

BLOOMFOSS BMT/BQT

Smart Electric Actuator

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ABOUT US

Bloomfoss, one of the leading Actuators and Controls manufacturer that operates and serving across several industries. (Offshore, Marine, Petrochemical, Refinery, Oil Tank Storage, Water Treatment etc.)

Our SMART electric actuators are capable to operate Outdoors and Hazardous location and also added features of providing BUS – Communication between actuators and DCS systems. (Modbus, Foundation Fieldbus, Profibus)

In addition, Bloomfoss SMART Electric Multi-Turn Actuator (BMT series) and SMART Electric Quarter-Turn Actuator (BQT) are compact and simple to operate design that are very suitable for all industrial application.

In addition, we are also able to provide Optional Self Diagnostic (SD module) features that capable of monitoring Actuators Health status on-lines





BE THE WORLD LEADER IN ACTUATION SOLUTION

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ABOUT EQUIPMENTS





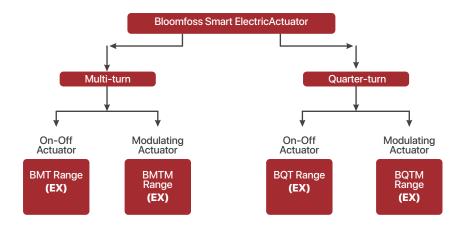
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Bloomfoss Multi-Turn (BMT)/
Bloomfoss Quarter-Turn (BQT)

SERIES



SMART ELECTRIC ACTUATOR





BMT / BMTM



Quarter-turn Actuato (BBQT / BQTM)



Double-Sealed Structure

The Bloomfoss BMT/BQT range actuators have doublesealed watertight metallic enclosure to IP68 standards (15 meters 90 hours). Explosion-proof BT4 and CT4 are optional. The terminal compartment and the internal electrical control parts are entirely separate. The internal electrical control parts can be waterproof and dustproof even when the terminal compartment cover is removed for site wiring.



Reliable Electronic System

Bloomfoss actuators' electronic systems use an advanced 32-bit embedded SOC chip, which not only provides with a strong computing ability, but also integrates multifunctional circuit. It packages all the necessary electronic circuits and parts of electronic components without complex electric wiring, have a high reliability for electronic control.



Infrared Setting

BMT\BQT series actuators adopt advanced infrared remote control technology (IrDA), infrared setting tool can set and diagnose actuator through sealed indication window without removing the electric cover. The communication distance between setting tool and window is within 0.75 meter. Infrared setting tool is instinsically safe design and can be used in hazardous environment.

Non-Intrusive Design

The Bloomfoss BMT/BQT range actuators take the non-intrusive design. The site setting operation can be accomplished by using an infrared setting tool without removing the electric cover. Consequently, the internal electrical control parts can be protected from the site pollution. The design for local operation discards the traditional moving shafts penetrating the control enclosure and takes the hall magnetic sensor technology to control the actuator.

Accurate Torque Measurement (Patented)

Bloomfoss adopts its patented torque measurement system to ensure the overload protection of actuators and indicate the torque variation by LCD. The precise torque value is decided by the electronic signal converted from the reaction force of motor shaft's thrust transferred by torque sensor, thus solves the problem of calculating the torque according to the changes of power frequency, voltage and temperature.



Infrared Setting

Precise valve position measurement BMT/BQT range actuator takes advanced hall-effect incremental encoder to measure the valve position. The adoption of non-contact encoder design can avoid the disadvantages of traditional potentiometer, which is easy to wear and has short life. It increases the reliability and lifetime of the actuator. The setting range of the encoder is 2.5~150,000,000 circles. For BMT multi-turn actuator, the output angle resolution of the central axis is 7.5 degree. For BQT part-turn actuator, the output angle resolution of the central axis is 0.05 degree.

BMT/BQT range actuator can take the 24-bit optical absolute encoder as option. This kind of encoder uses optical encoder disk to record valve position accurately without battery when the power is off. For BMT multi-turn actuator, the output angle resolution of the central axis is 0.2° with maximum 1024 circles. For BQT part-turn actuator, the output angle resolution of the central axis is 0.02°.

Duty Cycle

Duty cycle covers S2 to S4.

Noise

Independent tests have shown that the noise did not exceed 61dB (A) within 1M distance.



High-Definition LCD

Bloomfoss actuators incorporate a unique high-definition liquid crystal display. Large display window with backlight enables users to see valve position, torque and functional status at a long distance.

Life Test

Standard BMT/BQT life test is based on 10,000 times open /close/open cycles (500,000 output turns) with maximum seating torque at stroke end and an average of 1/3 maximum seating torque during stroke. Actuator is stalled 25 times against a solid object to prove its durability.

Designed Service Life

At the rated torque of on-off actuator, the shortest lifetime is 30,000 times open/close/open cycles with the assumption of maximum seating torque at stroke end and an average of 1/3 maximum seating torque during stroke.

Operating Temperature

Actuators are suitable for operating under -30° c to 70° c ambient temperature. Please note that the appointed operating temperature range for the hazardous area Certificate should go by certificate. For temperatures outside this range, please contact Bloomfoss.



BLOOMFOSS

BMT/BQT Series

Smart Electric Valve Actuator Functions and features



Automatic Phase Correction and Adjustment

With phase sequence discrimination function for power supply, Bloomfoss actuator will rotate correctly, regardless how the three phase sequence is. It avoids the damaging of valve and actuator result from wrong wiring.

Over Torque Protection

When load torque exceeds actuator setting torque, the actuator will stop and alarm, the indication contact will action.

Space Heater (Option)

The actuators will be fitted with an space heater preventing condensation of water vapour.

Intermittent Timer (Option)

It's used to increase operation time of actuator, and reduce/prevent impact of water or fluids in pipeline.

