



The art of power and perfection



**PNEUMATIC ACTUATORS**









The art of power and perfection

ACTREG, established in 1992, is a multinational company specialised in the manufacture and sales of high quality actuators for valves requiring a rotary quarter turn movement for either On/Off or modulating duty. The expertise and know how has made ACTREG leaders in actuation technology.



ACTREG provides world coverage thanks to the strategic locations of its factories and offices. The international distribution secures quick availability and more important, personalized service for valve manufacturers, valve stockists and contractors.

ESTABLISHED IN

**1992**

INTERNATIONAL

**Distribution**

DESIGN &

**Quality**

PERSONALIZED

**Service**



The art of power and perfection

RACK AND PINION  
**Aluminium housing**

TORQUES UP TO  
**6,500 Nm**

ACTUATORS IN  
**14 different sizes**

We are a manufacturer of rack and pinion aluminium housing actuators with torque figures up to 6,500 Nm and scotch yoke actuators for heavy duty service up to 250,000 Nm. Our products offer reliable and dependable service for ¼ turn valves.

Engineered and built to withstand most of the applications and environmental conditions, the precision in design and quality provides a long and safe operational performance in valve control.

ACTREG has invested in quality assurance, state-of-the-art machining and testing facilities in order to assist customers in safely controlling their processes.

ACTREG engineers are happy to help you with your automation demands.



# The art of power and



SCOTCH YOKE  
**Heavy duty service**

TORQUES UP TO  
**250,000 Nm**

ACTUATORS IN  
**25 different sizes**

## Certificates

ACTREG, S.A. has a quality Management System certified in accordance with the requirements of ISO 9001:2008 for the design, development, manufacturing and distribution of pneumatic actuators and accessories for valves. Certified by BVQI No. ESPMDD005463.

ADA/ASR 10 up to ADA/ASR 300 are classified as category SEP in accordance with the requirements of Pressure Equipment Directive 97/23/EC. ADA/ASR 500 up to ADA/ASR 4000 are classified as Category I, Procedure module A.

All ACTREG pneumatic actuators are classified for use in potentially explosive atmospheres as Group II Category 2, suitable for zones 1, 2, 21 and 22 in accordance with Annex VIII of Directive 94/9/CE (ATEX). Technical file is deposited in LCIE, No. LCIE 05 AR 022.

ACTREG pneumatic actuators have got SIL 3 (Safety integral level 3) certificate. The ACTREG actuators meet manufacturer design process requirements of Safety integral Level (SIL) 3. This is intended to achieve sufficient integrity against systematic errors of design by the manufacturer.



# perfection



# MAIN FEATURES & CHARACTERISTICS

## 1 BODY

The aluminium body is inside and outside coated with hard anodizing, with extremely abrasion resistance, low surface roughness and optimal resistance.

## 2 PINION

Carbon steel shaft electroless nickel plated against external and internal corrosion. Anti-blowout design.

## 3 ADJUSTMENT STROKE

External stroke adjustment for 5 degrees regulation, placed on the opposite side of Namur connection for better manipulation when the solenoid valve is assembled.

## 4 PISTONS

Pistons are coated with special treatment for corrosion resistance. Backlash is avoided by a special tooth machining. The pistons have a 3 way guide for low friction between body and pistons. The pistons are also provided with an integral guide machined between pistons and pinion.

## 5 POSITION INDICATOR

Multi-function indicator suitable for mechanical or inductive switches is a standard feature. Many different combinations without the need to buy external indicators.

## 6 SPRINGS

Pre-stressed springs offers more torque and different options for their positioning. This system allows us to easily fit the necessary torque to close or open the valve, offering a total safety replacement and manipulation.

