

Cartridges and Customised Products





Cartridges

Polymer Cartridges

Compressed Air

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6300 - Inch
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Polymer Cartridges: LF 3000® and LIQUIfit® Carstick®, Quick Fitting

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
 - Possible to have several diameters of tube in the same cavity (Quick Fitting)
- 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

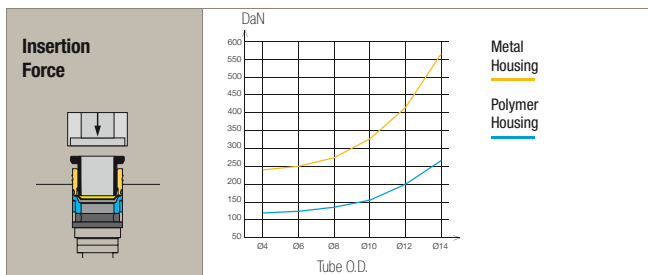


- Applications**
- Robotics
 - Automotive Process
 - Pneumatics
 - Semi-Conductors
 - Water & Beverage
 - Packaging
 - Vacuum

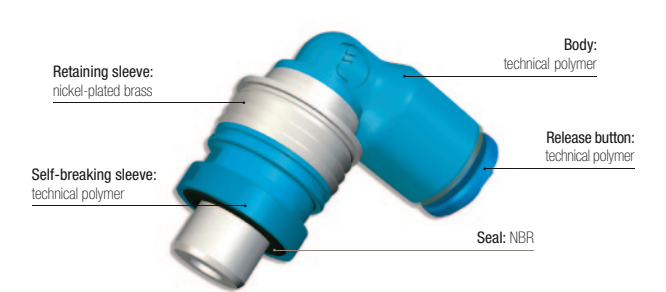
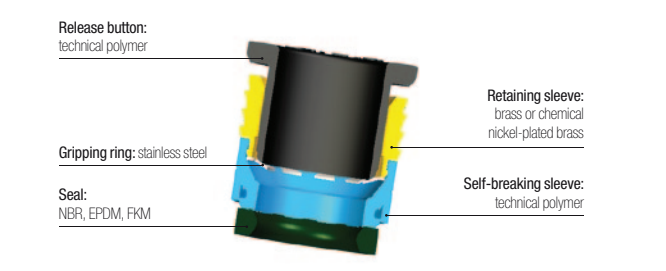
Technical Characteristics

	LF 3000® Carstick® and Quick Fitting	LIQUIfit® Carstick®
Compatible Fluids	Compressed air	Food fluids, inert gases
Working Pressure	Vacuum to 20 bar	Vacuum to 16 bar*
Working Temperature	-20°C to +80°C	-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). *The pressure / temperature information is shown in Chapter 1, in the "LIQUIfit®" section.



Component Materials



Silicone-free

Regulations

- | | | |
|--|---|--|
| <p>LF 3000® Carstick® and Quick Fitting
 ISO 14743: Pneumatic fluid power, push-in fittings for thermoplastic tubes
 DI: 2002/95/CE (RoHS), 2011/65/CE
 DI: 97/23/CE (PED)</p> | <p>LIQUIfit® Carstick®
 RG: 1935/2004/CE
 FDA: 21 CFR 177.1550
 NSF 51 to 95°C
 ACS
 DM 174 (Italy)</p> | <p>DI: 2002/95/CE (RoHS), 2011/65/CE
 DI: 97/23/CE (PED)
 WRAS
 NSF/ANSI 61 - C HOT
 KTW: cartridges on request</p> |
|--|---|--|

Assembly Options

Cartridge solutions quickly pay for themselves when they enable production to be rationalised:

Threaded Fittings

For small quantities or non-standard assembly operations:
The threaded solution remains the most advantageous.



