

# Brass Compression Fittings

These **"universal"** fittings provide users with **numerous connection** options for a wide variety of tube materials without the need for tube threading or soldering. This range **guarantees** excellent long-term sealing and performance.

## Product Advantages

### Simple to Install and Use

Suitable for pneumatic and medium pressure hydraulic applications  
 Compatible with many industrial fluids  
 Large product range: 22 configurations  
 Excellent sealing due to the tightening of the olive onto the tube  
 Metallic sealing guarantees maximum service life  
 High strength brass for increased mechanical reliability

### Wide Variety of Tubing

Connection of different types of tubing and hose: metal, polymer, steel, rubber, etc.  
 Multiple tube diameters can be connected using the Parker Legris reducer assembly system  
 No insert required for rigid and semi-rigid polyamide tubing below 14 mm



**Applications**

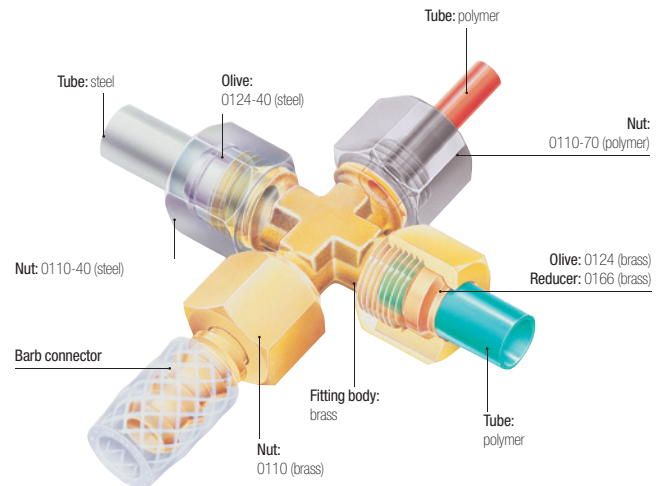
- Pneumatics
- Cooling
- Automotive Process
- Lubrication
- Fluid Transmission
- Packaging
- Industrial Machinery

## Technical Characteristics

<b>Compatible Fluids</b>	Water, machining oil, fuel, hydraulic oil, compressed air, chemical fluids, disinfectants
<b>Working Pressure</b>	Vacuum to 550 bar
<b>Working Temperature</b>	-40°C to +250°C
<b>Tightening Torque</b>	See "Technical Characteristics" on opposite page

Reliable performance is dependent upon the type of fluid conveyed, component materials and tubing being used.  
 Guaranteed for use with a vacuum of 755 mm Hg (99% vacuum).

### Component Materials



### Silicone-free

### Maximum Bore Diameters

The table below shows the recommended compatibility of tube size, BSPP male thread and maximum bore.

Tube O.D.	BSPP Thread	Max. Bore
4-5-6	G1/8	4
6-8-10	G1/4	7
10-12-14	G3/8	11
14-15-16-18	G1/2	14
18-20-22	G3/4	18
22-25-28	G1	24

### Tube Length for Assembly

Minimum length of tube (L) between 2 fittings.



ØD	L (mm)	ØD	L (mm)	ØD	L (mm)
4	26.5	12	39	20	51
5	26	14	41	22	54
6	26	15	41	25	62
8	32	16	46.5	28	62
10	39	18	49.5		

### Regulations

**CNOMO:** E07.21.115N  
 (for robotic equipment in the automotive industry)  
**DI:** 97/23/EC (PED)  
**RG:** 1907/2006 (REACH)  
**DI:** 2002/95/EC (RoHS)  
**DI:** 94/9/EC (ATEX)

# Technical Characteristics

## Installing Compression Fittings

### Cutting the Tube



Cut the polymer or metal tube square.

### Preparing the Connection

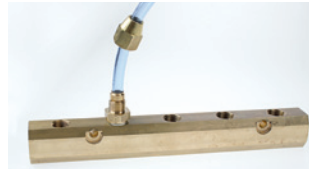


For metal tubing, de-burr the tube prior to connection. Tube bending should be done before connection.



Slide the nut onto the tube; lubricate the threads on the body and nut along with the olive to facilitate tightening (for metal tubing as well). Fit the olive onto the end of the tube.

### Connecting the Tube



Push the tube up against the shoulder of the body of the fitting and hand tighten.

