S Couplers
Series KK/KKH/KKA

Series KK General purpose type

- Effective area: 3.8 to 82 mm² (Series KK2) (Series KK6)
- Weight: 6.1 to 87.7 g (Series KK2) (Series KK6)
- With sleeve lock mechanism (Except KK2)

Series KKH With shock absorption cover

- Use of rubber sleeve cover and shock resistant cover ring enables Series KKH to absorb impact energy when dropped.
- Effective area is equivalent to that of Series KK.

Series KKA Stainless steel type

- Body material: Stainless steel 304
- Seal material: FKM
- Non-greased specifications

Variations

Series KK General purpose type

P.15-2-75 to 15-2-84

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						●	●

Types marked with "●" are newly added variations.

Series KK3/4/6

Series KK2

Series KKH With shock absorption cover

P.15-2-86 to 15-2-88

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	●	●	●	●	●

Types marked with "●" are newly added variations.

Series KKA Stainless steel type

P.15-2-89 to 15-2-95

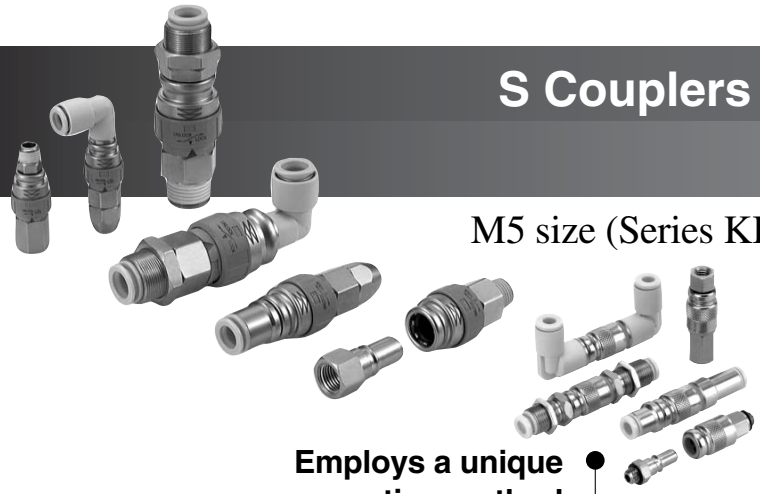
Male thread type

Series	Port size				
	R1/8	R1/4	R3/8	R1/2	R3/4
KKA3	●	●	●		
KKA4		●	●	●	
KKA6			●	●	●

Female thread type

Series	Port size				
	Rc1/8	Rc1/4	Rc3/8	Rc1/2	Rc3/4
KKA3	●	●	●		
KKA4		●	●	●	
KKA6			●	●	●

Series KK13



S Couplers Series KK

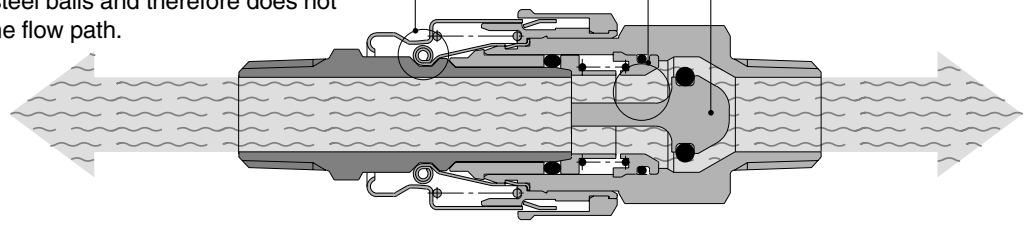
M5 size (Series KK2) is newly added.

General purpose type

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

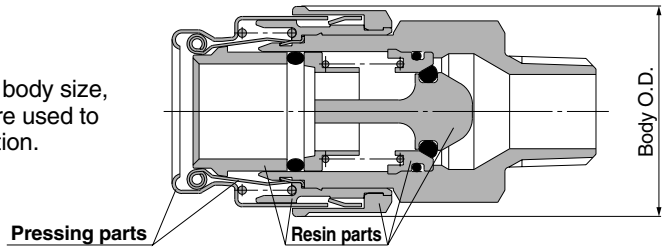
Employs a unique connection method
A slim body design and large effective area are achieved with a construction that does not use steel balls and therefore does not restrict the flow path.

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



●Light weight

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

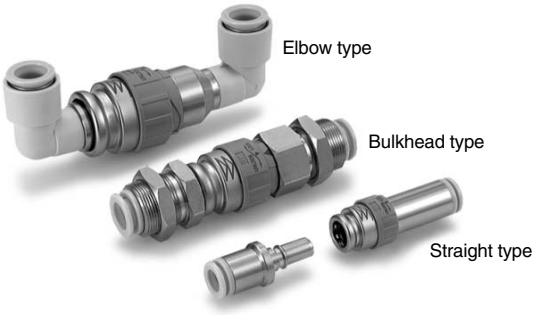


Series	Plug no.	Socket no.	Effective area mm² Note 1)	Body O.D. mm	Weight g Note 2)
Series **KK2**	KK2P-M5M	KK2S-M5M	3.8	ø10.0	6.1
Series **KK3**	KK3P-01MS	KK3S-01MS	20	ø18.2	18.9
Series **KK4**	KK4P-02MS	KK4S-02MS	39	ø25.4	41.3
Series **KK6**	KK6P-04MS	KK6S-04MS	82	ø31.2	87.7

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.

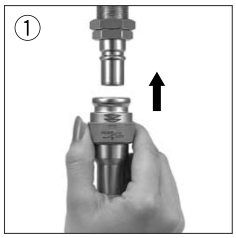


■ Flow is possible from the plug side or socket side.

■ Fluids: Air and Water

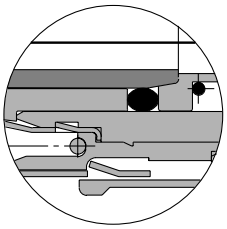
■ One-touch connection

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.

Note) Except for M5 type (Series KK2).

Series KK

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	Rc 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

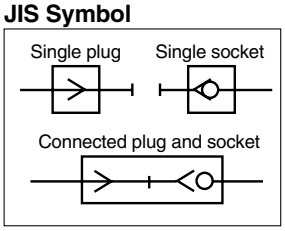
Body size	Applicable tubing O.D. mm	Part no.
M5	3.2	KK2S-23E
	4	-04E
	6	-06E
1/8	4	KK3S-04E
	6	-06E
	8	-08E
	10	-10E
1/4	6	KK4S-06E
	8	-08E
	10	-10E
	12	-12E
1/2	12	KK6S-12E
	16	-16E

S Couplers
General Purpose Type
Series KK

Series KK2

Series KK3/4/6

JIS Symbol



Specifications

Fluid	Air/Water (Standard industrial water)
Operating pressure range Note)	KK2: –100kPa to 1.0MPa KK3: –90kPa to 1.0MPa KK4·6: 0 to 1.0MPa
Proof pressure	1.5MPa
Ambient and fluid temperature	Air: –5 to 60°C Water: 5 to 40°C (with no freezing)
Plating, Seal	Electroless nickel plated (Copper-free application), With male thread seal

Note) Do not use the S couplers with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

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) Series KK2 is not provided with lock mechanism.

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

Piping port size variations

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

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

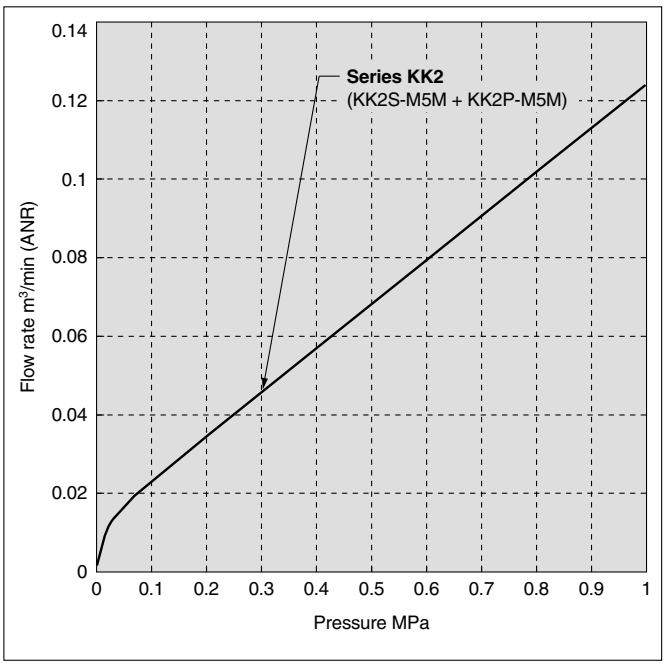
With seal (male thread)

