

S Couplers

Series *KK/*KK13



Series *KK*

Male thread type

Series	Body size	Connection thread size R				
		1/8	1/4	3/8	1/2	3/4
KK3	1/8	●	●			
KK4	1/4	●	●	●	●	
KK6	1/2			●	●	●



Female thread type

Series	Body size	Connection thread size Rc			
		1/8	1/4	3/8	1/2
KK3	1/8	●			
KK4	1/4		●	●	
KK6	1/2			●	●



Nut fitting type

Series	Body size	Applicable hose I.D./O.D. mm					
		5/8	6/9	6.5/10	8/12	8.5/12.5	11/16
KK3	1/8	●	●	●			
KK4	1/4	●	●	●	●	●	
KK6	1/2				●	●	●



One-touch fitting type

Series	Body size	Applicable tubing O.D. mm					
		4	6	8	10	12	16
KK3	1/8	●	●	●	●		
KK4	1/4		●	●	●	●	●
KK6	1/2					●	●



Manufactured by Rectus

Series *KK13*



Series	Connection type	Connection thread size R, Rc				Applicable hose I.D.			
		1/8	1/4	3/8	1/2	1/4"	5/16"	3/8"	1/2"
KK13	Male thread type	●	●	●	●				
	Female thread type		●*	●	●				
	Barb fitting type					●	●	●	●

* Also available with G threads.



Compact with High Flow Rate

S Couplers

Series KK



Employs a unique connection method

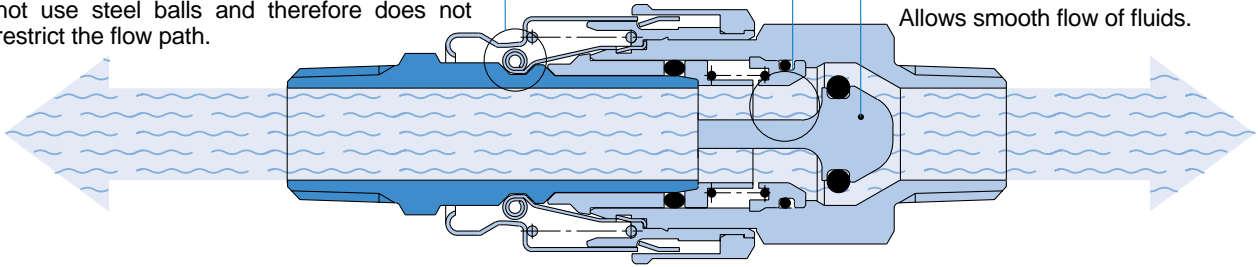
A slim body design and large effective area are achieved with a construction that does not use steel balls and therefore does not restrict the flow path.

No spring located in the flow path

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

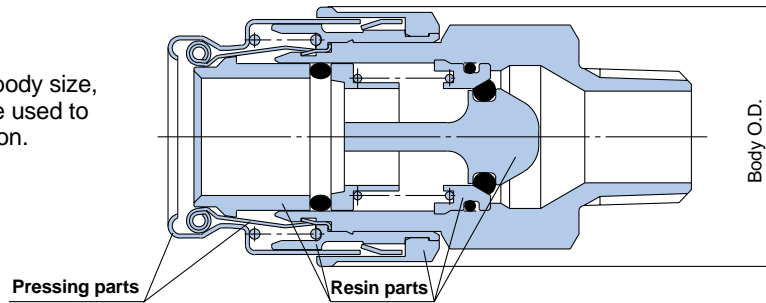
Check valve end configuration facilitates rectifying effect

Allows smooth flow of fluids.



Light weight

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	Weight g Note 2)
Series KK3	KK3P-01MS	KK3S-01MS	20	ø18.2	18.9
Series KK4	KK4P-02MS	KK4S-02MS	39	ø25.4	41.3
Series KK6	KK6P-04MS	KK6S-04MS	82	ø31.2	87.7

Note 1) Values when plug and socket are connected.

Note 2) Values for socket only.

One-touch fitting type standardized

Three types from ø4 to ø16 added to series.

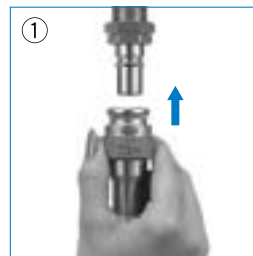


Flow is possible from the plug side or socket side.

Fluids: Air and Water

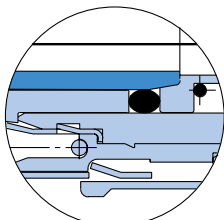
One-touch connection

Simple connection with one hand simplifies work.



Low leakage seal construction

Reliable sealing is achieved by surface contact.



Sleeve lock mechanism

Prevents accidents caused by unexpected separation.



Variations

Plug (P)

Male thread type

Body size	Port size	Part no.
1/8	R 1/8	KK3P-01MS
	R 1/4	-02MS
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.
1/8	Rc 1/8	KK3P-01F
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.
1/8	4	KK3P-04H
	6	-06H
	8	-08H
	10	-10H
1/4	6	KK4P-06H
	8	-08H
	10	-10H
1/2	12	KK6P-12H
	16	-16H

Elbow type with One-touch fitting

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

Bulkhead type with One-touch fitting

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

Socket (S)

Male thread type

Body size	Port size	Part no.
1/8	R 1/8	KK3S-01MS
	R 1/4	-02MS
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.
1/8	Rc 1/8	KK3S-01F
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.
1/8	4	KK3S-04H
	6	-06H
	8	-08H
	10	-10H
1/4	6	KK4S-06H
	8	-08H
	10	-10H
1/2	12	KK6S-12H
	16	-16H

Elbow type with One-touch fitting

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

Bulkhead type with One-touch fitting

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

S Couplers

Series *KK*



Specifications

Fluid	Air, Water (standard industrial water)
Operating pressure range	0 to 1.0MPa
Proof pressure	1.5MPa
Ambient and fluid temperature	-5 to 60°C
Plating, Sealant	Electroless nickel plated (copper-free application), With male thread sealant

