

Push-in fittings CQ, for push-fit piping systems



Push-in fittings CQ, for push-fit piping systems

Key features

FESTO



General information

- Suitable for polyamide pipes PQ-PA and aluminium pipes PQ-AL
O.D. 12, 15, 18, 22 and 28 mm
→ Internet: pq
- Suitable for polyamide tubing PAN and polyurethane tubing PUN
O.D. 12 mm
→ Internet: pan, pun
- The pipes/tubes are held externally. This ensures that there is no reduction of nominal size.
- Simple, fast installation:
 - cut to length
 - insert
 - and you're done!
- The pipes/tubes can be assembled and dismantled without tools.
- Quick release connection.
- Can be re-used a number of times.
- The releasing tool CQO for size 12 ... 22 is provided for applications requiring frequent dismantling or where the push-in fittings are difficult to access.
- The retaining ring CQSR, which is available as an accessory, prevents inadvertent disconnection of the tubing or pipe. Size 28 features an integrated retaining device.
- Screw-in thread cylindrical to ISO 228/1, sealed with chamfered O-ring, size 28 with PVC flat seal.
- No additional thread sealing compound required.
- Minimal weight compared to steel pipe and die-cast fittings.

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Technical data

General technical data	
Design	Push-pull principle
Mounting position	Any (fluid separator CQA-28: vertical)
Type of seal on threaded plug	Sealing ring

Operating and environmental conditions		
	Size 12/15/18/22	Size 28
Operating pressure [bar]	-0.95 ... +7	
complete temperature range		
Temperature-dependent operating pressure [bar]	-0.95 ... +15	-0.95 ... +10
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:-:-]	
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)	
Ambient temperature [°C]	-25 ... +70	
Corrosion resistance class CRC ¹⁾	2	
Food-safe	See supplementary material information ²⁾	
Maritime classification	See certificate ²⁾	

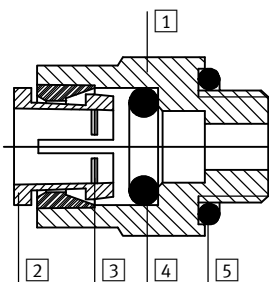
1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

2) Additional information www.festo.com/sp → Certificates.

Materials










Sectional view



CQ		
1	Housing	POM (push-in fitting CQ-1-28H/separator CQA-28: brass)
2	Releasing ring	POM
3	Tube retaining claw	High-alloy stainless steel
4	O-ring	NBR
5	Connector thread seal	NBR (push-in fitting CQ-1-28H: PVC)
Note on materials		RoHS-compliant
		Contains PWIS (paint-wetting impairment substances)





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Product range overview

Design	Version	Type	Connection D1			Connection D2		→ Page/ Internet
			G thread	Tube/piping O.D.	Push-in sleeve Ø	Tube/piping O.D.	Push-in sleeve Ø	
Straight design	Push-in fitting – Male thread							
		CQ	G $\frac{3}{8}$	–	–	12	–	6
			G $\frac{1}{2}$			12, 15, 18, 22		
			G $\frac{3}{4}$			22		
	Push-in fitting with sleeve							
		CQ-...H	G $\frac{3}{8}$	–	–	12, 15	–	6
			G $\frac{1}{2}$			12, 15, 18, 22		
			G $\frac{3}{4}$			22		
			G1			28		
	Push-in connector							
	CQ	–	12	–	–	–	7	
			15					
			18					
			22					
			28					
Push-in connector with sleeve								
	CQ-...H	–	12	–	–	15	7	
			15			18		
			15			22		
			18			22		
			22			28		
Push-in sleeve								
	CQH-...-QS	–	–	15	–	12	8	
				18		16		
				22		16		
Blanking plug								
	CQC-...H	–	–	12	–	–	8	
				15				
				18				
				22				
				28				
L-shape	Push-in L-connector							
		CQL	–	12	–	–	–	9
				15				
				18				
				22				
28								
T-shape	Push-in T-connector							
		CQT	–	12	–	–	–	9
				15				
				18				
				22				
				28				
		CQT Reducing	–	18	–	15	–	9
22				15				

