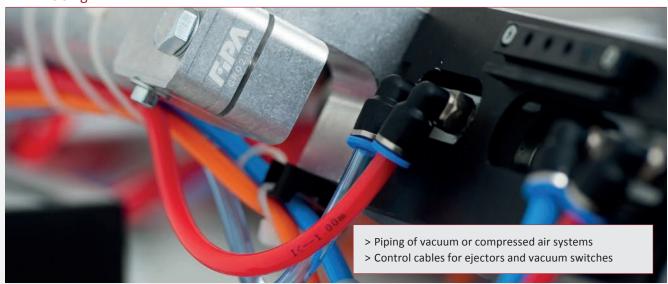
### Tubing technology | Tubing at a glance

### **FIPA Tubing**





### Flexible vacuum pressure tubing made from polyurethane (PUR)

- > Very small bending radius
- > Standard blue transparent or intransparent

#### 61.090 - 61.096

- > High chemical stability and mechanical resistance
- > Outer diameter toleranced tubing, making them suitable for quick fittings

#### 61.056 - 61.062

- > Available in a wide range of colors
- > Outer diameter toleranced tubing, making them suitable for quick fittings

#### 61.020 - 61.030

> Suitable for use in trailing chains, corrugated external surface

#### 61.005S - 61.011S

- > Self-extinguishing, flame-resistant according to DIN 4102 B1, corrugated external surface
- > See page 428



### Vacuum and pressure tubing made from transparent fluororesin (PFA)

- > Excellent resistance to chemicals, temperature and weather conditions
- > Used predominantly in chemical, foodstuff and medical industries
- > See page 430



### Highly flexible, soft PVC tubing for pressure applications

- > Suitable for frequently occurring pivoting motions and oscillations
- > Not suitable for vacuum
- > See page 431



### **FIPA Tubing**



### **Accessories:**

Tubing nipples with male M and G threads

> See page 432



Reinforcing sleeves, especially for soft tubings

> See page 433



Tubing cutter with measuring tape

> See page 433



## Tubing technology | Tubing

Flexible vacuum and pressure tubing made from PUR blue transparent

Flexible vacuum and pressure tubing made from PUR blue transparent



SUITABLE FOR INSTALLATION IN DRAG CHAINS

### **Product notes**

- > High flexibility enables small bending curve to build compact tubing systems
- > Suitable for air and tap water
- > Cut marks at 500 mm intervals facilitate installation
- > High chemical and mechanical resistance
- > Very high oil resistance
- > Rule of thumb for installation in drag chain: bending radius = 10 x outer diameter of tubing

### **Technical data**

Item no.	Outer diameter [mm]	Inner diameter	Minimum bending radius [mm]	Pressure range [bar (psi)]	Operating pressure 20 °C (68 °F) [bar (psi)]	Usage temperature [°C (°F)]	Weight [g/m]	Packing unit [m]
61.090	3	2	8	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	7	20
61.091	4	2.5	10	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	9	20
61.092	6	4	15	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	19	20
61.093	8	5	15	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	36	20
61.094	10	6.5	20	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	54	20
61.096	12	9	30	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	68	20

# Tubing technology | Tubing **§**



Flexible vacuum and pressure tubing made of blue PUR

Flexible vacuum and pressure tubing made of blue PUR



SUITABLE FOR INSTALLATION IN DRAG CHAINS

### **Product notes**

- > High flexibility enables small bending curve to build compact tubing systems
- > Suitable for air and tap water
- > Cut marks at 500 mm intervals facilitate installation
- > Rule of thumb for installation in drag chain: bending radius = 10 x outer diameter of tubing

### **Ordering notes**

- > Standard length 20 m, color blue
- > Available in various tubing lengths and a wide selection of colors (black, red, orange, ocher, yellow, green, blue, light blue, transparent, pure
- > 61.062 standard color is black
  > Length of 50 m generally only available in black

#### **Technical data**

Item no.	Outer diameter [mm]	Inner diameter [mm]	Minimum bending radius [mm]	Pressure range [bar (psi)]	Operating pressure 20 °C (68 °F) [bar (psi)]	Usage temperature [°C (°F)]	Weight [g/m]	Packing unit [m]
61.056	3	2	8	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	7	20 / 50 / 100
61.057	4	2.5	10	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	9	20 / 50 / 100
61.058	6	4	15	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	19	20 / 50 / 100
61.059	8	5	15	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	36	20 / 50 / 100
61.060	10	6.5	20	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	54	20 / 50 / 100
61.061	12	8	30	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	74	20 / 50 / 100
61.062	16	11	60	-1 - 8 (-14.5 - 116)	29 (420.6)	-15 - 60 (5 - 140)	128	20 / 50 / 100

