

Double ferrule compression fittings

Model 5474 Needle valve with double ferrule
compression fittings
316 stainless steel



Specifications

Dimensions: 6 to 12mm (metric pipes)

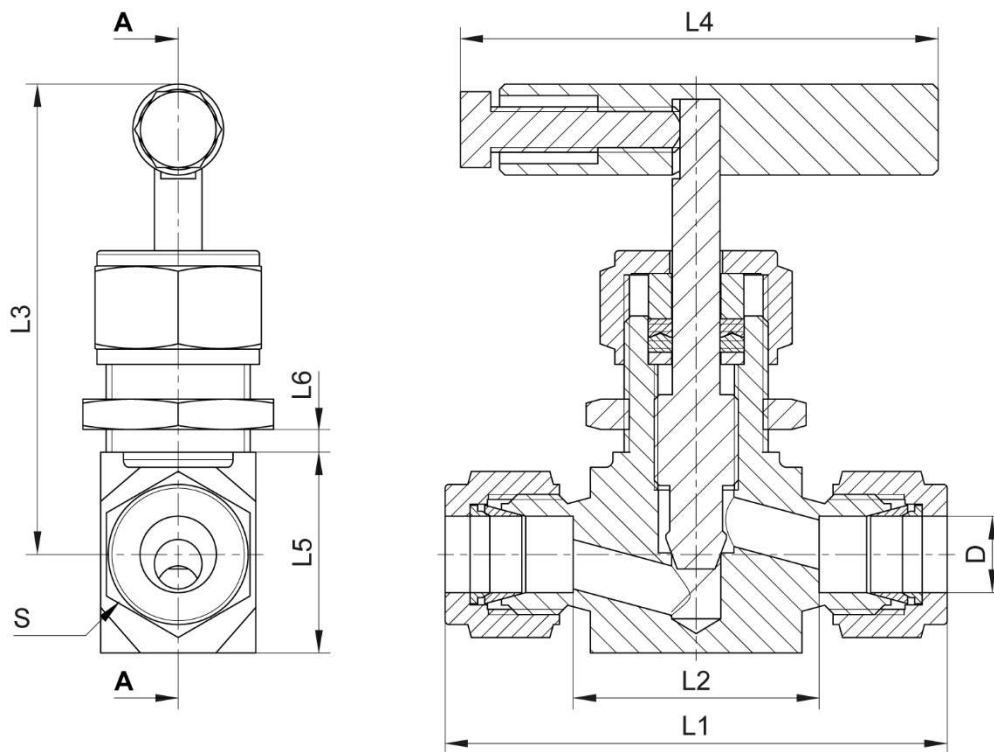
1/4" to 3/4" (imperial pipes)

Connectors: double ferrule compression fittings

Max. operating pressure: 413 bar

Temperature: - 54°C to +232°C

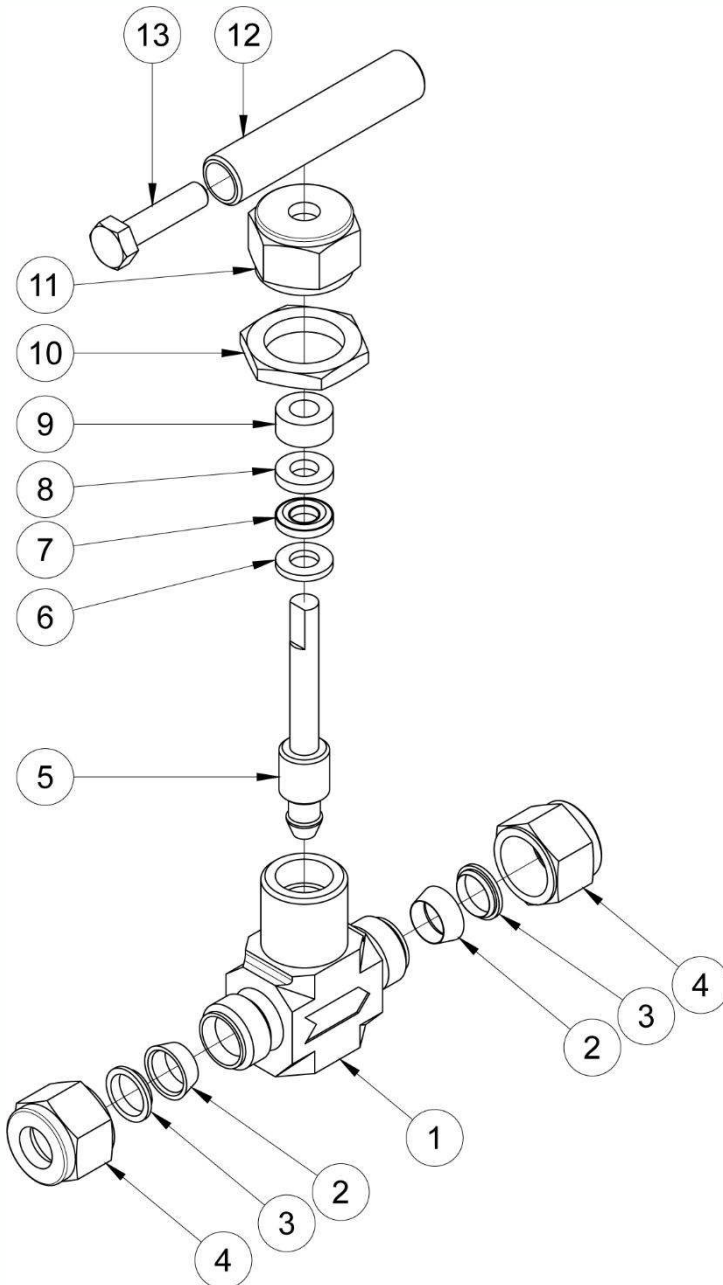
Material: 316 stainless steel - PTFE seats


