



AEL3 Electric Actuators

Description

The AEL3 is a stepper motor controlled, electric actuator with non-serviceable maintenance free gearbox. For use on DN15-DN50 Spira-trol 2-port valves and on DN15-DN50 QL 3-port valves.

Available types

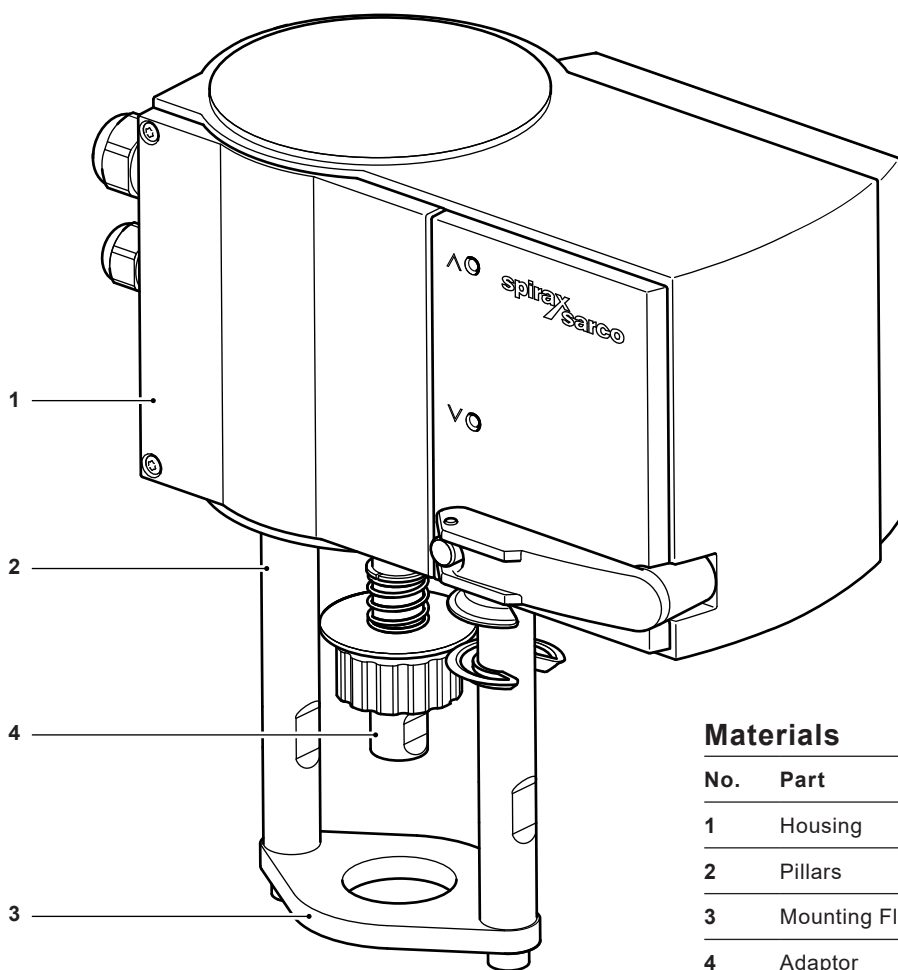
The actuators are available as standard with 24 Vac/dc. 230 Vac and 100-110 Vac modules can be installed into the actuator. The standard version is available for VMD (Valve Motor Drive), 4 - 20 mA or 0 - 10 Vdc input control signals.

Other variants are Spring Extend, Spring Retract and No Spring.

These actuators can be used with the following valves:

Control valves	2-port	Spira-trol™ DN15 to DN50
	3-port	QL valves DN15 to DN50 with centralising ring

Note: For fluid temperatures between 130 °C and 240 °C high temperature extension kits are required.



Materials

No.	Part	Material
1	Housing	Polycarbonate
2	Pillars	Stainless steel
3	Mounting Flange	Stainless Steel
4	Adaptor	Stainless Steel

Technical data

Supply voltage	24 Vac/dc (modules for 230 Vac, 100-110 Vac,) (+/-15%)
Supply frequency	50 Hz/60 Hz/continuous
Maximal power consumption W	12 W (24 Vac/dc) 28 VA (230 and 100-110 Vac)
Note: power consumption is relative to 50/60 Hz/continuous respectively	
Stroke mm (maximum)	20
Actuator speed mm/s (s/mm)	0.5 (Factory set), 0.25 or 0.16 (2, 4 or 6)
Note: Speed is selectable within the actuator.	
Enclosure rating	IP66 EN60529
Actuator thrust kN (maximum)	2
Ambient limits	-10 °C to +55 °C, <95% humidity
Storage temperature	-20 °C to +70 °C
Altitude	≤ 2000 m (6 562 ft) above sea level
Valve control input	VMD: 24 V, 100-110 V or 230 V. Signal: 4 - 20 mA or 0 - 10 Vdc
Active valve position feedback	0 - 10 Vdc; load > 2500 Ohm
Status indication	2 LEDs indicate the status and error
Duty cycle spring return	>40,000 cycles

