

S Couplers

KKK Series

Stainless steel type

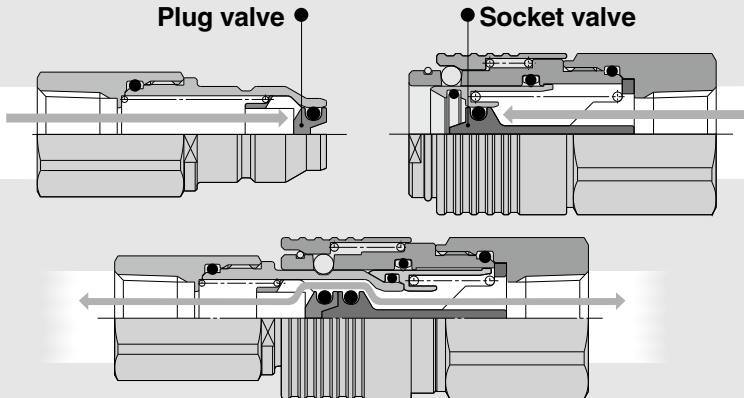
New An M5 body size has been added.



RoHS



- **Improved corrosion and environmental resistance due to all stainless steel construction**
Can be used in environments with high temperatures, water splashing, UV exposure, and where copper and zinc cannot be used
- **Body material: Stainless steel 304**
Seal material: Fluororubber (Special 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: 0.005 to 0.77 cm³ at each removal
Aeration: 0.02 to 2.7 cm³ at each removal




- **Non-greased specification (standard)**
Allows smooth installation and removal even without grease
 - O-ring: Fluorine coated
 - Sliding parts of plug and socket: Fluorine coated is used.
- **Fluid: Water, Air**
- **Operating temperature range: -5 to 150°C**

Note) This product should not be used with steam.

KKA Series

Plug (P)

Male thread type

KKA2	Body size	Port size	Part no.	
			With check valve	Without check valve
	M5	M5	KKA2P-M5M	KKA2P-M5M-1
		R1/8	-01M	-01M-1
		R1/4	KKA3P-01M	KKA3P-01M-1
1/8	R1/4	-02M	-02M-1	
	R3/8	-03M	-03M-1	
	R1/4	KKA4P-02M	KKA4P-02M-1	
1/4	R3/8	-03M	-03M-1	
	R1/2	-04M	-04M-1	
	R3/8	KKA6P-03M	KKA6P-03M-1	
1/2	R1/2	-04M	-04M-1	
	R3/4	-06M	-06M-1	
	R1/2	KKA7P-04M	—	
3/4	R3/4	-06M	—	
	R1	-10M	—	
	R3/4	KKA8P-06M	—	
1	R1	-10M	—	
	R1 1/4	-12M	—	
	R1	KKA9P-10M	—	
Without check valve	1 1/4	R1 1/4	-12M	—
		R1 1/2	-14M	—


KKA3, KKA4, KKA6,
KKA7, KKA8, KKA9

With check valve



Without check valve

Female thread type

KKA2	Body size	Port size	Part no.	
			With check valve	Without check valve
	M5	M5	KKA2P-M5F	KKA2P-M5F-1
		Rc1/8	KKA3P-01F	KKA3P-01F-1
		Rc1/4	-02F	-02F-1
1/8	Rc3/8	-03F	-03F-1	
	Rc1/4	KKA4P-02F	KKA4P-02F-1	
	Rc3/8	-03F	-03F-1	
1/4	Rc1/2	-04F	-04F-1	
	Rc3/8	KKA6P-03F	KKA6P-03F-1	
	Rc1/2	-04F	-04F-1	
1/2	Rc3/4	-06F	-06F-1	
	Rc1/2	KKA7P-04F	—	
	Rc3/4	-06F	—	
3/4	Rc1	-10F	—	
	Rc3/4	KKA8P-06F	—	
	Rc1	-10F	—	
1	Rc1 1/4	-12F	—	
	Rc1	KKA9P-10F	—	
	Rc1 1/4	-12F	—	
Without check valve	1 1/4	Rc1 1/4	-12F	—
		Rc1 1/2	-14F	—