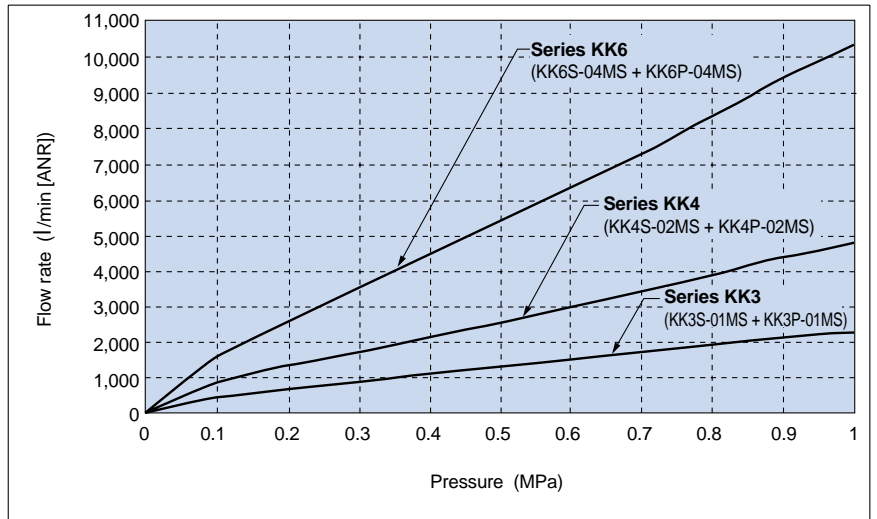
Performance

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

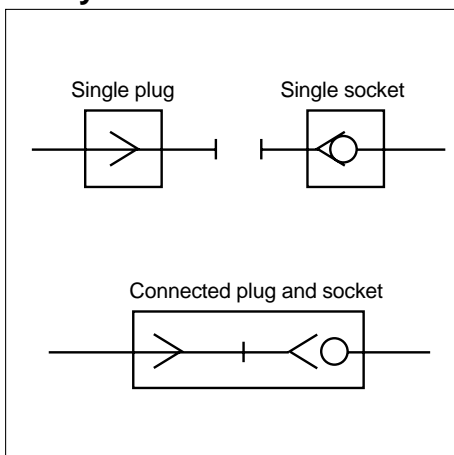
Effective Area

Body size	Plug	Socket	Effective area mm ²
1/8	KK3P-01MS	KK3S-01MS	20
1/4	KK4P-02MS	KK4S-02MS	39
1/2	KK6P-04MS	KK6S-04MS	82

Flow Characteristics



JIS symbols



How to Order

KK 4 S 02 M S

Body size

3	1/8
4	1/4
6	1/2

With sealant (male thread)

Socket/Plug designation

S	Socket
P	Plug

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
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

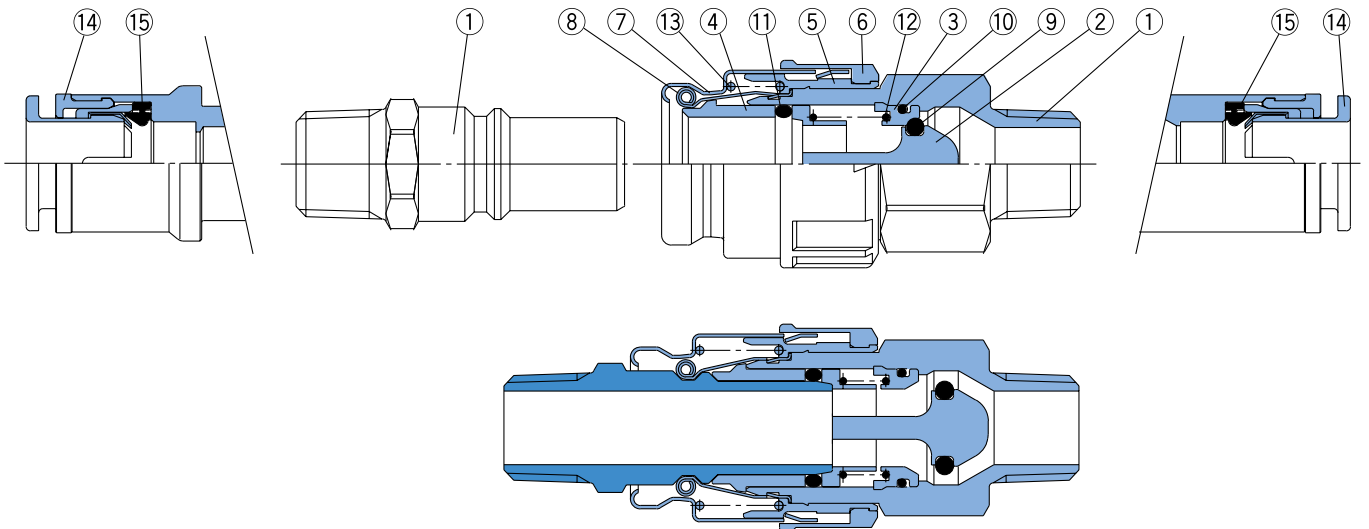
One-touch fitting type	
Symbol	Tubing O.D. mm
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

Nut fitting type	
Symbol	Hose O.D./I.D. mm
50	8/5
60	9/6
65	10/6.5
80	12/8
85	12.5/8.5
110	16/11

Construction

<With One-touch fitting>

<With One-touch fitting>



Plug

No.	Description	Material	Note
1	Stem	Brass	Electroless nickel plated
14	Cassette	—	
15	Seal	NBR	

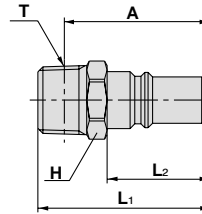
Socket

No.	Description	Material	Note
1	Body	Brass	Electroless nickel plated
2	Valve	PBT	
3	Valve seat	PBT	
4	Collar	PBT	
5	Spacer	PBT	
6	Lock ring	PBT	
7	Sleeve	Cold rolled carbon steel sheet	Electroless nickel plated
8	Chuck	Stainless steel	
9	Valve O-ring	FPM	
10	Valve seat O-ring	NBR	
11	Plug O-ring	NBR	
12	Valve spring	Stainless steel	
13	Sleeve spring	Stainless steel	
14	Cassette	—	
15	Seal	NBR	

Series KK

Dimensions/Plug (P)

Male thread type

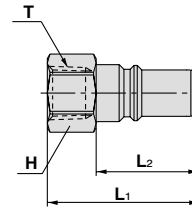


(mm)

Body size	Model	T Connection male thread	H Width across flats	L ₁	L ₂	A*	Min. bore	Effective area mm ²	Weight g
1/8	KK3P-01MS	R 1/8	10	30.4	18.4	26.4	6	22.6	8.4
	-02MS	R 1/4		33.4		27.4			14.2
1/4	KK4P-01MS	R 1/8	14	37	25.2	33	9	50.9	17
	-02MS	R 1/4		40.2		34.2			20.2
	-03MS	R 3/8	17	42.2		35.7			32.5
	-04MS	R 1/2	22	46.2		38.2			57.4
1/2	KK6P-03MS	R 3/8	19	48	31	41.5	11	76.0	44.7
	-04MS	R 1/2	22	52		44	13	106.2	53.7
	-06MS	R 3/4	27	55		45.5			94.4

* Reference dimension for R threads after installation.

