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for Local Industrial Fluid Applications**



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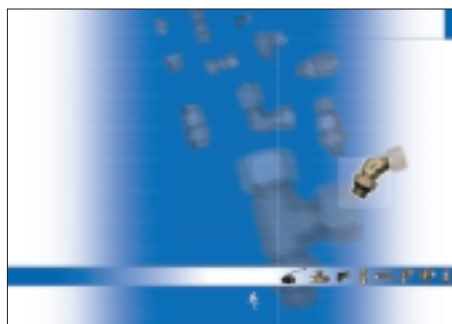




**Connection solutions  
for industrial fluids**

**2003 – 2005  
Low Pressure catalog**

Legris Connectic also offers a complete range of hydraulic connections. You will find these products in our high pressure catalog and on our web-site [www.legris.com](http://www.legris.com)



Legris has a policy of continual product development and therefore reserves the right to modify products shown in this catalog without prior notification. Please treat all dimensions therefore, as indicative.

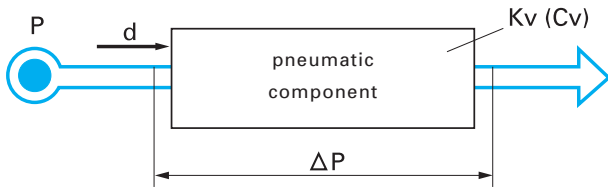


# technical guidelines

## • flow and pressure drop of compressed air

Flow represents the quantity of compressed air that passes through a section over a unit of time. It is represented in cfm, scfm, l/min, m<sup>3</sup>/min or m<sup>3</sup>/h, at the equivalent value in free air, in conditions of standard reference atmosphere (SRA), i.e. : + 68°F, 65% of relative humidity, 14.65 psi, in accordance with norms NFE 48100 and ISO R554, R558.

When opened and submitted to inlet pressure (P), the pneumatic component insures a flow rate (d) generating pressure drop at the outlet. The difference of pressure measured, between the inlet (pressure upstream) and the outlet (pressure downstream), is called pressure drop represented by Δp (differential pressure).



To quickly define the values of pressure drop according to flow and pressure, the user must remember that air is a compressible fluid. In this case, many parameters are taken into account in a sometimes complex way.

In order to obtain simple and useful values which enable calculations and comparison of the performance of pneumatic components, in practice, we use a flow coefficient called **Kv**. This coefficient characterizes the flow capacity of a component and corresponds to the precise value of water flow in l/min, under a Δp of 1 bar, with completely unimpeded flow.

Flow coefficient Kv corresponds to a conductance coefficient; indeed the higher its value, the better the flow assured by the component.

Kv and pressure loss are linked by the following relation:

$$Q_v = 26.7 \text{ Kv} \sqrt{\Delta p \times P \text{ upstream}}$$

**Qv** = flow in l/min

**Kv** = flow coefficient

**Δp** = in bar

**P upstream**: in absolute bar

**Cv** is a flow coefficient equivalent to Kv but based as US gallons per minute under a Δp of 1 PSI.

Kv and Cv are in the following ratios:

$$Kv = 14.3 \text{ Cv} \quad - \quad Cv = 0.07 \text{ Kv.}$$

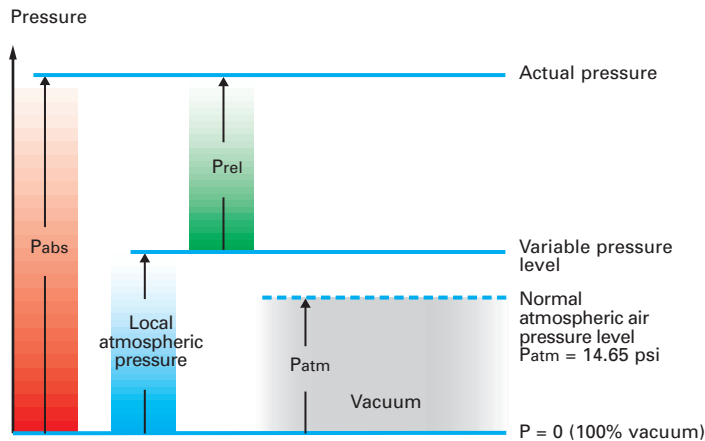
## • conversion table units of flow

l/min	→	Cfm	→	m <sup>3</sup> /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

# technical guidelines

## • pressure

Normal atmospheric air pressure represents 14.65 psi at sea level. Generally used as a reference for pressure measurement, it is, however, variable according to altitude. For tests and measures, it is advisable to use absolute bar corresponding to absolute pressure.



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

$P_{abs}$  : absolute pressure

$P_{rel}$  : relative gauge pressure

$P_{atm}$  : normal atmospheric pressure

## • vacuum and vacuum level

Vacuum appears when the pressure is less than atmospheric pressure. By evacuating the air in a closed space, partial vacuum is generated.

Therefore vacuum corresponds to the decrease in pressure below the normal value of atmospheric pressure.

Vacuum level can be represented 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 millimeters of mercury (**mm Hg**) and inches of mercury (**in Hg**) as referred to existing atmospheric pressure.

In the U.S. it is represented in pounds per square inch, gauge (psig) and absolute (psia). The measure of pressure corrected for atmospheric pressure that is

'zero' psig = 14.65 psia

'zero' psia = absolute zero vacuum

The acceptable **maximum pressure** of a component is the effective pressure to which this item can be submitted in a given installation.

