

# ATQ SERIES

Three Phase Quarter Turn



MODEL : ATQ 20  
 S/N No. :  
 TYPE : On-Off / Modulating  
 POWER : 0.06 kW  
 VOLTAGE : 415V AC  
 OPEN / CLOSE TIME : SEC.  
 Cair Euromatic Automations (INDIA)  
 "Actuate with Accuracy"



## actuate with accuracy | KEY FEATURES



**SUPPLY VOLTAGE**  
 415 V AC – (+ 10%), 50 / 60 Hz  
 380 V AC, 460V AC (Available on request)

**ENCLOSURE – IP 67/68**  
 Weatherproof – IS / IEC 60529  
 Flameproof or Ex-Proof – IS / IEC 60079 | Zone II, Gas Group IIB T4

**TORQUE RANGE**  
 50 Nm to 12000 Nm

**MANUAL OVERRIDE**  
 Advanced design with Auto Declutch Mechanism to prevent user from injury.

**INTEGRAL STARTER UNIT**  
 Selector Switches    Open / Stop / Close  
                                   Auto / Manual or Remote / Local  
 Indicator Lamps    Open / Close / Error

**VARIOUS OPTIONS**  
 ON/OFF Type.  
 Modulating Control (Signal Input - 4 ~ 20mA / 1 ~ 5V DC / 2 ~ 10V DC).  
 Potentiometer Feedback (4 ~ 20mA).  
 Auxiliary Limit Switches (2 Units).  
 2 Wire for ON/OFF Operation.

## Three Phase Quarter Turn Electrical Actuators



### Design Approvals



### Widely Used in Fields Such as

- ~ Water Treatment
- ~ Municipal Water Supply Board
- ~ Petroleum
- ~ Chemical Industry
- ~ Power Plant
- ~ Metallurgy
- ~ Pharmacy
- ~ Paper Industry
- ~ Energy
- ~ Textile
- ~ Food Processing
- ~ Automation etc...

### Motorized Valves

- ~ Ball Valves
- ~ Butterfly Valves / Damper Valves
- ~ Fire Safe Ball Valves
- ~ Jacketed Ball Valves
- ~ Wafer Ball Valves
- ~ UPVC / PP Ball Valves



# ATQ SERIES

Three Phase Quarter Turn

## MANUFACTURING STANDARDS

- **Actuator Manufacturing Standard**  
IEC / EN 15714 – 2 (Electrical Actuator for Industrial Valves)
- **Actuator Enclosure Standard – IP 67 / 68**  
IS / IEC 60529 – 2009 (Degree of Protection provided by Enclosure)
- **Actuator Motor Standard**  
IEC- 60034 – 1 (Rotating Electrical Machines)  
IS-325 (Three Phase Induction Motor)
- **Actuator Mounting Standard**  
ISO 5211

## APPLICABLE DIRECTIVES

- **EC Machinery Directive – 2006 / 42 / EC**
- **Low Voltage Directive – 2006 / 95 / EC**
- **EMC Directive – 2004 / 105 / EEC**

