

Butterfly valve accessories

Model 61326 1/4 turn (90°) stainless steel, spring return pneumatic actuator



Specifications

Dimensions: For DN25 to DN104 (1" to 4") valves

Operating pressure: 4.5 to 8 bar

Ambient temperature: -20°C to +80°C

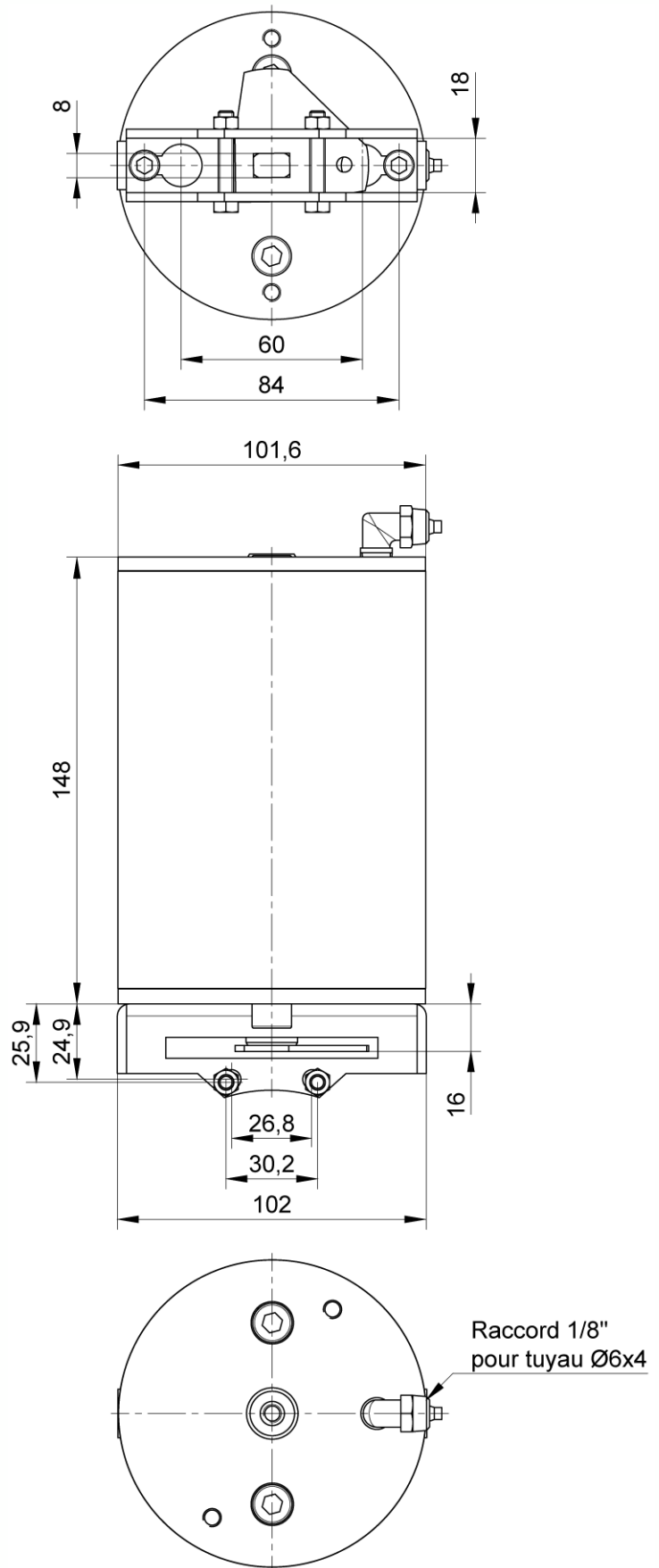
Torque: 40 Nm at 6 bar

Opening/closing time: 1.5 to 3.5 seconds
(depending on the compressed air flow rate)

