

General features

The range of ACTELEC series electric actuators developed and manufactured by KSB-AMRI covers output torque values up to 8000 Nm.

These actuators have been designed for all applications and for the operation of any type 1/4 turn valves (centred or double eccentric disc valves, ball valves,...).

The mounting interface is in accordance with ISO 5211 standard.

Equipped with an interchangeable insert, they can be easily fitted on different valve shaft (square end, flat end, key,...).

The actuator is mounted directly or by means of an adaptor onto the valve mounting plate.

This electric actuators range constituted with irreversible kinematics reducer associated with a multi-turn electric actuator is completed by a direct 1/4 turn actuators range with irreversible kinematic.

Please consult the type series booklet ACTELEC 3 to 150 ref 8521.12-10.

Protection

They are hose and fine dust proof and are protected against accidental immersion: protection degree IP 67.

Motor: insulation class F.

External coating

Reducer: polyurethane paint, thickness 80 µm color dark grey RAL 7016,

Electric actuator: polyurethane paint, thickness 80 µm, color blue RAL 5002.

Working temperature range

From -20° C up to +70° C.

Production range

Type	Nominal output torque (Nm)	ISO 5211 mounting plate*	Maximal allowable dimensions for the shaft			
			Height	Driving by square	Driving by flat	key
31	1000	-----	40	36	36	Please, consult us
200	2000	F16	80	60	55	
400	4000	F16	80	60	55	
500	5000	F16 - F25	95	70	75	
800	8000	F16 - F25	95	70	75	

* Direct adaptation onto identical mounting plate.
Adaptation by intermediate flange onto different plate (different size or shape).

Construction

Construction and basic equipments

In standard version, ACTELEC electric actuators are designed to ensure the on-off function (10 cycles/day), intermittent duty S4-30 % - 360 startings / hour in accordance with IEC 34).
Remote electric control.

Basic equipments

- Electric motor protection by:
 - integrated thermic protection,
 - 2 travel limit microswitches (1 microswitch on opening position and 1 on closure position)
 - Torque limit system.
- Heating resistance anti-condensation.
- Manual emergency control by handwheel.
- Position indication.
- Mechanical adjustable travel stop(s).

Other constructions

- Motor for continuous duty - repetitive startings (S4 -50%- 1200 startings/hour in accordance with IEC 34).
- Integral electric control and remote control = INTEGRAL+ version.
- Throttling duty with 4-20 mA integrated positioner.

Power supply

- Standard version: 3-phase 400 V - 50 Hz a.c.

Options on request (please, consult us)

- Additional microswitches adjustable on the whole travel for remote position signalisation (limit position and/or intermediate position).
- Microswitches coupled with torque limiter.
- Position transmission by potentiometer 1000 Ω or electronic transmitter 4-20 mA.
- Communication interface - Intelligence - Fieldbus.
- Other power supplies.
- Protection degree: IP 67.
- Insulation motor: Class F.

ACTELEC 31 to 800 actuators are based on a reducer with irreversible kinematics motorized by a multi-turn electric actuator with a mounting plate in accordance with ISO 5210 standard.
The mounting interface of these actuators onto the valve is in accordance with ISO 5211 standard.

Manufacturing range - Characteristics

Actuator Type	Basic reducer	Output torque Nm	Input torque Nm	Turn number of the operating screw	Electric actuator type	Actuator mounting plate
ACTELEC 31	M 31	1000	60	32	ASM0	ISO 5210 size F10 shape B3
ACTELEC 200	MR 400	2000	60	47	ASM0	
ACTELEC 400	MR 400	4000	110	47	ASM1	
ACTELEC 500	MR 800	5000	60	135	ASM0	
ACTELEC 800	MR 800	8000	110	135	ASM1	

Operating times

Type	Actuator output speed (tr/mn)						
	5	10	17	26	35	51	122
ACTELEC 31	6mn 24s	3mn 12s	1mn 53s	1mn 14s	55s	37s	
ACTELEC 200 et 400	9mn 24s	4mn 42s	2mn 46s	1mn 48s	1mn 20s	55s	
ACTELEC 500 et 800			7mn 56s	5mn 11s	3mn 51s	2mn 39s	1mn 04s*

* Only ACTELEC 500

Other operating times can be realised with a special reducer construction: please consult us.

