Building connections that last™

ASC Engineered Solutions

Series ESR

Spring Return Electric Actuator Datasheet

ABZ VALVE
An ASC Engineered Solution

ASC Engineered Solutions

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1. Standard Specifications

Enclosure	IP67, Dust-tight, weather-tight, Type 4/4x
Ambient Temperature	-4°F to 131°F (-20°C to 55°C)
Power Supply	120v or 220v 1-Phase Also 380v, 440v 3-Phase, 24v
Limit Switches	Motor: Open / Close Auxiliary Dry Contact: Open / Close
Stall Protection	Built-in Thermal Protection Cut-off at 248°F (120°C)
Governor	Standard: E1730SR, E2600SR and E4340SR
Travel Angle	90 ± 5
Indicator	Continuous Position Indication
Manual Operation	De-clutchable Hand Wheel
Worm Gear	Permanently lubricated and self locking
Space Heater	20-Watt Heater
Conduit Entries	Two ¾" NPT
Lubrication	Grease (Shell Gadus S2-V220-2)
Materials	Aluminum Alloy (enclosure), Steel (gears)
Surface Treatment	Anodizing
External Coating	Dry Powder Polyester (TGIC-Free)
Mechanical Stops	Factory set. Field adjustable.

2. Options

Enclosure Options	(X) Explosion Proof ATEX Ex d IIB T4 Gd, Dust-tight, Weather-tight, IP67 (W) Water-tight, Dust-tight, IP68
Temperature Options	(L4) -40°F to 131°F (-40°C to 55°C) (L6) -76°F to 131°F (-60°C to 55°C)
Dry-Contacts	(A2) Add 2 additional dry-contact switches
Control Options	AC Motor Interface with speed control (On / Off service) Integral Motor Starter 3-Phase (Latching or Non-Latching) High Resolution Controller, analog (Vdc or mA) or digital signal (modulating service) 135-ohm slide wire Position Feedback 4-20mA/0-10v Modbus Communication
Local Control Options	Base model LCU: Local / Remote, open-stop-close with indicator lights Full Featured LCU: LCD Display, Cycle Counter, Auto-calibration including limits, Phase Protection

