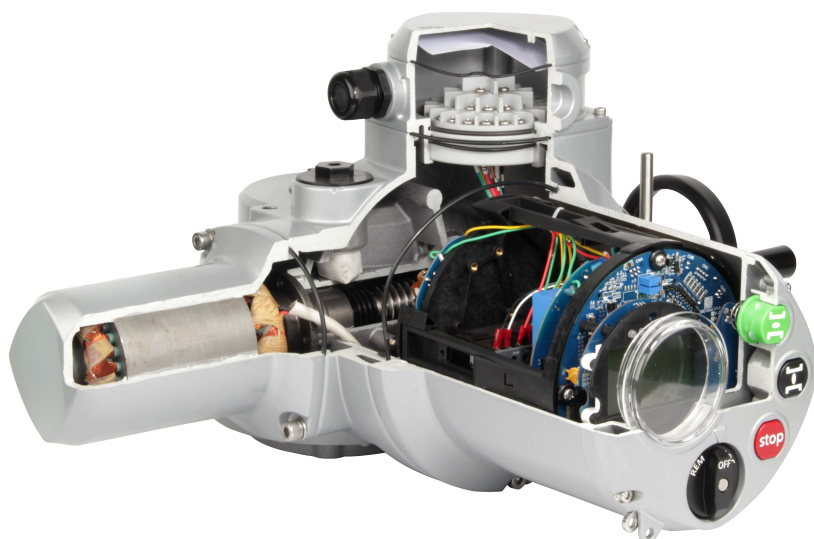




MULTITURN ELECTRIC ACTUATOR

SMA SERIES



SMA - MULTITURN

SMA Series Electric Actuators are designed for Multiturn and Linear application Valves. These includes Gate Valves, Globe Valves and Control Valves.

Unique, compact, robust design, plus sturdy composition and multifunctional configuration of SMA Actuators make it ideal Actuator to integrate into 90° Gear Box, for higher torque and bigger size applications for Quarter-turn Ball Valves, Butterfly Valves and Plug Valves.

COMPLEX SOLUTION

SMA Series Actuators are suitable for common conventional standards applications and also fulfill the complex configuration requirements for fast changing needs of "Intelligence in Industrial Automation" across globe.

The three versatile models offered under SMA Series are: BASIC, INTEGRATION & INTELLIGENT.

Actuators are designed to perform in various industrial applications and complex environment

DESIGN - CERTIFICATION

4MATIC Actuators are designed for a variety of industrial applications.

Based on applications, 4MATIC Actuator fulfill product industrial certification including UL, SIL3, CE, CSA, Explosion Proof (ATEX, IECEx). IP68 etc.

4MATIC is committed for quality while continuously invested in Research & Development and Innovation. With this commitment 4MATIC is keeping pace to launch new generation Actuators.

CUSTOMER SUPPORT

4MATIC takes a proactive approach to customer support, anticipating and addressing potential future needs arising from usage of product overtime.

Actuators are designed for user friendly and long lasting operation.

4MATIC after-sales support includes, availability of spares, onsite / remote / online support and providing illustrative videos to support in case of any uncommon queries from end user.

SMA - INTELLIGENT WITH INTEGRAL GEARBOX



MODELS

SMA - MULTITURN

BASIC



BASIC Actuators are designed for Multiturn Linear and Control Valve ON-OFF applications. BASIC model are ideal options for integration with Gear Box to Automate Higher Pressure Quarter-turn Valves.

INTEGRATION



INTEGRATION Actuators are designed for Control and Feedback signal control & monitoring. Featured with LCD position percentage display, IP68 enclosure and collective fault alarm error signal.

Options of multiple options for 3-Phase voltage and heavy duty Class H Motor capable of ≤ 1200 starts per hour

INTELLIGENT



INTELLIGENT Actuators are next level to INTEGRATION Actuators. Featured with 4-Level LCD opening indicator, Torque percentage display and option of Infrared Remote Control for local wireless operation.

Control Signal communication options for MODBUS, PROFIBUS and HART protocols.

COMMUNICATION FIELD BUS

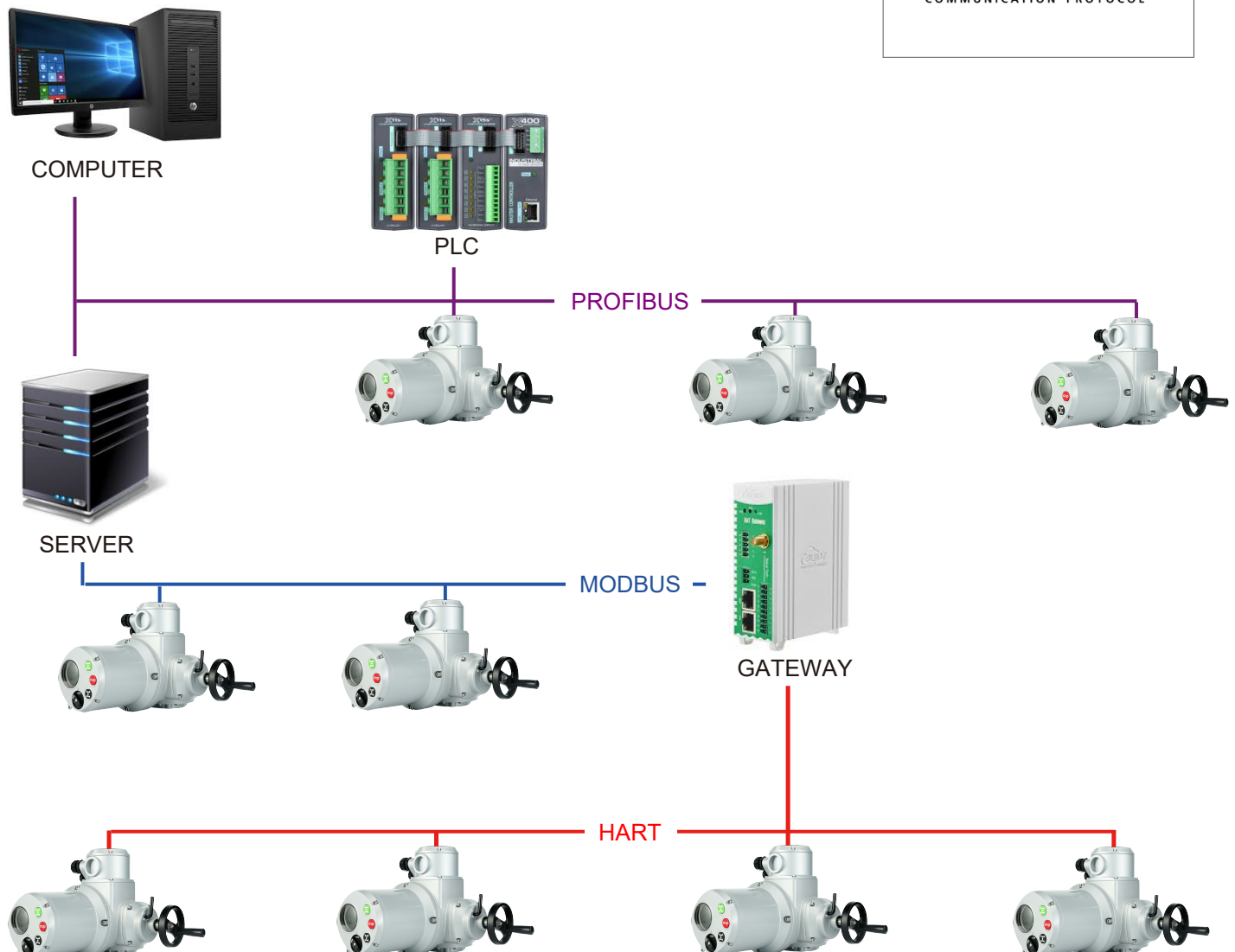


SMA Actuator INTERGRATION and INTELLIGENT models can be configured with Field Bus Control System.

Configuration is flexible with expansion functions to overcome on-site challenges related to noise interference, contact capacity, control distance, signal interference etc.