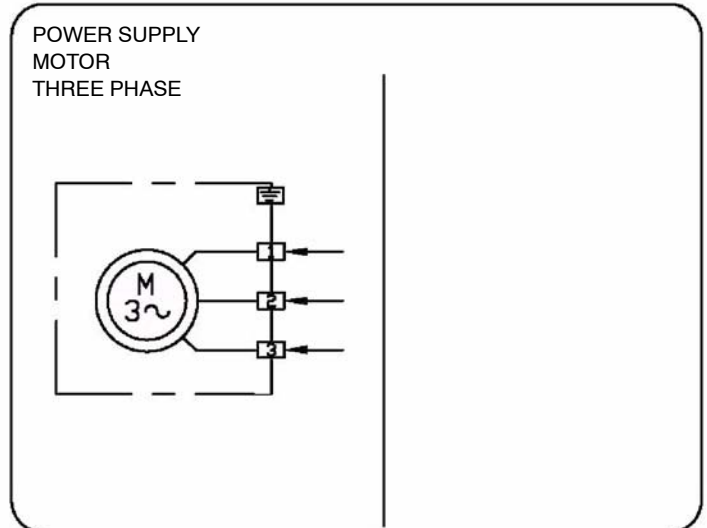
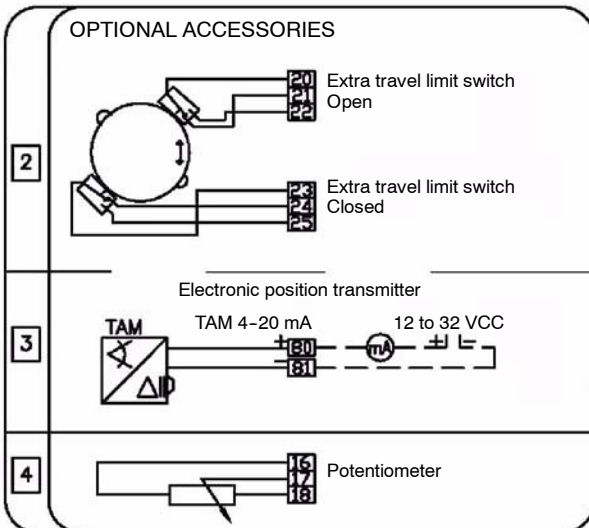
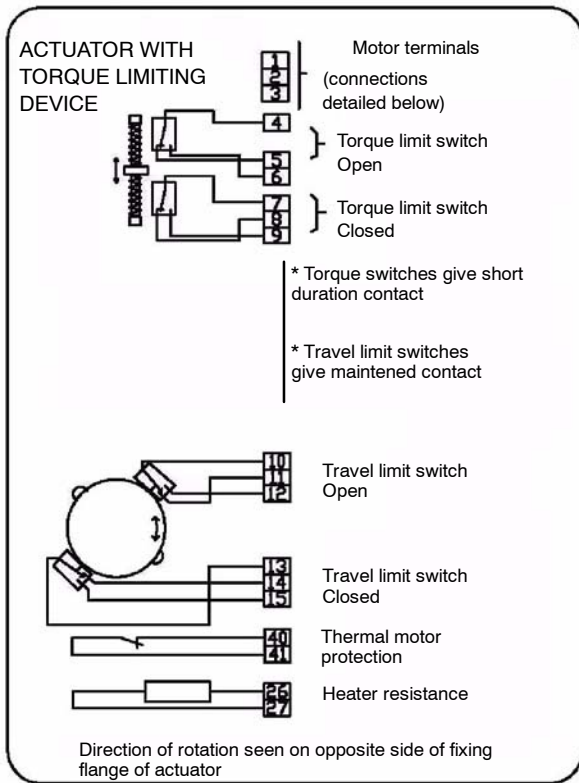
Characteristics actuator

Electric actuator type	Actuator output speed tr/mn	On-Off function 3-phase 400 V 50 Hz a.c.			
		Motor speed tr/mn	Nominal Power kW	Nominal intensity A	Starting intensity A
ASM0	5	750	0,06	0,6	0,9
	10	1500	0,10	0,6	1,2
	17	1500	0,10	0,6	1,2
	26	1500	0,10	0,6	1,2
	35	3000	0,14	0,7	2,8
	51	3000	0,14	0,7	2,8
	122	3000	0,50	1,6	5,0
ASM1	5	750	0,06	0,6	0,9
	10	1500	0,10	0,6	1,2
	17	1500	0,10	0,6	1,2
	26	1500	0,37	1,1	5,0
	35	3000	0,14	0,7	2,8
	51	3000	0,50	1,6	5,0

