



# Parker Legris: Connection Solutions

## for Life Sciences & Clean Rooms

aerospace  
climate control  
electromechanical  
filtration  
**fluid & gas handling**  
hydraulics  
pneumatics  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.

The Fluid System Connectors Division Europe (Legris) of Parker Hannifin, the global leader in motion and control technologies, has edited this Life Sciences catalogue to promote the many different ranges of leak-free and compact push-in fittings, tubing, function fittings, valves and complementary products specific to Life Sciences and Clean Room applications.

With more than 40 years of experience in the manufacturing and marketing of high quality fittings, Parker Legris today proposes a wide range of proven solutions for medical and clean room environments: bio-medical equipment, breathing systems, diagnosis devices, pharmaceutical process...

For advice or more information, please do not hesitate to contact us.

Visit our web site today: [www.parkerlegris.com](http://www.parkerlegris.com).

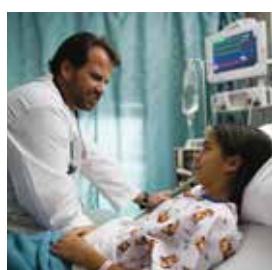


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Range of Cartridges	P. 20	Four small cylindrical cartridges with blue and gold caps.
PFA Tubing	P. 22	A coiled bundle of PFA tubing in various colors: red, green, blue, and clear.
Ball Valves	P. 24	A single ball valve component with a handle and a valve body.

# Connection Solutions for Life Sciences & Clean Room Applications



MEDICAL

## Respiratory

Oxygen Therapy/Oxygen Gas/Transfilling/Concentrators/  
Oxygen Conserving Devices/Sleep Apnea/ICU/Aerosol

## Preventative & Recovery

Perioperative Temperature Mgmt./Pre-OP/OR/Post-OP/  
Therapeutic/Compression Therapy/Alternating Support Surfaces

## Bio-Fluid Management

Dialysis/Medical Autoclaves/Dental/Hospital Infection Control/  
Suction Therapy/Wound Therapy

## Surgical & Diagnosis

Surgical Power Tools/Imaging Equipment/Home Diagnostic  
Equipment/Advanced Prosthetics

INDUSTRIAL

## Laboratory

Gas Control/AA Spectrometry/Thermal Conductivity Detector



## Clean Rooms

Air/Vacuum Conditioning Unit/Air Bearing Controller/  
Semi-Conductor/Neonatal Ventilator/Filling & Packing



## Pharmaceutical

Air & Nitrogen Supply/Buffer Preparation/Bioreactor Production/  
Chromatography/Diafiltration & Concentration/Dosing/  
Filling & Packing



## Respiratory

Anti-Dust Systems/O<sub>2</sub> Delivery Systems

# Directives and Regulations: the Parker Legris Offer



**ASTM G93**



**European RoHS Directives: 2011/65/EC**  
Relating to the limitation of the use of 6 hazardous substances in electrical and electronic equipment (mercury, lead, cadmium, hexavalent chromium, PBB and PBDE).

**REACH Regulation: no. 1907/2006**  
As product manufacturer, we are subject to article 33 of the regulation which defines a duty to inform when a candidate substance is present at more than 0.1% weight for weight.

**Pressurised Equipment Directive: 97/23/EC**  
This directive regulates the design, manufacture and assessment of pressurised equipment to ensure operating safety.

**ATEX Directive: 94/9/EC mandatory since 01/07/2003**  
This directive is mandatory for electrical and non-electrical equipment used in explosive gaseous or dusty atmospheres. The use of our products in these areas must be determined in accordance with the ATEX environment.

**CFR 21: Code of Federal Regulation Title 21: Food and Drugs**  
This code consists of lists of prohibited substances for materials intended to come into contact with foodstuffs.

**Standard Practice for Cleaning Methods and Cleanliness Levels for Material and Equipment Used in Oxygen-Enriched Environments**  
This practice covers the selection of methods and apparatus for cleaning materials and equipment intended for service in oxygen-enriched environments. Contamination problems encountered in the use of enriched air, mixtures of oxygen with other gases, or any other oxidizing gas may be solved by the same cleaning procedures applicable to most metallic and non-metallic materials and equipment.

For grease used in fittings only.

**ISO 14001**

**Environmental Management Systems: Requirements with Guidance for Use.**

**ISO 14644-1**

**Clean Rooms and Associated Controlled Environments. PART 1 : Classification of Air Cleanliness**  
The document covers the classification of air cleanliness in clean rooms and associated controlled environments exclusively in terms of concentration of airborne particles. Only particle populations having cumulative size distributions based on threshold (lower limit) size ranging from 0.1  $\mu\text{m}$  to 5  $\mu\text{m}$  are considered for classification purposes.

**ISO 13485  
(pending)**

**Medical Devices - Quality Management Systems: Requirements for Regulatory Purposes**  
This International Standard specifies requirements for a quality management system where an organization needs to demonstrate its ability to provide medical devices and related services that consistently meet customer requirements and regulatory requirements applicable to medical devices and related services.

**ISO 15001:2010**

**Anaesthetic and Respiratory Equipment, Compatibility with Oxygen**  
ISO 15001:2010 specifies requirements for the oxygen compatibility of materials, components and devices for anaesthetic and respiratory applications, which can come into contact with oxygen in normal conditions or in single fault conditions at gas pressures greater than 50 kPa.

