

Pneumatic Actuator

Actreg, Pneumatic

AT 3831

Internet_Variants

Range of Application

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

UEC.22 Actuators for valve, pneumatic, two position with spring return.

Actuator AT 3831 Pneumatic, single acting for on-off and control of ball valves, butterfly valves, plug valves or where 90° rotation is required.

Quality Assurance

Solenoid valve connection and actuator top acc. to VDE/VDI 3845 (NAMUR).

Mounting flange and stem square drilled acc. to ISO 5211 and DIN 3337.

CE-marking

The actuators meet the demands from PED, AFS 1999:4 §8, The Pressure Equipment Directive and the machine directive, MD 2006/42/EG and ATEX 94/9/EC.

Actuators in the sizes 10 to 300 are classified as category SEP in accordance with the demands from PED 97/23/EC.

Actuators in the sizes 500 to 4000 are classified as category 1.

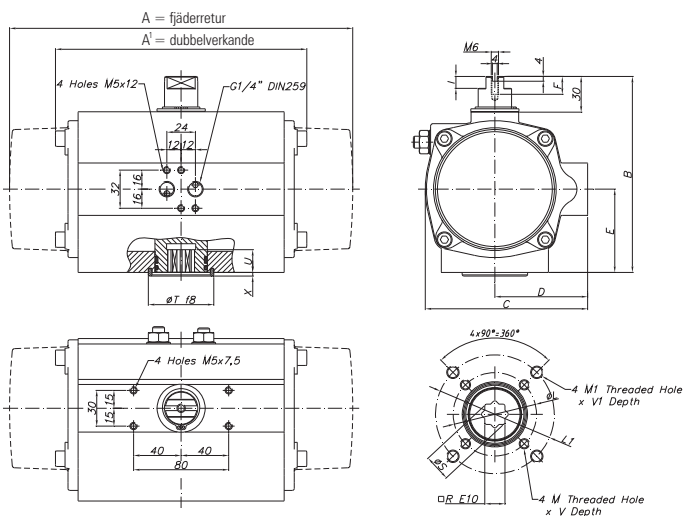
All Actregs pneumatic actuators are classified for use in potentially explosive atmospheres as Group II Category 2, suitable for zones 1, 2, 21 and 22 in accordance with Annex VIII of Directive 94/9/CE (ATEX).

Certificate from Germanischer Lloyd (GL). Lloyd's register of shipping can be delivered as an option.



Material Specification

	Detail	No	Material	Surface treatment
1	Body	1	Aluminium	Anodized C3 according to EN-ISO 12944-2
2	Wing	1	Carbon steel	Electroless nickel plated.
		2-		
3	Springs	8	Steel	Pre-stressed
4	End caps	2	Aluminium	Epoxy coated



Dimension and weight

Actuator size	3830	3831						
	A	A'	B	C	D	E	F	I
10	100		76	56	33	23	9	6
20	145	163	96	76	48	34	9	6
40	158	195	115	91	56	45	9	6
80	177	217	137	111	66	55	12	12,5
130	196	258	147	122	71	60	15	8
200	225	299	165	135,5	78	70	15	10
300	273	348,5	182	152,5	86	80	16	12
500	304	397	199	173	96	85	17	15
850	372	473	221	191,5	106	98	15	15
1200	439	560	249	212,5	116	114	16	15
1750	461	601	280	242,5	131	130	16	15
2100	504	698	313	276,5	148	147	16	15
2500	518	738	383	356	177,5	176,5	16	15
4000	630	940	434	415	213	201	16	15

Measurements in mm, weight in kg

Dimension and weight

Actuator size									Weight	
	R	ØS	ISO	ØL	MxV	ØT	X	U	3830	3831
10	9	12,5	F03	36	M8x5	-	-	2	0,64	
20	1	14,7	F04	42	M5x10	30	3	7	1,4	1,54
40	1	14,7	F04	42	M5x10	30	3	7	2,1	2,32
80	7	22,5	F05/07	50	M6x10	55	3	9	3	3,65
130	7	22,5	F05/07	70	M6x10	55	3	2	3,8	4,8
200	7	22,5	F07/10	70	M10x16	55	3	3	5,6	7,3
300	2	28,5	F07/10	70	M8x14	70	3	9	8,5	10,8
500	2	28,5	F10	102	M10x16	70	3	2	11,21	15,36
850	7	36,5	F10/12	102	M10x17	85	3	0	16,9	22,2
1200	6	48,5	F10/14	102	M10x17	100	4	9	25,8	34,3
1750	6	48,5	F14	140	M16x26	100	4	0	32,5	46
2100	6	60,2	F16	165	M20x26	130	4	0	49,7	68
2500	6	60,2	F16	165	M20x29	130	4	8	69,6	99,9
4000	5	72,5	F16/25	165	M20x30	200	4	0	129,4	182,9

Measurements in mm, weight in kg

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

Function and Design

Actuator with linear torque curve. Three point controlled of the pistons for low friction between the body and pistons. Mounting holes according to ISO 5211 and DIN 3337, for standardized mounting to the valve. End caps with adjustable screws for stroke length (5°). Mechanic end points as a standard. The piston force is transferred through the rotary axle to the valve stem (90° + 1°-0,5°). Actuator top and solenoid valve connection according to NAMUR (VDE/VDI 3845).

