

Coupling sockets/quick coupling plugs

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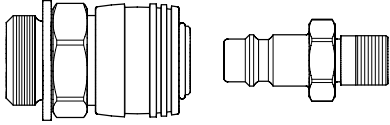
Just look
for the
star!

Key features

Operating mode

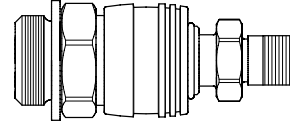
Plug-in coupling with coupling socket KD and quick coupling plug KS, shut off at one or both ends

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.

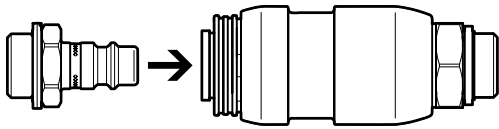
When removing the quick coupling plug, it is important to hold it until it is fully exhausted.

Key features

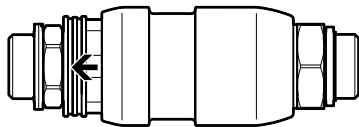
Operating mode

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

Coupling

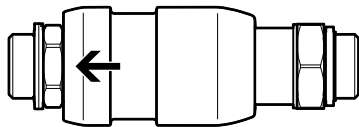


Push the plug into the socket to lock the coupling. The plug automatically engages with an audible click when in a specific position.



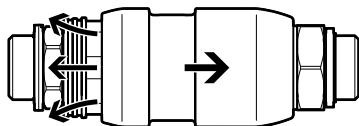
When the plug is engaged, the releasing sleeve shifts slightly in the direction of the plug. This releases the locking mechanism between the releasing sleeve and the sliding sleeve. The sliding sleeve can now be actuated.

Pressurisation



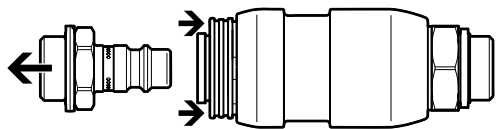
To pressurise, push the sliding sleeve in the direction of the plug.

Exhausting




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 at the coupling end is shut off. The releasing sleeve can now be accessed.

Decoupling



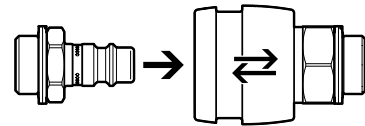
Unlock the plug fully by pushing the releasing sleeve. The plug should only be removed after all the air has been exhausted. With the plug removed, the two sleeves cannot slide or be pushed.

 **Note**

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

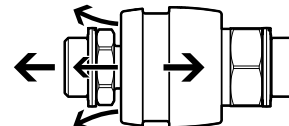
Safety coupling with coupling socket NPHS-D6-P and quick coupling plug NPHS-S6

Coupling



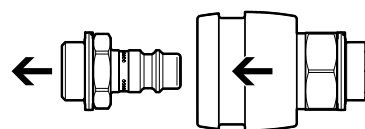
Push the plug into the socket to lock the coupling. The plug automatically engages with an audible click when in a specific position. During this process, the releasing sleeve moves briefly back and then forward again.

