

## Coupling sockets/plugs

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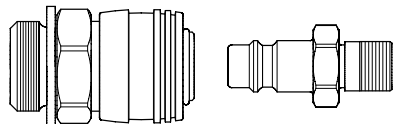
Just look  
for the  
star!

### Key features

#### Mode of operation

Plug-in coupling with coupling socket KD and quick coupling plug KS, shut-off at one or both ends

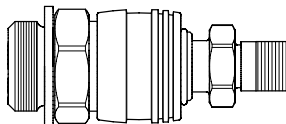
#### Coupling



Push the plug into the socket to lock the coupling.

The plug automatically engages with an audible click when in a specific position.

#### Decoupling



To unlock, push the releasing sleeve.

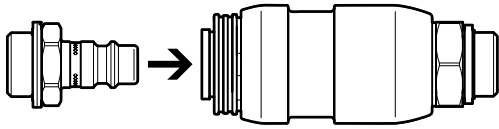
When removing the quick coupling plug, it is important to hold it until it is fully exhausted.

## Key features

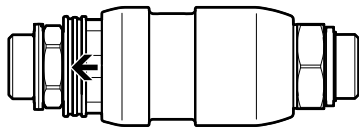
**Mode of operation**

Safety coupling with coupling socket NPHS-D6-M and quick coupling plug NPHS-S6

## Coupling

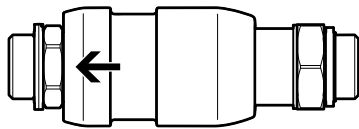


Push the plug into the socket to lock the coupling. The plug automatically engages with an audible click when in a specific position.



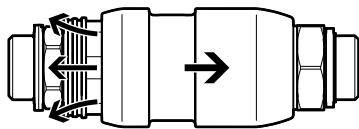
When the plug is engaged, the releasing sleeve shifts slightly in the direction of the plug. This releases the locking mechanism between the releasing sleeve and the sliding sleeve. The sliding sleeve can now be actuated.

## Pressurising



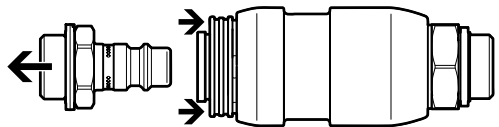
To pressurise, push the sliding sleeve in the direction of the plug.

## Exhaust

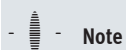


To exhaust, push the sliding sleeve in the direction of the thread on the coupling socket. The air from the plug and the components connected to it can escape. The air on the coupling side is shut off. The releasing sleeve can now be accessed.

## Decoupling



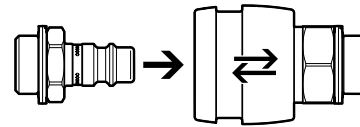
Unlock the plug fully by pushing the releasing sleeve. The plug should only be removed after all the air has been exhausted. With the plug removed, the two sleeves cannot slide or be pushed.

**Note**

Pressurise or exhaust the coupling to a maximum of 10 bar only. Hearing protection is recommended, especially at higher operating pressures.

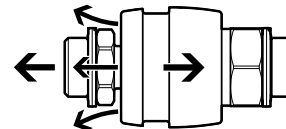
Safety coupling with coupling socket NPHS-D6-P and quick coupling plug NPHS-S6

## Coupling



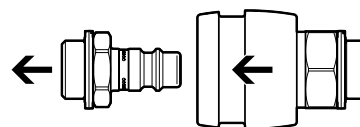
Push the plug into the socket to lock the coupling. The plug automatically engages with an audible click when in a specific position. In the process, the releasing sleeve moves briefly back and then forward again.

## Exhaust



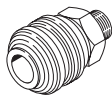
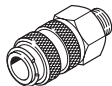
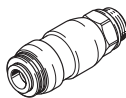
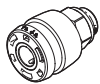
To exhaust, first push the releasing sleeve in the direction of the thread on the coupling socket. This releases the pin locking mechanism of the coupling. The plug moves approx. 5 mm out of the coupling and is held in this position by the ball locking mechanism of the coupling. The air from the plug and the components connected to it can escape. The air on the coupling side is shut off.

## Decoupling



Next, release the plug from the ball locking mechanism by pulling the releasing sleeve. This releases the plug completely so that it can be removed from the socket. The plug should only be removed after all the air has been exhausted.

## Product range overview

Function	Design	Type	Brief description	Standard nominal flow rate [l/min]	Nominal width [mm]	→ Page/Internet
Plug-in coupling	Shut-off on one side					
		KD1/KS1	For standard applications, without safety function	44	1.5	6
		KD2/KS2		68 ... 135	2 ... 2.9	8
		KD3/KS3		158 ... 666	2.9 ... 5	10
		KD4/KS4		252 ... 1350	2.9 ... 10	12
	Shut-off on both sides					
	KD3-...-R/ KS3-...-R	Both sides are sealed after unlocking	563	4.2 ... 5	16	
	KD4-...-R/ KS4-...-R		765	8	16	
Safety coupling	Shut-off on one side					
		NPHS-D6-M/ NPHS-S6	Exhaust the air on the plug side by sliding the sliding sleeve and then unlocking the coupling	1750 ... 2100	5.5 ... 10	18
			NPHS-D6-P/ NPHS-S6	Exhaust the air on the plug side by pushing the unlocking sleeve and then unlocking the coupling	875 ... 2083	5 ... 11
Coupling/tubing combination options						
Tubing		Coupling socket/plug				
		KD1/KS1	KD2/KS2	KD3/KS3	KD4/KS4	NPHS-D6/NPHS-S6
With standard I.D.	Polyurethane					
	PU-9	–	–	–	■	■
With standard O.D.	Polyurethane					
	PUN-3	■	–	–	–	–
	PUN-4	–	■	–	–	–
	PUN-6	–	■	■	■	–
	PUN-8	–	–	■	■	–
	Polyamide					
	PAN-4	–	■	–	–	–
	PAN-6	–	■	■	■	–
	PAN-8	–	–	■	■	–