Series KK

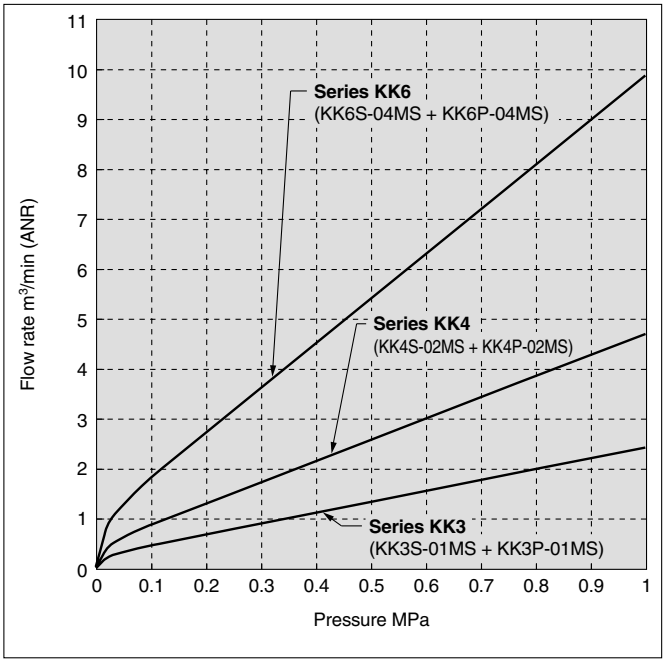
Flow Characteristics

Air (0 to 1 MPa)

KK2

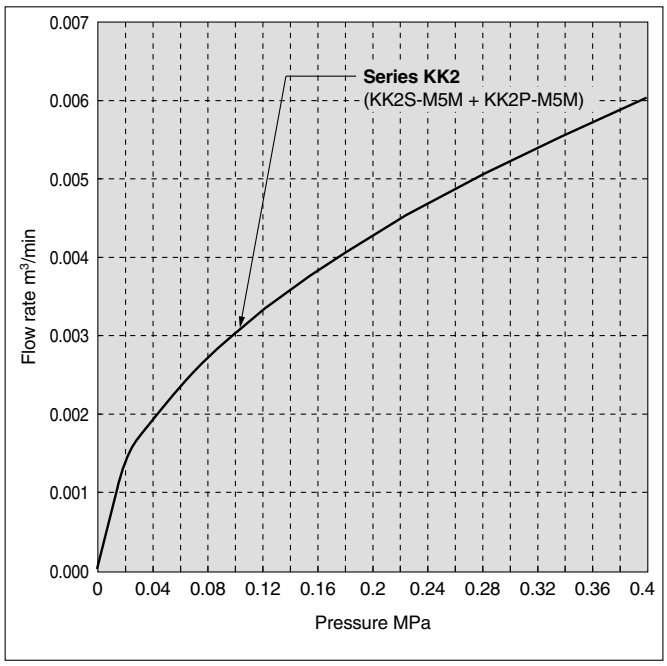


KK3/4/6

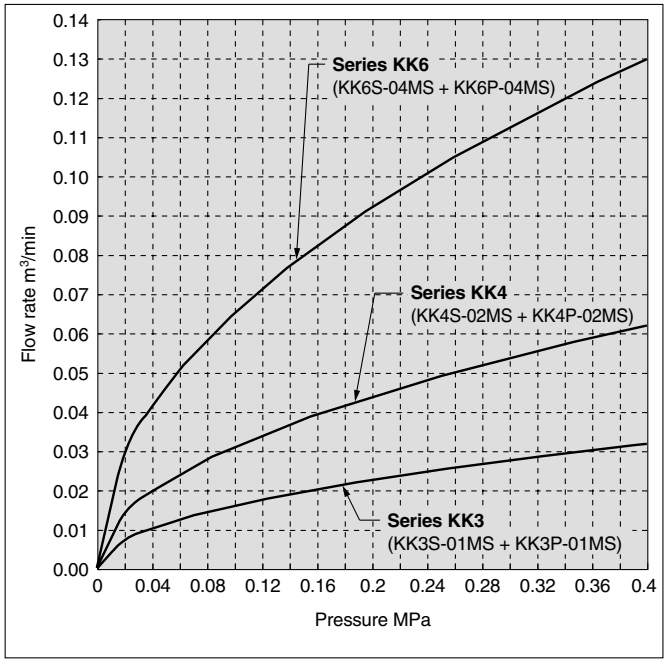


Water (0 to 0.4 MPa)

KK2

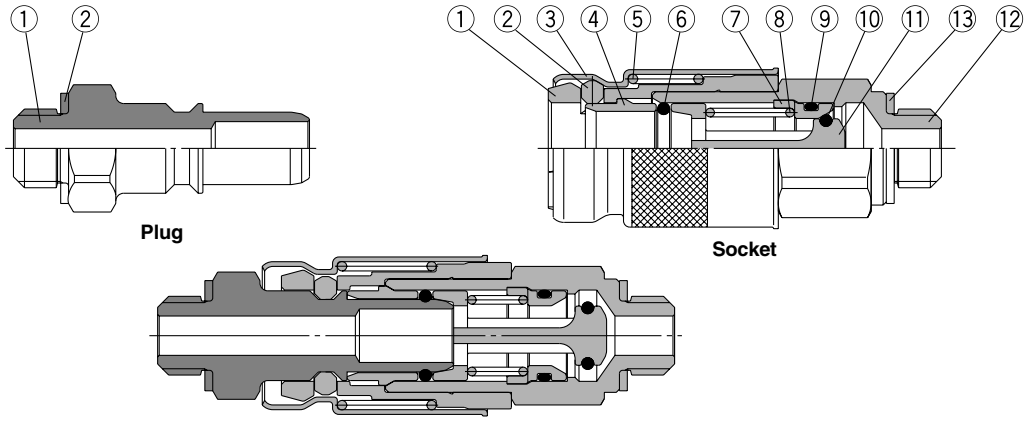


KK3/4/6



Construction

KK2



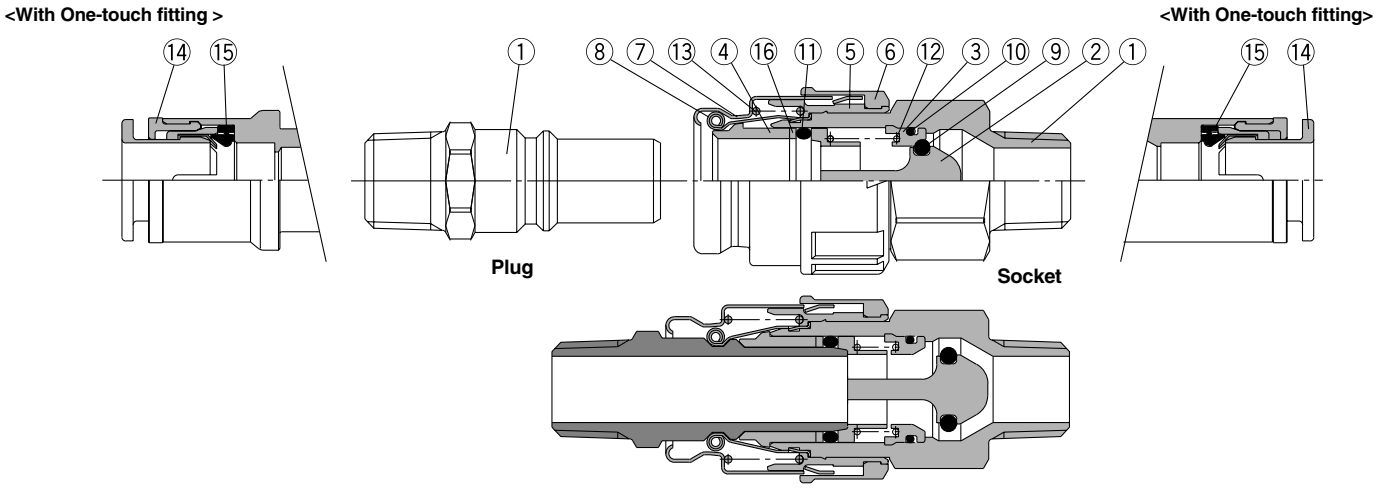
Plug

No.	Description	Material	Note
①	Stem	Brass	Electroless nickel plated
②	Gasket	Stainless steel, NBR	

Socket

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

KK3/4/6



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	FKM	
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	
⑯	Collar 2	Stainless steel	

Series KK

Dimensions: Plug (P)

Male thread type

(mm)

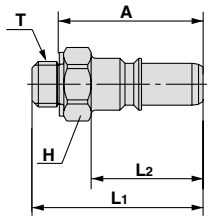
KK2

KK3/4/6

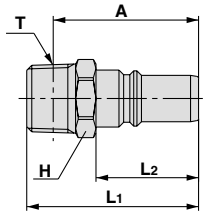
Body size	Model	T Connection port size	H Width across flats	L_1	L_2	A*	Min. bore size	Effective area mm²	Weight g
M5	**KK2P-M5M**	M5 x 0.8	7	18.8	12.3	15.8	2.5	4.4	2.6
	-01MS	R 1/8	10	23.2		19.2	3.4	8.1	3.0
1/8	**KK3P-01MS**	R 1/8		30.4	18.4	26.4	6.0	22.6	8.4
	-02MS	R 1/4	14	33.4		27.4			14.2
	-03MS	R 3/8	17	36.9	19.9	30.4			28.1
1/4	**KK4P-01MS**	R 1/8	14	37.0	25.2	33.0			17.0
	-02MS	R 1/4		40.2		34.2	9.0	50.9	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	48.0	31.0	41.5	11.0	76.0	44.7
	-04MS	R 1/2	22	52.0		44.0	13.0	106.2	53.7
	-06MS	R 3/4	27	55.0		45.5			94.4

* Reference dimension for R threads after installation.