### Final Assembly



Tighten the nut using a spanner or torque wrench to enable the olive to bite on the tube, the connection being completed when the recommended tightening torque is reached (see tables below).

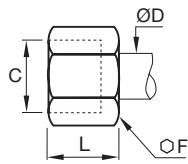


It is recommended to use an insert in order to prevent tube creeping (diameter > 14mm)

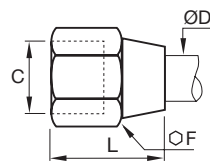
## Recommended Nut Tightening Torque

### Tightening torque in daN.m =

maximum tightening torque of a 0110 nut and 0124 olive with copper, brass or steel tube.



Nut 0110 and 0110..40



Nut 0110..60

Ø D (mm)	Ø F 0110	Ø F 0110..60	Max. daN.m Copper or Brass	Ø F 0110..40	Max. daN.m Steel
4	10	11	0.7	10	1.5
5	12	13	0.7	12	1.5
6	13	13	1.5	13	2.5
8	14	16	1.5	14	2.5
10	19	20	1.8	19	3
12	22	22	3	22	4.5
14	24	24	3.5	24	5.5
15	24	24	4	24	6
16	27	27	5	27	7
18	30	30	6	30	9
20	32	32	6	32	10
22	36	36	7	36	12
25	41	41	8	41	13
28	42		9		

## Customised Fittings

Working directly with its customers and based on its knowledge and experience, Parker Legris can design customised brass compression fittings for specific requirements using the customer's specifications.

The range of compression fittings also offers nickel chemical surface treatment in order to improve the corrosion resistance and chemical compatibility of the fittings (the model number of the fitting is then given the suffix 99).

The above recommendations are given in good faith. However, since each application is different, it is advisable to undertake tests in actual working conditions.



# Technical Characteristics

The use of Parker Legris brass compression fittings is dependant on the tube material. Tables of recommended working pressure for the different tubes are shown below.

## Recommended Tube Type

**Copper tube:** copper which has been "cold rolled", cold drawn and in straight lengths.

**Brass tube:** in cold-rolled straight lengths (same working pressure as for copper tube).

**"Coiled annealed" copper tube:** reduces working pressure by 35%; must be avoided completely if vibration is present.

**Steel tube:** "thin wall" cold drawn, seamless, bright annealed and in straight lengths.  
6 mm to 16 mm O.D.: max. wall thickness 1 mm  
Above 16 mm O.D.: max. wall thickness 1.5 mm

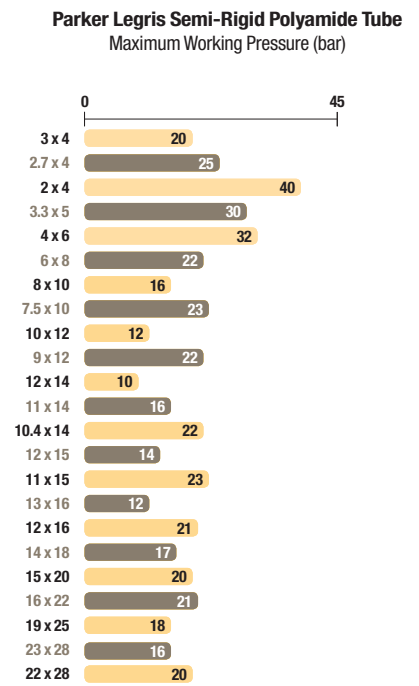
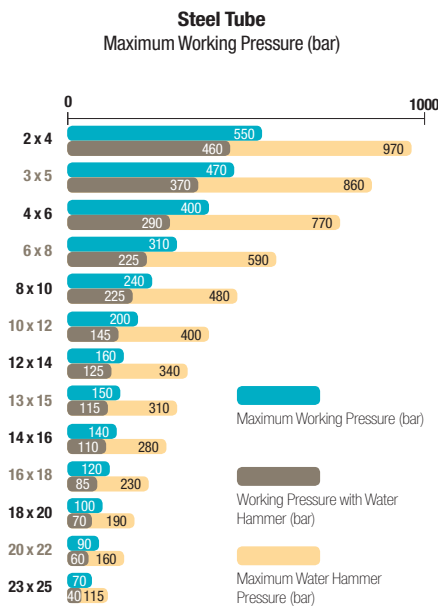
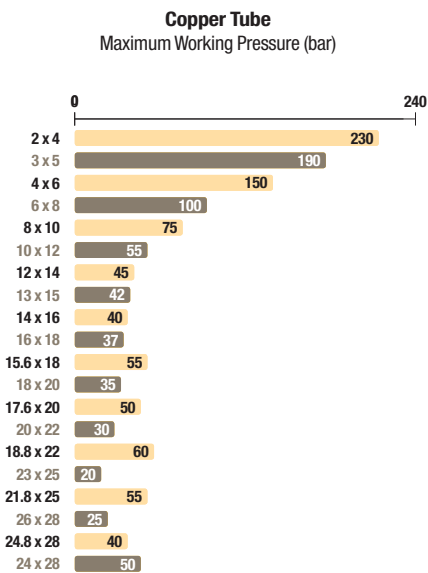
**Polyamide tube:** semi-rigid  
For rigid polyamide tube, multiply the figures in this table by 1.8.

