



# Parker Legris: Connection Solutions for Industrial Fluids



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

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ENGINEERING YOUR SUCCESS.





Serving as a true shop window for Parker Legris' knowledge and expertise, this new catalogue strives to provide the day-to-day support you need when designing your industrial equipment.

This new edition has been written in an informative style and describes our entire range of products and services. We have developed the content, structure and layout to enable you to find the products and information you require as quickly as possible.

Many new products have been introduced, widening the choice of solutions available in order to meet your requirements more effectively.

For advice or more information, please do not hesitate to contact us. Visit our web site today: [www.parkerlegris.com](http://www.parkerlegris.com).



# A Century of Dedication and Enthusiasm...

Inventor of the push-in fitting, Legris joined the Parker Hannifin Corporation, world leader in motion and control technologies, in October 2008.

## 3 Industrial Activities

Optimising the transport and control of many fluids (compressed air, liquids, gas) through innovative product design has been the motto of our teams for more than 100 years.

Today, Parker Legris' expertise is divided into three business activities:

**Legris Connectic:** fittings, couplers, function fittings, valves, tubing and accessories for industrial applications.

**Legris Transair:** air and fluid distribution systems for industrial buildings.

**Legris Autoline:** push-in connection solutions for automobile fuel lines.

## 150 Years of History

Our experience and expertise in the design, manufacturing and marketing of high-quality connectors allow us to provide our customers with solutions adapted to a variety of applications.

**1848** Legris, a small valve manufacturer in France

**1969** Invention of LF 3000®, the first push-in fitting for compressed air

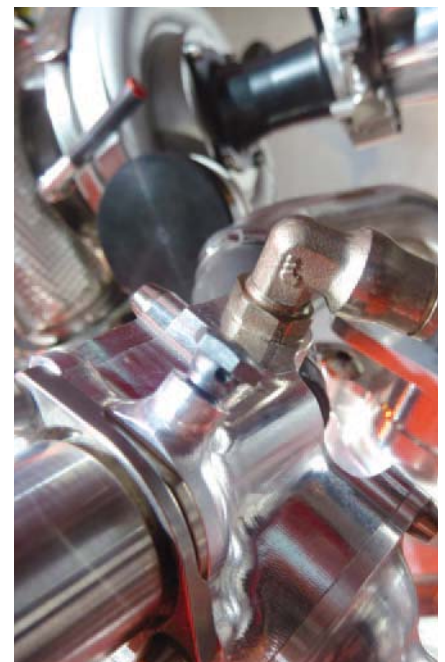
**1988** Legris becomes a division of the Legris Industries Group

**1996** Launch of Transair®

**1997** Launch of Autoline

**2008** Acquisition of Legris by the Parker Hannifin Corporation

**2009** Legris becomes Parker Legris, a division of the Parker group



# ...Supporting Industrial Connectivity

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## Parker Legris Sites

Parker Legris has 9 locations distributed across Europe.

**France:** Annemasse, Baillé, Guer, Guichen, Malestroit, Muzillac, Rennes

**Belgium:** Herstal

**Spain:** Terrassa

## Industrial Applications

Our products are used everywhere fluid control is required.

Our knowledge and expertise are deployed in a variety of sectors: production automation, packaging, transport, food process, and the medical industry.

Parker Legris is also involved in innovative sectors such as renewable energy, information and communication technologies.

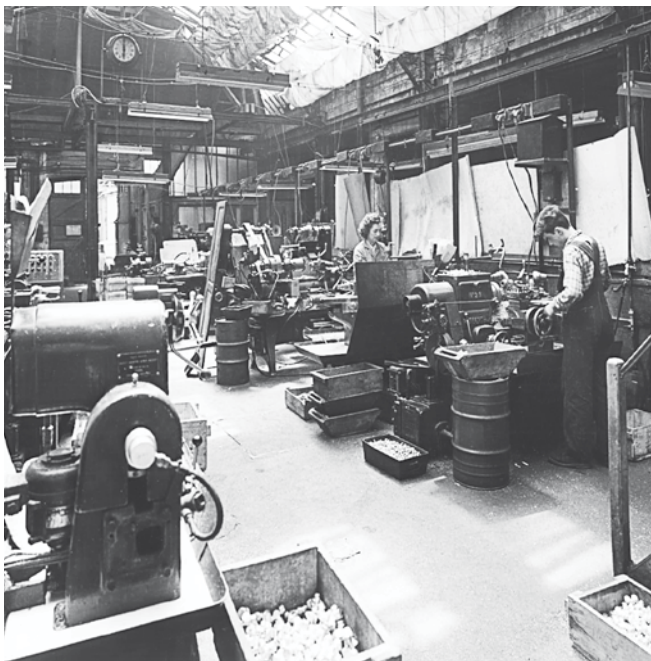
## Our Distribution Network

We encourage local support and long-term partnerships with our customers.

Through our many sales outlets, professionals are on hand to provide you with technical advice and to offer you a wide choice of products local to your sites.

Do not hesitate to contact them for further information and advice.

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# Your Applications Inspire Our Innovation

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Innovation is Parker-Legris' number one priority in order to provide solutions that meet your technological, energy reduction and environmental challenges.

## Our expertise is continually improving

We continually invest in our tools in order to anticipate market requirements in terms of industrial efficiency. Furthermore, our long-term partnerships with the most qualified organisations (universities, skills hubs, etc.) enable us to incorporate the latest technological advances in our product development. Lastly, constantly incorporating your needs into the design of our products keeps us at the forefront of the new industrial challenges.

## Together, we can build advanced and unique connector solutions

Here are a few examples:

### To increase the efficiency of your systems

The new LIQUIfit+, with its ecological design, combines full flow and quick connection to stainless steel tubes without grooving. This range guarantees the quality and non-contamination of the fluids conveyed, plus reduced operating costs.

