

# spirax sarco®

## EL5600 Series Electric Actuator for 1/2" to 4" K & L Series Valves

### Description

The EL5600 series electric actuators are reversible having linear output.

### Available types

The actuators are available with 3 supply variants. 230 Vac, 115 Vac and 24 Vac. The standard version is suitable for VMD (Value Motor Drive) input power signal. If required the actuator can be fitted with a positioner input card that can accept (4 - 20 mA or 2 - 10 Vdc control signals).

The actuators are fitted as standard with 1kΩ potentiometer. This can either be used in conjunction with the positioner for 2 - 10 V or 4-20 mA input signals, or as feedback for VMD. Also available are auxiliary limit switches and anti-condense heater. See TI-P358-06 US for further details on the accessories.

These actuators can be used with the following valves, in conjunction with an appropriate valve adaptor and mounting flange.

#### 2-port — L Series and K Series

**Note:** A mounting flange and valve adaptor is required to mount the actuator to a valve. See the associated tables below.

#### Mounting flange selection

|                       |                  |                 |
|-----------------------|------------------|-----------------|
|                       | EL560_, EL561_,  |                 |
|                       | EL562_, EL563_,  |                 |
|                       | EL564_, Actuator | EL565_ actuator |
| L&K Series 1/2" to 2" | EL5970           | -               |
| L Series 2-1/2" to 4" | EL5971           | -               |
| K Series 2-1/2" to 4" | EL5971           | EL5972          |

### Materials

| No. | Part    | Material          |
|-----|---------|-------------------|
| 1   | Case    | Polycarbonate     |
| 2   | Housing | Die-cast aluminum |

### Valve adaptor selection

| Actuator type             |            | EL560_             | EL561_ | EL562_ | EL563_ | EL564_ | EL565_ |
|---------------------------|------------|--------------------|--------|--------|--------|--------|--------|
| Valve type                | Valve stem | Valve adaptor type |        |        |        |        |        |
| L & K Series 1/2" to 2"   | M8 thread  | EL5901             | EL5911 | EL5921 | EL5931 | EL5941 | -      |
| L & K Series 2-1/2" to 4" | M12 thread | EL5902             | EL5912 | EL5922 | EL5932 | EL5942 | EL5945 |

### Technical data

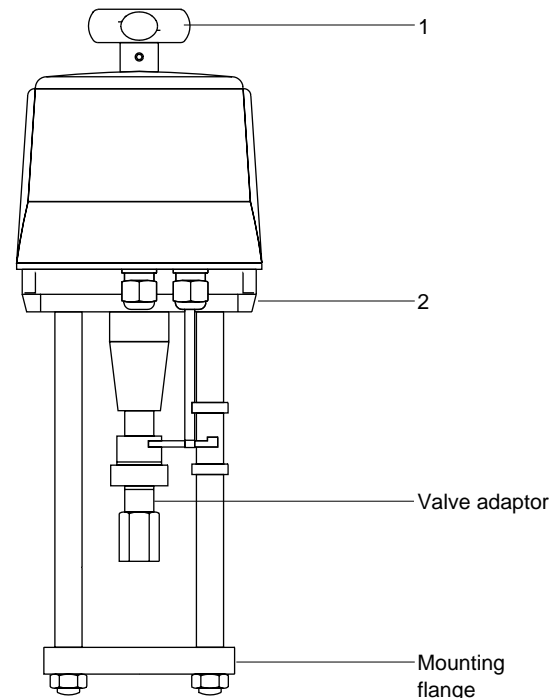
| Model                        | EL560_   | EL561_            | EL562_              | EL563_                            | EL564_            | EL565_            |
|------------------------------|--|-------------------|---------------------|-----------------------------------|-------------------|-------------------|
| Supply voltage               | 230 Vac / 115 Vac / 24 Vac + 10%   |                   |                     |                                   |                   |                   |
| Supply frequency Hz          | 50 / 60  | 50 / 60           | 50 / 60             | 50 / 60                           | 50 / 60           | 50 / 60           |
| Power consumption VA*        | 9.2 / 10.4   | 10.9 / 12.6       | 25 / 27             | 53 / 53<br>(24 V supply is 36 VA) | 78 / 78           | 142 / 142         |
| Enclosure rating             | IP65 (For outdoor installations provide adequate shelter)                            |                   |                     |                                   |                   |                   |
| Actuator speed mm/s          | 0.25   | 0.5               | 0.5                 | 0.5                               | 0.6               | 1.0               |
| Actuator thrust maximum      | .738 ft.lbs (1kN)  | 1.47 ft.lbs (2kN) | 3.3 ft.lbs (4.5 kN) | 5.9 ft.lbs (8kN)                  | 8.8 ft.lbs (12kN) | 18.4 ft. lbs (kN) |
| Ambient limits               | -4° to 140°F (-20 to + 60°C) -4° to 120°F (-20 to +50°C) with positioner card fitted |                   |                     |                                   |                   |                   |
| Motor                        | Asynchronous capacitor reversing motor   |                   |                     |                                   |                   |                   |
| Terminations                 | 1.5 mm <sup>2</sup>  |                   |                     |                                   |                   |                   |
| Manual                       | Handwheel  |                   |                     |                                   |                   |                   |
| Conduit entries              | 2 x PG13   |                   |                     |                                   | 3 x PG16          |                   |
| Positioner power consumption | 1.0 VA   |                   |                     |                                   |                   |                   |