COUPE A-A
For metric pipes

D (mm)	Ø bore (mm)	L1 (mm)	L2 (mm)	L3 max. (mm)	L4 (mm)	L5 (mm)	L6 (mm)	S (mm)	Weight (kg)	Part number
6	4.3	57.6	26.8	51.2	45	21.0	3.2 - 6.4	14	0.27	454747-6
8	4.3	59.2	26.5	51.2	45	21.0	3.2 - 6.4	16	0.28	454747-8
10	6.3	66.4	32.5	63.6	64	26.5	3.2 - 6.4	19	0.42	454747-10
12	6.3	72.0	26.2	63.6	64	26.5	3.2 - 6.4	22	0.45	454747-12

For pipes in inches

D (inches)	Ø bore (mm)	L1 (mm)	L2 (mm)	L3 max. (mm)	L4 (mm)	L5 (mm)	L6 (mm)	S (mm)	Weight (kg)	Part number
1/4"	4.3	57.6	27.1	51.2	45	24.0	3.2 - 6.4	14.3	0.27	454747-1/4
3/8"	6.3	66.4	32.5	63.6	64	26.5	3.2 - 6.4	17.5	0.42	454747-3/8
1/2"	6.3	72.0	26.2	63.6	64	26.5	3.2 - 6.4	22.2	0.45	454747-1/2
3/4"	9.5	97.0	48.7	91.7	76	38.0	3.2 - 6.4	28.6	1.10	454747-3/4



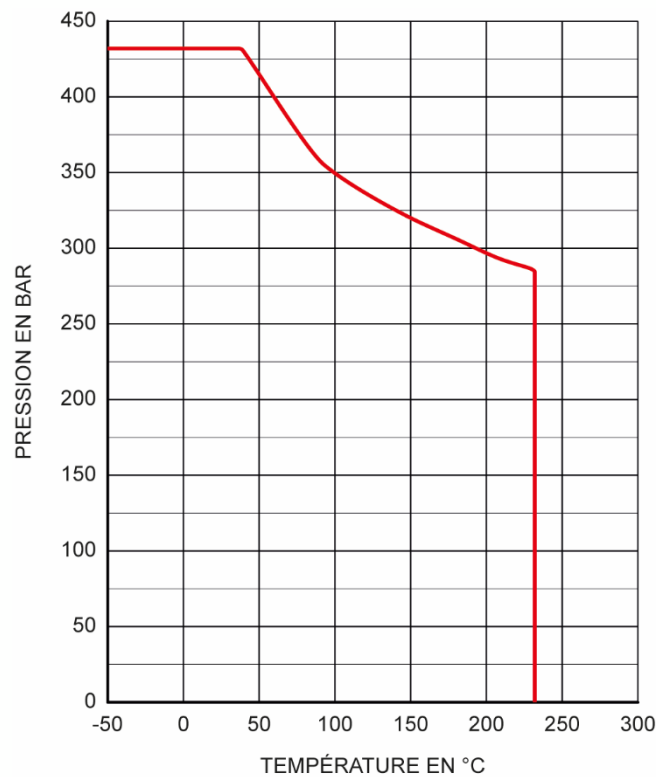
N°	Part Name	Material
1	BODY	AISI 316
2	FRONT FERRULE	AISI 316
3	BACK FERRULE	AISI 316
4	FERRULE NUT	AISI 316
5	NEEDLE SHAFT	AISI 316
6	WASHER	AISI 316
7	SHAFT PACKING	PTFE
8	SHAFT PACKING	PTFE
9	SUPPORT RING	AISI 316
10	PANEL MOUNTING NUT	AISI 316
11	NUT (GLAND)	AISI 316
12	HANDLE	AISI 304
13	BOLT (HANDLE)	A2

Use

Turn the valve's handle clockwise to close the valve or anti-clockwise to open it.