### To prolong the life of your equipment

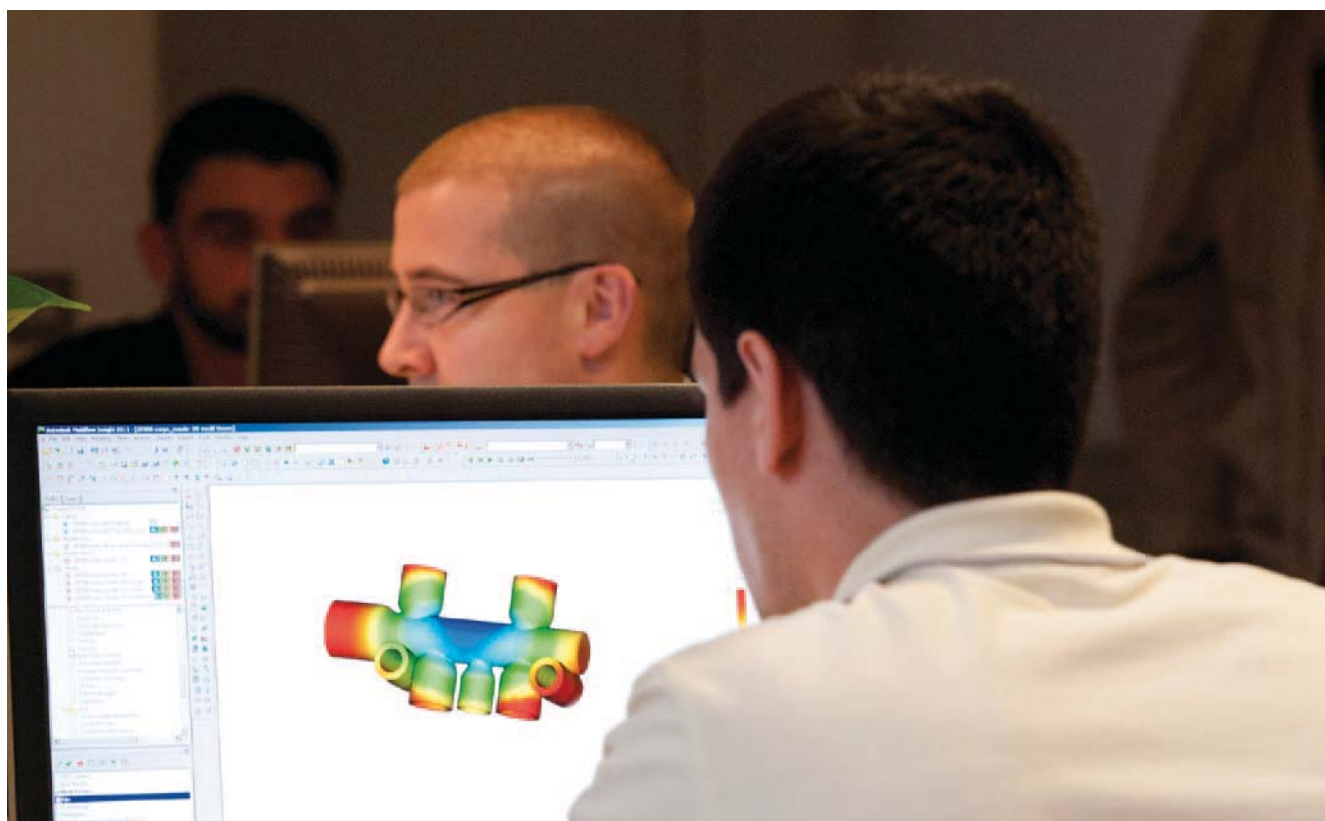
Developed for railway applications and demanding industrial markets, our new high strength flame-resistant tubing combines unequalled flame resistance with very high mechanical strength and ease of installation.

### To limit energy costs

The new range of energy-saving blowguns allows you to reduce the air flow, thus limiting its energy consumption while maintaining blowing efficiency.

## This catalogue also contains details of our latest products:

LF 3000® 16 mm, LIQUIfit®, PFA tubing, piloted non-return valve, adjustable non-return valve, blowgun kits and many other components.



# Quality and Safety, the Basis of Our Commitment

Our target is to provide our customers with the best solution and the highest quality. Certified ISO/TS 16949, Parker Legris includes customer quality at the heart of its processes.

## Invest in quality for increased productivity

The cost of a production stoppage due to a defective part is greater than the cost of all the connectors in the machine. Choosing the quality of the components in your machine is thus of primary importance; it also guarantees the safety of your employees. Furthermore, investing in quality increases your productivity over the long term and contributes to maintaining your brand image.

### We guarantee the quality and traceability of our solutions

Our products are fully inspected and dated individually during production in order to ensure quality and traceability.

We commit our name and our image to yours through the quality of our products.

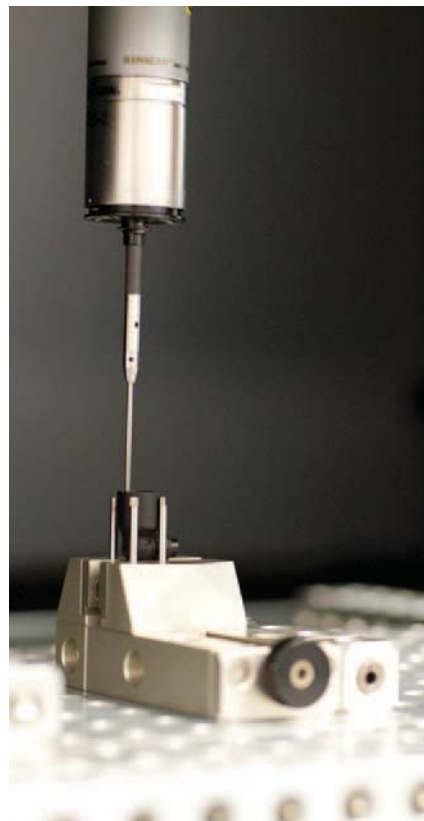
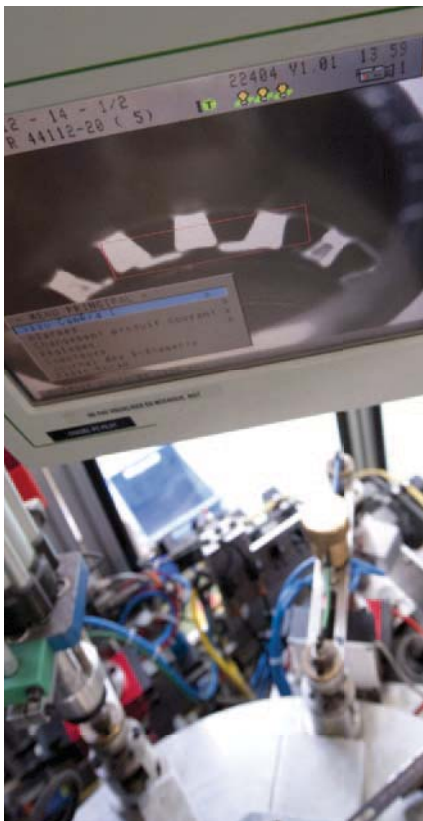
### We protect your connectors to give you peace of mind

