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

All of the products included are tried-and-tested for the railway market; many have undergone additional, rigorous testing in order to adapt their technical performance to the ever-stricter requirements of railway applications.

Whether it’s the inside or outside doors, seat or step controls, air or water supply, our range of products fits the bill.

Respecting stringent railway regulations for fire prevention, such as EN 45545, DIN 5510 and NF F16-101, our robust and reliable fittings and tubing combine excellent resistance not only to pressure and temperature, but also to flame.

For more information, please consult our web site: www.parkerlegris.com.
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Railway Directives and Regulations: the Parker Legris Offer

Parker Legris complies with the directives and regulations listed below and goes beyond its statutory obligations for the ranges in question.

**Railway Regulations**

- **EN 45545-2**: Railway applications - fire protection on railway vehicles. Requirements for fire behavior of materials and components.
- **DIN 5510-2**: Preventive fire protection in railway vehicles. Determines levels of protection, fire preventive measures and certification.
- **NF F16-101**: Method of classification of materials for rolling stock obtained from the results of standardized tests. Takes into account the combustion of the materials as well as the opacity and toxicity of emissions.

**Industrial Regulations**

- **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: 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.
- **Machinery Directive 2006/42/EC**: This directive harmonizes the safety and health requirements for machines with a high protection level. It also guarantees the free movement of machines on the European Union market.

**Quality Management Certification**

- **ISO TS 16949**: Quality management systems - particular requirements for the application of ISO 9001:2000 for automotive production and relevant service part organizations.
- **ISO 14001**: Environmental management systems. Requirements with guidance for use.
- **ISO 9001**: This international standard specifies requirements for a quality management system when an organization needs to demonstrate its ability to consistently provide products that meet customer and applicable statutory and regulatory requirements.

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 website. Contact us for any further information you require.
The LF 3000® range, with its wide variety of shapes and configurations, allows you to find the perfect product to meet your needs and thus optimise the use of your equipment.

Product Advantages

**World-Class Performance**
- 40 years of expertise
- Full bore for optimum flow
- Ideal for vacuum or pressure applications
- Automatic sealing guaranteed, in both static and dynamic applications
- Materials with high resistance
- Durability of product and equipment

**Optimal Design**
- 100% leak-tested in production
- Date coding to guarantee quality and traceability
- Compact and aesthetic design: reduced dimensions for space-saving
- Tube fixed during connection, preventing leakage
- Conforms to ISO 14743
- Excellent vacuum performance thanks to the patented sealing technology
- Lightweight: reduced energy consumption of operating systems
- Parallel threaded fitting with a patented captive O-ring seal
- Maximum flexibility due to the wide product range

Technical Characteristics

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>Compressed air</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Other fluids: please consult us</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>Vacuum to 20 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-20°C to +80°C</td>
</tr>
</tbody>
</table>

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).

Regulations

ISO 14743: Pneumatic fluid power, push-in connectors for thermoplastic tubes
DI: 97/23/EC (PED)
DI: 2011/65/EC (RoHS)
DI: 1907/2006 (REACH)

View products [www.parkerlegris.com/lf3000](http://www.parkerlegris.com/lf3000)
LF 3600 Push-In Fittings

In order to meet your technical and environment requirements, Parker Legris designed this range of metal fittings, offering robustness, reliability and resistance to industrial fluids for the most demanding environments.

### Product Advantages

**High Performance**
- Resistant up to +150°C at 30 bar
- Excellent mechanical performance
- Long threads to resist shock and vibration
- Excellent abrasion and corrosion resistance due to high phosphorus chemical nickel plating
- Full flow, minimal pressure drop

**Versatility**
- Materials conform to FDA standards
- Spring collet gripping system suitable for both metal (grooved) and polymer tubing
- Excellent resistance to high pressure and vacuum
- Excellent chemical compatibility
- More than 250 part numbers
- One fitting for numerous applications: stock optimisation
- Manual connection and disconnection
- Compact and ergonomic

**Reliability**
- High performance brass for increased lifespan
- 100% leak-tested in production
- Date coding to guarantee quality and traceability

### Technical Characteristics

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>Compressed air, grease, lubricant, water…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Pressure</td>
<td>Vacuum to 30 bar (20 bar: 3699, 3609)</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-25°C to +150°C</td>
</tr>
</tbody>
</table>

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). Technical performance tested at -25°C according to the ISO 14743 standard.