## Product range overview

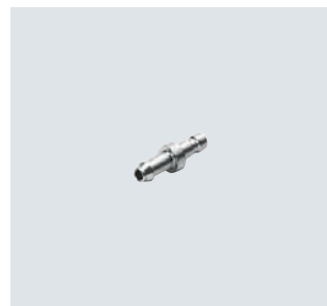
Coupling socket/plug combination options										
Connection	Size 1		Size 2		Size 3 <sup>1)</sup>		Size 4 <sup>1)</sup>		Size 6	
	Socket KD1	Plug KS1	Socket KD2	Plug KS2	Socket KD3	Plug KS3	Socket KD4	Plug KS4	Socket NPHS-D6	Plug NPHS-S6
<b>Male thread</b>										
M3	■	–	–	–	–	–	–	–	–	–
M5	–	–	■	■	–	–	–	–	–	–
G1/8	–	–	–	–	■	■	–	–	■	■
G1/4	–	–	–	–	■	■	■	■	■	■
G3/8	–	–	–	–	–	–	■	■	■	■
G1/2	–	–	–	–	–	–	■	■	■	■
<b>Female thread</b>										
M5	–	–	■	■	–	–	–	–	–	–
G1/8	–	–	–	–	■	■	–	–	–	–
G1/4	–	–	–	–	■	■	■	■	■	■
G3/8	–	–	–	–	–	–	■	■	■	■
G1/2	–	–	–	–	–	–	■	■	■	■
<b>Quick connector with union nut</b>										
CK-3	–	–	■	■	–	–	–	–	–	–
CK-4	–	–	■	■	■	■	–	■	–	–
CK-6	–	–	–	–	■	■	■	■	–	–
CK-9	–	–	–	–	–	–	■	■	–	–
<b>Barbed fitting</b>										
CN-2	–	■	–	–	–	–	–	–	–	–
N-6	–	–	–	–	–	–	–	■	–	–
N-9	–	–	–	–	–	–	■	■	■	■

1) Coupling socket/plug, shut-off both sides: KD3-...-A-R only thread G1/8, KD4-...-A-R only thread G1/4

## Datasheet

## Plug-in coupling KD1/KS1

-  - Flow rate  
44 l/min
-  - Nominal width  
1.5 mm



General technical data			
Pneumatic connection 1		Coupling socket KD1	Quick coupling plug KS1
		Male thread	Barbed fitting
		M3	CN-2
Nominal width	[mm]	1.5	1.5
Nominal tightening torque	[Nm]	0.6 ±10%	–
Product weight	[g]	2.9	0.4

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]			
Coupling socket/plug combination		Coupling socket KD1	
		Male thread	
		M3	
Quick coupling plug KS1			
Barbed fitting	CN-2	44	

1) Measured at  $p_1 = 6$  bar and  $\Delta p = 1$  bar

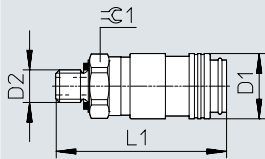
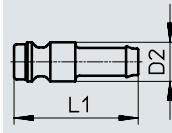
Operating and environmental conditions		
Operating pressure for entire temperature range	[bar]	–0.95 ... +12
Operating medium		Compressed air to ISO 8573-1:2010 [7:–:–]
Note on the operating/pilot medium		Lubricated operation possible
Ambient temperature	[°C]	–10 ... +60
Corrosion resistance class CRC <sup>1)</sup>		1

1) Corrosion resistance class CRC 1 to Festo standard FN 940070  
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

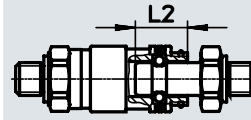
Materials		
	Coupling socket KD1	Quick coupling plug KS1
Housing	Nickel-plated brass	Nickel-plated brass
Releasing sleeve	Nickel-plated brass	–

## Datasheet

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)Coupling socket  
Male threadQuick coupling plug  
Barbed fitting

Insertion depth



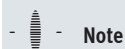
Connection	D1 Ø	D2	L1	L2	±0.1
<b>Male thread</b>					
M3	6.5	M3	18.5	4.6	6
<b>Barbed fitting</b>					
CN-2	–	4	12	4.6	–

## Ordering data

Connection	Coupling socket		Quick coupling plug	
	Part no.	Type	Part no.	Type
<b>Male thread</b>				
M3	151995	KD1-M3-A	–	–
<b>Barbed fitting</b>				
CN-2	–	–	151996	KS1-CN-2

## Datasheet

## Plug-in coupling KD2/KS2



## Note

All coupling socket types of the same size are compatible with all plugs of this size.

- - Flow rate  
68 ... 135 l/min
- - Nominal width  
2 ... 2.9 mm



## General technical data – Coupling socket KD2

Pneumatic connection 1		Male thread	Female thread	Quick connector	
		M5	M5	CK-3	CK-4
Nominal width	[mm]	2.4	2.7	2	2.9
Nominal tightening torque	[Nm]	0.85 ±15%		–	
Product weight	[g]	10	12	11	16

## General technical data – Quick coupling plug KS2

Pneumatic connection 1		Male thread	Female thread	Quick connector	
		M5	M5	CK-3	CK-4
Nominal width	[mm]	2.4	2.7	2	2.7
Nominal tightening torque	[Nm]	0.85 ±15%		–	
Product weight	[g]	5	5	4	11

Standard nominal flow rate  $q_{nN}^{1)}$  [l/min]

Coupling socket/plug combination		Coupling socket KD2		Quick connector	
		Male thread	Female thread	CK-3	CK-4
Quick coupling plug KS2					
Male thread	M5	126	133	85	129
Female thread	M5	131	135	88	130
Quick connector	CK-3	83	84	68	82
	CK-4	120	126	86	123

1) Measured at  $p_1 = 6$  bar and  $\Delta p = 1$  bar

## Operating and environmental conditions

Operating pressure for entire temperature range	[bar]	–0.95 ... +12
Operating medium	Compressed air to ISO 8573-1:2010 [7:–:–]	
Note on the operating/pilot medium	Lubricated operation possible	
Ambient temperature	[°C]	–10 ... +60
Corrosion resistance class CRC <sup>1)</sup>	1	

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

## Materials

	Coupling socket KD2	Quick coupling plug KS2
Housing	Nickel-plated brass	Nickel-plated brass
Releasing sleeve	Nickel-plated brass	–
Note on materials	RoHS-compliant	