## Recommended Tube-Fitting Assembly Configurations

Assembled using Parker Legris brass olive and nut.

Assembled using Parker Legris steel olive and nut (nut type 0110..40).

Assembled using Parker Legris brass olive and nut.



When using a plastic nut type 0110..70, the maximum working pressure is 10 bar, for all diameters.

## Working Pressure Coefficients for Semi-Rigid Polyamide Tubing

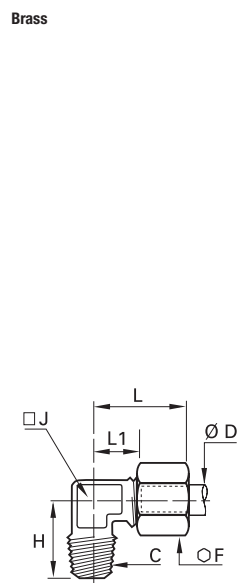
Temperature °C	-40°C / -15°C	-15°C / +30°C	+30°C / +50°C	+50°C / +70°C	+70°C / +100°C
Factor	1.8	1	0.68	0.55	0.31

Parker Legris brass compression fittings are not compatible with ammonia and its derivatives.

The above recommendations are given in good faith. However, since each application is different, it is advisable to undertake tests in actual working conditions.

# Brass Compression Fittings

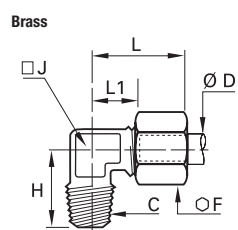
## 0109 Stud Elbow, Male BSPT Thread



ØD	C		F	H	J	L max	L1	kg
4	R1/8	<a href="#">0109 04 10</a>	10	17	8	19	9.5	0.016
	R1/4	<a href="#">0109 04 13</a>	10	20	10	19	11	0.026
5	R1/8	<a href="#">0109 05 10</a>	12	17.5	8	21	11	0.019
	R1/4	<a href="#">0109 05 13</a>	12	21.5	10	22	12	0.028
6	R1/8	<a href="#">0109 06 10</a>	13	18	8	22	11	0.021
	R1/4	<a href="#">0109 06 13</a>	13	21.5	10	22	12	0.031
8	R1/8	<a href="#">0109 08 10</a>	14	18.5	10	28	15	0.028
	R1/4	<a href="#">0109 08 13</a>	14	22	10	28	15	0.033
10	R3/8	<a href="#">0109 08 17</a>	14	24	12	28	15	0.044
	R1/4	<a href="#">0109 10 13</a>	19	25	12	30	14.5	0.052
10	R3/8	<a href="#">0109 10 17</a>	19	25.5	12	30	14.5	0.060
	R1/2	<a href="#">0109 10 21</a>	19	32	19	36	21	0.109
12	R1/4	<a href="#">0109 12 13</a>	22	26	15	30	15	0.074
	R3/8	<a href="#">0109 12 17</a>	22	27	15	30	15	0.077
14	R1/2	<a href="#">0109 12 21</a>	22	32	19	36	21	0.116
	R3/8	<a href="#">0109 14 17</a>	24	30	19	35	18	0.105
15	R1/2	<a href="#">0109 14 21</a>	24	32	19	35	18	0.112
	R3/8	<a href="#">0109 15 17</a>	24	30	19	35	18	0.099
16	R1/2	<a href="#">0109 15 21</a>	24	32	19	35	18	0.106
	R3/8	<a href="#">0109 16 17</a>	27	30	19	39	21	0.120
18	R1/2	<a href="#">0109 16 21</a>	27	33.5	19	39	21	0.130
	R3/4	<a href="#">0109 16 27</a>	27	36.5	23	41	23	0.189
20	R1/2	<a href="#">0109 18 21</a>	30	35.5	23	41	21.5	0.182
	R3/4	<a href="#">0109 18 27</a>	30	36.5	23	41	21.5	0.199
22	R1/2	<a href="#">0109 20 21</a>	32	36.5	23	42	21.5	0.181
	R3/4	<a href="#">0109 20 27</a>	32	38	23	42	21.5	0.200
25	R3/4	<a href="#">0109 22 27</a>	36	40	27	50	30	0.288
	R1	<a href="#">0109 22 34</a>	36	44	27	50	30	0.342
28	R3/4	<a href="#">0109 25 27</a>	41	43	27	54	30	0.325
	R1	<a href="#">0109 25 34</a>	41	44	27	54	30	0.367
28	R3/4	<a href="#">0109 28 27</a>	42	46	32	54	30	0.402
	R1	<a href="#">0109 28 34</a>	42	48	32	54	30	0.384