**CGA**  
Compressed Gas Association  
The Standard For Safety Since 1913

**ECO DESIGN**

**CGA G-4.1  
Cleaning Equipment for Oxygen Service**

The cleaning methods described in this publication are intended for cleaning equipment used in the production, storage, distribution, and use of liquid and gaseous oxygen.

**Protecting natural resources:** By saving energy through the performance of our production facilities.

**Improving performance:** By changing habits in order to promote new materials and concepts.

**Asserting our values for the protection of the environment:** By having all our sites ISO 14001 certified in order to unify all our employees around clear objectives regarding the management of the environment.

The Parker Legris product range offers compliance with numerous European standards associated in particular with the directives and regulations referred to above. The official texts of these directives are available on the site: <http://eur-lex.europa.eu>.

## Certificates and Regulations

Certificates of conformity for our products are available on our web site.  
Contact us for any further information you require.



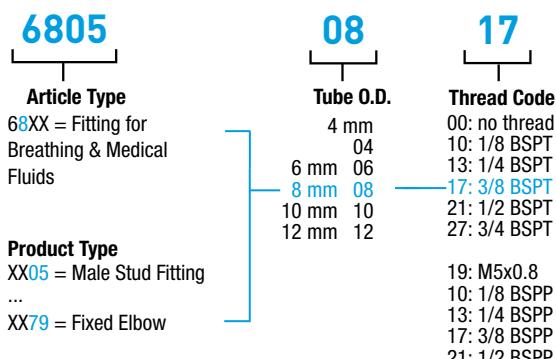
# Part Number Identification

The part numbers used for our product ranges are coded in such a way as to make it easy to identify any particular item.

## Part Number Construction for Fittings

The part numbers are selected using a technical mnemonic code. Each fitting and valve is identified by:

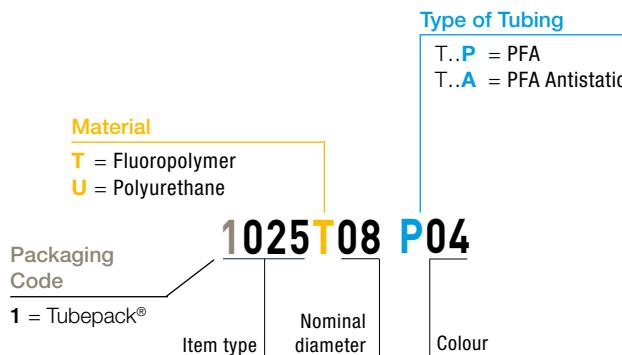
- model series (4 digits)
- nominal diameter (2 digits)
- thread or 2<sup>nd</sup> nominal diameter (2 digits)
- a suffix, if applicable



## Part Number Construction for Tubing

The part numbers are selected using a technical mnemonic code. Each tube is identified by:

- model series (4 digits and a letter)
- nominal diameter (2 digits)
- colour (2 digits)
- inside diameter, if applicable



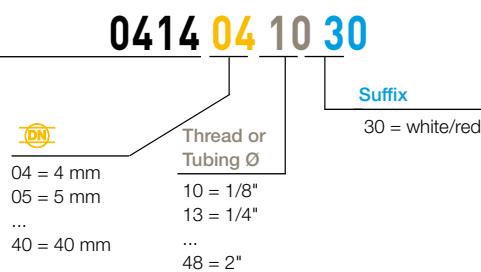
**Nominal diameter code:** equates to the outside diameter.  
**Colour code:** see below

- 00 = □ (clear, USP Class VI)      12 = ■      13 = ■■      14 = ■■■
- 01 = ■ (antistatic)

## Complementary Products upon Request

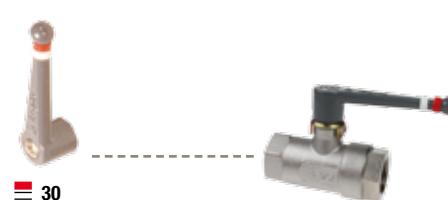
Based on the standard components of the universal series, these ball valves allow the valve to be adapted to specific needs. These products are identified by the specific colour identification on the handle and are manufactured according to a special process (greased and degreased) guaranteeing perfect chemical compatibility with breathable fluids.

### Product Codes



### Identification

Each series may be easily identified by a colour marking on the lever.



Identification		Body	Lever	Ball	Stem and Wear-Compensation Seals	Seat Seals	Grease	Application Examples
Suffix on the body	Colour bands on the lever	Nickel-plated brass	Standard	Nickel-plated polished brass	EPDM	Rilsan: graphite-impregnated	Compatible Oxygen BAM certified	
<b>30</b>		●	●	●	●	●	●	Gaseous oxygen & breathable circuits



EVAPORATOR #3

EVAPORATOR #2

AuGe-Ni-Au

# Product Ranges for Life Sciences & Clean Rooms

## Push-In Fittings, with Polymer or Metal Adaptor (P.10)



**Fluids:** Clean air, breathing and medical fluids

**Materials:** biopolymer, EPDM, FDA nickel-plated brass

**Pressure:** 16 bar

**Temperature:** -10°C to +95°C

**Ø metric:** 4 mm to 12 mm

## Cartridges (P.20)



**Fluids:** Air and clean air, breathing and medical fluids

**Materials:** biopolymer, EPDM, stainless steel 316L or nickel-plated brass

**Pressure:** 16 bar

**Temperature:** -10°C to +95°C

**Ø metric:** 4 mm to 12 mm

## PFA Tubing

(P.22)



**Fluids:** many fluids

### Materials:

- 3 grades of perfluoroalkoxy
- High purity medical-grade, clear
- Standard food-grade, 3 "crystal" colours
- Antistatic (0.2 Ω.m), black

**Pressure:** 36 bar

**Temperature:** -196°C to +260°C

**O.D. metric:** 4 mm to 12 mm

## Ball Valves, Universal Series

(P. 24)



**Fluids:** industrial fluids, oxygen

**Materials:** nickel-plated forged brass

**Pressure:** 40 bar

**Temperature:** -20°C to +80°C

**DN :** 4 mm to 40 mm



## Sterile Medical Packaging

All fittings are packed individually in an antistatic and airtight bag, guaranteeing impeccable cleanliness for safe and easy use.