KK2



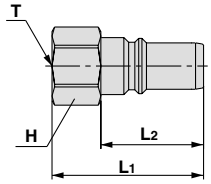
KK3/4/6



Female thread type

(mm)

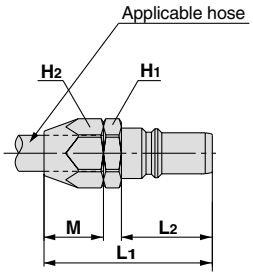
Body size	Model	T Connection port size	H Width across flats	L_1	L_2	Min. bore size	Effective area mm²	Weight g
M5	**KK2P-M5F**	M5 x 0.8	8	17.6	12.3	3.4	8.1	2.6
1/8	**KK3P-01F**	Rc 1/8	14	28.3	18.4	6.0	22.6	10.4
	-02F	Rc 1/4	17	35.0	19.0			20.8
	-03F	Rc 3/8	19	36.8				23.2
1/4	**KK4P-02F**	Rc 1/4	17	37.2	25.2	9.0	50.9	23.9
	-03F	Rc 3/8	19	39.8				24.6
1/2	**KK6P-03F**			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)

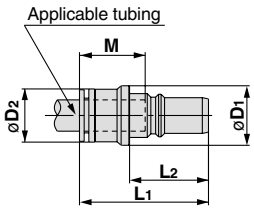
Body size	Model	Applicable hose I.D./O.D. mm	H_1 Width across flats	H_2 Width across flats	L_1	L_2	M	Min. bore size	Effective area mm²	Weight g
1/8	**KK3P-50N**	5/8	14	14	36.1	18.4	13.7	4.5	12.7	21.4
	-60N	6/9	17	17	39.9		16.5	5.4	18.3	38.8
	-65N	6.5/10						5.9	21.9	35.9
1/4	**KK4P-50N**	5/8	17	14	43.9	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)

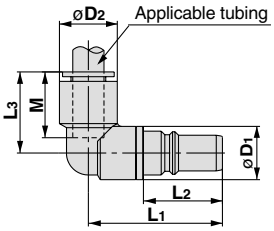
Body size	Model	Applicable tubing O.D. mm	øD1	øD2	L1	L2	M	Min. bore size	Effective area mm² Urethane tubing	Effective area mm² Nylon tubing	Weight g
M5	**KK2P-23H**	ø3.2	10.0	7.0	20.5	12.3	12.7	2.5	3.7	4.4	3.3
	-04H	ø4		8.0				3.4	8.1	8.1	3.4
	-06H	ø6		10.0	23.5		13.5				4.0
1/8	**KK3P-04H**	ø4	12.0	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	25.7			25.0	13.0	—	106.2	50.7



Elbow type with One-touch fitting

(mm)

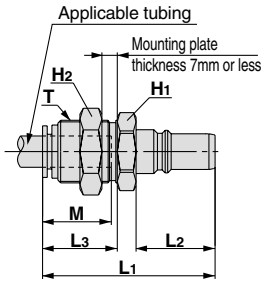
Body size	Model	Applicable tubing O.D. mm	øD1	øD2	L1	L2	L3	M	Min. bore size	Effective area mm² Urethane tubing	Effective area mm² Nylon tubing	Weight g
M5	**KK2P-23L**	ø3.2	10.0	9.3	24.0	12.3	16.5	12.7	2.5	3.6	4.3	5.8
	-04L	ø4										
	-06L	ø6		11.6	25.1		16.6	13.5	3.4	7.8	7.8	6.4
1/8	**KK3P-04L**	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	—	58.7	48.7



Bulkhead type with One-touch fitting

(mm)

Body size	Model	Applicable tubing O.D. mm	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			39.3	18.4	16.9	16.0	3.2	3.9	5.6	16.6
	-06E	ø6	M14 x 1	17	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	—	106.2	125.0



Series KK

Dimensions: Socket (S)

Male thread type

(mm)

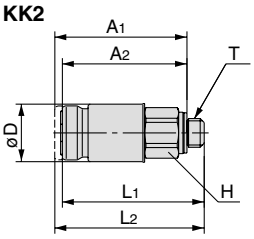
KK2

KK3/4/6

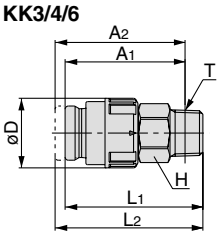
Body size	Model	T Connection port size	H Width across flats	øD	L1	L2 When connected	A1*	A2* When connected	Min. bore size	Effective area mm²	Weight g
M5	**KK2S-M5M**	M5 x 0.8	8	10.0	24.7	26.2	21.7	23.7	2.5	3.8	6.1
	-01MS	R 1/8	10		25.3	26.8		22.8	4.7	5.8	9.1
1/8	**KK3S-01MS**	R 1/8	14	18.2	37.5	40.0	33.5	36.0	6.0	20.4	18.9
	-02MS	R 1/4					31.5	34.0	9.0	21.1	18.0
	-03MS	R 3/8	17		38.7	41.0	32.2	34.5			27.8
1/4	**KK4S-01MS**	R 1/8	19	25.4	50.4	51.7	46.4	50.1	6.0	22.9	44.7
	-02MS	R 1/4			51.0	54.7	45.0	48.7	9.0	38.9	41.3
	-03MS	R 3/8			50.0	53.7	43.5	47.2	11.0	40.4	48.1
	-04MS	R 1/2	22		49.7	53.4	41.7	45.4	13.0	42.7	58.4
1/2	**KK6S-03MS**	R 3/8	24	31.2	60.2	65.5	53.7	59.0	11.0	71.7	85.5
	-04MS	R 1/2					52.2	57.5	13.0	82.3	87.7
	-06MS	R 3/4	27				50.7	56.0	15.0	83.8	110.9

∗ Reference dimension for R threads after installation.

KK2



KK3/4/6



Female thread type

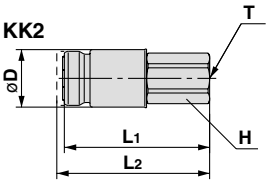
(mm)

KK2

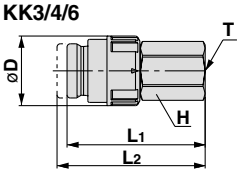
KK3/4/6

Body size	Model	T Connection port size	H Width across flats	øD	L1	L2 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	18.2	36.0	38.5	8.2	20.6	22.4
	-02F	Rc 1/4	17		40.1	42.4		21.1	33.2
	-03F	Rc 3/8			41.9	44.3			37.6
1/4	**KK4S-02F**	Rc 1/4	19	25.4	50.4	54.1	10.9	39.6	54.1
	-03F	Rc 3/8			51.1	54.8	14.4	42.7	43.4
1/2	**KK6S-03F**		24	31.2	58.6	63.9		83.1	91.2
	-04F	Rc 1/2			61.0	66.3	18.0	83.8	85.0

KK2



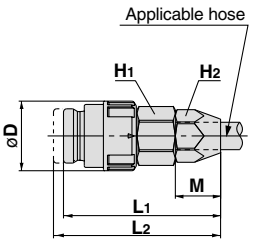
KK3/4/6



Nut fitting type (for fiber reinforced urethane hose)

(mm)

Body size	Model	Applicable hose I.D./O.D. mm	H1 Width across flats	H2 Width across flats	øD	L1	L2 When connected	M	Min. bore size	Effective area mm²	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		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		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		31.2	66.0	71.3		7.4		105.1
	-85N	8.5/12.5							7.8	41.2	107.8
	-110N	11/16		24		64.4	69.7	20.1	10.2	68.4	117.4



Straight type with One-touch fitting

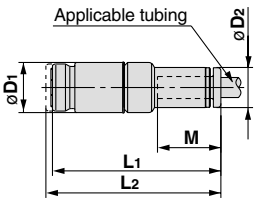
(mm)

KK2

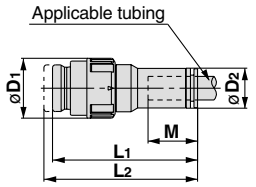
KK3/4/6

Body size	Model	Applicable tubing O.D. mm	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	18.2	10.0	46.6	49.1	16.0	3.2	3.8	5.8	21.3
	-06H	ø6		12.0	47.1	49.6	17.0	4.7	10.4	13.4	23.2
	-08H	ø8		14.0	48.9	51.4	18.5	6.2	16.8	18.9	26.1
	-10H	ø10		17.0	49.9	52.4	21.0	7.7	19.1	19.1	35.9
1/4	**KK4S-06H**	ø6	25.4	12.0	58.2	61.9	17.0	4.7	10.4	13.4	48.6
	-08H	ø8		14.0	60.1	63.8	18.5	6.2	18.3	21.8	48.5
	-10H	ø10		17.0	61.5	65.2	21.0	7.7	27.0	29.4	52.0
	-12H	ø12		19.0	62.5	66.2	22.0	9.2	30.5	32.0	56.6
1/2	**KK6S-12H**		31.2		70.1	75.4			42.7	48.8	81.7
	-16H	ø16		25.7	72.3	77.6	25.0	13.2	53.4	62.5	97.5

KK2



KK3/4/6



Elbow type with One-touch fitting

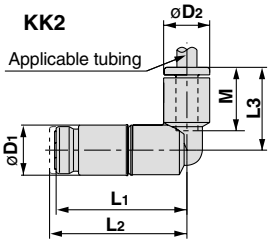
(mm)

