

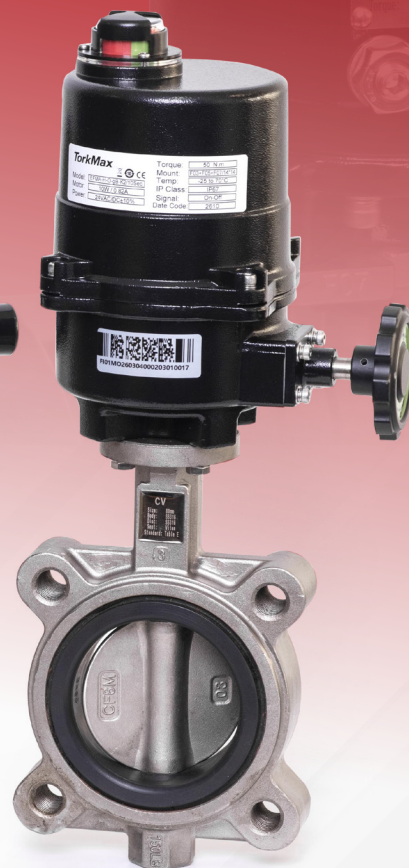
TorkMax

QUARTER TURN ELECTRIC ACTUATOR

EOM SERIES

PRECISION. PERFORMANCE. CONTROL

ACTUATOR CATALOGUE



PRODUCT CLASSIFICATION



The EOM series quarter turn electric actuator is an electric device that controls the 0-90 degree switch of valves. It is mainly used for automatic control operations of valves such as ball valves, plug valves, butterfly valves, and damper valves.

The EOM series quarter turn electric actuators are mainly divided into two major series: the conventional series and the explosion-proof series. The direct output torque range is 10-20000N·m. Based on different functional configurations, it can be divided into basic type, Integral type, Integrated type, and Intelligent type. Users can choose different models and configurations based on on-site engineering conditions and valve torque requirements.

The TorkMax quarter turn series electric actuators have the characteristics of safety, stability, and reliability, which can meet different applications in different fields. Customized services can meet various needs of users.

PRODUCT FEATURE

01 PROFESSIONAL GEAR MECHANISM DESIGN

- Manual/electric automatic switching function, Clutch-free design.
- Planetary gear technology
- The unique planetary solar gear technology has obtained a national patent.

02 ENVIRONMENTAL SAFETY DESIGN

- The product can equipped with DC motors and drive technology,It can receive the power supply of solar and wind power generation equipment.

03 NONINVASIVE HANDLING

- The magnetic switch design without a through shaft is controlled by acting on the internal Hall switch design of the actuator.
- The intelligent electric actuator is equipped with a newly designed UI operation interface.
- The intelligent electric actuator can be equipped with portable infrared setting tools and intrinsically safe explosion-proof setting tools.

04 FLEXIBLE REPLACE ACCESSORIES

- Interchangeable spline sleeve
- Interchangeability of connecting flanges
- It can be combined with sprockets for more convenient manual operation of high-altitude valves

05 VISUAL DESIGN

- Adopting high-strength, sun resistant, and RoHS compliant Plastic 3D window allows for comprehensive and multi perspective observation of travel changes.

FUNCTIONAL CONFIGURATION



TORQUE PROTECTION

The over torque protection function will automatically trip when the valve is stuck, preventing further damage to the valve and actuator.



RUN DIAGNOSTICS

The intelligent actuator is equipped with multiple sensing devices, which can real-time reflect the control signals, fault alarms, operating parameters, status indicators and other states received by the actuator. Multiple diagnostic functions can locate the location of faults and provide powerful directions for troubleshooting for users.



PASSWORD PROTECTION

The intelligent actuator has password protection function, which can authorize operators to avoid actuator failures caused by miss operation.



OPERATIONAL SAFETY

Class F insulated motor, with a thermal protector installed on the motor winding to sense the temperature of the motor, providing over temperature protection and ensuring the safe operation of the motor. (Class H is Optional)



MOISTURE-PROOF HEATER

A heater is installed inside the actuator to prevent internal condensation.



PHASE CORRECTION

The phase sequence detection and correction function does not consider the phase sequence when connecting to the power supply, which avoids the damage caused by incorrect phase sequence and missing phase actuators and the driven devices.