On-off function:

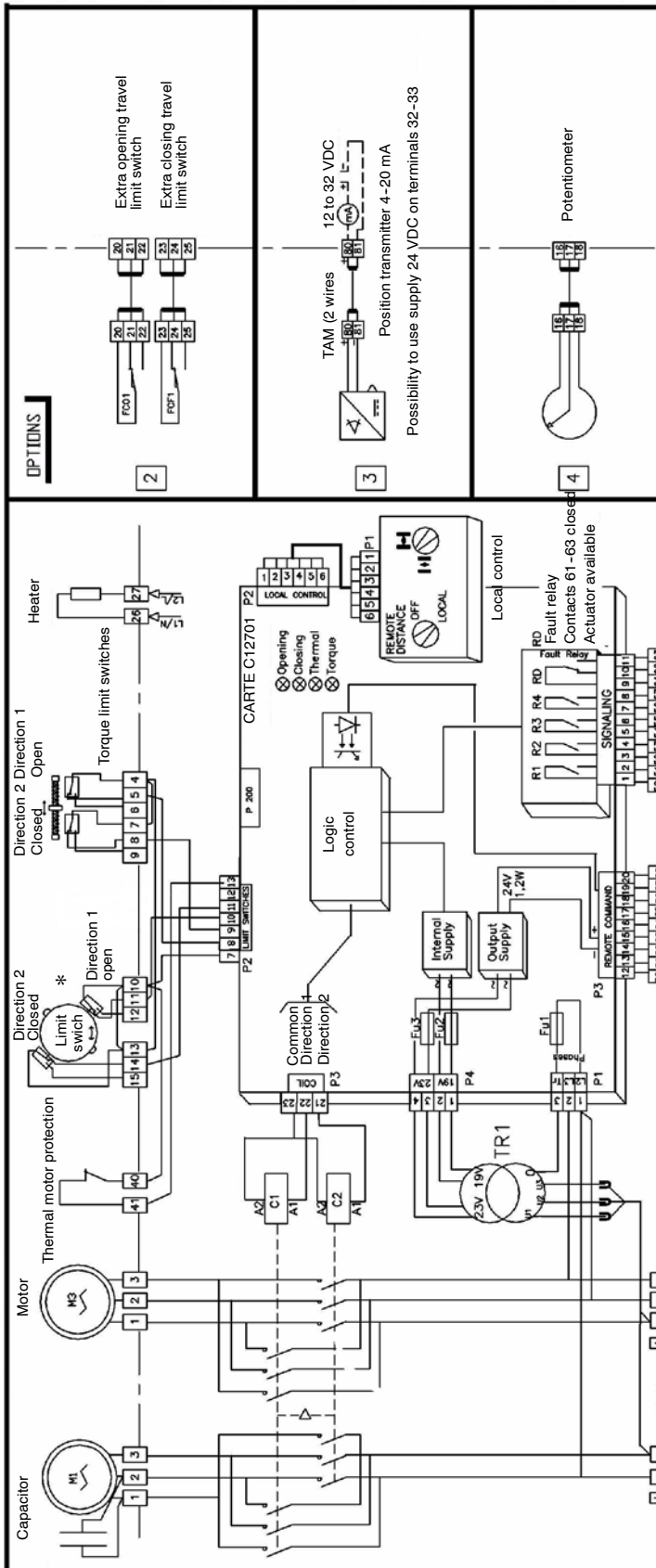
ACTELEC	31 ASM0	200 ASM0	400 ASM1	500 ASM0	800 ASM1
Basic equipments					
Opening and closing torque limit switches	Standard				
Mechanical adjustable travel stops		Standard on closing position only			
Opening and closing torque limit switches	Standard				
Heating resistance	Standard				
Emergency control Number of handwheel turns	32,5	48		138	
Power supply	3-phase 400 V a.c.				
On/off function S4-30%	Yes - Refer to wiring diagram no. S 50000/04				
Other constructions					
Continuous duty: S4-50%	Yes - Refer to wiring diagram no. S 50000/04				
Integral control (INTEGRAL+)	Yes - Refer to wiring diagram no. S 20000/06				