Push-in fittings CQ, for push-fit piping systems

Product range overview

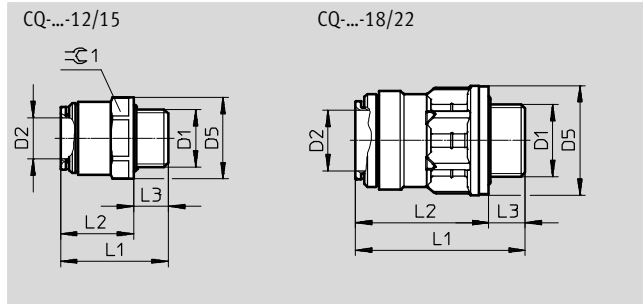
Design	Version	Type	Connection D1			Connection D2		→ Page/ Internet
			G thread	Tube/piping O.D.	Push-in sleeve Ø	Tube/piping O.D.	Push-in sleeve Ø	
Straight design	Distributor							
		CQD	-					11
	Water separator							
		CQA	-	22 28	-	-	-	11
	Retaining ring							
	CQSR	-					12	
Releasing tool								
	CQO	-					13	

Push-in fittings CQ, for push-fit piping systems

Technical data



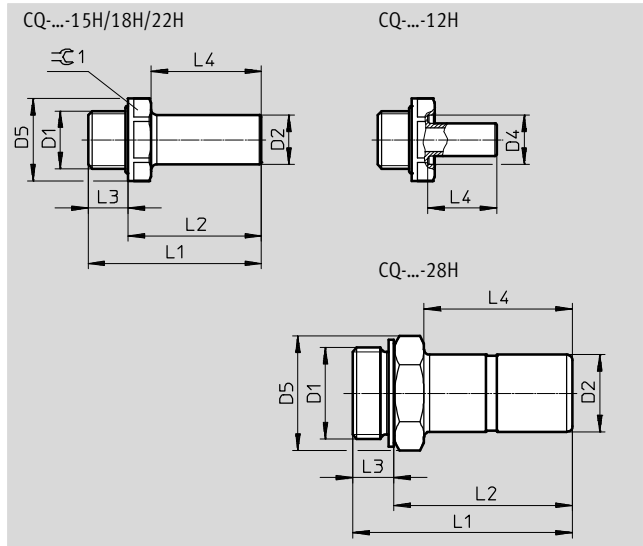
Push-in fitting CQ with sealing ring



Dimensions and ordering data												
Male thread connection	Nominal size	Pipe/tubing O.D.	D5 ∅	L1	L2	L3	$\approx \text{C} 1$	Nominal tightening torque [Nm]	Weight/piece [g]	Part No.	Type	PU*
D1	[mm]	D2	± 0.5		± 0.5							
G $\frac{3}{8}$	8.65	12	26.4	30.6	21.3	9.3	24	2.5 $\pm 10\%$	8	177682	CQ- $\frac{3}{8}$ -12	1
G $\frac{1}{2}$	8.65	12	29.8	34	21.5	12.5	27	2.5 $\pm 10\%$	12	177683	CQ- $\frac{1}{2}$ -12	1
	12	15	29.7	38	25.5	12.5	27	2.5 $\pm 10\%$	14	177684	CQ- $\frac{1}{2}$ -15	1
	12.7	18	34	54.8	42.3	12.5	-	2.5 $\pm 10\%$	24	177685	CQ- $\frac{1}{2}$ -18	1
G $\frac{3}{4}$	17	22	40	60.7	47.3	13.4	-	3 $\pm 20\%$	36	177686	CQ- $\frac{3}{4}$ -22	1