KKA3, KKA4, KKA6,
KKA7, KKA8, KKA9


With check valve



Without check valve

Socket (S)


Male thread type

KKA2	Body size	Port size	Part no.	
			With check valve	Without check valve
	M5	M5	KKA2S-M5M	KKA2S-M5M-1
		R1/8	-01M	-01M-1
		R1/4	KKA3S-01M	KKA3S-01M-1
1/8	R1/4	-02M	-02M-1	
	R3/8	-03M	-03M-1	
	R1/4	KKA4S-02M	KKA4S-02M-1	
1/4	R3/8	-03M	-03M-1	
	R1/2	-04M	-04M-1	
	R3/8	KKA6S-03M	KKA6S-03M-1	
1/2	R1/2	-04M	-04M-1	
	R3/4	-06M	-06M-1	
	R1/2	KKA7S-04M	—	
3/4	R3/4	-06M	—	
	R1	-10M	—	
	R3/4	KKA8S-06M	—	
1	R1	-10M	—	
	R1 1/4	-12M	—	
	R1	KKA9S-10M	—	
1 1/4	R1 1/4	-12M	—	
	R1 1/2	-14M	—	

KKA3, KKA4, KKA6,
KKA7, KKA8, KKA9



Female thread type

KKA2	Body size	Port size	Part no.	
			With check valve	Without check valve
	M5	M5	KKA2S-M5F	KKA2S-M5F-1
		Rc1/8	KKA3S-01F	KKA3S-01F-1
		Rc1/4	-02F	-02F-1
1/8	Rc3/8	-03F	-03F-1	
	Rc1/4	KKA4S-02F	KKA4S-02F-1	
	Rc3/8	-03F	-03F-1	
1/4	Rc1/2	-04F	-04F-1	
	Rc3/8	KKA6S-03F	KKA6S-03F-1	
	Rc1/2	-04F	-04F-1	
1/2	Rc3/4	-06F	-06F-1	
	Rc1/2	KKA7S-04F	—	
	Rc3/4	-06F	—	
3/4	Rc1	-10F	—	
	Rc3/4	KKA8S-06F	—	
	Rc1	-10F	—	
1	Rc1 1/4	-12F	—	
	Rc1	KKA9S-10F	—	
	Rc1 1/4	-12F	—	
1 1/4	Rc1 1/4	-12F	—	
	Rc1 1/2	-14F	—	

KKA3, KKA4, KKA6,
KKA7, KKA8, KKA9



Refer to pages 343 and 344 for Specific Product Precautions.

S Couplers

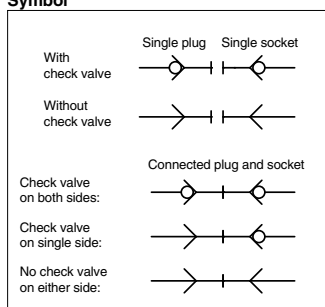
RoHS

KKK Series

Stainless steel type



Symbol



Performance

Plug and socket connection	One-touch connection and release
Check valve	Check valve on both sides, Without check valve

Note) KKA series cannot be connected with KK series or KKH series. There is no KKA7/8/9 option without a check valve. If required, please contact SMC separately.

Characteristics with check valve on both sides

Body size	Liquid dripping cm ³ at each removal	Aeration cm ³ at each removal
KKA2	0.005	0.02
KKA3	0.02	0.1
KKA4	0.04	0.1
KKA6	0.06	0.2
KKA7	0.14	0.5
KKA8	0.27	0.9
KKA9	0.77	2.7

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.