Material: Stainless steel

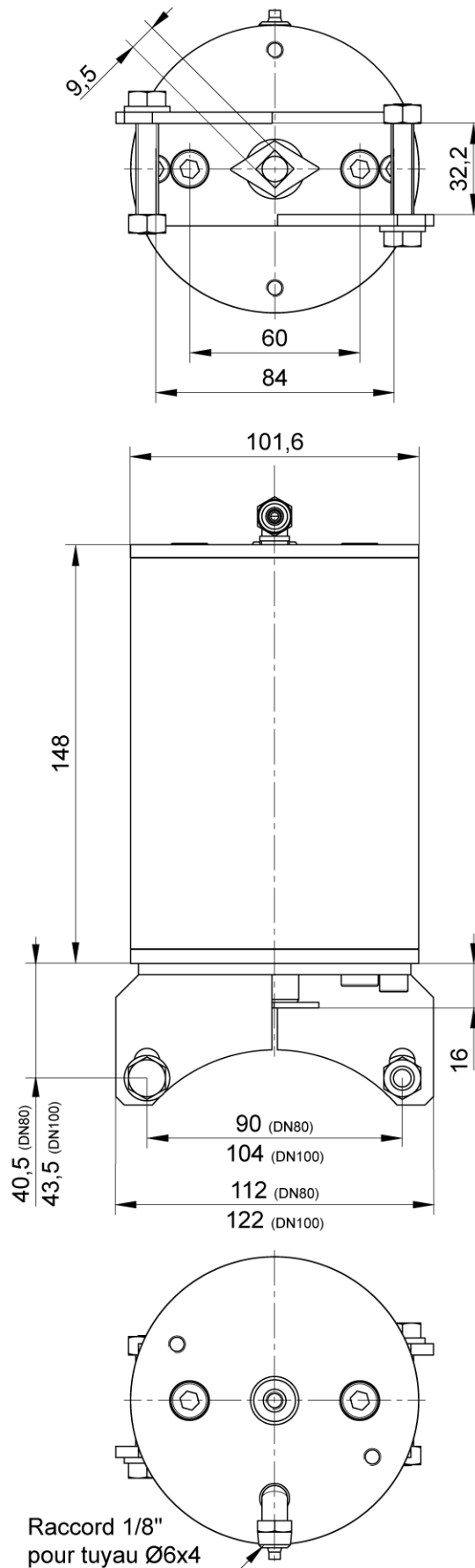
Spring return pneumatic actuator (NC as standard):
Closed by its spring/opened by compressed air

DN 25 to 76 valves

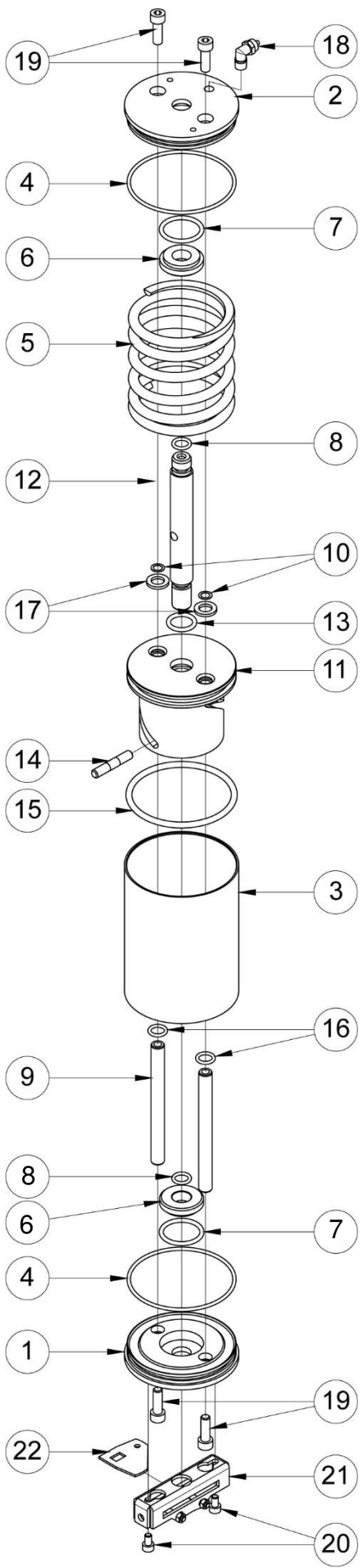


Valve DN (mm)	Valve NB (inches)	Weight (kg)	Part number
25 to 76	1" to 3"	4.50	261326-70SG