		Basic type (B)	Integral type (M)	Integration (Y)	Intelligent (I)
Control Type	On/off type	✓	✓	✓	✓
	Modulating type	—	✓	✓	✓
Status Indicator	Indicator needle indication	✓	✓	—	—
	3D opening indication	✓	✓	✓	✓
	On/Off/Remote Control/Fault Signal Indicator Lamp	—	—	✓	✓
	On/off power indicator lamp	—	—	✓	✓
	LCD digital display opening percentage	—	—	—	✓
Human Machine Interaction	On site control (near/far control knob)	—	—	✓	✓
	Non invasive local control: open/close valve/stop knob	—	—	—	✓
	local control/remote control/off knob	—	—	—	✓
Protection Functionl	Intrusive on-site control	—	—	✓	—
	Moisture-proof heater	✓	✓	✓	✓
	Overtorque protection	✓	✓	✓	✓
	Motor overheat protection	✓	✓	✓	✓
	Automatic correction of phase sequence (three-phase only)	—	✓	✓	✓
	Alarm signals (including local and remote)	—	—	—	✓
	Non intrusive protection	—	—	—	✓
	Data record	—	—	—	✓
	Password protection	—	—	—	✓
	Open/Close stroke limit	✓	✓	✓	✓
Feedback Signal	Over torque in the each direction	✓	✓	✓	✓
	Position feedback Potentiometer	✓	—	—	—
	4-20mA position transmitter	✓	✓	✓	✓
	Full open/close Contacts (Contact Capacity: 5A@250VAC)	✓	✓	✓	✓
	Full open/close Contacts (Contact Capacity: 3A@250VAC)	—	—	—	✓
	Comprehensive fault contact	—	✓	✓	✓
	Local/remote contacts	—	—	✓	✓
	Full open/close signal	✓	✓	✓	✓
Fieldbus	Modbus	—	—	—	✓
	HART	—	—	—	✓

PRODUCT SPECIFICATION



		BASIC TYPE	INTEGRAL TYPE	INTEGRATION TYPE	INTELLIGENT TYPE
Torque Range		35-20000N.m	10-20000N.m	35-20000N.m	100-20000N.m
Ambient Temperature		25°C ~ 70°C, Optional: -40°C ~ 65°C, -60°C ~ 60°C			
Noise		Less than 75 decibels within 1 meter			
Cable Entry		2 PG13.5' (<100N.m) 2 PG16(>100N.M)			2PG16
Stroke Time		11-155s			19-155s
Protection Ingress		IP67 can be optionally equipped with IP68 (defined as 7 meters underwater, no leakage within 72 hours)		IP65, optional IP67	IP67
Connection		Compliant with ISO5211			
Motor Specifications		Standard F-class motor with thermal protector 135 °C (optional H-class motor)			
Vibration Resistance		According to JB/T8219,Equivalent to IEC 60068-2-6			
Working Duty	On/off type	S2-15min, no more than 600 starts per hour			
	Modulating type	--	S4-50%, maximum: no more than 600 starts per hour (optional with 1200 starts per hour)		
Applicable Voltage		• Single phase: power supply (± 10%); Hz (± 5%) • 50Hz (24/220/230/240V) • 60Hz (24/110/120/220/230/240V) • Three phase: power supply (± 10%); Hz (± 5%) • 50Hz (220/240V) • 60Hz (460/480V) • DC: 24V (± 10%) EFM series is only applicable to single-phase	• Single phase: power supply (± 10%); Hz (± 5%) • 50Hz (24/220/230/240V) • 60Hz (24/110/120/220/230/240V) • Three phase: power supply (± 10%); Hz (± 5%) • 50Hz (220/240V, 380/400/460V) • 60Hz (208/220/230/240/380/440/460/480V) • DC: 24V (± 10%) EFM series is only applicable to single-phase		
Input Signal	On/off Type	Built in contacts, can support 5A@250VAC(Specific to be determined by the control box)	AC/DC24 input control or AC110/220V input control		AC/DC24 auxiliary power input Control - Optoelectronic Isolation
	Modulating type	--	Input signal: 4-20mA; 0-10V; 2-10V Input impedance: 250 Ω (4-20mA)		Input signal: 4-20mA; 0-10V; 2-10V Input impedance: 150 Ω (4-20mA)
Modulating Signal	output	--	Output signal: 4-20mA; 0-10V; 2-10V Input impedance: 750 Ω (4-20mA)		
	Signal reverse	--	Support		
	Singal loss mode	--	Support		
	Dead zone	--	≤ .5%		Adjustable from 0.5 to 9.9% throughout the entire stroke
Fault Signal	On/off type	Motor overheating Over torque	• Comprehensive fault alarm: loss power, motor overheating,phase loss, over torque, and signal loss • EFM series has no torque option, and phase sequence alarm is only applicable to three-phase		• Comprehensive fault alarm: power loss, motor overheating, phase loss, over torque, signal loss, ESD override protection