Specifications

Fluid	Water, Air, N ₂
Operating pressure range <small>Note 1)</small>	KKA2/3: -100 kPa to 1 MPa KKA4/6/7/8/9: 0 to 1 MPa
Proof pressure	10 MPa
Ambient and fluid temperature	-5 to 150°C (No freezing) <small>Note)</small> This product should not be used with steam.
Non-greased specification	No grease is used. (Rubber, Metal sliding parts: Fluorine coated)
Material	Metal part: Stainless steel 304, Rubber material: Fluororubber (Special FKM)
Seal	With male thread sealant

Note 1) Do not use the S couplers with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Effective Area

Built-in check valve	Plug	Socket	Effective area mm ²	
Plug: With check valve Socket: With check valve	KKA2P-M5M	KKA2S-M5M KKA2S-M5F	3.3	
	KKA2P-M5F		3.5	
	KKA2P-M5M	KKA2S-M5M KKA2S-M5F	3.5	
	KKA2P-M5F		4.0	
	KKA2P-M5M-1		3.3	
	KKA2P-M5F-1		3.7	
Plug: Without check valve Socket: With check valve	KKA2P-M5M-1	KKA2S-M5M KKA2S-M5F	3.5	
	KKA2P-M5F-1		4.2	
	KKA2P-M5M-1	KKA2S-M5M-1 KKA2S-M5F-1	3.7	
	KKA2P-M5F-1		4.0	
	KKA2P-M5M-1		4.1	
	KKA2P-M5F-1		5.4	
Plug: With check valve Socket: With check valve	KKA3P-01F	KKA3S-01F	17.4	
	KKA4P-02F		26.4	
	KKA6P-04F	KKA6S-04F KKA7S-06F KKA8S-10F KKA9S-12F	54.2	
	KKA7P-06F		99.6	
	KKA8P-10F		168.3	
	KKA9P-12F		332.1	
	Plug: Without check valve Socket: With check valve	KKA3P-01M-1	KKA3S-01M KKA4S-02M	18.5
		KKA4P-02M-1		31.8
		KKA6P-04M-1	KKA6S-04M KKA3S-01M-1	55.3
		KKA3P-01M-1		22.6
Plug: Without check valve Socket: Without check valve	KKA4P-02M-1	KKA4S-02M-1 KKA6S-04M-1	40.2	
	KKA6P-04M-1		76.0	

How to Order

KKA 4 P - 02 M

Body size

3	1/8
4	1/4
6	1/2
7	3/4
8	1
9	1 1/4

Built-in check valve

Nil	With check valve
-1	Without check valve

Note) KKA7/8/9 is not available without a check valve. Contact us when such a type is needed.

Socket/Plug designation

P	Plug
S	Socket

Connection type

Symbol	Type
M	Male thread (with sealant)
F	Female thread

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
10	R, Rc 1
12	R, Rc 1 1/4
14	R, Rc 1 1/2

	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.

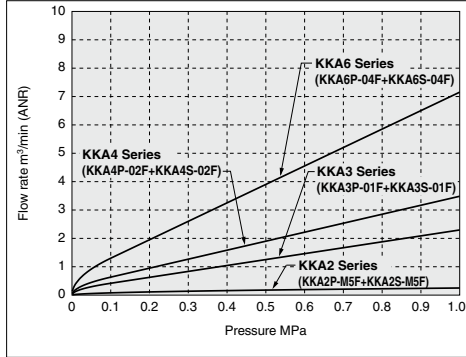
For details on body size and port size combinations for each model, refer to the charts on the Dimensions page.

KKA Series

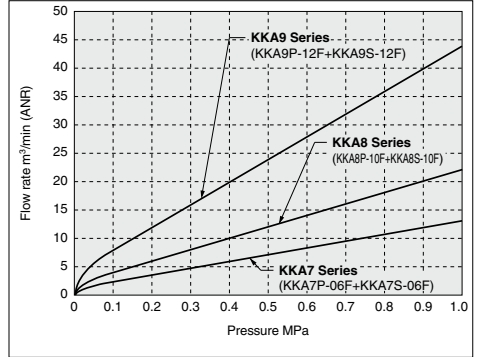
Flow Rate Characteristics

Air

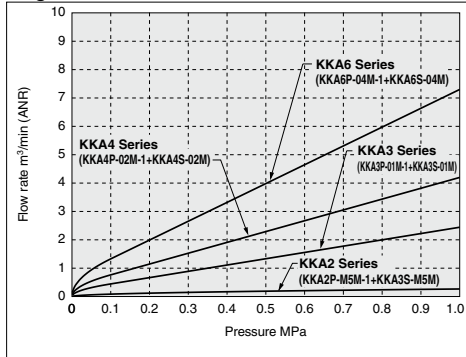
Plug: With check valve Socket: With check valve