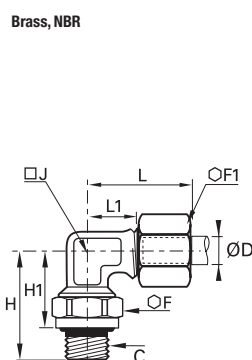
Metric taper threads or Briggs (NPT threads) are available by special order, subject to minimum quantities.

## 0109 Stud Elbow, Male NPT Thread



ØD	C		F	H	J	L max	L1	kg
6	NPT1/8	<a href="#">0109 06 11</a>	13	18	8	22	11	0.021
	NPT1/4	<a href="#">0109 06 14</a>	13	21.5	10	22	12	0.030
8	NPT1/8	<a href="#">0109 08 11</a>	14	18.5	10	28	15	0.028
	NPT1/4	<a href="#">0109 08 14</a>	14	22	10	28	15	0.033
10	NPT1/4	<a href="#">0109 10 14</a>	19	25	12	30	14.5	0.053

## 0199 Stud Orientable Elbow, Male BSPP Thread



ØD	C		F	F1	H	H1	H1 max	J	L max	L1	kg
4	G1/8	<a href="#">0199 04 10</a>	14	10	23	16	17	8	19	9.5	0.023
	G1/4	<a href="#">0199 04 13</a>	19	10	30.5	22	23.5	10	19	11	0.043
6	G1/8	<a href="#">0199 06 10</a>	14	13	23	16	17	8	22	11	0.027
	G1/4	<a href="#">0199 06 13</a>	19	13	30.5	22	23.5	10	22	12	0.047
8	G1/8	<a href="#">0199 08 10</a>	14	14	24	17	18	10	28	15	0.033
	G1/4	<a href="#">0199 08 13</a>	19	14	30.5	22	23.5	10	28	15	0.051
10	G3/8	<a href="#">0199 08 17</a>	22	14	33.5	24	25.5	12	28	15	0.065
	G1/4	<a href="#">0199 10 13</a>	19	19	31	22.5	24	12	30	14.5	0.068
10	G3/8	<a href="#">0199 10 17</a>	22	19	33.5	24	25.5	12	30	14.5	0.079
	G1/2	<a href="#">0199 10 21</a>	27	19	40	29.5	31	19	37	22	0.138
14	G3/8	<a href="#">0199 14 17</a>	22	24	35.5	26	27.5	19	35	18	0.119
	G1/2	<a href="#">0199 14 21</a>	27	24	40	29.5	31	19	35	18	0.141
18	G1/2	<a href="#">0199 18 21</a>	27	30	40	29	30.5	23	41	21.5	0.187
	G3/4	<a href="#">0199 18 27</a>	32	30	43.5	32	33.5	23	41	21.5	0.222
22	G3/4	<a href="#">0199 22 27</a>	32	36	45.5	34	36	32	51	31	0.382
	G1	<a href="#">0199 22 34</a>	41	36	54	40.5	43	32	51	31	0.408
28	G1	<a href="#">0199 28 34</a>	41	42	54	40.5	43	32	54	30	0.420

The body will orientate for positioning purposes