Changeable Indication Lamp (Option)

The default indication lamp is red/green/yellow to open/close/mid-position, users can change the lamp of actuator in program by infra-red setting tool, to satisfy different use habit.

Auto Inspection

It's used to check actuator always in good condition for emergency operation, users can set actuator auto operate for certain distance in certain interval time (in days), to make sure actuator is availably to operate after a long time no operation.

Safe And Reliable Protection

BMT/BQT range actuator has powerful self-protection function. When there is any improper or wrong operation from user, the actuator will proceed self-protection and self-correcting.

Vibration

Standard BMT/BQT range actuator is suitable for the environment where the vibration does not exceed the following standard.

Equipment induction: The cumulated vibration in 10-1000MHz frequency range is less than 1 grms.

Impact: Maximum acceleration is 5g.

Seism : If it is to operate during and after the event, frequency range is 150Hz and acceleration is 2g. If it is

only required to maintain structural integrity, it is 5g.

Isolation control should be used or the actuator should be mounted far away from valve and drived by an extension shaft with vibration absorbing couplings in the place where it is excessive equipment induced vibration.

Intelligent Alarm

The alarm will displayed at lower right corner of actuator with English words, like phase lost alarm(PhaseLst), Motor over temperature alarm(TempErr), CPU over temperature(CPUTemp), pressure sensor error(SensorErr) and so on, these words will help users understand the alarm of actuator easily, meanwhile, when there is two or more alarms, these alarms will display alternately, until all of them is solved. Detailed please refer to operation instruction.





Instantaneous Reversal Protection

When actuators are rotating in one direction, such as opening, if the closing signal is commanded, the internal control circuit will stop for a while before executing closing. This technology decreases the over-current damage to the motor, prolongs the contactor's service life and prevents the mechanical driving devices, such as valve stem, gearboxes damaged by shock.

Phase Lost Protection

To prevent overheating of three-phase motor when losing phase, the phase lost protection circuit will monitor the three-phase power continuously. If one or more phases are lost, the actuator will block the control from control circuit to motor and alarm.

Intelligent Protection During Valve Jams

When actuators are rotating in one direction, such as opening, if the torque in this direction is larger than the set torque, the jam protection will be implemented. Jam protection has two modes. One is the general stop mode, that is when it jams, actuator stops working and displays alarm signals. At the meantime, the indication contacts movement may also be triggered. The other one is the intelligent jam protection, that is when it jams, the actuator will close the valve for a set distance, and then continue to implement the open valve order. If it still jams, the mentioned process will repeat until achieving set times. If the valve overtorques all the same, the actuator will stop working and displays alarm signals. At the meantime, the indication contacts movement may also be be triggered. Intelligent jam protection can open and close the sticky valves efficiently.

Motor Overheating Protection

Bloomfoss actuator motors are designed with F class insulation, which can work in extreme environments. The thermal switches embedded in the motor windings of actuators will disconnect the relevant contacts, stop actuators and display alarm signals once the winding temperature is over presetting (132 \boxtimes). Motor overheating protection can be shielded via setting program.

Better Record

Bloomfoss actuator has integrated with intelligent function which can record various commands and operation of actuator, through RECORD menu, user can observe actuator production date, production code, recent commands, recent error, max open&close torque, contactor operation times and so on, it will help user understand actuator status easily, detailed information please refer to operation instruction.

BMT/BQT Smart Electric Valve Actuator Good Security, Perfect Protection



Indication and monitoring

Bloomfoss Actuator possesses 4 (which can be extended to 8) sets of indication contacts with dry contact output. (Nominal capacity is 5 A 250VAC or 5 A 30VDC). Every set of indication contacts can be set as normal open and normal close according to user's requirement. The user can select 29 kinds of the trigger conditions including full open, full close and protection alarm etc. All the functions of indication contacts can be set easily via setting tools.

Apart from the four sets of indication contacts, the actuator also has a monitoring contacts which can indicate the effectiveness of actuator electrical devices. (Nominal capacity is 8 A 250VAC or 8 A 30VDC). The monitoring contacts can be triggered at any of the following conditions: Local/stop, motor over temperature, lost phase, stall, locked rotor,CPU over temperature, over torque, 24V control voltage error, torque sensor error and position error.

Trigger conditions of indication contacts can be selected by software, the list is as following:

			_
Number	Trigger conditions	Number	Trigger conditions
1	Close Limit	16	Open Interlock
2	Open Limit	17	Close Interlock
3	Middle Position	18	Interlock
4	Torque Trip Close	19	ESD signal
5	Torque Trip Open	20	Phase Lost
6	Torque Trip	21	Local State
7	Torque Trip Mid	22	Remote Statel
8	Opening	23	24V Error
9	Closing	24	Inspecting
10	Running	25	Motor Running
11	Stall	26	Motor Temp Error
12	Low Battery	27	Sensor Error
13	Hand Wheel	28	CPU Temp Error
14	Running Blink	29	Integrated Error
15	Stop State		



Backup Battery

For an easy manual operation when power is off, a backup battery is installed to activate window displaying of valve status and record valve position. After finishing the manual operation, battery will quit work status for power saving. Backup battery won't lose power when main power supply is connected, so backup battery can last for a long time, normally more than 5 years. Users can observe battery level through Diagnose menu(refer to operation instruction), meanwhile, Bloomfoss actuator has intelligent battery management system, when battery level is lower than 15%, actuator will alarm, when lower than 10%, battery alarm icon will flash. Battery alarm will not influence actuator operation



Analogue signals	Input impedance
0-5mA	1K
0-10mA	500
0-20mA	250
4-20mA	250
0-5V	1M
0-10V	78K
0-20V	52K

Analogue Position Control (Option)

Bloomfoss actuator analogue position controller allows actuator to position valve automatically in proportion, according to analogue current or voltage signal. The input proportional signal comes to analogue position controller through Linear Isolator. The controller converts the proportional signal into valve position signal and compares with current valve position to drive the actuator according the discrepancy. By adjusting the dead zone of analogue position controller and forbidden running time, valve can avoid reciprocating oscillation.