KK2

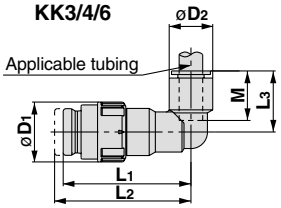
KK3/4/6

Body size	Model	Applicable tubing O.D. mm	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										
	-06L	ø6		11.6	27.2	28.3	16.6	13.5	4.5	5.6	5.6	7.2
1/8	**KK3S-04L**	ø4	18.2	10.4	41.7	44.2	18.0	16.0	3.0	3.7	5.3	22.0
	-06L	ø6		12.8	42.9	45.4	20.0	17.0	4.5	10.1	11.4	22.8
	-08L	ø8		15.2	43.1	45.6	23.0	18.5	6.0	15.0	16.8	23.8
	-10L	ø10		18.5	42.9	45.4	26.5	21.0	7.5	18.0	18.5	33.2
1/4	**KK4S-06L**	ø6	25.4	12.8	54.3	58.0	20.0	17.0	4.5	10.1	11.4	50.7
	-08L	ø8		15.2	55.5	59.2	23.0	18.5	6.0	17.5	19.8	50.3
	-10L	ø10		18.5	54.2	57.9	26.5	21.0	7.5	24.7	27.5	51.9
	-12L	ø12		20.9	55.4	59.1	28.5	22.0	9.0	29.0	29.6	54.2
1/2	**KK6S-12L**		31.2		66.3	71.6			13.0	38.1	39.7	89.0
	-16L	ø16		26.5	66.9	72.2	34.0	25.0		50.3	58.7	91.1

KK2



KK3/4/6



Bulkhead type with One-touch fitting

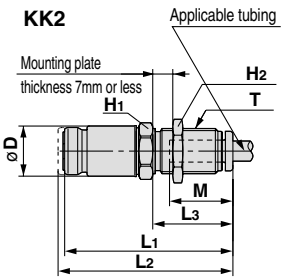
(mm)

KK2

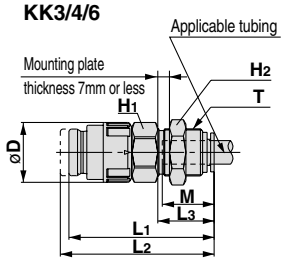
KK3/4/6

Body size	Model	Applicable tubing O.D. mm	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	18.2	46.6	49.1	16.9	16.0	3.2	3.8	5.8	27.8
	-06E	ø6	M14 x 1	17	17		47.1	49.6	16.8	17.0	4.7	10.4	13.4	38.2
	-08E	ø8	M16 x 1		19		49.0	51.5	20.0	18.5	6.2	16.8	18.9	42.2
	-10E	ø10	M20 x 1	22	24		49.9	52.4	22.0	21.0	7.7	19.1	19.1	67.1
1/4	**KK4S-06E**	ø6	M14 x 1	19	17	25.4	58.2	61.9	16.8	17.0	4.7	10.4	13.4	54.4
	-08E	ø8	M16 x 1		19		60.1	63.8	20.0	18.5	6.2	18.3	21.8	57.8
	-10E	ø10	M20 x 1	22	24		61.7	65.4	22.0	21.0	7.7	27.0	29.4	84.0
	-12E	ø12	M22 x 1	24	27		62.7	66.4	23.0	22.0	9.2	30.5	32.0	102.9
1/2	**KK6S-12E**					31.2	70.1	75.4	24.5	25.0		42.7	48.8	113.6
	-16E	ø16	M28 x 1.5	30	32		72.5	77.8			13.2	53.4	62.5	180.8

KK2



KK3/4/6



Series KK

Operating Procedure

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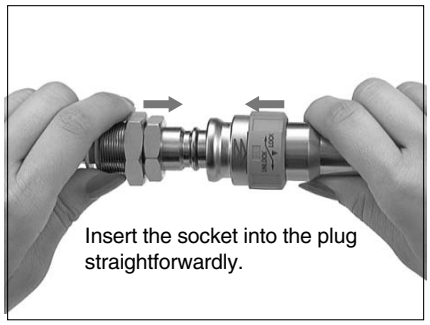
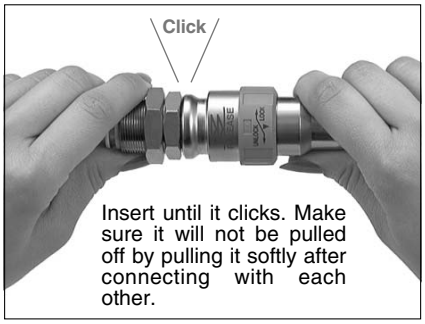
1.



2.



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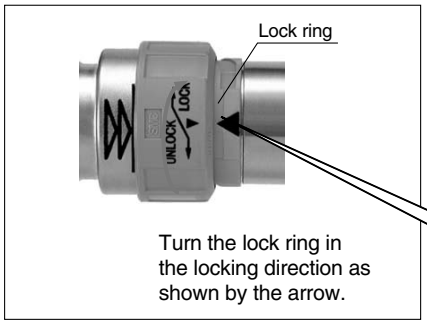
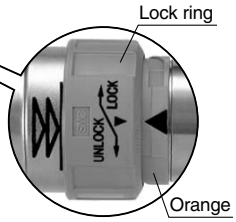
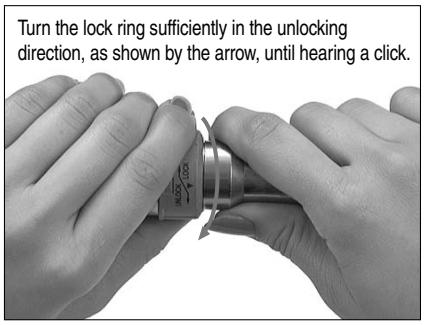


When the two ▶ marks face each other, the plug and the socket are locked. The locked condition can be confirmed with the visible orange section.



<Release>

1.



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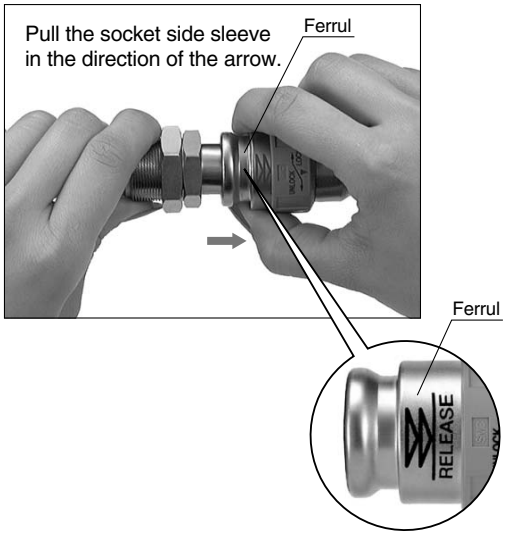

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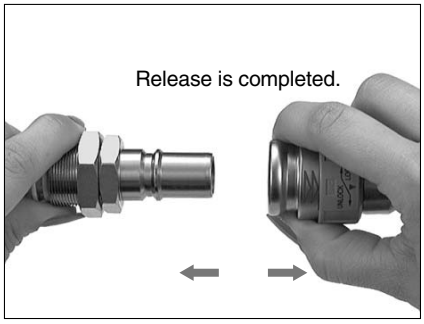
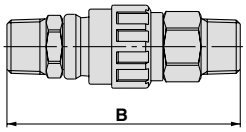


Calculation of Connected Plug and Socket Dimensions

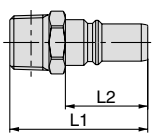
Overall length of connected plug and socket B = Plug (L1 – L2) + Socket (L2) + 0.5



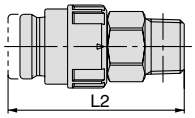
Example) Overall length of KK3P-01MS (plug) and KK3S-01MS (socket) when they are connected.

Plug (30.4 – 18.4) + Socket (40) + 0.5 = 52.5 mm

Plug



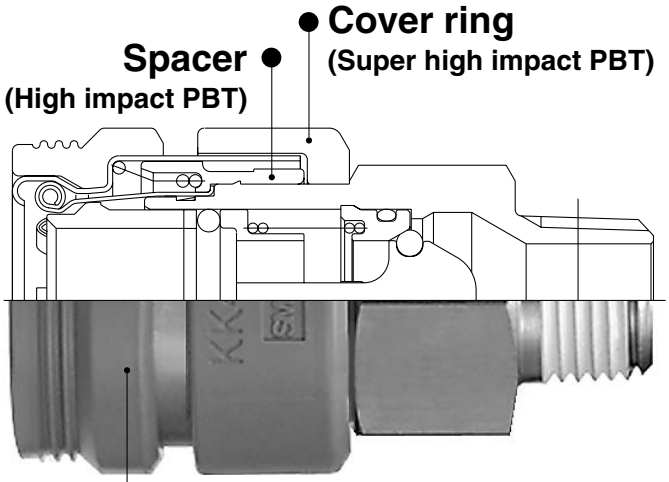
Socket



S Couplers Series KKH

With shock absorption cover

●Able to absorb drop impact (equivalent to impact energy of 0.5 J).



●Same effective sectional area as that of Series KK.