**Upstream pressure** is the compressed air pressure at the component inlet.

**Downstream pressure** is the component outlet pressure.

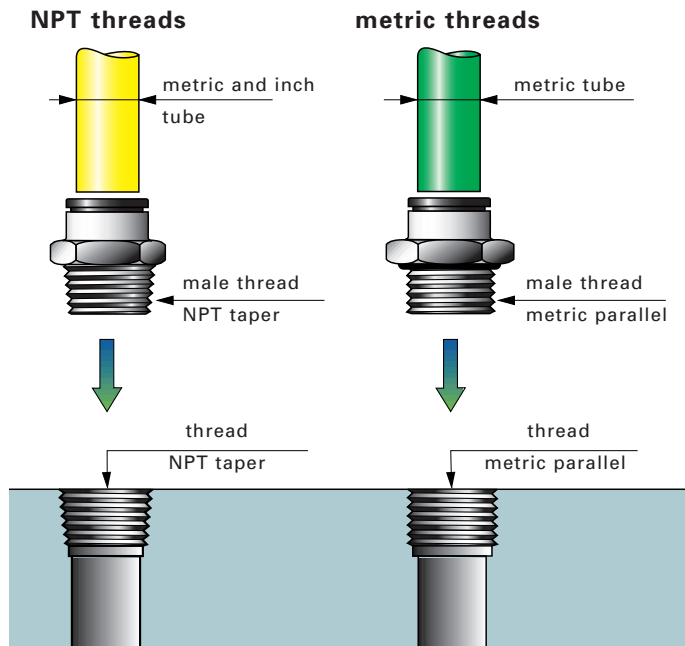
**Differential pressure** ( $\Delta p$ ) is the difference between upstream pressure and downstream pressure.

## Classification of vacuum

- **medium vacuum** 29.9 to 0.3 in Hg (1013 to 10 absolute mbar)
- **primary vacuum** 0.3 to .0003 in Hg (10 to  $10^{-3}$  absolute mbar)
- **secondary vacuum** .0003 to .0000003 in Hg ( $10^{-3}$  to  $10^{-6}$  absolute mbar)
- **molecular vacuum** .0000003 to .000000003 in Hg ( $10^{-6}$  to  $10^{-9}$  absolute mbar)
- **ultra-vacuum** < .000000003 in Hg (<  $10^{-9}$  absolute mbar)

# technical guidelines

## • threaded connections



### NPT threads (National Pipe Thread)

NPT is an American taper thread standard ASME B1.20.1-1983. They can be assembled on the same taper thread. Sealing is ensured by thread sealant.

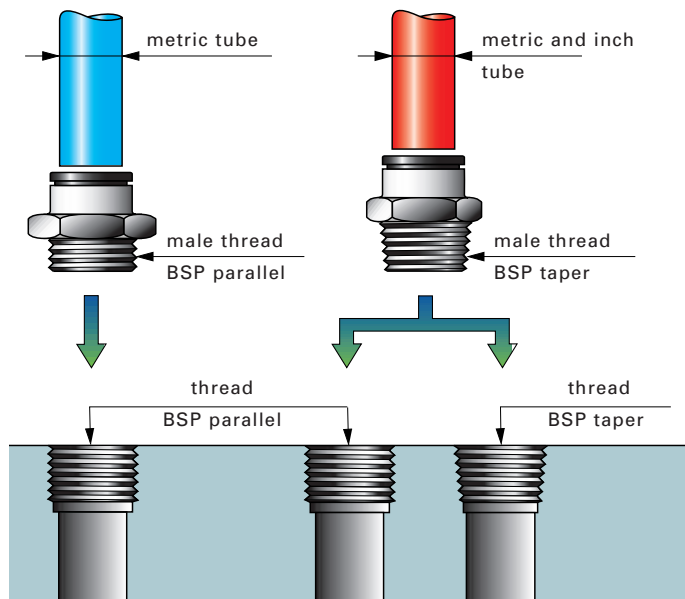
### metric threads

These ISO profile threads are parallel type threads which can be assembled with the compatible parallel thread. Sealing is ensured by a face seal at the base.

### thread designation

- M followed by diameter x pitch in mm, according to standards ISO 68-1 and ISO 965-1  
example: **M7x1**

### BSP threads



### BSP threads (British Standard Pipe)

Two common types of profiles are:

- parallel: which can be assembled with the compatible parallel thread. Sealing is ensured by face seal at the base.
- taper: which can be assembled in the same parallel or taper thread. Sealing is ensured by thread sealant.