Fieldbus Control Function (Option)

The interface offered by Bloomfoss actuator has full compatibility with Fieldbus-Mastering control systems and communication protocol. Bloomfoss actuator can add the Fieldbus module such as Modbus, Profibus and Foundation.

Remote indication of valve position

Bloomfoss actuator's current transmitter can convert the present valve position into 4–20mA current output signal. The smallest corresponding signals can be chosen for full open or full close. At rated voltage, the maximum external impedance is $500~\Omega$ and the linearity of the whole stroke is less than 1%.

4-20mA Signal Feedback (Option)

Bloomfoss standard actuator has no 4-20mA signal feedback, it is only available when signal feedback module is installed.

Modulating Control (Option)

Bloomfoss standard actuator has no 4-20mA signal input/output modulating function, it is only available when modulating module is installed.

BMT/BQT Series
Smart Electric Valve Actuator
Unparalleled Advantages



Torque measurement

Bloomfoss actuator which adpots precise pressure sensor can have fast and accurate detecting of output shaft torque.

Motor and Drive

Bloomfoss three-phase squirrel-cage asynchronous motor designed by advanced special software can work in extreme environments with F class insulation. The motor shaft and worm shaft are separate in order to faciliate rapid replacement. Worm and worm shaft are immerged in lubricant to fit temperature change.

Terminal Compartment

Separately sealed terminal compartment can make sure of the integrity of the electrical control part even when the terminal compartment cover is removed for site wiring.

Thrust Base

Models below BMT06 are fitted with lubricated, removable type 'A' thrust base. Actuators can b e removed without changingg valve position. BMT07 and above models' thrust bases are integrated with enclosure. Simple and removable drive bushing can be machined to fit valve stem.



Manual Operation

The handwheel (or independently geared handwheel on larger size) can be directly driven with low speed padlockable hand/auto clutch to provide reliable emergency manual operation in the event of a power supply failure. Manual operation has lost motion "hammerblow" effect, which will facilitate easy valve operation.

Valve Position Control

Bloomfoss discards traditional potentiometer to measure valve position and introduce hall incremental encoder to improve the position accuracy. Optical absolute encoder as the option can record the valve postion accurately without battery when the power is off.

Infrared Setting

Infrared setting tool can set and diagnose actuator through sealed indication window without removing the electric cover. The communication distance between setting tool and window is within 0.75 meter.

Local Control

Local control switch (Local/Stop/Remote) and pushbuttons are magnetic switches without penetrating shafts and control the actuator by internal magnetic reed. It can meet the requirements of tight seal and damp-proof. Note: The switch can be locked at Local/Stop/Remote position by padlock to prohibit unnecessary local control.



BLOOMFOSS

BMT(Multi-Turn) /BQT (Quater-Turn) Series Smart Electric Valve Actuator Internal Structure



series Performance Data (380V 3Phase 50 Hz On/Off)



										Multi-tu
	Flange	RPM	Torque	Motor	Rated	Starting	Rated	Power	Efficiency	Weight
Model	(ISO 5210)	(50Hz)	(Nm)	Poles	Current	Current	Power	Factor	(%)	(KG)
	, ,	18	45	4	(A) 1.47	(A) 3.80	(KW) 0.16	0.74	68	32
		24	45	4	1.47	3.80	0.16	0.74	68	32
DI ITOI		36	35	4	1.50	4.20	0.20	0.74	68	32
BMT01	F10	48	35	4	1.60	4.20	0.18	0.74	68	32
		72	35	2	1.90	6.00	0.30	0.86	77	32
		96	30	2	2.00	6.00	0.38	0.86	77	32
		18	80	4	1.66	4.80	0.21	0.78	66	32
		24	80	4	1.70	4.80	0.23	0.78	66	32
BMT02	F10	36	80	4	1.72	4.80	0.24	0.78	66	32
		48	80	2	1.75	4.80	0.24	0.78	66	32
		72 96	45 40	2	2.20	6.50 6.50	0.38	0.87 0.87	77	32 32
		18	110	4	1.86	5.20	0.41	0.87	62	32
BMT03	F10	24	110	4	1.95	5.20	0.24	0.80	62	32
		18	250	4	3.90	16.00	0.67	0.83	78	52
		24	250	4	4.10	16.00	0.68	0.83	78	52
		36	205	4	4.20	16.00	0.87	0.83	78	52
BMT04	F14	48	205	4	4.30	16.00	0.99	0.83	78	52
		72	160	2	3.00	20.00	0.70	0.88	83	52
		96	145	2	3.10	20.00	0.72	0.88	83	52
		144	100	2	5.20	24.00	1.05	0.90	80	52
		18	450	4	5.40	18.00	0.73	0.83	69	52
		36	450 300	4	5.50 5.60	18.00 18.00	0.84 0.84	0.83 0.83	69	52 52
BMT05	F14	48	240	4	5.90	18.00	0.84	0.83	69	52
DIVITOO	''-	72	240	2	5.70	25.00	0.92	0.83	73	52
		96	230	2	6.60	25.00	1.01	0.82	73	52
		144	150	2	6.30	28.00	1.19	0.82	77	52
		18	650	4	7.20	35.00	1.35	0.80	79	75
		24	650	4	7.60	35.00	1.54	0.80	79	75
		36	540	4	7.74	35.00	1.36	0.80	79	75
BMT06	F16	48	450	4	13.50	43.00	2.02	0.88	73	75
		72	450	2	12.50	43.00	1.67	0.88	73	75
		96	365	2	13.20	43.00	2.44	0.88	73	75
		144	270	2	13.00	43.00	2.43	0.88	73	75
		18 24	1100 1100	4	11.00 12.00	52.00 52.00	1.77 2.17	0.86 0.86	81	200
D1 1707		36	780	4	12.30	52.00	2.73	0.86	81	200
BMT07	F25	48	680	4	15.80	88.00	3.00	0.85	82	200
		72	550	2	16.60	88.00	3.65	0.85	82	200
		96	550	2	17.80	88.00	3.83	0.85	82	200
		18	1500	4	10.50	67.00	2.17	0.87	88	230
		24	1500	4	12.60	67.00	2.40	0.87	88	230
BMT08	F30	36	1300	4	13.80	67.00	3.13	0.87	88	230
5100	' "	48	1000	4	19.00	118.00	4.08	0.89	86	230
		72	800	2	19.50	118.00	4.42	0.89	86	230
		96	745	2	21.00	118.00	4.58	0.89	86	230
		18 24	2000 2000	4	18.50 20.00	93.00 93.00	3.74	0.86 0.86	83 83	230 230
		36	1700	4	22.00	93.00	4.61 5.00	0.86	83	230
BMT09	F30	48	1350	4	21.00	120.00	3.98	0.85	81	230
		72	1100	2	23.00	120.00	4.84	0.85	81	230
		96	1000	2	25.00	120.00	5.10	0.85	81	230
BMT09.1	F30	24	2500	4	25.00	120.00	5.46	0.93	84	230
		36	2500	4	26.00	120.00	5.71	0.93	84	230
BMT10	F30	24	3000	4	29.00	105.00	5.32	0.88	83	230
	1 7	18	3500	4	30.00	105.00	5.68	0.86	80	270
		24	3500	4	32.00	105.00	5.80	0.86	80	270
BMT10G	F30	36	2000	4	29.00	105.00	5.43	0.86	80	270
2	' ' '	48	1600	4	31.00	130.00	5.83	0.90	82	270
		72 96	1400	2	32.00	130.00	5.92	0.90	82 82	270 270
		96	1200		33.00	130.00	6.10	0.90	82	2/0