Remarks: for explosion proof,temperature range should refer to the certificate of different region
If you have special needs, you can consult our business personnel.

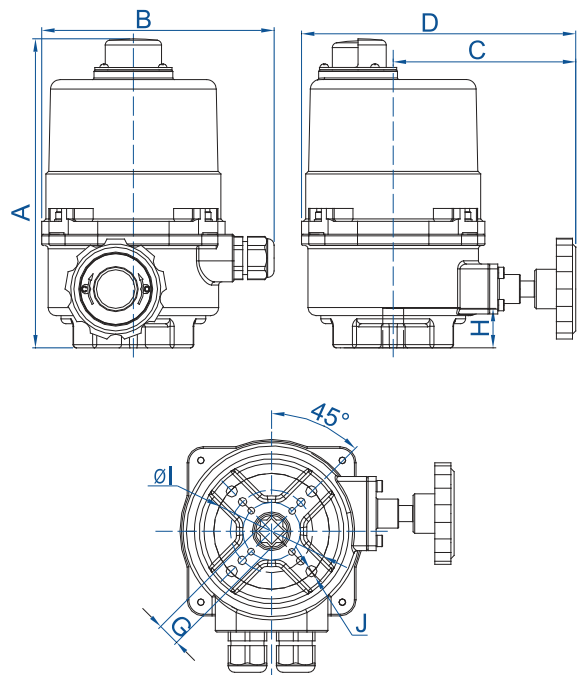
PRODUCT SPECIFICATION



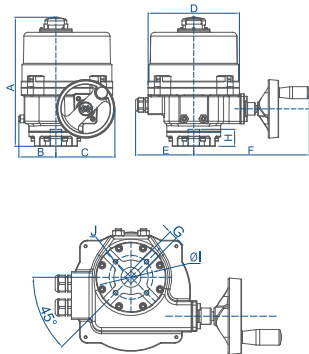
Model	Motor (W)	Maximum output torque (N.m)			Maximum output torque (lbf. in)			Operating time(Sec)			ISO 5211	Notes
		AC/ DC24V	AC110V AC220V	AC 220V ISO 5211 AC 380V AC 400V three-phase	AC/ DC24V	AC110V AC220V	AC 220V AC 380V AC 400V three-phase	50Hz		AC/ DC24V		
								AC 110V AC 220V	AC 380V AC 400V three-phase			
EFMB-1	5	10		-	89		-	13	-	13	F03/F04/ F05	Manual wrench operation
EFMB-2	8	20		-	177		-	12	-	12		
EFMB-3	10	30		-	266		-	11	-	11		
EFM1-(H)	10	35		-	310		-	11	-	8	F03/F05/ F07	Manual wrench/ Handwheel operation
EFMA-(H)	10	50		-	443		-	15	-	10		Handwheel operation
EFMB-(H)	10	80		-	708		-	22	-	15		
EFMB	10	80		-	708		-	26	-	20	F05/F07	Manual wrench operation
EFMD	10	-	100	-	-	885	-	27	-	-	F05/F07	Handwheel operation
EOM2	40	100			885			19		14	F05/F07/ F10/F12	Handwheel operation planetary gear mechanism
EOM3	40	200			1770			39		28		
EOM3A	60	300			2655			39		28		
EOM4	90	400			3540			29		21	F10/F12/ F14	
EOM5	90	600			5310			39		28		
EOM6	90	800			7080			47		34		
EOM7	120	1000			8850			47		34		
EOM7A	120	-	1300	-	-	10505	47		-	-	F12/ F14/ F16	
EOM8	200	-	1700	-	-	15045	34		-	-		
EOM8A	200	-	2000	-	-	17700	34		-	-		
EOM9	200	-	2300	-	-	20335	47		-	-		
EOM10	200	-	3500	-	-	30975	76		-	-	F14/F16	
EOM11	200	-	5000	-	-	44250	105		-	-		
EOM12	200	-	8000	-	-	70800	143		-	-		
EOM13	400	-		13000	-		115050	-	109	-	F25/F30	
EOM14	400	-		16000	-		141600	-	129	-		
EOM15	400	-		20000	-		177000	-	155	-		

