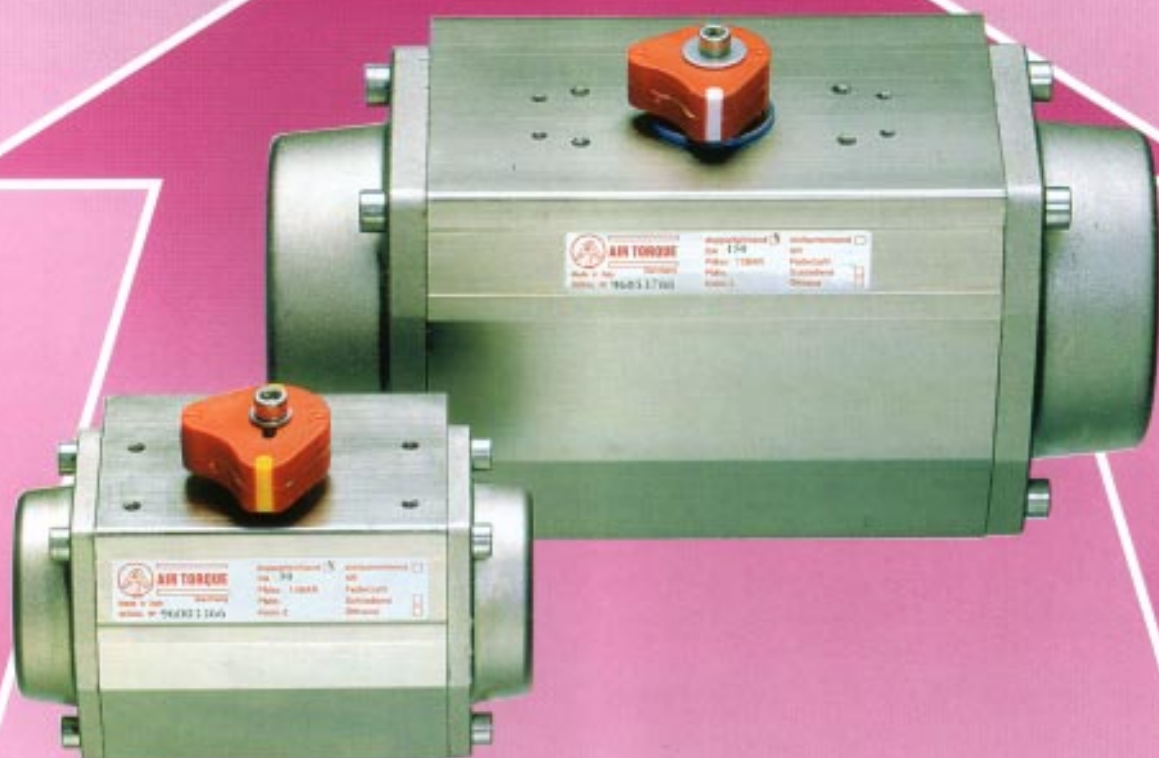


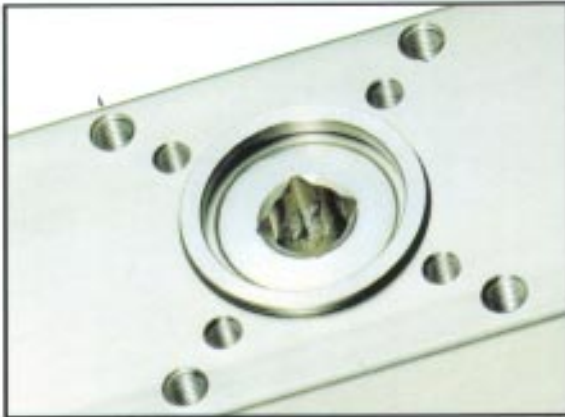


AIR TORQUE



Power in the air

Pneumatic actuators
for the chemical industry
Version "C"



DIN/ ISO 5211 - DIN 3337

On the valve side of the actuator F03 - F16 connections are provided. Several combinations of drive sizes and flanges are provided. The most used types (60, 100, 150, 300 and 600) have a double flange connection, so that you can use the standard mounting materials with different sizes of the drives.