On-off function: Wiring diagram no. **S 50000/04**



On-off function: INTEGRAL+ version

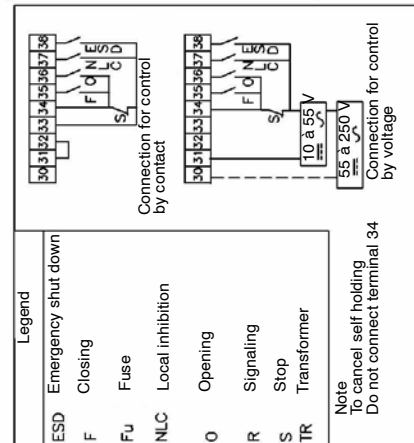
Integral control version wiring diagram no. S 20000/04



Indication assignment see configuration table

CONF. Item	Designation	Item	Designation
R1 14	LSO	T50	Torque switch open
R2 15	LSC	T5C	Torque switch closed
R3 16	LSO	T5O	Torque switch open
R4 17	Local	Remote	Selector on remote
R5 18	Running	Opening	Actuator opening electrically
R6 19	LSC	T5C	Torque switch closed
R7 20	ESD	Closing	Actuator closing electrically
R8 21	Local	Remote	Selector on remote

Each contact can be selected open or close (standard is open)
Only one option can be selected for each indication
Power off, contacts are open



Legend
ESD Emergency shut down
F Closing
FU Fuse
NLC Local inhibition
O Opening
R Signaling
S Stop
TR Transformer

Note
To cancel self holding
Do not connect terminal 34

*- Supply type
The order in phase is not important
If one phase is missing, the actuator will not start
and gives a signal (fault relay)

Configuration	7A	7B
Direction 1	Opening	Closing
Direction 2	Closing	Opening

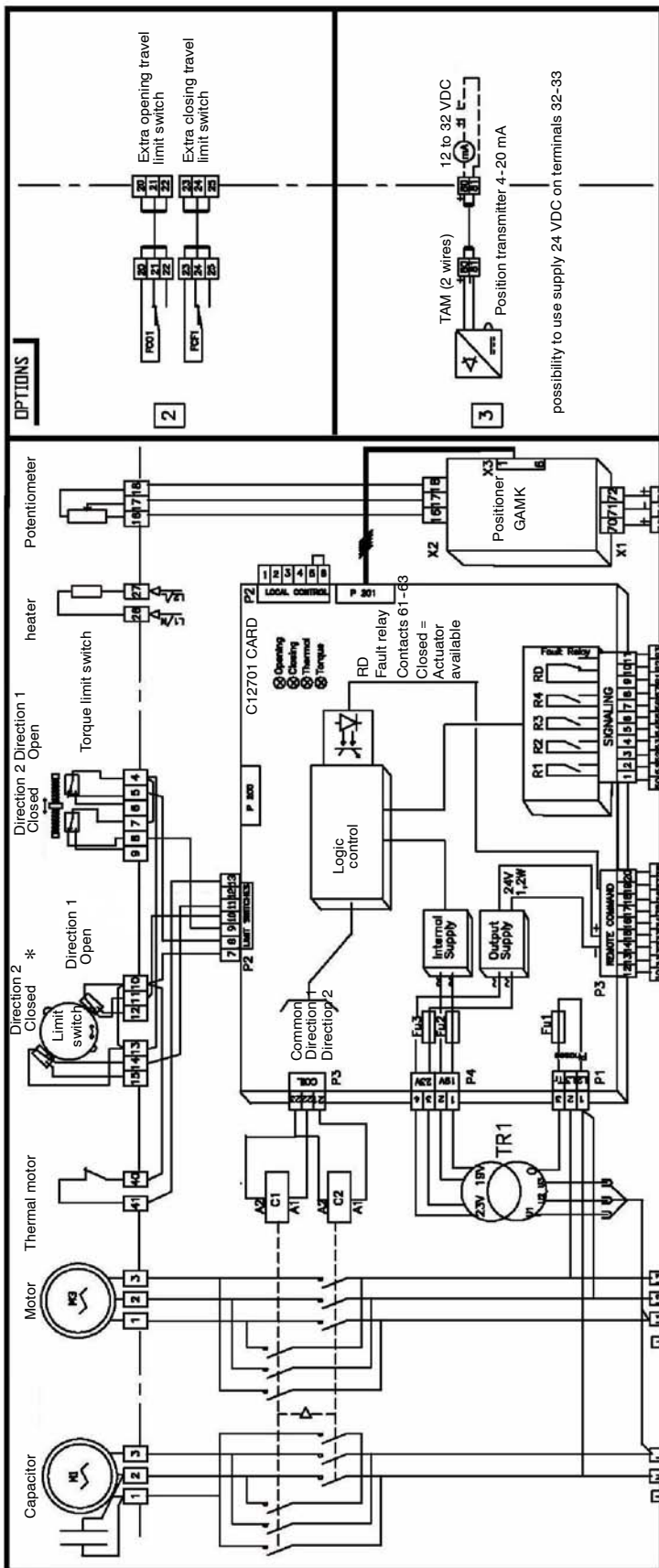
Throttling duty - Class III Integral version with positioner 4-20 mA