Exhausting



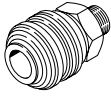

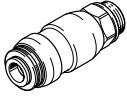
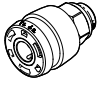
To exhaust, first push the releasing sleeve in the direction of the thread on the coupling socket. This releases the pin locking mechanism of the coupling. The plug moves approx. 5 mm out of the coupling and is held in this position by the ball locking mechanism of the coupling. The air from the plug and the components connected to it can escape. The air at the coupling end 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	Version	Type	Brief description	Standard nominal flow rate [l/min]	Nominal width [mm]	→ Page/Internet
Plug-in coupling	Shut off at one end					
		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	11
		KD4/KS4		252 ... 1350	2.9 ... 10	14
	Shut off at both ends					
	KD3-...-R/ KS3-...-R	Both ends are sealed after unlocking	563	4.2 ... 5	19	
	KD4-...-R/ KS4-...-R		765	8	19	
Safety coupling	Shut off at one end					
		NPHS-D6-M/ NPHS-S6	Exhaust the air at the plug end by sliding the sliding sleeve and then unlocking the coupling	1750 ... 2100	5.5 ... 10	21
		NPHS-D6-P/ NPHS-S6	Exhaust the air at the plug end by pushing the releasing sleeve and then unlocking the coupling	875 ... 2083	5 ... 11	21
	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 ¹⁾		Size 4 ¹⁾		Size: 6	
	Socket KD1	Plug KS1	Socket KD2	Plug KS2	Socket KD3	Plug KS3	Socket KD4	Plug KS4	Socket NPHS-D6	Plug NPHS-S6
Male thread										
M3	■	–	–	–	–	–	–	–	–	–
M5	–	–	■	■	–	–	–	–	–	–
G1/8	–	–	–	–	■	■	–	–	■	■
G1/4	–	–	–	–	■	■	■	■	■	■
G3/8	–	–	–	–	–	–	■	■	■	■
G1/2	–	–	–	–	–	–	■	■	■	■
Female thread										
M5	–	–	■	■	–	–	–	–	–	–
G1/8	–	–	–	–	■	■	–	–	–	–
G1/4	–	–	–	–	■	■	■	■	■	■
G3/8	–	–	–	–	–	–	■	■	■	■
G1/2	–	–	–	–	–	–	■	■	■	■
Quick connector with union nut										
CK-3	–	–	■	■	–	–	–	–	–	–
CK-4	–	–	■	■	■	■	–	■	–	–
CK-6	–	–	–	–	■	■	■	■	–	–
CK-9	–	–	–	–	–	–	■	■	–	–
Barbed fitting										
CN-2	–	■	–	–	–	–	–	–	–	–
N-6	–	–	–	–	–	–	–	■	–	–
N-9	–	–	–	–	–	–	■	■	■	■

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

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 hose fitting
	M3	2 mm
Nominal width [mm]	1.5	1.5
Nominal tightening torque [Nm]	0.6 ±10%	-
Nominal flow rate standardised according to ISO 8778 [l/min]	47.7	
Product weight [g]	2.9	0.4

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]		
Coupling socket/quick coupling 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	[MPa]	-0.095 ... +1.2
	[bar]	-0.95 ... +12
	[psi]	-13.775 ... +174
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 ¹⁾	1 - Low corrosion stress	

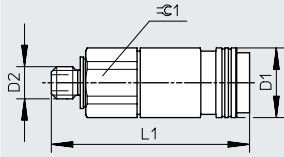
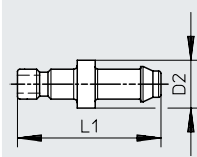
1) More information: www.festo.com/x/topic/crc

Materials		
	Coupling socket KD1	Quick coupling plug KS1
Housing	Nickel-plated brass	-
Releasing sleeve	Nickel-plated brass	-
Seals	NBR	-
Spring	High-alloy stainless steel	-
Threaded seal	NBR	-
	High-alloy stainless steel	-
Threaded coupling	Nickel-plated brass	-
Ball	High-alloy stainless steel	-
Valve body	Brass	-
Information on materials	-	Nickel-plated brass
Note on materials	RoHS-compliant	
LABS (PWIS) conformity	VDMA24364-B1/B2-L	

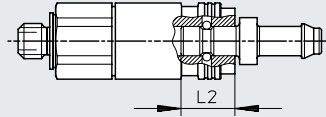
Datasheet

Download CAD data → www.festo.com

Dimensions

Coupling socket
Male threadQuick coupling plug
Barbed fitting

Insertion depth



Connection	D1 ∅	D2	L1	L2	±0.1
Male thread					
M3	6.5	M3	18.5	4.6	6
Barbed fitting					
CN-2	–	4	12	4.6	–

Ordering data

Connection

Coupling socket

Quick coupling plug

Part no.

Type

Part no.

Type

Male thread

M3	151995	KD1-M3-A		–	
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Barbed fitting

CN-2	–		151996	KS1-CN-2	
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Coupling sockets/quick coupling plugs KD/KS, shut off at one end

Datasheet

Plug-in coupling KD2/KS2

Note

All coupling sockets 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	For tubing O.D. 4 mm For barbed connector I.D. 3 mm with union nut	For tubing O.D. 6 mm For barbed connector I.D. 4 mm with union nut
	M5	M5	CK-3	CK-4
Nominal width [mm]	2.4	2.7	2	2.9
Nominal tightening torque [Nm]	0.85 ±15%		–	
Nominal flow rate standardised according to ISO 8778 [l/min]	90 ... 142		91.1 ... 146.3	73.7 ... 95.4
Product weight [g]	10	12	11	16