Note: 1. Wiring and airbreak switch selection should refer to current(A) data of actuators.

2. The torque value above apply to those voltage higher than 380V





										Multi-turr
	Flange	RPM	Torque	Motor	Rated	Starting	Rated	Power	Efficiency	Weight
Model	(ISO 5210)	(60Hz)	(Nm)	Poles	Current	Current	Power	Factor	(%)	(KG)
	(.00 02:0)	, ,	` ′		(A)	(A)	(KW)			
		21	45	4	1.53	4.20	0.18	0.80	70	32
		29	45	4	1.55	4.20	0.19	0.80	70	32
BMT01	F10	43	35	4	1.57	4.50	0.22	0.80	70	32
	''	57	35	4	1.60	4.50	0.20	0.80	70	32
		86	35	2	1.86	5.50	0.30	0.90	78	32
		115	30	2	2.05	5.50	0.39	0.90	78	32
		21	80	4	1.70	4.60	0.24	0.81	67	32
	l	29	80	4	1.73	4.60	0.26	0.81	67	32
BMT02	F10 -	43	80	4	1.77	4.60	0.27	0.81	67	32
5	''Ŭ	57	80	4	1.82	4.60	0.28	0.81	67	32
		86	45	2	2.30	6.10	0.41	0.90	75	32
		115	40	2	2.35	6.10	0.47	0.90	75	32
BMT03	F10	21	110	4	1.85	5.20	0.25	0.81	66	32
DIVITOO	1 10	29	110	4	1.92	5.20	0.29	0.81	66	32
	L	21	250	4	3.95	14.00	0.69	0.84	78	52
	l L	29	250	4	4.15	14.00	0.70	0.84	78	52
	l L	43	205	4	4.24	14.00	0.92	0.84	78	52
BMT04	F14	57	205	4	4.36	14.00	1.02	0.84	78	52
		86	160	2	3.50	19.00	0.74	0.90	83	52
		115	145	2	3.60	19.00	0.78	0.90	83	52
		173	100	2	5.40	23.00	1.08	0.89	82	52
		21	450	4	5.50	17.00	0.75	0.80	71	52
	I [29	450	4	5.60	17.00	0.88	0.80	71	52
	I [43	300	4	5.80	17.00	0.87	0.80	71	52
BMT05	F14	57	240	4	6.10	17.00	0.90	0.80	71	52
		86	240	2	6.00	15.80	1.02	0.81	82	52
		115	230	2	8.00	15.80	1.29	0.81	82	52
		173	150	2	6.60	26.00	1.23	0.81	76	52
		21	650	4	7.50	29.00	1.44	0.84	79	75
		29	650	4	7.80	29.00	1.63	0.84	79	75
		43	540	4	8.00	29.00	1.44	0.84	79	75
BMT06	F16	57	450	4	14.60	41.00	2.05	0.80	70	75
	'''	86	350	2	12.80	41.00	1.67	0.80	70	75
		115	365	2	13.50	41.00	2.41	0.80	70	75
		173	270	2	14.50	41.00	2.50	0.80	70	75
		21	1100	4	11.50	44.00	1.80	0.91	82	200
		29	1100	4	12.60	44.00	2.21	0.91	82	200
DMTOT	=0=	43	780	4	13.00	44.00	2.79	0.91	82	200
BMT07	F25 -	57	680	4	16.50	76.00	3.28	0.89	80	200
	l	86	550	2	17.30	76.00	3.87	0.89	80	200
	l F	115	550	2	18.20	76.00	4.00	0.89	80	200
		21	1500	4	11.50	90.00	2.24	0.88	84	230
	l F	29	1500	4	13.80	90.00	2.72	0.88	84	230
D1 4700	<u>-</u>	43	1300	4	15.00	90.00	3.36	0.88	84	230
BMT08	F30	57	1000	4	20.00	93.00	4.16	0.90	85	230
		86	800	2	21.00	93.00	4.55	0.90	85	230
		115	745	2	22.00	93.00	4.60	0.90	85	230
		21	2000	4	19.50	97.00	4.18	0.87	84	230
	F	29	2000	4	21.00	97.00	4.70	0.87	84	230
		43	1700	4	23.00	97.00	5.50	0.87	84	230
BMT09	F30 -	57	1350	4	22.00	95.00	4.10	0.86	83	230
	-	86	1100	2	24.00	95.00	4.93	0.86	83	230
	F	115	800	2	26.00	95.00	5.37	0.86	83	230
		29	2500	4	26.00	95.00	5.29	0.85	81	230
BMT09.1	F30 -	43	2500	4	26.50	95.00	5.38		81	230
BMT10	F30	29	3000	4		102.00		0.85	82	
טו ו ועום	FOU	29	3500	4	33.00 34.00	102.00	5.51 5.82	0.84	82	230 270
	⊦	29						0.84		
	-		3500	4	36.00	102.00	6.32	0.84	81	270
BMT10G	F30 -	43	2000	4	32.00	102.00	5.76	0.84	81	270
	-	57	1600	4	33.00	124.00	5.96	0.86	83	270
	I -	86 115	1400 1200	2	34.00 35.00	124.00 124.00	6.06 6.52	0.86	83 83	270 270