Female thread type

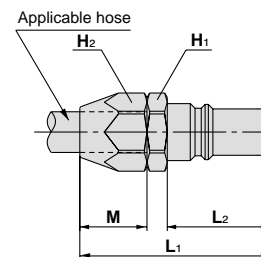


(mm)

Body size	Model	T Connection female thread	H Width across flats	L ₁	L ₂	Min. bore	Effective area mm ²	Weight g
1/8	KK3P-01F	Rc 1/8	14	28.3	18.4	6	22.6	10.4
1/4	KK4P-02F	Rc 1/4	17	37.2	25.2	9	50.9	23.9
	-03F	Rc 3/8	19	39.8				24.6
1/2	KK6P-03F	Rc 3/8	19	43.3	31	13	106.2	28.6
	-04F	Rc 1/2	24	50.2				43.9

Nut fitting type

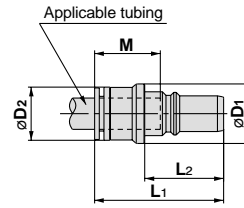
(for urethane hose with fiber reinforcement)



(mm)

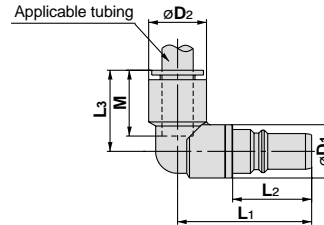
Body size	Model	Applicable hose I.D./O.D. mm	H ₁ Width across flats	H ₂ Width across flats	L ₁	L ₂	M	Min. bore	Effective area mm ²	Weight g
1/8	KK3P-50N	5/8	14	14	36.1	18.4	13.7	4.5	12.7	21.4
	-60N	6/9		17	39.9		16.5	5.4	18.3	38.8
	-65N	6.5/10		17	41.4		16.5	5.9	21.9	35.9
1/4	KK4P-50N	5/8	17	14	43.9	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	17	47.6	16.5		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	24	24	53.4	31	20.1	7.4	34.4	60.5
	-85N	8.5/12.5						7.8	38.2	62.8
	-110N	11/16						10.2	65.4	96.5

Straight type with One-touch fitting



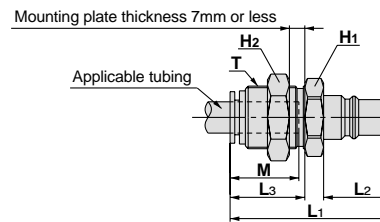
Body size	Model	Applicable tubing O.D. mm	ϕD_1	ϕD_2	L ₁	L ₂	M	Min. bore	Effective area mm ²		Weight g
									Urethane tubing	Nylon tubing	
1/8	KK3P-04H	ø4	12	10	35.4	18.4	16	3.2	3.9	5.6	7.9
	-06H	ø6	14	12			17	4.7	10.1	12.8	9.1
	-08H	ø8	16	14			18.5	6	15.7	22.6	13.2
	-10H	ø10	19	17			21		22.6		17.6
1/4	KK4P-06H	ø6	14	12	46.2	25.2	17	4.7	10.1	12.8	22.3
	-08H	ø8	16	14			18.5	6.2	19.8	22.6	23.0
	-10H	ø10	19	17			21	7.7	27.6	35.3	27.1
	-12H	ø12	21	19			22	9	40.2	50.9	30.0
1/2	KK6P-12H	ø12	21	19	56.1	31	25	9.2	41.2	—	44.4
	-16H	ø16	26	25.7			25	13	—	106.2	50.7

Elbow type with One-touch fitting



Body size	Model	Applicable tubing O.D. mm	ϕD_1	ϕD_2	L ₁	L ₂	L ₃	M	Min. bore	Effective area mm ²		Weight g
										Urethane tubing	Nylon tubing	
1/8	KK3P-04L	ø4	10	10.4	31.6	18.4	18	16	3	3.7	5.3	7.2
	-06L	ø6		12.8	32.8		20	17	4.5	10.1	11.4	8.0
	-08L	ø8		15.2	34		23	18.5	6	15.0	16.8	9.7
	-10L	ø10		17	18.5		36	26.5		21	18.0	18.5
1/4	KK4P-06L	ø6	14	12.8	40.2	25.2	20	17	4.5	10.1	11.4	19.6
	-08L	ø8		15.2	41.4		23	18.5	6	17.5	19.8	21.3
	-10L	ø10		18.5	42.8		26.5	21	7.5	24.7	27.5	25.7
	-12L	ø12		20.9	44		28.5	22	9	29.0	29.6	28.0
1/2	KK6P-12L	ø12	19	20.9	49.9	31	34	25	13	38.1	39.7	40.3
	-16L	ø16	21	26.5	53.5		34	25	13	—	58.7	48.7

Bulkhead type with One-touch fitting

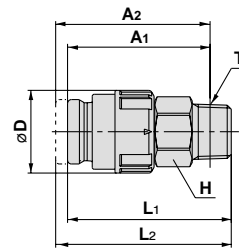


Body size	Model	Applicable tubing O.D. mm	T Threads	H ₁ Width across flats	H ₂ Width across flats	L ₁	L ₂	L ₃	M	Min. bore	Effective area mm ²		Weight g	
											Urethane tubing	Nylon tubing		
1/8	KK3P-04E	ø4	M12 x 1	14	14	39.3	18.4	16.9	16	3.2	3.9	5.6	16.6	
	-06E	ø6	M14 x 1	17	17	40.2		16.8	17	4.7	10.1	12.8	22.3	
	-08E	ø8	M16 x 1		19	43.4		20	18.5	6	15.7	22.6	30.2	
	-10E	ø10	M20 x 1	22	24	46.4		22	21		22.6		54.7	
1/4	KK4P-06E	ø6	M14 x 1	17	17	47	25.2	16.8	17	4.7	10.1	12.8	30.6	
	-08E	ø8	M16 x 1		19	50.2		20	18.5	6.2	19.8	22.6	38.2	
	-10E	ø10	M20 x 1		22	24		53.2	22	21	7.7	27.6	35.3	61.4
	-12E	ø12	M22 x 1		24	27		54.2	23	22	9	40.2	75.2	
1/2	KK6P-12E	ø12	M22 x 1	24	27	60.1	31	24.5	25	9.2	41.2	50.9	86.1	
	-16E	ø16	M28 x 1.5			30		32	62.6	24.5	25	13	—	106.2

Series KK

Dimensions/Socket (S)

Male thread type

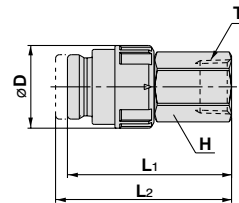


(mm)

Body size	Model	T Connection male thread	H Width across flats	øD	L ₁	L ₂ When connected	A ₁ *	A ₂ * When connected	Min. bore	Effective area mm ²	Weight g
1/8	KK3S-01MS	R 1/8	14	18.2	37.5	40	33.5	36	6	19.1	18.9
	-02MS	R 1/4					31.5	34	9	21.1	18.0
1/4	KK4S-01MS	R 1/8	19	25.4	50.4	54.1	46.4	50.1	6	22.9	44.7
	-02MS	R 1/4			51	54.7	45	48.7	9	35.9	41.3
	-03MS	R 3/8			50	53.7	43.5	47.2	11	40.4	48.1
	-04MS	R 1/2	49.7		53.4	41.7	45.4	13	42.7	58.4	
1/2	KK6S-03MS	R 3/8	24	31.2	60.2	65.5	53.7	59	11	71.7	85.5
	-04MS	R 1/2					52.2	57.5	13	80.1	87.7
	-06MS	R 3/4	27				50.7	56	15	81.6	110.9

* Reference dimension for R threads after installation.