- Remarks:
1. Factory standard configuration of the product. The above markings "-" are not applicable.
 2. The rated torque is 0.75 times of the maximum torque.
 3. The standard insulation level of the motor is class F, and class H can be optional.
 4. The opertating time of 60Hz is 5/6 times that of 50Hz, and the maximum output torque is the same as above.
 5. For the 3A, 7A, and 8A products mentioned above, the duty type is S2-8min, and the modulating type is S4-15%.
 6. The operating time is within 10s, only on-off type can be selected, and there is no over torque switch.
If you have special needs, you can consult our business personnel.

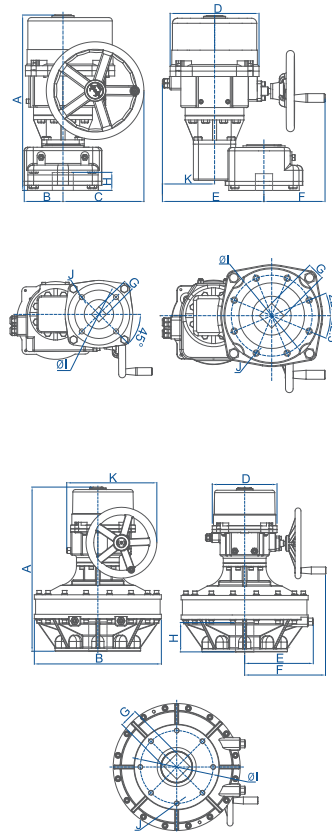
PRODUCT DIMENSION
BASIC / INTEGRAL TYPE



EFMA/1/B-H



EOM 2-9



EOM 10-12

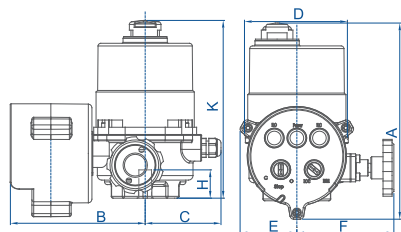
EOM 13-15

Model		A	B	C	D	E	F	G	H	ΦI	J	(kg) Weight
EFMB-1 EFMB-2 EFMB-3		110	111	87.5	-	-	-	11x11	16	36 42 50	4-M5 4-M5 4-M5	1
EFMA	EFM1 On/off	165	145±2	79	115	-	-	11x11 14x14	20	36 50 70	4-M5 4-M6 4-M8	3
	Modulating	185										3.2
EFM1-H EFMA-H EFMB-H	On/off	192	145±2	113.5	172	-	-	11x11 14x14 17x17	20	36 50 70	4-M5 4-M6 4-M8	3.6
	Modulating	212										3.8
EFMB		174	144	57.5	115	-	-	14x14 17x17	20	50 70	4-M6 4-M8	2.3
EFMD	On/off	184	146.5	108	165	-	-		25			3.5
	Modulating	204										3.9
EOM2		268/318*	79±2	123	190	123±2	243±2	14x14 17x17	35	70 102	4-M8	11
EOM3/3A*												
EOM4		327	109±2	187	232	146±2	280±2	22x22	55	102	4-M10	22
EOM5								22x22 27x27		102 125	4-M10 4-M12	
EOM6								27x27		125	4-M12	
EOM7/7A								27x27		125	4-M12	
EOM8/8A		378	128	242	267	162.5	333	27x27	65	125	4-M12	36
EOM9								36X36		140	4-M16	
EOM10		532	118	242	267	308	186	40x40	85	140 165	4-M16 4-M20	76
EOM11								46x46		165	4-M20	
EOM12		549	160	242	267	343	160	55x55	130	254	8-M16	107
EOM13		672	520	-	267	281	331	55x55 75x75	120	254	8-M16	218
EOM14										298	8-M20	
EOM15												