Wiring diagram no. S 25000/06

ACTELEC	31 ASM0	200 ASM0	400 ASM1	500 ASM0	800 ASM1
Basic equipments					
Opening and closing travel limit switches	Standard				
Mechanical adjustable travel stops	Standard on closing position only				
Opening and closing torque limit switches	Standard				
Heating resistance	Standard				
Emergency control Number of handwheel turns	Please, consult us				
Integral control with 4-20 mA integrated positioner	Standard				
Power supply					
3-phase 400 V a.c.	Standard				

Throttling duty - Class III Integral version with positioner 4-20 mA

Wiring diagram no. S 25000/06



Indication assignment see configuration table

Con-tact	Item	Designation	Item	Designation
R1	14	L50	TS0	Torque switch open
R2	15	L5C	T5C	Torque switch closed
R3	16	L50	TS0	Torque switch open
	17	Local	Remote	Selector on remote
	18	Running	Opening	Actuator opening electrically
R4	19	L5C	T5C	Torque switch closed
	20	ESD	Closing	Actuator closing electrically
	21	Local	Remote	Selector on remote

Each contact can be selected open or close (standard is open)
Only one option can be selected for each indica-
tion. Power off, contacts are open

Input signal
4-20 mA
0-20mA
(260 ohms)
0-10 V
(10kohms)

Output signal
4-20 mA
0-20mA
(300 ohms max)