Pressure and temperature

For pressure/temperature ratings, see the graph below.



Warning: If the valve is used with fluids that have a temperature above 60°C then people could burn themselves if they touch it.

Fluids

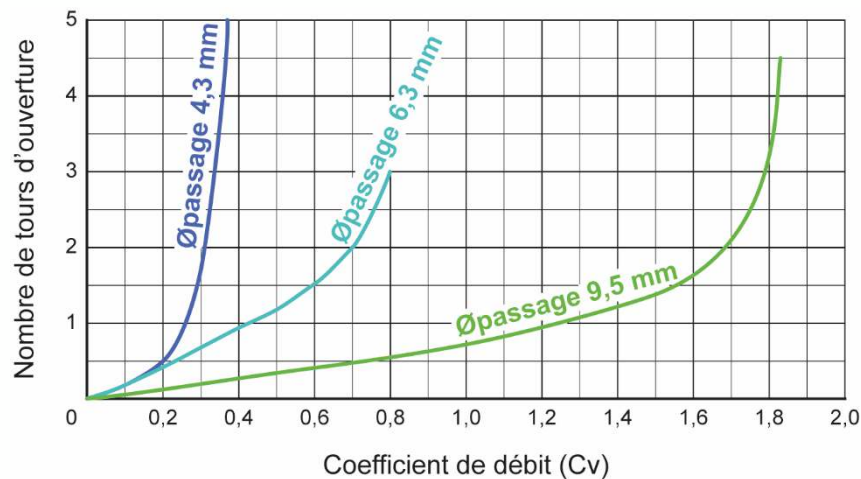
This valve is suitable for non-abrasive and non-coagulable fluids, as long as the fluids are chemically compatible with the valve parts that they can come into contact with.

Flow coefficient and pressure loss

Part number (454747-...)	6	8	10	12	1/4	3/8	1/2	3/4
Cv (Gallons per minute - GPM)	0.37	0.37	0.73	0.73	0.37	0.73	0.73	1.80

The flow coefficient Kv defines water flow rate through a device (valve, check valve etc.) for a pressure loss (ΔP) of 1 bar. Kv is expressed mathematically as:

$$\Delta P = \frac{Q^2}{Kv^2} \quad \text{so:} \quad Kv = \frac{Q}{\sqrt{\Delta P}} \quad \begin{array}{l} Q \text{ Flow rate in m}^3/\text{h} \\ \Delta P \text{ in bar} \end{array} \quad \begin{array}{l} Kv = 0.857 \times Cv \\ Kv \text{ in m}^3/\text{h} \end{array}$$



Assembly and maintenance instructions

Installation

You can install the valve in any position. However, check that there is enough space to move the valve's handle where you are planning to install the valve.

Check that the installation is clean and free from foreign bodies that could damage the valve.

Check that all piping is perfectly aligned and that the piping support structure is dimensioned so that the valve is not subject to any external stresses. The piping support structure must only support the pipes, not the valve.

How to install a valve with double ferrule compression fittings:

You must not use the valve's handle when you are tightening the assembly (this could damage the valve).

Before assembly, apply a thin layer of lubricant onto the fitting's stainless steel threads to make it easier to tighten its nuts and to avoid the risk of seizing.

Insert the pipe completely into the fitting, against the bottom of the hole in the compression fitting's body, then tighten the nut by hand without over tightening it.

For high pressure applications and systems with a high safety coefficient, tighten the nut further so that you can no longer turn the pipe by hand and then draw a mark on the nut.

Keep the compression fitting's body **1** still and use a wrench to tighten the ferrule nut **4** by one and a quarter turns.

Please read the double ferrule compression fitting assembly instructions on our website if you require more information.

Clean the installation leaving the valve open so that there are no foreign bodies between the needle and the body.

Check the valve is operating correctly.

Pressure test the installation according to the relevant standards (e.g. EN 12266-1), but do not exceed the valve's specifications.

Maintenance

The valve does not require any specific maintenance if it is used in normal operating conditions.

If the valve is never opened or closed during normal operation then you should regularly open and close the valve to check that it is still working correctly.

If any leaks appear around the needle shaft **5** during operation (or during the valve installation testing phase), tighten the nut (gland) **11**.

But you must not over tighten the nut, as this could reduce the system's service life.

You may need to change the valve due to unusual wear and tear, or if a fluid has damaged the valve and caused a leak or malfunction.

Standards and compliance

- This valve complies with European Pressure Equipment Directive (PED) 2014/68/EU (formerly 97/23/EC)