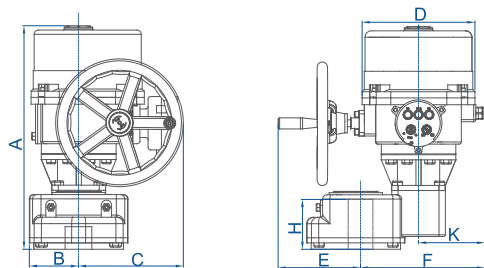
- Note:
- The above "G" size is recommended, and our company can make corresponding matching sizes according to customer requirements.
 - The dimensions of "I" and "J" mentioned above are according to the ISO 5211 flange specifications, there is only one specification available for selection. Please indicate it when ordering.
 - "*" Indicates the corresponding specification dimensions under single phase and DC24V voltage.

PRODUCT DIMENSION
INTEGRATION TYPE

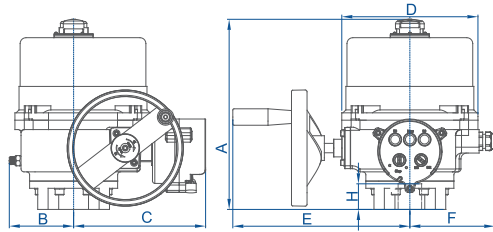
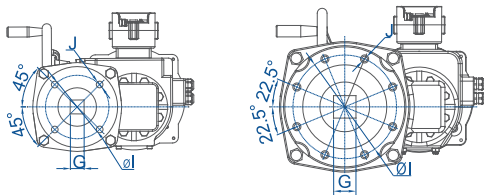
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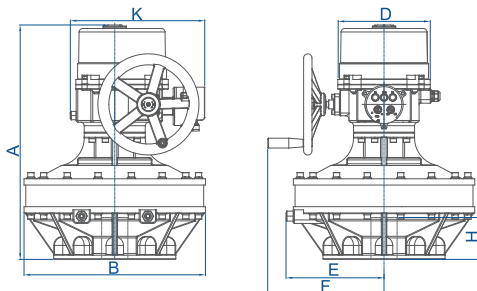
EFM 1/A/B-H



EOM 10-12



EOM 2-9

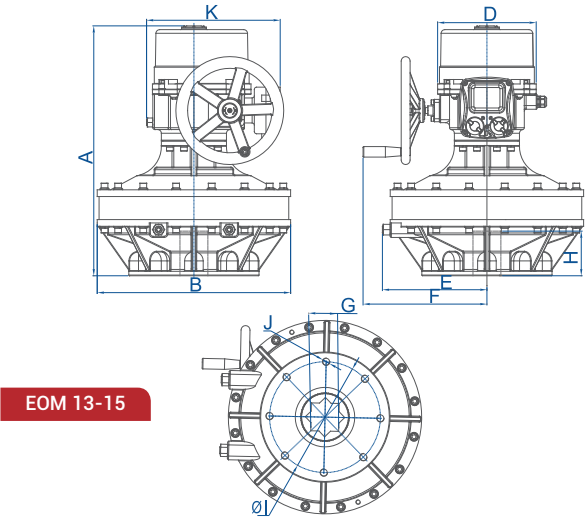
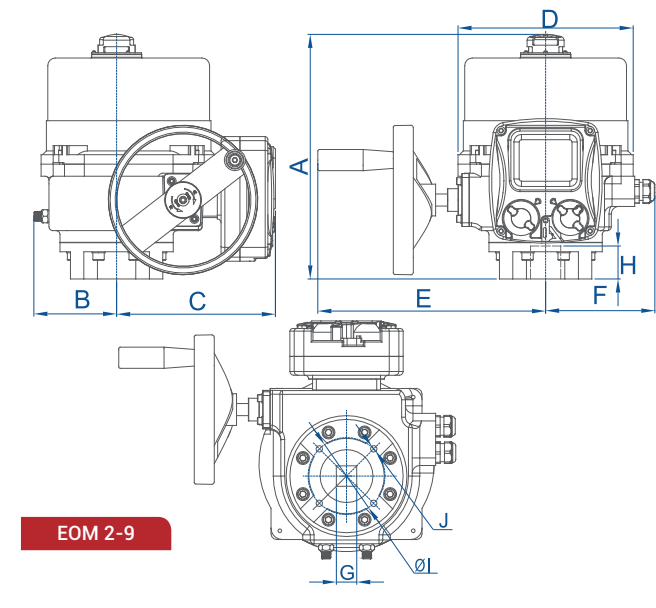