* Packaging unit quantity

Push-in fitting CQ-...H with push-in sleeve and sealing ring



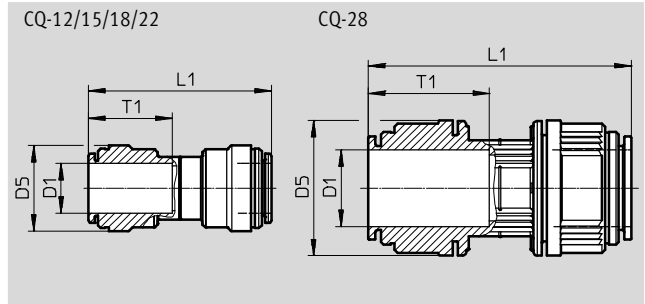
Dimensions and ordering data														
Male thread connection	Nominal size	Push-in sleeve ∅	D4 ∅	D5 ∅	L1	L2	L3	L4	$\approx \text{C} 1$	Nominal tightening torque [Nm]	Weight/piece [g]	Part No.	Type	PU*
D1	[mm]	D2		± 0.5		± 0.5								
G $\frac{3}{8}$	8.65	12	18	26.4	39.8	30.5	9.3	25.1	24	2.5 $\pm 10\%$	4	177705	CQ- $\frac{3}{8}$ -12H	1
	9.4	15	-	24	54.4	43.1	11.3	35	22	2.5 $\pm 10\%$	10	177707	CQ- $\frac{3}{8}$ -15H	1
G $\frac{1}{2}$	8.65	12	18	29.8	43.3	30.8	12.5	25.1	27	2.5 $\pm 10\%$	8	177706	CQ- $\frac{1}{2}$ -12H	1
	10	15	-	29.8	57.9	43.4	14.5	35	27	2.5 $\pm 10\%$	14	177708	CQ- $\frac{1}{2}$ -15H	1
	12.7	18	-	29.8	62.9	48.4	14.5	40	27	2.5 $\pm 10\%$	18	177709	CQ- $\frac{1}{2}$ -18H	1
	12.15	22	-	29.8	64.9	50.4	14.5	42	27	2.5 $\pm 10\%$	18	177710	CQ- $\frac{1}{2}$ -22H	1
G $\frac{3}{4}$	17	22	-	40	69	52	17	42	37	3 $\pm 20\%$	28	177711	CQ- $\frac{3}{4}$ -22H	1
G1	23	28	-	41.6	80	65	15	54	36	62.5 $\pm 20\%$	200	194589	CQ-1-28H	1

* Packaging unit quantity

Push-in fittings CQ, for push-fit piping systems

Technical data

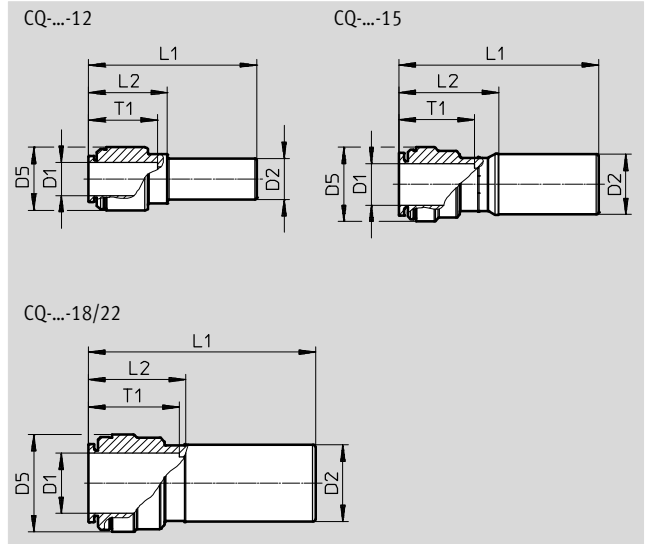
Push-in connector CQ



Dimensions and ordering data								
Pipe/tubing O.D.	Nominal size	D5 ∅	L1	T1	Weight/piece [g]	Part No.	Type	PU*
D1	[mm]	±0.5		±1				
12	8.65	23	54.4 ±0.5	25	16	177695	CQ-12	1
15	12	26.8	57.8 ±0.5	27.5	18	177696	CQ-15	1
18	16	31.1	64.1 ±0.5	30.5	26	177697	CQ-18	1
22	19.2	35.5	69.1 ±0.5	33	36	177698	CQ-22	1
28	24.9	49.5	91 ±1	44	90	194586	CQ-28	1

* Packaging unit quantity

Push-in connector CQ-...H with push-in sleeve



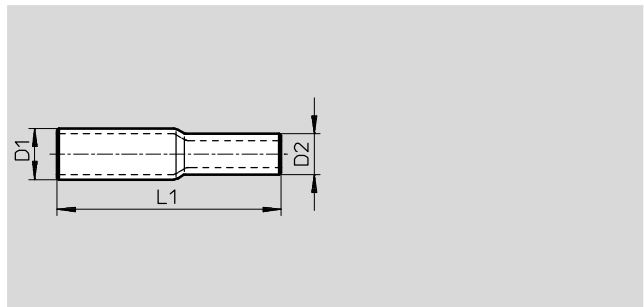
Dimensions and ordering data										
Pipe/tubing O.D.	Nominal size	Push-in sleeve ∅	D5 ∅	L1	L2	T1	Weight/piece [g]	Part No.	Type	PU*
D1	[mm]	D2	±0.5			±1				
12	9.15	15	23.1	60.2 ±0.5	27.7	25	12	177701	CQ-15H-12	1
15	12.15	18	26.8	70.5 ±0.5	34.4	27.5	16	177702	CQ-18H-15	1
15	12.15	22	26.8	71.5 ±0.5	35	27.5	16	177703	CQ-22H-15	1
18	17.3	22	31.1	70.7 ±0.5	34.6	30.5	22	177704	CQ-22H-18	1
22	19.2	28	35.5	81.8 ±1	34.6	33	34	196231	CQ-28H-22	1