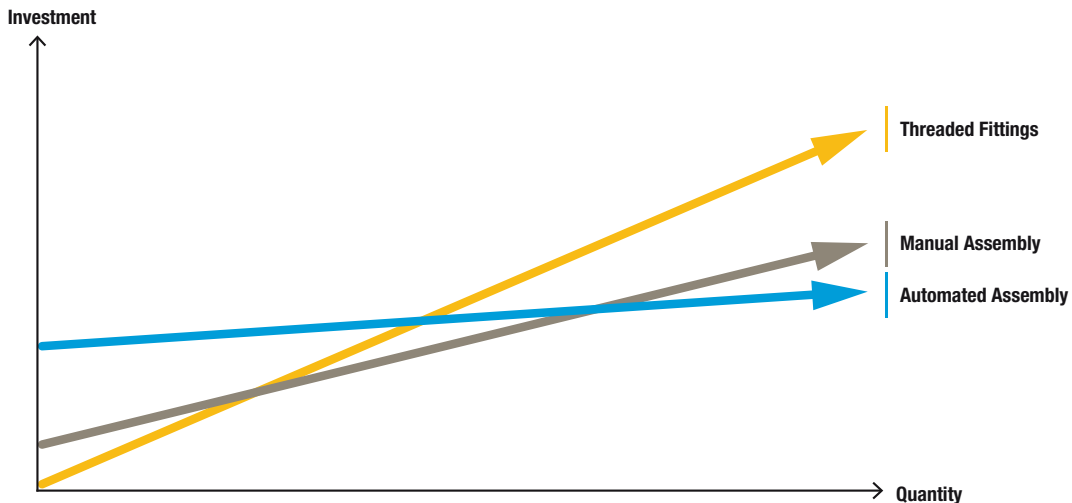
Carstick®: Manual Assembly

For medium quantities:
Assembly by manually-operated press offers the most economic solution.



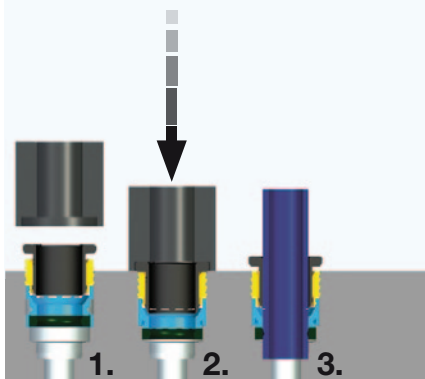
Carstick®: Automated Assembly

For repetitive operations and large quantities:
Investment in an automated manufacturing solution is quickly recovered, providing significant long-term savings.

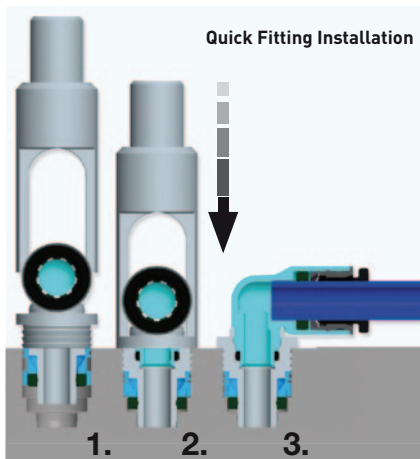


Installation

Carstick® Installation



Quick Fitting Installation



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.

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


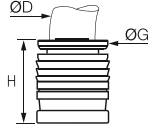

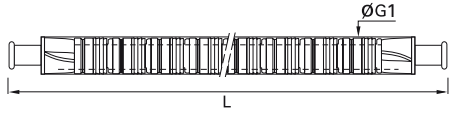


Assembly tool:
For details on the assembly tool, please contact us.




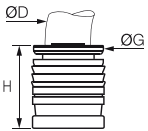

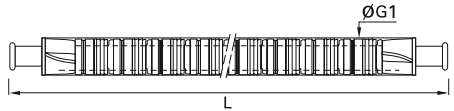
Polymer Cartridges for Compressed Air

3100 Carstick® Cartridge


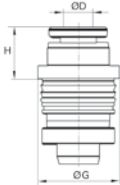

	Brass, NBR 	ØD		G	G1	H	L	kg
		4	3100 04 00	8	11	10	554	0.001
		6	3100 06 00	10	14.5	11.5	629	0.002
		8	3100 08 00	13	15	15	794	0.002
		10	3100 10 00	15.5	19.5	17	930	0.005
		12	3100 12 00	19.5	21	19.5	1038	0.010
50 cartridges per Carstick®								
								