## TECHNICAL DATASHEET

STANDARD SPECIFICATIONS

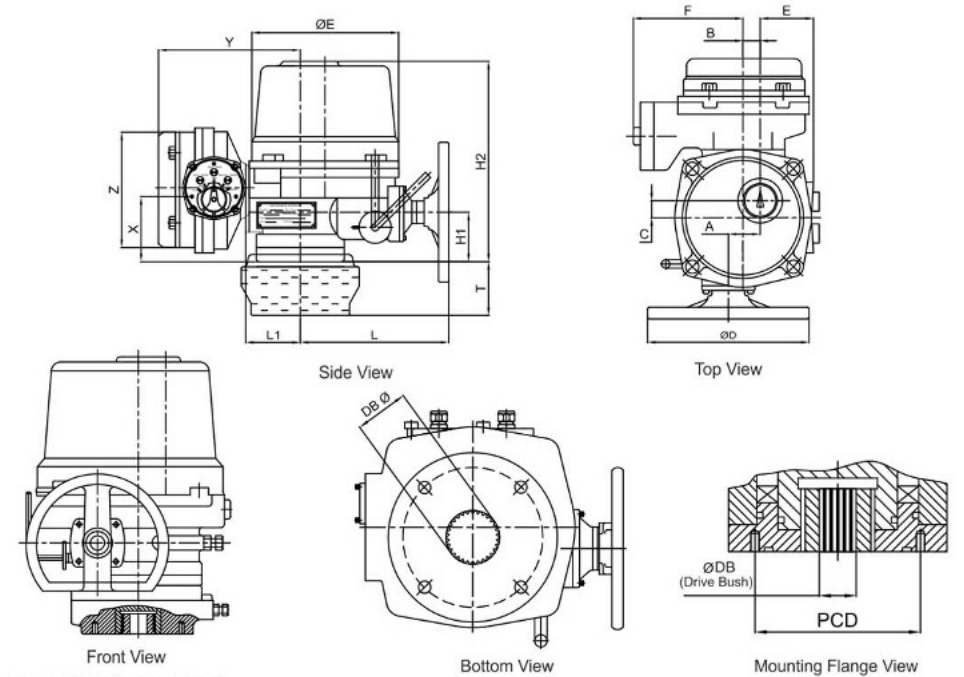
Model No.	Max Torque NM	Motor Kw	Actuator RPM	Rotation time Second / 90°	415 V AC Motor Current			Acceptable Stem Ø mm
					START (A)	RUN (A)	LOCK (A)	
ATQ 5	50	0.025	1	16	0.4	0.3	0.41	14
ATQ 10	100	0.025	1	16	0.4	0.3	0.41	22
ATQ 20	200	0.04/ 0.06	1	16	0.9	0.6	0.98	32
ATQ 40	400	0.06	1	14	0.9	0.6	0.98	32
ATQ 60	600	0.12	1	15	1.7	1.1	1.80	42
ATQ 80	800	0.18	0.5	27	2.4	1.5	1.80	42
ATQ 100	1000	0.18	0.5	28	2.4	1.5	2.49	42
ATQ 150	1500	0.18	0.3	45	2.4	1.5	2.49	50
ATQ 200	2000	0.20	0.3	45	2.8	1.7	2.92	50
ATQ 250	2500	0.20	0.3	45	2.8	1.7	2.92	50
ATQ 400	4000	0.55	0.5	60	8	2.2	8.40	63
ATQ 600	6000	1.1	0.5	60	17	3.1	17.52	63
ATQ 800	8000	1.5	0.5	60	21	4.3	22.00	90
ATQ 1200	12000	3	0.5	120	32	8.5	33.08	135

Note : Specifications mentioned here are subject to revision without notice due to continuous product improvements. (Rev.-1)