\* Power consumption is relative to 50 / 60 Hz respectively.

TI-P358-07 US 04.01

Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.

In the interests of development and improvement of the product, we reserve the right to change the specification.



# EL5600 Series Electric Actuator

## Approvals

This equipment is CE marked, and conforms to EN 50081-1 and EN 50082-2 (EMC), EN 61010-1/A2 (Safety), following the provisions of directives 89/336/EEC amended by 92/31/EEC and 93/68/EEC (EMC) amended by 93/68/EEC (LVD).

## Actuator selection

| Valve size                                | 1/2" |     | 3/4"        | 1"   | 1-1/4" | 1-1/2" | 2"             | 2-1/2" | 3"  | 4"  |
|---|------|-----|-------------|------|--------|--------|----------------|--------|-----|-----|
| Valve travel                              |      |     | 3/4" (20mm) |      |        |        | 1-3/16" (30mm) |        |     |     |
| K & L Series Cvs<br>equal percentage trim | 0.5  | 1.2 | 7.4         | 11.7 | 18.7   | 29.3   | 42.            | 74     | 117 | 187 |
|   | 1.9  | 4.7 |             |      |        |        |                |        |     |     |

| Valve type                        | Actuator type | Voltage | Maximum closing pressures in psi |           |           |           |           |           |           |           |          |
|-----------------------------------|---------------|---------|----------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
|                                   |               |         | 1/2"                             | 3/4"      | 1"        | 1-1/4"    | 1-1/2"    | 2"        | 2-1/2"    | 3"        | 4"       |
| L<br>2-port<br>and<br>K<br>2-port | EL5601        | 230     | 580 (355)                        | 440 (195) | 265 (110) | 135 (50)  | 75 (25)   | 40 (10)   | 15 (0)    | 8 (0)     | 4 (0)    |
|                                   | EL5602        | 115     | 580 (355)                        | 440 (195) | 265 (110) | 135 (50)  | 75 (25)   | 40 (10)   | 15 (0)    | 8 (0)     | 4 (0)    |
|                                   | EL5603        | 24      | 580 (355)                        | 440 (195) | 265 (110) | 135 (50)  | 75 (25)   | 40 (10)   | 15 (0)    | 8 (0)     | 4 (0)    |
|                                   | EL5611        | 230     | 580 (580)                        | 580 (580) | 555 (205) | 285 (205) | 95 (65)   | 50 (30)   | 30 (15)   | 30 (15)   | 15 (10)  |
|                                   | EL5612        | 115     | 580 (580)                        | 580 (580) | 555 (205) | 285 (205) | 175 (120) | 95 (65)   | 50 (30)   | 30 (15)   | 15 (10)  |
|                                   | EL5613        | 24      | 580 (580)                        | 580 (580) | 555 (205) | 285 (205) | 175 (120) | 95 (65)   | 50 (30)   | 30 (15)   | 15 (10)  |
|                                   | EL5621        | 230     | -                                | -         | 580 (580) | 580 (580) | 410 (360) | 235 (205) | 130 (115) | 85 (75)   | 55 (45)  |
|                                   | EL5622        | 115     | -                                | -         | 580 (580) | 580 (580) | 410 (360) | 235 (205) | 130 (115) | 85 (75)   | 55 (45)  |