* Packaging unit quantity

Push-in fittings CQ, for push-fit piping systems

Technical data

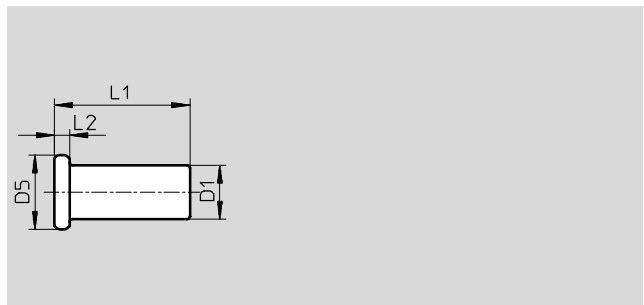
Push-in sleeve CQH-...-QS
for connecting CQ to QS



Dimensions and ordering data							
Push-in sleeve \varnothing	Nominal size [mm]	Push-in sleeve \varnothing	L1	Weight/piece [g]	Part No.	Type	PU*
D1		D2					
15	8	12	66.5	4	177721	CQH-15-QS-12	1
18	11	16	71.5	8	177722	CQH-18-QS-16	1
22	11	16	80	10	177723	CQH-22-QS-16	1

* Packaging unit quantity

Blanking plug CQC-...H



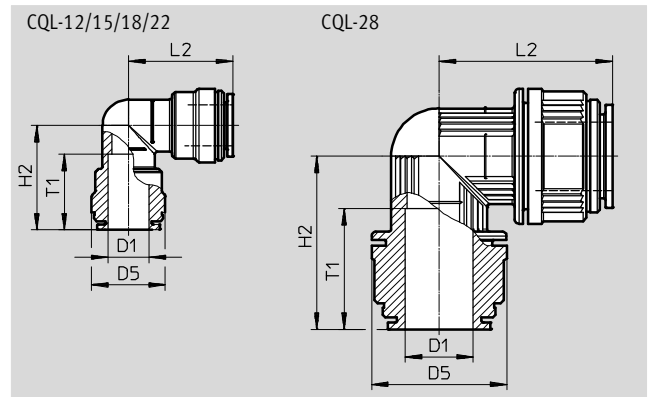
Dimensions and ordering data							
Push-in sleeve \varnothing	D5 \varnothing	L1	L2	Weight/piece [g]	Part No.	Type	PU*
D1							
12 ± 0.15	21.6	38.8 ± 0.5	4.7	4	177712	CQC-12H	1
15 ± 0.15	25	45 ± 0.3	5	6	177713	CQC-15H	1
18 ± 0.15	30	41.5 ± 0.3	4	8	177714	CQC-18H	1
22 ± 0.15	32	45 ± 0.3	4.7	10	177715	CQC-22H	1
28 ± 0.15	40	56	4	22	194590	CQC-28H	1

* Packaging unit quantity

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Push-in L-connector CQL



Dimensions and ordering data									
Pipe/tubing O.D.	Nominal size	D5 ∅	H2	L2	T1	Weight/piece	Part No.	Type	PU*
D1	[mm]				±1	[g]			
12	8.65	23.1	32.2 ±0.5	32.2 ±0.5	25	16	177691	CQL-12	1
15	12	26.8	37.2 ±0.5	37.2 ±0.5	27.5	20	177692	CQL-15	1
18	16	31.1	44.1 ±0.5	44.1 ±0.5	30.5	32	177693	CQL-18	1
22	19.2	35.5	48.3 ±0.5	48.3 ±0.5	33	46	177694	CQL-22	1
28	24.9	49.2	61.4 ±1	61.4 ±1	44	106	194587	CQL-28	1