## 7 END CAPS

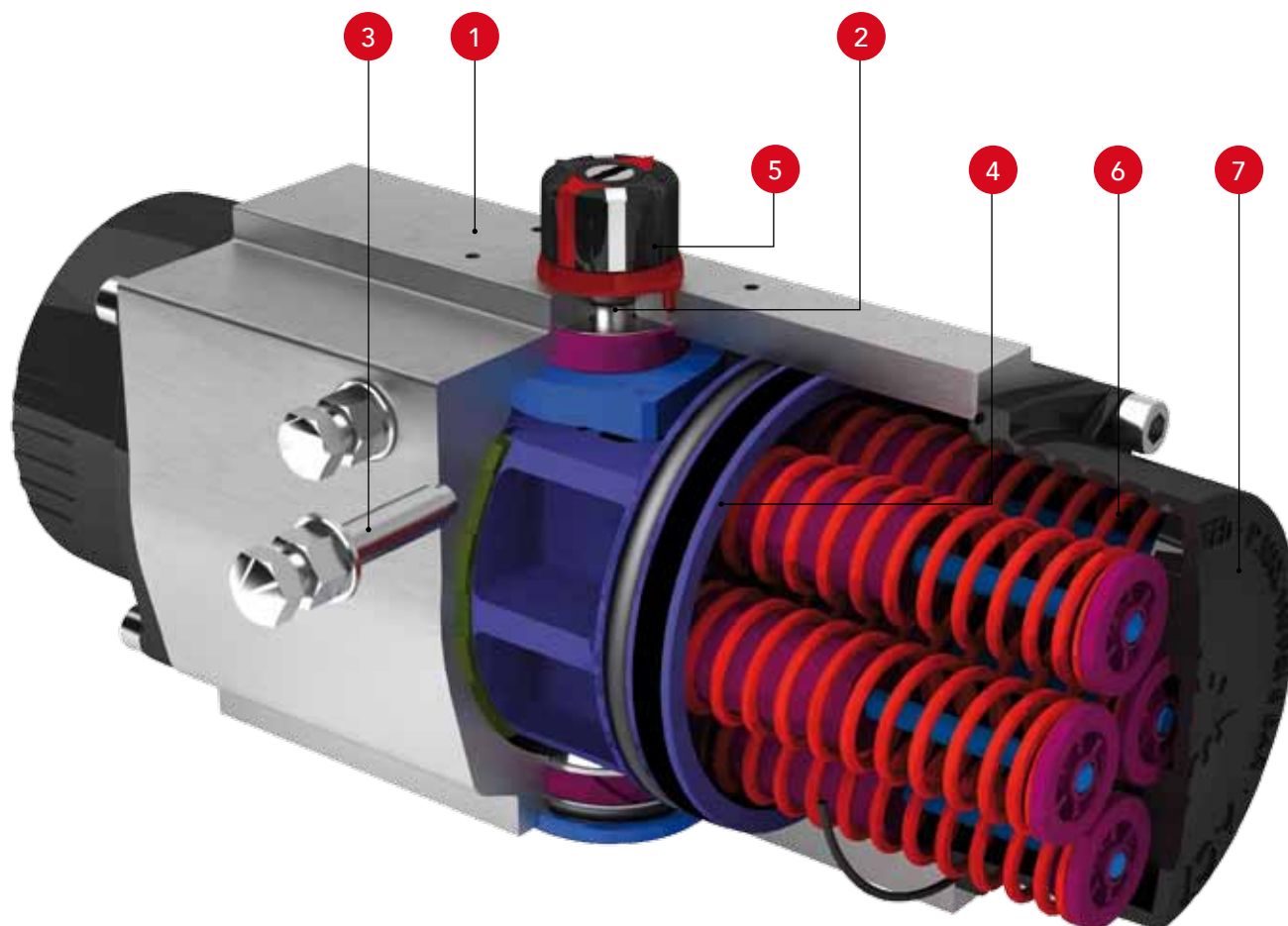
Different end caps for double or single acting for fast and safety identification without the need to read the label. End caps are epoxy coated as standard protecting them against environment corrosion.



Every single actuator is tested and provided with a unique serial number for traceability. This heat number is stamped on the body.



The assembly of switch boxes, proximity switches or positioners, takes place by means of the Namur connection VDI/VDE 3845, which is a standard feature in all our models. The height of the axis to fulfil this Norm is of 30 mm, for all our products, with which it entails that with a single model of Box or positioner, we can cover all our manufacturing range.