Field Bus Control System consists of Main Control Station, Communication Gateway and Field Unit.

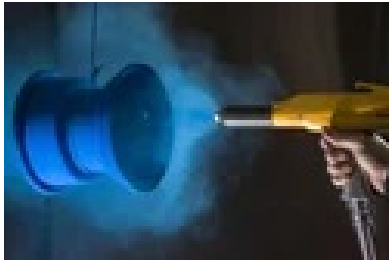
MODBUS, PROFIBUS-DP and HART are supported on SMA Actuators.



PRODUCT FEATURES



NEMA 4X ENCLOSURE



Enclosure confirms to NEMA 4X. Epoxy Resin (FBE) provides anti-corrosive layer. Plas-Tech Teflon Coat available for heavy corrosive sites.

INGRESS PROTECTION



IP67 and IP68 standards enclosure offered for Actuators. Depth of Water: Max 15 meters under water continuous immersion for 72 hours

ANTI CONDENSATION



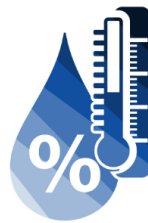
Installed with heater inside the Actuator, protect internal condensation and moisture on the internal electronics.

AMBIENT TEMPERATURE



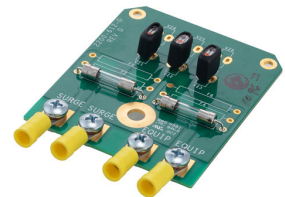
Actuators are design to operate at ambient temperature.
-22° ~ 158° F (-30° ~ 70° C)

HIGH STRENGTH GEAR



Actuators are design to operate at relative humidity
≤95% at 77° F (25° C)

VOLTAGE/PHASE PROTECTION



Feature of protection against high & low voltage situation. Phase detection & correction avoid the damage of electronics

OVERLOAD PROTECTION



The power will automatically shut off, if the valve is jammed. Thus preventing further damage to the valve and actuator

OPERATIONAL DIAGNOSIS



INTELLIGENT model with multiple sensors to analysis realtime signals from control device into diagnostics of operating parameters.

PASSWORD PROTECTION



INTELLIGENT model offers classifiable password protection. This enable time logs and protects from misuse within multiple authorized users

PRODUCT FEATURES

F CLASS MOTOR



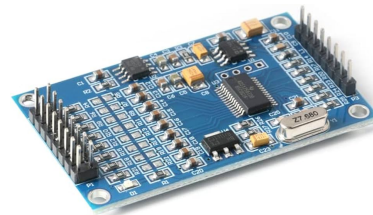
F Class Insulated Motor, equipped with two Thermal Protectors to prevent over heating. Design for ≤ 600 starts per hour.

H CLASS MOTOR



Heavy Duty H Class Motor is offered to High Pressure Valves application. Design for ≤ 1200 starts per hour, it ideal option for continuous operation

MOTOR PROTECTION



24 Bits Encoder can record up to 1024 positions. This enables precise record of position even in lost power mode.

HIGH RPM OUTPUT



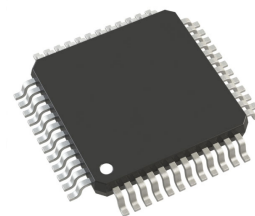
High RPM provide better power and smooth operation for the Larger Valves. Range 18 ~ 144 RPM

HIGH STRENGTH WORM GEAR



High strength Alloy Worm Gear and Shaft provide longer durability. The Gear and Shaft are matched with accuracy for maximum efficiency.

PERFORMANCE PROCESSOR



High Performance Micro Processor, enables efficient and accurate positioning, torque management and operation of Actuator.

INFRARED REMOTE CONTROL



Infrared Remote Control with explosion proof remote device available for INTEGRATION & INTELLIGENT models.

LCD DISPLAY



LCD Display & local control for easy access. Valve position can be set without opening Actuator Enclosure and by remote control as well.

MANUAL OVERRIDE



Manual override with Dec clutch Mechanism disengage Motor and enable manual operation of the Actuator.

TECHNICAL COMPARISON



Model		BASIC	INTEGRATION	INTELLIGENT
Control	On-Off	✓	✓	✓
	Modulating	—	✓	✓
Enclosure	IP67, IP68 (Optional)	✓	—	✓
	IP68	—	✓	✓
Display	Mechanical Needle	✓	—	—
	Open / Close / Remote / Fault Indicator Lamp	—	✓	✓
	LCD Digital Position % display	—	—	✓
	LCD Digital Torque % display	—	✓	✓
Position Limit	Registering Gear	✓	—	—
	Absolute Encoder	—	✓	✓
Local Control	Open / Stop / Close Button, Local / Remote / Lock	—	✓	✓
	Remote Control	—	✓	✓
Protection	Over torque / Motor overheat	✓	✓	✓
	Valve Stall	—	✓	✓
	Loss Signal	—	✓	✓
	Reverse Starter	—	✓	✓
	Loss Phase (3-Phase only)	—	✓	✓
	Auto Phase correction (3-Phase only)	—	✓	✓
	Non Intrusive setup	—	✓	✓
	Operational Datalog	—	—	✓
	Password	—	✓	✓
	Anti-Condensation Heater	Optional	✓	✓
Feedback Signal	Open/Close Position Limit, Open/Close Torque Switch, Position Feedback Potentiometer	✓	—	—
	1 * Collective Fault Feedback, 5 * Potentioner Feedback Contact (Capacity 5A @ 250VAC)	—	✓	✓
Control Signal	On-Off Switch Signal	✓	✓	✓
	Analog Signal (4~20mA, 0~10VDC, 2~10VDC	—	✓	✓
	MODBUS, PROFIBUS, HART	—	✓	✓
Other	Non Intrusive Position Limit Setup	—	✓	✓
	Torque Switch Limit Setup	—	—	✓
	Setup of: Deadzone, Reverse Signal, Loss Signal mode (0%, 100%, Keep); Feedback Contacts ESD (0%, 100%, Keep)	—	✓	✓
	Power Loss display	—	—	✓

TECHNICAL COMPARISON



Models		BASIC	INTEGRATION	INTELLIGENT
Speed	50 Hz	18, 24, 36, 48, 72 RPM	18, 24, 36, 48, 72, 96, 144 RPM	
	60 Hz	21, 29, 43, 57, 86 RPM	21, 29, 43, 57, 8, 115, 173 RPM	
Ambient Temperature		- 22° ~ 158° F (-30° ~ 70° C)		
Noise		Within 1 meter ≤ 75 dB		
Conduit (NPT Port)		2 x ¾" (Optional: 2 x 1", 3 x ¾", 3 x 1")	2 x 1" (Optional: 1 x ¾", 1 x 1 ½", 3 x 1")	
Ingress Protection		Standard IP67 (Optional IP68)	Standard IP68	
Mounting		ISO 5210 (Optional A-Type or B-Type, JB2920		
Motor		F Class Motor ≤ 600 Starts/Hour (Optional: H Class Motor ≤ 1200 Starts/Hour		
Duty Cycle	On-Off	F Class Motor: S2 ~ 15 min (≤ 600 Starts/Hour)		
	Modulating	—	F Class Motor: S4 ~ 25% min (≤ 600 Starts/Hour) H Class Motor: S4 ~ 25% min (≤ 1200 Starts/Hour)	
Standard, Optional & Customized Voltage		Single Phase: 220VAC, 50Hz/60Hz 3-Phase: 345VAC, 380VAC, 418VAC, 440VAC, 460VAC, 480VAC, 50Hz/60Hz Voltage customization options available Voltage tolerance ±10% ; Frequency tolernace ±5%		
Input Signal	On-Off	Built in contact 5A@250VAC	24VADC Input: 110/220VAC (Optional) ; Optical Signal Isolation	
	Modulating	—	Input Signal: 4~20mA ; 0~10VDC ; 2~10VDC Input Impedance: 150Ω (4~20mA)	
Feedback Signal	On-Off	▪ Open storke limit, close stroke limit ▪ Open over torque limit, Close over torque limit ▪ Flash signal (contact capacity: 5A@250VAC ▪ Position feedback potentiometer	Input Signal: 4~20mA ; 0~10VDC ; 2~10VDC 5 Configurable contacts (1 Intergrated contact) Contact capacity 5A@250VAC	
	Modulating	—	Output impedance: ≤ 750Ω (4~20mA) Repeatability and linearity within ± 1% of full valve storke	
Error Signal	On-Off	▪ Inegrated fault alarm ▪ Motor overheating, over torque contacts	Collective fault alarm: Power off, Motor overheating, Lost phase, Over torque, Loss Signal	
	Modulating	—	Signal Reverse , Dead Zone: ≤2%	
Position Display		Mechanical Pointer	▪ LCD Display ▪ Position percetanage display	▪ 4-level LCD opening indicator ▪ Position percentage display ▪ Torque perecentage display