DN 80 to 104 valves



Valve DN (mm)	Valve NB (inches)	Weight (kg)	Part number
80	3"1/2	4.60	261326-80SG
100 and 104	4"	4.70	261326-104SG



N°	Part Name	Material
1	LOWER CAP	AISI 303/304
2	UPPER CAP	AISI 303/304
3	CYLINDER	AISI 304/304L
4	O-RING (HOUSING/BODY)	NBR
5	SPRING	STEEL
6	FRICTION RING	DELRIN (POM-H)
7	O-RING (FRICTION RING/CAP)	NBR
8	O-RING (SHAFT/FRICTION RING)	NBR
9	SPACER	AISI 304/AISI 304L
10	SEALING WASHER	NYLON
11	PISTON	HIGH-DENSITY POLYETHYLENE (HDPE)
12	PISTON SHAFT	AISI 304/AISI 304L
13	O-RING (PISTON/SHAFT)	NBR
14	PIN	AISI 304/AISI 304L
15	O-RING (PISTON/CYLINDER)	NBR
16	O-RING (PISTON/INTERNALLY THREADED ROD)	NBR
17	STOP WASHER	NYLON
18	PNEUMATIC CONNECTOR FOR Ø6 PIPING	NICKEL-PLATED BRASS
19	M8 CHC BOLT	A2
20	M6 CHC BOLT	A2
21	BUTTERFLY VALVE FIXING BRACKET	AISI 304/AISI 304L
22	POSITION INDICATOR	AISI 304/AISI 304L

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Assembly and maintenance instructions

Installation

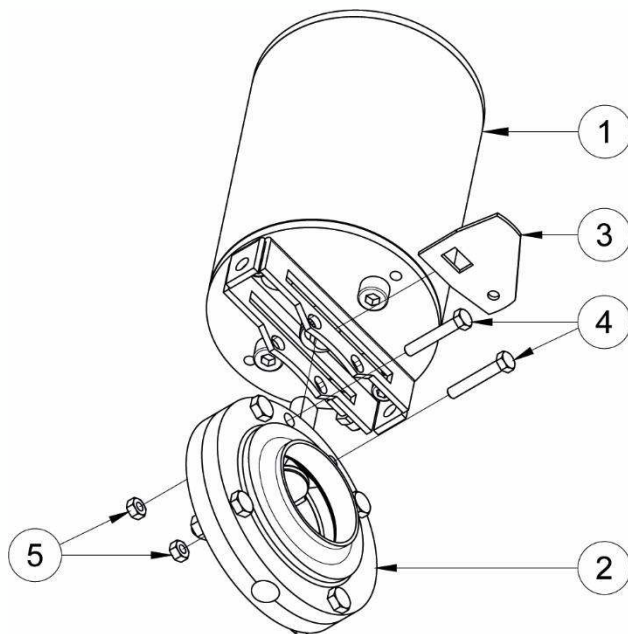
You can install the pneumatic actuator in any position.

Check that there is enough space to install the pneumatic actuator and to carry out maintenance operations where you are planning to install it.

Pneumatic actuator installation:

Before installing your pneumatic actuator you should lubricate the air supply network as this will improve the actuator's life span. Follow the instructions below to install the pneumatic actuator with fixing bracket.

DN 25 to 76 valves



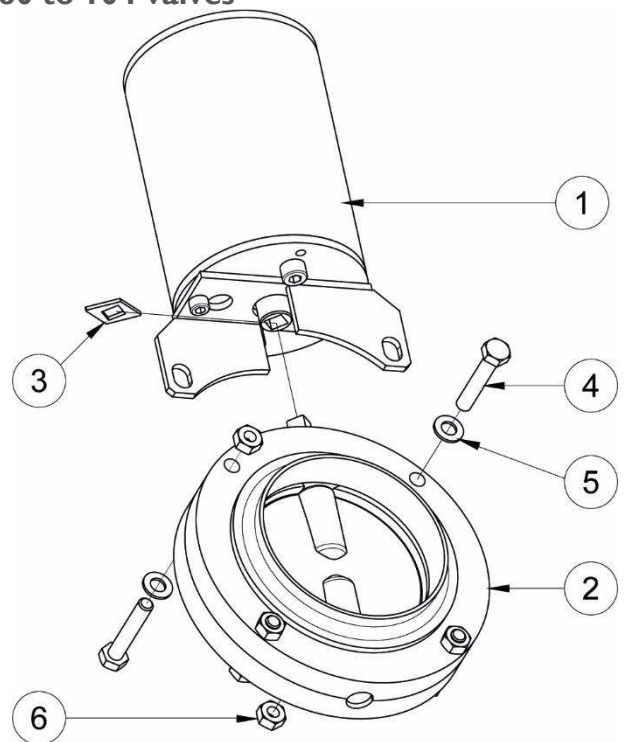
Slide the position indicator **3** into the slot in the actuator's fixing bracket **1**.