## Types of Actuators

### Double Acting & Spring Return



**ADA**  
DOUBLE  
ACTING  
ACTUATOR



**ASR**  
SPRING  
RETURN  
ACTUATOR

Rack and pinion design | Linear torque | Rotation angle  $90^\circ \pm 5^\circ$  | Antifriction sliding bearings | Long life without maintenance | Total safety for springs replacement | Mounting of solenoid valves acc. NAMUR Std. | Mounting of devices acc. NAMUR VDI/VDE 3845 Std. | Coupling according to ISO 5211 and DIN 3337 (Octagonal drive) | Multi-function position indicator suitable for mechanical and inductives direct switches.

#### Working temperature:

-30 °C to 100 °C in Standard Construction.

-15 °C to 150 °C with FKM O-rings (high temperature execution).

-40 °C to 80 °C with Silicone O-rings (low temperature execution).

-55° C to 80° C with Silicone O-rings and 316 pinion (extreme low temperature).

#### Maximum working pressure:

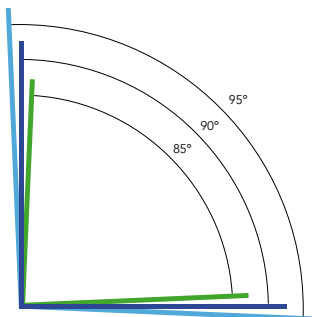
8 bar (116 psig). (Except ADA10 at 10 bar)

## Bi-Directional Travel Stops

ACTREG pneumatic actuators are provided with bi-directional pinion travel stops.

Side located stops allow a full  $\pm 5^\circ$  travel adjustment between  $85^\circ$  and  $95^\circ$ . These travel stops are designed to absorb the maximum rated torque of the actuator and the maximum impact loads associated with recommended travel speed.

Adjustment of the counterclockwise and clockwise rotation limits is accomplished by unscrewing the locking nuts, turning the respective left and right stop studs to reduce or increase the travel angle and screwing the locking nuts.



## Options On Request

- Stainless steel pinion (grade 304 and 316).
- Fast acting actuators.
- Actuators with 100% travel adjustment stroke.
- Actuators fire proof (K-mass, blanket, other executions,...).

## Coatings for special applications

Actreg Pneumatic actuators shall be protected against external corrosion resistant by proper material selection or surface treatment.

Actreg coatings are according to EN 15714-3 and are indicated to:

#### Standard execution

Anticorrosive C3 according EN-ISO 12944-2

| PARTS & PROTECTION | DESCRIPTION        | COATING               |
|--------------------|--------------------|-----------------------|
| BODY               | Hard anodized      | 25 - 30 $\mu\text{m}$ |
| END CAPS           | Epoxy painted      | 80 - 90 $\mu\text{m}$ |
| STEM               | Carbon steel + ENP | 25 - 30 $\mu\text{m}$ |

#### Execution A1

Anticorrosive C5-I according to EN-ISO 12944-2

| PARTS & PROTECTION | DESCRIPTION   | COATING               |
|--------------------|---------------|-----------------------|
| BODY               | Epoxy painted | 80 - 90 $\mu\text{m}$ |
| END CAPS           | Epoxy painted | 80 - 90 $\mu\text{m}$ |
| STEM               | SS 304        |                       |

#### Execution A2

Anticorrosive C5-M according to EN-ISO 12944-2

| PARTS & PROTECTION | DESCRIPTION   | COATING               |
|--------------------|---------------|-----------------------|
| BODY               | Epoxy painted | 80 - 90 $\mu\text{m}$ |
| END CAPS           | Epoxy painted | 80 - 90 $\mu\text{m}$ |
| STEM               | SS 316        |                       |

#### Execution B

Anticorrosive C4 according to EN-ISO 12944-2

| PARTS & PROTECTION | DESCRIPTION        | COATING               |
|--------------------|--------------------|-----------------------|
| BODY               | Epoxy painted      | 80 - 90 $\mu\text{m}$ |
| END CAPS           | Epoxy painted      | 80 - 90 $\mu\text{m}$ |
| STEM               | Carbon steel + ENP | 25 - 30 $\mu\text{m}$ |

#### Execution C

Anticorrosive C5-I according to EN-ISO 12944-2

| PARTS & PROTECTION | DESCRIPTION         | COATING               |
|--------------------|---------------------|-----------------------|
| BODY               | Hard anodized + ENP | 25 - 30 $\mu\text{m}$ |
| END CAPS           | ENP                 | 80 - 90 $\mu\text{m}$ |
| STEM               | Carbon steel + ENP  | 25 - 30 $\mu\text{m}$ |

## Multi-function position indicator



Inductive switch indicating open or closed position



Mechanical switches indicating open and close



Inductive switches indicating open and closed position



Namur connection for direct mounting switch box



Inductive switches indicating open and closed position (45° detecting switches...)