* Packaging unit quantity

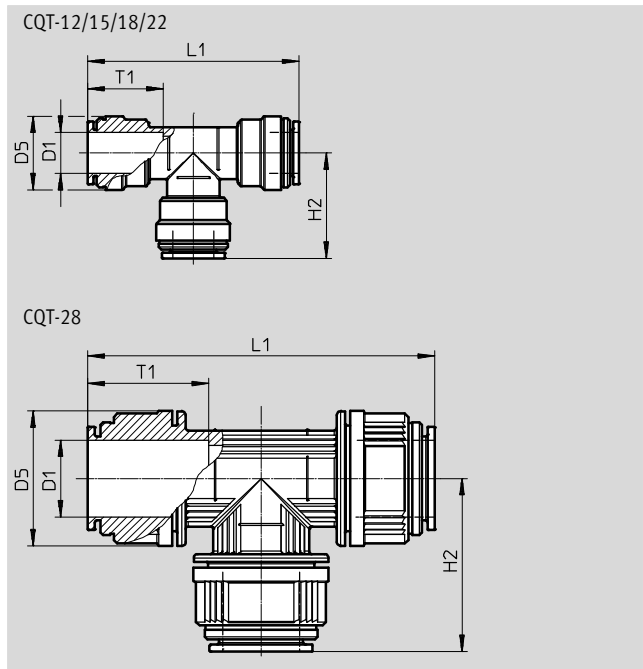
Push-in fittings CQ, for push-fit piping systems

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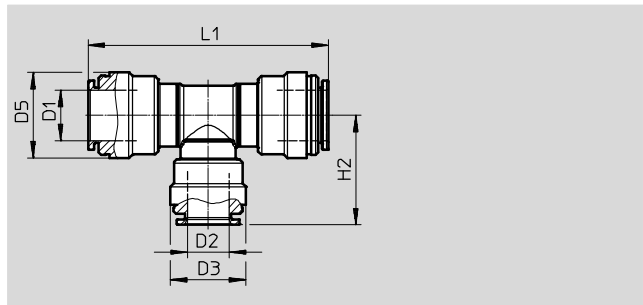
Technical data

Push-in T-connector CQT

Outlets: 2
Supply lines: 1



Reducing



Dimensions and ordering data											
Pipe/tubing O.D. D1	Nominal size [mm]	Pipe/tubing O.D. D2	D3 Ø	D5 Ø	H2	L1	T1	Weight/piece [g]	Part No.	Type	PU*
12	8.65	-	-	23	32.2 ±0.5	64.4 ±0.5	25	26	177687	CQT-12	1
15	12	-	-	26.8	37.2 ±0.5	74.4 ±0.5	27.5	30	177688	CQT-15	1
18	16	-	-	31.1	44.1 ±0.5	88.2 ±0.5	30.5	46	177689	CQT-18	1
22	19.2	-	-	35.5	48.3 ±0.5	96.6 ±0.5	33	66	177690	CQT-22	1
28	24.9	-	-	49.2	61.4 ±1	121 ±1	44	152	194588	CQT-28	1
Reducing											
18	12	15	27.5	31.1	37.9 ±0.5	84.5 ±0.5	-	42	177699	CQT-18-15	1
22	12.15	15	28.5	35.6	41.6 ±0.5	89.6 ±0.5	-	56	177700	CQT-22-15	1

