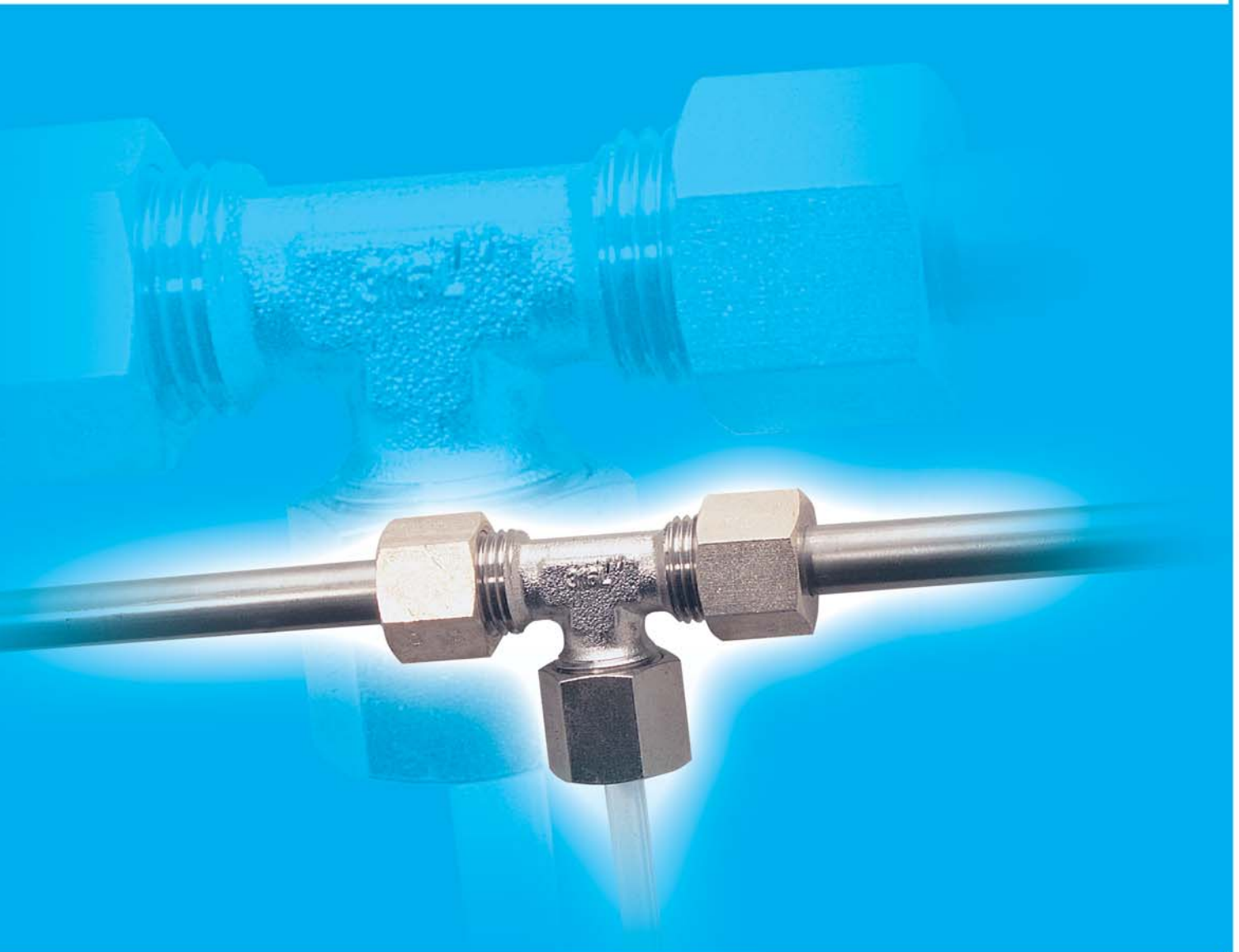


# stainless steel compression fittings



# principle of stainless steel compression fittings



Legris has used its long experience of brass compression fittings to develop a range of **stainless steel compression fittings**.

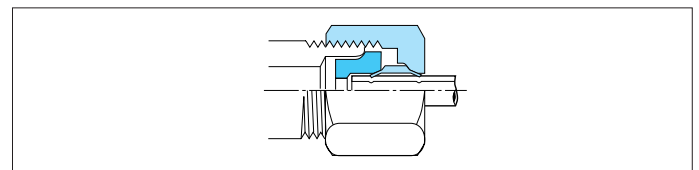
These stainless steel fittings are resistant to aggressive or corrosive environments and fluids and withstand high temperatures and pressures. They are designed to be used at low and medium pressure and to withstand water hammer and vibration.