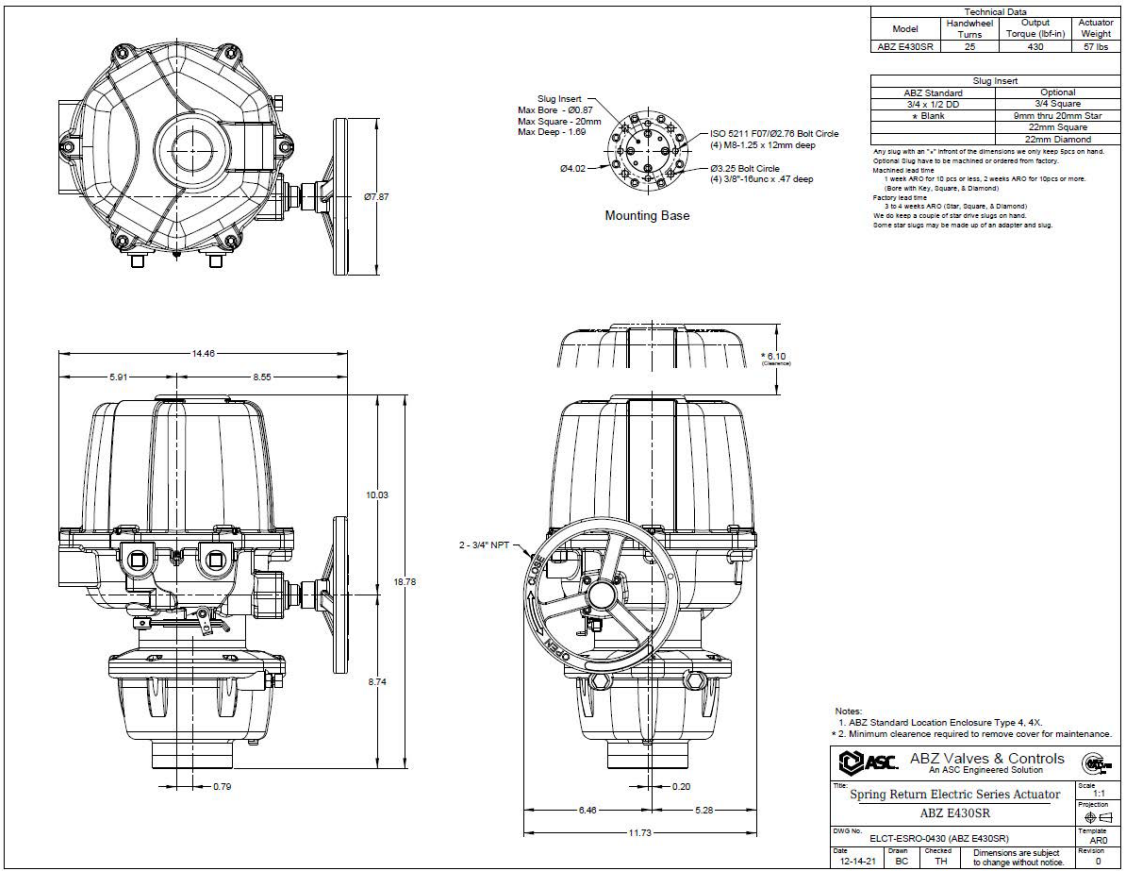
3. Performance

			Model:	E-SR430	E-SR860	E-SR1730	E-SR2600	E-SR4340
Maximum Torque	lbf-in			430	860	1730	2600	4340
	Nm			50	100	200	300	500
Voltage & Rated Current AMPs	110V	50Hz		2.8	2.8	2.8	2.8	2.8
		60Hz		3.6	3.6	3.6	3.7	3.7
	120V	60Hz		3.6	3.6	3.6	3.7	3.7
	220V	50Hz		1.6	1.6	1.7	1.6	1.6
		60Hz		2	2	2.1	2	2.1
	230V	50Hz		1.6	1.6	1.7	1.6	1.6
	380V	50Hz		0.24	0.4	0.38	0.35	0.37
		60Hz		0.25	0.4	0.35	0.29	0.31
	440V	50Hz		0.28	0.5	0.5	0.62	0.62
		60Hz		0.24	0.4	0.36	0.31	0.31
	24Vdc			12	12	13	15	15
Duty Cycle (S2)	minutes			15	15	15	15	15
Motor – Watts	Vac			90	90	90	90	90
	Vdc			120	120	120	120	120
Motor Operating Time in seconds **Open / Close (90°)**	110V	50Hz		17 / 16	20 / 19	60 /56	85 / 81	116 / 110
		60Hz		15 / 14	17 / 16	51/46	72 / 68	99 / 93
	120V	60Hz		15 / 14	17 / 16	51/46	72 / 68	99 / 93
	220V	50Hz		17 / 16	20 / 19	59 / 55	87 / 83	116 / 110
		60Hz		14 / 13	17 /15	50 /44	75 / 70	99 / 87
	230V	50Hz		17 / 16	20 / 19	59 / 55	87 / 83	116 / 110
	380V	50Hz		17 / 15	21 / 19	62 / 57	87 / 82	122 / 110
		60Hz		15 / 13	19 / 16	52 /47	74 / 68	110 / 93
	440V	50Hz		17/ 15	21 / 19	62 / 57	86 / 82	122 / 110
		60Hz		15 / 13	17 / 16	52 / 42	73 / 67	99 / 93
	24Vdc			14 / 10	23 / 13	55 / 35	100 / 56	133 / 75
Spring Return Time (90°) Seconds				1 - Second Optional Governer*	1 - Second Optional Governer*	1 - 2 Seconds Standard Governer	2 ± 1 Seconds Standard Governer	2 ± 1 Seconds Standard Governer
Mounting Dual Drilling	ABZ			3.25"	3.25" / 5.0"	3.25" / 5.0"	3.25" / 5.0"	3.25" / 5.0"
	ISO 5211			F07	F07 / F10	F10 / F12	F10 / F12	F10 / F12
Number of Handle Turns				25	25	75	113	145
Weight	Lbs			69.5	88.2	112.5	148	181
	Kg			31.5	40	51	67	82