### thread designation

- exterior threads (male)
- **BSP parallel:** G followed by the description, according to standard ISO 228-1  
example: 1/8 thread BSP parallel → **G1/8**
- **BSP taper:** R followed by the description, according to standard ISO 7-1  
example: 1/8 thread BSP taper → **R1/8**

Legris fittings can be used for any installation conforming to international standards DIN 3852 (1, 2, 3) – NF F 49051 – NF E48051 – JIS B202/JIS B203 – ISO 7-1 – ISO 228-1 - DIN 259 - BS 21 - BS 2779

# practical information

## • threaded connections

### national pipe thread

nominal thread size (in)	threads per inch	max. torque (inch pounds)	handtight engagement	thread O.D. at small end
10-32UNF	32	13	Seals Flush	0.187" (4.75mm)
1/16	27	—	0.28" (7.1mm)	0.271" (6.8mm)
1/8	27	70	0.37" (9.4mm)	0.363" (9.2mm)
1/4	18	100	0.49" (12.4mm)	0.477" (12.1mm)
3/8	18	250	0.627" (15.9mm)	0.612" (15.5mm)
1/2	14	308	0.778" (19.7mm)	0.758" (19.2mm)

### metric thread

metric thread size	male thread O.D. (mm)	metric thread size	male thread O.D. (mm)	metric thread size	male thread O.D. (mm)
M5 x 0.75	5	M14 x 1	14	M27 x 1.50	27
M6 x 0.75	6	M14 x 1.25	14	M27 x 2	27
M6 x 1	6	M14 x 1.50	14	M30 x 1.50	30
M7 x 0.75	7	M15 x 1.25	15	M30 x 2	30
M7 x 1	7	M15 x 1.50	15	M33 x 1.50	33
M8 x 1	8	M16 x 1.25	16	M33 x 2	33
M8 x 1.50	8	M16 x 1.50	16	M24 x 2	24
M9 x 0.75	9	M17 x 1.25	17	M36 x 2	36
M9 x 1	9	M18 x 1.25	18	M39 x 2	39
M10 x 1	10	M18 x 1.50	18	M52 x 2	52
M10 x 1.25	10	M20 x 1.50	20	M42 x 2	42
M10 x 1.50	10	M21 x 1.50	21	M45 x 2	45
M11 x 1	11	M22 x 1.50	22	M48 x 2	48
M12 x 1	12	M23 x 1.50	23	M52 x 2.50	52
M12 x 1.25	12	M24 x 1.50	24		
M12 x 1.50	12	M25 x 1.50	25		
M13 x 1.25	13	M26 x 1.50	26		

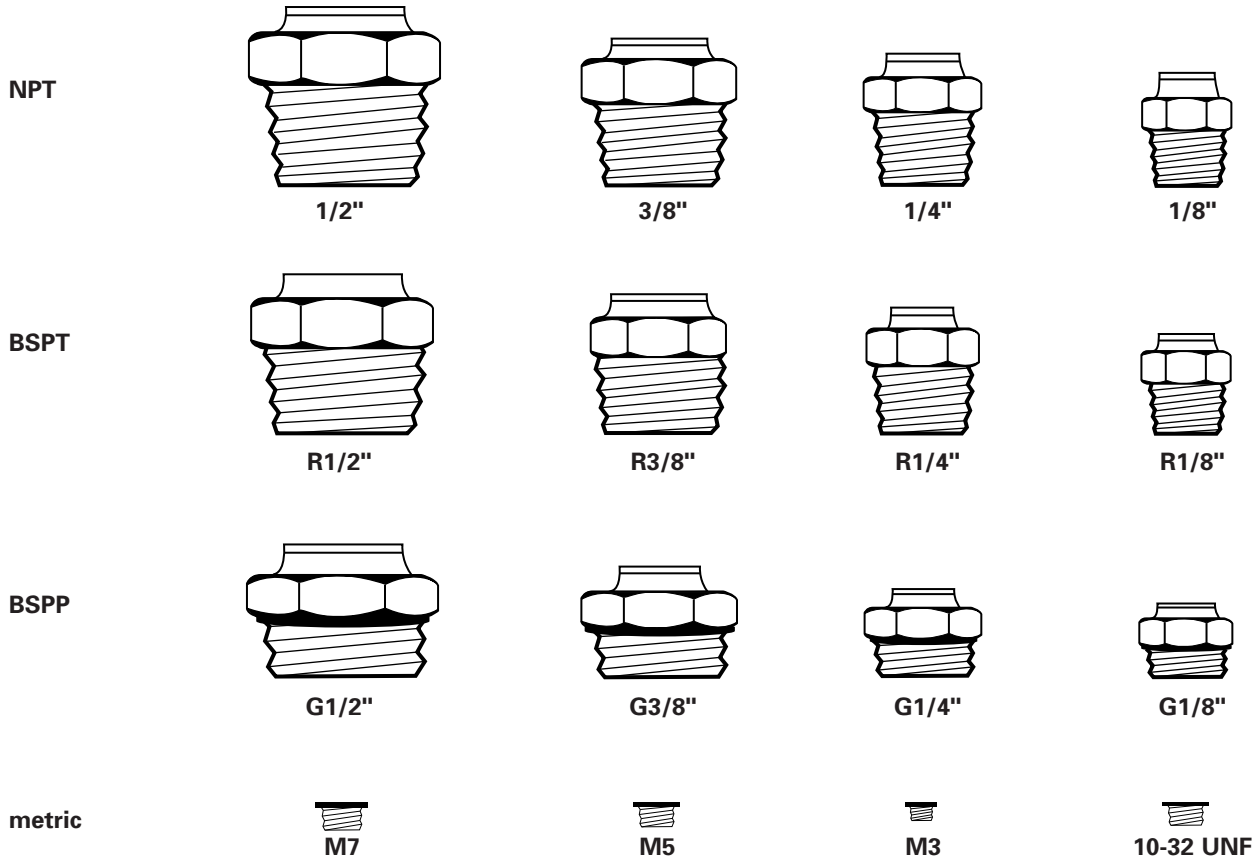
### british standard pipe

Nominal Thread Size	Threads per inch	Male Parallel Thread O.D.	Female Parallel Thread I.D.
1/8	28	0.375" (9.5mm)	0.344" (8.7mm)
1/4	19	0.531" (13.5mm)	0.438" (11.1mm)
3/8	19	0.656" (16.7mm)	0.534" (13.6mm)
1/2	14	0.813" (20.6mm)	0.719" (18.3mm)

When looking at a Legris fitting or adapter, there is a ring groove at the end of the thread to identify NPT threads. If the end of the base is smooth, the thread is BSPT. This applies to all threaded fittings, adapters and right angle flow control valves.



