



Spiral plastic tubing

Product range overview

FESTO

Version	Type	Ø [mm]	Colour			Operating medium		
			Blue	Black	Blue/black	Compressed air	Vacuum	Water (not drinking water)
Spiral tubing		Outside Ø						
	PUN-S Polyurethane	4, 6, 8, 10, 12	■	■	–	■	■	–
	PUN-S-DUO Polyurethane	4, 6, 8, 10, 12	–	–	■	■	■	–
Spiral tubing, pre-assembled		Inside Ø						
	PUN-SG Polyurethane	6.4; 7.9	■	–	–	■	■	■
	PPS Polyamide	4.75; 6.35	■	–	–	■	■	■

Spiral plastic tubing

Product range overview



Type	Food industry approval	Fire protection classification to UL 94	Antistatic	Halogen-free	PWIS-free to FN 942 010	Suitable for chain link trunking	Approved by German Technical Control Board	Resistance							→ Page/ Internet
								Chemicals	Microbes	UV radiation	Hydrolysis	Stress cracks	Corrosion resistance class	Shore hardness	
Spiral tubing															
PUN-S	-	-	-	■	■	■	■	-	-	++ ¹⁾	+	++	-	D 52	6
PUN-S-DUO	-	-	-	■	■	■	■	-	-	+	+	+	-	D 52	8
Spiral tubing, pre-assembled															
PUN-SG	-	-	-	■	■	-	-	+	++	+	++	+	1 ²⁾	A 87	9
PPS	-	-	-	■	■	■	-	+	++	+	+	+	1 ²⁾	D 60	10

++ Well suited

+ Limited suitability (upon request)

– Unsuitable

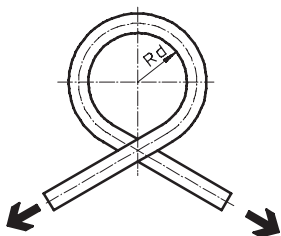
1) Applies for black colour

2) Corrosion resistance class 1 to Festo standard 940 070

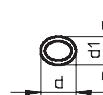
Components with light corrosion exposure. Protection for transport and storage. Components without significant decorative function or surface, e.g. installed out of sight internally or behind covers.

Measuring methods

Flow-relevant bending radius R_d



The tubing is bent in the direction of its inherent flexion until a 5% flattening of the tubing O.D. occurs. The R_d is then calculated.
There is no reduction in the flow rate up until the R_d is reached.

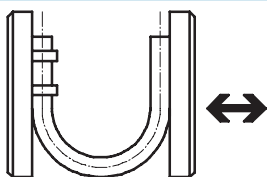


Cross section flattened as a result of bended tubing

d = non deformed tubing OD

$d1$ = deformed tubing OD

Minimum bending radius R_{min}



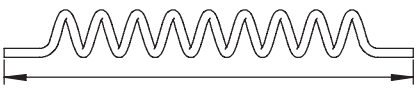
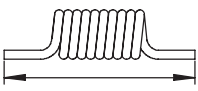
The tubing attached to a movable plate is bent until the deformation results in a kink.
The measured value is the minimum bending radius R_{min} . This R_{min} leads to considerable reductions in flow.

Spiral plastic tubing

Type codes

FESTO

PUN		-	8	x	1.25	-	S	-	1	-	DUO	-	BL
Material													
PUN	Polyurethane												
PPS	Polyamide												
Outside Ø [mm]													
Wall thickness [mm]													
Design													
S	Spiral												
Working length [m]													
Twin tubing													
DUO	Twin tubing												
Colour													
SW	Black												
BL	Blue												
BS	Blue/black												

Length specifications		
	Working length	With tensile load, 80% of the maximum section length
	Block length	Without tensile load



- Note

The working length represents 80% of the maximum permissible expansion. This maximum expansion is the limiting value before permanent deformation takes place.

Spiral plastic tubing PUN-S

Technical data

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Spiral plastic tubing PUN-S

Highly flexible plastic tubing.