3100 Carstick® Cartridge


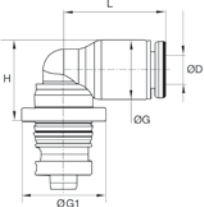

Inch

	Nickel-plated brass, NBR 	ØD		G	G1	H	L	kg
		1/8	3100 53 00 99	7	10	9	508	0.002
		1/4	3100 56 00 99	10.5	14.5	12	600	0.003
		3/8	3100 60 00 99	15.5	19	16.5	930	0.006
50 cartridges per Carstick®								
5/32" (4 mm) and 5/16" (8 mm) also available								
								


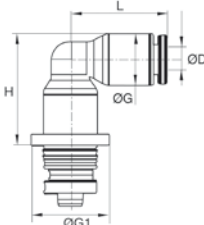

3086 Quick Fitting Reducer

	Nickel-plated brass, NBR 	ØD		Cavity	G	H	kg	
		4	3086 04 06	6	12.5	7	0.005	
		6	3086 06 08	8	14	7.5	0.008	
Available on request								

3089 Quick Fitting Elbow

	Technical polymer, nickel-plated brass, NBR 	ØD		Cavity	G	G1	H	L	kg
		4	3089 04 04	4	9	12.5	11.5	15	0.004
			3089 04 06	6	9	12.5	11.5	15	0.005
			3089 06 04	4	11	12.5	14	17	0.004
		6	3089 06 06	6	11	12.5	12.5	17	0.006
			3089 06 08	8	11	14.5	13	17	0.010
			3089 08 08	8	13.5	14.5	16	23	0.011
		8	3089 08 10	10	13.5	19	16	23	0.021
			3089 10 10	10	16	19	19	26.5	0.017
			3089 10 12	12	16	20	19	26.5	0.028
		12	3089 12 12	12	19	20	22	31	0.030

3082 Quick Fitting Extended Elbow

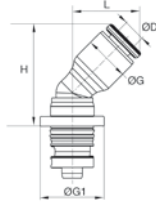
	Technical polymer, nickel-plated brass, NBR 	ØD		Cavity	G	G1	H	L	kg	
		4	3082 04 04	4	9	12.5	16	15	0.006	
			3082 04 06	6	9	12.5	15	15	0.009	
			3082 06 06	6	9	12.5	23	19	0.010	
		6	3082 06 08	8	10.5	14	29	18.5	0.014	
			3082 08 08	8	13.5	17	29.5	22.5	0.021	
			3082 08 10	10	13.5	19	29	23	0.025	
		10	3082 10 10	10	16	20	33	26	0.029	
			3082 10 12	12	16	20	33	26	0.040	
			3082 12 12	12	19	23	39	31	0.056	
		Available on request								

Polymer Cartridges for Compressed Air

3081 Quick Fitting 45° Elbow



Technical polymer, nickel-plated brass, NBR



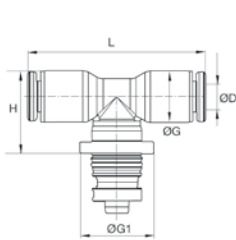
ØD		Cavity	G	G1	H	L	kg
4	3081 04 04	4	9	12.5	19	13	0.004
6	3081 06 06	6	11	12.5	22	14.5	0.006
8	3081 08 08	8	13.5	14.5	26	19	0.011
10	3081 10 10	10	16	19	30	22	0.017
12	3081 12 12	12	19	20	35.5	26	0.031

Available on request

3088 Quick Fitting Tee

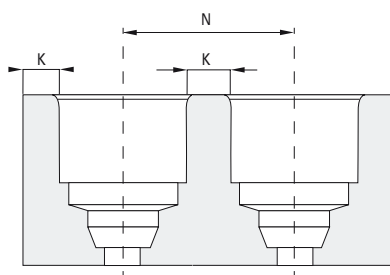
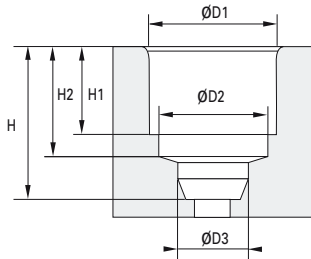