Our company exceeds its statutory responsibilities with regard to the safety of individuals and systems.

Certification and qualification processes are integrated upstream of our developments.

### We ensure the performance of your installations

Our product ranges are designed with a high safety factor and comply with quality management processes.



# Our Services Contribute to Your Performance

Our services integrate easily into your processes. Whether during the design phase, for promotion, or for administrative, business, or stock management of your components, our skills are here for you to use.

## Customised Products

We can help you develop customised solutions: fittings, manifolds, valves, etc.



## EDI Transmission

Implementation of computerised data exchange.



## Improved Stock Management

Packaging, bar codes and customised labels according to your needs.



## Technical Specifications

All the technical data for our products is available on-line.



## 2D and 3D Drawings

The CAD drawings of our products are available on-line in the 21 main formats used by the industry (Solidworks, Autocad, Pro/E, etc.).



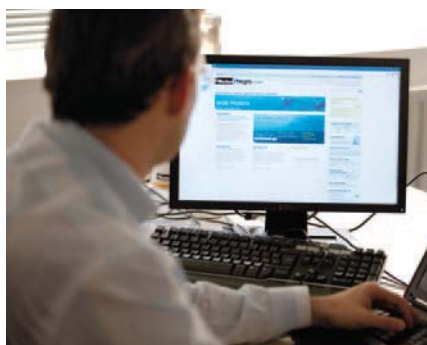
## Certificates and Regulations

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



## e-Tools

Requests for quotations, stock availability, energy-saving calculators, searching for cross-references, etc. are available on-line.



## Communication Tools

We can provide you with any promotional sales material you require: brochures, flash animations, sample kits, etc.



## e-Catalogue

Integration of our product data into your information systems (e-procurement, e-commerce site, etc.).





## Industrial Connector Systems



# 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.

	<b>European RoHS directives: 2011/65/EC</b> Relating to the limitation of the use of 6 hazardous substances in electrical and electronic equipment (mercury, lead, cadmium, hexavalent chromium, PBB and PBDE).		<b>NSF 61: NSF / ANSI-61</b> Fittings and tubes complying with this standard are tested and approved by NSF for contact with drinking water.
	<b>REACH regulation: no. 1907/2006</b> 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.		<b>NSF 42 and 58: NSF/ANSI-42/58</b> Tubes complying with this standard are tested and approved by NSF for drinking water treatment systems.
	<b>Pressurised equipment directive: 97/23/EC</b> This directive regulates the design, manufacture and assessment of pressurised equipment to ensure operating safety.		<b>ACS: Attestation de Conformité Sanitaire (France)</b> Official approval issued by the Direction générale de la Santé Française (French Health Directorate), applies to constituent materials of equipment in contact with water intended for human consumption.
	<b>ATEX directive: 94/9/EC mandatory since 01/07/2003</b> 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.	<b>KTW</b>	<b>KTW: Kunststoffe und Trinkwasser (Germany)</b> Guidelines for the health evaluation of equipment in contact with drinking water, assessment and certification carried out by the TZW.
	<b>Regulation 1935/2004</b> This framework regulation relates to materials and objects designed to come into contact with foodstuffs. It describes specific measures per product group (Art. 5).	<b>W270</b>	<b>W270: Food contact standard (Germany)</b> Standard describing a test method for determining the microbial growth on non-metal materials designed to come into contact with drinking water. Test and certification carried out by the TZW.
	<b>CFR 21: Code of Federal Regulation Title 21: Food and Drugs</b> This code consists of lists of prohibited substances for materials intended to come into contact with foodstuffs.		<b>WRAS: Water Regulations Advisory Scheme (UK)</b> Fittings approved by this programme are declared compliant for water supply by WRc - NSF.
	<b>NSF 51: NSF / ANSI-51</b> Fittings and tubes complying with this standard are tested and approved by NSF for contact with drinks and foodstuffs.		<b>DM 174: Ministerial decree (Italy)</b> Declaration of hygiene compliance for equipment used for drinking water, tested and certified by the TIFQ.

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>.



# 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.



- 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.

## 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

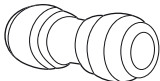
LIQUIfit®

### Tube-to-Tube Connector



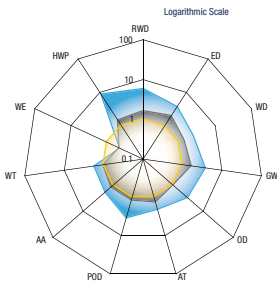
### Market Standard

### Tube-to-Tube Connector



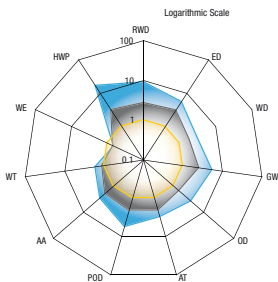
- Parker Legris
- Market Standard in PP
- Market Standard in POM

### Stud Elbow



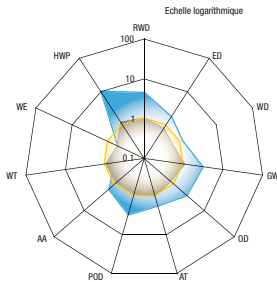
- RWD: Raw Material Depletion
- ED: Energy Depletion
- WD: Water Depletion
- GW: Global Warming

### Tube-to-Tube Connector



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

### Stud Fitting



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

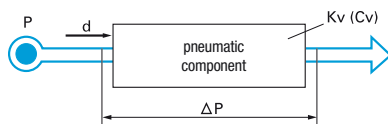


# Technical Guidelines

## Compressed Air Flow and Pressure Drop

Flow represents the quantity of compressed air passing through a section per unit time. It is expressed in l/min, m<sup>3</sup>/min or m<sup>3</sup>/h, at the value expressed in free air, under Standard Reference Atmospheric conditions (ANR) namely: **+20°C, 65% relative humidity, 1.013 bar**, according to standards NFE 48100 and ISO R554, R558.