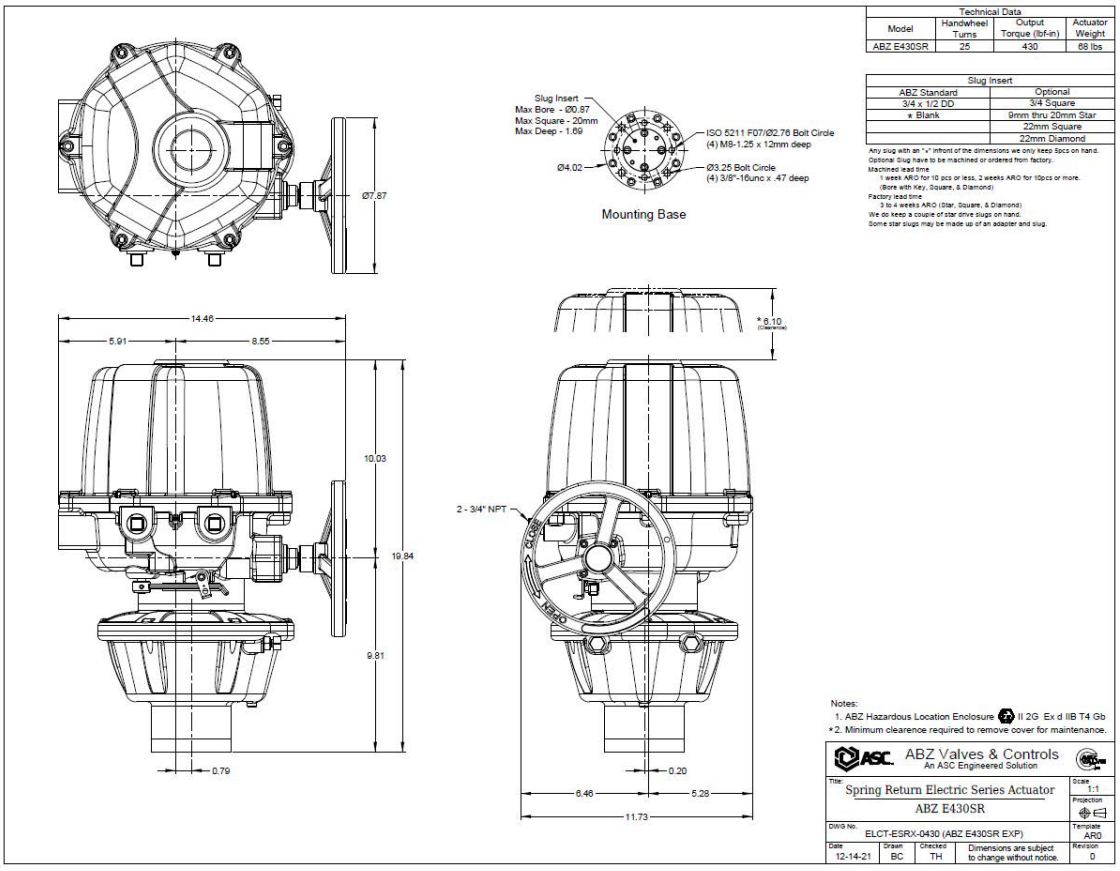
* Contact Factory

4. Dimensions

E-SR430

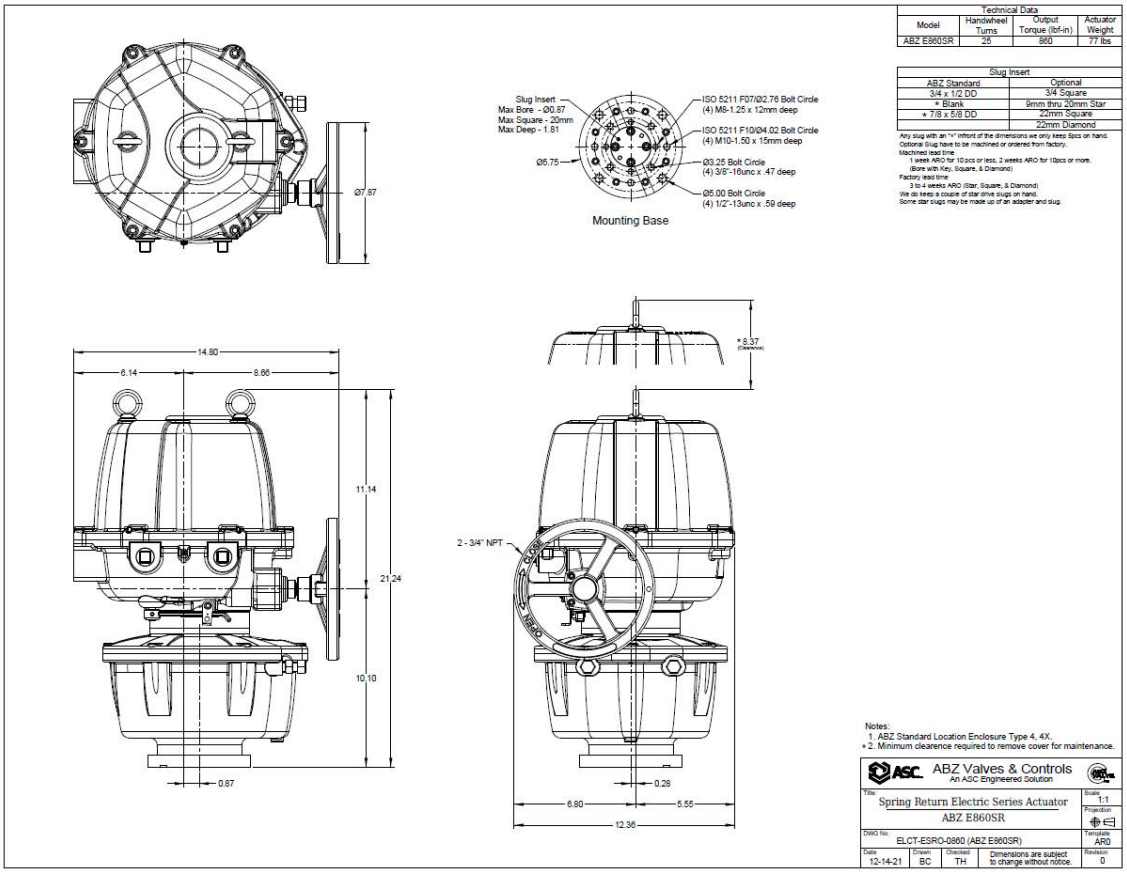


E-SR430X

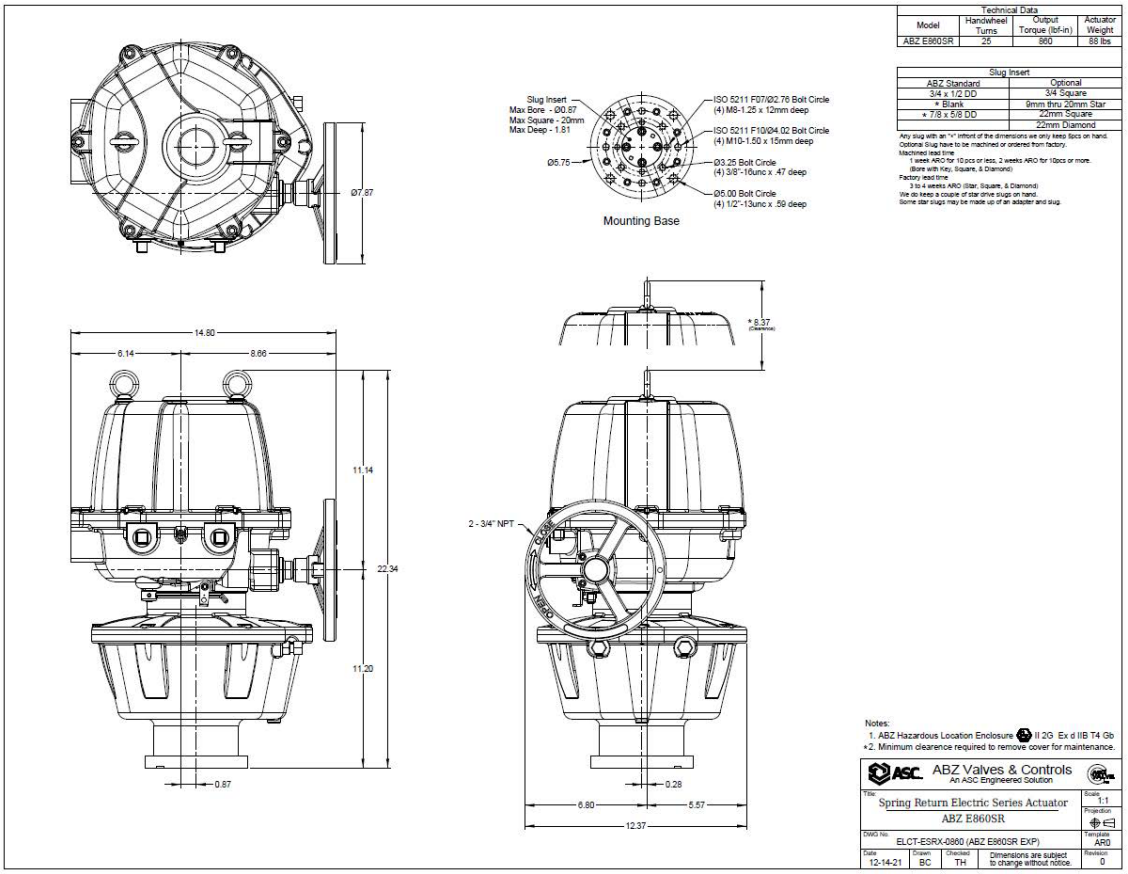


4. Dimensions

E-SR860

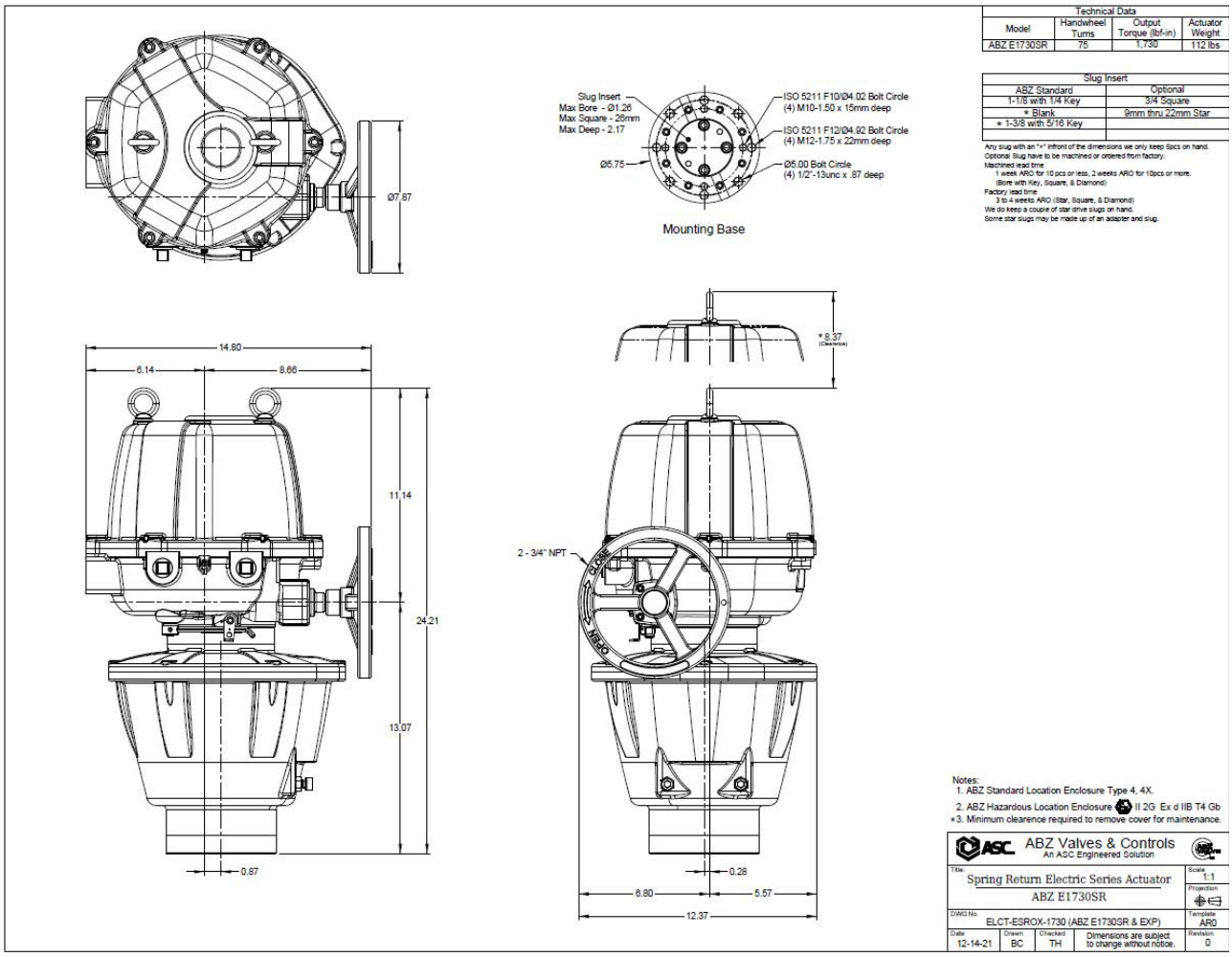


E-SR860X



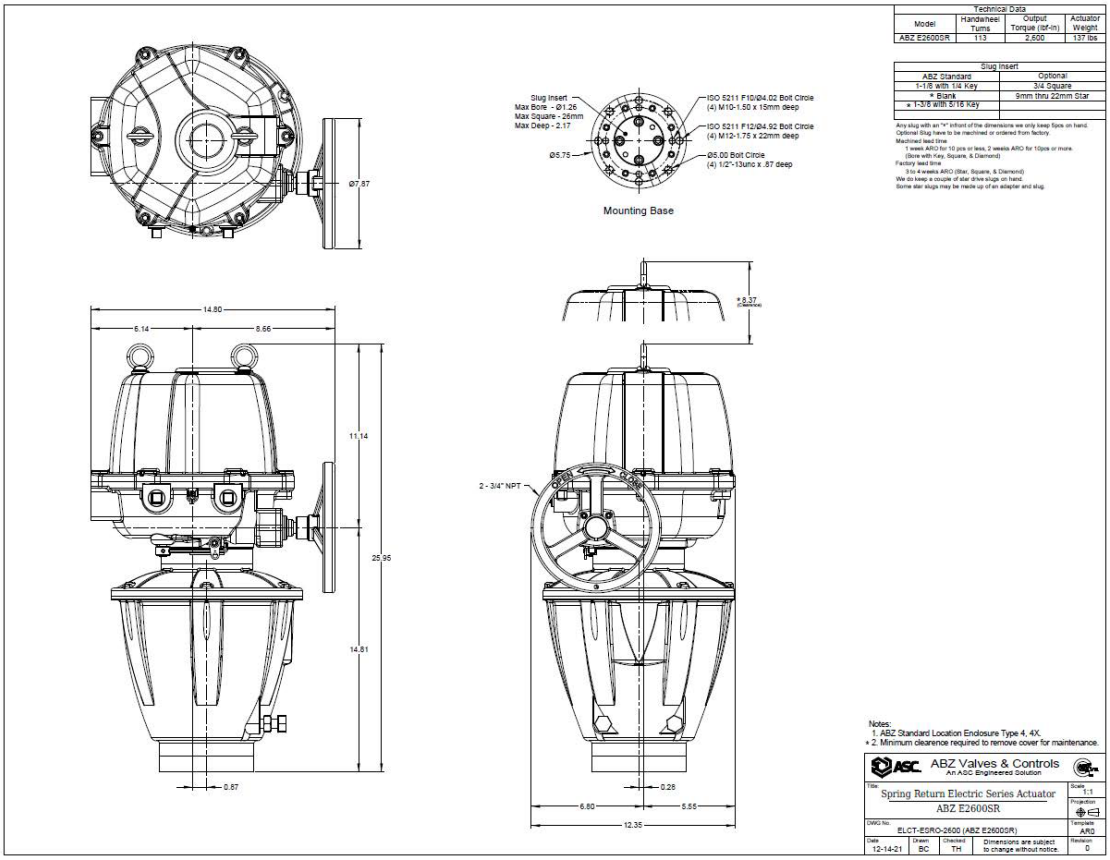
4. Dimensions