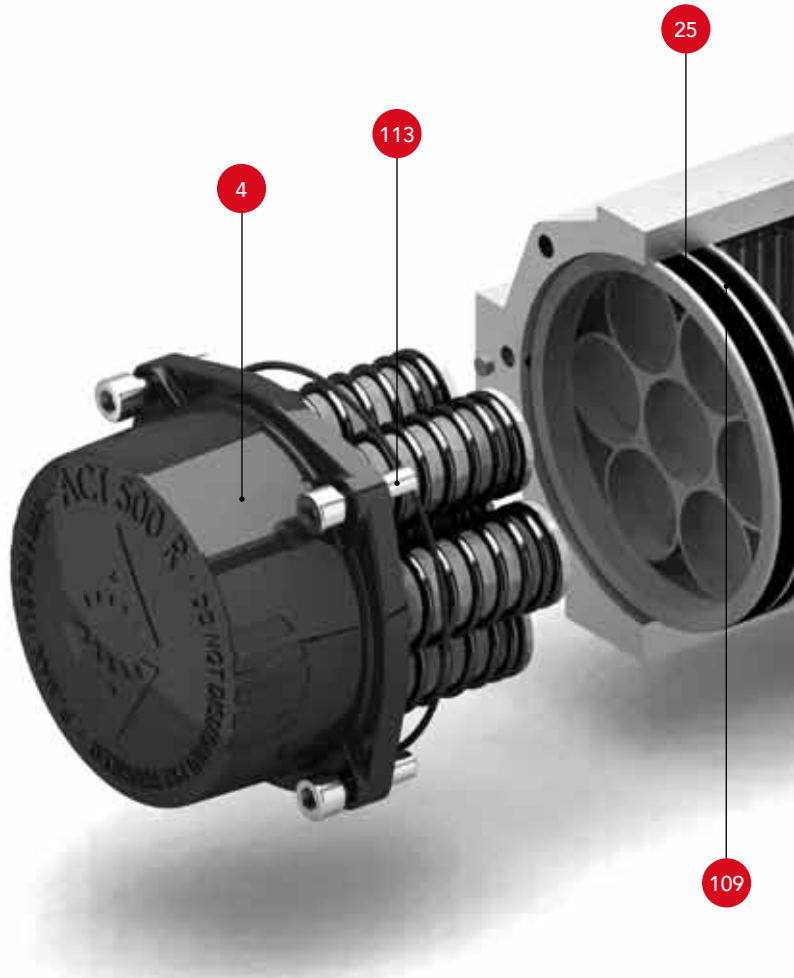


Inductive switches indicating open and closed position (up/down detecting switches...)

# PARTS & MATERIALS

- 1 Body  
Aluminium Hard Anodized
- 2 Piston  
Aluminium
- 3 Pinion  
Nickel Plated Carbon Steel
- 4 End Caps  
Aluminium Epoxy Coated
- 5 Soft Pinion Washer \*  
Polyamide PA 6,6
- 6 Slide Piston \*  
Polyamide PA 6,6 + 30% G.F.
- 7 Lug \*\*  
Nickel Plated Carbon Steel
- 8 Pinion Washer  
Stainless Steel
- 10 Upper Pinion Bearing  
Polyamide PA 6,6 Size 500  
& greater in Reinforced Br.
- 12 Stop  
ASTM A 105
- 14 Spring's Long Support  
Polyamide PA 6,6
- 15 Spring's Short Support  
Polyamide PA 6,6
- 16 Leveling Screw  
Stainless Steel
- 18 Bolt  
Stainless Steel
- 19 Spring  
DIN 2076 · D-5.6
- 20 Position Indicator  
Polypropylene
- 21 Cam  
Polypropylene
- 23 Centering Ring  
Nickel Plated Carbon Steel
- 25 Slide Guide \*  
Polyamide PA 6,6 + 30% G.F.
- 26 Lower Pinion Bearing \*  
Polyamide PA 6,6
- 41 Stop Washer Pinion \*\*  
Stainless Steel
- 109 O-Ring \*  
NBR
- 110 O-Ring \*  
NBR