When in open position and subject to a supply pressure (**P**), the pneumatic component provides a flow (**d**) which generates a pressure drop at the outlet. The pressure difference therefore between the inlet orifice (upstream pressure) and the outlet orifice (downstream pressure), is called the **pressure drop** and is designated by **ΔP** (pressure differential).



The **maximum allowable working pressure** of a component is the effective pressure to which this component may be subjected in a given installation.

The **upstream pressure** is the compressed air pressure at the component inlet.

The **downstream pressure** is the outlet pressure from the component.

The **differential pressure (ΔP)** is the pressure difference between the upstream and downstream pressures.

In order to have simple and usable values available for carrying out calculations and comparing the performances of pneumatic components, we use a flow factor called **Kv**. This experimental factor characterises the flow capacity of a component. It equates to the practical value of the flow of water in litres/minute under a Δp of 1 bar with bore fully open.

The flow factor Kv equates to a coefficient of conductivity - the higher its value, the better the flow provided by the component.

The Kv and pressure drop are linked by the following relationship:

$$Q_v = 26.7 K_v \sqrt{\Delta p \times P_{\text{upstream}}}$$

**Q<sub>v</sub>** = flow in l/min (ANR)

**K<sub>v</sub>** = flow factor

**Δp** = in bar

**P<sub>upstream</sub>**: in bar absolute

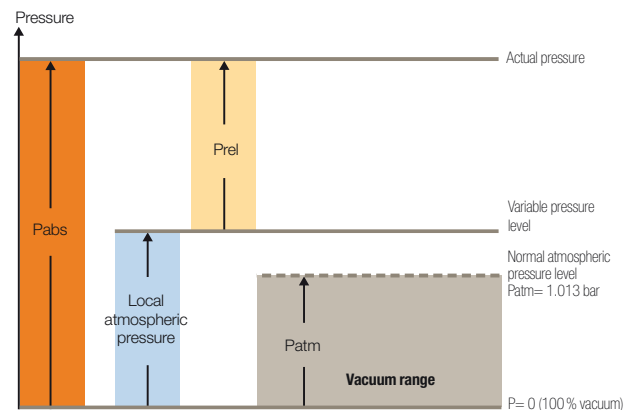
**Cv** is a flow factor equivalent to Kv, but expressed in US gallons per minute under a Δp of 1 PSI. Kv and Cv are therefore linked by the following relationships:

$$K_v = 14.3 C_v \quad - \quad C_v = 0.07 K_v$$

The flow indicated for certain products in the Parker Legris catalogue is the average flow at 6 bar expressed in NI/min of depressurised air at the Standard Reference Atmosphere (ANR).

## Pressure

The normal atmospheric pressure of the air is 1.013 bar at sea level (0 m altitude). It is generally used as a reference for pressure measurements but varies with altitude. For tests and measurements, it is preferable to use absolute bar which relates to an absolute pressure.



$$P_{\text{abs}} = P_{\text{atm}} + P_{\text{rel}}$$

**P<sub>abs</sub>** : absolute pressure

**P<sub>rel</sub>** : relative pressure

**P<sub>atm</sub>** : atmospheric pressure

The pressure is expressed in bar according to industrial practice. It is the result of a force of daN applied to a surface area in cm<sup>2</sup>.

$$1 \text{ bar} = \frac{1 \text{ daN}}{1 \text{ cm}^2} = 10^5 \text{ pascal}$$

## Vacuum and Vacuum Levels

Vacuum appears when the atmosphere is rarefied. By removing the air from an enclosed space, a depression (or vacuum) is created relative to atmospheric pressure.

Vacuum therefore relates to the state of a fluid where the pressure is less than atmospheric pressure.

The vacuum level may be expressed as:

**depression level** = relative pressure value compared to atmospheric pressure

**vacuum level** in absolute value (defined in comparison with absolute zero)

The common unit of vacuum is the millimetre of mercury (**mm Hg**).

Classification of vacuum

• medium vacuum	10 <sup>13</sup>	to	10 mbar absolute
• primary vacuum	10	to	10 <sup>-3</sup> mbar absolute
• secondary vacuum	10 <sup>-3</sup>	to	10 <sup>-6</sup> mbar absolute
• molecular vacuum	10 <sup>-6</sup>	to	10 <sup>-9</sup> mbar absolute
• ultra-vacuum			< 10 <sup>-9</sup> mbar absolute



# Conversion Tables

## Units Used in this Catalogue

Symbol	Unit
A	ampere
bar	bar
°C	degree Celsius
dBA	decibel
Hz	hertz
kg	kilogram
m	metre
m²	square metre
m³/h	cubic metres per hour
min	minute
mm	millimetre
mm Hg	millimetres of mercury
N	Newton
NI	litres at standard reference atmospheric pressure (ANR)*
V	volt

\* Parker Legris carries out its tests under normal pressure and temperature conditions (1013 mbar, +20°C). All flows mentioned in this catalogue are therefore expressed in NI/min.