Female thread type

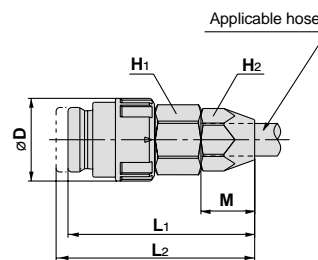


(mm)

Body size	Model	T Connection female thread	H Width across flats	øD	L ₁	L ₂ When connected	Min. bore	Effective area mm ²	Weight g
1/8	KK3S-01F	Rc 1/8	14	18.2	36	38.5	8.2	20.6	22.4
1/4	KK4S-02F	Rc 1/4	19	25.4	50.4	54.1	10.9	36.6	54.1
	-03F	Rc 3/8			51.1	54.8	14.4	42.7	43.4
1/2	KK6S-03F	Rc 3/8	24	31.2	58.6	63.9	14.4	80.9	91.2
	-04F	Rc 1/2			61	66.3	18	81.6	85.0

Nut fitting type

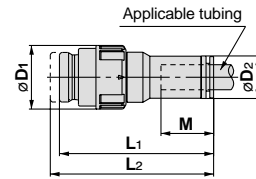
(for urethane hose with fiber reinforcement)



(mm)

Body size	Model	Applicable hose I.D./O.D. mm	H ₁ Width across flats	H ₂ Width across flats	øD	L ₁	L ₂ When connected	M	Min. bore	Effective area mm ²	Weight g	
1/8	KK3S-50N	5/8	14	14	18.2	42.6	45.1	13.7	4.5	12.2	30.9	
	-60N	6/9	17	17		44.4	46.9	16.5	5.4	18.3	47.5	
	-65N	6.5/10				5.9	19.2	45.2				
1/4	KK4S-50N	5/8	19	14	25.4	54.1	57.8	13.7	4.5	12.2	53.0	
	-60N	6/9		17		17	56.8	60.5	16.5	5.4	20.4	66.5
	-65N	6.5/10					5.9	24.1	64.0			
	-80N	8/12		19		19	55.4	59.1	17.4	7.4	35.1	65.7
	-85N	8.5/12.5					7.8	36.6		68.3		
1/2	KK6S-80N	8/12	24	24	31.2	66	71.3	20.1	7.4	36.6	105.1	
	-85N	8.5/12.5				7.8	41.2		107.8			
	-110N	11/16				10.2	68.4		117.4			

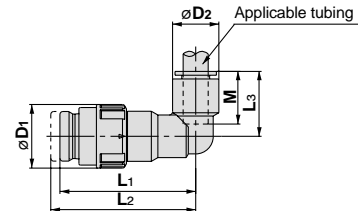
Straight type with One-touch fitting



(mm)

Body size	Model	Applicable tubing O.D. mm	ϕD_1	ϕD_2	L_1	L_2 When connected	M	Min. bore	Effective area mm ²		Weight g
									Urethane tubing	Nylon tubing	
1/8	KK3S-04H	$\phi 4$	18.2	10	46.6	49.1	16	3.2	3.8	5.8	21.3
	-06H	$\phi 6$		12	47.1	49.6	17	4.7	10.4	13.4	23.2
	-08H	$\phi 8$		14	48.9	51.4	18.5	6.2	16.8	18.9	26.1
	-10H	$\phi 10$		17	49.9	52.4	21	7.7	19.1	19.1	35.9
1/4	KK4S-06H	$\phi 6$	25.4	12	58.2	61.9	17	4.7	10.4	13.4	48.6
	-08H	$\phi 8$		14	60.1	63.8	18.5	6.2	18.3	21.8	48.5
	-10H	$\phi 10$		17	61.5	65.2	21	7.7	27.0	29.4	52.0
	-12H	$\phi 12$		19	62.5	66.2	22	9.2	30.5	32.0	56.6
1/2	KK6S-12H	$\phi 12$	31.2	19	70.1	75.4	22	9.2	42.7	48.8	81.7
	-16H	$\phi 16$		25.7	72.3	77.6	25	13.2	53.4	62.5	97.5

Elbow type with One-touch fitting



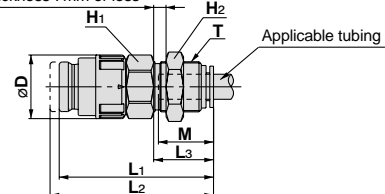
(mm)

Body size	Model	Applicable tubing O.D. mm	ϕD_1	ϕD_2	L_1	L_2 When connected	L_3	M	Min. bore	Effective area mm ²		Weight g
										Urethane tubing	Nylon tubing	
1/8	KK3S-04L	$\phi 4$	18.2	10.4	41.7	44.2	18	16	3	3.7	5.3	22.0
	-06L	$\phi 6$		12.8	42.9	45.4	20	17	4.5	10.1	11.4	22.8
	-08L	$\phi 8$		15.2	43.1	45.6	23	18.5	6	15.0	16.8	23.8
	-10L	$\phi 10$		18.5	42.9	45.4	26.5	21	7.5	18.0	18.5	33.2
1/4	KK4S-06L	$\phi 6$	25.4	12.8	54.3	58	20	17	4.5	10.1	11.4	50.7
	-08L	$\phi 8$		15.2	55.5	59.2	23	18.5	6	17.5	19.8	50.3
	-10L	$\phi 10$		18.5	54.2	57.9	26.5	21	7.5	24.7	27.5	51.9
	-12L	$\phi 12$		20.9	55.4	59.1	28.5	22	9	29.0	29.6	54.2
1/2	KK6S-12L	$\phi 12$	31.2	20.9	66.3	71.6	28.5	22	9	38.1	39.7	89.0
	-16L	$\phi 16$		26.5	66.9	72.2	34	25	13	50.3	58.7	91.1