EOM 13-15

Model		A	B	C	D	E	F	G	H	ΦI	J	K	(kg) Weight
EFM1-H EFMA-H EFMB-H	On/off	217	152	89±3	114	63	113.5	11x11	20	36	4-M5	197	4.7
	Modulating	237						14x14		50	4-M6		4.9
								17x17		70	4-M8		
EOM2		268/318*	79±2	210	190	243±2	123±2	14x14	35	70	4-M8	-	12.2
EOM3/3A*								17x17		102			
EOM4		327	109±2	227	232	280±2	146±2	22x22	55	102	4-M10	-	23.2
EOM5								22x22		102	4-M10		
EOM6								27x27		125	4-M12		
EOM7/7A								27x27		125	4-M12		
EOM8/8A		378	128	248	267	333	162.5	27x27	65	125	4-M12	-	37.2
EOM9								36x36		140	4-M16		
EOM10		532	118	242	267	189	308	40x40	85	140	4-M16	156	77.2
EOM11								46x46		165	4-M20		
EOM12		549	160	242	267	160	343	55x55	130	254	8-M16	156	108.2
EOM13		672	520	-	267	331	281	55x55 75x75	120	254	8-M16	385	219.2
EOM14										298	8-M20		
EOM15													

- Note:
- The above "G" size is recommended, and our company can make corresponding matching sizes according to customer requirements.
 - The above "Φ" The dimensions of "I" and "J" are according to ISO 5211 flange specifications, there is only one specification available for selection. Please specify it when ordering.
 - "*" Indicates the corresponding specification dimensions under single phase and DC24V voltage.

PRODUCT DIMENSION
INTELLIGENT TYPE



Model	A	B	C	D	E	F	G	H	ΦI	J	K	(kg) Weight
EOM2	268/318*	79±2	198	190	243±2	123±2	14x14	35	70	4-M8	-	13
EOM3/3A*							17x17					
EOM4	327	109±2	210	232	280±2	146±2	22x22	55	102	4-M10	-	24
EOM5							27x27			4-M12		
EOM6							27x27			4-M12		
EOM7/7A	378	128	234	267	333	162.5	27x27	65	125	4-M12	-	38
EOM8/8A							27x27			4-M12		
EOM9							36x36			4-M16		
EOM10	532	118	227	267	186	308	40x40	85	140	4-M16	156	78
EOM11							46x46		165	4-M20		
EOM12	549	160	244	267	160	343	55x55	130	254	8-M16	156	109
EOM13	672	520	-	267	331	281	55x55	120	254	8-M16	385	220
EOM14									298	8-M20		
EOM15									298	8-M20		

Note:
1. The above "G" size is recommended, and our company can make corresponding matching sizes according to customer requirements.
2. The above "Φ" The dimensions of I "and" J" are according to ISO 5211 flange specifications, there is only one specification available for selection. Please specify it when ordering.
3. "*" Indicates the corresponding specification dimensions under single phase and DC24V voltage.

EXPLOSION-PROOF PRODUCT



EXC(G)1/A/B series



EXB(C)2-9 series



EXCJ2-12 series

NEPSI CERTIFICATION
CCC CERTIFICATION

- NEPSI explosion-proof:GB/T 3836.1; GB/T 3836.2; GB/T 3836.31; GB/T 3836.35
- Ex db 11B/IIC T4~T6 Gb
- Ex tb IIIC T80°C/T100°C/T135° Db
- Temperature range: -20°C ~ +65°C; Optional: -40°C ~ +65°C
- Protection level: IP67; Optional: IP68 (according to IEC60529) IP66 (EXCJ series)