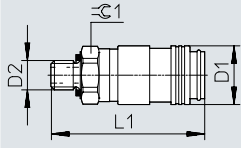


## Datasheet

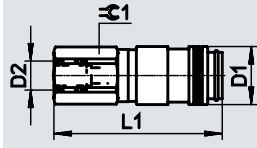
## Dimensions – Quick coupling socket

Download CAD data → [www.festo.com](http://www.festo.com)

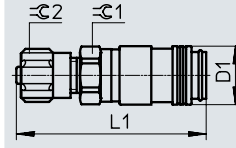
Male thread



Female thread



Quick connector

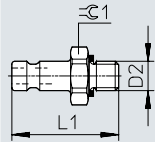


Connection	D1 ø	D2	L1	≈ 1/4	≈ 2/4
<b>Male thread</b>					
M5	10	M5	26.25	9	–
<b>Female thread</b>					
M5	10	M5	29.05	9	–
<b>Quick connector with union nut</b>					
CK-3	10	–	32.55	9	8
CK-4			35.75	11	12

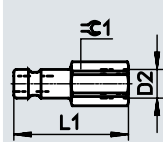
## Dimensions – Quick coupling plug

Download CAD data → [www.festo.com](http://www.festo.com)

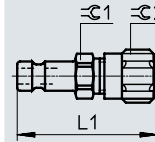
Male thread



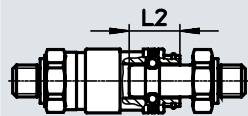
Female thread



Quick connector



Insertion depth



Connection	D1 ø	D2	L1	L2	≈ 1/4	≈ 2/4
<b>Male thread</b>						
M5	10	M5	18.2	7.95	9	–
<b>Female thread</b>						
M5	10	M5	20	7.95	7	–
<b>Quick connector with union nut</b>						
CK-3	10	–	24	7.95	7	8
CK-4			27.2		11	12

## Ordering data

Connection	Coupling socket		Quick coupling plug	
	Part no.	Type	Part no.	Type
<b>Male thread</b>				
M5	4087	KD2-M5-A	531658	KS2-M5-A
<b>Female thread</b>				
M5	531620	KD2-M5-I	531660	KS2-M5-I
<b>Quick connector with union nut</b>				
CK-3	531621	KD2-CK-3	4091	KS2-CK-3
CK-4	531622	KD2-CK-4	4090	KS2-CK-4

## Datasheet

## Plug-in coupling KD3/KS3



## Note

All coupling socket types of the same size are compatible with all plugs of this size.



Flow rate  
158 ... 666 l/min



Nominal width  
2.9 ... 5 mm



## General technical data – Coupling socket KD3

Pneumatic connection 1	Male thread		Female thread		Quick connector	
	G1/8	G1/4	G1/8	G1/4	CK-4	CK-6
Nominal width [mm]	4.95	5	5	5	2.9	4.9
Nominal tightening torque [Nm]	5 ±15%	9.5 ±15%	5 ±15%	9.5 ±15%	–	–
Product weight [g]	28	35	32	47	31	32

## General technical data – Quick coupling plug KS3

Pneumatic connection 1	Male thread		Female thread		Quick connector	
	G1/8	G1/4	G1/8	G1/4	CK-4	CK-6
Nominal width [mm]	4.95	4.95	4.95	4.95	2.9	4.9
Nominal tightening torque [Nm]	5 ±15%	9.5 ±15%	5 ±15%	9.5 ±15%	–	–
Product weight [g]	13	23	16	27	16	21

Standard nominal flow rate  $q_{nN}^{1)}$  [l/min]

Coupling socket/plug combination		Coupling socket KD3		Female thread		Quick connector	
		Male thread		Female thread		Quick connector	
		G1/8	G1/4	G1/8	G1/4	CK-4	CK-6
<b>Quick coupling plug KS3</b>							
Male thread	G1/8	563	581	585	648	225	464
	G1/4	558	581	594	653	225	455
Female thread	G1/8	536	554	558	617	225	446
	G1/4	572	594	603	666	225	468
Quick connector	CK-4	185	185	185	185	158	180
	CK-6	428	437	441	464	216	378

1) Measured at  $p_1 = 6$  bar and  $\Delta p = 1$  bar

## Operating and environmental conditions

Operating pressure for entire temperature range [bar]	–0.95 ... +12
Operating medium	Compressed air to ISO 8573-1:2010 [7:–:–]
Note on the operating/pilot medium	Lubricated operation possible
Ambient temperature [°C]	–10 ... +60
Corrosion resistance class CRC <sup>1)</sup>	1

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

## Materials

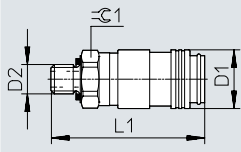
	Coupling socket KD3	Quick coupling plug KS3
Housing	Nickel-plated brass	Nickel-plated brass
Releasing sleeve	Nickel-plated brass	–
Note on materials	RoHS-compliant	

## Datasheet

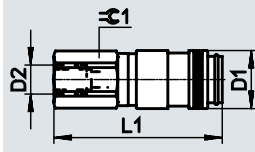
## Dimensions – Quick coupling socket

Download CAD data → [www.festo.com](http://www.festo.com)

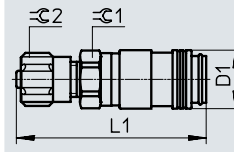
Male thread



Female thread



Quick connector

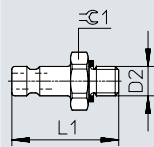


Connection	D1 Ø	D2	L1	≈C 1	≈C 2
Male thread					
G1/8	16	G1/8	36	14	–
G1/4		G1/4	37.6	17	
Female thread					
G1/8	16	G1/8	38.2	14	–
G1/4		G1/4	45.2	17	
Quick connector with union nut					
CK-4	16	–	43.1	14	12
CK-6			43.2		14

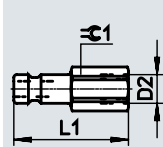
## Dimensions – Quick coupling plug

Download CAD data → [www.festo.com](http://www.festo.com)