## SPRING RETURN ACTUATOR (ASR)



- 111 O-Ring \*  
NBR
- 113 Bolt  
Stainless Steel
- 118 O-Ring \*  
NBR
- 119 O-Ring \*  
NBR
- 125 Washer  
Stainless Steel
- 471 Slip Washer \*  
Stainless Steel
- 934 Nut  
Stainless Steel
- 985 Nut  
Stainless Steel

## POSITION INDICATOR

FROM SIZE 20 TO 850



Inserts  
Stainless Steel

FROM SIZE 1200 TO 4000



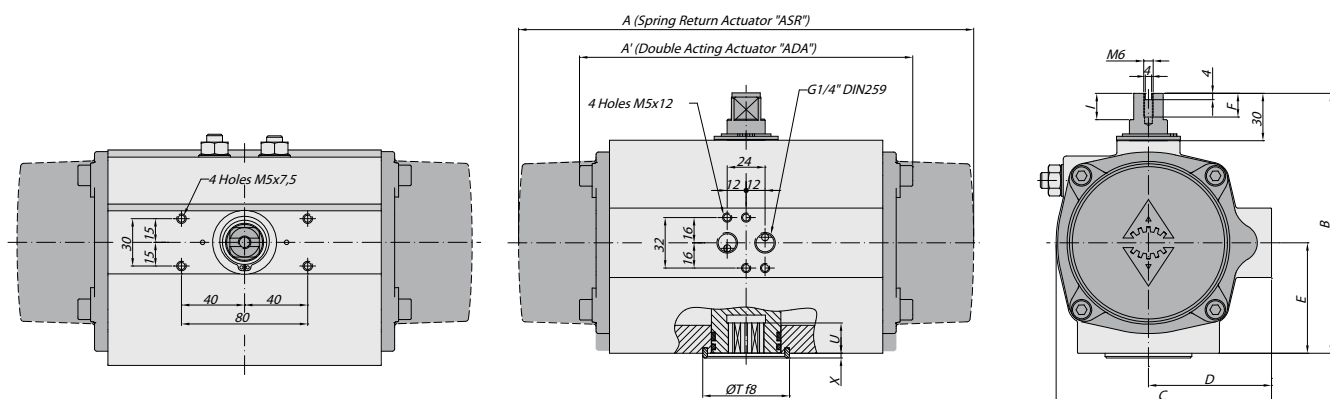
Position indicator & Cams  
Polypropylene