E-SR173
E-SR1730X

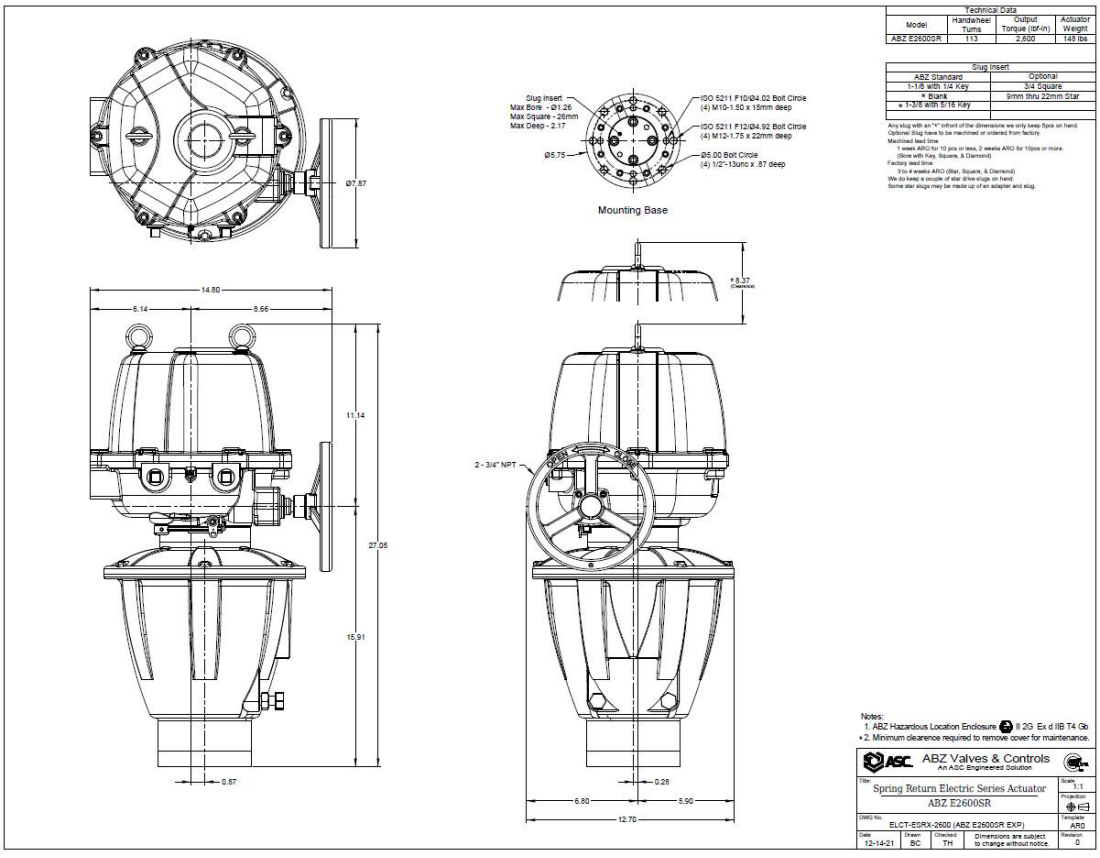


4. Dimensions

E-SR2600

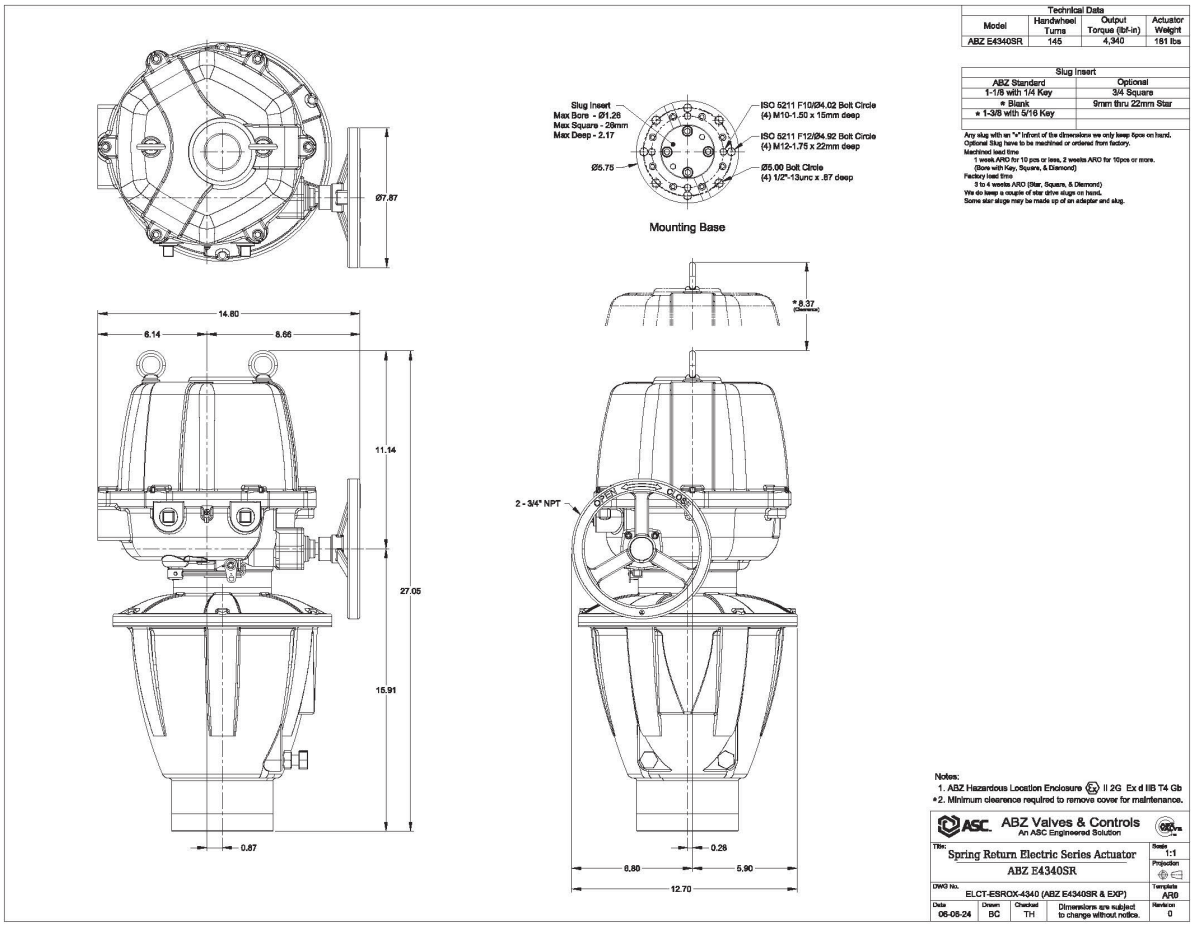


E-SR2600X



4. Dimensions

E-SR4340
E-SR4340X



Spring Return Electric Actuator
Series ESR

Example: E-SR860X-A4N-A1N2M-CW

A size 860, spring return, electric actuator (860 