VOLTAGE - TORQUE

SMA - SINGLE-PHASE, ON-OFF

VOLTAGE: 220VAC

STANDARD - IMPERIAL

Model	Speed (RPM)		Torque (lb-ft)	Power (hp)	Rated Current (A)	Start Current (A)	Stall Current (A)	Handwheel Ratio	Max. Stem Diameter (Inch)
	50Hz	60Hz							
SMA10	18	21	45	0.35	1.7	5.9	5.2	80:1	1.26"
	24	29	45	0.35	2.3	7.8	6.9	60:1	
	36	43	37	0.37	2.6	8.9	7.9	40:1	
	48	57	37	0.43	2.9	9.8	8.7	30:1	
	72	86	35	0.47	3	10.1	9.1	20:1	
SMA40	18	21	25	0.8	4.3	11.8	10.7	80:1	1.90"
	24	29	110	0.8	5.7	15.7	14.3	60:1	
	36	43	96	0.8	6.4	17.5	15.9	40:1	
	48	57	74	0.8	6.2	18.4	16.7	30:1	
	72	86	37	0.8	5.4	18.3	16.2	20:1	
SMA60	18	21	185	1.9	7.6	21	19.1	80:1	1.90"
	24	29	185	1.9	8.9	25.8	23.5	60:1	
	36	43	148	1.9	9.3	28.8	26.5	40:1	
	48	57	125	1.9	11.1	34.6	31.7	30:1	
	72	86	96	1.9	11.7	36.2	33.5	20:1	1.97"

STANDARD - METRIC

Model	Speed (RPM)		Torque (Nm)	Power (Kw)	Rated Current (A)	Start Current (A)	Stall Current (A)	Handwheel Ratio	Max. Stem Diameter (mm)
	50Hz	60Hz							
SMA10	18	21	60	0.26	1.7	5.9	5.2	80:1	32
	24	29	60	0.26	2.3	7.8	6.9	60:1	
	36	43	50	0.28	2.6	8.9	7.9	40:1	
	48	57	50	0.32	2.9	9.8	8.7	30:1	
	72	86	35	0.35	3	10.1	9.1	20:1	
SMA40	18	21	150	0.6	4.3	11.8	10.7	80:1	48
	24	29	150	0.6	5.7	15.7	14.3	60:1	
	36	43	130	0.6	6.4	17.5	15.9	40:1	
	48	57	100	0.6	6.2	18.4	16.7	30:1	
	72	86	50	0.6	5.4	18.3	16.2	20:1	
SMA60	18	21	250	1.4	7.6	21	19.1	80:1	48
	24	29	250	1.4	8.9	25.8	23.5	60:1	
	36	43	200	1.4	9.3	28.8	26.5	40:1	
	48	57	170	1.4	11.1	34.6	31.7	30:1	
	72	86	130	1.4	11.7	36.2	33.5	20:1	50

NOTE:

1. Above torque are maximum torque of Actuator .
2. Motor duty cycle: S2-15min, Single-Phase

VOLTAGE - TORQUE



SMA - 3-PHASE, ON-OFF

VOLTAGE: 345VAC, 380VAC, 418VAC, 440VAC, 460VAC, 480VAC

STANDARD - IMPERIAL

Model	Speed (RPM)		Torque (lb-ft)	Power (hp)	Rated Current (A)	Start Current (A)	Stall Current (A)	Handwheel Ratio	Max. Stem Diameter (Inch)
	50Hz	60Hz							
SMA05	18	21	37	0.47	1.0	2.1	1.8	80:1	1.26"
	24	29	37	0.47	1.0	2.4	2.1	60:1	
	36	43	37	0.47	1.0	2.5	2.1	40:1	
	48	57	37	0.47	1.3	3.2	2.8	30:1	
	72	86	30	0.47	1.3	3.8	3.4	20:1	
SMA10	18	21	74	0.47	1.3	3.6	3.2	80:1	1.26"
	24	29	74	0.47	1.3	4.3	3.7	60:1	
	36	43	74	0.47	1.3	5.3	4.7	40:1	
	48	57	74	0.60	1.7	8.0	7.2	30:1	
	72	86	52	0.60	1.7	7.9	7.3	20:1	
	96	115	37	0.8	2.1	6.5	5.8	40:1	
	*144	173	30	0.8	2.1	6.9	6.1	20:1	
SMA15	18	21	110	0.60	1.5	6.3	5.5	80:1	1.26"
	24	29	110	0.60	1.5	6.3	5.5	60:1	
	36	43	110	0.60	1.5	7.2	6.5	40:1	
	48	57	89	0.9	2.3	6.8	5.9	30:1	
	72	86	74	0.9	2.5	7.4	6.7	20:1	
	96	115	55	0.9	2.7	9.8	8.4	40:1	
	*144	173	44	0.9	2.7	10.4	9.3	20:1	
SMA20	18	21	150	1.0	2.2	6.9	6	80:1	1.89"
	24	29	150	1.0	2.3	7.0	6.3	60:1	
	36	43	150	1.67	3.4	9.2	8.4	40:1	
	48	57	150	1.67	3.4	11.9	10.4	30:1	
	72	86	125	1.67	4.3	13.8	12.6	20:1	
	96	115	110	2.4	5.0	16.8	14.5	40:1	
	*144	173	75	2.4	5.2	14.0	12.6	20:1	
SMA30	18	21	220	1.0	2.9	11.9	10.7	80:1	1.89"
	24	29	220	1.0	2.9	12.4	10.8	60:1	
	36	43	220	1.67	4.5	16	14.8	40:1	
	48	57	185	1.67	5.4	19.5	18.2	30:1	
	72	86	150	1.67	5.2	16.5	14.9	20:1	
	96	115	125	2.4	5.6	19	17.4	40:1	
	*144	173	90	2.4	5.5	18.7	16.5	20:1	
SMA40	18	21	295	1.67	4.2	15.9	14.3	80:1	1.89"
	24	29	295	1.67	4.8	16.5	14.8	60:1	
	36	43	260	2.7	5.3	18.7	16.6	40:1	
	48	57	220	2.7	5.4	19.5	17.1	30:1	
	72	86	185	2.7	6.5	20.6	19	20:1	
	96	115	170	3.0	7	26.7	24.5	40:1	
	*144	173	110	3.0	6.9	20.3	18.7	20:1	

NOTE:

- 1: Above torque are maximum torque of Actuator .
2. Motor duty cycle: S4-25%, 3-Phase