ATEX CERTIFICATION

- ATEX(94/9/EC) II 2 GD c. EN IEC 60079-0; EN 60079-1; EN 60079-31
- II 2G Ex db 11B/IIC T4~T6 Gb
- II 2D Ex tb IIIC T85°C/T100°C/T135°C Db
- Temperature range: -20°C ~ +65°C; Optional: -40°C ~ +65°C
- Protection level: IP67; Optional: IP68 (according to IEC60529) IP66 (EXCJ)

IECEx CERTIFICATION

- IECEx. IEC 60079-0:2017; IEC600679-1:2014-06; IEC60079-31:2013
- EXB series: Ex db 11B T4~T6 Gb; Ex tb IIIC T85°C/T100°C/T 135°C Db
- EXC and EXCG series :Ex db IIC T4~T6 Gb; Ex tb IIIC T85°C/T100°C/T 135°C Db
- EXCJ series: Ex db IIC T4~T6 Gb; Ex tb IIIC T85°C/ T100°C/ T 135°C Db
- Temperature range: -20°C ~+65°C ; Optional: -40°C~+65°C
- Protection level: IP67; Optional: IP68 (according to IEC60529) IP66 (EXCJ)

CSA CERTIFICATION

- CSA Explosionproof to CSA 60079-0-11; CSA 60079-1-11; CSA 60079-31-12;
- UL60079-0-11; UL 600679-1-11; IAS 60079-31-13
- Ex d IIB/IIC T4-T6 Db,
- Ex tb IIIC T135°C-T85°C Db,
- Class I, Zone 1, AExd IIB T6 Gb
- Zone 21, ATEX Ib IIIC T135 Db
- Temperature range:-25°C - +65°C
- Protection level: IP66

EAC CERTIFICATION

- EAC Explosionproof to GOST IEC60079-10-1-2013; GOST IEC60079-10-2-2011;
- GOST31610.0-2019; GOST IEC60079-1-2013
- GOST IEC60079-14-2013;GOST IEC60079-31-2013
- 1Ex d IIB/IIC T6~T4 Gb X
- Ex Ib IIIC T85°C~T135°C Db X
- Temperature range: -20°C ~ +65°C, -60°C ~ +65°C, -30°C ~ +55°C
- Protection level :IP67; Optional:IP68 (according to GOST 14254-2015); EXCJ(IP66)

EXPLOSION-PROOF PRODUCT

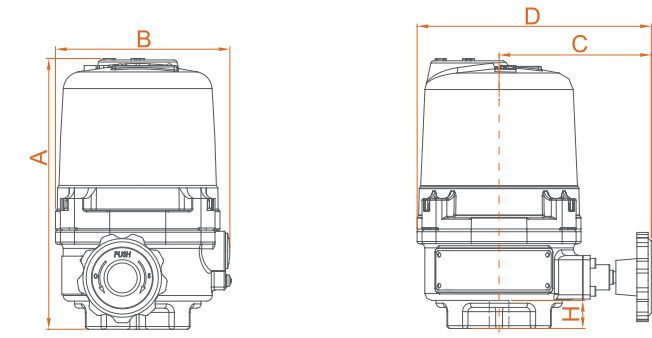
Model	Power (W)	Maximum output torque (N.m)			Maximum output torque (lbf. in)			Stroke time (Sec)			ISO 5211	Notes
		AC/ DC24V	AC110V AC220V	AC 220V AC380V three- phase	AC/ DC24V	AC110V AC220V	AC 220V AC380V three-phase	50Hz		AC/ DC24V		
								AC 110V AC 220V	AC 380V 三相			
EXC(CG)1* 10	10	35		-	310		-	11	-	8	F03/F05/ F07	Handwheel operation
EXC(CG)A*	10	50		-	443		-	15	-	10		
EXC(CG)B*	10	80		-	708		-	22	-	15		
EXB(C)(CJ)2	40	100			885			19		14	F05/F07/ F10/F12	Handwheel operation planetary gear mechanism
EXB(C)(CJ)3	40	200			1770			39		28		
EXB(C)(CJ)4	90	400			3540			29		21	F10/ F12/F14	
EXB(C)(CJ)5	90	600			5310			39		28		
EXB(C)(CJ)6	90	800			7080			47		34		
EXB(C)(CJ)7	120	1000			8850			47		34		
EXB(C)(CJ)8	200	-	1700		-	15045		34		-	F12/ F14/F16	
EXB(C)(CJ)9	200	-	2300		-	20355		47		-		
EXB(C)(CJ)10	200	-	3500		-	30975		76		-	F14/F16	
EXB(C)(CJ)11	200	-	5000		-	44250		105		-		
EXB(C)(CJ)12	200	-	8000		-	70800		143		-	F25	