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# Tubing technology | Tubing

Vacuum and pressure tubing made of transparent fluororesin (PFA)

Vacuum and pressure tubing made of transparent fluororesin (PFA)



FOR CHEMICAL, FOODSTUFF AND MEDICAL INDUSTRIES

### **Product notes**

- > Excellent resistance to chemicals, temperature and weather conditions
- > Very smooth, transparent inner surface
- > Suitable for air, water and corrosive fluids
- > 61.069 to 61.073: suitable for cleanroom applications

### **Ordering notes**

> Standard packaging unit: 5 meters

### **Technical data**

Item no.	Outer diameter [mm]	Inner diameter [mm]	Minimum bending radius [mm]	Pressure range for air / gas [bar (psi)]	Pressure range for liquids [bar (psi)]	Operating pressure 20 °C (68 °F) [bar (psi)]	Usage temperature [°C (°F)]	Weight [g/m]	Packing unit [m]
61.063	4	2.5	20	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	49 (710.7)	-65 - 260 (-85 - 500)	18	5 / 20
61.064	6	4	30	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	49 (710.7)	-65 - 260 (-85 - 500)	36	5 / 20
61.065	8	6	48	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	39 (565.6)	-65 - 260 (-85 - 500)	50	5 / 20
61.066	10	7.5	60	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	39 (565.6)	-65 - 260 (-85 - 500)	78	5 / 20
61.067	12	9	72	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	59 (855.7)	-65 - 260 (-85 - 500)	112	5 / 20
61.068	16	13	78	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	34 (493.1)	-65 - 260 (-85 - 500)	154	5 / 20
61.069	4	2.5	20	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	49 (710.7)	-65 - 260 (-85 - 500)	55	5
61.070	6	4	30	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	49 (710.7)	-65 - 260 (-85 - 500)	95	5
61.071	8	6	30	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	39 (565.6)	-65 - 260 (-85 - 500)	125	5
61.072	10	7.5	60	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	39 (565.6)	-65 - 260 (-85 - 500)	190	5
61.073	12	9	72	-0.99 - 9 (-14.4 - 130.5)	3 (43.5)	39 (565.6)	-65 - 260 (-85 - 500)	270	5

## Tubing technology | Tubing **₹**



### Highly flexible tubing made of soft PVC for light pressure applications





### SUITABLE FOR FOODSTUFFS

### **Product notes**

- > Unpressurized and low-pressure applications with concurrent pivoting motions and oscillations > High flexibility enables sharp turning radii for compact tubing systems

- FDA approval for aqueous foods
   Extremely resistant to acids and bases
- > Color transparent
- > Not suitable for vacuum

#### **Technical data**

Item no.	Outer diameter [mm]	Inner diameter [mm]	Minimum bending radius [mm]	Pressure range [bar (psi)]	Usage temperature [°C (°F)]	Weight [g/m]	Packing unit [m]
61.211	4	2	5	0 - 1 (0 - 14.5)	-10 - 60 (14 - 140)	9	20
61.212	6	4	14	0 - 1 (0 - 14.5)	-5 - 60 (23 - 140)	17	20
61.213	8	6	25	0 - 0.5 (0 - 7.3)	-5 - 60 (23 - 140)	23	20
61.214	10	7	25	0 - 0.5 (0 - 7.3)	-10 - 60 (14 - 140)	36	20

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# **Tubing technology** | Accessories for tubing

Tubing nipples with external thread

Tubing nipples with external thread

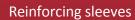


### **Product notes**

> Select the tubing inner diameter about 1 - 2 mm smaller than the tubing nipple

Technical data	1	Dimensions	Dimensions		
Item no.	For hose inner Ø [mm]	Material	G1	sw	
62.062	4	Brass	M5	7	
62.063	6	Brass	M5	7	

# **Tubing technology** | Accessories for tubing





### Reinforcing sleeves

Material: stainless steel





### **Product notes**

- > We recommend the use of reinforcing for all soft tubing > Reinforced sleeves also recommended for water transportation

### **Technical data**

Item no.	Hose outer Ø [mm]	Hose inner Ø [mm]
WR 0425	4	2.5
WR 0640	6	4
WR 0850	8	5
WR 0860	8	6
WR 1280	12	8
WR 1290	12	9
WR 1613	16	13

### Tubing cutter with measuring tape



### **Technical data**

Item no.	Compatible hose Ø [mm]
61.083	3 - 16

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