General technical data – Quick coupling plug KS2

Pneumatic connection 1	Male thread	Female thread	For tubing O.D. 4 mm For barbed connector I.D. 3 mm with union nut	For tubing O.D. 6 mm For barbed connector I.D. 4 mm with union nut
	M5	M5	CK-3	CK-4
Nominal width [mm]	2.4	2.7	2	2.7
Nominal tightening torque [Nm]	0.85 ±15%		–	
Nominal flow rate standardised according to ISO 8778 [l/min]	92.1 ... 147.4		95.4 ... 150.7	73.7 ... 91.1
Product weight [g]	5	5	4	11

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

Coupling socket/quick coupling plug combination	Coupling socket KD2			
	Male thread	Female thread	Quick connector	
	M5	M5	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
Quick connector 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	[MPa]	–0.095 ... +1.2
	[bar]	–0.95 ... +12
	[psi]	–13.775 ... +174
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 ¹⁾	1 - Low corrosion stress	

1) More information: www.festo.com/x/topic/crc

Datasheet

Materials	Coupling socket KD2	Quick coupling plug KS2
Housing	Nickel-plated brass	–
Valve body	Brass	–
Releasing sleeve	Nickel-plated brass	–
Seals	NBR	–
Spring	High-alloy stainless steel	–
Ball	High-alloy stainless steel	–
Circlip	High-alloy stainless steel	–
Threaded coupling ¹⁾	Nickel-plated brass	–
Union nut ²⁾	Nickel-plated wrought aluminium alloy	
Threaded seal ³⁾	NBR High-alloy stainless steel	
Information on materials	–	Nickel-plated brass
Note on materials	RoHS-compliant	
LABS (PWIS) conformity	VDMA24364-B1/B2-L	

1) Only for M5-A and M5-1

2) Not for CK-3 and CK-4

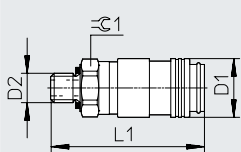
3) Only for M5-A

Datasheet

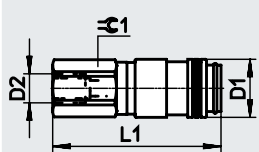
Dimensions – Coupling socket

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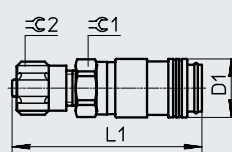
Male thread



Female thread



Quick connector

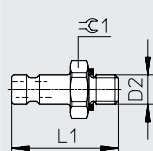


Connection	D1 ø	D2	L1	∅ 1	∅ 2
Male thread					
M5	10	M5	26.25	9	–
Female thread					
M5	10	M5	29.05	9	–
Quick connector with union nut					
CK-3	10	–	32.55	9	8
CK-4			35.75	11	12

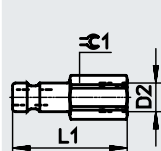
Dimensions – Quick coupling plug

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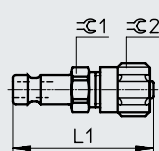
Male thread



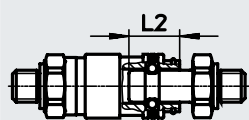
Female thread



Quick connector



Insertion depth



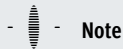
Connection	D1 ø	D2	L1	L2	∅ 1	∅ 2
Male thread						
M5	10	M5	18.2	7.95	9	–
Female thread						
M5	10	M5	20	7.95	7	–
Quick connector with union nut						
CK-3	10	–	24	7.95	7	8
CK-4			27.2		11	12

Ordering data

Connection	Coupling socket		Quick coupling plug	
	Part no.	Type	Part no.	Type
Male thread				
M5	4087	KD2-M5-A	531658	KS2-M5-A
Female thread				
M5	531620	KD2-M5-I	531660	KS2-M5-I
Quick connector with union nut				
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 sockets 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		For tubing O.D. 6 mm For barbed connector I.D. 4 mm with union nut	For tubing O.D. 8 mm For barbed connector I.D. 6 mm with union nut
	G1/8	G1/4	G1/8	G1/4		
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%	–	–
Nominal flow rate standardised according to ISO 8778 [l/min]	200.5 ... 620	200.5 ... 643.9	200.5 ... 653.7	200.5 ... 721.9	171.3 ... 243.9	195.1 ... 507.3
Product weight [g]	28	35	32	47	31	32