## assembly

The stainless steel compression fitting comprises a **body**, an **olive** and a **nut**.

- **Cut** the tube exactly square and **deburr** its outer and inner edges.
- **Slide** the nut onto the tube, without lubricating it.
- **Fit** the olive onto the end of the tube.
- **Push** the tube fully home against the shoulder of the body of the fitting.
- **Tighten** until the nut is hand-tight
- Final tightening with a spanner causes the olive to bite into the tube

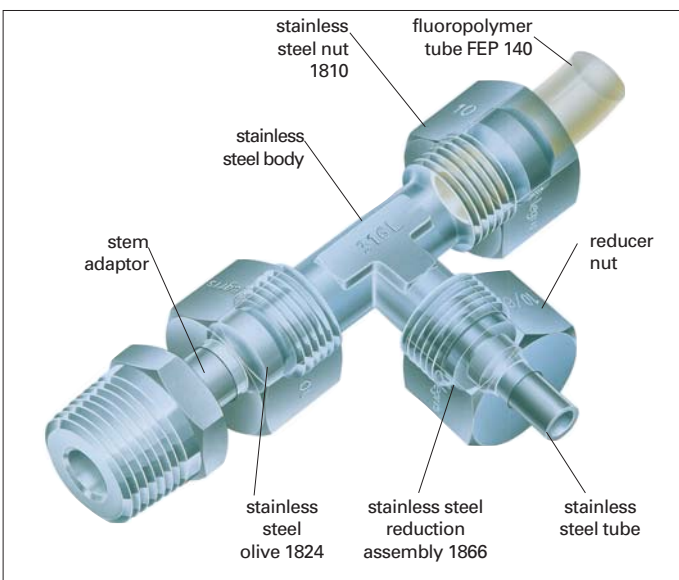
The Legris stainless steel compression assembly is now ready for use.



Very slight deformation of the inside of the tube is observed. This is a sign of correct assembly.

## technical specifications

These depend on the type and wall thickness of the tube, the type of the fluid, fluid temperature and fluid conveyed together with the component materials of the fitting.



<b>Maximum working pressure</b>	Maximum working pressure 80 bar. Can also be used for industrial vacuum applications.					
<b>Working temperatures</b>	Maximum working temperature is 250° C at working pressure.					
<b>Product compatibility</b>	Very extensive – please refer to page G4					
<b>constituent materials</b>	stainless steel 316L It is preferable to use tubes of austenitic grades which are cold drawn, seamless, hyperquenched, descaled and passivated.					
<b>maximum tightening torque with stainless steel tube of 1mm wall thickness</b>	<b>Ø</b>	6	8	10	12	16
	<b>m.daN</b>	2.0	3.0	4.0	6.5	9.5

# advantages of stainless steel compression fittings

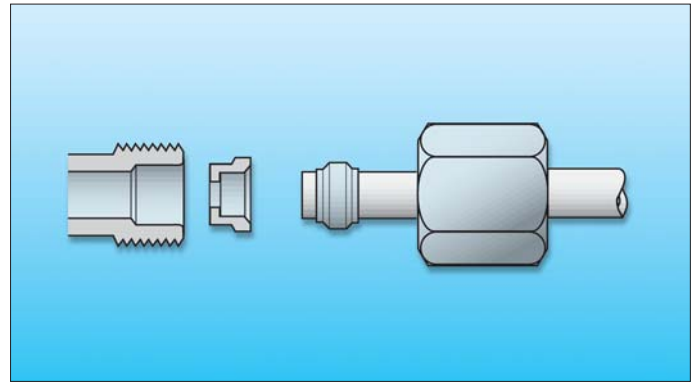


## meeting the needs of industry

- all components are stainless steel 316L
- resistant to aggressive and corrosive environments
- resistant to corrosive fluids
- withstands high temperatures and pressures

