

Actuator

Ajac, pneumatic

AT 3810, 3811

Range of Application

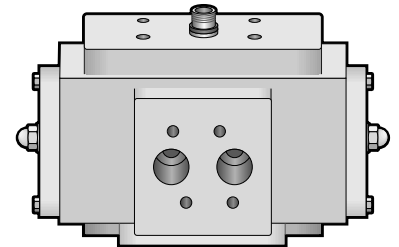
Actuator for on-off and control of ball, butterfly and plug valves or where 90° rotation is demanded.

Quality Assurance

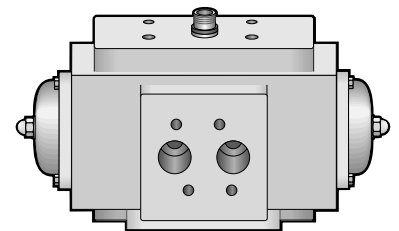
Solenoid valve connection and actuator top acc. to VDE/VDI 3845 (NAMUR).
Mounting flange and stem square drilled acc. to ISO 5211.

Certificate

Det Norske veritas (DNV), Germanischer Lloyd (GL), Lloyd's Register of Shipping.



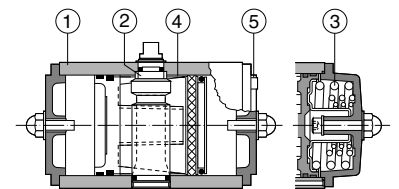
AT 3810



AT 3811

Material Specification

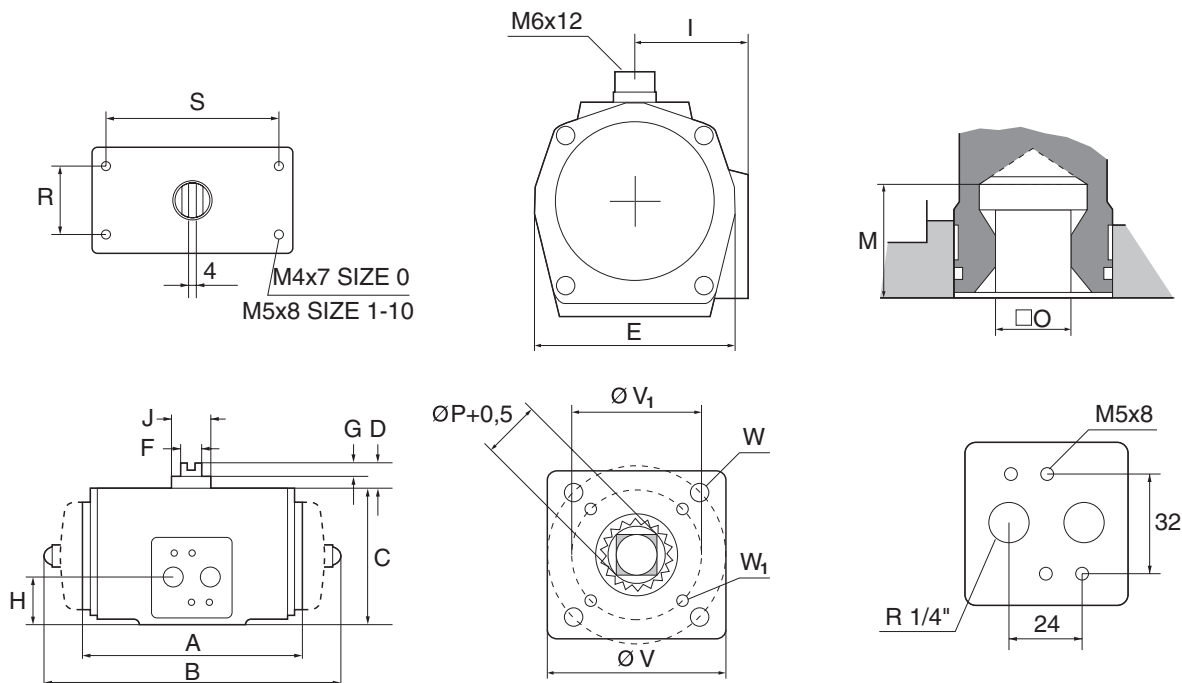
	Part	Pcs	Material	Surface treatment
1	Body	1	Aluminium G Al Si 10 Mg	Epoxy powder coating
2	Drive shaft	1	Steel	Delta Tone
3	Spring set for size 0-5,5 Separate springs for size 6,5-10	2	Spring steel DIN 17223 Class C	
4	Bearing bush size 0-5,5 size 6,5-10	1 2	Nylatron PTFE carbon filled	
5	Bolt	8	Stainless steel AISI 304	