-  - Ambient temperature
-35 ... +60 °C

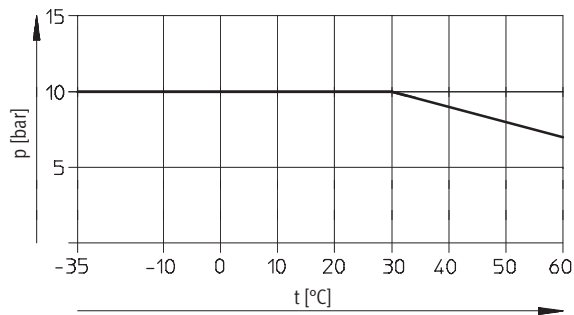
-  - Temperature dependent
operating pressure
-0.95 ... +10 bar

Material:
Polyurethane

Note on material:
Free of copper and PTFE



Operating pressure p as a function of temperature t



Possible fittings



Push-in fitting QS,
Quick Star¹⁾
→ Internet: qs



Quick connector CK
→ Internet: ck



Push-in fitting QS-F,
Quick Star, metal
→ Internet: qs-f

1) Recommended fitting

Dimensions and ordering data

O.D. [mm]	I.D. [mm]	Winding Ø [mm]	Number of windings	Working length [m]	Block length [m]	Weight [g/m]	Colour	Part No.	Type
4	2.6	25	20	0.5	0.184	13	Blue	197 587	PUN-4x0,75-S-0,5-BL
							Black	197 602	PUN-4x0,75-S-0,5-SW
			45	1	0.284	27	Blue	197 588	PUN-4x0,75-S-1-BL
							Black	197 603	PUN-4x0,75-S-1-SW
			70	1.5	0.384	42	Blue	197 589	PUN-4x0,75-S-1,5-BL
							Black	197 604	PUN-4x0,75-S-1,5-SW
6	4	46	23	1	0.344	51	Blue	197 590	PUN-6x1-S-1-BL
							Black	197 605	PUN-6x1-S-1-SW
			52	2	0.518	110	Blue	197 591	PUN-6x1-S-2-BL
							Black	197 606	PUN-6x1-S-2-SW
			168	6	1.214	350	Blue	197 592	PUN-6x1-S-6-BL
							Black	197 607	PUN-6x1-S-6-SW
8	5.7	60	12	1	0.304	650	Blue	197 593	PUN-8x1,25-S-1-BL
							Black	197 608	PUN-8x1,25-S-1-SW
			27	2	0.424	140	Blue	197 594	PUN-8x1,25-S-2-BL
							Black	197 609	PUN-8x1,25-S-2-SW
			87	6	0.904	440	Blue	197 595	PUN-8x1,25-S-6-BL
							Black	197 610	PUN-8x1,25-S-6-SW

Spiral plastic tubing PUN-S

Technical data

FESTO

Dimensions and ordering data									
O.D.	I.D.	Winding Ø	Number of windings	Working length	Block length	Weight	Colour	Part No.	Type
[mm]	[mm]	[mm]		[m]	[m]	[g/m]			
10	7	80	9.5	1	0.305	110	Blue	197 596	PUN-10x1,5-S-1-BL
							Black	197 611	PUN-10x1,5-S-1-SW
			22	2	0.43	250	Blue	197 597	PUN-10x1,5-S-2-BL
							Black	197 612	PUN-10x1,5-S-2-SW
			70	6	0.91	760	Blue	197 598	PUN-10x1,5-S-6-BL
							Black	197 613	PUN-10x1,5-S-6-SW
12	8	95	9	1	0.32	200	Blue	197 599	PUN-12x2-S-1-BL
							Black	197 614	PUN-12x2-S-1-SW
			20	2	0.452	420	Blue	197 600	PUN-12x2-S-2-BL
							Black	197 615	PUN-12x2-S-2-SW
			64	6	0.98	1300	Blue	197 601	PUN-12x2-S-6-BL
							Black	197 616	PUN-12x2-S-6-SW