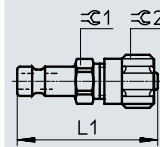
Male thread



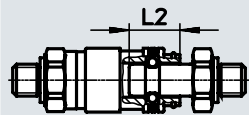
Female thread



Quick connector



Insertion depth



Connection	D1 Ø	D2	L1	L2	≈C 1	≈C 2
Male thread						
G1/8	16	G1/8	25	13.6	13	–
G1/4		G1/4	27.6		17	
Female thread						
G1/8	16	G1/8	28	13.6	13	–
G1/4		G1/4	32.6	13.6	17	
Quick connector with union nut						
CK-4	16	–	34.5	13.6	12	12
CK-6			34.6		14	14

## Ordering data

Connection	Coupling socket		Quick coupling plug	
	Part no.	Type	Part no.	Type
<b>Male thread</b>				
G1/8	2142	KD3-1/8-A	3492	KS3-1/8-A
G1/4	531626	KD3-1/4-A	531666	KS3-1/4-A
<b>Female thread</b>				
G1/8	531627	KD3-1/8-I	531668	KS3-1/8-I
G1/4	531628	KD3-1/4-I	531669	KS3-1/4-I
<b>Quick connector with union nut</b>				
CK-4	531629	KD3-CK-4	3326	KS3-CK-4
CK-6	531630	KD3-CK-6	3478	KS3-CK-6

## Datasheet

## Plug-in coupling KD4/KS4

- Releasing sleeve made from polymer
- Coupling sockets KD4 can be combined with all quick coupling plugs NPHS-S6 → 18



Flow rate  
252 ... 1350 l/min



Nominal width  
2.9 ... 10 mm



## Note

All coupling socket types of the same size are compatible with all plugs of this size.

The hardened quick coupling plugs NPHS-S6 must be used with couplings that are frequently subject to pressure surges or that have to be frequently mated.

## General technical data – Coupling socket KD4

Pneumatic connection 1	Male thread			Female thread			Quick connector		Barbed fitting
	G1/4	G3/8	G1/2	G1/4	G3/8	G1/2	CK-6	CK-9	N-9
Nominal width [mm]	8	10		7.2			4.9	7.4	7.4
Nominal tightening torque [Nm]	9.5 ±15%	21.5 ±15%	32.5 ±20%	9.5 ±15%	21.5 ±15%	32.5 ±20%	–		
Product weight [g]	57	62	78	88	82	86	63	71	57

## General technical data – Quick coupling plug KS4

Pneumatic connection 1	Male thread			Female thread			Quick connector			Barbed fitting	
	G1/4	G3/8	G1/2	G1/4	G3/8	G1/2	CK-4	CK-6	CK-9	N-6	N-9
Nominal width [mm]	7.85			7.85			2.9	4.9	7.4	4.5	7
Nominal tightening torque [Nm]	9.5 ±15%	21.5 ±15%	32.5 ±20%	9.5 ±15%	21.5 ±15%	32.5 ±20%	–				
Product weight [g]	21	29	55	31	32	57	26	26	26	15	18

Standard nominal flow rate  $q_{nN^{1)}$  [l/min]

Coupling socket/plug combination		Coupling socket KD4								
		Male thread			Female thread			Quick connector		Barbed fitting
		G1/4	G3/8	G1/2	G1/4	G3/8	G1/2	CK-6	CK-9	N-9
Quick coupling plug KS4										
Male thread	G1/4	1260	1242	1296	1283	1305	1323	756	1098	1143
	G3/8	1283	1274	1319	1283	1323	1323	756	1116	1152
	G1/2	1283	1260	1301	1283	1323	1323	756	1098	1143
Female thread	G1/4	1125	1125	1148	1130	1161	1161	720	1008	1035
	G3/8	1287	1274	1337	1292	1350	1332	756	1116	1152
	G1/2	1287	1260	1305	1292	1314	1305	756	1116	1152
Quick connector	CK-4	261	261	257	257	261	257	252	261	
	CK-6	486	482	482	482	486	495	432	477	
	CK-9	1152	1143	1179	1161	1197	1197	725	1017	1044
Barbed fitting	N-6	486	482	482	482	486	495	441	477	
	N-9	1107	1089	1107	1098	1134	1125	711	981	1008

1) Measured at  $p_1 = 6$  bar and  $\Delta p = 1$  bar

## Datasheet

Operating and environmental conditions	
Operating pressure for entire temperature range	[bar] -0.95 ... +12
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]
Note on the operating/pilot medium	Lubricated operation possible
Ambient temperature	[°C] -10 ... +60
Corrosion resistance class CRC <sup>1)</sup>	1

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

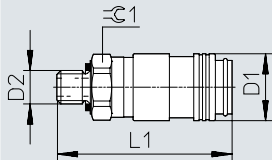
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

Materials	Coupling socket KD4	Quick coupling plug KS4
Housing	Nickel-plated brass	Nickel-plated brass
Releasing sleeve	Polypropylene	-
Note on materials	RoHS-compliant	

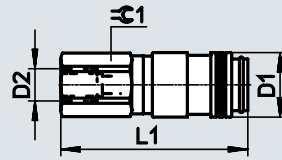
### Dimensions – Quick coupling socket

Download CAD data → [www.festo.com](http://www.festo.com)

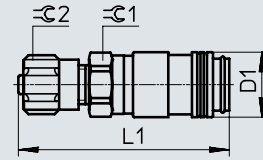
Male thread



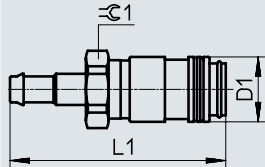
Female thread



Quick connector



Barbed fitting



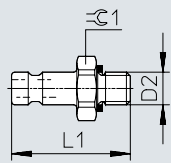
Connection	D1 Ø	D2	L1	≡ 1	≡ 2
Male thread					
G1/4	26.4	G1/4	40.5	22	–
G3/8		G3/8	41.5		
G1/2		G1/2	43	24	
Female thread					
G1/4	26.4	G1/4	46	22	–
G3/8		G3/8	47.5		
G1/2		G1/2	50.5	24	
Quick connector with union nut					
CK-6	26.4	–	46.4	22	14
CK-9			49.8		19
Barbed fitting					
N-9	26.4	12	56.2	21	–

## Datasheet

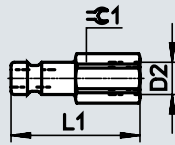
## Dimensions – Quick coupling plug

Download CAD data → [www.festo.com](http://www.festo.com)