Connection for control by contact

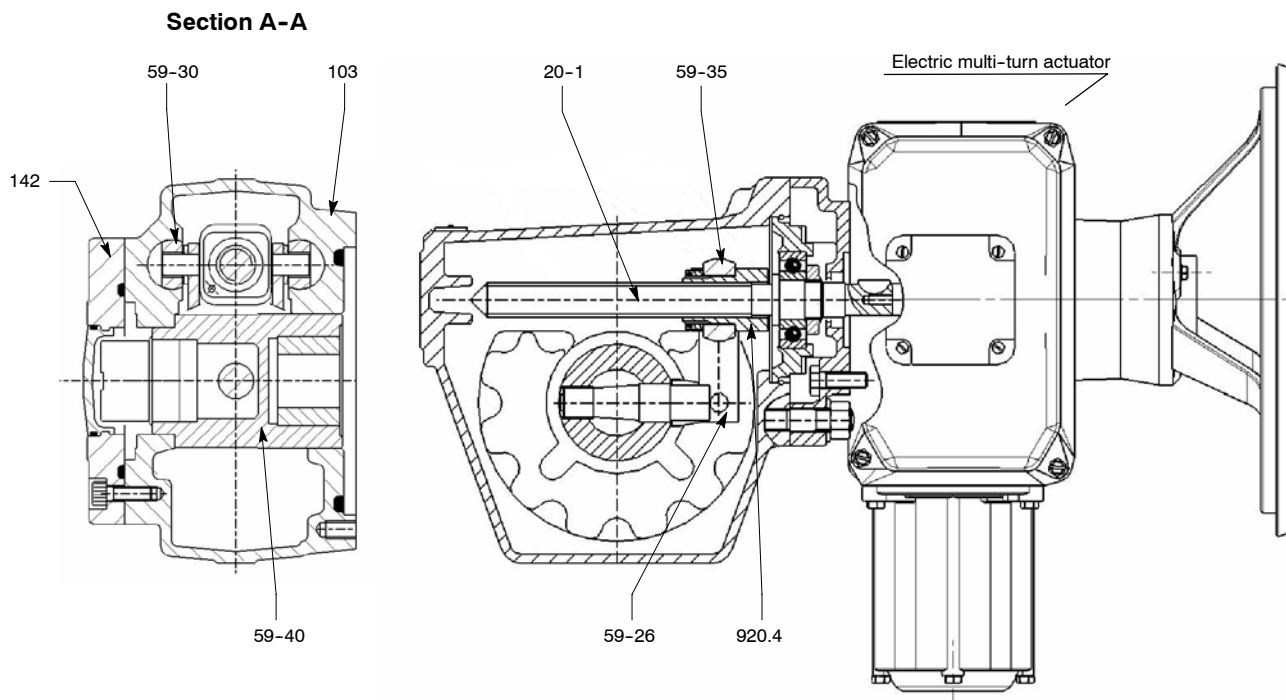
Connection for control by voltage

Configuration	7A	7B
Direction 1	Opening	Closing
Direction 2	Closing	Opening

Single phase supply
Three phase supply

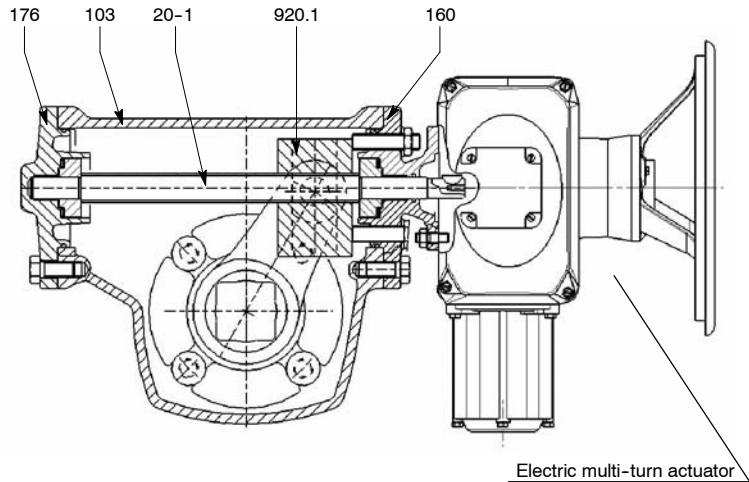
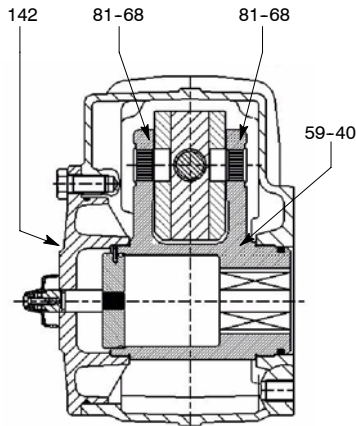
* Supply type
The order is not important
If one phase is missing, the actuator will not start and gives a signal (fault relay)

ACTELEC 31 - Construction

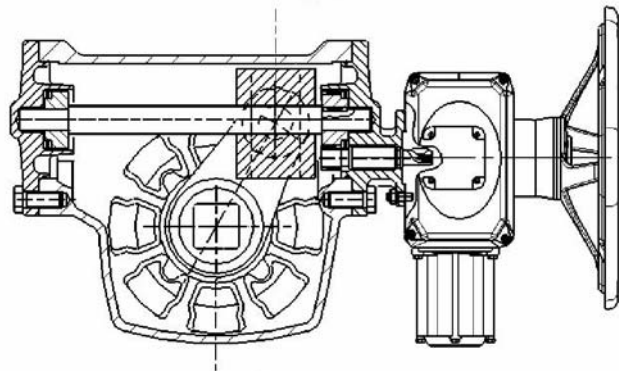


Item	Designation	Materials
103	Housing	JL 1040 cast iron *
142	Cap	Thermodurcissable
20-1	Operating screw	Phosphated nickel coated steel
59-26	Connecting rod	Steel
59-30	Roller	Treated steel + PTFE
59-35	Arm	Steel
59-40	Chuck	Steel
920.4	Nut	Bronze
----	Electric servomotor housing	Cast iron and light alloy