Bulkhead type with One-touch fitting



Mounting plate thickness 7mm or less



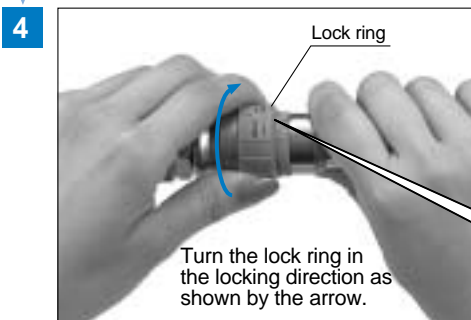
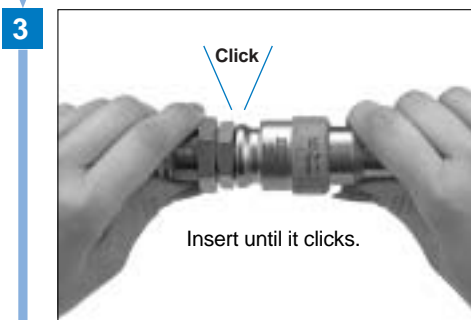
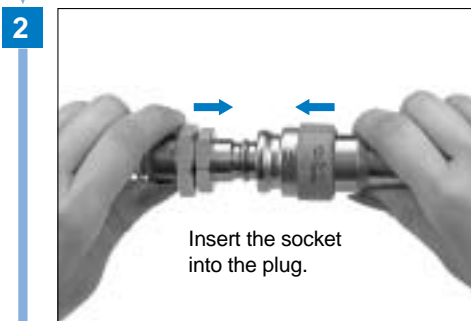
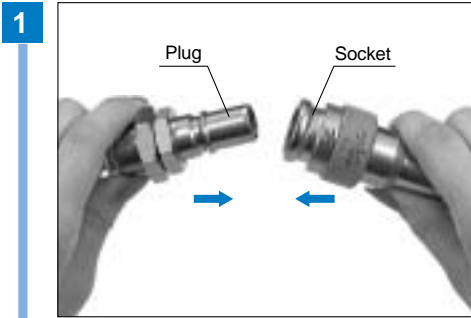
(mm)

Body size	Model	Applicable tubing O.D. mm	T Threads	H_1 Width across flats	H_2 Width across flats	ϕD	L_1	L_2 When connected	L_3	M	Min. bore	Effective area mm ²		Weight g
												Urethane tubing	Nylon tubing	
1/8	KK3S-04E	$\phi 4$	M12 x 1	14	14	18.2	46.6	49.1	16.9	16	3.2	3.8	5.8	27.8
	-06E	$\phi 6$	M14 x 1	17	17		47.1	49.6	16.8	17	4.7	10.4	13.4	38.2
	-08E	$\phi 8$	M16 x 1	19	19		49	51.5	20	18.5	6.2	16.8	18.9	42.2
	-10E	$\phi 10$	M20 x 1	22	24		49.9	52.4	22	21	7.7	19.1	19.1	67.1
1/4	KK4S-06E	$\phi 6$	M14 x 1	19	17	25.4	58.2	61.9	16.8	17	4.7	10.4	13.4	54.4
	-08E	$\phi 8$	M16 x 1	19	19		60.1	63.8	20	18.5	6.2	18.3	21.8	57.8
	-10E	$\phi 10$	M20 x 1	22	24		61.7	65.4	22	21	7.7	27.0	29.4	84.0
	-12E	$\phi 12$	M22 x 1	24	27		62.7	66.4	23	22	9.2	30.5	32.0	102.9
1/2	KK6S-12E	$\phi 12$	M22 x 1	24	27	31.2	70.1	75.4	23	22	9.2	42.7	48.8	113.6
	-16E	$\phi 16$	M28 x 1.5	30	32		72.5	77.8	24.5	25	13.2	53.4	62.5	180.8

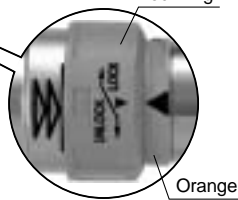
Series KK

Operating Procedure

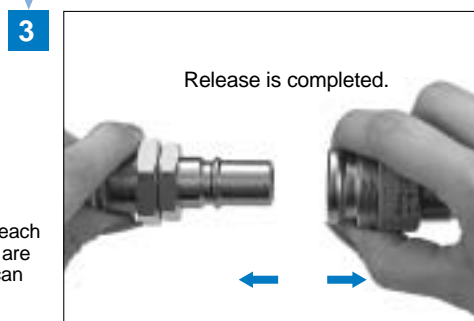
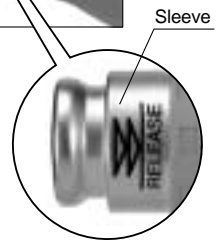
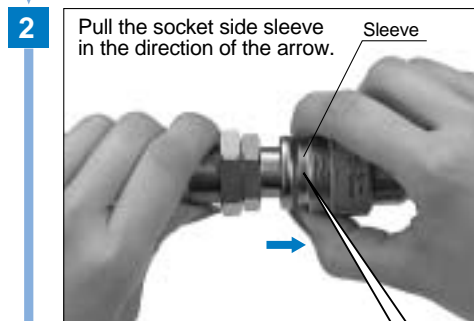
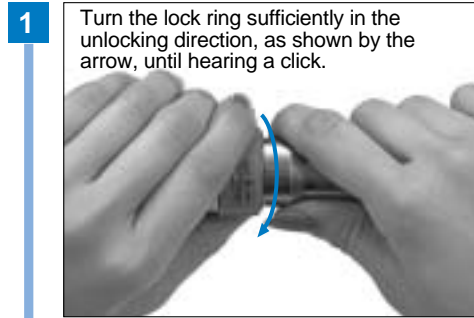
<Connection>



When the two ► marks face each other, the plug and the socket are locked. The locked condition can be confirmed with the visible orange section.

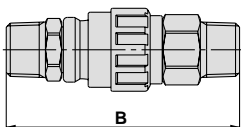


<Release>



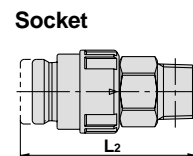
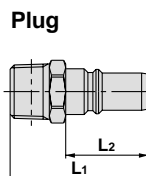
Calculation of Connected Plug and Socket Dimension

Overall length of connected plug and socket $B = \text{Plug } (L_1 - L_2) + \text{Socket } (L_2) + 0.5$



Example)
Overall length of KK3P-01MS (plug) and KK3S-01MS (socket) when they are connected.

Plug (30.4 – 18.4) + Socket (39.4) + 0.5 = 51.9mm

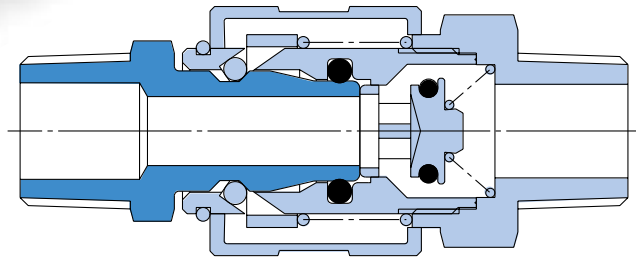




RECTUS

S Couplers

Series **KK13**



One-touch connection

- Can be connected by simply pushing the plug into the socket.
- Manipulation with one hand improves work efficiency.

Flow is possible from the plug side or socket side.