VDI / VDE 3845

All AT – actuators can be combined with standard positioners. The drive connection provides the sizes:

Type	Positioner
6	Size 0
15 - 150	Size 1
220 - 450	Size 3
600 - 3000	Size 4



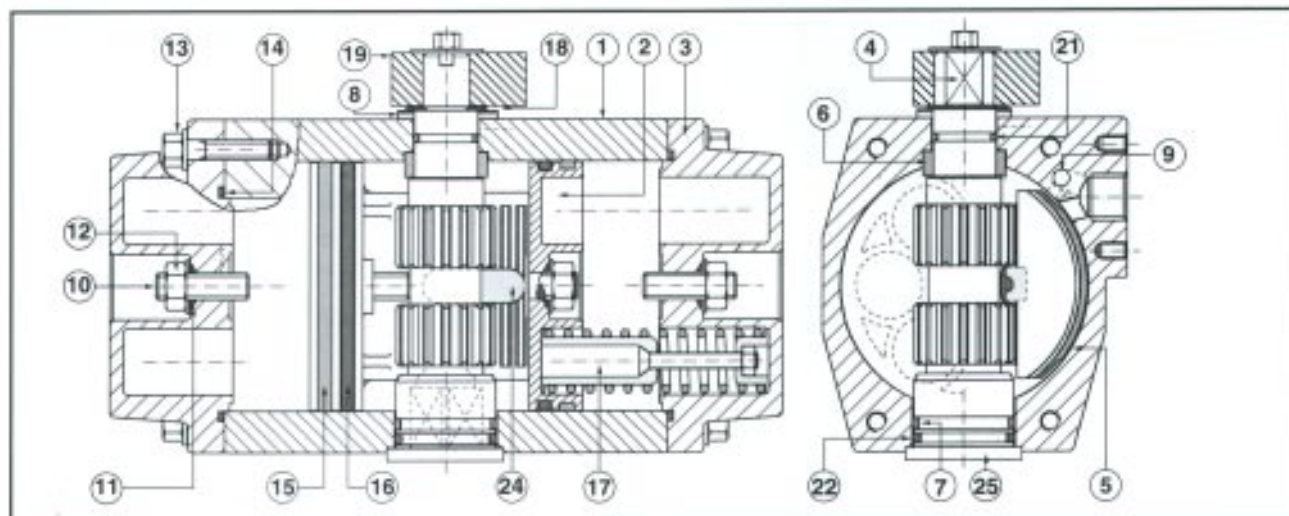
NAMUR - connection

NAMUR connection for control valves. Economic mounting through excellent fastening facilities in the upper part and axial to the actuator provides the widest variety of mounting tolerance.



Highest preciousness

The center body bore has a high precious machine finish that can be compared with a high final lapping process. The measured average surface roughness is 0,50 μm (at NC).



Rack and pinion actuator with constant torque

throughout the entire output rotation with convincing advantages:

(1) The body is electroless nickel plated, coated with clear polyester. The end caps are chromated, coated with silver colored polyester. This excellent surface protection reduces also the friction of the guiding bearings of piston and sealing to a minimum.

The break-away torque is caused by a very low pressure of about 0.15 bar.

(10,10a) Travel stops for the open and close position allow a fine adjustment of $\pm 4^\circ$. This special feature eliminates alignment problems due to a clearance of connections between the stem of the valve adaptor and the shaft of the actuator.

(2) Due to a triple bearing of the piston all actuators have a constant torque, even under high load. Beside the guides on the outside of the piston there is an additional guide inside which absorbs the cross load through the integrated support at the drive shaft.

(4) The drive shaft is guided by two polyamide (PA4.6) bearings. These guarantee a less friction and abrasion-free operation. Due to the special design of the bearings the drive shaft is blowout proof and fulfills the hard US standards for product liability. The drive shaft has a 40 μm electroless nickel coating.

(06,07) The bearings (06,07) are made of polyamide (PA4.6) and therefore they are temperature resistant up to 155°C.

Because of an internal retaining shoulder the bearings are blowout safe.

(17) The maintenance free springs allow a safe and simple assembly and disassembly. The adaptation of the AT - actuators to your working conditions with the recommended pneumatic pressure can so be arranged. The conversion of a double acting to a spring return actuator can be easily managed. Only the necessary springs have to be mounted. This advantage of AT - actuators reduces stocking costs significantly.

Silicon free:

All actuators are silicon free according to the automobile industry recommendations.