- Note:
- Standard configuration of the product at the factory. The above markings "-" are not applicable.
 - The rated torque is 0.75 times the maximum torque.
 - The standard factory protection level of the motor is F level insulation, and H level can be selected.
 - The switching time of 4.60Hz is 5/6 times that of 50Hz, and the maximum output torque is the same as above.
 - "CG" in "*" represents the specification of the modulating product of this model.

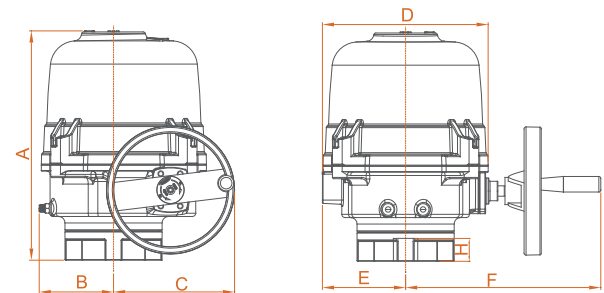
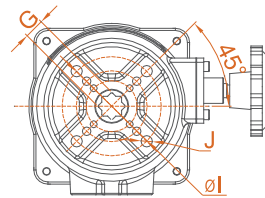
TorkMax

TorkMax

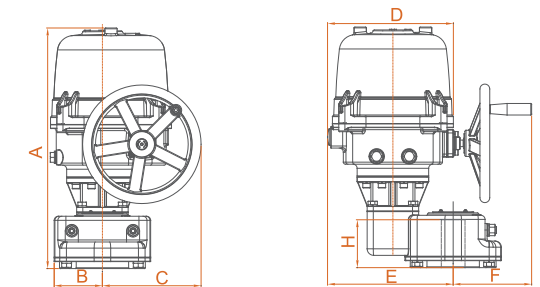
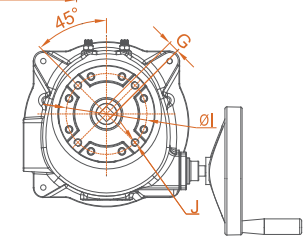
EXPLOSION-PROOF PRODUCT
INTEGRAL TYPE



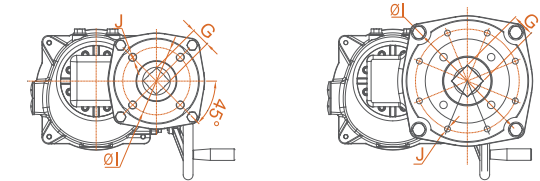
EXC(G) 1/A/B-H



EXB(C) 2-9



EXB(C) 10-12



Model		A	B	C	D	E	F	G	H	ΦI	J	(kg) Weight
EXC1 EXCA EXCB	On/off	192	121	108	167	-	-	11x11	20	36 50 70	4-M5 4-M6 4-M8	3.2
EXCG1 EXCGA EXCGB	Modulating	212	121	108	167	-	-	11x11	20	36 50 70	4-M5 4-M6 4-M8	3.6
EXB(C)2		286	83	126	209	108	242	14x14 17x17	35	70	4-M8	14
EXB(C)3												
EXB(C)4		354	115	187	256	129	302	22x22	55	102	4-M10	27
EXB(C)5								22x22 27x27		102 125	4-M10 4-M12	
EXB(C)6												
EXB(C)7								27x27		125	4-M10	
EXB(C)8		415	136	242	308	152	340	27x27	68	125	4-M12	41
EXB(C)9								36x36		140	4-M16	
EXB(C)10		589	118	242	308	308	192	40x40	85	140 165	4-M16 4-M20	88
EXB(C)11								46x46		165	4-M20	
EXB(C)12		602	160	242	308	343	160	55x55	130	254	8-M16	119

- Note:
- The above "G" size is recommended, and our company can make corresponding matching sizes according to customer requirements.
 - The above "Φ The dimensions of I "and" J" are according to ISO 5211 flange specifications, there is only one specification available for selection. Please specify it when ordering.