

# Electric fail safe actuator

Bernard FQ, electric

AT 3930, 3931 (40-500 Nm)

## Internet\_Variants

### Range of application

Can be installed on all 90° rotating valves with torque up to 500 Nm. In case of voltage failure, the actuator closes or opens, depending on the desired function, the actuator by means of a spring package.

### Quality assurance

#### CE marking

Follows validated ECC and EU standards



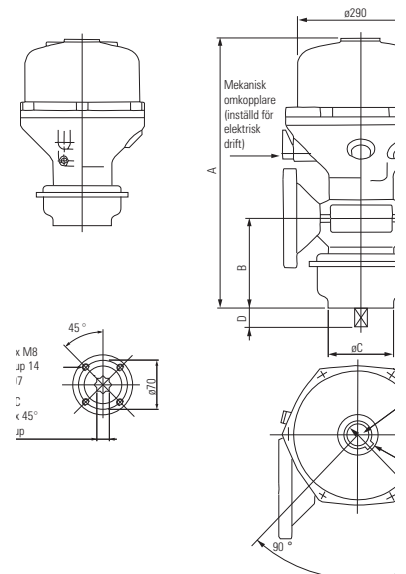
### Material specification

Detail	Material
Body	IP67- light metal construction
A spring assembly	IP65-diecast, zinc, epoxy-painted
End point switches	4st SPDT contacts
Thermal overload protection	Thermostat (110°C)
Electromagnetic relay	21W, 230VAC
Hydraulic damper	Standard (surpressesbacklash )
Mechanical stops	2st (adjustable +/-2 °)
Hand wheel	Free range (Not included in FQ04-FQ08)
Cable connection	2st M20
Ambient temperature	-20°C to 70°C

### Dimension and weight

Type	A	ØB	ØC	h	D	E	ØF	M	Weight
FQ 04	389	84	17	19					25
FQ 08	389	84	17	19					25
FQ 12	502	15	125		25	22	102	M10	40
FQ 18	521	185	130		31	25	78	M12	45

Dimension in mm, weight in kg.

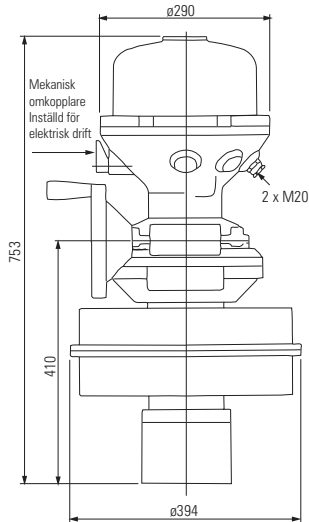


I - FQ 08 to the left, FQ 12 and 18 to the

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1-1

4  
d  
F

Q 50 in the middle. The picture to the right

## Function and design

90° rotary electric actuator type FQ with "fail-safe" function, is a compact and robust combination of self-locking worm gear, electric motor, magnetic coupling with hydraulic damper and spring unit. The FQ actuator's "fail-safe" function is available via a magnetic clutch. With the tension spring, the actuators can act as a "normal" actuator. The actuator handle (size 4 and 8 on request) is connected with a mechanical switch which is to be blocked by a padlock or the like.

**NOTE!** The mechanical hand control switch must only be used when the actuator is completely unattended!

## Technical data

### On/Off - 3-phase 400V 50Hz

Type	Max Torque Nm	Maneuver time in s.		Hand wheel	Motor S4 - 30% uptime	Ef- fec t kW	Number of revolutions rpm	I n A	I d A	c o s ?	E * %
		En- gine	Spring								
FQ 04	40	14	+/- 3	On request	re-	0,0 6	3000	0,3	0,9	0,8	43%
FQ 04	40	33	+/- 3	On request	re-	0,0 6	3000	0,3	0,9	0,8	43%
FQ 08	80	33	+/- 2	On request	re-	0,0 6	3000	0,3	0,9	0,8	43%
FQ 12	120	39	+/- 2	Yes		0,0 6	3000	0,3	0,9	0,8	43%
FQ 12	120	93	+/- 2	Yes		0,0 6	3000	0,3	0,9	0,8	43%
FQ 18	180	93	+/- 3	Yes		0,0 6	3000	0,3	0,9	0,8	43%
FQ 30	300	117	+/- 7	Yes		0,0 6	3000	0,3	0,9	0,8	43%
FQ 50	500	117	+/- 9	Yes		0,0 6	3000	0,3	0,9	0,8	43%

