53.9	48.5	21	7	36.3	29.5	63
	1/2	KSH10-04S	56.6			49.5						
	3/6	KSH12-03S	55.9			50.5						
12	1/2	KSH12-04S	24	20.9	24	59.1	52	22	8	46.1	46.1	75
	1/2	KSH12-04S	59.1			52	8					

\* Reference dimensions after R thread installation.

<M5, M6>



<R>



Connection thread (With sealant)

## Male Connector: KXH (High speed)

<M5, M6>



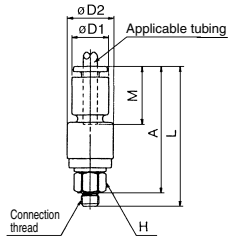
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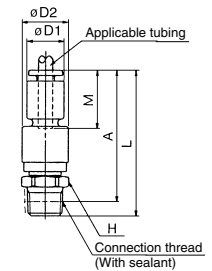
Applicable tubing O.D. (mm)	Connection thread R/M	Model	H (width across flats)	D1	D2	L	A *	M	Min. port size	Effective area (mm <sup>2</sup> )		Weight (g)
										Nylon	Urethane	
4	M5 x 0.8	KXH04-M5	8	10.4	13	38.5	35	16	2.5	4.0	4.0	11
	M6 x 1	KXH04-M6	39			36						
	1/6	KXH04-01S	39.1			36						
6	M5 x 0.8	KXH06-M5	8	12.8	15.5	39.5	36	17	2.5	4.0	4.0	15
	M6 x 1	KXH06-M6	40			38						
	1/6	KXH06-01S	41.1			39						
	1/4	KXH06-02S	44.5			39						
8	1/6	KXH08-01S	14	17	15.2	45.1	42	18.5	6	26.1	18.0	28
	1/4	KXH08-02S	48.5			43						
	3/6	KXH08-03S	48.9			44						
	1/4	KXH10-02S	57.5			52						
10	3/6	KXH10-03S	22	18.5	24.5	57.9	52	21	7	36.3	29.5	76
	1/2	KXH10-04S	61.1			53						
	3/6	KXH12-03S	58.9			54						
12	1/2	KXH12-04S	24	20.9	27.5	62.1	55	22	8	46.1	46.1	88
	1/2	KXH12-04S	62.1			55	8					

\* Reference dimensions after R thread installation.

<M5, M6>



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Connection thread (With sealant)

## Union Elbow: KSL (Standard)

<M5, M6>



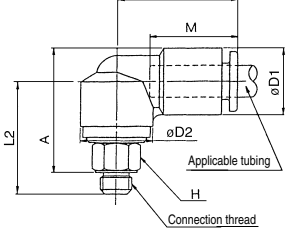
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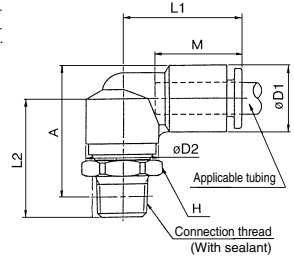
Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	D1	D2	L1	L2	A *	M	Min. port size	Effective area (mm <sup>2</sup> )		Weight (g)	
											Nylon	Urethane		
4	M5 x 0.8	KSL04-M5	8	10.4	12	21	20.5	22	16	2.5	3.5	3.5	9	
	M6 x 1	KSL04-M6					21							23.5
	1/8	KSL04-01S					21.1							23.5
6	M5 x 0.8	KSL06-M5	8	12.8	14	23	21	17	4	2.5	3.5	3.5	12	
	M6 x 1	KSL06-M6					21.5							24
	1/8	KSL06-01S					22.1							25.5
8	1/4	KSL06-02S	14	17	26	25.5	18.5	6	21.6	14.9	8.6	8.6	17	
	1/8	KSL08-01S				25.6								30
	1/4	KSL08-02S				29								31
10	3/8	KSL08-03S	17	15.2	17	26	29.9	21	7	30.5	25.0	64	23	
	1/4	KSL10-02S					33.5							37.5
	3/8	KSL10-03S					33.9							38
12	1/2	KSL10-04S	22	18.5	22	31.5	37.1	22	8	35.1	35.1	82	29	
	3/8	KSL12-03S					35.4							40.5
	1/2	KSL12-04S					37.1							39.5
			24	20.9	24	34	38.6	42					76	

\* Reference dimensions after R thread installation.

<M5, M6>  
L1



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## Male Elbow: KXL (High speed)

<M5, M6>



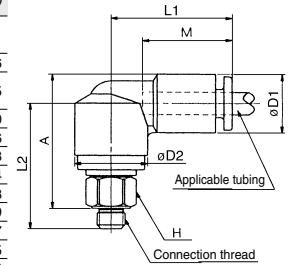
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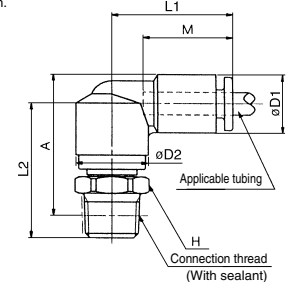
Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	D1	D2	L1	L2	A *	M	Min. port size	Effective area (mm <sup>2</sup> )		Weight (g)	
											Nylon	Urethane		
4	M5 x 0.8	KXL04-M5	8	10.4	13	22	22.5	24	16	2.5	3.5	3.5	11	
	M6 x 1	KXL04-M6					23							25
	1/8	KXL04-01S					23.1							25
6	M5 x 0.8	KXL06-M5	8	12.8	15.5	24	23.5	17	4	2.5	3.5	3.5	15	
	M6 x 1	KXL06-M6					24.1							28
	1/8	KXL06-01S					24.1							28
8	1/4	KXL06-02S	14	17	27	31.5	27.5	18.5	6	21.6	14.9	34	20	
	1/8	KXL08-01S					28.1							32
	1/4	KXL08-02S					31.5							33
10	3/8	KXL08-03S	17	15.2	18	27	31.9	21	7	30.5	25.0	77	26	
	1/4	KXL10-02S					37.5							42
	3/8	KXL10-03S					37.9							42
12	1/2	KXL10-04S	22	18.5	24.5	32	41.1	22	8	35.1	35.1	106	34	
	3/8	KXL12-03S					38.9							44
	1/2	KXL12-04S					42.1							45

\* Reference dimensions after R thread installation.

<M5, M6>



<R>



KQ2

KQB2

KS  
KX

KM

KF

M

H/DL  
L/LL

KC

KK

KX130

DM

KDM

KB

KR

KA

KQ2

KG

KFG2

MS

KKA

KP

LQ

MQR

T