Note: 1. Wiring and airbreak switch selection should refer to current(A) data of actuators.

2. The torque value above apply to those voltage higher than 380V.

BMTM series Performance Data (380V 3Phase 50Hz Modulating)



Model	Flange (ISO 5210)	RPM (50Hz)	Torque (Nm)	Motor Poles	Rated Current (A)	Starting Current (A)	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
		18	50	4	1.46	4.00	0.22	0.75	70	32
		24	50	4	1.50	4.00	0.23	0.75	70	32
BMTM02	F10	36	50	4	1.53	4.00	0.25	0.75	70	32
		48	40	4	1.60	4.00	0.26	0.75	70	32
		72	25	2	2.00	5.80	0.41	0.82	78	32
BMTM03	F10	18	90	4	1.65	4.70	0.28	0.78	66	32
DIVITIVIOS	1 10	24	90	4	1.68	4.70	0.29	0.78	66	32
		18	180	4	3.50	15.00	0.98	0.80	79	52
		24	180	4	3.75	15.00	1.17	0.80	79	52
BMTM04	F14	36	125	4	3.90	15.00	1.27	0.80	79	52
		48	125	4	4.00	15.00	1.23	0.80	79	52
		72	80	2	3.00	20.00	1.17	0.88	83	52
		18	360	4	4.00	17.00	1.33	0.81	78	52
		24	360	4	4.10	17.00	1.38	0.81	78	52
BMTM05	F14	36	240	4	4.18	17.00	1.31	0.81	78	52
		48	200	4	4.26	17.00	1.46	0.81	78	52
		72	140	2	4.50	25.00	1.60	0.90	81	52
		18	600	4	7.80	31.00	1.62	0.81	80	75
		24	600	4	8.30	31.00	1.87	0.81	80	75
BMTM06	F16	36	300	4	6.50	31.00	1.95	0.81	80	75
		48	260	4	6.30	38.00	1.74	0.89	82	75
		72	220	2	6.50	38.00	1.86	0.89	82	75

Note: 1. Wiring and airbreak switch selection should refer to current(A) data of actuators.

BMTM series Performance Data (380V 3Phase 60Hz Modulating)

Multi-turn Rated Starting Rated Weight Efficiency Flange Torque Power Motor Model Current Current Power (KĞ) (ISO 5210) (60Hz) (Nm) Poles Factor (%) (KW) 1.52 50 4 4.20 0.24 0.79 68 32 50 1.58 4.20 0.25 0.79 68 32 BMTM02 F10 43 50 4.20 0.27 0.79 68 32 57 40 1.71 4.20 0.30 0.79 68 32 25 2.10 0.48 0.90 32 32 90 4.60 0.28 0.80 65 BMTM03 F10 29 90 1.75 4.60 0.31 0.80 65 32 21 180 3.80 14.00 0.99 0.83 79 52 79 52 29 180 3.96 14.00 1.15 0.83 BMTM04 F14 43 14.00 1.27 52 52 125 14.00 86 80 3.30 18.00 1.16 0.90 84 52 52 21 360 4.10 16.50 1.29 0.84 78 29 360 52 4.16 16.50 1.33 0.84 BMTM05 F14 240 4.23 16.50 1.26 0.84 1.35 52 200 4.41 16.50 0.84 78 86 140 4.80 23.00 1.52 0.91 81 52 21 480 6.20 29.00 1.50 0.84 80 75 480 29 6.40 29.00 1.76 0.84 80 75 BMTM06 F16 300 6.80 29.00 0.84 80 75 75 260 82 6.60 35.00 0.90 220 35.00 0.90 82 6.90

Note: 1. Wiring and airbreak switch selection should refer to current(A) data of actuators.

BMT Series Performance Data (220V 1Phase 50Hz On/Off)



Model	Flange (ISO 5210)	RPM (50Hz)	Torque (Nm)	Motor Poles	Rated Current (A)	Starting Current (A)	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
BMT03	F10	18	65	4	2.30	4.30	0.20	0.96	61	32
Divirioo	1 10	24	60	4	2.30	4.30	0.20	0.96	61	32
		18	165	4	6.70	16.30	0.45	0.95	73	52
		24	140	4	6.70	16.30	0.49	0.95	73	52
DI ATO A	F14	36	120	4	6.70	16.30	0.50	0.95	73	52
BMT04	F14	48	70	4	6.70	16.30	0.50	0.95	73	52
		72	60	2	9.00	24.00	0.80	0.96	71	52
		96	50	2	9.00	24.00	0.73	0.96	71	52
		18	200	4	8.00	17.80	0.63	0.97	72	52
		24	200	4	8.00	17.80	0.63	0.97	72	52
D1 1705	F14	36	150	4	8.00	17.80	0.76	0.97	72	52
BMT05	F14	48	80	4	8.00	17.80	0.76	0.97	72	52
		72	70	2	11.50	26.00	0.87	0.96	71	52
		96	60	2	11.50	26.00	0.87	0.96	71	52
		18	400	4	12.60	39.00	1.17	0.97	76	75
		24	350	4	12.60	39.00	1.17	0.97	76	75
	F16	36	300	4	12.60	39.00	1.17	0.97	76	75
BMT06	F16	48	270	4	12.60	39.00	1.04	0.97	76	75
		72	200	2	16.00	45.00	1.36	0.95	74	75
		96	170	2	16.00	45.00	1.33	0.95	74	75

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.

