

MULTI-TURN

ELECTRIC ACTUATOR

4matic focuses on R&D, manufacturing and sales of electric actuator for control valves. We are certified as a “ High and New Technology Enterprises and also holds qualification of “Small Giant Candidate”. With an annual production capacity of 150,000 units, 4matic has established strategic partnerships with many fortune 500 companies to provide the best flow control solutions. Sales network has been expanded to all continents. We follows the belief of "Continuous Improvement and Pursuit of Excellence", implement lean production and 6 Sigma management mode, hence creating 4matic's core competitiveness.

Electric actuators can widely apply to water treatment, HVAC, chemical, petroleum, metallurgy, electric power, medicine, ship building projects. Our electric actuators products are also approved for a number of international certifications, 4matic also holds more than 100 patents itself. These include UL, SIL3, CE, CSA, explosion-proof (ATEX, IECEx), IP68, RoHS, REACH and others.

Most of them are awarded by TUV, NEPSI, DNV, SGS, BSI and other internationally renowned institutions. 4matic has obtained ISO9001 quality management system, ISO14001 environmental management system and ISO145001 occupational health and safety management system. 4matic will always adhere to the business philosophy of "serving customers, respecting employees, and be first to serve on site". While working towards the material and psychological benefits of our workers, pay tributes towards the progression of society and humanity.

4matic multi-turn electric actuator model with **Basic Type (B)**, **Integral Type (M)** , **Integration Type (Y)**, **Intelligent Type (I)**, **Super Intelligent Type (S)** — The SMH Series. It is safer with unique features.



24 BIT ABSOLUTE ENCODER

Unique absolute encoder has 24 bit resolution; supports 8000+ revolution in one time, the minimum resolution is less than 5 degree. Automatic self diagnostic function makes it safe and reliable.

HIGH SPEED OUTPUT

192 rpm can be achieved by all models in this series. Especially for the controlling of high speed valves and so on.

MANUAL REDUCTION MECHANISM

This is an unique design from 4matic. Driven by power screwdriver, it can quickly open or close the valve in any circumstance.

USER INTERFACE

Designed by the latest UI technology, this new user interface enables the remote control to duplicate operation, interrogates and configures the actuator to meet the special inquiry if needed. The multi-language display holds another great advantage.





ANTI-CORROSION PROTECTION:

Epoxy resin enclosure meets NEMA 4X, customer-special painting is available.

INGRESS PROTECTION:

IP67 is standard, IP68 is optional. The definition of IP68 is:
Depth of water: Maximum 15 m under water level.
Duration of continuous immersion in water: Max.(72 hours).

FIREPROOFING GRADE:

High temperature fireproof enclosure meets requirements in different situation.
It can be customized according to special needs.

EXPLOSION-PROOF RATING:

Ex d IIC T6 design and IECEx, ATEX certifications
which satisfy the requirements in hazardous locations.

AMBIENT TEMPERATURE:

Temperature range is from -30 °C to 70 °C (-22 °F to +158 °F).

RELATIVE HUMIDITY:

≤ 95 % (at 25 °C /275 °F).

OPERATIONAL SAFETY

F grade insulation motor. The different positions of the motor windings are arranged with two thermal protectors to sense the temperature of motor. This marvelous design ensures the operational safety of the motor (H grade is optional).

ANTI-HUMIDITY RESISTANCE

Installed with heater inside the actuator used to remove the internal condensation which cause damages to electrical parts.

PHASE PROTECTION

Phase detection and correction functions avoid the actuator being damaged by connecting to the wrong phase.

VOLTAGE PROTECTION

Protection against high and low voltage situations.

OVERLOAD PROTECTION

The power will automatically shut off when valve jam occurs. Thus preventing further damage to the valve and actuator.

OPERATIONAL DIAGNOSIS

Intelligent actuators are equipped with multiple sensing devices. With the functions of real-time reflections of the control signal received by the actuator, fault alarm, operating parameters, status indication and other status. Multi-diagnostic function can locate the fault, thus making it easy for the users.

PASSWORD PROTECTION

Intelligent actuators possess classifiable password protection, which can be authorized to different operators to avoid misuse which causing the actuator failure.





WORM GEAR SET

The adoption of high-strength alloy steel worm and high wear-resistant characteristics worm gear made of copper alloy. For its characteristics developed a worm gear & worm meshing device, for each pair of worm gear & worm are tested to ensure maximum transmission torque efficiency after the installation.

CLUTCH HANDLE

An ergonomically designed clutch handle is used to switch to the manual mode in the case of emergency or adjustment. Cooperating with the hand wheel, the clutch will disconnect from the motor drive to ensure personnel safety.