Spiral plastic tubing PUN-S-DUO

Technical data

FESTO

DUO spiral plastic tubing
PUN-S-DUO

Highly flexible plastic tubing

-  - Ambient temperature
-35 ... +60 °C

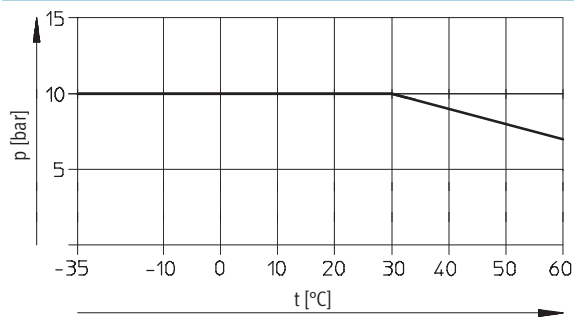
-  - Temperature dependent
operating pressure
-0.95 ... +10 bar

Material:
Polyurethane

Note on material:
Free of copper and PTFE



Operating pressure p as a function of temperature t



Possible fittings



Push-in fitting QS,
Quick Star¹⁾
→ Internet: qs



Quick connector CK
→ Internet: ck



Push-in fitting QS-F,
Quick Star, metal
→ Internet: qs-f

1) Recommended fitting

Dimensions and ordering data

O.D. [mm]	I.D. [mm]	Winding Ø [mm]	Number of windings	Working length [m]	Block length [m]	Weight [g/m]	Colour	Part No.	Type
4	2.6	25	20	0.5	0.268	25	Blue/black	197 617	PUN-4x0,75-S-0,5-DUO-BS
			45	1	0.468	55		197 618	PUN-4x0,75-S-1-DUO-BS
			70	1.5	0.668	84		197 619	PUN-4x0,75-S-1,5-DUO-BS
6	4	46	23	1	0.488	102	Blue/black	197 620	PUN-6x1-S-1-DUO-BS
			52	2	0.836	230		197 621	PUN-6x1-S-2-DUO-BS
			168	6	2.228	700		197 622	PUN-6x1-S-6-DUO-BS
8	5.7	60	12	1	0.408	130	Blue/black	197 623	PUN-8x1,25-S-1-DUO-BS
			27	2	0.648	280		197 624	PUN-8x1,25-S-2-DUO-BS
			87	6	1.608	870		197 625	PUN-8x1,25-S-6-DUO-BS
10	7	80	9.5	1	0.41	220	Blue/black	197 626	PUN-10x1,5-S-1-DUO-BS
			22	2	0.66	490		197 627	PUN-10x1,5-S-2-DUO-BS
			70	6	1.62	1520		197 628	PUN-10x1,5-S-6-DUO-BS
12	8	95	9	1	0.44	390	Blue/black	197 629	PUN-12x2-S-1-DUO-BS
			20	2	0.704	830		197 630	PUN-12x2-S-2-DUO-BS
			64	6	1.76	2600		197 631	PUN-12x2-S-6-DUO-BS

Spiral plastic tubing PUN-SG, pre-assembled

Technical data

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Spiral plastic tubing PUN-SG

Highly flexible and hydrolysis resistant pneumatic tubing with fabric reinforcing and captive rotatable fittings.

-  - Ambient temperature
-40 ... +60 °C

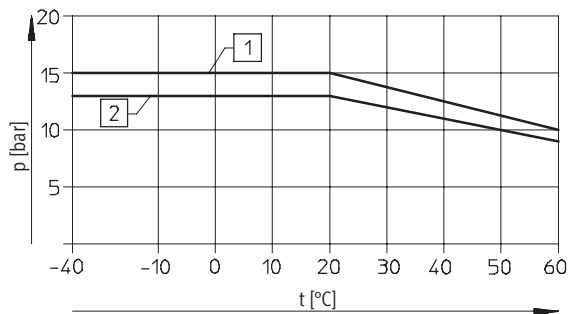
-  - Temperature dependent operating pressure
-0.95 ... +15 bar