### Regulations

- ISO 14743: pneumatic transmissions, push-in fittings for thermoplastic tubing
- DL: 97/23/EC (PED)
- DI: 2011/65/EC (RoHS), RG: 1907/2006 (REACH)
- DL: 94/9/EC (ATEX)
- UL94 V-0: please consult us
- EN 4545-2

View products: www.parkerlegris.com/lf3600
LIQUIfit® Push-In Fittings with Metal Adaptors

The LIQUIfit® range now benefits from a range extension of metal adaptors designed for liquid transfer applications. These fittings ensure reliable and compact connections combined with excellent robustness.

Product Advantages

<table>
<thead>
<tr>
<th>Innovative Technology &amp; Concept</th>
<th>Ergonomic and aesthetic design</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Compact product for water applications</td>
</tr>
<tr>
<td></td>
<td>Easy-to-clean external surfaces</td>
</tr>
<tr>
<td></td>
<td>Full flow</td>
</tr>
<tr>
<td></td>
<td>Use with a pre-prepared metallic tubing</td>
</tr>
<tr>
<td></td>
<td>Gripping system preventing any pumping effect</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optimal Performance</th>
<th>Patented sealing technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100% leak-tested in production</td>
</tr>
<tr>
<td></td>
<td>Date coding to guarantee quality and traceability</td>
</tr>
<tr>
<td></td>
<td>Wide range of shapes and numerous configurations</td>
</tr>
<tr>
<td></td>
<td>Excellent robustness for a long lifespan</td>
</tr>
</tbody>
</table>

| High Performance Material                       | Bio-sourced polymer body meeting the most severe food process regulations |
|-------------------------------------------------|Compatibility with beverages (stainless steel version) |
|                                                  | Unsurpassed chemical and mechanical resistance, even at high temperatures |
|                                                  | Free of bisphenol A and phthalates, conforming with regulations |

Technical Characteristics

<table>
<thead>
<tr>
<th>Compatiable Fluids</th>
<th>Water, beverages, industrial fluids: stainless steel threads</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Industrial fluids: nickel-plated brass threads</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>Vacuum to 16 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-10°C to +95°C</td>
</tr>
</tbody>
</table>

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).

Regulations

DI : 2011/65/EC (RoHS)
RG : 1995/2004/EC
FDA : 21 CFR
NSF 51 (pending, for stainless steel version only)
NSF/ANSI 61 (pending, for stainless steel version only)
RG : 1907/2006 (REACH)

Complementary LIQUIfit® Range Products

Other LIQUIfit® range products are presented on our website, www.parkerlegris.com, or in our master Catalogue : Non-Return Valves and Ball Valves.
Prestomatic 3 Push-In Fittings

In order to meet **severe** and **demanding** conditions of use in air circuits, this range of **lightweight** polyamide fittings offers **excellent technical performance** and respects the new environmental requirements.

### Product Advantages

**Optimum Design**
- Extreme compactness for space saving
- Weight reduction over traditional airbrake fittings conforming with Euro 6
- Excellent mechanical properties adapted to demanding working conditions
- Integrated polymer tube support gives tube alignment and tube retention for:
  - excellent resistance to vibration
  - sealing ensured over time
- Fully re-usable; reduces maintenance costs

**High Performance**
- Positive hold by an innovative gripping ring design allowing absorption of vibration and pulsating pressure
- UV-resistant polymer guarantees a long lifespan
- Twist-free assembly allowing free tube rotation even under pressure and high resistance to tube expansion
- Extreme temperature resistance for increased lifespan

**Reliability**
- 100% leak-tested in production
- Date coding to guarantee quality and traceability
- Suitable with flexible tubing in braking system

### Technical Characteristics

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>Compressed air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Pressure</td>
<td>25 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-50°C to +100°C</td>
</tr>
</tbody>
</table>

Technical performance tested at -50°C according to the ISO 14743 standard. Between -40°C and -50°C, the circuit must remain under pressure.