General technical data – Quick coupling plug KS3

Pneumatic connection 1	Male thread		Female thread		For tubing O.D. 6 mm For barbed connector I.D. 4 mm with union nut	For tubing O.D. 8 mm For barbed connector I.D. 6 mm with union nut
	G1/8	G1/4	G1/8	G1/4		
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%	–	–
Nominal flow rate standardised according to ISO 8778 [l/min]	243.9 ... 702.4	243.9 ... 707.9	243.9 ... 668.8	243.9 ... 721.9	171.3 ... 200.5	234.1 ... 503
Product weight [g]	13	23	16	27	16	21

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

Coupling socket/quick coupling plug combination	Coupling socket KD3						
	Male thread		Female thread		Quick connector		
	G1/8	G1/4	G1/8	G1/4	CK-4	CK-6	
Quick coupling plug KS3							
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	[MPa]	–0.095 ... +1.2
	[bar]	–0.95 ... +12
	[psi]	–13.775 ... +174
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 ¹⁾	1 - Low corrosion stress	

1) More information: www.festo.com/x/topic/crc

Datasheet

Materials	Coupling socket KD3	Quick coupling plug KS3
Housing	Nickel-plated brass	–
Releasing sleeve	Nickel-plated brass	–
Union nut ¹⁾	Nickel-plated wrought aluminium alloy	
Seals	NBR	–
Spring	High-alloy stainless steel	–
Threaded coupling ¹⁾	Nickel-plated brass	–
Ball	High-alloy stainless steel	–
Circlip	High-alloy stainless steel	–
Valve body	Brass	–
Union nut ²⁾	Nickel-plated wrought aluminium alloy	
Threaded seal ³⁾	PA66-GF30 / TPE-U	
Information on materials		Nickel-plated brass
Note on materials	RoHS-compliant	
LABS (PWIS) conformity	VDMA24364-B1/B2-L	

1) Not for CK-4 and CK-6

2) Only for CK-4 and CK-6

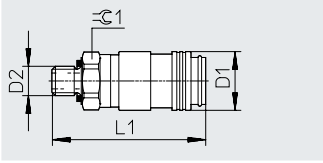
3) Only for 1/8-A and 1/4-A

Datasheet

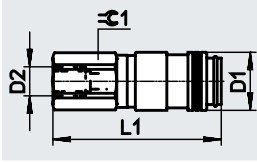
Dimensions – Coupling socket

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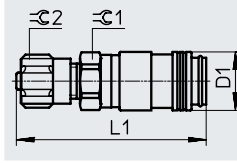
Male thread



Female thread



Quick connector

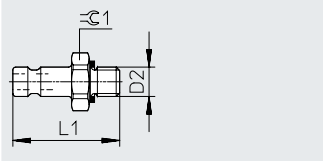


Connection	D1 ∅	D2	L1	∅ 1	∅ 2
Male thread					
G1/8	16	G1/8	36	14	-
G1/4		G1/4	37.6	17	
Female thread					
G1/8	16	G1/8	38.2	14	-
G1/4		G1/4	45.2	17	
Quick connector with union nut					
CK-4	16	-	43.1	14	12
CK-6			43.2		14

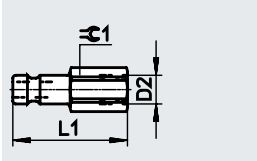
Dimensions – Quick coupling plug

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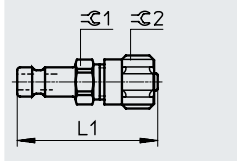
Male thread



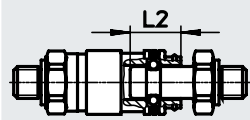
Female thread



Quick connector



Insertion depth



Connection	D1 ∅	D2	L1	L2	∅ 1	∅ 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		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
Male thread				
G1/8	2142	KD3-1/8-A	3492	KS3-1/8-A
G1/4	531626	KD3-1/4-A	531666	KS3-1/4-A
Female thread				
G1/8	531627	KD3-1/8-I	531668	KS3-1/8-I
G1/4	531628	KD3-1/4-I	531669	KS3-1/4-I
Quick connector with union nut				
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 → 21