## • threaded profiles – ACTUAL SIZE



# practical information

## • conversion tables

### pressure – PSI and Bars

1 PSI = .0689655 bar				1 bar = 14.5 PSI			
PSI	BARS	PSI	BARS	BARS	PSI	BARS	PSI
20	1.379	1100	75.86	1	14.50	55	797.5
30	2.069	1200	82.76	2	29.00	60	870.0
40	2.759	1300	89.66	3	43.50	65	942.5
50	3.448	1400	96.55	4	58.00	70	1015
60	4.138	1500	103.5	5	72.50	75	1088
70	4.828	1600	110.3	6	87.00	80	1160
80	5.517	1700	117.2	7	101.5	85	1233
90	6.207	1800	124.1	8	116.0	90	1305
100	6.897	1900	131.0	9	130.5	95	1378
200	13.79	2000	137.9	10	145.0	100	1450
300	20.69	2250	155.2	15	217.5	150	2175
400	27.59	2500	172.4	20	290.0	200	2900
500	34.48	2750	189.7	25	362.5	250	3625
600	41.38	3000	206.9	30	435.0	300	4350
700	48.28	3500	241.4	35	507.5	350	5075
800	55.17	4000	275.9	40	580.0	400	5800
900	62.07	4500	310.3	45	652.5	450	6525
1000	68.97	5000	344.8	50	725.0	500	7250

### units of vacuum

depression (in mm Hg)	vacuum (in %)	absolute pressure (in mbar)	depression (in 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

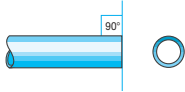
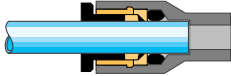
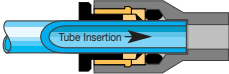
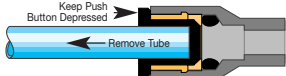

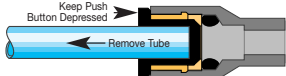
### table of equivalents



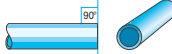



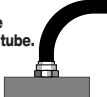


COLUMN 1 TO CONVERT INTO	COLUMN 2 INTO TO CONVERT	COLUMN 3 MULTIPLY BY DIVIDE BY
Atmospheres	Feet of Water	33.9
Atmospheres	Inches of Mercury (Hg)	29.92
Atmospheres	PSI (Lbs per Sq. Inch)	14.7
BTU	Foot Pounds	778.3
BTU per Hour	Watts	0.2931
BTU per Minute	Horsepower	0.02356
Celsius (Centigrade)	Fahrenheit	°C x 1.8 + 32
Centimeters	Inches	0.3937
Cubic Centimeters	Gallons (U.S. Liquid)	0.0002642
Cubic Centimeters	Liters	0.001
Cubic Feet	Cubic Inches	1728
Cubic Feet	Gallons (U.S. Liquid)	7.48052
Cubic Inches	Cubic Feet	0.0005787
Cubic Inches	Gallons (U.S. Liquid)	0.004329
Days	Seconds	86,400
Degrees (Angle)	Radians	0.01745
Feet	Meters	0.3048
Feet	Miles	0.0001894
Feet of Water	Atmospheres	0.0295
Feet of Water	Inches of Mercury (Hg)	0.8826
Feet of Water	PSI (Lbs. Per Sq. Inch)	0.4335
Feet per Minute	Miles per Hour	0.01136
Feet per Second	Miles per Hour	0.6818
Foot-Pounds	BTU	0.001286
Foot-Pounds per Minute	Horsepower	0.0000303
Foot-Pounds per Second	Horsepower	0.001818
Gallons (U.S. Liquid)	Cubic Feet	0.1337
Gallons (U.S. Liquid)	Cubic Inches	231
Gallons of Water	Pounds of Water	8.3453
Horsepower	BTU per Minute	42.44
Horsepower	Foot-Pounds per Minute	33,000
Horsepower	Foot-Pounds per Second	550
Horsepower	Watts	745.7
Hours	Days	0.04167
Hours	Weeks	0.005952
Inches	Centimeters	2.54
Inches of Mercury (Hg)	Atmospheres	0.03342
Inches of Mercury (Hg)	Feet of Water	1.133
Inches of Mercury (Hg)	PSI (Lbs. Per Sq. Inch)	0.4912
Inches of Water	PSI (Lbs. Per Sq. Inch)	0.03613
Liters	Cubic Centimeters	1000
Liters	Gallons (U.S. Liquid)	0.2642
Micron	Inches	0.00004
Miles (Statute)	Feet	5280
Miles per Hour (MPH)	Feet per Minute	88
Miles per Hour	Feet per Second	1.467
Ounces (Weight)	Pounds	0.0625
Ounces (Liquid)	Cubic Inches	1.805
Pints (Liquid)	Quarts (Liquid)	0.5
Pounds	Grains	7000
Pounds	Grams	453.59
Pounds	Ounces	16
PSI (Lbs. Per Sq. Inch)	Atmospheres	0.06804
PSI (Lbs. Per Sq. Inch)	Feet of Water	2.307
PSI (Lbs. Per Sq. Inch)	Inches of Mercury (Hg)	2.036
Quarts	Gallons	0.25
Square Feet	Square Inches	144
Temperature (°F - 32)	Temperature °C	0.5555
Tons (U.S.)	Pounds	2000
Watts	Horsepower	0.001341