### Regulations

Fully adapted to transportation braking system applications with tubing:
- DIN 74324-1
- DIN 73378
- NF-R12-632-2

*only in certain conditions*
Prestomatic 2 Push-In Fittings

To meet severe and demanding applications such as pneumatic circuits, Prestomatic 2 fittings conform to the international standards offering robustness, reliability and mechanical resistance.

Product Advantages

**Versatility**
- Extreme compactness for space saving
- High robustness, perfectly suitable for gravel spreading
- Excellent mechanical properties adapted to severe working conditions
- Integrated metallic tube support reinforces tube alignment and tube retention for:
  - excellent resistance to vibration
  - sealing ensured over time
  - increased resistance to tube removal
- Fully re-usable to reduce maintenance costs

**High Performance**
- Positive hold by an innovative gripping ring design allowing absorption of vibration and pulsating pressure
- Twist-free assembly allowing free tube rotation even under pressure and high resistance to tube expansion
- Extreme temperature resistance: up to -50°C for increased lifespan

**Reliability**
- 100% leak-tested in production
- Date coding to guarantee quality and traceability
- Suitable with flexible tubing in braking system

Applications
- Air Braking Systems*
- Pantograph
- Windshield Wipers
- Air Supply
- Motricity Control

*only in certain conditions

Technical Characteristics

<table>
<thead>
<tr>
<th><strong>Compatibility Fluids</strong></th>
<th>Compressed air</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Working Pressure</strong></td>
<td>25 bar</td>
</tr>
<tr>
<td><strong>Working Temperature</strong></td>
<td>-50°C to +100°C</td>
</tr>
</tbody>
</table>

Technical performance tested at -50°C according to the ISO 14743 standard. Between -40°C and -50°C, the circuit must remain under pressure.

**Regulations**
- EN 45545-2: HL3, R22, R24, R25 classification can be attained when used with fireproof tubing
- Fully adapted to transportation braking system applications with tubing:
  - DIN 74324-1
  - DIN 73378
  - NF-R12-632-2
Polymer Cartridges: LF 3000®, LIQUIfit® and Low Temperature Carstick®

Parker Legris has developed the range of patented Carstick® cartridges guaranteeing the integrity of the sealing system before and after assembly in non-threaded cavities. The compact design of the one-piece Carstick® cartridge enables automation of your manufacturing process and improves the reliability of your system.

Product Advantages

**Time-Saving**
- No thread to be machined for inserting the fitting into its cavity
- Seal pre-assembled, greased and protected
- Self-centring of the cartridge in the cavity
- Product protected against contamination, from manufacture to installation

**Proven Technology**
- Technical performances of the LF 3000®
- Push-in connection
- Full flow
- Optimum flow at pressure and vacuum
- LIQUIfit® Carstick® compatible with drinking water and food fluids

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

Technical Characteristics

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>LF 3000® and Low Temperature Carstick®</th>
<th>LIQUIfit® Carstick®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressed air</td>
<td>Compressed air</td>
<td>Food fluids, inert gases</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>Vacuum to 20 bar</td>
<td>Vacuum to 16 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-20°C to +80°C (LF 3000®)</td>
<td>-10°C to +95°C</td>
</tr>
</tbody>
</table>

Reliable performance is dependent upon the type of fluid conveyed, component materials and tubing being used. Guaranteed for use with a vacuum of 765 mm Hg (99% vacuum).