\* Efficiency

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

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## On/Off - 1-phase 230V 50Hz

Type	Max Torque Nm	Maneuver time in s.		Hand wheel	Motor S4 - 30% uptime	Ef- fec t kW	Number of revolu- tions rpm	I n A	I d A	I o ? %	E * %
		Spring Fa- st	Stand- ard +/-								
FQ 04	40	33	+/- -3	+/- 7	On re- quest	0,0 3	3000	0 5	0 7	0 9	2 5 %
FQ 08	80	33	+/- -2	+/- 6	On re- quest	0,0 3	3000	0 5	0 7	0 9	2 5 %
FQ 12	120	93	+/- -2	+/- 10	Yes	0,0 3	3000	0 5	0 7	0 9	2 5 %
FQ 18	180	93	+/- -3	+/- 15	Yes	0,0 3	3000	0 5	0 7	0 9	2 5 %
FQ 30	300	117	+/- -7	+/- 18	Yes	0,0 3	3000	0 5	0 7	0 9	2 5 %

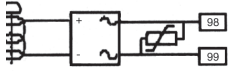
\* Efficiency

# Electric fail safe actuator

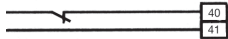
Bernard FQ, electric

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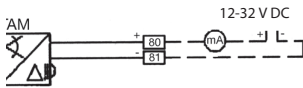
Magnetspole, 1-fas



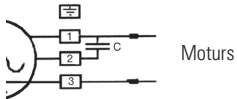
ermisk säkring, 3-fas



Elektronisk positions transmitter  
AM 4-20 mA



1-fas



rat överhettningsskydd

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## Accessories and options

Additional accessories

- 2 additional adjustable end contacts
- Potentiometer
- Radioater
- EEX execution according to. ATEX II 2G EEx d II C T4
- Electromagnetic relay, 24 VDC, 110 VAC

For slower shutdown times in case of power failure, we can modify the hydraulic reservoir. Contact Armatec

## Installation

During all work with the actuator the power **MUST** be disconnected.

- The actuator must be connected as per the wiring diagram, see the manual.
- Each actuator must be powered by an individual switch or relay contact, minimum 16A, to prevent cross-feed between the actuators.
- Installation with motor downwards should be avoided.
- The actuator should be installed vertically
- Check that the actuator turns the valve in the desired direction.
- The correct limit switch (open or closed) shall then break the motor current.
- Cable entries must comply at least to the lowest protection class of devices.

See the manual for start-up , storage and maintenance.

## Marking

Article number, manufacturer, serial number, voltage and current.  
Wiring diagram is placed by the motor at delivery.

## Maintenance

The actuator is maintenance-free up to 50 000 cycles

## How to order

Example: 3930-4-4A3A					
AT3900	-4*	3**	A***	3****	A*****
Fig. no.	Size	Operating time	Connection	Voltage	Options
Example: 3930-4-4A3A (Spring closing, On/Off, 230V, 50Hz) Example: 3931-4-4A3A (Spring opening, On/Off, 230V, 50Hz)					
* 4, 8, 12, 18, 30, (50 only with 3x400V)					
** Technical data for possible times					
*** Technical data for possible connection types					
**** 0=24 VDC, 3=230 VAC, 4=3-phase 400 V					
***** A=On/Off, C=Positioning 4-20 mA, E=1kOhm POT					