Technical polymer, nickel-plated brass, NBR



ØD		Cavity	G	G1	H	L	kg
4	3088 04 04	4	9	12.5	14	30	0.005
	3088 04 06	6	8.6	12.5	12.5	29.5	0.006
6	3088 06 06	6	11	12.5	14.5	34	0.007
	3088 06 08	8	10.6	14.5	15	33.5	0.011
8	3088 08 08	8	14	14.5	19	46	0.013
	3088 08 10	10	14	19	19	46	0.023
10	3088 10 10	10	16	19	21	53	0.020
	3088 10 12	12	16	20	21	53	0.031
12	3088 12 12	12	19	20	24	61	0.035

Cavity Dimensions



Carstick® et Quick Fitting

Metric

Cavity	ØD3	H	H1	H2
4	4.1	10	6	8.15
6	6.1	12	7.5	9.65
8	8.15	15.5	9.9	12.45
10	10.25	19	11.7	14.35
12	12.17	22	13.9	16.75

Carstick®

Inch

Cavity	ØD3	H	H1	H2
1/8	3.25	7.45	5.3	9.5
5/32*	4.1	8.15	6	10
1/4	6.45	10.15	8	12.5
5/16*	8.15	12.45	9.9	15.5
3/8	9.65	14.35	11.7	19

Polyamide Cavity

Cavity	ØD1	ØD2	N*	N**	K
4	8.25	7.05	9.8	12.3	1.5
6	10.2	9.15	12.2	12.3	2
8	12.15	10.85	14.2	14.3	2
10	14.8	13.2	16.8	19	2
12	17.5	15.5	20	20.2	2.5

Cavity	ØD1	ØD2	N	K
1/8	7.05	6.02	8.6	1.5
5/32*	8.25	7.05	9.75	1.5
1/4	10.55	9.35	12.6	2
5/16*	12.15	10.85	14.2	2
3/8	14.8	13.1	16.8	2

Aluminium Cavity

Cavity	ØD1	ØD2	N*	N**	K*	K**
4	8.25	7.5	11.5	12.3	3	1.5
6	10.3	9.15	13.5	12.3	3	2
8	12.2	10.85	15.2	15.2	3	2
10	15.05	13.2	17.1	19	2	2
12	17.5	15.5	20	20.2	2.5	2.5

Cavity	ØD1	ØD2	N	K
1/8	7.1	6.2	8.6	1.5
5/32*	8.25	7.05	11.25	3
1/4	10.6	9.35	12.65	2
5/16*	12.2	10.85	15.2	3
3/8	15.05	13.1	17.1	2

Brass Cavity

Cavity	ØD1	ØD2	N*	N**	K*	K**
4	8.25	7.05	10.25	12.3	2	1.5
6	10.25	9.1	12.25	12.3	2	2
8	12.2	10.85	14.25	14.3	2	2
10	15.05	13.2	17.1	19	2	2
12	17.65	15.5	20	20.2	2.5	2.5

Cavity	ØD1	ØD2	N	K
1/8	7.1	6.2	8.6	1.5
5/32*	8.25	7.05	10.25	2
1/4	10.6	9.35	12.65	2
5/16*	12.2	10.85	14.25	2
3/8	10.05	13.1	17.1	2

Please consult us for detailed drawings of cavity dimensions and tolerances.


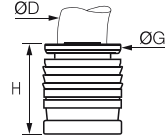


All our dimensions are in millimeters.

*Carstick® / **Quick Fitting


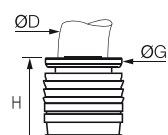


*5/32" = 4 mm and 5/16" = 8 mm

Polymer Cartridges for Fluids and Gases

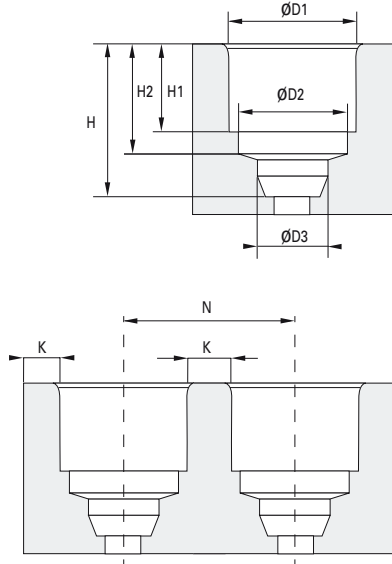
6300 LIQUIfit® Cartridge

	Laiton, EPDM 	ØD		G	G1	H	L	kg
		4	6300 04 00	8	11	10	554	0.002
		6	6300 06 00	10	14.5	11.5	629	0.002
		8	6300 08 00	13	15	15	794	0.003
		10	6300 10 00	15.5	19.5	17	930	0.005
		12	6300 12 00	18.5	21	19.5	1038	0.010
		50 cartridges per Carstick®						
								