-  Flow rate
252 ... 1350 l/min
-  Nominal width
2.9 ... 10 mm



Note

All coupling sockets of the same size are compatible with all plugs of this size. The hardened quick coupling plugs NPHS-S6 are recommended for use 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			For tubing O.D. 8 mm For barbed connector I.D. 6 mm with union nut	For barbed connector I.D. 9 mm with union nut	Barbed hose fitting 9 mm	
	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%	–			
Nominal flow rate standardised according to ISO 8778 [l/min]	282.9 ... 1395.1	282.9 ... 1381	278.6 ... 1449.3	278.6 ... 1400.5	282.9 1463.4	278.6 ... 1443.9	273.2 ... 819.5	282.9 1209.7	878 ... 1248.8	
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			For tubing O.D. 6 mm For barbed connector I.D. 4 mm with union nut	For tubing O.D. 8 mm For barbed connector I.D. 6 mm with union nut	For barbed connector I.D. 9 mm with union nut	Barbed hose fitting 6 mm 9 mm	
	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%	–				
Nominal flow rate standardised according to ISO 8778 [l/min]	819.5 ... 1434.1			780.5 ... 1258.5	819.5 ... 1463.4	819.5 ... 1424.4	273.2 ... 282.9	468.3 ... 536.6	785.9 ... 1297.5	478 536.6	770.7 1229.3
Product weight [g]	21	29	55	31	32	57	26	26	26	15	18

Datasheet

Standard nominal flow rate $q_{nN}^{(1)}$ [l/min]										
Coupling socket/quick coupling 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

Operating and environmental conditions		
Operating pressure for entire temperature range	[MPa]	–0.095 ... +1.2
	[bar]	–0.95 ... +12
	[psi]	–13.775 ... +174
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 ¹⁾	1 - Low corrosion stress	

1) More information: www.festo.com/x/topic/crc

Materials	Coupling socket KD4	Quick coupling plug KS4
Housing	Nickel-plated brass	–
Valve body	Brass	–
Releasing sleeve	Polypropylene	–
Seals	NBR	–
Spring	High-alloy stainless steel	–
Inner ring	Brass	–
Circlip	High-alloy stainless steel	–
Pins	High-alloy stainless steel	–
Threaded coupling ¹⁾	Nickel-plated brass	–
Union nut ²⁾	Nickel-plated wrought aluminium alloy	
Threaded seal ³⁾	PA66-GF30 / TPE-U	
Information on materials	–	Nickel-plated brass
Note on materials	RoHS-compliant	
LABS (PWIS) conformity	VDMA24364-B1/B2-L	

1) Not for CK-4, CK-6, CK-9, N-6 and N-9

2) Only for CK-4, CK-6 and CK-9

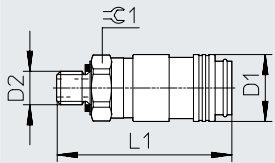
3) Only for 1/4-A, 3/8-A and 1/2-A

Datasheet

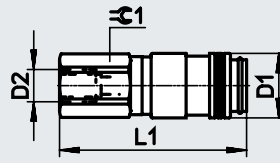
Dimensions – Coupling socket

Download CAD data → www.festo.com

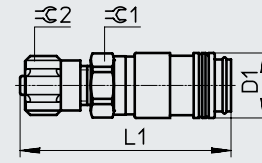
Male thread



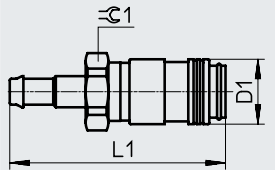
Female thread



Quick connector



Barbed fitting



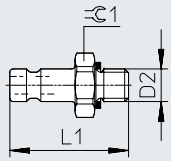
Connection	D1 ∅	D2	L1	∅ 1	∅ 2
Male thread					
G1/4	26.4	G1/4	40.5	22	-
G3/8		G3/8	41.5		
G1/2		G1/2	43		
Female thread					
G1/4	26.4	G1/4	46	22	-
G3/8		G3/8	47.5		
G1/2		G1/2	50.5		
Quick connector with union nut					
CK-6	26.4	-	46.4	22	14
CK-9			49.8		19
Barbed fitting					
N-9	26.4	12	56.2	21	-

Datasheet

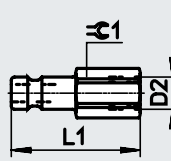
Dimensions – Quick coupling plug

Download CAD data → www.festo.com

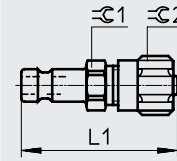
Male thread



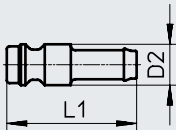
Female thread



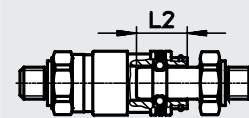
Quick connector



Barbed fitting



Insertion depth



Connection	D1 Ø	D2	L1	L2	⌀ 1	⌀ 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
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
Male thread				
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
Female thread				
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
Quick connector with union nut				
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
Barbed fitting				
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 ends are sealed after unlocking



Note

Only coupling sockets and quick coupling plugs having the same function and size can be combined.