VOLTAGE - TORQUE



SMA - 3-PHASE, ON-OFF

VOLTAGE: 345VAC, 380VAC, 418VAC, 440VAC, 460VAC, 480VAC

STANDARD - METRIC

Model	Speed (RPM)		Torque (Nm)	Power (Kw)	Rated Current (A)	Start Current (A)	Stall Current (A)	Handwheel Ratio	Max. Stem Diameter (mm)
	50Hz	60Hz							
SMA05	18	21	50	0.35	1.0	2.1	1.8	80:1	32
	24	29	50	0.35	1.0	2.4	2.1	60:1	
	36	43	50	0.35	1.0	2.5	2.1	40:1	
	48	57	50	0.35	1.3	3.2	2.8	30:1	
	72	86	40	0.35	1.3	3.8	3.4	20:1	
SMA10	18	21	100	0.35	1.3	3.6	3.2	80:1	32
	24	29	100	0.35	1.3	4.3	3.7	60:1	
	36	43	100	0.35	1.3	5.3	4.7	40:1	
	48	57	100	0.45	1.7	8.0	7.2	30:1	
	72	86	70	0.45	1.7	7.9	7.3	20:1	
	96	115	50	0.6	2.1	6.5	5.8	40:1	
	*144	173	40	0.6	2.1	6.9	6.1	20:1	
SMA15	18	21	150	0.45	1.5	6.3	5.5	80:1	32
	24	29	150	0.45	1.5	6.3	5.5	60:1	
	36	43	150	0.45	1.5	7.2	6.5	40:1	
	48	57	120	0.7	2.3	6.8	5.9	30:1	
	72	86	100	0.7	2.5	7.4	6.7	20:1	
	96	115	75	0.7	2.7	9.8	8.4	40:1	
	*144	173	60	0.7	2.7	10.4	9.3	20:1	
SMA20	18	21	200	0.75	2.2	6.9	6	80:1	48
	24	29	200	0.75	2.3	7.0	6.3	60:1	
	36	43	200	1.25	3.4	9.2	8.4	40:1	
	48	57	200	1.25	3.4	11.9	10.4	30:1	
	72	86	170	1.25	4.3	13.8	12.6	20:1	
	96	115	150	1.8	5.0	16.8	14.5	40:1	
	*144	173	100	1.8	5.2	14.0	12.6	20:1	
SMA30	18	21	300	0.75	2.9	11.9	10.7	80:1	48
	24	29	300	0.75	2.9	12.4	10.8	60:1	
	36	43	300	1.25	4.5	16	14.8	40:1	
	48	57	250	1.25	5.4	19.5	18.2	30:1	
	72	86	200	1.25	5.2	16.5	14.9	20:1	
	96	115	170	1.8	5.6	19	17.4	40:1	
	*144	173	120	1.8	5.5	18.7	16.5	20:1	
SMA40	18	21	400	1.25	4.2	15.9	14.3	80:1	48
	24	29	400	1.25	4.8	16.5	14.8	60:1	
	36	43	350	2	5.3	18.7	16.6	40:1	
	48	57	300	2	5.4	19.5	17.1	30:1	
	72	86	250	2	6.5	20.6	19	20:1	
	96	115	230	2.3	7	26.7	24.5	40:1	
	*144	173	150	2.3	6.9	20.3	18.7	20:1	

NOTE:

- 1: Above torque are maximum torque of Actuator .
2. Motor duty cycle: S4-25%, 3-Phase
3. For Modulating Actuator selection torque safety factor up to 1.8 ~ 2 must be consider.

VOLTAGE - TORQUE

SMA - 3-PHASE, ON-OFF



VOLTAGE: 345VAC, 380VAC, 418VAC, 440VAC, 460VAC, 480VAC

STANDARD - IMPERIAL

Model	Speed (RPM)		Torque (lb-ft)	Power (hp)	Rated Current (A)	Start Current (A)	Stall Current (A)	Handwheel Ratio	Max. Stem Diameter (Inch)
	50Hz	60Hz							
SMA50	18	21	370	2.95	6.7	21.1	19.4	80:1	2"
	24	29	370	2.95	6.7	21.1	19.6	60:1	
	36	43	370	2.95	6.7	23.9	21.8	40:1	
	48	57	370	3.2	9.9	34.3	31.7	30:1	
	72	86	295	3.2	10.4	38.3	35.4	20:1	
	96	115	220	3.8	9.8	37.3	36.2	40:1	
	*144	173	150	3.8	12	49.3	47.6	20:1	
SMA60	18	21	450	3.2	6.4	25.8	24.5	80:1	2"
	24	29	450	3.2	6.4	25.8	22.4	60:1	
	36	43	450	3.2	8.2	29.1	27	40:1	
	48	57	450	4	12.1	41.8	39.4	30:1	
	72	86	370	4	13	47.9	45.6	20:1	
	96	115	295	5.4	13.1	49.7	47.3	40:1	
	*144	173	190	5.4	13.5	37.1	35.1	20:1	
SMA90	18	21	665	3.9	8.5	30.6	28.4	80:1	2"
	24	29	665	3.9	10.4	37.6	34	60:1	
	36	43	555	3.9	10.6	43.3	41.7	40:1	
	48	57	445	3.9	12.4	38.9	37.2	30:1	
	72	86	355	3.9	12.4	49.9	47.5	20:1	
	96	115	260	4.7	15.1	50.1	48.1	40:1	

STANDARD - METRIC

Model	Speed (RPM)		Torque (Nm)	Power (Kw)	Rated Current (A)	Start Current (A)	Stall Current (A)	Handwheel Ratio	Max. Stem Diameter (mm)
	50Hz	60Hz							
SMA50	18	21	500	2.2	6.7	21.1	19.4	80:1	50
	24	29	500	2.2	6.7	21.1	19.6	60:1	
	36	43	500	2.2	6.7	23.9	21.8	40:1	
	48	57	500	2.4	9.9	34.3	31.7	30:1	
	72	86	400	2.4	10.4	38.3	35.4	20:1	
	96	115	300	2.8	9.8	37.3	36.2	40:1	
	*144	173	200	2.8	12	49.3	47.6	20:1	
SMA60	18	21	610	2.4	6.4	25.8	24.5	80:1	50
	24	29	610	2.4	6.4	25.8	22.4	60:1	
	36	43	610	2.4	8.2	29.1	27	40:1	
	48	57	610	3	12.1	41.8	39.4	30:1	
	72	86	500	3	13	47.9	45.6	20:1	
	96	115	400	4	13.1	49.7	47.3	40:1	
	*144	173	260	4	13.5	37.1	35.1	20:1	
SMA90	18	21	900	2.9	8.5	30.6	28.4	80:1	50
	24	29	900	2.9	10.4	37.6	34	60:1	
	36	43	750	2.9	10.6	43.3	41.7	40:1	
	48	57	600	2.9	12.4	38.9	37.2	30:1	
	72	86	480	2.9	12.4	49.9	47.5	20:1	
	96	115	350	3.5	15.1	50.1	48.1	40:1	

NOTE:

- 1: Above torque are maximum torque of Actuator .
2. Motor duty cycle: S4-25%, 3-Phase
3. For Modulating Actuator selection torque safety factor up to 1.8 ~ 2 must be consider.