# recommendations

## • assembly of Legris fittings

Industrial Push-to-Connect Fittings Quick Assembly	
Connection	Disconnection
<p><b>1</b> Achieve a square cut edge with a tube cutter.</p> 	<p><b>1</b> Make sure there is no air flow.</p> 
<p><b>2</b> Simply push the tubing until it can go no further. Holding and sealing is accomplished instantaneously.</p> 	<p><b>2</b> Depress the manual push button, then pull the tube out.</p> 
<p><b>3</b> Pull on the tubing to verify gripping action.</p> 	<p><b>3</b> Pull on the tubing to verify gripping action.</p> 

Industrial Push-to-Connect Fittings Quick List	
Do's	Don'ts
<p><b>1</b> Tighten by hand. Make final adjustment with wrench at the hex.</p> 	<p><b>1</b> Avoid using wrench on push-to-connect end.</p> 
<p><b>2</b> Achieve a square cut and clean edge.</p> 	<p><b>2</b> Avoid drastic angle cutting which can lead to an improper seal.</p> 
<p><b>3</b> Use Legris tube cutter. (p/n 3000 71 00)</p> 	<p><b>3</b> Avoid using a knife or a dull tool to cut the tubing. Avoid burrs, dirt, and anything that can hinder full flow.</p> 
<p><b>4</b> Allow adequate bend radius of tube.</p> 	<p><b>4</b> Avoid kinking the tubing and side load against the collet or gripping ring which can cause leaks.</p> 
<p><b>5</b> Simply push the tubing until it can go no further. Holding and sealing is accomplished instantaneously.</p> 	<p><b>5</b> Avoid contaminating substances in fittings and cartridges.</p> 

## compression fittings

Cut the tube square, deburr inner and outer edges;

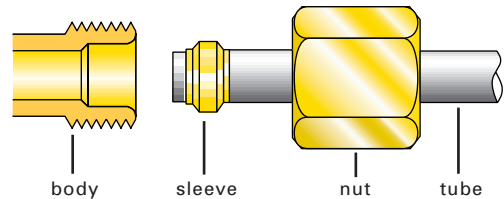
If required, any bending of the tube must be completed prior to connection.

Push the sleeve nut onto the tube. For large diameters, lubricate the inside of the nut to facilitate tightening.

Fit the sleeve onto the end of the tube, after the nut.

Firmly push the tube against the shoulder of the fitting body.

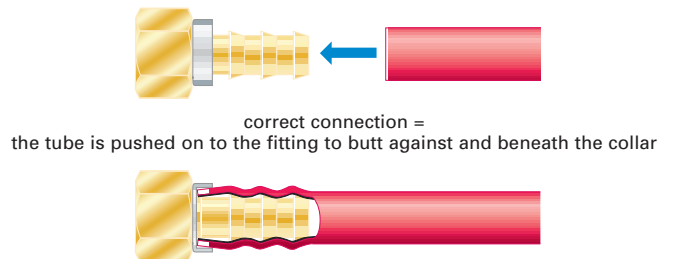
Tightening of the nut enables the sleeve to compress into the tube.



## quick-acting barbed fittings for push-on hose

Connection is quick and easy:

- no grease or oil is needed to lubricate the tube and no preparation time is required. Safety for both installer and user is safeguarded since the tube when pushed onto the fitting butts against and beneath the grey collar visually confirming correct connection.
- to disconnect, cut the tube with a knife on the barbed side of the fitting.



# recommendations

## food industry applications

Products designed for food industry use must conform to specific requirements, dependant upon the application. The Legris catalog features several product ranges that meet such requirements, including:

- ranges for food fluids, with materials that conform to relevant FDA standards.
- ranges for compressed air and other fluids, whose materials can be used in direct contact with food products.

Here are some examples:



### LF3600 push-to-connect fittings

for food fluids

Materials: FDA approved chemical nickel-plated brass and FKM seals

Found in section D.



### LF3800 push-to-connect fittings

for industrial fluids in food environments

Materials: stainless steel AISI 316L and FKM seals, can be used in contact with food products.

Found in section E.

### stainless steel function valves

flow regulators and check valves\* for food environments.

Material: stainless steel AISI 316L

\*upon request: for food fluids, with FKM seals.

Found on pages B18 & B23.



### stainless steel accessories

for food fluids

Material: stainless steel AISI 316L

Found on page H17 - H19.

### tubing and hoses

FEP 140 tubing, polyethylene tubing and braided PVC hose for food fluids

Found in section M.