6300 LIQUIfit® Cartridge

	Laiton, EPDM 	ØD		G	G1	H	L	kg
		1/4	6300 56 00	10.5	14.5	12.5	600	0.002
		3/8	6300 60 00	15.5	19	17	930	0.005
		1/2	6300 62 00	22	25	23	1038	0.011
		50 cartridges per Carstick®						
		5/32" (4 mm) and 5/16" (8 mm) also available						
								

LIQUIfit® Cavity Dimensions



LIQUIfit® Carstick®

Metric

Cavity	ØD3	H	H1	H2
4	4.1	10	6	8.15
6	6.1	12	7.5	9.65
8	8.15	15.5	9.9	12.45
10	10.25	19	11.7	14.35
12	12.17	22	13.9	16.75

LIQUIfit® Carstick®

Inch

Cavity	ØD3	H	H1	H2
1/8	3.25	7.45	5.3	9.5
5/32*	4.1	8.15	6	10
1/4	6.45	10.15	8	12.5
5/16*	8.15	12.45	9.9	15.5
3/8	9.65	14.35	11.7	19

Polyamide Cavity

Cavity	ØD1	ØD2	K	N
4	8.25	7.05	9.8	1.5
6	10.2	9.15	12.2	2
8	12.15	10.85	14.2	2
10	14.8	13.2	16.8	2
12	17.5	15.5	20	2.5

Cavity	ØD1	ØD2	K	N
1/8	7.05	6.02	8.6	1.5
5/32*	8.25	7.05	9.75	1.5
1/4	10.55	9.35	12.6	2
5/16*	12.15	10.85	14.2	2
3/8	14.8	13.1	16.8	2

Aluminium Cavity

Cavity	ØD1	ØD2	K	N
4	8.25	7.5	11.5	3
6	10.3	9.15	13.5	3
8	12.2	10.85	15.2	3
10	15.05	13.2	17.1	2
12	17.5	15.5	20	2.5

Cavity	ØD1	ØD2	K	N
1/8	7.1	6.2	8.6	1.5
5/32*	8.25	7.05	11.25	3
1/4	10.6	9.35	12.65	2
5/16*	12.2	10.85	15.2	3
3/8	15.05	13.1	17.1	2

Brass Cavity

Cavity	ØD1	ØD2	K	N
4	8.25	7.05	10.25	2
6	10.25	9.1	12.25	2
8	12.2	10.85	14.25	2
10	15.05	13.2	17.1	2
12	17.65	15.5	20	2.5

Cavity	ØD1	ØD2	K	N
1/8	7.1	6.2	8.6	1.5
5/32*	8.25	7.05	10.25	2
1/4	10.6	9.35	12.65	2
5/16*	12.2	10.85	14.25	2
3/8	10.05	13.1	17.1	2

Please consult us for detailed drawings of cavity dimensions and tolerances.

All our dimensions are in millimeters.

*5/32" = 4 mm and 5/16" = 8 mm



Metal Cartridges

For full **compatibility** with **many fluids** and severe conditions (**+150°C**), Parker Legris has developed two types of patented cartridges. Using our metal cartridges allows for **optimisation of installation configurations** and for the TL, the possibility of removal.