# Product Ranges for Life Sciences & Clean Rooms

## Stud Fittings

### Straights

**6805**  
BSPT  
Metal  
Page 11

**6801**  
BSPP / Metric  
Metal  
Page 11

**6814**  
BSPP  
Metal  
Page 11

**6821**  
BSPT  
Polymer  
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**6875**  
BSPT  
Polymer  
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### Elbows

**6809**  
BSPT  
Metal  
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**6899**  
BSPP/Metric  
Metal  
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**6879**  
BSPT  
Polymer  
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### Tees

**6808**  
BSPT  
Metal  
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**6898**  
BSPP/Metric  
Metal  
Page 14

**6803**  
BSPT  
Metal  
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**6893**  
BSPP/Metric  
Metal  
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**6878**  
BSPT  
Polymer  
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**6873**  
BSPT  
Polymer  
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## Tube-to-Tube Fittings

### Straight

**6806**  
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### Elbow

**6802**  
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### Tee

**6804**  
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### Y

**6840**  
Page 16



## Bulkhead Connectors

### Straight

**6816**  
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## Plug-In Fittings and Accessories

### Elbow

**6882**  
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### Tees

**6888**  
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**6883**  
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### Accessories

**6866**  
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**6822**  
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**6851**  
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**6826**  
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**6830**  
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## Polymer Cartridges for Life Sciences & Clean Rooms

### Carstick®

**6800**  
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## Flexible Calibrated Tubing

### Fluoropolymer Tubing

PFA



**1010T..P**  
**1050T..P**  
**1100T..P**

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## Industrial Valves: Universal and Universal Customised Series

### In-Line

**0402**  
2/2  
Page 25

**0401**  
2/2  
Page 25



### In-Line with Fixing Holes and Panel Mounting

**0446**  
2/2  
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### In-Line, 3-Way with Fixing Holes and Panel Mounting

**0452**  
3/2  
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# Push-In Fittings for Life Sciences & Clean Rooms

This "eco-designed" medical range proposes an **innovative solution** for respiratory and anesthesia applications. These fittings ensure **cleanliness** and guarantee **no fluid contamination** to meet the most demanding applications.

## Product Advantages

<b>Ease of Use</b>	Ergonomic and aesthetic design Compact product fully adapted to portable devices Easy-to-clean external surfaces Eco-designed (materials, manufacturing process, weight, dimensions, performance and cleanliness) Antistatic and airtight packaging to prevent contamination
<b>Purity &amp; Security</b>	High cleanliness level, according to ASTM G93: level B and particle size level 300 Safety clip to secure connection and identify circuits 100% leak-tested in production Date coding to guarantee quality and traceability
<b>Hi-Tech Materials Complying with Health Regulations</b>	Bio-sourced polymer, FDA chemical nickel-plated brass Compatible with cleaning agents recommended for decontamination processes Excellent chemical and mechanical resistance, even at high temperatures Suitable for ETO gamma ray sterilization



Respiratory  
Bio-Fluid Management  
Clean Rooms  
Pharmaceutical Process  
Laboratory

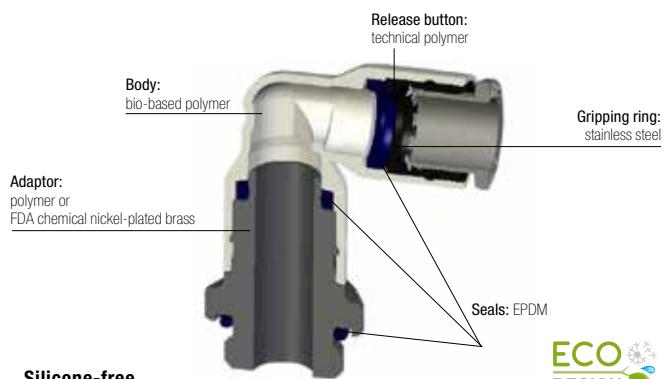
## Applications

## Technical Characteristics

<b>Compatible Fluids</b>	Breathing, neutral & medical gases Medical cleaning agents Other fluids: please consult us					
<b>Working Pressure</b>	Vacuum to 16 bar					
<b>Working Temperature</b>	-10°C to +95°C					
<b>Tightening Torques (BSPT/NPTF)</b>	Thread	1/8" and 1/4"		3/8" and 1/2"		
	daN.m	0.15		0.30		
<b>Tightening Torques (Metric &amp; BSPP)</b>	Thread	M5 x 0.8	G1/8	G1/4	G3/8	G1/2
	daN.m	0.16	0.8	1.2	3	3.5