BMT series Performance Data (220V 1Phase 60Hz On/Off)



										Multi-turn
Model	Flange (ISO 5210)	RPM (60Hz)	Torque (Nm)	Motor Poles	Rated Current (A)	Starting Current (A)	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
BMT03	F10	21	65	4	2.10	4.20	0.21	0.95	68	32
DIVITOS	1 10	29	60	4	2.10	4.20	0.21	0.95	68	32
		21	165	4	7.50	13.00	0.59	0.94	73	52
		29	140	4	7.50	13.00	0.60	0.94	73	52
BMT04	F14	43	120	4	7.50	13.00	0.61	0.94	73	52
DIVITO4	14	57	70	4	7.50	13.00	0.61	0.94	73	52
		86	60	2	9.80	23.00	0.91	0.92	77	52
		115	50	2	9.80	23.00	0.84	0.92	77	52
		21	200	4	8.30	15.00	0.68	0.97	73	52
		29	200	4	8.30	15.00	0.68	0.97	73	52
BMT05	F14	43	150	4	8.30	15.00	0.82	0.97	73	52
DIVITOS	''+ [57	80	4	8.30	15.00	0.82	0.97	73	52
		86	70	2	12.70	24.00	1.04	0.96	68	52
		115	60	2	12.70	24.00	1.04	0.96	68	52
		21	400	4	14.00	28.70	1.31	0.98	74	75
		29	350	4	14.00	28.70	1.31	0.98	74	75
BMT06	F16	43	300	4	14.00	28.70	1.31	0.98	74	75
	' ''	57	270	4	14.00	28.70	1.18	0.98	74	75
		86	200	2	19.00	41.00	1.46	0.96	71	75
		115	170	2	19.00	41.00	1.43	0.96	71	75

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.

^{2.} The torque value above apply to those voltage higher than 380V

^{2.} The torque value above apply to those voltage higher than 380V.

BMTM Series Performance Data (220V 1Phase 50Hz Modulating)



Model	Flange (ISO 5210)	RPM (50Hz)	Torque (Nm)	Motor Poles	Rated Current (A)	Starting Current (A)	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
BMTM03	F10	18	40	4	1.80	4.00	0.14	0.98	62	32
DIVITIVIOS	FIU	24	40	4	1.80	4.00	0.14	0.98	62	32
		18	100	4	6.40	16.00	0.41	0.93	66	52
		24	85	4	6.40	16.00	0.41	0.93	66	52
BMTM04	F14	36	70	4	6.40	16.00	0.42	0.93	66	52
		48	50	4	6.40	16.00	0.42	0.93	66	52
		72	40	2	8.20	24.00	0.67	0.98	78	52
		18	120	4	7.20	17.00	0.53	0.98	74	52
		24	120	4	7.20	17.00	0.53	0.98	74	52
BMTM05	F14	36	90	4	7.20	17.00	0.65	0.98	74	52
		48	60	4	7.20	17.00	0.65	0.98	74	52
		72	50	2	9.60	25.00	0.85	0.97	79	52
		18	240	4	11.30	26.00	1.07	0.96	75	75
		24	210	4	11.30	26.00	1.07	0.96	75	75
BMTM06	F16	36	180	4	11.30	26.00	0.96	0.96	75	75
		48	160	4	14.50	41.00	1.15	0.99	84	75
		72	140	2	14.50	41.00	1.15	0.99	84	75

Note: 1. For 1 phase modulating actuator, client should operate the actuator to opposite direction for 1-2 seconds first, then move to right direction. The length of opposite operation time should according the load of actuator, generally 2 seconds is enough.

BMTM Series Performance Data (220V 1Phase 60Hz Modulating)



Model	Flange (ISO 5210)	RPM (60Hz)	Torque (Nm)	Motor Poles	Rated Current (A)	Starting Current (A)	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
BMTM03	F10	21	40	4	1.90	3.90	0.15	0.98	63	32
DIVITIVIOS	10	29	40	4	1.90	3.90	0.15	0.98	63	32
		21	100	4	7.30	13.00	0.47	0.98	73	52
		29	85	4	7.30	13.00	0.47	0.98	73	52
BMTM04	F14	43	70	4	7.30	13.00	0.48	0.98	73	52
	[57	50	4	7.30	13.00	0.48	0.98	73	52
		86	40	2	10.00	22.00	0.78	0.96	78	52
		21	120	4	7.60	14.00	0.57	0.97	75	52
		29	120	4	7.60	14.00	0.57	0.97	75	52
BMTM05	F14	43	90	4	7.60	14.00	0.69	0.97	75	52
		57	60	4	7.60	14.00	0.69	0.97	75	52
		86	50	2	11.00	24.00	0.90	0.96	75	52
		21	240	4	13.00	25.00	1.10	0.98	78	75
		29	210	4	13.00	25.00	1.10	0.98	78	75
BMTM06	F16	43	180	4	13.00	25.00	0.99	0.98	78	75
		57	160	4	18.00	39.00	1.23	0.95	76	75
		86	140	2	18.00	39.00	1.23	0.95	76	75

Note: 1. For 1 phase modulating actuator, client should operate the actuator to oppsite direction for 1-2 seconds first, then move to right direction. The length of oppsite operation time should according the load of actuator, generally 2 seconds is enough.