Product Advantages

- LF Cartridges**
 - LF 3600** All the advantages of the LF 3600, LF 3800 and LF 3900 fittings applied to cartridge technology
 - LF 3800** All-metal product to provide the greatest mechanical strength and chemical resistance
 - LF 3900** Resistant at high temperatures (+150°C)
Can be installed in either polymer or metal housings
- TL Cartridge** Possibility to have several tubing diameters in the same cavity
Visible retention and sealing system, can be disassembled using the dedicated tool



- Applications**
- Robotics
 - Automotive Process
 - Pneumatics
 - Semi-Conductors
 - Refrigeration
 - Packaging
 - Vacuum

Technical Characteristics

LF Cartridges		TL Cartridge	
Compatible Fluids	Fluids: see corresponding chapters	Compatible Fluids	Compressed air
Working Pressure	Vacuum to 30 bar	Working Pressure	0.01 to 16 bar
Working Temperature	-20°C to +150°C	Working Temperature	-25°C to +80°C
Component Materials	See corresponding chapters	Component Materials	Body: brass Release button: technical polymer Gripping ring: stainless steel Seals: NBR


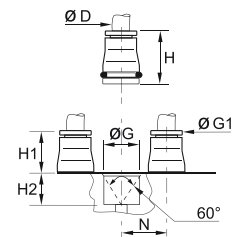

Regulations

- LF 3600, LF 3800, LF 3900**
DI: 97/23/CE (PED)
RG: 21 CFR (FDA)
RG: 1935/2004/CE
 (minimum flow 0.02 l/hr)
DI: 2011/65/CE (RoHS)
USDA NSF H1: grease
ASTM B733-04: self-catalytic nickel coating
DI: 94/9/CE (ATEX)
- TL**
DI: 97/23/CE (PED)
DI: 2011/65/CE (RoHS)


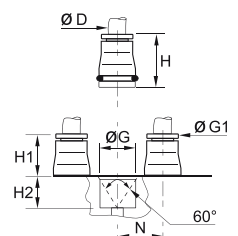


Reliable performance is dependent upon the type of fluid conveyed, component materials and tubing being used. Guaranteed for use with a vacuum of 755 mm Hg (99% vacuum).

Metal Cartridges for Fluids and Gases

3600 One-Piece Cartridge


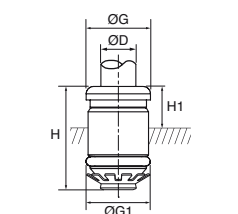

	FDA chemical nickel-plated brass, FKM 	ØD		G	G1	H	H1	H2	N	kg
		4	3600 04 00	9.8	8	17	8.5	8.5	11	0.006
		6	3600 06 00	12.1	10	19	10.5	8.5	13.5	0.009
		8	3600 08 00	14.8	13	21	12.5	8.5	16	0.012
		10	3600 10 00	17.5	15	24.5	14	10.5	20	0.019
		12	3600 12 00	20	17	25	14.5	10.5	22.5	0.023
		14	3600 14 00	22	20	28.5	16.5	12	25	0.031

3800/3900 One-Piece Cartridge

	Stainless steel 316L, FKM 	ØD			G	G1	H	H1	H2	N	kg
		4	3800 04 00	3900 04 00	9.8	8	17	8.5	8.5	11	0.006
		6	3800 06 00	3900 06 00	12.1	10	19	10.5	8.5	13.5	0.008
		8	3800 08 00	3900 08 00	14.8	13	21	12.5	8.5	16	0.012
		10	3800 10 00	3900 10 00	17.5	15	24.5	14	10.5	20	0.019
		12	3800 12 00	3900 12 00	20	17	25	14.5	10.5	22.5	0.023


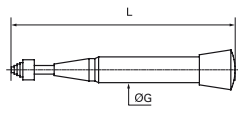

3800: collet in 303 stainless steel
3900: collet in 316L stainless steel

TL Cartridge

	Brass, NBR 	ØD	Cavity		G	G1	H	H1	H1*	kg
		4	4	FTL4	8	8	14.5	4.5	7.5	0.003
		4	6	FTL4-6	8	10	17	4.5	9.5	0.003
		6	6	FTL6	10.5	10	17	4.5	9.5	0.004
		4	8	FTL8-4	8	12	17.5	5	10.5	0.008
		6	8	FTL8-6	10.5	12	18	5.5	11	0.008
		8	8	FTL8	13.5	12	19	6.5	12	0.005

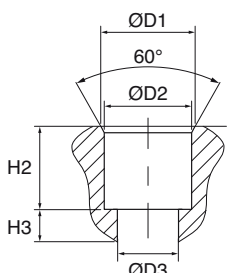
*Can be mounted in a short hole with extremely close porting