NON-INVASIVE CONTROL

Non-through-the-shaft magnetic switch design, it is controlled by the Hall device inside the actuator. Equipped with local/off/remote knob, and open/stop/close button (knob), accommodating with the indicator light and LCD screen to achieve non-invasive field control operations.

INFRARED REMOTE CONTROL

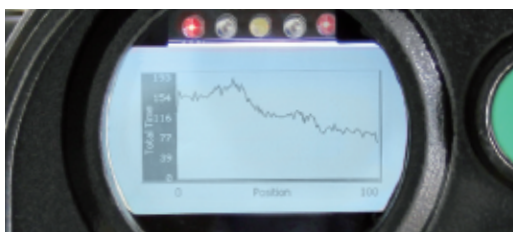
The intelligent type actuator is able to provide different remote control based on different application requirements. Such as portable infrared remote control in ordinary location and explosion-proof remote control for hazardous locations.



DATA MONITORING VS MANAGEMENT

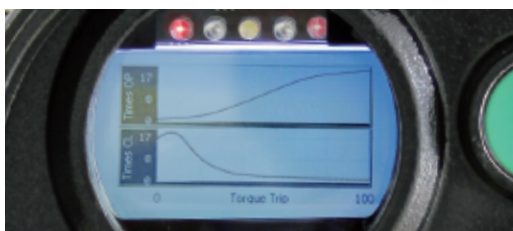


Super intelligent type actuators adopting high-performance microprocessors, real-time collection of valve position, torque and other operational information. Logical calculation truly reflects the operating status. Real-time monitoring & managing data provides references for the actuator maintenance.



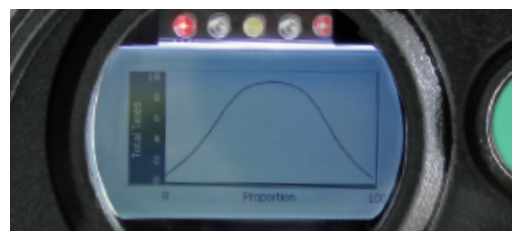
TIME-POSITION CURVE:

The curve shows the running trend of the actuator, and the number of times the actuator has been passed at the corresponding positions.



AVERAGE TORQUE CURVE:

It records the average output torques in the corresponding positions of both OPEN and CLOSE directions. The operating load of the actuator can be detected via the curve.



OPERATION TREND CURVE:

The curve shows the cumulative number of positions corresponding to the control signal received by the actuator so far. It enables the clients to understand the overall controlling trend of the actuator.

INSTALLATION & MAINTENANCE

The SMH series actuators are equipped with lifting ring for easy handling and on-site installation.

The flange meets ISO 5210 international standard. The actuator is IP67 designed and can be installed at any angle.

Double sealed structure of the wiring chamber. The internal electrical devices are guaranteed to be in a perfectly sealed protection when the actuator is performing on-site installation and debugging.

With up to 51 terminals, enables direct access without the special wiring copper rings. Convenient and easier for on-site installation.





SMH11-44 series
Basic (B)

General Parameters	Torque Range		▪ 35 - 3,000 Nm Direct Output
	Speed		▪ 18、24、36、48、72 (rpm)
	Ambient Temperature		▪ -30℃~70℃(-22℉~158℉) Optional: -40℃~60℃(-40℉~140℉)
	Anti-vibration Level		▪ JB/T8219
	Noise Level		▪ Less than 75 dB within 1 m
	Electrical interface		▪ Two NPT 3/4, One NPT1 1/2
	Ingress Protection		▪ IP67, Optional:IP68
	Connection size		▪ ISO5210(Thrust type\ torque type)and JB2920(Three claw type)
Mechanical Parameters	Motor Specifications		▪ Class F, with thermal protector up to +135 °C (+275 °F)
	Working System		▪
	Applicable Voltage		▪ 3 phase: AC 380 V (±10 %)/50/60 Hz (±5 %) 3 phase 4 wires ○ Optional: 1 phase AC 220 V (1...3 series) (please contact us for customization if in need of other voltages)
	Bus		▪ N/A
	On/off Type Signal	Input	▪ Built-in contacts for 5 A at 250 V ac (depending on the control box)
		Signal Feedback	▪ Opening stroke limit, closing stroke limit ▪ Opening over torque, closing over torque
		Malfunction Feedback	▪ Integrated fault alarm: Motor overheating, over torque contacts ○ Optional: Phase protection contact
Control mode	Indication		▪ Pointer type opening indicator plate
	Operation Settings		▪ N/A
	Local Control		▪ N/A
Others	Intelligently Analyze Data Records		▪ N/A
	Other Function		▪ Moisture-resistant heaters (anti-moisture device) ▪ Torque protection ▪ Motor overheat protection

- Note:1.Please contact us for customization, if in need of other voltages or interface.
2.The definition of IP68 is :Depth of water: Maximum 15m under water level. Duration of continuous immersion in water: Max(72 hours).
3. For explosion protection options, please refer to the P11 explosion-proof rating and parameter list.