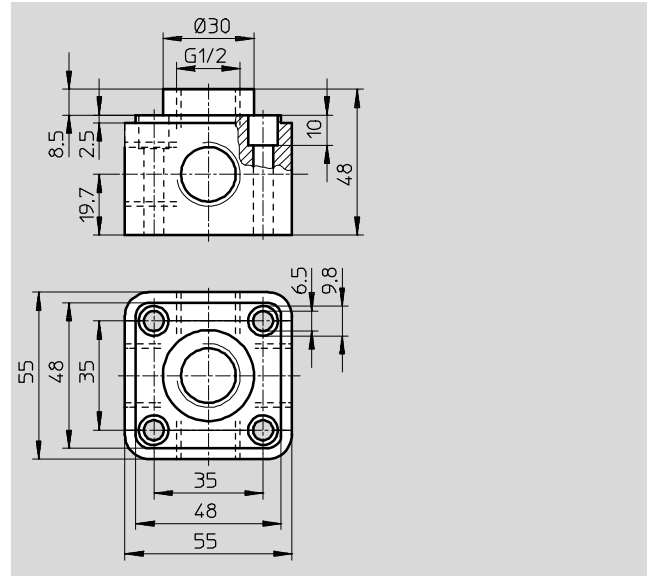
* Packaging unit quantity

Push-in fittings CQ, for push-fit piping systems

Technical data

Distributor CQD
with 3 blanking plugs

Outlets: 4
Supply lines: 1

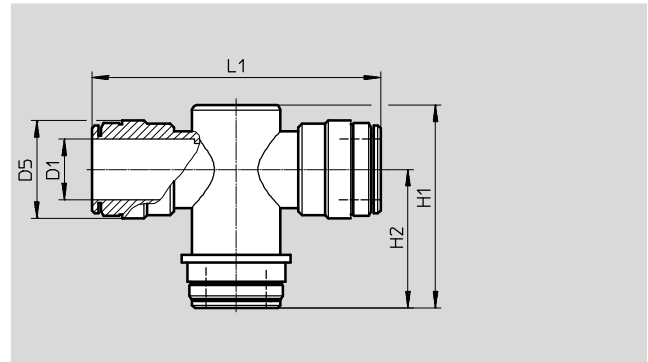


Dimensions and ordering data							
Female thread connection	Nominal size		Nominal tightening torque [Nm]	Weight/piece [g]	Part No.	Type	PU*
D1	[mm]						
G1/2	18.6		2.5 ±10%	181	177717	CQD-12/15/18/22	1

* Packaging unit quantity

Fluid separator CQA

The fluid separator has been designed for air flow rates up to 300 l/min. The condensate remains in the ring line and does not enter the branch line vertically downwards.



Dimensions and ordering data									
Pipe/tubing O.D.	Nominal size	D5	H1	H2	L1	Weight/piece	Part No.	Type	PU*
D1	[mm]	∅	±0.5	±0.5	±0.5	[g]			
22	12	35.6	71.8	48.3	97.8	76	177716	CQA-22	1

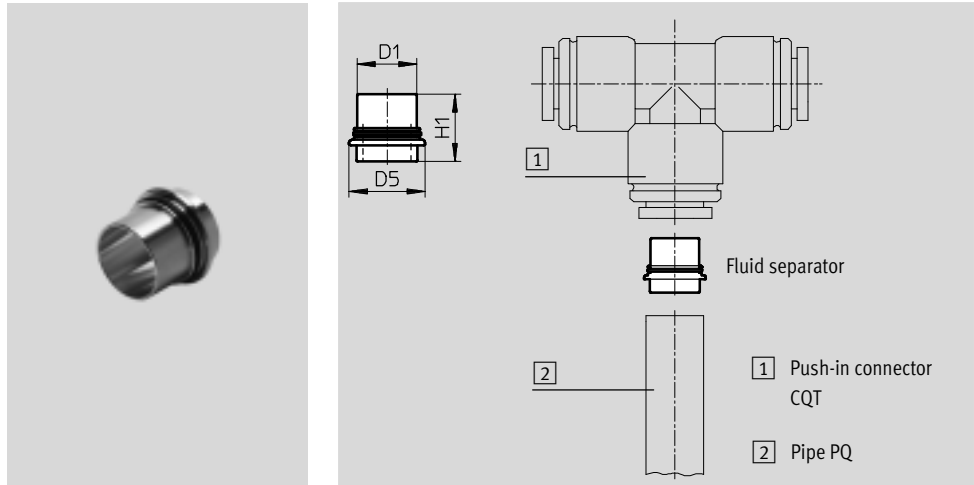
* Packaging unit quantity

Push-in fittings CQ, for push-fit piping systems

Technical data

Fluid separator CQA

A water separator can be created by inserting a fluid separator CQA-28 into a push-in connector CQT. The fluid separator consists of a brass insert with an O-ring. The short section of the brass insert is pushed into the polyamide or aluminium pipe. This combination is then joined to the push-in connector CQT.



Dimensions and ordering data							
Push-in sleeve Ø	Nominal size	D5	H1	Weight/piece [g]	Part No.	Type	PU*
D1	[mm]						
22	20	28	24.8	18	196984	CQA-28	1

* Packaging unit quantity

Retaining ring CQSR

The retaining ring prevents inadvertent disconnection of the tubing or pipe.



Dimensions and ordering data				
Tubing O.D.	Weight/piece [g]	Part No.	Type	PU*
D1				
12	1	175727	CQSR-12	10
15	0.5	175728	CQSR-15	10
18	0.5	175729	CQSR-18	10
22	0.4	175730	CQSR-22	10

* Packaging unit quantity

Push-in fittings CQ, for push-fit piping systems

Technical data

Releasing tool CQO



Dimensions and ordering data				
Tubing O.D. D1	Weight/piece [g]	Part No.	Type	PU*
15	2	175725	CQO-15	1
22	4	175726	CQO-22	1

* Packaging unit quantity