TLT Disconnection Tool

			G	L	kg
		TLT	28	156	0.235

Only for use with TL cartridges

Cavity Dimensions



TL Cartridge

Cavity	ØD1	ØD2	ØD3	H2	H3
4	9	8	5.5	9	1.5
6	11	10	8	11	1.5
8	13	12	8.5	11.5	1.5
4C*	9	8	5.5	6	1.5
6C*	11	10	8	6	1.5
8C*	13	12	8.5	6	1.5

*Can be mounted in a short hole with extremely close porting

Customised Solutions

Parker Legris has made **the development of customised products** one of its specialities. These dedicated products provide our customers with a **technical and economic solution** which fully meets their needs.

Customised Solution Development Process

- 1. Define the Function Parameters**

Specify the pressure, temperature, environment, fluids, materials and product function you need.

Estimate the quantity requirements.

Our product engineers are available to help you refine your requirements.
- 2. Send Your Request to our Technical Department**

Complete the online request form at www.parkerlegris.com, "Special Products".

Specify your quantities, technical and commercial requirements.
- 3. Request Analysis**

We assess the feasibility of the product based on the information you have sent us.

We carry out a technical study and produce drawings (prototypes and testing as necessary).
- 4. Parker Legris Proposes the Customised Solution**

We submit the optimum technical and commercial proposal.

If our proposal is accepted, we launch the production process.
- 5. Serial Production**

We will continually update you as to the status of your order and delivery date.

Customised Products

Cartridges



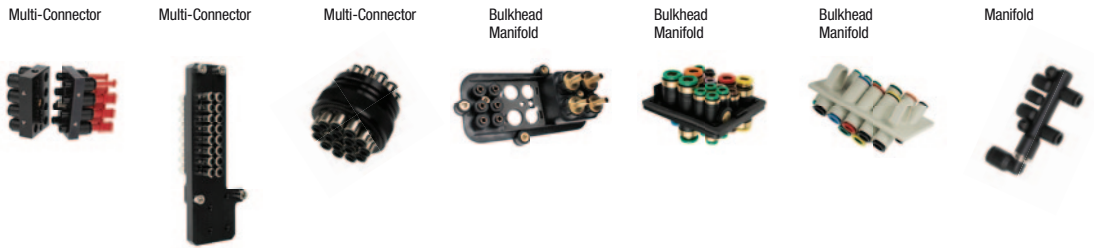
Fittings



Function Fittings



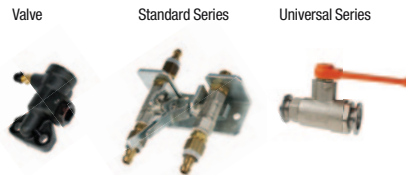
Multi-Connectors and Manifolds



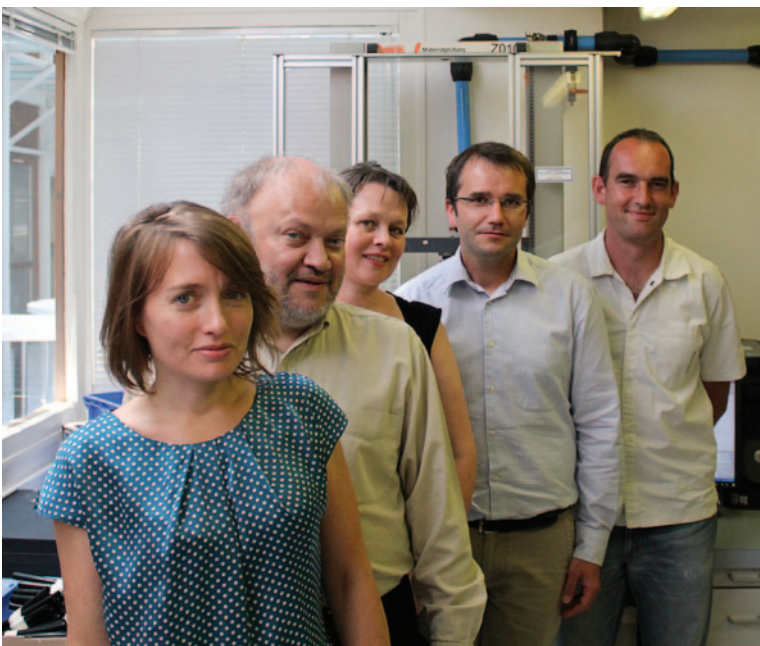
Tubing and Blowguns



Valves



Skilled and Dedicated People Provide You with the Best Solution



More than 40 years' experience in the design of push-in fittings also means more than 40 years spent in producing customised solutions for our customers.