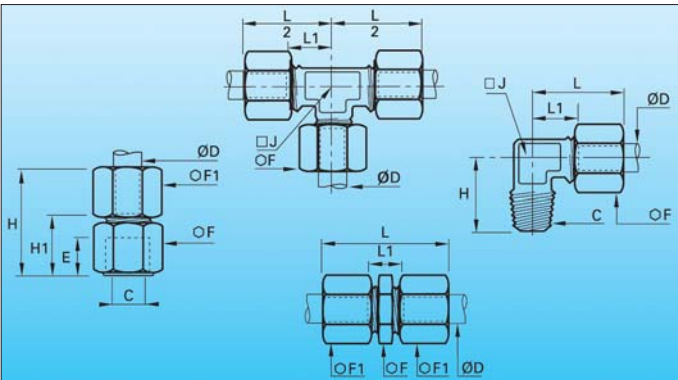
## wide range of working pressures

- low pressure
- medium pressure
- 80 bar maximum



## extensive and versatile types of connection

- The **Legris original reduction assembly** makes it possible to fit tubes of different diameters with the same fitting body
- can be assembled and disassembled several times
- **double-taper olive** makes it possible:
  - to use various thickness of tube of a similar diameter
  - to use with tubes of different materials (stainless steel tubing, fluoropolymer FEP 140 tubing, semi-rigid nylon tubing and polyurethane tubing)



## special products

- **Legris** are able to provide special fittings in cases where the standard range cannot be used.

## easy to use

- can be assembled quickly and easily because
  - the double-taper olive bites into the tube and centres automatically
  - low tightening torques



# stainless steel compression fittings



## corrosion resistance properties of stainless steel grade 316L

Resists :

Phosphoric acid (all concentrations) up to 40° C.  
Sulphuric acid more than 10% and less than 80% at 20° C.  
Nitric sulphuric mixtures up to 70° C.  
Sulphuric vapours and solutions, both ambient and warm, except for sulphuric acid at dangerous concentrations or temperatures.

Diluted organic acids up to boiling point.  
Saline solutions, except chlorine.  
Alkaline solutions, all concentrations below 100° C  
Marine environment  
Food products, organic products, pharmaceuticals.

# the complete range of stainless steel compression fittings



## stud couplings

**1805**  
taper  
Page H6



**1805**  
NPT  
Page H6



**1814**  
parallel  
Page H6



**1809**  
taper  
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**1809**  
NPT  
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**1820**  
taper  
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**1820**  
NPT  
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## tube to tube couplings

**1806**  
Page H8



**1816**  
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**1802**  
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**1804**  
Page H8



## stainless steel accessories

**1866**  
Page H9



**1824**  
Page H10



**1810**  
Page H10



**1822**  
Page H10

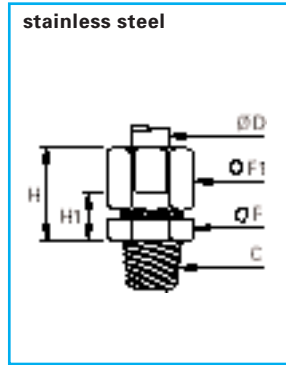


**1827**  
Page H10



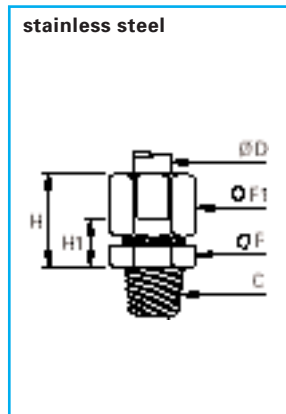
# stud couplings

## 1805 male stud coupling, BSP taper



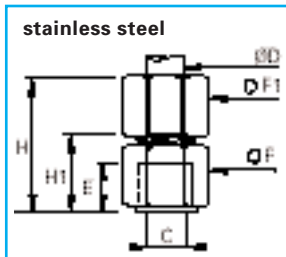
ØD	C		F	F1	H <sub>maxi</sub>	H1	△kg△
6	R1/8	1805 06 10	12	13	19,5	7,5	0,018
6	R1/4	1805 06 13	14	13	19,5	7,5	0,026
8	R1/8	1805 08 10	13	14	21	7	0,020
8	R1/4	1805 08 13	14	14	21	7	0,025
10	R1/4	1805 10 13	17	19	25,5	9	0,044
10	R3/8	1805 10 17	17	19	25,5	9	0,050
10	R1/2	1805 10 21	22	19	25,5	10	0,078
12	R1/4	1805 12 13	19	22	26	9	0,056
12	R3/8	1805 12 17	19	22	26	9	0,058
12	R1/2	1805 12 21	22	22	27	10	0,082
16	R3/8	1805 16 17	24	27	28,5	9,5	0,066
16	R1/2	1805 16 21	24	27	28,5	9,5	0,092