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

## Component Materials



## Regulations

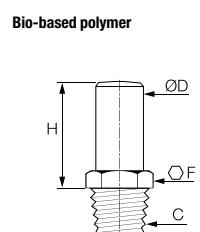
DI: 2002/95/EC (RoHS), 2011/65/EC  
DI: 1907/2006 (REACH)  
FDA: 21 CFR  
ASTM G93-03  
ISO 15001  
BAM grease certification  
CGA G4.1



# Stud Fittings

**6821**

Stud Standpipe, Male BSPT Thread

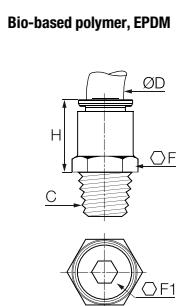


ØD	C		F	H	kg
R1/8	<b>6821 06 10</b>		13	19	0.002
6	<b>6821 06 13</b>		14	19	0.003
R3/8	<b>6821 06 17</b>		17	19	0.004
R1/8	<b>6821 08 10</b>		19	23	0.003
8	<b>6821 08 13</b>		19	23	0.004
R3/8	<b>6821 08 17</b>		19	23	0.004
R1/4	<b>6821 10 13</b>		19	25	0.004
10	<b>6821 10 17</b>		19	25	0.005
R1/2	<b>6821 10 21</b>		22	25	0.008
R3/8	<b>6821 12 17</b>		22	28	0.005
12	<b>6821 12 21</b>		22	28	0.007

Thread without pre-coating.

**6875**

Stud Fitting, Male BSPT Thread

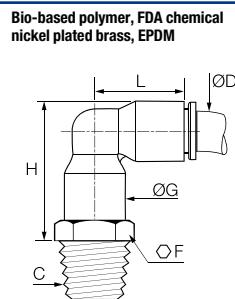


ØD	C		F	F1	H	kg
R1/8	<b>6875 04 10</b>		11	3	18	0.003
R1/4	<b>6875 04 13</b>		14	3	18	0.004
6	<b>6875 06 10</b>		11	4	18	0.002
R1/4	<b>6875 06 13</b>		14	4	18	0.004
R1/8	<b>6875 08 10</b>		17	6	20	0.004
8	<b>6875 08 13</b>		14	6	20	0.004
R3/8	<b>6875 08 17</b>		17	6	20	0.005
R1/4	<b>6875 10 13</b>		17	7	21.5	0.005
10	<b>6875 10 17</b>		19	7	21.5	0.007
R1/2	<b>6875 10 21</b>		22	7	21.5	0.010
R3/8	<b>6875 12 17</b>		19	9	24.5	0.008
12	<b>6875 12 21</b>		22	9	24.5	0.012

Thread without pre-coating.

**6809**

Stud Elbow, Male BSPT Thread



ØD	C		F	G	H	L	kg
R1/8	<b>6809 04 10</b>		10	8.5	23	19	0.008
R1/4	<b>6809 04 13</b>		14	8.5	23.5	19	0.018
6	<b>6809 06 10</b>		10	10.5	27	22.5	0.010
R1/4	<b>6809 06 13</b>		14	10.5	27.5	22.5	0.020
R1/8	<b>6809 08 10</b>		13	13.5	33.5	29.5	0.018
8	<b>6809 08 13</b>		14	13.5	32.5	29.5	0.022
R3/8	<b>6809 08 17</b>		17	13.5	33	29.5	0.032
R1/4	<b>6809 10 13</b>		15	16	39.5	34	0.031
10	<b>6809 10 17</b>		17	16	39.5	34	0.041
R1/2	<b>6809 10 21</b>		21	16	39.5	34	0.060
R3/8	<b>6809 12 17</b>		19	19	45.5	40.5	0.051
12	<b>6809 12 21</b>		21	19	45.5	40.5	0.065

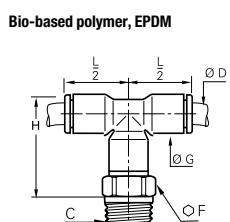




# Stud Fittings

**6878**

Branch Tee, Male BSPT Thread

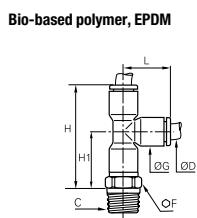


ØD	C	F	G	H	L/2	kg
6	R1/8 <a href="#">6878 06 10</a>	13	10.5	28	18	0.008
	R1/4 <a href="#">6878 06 13</a>	14	10.5	28	18	0.009
	R3/8 <a href="#">6878 06 17</a>	17	10.5	28	18	0.010
8	R1/8 <a href="#">6878 08 10</a>	19	13.5	34	23	0.012
	R1/4 <a href="#">6878 08 13</a>	19	13.5	34	23	0.013
	R3/8 <a href="#">6878 08 17</a>	19	13.5	34	23	0.013
10	R1/4 <a href="#">6878 10 13</a>	19	16	38	26.5	0.018
	R3/8 <a href="#">6878 10 17</a>	19	16	38	26.5	0.019
	R1/2 <a href="#">6878 10 21</a>	22	16	38	26.5	0.022
12	R3/8 <a href="#">6878 12 17</a>	22	19	44	31	0.024
	R1/2 <a href="#">6878 12 21</a>	22	19	44	31	0.026

Thread without pre-coating; the body swivels for positioning purposes.