O-ring seal construction for outstanding air tightness and durability

Variations



Plug P

Male thread type

Port size	Part no.	
R 1/8	KK13P-01M	
R 1/4	-02M	
R 3/8	-03M	
R 1/2	-04M	

Female thread type

Port size	Part no.	
Rc 1/4	KK13P-02F	
Rc 3/8	-03F	
Rc 1/2	-04F	
G1/4	-G02F	

Barb fitting type

Applicable hose I.D.	Part no.	
1/4"	KK13P-07B	
5/16"	-09B	
3/8"	-11B	
1/2"	-13B	



Socket S

Male thread type

Port size	Part no.	
R 1/8	KK13S-01M	
R 1/4	-02M	
R 3/8	-03M	
R 1/2	-04M	

Female thread type

Port size	Part no.	
Rc 1/4	KK13S-02F	
Rc 3/8	-03F	
Rc 1/2	-04F	

Barb fitting type

Applicable hose I.D.	Part no.	
1/4"	KK13S-07B	
5/16"	09B	
3/8"	-11B	
1/2"	-13B	

S Couplers

Series *KK13*

Manufactured by
Rectus



Specifications

Fluid	Air Note 1)
Operating pressure range	0 to 1.5MPa
Proof pressure	2MPa
Ambient and fluid temperature	-5 to 60°C
Plating	Nickel plated external metal parts

Note 1) Cannot be used with water.

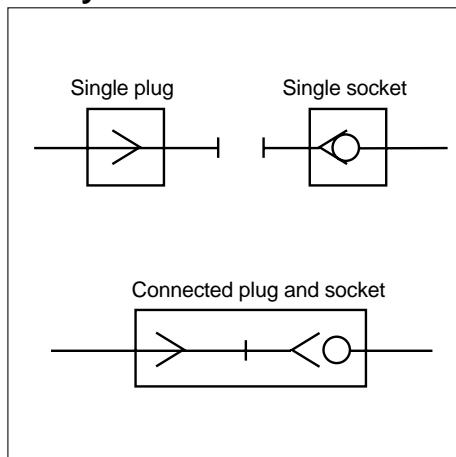
Performance

Plug and socket connection	One-touch connection and release
Check valve	Socket: Built-in check valve (standard)

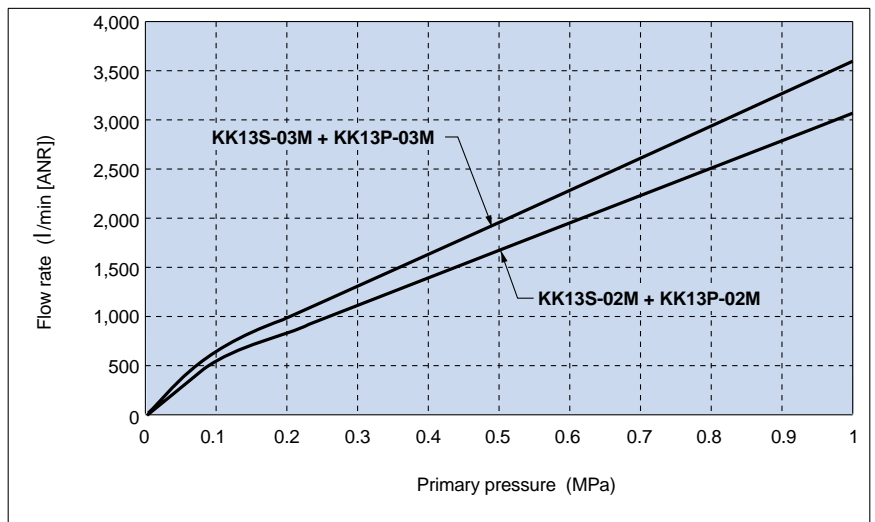
Effective Area

Body size	Plug	Socket	Effective area mm ²
1/4	KK13P-02M	KK13S-02M	24.1
	KK13P-03M	KK13S-03M	31.1

JIS symbols



Flow Characteristics



How to Order

KK 13 S-02 M

Series 13 •

Socket/Plug designation •

S	Socket
P	Plug

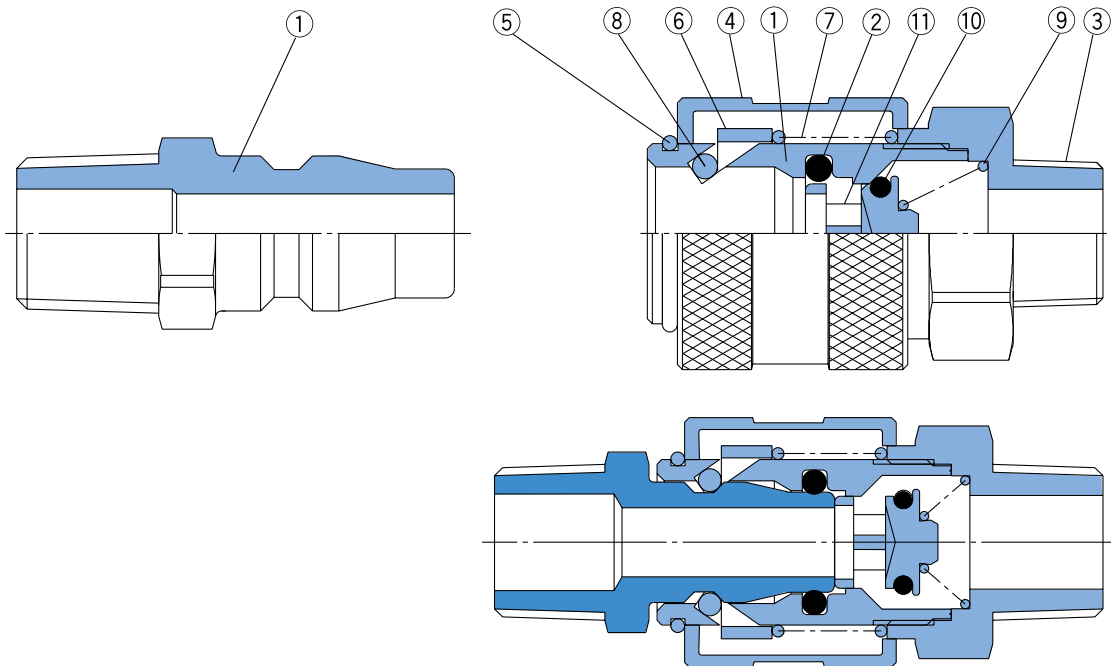
• Connection type

M	Male thread
F	Female thread
B	With barb fitting

• Port size variation

Male/Female thread type		Barb fitting type	
Symbol	Thread size	Symbol	Hose I.D.
01	R, Rc 1/8	07	1/4"
02	R, Rc 1/4	09	5/16"
03	R, Rc 3/8	11	3/8"
04	R, Rc 1/2	13	1/2"
G02	G1/4		