### stainless steel industrial ball valves

for food environments

Material: stainless steel AISI 316L

Found on pages R12 & R13.

# recommendations

## safety

The safety of individuals and equipment in the workplace is one of the main responsibilities of company managers, shop floor supervisors, prevention organizations and standards bodies. Several Legris ranges have been specifically designed to meet the operating requirements and safety standards that apply to all industrial organizations.

Some examples are highlighted below.



### lock-out valves

Designed to offer maximum flow capacity, Legris lock-out valves lock the piston by simultaneously cutting off the supply and exhaust air.

Found on page B21.

### pneumatic slow start valves

These valves allow start-up air pressure to increase gradually and thus prevent shocks within the system, saving wear and preventing injury to users and components.

Found on page B33.



### C9000 automatic quick disconnect safety couplers

Even if disconnection is performed rapidly, the safety of the end-user is guaranteed due to a very short vent-time and two stage release of body and plug.

Found in section K.

### lockable ball valves

These ball valves have been developed in order to prevent potentially dangerous consequences caused by unintended operation, thus meeting international safety requirements.

Found on pages R10 & R11.



### dynamic safety blowguns

An integrated pressure regulator ensures pressure reduction and safety to the user and machinery at all times.

Found in section L.

## legris.com's advantage points



Within the training module of the Legris web site, you will find animated presentations of many safety solutions:

[www.legris.com](http://www.legris.com)



# recommendations

## medical industry applications

Legris, inventor of push-to-connect fitting technology, offers a wide variety of products suitable for medical activities, such as cartridges, fittings and tubing. Materials and grease can be adapted to meet various medical applications like dental, anesthesia and dialysis equipment.

Here are some solutions specifically adapted to medical applications:



### carstick

The concept which combines LF3000® one-piece cartridge with a specially designed protection and dispensing sleeve. Materials: nylon button and protection sleeve, nickel-plated brass retaining sleeve, nitrile seals. Found on page A47.

### LF3800 push-to-connect fittings

Offers excellent resistance to aggressive environments and fluids. Materials: stainless steel AISI 316L and FKM seals. Found in section E.



### LF3000 push-to-connect fittings

Designed using a simple and widely proven operating principle which allows instant connection and disconnection. Materials: nylon bodies, nickel-plated brass bases, nitrile seals. Found in section A.

### LF3600 push-to-connect fittings

Can be used in aggressive environments due to its chemical nickel-plating. Materials: chemical nickel-plated brass and FKM seals. Found in section D.



### tubing

FEP 140 tubing provides excellent resistance to aggressive and corrosive agents and to high temperatures. Nylon tubing provides optimum mechanical properties and has good chemical resistance. Polyurethane tubing has high flexibility which allows for compact cabling where a small bend radius is required. Found in section M.

# recommendations

## packaging industry applications

With a wide variety of ranges, the Legris offer suits many industrial activities. One of them is packaging applications like case palletizing, labeling, filling, conveying and rinsing/pasteurizing.



Here are some products suited for the packaging industry:

### knobless flow controls

Features push-to-connect connection, compact size, orientable, recessed screw, and fine threads. The recessed adjustment screw reduces external dimensions allowing use in reduced spaces. It also provides security and helps to prevent unwanted adjustment. Found on pages B10 & B11.



### pressure regulators

Used to stabilize the pressure at a given value that is applied to pneumatic equipment, whatever the fluctuations of pressure upstream. The pressure outlet is fully controlled by an adjustment screw which is calibrated to show pressure setting levels. Found on page B37.

### miniature flow controls

Control the speed of small bore cylinders. Control is achieved gradually due to the extreme sensitivity of the adjustment screw, which allows exceptionally fine setting levels. Found on pages B12 & B13.



### metal flow controls

Suitable for use in severe conditions. Designed to withstand high temperatures, sparks, abrasion, etc. Locking nut guarantees adjustment stability against vibration and prevents unwanted adjustment. Found on page B19.

### slide valves

Effect an immediate isolation of the air line by venting the system to atmosphere. They are compact, neat, aesthetic and can be directly installed in the circuit. Found on page B29.



### manually operated 3-way venting valves

Guarantee immediate isolation of the air line by venting the system to atmosphere. Easy to operate, it can be used whenever the system has to be frequently vented. Completely orientable, a number of valves can be mounted side by side, even in reduced spaces. Found on page B39.

# recommendations

## • compatibility of Legris fittings and tubing

The chart below summarizes the compatibility of Legris fittings and tubing. In order to obtain the best performance of connection assembly, the user should take into account the individual technical specification of both fitting and tubing.

fittings	tubing and hoses						
	nylon semi-rigid	polyurethane	nylon and polyurethane recoil tubing	fluoropolymer FEP 140	polyethylene	PVC braided hose	push-on hose
LF3000 system							
Function valves							
LF3200 system							
LF3600 system							
LF3800 system							
Brass compression	*	*	*		*		
Cartridges							
Models 0132, 0133 and 0134							
Stainless steel compression	*	*					
C9000 safety coupler							
Metal quick disconnect couplers							
Micro & small couplers							
Blowguns							

\* tube support must also be used

At high temperature and pressure or during oscillating movements, the use of a tube support prevents distortion of the tube which guarantees effective gripping and sealing.