**6873**

Run Tee, Male BSPT Thread



ØD	C	F	G	H	H1	L	kg
6	R1/8 <a href="#">6873 06 10</a>	13	10.5	40	22	18.5	0.008
	R1/4 <a href="#">6873 06 13</a>	14	10.5	40	22	18.5	0.009
	R3/8 <a href="#">6873 06 17</a>	17	10.5	40	22	18.5	0.010
8	R1/8 <a href="#">6873 08 10</a>	19	13.5	50	27	23	0.012
	R1/4 <a href="#">6873 08 13</a>	19	13.5	50	27	23	0.013
	R3/8 <a href="#">6873 08 17</a>	19	13.5	50	27	23	0.013
10	R1/4 <a href="#">6873 10 13</a>	19	16	56.5	30	26.5	0.018
	R3/8 <a href="#">6873 10 17</a>	19	16	56.5	30	26.5	0.019
	R1/2 <a href="#">6873 10 21</a>	22	16	56.5	30	26.5	0.022
12	R3/8 <a href="#">6873 12 17</a>	22	19	65.5	34.5	31	0.024
	R1/2 <a href="#">6873 12 21</a>	22	19	65.5	34.5	31	0.026

Thread without pre-coating; the body swivels for positioning purposes.

Our coloured safety clips and tubing allow for circuit identification for breathable fluids according to the normalized rules in medical environments.



O<sub>2</sub> and CO<sub>2</sub>



Vacuum



Medical Air



N<sub>2</sub>



In all cases, to secure your circuits



# Tube-to-Tube Fittings

## 6806

Equal and Unequal Tube-to-Tube Connector

ØD	ØD1		G	L	kg
4	6	<b>6806 04 00</b>	8.5	26.5	0.002
4	6	<b>6806 04 06</b>	10.5	29	0.002
8	—	<b>6806 04 08</b>	13.5	37	0.005
6	8	<b>6806 06 00</b>	10.5	30	0.004
6	8	<b>6806 06 08</b>	13.5	37	0.005
10	—	<b>6806 06 10</b>	16	42	0.007
8	10	<b>6806 08 00</b>	13.5	37	0.004
8	10	<b>6806 08 10</b>	16	42	0.007
12	—	<b>6806 08 12</b>	19	50	0.012
10	—	<b>6806 10 00</b>	16	42	0.009
10	12	<b>6806 10 12</b>	19	50	0.013
12	12	<b>6806 12 00</b>	19	50.5	0.009

## 6802

Equal and Unequal Elbow

ØD	ØD1		G	L	kg
4	4	<b>6802 04 00</b>	8.5	19	0.002
4	6	<b>6802 04 06</b>	10.5	24	0.004
6	6	<b>6802 06 00</b>	10.5	24	0.004
6	8	<b>6802 06 08</b>	13.5	29.5	0.006
8	8	<b>6802 08 00</b>	13.5	29	0.004
8	10	<b>6802 08 10</b>	16	34.5	0.008
10	—	<b>6802 10 00</b>	16	34.5	0.005
10	12	<b>6802 10 12</b>	19	40.5	0.013
12	12	<b>6802 12 00</b>	19	40.5	0.010

## 6804

Equal Tee

ØD	ØD1		G	H	L/2	kg
4	4	<b>6804 04 00</b>	8.5	20	15.5	0.004
6	6	<b>6804 06 00</b>	10.5	23	18	0.006
8	8	<b>6804 08 00</b>	13.5	29	22.5	0.006
10	10	<b>6804 10 00</b>	16	34.5	26.5	0.009
12	12	<b>6804 12 00</b>	19	40	31	0.014

## 6840

Equal Single Y Piece

ØD	ØD1		H	K	L	N	kg
4	4	<b>6840 04 00</b>	17.5	8.5	30	9	0.004
6	6	<b>6840 06 00</b>	21.5	10.5	36.5	11	0.008
8	8	<b>6840 08 00</b>	28	13.5	44.5	14.5	0.007
10	10	<b>6840 10 00</b>	33	16	53	17	0.010
12	12	<b>6840 12 00</b>	39	19	60.5	20	0.025







# Cartridges

Parker Legris has developed the range of patented **Carstick®** cartridges **fully adapted to life sciences & clean room environments** and guaranteeing **the integrity of the sealing system**.

## Product Advantages

### Time & Space Saving

- No thread to be machined for inserting the fitting into its cavity
- Seal pre-assembled
- Self-centring of the cartridge in the cavity
- Product protected against contamination, from manufacture to installation
- Individual antistatic and airtight plastic bags



### Proven Technology

- Push-in connection
- Full flow
- Optimum flow at pressure and vacuum
- Compatible with medical fluids and clean room requirements

### Automated Installation

- Ensures that the product will be correctly assembled
- Connection fully integrated in the cavity
- Carstick® packaging designed for an automatic assembly process

Respiratory  
Bio-Fluid Management  
Clean Rooms  
Pharmaceutical Process  
Laboratory

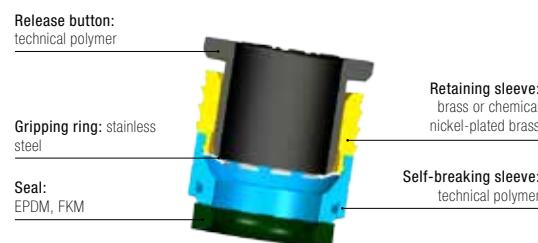
## Applications

## Technical Characteristics

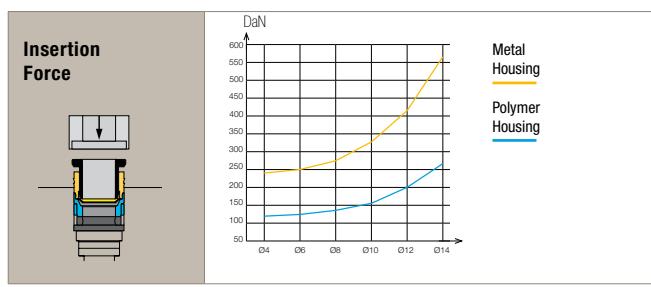
Compatible Fluids	Food fluids, inert gases
Working Pressure	Vacuum to 16 bar
Working Temperature	-10°C to +95°C