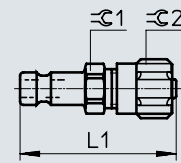
## Male thread



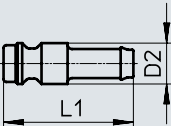
## Female thread



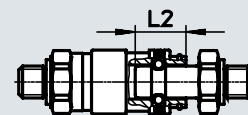
## Quick connector



## Barbed fitting



## Insertion depth



Connection	D1 Ø	D2	L1	L2	≈G 1	≈G 2
Male thread						
G1/4	26.4	G1/4	32.5	14.95	17	–
G3/8		G3/8	34		19	
G1/2		G1/2	37.5		24	
Female thread						
G1/4	26.4	G1/4	38.5	14.95	17	–
G3/8		G3/8	39.5		19	
G1/2		G1/2	44		24	
Quick connector with union nut						
CK-4	–	–	40.2	14.95	17	12
CK-6	26.4		40.3			14
CK-9			43.7		19	19
Barbed fitting						
N-6	26.4	12	47	14.95	–	–
N-9						

## Datasheet

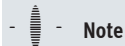
## ★ Core Range

Ordering data				
Connection	Coupling socket		Quick coupling plug	
	Part no.	Type	Part no.	Type
<b>Male thread</b>				
G1/4	★ 2143	KD4-1/4-A	2154	KS4-1/4-A
G3/8	★ 2144	KD4-3/8-A	2155	KS4-3/8-A
G1/2	★ 2145	KD4-1/2-A	531676	KS4-1/2-A
<b>Female thread</b>				
G1/4	531636	KD4-1/4-I	531678	KS4-1/4-I
G3/8	531637	KD4-3/8-I	531679	KS4-3/8-I
G1/2	531638	KD4-1/2-I	531680	KS4-1/2-I
<b>Quick connector with union nut</b>				
CK-4	—		2150	KS4-CK-4
CK-6	531639	KD4-CK-6	2151	KS4-CK-6
CK-9	531640	KD4-CK-9	531683	KS4-CK-9
<b>Barbed fitting</b>				
N-6	—		2152	KS4-N-6
N-9	531641	KD4-N-9	2153	KS4-N-9

## Datasheet

### Plug-in coupling KD...-R/KS...-R

- Both sides are sealed after unlocking



#### Note

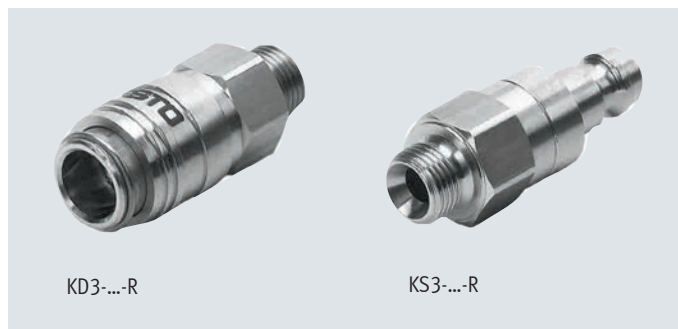
Only coupling sockets and quick coupling plug with the same function and size can be combined.



Flow rate  
563 l/min



Nominal width  
4.2 ... 5 mm



KD3-...-R

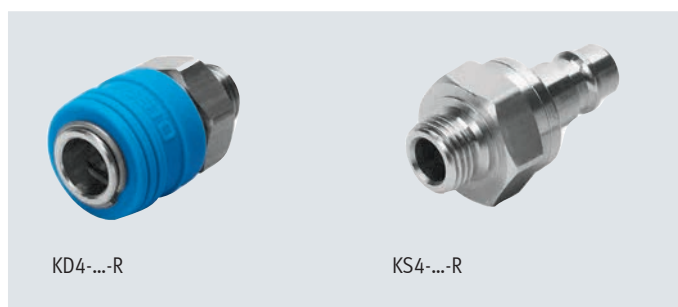
KS3-...-R



Flow rate  
765 l/min



Nominal width  
8 mm



KD4-...-R

KS4-...-R

### General technical data

Pneumatic connection 1		Coupling socket KD3	Quick coupling plug KS3	Coupling socket KD4	Quick coupling plug KS4
		Male thread	Male thread	Male thread	Male thread
		G1/8	G1/8	G1/4	G1/4
Nominal width	[mm]	5	4.2	8	8
Nominal tightening torque	[Nm]	5 ±15%	5 ±15%	9.5 ±15%	9.5 ±15%
Product weight	[g]	28	32	58	46

### Standard nominal flow rate $q_{nN}^{1)}$ [l/min]

Coupling socket/plug combination	Coupling socket KD3		Coupling socket KD4
	Male thread		Male thread
	G1/8		G1/4
Quick coupling plug KS3			
Male thread	G1/8	563	–
Quick coupling plug KS4			
Male thread	G1/4	–	765

1) Measured at  $p_1 = 6$  bar and  $\Delta p = 1$  bar

### Operating and environmental conditions

Operating pressure for entire temperature range	[bar]	–0.95 ... +12
Operating medium		Compressed air to ISO 8573-1:2010 [7:-:-]
Note on the operating/pilot medium		Lubricated operation possible
Ambient temperature	[°C]	–10 ... +60
Corrosion resistance class CRC <sup>1)</sup>		1

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).