## 1805 male stud coupling, NPT



ØD	C		F	F1	H <sub>maxi</sub>	H1	△kg△
6	1/8	1805 06 11	12	13	19,5	7,5	0,020
6	1/4	1805 06 14	14	13	19,5	7,5	0,028
6	3/8	1805 06 18	19	13	20,5	8,5	0,034
6	1/2	1805 06 22	22	13	21,5	9,5	0,050
8	1/8	1805 08 11	13	14	21	7	0,022
8	1/4	1805 08 14	14	14	21	7	0,028
10	1/4	1805 10 14	17	19	25,5	9	0,048
10	3/8	1805 10 18	19	19	25,5	9	0,056
10	1/2	1805 10 22	22	19	26,5	10	0,084
12	1/4	1805 12 14	19	22	26	9	0,058
12	3/8	1805 12 18	19	22	26	9	0,062
12	1/2	1805 12 22	22	22	27	10	0,088
16	3/8	1805 16 18	24	27	28,5	9,5	0,068
16	1/2	1805 16 22	24	27	28,5	9,5	0,094

## 1814 female stud coupling, BSP parallel



ØD	C		E	F	F1	H <sub>maxi</sub>	H1	△kg△
6	G1/8	1814 06 10	7,5	14	13	29	17	0,025
6	G1/4	1814 06 13	11	17	13	29	21	0,034
8	G1/4	1814 08 13	11	17	14	34,5	20,5	0,035
10	G3/8	1814 10 17	11,5	22	19	38,5	22	0,069
10	G1/2	1814 10 21	15	27	19	43	26,5	0,100
12	G3/8	1814 12 17	11,5	22	22	39	22	0,077
12	G1/2	1814 12 21	15	27	22	43,5	26,5	0,109
16	G1/2	1814 16 21	15	27	27	45	26	0,129

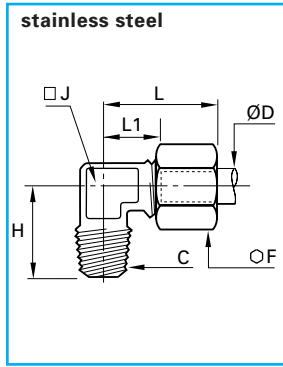
Included in this catalogue is the full Legris range of **stainless steel products**:

- LF 3800 Stainless steel push-in fittings - see section D.
- Stainless steel compression fittings
- Ball Valves 4812 one piece stainless steel - see section R.  
4832 3-piece stainless steel



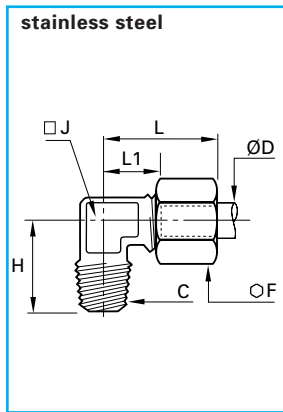
# stud couplings

## 1809 male stud elbow, BSP taper



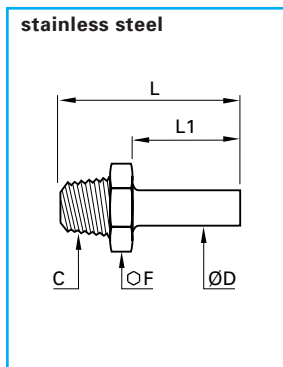
ØD	C		F	H	J	L <sub>maxi</sub>	L1	kg
6	R1/8	1809 06 10	13	18	8	25,5	13,5	0,020
6	R1/4	1809 06 13	13	23	10	25,5	13,5	0,030
8	R1/8	1809 08 10	14	20,5	10	28,5	14,5	0,026
8	R1/4	1809 08 13	14	23	10	28,5	14,5	0,030
10	R1/4	1809 10 13	19	25	12	32,5	16	0,049
10	R3/8	1809 10 17	19	25,5	12	32,5	16	0,055
10	R1/2	1809 10 21	19	32	18	36,5	20	0,094
12	R1/4	1809 12 13	22	26	14	34	17	0,066
12	R3/8	1809 12 17	22	27	14	34	17	0,070
12	R1/2	1809 12 21	22	32	18	37	20	0,100
16	R3/8	1809 16 17	27	28,5	18	39,5	21	0,085
16	R1/2	1809 16 21	27	31,5	18	39,5	21	0,105