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

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

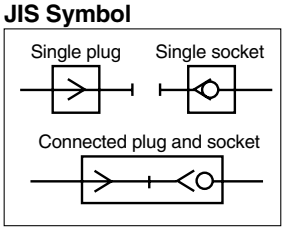
S Couplers
With Shock Absorption Cover
Series KKH

Specifications

Fluid	Air/Water (Standard industrial water)
Operating pressure range Note)	KKH3: –90kPa to 1.0MPa KKH4: 0 to 1.0MPa
Proof pressure	1.5MPa
Ambient and fluid temperature	Air: –5 to 60°C Water: 5 to 40°C (with no freezing)
Plating, Seal	Electroless nickel plated (Copper-free application), With male thread sealant
Connection plug	Series KK plug

Note) Do not use the S couplers with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

JIS Symbol



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 characteristics are the same as those of Series KK.
Please refer to page 15-2-78.

How to Order

KKH 4 S – 02 M S

Body size

3	1/8
4	1/4

Socket/Plug designation

S	Socket

Connection type

Symbol	Type
M	Male thread
F	Female thread
N	With nut fitting

With seal (male thread)

Piping port size variations

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

Series KKH

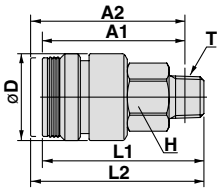
Dimensions: Socket (S)

Male thread type

(mm)

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
1/8	**KKH3S-01MS**	R 1/8	14	19.6	37.5	40.0	33.5	36.0	6.0	20.4	20.4
	-02MS	R 1/4					31.5	34.0	9.0	21.1	19.5
	-03MS	R 3/8	17		38.7	41.0	32.2	34.5	9.0		27.8
1/4	**KKH4S-01MS**	R 1/8	19	27.3	50.4	54.1	46.4	50.1	6.0	22.9	48.8
	-02MS	R 1/4			51.0	54.7	45.0	48.7	9.0	38.9	45.4
	-03MS	R 3/8			50.0	53.7	43.5	47.2	11.0	40.4	52.2
	-04MS	R 1/2	22		49.7	53.4	41.7	45.4	13.0	42.7	62.5

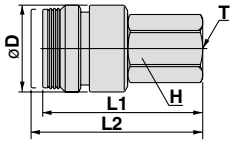
* Reference dimension for R threads after installation.



Female thread type

(mm)

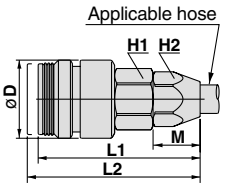
Body size	Model	T Connection port size	H Width across flats	øD	L_1	L_2 When connected	Min. bore size	Effective area mm²	Weight g
1/8	**KKH3S-01F**	Rc 1/8	14	19.6	36.0	38.5	8.2	20.6	23.9
	-02F	Rc 1/4	17		40.1	42.4		21.1	33.2
	-03F	Rc 3/8	19		41.9	44.3			37.2
1/4	**KKH4S-02F**	Rc 1/4	19	27.3	50.4	54.1	10.9	39.6	58.2
	-03F	Rc 3/8			51.1	54.8	14.4	42.7	47.5



Nut fitting type (for fiber reinforced urethane hose)

(mm)

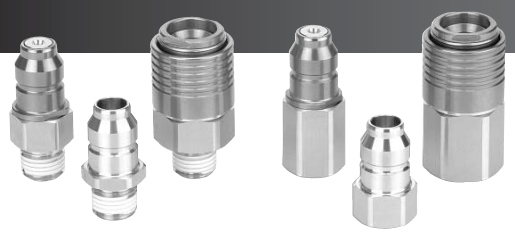
Body size	Model	Applicable hose I.D./O.D. mm	H_1 Width across flats	H_2 Width across flats	øD	L_1	L_2 When connected	M	Min. bore size	Effective area mm²	Weight g
1/8	**KKH3S-50N**	5/8	14	14	19.6	42.6	45.1	13.7	4.5	12.2	32.4
	-60N	6/9	17	17		44.4	46.9	16.5	5.4	18.3	49.0
	-65N	6.5/10							5.9	19.2	46.7
1/4	**KKH4S-50N**	5/8	19	14	27.3	54.1	57.8	13.7	4.5	12.2	57.1
	-60N	6/9		17		56.8	60.5	16.5	5.4	20.4	70.6
	-65N	6.5/10							5.9	24.1	68.1
	-80N	8/12		19		55.4	59.1	17.4	7.4	35.1	69.8
	-85N	8.5/12.5							7.8	36.6	72.4



Series KKH are only available as sockets. Series KK should be used as plugs. For dimensions, please refer to page 15-2-80 to 15-2-81.

S Couplers

Series KKA

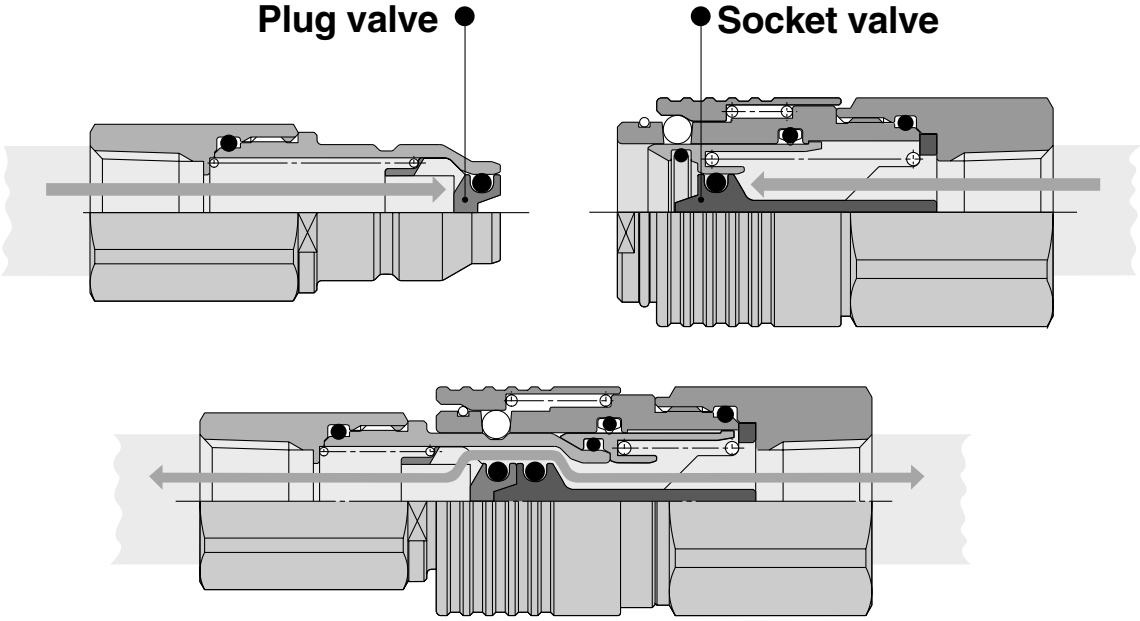


Stainless steel type

- **Body material: Stainless steel 304**
  Seal material: Fluoro rubber (FKM)

- **Both plug and socket have an integral check valve.**
  Available with and without check valves depending on the operating conditions.

- **Reduces liquid dripping when the plug and socket are uncoupled.**
  Liquid dripping: 0.02 to 0.06 cm^3 at each removal
  Aeration: 0.1 to 0.2 cm^3 at each removal



- **Non-greased specifications (standard)**
  O-ring: Fluorine coated
  Sliding parts of plug and socket: Plated with fluorine-contained material
  Allows smooth installation and removal even without grease

- **Fluid: Water, Air**

- **Operating temperature range: –5 to 100°C**
  Note) Do not use S couplers with steam.

Series KKA

Plug (P)

With check valve

Male thread type

Body size	Port size	Part no.
1/8	R 1/8	**KKA3P-01M**
	R 1/4	**-02M**
	R 3/8	**-03M**
1/4	R 1/4	**KKA4P-02M**
	R 3/8	**-03M**
	R 1/2	**-04M**
1/2	R 3/8	**KKA6P-03M**
	R 1/2	**-04M**
	R 3/4	**-06M**

Female thread type

Body size	Port size	Part no.
1/8	Rc 1/8	**KKA3P-01F**
	Rc 1/4	**-02F**
	Rc 3/8	**-03F**
1/4	Rc 1/4	**KKA4P-02F**
	Rc 3/8	**-03F**
	Rc 1/2	**-04F**
1/2	Rc 3/8	**KKA6P-03F**
	Rc 1/2	**-04F**
	Rc 3/4	**-06F**

Without check valve

Male thread type

Body size	Port size	Part no.
1/8	R 1/8	**KKA3P-01M-1**
	R 1/4	**-02M-1**
	R 3/8	**-03M-1**
1/4	R 1/4	**KKA4P-02M-1**
	R 3/8	**-03M-1**
	R 1/2	**-04M-1**
1/2	R 3/8	**KKA6P-03M-1**
	R 1/2	**-04M-1**
	R 3/4	**-06M-1**

Female thread type

Body size	Port size	Part no.
1/8	Rc 1/8	**KKA3P-01F-1**
	Rc 1/4	**-02F-1**
	Rc 3/8	**-03F-1**
1/4	Rc 1/4	**KKA4P-02F-1**
	Rc 3/8	**-03F-1**
	Rc 1/2	**-04F-1**
1/2	Rc 3/8	**KKA6P-03F-1**
	Rc 1/2	**-04F-1**
	Rc 3/4	**-06F-1**