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

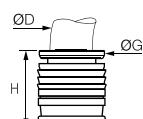


### Regulations

DI: 2002/95/EC (RoHS), 2011/65/EC  
DI: 1907/2006 (REACH)  
FDA: 21 CFR  
ASTM G93  
ISO 15001  
BAM  
CGA G4.1  
ISO 13485 (pending)

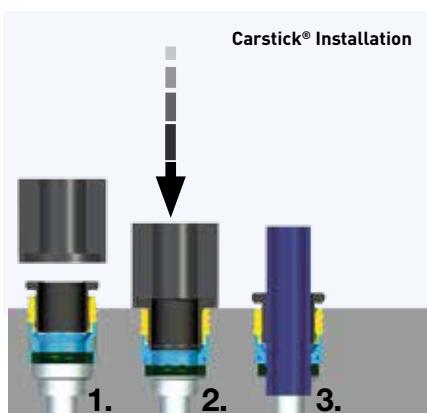
**6800****Cartridge**

Brass, EPDM

**ØD****G    H    kg**

4	<b>6800 04 00</b>	8	10	0.002
6	<b>6800 06 00</b>	10	11.5	0.002
8	<b>6800 08 00</b>	13	15	0.003
10	<b>6800 10 00</b>	15.5	17	0.005
12	<b>6800 12 00</b>	18.5	19.5	0.010

50 cartridges per Carstick®

**Installation****Carstick® Installation**

**Assembly tool:**  
For details on the assembly tool,  
please contact us.

1. Self-centering of the cartridge in the cavity.
2. The seal protection is broken.  
The seal slides into the cavity.  
The cartridge is in place.



3. Tube connection.

**Related Products**

In order to meet your needs, we can offer customised products by re-engineering the design of our fittings.

These customised cartridges can be ordered as a special product, upon request.

Designed specifically for gas and air filtration, they can also be requested as "clean" cartridges, conforming to the requirements of medical and clean room processes.

Available diameters: from 4 to 12 mm.



# Fluoropolymer Tubing - PFA

Parker Legris **PFA** (perfluoroalkoxy) tubing offers **10 times greater durability** than other fluoropolymer tubings (PTFE, FEP and PVDF) under severe chemical and mechanical conditions. This tubing range is available in **three material grades**, offering perfect compatibility with all applications, even in extreme environments.

## Product Advantages

<b>Great Versatility</b>	Exceptional chemical inertia A flexible alternative to stainless steel tubing Broad range of working temperatures, from cryogenic to extreme heat Non-stick properties allowing conveyance of many fluids & gases Outstanding resistance to ageing Fluoropolymer with the lowest permeability Non-flammable UV-transparent Tube marking on request Tubing cut to length on request Silicone-free		<b>Applications</b> Respiratory Bio-Fluid Management Clean Rooms Pharmaceutical Process Semiconductors Laboratory
<b>Three Material Grades</b>	Clear High Purity PFA (USP, Class VI): to cover all applications, including those requiring maximum mechanical resistance Coloured PFA: for circuit identification Black Antistatic PFA: eliminates all risk of electrostatic discharge		

## Technical Characteristics

<b>Compatible Fluids</b>	Medical, bio-compatible, gas, compressed air
<b>Working Pressure</b>	Vacuum to 36 bar
<b>Working Temperature</b>	-196°C to +260°C
<b>Component Materials</b>	Perfluoroalkoxy - 55 Shore D • High Purity PFA • Translucent coloured PFA • Antistatic PFA

Reliable performance is dependent upon the type of fluid conveyed and fittings being used.  
Use is guaranteed with a vacuum of 755 mm Hg (99% vacuum).

### Regulations

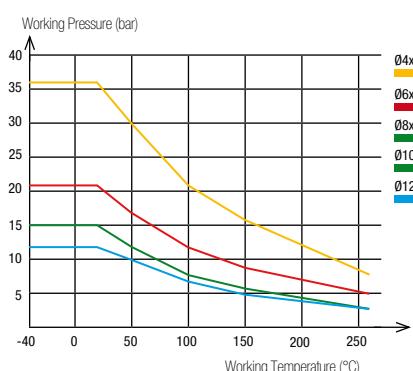
**Medical & Pharmaceutical**  
**USP:** Class VI (A) (clear HP PFA)  
External communication devices

**Industrial**  
**UL94 V-0** (Fire resistance)  
**DI:** 2002/95/EC (RoHS), 2011/65/EC  
**DI:** 97/23/EC (PED)  
**RG:** 1907/2006 (REACH)  
**DI:** 94/09/EC (ATEX, black tubing)

**Food Industry**  
**FDA:** 21 CFR 177.1550  
(clear, translucent coloured)  
**RG:** 1935/2004

**Packaging**  
Tubepack®: 10 m, 50 m, 100 m

### Performance of PFA Tubing



Tube O.D.	Tube O.D. Tolerance
4 to 8 mm	+0.10 / -0.10
10 to 12 mm	+0.15 / -0.15

Connected to Parker Legris push-in fittings, the calibration of Parker Legris tubing ensures perfect sealing based on NF E49-100.