## 1809 male stud elbow, NPT



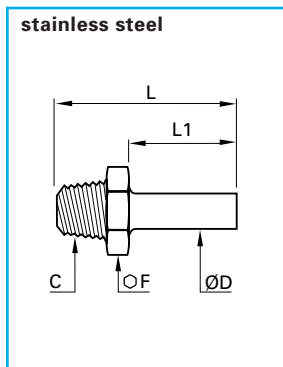
ØD	C		F	H	J	L <sub>maxi</sub>	L1	kg
6	1/8	1809 06 11	13	19,5	8	25,5	13,5	0,022
6	1/4	1809 06 14	13	25,5	10	25,5	13,5	0,032
6	3/8	1809 06 18	13	28	12	27	15	0,048
6	1/2	1809 06 22	13	34	12	29	17	0,072
8	1/8	1809 08 11	14	22	10	28,5	14,5	0,027
8	1/4	1809 08 14	14	25,5	10	28,5	14,5	0,033
10	1/4	1809 10 14	19	27,5	12	32,5	16	0,051
10	3/8	1809 10 18	19	28	12	32,5	16	0,056
10	1/2	1809 10 22	19	35	18	36,5	20	0,098
12	1/4	1809 12 14	22	28,5	14	34	17	0,068
12	3/8	1809 12 18	22	29,5	14	34	17	0,078
12	1/2	1809 12 22	22	35	18	37	20	0,104
16	3/8	1809 16 18	27	31	18	39,5	21	0,090
16	1/2	1809 16 22	27	34,5	18	39,5	21	0,115

## 1820 straight stem adaptor, BSP taper



ØD	C		F	L	L1	kg	
6	R1/8	1820 06 10		12	26,5	15	0,010
6	R1/4	1820 06 13		14	31	15	0,018
8	R1/8	1820 08 10		12	28,5	17	0,008
8	R1/4	1820 08 13		14	33	17	0,016
10	R1/4	1820 10 13		14	36	20	0,018
10	R3/8	1820 10 17		17	36,5	20	0,026
10	R1/2	1820 10 21		22	41	20	0,054
12	R1/4	1820 12 13		14	36	20	0,018
12	R3/8	1820 12 17		17	36,5	20	0,024
12	R1/2	1820 12 21		22	41	20	0,050
16	R3/8	1820 16 17		17	39,5	23	0,028
16	R1/2	1820 16 21		22	44	23	0,056

## 1820 straight stem adaptor, NPT



ØD	C		F	L	L1	kg	
6	1/8	1820 06 11		12	26,5	15	0,010
6	1/4	1820 06 14		14	31	15	0,020
8	1/8	1820 08 11		12	28,5	17	0,010
8	1/4	1820 08 14		14	33	17	0,020
10	1/4	1820 10 14		14	36	20	0,020
10	3/8	1820 10 18		19	36,5	20	0,032
10	1/2	1820 10 22		22	41	20	0,060
12	1/4	1820 12 14		14	36	20	0,020
12	3/8	1820 12 18		19	36,5	20	0,028
12	1/2	1820 12 22		22	41	20	0,054
16	3/8	1820 16 18		19	39,5	23	0,032
16	1/2	1820 16 22		22	44	23	0,064

Orientable elbow assembly

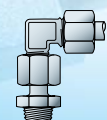
equal elbow  
1802



straight stem adaptor  
1820



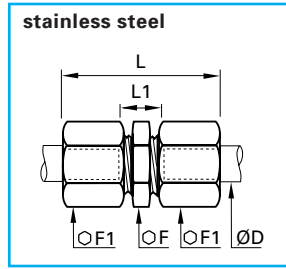
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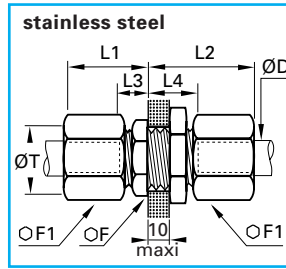
# tube to tube couplings