## Datasheet

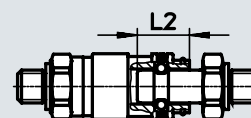
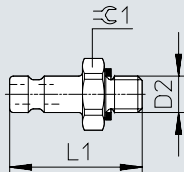
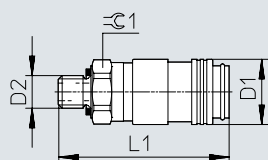
Materials	Coupling socket	Quick coupling plug	Coupling socket	Quick coupling plug
	KD3	KS3	KD4	KS4
Housing	Brass		Brass	
Releasing sleeve	Nickel-plated brass	–	Polypropylene	–
Note on materials	RoHS-compliant			

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)Coupling socket  
Male thread

Quick coupling plug

Insertion depth



Type	D1 Ø	D2	L1		L2	≙ 1
			Coupling socket	Quick coupling plug		
Male thread						
G1/8	16	G1/8	36	39.8	13.6	14
G1/4	26.4	G1/4	40.5	42.5	14.95	22

## Ordering data


Connection	Coupling socket		Quick coupling plug	
	Part no.	Type	Part no.	Type
G1/8	531659	KD3-1/8-A-R	531667	KS3-1/8-A-R
G1/4	531694	KD4-1/4-A-R	531677	KS4-1/4-A-R


## Datasheet

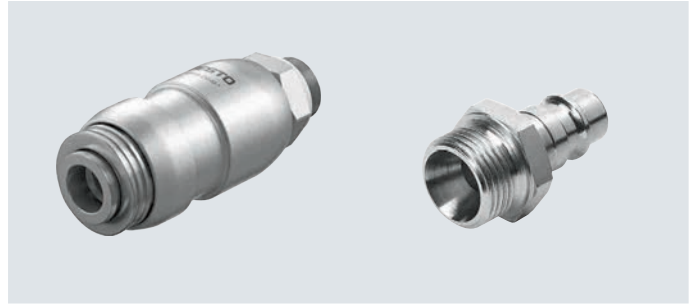
### Safety coupling

#### NPHS-D6-M/NPHS-S6

- Metal releasing sleeve
- Combination of coupling and hand slide valve
- Exhaust the air on the connector side without releasing the coupling
- Can be used as an on/off valve

-  - Flow rate  
1750 ... 2100 l/min


-  - Nominal width  
5.5 ... 10 mm




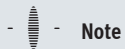
### Safety coupling

#### NPHS-D6-P/NPHS-S6

- Polymer releasing sleeve
- Exhaust the air on the connector side without releasing the coupling

-  - Flow rate  
875 ... 2083 l/min

-  - Nominal width  
5 ... 11 mm



### Note

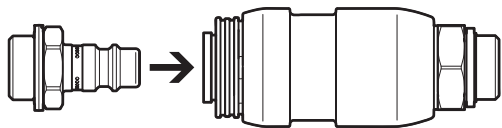
All types of coupling socket NPHS-D6 are compatible with all plugs NPHS-S6. In addition, the coupling sockets NPHS-D6-M and all quick coupling plugs NPHS-S6 can be combined with brass coupling sockets/plugs KD4/KS4.

In contrast, the coupling sockets NPHS-D6-P may only be used with the hardened quick coupling plugs NPHS-S6. No safety function when combining coupling socket KD4 with quick coupling plug NPHS-S6. In this combination, the plug is released directly in one step.

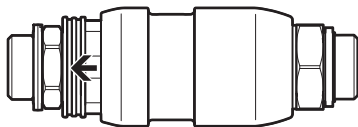
### Mode of operation

#### Coupling socket NPHS-D6-M and quick coupling plug NPHS-S6

##### Coupling



Push the plug into the socket to lock the coupling. The plug automatically engages with an audible click when in a specific position.



When the plug is engaged, the releasing sleeve shifts slightly in the direction of the plug. This releases the locking mechanism between the releasing sleeve and the sliding sleeve. The sliding sleeve can now be actuated.

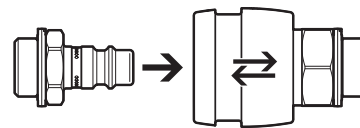
##### Pressurising



To pressurise, push the sliding sleeve in the direction of the plug.

#### Coupling socket NPHS-D6-P and quick coupling plug NPHS-S6

##### Coupling



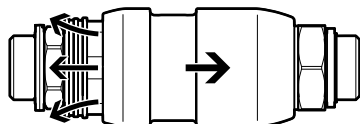
Push the plug into the socket to lock the coupling. The plug automatically engages with an audible click when in a specific position. In the process, the releasing sleeve moves briefly back and then forward again.

## Datasheet

### Mode of operation

Coupling socket NPHS-D6-M and quick coupling plug NPHS-S6

Exhaust

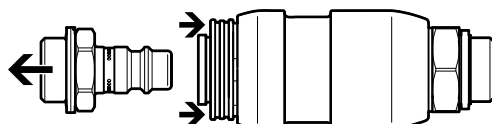


To exhaust, push the sliding sleeve in the direction of the thread on the coupling socket. The air from the plug and the components connected to it can escape. The air on the coupling side is shut off. The releasing sleeve can now be accessed.

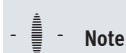
#### Special features:

To repressurise the plug, the sliding sleeve must be pushed in the direction of the plug once more. The plug doesn't need to be completely released from the socket before doing this. This safety coupling can thus be used as an on/off valve, for example.

Decoupling

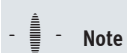


Unlock the plug fully by pushing the releasing sleeve. The plug should only be removed after all the air has been exhausted. With the plug removed, the two sleeves cannot slide or be pushed.



#### Note

Pressurise or exhaust the coupling to a maximum of 10 bar only. Hearing protection is recommended, especially at higher operating pressures.

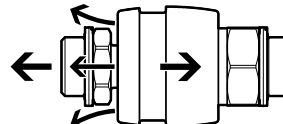


#### Note

Safety exhaust couplings with coupling sockets NPHS-D6 fulfil the requirements for pneumatic systems to EN ISO 4414.

Coupling socket NPHS-D6-P and quick coupling plug NPHS-S6

Exhaust

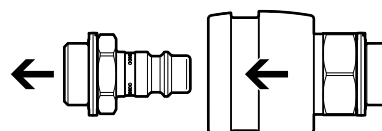


To exhaust, first push the releasing sleeve in the direction of the thread on the coupling socket. This releases the pin locking mechanism of the coupling. The plug moves approx. 5 mm out of the coupling and is held in this position by the ball locking mechanism of the coupling. The air from the plug and the components connected to it can escape. The air on the coupling side is shut off.

#### Special features:

To repressurise the plug, it must be pushed into the socket once more. The plug doesn't need to be completely released from the socket before doing this.

Decoupling



Next, release the plug from the ball locking mechanism by pulling the releasing sleeve. This releases the plug completely so that it can be removed from the socket. The plug should only be removed after all the air has been exhausted.