Regulations

- **LF 3000® and Low Temperature Carstick®**
  - ISO 14743: Pneumatic fluid power, push-in fittings for thermoplastic tubes
  - Di: 2011/65/CE (RoHS)
  - Di: 97/23/CE (PED)

- **LIQUIfit® Carstick®**
  - FDA: 21 CFR 177.1550
  - NSF: 51 to 95°C
  - ACS
  - DM 174 (Italia)
  - Di: 2011/65/CE (RoHS)
  - Di: 97/23/CE (PED)
  - WRAS
  - NSF/ANSI 61 - C HOT

View products [www.parkerlegris.com/cartridge](http://www.parkerlegris.com/cartridge)
Fireproof High Resistance PA Tubing

This **single layer fireproof** tubing not only combines excellent resistance to pressure, temperature and flame, but also guarantees **non-toxic smoke** resulting from burn-off. This tubing eliminates the need for a stripping tool, thus preventing the risk of tube damage prior to connection.

### Product Advantages

**Safety for On-Board Railway Equipment**
- Designed for on-board equipment
- Excellent flame resistance: self-extinguishing
- Very little smoke generation
- Non-toxic combustion gases
- UV-resistant
- Extremely resistant to high pressure and temperature

**Innovative Single-Layer Solution**
- Developed for demanding industrial applications
- Excellent spark resistance
- Economical alternative to PA tubing with PVC sheath
- Combines technical advantages of rigid and semi-rigid PA tubing
- 5 colours available
- Flow direction marking
- Silicone-free

### Technical Characteristics

| Compatible Fluids | Compressed air, lubricants
| Other fluids: please consult us |
| Working Pressure | Vacuum to 50 bar |
| Working Temperature | -50°C to +100°C |
| Component Materials | Polyamide (63 shore D) |

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

- **Railway**
  - EN 45545-2: H13, R22, R24, R25
  - NF F16-101: B F2
  - DIN 5510-2: S4, SR2, ST2
  - ISO 4892
- **Industrial**
  - DI: 97/23/EC (PED)
  - DI: 2011/65/CE (RoHS)
  - RG: 1907/2006/EC (REACH)
  - UL94 V-0 (Fire resistance)

### Packaging

- Tubepack®: 25 m, 100 m
- Drum: 500 m, 1 000 m

[View products](www.parkerlegris.com/fireproof_tubing)
PE Tubing

Parker Legris offers two types of polyethylene tubing: "Advanced PE" 50% reticulated and Low Density PE. Our range of "Advanced PE" is designed for demanding environments, especially that of water treatment, without compromising operator safety.

Product Advantages

**Advanced PE**
- 50% reticulated material
- Best balance between flexibility and pressure/temperature resistance
- Resistant to a wide range of aggressive chemicals
- UV-stabilised: ideal for outdoor applications
- Approved for permanent contact with food and beverages
- Silicone-free

**Applications**
- Cooling Systems
- Toilets
- Water Supply
- Windshield Washing System

Technical Characteristics

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>Water, beverages and other fluids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Pressure</td>
<td>Vacuum to 16 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-40°C to +95°C</td>
</tr>
<tr>
<td>Component Materials</td>
<td>High quality polyethylene: 50% reticulated PE 50% low density PE (44 shore D)</td>
</tr>
</tbody>
</table>

**Regulations**
- FDA: 21 CFR 177.1520
- RG: 1935/2004/EC
- Di: 97/23/EC (PED)
- Di: 2011/65/EC (RoHS), 2011/65/EC
- NSF 42/58 (1/4" and 3/8" approved for 10 bar and 1/2" approved for 8 bar at room temperature)
- NSF 51, 61 C-HOT
- ACS (except for purple colour)
- WRAS
- RG: 1907/2006 (REACH)

**Packaging**
- Tubepack®: 75 m, 150 m, 300 m
- 250 feet, 500 feet, 1000 feet

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).

View products
www.parkerlegris.com/pe_tubing
Flow Control Regulators

Parker Legris flow control regulators with polymer, nickel-plated brass or aluminium bodies, external or recessed adjustment screws, offer **precise adjustment, accuracy and compactness**, providing the solution for all applications.