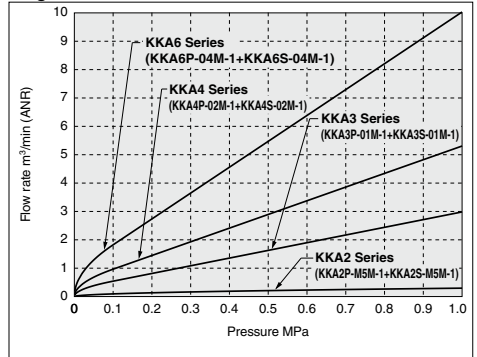
Plug: With check valve Socket: With check valve



Plug: Without check valve Socket: With check valve



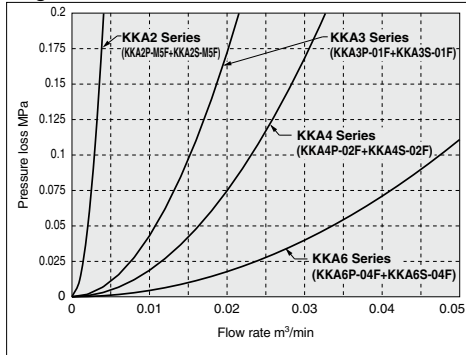
Plug: Without check valve Socket: Without check valve