Series Performance Data (380V 3Phase 50Hz On/Off)



Model	Flange (ISO 5211)	Stem D	ia (mm)	90°time (s)	Torque (Nm)	Motor Poles	Current	Starting Current	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
	(100 3211)	Key	Square	(3)	(14111)	r ules	(A)	(A)	(1277)	racioi	(70)	(11.0)
BQT01	F07	28	19	18-20	125	2	0.47	1.20	0.05	0.80	53	24
BQT02	F07	28	19	18-20	250	2	0.49	1.20	0.05	0.80	53	24
DQ102	F10	42	27	18-20	230		0.49	1.20	0.03	0.80	33	24
BQT03	F10	42	27	26-30	500	2	0.53	1.30	0.06	0.78	56	35
BQT04	F12	50	32	27-30	1000	2	0.56	1.30	0.06	0.78	56	35
DQTO4	F14	60	36	27-30	1000		0.50	1.50	0.00	0.76	30	33
BQT05	F12	50	32	46-50	1500	2.	0.60	1.30	0.06	0.76	51	35
DQTUS	F14	60	36	40-30			0.00	1.50	0.00	0.76	31	33
BQT06	F14	60	36	58-60	2000	2	0.62	1.30	0.06	0.76	51	35

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.

BQT Series Performance Data (380V 3Phase 60Hz On/Off)

Model	Flange (ISO 5211)	Stem D	ia (mm)	90°time (s)	Torque (Nm)	Motor Poles	Rated Current	Starting Current	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
	(130 3211)	Key	Square	(5)	(18111)	Poles	(A)	(A)	(1777)	Factor	(/0)	(10)
BQT01	F07	28	19	16-18	125	2	0.50	1.20	0.07	0.72	67	24
BQT02	F07	28	19	16-18	250	2	0.56	1.20	0.07	0.72	67	24
DQ102	F10	42	27	10-10	230	۷	0.50	1.20	0.07	0.72	07	24
BQT03	F10	42	27	19-22	500	2	0.59	1.20	0.07	0.74	67	35
BQT04	F12	50	32	23-26	1000	2	0.62	1.20	0.07	0.74	67	3.5
DQ104	F14	60	36	23-20	1000	2	0.02	1.20	0.07	0.74	07	33
BQT05	F12	50	32	42-45	1500	2	0.65	1.20	0.08	0.76	66	35
	F14	60	36	72-43			0.05	1.20	0.08	0.70		
BQT06	F14	60	36	45-50	2000	2	0.69	1.20	0.08	0.76	66	35

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.

V

BQTM Series Performance Data (380V 3Phase 50Hz Modulating)

											Qu	arter-turn
Model	Flange (ISO 5211)	Stem D	ia (mm)	90°time (s)	Torque (Nm)	Motor Poles	Rated Current	Starting Current	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
	(100 3211)	Key	Square	(3)	(14111)	r ules	(A)	(A)	(1277)	racioi	(70)	(11.0)
BQTM01	F07	28	19	18-20	125	2	0.42	1.10	0.05	0.80	57	24
BQTM02	F07	28	19		215	2	0.45	1.10	0.05	0.80	57	24
DQ1IVIU2	F10	42	27	18-20	213	2	0.43	1.10	0.03	0.80	37	24
BQTM03	F10	42	27	26-30	300	2	0.50	1.20	0.06	0.80	57	35
BQTM04	F12	50	32		700	2	0.53	1.20	0.06	0.79	59	35
BQTIVI04	F14	60	36	27-30	700		0.55	1.20	0.00	0.79	39	33
BQTM05	F12	50	32	46-50	4400	2	0.57	1.20	0.07	0.84	55	35
BQTIVIOS	F14	60	36	40-30	1100		0.57	1.20	0.07	0.04	33	33
BQTM06	F14	60	36	58-60	1500	2	0.60	1.20	0.07	0.84	55	35

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.



BQTM Series Performance Data (380V 3Phase 60Hz Modulating)

Model	Flange (ISO 5211)	Stem Dia (mm)		90°time	Torque (Nm)	Motor Poles	Rated Current	Current	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
	(130 3211)	Key	Square	(s)	(18111)	Poles	(A)	(A)	(17.44)	Factor	(/0)	(NO)
BQTM01	F07	28	19	16-18	125	2	0.45	1.10	0.07	0.75	70	24
DOT! 100	F07	28	19	16-18	215	2	0.48	1.10	0.07	0.75	70	24
BQTM02	F10	42	27	10-10	213	4	0.40	1.10	0.07			24
BQTM03	F10	42	27	19-22	300	2	0.53	1.20	0.08	0.73	69	35
BQTM04	F12	50	32	23-26	700	2	0.58	1.20	0.08	0.73	69	3.5
DQ11VI04	F14	60	36	23-20	700	4	0.56	1.20	0.08	0.73	09	33
BQTM05	F12	50	32	42-45	1100	2	0.61	1.20	0.08	0.72	67	3.5
	F14	60	36	42-43	1100	2	0.01				07	33
BQTM06	F14	60	36	45-50	1500	2	0.66	1.20	0.08	0.72	67	35

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.

^{2.} Wirin g and airb reak switch selection should refer to curre nt(A) data of actuators.

^{2.} Wirin g and airb reak switch selection should refer to curre nt(A) data of actuators.