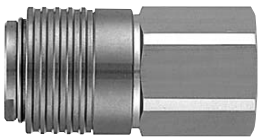
Socket (S)

With check valve

Male thread type

Body size	Port size	Part no.
1/8	R 1/8	**KKA3S-01M**
	R 1/4	**-02M**
	R 3/8	**-03M**
1/4	R 1/4	**KKA4S-02M**
	R 3/8	**-03M**
	R 1/2	**-04M**
1/2	R 3/8	**KKA6S-03M**
	R 1/2	**-04M**
	R 3/4	**-06M**

Female thread type



Body size	Port size	Part no.
1/8	Rc 1/8	**KKA3S-01F**
	Rc 1/4	**-02F**
	Rc 3/8	**-03F**
1/4	Rc 1/4	**KKA4S-02F**
	Rc 3/8	**-03F**
	Rc 1/2	**-04F**
1/2	Rc 3/8	**KKA6S-03F**
	Rc 1/2	**-04F**
	Rc 3/4	**-06F**

Without check valve

Male thread type

Body size	Port size	Part no.
1/8	R 1/8	**KKA3S-01M-1**
	R 1/4	**-02M-1**
	R 3/8	**-03M-1**
1/4	R 1/4	**KKA4S-02M-1**
	R 3/8	**-03M-1**
	R 1/2	**-04M-1**
1/2	R 3/8	**KKA6S-03M-1**
	R 1/2	**-04M-1**
	R 3/4	**-06M-1**

Female thread type

Body size	Port size	Part no.
1/8	Rc 1/8	**KKA3S-01F-1**
	Rc 1/4	**-02F-1**
	Rc 3/8	**-03F-1**
1/4	Rc 1/4	**KKA4S-02F-1**
	Rc 3/8	**-03F-1**
	Rc 1/2	**-04F-1**
1/2	Rc 3/8	**KKA6S-03F-1**
	Rc 1/2	**-04F-1**
	Rc 3/4	**-06F-1**

S Couplers
Stainless Steel Type
Series KKA

Specifications

Fluid	Water/Air
Operating pressure range Note)	KKA3: –100kPa to 1.0MPa KKA4·6: 0 to 1MPa
Proof pressure	10MPa
Ambient and fluid temperature	–5 to 100°C (No freezing) Note) Do not use with steam.
Non-greased specification	No grease is used. Rubber: Fluorine coated, (Metal sliding parts: Plated with fluorine-contained material)
Material	Metal part: SUS304, Rubber material: Fluoro rubber (FKM)
Seal	With male thread seal

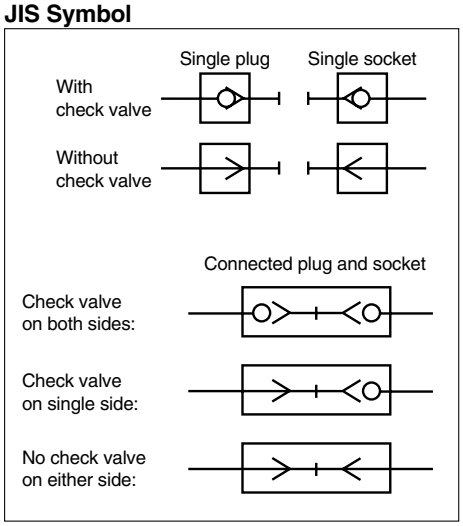
Note) Do not use the S couplers with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Performance

Plug and socket connection	One-touch connection and release
Check valve	Plug and socket are available with and without check valves.

Note) Series KKA cannot be connected with Series KK or Series KKH.

JIS Symbol



Characteristics with Check Valve on Both Sides

Body size	Liquid dripping cm^3 at each removal	Aeration cm^3 at each removal
KKA3	0.02	0.1
KKA4	0.04	0.1
KKA6	0.06	0.2

Liquid dripping:
Volume of water leakage at the time when the plug and socket are uncoupled.

Aeration:
Volume of external air entrained when the plug and socket are connected.

Effective Area

Built-in check valve	Plug	Socket	Effective area mm^2
Plug: With check valve Socket: With check valve	**KKA3P-01F**	**KKA3S-01F**	16.2
	KKA4P-02F	**KKA4S-02F**	26.5
	KKA6P-04F	**KKA6S-04F**	56.4
Plug: Without check valve Socket: With check valve	**KKA3P-01M-1**	**KKA3S-01M**	19.0
	KKA4P-02M-1	**KKA4S-02M**	30.5
	KKA6P-04M-1	**KKA6S-04M**	59.5
Plug: Without check valve Socket: Without check valve	**KKA3P-01M-1**	**KKA3S-01M-1**	20.8
	KKA4P-02M-1	**KKA4S-02M-1**	38.9
	KKA6P-04M-1	**KKA6S-04M-1**	79.3

How to Order

KKA 4 P – 02 M – 1

Body size

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

Socket/Plug designation

P	Plug
S	Socket

Port size

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

Connection type

Symbol	Type
M	Mail thread (with seal)
F	Female thread

Built-in check valve

Nil	With check valve
1	Without check valve

	Plug	Socket	Availability
Built-in check valve	Yes	Yes	○
	No	Yes	○
	No	No	○
	Yes	No	×

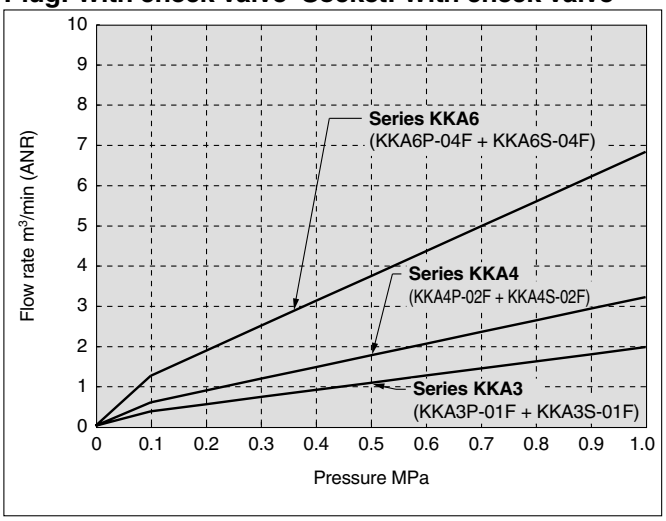
Note) A plug with check valve should be used in combination with a socket with check valve.
If a socket without check valve is used, the check valve of the plug will not open.

Series KKA

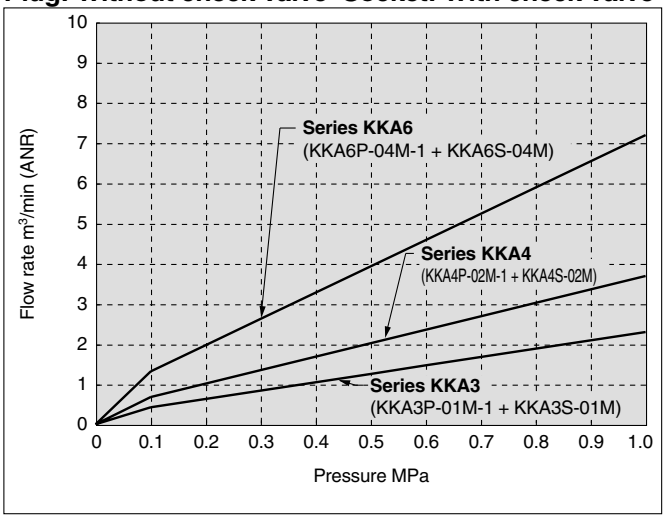
Flow Characteristics

Air (0 to 1 MPa)

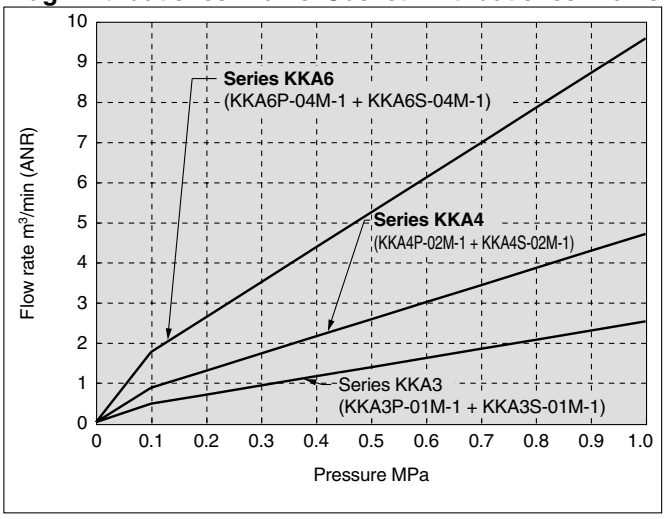
Plug: With check valve Socket: With check valve



