

Actuator

Ajac, electrical

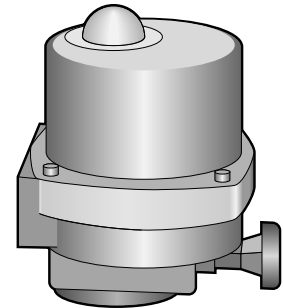
AT 3851

Range of Application

Actuator for on-off or control applications of ball, butterfly and plug valves.

Material Specification

	Detail	Material	Surface treatment
1	Body	Aluminium	2x polyurethane
2	Cover	Steel	Galvanized + 2x polyurethane
3	Drive shaft	Bronze	
4	Fastenings	Stainless steel	

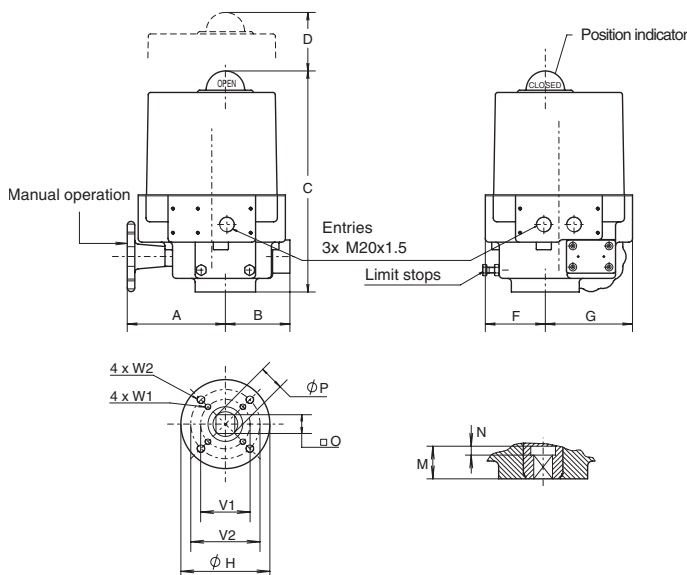


AT 3851

Dimension and Weight

Fig no.	A	B	C	D	F	G	H	M	O min	O max	P	Mx1,5	V1	V2	W1	W2	Weight
AT 3851-10	80	50	123	85	50	80						1*20	42		M6*9		2,2
AT3851-20A	130	60	255	145	70	95	90	27,5	14	14,11	8	3*20	50	70	M6*12	M8*15	6
AT 3851-30	135	82	292	165	77	120	90	33	19	19,11	5	3*20	50	70	M6*12	M8*15	11
AT 3851-35	135	82	292	165	77	120	90	33	19	19,11	2	3*20	50	70	M6*12	M8*15	11
AT 3851-40	170	109	315	165	96	141	125	33	19	19,11	2	3*20	70	102	M8*15	M10*18	16,5
AT 3851-50	170	109	315	165	96	141	125	33	19	19,11	5	3*20	70	102	M8*15	M10*18	17
AT 3851-60	195	128	318	165	123	166	150	48	27	27,13	3	3*20	102	-	M10*18	-	25,5
AT 3851-70	195	128	356	190	123	166	150	48	27	27,13	6	3*20	125	-	M12*20	-	26

Measurements in mm, weight in kg



Function and Design

Standard design

Reversible actuator in 10 sizes for turning 0–90°, adjustable by use of a combination of position limit switch, mechanical limit switch and/or torque switch.*

Motor cover with protection dome with underlying visual indicator. Actuator size 10 with position indication on drive shaft.

The motor and other electrical components are fully isolated from the gear body. The motor is protected against thermal overload by a thermostatic switch in the winding and the larger models also have torque switch.*A heater element keeps the motor space free from moist. The worm gears for sizes 20A–70 are self-breaking, permanently lubricated and provided with manual emergency manoeuvring. Size 10 has spur gearing.

The actuator connection to valves are in acc. to ISO 5211, with internal square size for 20A–80 and external drive shaft for size 10.

* *Varies with actuator sizes, see section 'Technical data'.*

Standard performance

Standard performance		
Actuator size	10	20A-70
Operation	50% ED	30% ED
Protection class	IP65	IP 65
Temperature	-20°C till +70°C	-20°C till +70°C
Heater	-	10W
Overload protection	Thermo switch	Thermo/torque switch*
Permanen lubricated gear	Spurgear	Self-inhibiting worm gear
Cable gland	M20x1,5	M20x1,5
Limit switches	250V, max 10A	250V, 16A
Torque switches	-	250V, 16A
Terminal block	8 con.	12 con.

*Is not valid for 20A which only is performed with thermo switch.