Close the butterfly valve **2**, push the butterfly's shaft into the position indicator **3** and the actuator's shaft **1** until the holes in the fixing bracket are lined up with those on the butterfly valve **2**.

Fix the assembly into place with the 2 bolts **4** and the 2 nuts **5** which are supplied with the actuator **1**.

N°	Part Name
1	ACTUATOR
2	BUTTERFLY VALVE
3	POSITION INDICATOR
4 - 5 - 6	FIXING BOLTS, NUTS AND WASHERS

DN 80 to 104 valves



Unscrew the butterfly valve's upper bolts (you will not need to use these 2 bolts).

Place the position indicator **3** on the butterfly valve's shaft **2**.

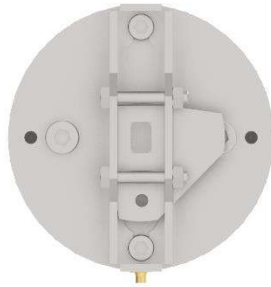
Close the butterfly valve **2**, push the butterfly's shaft into the actuator's shaft **1** until the fixing bracket's holes are lined up with those on the butterfly valve **2**.

Fix the assembly into place with the 2 bolts **4**, the 2 nuts **6** and the 2 washers **5** which are supplied with the actuator **1** (position the washers **5** on the same side as the fixing bracket).

IMPORTANT: The piping network must be empty of fluid and not pressurised as during this operation you will partially disassemble the valve so the network will no longer be fully sealed.

NC or NO operation:

These spring return pneumatic actuators are delivered for 'normally closed' (NC) valve operation as standard (closed by spring/opened by compressed air). If you require 'normally open' (NO) valve operation (opened by spring/closed by compressed air) turn the actuator's fixing bracket by 90° before you connect the actuator onto the open valve.

NC Position**NO Position**

N.B. You must connect an NC actuator with a closed valve and an NO actuator with an open valve.

The actuator turns 1/4 turn (90°) clockwise to close the valve and 1/4 turn (90°) anti-clockwise to open it.

Maintenance

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

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

You may need to change some of the actuator's parts due to wear and tear as this could cause a leak or malfunction.

If this is the case see the "Assembly / Disassembly" section below and the "Spare Parts" section on page 9.



WARNING DANGER: spring return pneumatic actuators are labelled with a 'spring under tension - do not disassemble' sticker.

The disassembly/reassembly of this type of actuator is a complex operation which requires the use of specific tooling (a press, aligning pins etc.). The spring inside this actuator could cause serious injury if it is handled incorrectly during this operation.

Assembly / Disassembly

The maintenance and removal/installation of the pneumatic actuator must be carried out by personnel who are qualified and trained for this type of intervention.



Warning: Do not connect/disconnect the actuator if it is pressurised or linked to a compressed air network as you could seriously injure yourself if the air supply cuts off or if the actuator is accidentally activated.

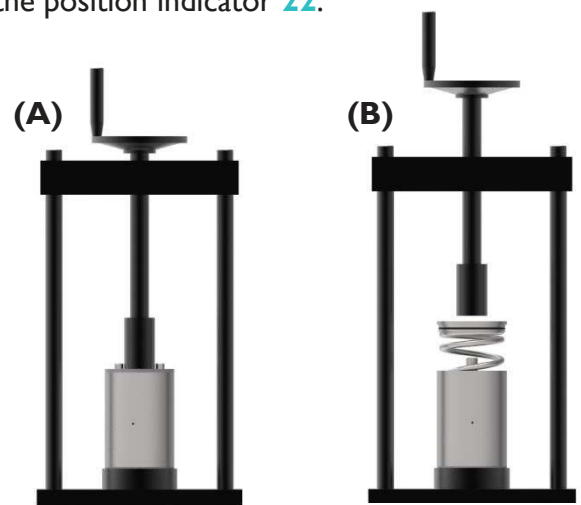
Warning: If the actuator is used at temperatures above 60°C then people could burn themselves if they touch it.