Flow rate
563 l/min



Nominal width
4.2 ... 5 mm



KD3-...-R

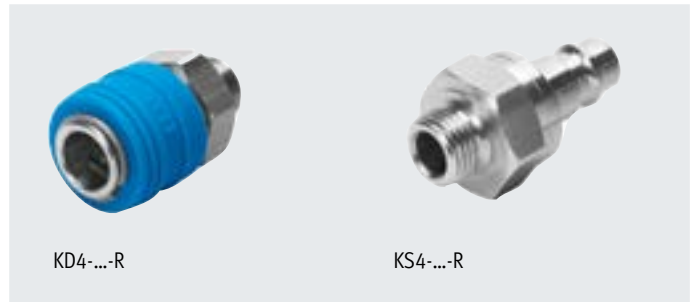
KS3-...-R



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%			
Standard nominal flow rate	[l/min]	–	–	765	765			
Nominal flow rate standardised according to ISO 8778	[l/min]	–	–	829.3	829.3			
Product weight	[g]	28	32	58	46			

Operating and environmental conditions

Operating pressure for full temperature range	[MPa]	–0.095 ... +1.2
	[bar]	–0.95 ... +12
	[psi]	–13.775 ... +174
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 ¹⁾	1 - Low corrosion stress	

1) More information: www.festo.com/x/topic/crc

Coupling sockets/quick coupling plugs KD/KS, shut off at both ends

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	–
Seals	NBR			
Spring	High-alloy stainless steel			
Threaded seal	PA66-GF30 / TPE-U			
Valve body	Brass			
Threaded coupling	Brass	–	Brass	–
Ball	High-alloy stainless steel			
Pins	–	–	High-alloy stainless steel	–
Circlip	High-alloy stainless steel	–	High-alloy stainless steel	–
Inner ring	–	–	Brass	–
Information on materials	–	Brass	–	Brass
Note on materials	RoHS-compliant			
LABS (PWIS) conformity	VDMA24364-B1/B2-L			

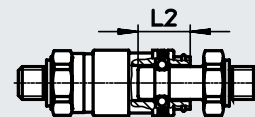
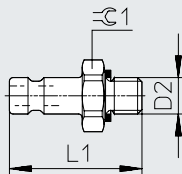
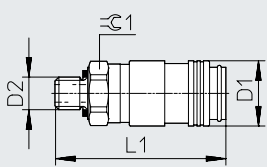
Dimensions

Download CAD data → www.festo.com

Coupling socket
Male thread

Quick coupling plug

Insertion depth



Type	D1 ∅	D2	L1		L2	≈G 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
- Exhausting the air at the connector end 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
- Exhausting the air at the connector end without releasing the coupling

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

-  - Nominal width
5 ... 11 mm



- - Note

All coupling sockets 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/quick coupling plugs KD4/KS4.

In contrast, the coupling sockets NPHS-D6-P may only be used with the hardened quick coupling plugs NPHS-S6.

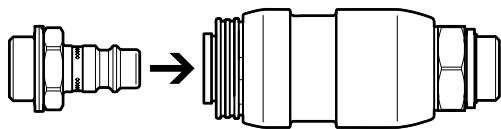
No safety function when combining coupling socket KD4 with quick coupling plug NPHS-S6. In this combination, the plug is released in just one step.

Operating mode

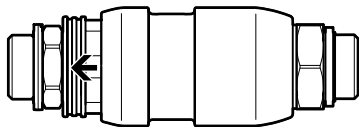
Coupling socket NPHS-D6-M and quick coupling plug NPHS-S6

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

Coupling

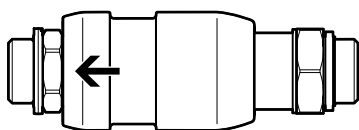


Push the plug into the socket to lock the coupling. The plug automatically engages with an audible click when in a specific position.



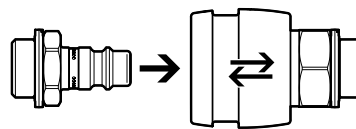
When the plug is engaged, the releasing sleeve shifts slightly in the direction of the plug. This releases the locking mechanism between the releasing sleeve and the sliding sleeve. The sliding sleeve can now be actuated.