VOLTAGE - TORQUE

SMA - 3-PHASE, MODULATING

VOLTAGE: 345VAC, 380VAC, 418VAC, 440VAC, 460VAC, 480VAC

STANDARD - IMPERIAL

Model	Speed (RPM)		Torque (lb-ft)	Power (hp)	Rated Current (A)	Start Current (A)	Stall Current (A)	Handwheel Ratio	Max. Stem Diameter (Inch)
	50Hz	60Hz							
SMA05	18	21	37	0.47	0.4	1.5	1.31	80:1	1.25"
	24	29	37	0.47	0.6	2.0	1.75	60:1	
	36	43	37	0.47	0.9	3.0	2.63	40:1	
	48	57	37	0.47	1.2	4.0	3.51	30:1	
	72	86	30	0.47	1.4	4.8	4.21	20:1	
SMA10	18	21	74	0.47	0.9	3.0	2.63	80:1	1.25"
	24	29	74	0.47	1.2	3.9	3.51	60:1	
	36	43	74	0.47	1.7	5.9	5.26	40:1	
	48	57	74	0.60	2.3	7.9	7.01	30:1	
	72	86	52	0.8	2.4	8.3	7.36	20:1	
SMA15	18	21	110	0.60	1.3	4.5	3.94	80:1	1.25"
	24	29	110	0.60	1.7	5.9	5.26	60:1	
	36	43	110	0.60	2.6	8.9	7.89	40:1	
	48	57	90	0.9	3.5	11.9	10.52	30:1	
	72	86	74	0.9	3.5	11.9	10.52	20:1	
SMA20	18	21	148	1.0	1.7	5.9	5.26	80:1	1.88"
	24	29	148	1.0	2.3	7.9	7.01	60:1	
	36	43	148	1.7	3.5	11.9	10.52	40:1	
	48	57	148	1.7	4.6	15.9	14.03	30:1	
	72	86	125	2.4	5.9	19.7	17.88	20:1	
SMA30	18	21	221	1.0	2.6	8.9	7.89	80:1	1.88"
	24	29	221	1.0	3.5	11.9	10.52	60:1	
	36	43	221	1.7	5.2	17.4	15.78	40:1	
	48	57	185	1.7	6.9	23.1	21.04	30:1	
	72	86	148	2.4	6.9	23.4	21.04	20:1	
SMA40	18	21	295	1.7	3.5	11.9	10.52	80:1	1.88"
	24	29	295	1.7	4.6	15.9	14.03	60:1	
	36	43	258	2.7	6.1	20.3	18.41	40:1	
	48	57	185	2.7	6.9	23.1	21.04	30:1	
	72	86	185	3.1	8.7	28.9	26.3	20:1	
SMA50	18	21	370	3.0	4.3	14.9	13.15	80:1	2"
	24	29	370	3.0	5.8	19.1	17.53	60:1	
	36	43	370	3.0	8.7	28.7	26.3	40:1	
	48	57	370	3.2	11.6	31.5	28.93	30:1	
	72	86	295	3.8	13.9	36.9	33.87	20:1	
SMA60	18	21	450	3.2	5.3	18.1	16.04	80:1	2"
	24	29	450	3.2	7.1	24.2	21.39	60:1	
	36	43	450	3.2	10.6	30.7	27.86	40:1	
	48	57	450	4	14.1	36.8	34.43	30:1	
	72	86	370	5.4	17.4	40.5	38.57	20:1	

NOTE:

- 1: Above torque are maximum torque of Actuator .
2. Motor duty cycle: S4-25%, 3-Phase
3. For Modulating Actuator selection torque safety factor up to 1.8 ~ 2 must be consider.

VOLTAGE - TORQUE

SMA - 3-PHASE, MODULATING

VOLTAGE: 345VAC, 380VAC, 418VAC, 440VAC, 460VAC, 480VAC

STANDARD - METRIC

Model	Speed (RPM)		Torque (Nm)	Power (Kw)	Rated Current (A)	Start Current (A)	Stall Current (A)	Handwheel Ratio	Max. Stem Diameter (mm)
	50Hz	60Hz							
SMA05	18	21	50	0.35	0.4	1.5	1.31	80:1	32
	24	29	50	0.35	0.6	2.0	1.75	60:1	
	36	43	50	0.35	0.9	3.0	2.63	40:1	
	48	57	50	0.35	1.2	4.0	3.51	30:1	
	72	86	40	0.35	1.4	4.8	4.21	20:1	
SMA10	18	21	100	0.35	0.9	3.0	2.63	80:1	32
	24	29	100	0.35	1.2	3.9	3.51	60:1	
	36	43	100	0.35	1.7	5.9	5.26	40:1	
	48	57	100	0.45	2.3	7.9	7.01	30:1	
	72	86	70	0.6	2.4	8.3	7.36	20:1	
SMA15	18	21	150	0.45	1.3	4.5	3.94	80:1	32
	24	29	150	0.45	1.7	5.9	5.26	60:1	
	36	43	150	0.45	2.6	8.9	7.89	40:1	
	48	57	120	0.7	3.5	11.9	10.52	30:1	
	72	86	100	0.7	3.5	11.9	10.52	20:1	
SMA20	18	21	200	0.75	1.7	5.9	5.26	80:1	48
	24	29	200	0.75	2.3	7.9	7.01	60:1	
	36	43	200	1.25	3.5	11.9	10.52	40:1	
	48	57	200	1.25	4.6	15.9	14.03	30:1	
	72	86	170	1.8	5.9	19.7	17.88	20:1	
SMA30	18	21	300	0.75	2.6	8.9	7.89	80:1	48
	24	29	300	0.75	3.5	11.9	10.52	60:1	
	36	43	300	1.25	5.2	17.4	15.78	40:1	
	48	57	250	1.25	6.9	23.1	21.04	30:1	
	72	86	200	1.8	6.9	23.4	21.04	20:1	
SMA40	18	21	400	1.25	3.5	11.9	10.52	80:1	48
	24	29	400	1.25	4.6	15.9	14.03	60:1	
	36	43	350	2	6.1	20.3	18.41	40:1	
	48	57	250	2	6.9	23.1	21.04	30:1	
	72	86	250	2.3	8.7	28.9	26.3	20:1	
SMA50	18	21	500	2.2	4.3	14.9	13.15	80:1	50
	24	29	500	2.2	5.8	19.1	17.53	60:1	
	36	43	500	2.2	8.7	28.7	26.3	40:1	
	48	57	500	2.4	11.6	31.5	28.93	30:1	
	72	86	400	2.8	13.9	36.9	33.87	20:1	
SMA60	18	21	610	2.4	5.3	18.1	16.04	80:1	50
	24	29	610	2.4	7.1	24.2	21.39	60:1	
	36	43	610	2.4	10.6	30.7	27.86	40:1	
	48	57	610	3	14.1	36.8	34.43	30:1	
	72	86	500	4	17.4	40.5	38.57	20:1	

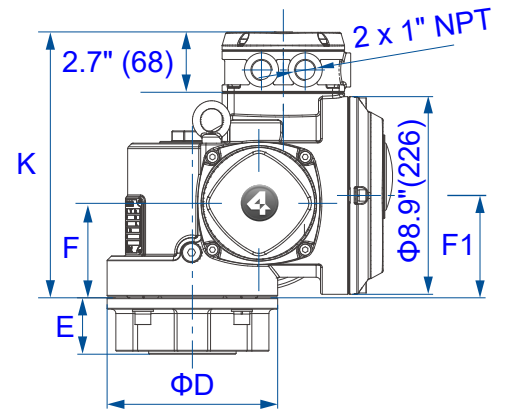
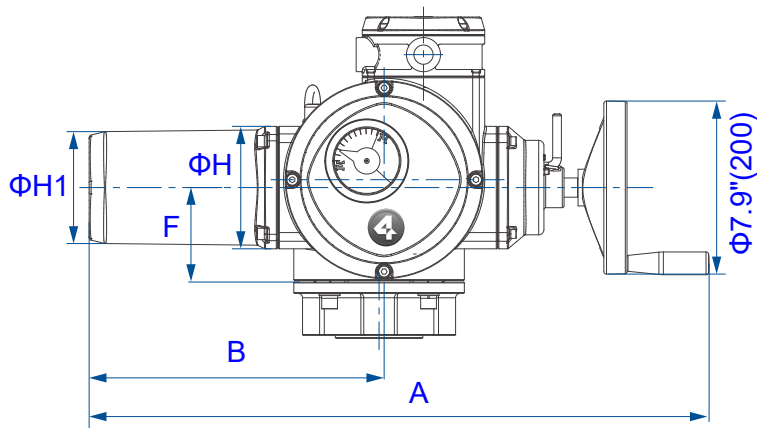
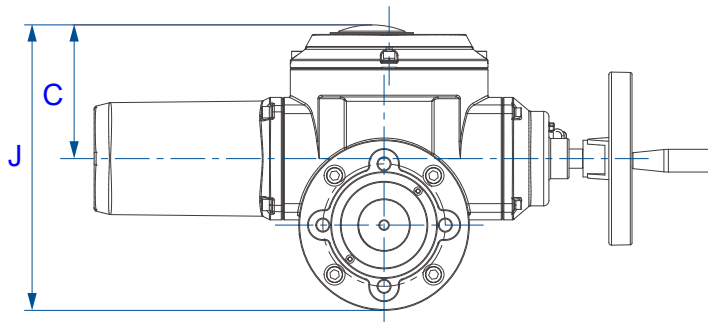
NOTE:

- 1: Above torque are maximum torque of Actuator .
2. Motor duty cycle: S4-25%, 3-Phase
3. For Modulating Actuator selection torque safety factor up to 1.8 ~ 2 must be consider.