**Product Advantages**

| Improved Productivity | Higher maximum flow than standard regulators  
                        | Full flow with minimum pressure drop (model 7060)  
                        | Optimal control of the cylinder rod speed  
                        | 100% leak-tested in production  
                        | Date coding to guarantee quality and traceability  
                        | Reduce compressed air and energy consumption |
|-----------------------|--------------------------------------------------|
| Accuracy & Performance| Precise adjustment for accurate flow regulation from initial to maximum opening  
                        | Constant cylinder rod displacement speed  
                        | Long-term stability of flow  
                        | Reduced weight (polymer version)  
                        | Mechanical strength and corrosion resistance with nickel-plated brass version |
| Ergonomics & Large Range| External adjustment screw: easy to adjust without tooling and lockable  
                        | Recessed adjustment screw: more compact and protects the adjustment mechanism  
                        | Uni-directional: exhaust or inlet  
                        | Bi-directional: adjustment of air flow in both directions  
                        | 360° positioning  
                        | NPT version on request |

**Technical Characteristics**

| Compatible Fluids | Compressed air  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Other fluids: contact us</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>1 to 10 bar</td>
</tr>
</tbody>
</table>
| Working Temperature | 0°C to +70°C (polymer version)  
                       | -25°C to +70°C (metallic version) |

**Regulations**

- **DI**: 2011/65/EC (RoHS)  
- **RG**: 1907/2006 (REACH)  
- **DI**: 97/23/EC (PED)  
- **EN 45545-2** (metallic version): HL3, R22, R24, R25 classification can be attained when used with fireproof tubing

Perfect sealing is guaranteed in open position only.

[View products](www.parkerlegris.com/regulators)
Non-Return Valves

Non-return valves allow compressed air to flow in one direction and prevent it from flowing in the other. Fitted upstream of the circuit to be protected, they provide **total protection**.

**Product Advantages**

**Variety of Applications**
- Wide range
- Push-in connection: ease of use
- Available in threaded or push-in version

**Powerful Design**
- Lip seals for improved sealing performance
- Excellent vibration resistance
- Compact
- Lightweight
- Symbol showing the operating direction of flow
- Safe installation with colour codes:
  - green push-button: supply version
  - red push-button: exhaust version

**Technical Characteristics**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatiable Fluids</td>
<td>Compressed air</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>1 to 10 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>0°C to +70°C</td>
</tr>
<tr>
<td>Cracking Pressure</td>
<td>0.3 bar</td>
</tr>
</tbody>
</table>

**Regulations**

DI: 2011/65/EC (RoHS-6)
RG: 1907/2006 (REACH)
DI: 97/23/EC (PED)

[View products](www.parkerlegris.com/nrv)
Soft Start Fittings

These fittings protect your system by preventing sudden shocks. On start-up, they control the pressure increase in the downstream circuit; this helps prevent the risk of industrial accidents.

Product Advantages

<table>
<thead>
<tr>
<th>Protection of Equipment &amp; Personnel</th>
<th>Mounted on FRL</th>
<th>Mounted on Control Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevents the risk of damage after any stoppage which requires the system to be vented</td>
<td>Models 7860 and 7861: yellow identification washer</td>
<td>Models 7870 and 7871: black identification washer</td>
</tr>
<tr>
<td>Returns the control valve to its initial position in total safety</td>
<td>Protection of the whole system</td>
<td>Protection of individual circuits</td>
</tr>
<tr>
<td>Adjustment of the pressurisation speed</td>
<td>Simultaneous pressurisation speed of the whole system</td>
<td>Mounted on the control valve, it optimises the pressurisation speed of a specific cylinder</td>
</tr>
<tr>
<td>Protects the adjustment mechanism using a recessed adjustment screw</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technical Characteristics

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>Compressed air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Pressure</td>
<td>3 to 10 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-15°C to +60°C</td>
</tr>
</tbody>
</table>

Regulations

DI: 2011/65/EC (RoHS)
RG: 1907/2006 (REACH)
Di: 97/23/CE (PED)
EN 45545-2 (metallic version): HL3, R22, R24, R25 classification can be attained when used with fireproof tubing

View products

www.parkerlegris.com/softstart
Pressure Regulators

Parker Legris pressure regulators stabilise at the maximum determined value the pressure delivered to the pneumatic equipment, whatever the fluctuations of the pressure upstream.