Construction



Plug

No.	Description	Material	Note
1	Stem	Steel	Nickel plated

Socket

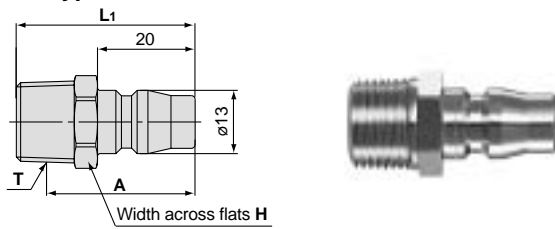
No.	Description	Material	Note
1	Coupling body	Brass	Nickel plated
2	Plug O-ring	NBR	
3	Body	Brass	Nickel plated
4	Sleeve	Brass	Nickel plated
5	Snap ring	Stainless steel	
6	Collar	Brass	
7	Sleeve spring	Stainless steel	
8	Locking pin	Stainless steel	
9	Valve spring	Stainless steel	
10	Valve O-ring	NBR	
11	Valve	Brass	

Series KK

Dimensions

Plug (P)

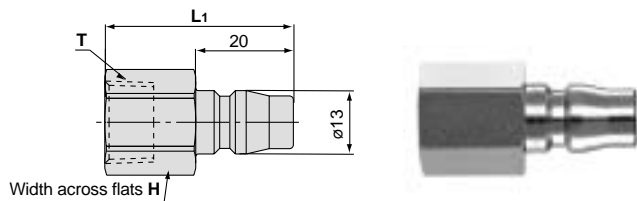
Male thread type



Model	T Connection male threads	H Width across flats	L ₁	A*	Min. bore	Effective area mm ²	Weight g
KK13P-01M	R 1/8	14	34	30	6	22.6	18
-02M	R 1/4	17	37	31	7.5	35.3	22
-03M	R 3/8			27			
-04M	R 1/2	22	44	35.8			51

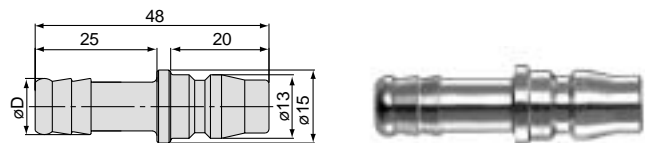
* Reference dimension after installation.

Female thread type



Model	T Connection female threads	H Width across flats	L ₁	Min. bore	Effective area mm ²	Weight g
KK13P-02F	Rc 1/4	17	35.5			27
-03F	Rc 3/8	19	39	7.5	35.3	32
-04F	Rc 1/4	24	42.5			51
-G02F	G 1/4	17	32			27

Barb fitting type (for rubber hose)

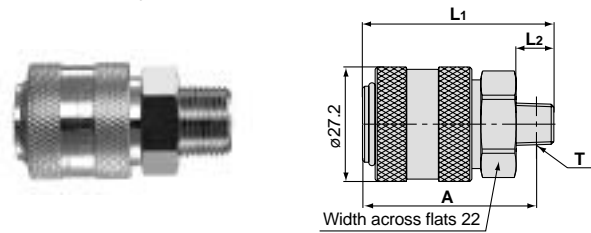


Model	Applicable hose I.D.	øD	Min. bore	Effective area mm ²	Weight g
KK13P-07B	1/4"	7.5	4.1	10.6	17
-09B	5/16"	9.4	6	22.6	18
-11B	3/8"	11.5	7.5	35.3	21
-13B	1/2"	14.5			25

Refer to page 9 for calculation of the connected plug and socket dimension.

Socket (S)

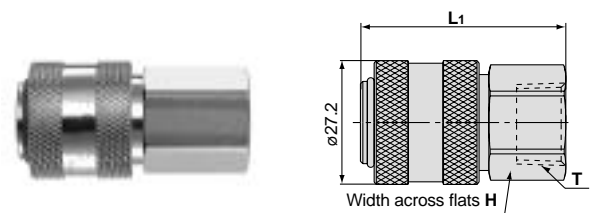
Male thread type



Model	T Connection male threads	L ₁	A*	Min. bore	Effective area mm ²	Weight g
KK13S-01M	R 1/8	45.5	41.5	6	19.0	81
-02M	R 1/4	48.5	42.5	7	24.1	86
-03M	R 3/8		42.1	10.2	31.1	89
-04M	R 1/2	53	44.8		32.1	108

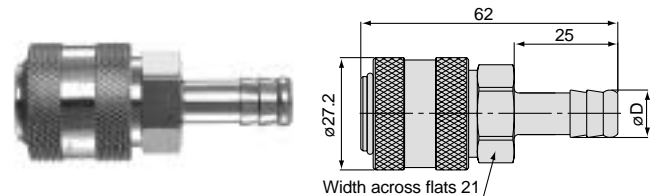
* Reference dimension after installation.

Female thread type



Model	T Connection female threads	H Width across flats	L ₁	Min. bore	Effective area mm ²	Weight g
KK13S-02F	Rc 1/4	22	47	10.5	25.7	103
-03F	Rc 3/8	24	52	10.2	31.1	107
-04F	Rc 1/2		55.5		32.1	117

Barb fitting type (for rubber hose)



Model	Applicable hose I.D.	øD	Min. bore	Effective area mm ²	Weight g
KK13S-07B	1/4"	7.5	4.1	8.0	81
-09B	5/16"	9.5	6	16.1	83
-11B	3/8"	11.5	8	25.4	88
-13B	1/2"	14.5	10.2	31.9	88

Related Equipment

Tube Couplers

Series *KC*

One-touch fitting stops the air flow when tubing is removed.

(Built-in self seal mechanism)

Copper-free specification

(Electroless nickel plated)



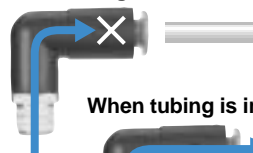
Applicable Tubing

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

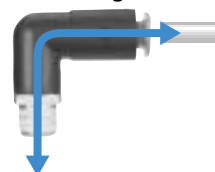
Specifications

Fluid	Air	
Maximum operating pressure	1.0MPa	
Proof pressure	3.0MPa	
Ambient and fluid temperature	-5 to 60°C (with no freezing)	
Threads	Mounting section	JIS B0203 (taper threads for piping)
	Nut section	JIS B0211, Class 2 (metric fine screw threads)
Thread sealant (standard)	With sealant	
Copper-free specification (standard)	All brass parts electroless nickel plated	

When tubing is removed



When tubing is installed





Series *KK/KK13* Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by a label of "**Caution**", "**Warning**" or "**Danger**". To ensure safety, be sure to observe ISO 4414 Note 1), JIS B 8370 Note 2) and other safety practices.

⚠ Caution : Operator error could result in injury or equipment damage.

⚠ Warning : Operator error could result in serious injury or loss of life.

⚠ Danger : In extreme conditions, there is a possible result of serious injury or loss of life.

Note 1) ISO 4414: Pneumatic fluid power – Recommendations for the application of equipment to transmission and control systems

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

⚠ Warning

1. The compatibility of pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications.

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or after analysis and/or tests to meet your specific requirements.