Plug: Without check valve Socket: With check valve

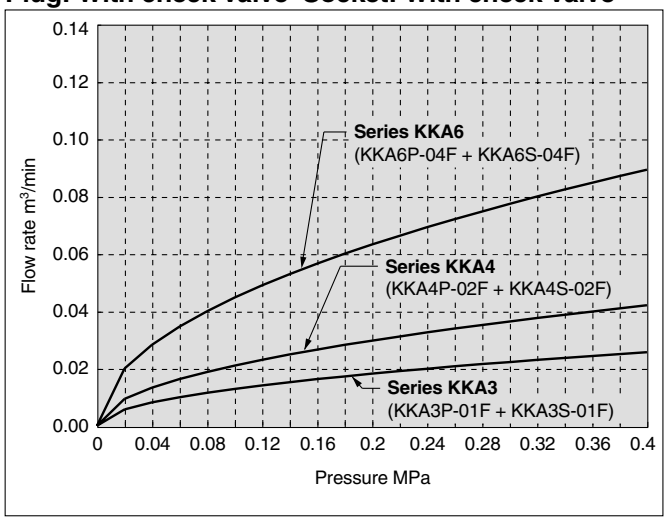


Plug: Without check valve Socket: Without check valve

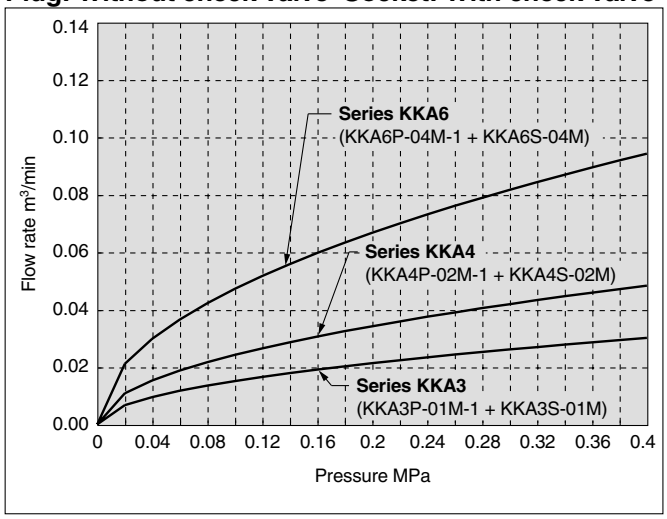


Water (0 to 0.4 MPa)

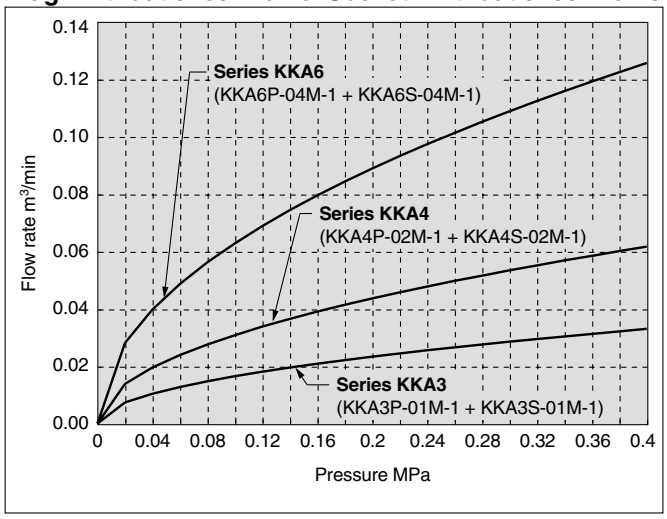
Plug: With check valve Socket: With check valve



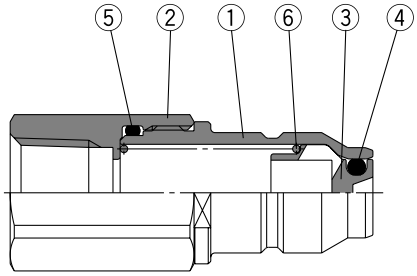
Plug: Without check valve Socket: With check valve



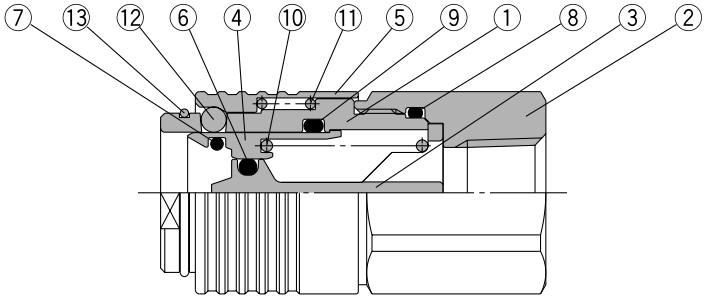
Plug: Without check valve Socket: Without check valve



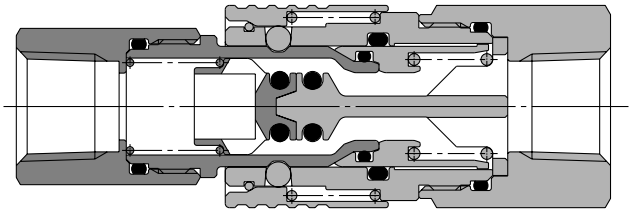
Construction



Plug



Socket



Plug

No.	Description	Material	Note
①	Stem	Stainless steel	Plated with fluorine-contained material
②	Rear stem	Stainless steel	
③	Plug valve	Stainless steel	
④	Valve O-ring	FKM	Fluorine coated
⑤	Stem O-ring	FKM	Fluorine coated
⑥	Plug valve spring	Stainless steel	

Socket

No.	Description	Material	Note
①	Body	Stainless steel	Plated with fluorine-contained material
②	Rear body	Stainless steel	
③	Socket valve	Stainless steel	
④	Collar	Stainless steel	Plated with fluorine-contained material
⑤	Sleeve	Stainless steel	Plated with fluorine-contained material
⑥	Valve O-ring	FKM	Fluorine coated
⑦	Plug O-ring	FKM	Fluorine coated
⑧	Body O-ring	FKM	Fluorine coated
⑨	Collar seal	FKM	Fluorine coated
⑩	Collar spring	Stainless steel	
⑪	Sleeve spring	Stainless steel	
⑫	Steel ball	Stainless steel	
⑬	Stopper ring	Stainless steel	

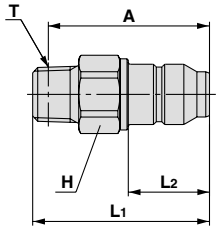
Series KKA

Dimensions: Plug (P)

With check valve

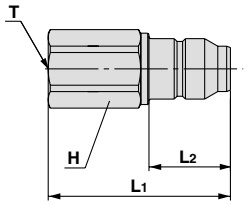
Male thread type (mm)

Body size	Model	T Connection port size	H Width across flats	L1	L2	A	Min. bore size	Effective area mm2	Weight g
1/8	**KKA3P-01M**	R 1/8	14	35.4	16.0	31.4	6.1	16.5	15.4
	-02M	R 1/4		38.4		32.4		17.5	19.8
	-03M	R 3/8	17	39.4		32.9			32.9
1/4	**KKA4P-02M**	R 1/4	17	42.2	18.9	36.2	8.0	28.3	28.3
	-03M	R 3/8		43.2		36.7		29.4	36.6
	-04M	R 1/2	22	46.2		38.2			65.9
1/2	**KKA6P-03M**	R 3/8	24	47.1	20.4	40.6	11.0	58.0	60.3
	-04M	R 1/2		47.9		39.9		61.0	69.2
	-06M	R 3/4	30	49.9		40.4			119.0



Female thread type (mm)

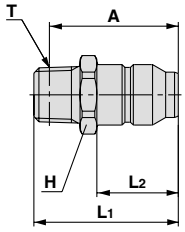
Body size	Model	T Connection port size	H Width across flats	L1	L2	Min. bore size	Effective area mm2	Weight g
1/8	**KKA3P-01F**	Rc 1/8	14	36.0	16.0	6.1	16.5	20.2
	-02F	Rc 1/4	17	39.6			17.5	31.8
	-03F	Rc 3/8	19	40.4				35.8
1/4	**KKA4P-02F**	Rc 1/4	17	43.4	18.9	8.0	28.3	36.1
	-03F	Rc 3/8	19	44.4			29.4	40.2
	-04F	Rc 1/2	24	48.6				69.7
1/2	**KKA6P-03F**	Rc 3/8	24	48.7	20.4	11.0	58.0	84.1
	-04F	Rc 1/2		52.9			61.0	79.7
	-06F	Rc 3/4	30	54.6				123.8



Without check valve

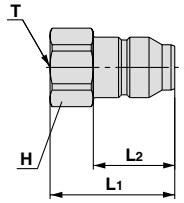
Male thread type (mm)

Body size	Model	T Connection port size	H Width across flats	L1	L2	A	Min. bore size	Effective area mm2	Weight g
1/8	**KKA3P-01M-1**	R 1/8	12	28.5	16.0	24.5	6.0	20.7	9.8
	-02M-1	R 1/4	14	31.5		25.5		25.0	14.6
	-03M-1	R 3/8	17	32.5		26.0			23.6
1/4	**KKA4P-02M-1**	R 1/4	17	34.4	18.9	28.4	8.0	39.6	21.0
	-03M-1	R 3/8		35.4		28.9		41.9	27.9
	-04M-1	R 1/2	22	39.4		31.4			50.2
1/2	**KKA6P-03M-1**	R 3/8	22	37.9	20.4	31.4	11.0	71.8	41.9
	-04M-1	R 1/2		40.9		32.9		79.3	56.0
	-06M-1	R 3/4	30	42.9		33.4			98.7