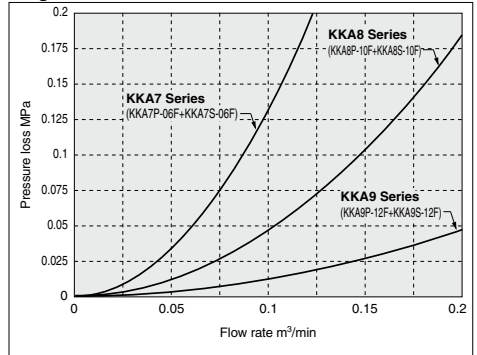
Pressure Loss

Water

Plug: With check valve Socket: With check valve

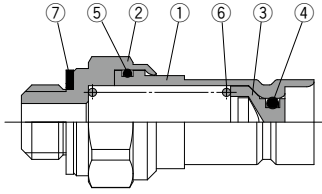


Plug: With check valve Socket: With check valve

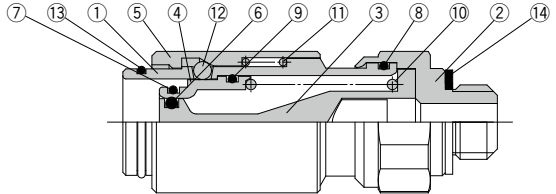


Construction

KKA2



Plug



Socket

Plug

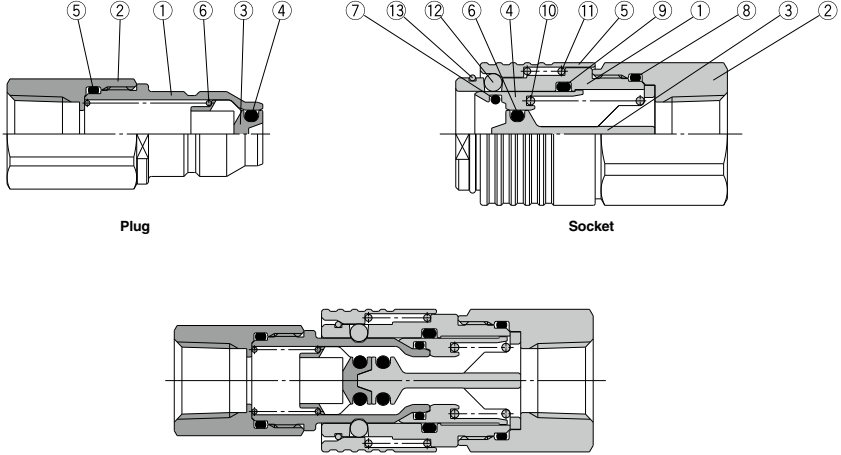
No.	Description	Material	Note
1	Stem	Stainless steel 304	Fluorine coated
2	Rear stem	Stainless steel 304	
3	Plug valve	Stainless steel 304	
4	Valve O-ring	Special FKM	Fluorine coated
5	Stem O-ring	Special FKM	Fluorine coated
6	Plug valve spring	Equivalent to Stainless steel 304	
7	Gasket	Stainless steel 316, Special FKM	

Socket

No.	Description	Material	Note
1	Body	Stainless steel 304	Fluorine coated
2	Rear body	Stainless steel 304	
3	Socket valve	Stainless steel 304	
4	Collar	Stainless steel 304	
5	Sleeve	Stainless steel 304	
6	Valve O-ring	Special FKM	Fluorine coated
7	Plug O-ring	Special FKM	Fluorine coated
8	Body O-ring	Special FKM	Fluorine coated
9	Collar O-ring	Special FKM	Fluorine coated
10	Collar spring	Equivalent to Stainless steel 304	
11	Sleeve spring	Stainless steel 304	
12	Steel ball	Stainless steel 304	
13	Stopper ring	Stainless steel 304	
14	Gasket	Stainless steel 316, Special FKM	

Construction

KKA3, 4, 6, 7, 8, 9



Plug

No.	Description	Material	Note
1	Stem	Stainless steel 304	Fluorine coated
2	Rear stem	Stainless steel 304	
3	Plug valve	Stainless steel 304	
4	Valve O-ring	Special FKM	Fluorine coated
5	Stem O-ring	Special FKM	Fluorine coated
6	Plug valve spring	Equivalent to Stainless steel 304	KKA3
		Stainless steel 304	KKA4, 6, 7, 8, 9

Socket

No.	Description	Material	Note
1	Body	Stainless steel 304	
2	Rear body	Stainless steel 304	
3	Socket valve	Stainless steel 304	
4	Collar	Stainless steel 304	Fluorine coated
5	Sleeve	Stainless steel 304	Plated with fluorine-contained material
6	Valve O-ring	Special FKM	Fluorine coated
7	Plug O-ring	Special FKM	Fluorine coated
8	Body O-ring	Special FKM	Fluorine coated
9	Collar seal	Special FKM	Fluorine coated
10	Collar spring	Equivalent to Stainless steel 304	KKA3, 4, 6
		Stainless steel 304	KKA7, 8, 9
11	Sleeve spring	Stainless steel 304	
12	Steel ball	Stainless steel 304	
13	Stopper ring	Stainless steel 304	

KKA Series Spare Parts

Description	Product no.	No.
Plug O-ring	KKA3S-P01	Socket ⑦
	KKA4S-P01	
	KKA6S-P01	
	KKA7S-P01	
	KKA8S-P01	
	KKA9S-P01	

KKA Series

Dimensions/Plug (P)

With check valve

Male thread type

(mm)