# recommendations

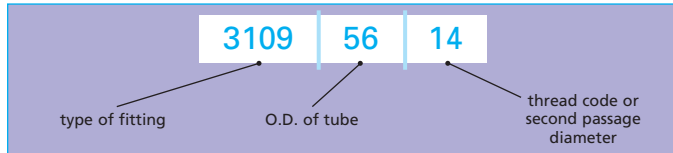
## • identification of Legris part numbers

To help users, Legris classifies its product ranges with specific part numbers which provide easy identification of each item.

### Legris fittings and valves

Part numbers have been chosen by a method of mnemonics.

#### fittings



**diameter of passage:** corresponds to the O.D. of tube

**thread code:** see chart below

When the item is not threaded (plug-in or tube to tube fittings) the code is: **00**

#### O.D. tube size

fractional inch

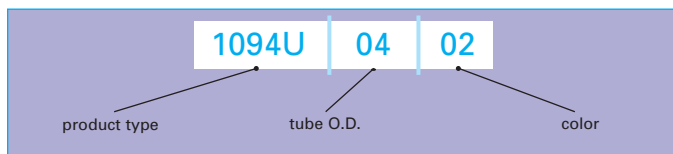
O.D. tube size	code
1/8"	53
5/32"	04
3/16"	55
1/4"	56
5/16"	08
3/8"	60
1/2"	62

#### threads

NPT thread code		BSP thread code	
1/16"	08	1/8"	10
1/8"	11	1/4"	13
1/4"	14	3/8"	17
3/8"	18	1/2"	21
1/2"	22	3/4"	27
3/4"	28	1"	34
1"	35	1 1/4"	42
1 1/4"	43	1 1/2"	49
1 1/2"	50	2"	48
2"	44		
10-32" UNF	20		

### Legris tubing and hoses

Part numbers have been chosen by a method of mnemonics.



**tube O.D.:** corresponds to the O.D. (outside diameter) of the tube

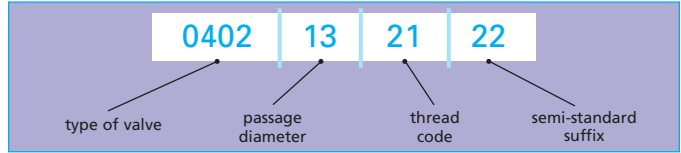
**color code:** see chart below

00 =	03 =	06 =	12 =	14 =
01 =	04 =	07 =	13 =	15 =
02 =	05 =	08 =		

#### Each fitting is identified by:

- its series (4 numbers)
- the diameter of passage through the fitting (2 numbers)
- the thread code or diameter of the second passage (2 numbers)
- a suffix, if appropriate

#### valves



**passage diameter:** corresponds to the passage diameter through the valve

**thread code:** see chart below

#### O.D. tube size

metric

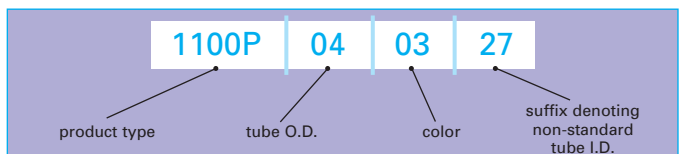
O.D. tube size	code
3 mm	03
4 mm	04
5 mm	05
6 mm	06
8 mm	08
10 mm	10
12 mm	12
14 mm	14
16 mm	16

#### threads

metric thread code	metric thread code	metric thread code			
M3x0.5	09	M13x1.25	68	M27x1.5	85
M5x0.8	19	M14x1.25	70	M30x2	87
M7x1	55	M14x1.5	71	M33x1.5	90
M8x1	56	M16x1.25	74	M39x1.5	36
M8x1.25	57	M16x1.5	75	M42x1.5	37
M10x1	60	M18x1.5	78	M42x2	96
M10x1.5	62	M20x1.5	80	M48x2	98
M12x1	65	M22x1.5	82		
M12x1.25	66	M24x1.5	83		

#### Each tube and hose is identified by:

- product type (4 numbers and one letter)
- O.D. of the tube (2 numbers)
- color (2 numbers)
- I.D. of non-standard tube, if appropriate (2 numbers)




**tube O.D.:** corresponds to the O.D. (outside diameter) of the tube

**color code:** see chart below

# consult our North American catalog with ease

**principle of system LF3000\***



Invented and patented for Legris in 1965, the LF3000 system has become universally adopted. It has been designed using a simple and widely proven operating principle with stress-tension connection. The connection is made by fitting a male fitting onto the tube into the fitting, no other operation is required. Maintenance is simple, "maintenance-free". Thanks to its design, Legris has taken into account the requirements of its customers, i.e. optimization of performance, miniaturization, and appearance in order to be adapted to the maximum capacity of the LF3000 system to produce in 3 lengths.

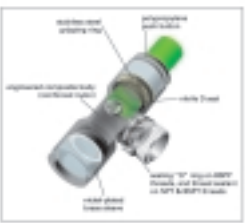
- for horizontal tube-fittings with BSP threads
- for horizontal tube-fittings with BSP threads in taper form
- for vertical tubes with BSP threads in taper, parallel or male form.

Millions of fittings are in service throughout the world.

Designed for pneumatic installations, the LF3000 system is the most essential component in a wide variety of industrial applications.