## Units of Flow

L/min	Cfm	m³/h
600	21	36
1200	43	72
1800	64	108
2400	85	144
3000	106	180
3600	128	216
4200	149	252
4800	170	288
5400	191	324
6000	213	360
6600	234	396
7200	255	432
7800	277	468

## Units of Vacuum

Depression (mm Hg)	Vacuum (%)	Absolute Pressure (mbar)	Depression (mbar)
0	0	1000	0
-75	10	900	-100
-100	13.3	867	-133
-150	20	800	-200
-200	26.7	733	-267
-225	30	700	-300
-300	40	600	-400
-375	50	500	-500
-400	53.3	467	-533
-450	60	400	-600
-500	66.7	333	-667
-525	70	300	-700
-600	80	200	-800
-675	90	100	-900
-690	92	80	-920

## Units of Pressure

1 bar = 100.000 Pa = 100 kPa = 14.5 psi  
 1 Pa = 0.00001 bar = 0.000145 psi  
 1 psi = 0.069 bar = 6897.8 Pa

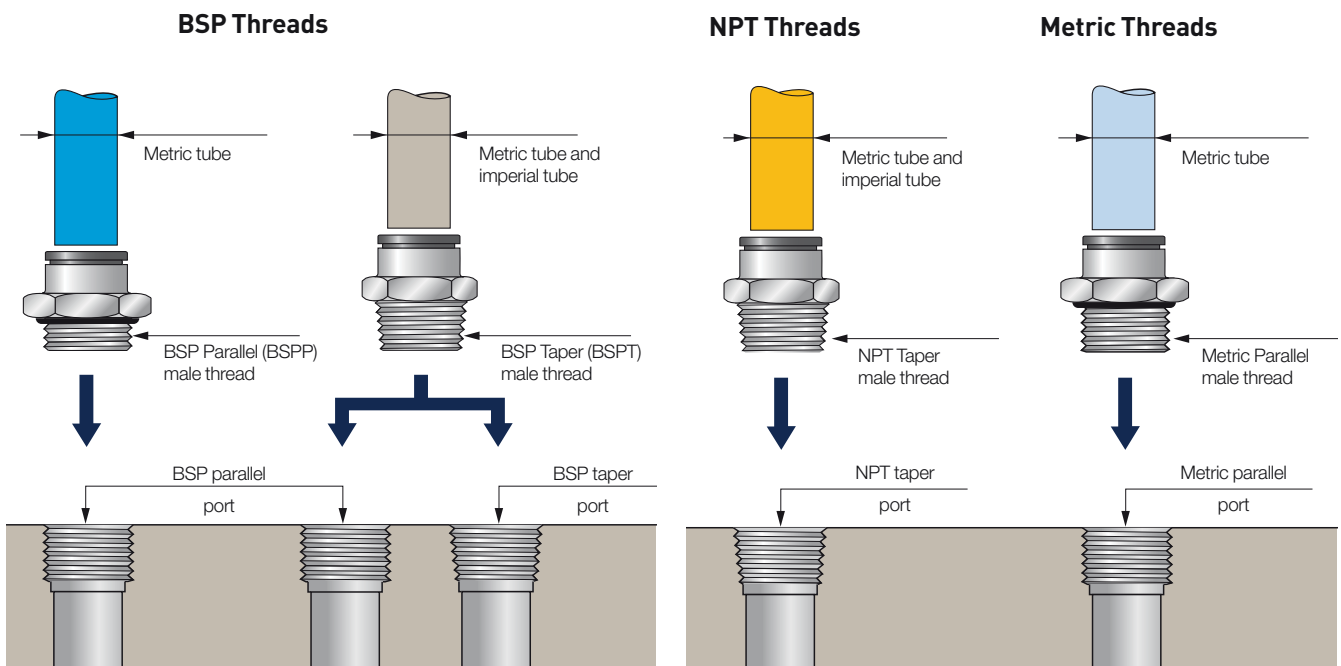
bar	kPa	psi	psi	kPa	bar
0.0005	0.05	0.0073	0.007	0.05	0.0005
0.001	0.10	0.0145	0.015	0.1	0.0010
0.005	0.5	0.0725	0.070	0.48	0.0048
0.01	1	0.145	0.150	1.04	0.0104
0.05	5	0.725	0.700	4.83	0.0483
0.069	6.9	1.000	1.000	6.90	0.0690
0.1	10	1.450	1.500	10.35	0.1035
0.25	25	3.625	3.000	20.70	0.2070
0.5	50	7.250	7.000	48.30	0.4830
0.75	75	10.875	10.000	69.00	0.690
1.0	100	14.500	15.000	103.50	1.0350
1.5	150	21.750	20.000	138.00	1.380
2.0	200	29.000	25.000	172.50	1.725
2.5	250	36.250	30.000	207.00	2.070
3.0	300	43.500	35.000	241.50	2.415
3.5	350	50.750	40.000	276.00	2.760
4.0	400	58.000	50.000	345.00	3.450
4.5	450	65.250	60.000	414.00	4.140
5.0	500	72.500	70.000	483.00	4.830
5.5	550	79.750	80.000	552.00	5.520
6.0	600	87.000	90.000	621.00	6.210
7.0	700	101.500	100.000	690.00	6.900
8.0	800	116.000	110.000	759.00	7.590
9.0	900	130.500	125.000	862.50	8.625
10.0	1000	145.000	150.000	1035	10.350
12.0	1200	174.000	175.000	1207.5	12.075
14.0	1400	203.000	200.000	1380	13.800
16.0	1600	232.000	225.000	1552.5	15.525
18.0	1800	261.000	250.000	1725	17.250
20.0	2000	290.000	300.000	2070	20.700

## Units of Temperature

0 °C = +23 °F  
 0 °F = -17.8 °C

°F	°C	°C	°F
-40	-40.0	-40	-40
-30	-34.4	-30	-22
-20	-28.9	-20	-4
-10	-23.3	-10	+14
0	-17.8	0	+32
+10	-12.2	+10	+50
+20	-6.7	+20	+68
+30	-1.1	+30	+86
+40	+4.4	+40	+104
+50	+10.0	+50	+122
+60	+15.6	+60	+140
+70	+21.1	+70	+158
+80	+26.7	+80	+176
+90	+32.2	+90	+194
+100	+37.8	+100	+212
+110	+43.3	+110	+230
+120	+48.9	+120	+248
+130	+54.4	+130	+266
+140	+60.0	+140	+284
+150	+65.6	+150	+302
+160	+71.1	+160	+320
+170	+76.7	+170	+338
+180	+82.2	+180	+356
+190	+87.8	+190	+374
+200	+93.3	+200	+392
+210	+98.9	+210	+410
+220	+104.4	+220	+428
+230	+110.0	+230	+446
+240	+115.6	+240	+464
+250	+121.1	+250	+482

# Fitting Threads



## BSP Threads (British Standard Pipe)

There are two types of "Pipe" profile threads:

- **Parallel (BSPP):** these threads fit in matching parallel ports. Sealing is provided by an O-ring gasket or a sealing washer.
- **Taper (BSPT):** these threads fit in matching parallel or taper ports. Sealing is provided by a pre-coating on the thread.

