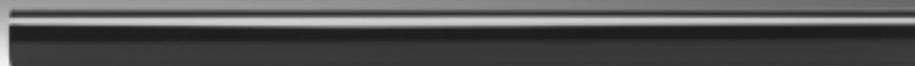


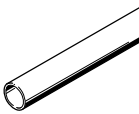
Piping

**FESTO**



# Piping

Product range overview and type codes

Product range overview						
Version	Type	O.D. [mm]	I.D. [mm]	Colour		→ Page/ Internet
				Silver	Black	
	PQ-AL Wrought aluminium alloy	12	10	■	–	3
		15	13	■	–	
		18	16	■	–	
		22	20	■	–	
		28	25	■	–	
	PQ-PA PA	12	9	–	■	4
		15	12	–	■	
		18	14	–	■	
		22	18	–	■	
		28	23	–	■	
	PM Wrought aluminium alloy, PE	6	3.92	–	■	6
		8	5.2	–	■	

## Type codes PQ-AL/PQ-PA

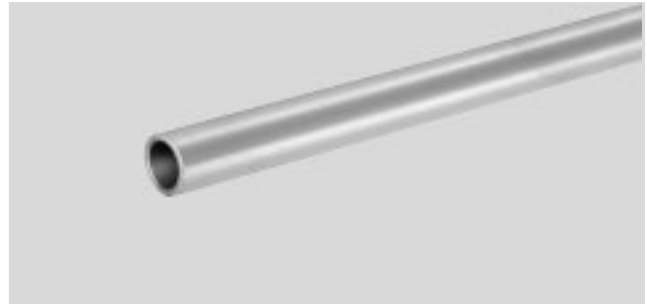
PQ		–	AL	–	18x1	x	3000
<b>Series</b>							
PQ	Pipe						
<b>Material</b>							
AL	Wrought aluminium alloy						
PA	Polyamide						
<b>O.D. and wall thickness [mm]</b>							
PQ-AL							
	12x1; 15x1; 18x1; 22x1; 28x1.5						
PQ-PA							
	12x1.5; 15x1.5; 18x2; 22x2; 28x2.5						
<b>Length [mm]</b>							
3000	3000 mm						

# Piping PQ

Technical data

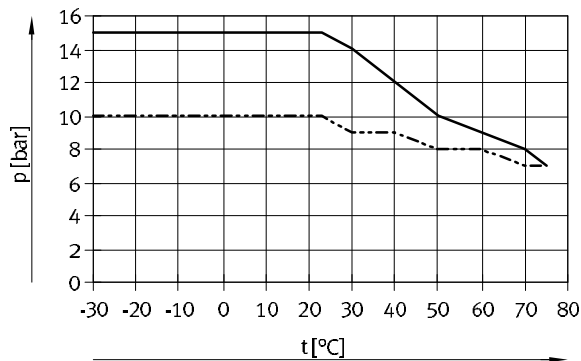
## Pipe PQ-AL

- Rigid, corrosion resistant aluminium pipe
- Smooth inside wall ensures optimum flow conditions



Operating and environmental conditions						
Type		PQ-AL-12	PQ-AL-15	PQ-AL-18	PQ-AL-22	PQ-AL-28
Temperature-dependent operating pressure	[bar]	-0.95 ... +15 → graph				-0.95 ... +10 → graph
Ambient temperature	[°C]	-30 ... +75				
Temperature of medium	[°C]	-25 ... +75				

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



— PQ-AL-12/15/18/22  
 - - - - PQ-AL-28

### Possible fittings



Push-in fitting CQ  
 → Internet: cq

Materials	
Tube	Wrought aluminium alloy
Note on materials	RoHS-compliant

Dimensions and ordering data						
O.D. [mm]	I.D. [mm]	Product weight by length [kg/m]	Colour	Part No.	Type	PU <sup>1)</sup> [mm]
12	10	0.093	Silver	177732	PQ-AL-12x1x3000	3000
15	13	0.119		177733	PQ-AL-15x1x3000	3000
18	16	0.144		177734	PQ-AL-18x1x3000	3000
22	20	0.178		177735	PQ-AL-22x1x3000	3000
28	25	0.337		194593	PQ-AL-28x1,5x3000	3000

