





**Spiral plastic tubing**



# Spiral plastic tubing

Product range overview



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

# Spiral plastic tubing

Product range overview



Type	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	
<b>Spiral tubing</b>												
PUN-S	■	■	■	■	-	-	++ <sup>1)</sup>	+	++	-	D 52	6
PUN-S-DUO	■	■	■	■	-	-	+	+	+	-	D 52	8
<b>Spiral tubing, pre-assembled</b>												
PUN-SG	■	■	-	-	+	++	+	++	+	1 <sup>2)</sup>	A 87	9
PPS	■	■	■	-	+	++	+	+	+	1 <sup>2)</sup>	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

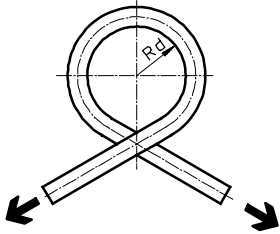
Components with light corrosion exposure. Protection for transport and storage. Components without significant decorative function or surface, e.g. installed out of sight internally or behind covers.

# Spiral plastic tubing

Technical data

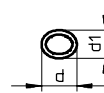
## Measuring methods

### 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.

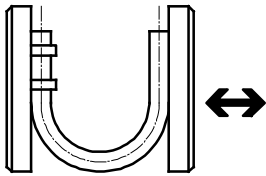


Cross section flattened as a result of bended tubing

$d$  = non deformed tubing OD

$d_1$  = 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

PUN - 8 x 1.25 - S - 1 - DUO - BL

**Material**

PUN	Polyurethane
PPS	Polyamide

**Outside Ø [mm]**

**Wall thickness [mm]**

**Design**

S	Spiral
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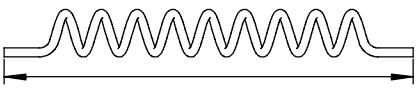
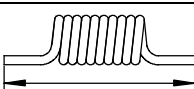
**Working length [m]**


**Twin tubing**

DUO	Twin tubing
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**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



## Spiral plastic tubing PUN-S

Highly flexible plastic tubing.

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

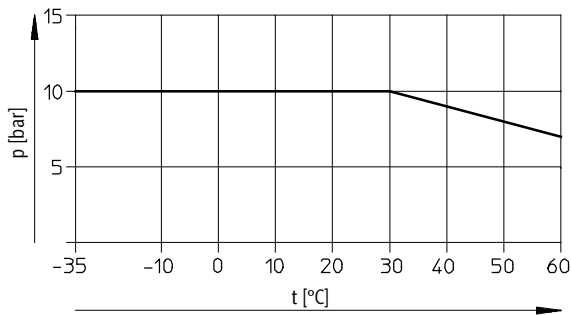
- - Temperature dependent  
operating pressure  
-0.95 ... +10 bar

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 Star<sup>1)</sup>  
→ 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 $\varnothing$ [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



Dimensions and ordering data									
O.D.	I.D.	Winding $\varnothing$	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



**DUO spiral plastic tubing  
PUN-S-DUO**

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

Highly flexible plastic tubing

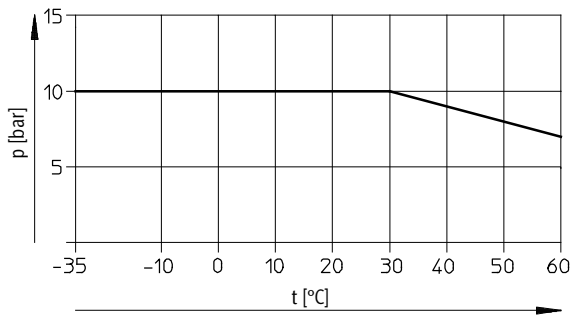
- - Temperature dependent  
operating pressure  
-0.95 ... +10 bar

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 Star<sup>1)</sup>  
→ 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 ∅ [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