Product Advantages

<table>
<thead>
<tr>
<th>Ergonomics</th>
<th>Easy adjustment of the output pressure through the knurled screw</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lockable adjustment possible</td>
</tr>
<tr>
<td></td>
<td>Output pressure adjustment options marked on the screw</td>
</tr>
</tbody>
</table>

| Energy Savings             | Setting of the optimum pressure enables the equipment        |
|----------------------------| to function correctly                                       |
|                            | Installation in a manifold allows optimum output pressures to|
|                            | be delivered to specific parts of the circuit               |
|                            | Designed for applications where cylinder force needs to be  |
|                            | controlled: marking, sleeving, crimping cylinders etc.      |

Technical Characteristics

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>Compressed air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Pressure</td>
<td>Upstream pressure: 1 to 16 bar</td>
</tr>
<tr>
<td></td>
<td>Downstream pressure: 1 to 8 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-10°C to +70°C</td>
</tr>
</tbody>
</table>

Regulations

- DI: 2011/65/EC (RoHS)
- RG: 1907/2006 (REACH)
- DI: 97/23/EC (PED)

View products

www.parkerlegris.com/pressurereg
Silencers

Silencers are designed for installation on exhaust circuits to reduce the noise levels of equipment while operating, thus improving user comfort.

Product Advantages

Variety of Applications

- 2 versions incorporating flow control regulation
- Extremely compact models available
- Polyethylene: excellent balance between exhaust flow rate and noise reduction
- Sintered bronze: robust and economic
- 316L stainless steel: increased chemical resistance and mechanical strength

Technical Characteristics

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>Compressed air</th>
</tr>
</thead>
</table>
| Working Pressure  | Polyethylene: 0 to 10 bar  
|                   | Sintered bronze: 0 to 12 bar  
|                   | 316L stainless steel: 0 to 12 bar |
| Working Temperature | Polyethylene: -10°C to +80°C  
|                   | Sintered bronze: -20°C to +150°C  
|                   | 316L stainless steel: -20°C to +180°C |

Regulations

- DI: 2011/65/EC (RoHS)
- RG: 1907/2006 (REACH)
- DI: 97/23/EC (PED)
- DI: 2003/10/EC (Noise Directive)
- Requirement to use ear protection if exposure > 8 hours (85 dBA)
- RG: 1910.95(b) (OSHA)
- Requirement to use ear protection if exposure > 8 hours (90 dBA)

View products

www.parkerlegris.com/silencers
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

Technical Characteristics

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>Water, machining oil, fuel, hydraulic oil, compressed air, chemical fluids, disinfectants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Pressure</td>
<td>Vacuum to 550 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-60°C to +250°C</td>
</tr>
</tbody>
</table>

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).

Related Products

Parker Legris also offers another type of brass compression fitting: Metrulok with a one-piece olive/nut.

Do not hesitate to consult us.

Regulations

CNOMO: E07.21.115N (for robotic equipment in the automotive industry)
DI: 97/23/EC (PED)
DI: 2011/65/EC (RoHS)
DI: 94/9/EC (ATEX)
EN 45545-2 (metallic version): HL3, R22, R24, R25 classification can be attained when used with fireproof tubing

View products

www.parkerlegris.com/ru
PL Nickel-Plated Brass Spigot Fittings

This Parker Legris range has a sealing system which guarantees excellent sealing and full flow. PL fittings for flexible tubing are fully re-usable. They provide excellent compatibility with a wide variety of fluids.

Product Advantages

| Rapid Assembly | Nut design allows hand tightening with soft tubing (PU, PE etc.)  
|                | Quick to assemble and disassemble  
|                | Compatible with all flexible tubes of hardness up to 90 shore A (polyurethane, polyamide, polyethylene, fluoropolymers, etc.)  
|                | Mechanical stop on the body to prevent overtightening  
| Performance    | Special spigot design ensures full flow and excellent tensile performance  
|                | Reliable direct sealing system without the use of a seal or olive  
|                | Low and medium pressure  
|                | Nickel-plated for increased corrosion resistance  

Technical Characteristics

| Compatible Fluids | Compressed air  
|                   | Other fluids: contact us  
| Working Pressure  | Vacuum to 40 bar  
| Working Temperature | -40°C to +100°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).