2. Only trained personnel should operate pneumatically operated machinery and equipment.

Compressed air can be dangerous if handled incorrectly. Assembly, handling or repair of pneumatic systems should be performed by trained and experienced operators.

3. Do not service machinery/equipment or attempt to remove components until safety is confirmed.

1. Inspection and maintenance of machinery/equipment should only be performed after confirmation of safe locked-out control positions.
2. When equipment is to be removed, confirm the safety process as mentioned above. Cut the supply pressure for this equipment and exhaust all residual compressed air in the system.
3. Before machinery/equipment is restarted, take measures to prevent shooting-out of cylinder piston rod, etc. (Bleed air into the system gradually to create back pressure.)

4. Contact SMC if the product is to be used in any of the following conditions:

1. Conditions and environments beyond the given specifications, or if product is used outdoors.
2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, press applications, or safety equipment.
3. An application which has the possibility of having negative effects on people, property, or animals, requiring special safety analysis.



Series KK/KK13

Common Precautions 1

Be sure to read before handling.

Selection

Warning

1. Cannot be used as a stop valve that requires zero leakage. A certain amount of leakage is allowed during operation.
2. Cannot be connected to quick couplers from other manufacturers. This will cause leakage, damage, and disconnection of the plug. With series KK13, manufactured by Rectus, verify the manufacturer of applicable couplers before use.

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.
2. Do not use in locations where the connecting threads and tubing connection will slide or rotate. The connecting threads and tubing connection will come apart under these conditions.
3. Use tubing at or above the minimum bending radius. Using below the minimum bending radius can cause breakage or flattening of the tube.
4. 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.
5. Can be used with standard industrial water. When using with other liquids, consult SMC.
Also, operate with a surge pressure of no more than the maximum operating pressure. If the surge pressure exceeds the maximum operating pressure, it will cause damage to couplers and tubing.

Mounting

Warning

1. Do not use couplers where rotation normally occurs. The couplers may be damaged.
2. When mounting a coupler on equipment where impact and vibration occur, install a hose with a length of 300mm or more between the equipment and the coupler.
3. To prevent an unexpected disconnection of the coupler, operate with the sleeve lock mechanism in the locked condition.
4. Install a stop valve at the supply pressure side of the socket. Emergency shutdown may not be possible without it.

Mounting

Caution

1. Before mounting confirm the model and size, etc. Also, confirm that there are no blemishes, nicks or cracks in the product.
2. When connecting a tube, consider factors such as changes in the tubing length due to pressure, and allow sufficient leeway.
3. 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.
4. Mount so that tubing is not damaged due to tangling and abrasion. This can cause flattening, bursting or disconnection of tubing, etc.

Operating Environment

Warning

1. Do not use in locations where static electric charges will be a problem. Consult SMC regarding use in this kind of environment.
2. Do not use in locations where spatter occurs.
There is a danger of spatter causing a fire. Consult SMC regarding use in this kind of environment.
3. Do not use in environments where there is direct contact with liquids such as cutting oil, lubricating oil or coolant oil, etc. Contact SMC regarding use in environments where there will be direct contact with cutting oil, lubricating oil or coolant oil, etc.

Maintenance

Caution

1. Check for the following during regular maintenance, and replace components as necessary.
 - a) Scratches, gouges, abrasion, corrosion
 - b) Leakage
 - c) Twisting, flattening or distortion of tubing
 - d) Hardening, deterioration or softness of tubing
2. Do not repair or patch the replaced tubing or couplers for reuse.

Handling

Warning

1. When connecting a plug, hold it securely. The plug may slip out due to the reaction when connecting.
2. When disconnecting a plug, hold it securely. The tubing may move due to the reaction when disconnecting or due to residual pressure at the plug side.



Series KK/KK13

Common Precautions 2

Be sure to read before handling.

Handling of One-touch Fittings

⚠ Caution

1. Tube attachment/detachment for One-touch fittings
 - 1) Attaching of tube
 1. Take a tube having no flaws on its periphery and cut it off at a right angle. When cutting the tube, use tube cutters TK-1, 2 or 3. Do not use pinchers, nippers or scissors, etc. If cutting is done with tools other than tube cutters, the tube may be cut diagonally or become flattened, etc. This can make a secure installation impossible, and cause problems such as the tube pulling out after installation or air leakage. Allow some extra length in the tube.
 2. Grasp the tube and push it in slowly, inserting it securely all the way into the fitting.
 3. After inserting the tube, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tube pulling out.
 - 2) Detaching of tube
 1. Push in the release bushing sufficiently. When doing this, push the collar evenly.
 2. Pull out the tube while holding down the release bushing so that it does not come out. If the release bushing is not pressed down sufficiently, there will be increased bite on the tube and it will become more difficult to pull it out.
 3. When the removed tube is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tube is used as is, this can cause trouble such as air leakage or difficulty in removing the tube.
2. When mounting a One-touch fitting, use a suitable wrench to tighten the hexagonal flats of the fitting. Moreover, position the wrench at the lower part of the hexagonal flats as close to the threads as possible. When a wrench of the proper size for the hexagonal flats is not used, it will cause the hexagonal flats to wear down.
3. Tightening of M3, M5, and M6 screws
 - 1) M3
After tightening by hand, tighten an additional 1/4 rotation with a tool.
 - 2) M5 and M6
After tightening by hand, tighten an additional 1/6 rotation with a tool.

Over tightening can cause damage to the threads and/or air leakage due to deformation of the gasket. Under tightening can cause loose threads and air leakage, etc.

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.

Handling of Fittings with Sealant

⚠ Caution

1. 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 1/16, NPT, R1/8	7 to 9
NPT, R1/4	12 to 14
NPT, R3/8	22 to 24
NPT, R1/2	28 to 30

2. When a fitting is over tightened, more of the sealant material is squeezed out. Remove the squeezed out sealant material.
3. When tightening is not sufficient, it will cause sealant failure or a loose fitting.
4. Re-using
 - 1) Normally, a fitting with sealant can be re-used 2 to 3 times.
 - 2) Remove the sealant material that is separated and adhering to a removed fitting with air blow, etc. If the separated sealant enters into nearby equipment, it will cause air leakage or malfunction.
 - 3) When the sealant is no longer effective, wrap sealant tape over the sealant material and re-use the fitting. Do not use a sealant material other than sealant tape.
5. In cases where positioning is required, turning the fitting in the reverse direction after tightening will cause air leakage.

Precautions on Other Tube Brands

⚠ Caution

1. When using tubing brands other than SMC, confirm that the tubing outside diameter tolerances satisfy the following specifications.
 - 1) Nylon tubing within $\pm 0.1\text{mm}$
 - 2) Soft nylon tubing within $\pm 0.1\text{mm}$
 - 3) Polyurethane tubing within $+0.15\text{mm}$
within -0.2mm

Do not use tubing if the outside diameter tolerance is not satisfied. It may not be possible to connect the tubing, or leakage or disconnection may occur after connection.

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