lbf-in), with Explosion Proof enclosure (X), 120 Vac / 1 PH power supply (A), full featured Local Control Unit (4N), and two limit switches (A1). Configured for modulating service including position feedback (N2M). Fail Close (CW).

How to Order Series ESR

E	–	SR860	X	–	A	4N	–	A1				N2M		–	CW
		1 Size	**2** Type		**3** Voltage	**4** Service		**5** ALS	**6** Feedback	**7** RCT	**8** Temp	**9** LCU	**10** Suffix-2		Fail Mode

1 Model / Size

Code	
SR430	430 lbf-in
SR860	860 lbf-in
SR1730	1730 lbf-in
SR2600	2600 lbf-in
SR4340	4340 lbf-in

2 Type

Code	
<blank>	IP67, Dust-tight, weather-tight, Type 4 / 4x
X	IP67, Dust-tight, weather-tight, ATEX II 2 G Ex d IIB T4 Gb [explosion proof]
W	IP68, Dust-tight, water-tight, Type 4 / 4X / 6

3 Voltage

Code	
A	120 Vac / 1PH
B	220 Vac / 1PH
D	24 Vdc
E	380 Vac / 3PH
F	440 Vac / 3PH

4 Service & Control Type (Card)

Code	
4N	Full Featured Local Control Unit - Selection #9 (LCU) is N1 to N3M.