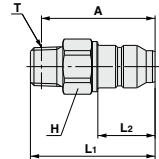
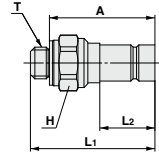
Body size	Model	T Connection port size	H Width across flats	L1	L2	A	Min. bore size	Effective area mm ²	Weight g	
M5	KKA2P-M5M	M5	8	19.7	8.7	16.7	2.5	*	2.6	
		-01M	R 1/8	10		22.1	19.0		3.3	4.7
	1/8	KKA3P-01M	R 1/8	14	35.4	16.0	31.4	5.6	17.4	15.4
			-02M		R 1/4		38.4			32.4
		-03M	R 3/8	39.4	32.9		32.9			
	1/4	KKA4P-02M	R 1/4	17	42.2	18.9	36.2	6.9	26.4	28.3
			-03M		R 3/8		43.2			36.7
		-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	10.0	54.2	60.3
			-04M		R 1/2		47.9			39.9
		-06M	R 3/4	30	49.9		40.4			119.0
	3/4	KKA7P-04M	R 1/2	32	66.3	27.6	58.1	13.5	99.6	173.9
-06M			R 3/4		69.4		59.9			209.6
-10M		R 1	36	69.9	59.5		275.0			
1	KKA8P-06M	R 3/4	41	82.9	35.6	73.4	17.5	168.3	362.8	
		-10M		R 1		85.4			75.0	403.9
	-12M	R 1 1/4	46	85.4		72.7			538.6	
1 1/4	KKA9P-10M	R 1	55	109.5	49.1	99.1	22.0	264.9	824.1	
		-12M		R 1 1/4		109.0			96.3	861.4
	-14M	R 1 1/2	109.0	96.3		936.3				



KKA2



KKA3, KKA4, KKA6, KKA7, KKA8, KKA9



Female thread type

(mm)

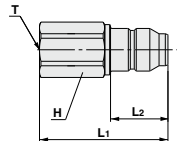
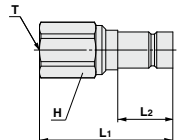
Body size	Model	T Connection port size	H Width across flats	L1	L2	A	Min. bore size	Effective area mm ²	Weight g	
M5	KKA2P-M5F	M5	8	21.1	8.7	16.7	3.3	*	3.9	
		-01F	Rc 1/8	14		36.0			19.0	20.2
	1/8	KKA3P-01F	Rc 1/4	17	39.6	16.0	31.8	5.6	17.4	31.8
			-02F		Rc 1/4		39.6			31.8
		-03F	Rc 3/8	19	40.4		36.1			
	1/4	KKA4P-02F	Rc 1/4	17	43.4	18.9	36.1	6.9	26.4	40.2
			-03F		Rc 3/8		19			44.4
		-04F	Rc 1/2	22	48.6		69.7			
	1/2	KKA6P-03F	Rc 3/8	24	48.7	20.4	40.6	10.0	54.2	84.1
			-04F		Rc 1/2		52.9			39.9
		-06F	Rc 3/4	30	54.6		40.4			123.8
	3/4	KKA7P-04F	Rc 1/2	32	67.7	27.6	58.1	13.5	99.6	217.1
-06F			Rc 3/4		69.4		59.9			196.8
-10F		Rc 1	36	72.4	59.5		325.9			
1	KKA8P-06F	Rc 3/4	41	82.0	35.6	73.4	17.5	168.3	420.5	
		-10F		Rc 1		85.0			75.0	391.3
	-12F	Rc 1 1/4	50	87.3		72.7			552.8	
1 1/4	KKA9P-10F	Rc 1	55	107.8	49.1	99.1	24.6	332.1	986.9	
		-12F		Rc 1 1/4		110.1			96.3	925.6
	-14F	Rc 1 1/2	110.1	96.3		986.3				



KKA2



KKA3, KKA4, KKA6, KKA7, KKA8, KKA9



* Refer to page 553 for the effective area of the KKA2.

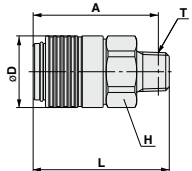
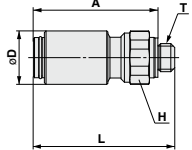
Dimensions/Socket (S)

With check valve

Male thread type

(mm)