SMH11-44 series
Integration (Y)

General Parameters	Torque Range		▪ 35 - 3,000 Nm Direct Output
	Speed		▪ 18、24、36、48、72、96、144、192(rpm)
	Ambient Temperature		▪ -30°C~70°C(-22°F~158°F) Optional: -40°C~60°C(-40°F~140°F)
	Anti-vibration Level		▪ JB/T8219
	Noise Level		▪ Less than 75 dB within 1 m
	Electrical Interface		▪ Two NPT 3/4, One NPT1 1/2
	Ingress Protection		▪ IP67, Optional:IP68
	Connection Size		▪ ISO5210(Thrust type\ torque type)and JB2920(Three claw type)
Mechanical Parameters	Motor Specifications		▪ Class F, with thermal protector up to +135 °C (+275 °F)
	Working System		▪ On-off Type: S2 ~ 15 min, no more than 600 times per hour start
	Applicable Voltage		▪ 3 phase: AC 380 V (±10 %) /50/60 Hz (±5 %) 3 phase 3 wires ○ Optional: 1 phase AC 220 V (1...3 series)
	Bus		▪ N/A
	On/off Type Signal	Input	▪ AC/DC 24 input ▪ AC 110/220 V input ▪ Optoelectronic isolation
		Signal Feedback	▪ On-site/remote contacts ▪ Integrated fault contact ▪ Close the valve contact ▪ Open the valve contact (contact capacity: 5 A at 250 V ac) ○ Optional: Opening torque signal contact Closing torque signal contact
		Malfunction Feedback	▪ Integrated fault alarm: Power off, motor overheating, Losing phase, over torque, lose signal,ESD, terminal output
Control mode	Indication		▪ Pointer type opening indicator plate ▪ Fully open/Fully close/remote/fault indicat
	Operation Settings		▪ N/A
	Local Control		▪ Non-intrusive control knobs: Open/Stop/Close/Local/Remote
Others	Intelligently Analyze Data Records		▪ N/A
	Other Function		▪ Phase correction (3-phase power supply only) ▪ Torque protection ▪ Motor overheat protection ▪ Moisture-resistant heaters (anti-moisture device)

Note:1.Please contact us for customization, if in need of other voltages or interface.
2.The definition of IP68 is :Depth of water: Maximum 15m under water level. Duration of continuous immersion in water: Max(72 hours).
3. For explosion protection options, please refer to the P11 explosion-proof rating and parameter list.



SMH11-44 series
Intelligent (I)

General Parameters	Torque Range		▪ 35 - 3,000 Nm Direct Output
	Speed		▪ 18、 24、 36、 48、 72 、 96、 144、 192(rpm)
	Ambient Temperature		▪ -30°C~70°C (-22°F~158°F) Optional: -40°C~60°C (-40°F~140°F)
	Anti-vibration Level		▪ JB/T8219
	Noise Level		▪ Less than 75 dB within 1 m
	Electrical Interface		▪ Two NPT 3/4, One NPT1 1/2
	Ingress Protection		▪ IP67, Optional:IP68
	Connection Size		▪ ISO5210(Thrust type\ torque type)and JB2920(Three claw type)
	Motor Specifications		▪ Class F, with thermal protector up to +135 °C (+275 °F)
	Working System		▪ On-off Type: S2 ~ 15 min, no more than 600 times per hour start
Mechanical Parameters	Applicable Voltage		▪ 3 phase: AC 380 V (±10 %) /50/60 Hz (±5 %) 3 phase 3 wires ○ Optional: 1 phase AC 220 V (1...3 series)
	Bus		▪ N/A
	On/off Type Signal	Input	▪ AC/DC 24 input ▪ AC 110/220 V input(optional) ▪ Optoelectronic isolation
		Signal Feedback	▪ Local/remote contacts ▪ Integrated fault contact ▪ Close the valve contact ▪ Open the valve contact (contact capacity: 5 A at 250 V ac) ▪ Opening torque signal contact Closing torque signal contact
		Malfunction Feedback	▪ Integrated fault alarm: Power off, motor overheating, losing phase, over torque, lose signal, ESD, terminal output
Control mode	Indication		▪ LCD screen displly ▪ Fully open/Fully close/remote/fault indicator (digital display of the opening percentage)
	Operation Settings		▪ Settings done without opening cover (menu settings by the remote control)
	Local Control		▪ Non-intrusive on site control knobs: Open/Close,Local/Remote/Off
Others	Intelligently Analyze Data Records		▪ N/A
	Other Function		▪ Phase correction(3 phase power supply only) ▪ Alarm signal(local and remote included) ▪ Torque protection ▪ Motor overheat protection ▪ Moisture-resistant heater(anti-moisture device) ▪ Infrared remote control ○ Optional:Intrinsically safe remote control