## 1806 equal connector



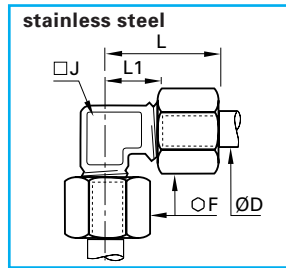
ØD		F	F1	L <sub>maxi</sub>	L1	△kg△
6	<a href="#">1806 06 00</a>	12	13	34,5	11	0,026
8	<a href="#">1806 08 00</a>	13	14	38,5	10	0,030
10	<a href="#">1806 10 00</a>	17	19	46	13	0,066
12	<a href="#">1806 12 00</a>	19	22	47	13	0,086
16	<a href="#">1806 16 00</a>	24	27	51	13	0,106

## 1816 bulkhead coupling



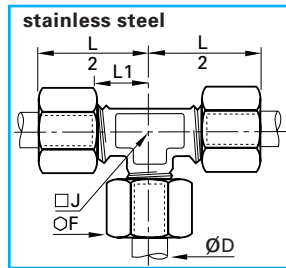
ØD		F	F1	L1 <sub>maxi</sub>	L2 <sub>maxi</sub>	L3	L4	T <sub>mini</sub>	△kg△
6	<a href="#">1816 06 00</a>	13	13	19	28	7,5	17,5	10,5	0,037
8	<a href="#">1816 08 00</a>	14	14	20	29	7	17	12,5	0,047
10	<a href="#">1816 10 00</a>	19	19	25	33	9	19	16,5	0,101
12	<a href="#">1816 12 00</a>	22	22	25	33	9	19	18,5	0,125
16	<a href="#">1816 16 00</a>	27	27	28	36	9,5	19,5	22,5	0,191

## 1802 equal elbow



ØD		F	J	L <sub>maxi</sub>	L1	△kg△
6	<a href="#">1802 06 00</a>	13	8	25,5	13,5	0,026
8	<a href="#">1802 08 00</a>	14	10	28,5	14,5	0,034
10	<a href="#">1802 10 00</a>	19	12	32,5	16	0,068
12	<a href="#">1802 12 00</a>	22	14	34	17	0,094
16	<a href="#">1802 16 00</a>	27	18	39,5	21	0,126

## 1804 equal tee



ØD		F	J	L/2	L1	△kg△
6	<a href="#">1804 06 00</a>	13	8	25,5	13,5	0,040
8	<a href="#">1804 08 00</a>	14	10	28,5	14,5	0,050
10	<a href="#">1804 10 00</a>	19	12	32,5	16	0,096
12	<a href="#">1804 12 00</a>	22	14	34	17	0,134
16	<a href="#">1804 16 00</a>	27	18	39,5	21	0,150

### Identification

Part numbers have been chosen by a method of mnemonics. Each stainless steel compression fitting is identified by :

- product type
- the outside diameter of the tube
- the thread code or second tube o.d.

Example of product code

**1805 06 10**

product type

tube o.d.

thread code or second tube o.d.



# complementary fittings

## the Legris reduction assembly

This patented accessory enables a smaller tube size to be used with the standard Legris coupling designed for larger sized tube. Tubes may be stainless steel or fluoropolymer and of different diameters.

### The Legris reduction assembly :

- allows a lower stockholding of fittings (9 alternative reductions are available).
- enables less complicated system designs.
- allows connection of many tube diameters within one installation.

Legris reducers may be used with tailpiece adaptor reference **1822**.

The **reduction assembly** comprises three elements.

① the reduction piece.



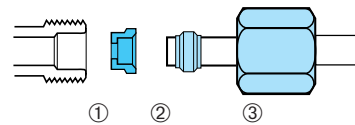
which fits inside the body of this fitting.



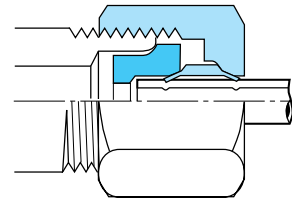
② the stainless steel compression olive fits on the end of the tube and is inserted between the reduction piece and the sleeve nut.



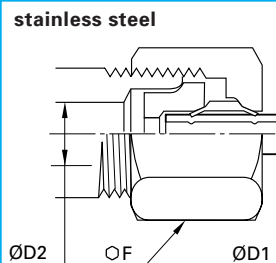
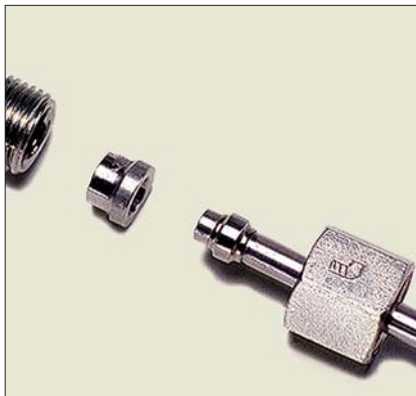
③ the stainless steel sleeve nut,



which is slightly longer than the standard sleeve nut in order to accommodate the extended length of the reduction piece.