actuate with accuracy



## Dimension Details

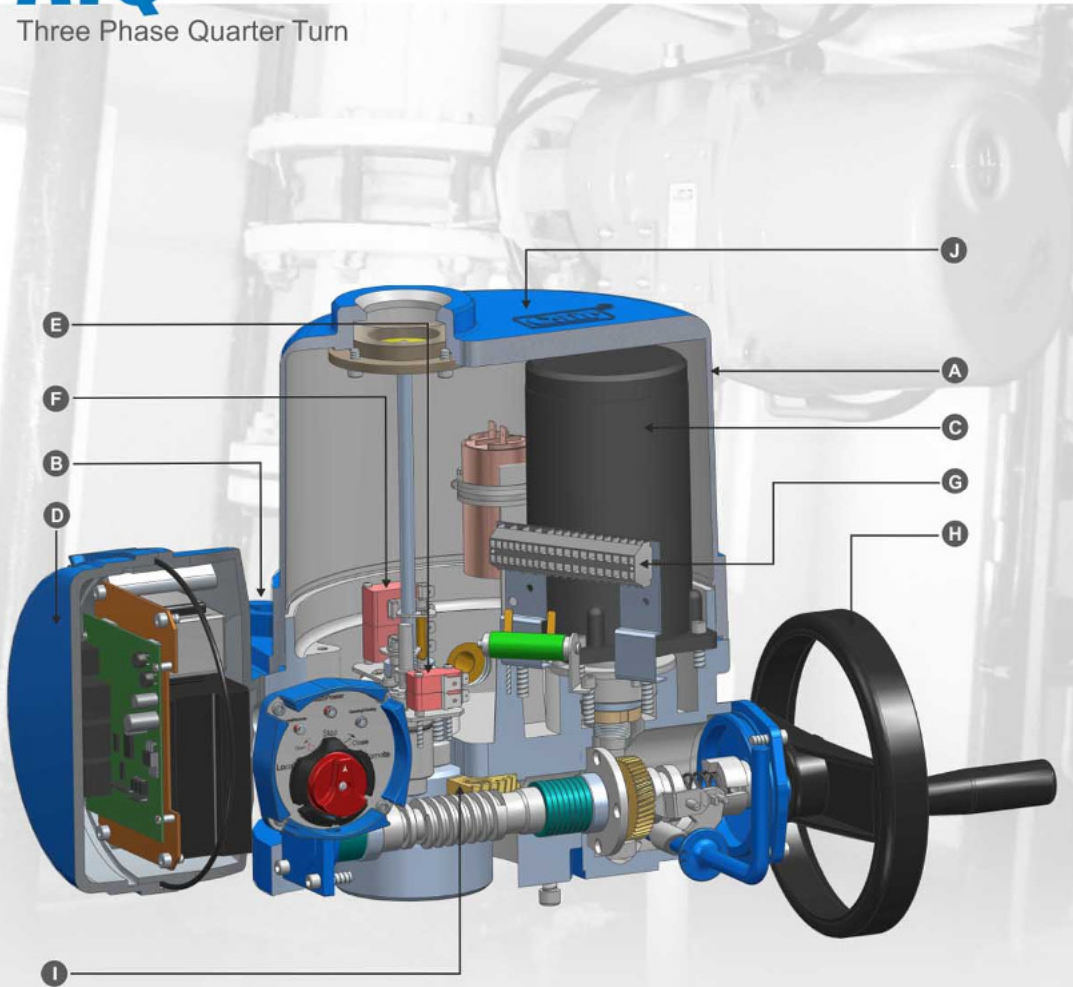


(ALL DIMENSION ARE IN MM)

Model No.	A	B	C	E	F	ØD	ØE	T	H1	H2	L	L1	X	Y	Z	Mounting PCD	ØDB (Drive Bush)
ATQ 05	49.5	22.5	30	77.5	150	200	200	27.5	64	263	190	85	113	198	190	F05, F07	22
ATQ 10	49.5	22.5	30	77.5	150	200	200	27.5	64	263	190	85	113	198	190	F07, F10	42
ATQ 20	49.5	22.5	30	77.5	150	200	200	27.5	64	263	190	85	113	198	190	F07, F10	42
ATQ 40	60	33	35	77	150	200	220	27.5	70	304	205	88	119	203	190	F10	58
ATQ 60	70	43	38	92	150	250	260	27.5	78	342	228	106	127	220	190	F10, F14	58
ATQ 80	70	43	38	92	150	250	260	27.5	78	342	228	106	127	220	190	F12, F14	58
ATQ 100	70	43	38	92	150	250	260	27.5	78	342	228	106	127	220	190	F12, F14	58
ATQ 150	70	43	38	92	150	250	260	112	78	342	228	106	127	220	190	F14	72
ATQ 200	70	43	38	92	150	250	260	112	78	342	228	106	127	220	190	F14, F16	72
ATQ 250	70	43	38	92	150	250	260	112	78	342	228	106	127	220	190	F14, F16	72

# ATQ SERIES

Three Phase Quarter Turn



actuate with accuracy



## A ENCLOSURE

ATQ series actuators are available in both Weather Proof and Flame Proof (Ex-Proof) enclosures. These enclosures are watertight to IP 67 / IP 68. The enclosures are hard anodized Aluminium Alloy which provides resistance from high temperatures, acids, alkali and remain water proof and dust proof. All the joints on the enclosure are armed with a waterproofing seal making it suitable for mounting in extreme outdoor environment. Enclosure types with ambient temperatures are indicated below :

Weather Proof - (Standard)		Rating	Ambient Temperature
Manufacturing Standard		IP68	-30°C to +70°C
IEC 60529			
Flame Proof - (Ex-Proof)		Rating	Ambient Temperature
Manufacturing Standard	Enclosure Code	IP68	-20°C to +70°C
IS/IEC 60079	Exd IIB T4		
	Exd IIC T4		

## B POWER SUPPLY

ATQ series actuators are suitable for operation with the following Three Phase power supplies.