Note:1.Please contact us for customization, if in need of other voltages or interface.
2.The definition of IP68 is :Depth of water: Maximum 15m under water level. Duration of continuous immersion in water: Max(72 hours).
3. For explosion protection options, please refer to the P11 explosion-proof rating and parameter list.



SMH11-44 series
Super Intelligent (S)

General Parameters	Torque Range		▪ 35 - 3,000 Nm Direct Output
	Speed		▪ 50Hz: 18-192 (rpm) ▪ 60Hz: 21-230 (rpm)
	Ambient Temperature		▪ -30°C~70°C (-22°F~158°F) Optional: -40°C~60°C (-40°F~140°F)
	Anti-vibration Level		▪ JB/T8219
	Noise Level		▪ Less than 75 dB within 1 m
	Electrical interface		▪ Two NPT 3/4, One NPT1 1/2
	Ingress Protection		▪ IP67, Optional:IP68
	Connection size		▪ ISO5210(Thrust type\ torque type)and JB2920(Three claw type)
	Motor Specifications		▪ Class F, with thermal protector up to +135 °C (+275 °F)
Mechanical Parameters	Working System		▪ On-off Type: S2 ~ 15 min,no more than 600 times per hour start ▪ Modulating Type: S4 ~ 25 %, up to 600 triggers per hour ○ Optional: 1200 times per hour,S4 ~ 50 %,
	Applicable Voltage		▪ 3 phase: Voltage (±10%) ; Hz (±5%) 3 phase 3 wires 50Hz (220, 240, 380, 400, 460, 500, 和 550 Volts.) 60Hz (208, 220, 230, 240, 380, 440,460, 480, 575 和 600 Volts) ○ Optional: 1 phase AC 220 V (1...3 series)
	Bus		▪ Modbus
	On/off Type Signal	Input	▪ 20-60V AC/DC or 60-120V AC ▪ Optoelectronic isolation
		Signal Feedback	▪ Relay X 5 (4 can be set to "natural open" or "natural closed" contacts. 1 integrated fault contact) A. Single or multi-phase power down B. Control circuit power failure C. Selection switch is in place or the stop position D. Motor temperature protector jumps off
		Malfunction Feedback	▪ Phase correction ▪ Torque switch ▪ Thermal protection ▪ Jammed valve protection ▪ Lose signal protection ▪ Instantaneous reverse protection▪ Other alarms
		Modulating Type Signal	▪ Input signal: 4 ~ 20 mA;0 ~ 10 V; 2 ~ 10 V (the input signal can be arbitrarily corresponding to the valve position) ▪ Accuracy: (1 %) ▪ Dead zone: 0 ~ 25.5 % adjustable rate in full stroke ▪ Input impedance: 75 Ω (4~20 mA)
	Modulating Type Signal	Output	▪ Input signal: 4 ~ 20 mA;0 ~ 10 V; 2 ~ 10 V ▪ Output impedance: ≤750 Ω (4 ~ 20 mA) (repeatability and linearity within ±1 % of full valve stroke)
		Signal Reverse	▪ Support
		Loss Signal Mode Setting	▪ Support
		Dead Zone	▪ 0 ~ 25.5 % adjustable rate within full stroke
		Time Lag	▪ 0 ~ 25.5 s (adjustable)
Control mode	Indication		▪ 4-level grayscale LCD screen opening indicator ▪ Fully open/Fully close/remote/fault indicator (digital display of the opening percentage and torque percentage)
	Operation Settings		▪ Settings done without opening cover (menu settings by the remote control) ▪ Configuration settings(such as valve position, the maximum opening, the maximum torque, etc.)
	Local Control		▪ Non-intrusive on site control knobs: Open/Close,Local/Remote/Off
Others	Intelligently Analyze Data Records		▪ Use infrared remote control to conduct fault diagnosis analysis on the display ▪ Use two-way remote control to achieve fast and safe non-intrusive communication and data exchange. Able to analyze the actuator data and given recommendations
	Other Function		▪ Phase correction(3 phase power supply only) ▪ Alarm signal (local and remote controls) ▪ Torque bypass ▪ Torque setting and protection▪ Motor overheating protection ▪ Moisture-resistant heaters(anti-moisture device) ▪ ESD can be set to fully opened, fully closed, and remain still ▪ Valve torque curve ▪ Operation start up recording ▪ Event log ▪ Operation time ▪ Average torque ○ Optional: Two-way remote control ▪ Operational trend records ○ Optional: Intrinsically safe remote control