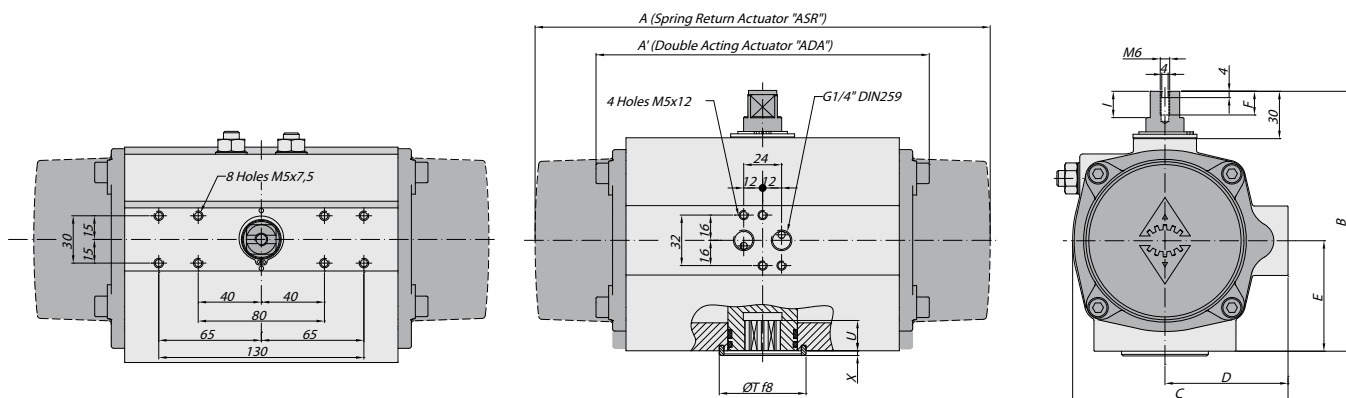


# GENERAL DIMENSIONS

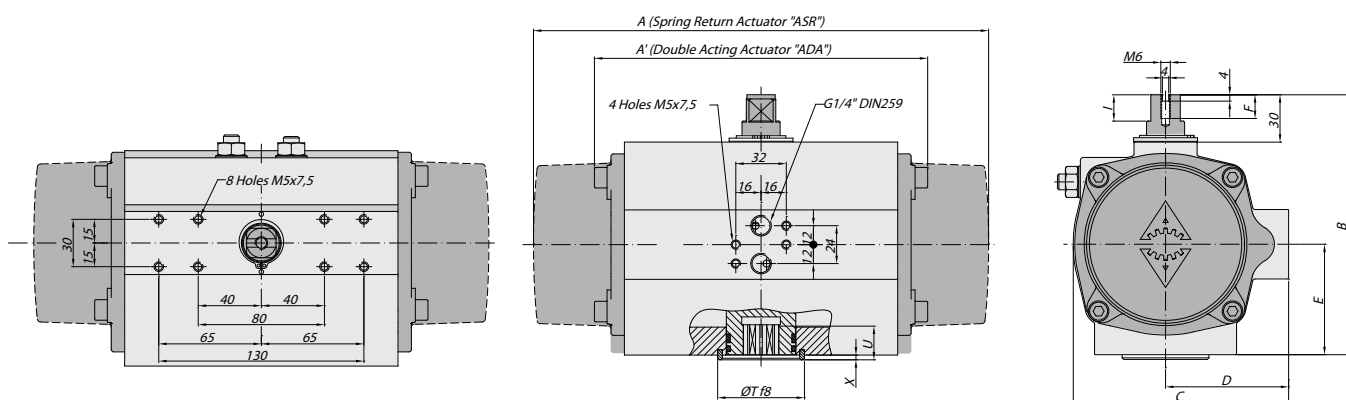
**SIZES** 10 | 20 | 40 | 80 | 130 | 200 | 300 | 500 | 850