We have a team of motivated and experienced engineers skilled in using the latest design tools: calculation and digital simulation tools, CAD, rheology (plastic injection modelling), quick prototyping and performance measuring in the laboratory.

Customised Fittings

To meet your needs, we can re-engineer the design of our fittings.

To complement our wide range of fittings, we can offer customised products.

Longer threads, different types of seal, special grease, specific cleaning processes, colours, packaging, etc. are all parameters which we can easily modify.



Low Temperature Carstick®

Resistant at -40°C



Metal Cartridges

Cartridges adapted to the client's dimensional and environmental requirements

Combination of the patented Carstick® system (seal protection) and LF 3600 performance levels



Fitting for Breathable Air

Specific gripping feature, cleanliness, oxygen-compatible grease

Reinforced leak testing

Coloured release button for fluid identification

Special packaging



Fitting for the Transmission of Deionised Cooling Water in Frequency Inverters

Water-resistant materials

Stainless steel threads

Special seals



Fitting for the Transmission of Water in Ceiling-Mounted Air Conditioning Systems

Brass body

Double seal

Crimped to hose



Orifice Fitting

Allows accurate flow regulation

Minimum orifice diameter: 0.5 mm



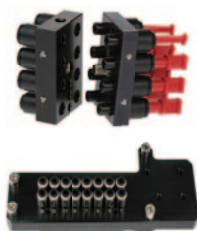
Non-Return Valve

Developed for systems carrying breathable air
 Low cracking threshold
 Oxygen-compatible grease, cleanliness



Compact Flow Regulator with Recessed Screw and FKM Seals

Improved external chemical resistance
 Custom logo



Multi-Connector

Allows disconnection of up to 16 tubes in a single operation
 Compact design suitable for the operating environment



Polymer Body with Integrated Fittings

For connection of pneumatic lines between the truck cab and chassis



Polymer Manifold

Reinforced integrated connections
 Dedicated to the distribution of compressed air for truck auxiliary systems e.g. cab seat, air horn, gauges...

Customised Tubing and Blowguns

We can adapt the formulation of polymers and customise tubing or blowguns to suit your requirements.

We can offer custom modifications such as: special additives and materials, non-standard diameters, customised marking, specific packaging, custom colours, custom tube cutting, pre-formed tubing, packaged solutions (tubes + fittings or couplers, blowgun kits).



Tube marked with customer's name
Tubes cut to specific lengths



Marked with the customer's logo and part number
In lengths of 5 m, 10 m, 25 m, 50 m and 100 m, depending on the tube material
For flexible or semi-rigid tubing
Optimised tube packaging
Easy identification of the tube type
Integrated reel for easy handling



Marked with the customer's logo and part number
Up to 1000 m lengths
Immediate identification of the tube for easy handling
Suitable for workshop hose reels



Blowgun customised in customer's colours
Specific logo
Customised packaging



Production of a "tube + coupler + blowgun" assembly in dedicated and customised packaging

Customised Valves

Over and above our range of standard valves, Parker Legris can supply application-specific valves adapted to our customers' environment.

We offer custom modifications such as: longer threads, different types of seal, special grease, lever options, specific cleaning process, materials and surface treatments, assemblies, etc.



Transport Valve

Mounted on the wheel rims of armoured vehicles
For managing tyre pressures through an integrated inflation valve



Auto-Process Valve

Designed to simultaneously control both the inlet and outlet of a cooling line
Also allows one of the lines to be closed independently



Valve for Breathable Air

Dedicated to the transmission of oxygen-enriched air in hospital networks
Special seals, cleanliness, specific grease, very high reliability