Note:1.Please contact us for customization, if in need of other voltages or interface.

2.The definition of IP68 is :Depth of water: Maximum 15m under water level. Duration of continuous immersion in water: Max(72 hours).

3.For explosion protection options, please refer to the P11 explosion-proof rating and parameter list.

Basic (B) Intelligent (I) Super Intelligent (S)

CNEX Authentication	Ex d IIB T4 Gb/Ex Td A21 IP67 T130°C temperature: -20~+70°C Optional: -40~+70°C Ex d IIC T4 Gb/Ex Td A21 IP67 T130°C temperature: -20~+70°C Optional: -40~+70°C Ex d IIB T6 Gb/Ex Td A21 IP67 T80°C temperature: -20~+55°C Optional: -40~+55°C Ex d IIC T6 Gb/Ex Td A21 IP67 T80°C temperature: -20~+55°C Optional: -40~+55°C CNEX: GB3836.1, GB3836.2, GB12476.1 Optional:IP68 (GB12476.1)
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※Please refer to P6-P10 for the technical parameters of the above models.

GENERAL SPECIFICATION

AC 220V/AC 380V/AC 440V/AC 480V 3 phase on-off type series

Speed	50Hz rpm	18	24	36	48	72	96	144*	192*
	60Hz rpm	21	29	43	57	86	115	173*	230*
Model	Output Torque								
SMH11	N.m	35	35	35	35	35	35	30	25
	lbf.ft	26	26	26	26	26	26	22	18
SMH12	N.m	80	80	80	70	50	40	35	30
	lbf.ft	59	59	59	52	37	29	26	22
SMH13	N.m	105	105	100	90	60	50	40	35
	lbf.ft	77	77	74	66	44	37	29	26
SMH21	N.m	200	200	200	200	170	150	100	60
	lbf.ft	147	147	147	147	125	111	74	44
SMH22	N.m	300	300	250	220	200	170	120	80
	lbf.ft	221	221	184	162	147	125	88	59
SMH23	N.m	400	400	300	250	250	230	150	90
	lbf.ft	295	295	221	184	184	170	111	66
SMH31	N.m	620	620	550	480	480	370	250	200
	lbf.ft	457	457	406	354	354	273	184	147
SMH41	N.m	1050	1050	850	700	700	550	420	250
	lbf.ft	774	774	627	516	516	406	310	184
SMH42	N.m	1500	1500	1300	1050	1050	750	650	550
	lbf.ft	1106	1106	959	774	774	553	479	406
SMH43	N.m	2050	2050	1750	1400	1400	1050		
	lbf.ft	1512	1512	1291	1032	1032	774		
SMH44	N.m	3000	3000	2050	1750	1750	1450		
	lbf.ft	2212	2212	1512	1291	1291	1069		

Note: 1. Above torque is the maximum torque. Please contact us if in need of special torque or speed.

2. Designed according to EN 15714-2009, Class A & B. The working time is S2 ~ 15 min.

3. Products with a* means the speed inertia is larger. Therefore, directly driving the gate valves and other similar applications is not recommended. For multi-turn actuators with A-type lift nut connection mechanism, the maximum permissible shaft speed (output speed) must follow:

A. The maximum for gate valve is 500 mm/min.

B. For the cut-off valve is up to 250 mm/min (maximum 45 rpm).

4. Modulating duty is available for option; the intermittent duty is S4 ~ 25 % and up to 600 starts per hour.

AC 220V/AC 230V Single phase series

Speed	50Hz rpm	18	24	36	48	72	96
	60Hz rpm	21	29	43	57	86	115
Model	Max.Output Torque						
SMH11	N.m	60	60	50	50	35	35
	lbf.ft	44	44	37	37	26	26
SMH21	N.m	150	150	130	100	50	50
	lbf.ft	111	111	96	74	37	37
SMH31	N.m	250	250	200	170	130	100
	lbf.ft	184	184	147	125	96	74

Note: 1. Above torque is the maximum torque. Please contact us if in need of special torque or speed.
2. Designed according to EN 15714-2009, Class A & B. The working time is S2 ~ 10 min.