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Dimension and Weight

Act. size	3810		3811		Ø																Weight	
	A	B	C	D	E	F	G	H	I	J	M	O	P	R	S	V	W	V ₁	W ₁	3810	3811	
-0	103	118	60	20	60	10	12	21	33	16	16,5	9	12,1	31	40	—	-	42	M6*8	0,6	0,7	
N1	159	172	80	20	74	10	12	32	46	16	34,5	11	14,1	30	80	50	M6*10	36	M5*8	1,3	1,7	
N2	180	204	93	20	86	14	12	34	53	22	34,5	14	18,1	30	80	70	M8*13	50	M6*10	1,8	2,4	
N3	221	267	118	20	108	14	12	45	63	22	34,5	19	25,2	30	80	70	M8*13	50	M6*10	3,1	4,6	
N4	283	360	143	20	128	19	12	51	73	36	50	22	28,2	30	80	102	M10*16	70	M8*13	5,8	9,1	
N5,5	305	387	181	20	173	19	12	73	95	36	50	27	36,2	30	80	102	M10*16	70	M8*13	10,4	16,9	
N6,5	387	477	220	30	207	36	10	84,5	113	55	52	27	36,2	30	130	125	M12*20	102	M10*16	19,4	27,6	
N7,5	424	517	259	30	231	36	10	105,5	126	55	64	36	48,2	30	130	140	M16*25	102	M10*16	26,4	38,6	
N8,5	516	637	297	30	265	36	10	120,5	142	64	82	46	60,2	30	130	254	M16*25	165	M20*30	42,7	65,8	
N9,5	378	570	356	30	350	36	10	178	183	55	66	46	60,2	30	130	254	M16*25	165	M20*30	56,8	88,2	
N10	502	834	380	30	380	36	10	198	200	64	77	55	72,2	30	130	254	M16*25	165	M20*30	86,6	131,8	

Measurements in mm, weight in kg

Function and Design

Actuator with linear torque curve.

End cap with adjustable screw stroke (stroke 5°) for size 1–5,5 as standard.

Drive shaft with internal connection for adapter size 1-8,5 with removable connector. Mounting to valve is standard acc. to ISO 5211. Patented piston guide prevents fixation. Piston torque transmitted via drive shaft to the valve stem (90° +1°–0,5°). Activated A-port gives counter clockwise rotation of the shaft. Gear rack of steel (size 6–10) on the pistons guarantees the transmission at large torques.

Bearings, preventing contact metal to metal, guarantee long life without lubrication.

Actuator top plate and solenoid plate connection (size 1–10) acc. to NAMUR (VDE/VDI 3845).

Rätten till ändringar utan föregående meddelande förbehålls.
Armotec ansvarar inte för eventuella tryckfel eller misstäckning.
Dokumentet får kopieras endast i sin helhet.

Actuator Ajac AT 3811 single acting:

Actuator sizes 0–5,5 provided with compact spring sets for safe dismantling and maintenance. The actuator is supplied as standard with spring closing (fail clockwise). If spring opening actuator is required this has to be stated upon order.

Technical Information

Pressure:	Supply pressure max 8 bar (e).
Temperature:	-30°C till +80°C. Other ranges on request.
Manoeuvre medium:	Air or inert gases, purity at 50 micron. (No requirements of mist lubrication). Oil or water.

Torque (Nm) AT 3810 double acting

Fig. no.	Supply pressure bar						
	2	3	4	5	6	7	8
AT 3810-0	4,8	7,3	9,7	12,2	14,6	17,1	19,5
AT 3810N1	9	13	18	23	27	32	36
AT 3810N2	17	25	34	42	51	59	68
AT 3810N3	37	57	76	95	114	134	153
AT 3810N4	82	124	167	209	251	293	335
AT 3810N5,5	143	216	290	363	436	510	583
AT 3810N6,5	243	368	492	617	741	866	991
AT 3810N7,5	363	549	735	921	1107	1293	1479
AT 3810N8,5	600	907	1214	1522	1829	2137	2444
AT 3810N9,5	958	1449	1940	2431	2922	3413	3904
AT 3810N10	1624	2457	3289	4122	4955	5788	6620