## Spiral plastic tubing PUN-SG

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

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

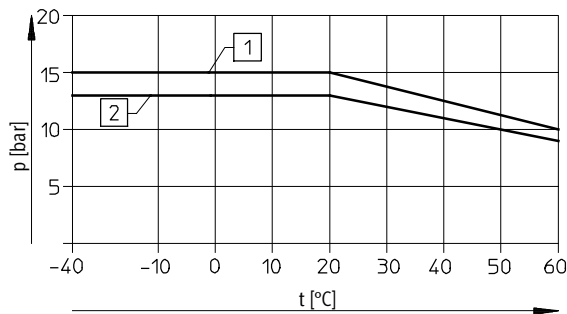
- - Temperature dependent operating pressure  
-0.95 ... +15 bar

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 $\varnothing$	Number of windings	Working length	Block length	Weight	Colour	Part No.	Type
[mm]	[mm]		[mm]	[mm]		[m]	[m]	[g/m]			
9.5	6.4	G $\frac{1}{4}$	50	42	21	2.4	0.889	180	Blue	533 463	PUN-10x1,5-SG-2,4-BL- $\frac{1}{4}$
					50	4.8	1.165	340		533 464	PUN-10x1,5-SG-4,8-BL- $\frac{1}{4}$
					66	6	1.317	430		533 465	PUN-10x1,5-SG-6-BL- $\frac{1}{4}$
11.7	7.9	G $\frac{3}{8}$	65	51	41	4.8	1.172	480		533 466	PUN-12x2-SG-4,8-BL- $\frac{3}{8}$
					53	6	1.312	560		533 467	PUN-12x2-SG-6-BL- $\frac{3}{8}$

# Spiral plastic tubing PPS, pre-assembled

Technical data



## Spiral plastic tubing PPS

This hydrolysis resistant plastic tubing demonstrates high thermal and mechanical load capacities. The tubing is supplied ready for use with 2 rotatable screw connectors and captive OL sealing rings. Kinks at the tubing ends are prevented with the anti-kinking springs.

- - Ambient temperature  
-30 ... +80 °C

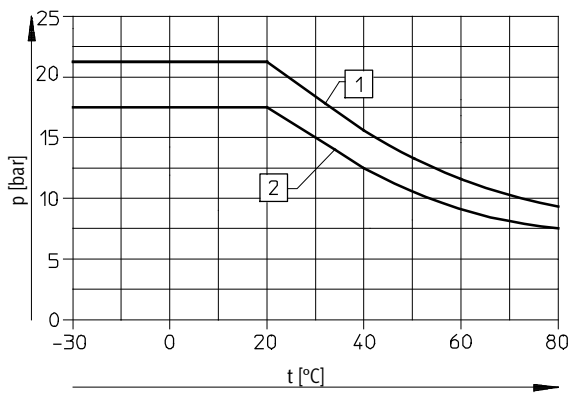
- - Temperature dependent operating pressure  
-0.95 ... +21.2 bar

Material:  
Polyamide, brass, galvanised steel

Note on material:  
Conforms to RoHS



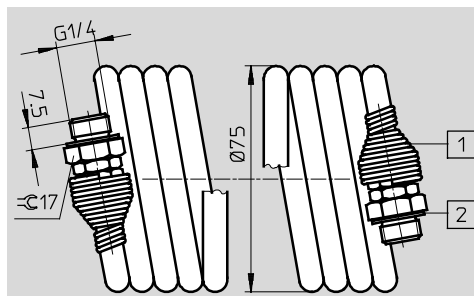
### Operating pressure p as a function of temperature t



- 1 PPS-4
- 2 PPS-6

### Dimensions and ordering data

O.D. [mm]	I.D. [mm]	Pneumatic connection	Winding $\varnothing$ [mm]	Number of windings	Working length [m]	Block length [m]	Weight [g/m]	Colour	Part No.	Type
6.3	4.7	G1/4	75	44	7.5	0.34	249	Blue	19 798	PPS-4-7,5-1/4-BL
				90	15	0.67	367		19 799	PPS-4-15-1/4-BL
7.8	6.2			43	7.5	0.43	298		19 796	PPS-6-7,5-1/4-BL
				86	15	0.80	500		19 797	PPS-6-15-1/4-BL



- 1 Kink protection spring
- 2 Captive seal