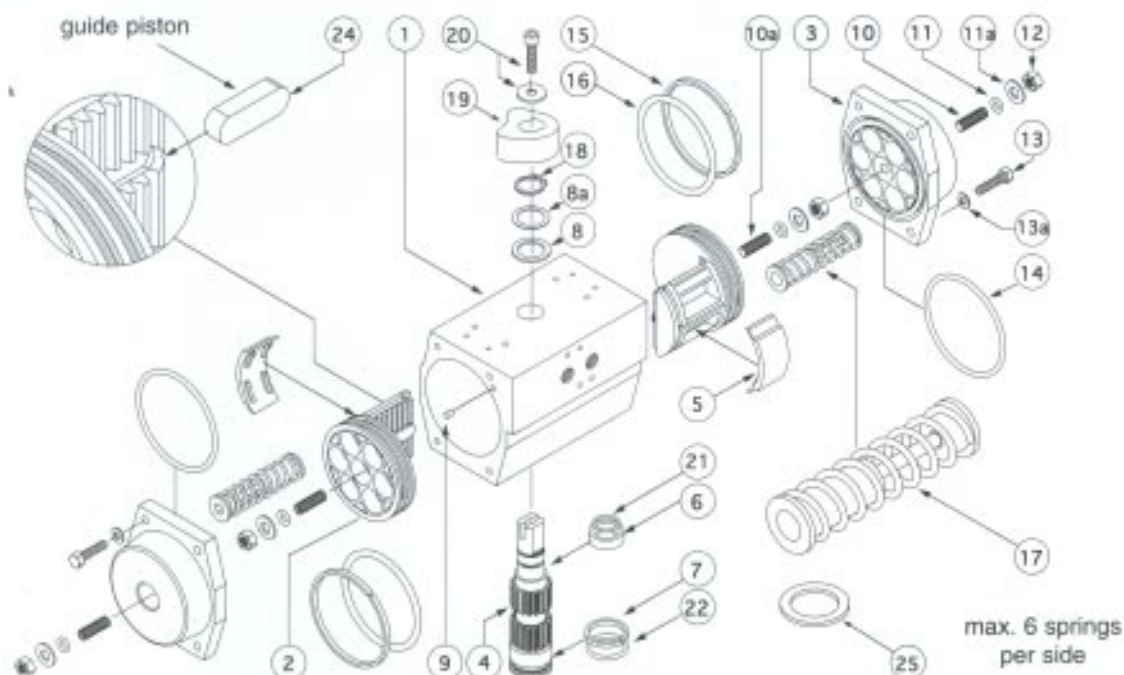
Serial inspection:

Each actuator has to pass a comprehensive serial inspection with e.g. a tightness / density check and a torque check. After passing the inspection the actuator is given a serial number according to ISO 9001.

"C" Version
Chem. Industry



AIR TORQUE



Pos.	Pcs	Part description	Material	Specifications	Protection
1	1	Body	Extruded aluminium alloy	ASTM 6063 T6	ENP + polyester
2	2	Piston	Aluminium alloy	ASTM B179 - DIN 1725/5	black anodized
3	2	End-caps	Aluminium alloy	ASTM B179 - DIN 1725/5	chromatized + polyester
4	1	Drive shaft	Forged steel	ASTM A105	ENP
5	2	Bearing (piston back)	Nylon 4.6, high temp.		
6	1	Bearing (pinion top)	Nylon 4.6, high temp.		
7	1	Bearing (pinion bottom)	Nylon 4.6, high temp.		
8	1	Thrust bearing (pinion)	Nylon 4.6, high temp.		
8a	1	Thrust (washer)	Stainless steel	AISI 304	
9	2	Plug (transfer port)	Nitril (NBR)		
10	2	Screw (ext. stroke adjust.)	Stainless steel	18-8	
10a	2	Screw (int. stroke adjust.)	Stainless steel	18-8	
11	4	'O' ring (screw seal)	Nitril (NBR)		
11a	4	Washer (seal)	Stainless steel	AISI 304	
12	4	Nut (stop adjustment)	Stainless steel	18-8	
13	8	Cap screw (end-cap)	Stainless steel	18-8	
13a	8	Washer (cap screw)	Stainless steel	18-8	
14	2	'O' ring (end-cap)	Nitril (NBR)		
15	2	Bearing (piston head)	Nylon 4.6, high temp.		
16	2	'O' ring (piston)	Nitril (NBR)		
17	12	Spring (cartridge)	High alloy spring steel		epoxy coated
18	1	Spring clip (pinion)	High alloy spring steel		ENP
19	1	Position indicator	Polyamide	red; indicator white	
20	1	Cap screw / washer	Stainless steel	18-8	
21	1	'O' ring (pinion top)	Nitril (NBR)		
22	1	'O' ring (pinion bottom)	Nitril (NBR)		
24	2	Guide piston	Polyphthalamide + 45% FG		
25	1	Center ring	Nylon 4.6, high temp.		



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