AC 220V/AC 380V/AC 440V/AC 480V
3 phase on-off type series (unit: KW)

Speed	18	24	36	48	72	96	144*	192*
SMH11	0.2	0.2	0.2	0.2	0.35	0.35	0.5	0.5
SMH12	0.35	0.35	0.35	0.35	0.35	0.35	0.6	0.6
SMH13	0.45	0.45	0.45	0.45	0.45	0.45	0.7	0.7
SMH21	1.1	1.1	1.1	1.1	1.1	1.1	1.5	1.5
SMH22	1.1	1.1	1.1	1.1	1.1	1.1	1.8	1.8
SMH23	1.25	1.25	1.25	1.25	2	2	2.3	2.3
SMH31	2.4	2.4	2.4	2.4	3	3	4	4
SMH41	3.5	3.5	3.5	3.5	3.5	3.5	6.5	6.5
SMH42	5.3	5.3	5.3	5.3	5.3	5.3	11	11
SMH43	7.5	7.5	7.5	7.5	7.5	7.5	15	15
SMH44	7.5	7.5	9	9	9	9	20	20

AC 220V/AC 230V
Single phase series (unit: KW)

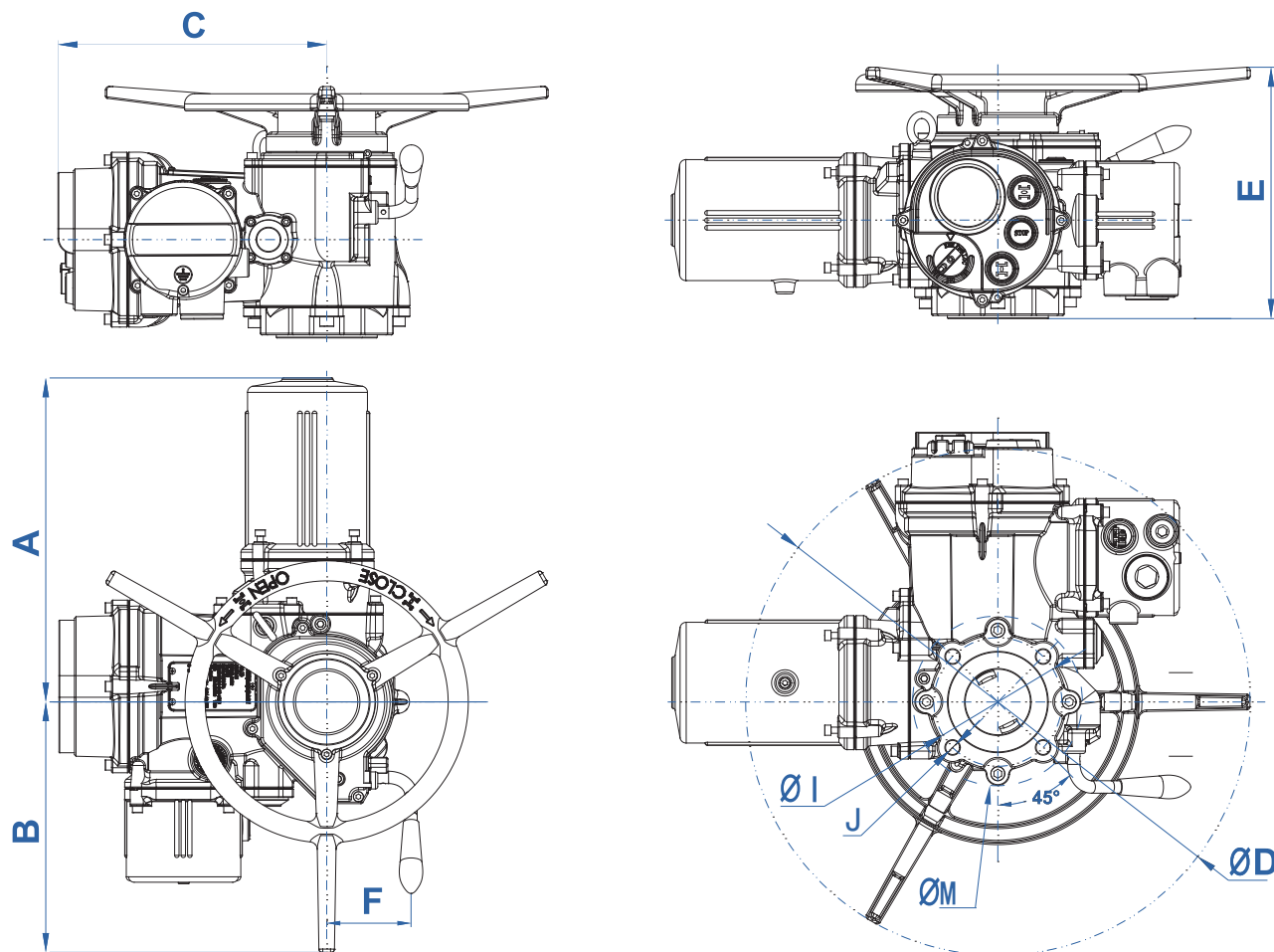
Speed	18	24	36	48	72	96
SMH11	0.3	0.3	0.4	0.4	0.4	0.4
SMH12	—	0.75		0.75	1	1
SMH21	0.75	0.75	1	1	1	1
SMH22	—	1.25		1.25	1.5	1.5
SMH31	1.25	1.25	1.5	1.5	1.5	1.5