Actuators Actreg AT 3831 single acting:

The actuator is provided as a standard with spring closing function. If a spring opening function is required this has to be stated when ordering.

Technical Information

Pressure:	Supply pressure max 8 bar (e). Higher pressure on demand.
Temperature:	-30°C to +100°C. Other ranges on request.
Manoeuvre medium:	Air or inert gases, purity at least 40 micron. (No requirements of mist lubrication). Oil or water.

Torque (Nm) AT 3831 singel acting

Actuator Standard spring set	Air Pressure (bar)							
	6		7		8		Spring return	
	Start	Stop	Start	Stop	Start	Stop	Start	Stop
AT 3831-20	14	10	17	13	20	17	11	7
AT 3831-40	26	17	33	24	40	30	28	17
AT 3831-80	51	37	64	50	77	63	47	30
AT 3831-130	80	64	99	84	119	103	64	45
AT 3831-200	113	84	142	113	172	143	107	73
AT 3831-300	190	126	238	175	287	223	193	119
AT 3831-500	283	205	355	277	427	349	268	177
AT 3831-850	488	367	607	487	727	607	412	271
AT 3831-1200	698	502	871	675	1044	848	631	400
AT 3831-1750	877	578	1113	813	1348	104	983	631
AT 3831-2100	1276	825	1638	118	2000	154	1347	896
AT 3831-2500	2454	1861	3031	243	3608	301	1882	1184
AT 3831-4000	3312	2142	4115	294	4423	325	3145	1769

Air consumption

Actuator	Operating time in s. at 8 bar ADA/ASR		Cylinder volume in liters	
	Open	Close	Open	Close
10	0,03	0,07	0,035	0,028
20	0,04 / 0,12	0,09 / 0,18	0,13	0,09
40	0,08 / 0,2	0,08 / 0,29	0,27	0,23
80	0,11 / 0,27	0,1 / 0,4	0,64	0,47
130	0,15 / 0,32	0,15 / 0,5	0,77	0,76
200	0,15 / 0,5	0,22 / 0,6	1,19	1,2
300	0,3 / 0,7	0,4 / 0,85	1,96	1,73
500	0,4 / 0,9	0,5 / 1,1	2,95	2,74
850	0,8 / 2,2	0,9 / 2,6	4,7	3,86
1200	1,2 / 2,3	1,5 / 2,8	6,95	4,64
1750	1,8 / 2,8	2 / 3,2	9,8	9,3
2100	2,3 / 3,3	2,6 / 3,7	11,6	10,2
2500	2,8 / 3,8	3,1 / 4,2	32	25
4000	3 / 4,3	3,5 / 5	33,2	27,5

Dimensioning AT 3831 spring-closing, standard spring set no. S14

Actuator size	20	40	80	130	200	300	500	850	1200	1750	2100	2500	4000	
Ball valve														
AT 3502-3552	DN 8-20	25	32-40		50	65	80	100-125	150-250					
AT 3533A-3534A	DN 10-15	20	25-32	40-50	65	80-100								
AT 3582-3585 Butterfly	DN 15-20	20	25-32	40	50-65	80	100	125	150	200		250	300	
AT 2282 vid Δp 10 bar	DN 15-20	20	25-32	40	50-65	80	100	125	150-200	250	300	350		
AT 2310-2344 vid Δp 10 bar	DN 15-20	20	25-32	40	50-65	80	100	125-150	200	250-300	350-400	450	500	600-700

The dimensioning is general and based on an available operational pressure 6 bar. The table does not take variations in operational conditions into account. The conditions could impact the torque. Dimensioning for abnormal operational conditions can be acquired on demand. This also applies to AT 3810.

For AT 3507 and AT 3527: Go up one actuator size, i.e. a valve DN50 should be dimensioned after DN65 in the tables above.

Accessories and Options

Accessories

- Visual position indicator.
- Emergency gear shift between actuator and valve.
- Internally connected pressurized air tank for emergency operation.
- Block for control timing
- Valve block for air evacuation from the actuator without disassembly of the control air lines.
- Inductive or mechanical limit switch.

Installation

The actuator can be installed indoors or outdoors in any position. All though mounting the valve with the air connections upwards should be avoided to minimize the risk of water and dirt to get inside of the valve.

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Maintenance and spare parts

The actuator should be disconnected electrically and pneumatically before assembly or disassembly is started. The actuator should be mounted with even spaced distances.

Spare parts

The repair kit includes the necessary soft parts.

Marking

Article number, series number, max allowed operation pressure.

Manufacturer

CE-marking

How to order

Example: AT 3830-40/ 3831-40

AT 3831

40

Fig. nr

Size