### Thread designation

#### • BSP Parallel (BSPP):

G followed by the denomination, according to standard ISO 228-1.  
Example: 1/8 BSP parallel thread = G1/8

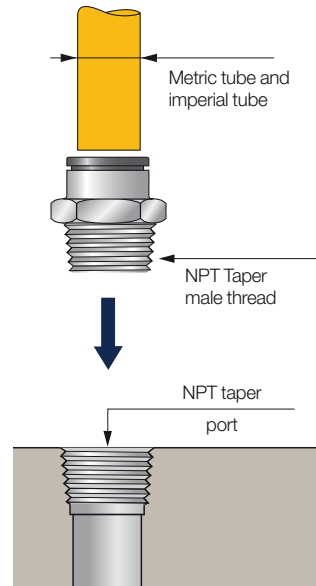
#### • BSP Taper (BSPT):

R followed by the denomination, according to standard ISO 7-1.  
Example: 1/8 BSP taper (BSPP) thread = R1/8

#### • Female threads:

BSP parallel: G followed by the designation  
BSP taper: R followed by the designation

## NPT Threads



## NPT Threads (National Pipe Thread)

This is an American standard taper thread which fits into the matching taper port. Sealing is provided by a pre-coating on the thread.  
Example: 1/8 NPT thread = 1/8 NPT

## Metric Threads

These ISO-profile threads are parallel and are fit into the matching parallel port. Sealing is provided by an O-ring or a sealing washer.

### Thread designation

- M depending on the diameter and pitch in millimetres, separated by a multiplication sign, in accordance with standards ISO 68-1 and ISO 965-1.

Example: metric thread diameter 7 with a pitch of 1 mm = M7x1

## Thread Identification

BSP Thread	Code	NPT Thread	Code
1/8	10	1/16	08
1/4	13	1/8	11
3/8	17	1/4	14
1/2	21	3/8	18
3/4	27	1/2	22
1"	34	3/4	28
1¼"	42	1"	35
1½"	49	1¼"	43
2"	48	1½"	50
		2"	44

Metric Thread	Code	Metric Thread	Code	Metric Thread	Code
M3x0.5	09	M12x1.25	66	M22x1.5	82
M5x0.8	19	M12x1.5	67	M24x1.5	83
M6x1	52	M13x1.25	68	M27x1.5	85
M7x1	55	M14x1.25	70	M30x2	88
M8x1	56	M14x1.5	71	M33x1.5	90
M8x1.25	57	M16x1.25	74	M39x1.5	36
M10x1	60	M16x1.5	75	M42x1.5	37
M10x1.5	62	M18x1.5	78	M42x2	96
M12x1	65	M20x1.5	80	M48x2	98

# Principle and Advantages of Our Coupling Systems

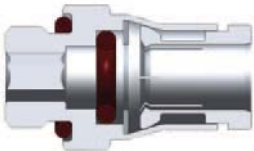
A very large number of technical solutions exist for connecting two pipes together. Leader in industrial connection systems, Parker Legris offers a very wide range of technologies and materials to cover all requirements.

## Push-In Fittings

Tube retention with gripping ring



Tube retention with collet



Tube retention with reversed collet



## Principle

Connected and sealed simply by pushing the tube into the fitting.  
Disconnected by pushing on the release button.

### Tube retention with gripping ring:

- No damage to the tube
- Ideal for polymer tubes
- Particularly compact

### Tube retention with collet:

- Robust solution for harsh environments
- Resistant to high pressure, excellent lifespan
- Ideal for grooved metal tubes

### Tube retention with reversed collet:

- Protected disconnection
- Can withstand very high pressures
- Double sealing

## Advantages

Allows flexible and modular systems to be produced quickly.

Provides a compact and lightweight connection solution.

Facilitates installation due to a swivelling body.

Reliability of the connection ensured through the one-piece design.

Suitable for use with a wide range of tubes.

Prolongs the lifespan of your systems.

## Compression Fittings



## Principle

Connection and sealing achieved by crimping a metal olive onto a tube.  
The seals are metal to metal.

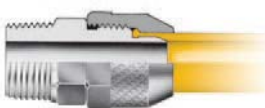
## Advantages

Can withstand very high pressures and temperatures.

Allows all types of tube to be connected, both polymer and metal.

Increases the lifetime of the coupling.

## Spigot Compression Fittings



## Principle

Connection and sealing by the distortion and gripping of a plastic tube.

## Advantages

Intended for the connection of very flexible or non-calibrated tubes.

## Couplers



## Principle

A probe with an international profile connects the circuit to the coupler. Certain couplers have a safety device which enables the circuit to be vented before releasing the probe.

## Advantages

Suitable for frequent connection and disconnection.