To calculate burst pressure, the values in this graph should be multiplied by 3.



# Ball Valves, Universal Series

This range of valves has patented **seal wear compensating** technology for **reliable** and **durable** sealing, **protecting** any system whether under pressure or **vacuum**.

## Product Advantages

<b>Durability &amp; Reliability</b>	Automatic seal wear compensation for long-term reliability Robust, corrosion-resistant materials 100% leak-tested in production Date coding to guarantee quality and traceability	
<b>Versatility &amp; Performance</b>	Ideal for ensuring the performance of pneumatic circuits Customised valves for all special applications Unequalled performance under vacuum Smooth operation thanks to self-lubricating seals Large range of working pressures and temperatures Lever can be repositioned and replaced Many configurations to satisfy all system requirements	 Respiratory Bio-Fluid Management Vacuum Clean Rooms Pharmaceutical Process Laboratory

## Technical Characteristics

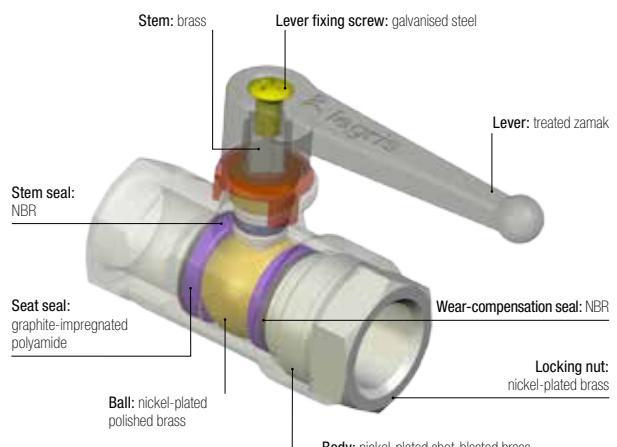
<b>Compatible Fluids</b>	Industrial fluids, oxygen (suffix 30)						
<b>Working Pressure</b>	Vacuum to 40 bar						
<b>Working Temperature</b>	-20°C to + 80°C						

<b>Tightening Torques</b>	Threads	G1/8	G1/4	G3/8	G1/2	G3/4	G1
	daN.m	0.10 to 0.20	0.10 to 0.20	0.15 to 0.25	0.20 to 0.35	0.50 to 0.70	0.50 to 0.70
	Threads	G1½	G1½	G2			
	daN.m	0.40 to 0.60	0.80 to 1.20	0.80 to 1.20			

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

DI: 97/23/EC (module PED A - diameters greater than 25 mm)

DI: 2006/42/EC (Machinery Directive)

DI: 2002/95/EC (RoHS)

RG: 1907/2006 (REACH)

### Regulations



# Together, We Can Build Sustainable Development

Parker Legris, ISO 14001 certified, has made the conservation of resources and protection of the environment a major priority. We have incorporated improved environmental management as a permanent feature in the vision and mission of the company, aiming to benefit nature, technology and mankind.

## Our actions are coupled with your environmental process

### Reducing the impact on industrial sites

Parker Legris has integrated environmental protection management into the operation of its industrial sites. This approach has enabled 85% of waste to be recovered and has reduced energy consumption by 15%.

### Offering ecologically responsible products

Under its continuous improvement process, Parker Legris has integrated ecological design as an input parameter to innovation and uses Life Cycle Assessment (LCA) to optimise the environmental impact of its products.

### Providing information on the PEP (Product Environmental Profile)

This communication tool is common to all industries and professions and delivers a reliable and clear message for promoting ecological advances and incorporating this data within the LCA equipment.

### Getting ahead of regulations

Parker Legris goes beyond its statutory obligations and endeavours to find a good match between choice of materials, limitation of hazardous substances, selection of recycling channels and industrial performance to encourage the recycling of products at end of life.

## Using our technology reduces the environmental impact

LIQUIfit®

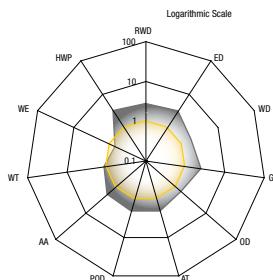
Tube-to-Tube Connector



Market Standard

Tube-to-Tube Connector

### Tube-to-Tube Connector



■ Parker Legris

■ Market Standard in PP

RWD: Raw Material Depletion  
ED: Energy Depletion  
WD: Water Depletion  
GW: Global Warming

OZ: Ozone Depletion  
AT: Air Toxicity  
POC: Photochemical Ozone Creation  
AA: Air Acidification

WT: Water Toxicity  
WE: Water Eutrophication  
HWP: Hazardous Waste Production





# Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 00800 27 27 5374.