**technical specifications**

Reliable performance is dependent upon the tube being used, ambient temperature and fluid conveyed together with the component materials of the fitting.



**Advantages:**

- 200 psi maximum for LF3000
- 400 psi maximum for LF3000
- 600 psi maximum for LF3000
- 800 psi maximum for LF3000
- 1000 psi maximum for LF3000
- 1200 psi maximum for LF3000
- 1500 psi maximum for LF3000
- 2000 psi maximum for LF3000
- 2500 psi maximum for LF3000
- 3000 psi maximum for LF3000
- 3500 psi maximum for LF3000
- 4000 psi maximum for LF3000
- 4500 psi maximum for LF3000
- 5000 psi maximum for LF3000
- 5500 psi maximum for LF3000
- 6000 psi maximum for LF3000
- 6500 psi maximum for LF3000
- 7000 psi maximum for LF3000
- 7500 psi maximum for LF3000
- 8000 psi maximum for LF3000
- 8500 psi maximum for LF3000
- 9000 psi maximum for LF3000
- 9500 psi maximum for LF3000
- 10000 psi maximum for LF3000

All items in the LF3000 range are guaranteed **SHOCK-PROOF**

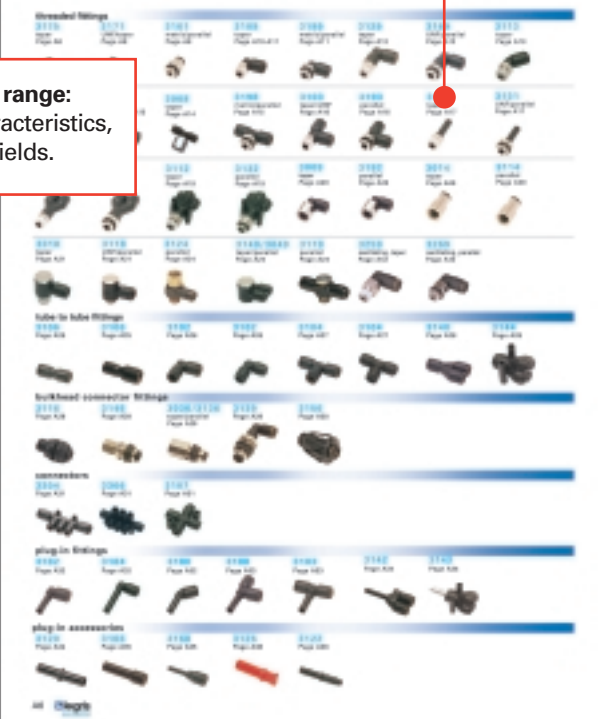
The European Legris catalog of low pressure industrial connections is published in 8 languages – English, German, Spanish, French, Italian, Dutch, Portuguese and Swedish. Its design, identical for each of these languages, enables fast and easy selection of products.

one color per type of product.

« the complete range » pages: where you can find the models you need.

principle of the range: its general characteristics, its application fields.

**the complete range of LF3000\* push-to-connect fittings**



The grid shows various fitting types such as:
 

- Branched fittings (e.g., 3170, 3171, 3181, 3182, 3183, 3184, 3185, 3186, 3187, 3188, 3189, 3190, 3191, 3192, 3193, 3194, 3195, 3196, 3197, 3198, 3199, 3200, 3201, 3202, 3203, 3204, 3205, 3206, 3207, 3208, 3209, 3210, 3211, 3212, 3213, 3214, 3215, 3216, 3217, 3218, 3219, 3220, 3221, 3222, 3223, 3224, 3225, 3226, 3227, 3228, 3229, 3230, 3231, 3232, 3233, 3234, 3235, 3236, 3237, 3238, 3239, 3240, 3241, 3242, 3243, 3244, 3245, 3246, 3247, 3248, 3249, 3250, 3251, 3252, 3253, 3254, 3255, 3256, 3257, 3258, 3259, 3260, 3261, 3262, 3263, 3264, 3265, 3266, 3267, 3268, 3269, 3270, 3271, 3272, 3273, 3274, 3275, 3276, 3277, 3278, 3279, 3280, 3281, 3282, 3283, 3284, 3285, 3286, 3287, 3288, 3289, 3290, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3300, 3301, 3302, 3303, 3304, 3305, 3306, 3307, 3308, 3309, 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3318, 3319, 3320, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3332, 3333, 3334, 3335, 3336, 3337, 3338, 3339, 3340, 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**A - push-to-connect fittings, system LF3000® - pages A1 to A50**



**B - pneumatic function valves - pages B1 to B45**



**C - LF3200 push-to-connect fittings for industrial applications - pages C1 to C9**

**D - LF3600 push-to-connect fittings for food applications - D1 to D15**

**E - LF3800 stainless steel push-to-connect fittings - pages E1 to E15**

**F - SAE/DOT push-to-connect fittings for vehicle applications - F1 to F17**



**G - brass compression fittings - pages G1 to G33**



**H - accessories, silencers and plugs - pages H1 to H25**



**K - quick disconnect couplers - pages K1 to K19**

**L - universal blowguns - L1 to L9**



**M - tubing and hoses - M1 to M25**



**R - industrial ball valves - R1 to R25**

**T - axial valves - T1 to T7**

**Y - special products - pages Y1 to Y3**

**Z - Legris worldwide, index - pages Z1 to Z6**