* Anciennes normes : DIN GG 25 / NF FGL 250

ACTELEC 200 to 800 - Construction
ACTELEC 200 and 400
Section A-A

ACTELEC 500 and 800

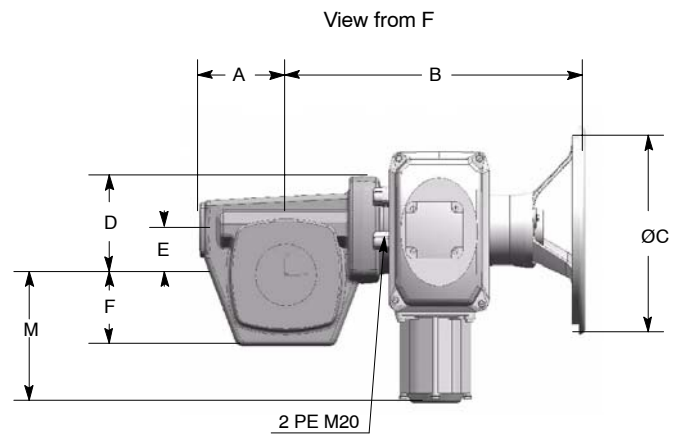
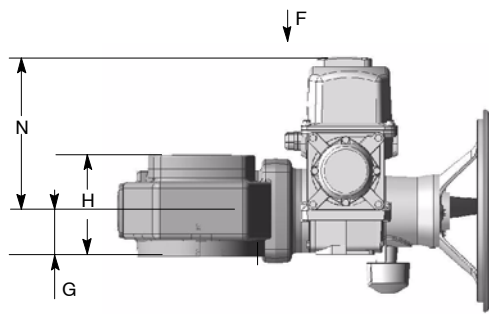
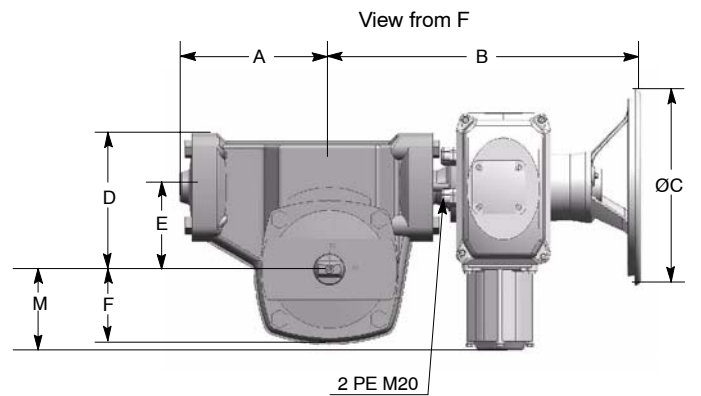
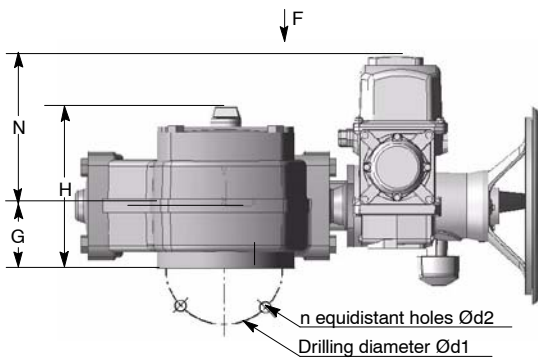
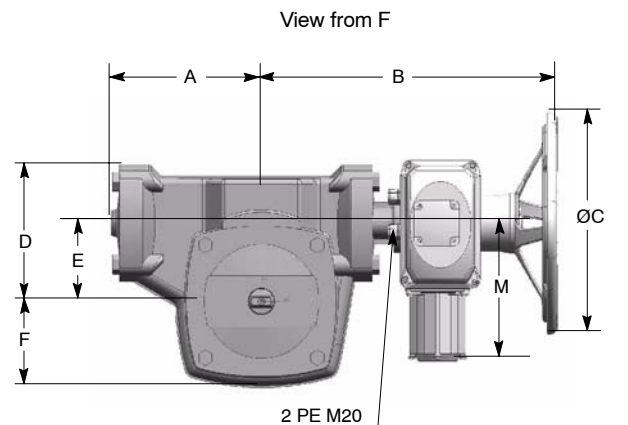
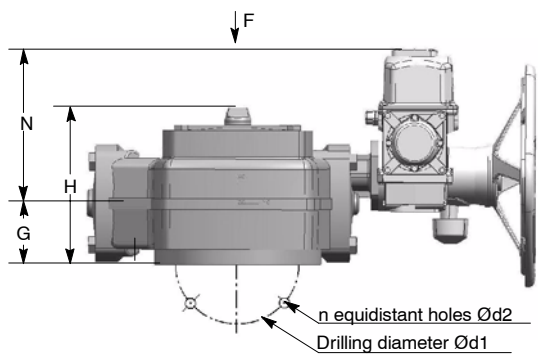
ACTELEC 500 and 1600 actuators are equipped with input primary reduction gear.