Open / Close (On-Off):

Standard

1A	On / Off, 2-Position Control (All Voltages)

With Motor Interface

1B	AC Motor Interface with speed control [120 Vac]
1C	AC Motor Interface with speed control [220 Vac]
1K	AC Motor Interface with speed control [3-phase]

With Motor Starter

1E	Integral Motor Starter, Latching type [3-phase]
1M	Integral Motor Starter, Non-Latching type [3-phase]

Modulating:

Digital Controller

2A	High-Resolution Controller, analog (Vdc or mA) or digital signal [120Vac]
2B	High-Resolution Controller, analog (Vdc or mA) or digital signal [220Vac]
2D	High-Resolution Controller, analog (Vdc or mA) or digital signal [3-phase]
2E	High-Resolution Controller, analog (Vdc or mA) or digital signal [24Vdc]
3A	High-Resolution Controller, analog 0-135 Ohm slidewire signal [120Vac]
3B	High-Resolution Controller, analog 0-135 Ohm slidewire signal [220Vac]
3D	High-Resolution Controller, analog 0-135 Ohm slidewire signal [3-phase]
3E	High-Resolution Controller, analog 0-135 Ohm slidewire signal [24Vdc]

5 Auxiliary Limit Switches (ALS)

Code	
A1	Standard: 1-Set Auxiliary Switches (2-switches, Dry Contacts) NOTE: Use code A1 when selecting Full Featured Local Control Unit - Selection #9 (LCU) is N1 to N3M.
A0	Special: No Auxiliary Limit Switches
A2	2-sets Auxiliary Limit Switches (4-switches, Dry Contacts) [Service Code & Control Type 1A, 1E, 1M Only]

(Continued on next page)

How to Order Series ESR (Continued)

6 Position Feedback

Code	
<blank>	None. No Position Feedback. **NOTE:** If selecting Full Featured Local Control Unit, USE THIS CODE. [See Local Control/Local Override, codes N1 to N3M

Potentiometer – Feedback

B	Potentiometer Feedback, 1000 Ohm (On / Off only)

Transmitter – Position Feedback

On / Off Configurations (Service & Control Type 1A to 1M)

C	Position Feedback Transmitter, 4–20mA
D	Position Feedback Transmitter, 0–5 or 0–10v
E	Position Feedback Transmitter, 4–20mA, 2–wire Loop Powered

Modulating, High–Resolution Controller Feedback

G	Position Feedback Transmitter, 4–20 mA / 0–10 Vdc [for Vac Digital Controllers only]
H	Position Feedback Transmitter, 4–20mA Loop Powered [for all Digital Controllers]
J	Position Feedback Transmitter with Relays, 4–20 mA / 0–10 Vdc [for Vac Digital Controllers only]
K	Position Feedback Transmitter with Relays, 4–20mA Loop Powered [for all Digital Controllers]

Modulating, High–Resolution Controller Communication

L	Modbus Option Module [all voltages]

7 Repeat Cycle Timer

Code	
<blank>	None. No Repeat Cycle Timer. **NOTE:** If selecting Full Featured Local Control Unit, USE THIS CODE. [See Local Control/Local Override, codes N1 to N3M.
K	Repeat Cycle Timer (On / Off Service ... code 1A Only); 120 & 220V 1–Phase

8 Temperature

Code	
<blank>	Standard: -4°F to 131°F (-20°C to 55°C)
L4	Low Temp -40°F to 131°F (-40°C to 55°C)
L6	Low Temp -76°F to 131°F (-60°C to 55°C)

9 Local Control Unit / Local Override – Mounted to Actuator

Code	
<blank>	None. No Local Control Unit. No LCU.

Standard LCU: IP67

M1	• For use with standard IP67 actuator [Type–Blank] • Vac only • If Modulating, High–Resolution Controller required. Enter modulating service code. [See "SERVICE & CONTROL TYPE (card)"]

Full Featured Local Control Units:

- ▷ LCD Display
- ▷ Cycle counter
- ▷ Auto–calibration, including limits
- ▷ Phase Protection / Detection

NOTE: "Service & Control Type" = code 4N

Open–Close / On–Off

N1	• IP67. For use with standard actuator (Type = blank) • Vac only
N2	• Explosion Proof, ATEX II 2 G Ex d IIB T4. For use with Type "X" actuator • Vac only
N3	• IP68. For use with Type "W" actuator • Vac only

Modulating

N1M	• Includes modulation and feedback package • IP67. For use with standard actuator (Type = Blank) • Vac only
N2M	• Includes modulation and feedback package • Explosion Proof. For use with "X" type actuator • Vac only
N3M	• Includes modulation and feedback package • IP68. For use with "W" type actuator • Vac only (except 24 Vac)

10 Suffix–2

Code	
<blank>	None

11 Fail Mode

Code	
CW	Clockwise
CCW	Counter Clockwise

Note:
Responsibility for proper selection, use and maintenance of any product remains solely with the purchaser and end user.
We reserve the right to modify or improve the designs or specifications of any product at any time without notice.

About ASC Engineered Solutions

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