|                                   | EL5623        | 24      | -                                | -         | 580 (580) | 580 (580) | 410 (360) | 235 (205) | 130 (115) | 85 (75)   | 55 (45)  |
|                                   | EL5631        | 230     | -                                | -         | -         | -         | 589 (580) | 430 (390) | 250 (235) | 165 (155) | 105 (95) |
| EL5632                            | 115           | -       | -                                | -         | -         | 589 (580) | 430 (390) | 250 (235) | 165 (155) | 105 (95)  |          |
| EL5633                            | 24            | -       | -                                | -         | -         | 589 (580) | 430 (390) | 250 (235) | 165 (155) | 105 (95)  |          |
| EL5641                            | 230           | -       | -                                | -         | -         | -         | 580 (580) | 385 (370) | 255 (245) | 165 (155) |          |
| EL5642                            | 115           | -       | -                                | -         | -         | -         | 580 (580) | 385 (370) | 255 (245) | 165 (155) |          |
| EL5643                            | 24            | -       | -                                | -         | -         | -         | 580 (580) | 385 (370) | 255 (245) | 165 (155) |          |
| EL5651                            | 230           | -       | -                                | -         | -         | -         | -         | 580 (580) | 550 (535) | 355 (350) |          |
| EL5652                            | 115           | -       | -                                | -         | -         | -         | -         | 580 (580) | 550 (535) | 355 (350) |          |
| EL5653                            | 24            | -       | -                                | -         | -         | -         | -         | 580 (580) | 550 (535) | 355 (350) |          |

Notes: \*LEA maximum  $\Delta P$  is 200 psi

\*Differential pressures shown in brackets ( ) are for a valve with graphite (H) stem sealing. Actuators should be sized against  $C_{VS}$  rather than valve size.

## Selection example

|                     |                         |
|---------------------|-------------------------|
| Control valve       | 1/2" KEA43 2 port valve |
| Maximum $\Delta P$  | 200 psi                 |
| electrical supply   | 230 Vac                 |
| Control signal      | 4 - 20 mA               |
| Actuator selected   | EL5601                  |
| Positioner required | EL5961                  |
| Valve adaptor       | EL5901                  |
| Mounting flange     | EL5970                  |

## Dimensions and weights

approx. in inches & pounds (mm & kg)

| Model | A          | B         | C          | Weight      |
|-------|------------|-----------|------------|-------------|
| EL560 | 18.1 (460) | 6.9 (177) | 5.4 (138)  | 9.9 (4.5)   |
| EL561 | 18.1 (460) | 6.9 (177) | 5.4 (138)  | 10.5 (4.8)  |
| EL562 | 18.1 (460) | 6.9 (177) | 5.4 (138)  | 11.4 (5.2)  |
| EL563 | 19.9 (605) | 6.9 (177) | 5.9 (150)  | 15.4 (7.0)  |
| EL564 | 22.4 (569) | 8.8 (225) | 9.0 (231)  | 22.0 (10.0) |
| EL565 | 31.7 (807) | 8.9 (227) | 11.0 (280) | 44.0 (20.0) |