DIMENSIONS

SMA - BASIC



IMPERIAL														UNIT: Inch
MODEL \ SIZE	A	B	C	ØD	E			F	F1	ØH	ØH1	J	K	Weight (lbs)
					JB	A-Type	B-Type							
SMA05/10/15	23.62"	11.02"	5.19"	5.70"	1.18"	2"	1.57"	4.37"	4.72"	5.51"	3.85"	10.31"	12.08"	66
SMA20/30/40	27.95"	13.30"	6.02"	7.67"	1.65"	2.55"	1.65"	4.48"	4.61"	5.51"	5.03"	19.29"	11.93"	80
SMA50/60/90	29.92"	15.03"	6.30"	9.21"	2"	2.55"	1.65"	4.48"	4.65"	6.33"	5.83"	21.45"	11.93"	104

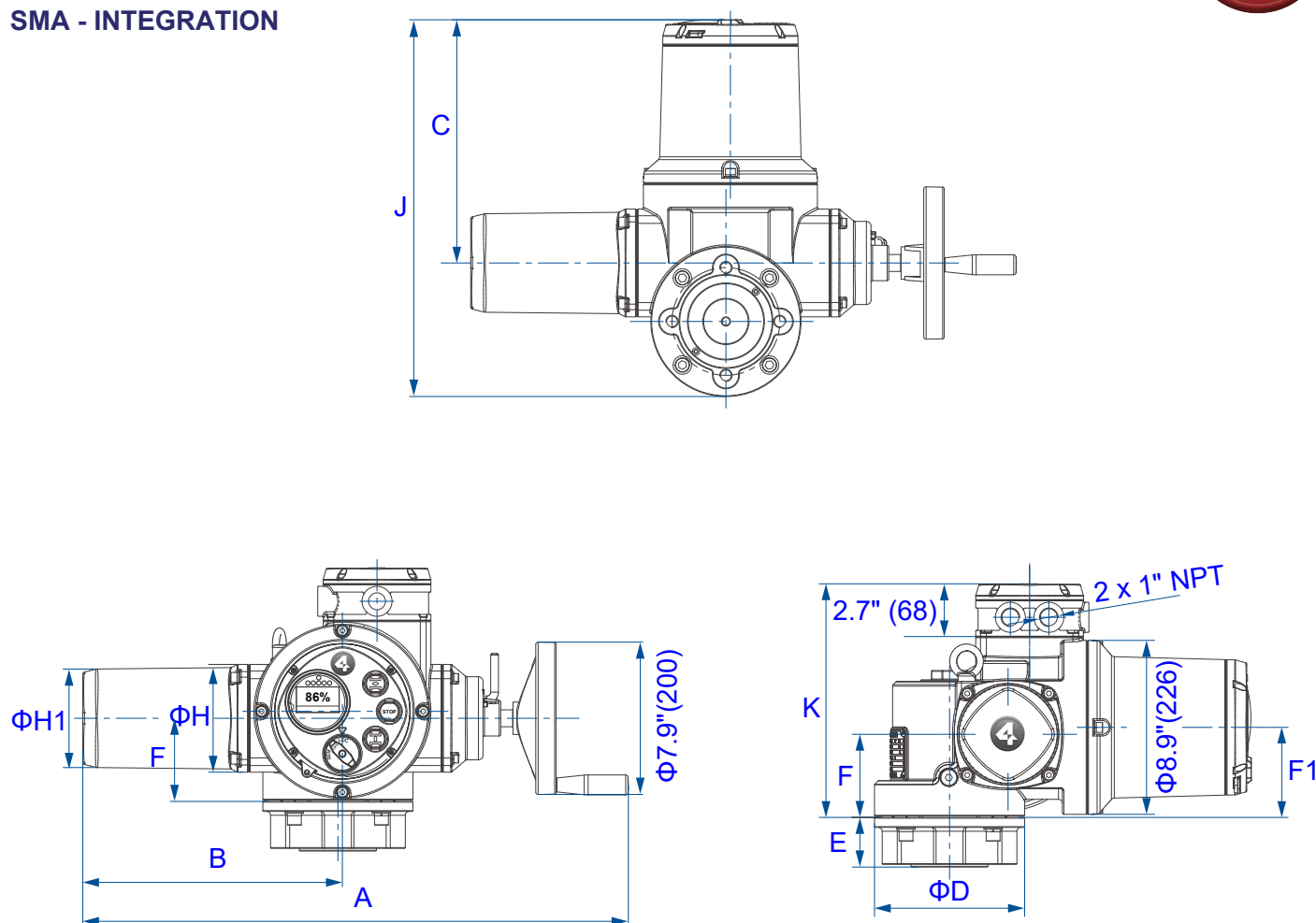
METRIC														UNIT: mm
MODEL \ SIZE	A	B	C	ØD	E			F	F1	ØH	ØH1	J	K	Weight (kg)
					JB	A-Type	B-Type							
SMA05/10/15	600	280	132	145	30	50	40	111	120	140	98	262	307	30
SMA20/30/40	710	338	153	195	42	65	42	114	117	140	128	490	303	36
SMA50/60/90	760	382	160	234	50	65	42	114	118	161	148	545	303	47

NOTE:

1. Actuator Mount as per ISO 5210. Customized options available on request
2. A-Type Mount for Rising Type Valve Stem
3. B-Type Mount for Non-Rising Type Valve Stem

DIMENSIONS

SMA - INTEGRATION



IMPERIAL													UNIT: Inch	
MODEL \ SIZE	A	B	C	ØD	E			F	F1	ØH	ØH1	J	K	Weight (lbs)
					JB	A-Type	B-Type							
SMA05/10/15	23.62"	11.02"	12.44"	5.70"	1.18"	2"	1.57"	4.37"	4.72"	5.51"	3.85"	17.56"	12.08"	66
SMA20/30/40	27.95"	13.30"	12.44"	7.67"	1.65"	2.55"	1.65"	4.48"	4.61"	5.51"	5.03"	19.29"	11.93"	80
SMA50/60/90	29.92"	15.03"	13.07"	9.21"	2"	2.55"	1.65"	4.48"	4.65"	6.33"	5.83"	21.45"	11.93"	104