Warning: Beware of hazardous materials - follow the instructions provided by the suppliers.

First, remove the pneumatic actuator from the valve.

Unscrew the bolts **20** and remove the fixing bracket **21** and the position indicator **22**.
Remove the pneumatic connector **18**.

Place the actuator in a press as indicated in the image **(A)** to the right.



Once the actuator is in the press, unscrew the 2 bolts **19**.

Progressively release the press to uncoil the spring as shown in image **(B)**.

Once the spring is uncoiled, remove the lower cap **1** and the spring **5**.

Remove the cylinder **3**.

Remove the 'shaft **12** – piston **11** – pin **14**' assembly, remove the pin **14** to disconnect the piston **11** and to be able to access the o-ring **13**.



Warning: Remove the pin **14** from the piston shaft **12** **very carefully**.

You only need to disassemble the spacers **9** from the upper cap **2** if there is an air leak coming from this area. If this is the case, change the sealing washers **10**.

If you have disassembled the spacers **9** then you must change the washers **10**.

Warning: You must be careful not to scratch the spacers **9** with pliers where the o-rings **16** will come into contact with them when the actuator opens and closes.

Remove the friction rings **6** from the caps **2** and **1** to access the o-rings **7**.
You will only need to change the friction rings if they are damaged.

Clean and inspect all of the parts of the actuator.

If you have completely disassembled the pneumatic actuator, you will need to change all of its sealing parts: o-rings **4**, **7**, **8**, **13**, **15** and **16**.

You should also change any other worn parts (see page 9, "Spare parts" section).

Follow the disassembly steps in reverse order to reassemble the pneumatic actuator while taking note of the additional information provided below.

Before starting the reassembly make sure the o-rings are well greased.

Reassemble the ‘shaft 12 – piston 11 – pin 14’ assembly onto the ‘upper cap 2 – spacer 9’ assembly. When you reassemble the piston 11 onto the shaft 12, make sure that you put the parts the right way round and that the pin 14 is centred correctly. If the pin is not centred correctly it will come into contact with the spacers 9 and stop the actuator from working correctly.

Grease the inside of the cylinder 3 where the o-rings will come into contact with its surface. This will make it easier to reassemble it and reassemble it onto the other assembly.

Place the actuator assembly in the press, with the spring 5 inside the cylinder 3.

Place the 2 aligning pins on the actuator’s spacers 9 and place the actuator’s lower cap 1 on the spring 5. The aligning pins will pass through the lower cap’s 2 fixing holes (C).



Once you have lined up these parts, progressively tighten the press while making sure that the assembly is correctly lined up so that the gaskets are not damaged during this process.

Once you have used the press to put the lower cap 1 correctly into place, remove the 2 aligning pins and position and tighten the 2 bolts 19 to fix the assembly together. Then slowly release the press.

Check that the bolts 19 are tightened correctly on both sides of the actuator.

Screw the compressed air connector 18 back onto the cap so that you can check the actuator is working correctly and that there are no leaks.

Reassemble the fixing bracket 21 and the position indicator 22.

Actuator connection:

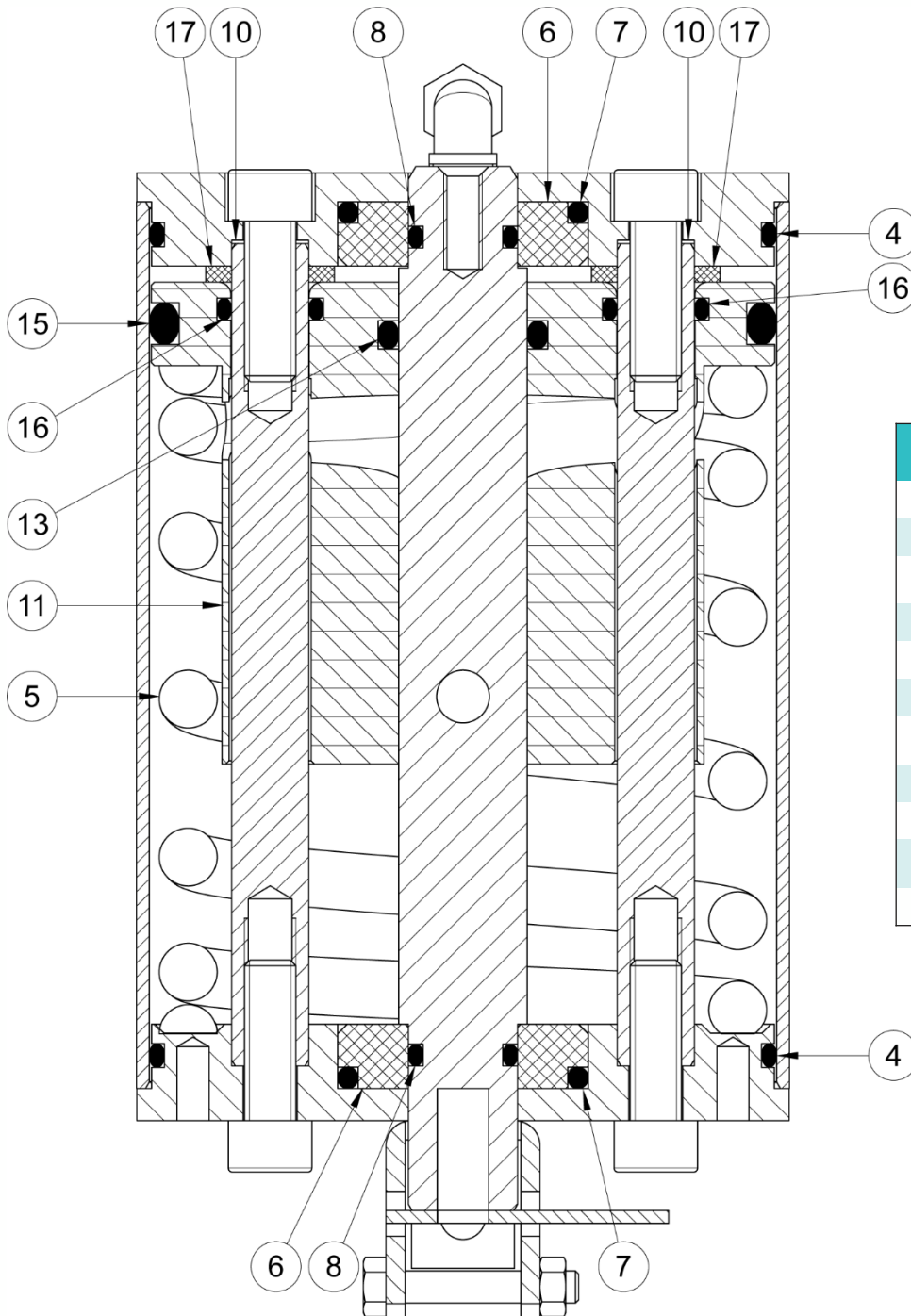
Connect the actuator to the compressed air network using a 1/8" tapered thread connector (part number 150986-618) and a Ø6x4 flexible pipe (e.g. Rilsan). Depending on your compressed air network and your process, you could use a different connector such as an air flow restrictor instead of this one.

The actuator can also be connected to the network using an electro-pneumatic control unit (see model 61330).

Air volume	Open valve	Closed valve
Chamber 1 (for valve opening)	294 cm ³	13 cm ³

Spare parts

Spring return pneumatic actuator spare parts:



N°	Part number	Material	Quantity
4	JTO913N	NBR	2
5	RCANS12	STEEL	1
6	BAGNS2	DELTRIN (POM-H)	2
7	JTO24N	NBR	2
8	JTO10N	NBR	2
10	JPN12805	NYLON	2
11	PISNS01	High density polyethylene	1
13	JTO16N	NBR	1
15	JTO44N	NBR	1
16	JTO10N	NBR	2
17	RDL201225	Nylon	2