Pressurisation



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

Coupling



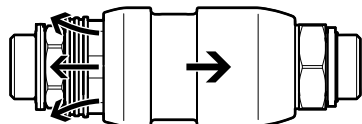
Push the plug into the socket to lock the coupling. The plug automatically engages with an audible click when in a specific position. During this process, the releasing sleeve moves briefly back and then forward again.

Datasheet

Operating mode

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

Exhausting

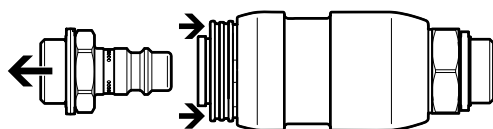


To exhaust, push the sliding sleeve in the direction of the thread on the coupling socket. The air from the plug and the components connected to it can escape. The air at the coupling end is shut off. The releasing sleeve can now be accessed.

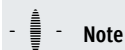
Point to note:

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

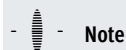


Unlock the plug fully by pushing the releasing sleeve. The plug should only be removed after all the air has been exhausted. With the plug removed, the two sleeves cannot slide or be pushed.



Note

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

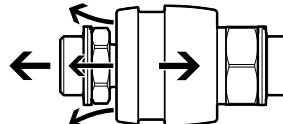


Note

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

Exhausting

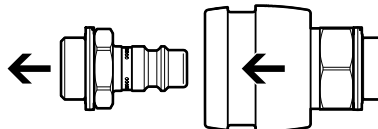


To exhaust, first push the releasing sleeve in the direction of the thread on the coupling socket. This releases the pin locking mechanism of the coupling. The plug moves approx. 5 mm out of the coupling and is held in this position by the ball locking mechanism of the coupling. The air from the plug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

Point to note:

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 – Coupling socket NPHS-D6

Pneumatic connection 1	Male thread								Female thread			Barbed hose fitting
	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%	–	–	–	–	
Nominal flow rate standardised according to ISO 8778 [l/min]	1897 ... 1987	2168 ... 2276.4	2168 ... 2276.4									
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			Barbed hose fitting
	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%	–	–	–	–
Standard nominal flow rate [l/min]	875 ... 1238	1038 ... 2100	1038 ... 2050	1002 ... 2000	1002 ... 1950	1050 ... 2083	1038 ... 2050	966 ... 1700
Nominal flow rate standardised according to ISO 8778 [l/min]	948.5 ... 1342	1125.2 ... 2276.4	1125.2 ... 2222.2	1086.2 ... 2168	1086.2 ... 2113.8	1138.2 ... 2258	1125.2 ... 2222.2	1047.1 ... 1842.8
Product weight [g]	19	20	27	50	28	29	49	17

Datasheet

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]				
Coupling socket/quick coupling 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/quick coupling plug combination	Coupling socket NPHS-D6-P								
	Male thread					Female thread			Barbed hose fitting
	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
Barbed hose fitting	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 full temperature range	[MPa]	-0.095 ... +1.2 ¹⁾		-0.095 ... +1.2 ²⁾
	[bar]	-0.95 ... +12 ¹⁾		-0.95 ... +12 ²⁾
	[psi]	-13.775 ... +174 ¹⁾		-13.775 ... +174 ²⁾
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 ²⁾
Corrosion resistance class CRC ³⁾	1 - Low corrosion stress			
Noise level ⁴⁾	[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) Using a suitable sealing ring (e.g. sealing ring OJ) 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) More information: www.festo.com/x/topic/crc

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

Datasheet

Materials	Coupling socket		Quick coupling plug
	NPHS-D6-M	NPHS-D6-P	NPHS-S6
Housing	Nickel-plated brass	Nickel-plated brass	–
Valve body	–	Brass	–
Sleeve	Anodised wrought aluminium alloy, colourless anodised	–	–
Releasing sleeve	Nickel-plated brass	POM PP High-alloy stainless steel	–
Seals	NBR		–
Spring	High-alloy stainless steel		–
Threaded seal	Aluminium HNBR	PA66-GF30 / TPE-U ¹⁾	PA66-GF30 / TPE-U ¹⁾
Threaded coupling	Nickel-plated brass		–
Inner ring	Brass	POM	–
Ball	High-alloy stainless steel		–
Pins	–	High-alloy stainless steel	–
Information on materials	–		Galvanised steel
Note on materials	RoHS-compliant		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