1) Packaging unit

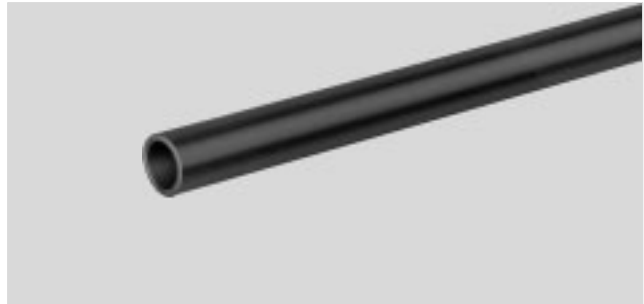
# Piping PQ

Technical data

FESTO

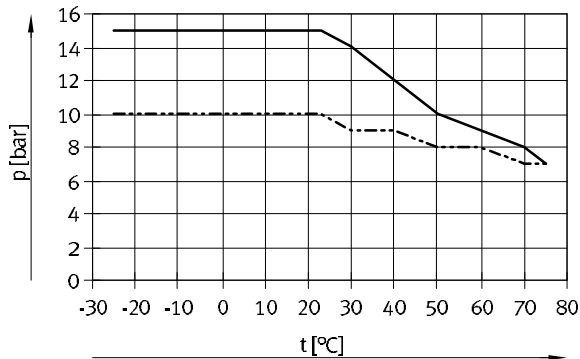
## Plastic pipe PQ-PA

- Rigid pipe made from high quality polyamide; corrosion resistant, flexible and maintenance-free
- Smooth inside wall ensures optimum flow conditions



Operating and environmental conditions						
Type		PQ-PA-12	PQ-PA-15	PQ-PA-18	PQ-PA-22	PQ-PA-28
Temperature-dependent operating pressure	[bar]	-0.95 ... +15 → graph				-0.95 ... +10 → graph
Ambient temperature	[°C]	-25 ... +75				
Temperature of medium	[°C]	-25 ... +75				

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



— PQ-PA-12/15/18/22  
 - - - - PQ-PA-28

### Possible fittings



Push-in fitting CQ  
 → Internet: cq

### Materials

Tube	PA
------	----

### Dimensions and ordering data

O.D. [mm]	I.D. [mm]	Product weight by length [kg/m]	Colour	Part No.	Type	PU <sup>1)</sup> [mm]
12	9	0.051	Black	177728	PQ-PA-12x1,5x3000	3000
15	12	0.065		177729	PQ-PA-15x1,5x3000	3000
18	14	0.103		177730	PQ-PA-18x2x3000	3000
22	18	0.13		177731	PQ-PA-22x2x3000	3000
28	23	0.204		194594	PQ-PA-28x2,5x3000	3000

1) Packaging unit

# Piping PQ

Accessories

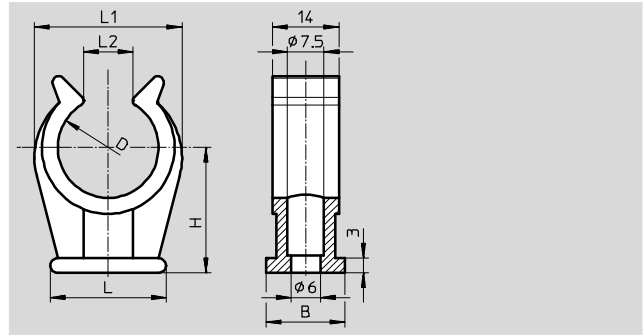
## Pipe clamp PQ-RK-...-B

Suitable for retaining pipes with O.D. of 12, 15, 18, 22 and 28 mm.