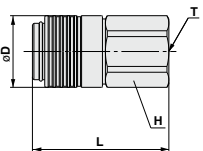
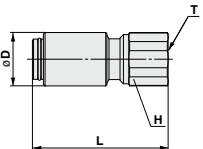
Body size	Model	T Connection port size	H Width across flats	øD	L	A	Min. bore size	Effective area mm ²	Weight g
M5	KKA2S-M5M	M5	9	9.5	25.2	22.2	2.5	*	6.8
	-01M	R 1/8	10		27.1	24	3.3		8.4
	1/8	KKA3S-01M	R 1/8	17	18.5	38.1	34.1	5.9	18.5
-02M		R 1/4	41.1			35.1	41.8		
-03M		R 3/8	42.1			35.6	46.3		
1/4	KKA4S-02M	R 1/4	22	24.2	46.0	40.0	7.7	31.8	76.8
	-03M	R 3/8			47.0	40.5			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	10.2	55.3	149.1
	-04M	R 1/2			54.4	46.4			160.4
	-06M	R 3/4			56.4	46.9			184.8
3/4	KKA7S-04M	R 1/2	36	42.5	76.3	68.1	13.6	101.5	426.1
	-06M	R 3/4			79.3	69.8			457.8
	-10M	R 1			82.8	72.4			514.0
1	KKA8S-06M	R 3/4	46	55	94.9	85.4	17.6	169.9	931.1
	-10M	R 1			98.4	88.0			1012.9
	-12M	R 1 1/4			100.4	87.7			1029.9
1 1/4	KKA9S-10M	R 1	63	69	125.5	115.1	22.0	264.9	1680.7
	-12M	R 1 1/4			127.5	114.8			1758.1
	-14M	R 1 1/2			127.5	114.8			1819.4



Female thread type

(mm)

Body size	Model	T Connection port size	H Width across flats	øD	L	Min. bore size	Effective area mm ²	Weight g
M5	KKA2S-M5F	M5	9	9.5	24.2	2.5	*	7.5
1/8	KKA3S-01F	Rc 1/8	17	18.5	37.6	5.9	18.5	46.9
	-02F	Rc 1/4			41.2			47.2
	-03F	Rc 3/8	19	43.1	52.3			
1/4	KKA4S-02F	Rc 1/4	22	24.2	46.1	7.7	31.8	97.1
	-03F	Rc 3/8			46.9			91.1
	-04F	Rc 1/2			52.3			104.3
1/2	KKA6S-03F	Rc 3/8	30	30.7	50.5	10.2	55.3	189.6
	-04F	Rc 1/2			56.2			202.0
	-06F	Rc 3/4			57.9			180.6
3/4	KKA7S-04F	Rc 1/2	36	42.5	75.1	13.6	101.5	477.2
	-06F	Rc 3/4			76.5			457.4
	-10F	Rc 1			82.3			550.9
1	KKA8S-06F	Rc 3/4	46	55	90.9	17.6	169.9	935.2
	-10F	Rc 1			93.9			914.7
	-12F	Rc 1 1/4			99.2			1002.1
1 1/4	KKA9S-10F	Rc 1	63	69	121.8	25.1	344.9	1919.1
	-12F	Rc 1 1/4			121.8			1810.0
	-14F	Rc 1 1/2			121.8			1732.6




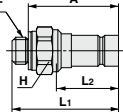

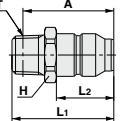
* Refer to page 553 for the effective area of the KKA2.

KKA Series


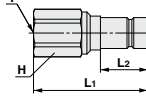

Dimensions/Plug (P)

Without check valve

Male thread type

		Body size	Model	T Connection port size	H Width across flats	L1	L2	A	Min. bore size	Effective area mm ²	Weight g	
KKA2		M5	KKA2P-M5M-1	M5	8	19.7	8.7	16.7	2.5	*	2.3	
			-01M-1	R 1/8	10	22.1		19.0	3.3		4.4	
KKA3, KKA4, KKA6		1/8	KKA3P-01M-1	R 1/8	12	28.5	16.0	24.5	6.0	22.6	9.8	
			-02M-1	R 1/4	14	31.5		25.5			14.6	
		1/4	-03M-1	R 3/8	17	32.5	18.9	26.0	8.0	40.2	23.6	
			KKA4P-02M-1	R 1/4		34.4		28.4			21.0	
			-03M-1	R 3/8	35.4	28.9	27.9					
			-04M-1	R 1/2	39.4	31.4	50.2					
1/2	KKA6P-03M-1	R 3/8	22	37.9	20.4	31.4	11.0	76.0	41.9			
	-04M-1	R 1/2		40.9		32.9			56.0			
				-06M-1	R 3/4	30		33.4		98.7		