Optional extras

High temperature extension kits	For fluid temperatures between 130 °C and 185 °C. For fluid temperatures between 185 °C and 240 °C.
Auxiliary switches	
Power modules	For 230 Vac and 100-110 Vac
Split-Range unit	2-10 Vdc input control signal (24 Vdc actuators only)

Approvals

Type of protection IP66 (EN60529)
Protection class III (IEC 60730)

EMC Directive: 2014/30/EU, EN 61000-6-1, EN 61000-6-2, EN 61000-6-4
LV Directive: 2014/35/EU EN 60730-1, EN 60730-2-14

Over-voltage categories III
Degree of contamination III

(UL - UL873)*

(cUL - CSA-C22.2 No. 24-93)*

* **Does not apply** to Auxiliary switches, Split Range Units and Power Modules 230 Vac and 100-110 Vac

Maximum differential pressures

Class IV Shut off, Flow under – Maximum differential pressure for Spira-trol valve with metal seat*

Actuator designation	Min thrust (N)	Theoretical Maximum Differential Pressure (bar)											
		DN15		DN20		DN25		DN32		DN40		DN50	
		PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite
AEL3E	2000	40.0	40.0	40.0	40.0	39.1	31.2	30.7	24.6	11.5	8.8	7.5	5.6
AEL3R													
AEL3X													

* Refer to technical information section for temperature limitations.