Standard Supply Voltages  
415 V AC : (± 10%), 50 / 60 Hz  
Supply Voltages available on request  
380 V AC : (± 10%), 50 / 60 Hz  
460 V AC : (± 10%), 50 / 60 Hz

Voltage Tolerance	Frequency Tolerance	Maximum Starting Voltage Drop	Non Standard Tolerance	UPC Systems
± 10% Applies for rated torque performance; duty cycle and speed not guaranteed	± 5% Applies for rated torque performance; duty cycle and speed not guaranteed	-15% Actuator can start and run up to speed	Available on request	UPS systems should confirm to recognised supply standards such as EN60160 The above tolerances should not be exceeded.

## C MOTOR

ATQ series actuators are fitted with specially designed motors integral to the actuator. These motors can be broadly classified on the basis of their duty.

On-Off Type / Modulating type (proportionate control)

- Three phase capacitor / run start squirrel cage induction type synchronized motor.
- Continuous duty (S2-15 mins).
- Class F insulation with temperature rise restricted to Class B.
- Thermostat protection : Thermostats embedded in the motor end windings will directly sense motor temperature. Thermostats will open circuit when set temperature is reached, thereby de-energising the motor and auto reset to continue operation once the motor has cooled off.
- Low inertia design.
- Nominal 50 starts per hour, 15 minutes rated based on a nominal torque of 33% of rated torque.
- Micro-processor based modulating control card.

**DUTY RATING**  
ON-OFF / INCHING  
MODULATING

## D CONTROL - LOCAL / REMOTE CONTROL

Selector switches	: Open / Stop / Close.
Selector switches	: Auto / Manual or Local / Remote.
Indicating lamps	: Open / Close / Error.
Enclosure	: IP 67 weather proof & dust proof.

- Blinking LED lamp indication during open / close operation.
- [ Red - Fully Open ] Green - Fully Closed.
- Automatic phase rotation correction and phase loss protection.
- 24V DC voltage level is applied for remote control.
- Easy and flexible user connection way.
- Non-intrusive local control switch with hall effect device to improve water proof feature.
- Five passive contacts to indicate the working status of the electric actuator and facilitating the monitoring of the electric actuator by DCS system.
- Operating mode select switch can be locked with ordinary lock to prevent improper operation.

## E TORQUE SWITCH/SENSOR

Independent torque switches are provided, one for each direction of travel having 2NO + 2NC potential free contacts. Output torque is controlled by switching the motor off when the set torque limit has been reached. The entire torque switch drive assembly is individually replaceable.

## F POSITION SWITCH/SENSOR

Independent limit switches are provided, one for each direction of travel having 2NO + 2NC potential free contacts. Limit switches are operated by gear driven cams, which are mechanically linked to the driving devices. Easy setting of limit switches (counter-wheel-mechanism). If the switching point of limit switch gear has been overturned inadvertently by manual operation, the switching point itself does not change. No resetting is therefore required. All actuators have a continuous local mechanical position indicator.

## G TERMINALS

ATQ series actuators are provided with a separately sealed terminal compartment. Terminal screws and washers are supplied with the actuators

## H HANDWHEEL

Hand-wheel does not rotate during power operation. Manual drive is automatically disengaged when motor starts.

## I LUBRICATION

ATQ series actuators come with premium quality lubricants and enable smooth functioning of rotating components at a wide temperature range.

## J FINISH

The actuators are powder coated with corrosion proof epoxy coating.

## OPTIONAL

### FIELDBUS CONTROL OPTION

ATQ series actuators are available with the network interface cards to enable remote control and indication using digital 'bus' network systems communication to the control systems. Network interface cards such as Modbus, Profibus and Foundation Fieldbus are compatible.

### FIELD POSITION OPTION

In the event of loss of power supply a battery provides power to the control module/motor to update the valve position.