### General technical data – Quick coupling socket NPHS-D6

Pneumatic connection 1	Male thread							Female thread			For plug-in nipple
	NPHS-D6-M			NPHS-D6-P				NPHS-D6-P			NPHS-D6-P
	G1/4	G3/8	G1/2	G1/8	G1/4	G3/8	G1/2	G1/4	G3/8	G1/2	I.D. 9 mm
Nominal width [mm]	8.2	10	10	5	7.8	10.2	11	–	–	–	7
Nominal tightening torque [Nm]	7 ±20%	15 ±20%	25 ±20%	3.5 ±10%	11 ±10%	12.5 ±20%	14 ±20%	–	–	–	–
Product weight [g]	173	179	200	94	95	98	113	124	114	122	95

### General technical data – Quick coupling plug NPHS-S6

Pneumatic connection 1	Male thread				Female thread			For plug-in nipple
	G1/8	G1/4	G3/8	G1/2	G1/4	G3/8	G1/2	I.D. 9 mm
Nominal width [mm]	5.5	7.85	7.85	7.85	7.85	7.85	7.85	7
Nominal tightening torque [Nm]	3.5 ±10%	11 ±10%	12.5 ±20%	14 ±20%	–	–	–	–
Product weight [g]	19	20	27	50	28	29	49	17

## Datasheet

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]				
Coupling socket/plug combination		Coupling socket NPHS-D6-M		
		Male thread		
		G1/4	G3/8	G1/2
Quick coupling plug NPHS-S6				
Male thread	G1/4	1833	2100	2100
	G3/8	1800	2050	2050
	G1/2	1750	2000	2000

1) Measured at  $p_1 = 6$  bar and  $\Delta p = 1$  bar

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]									
Coupling socket/plug combination		Quick coupling socket NPHS-D6-P							
		Male thread				Female thread			For plug-in nipple
		G1/8	G1/4	G3/8	G1/2	G1/4	G3/8	G1/2	I.D. 9 mm
Quick coupling plug NPHS-S6									
Male thread	G1/8	875	1183	1216	1233	1183	1203	1238	1093
	G1/4	1038	1916	2033	2016	2033	2000	1983	1585
	G3/8	1038	1883	2033	1983	2033	1950	1950	1585
	G1/2	1002	1883	1966	1950	1966	1916	1916	1533
Female thread	G1/4	1002	1883	1950	1916	1800	1800	1008	1503
	G3/8	1050	1966	2083	2016	2050	2083	2050	1613
	G1/2	1038	1883	2000	1983	1933	2050	1950	1613
For plug-in nipple	I.D. 9 mm	966	1585	1640	1585	1585	1700	1640	1448

1) Measured at  $p_1 = 6$  bar and  $\Delta p = 1$  bar

Operating and environmental conditions			
		Coupling socket	Quick coupling plug
		NPHS-D6-M	NPHS-D6-P
		NPHS-S6	
Operating pressure for entire temperature range	[bar]	−0.95 ... +20 <sup>1)</sup>	−0.95 ... +10
Operating medium		Compressed air to ISO 8573-1:2010 [7:-:-]	
Note on the operating/pilot medium		Lubricated operation possible	
Ambient temperature	[°C]	−20 ... +80	−10 ... +60
Corrosion resistance class CRC <sup>3)</sup>		1	1
Sound pressure level <sup>4)</sup>	[dB(A)]	110 (at 6 bar)	93 (at 6 bar)
		113 (at 10 bar)	98.7 (at 10 bar)
		117 (at 16 bar)	–

1) Pressurise or exhaust the coupling to a maximum of 10 bar only. Hearing protection is recommended, especially at higher operating pressures. 20 bar is the maximum static operating pressure (without pulsation).

2) With a suitable sealing ring (e.g. sealing ring OL) it is possible to achieve a static operating pressure (without pulsation) of up to 20 bar in a temperature range of −20°C to +100°C.

3) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

4) Measured at a distance of 1 m, 10 l volume via the coupling open and exhausted under pressure.

Materials			
		Coupling socket	Quick coupling plug
		NPHS-D6-M	NPHS-D6-P
		NPHS-S6	
Housing		Nickel-plated brass	Nickel-plated brass
Sliding sleeve		Colourless anodised aluminium	–
Releasing sleeve		Nickel-plated brass	PP
Note on materials		RoHS-compliant	

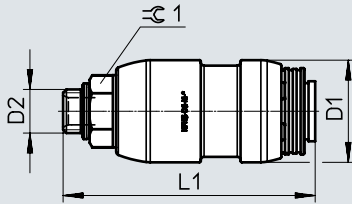
## Datasheet

## Dimensions – Quick coupling socket

Download CAD data → [www.festo.com](http://www.festo.com)

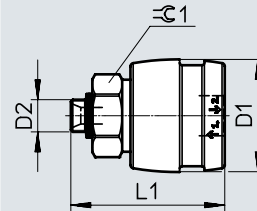
Male thread

NPHS-D6-M

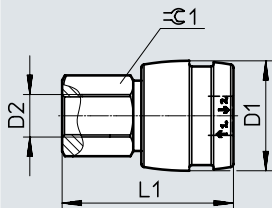


Male thread

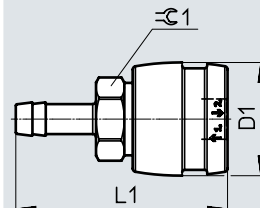
NPHS-D6-P



Female thread



For plug-in nipple

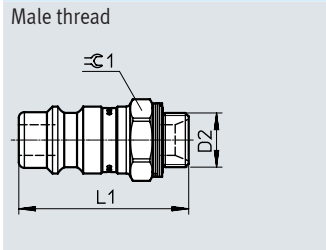


Connection	D1 Ø	D2	L1	≈G 1
Male thread, coupling socket NPHS-D6-M				
G1/4	30.8	G1/4	76	19
G3/8		G3/8	77	22
G1/2		G1/2	80.5	24
Male thread, coupling socket NPHS-D6-P				
G1/8	34	G1/8	46.5	22
G1/4		G1/4	48	22
G3/8		G3/8	49	22
G1/2		G1/2	50.5	24
Female thread				
G1/4	34	G1/4	53	22
G3/8		G3/8	53	22
G1/2		G1/2	56	24
For plug-in nipple				
I.D. 9 mm	34	–	63.6	22