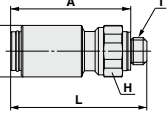
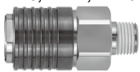
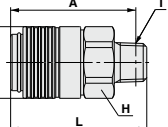
Female thread type

		Body size	Model	T Connection port size	H Width across flats	L1	L2	Min. bore size	Effective area mm ²	Weight g	
KKA2		M5	KKA2P-M5F-1	M5	8	21.1	8.7	3.3	*	3.6	
		1/8	KKA3P-01F-1	Rc 1/8	14	23.2	16.0	6.0	22.6	9.6	
KKA3, KKA4, KKA6		1/8	-02F-1	Rc 1/4	17	30.3				18.9	8.0
			-03F-1	Rc 3/8	19	32.0	26.2				
		1/4	KKA4P-02F-1	Rc 1/4	17	29.7	20.0	20.4	11.0	76.0	20.0
			-03F-1	Rc 3/8	19	34.0					25.8
			-04F-1	Rc 1/2	24	39.4	46.1				
			KKA6P-03F-1	Rc 3/8	22	30.9	34.3				
1/2	-04F-1	Rc 1/2	24	39.6	50.0						
	-06F-1	Rc 3/4	30	42.8	78.6						


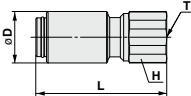

Dimensions/Socket (S)

Without check valve

Male thread type

		Body size	Model	T Connection port size	H Width across flats	øD	L	A	Min. bore size	Effective area mm ²	Weight g		
KKA2		M5	KKA2S-M5M-1	M5	9	9.5	25.2	22.2	2.5	*	6.1		
			-01M-1	R 1/8	10		27.1	24.0	3.3		7.8		
KKA3, KKA4, KKA6		1/8	KKA3S-01M-1	R 1/8	17	18.5	38.1	34.1	6.1	23.4	36.1		
			-02M-1	R 1/4			41.1	35.1			39.4		
		1/4	-03M-1	R 3/8	22	42.1	35.6	24.2	46.0	40.0	8.1	41.2	71.9
			KKA4S-02M-1	R 1/4		47.0	40.5		73.6				
			-03M-1	R 3/8	50.0	42.0	81.7						
			-04M-1	R 1/2	51.4	44.9	138.3						
1/2	KKA6S-03M-1	R 3/8	30	54.4	46.4	30.7	56.4	46.9	11.4	81.6	149.6		
	-04M-1	R 1/2		56.4	46.9		174.0						

Female thread type

		Body size	Model	T Connection port size	H Width across flats	øD	L	Min. bore size	Effective area mm ²	Weight g	
KKA2		M5	KKA2S-M5F-1	M5	9	9.5	24.2	2.5	*	6.9	
		1/8	KKA3S-01F-1	Rc 1/8	17	18.5	37.6	6.1	23.4	44.5	
KKA3, KKA4, KKA6		1/8	-02F-1	Rc 1/4			41.2			44.8	
			-03F-1	Rc 3/8	43.1	49.9					
		1/4	KKA4S-02F-1	Rc 1/4	22	46.1	24.2	8.1	41.2	92.2	
			-03F-1	Rc 3/8		46.9				86.2	
			-04F-1	Rc 1/2	52.3	99.4					
			KKA6S-03F-1	Rc 3/8	30	50.5	30.7	11.4	81.6	178.8	
-04F-1	Rc 1/2	56.2	191.2								
				-06F-1	Rc 3/4	57.9			169.8		

* Refer to page 553 for the effective area of the KKA2.