Material:
Polyurethane, nickel plated brass, polyacetate

Note on material:
Free of copper and PTFE



Operating pressure p as a function of temperature t



- 1 PUN-10x1,5-SG
- 2 PUN-12x2-SG

Dimensions and ordering data

O.D.	I.D.	Pneumatic connection	Flow-relevant bending radius	Winding Ø	Number of windings	Working length	Block length	Weight	Colour	Part No.	Type
[mm]	[mm]		[mm]	[mm]		[m]	[m]	[g/m]			
9.5	6.4	G1/4	50	42	21	2.4	0.889	180	Blue	533 463	PUN-10x1,5-SG-2,4-BL-1/4
					50	4.8	1.165	340		533 464	PUN-10x1,5-SG-4,8-BL-1/4
					66	6	1.317	430		533 465	PUN-10x1,5-SG-6-BL-1/4
11.7	7.9	G3/8	65	51	41	4.8	1.172	480		533 466	PUN-12x2-SG-4,8-BL-3/8
					53	6	1.312	560		533 467	PUN-12x2-SG-6-BL-3/8

Spiral plastic tubing PPS, pre-assembled

Technical data

FESTO

Spiral plastic tubing PPS

This hydrolysis resistant plastic tubing demonstrates high thermal and mechanical load capacities. Each length of tubing is delivered ready for installation with 2 rotatable fittings and suitable sealing rings. Kinks at the tubing ends are prevented with the anti-kinking springs.

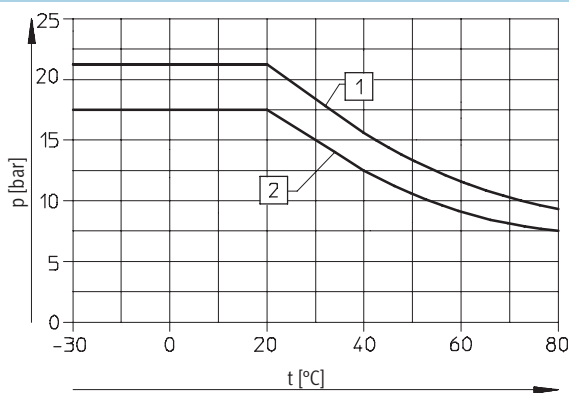
-  - Ambient temperature
-30 ... +80 °C
-  - Temperature dependent
operating pressure
-0.95 ... +21.2 bar

Material:
PPS: Polyamide, brass, galvanised steel
PPS-...-CT: Polyamide, wrought aluminium alloy, anodised, galvanised steel

Note on material:
Free of copper and PTFE
→ Ordering data



Operating pressure p as a function of temperature t

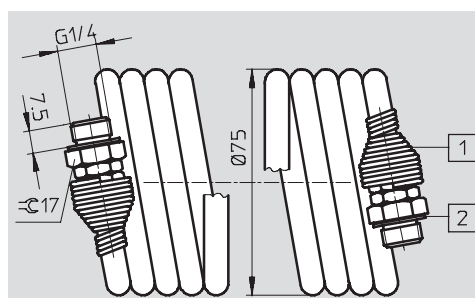


- 1 PPS-4
- 2 PPS-6

Dimensions and ordering data										
O.D. [mm]	I.D. [mm]	Pneumatic connection	Winding Ø [mm]	Number of windings	Working length [m]	Block length [m]	Weight [g/m]	Colour	Part No.	Type
6.36	4.76	G1/4	75	46	7.5	0.34	249	Blue	19 798	PPS-4-7,5-1/4-BL
				94	15	0.67	367		19 799	PPS-4-15-1/4-BL
7.95	6.35			45	7.5	0.43	298		19 796	PPS-6-7,5-1/4-BL
				90	15	0.80	500		19 797	PPS-6-15-1/4-BL

O.D. [mm]	I.D. [mm]	Pneumatic connection	Winding Ø [mm]	Number of windings	Working length [m]	Block length [m]	Weight [g/m]	Colour	Part No.	Type
6.36	4.76	G1/4	75	46	7.5	0.34	191	Blue	165 871	PPS-4-7,5-1/4-CT-BL ¹⁾
				94	15	0.67	350		165 870	PPS-4-15-1/4-CT-BL ¹⁾
7.95	6.35			45	7.5	0.43	260		165 873	PPS-6-7,5-1/4-CT-BL ¹⁾
				90	15	0.80	472		165 872	PPS-6-15-1/4-CT-BL ¹⁾

1) Free of copper and PTFE



- 1 Kink protection spring
- 2 Captive seal