# Product Selection Table

Push-In Fittings	Materials	Fluids	Maximum Pressure (bar)	Temperature		Performance in Aggressive Environments	
				Min.	Max.	Mechanical	Chemical
<b>LF 3000®</b>	Technical polymer/brass/NBR	Compressed air	20	-20°C	+80°C	Good	Moderate
<b>LIQUIfit®</b>	Bio-sourced polymer/EPDM	Liquids	16	-10°C	+95°C	Moderate	Good
<b>LF 3200</b>	Nickel-plated brass/NBR	Compressed air	20	-15°C	+80°C	Excellent	Moderate
<b>LF 3600</b>	Chemical nickel-plated brass FDA/FKM	All brass-compatible fluids	30	-20°C	+150°C	Excellent	Good
<b>LF 6100</b>	Brass/NBR	Oil, analytical gases	60	-40°C	+120°C	Excellent	Moderate
<b>LF 3800 / LF 3900</b>	316L - 303 stainless steel/FKM	All fluids	30	-20°C	+150°C	Excellent	Excellent

## Cartridges and Customised Products

<b>LF 3000®</b>	Technical polymer/brass or chemical nickel-plated brass/NBR	Compressed air	20	-20°C	+80°C	Good	Moderate
<b>LIQUIfit®</b>	Bio-sourced polymer/EPDM	Liquids	16	-10°C	+95°C	Moderate	Good
<b>LF 3600</b>	Chemical nickel-plated brass FDA/FKM	All brass-compatible fluids	30	-20°C	+150°C	Excellent	Good
<b>LF 3800 / LF 3900</b>	316L - 303 stainless steel/FKM	All fluids	30	-20°C	+150°C	Excellent	Excellent
<b>TL</b>	Brass/NBR	Compressed air	16	-25°C	+80°C	Good	Moderate

## Technical Tubing and Hose

<b>Semi-Rigid PA</b>	Semi-rigid bio-sourced polyamide	Compressed air, industrial fluids	50	-40°C	+100°C	Good	Good
<b>Rigid PA</b>	Rigid polyamide	Compressed air, industrial fluids	58	-40°C	+80°C	Good	Good
<b>Fireproof High Resistance PA</b>	Polyamide with flame-retardant additive	Coolants, industrial fluids (lubricants), compressed air	50	-40°C	+100°C	Excellent	Moderate
<b>Anti-Spark PA and PU</b> with or without PVC sheath	Semi-rigid polyamide with PVC sheath Polyurethane ether with PVC sheath Single-layer polyurethane ester with flame-retardant additive	Compressed air, coolants, industrial fluids	36 (PA) 14 (PU)	-20°C	+70°C +80°C	Excellent	Good
<b>PU</b> single and multi-tube	Polyurethane ester Polyurethane ether "Crystal" food-quality polyurethane ether	Compressed air, industrial fluids (water) or food industry fluids	12	-20°C	+70°C	Excellent	Moderate Good Good
<b>Antistatic PU</b>	Polyurethane filled with conductive particles	Compressed air	10	-20°C	+70°C	Excellent	Moderate
<b>Advanced PE</b>	Polyethylene, 50% reticulated	All fluids	16	-40°C	+95°C	Good	Excellent
<b>FEP</b>	Fluoropolymer: fluorinated ethylene-propylene	All fluids	28	-40°C	+150°C	Good	Excellent
<b>PFA</b>	Fluoropolymer: high purity and coloured perfluoroalkoxy FDA	All fluids	36	-196°C	+260°C	Excellent	Excellent
<b>Antistatic PFA</b>	Fluoropolymer: perfluoroalkoxy filled with conducting particles	All fluids	36	-196°C	+260°C	Excellent	Good
<b>Self-Fastening NBR</b>	NBR with polyamide braid	Compressed air, coolants	16	-20°C	+100°C	Excellent	Good
<b>Braided PU</b>	Polyurethane with polyester braid	Compressed air, industrial fluids	15	-40°C	+75°C	Excellent	Good

## Function Fittings

<b>Polymer Flow Regulators</b>	Technical polymer/nickel-plated brass	Compressed air	10	0°C	+70°C	Good	Moderate
<b>Metal Flow Regulators</b>	Treated brass/nickel-plated brass	Compressed air	10	0°C	+70°C	Excellent	Moderate
<b>Stainless Steel Flow Regulators</b>	316L stainless steel	Compressed air	40	-15°C	+120°C	Excellent	Excellent
<b>Blocking Fittings</b>	Nickel-plated brass	Compressed air	10	-20°C	+70°C	Excellent	Good
<b>Piloted Non-Return Valve</b>	Technical polymer/nickel-plated brass	Compressed air	10	-5°C	+60°C	Good	Moderate
<b>Non-Return Fitting</b>	Technical polymer/nickel-plated brass	Compressed air	10	0°C	+70°C	Good	Moderate
<b>Silencers</b>	Polymer, sintered bronze, nickel-plated brass, 316L stainless steel	Compressed air	12	-20°C	+180°C	Good	Moderate



Compression Fittings	Materials	Fluids	Maximum Pressure (bar)	Temperature		Performance in Aggressive Environments	
				Min.	Max.	Mechanical	Chemical
<b>Brass Fittings</b>	Brass	Compressed air, industrial fluids	550 (depending on the type of tubing used)	-40°C	+250°C	Excellent	Good
<b>Stainless Steel Fittings</b>	316L stainless steel	All fluids	400 (80 bar in aggressive environment)	-40°C	+250°C	Excellent	Excellent
<b>PL Spigot Fittings</b>	Nickel-plated brass	Compressed air, industrial fluids	40	-40°C	+100°C	Good	Good

## Industrial Valves

<b>Universal and Customised Series Ball Valves</b>	Nickel-plated brass	Compressed air, industrial fluids	40	-20°C	+100°C	Excellent	Good
<b>Mini Series Ball Valves</b>	Technical polymer/nickel-plated brass	Compressed air	10	-20°C	+80°C	Good	Moderate
<b>DVGW Series Ball Valves</b>	Nickel-plated brass	Gas, water	40	-40°C	+170°C	Excellent	Good
<b>LIQUIfit® Ball Valves</b>	Polypropylene	Drinking water, treated water, beverages	10	-15°C	+100°C	Moderate	Good
<b>Standard Series Ball Valves</b>	Nickel- or chromium-plated brass	All industrial fluids	30	-20°C	+130°C	Excellent	Good
<b>Stainless Steel Series Ball Valves</b>	316L stainless steel	All fluids	65	-20°C	+150°C	Excellent	Excellent
<b>Axial Valves</b>	Nickel-plated brass	Compressed air	10	-20°C	+135°C	Excellent	Good