Related Products

This PL range is used with Parker Legris PU and PA tubing. These ranges can be found on our website, www.parkerlegris.com, or in our master catalogue.
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**

<table>
<thead>
<tr>
<th>Durability &amp; Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic seal wear compensation for long-term reliability</td>
</tr>
<tr>
<td>Robust, corrosion-resistant materials</td>
</tr>
<tr>
<td>100% leak-tested in production</td>
</tr>
<tr>
<td>Date coding to guarantee quality and traceability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Versatility &amp; Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal for ensuring the performance of pneumatic circuits</td>
</tr>
<tr>
<td>Customised valves for all special applications</td>
</tr>
<tr>
<td>Unequalled performance under vacuum</td>
</tr>
<tr>
<td>Smooth operation thanks to self-lubricating seals</td>
</tr>
<tr>
<td>Large range of working pressures and temperatures</td>
</tr>
<tr>
<td>Lever can be repositioned and replaced</td>
</tr>
<tr>
<td>Many configurations to satisfy all system requirements</td>
</tr>
</tbody>
</table>

**Technical Characteristics**

<table>
<thead>
<tr>
<th>Compatible Fluids</th>
<th>Industrial fluids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Pressure</td>
<td>Vacuum to 40 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-40°C to +80°C</td>
</tr>
</tbody>
</table>

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).

**Regulations**

- DI: 97/23/EC (module PED A - diameters greater than 25 mm)
- DI: 2006/42/EC (Machinery Directive)
- DI: 2011/65/EC (RoHS)
- RG: 1907/2006 (REACH)
- EN 45545-2: HL3, F22, F24, F25 classification can be attained when used with fireproof tubing

Pantograph
Step Control
Inside Doors
Outside Doors
Ancillary Systems

View products [www.parkerlegris.com/ballvalves](http://www.parkerlegris.com/ballvalves)
Ball Valves, DVGW Series

The combination of long threads, a reinforced sealing system and DVGW certification makes this valve perfect for the transmission of gas and water.

Product Advantages

**Reliability & Sealing**
- Stem prevented from being ejected in the event of overpressure
- Two stem seals to prevent leakage
- Date coding to guarantee quality and traceability

**Optimum Performance**
- Full flow minimises pressure drop
- Nickel-plated brass provides improved corrosion resistance and increased chemical compatibility
- Can be operated at very low temperatures (-40°C)

**Long Threads**
- Excellent fitting compatibility:
  - dimensions compliant with DIN 3357
  - BSPP threads compliant with DIN 2999/ISO 228

Technical Characteristics

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatible Fluids</td>
<td>Compressed air, water, gas</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>1/4&quot; to 2&quot;: 0 to 40 bar</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-40°C to +170°C</td>
</tr>
</tbody>
</table>

Reliable performance is dependent upon the type of fluid conveyed.

**Regulations**

- **Industrial**
  - Dt 97/23/EC
  - PED B+D module EC 1115
  - DIN EN 45545
- **Water**
  - DVGW: W570-1
  - DIN EN 13228
  - BGA KTW
- **Gas**
  - DVGW: W270
  - DIN EN 33

View products: [www.parkerlegris.com/dvgw](http://www.parkerlegris.com/dvgw)
In the updated edition of the Parker Legris catalogue, we have developed the content, structure and layout to enable you to find the products and information you require as quickly as possible. 31 complementary ranges and more than 1000 additional part numbers have been included, widening the choice of solutions available in order to meet your requirements more effectively. By putting our knowledge and expertise at your fingertips, we strive to provide the day-to-day support you need when designing your industrial equipment.

Together, we can connect you to the best in technology. Better than ever before.