BQT Series Performance Data (220V 1Phase 50Hz On/Off)



											G, G	arter turn
Model	Flange (ISO 5211)		ia (mm)	90°time (s)	Torque (Nm)	Motor Poles	Current	Starting Current	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
	(,	Key	Square	(0)			(A)	(A)		1 dotoi		(,
BQT01	F07	28	19	14-16	100	2	1.60	5.00	0.08	0.96	67	24
BQT02	F07	28	19	18-20	200	2	1.60	5.00	0.08	0.96	67	24
DQ102	F10	42	27	18-20		2	1.00	5.00	0.08			24
BQT03	F10	42	27	18-20	400	2	1.86	5.00	0.09	0.96	69	35
BQT04	F12	50	32	25-30	800	2	1.86	5.00	0.10	0.96	69	35
DQ104	F14	60	36	23-30	800							33
BQT05	F12	50	32	27-30	1200	2	1.70	5.00	0.10	0.96	68	35
	F14	60	36	27-30	1200	-	1.70				00	55
BQT06	F14	60	36	58-62	1600	2	1.70	5.00	0.10	0.96	68	35

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.

V

BQT Series Performance Data (220V 1Phase 60Hz On/Off)

												artor tarri
Model	Flange (ISO 5211)	Stem D Kev	ia (mm) I Square	90°time (s)	Torque (Nm)	Motor Poles	Rated Current (A)	Starting Current	Rated Power (KW)	Power Factor	Efficiency (%)	Weight (KG)
	, ,	Key	Square				(A)	(A)				
BQT01	F07	28	19	13-15	100	2	1.70	4.60	0.09	0.95	70	24
BQT02	F07	28	19	16-18	200	2	1.70	4.60	0.09	0.95	70	24
DQ102	F10	42	27	10-10	200	-	1.70	7.00	0.09	0.73		24
BQT03	F10	42	27	16-18	400	2	1.98	4.60	0.10	0.95	72	35
BQT04	F12	50	32	19-22	800	2	1.98	4.60	0.11	0.95	72	2.5
DQ104	F14	60	36	19-22	800							35
BQT05	F12	50	32	23-26	1200	2	1.92	4.60	0.10	0.94	73	35
	F14	60	36	23-20	1200		1.92			0.94	13	33
BQT06	F14	60	36	45-50	1600	2	1.92	4.60	0.10	0.94	73	35

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.

V

BQTM Series Performance Data (220V 1Phase 50Hz Modulating)

Model	Flange (ISO 5211)	Stem D	ia (mm)		Torque (Nm)	Motor	Rated Current	Starting Current (A)	Rated Power (KW)	Power Factor		Weight (KG)
	(130 3211)	Key	Square	(s)	(11111)	Poles	(A)			Factor		
BQTM01	F07	28	19	14-16	100	2	1.50	4.80	0.10	0.98	80	24
BQTM02	F07	28	19	18-20	150	2	1.50	4.80	0.10	0.98	80	24
	F10	42	27	18-20	150	-	1.50	4.00	0.10	0.90	80	24
BQTM03	F10	42	27	18-20	200	2	1.70	4.80	0.11	0.96	78	35
BQTM04	F12	50	32	25-30	600	2	1.70	4.80	0.11	0.96	78	35
DQTIVIO4	F14	60	36	23-30	600		1.70					
BQTM05	F12	50	32	27-30	1000	2	1.60	4.80	0.11	0.97	79	35
	F14	60	36	27-30	1000	-	1.00				13	33
BQTM06	F14	60	36	58-62	1300	2	1.60	4.80	0.11	0.97	79	35

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.



BQTM Series Performance Data (220V 1Phase 60Hz Modulating)

Model	Flange	Stem Dia (mm)		90°time	Torque (Nm)	Motor Poles	Rated Current	Starting Current	Rated Power (KW)	Power Factor	Efficiency	Weight (KG)
	(ISO 5211)	Key	Square	(s)	(INIII)	Poles	(A)	(A)	(KW)	Factor	(%)	(60)
BQTM01	F07	28	19	13-15	100	2	1.65	4.50	0.10	0.96	77	24
BQTM02	F07	28	19	16-18	150	2	1.65	4.50	0.10	0.96	77	24
	F10	42	27	10-10	150	2	1.05	4.50	0.10	0.90		24
BQTM03	F10	42	27	16-18	200	2	1.85	4.50	0.12	0.95	78	35
BQTM04	F12	50	32	19-22	600	2	1.85	4.50	0.12	0.95	78	3.5
DQTIVIO	F14	60	36	19-22	000	2	1.05	4.50	0.12	0.93	7.0	33
BQTM05	F12	50	32	23-26	1000	2	1.76	4.50	0.12	0.95	79	3.5
DQ I NIOS	F14	60	36	23-20	1000		1.70				/9	33
BQTM06	F14	60	36	45-50	1300	2	1.76	4.50	0.12	0.95	79	35

Note: Wiring and airbreak switch selection should refer to current(A) data of actuators.

Figure NumberSystem

How To Order And Specify

The following is an example of a specific figure number. The fields have been numbered and are explained in the corresponding sections.

Model	Code	Flange	RPM		Voltages	Protection	Communication	Others Remark	
BMT	01	F10	50hz	60hz	0= 220/1 P-50Hz	0= None	0 = None	0 = None	
BQT	02	F14	18	21	1= 220/1P-60hz	1= Exd IIB T4	1 = Modbus RTU	1 = Space Heater	
		F16	24	29	2= 380/3P-50Hz	2= Exd IIB T6	2 = Foundation	$3 = 4 \sim 20 \text{mA}$	
		F25	36	43	3= 380/3P-60Hz	3= IP67	Fieldbus	feeback singal	
	10G	F30	48	57	4= 415/3P-50Hz	4= IP68	3 = Profibus DP		
			72	86	5= 415/3P-60Hz		4 = Others		
			96	115					
			144	173					

Example:

BMT-06-F16-36-2-1-3-0

- ► Model = BMT 06
- ► Connection flange F16
- ► Actuator RPM 18
- ▶ 380V, 3 P, 50Hz
- Exd IIB T6
- Prodibus DP
- ► Remark = None



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