Material: PP

Note on materials:  
RoHS-compliant

Ambient temperature:  
-25 ... +85 °C



Dimensions and ordering data										
Nominal width [mm]	D	B	H	L	L1	L2	Weight/ piece [g]	Part No.	Type	PU <sup>1)</sup>
12	11.5	16.5	17.8	17.5	20	9	2.4	550595	PQ-RK-12-B	10
15	15	16	17.5	22.5	23	10	3.2	550596	PQ-RK-15-B	10
18	17	16	23.5	22.5	25	10	4.0	550597	PQ-RK-18-B	10
22	20.5	16	25.2	23.5	30	10	5.1	550598	PQ-RK-22-B	10
28	27.8	16	32.5	26	39	15	8.4	550599	PQ-RK-28-B	1

1) Packaging unit

## Pipe cutter ZR

The pipe cutter ZR is used for cutting to length plastic piping PQ-PA with outside diameters of up to 28 mm. It is not suitable for tubing with metal casing.



Ordering data		
	Part No.	Type
Pipe cutter	194592	ZR

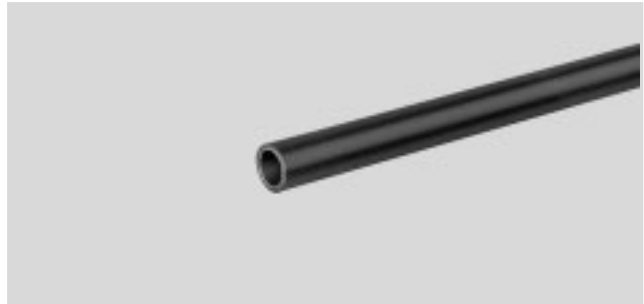
# Plastic-coated metal tubes PM

Technical data



## Plastic-coated metal tube PM

The tube PM has the corrosion resistance of plastic and the deformation resistance of metal. It can be bent, straightened and reshaped several times without pipe-bending equipment and without being damaged.



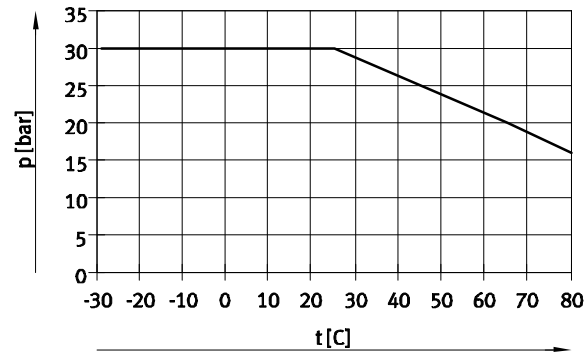
Operating and environmental conditions		
Temperature-dependent operating pressure	[bar]	-0.95 ... +30 → graph
Operating medium		Compressed air according to ISO 8573-1:2010 [7:-:-]
Ambient temperature	[°C]	-29 ... +65

**Note**

The plastic-coated metal tube PM is printed with "10 bar at RT". This specification of the maximum operating pressure at room temperature (RT) is based on using the tube in combination with a push-in fitting from Festo.

When using a push-in fitting, the bending radius must be followed by a straight piece of tube with a length of approx. 20 mm.

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



### Possible fittings

Push-in fitting QS, Quick Star<sup>1)</sup>  
 → Internet: qs

### Accessories

Pipe and tubing cutter ZRS  
 → Internet: tools

1) Note the operating range of the push-in fittings

### Materials

Tube	Wrought aluminium alloy, PE
Note on materials	RoHS-compliant
	Free of copper and PTFE

### Dimensions and ordering data

O.D. [mm]	I.D. [mm]	Bending radius relevant for flow rate [mm]	Product weight by length [kg/m]	Colour	Part No.	Type	PU <sup>1)</sup> [m]
6	3.92	19	0.024	Black	9084	PM-4	50
8	5.2	25	0.032		9087	PM-6	50

1) Packaging unit