## Industrial Blowguns

<b>Polymer</b>	Technical polymer	Compressed air	10	-20°C	+50°C	Good	Moderate
<b>Metal</b>	Aluminium or nickel-plated brass	Industrial fluids	20	-20°C	+100°C	Excellent	Good

## Quick-Acting Couplers

<b>C 9000 Safety Couplers</b>	Technical polymer	Compressed air	16	-20°C	+60°C	Good	Moderate
<b>Metal Quick-Acting Couplers</b>	Nickel-plated brass	Compressed air, compatible fluids	20	-20°C	+100°C	Excellent	Good
<b>Metal Quick-Acting Couplers</b>	316L stainless steel	Industrial fluids	35	-15°C	+200°C	Excellent	Excellent
<b>Injection Mould Couplers</b>	Nickel-plated brass	Water, oil	10	-15°C	+90°C	Excellent	Good

## Adaptors and Manifolds

<b>Brass Adaptors with sealing washer</b>	Brass	Compressed air	200	-20°C	+80°C	Good	Moderate
<b>Brass Adaptors without sealing washer</b>	Brass	Compressed air	200	-40°C	+150°C	Good	Moderate
<b>Nickel-Plated Brass Adaptors</b>	Nickel-plated brass	Compressed air	60	-10°C	+80°C	Good	Moderate
<b>Stainless Steel Adaptors</b>	316L stainless steel	All fluids	200	-20°C	+180°C	Excellent	Excellent
<b>Manifolds</b>	Anodised aluminium, brass	Compressed air	20	-10°C	+80°C	Excellent	Good

This table is not exhaustive; you will find additional technical information in the various chapters of this catalogue which will enable you to select the product you need.

# Part Number Identification

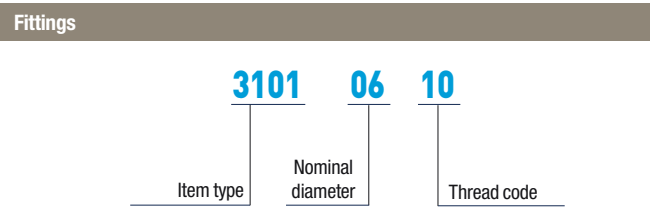
The part numbers used for our product ranges are coded in such a way as to make it easy to identify any particular item. Detailed explanations of these part numbers can be found in the corresponding chapters.

## Fittings and Valves

The part numbers are selected using a technical mnemonic code.

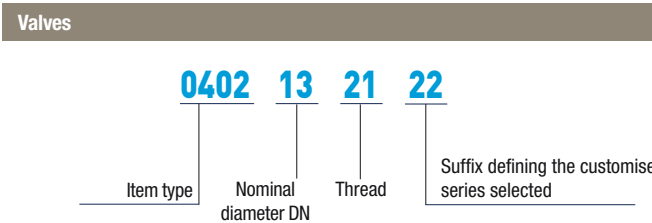
Each fitting and valve is identified by:

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



**Nominal diameter code:** equates to the outside diameter of the tube.  
**Thread code:** see tables page 12.

When the product does not have a thread, the code used is: 00.



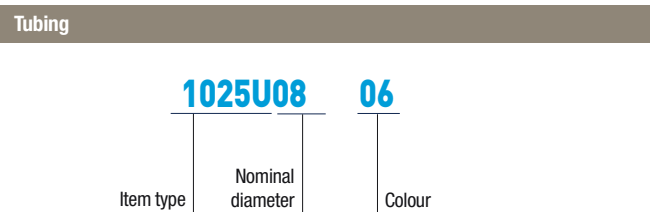
**Nominal diameter code:** equates to the bore diameter of the valve.  
**Thread code:** see tables page 12.

## Technical Tubing and Hose

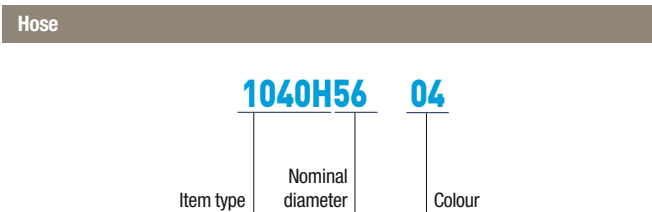
The part numbers are selected using a technical mnemonic code.

Each tube and hose 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 table below.



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

00 = 01 = 02 = 03 = 04 = 05 = 06 = 07 = 08 =

For other colours, refer to chapter "Technical Tubing and Hose".

## Push-In Fittings

Chapter 1

LF 3000®  
LF 3200: 3 mm  
LIQUIfit®

LF 3600  
LF 3800/LF 3900  
LF 6100



## Cartridges and Customised Products

Chapter 2

Polymer: Carstick® & Quick Fitting  
Metal: LF Cartridges & TL Fittings  
Customised Products



## Technical Tubing and Hose

Chapter 3

Flexible Calibrated Tubing  
Calibrated Multi-Tubing  
Recoil Tubing and Hose

Calibrated Braided Hose  
Accessories



## Function Fittings

Chapter 4

Flow Control Regulators  
Pilot Function Fittings  
Non-Return Valves & LIQUIfit®

Pressure Fittings  
Other Function Fittings  
Silencers



## Compression Fittings

Chapter 5

Brass Compression Fittings  
Stainless Steel Compression Fittings  
PL Nickel-Plated Brass Spigot Fittings



## Industrial Valves

Chapter 6

Ball Valves & LIQUIfit®  
Needle & Butterfly Valves  
Axial Valves



## Industrial Blowguns

Chapter 7

Polymer  
Metal  
Kits



## Quick-Acting Couplers

Chapter 8

Polymer: C 9000 Safety  
Metal: Nickel-Plated Brass and Stainless Steel



## Adaptors and Manifolds

Chapter 9

Adaptors: Brass, Nickel-Plated Brass, Stainless Steel  
Manifolds