Female thread type (mm)

Body size	Model	T Connection port size	H Width across flats	L1	L2	Min. bore size	Effective area mm2	Weight g
1/8	**KKA3P-01F-1**	Rc 1/8	14	23.2	16.0	6.0	20.9	9.6
	-02F-1	Rc 1/4	17	30.3			25.3	20.2
	-03F-1	Rc 3/8	19	32.0				26.2
1/4	**KKA4P-02F-1**	Rc 1/4	17	29.7	18.9	8.0	40.4	20.0
	-03F-1	Rc 3/8	19	34.0			42.7	25.8
	-04F-1	Rc 1/2	24	39.4				46.1
1/2	**KKA6P-03F-1**	Rc 3/8	22	30.9	20.4	11.0	73.2	34.3
	-04F-1	Rc 1/2	24	39.6			80.8	50.0
	-06F-1	Rc 3/4	30	42.8				78.6

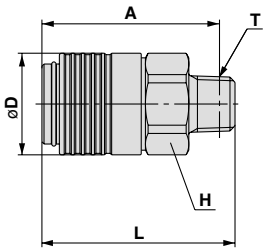


Dimensions: Socket (S)

With check valve

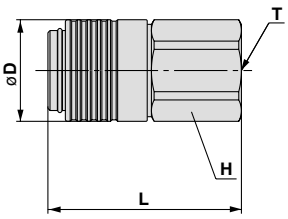
Male thread type (mm)

Body size	Model	T Connection port size	H Width across flats	øD	L	A	Min. bore size	Effective area mm²	Weight g
1/8	**KKA3S-01M**	R 1/8	17	18.5	38.1	34.1	6.1	18.8	38.5
	-02M	R 1/4			41.1	35.1		20.1	41.8
	-03M	R 3/8			42.1	35.6			46.3
1/4	**KKA4S-02M**	R 1/4	22	24.2	46.0	40.0	8.1	31.3	76.8
	-03M	R 3/8			47.0	40.5		32.8	78.5
	-04M	R 1/2			50.0	42.0			86.6
1/2	**KKA6S-03M**	R 3/8	30	30.7	51.4	44.9	11.0	58.0	149.1
	-04M	R 1/2			54.4	46.4	11.4	59.5	160.4
	-06M	R 3/4			56.4	46.9			184.8



Female thread type (mm)

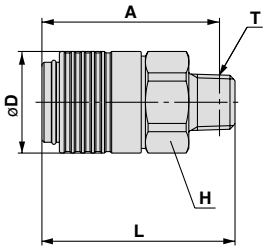
Body size	Model	T Connection port size	H Width across flats	øD	L	Min. bore size	Effective area mm²	Weight g
1/8	**KKA3S-01F**	Rc 1/8	17	18.5	37.6	6.1	18.8	46.9
	-02F	Rc 1/4			41.2		20.1	47.2
	-03F	Rc 3/8	19		43.1			52.3
1/4	**KKA4S-02F**	Rc 1/4	22	24.2	46.1	8.1	31.3	97.1
	-03F	Rc 3/8			46.9		32.8	91.1
	-04F	Rc 1/2	24		52.3			104.3
1/2	**KKA6S-03F**	Rc 3/8	30	30.7	50.5	11.4	58.0	189.6
	-04F	Rc 1/2			56.2		59.5	202.0
	-06F	Rc 3/4			57.9			180.6



Without check valve

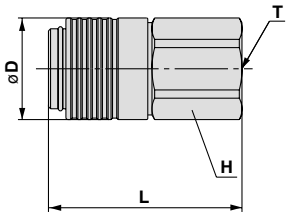
Male thread type (mm)

Body size	Model	T Connection port size	H Width across flats	øD	L	A	Min. bore size	Effective area mm²	Weight g
1/8	**KKA3S-01M-1**	R 1/8	17	18.5	38.1	34.1	6.1	21.7	36.1
	-02M-1	R 1/4			41.1	35.1		25.8	39.4
	-03M-1	R 3/8			42.1	35.6			43.9
1/4	**KKA4S-02M-1**	R 1/4	22	24.2	46.0	40.0	8.1	41.9	71.9
	-03M-1	R 3/8			47.0	40.5		44.2	73.6
	-04M-1	R 1/2			50.0	42.0			81.7
1/2	**KKA6S-03M-1**	R 3/8	30	30.7	51.4	44.9	11.0	79.3	138.3
	-04M-1	R 1/2			54.4	46.4	11.4	88.5	149.6
	-06M-1	R 3/4			56.4	46.9			174.0



Female thread type (mm)

Body size	Model	T Connection port size	H Width across flats	øD	L	Min. bore size	Effective area mm²	Weight g
1/8	**KKA3S-01F-1**	Rc 1/8	17	18.5	37.6	6.1	21.7	44.5
	-02F-1	Rc 1/4			41.2		25.8	44.8
	-03F-1	Rc 3/8	19		43.1			49.9
1/4	**KKA4S-02F-1**	Rc 1/4	22	24.2	46.1	8.1	41.9	92.2
	-03F-1	Rc 3/8			46.9		44.2	86.2
	-04F-1	Rc 1/2	24		52.3			99.4
1/2	**KKA6S-03F-1**	Rc 3/8	30	30.7	50.5	11.4	79.3	178.8
	-04F-1	Rc 1/2			56.2		88.5	191.2
	-06F-1	Rc 3/4			57.9			169.8



S Couplers
Specific Product 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. Series KK and Series KKH cannot be connected with Series KKA. Also, SMC's S coupler cannot be connected with quick couplers of other brands.
   This will cause leakage, damage, and disconnection of the plug.
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 is heated when used at a high temperature. Take precautions not to touch it since touching it can cause burns.

⚠ 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, please consult with 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.
6. 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. 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. Please consult with 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. Please consult with 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. Please consult with 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.
3. Do not disassemble the S coupler. Spare parts are not available for this product.

S Couplers
Specific Product Precautions 2
Be sure to read before handling.

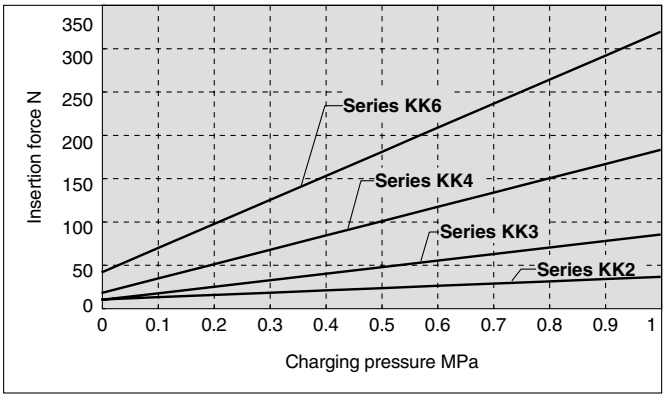
Handling

⚠ Warning

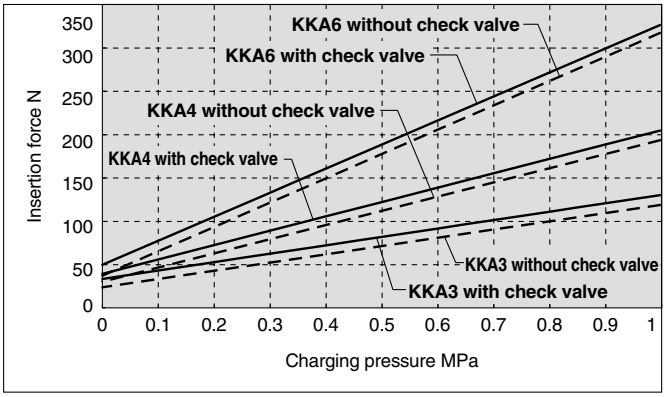
1. When connecting the plug, hold the plug securely. The plug may be uncoupled due to reaction at the time of connection.
2. When removing the plug, hold the plug securely. The tube may move due to reaction at the time of removal or the residual pressure inside the plug.

Plug Insertion Force in Pressurized Condition

Insertion Force of Series KK



Insertion Force of Series KKA



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 tubing, use tubing cutters TK-1, 2 or 3. Do not use pinchers, nippers or scissors, etc. If cutting is done with tools other than tubing cutters, the tubing may be cut diagonally or become flattened, etc. This can make a secure installation impossible, and cause problems such as the tubing pulling out after installation or air leakage. Allow some extra length in the tubing.
   2. Grasp the tubing and push it in slowly, inserting it securely all the way into the fitting.
   3. After inserting the tubing, 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 tubing pulling out.
   2) Detaching of tube
   1. Push in the release bushing sufficiently. When doing this, push the collar evenly.
   2. Pull out the tubing 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 tubing and it will become more difficult to pull it out.
   3. When the removed tubing is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tubing is used as is, this can cause trouble such as air leakage or difficulty in removing the tubing.
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.

S Couplers
Specific Product Precautions 3
Be sure to read before handling.

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 Seal

⚠ 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 seal 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 Tubing 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 ±0.1mm
2) Soft nylon tubing within ±0.1mm
3) Polyurethane tubing within +0.15mm
   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.