Technical Data

Actuator size	10	20A	30	35	40	50	60	70
Torque:								
Start/Stop Nm	18	55	100	150	200	350	500	800
Running Nm	14	20	35	53	70	123	175	280
Speed (50 Hz) s	6,5	6	7	9	13,5	23	25,5	25,5
Torque switch	-	-	2	2	2	2	2	2
Limit switch	2	4	4	4	4	4	4	4
Mechanical stop ±5°	-	2	2	2	2	2	2	2
Visual indicator	-	yes	yes	yes	yes	yes	yes	yes
Emergency manoeuvre	-	yes	yes	yes	yes	yes	yes	yes
ISO-connection	F04	F05/F07	F05/F07	F05/F07	F07/F10	F07/F10	F10	F10

Electrical Data

Electrical data		10	20A	30	35	40	50	60	70
Actuator size	230 VAC	0,1	0,6	1,7	1,7	1,7	1,7	1,7	2,3
	110 VAC	0,55	1,1	2,9	2,9	2,9	2,9	2,9	4,5
	400 VAC	-	0,4	0,7	0,7	0,7	0,7	0,7	0,9
	460 VAC	-	0,37	0,63	0,63	0,63	0,63	0,63	0,87
	24 VAC	0,8	5	9	9	9	9	-	-
Mark current (A)	230 VAC	0,1	0,5	1,1	1,1	1,1	1,1	1,1	1,8
	110 VAC	0,45	1,1	2,1	2,1	2,1	2,1	2,1	2,8
	400 VAC	-	0,2	0,4	0,4	0,4	0,4	0,4	0,54
	460 VAC	-	0,18	0,45	0,45	0,45	0,45	0,45	0,57
	24 VAC	0,15	1,7	4,8	4,8	6,3	6,3	-	-
Power (W)	230 VAC	40	72	200	200	200	200	200	305
	110 VAC	45	100	225	225	225	225	225	315
	400 VAC	-	80	145	145	145	145	145	165
	460 VAC	-	77	180	180	180	180	180	200
Cos ϕ PHI	230 VAC	0,82	0,91	0,82	0,82	0,82	0,82	0,82	0,77
	110 VAC	-	0,84	0,98	0,98	0,98	0,98	0,98	0,93
	400 VAC	-	0,54	0,51	0,51	0,51	0,51	0,51	0,47
	460 VAC	-	0,54	0,50	0,50	0,50	0,50	0,50	0,44

Dimensioning

Actuator size			10*	20A	30	35	40	50	60	70
Valve	Δp , bar									
Ball valve 3-pcs AT 3502-3552 reduced bore	25	DN	8-25	15-50	65	80	100	125-150	200	-
Ball valve Ajtec AT 3533-3534 full bore	25	DN	-	15-50	65	80	100	-	-	-
Ball valve flanged AT 3580-3585 full bore	16	DN	-	15-40	50	65-80	100	125	150	200
Butter fly valve Eurovalve AT 2300-2344	10	DN	-	50-80	100-150	-	200	-	250	300-350

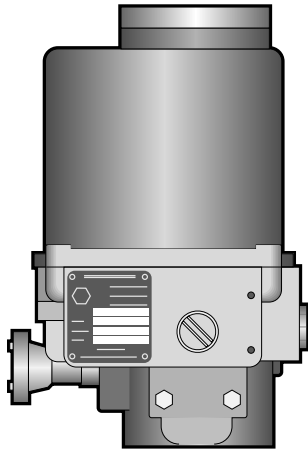
* Select AT 3851-20 if built-in emergency operation, speed control etc. is required. .

Dimensioning is general and does not take into account changes which affect the torque of the valves.

Accessories and Options

Speed control*
 Feedback potentiometer
 Position transmitter 4–20mA*
 Positioner 4–20mA* or 0–10 V*
 Local control switch*
 Protection class IP 67
 180° rotation
 Epoxy coated

* Not actuator size 10.



AT 3851EX

EX execution

EX performance: AT 3851 EX

EX class:	II2GEx d IIB T4 acc. to EN50018-1977/EN50014-1977
Certificate no.:	KEMA ATEX 2156X
For actuator size:	20A ≤ 70 and local manouvre AT 3851-107EX
Voltage;	110, 230 och 400 VAC
Technical data:	acc. to standard actuator AT 3851
Electrical data:	acc. to standard actuator AT 3851
Dimensioning:	acc. to standard actuator AT 3851

EEX d-design allows all standard accessories to be mounted in the motor-space.

Installation

During all work with the actuator the power must be disconnected.

The actuator must be connected as per the wiring diagram.

Each actuator must be powered by individual switch or relay contact, minimum 16A, to prevent cross-feed between the actuators.

At outdoor installation, the actuator should be protected by a roof or cap, alternatively choose an actuator with protection class IP67.

Installation with motor downwards should be avoided.

Turn the valve with the control unit's hand wheel to centre position. See indication on top of device.

Always connect the heater.

Check that the actuator turns the valve in the desired direction.

The correct limit switch (open or closed) shall break the motor current.

Cable entries must comply at least to the lowest protection class of devices.

EX actuator must be connected as per applicable standards.

Min. 5 threads, min. 8 mm.

Marking

Article no., manufacturer, model, serial no., voltage and current ratings.

EX-device also with EExd IIB T4, certificate no. and test station.

wiring diagram is located in motor space.

How to order

Example: AT 3851-20AC24

AT 3851	-20	AC24
Fig. no.	Actuator size	Voltage