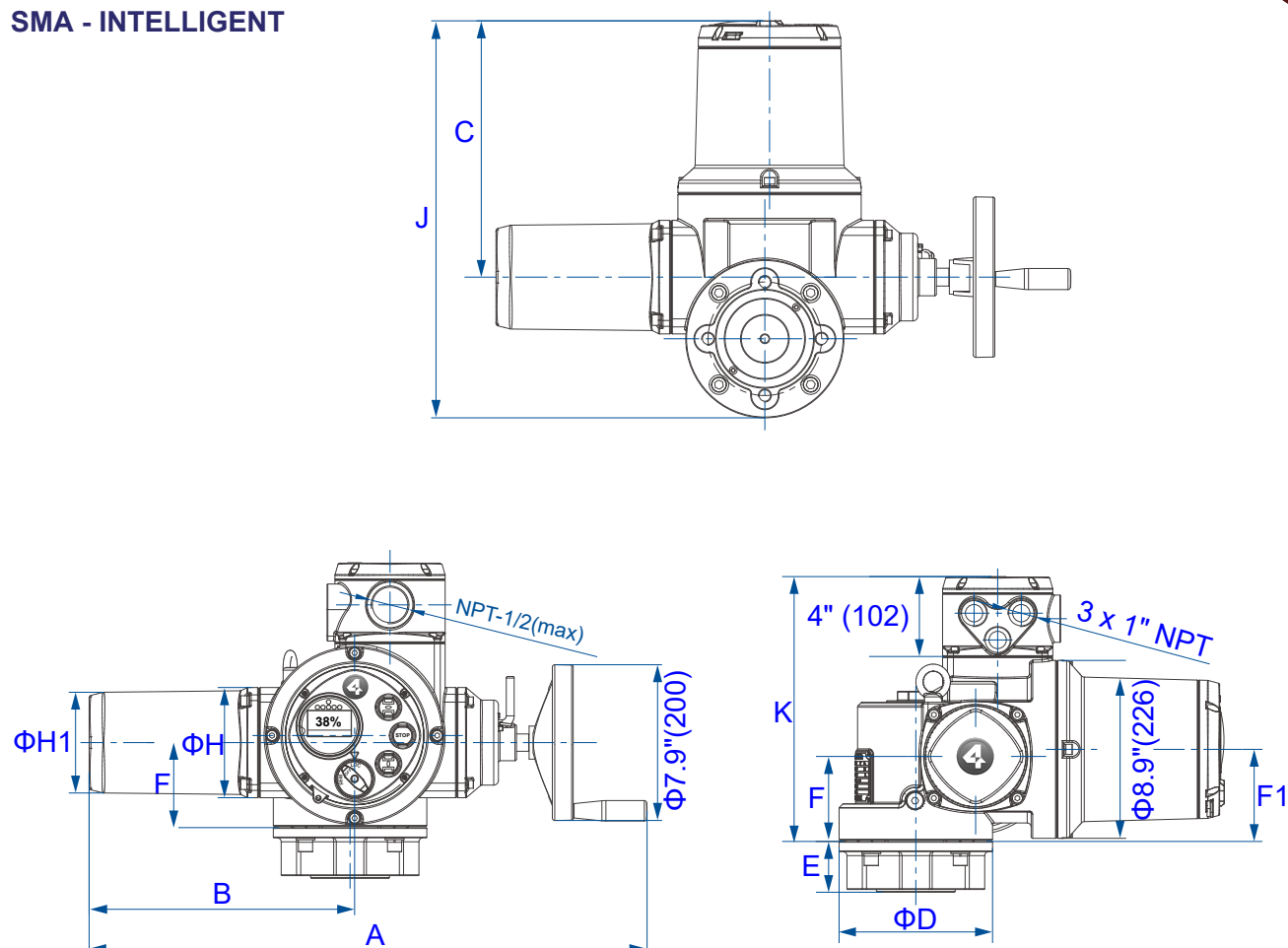
METRIC													UNIT: mm	
MODEL \ SIZE	A	B	C	ØD	E			F	F1	ØH	ØH1	J	K	Weight (kg)
					JB	A-Type	B-Type							
SMA05/10/15	600	280	316	145	30	50	40	111	120	140	98	446	307	30
SMA20/30/40	710	338	316	195	42	65	42	114	117	140	128	490	303	36
SMA50/60/90	760	382	332	234	50	65	42	114	118	161	148	545	303	47

NOTE:

1. Actuator Mount as per ISO 5210. Customized options available on request
2. A-Type Mount for Rising Type Valve Stem
3. B-Type Mount for Non-Rising Type Valve Stem

DIMENSIONS

SMA - INTELLIGENT



IMPERIAL													UNIT: Inch	
MODEL \ SIZE	A	B	C	ØD	E			F	F1	ØH	ØH1	J	K	Weight (lbs)
					JB	A-Type	B-Type							
SMA05/10/15	23.62"	11.02"	12.44"	5.70"	1.18"	2"	1.57"	4.37"	4.72"	5.51"	3.85"	17.56"	12.08"	66
SMA20/30/40	27.95"	13.30"	12.44"	7.67"	1.65"	2.55"	1.65"	4.48"	4.61"	5.51"	5.03"	19.29"	11.93"	80
SMA50/60/90	29.92"	15.03"	13.07"	9.21"	2"	2.55"	1.65"	4.48"	4.65"	6.33"	5.83"	21.45"	11.93"	104

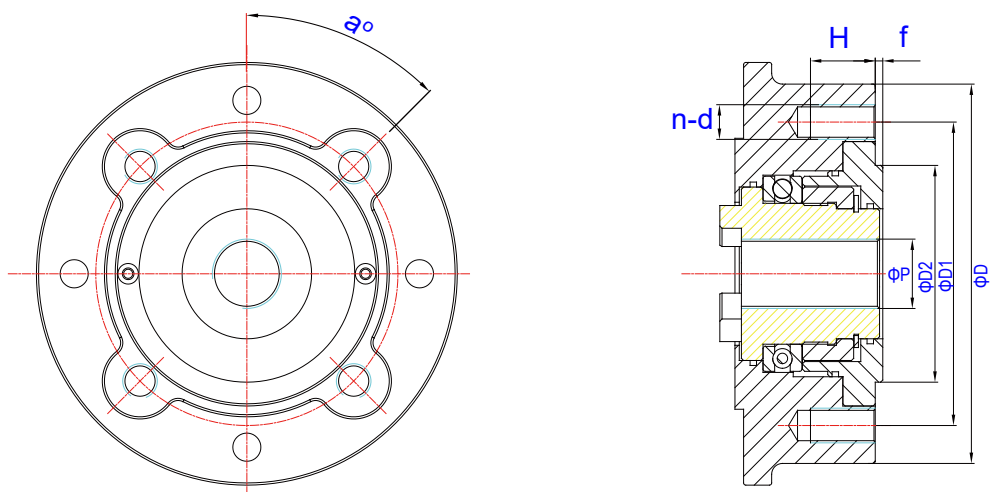
METRIC														UNIT: mm
MODEL \ SIZE	A	B	C	ØD	E			F	F1	ØH	ØH1	J	K	Weight (kg)
					JB	A-Type	B-Type							
SMA05/10/15	600	280	316	145	30	50	40	111	120	140	98	446	307	30
SMA20/30/40	710	338	316	195	42	65	42	114	117	140	128	490	303	36
SMA50/60/90	760	382	332	234	50	65	42	114	118	161	148	545	303	47

NOTE:

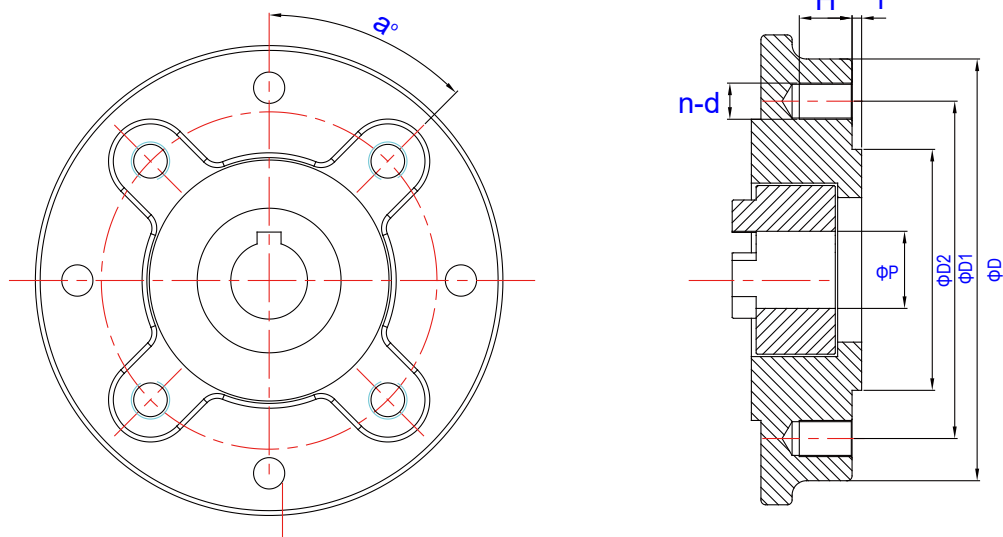
1. Actuator Mount as per ISO 5210. Customized options available on request
2. A-Type Mount for Rising Type Valve Stem
3. B-Type Mount for Non-Rising Type Valve Stem