Torque (Nm) AT 3811 singel acting

Fig. no.	Supply pressure bar							
	6		7		8		Spring torque	
	Start	End	Start	End	Start	End	Start	End
AT 3811-0	10,3	7,5	12,9	10,1	15,5	12,4	7,2	4,6
AT 3811N1	14	4	18	9	23	14	21	13
AT 3811N2	25	8	34	17	43	26	40	25
AT 3811N3	59	21	79	41	99	61	88	55
AT 3811N4	125	41	170	85	215	130	196	123
AT 3811N5,5	206	63	283	141	-	-	347	223
AT 3811N6,5	367	114	496	246	-	-	584	367
AT 3811N7,5	554	174	751	371	-	-	869	538
AT 3811N8,5	907	305	1233	630	-	-	1421	897
AT 3811N9,5	1633	947	2124	1438	-	-	1849	1160
AT 3811N10	2778	1620	3610	2453	-	-	3120	1958

Air consumption

Actuator size	Operating time (sec) (Guidline values)	Cylinder volume (litre)	
		Open	Closed
0	0,4	0,05	0,06
1	0,5	0,1	0,11
2	0,7	0,16	0,22
3	1,2	0,35	0,49
4	2,3	0,8	1,0
5.5	3,6	1,8	1,9
6.5	4,5	2,9	3,1
7.5	5,4	4,7	4,9
8.5	6,9	7,3	8,0
9.5	7,0	8,0	9,3
10	12,0	13,5	17,5

The actual air consumption is obtained by multiplying the cylinder volume above with available operating air pressure in bar (e).

Dimensioning AT 3810 double acting

Actuator size	0	1	2	3	4	5,5	6,5	7,5	8,5
Ball valve 3-pcs. AT 3502-3552 reduced bore	DN 8-25	8-32	40-50	65	80-100	125-150			
Ball valve Ajtec AT 3533-3534 full bore	DN	10-25	32-40	50-65	80-100				
Ball valve flanged AT 3580-3587 full bore	DN	15-20	25-40	50	65-80	100-125	150-200		
Butterfly valve AT 2282 at Δp 10 bar	DN			80	100-125	150-200	250	300	
Butterfly valve Eurovalve AT 2310-2344 at Δp 10 bar	DN		50-100	125-150	200	250	300-350	400-450	500

Dimensioning AT 3811 spring-closing, standard spring set no. 6

Actuator size	0	1	2	3	4	5,5	6,5	7,5	8,5	9,5
Ball valve 3 pcs AT 3502-3552 reduced bore	DN 8-20	8-25	32	40-50	65-80	100	125-150	200		
Ball valve Ajtec AT 3533-3534 full bore	DN	10-20	25	32-40	50-65	80-100				
Ball valve flanged AT 3580-3587 full bore	DN	15	20-25	32-40	50-65	80-100	125-150	200		
Butterfly valve AT 2282 at Δp 10 bar	DN				80	100-125	150	200	250	300
Butterfly valve Eurovalve AT 2310-2344 at Δp 10 bar	DN		50-80	100	125-150	200	250	300-350	400-450	500

The rating in chart is based on the available working pressure 6 bar. The chart does not respect variations in operating conditions that can change the torque. Dimensioning of deviant operating conditions for AT 3810 and 3811 on request.

For full bore valve, AT 3507 and 3527 please chose one size larger actuator, i.e. full bore valve DN50 chose actuator acc. to DN65.

Accessories and Options

Solenoid valve, as standard with manual override.
Solenoid valve, ex-execution.
Limit switches, potentiometer.
Limit switch units in different safety classes
Proximity sensors. Visual indicator.
Manual override gear between actuator and valve.
Internal connected air pressure tank for emergency control.
Block for operating-time control.
Valve block to evacuate air from the actuator without dismantling the control air pipes
Surface treatment CSR, high corrosion resistant.
Actuator with stroke adjustment open and closed (DSA).

Variants

Actuators for 180° rotation.
Actuator body of steel for naval use and off-shore.
Actuator for low temperature -40°C.
Actuator with body of stainless steel

Installation

Indoor and outdoor.
Optional mounting position.
Avoid installing the actuator with air connection upwards.

Maintenance and spare parts

See separate mounting and operating instructions.
Reconditioning set including all necessary soft seals.
Operate the actuator regularly.
The actuator shall be disconnected, electrically and pneumatically, before disassembling respectively assembling.

Marking

Fig. no., series no., max allowed working pressure.
Manufacturer
CE-marking only actuator size 9 and 10.

How to order

Example: AT 3811N2	
AT 3811	N2
Fig. no.	Actuator size

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