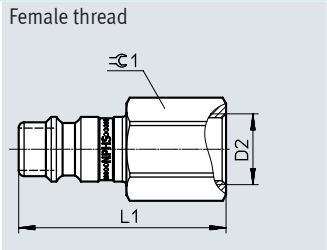
Datasheet

Dimensions – Quick coupling plug Download CAD data → [www.festo.com](http://www.festo.com)

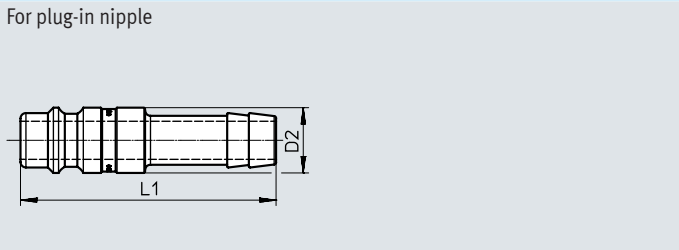
Male thread



Female thread

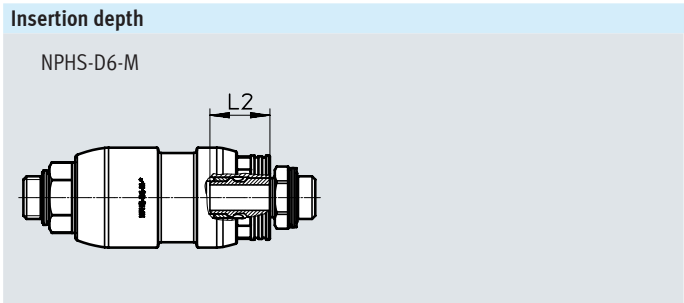


For plug-in nipple

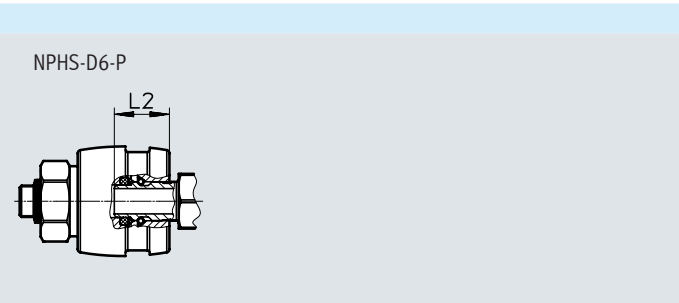


Insertion depth

NPHS-D6-M



NPHS-D6-P



Type	D2	L1	L2		≈ 1
			NPHS-D6-M	NPHS-D6-P	
Male thread					
G1/8	G1/8	30.5	18.6 ±0.4	17.1 ±0.3	13
G1/4	G1/4	32.5			17
G3/8	G3/8	34			19
G1/2	G1/2	37.5			24
Female thread					
G1/4	G1/4	38.5	18.6 ±0.4	17.1 ±0.3	17
G3/8	G3/8	39.5			19
G1/2	G1/2	44			24
For plug-in nipple					
I.D. 9 mm	12	47	18.6 ±0.4	17.1 ±0.3	–

## Datasheet

## ★ Core Range

## Ordering data – Coupling socket

Connection	Polymer releasing sleeve		Metal releasing sleeve	
	Part no.	Type	Part no.	Type
Male thread				
G1/8	8059266	NPHS-D6-P-G18	–	
G1/4	★ 8059267	NPHS-D6-P-G14	8059275	NPHS-D6-M-G14
G3/8	★ 8059268	NPHS-D6-P-G38	8059276	NPHS-D6-M-G38
G1/2	★ 8059269	NPHS-D6-P-G12	8059277	NPHS-D6-M-G12
Female thread				
G1/4	8059271	NPHS-D6-P-G14F	–	
G3/8	8059272	NPHS-D6-P-G38F	–	
G1/2	8059273	NPHS-D6-P-G12F	–	
For plug-in nipple				
I.D. 9 mm	8059274	NPHS-D6-P-BC9	–	

## Ordering data - Quick coupling plug

Connection	Part no.	Type
<b>Male thread</b>		
G1/8	★ 8059257	NPHS-S6-M-G18
G1/4	★ 8059258	NPHS-S6-M-G14
G3/8	★ 8059259	NPHS-S6-M-G38
G1/2	★ 8059260	NPHS-S6-M-G12
<b>Female thread</b>		
G1/4	★ 8059262	NPHS-S6-M-G14F
G3/8	★ 8059263	NPHS-S6-M-G38F
G1/2	★ 8059264	NPHS-S6-M-G12F
<b>For plug-in nipple</b>		
I.D. 9 mm	8059265	NPHS-S6-M-BC9

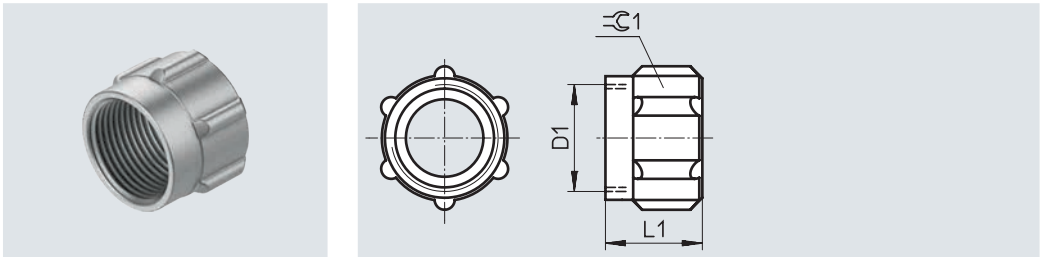
Union nut MCK

Accessories

**Union nut MCK**  
for quick connector

Material:  
Wrought aluminium alloy

Note on materials:  
RoHS-compliant



Ordering data						
Nominal width [mm]	D1	L1	G 1	Weight [g]	Part no.	Type
3	M6x0.75	8.5	8	0.6	533672	MCK-PK-3-KD
4	M10x1	11	12	1.6	533673	MCK-PK-4-KD
6	M12x1	11	14	1.9	533674	MCK-PK-6-KD
9	M16x1	14.4	19	5	533675	MCK-PK-9-KD
13	M22x1	18	24	8	533676	MCK-PK-13-KD



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