1) For male thread only

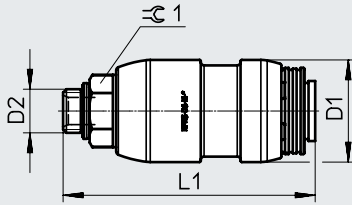
Datasheet

Dimensions – Coupling socket

Download CAD data → www.festo.com

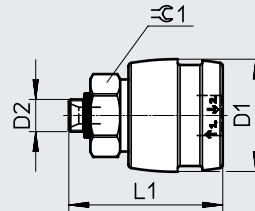
Male thread

NPHS-D6-M

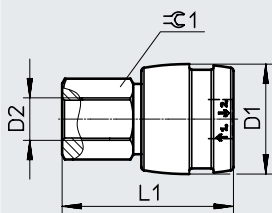


Male thread

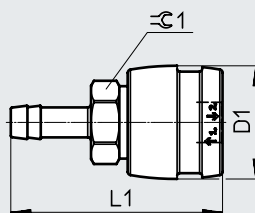
NPHS-D6-P



Female thread



For plug-in nipple



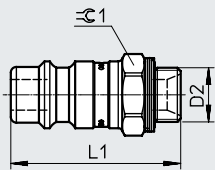
Connection	D1 ø	D2	L1	H9/k9
Male thread, coupling socket NPHS-D6-M				
G1/4	30.8	G1/4	76	19
G3/8		G3/8	77	22
G1/2		G1/2	80.5	24
Male thread, coupling socket NPHS-D6-P				
G1/8	34	G1/8	46.5	22
G1/4		G1/4	48	22
G3/8		G3/8	49	22
G1/2		G1/2	50.5	24
Female thread				
G1/4	34	G1/4	53	22
G3/8		G3/8	53	22
G1/2		G1/2	56	24
For plug-in nipple				
I.D. 9 mm	34	–	63.6	22

Datasheet

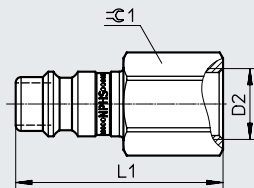
Dimensions – Quick coupling plug

Download CAD data → www.festo.com

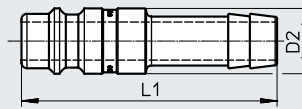
Male thread



Female thread

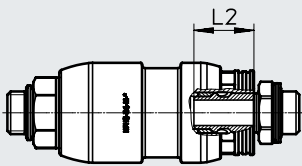


For plug-in nipple

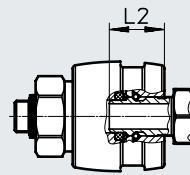


Insertion depth

NPHS-D6-M



NPHS-D6-P



Type	D2	L1	L2		R1
			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
Male thread		
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
Female thread		
G1/4	★ 8059262	NPHS-S6-M-G14F
G3/8	★ 8059263	NPHS-S6-M-G38F
G1/2	★ 8059264	NPHS-S6-M-G12F
For plug-in nipple		
I.D. 9 mm	8059265	NPHS-S6-M-BC9

Union nut MCK

Accessories

Union nut MCK¹⁾

For quick connector



Operating and environmental conditions

Operating pressure for full temperature range	[MPa]	-0.095 ... +1.2
	[bar]	-0.95 ... +12
	[psi]	-13.775 ... +174
Ambient temperature	[°C]	-10 ... +60
Corrosion resistance class CRC ¹⁾		1 - Low corrosion stress

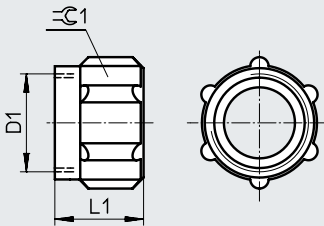
1) More information: www.festo.com/x/topic/crc

Materials

Union nut material	Nickel-plated wrought aluminium alloy
Note on materials	RoHS-compliant
LABS (PWS) conformity	VDMA24364-B2-L

Dimensions

Download CAD data → www.festo.com



Ordering data

Size	Pneumatic connection		L1	≅1	Part no.	Type
Female thread	For tubing O.D.	For barbed connector I.D. ¹⁾				
D1	[mm]	[mm]				

Aluminium design

M6x0.75	4	3	8.5	8	533672	MCK-PK-3-KD
M10x1	6	4	11	12	533673	MCK-PK-4-KD
M12x1	8	6	11	14	533674	MCK-PK-6-KD
M16x1	-	9	14.4	19	533675	MCK-PK-9-KD

1) With union nut