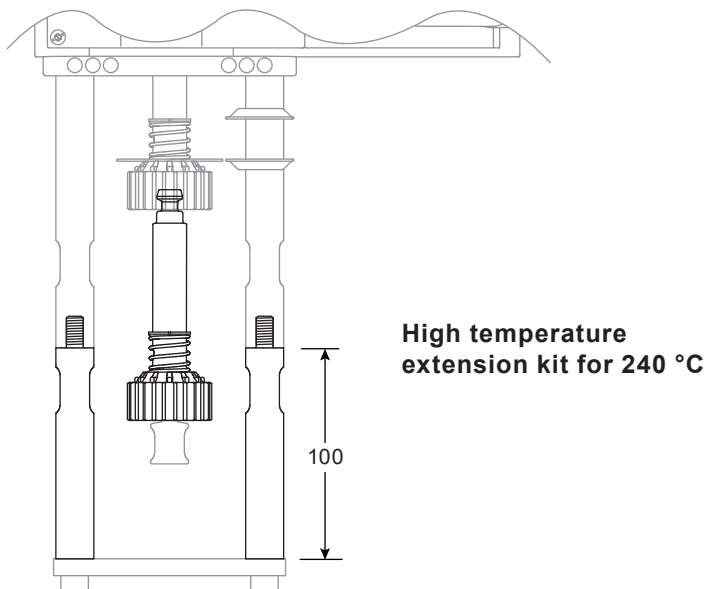
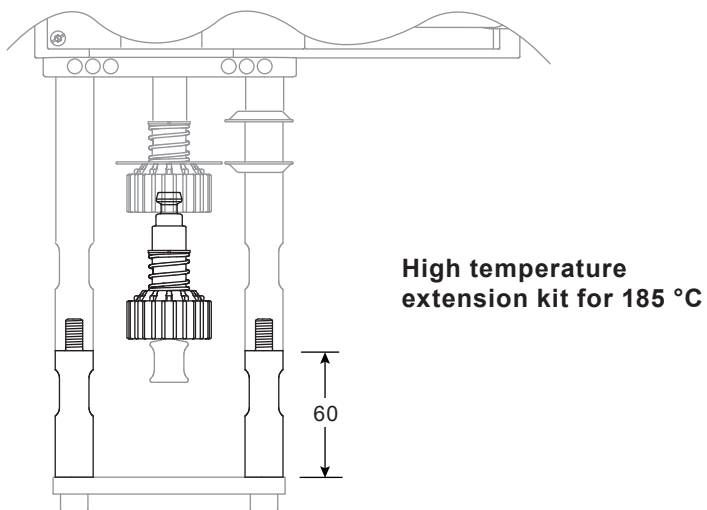
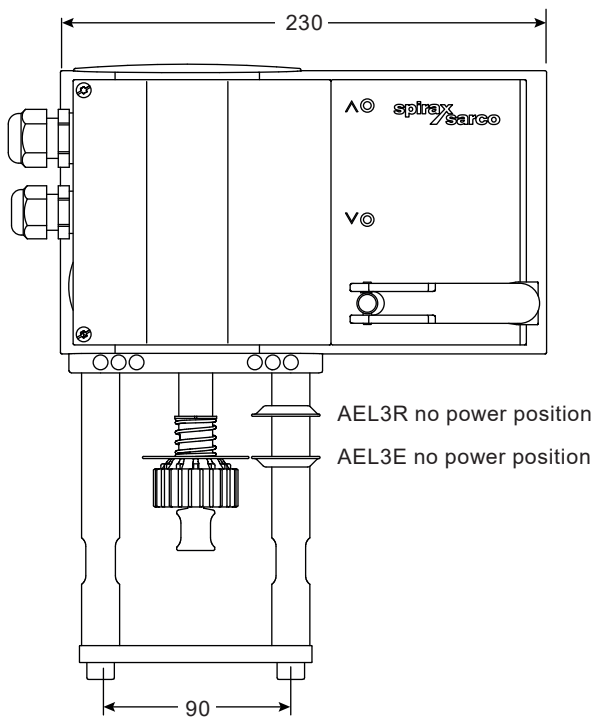
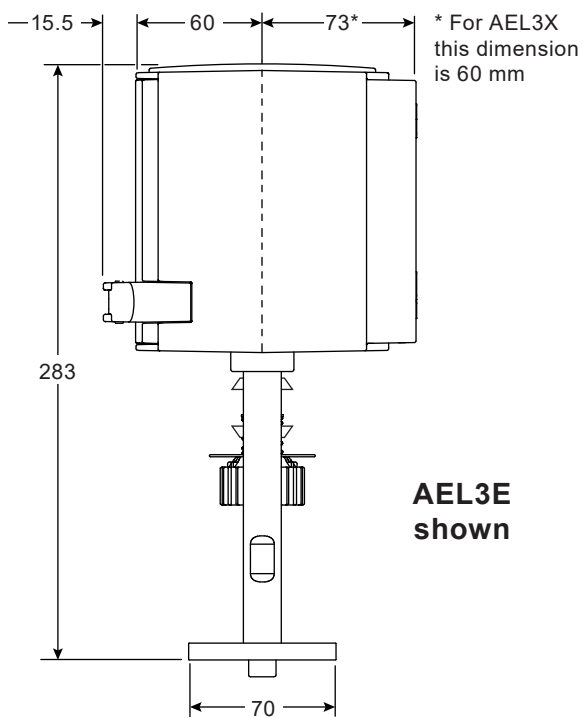
Class VI Shut off, Flow under - Maximum differential pressures for Spira-trol valve - Resilient Seated (P&C)*

Actuator designation	Min thrust (N)	Maximum Differential Pressure (bar)											
		DN15		DN20		DN25		DN32		DN40		DN50	
		PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite
AEL3E	2000	10	10	10	10	10	10	10	10	10	10	10	8.3
AEL3R													
AEL3X													

* Refer to technical information section for temperature limitations

Note: Maximum differential pressure for saturated steam and assumes correct valve pressure class selection. Refer to Spirax Sarco for other liquids or gases

Dimensions (approximate) in mm



Weights (approximate) in kg

AEL3E/AEL3R	5.7
AEL3X	4.2
185 °C kit	0.4
240 °C kit	0.7

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions that are supplied with the product.

AEL3 actuators - Product nomenclature and selection example:

Product	A = Actuator	A	
Type	E = Electric	E	
Movement	L = Linear (Selectable within the actuator)	L	
Series	3	3	
Failure mode	E = Spring extend	E	
	R = Spring retract		
	X = No spring		
Supply voltage		24 Vac/dc	
		230 Vac	
		100-110 Vac	
Selection example	AEL3	E	24 Vac/dc

Customer requirement example:

24 Vac Electric actuator sprung closed for 12 bar steam on DN50 Spira-Trol valve, with additional position switches.

How to order

Example: 1 off Spirax Sarco AEL3E 24 Vac/dc Electric Actuator + 1 off AEL3 Auxiliary Switch + 1 off AEL3 High Temp. Ext. Kit <240°C