DIMENSIONS

SMA - A - TYPE FLANGE (RISING STEM) - ISO 5210



SMA - B - TYPE FLANGE (ROTARY TYPE) - ISO 5210

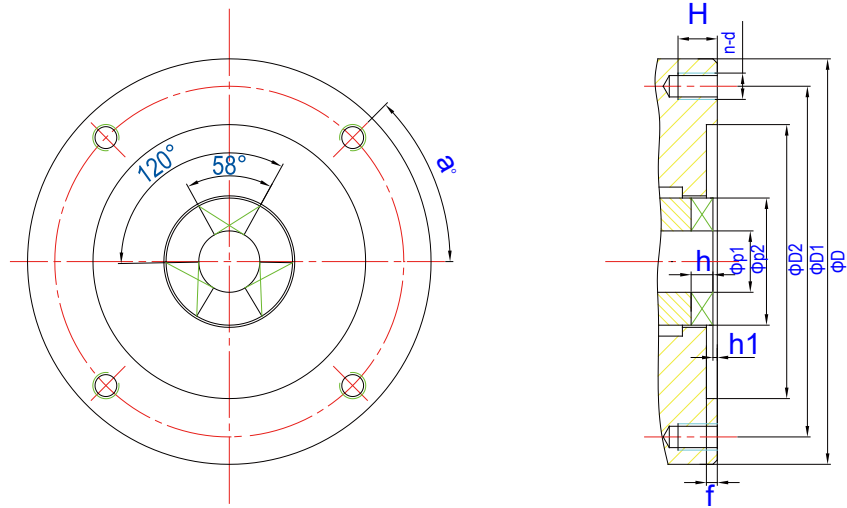


IMPERIAL										UNIT: Inch
MODEL \ SIZE	ISO 5210	ØD	ØD1	ØD2	f	ØP (Max)	ØP (STD)	n-d	a	H
SMA05/10/15	F10	4.72"	4.01"	2.75"	0.15"	1.25"	1.18"	4-M10	45°	0.59"
SMA20/30/40	F14	6.89"	5.51"	3.94"	0.15"	1.89"	1.65"	4-M12	45°	0.94"
SMA50/60/90	F16	8.07"	6.50"	5.31"	0.19"	2.44"	1.97"	4-M16	45°	1.18"

METRIC										UNIT: mm
MODEL \ SIZE	ISO 5210	ØD	ØD1	ØD2	f	ØP (Max)	ØP (STD)	n-d	a	H
SMA05/10/15	F10	120	102	70	4	32	30	4-M10	45°	15
SMA20/30/40	F14	175	140	100	4	48	42	4-M12	45°	24
SMA50/60/90	F16	205	165	135	5	62	50	4-M16	45°	30

DIMENSIONS

SMA - JB2920 - ROTARY TYPE



IMPERIAL												UNIT: Inch
MODEL \ SIZE	Base	ØD	ØD1	ØD2	h1	f	h	Ød1 (Max)	Ød1 (STD)	n-d	A	H
SMA05/10/15	JB2	5.70"	4.7"	3.5"	0.07"	0.2"	0.31"	1.18"	1.77"	4-M10	45°	0.6"
SMA20/30/40	JB3	7.28"	6.3"	4.9"	0.07"	0.2"	0.39"	1.65"	2.28"	4-M12	45°	0.6"
SMA50/60/90	JB4	8.85"	7.7"	5.9"	0.07"	0.2"	0.47"	1.96"	2.83"	4-M16	45°	1.18"

IMPERIAL												UNIT: mm
MODEL \ SIZE	Base	ØD	ØD1	ØD2	h1	f	h	Ød1 (Max)	Ød1 (STD)	n-d	A	H
SMA05/10/15	JB2	145	120	90	2	5	8	30	45	4-M10	45°	15
SMA20/30/40	JB3	185	160	125	2	5	10	42	58	4-M12	45°	15
SMA50/60/90	JB4	225	195	150	2	5	12	50	72	4-M16	45°	30

1	1	2	2	-	3	3	4	5	-	6	7	8	9
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1. ACTUATOR SERIES (XXX)	CODE
SFM (QUARTER TURN)	SF
SM (QUARTER TURN)	SM
SFQ (QUARTER TURN)	SQ
SMD (QUARTER TURN)	SD
SMA (MULTI TURN)	SA
SMH (MULTI TURN)	SH
LINEAR	SL

2. MODEL	
XXX 11	11
XXX 12	12
XXX 13	13
XXX 21	21
XXX 22	22
XXX 23	23
XXX 31	31
XXX 41	41

3. SPEED (RPM)	
18 RPM / 50 Hz	18
24 RPM / 50 Hz	24
36 RPM / 50 Hz	36
48 RPM / 50 Hz	48
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
29 RPM / 60 Hz	29
43 RPM / 60 Hz	43
58 RPM / 60 Hz	58
86 RPM / 60 Hz	86
115 RPM / 60 Hz	1R
173 RPM / 60 Hz	7R
230 RPM / 60 Hz	3R

4. CONTROL	
ON/OFF	O
MODULATING	M

5. VOLTAGE	CODE
110 V – 1 PHASE	1
220 V – 1 PHASE	2
220 V – 3 PHASE	T
380 V – 3 PHASE	3
345 V – 3 PHASE	4
418 V – 3 PHASE	5
440 V – 3 PHASE	6
460 V – 3 PHASE	7
480 V – 3 PHASE	8
85 ~ 265V AC	A
24 V ACDC	D

6. MODEL TYPE	
INTELLIGENT	S
INTEGRATION	I
BASIC	B

7. FEEDBACK SIGNAL	
K2: OPEN/CLOSE DRY CONTACT	2
T3: 4~20 mA	3
0~10 V	0
2~10 V	1

8. EXPLOSION PROOF	
NONE	X
EXPLOSION PROOF: ExdIIBT4	B
EXPLOSION PROOF: ExdIICT4	C

9. SPECIAL FEATURE	
NONE	X



OTHER MODELS



SM - QUARTER TURN



SPRING RETURN



IM - QUARTER TURN



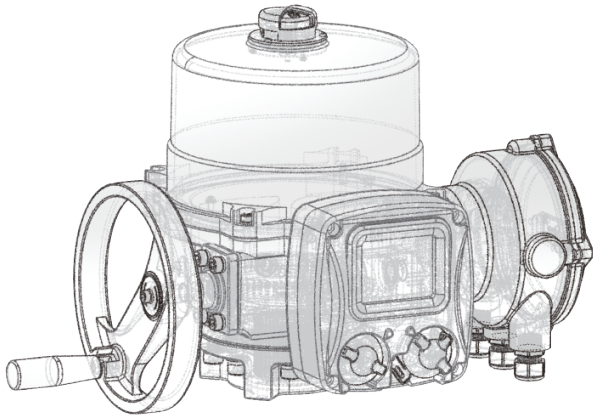
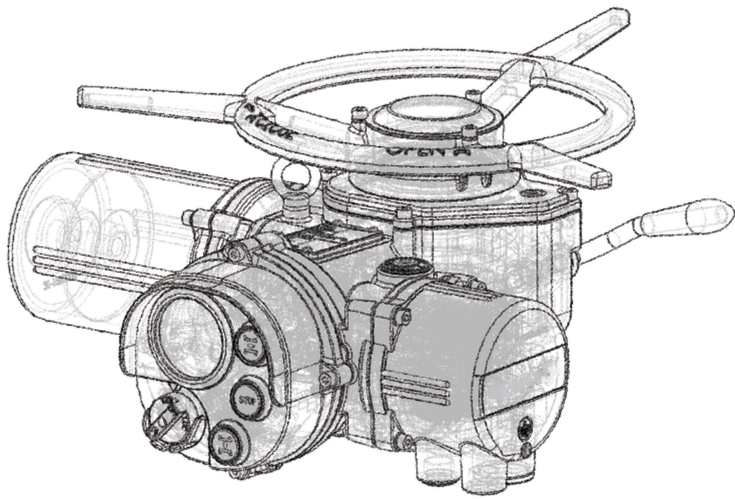
**ESB - QUARTER TURN
EXPLOSION PROOF**



SMH - MUTLITURN



**STM - MUTLITURN
EXPLOSION PROOF**



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RoHS REACH