AC 220V/AC 380V/AC 440V/AC 480V 3 phase modulating type series

Speed	50Hz rpm	18		24		36		48		72	
	60Hz rpm	21		29		43		57		86	
Model	Output Torque	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft
SMH11	Modulating Torque	18	13	18	13	16	12	14	11	12	10
	Max Torque	35	26	35	26	31	23	28	21	25	19
SMH12	Modulating Torque	30	23	30	23	26	19	23	16	18	13
	Max Torque	60	45	60	45	50	37	45	33	35	26
SMH13	Modulating Torque	40	29	40	29	36	26	33	24	25	18
	Max Torque	80	59	80	59	72	53	65	48	50	37
SMH21	Modulating Torque	78	60	78	60	70	52	55	40	45	33
	Max Torque	160	118	160	118	140	104	110	81	90	67
SMH22	Modulating Torque	120	88	120	88	100	75	85	63	75	55
	Max Torque	240	177	240	177	200	148	170	126	150	111
SMH23	Modulating Torque	150	111	150	111	130	96	105	78	95	70
	Max Torque	300	221	300	221	260	192	210	155	190	140
SMH31	Modulating Torque	275	203	275	203	255	188	205	151	190	139
	Max Torque	550	406	550	406	510	376	410	302	380	278

Note: 1. Designed according to EN 15714-2009, Class C & D. With the standard startup frequency of 50 %, not exceeding 1200 starts per hour.
Please contact us for special inquiry.
2. Above modulating torque is 1/2 of the max torque.

DIMENSION

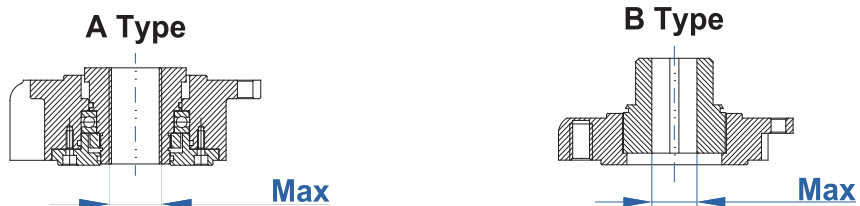


Unit: mm

Dimension Model	A	B	C	ΦD	E		F	ΦI	ΦM	J	Weight (kg)
					Type A	Type B					
SMH11/12/13	330	254	310	300	310	282	90	102	120	4-M10	25
SMH21/22/23	384	283	331	509	335	303	111	140	175	4-M16	42
SMH31	420	325	346	650	355	323	111	165	205	4-M20	60
SMH41/42/43/44	580	465	510	930	568	520	140	298	335	8-M20	175

Note: Flange interface is in accordance with ISO 5210 standard. We can provide different connections according to customers' demands.

Dimensions of Output Drive Couplings



Unit: mm

Specifications Model	Stem Diameter			
	A型		B型	
	Max	Standard	Max	Standard
SMH11/12/13	Φ32	≤Φ22	Φ22	Φ20
SMH21/22/23	Φ51	≤Φ32	Φ32	Φ30
SMH31	Φ67	≤Φ45	Φ45	Φ40
SMH41/42/43/44	Φ83	≤Φ70	Φ60	Φ50

Note: Type A is for the application of rising valve stem. Type B is for the application of rotating valve stem.