## 1866 reduction assembly



Ø D1 = tube to be fitted  
Ø D2 = original tube o.d.

ØD1	ØD2		F	Δkg
6	8	<b>1866 06 08</b>	14	0,011
8	10	<b>1866 08 10</b>	19	0,013
6	10	<b>1866 06 10</b>	19	0,010
10	12	<b>1866 10 12</b>	22	0,034
8	12	<b>1866 08 12</b>	22	0,038
6	12	<b>1866 06 12</b>	22	0,042
12	16	<b>1866 12 16</b>	27	0,054
10	16	<b>1866 10 16</b>	27	0,046
8	16	<b>1866 08 16</b>	27	0,052

Each of the above part numbers comprises :

- a reduction piece
- an olive : ref 1824
- a sleeve nut : ref 1810

Stainless steel fittings can be used with various plastic tubing shown in this catalogue :

- **semi rigid polyamide tube**  
6 mm to 16 mm OD .

- **flexible polyurethane tube**  
6 mm to 14 mm OD

- **fluoropolymer tube FEP 140**  
6 mm to 12 mm OD

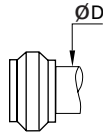


# complementary fittings

## 1824 olive



stainless steel

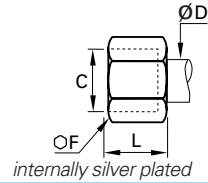


ØD		
6	<a href="#">1824 06 00</a>	0,001
8	<a href="#">1824 08 00</a>	0,002
10	<a href="#">1824 10 00</a>	0,003
12	<a href="#">1824 12 00</a>	0,004
16	<a href="#">1824 16 00</a>	0,006

## 1810 sleeve nut



stainless steel

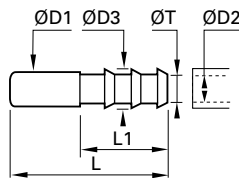


ØD	C		F	L	
6 M10x1	<a href="#">1810 06 00</a>		13	11	0,007
8 M12x1	<a href="#">1810 08 00</a>		14	13	0,008
10 M16x1,5	<a href="#">1810 10 00</a>		19	15	0,017
12 M18x1,5	<a href="#">1810 12 00</a>		22	15	0,024
16 M22x1,5	<a href="#">1810 16 00</a>		27	17	0,043

## 1822 tailpiece adaptor for rubber hose



stainless steel



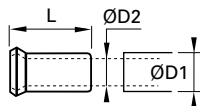
ØD1	ØD2		ØD3	L	L1	ØT passage mini.	
6	7	<a href="#">1822 06 07</a>	9	37,5	22,5	6	0,008
8	6	<a href="#">1822 08 06</a>	8	40	22,5	5	0,008
8	7	<a href="#">1822 08 07</a>	9	40	22,5	6	0,008
8	10	<a href="#">1822 08 10</a>	12,5	40	22,5	9	0,012
10	7	<a href="#">1822 10 07</a>	9	43	22,5	6	0,010
10	10	<a href="#">1822 10 10</a>	12,5	43	22,5	9	0,014
12	10	<a href="#">1822 12 10</a>	12,2	43	22,5	9	0,014
12	13	<a href="#">1822 12 13</a>	15	50	29,5	13	0,018

1822 tailpiece adaptors inserted directly into couplings and fixed with the nut and olive supplied with the coupling.

## 1827 ferrule for plastic and fluoropolymer tubing



stainless steel



ØD1	ØD2		L	
6	4	<a href="#">1827 06 00</a>	11,5	0,001
8	6	<a href="#">1827 08 00</a>	14	0,001
10	8	<a href="#">1827 10 00</a>	18	0,002
12	10	<a href="#">1827 12 00</a>	18	0,002
16	14	<a href="#">1827 16 00</a>	18	0,003

This ferrule is necessary when using nylon and teflon tube FEP 140 at all temperatures compatible with the fitting/tube assembly.

This catalogue offers a range of stainless steel accessories compatible with complementary fittings. Please refer to section J (Accessories).