## Aerospace

### Key Markets

Aftermarket services  
Commercial transports  
Engines  
General & business aviation  
Helicopters  
Launch vehicles  
Military aircraft  
Missiles  
Power generation  
Regional transports  
Unmanned aerial vehicles

### Key Products

Control systems & actuation products  
Engine systems & components  
Fluid conveyance systems & components  
Fluid metering, delivery & atomization devices  
Fuel systems & components  
Fuel tank inerting systems  
Hydraulic systems & components  
Thermal management  
Wheels & brakes

## Climate Control

### Key Markets

Agriculture  
Air conditioning  
Construction Machinery  
Food & beverage  
Industrial machinery  
Life sciences  
Oil & gas  
Precision cooling  
Process  
Refrigeration  
Transportation

### Key Products

Accumulators  
Advanced actuators  
CO<sub>2</sub> controls  
Electronic controllers  
Filter driers  
Hand shut-off valves  
Heat exchangers  
Hose & fittings  
Pressure regulating valves  
Refrigerant distributors  
Safety relief valves  
Smart pumps  
Solenoid valves  
Thermostatic expansion valves

## Electromechanical

### Key Markets

Aerospace  
Factory automation  
Life science & medical  
Machine tools  
Packaging machinery  
Paper machinery  
Plastics machinery & converting  
Primary metals  
Semiconductor & electronics  
Textile  
Wire & cable

### Key Products

AC/DC drives & systems  
Electric actuators, gantry robots & slides  
Electrohydrostatic actuation systems  
Electromechanical actuation systems  
Human machine interface  
Linear motors  
Stepper motors, servo motors, drives & controls  
Structural extrusions

## Filtration

### Key Markets

Aerospace  
Food & beverage  
Industrial plant & equipment  
Life sciences  
Marine  
Mobile equipment  
Oil & gas  
Power generation & renewable energy  
Process  
Transportation  
Water Purification

### Key Products

Analytical gas generators  
Compressed air filters & dryers  
Engine air, coolant, fuel & oil filtration systems  
Fluid condition monitoring systems  
Hydraulic & lubrication filters  
Hydrogen, nitrogen & zero air generators  
Instrumentation filters  
Membrane & fiber filters  
Microfiltration  
Sterile air filtration  
Water desalination & purification filters & systems



## Fluid & Gas Handling

### Key Markets

Aerial lift  
Agriculture  
Bulk chemical handling  
Construction machinery  
Food & beverage  
Fuel & gas delivery  
Industrial machinery  
Life sciences  
Marine  
Mining  
Mobile  
Oil & gas  
Renewable energy  
Transportation

### Key Products

Check valves  
Connectors for low pressure fluid conveyance  
Deep sea umbilicals  
Diagnostic equipment  
Hose couplings  
Industrial hose  
Mooring systems & power cables  
PTFE hose & tubing  
Quick couplings  
Rubber & thermoplastic hose  
Tube fittings & adapters  
Tubing & plastic fittings

## Hydraulics

### Key Markets

Aerial lift  
Agriculture  
Alternative energy  
Construction machinery  
Forestry  
Industrial machinery  
Machine tools  
Marine  
Material handling  
Mining  
Oil & gas  
Power generation  
Refuse vehicles  
Renewable energy  
Truck hydraulics  
Turf equipment

### Key Products

Accumulators  
Cartridge valves  
Electrohydraulic actuators  
Human machine interfaces  
Hybrid drives  
Hydraulic cylinders  
Hydraulic motors & pumps  
Hydraulic systems  
Hydraulic valves & controls  
Hydrostatic steering  
Integrated hydraulic circuits  
Power take-offs  
Power units  
Rotary actuators  
Sensors

## Pneumatics

### Key Markets

Aerospace  
Conveyor & material handling  
Factory automation  
Life science & medical  
Machine tools  
Packaging machinery  
Transportation & automotive

### Key Products

Air preparation  
Brass fittings & valves  
Manifolds  
Pneumatic accessories  
Pneumatic actuators & grippers  
Pneumatic valves & controls  
Quick disconnects  
Rotary actuators  
Rubber & thermoplastic hose & couplings  
Structural extrusions  
Thermoplastic tubing & fittings  
Vacuum generators, cups & sensors

## Process Control

### Key Markets

Alternative fuels  
Biopharmaceuticals  
Chemical & refining  
Food & beverage  
Marine & shipbuilding  
Medical & dental  
Microelectronics  
Nuclear Power  
Offshore oil exploration  
Oil & gas  
Pharmaceuticals  
Power generation  
Pulp & paper  
Steel  
Water/wastewater

### Key Products

Analytical Instruments  
Analytical sample conditioning products & systems  
Chemical injection fittings & valves  
Fluoropolymer chemical delivery fittings, valves & pumps  
High purity gas delivery fittings, valves, regulators & digital flow controllers  
Industrial mass flow meters/controllers  
Permanent no-weld tube fittings  
Precision industrial regulators & flow controllers  
Process control double block & bleeds  
Process control fittings, valves, regulators & manifold valves

## Sealing & Shielding

### Key Markets

Aerospace  
Chemical processing  
Consumer  
Fluid power  
General industrial  
Information technology  
Life sciences  
Microelectronics  
Military  
Oil & gas  
Power generation  
Renewable energy  
Telecommunications  
Transportation

### Key Products

Dynamic seals  
Elastomeric o-rings  
Electro-medical instrument design & assembly  
EMI shielding  
Extruded & precision-cut, fabricated elastomeric seals  
High temperature metal seals  
Homogeneous & inserted elastomeric shapes  
Medical device fabrication & assembly  
Metal & plastic retained composite seals  
Shielded optical windows  
Silicone tubing & extrusions  
Thermal management  
Vibration damping

ENGINEERING YOUR SUCCESS.

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**SE, SK, UK, ZA)**

Ed. 11-2014