Item	Designation	Materials
103	Housing	JL 1040 cast iron* or JS 1030 ductile iron**
142	Cap	
160	Cover	
176	Bottom	
20-1	Operating screw	Phosphated nickel coated steel
59-40	Chuck + pointer shaft	JS 1030 ductile iron** / stainless steel
81-68	Pressure pad	Nitrured steel
920.1	Operating nut	Bronze
-----	Electric actuator housing	Cast iron and light alloy

* Anciennes normes : DIN GG 25 / NF FGL 250

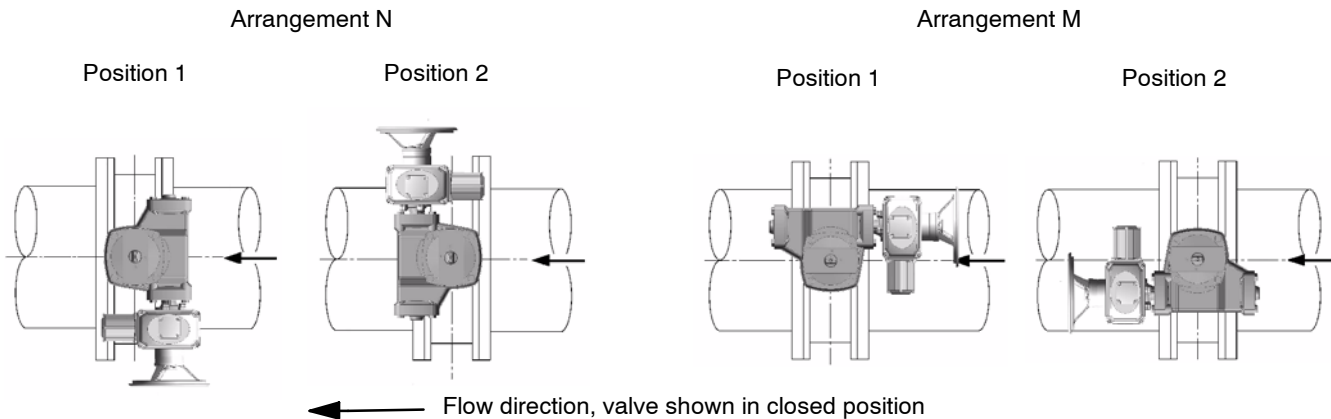
** Anciennes normes : DIN GGG 40 / NF FGS 400-15

On-off function - 3-phase supply
Overall dimensions (mm) and weight (kg)
ACTELEC 31

ACTELEC 200 et 400

ACTELEC 500 et 800


ACTELEC	Actuator	A	B	ø C	D	E	F	G	H	M	N	Mounting plate ISO 5211				Weight kg
												Réf	ø d1	ø d2	n	
31	ASM0	125	401	300	145	65	102	69	152	292	211	-	-	-	-	42
200	ASM0	229	460	300	208	125	115	95	246	292	211	F16	165	M20	4	72
400	ASM1	229	460	400	208	125	115	95	246	292	211	F16	165	M20	4	74
500	ASM0	271	535	300	245	140	155	109	280	292	211	F16	165	M20	4	124
												F25	254	M16	8	
800	ASM1	271	535	400	245	140	155	109	280	292	211	F16	165	M20	4	126
												F25	254	M16	8	

Mounting on valves

The actuator can be positioned in four position, at intervals of 90°. Unless otherwise stated, the actuator is mounted according to the arrangement N position 1.



This leaflet is not contractual and may be amended without notice.

16.05.06

8521.15/2/-10



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