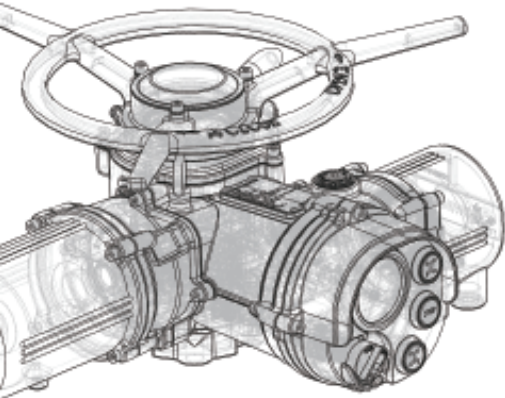
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SMH 11-18-O-eB-E00-S-K2-F07A-*

Others	*
Flange Interface (F07A, F07B...)	A
Feedback Signal (K2: On/Off with fully Open/Close feedback; T3: 4 ~ 20 mA...)	2
Control Units (S: Super Intelligence; I: Intelligence Type; Y: Integration; B: Basic Type)	B
Explosion-proof Standards (E00: None; E01: Ex d IIB T4; E02: Ex d IIC T4...)	0
Voltage + Color (e: AC 380 V / 3 ph, d: AC 220 V / 3 ph ... +B: black...)	e
Control Mode (O: On-off; I: Modulating)	O
Output Speed (18, 24, 36, 48, 72, 96, 144, 192)	18
Series Code (11, 12, 13, 21, 22, 23, 31, 41, 42, 43, 44)	11

1	1	2	2	-	3	3	4	5	-	6	7	8	9
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1. ACTUATOR SERIES (XXX)		CODE	5. VOLTAGE		CODE
SFM (QUARTER TURN)	SF		110 V – 1 PHASE		1
SM (QUARTER TURN)	SM		220 V – 1 PHASE		2
SFQ (QUARTER TURN)	SQ		220 V – 3 PHASE		T
SMD (QUARTER TURN)	SD		380 V – 3 PHASE		3
SMA (MULTI TURN)	SA		345 V – 3 PHASE		4
SMH (MULTI TURN)	SH		418 V – 3 PHASE		5
LINEAR	SL		440 V – 3 PHASE		6
			460 V – 3 PHASE		7
			480 V – 3 PHASE		8
			85 ~ 265V AC		A
			24 V ACDC		D
2. MODEL			6. MODEL TYPE		
XXX 11		11	INTELLIGENT		S
XXX 12		12	INTEGRATION		I
XXX 13		13	BASIC		B
XXX 21		21			
XXX 22		22			
XXX 23		23			
XXX 31		31			
XXX 41		41			
3. SPEED (RPM)			7. FEEDBACK SIGNAL		
18 RPM / 50 Hz		18	K2: OPEN/CLOSE DRY CONTACT		2
24 RPM / 50 Hz		24	T3: 4~20 mA		3
36 RPM / 50 Hz		36	0~10 V		0
48 RPM / 50 Hz		48	2~10 V		1
72 RPM / 50 Hz		72			
96 RPM / 50 Hz		96			
144 RPM / 50 Hz		4R			
192 RPM / 50 Hz		9R			
22 RPM / 60 Hz		22	8. EXPLOSION PROOF		
29 RPM / 60 Hz		29	NONE		X
43 RPM / 60 Hz		43	EXPLOSION PROOF: ExdIIBT4		B
58 RPM / 60 Hz		58	EXPLOSION PROOF: ExdIICT4		C
86 RPM / 60 Hz		86			
115 RPM / 60 Hz		1R			
173 RPM / 60 Hz		7R			
230 RPM / 60 Hz		3R			
4. CONTROL			9. SPECIAL FEATURE		
ON/OFF		O	NONE		X
MODULATING		M			



MANUFACTURER



4MATIC

176 DETROIT ST # 1
CARY IL 60013 USA

business@4matic.com
4matic.com

P: 1 773 856 3555

MARKETING PARTNERS



SCINERGIE, INC

923 UTOPIA LN
KNOXVILLE TN 37932

business@scinergie.com
P: (1) 773 856 3555

SCINERGIE SPC

MUSCAT
OMAN

business@scinergie.com
C: (968) 9731 8781

www.scinergie.com

SCINERGIE PACIFIC

LILOAN, 6002 CEBU CITY
PHILIPPINES

sales@scinergie.com
C: (63) 966 147 8086

SCINERGIE INDIA

32 SHEETAL ESTATE,
SARKHEJ, AHMEDABAD
382210 INDIA

business@scinergie.com
C: (91) 79842 03901



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