**SIZES** 1200 | 1750



**SIZES** 2100

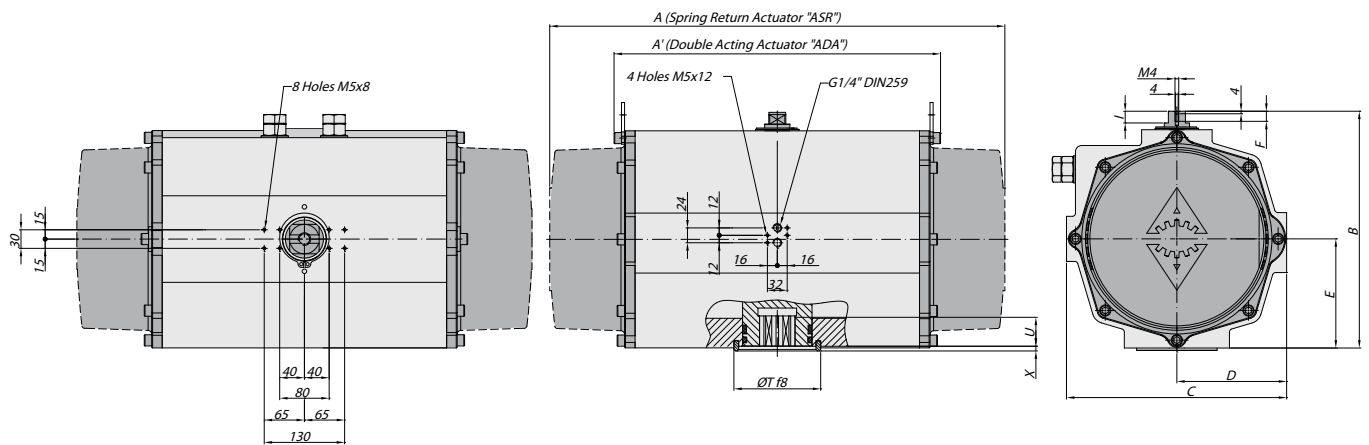


## DOUBLE ACTING & SPRING RETURN ACTUATORS GENERAL DIMENSIONS in mm

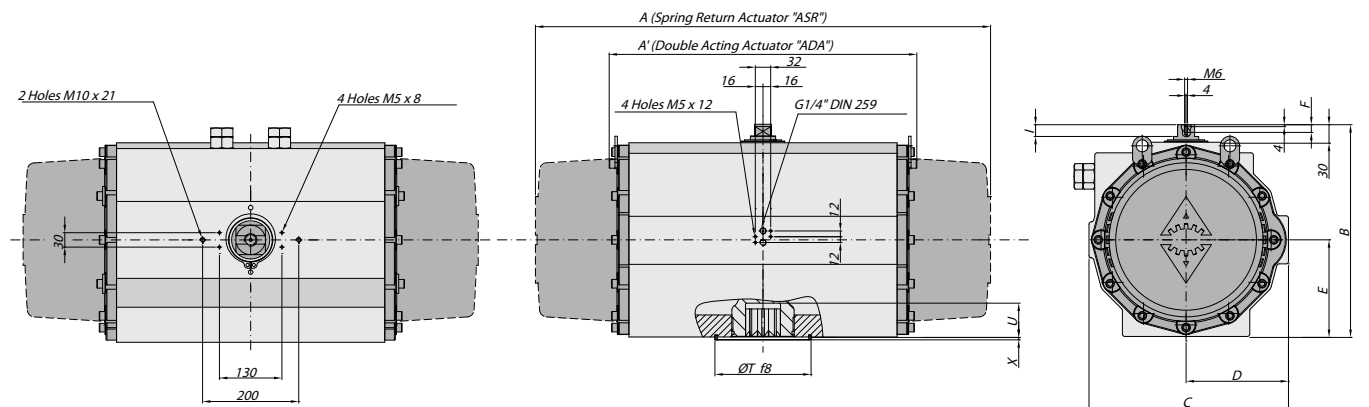
| SIZE | A   | A'  | B   | C     | D  | E  | F  | I    | R  | øS   | ISO 5211 | øL | MxV   | ISO 5211 | øL1 | M1xV1  | øT | X | U  |
|------|-----|-----|-----|-------|----|----|----|------|----|------|----------|----|-------|----------|-----|--------|----|---|----|
| 10   | -   | 100 | 76  | 56    | 33 | 23 | 9  | 6    | 9  | 12.5 | F03      | 36 | M5x8  | -        | -   | -      | 11 | 2 | 12 |
| 20   | 163 | 145 | 96  | 76    | 48 | 34 | 9  | 12.5 | 9  | 12.5 | F03      | 36 | M5x8  | F05      | 50  | M6x10  | 25 | 2 | 10 |
| 20   | 163 | 145 | 96  | 76    | 48 | 34 | 9  | 12.5 | 14 | 18.1 | F05      | 50 | M6x10 | -        | -   | -      | 35 | 3 | 12 |
| 20   | 163 | 145 | 96  | 76    | 48 | 34 | 9  | 12.5 | 14 | 18.1 | F04      | 42 | M5x10 | -        | -   | -      | 35 | 3 | 12 |
| 40   | 195 | 158 | 115 | 91    | 56 | 45 | 9  | 12.5 | 14 | 18.1 | F04      | 42 | M5x10 | -        | -   | -      | 35 | 3 | 12 |
| 40   | 195 | 158 | 115 | 91    | 56 | 45 | 9  | 12.5 | 14 | 18.1 | F05      | 50 | M6x10 | -        | -   | -      | 35 | 3 | 12 |
| 80   | 217 | 177 | 137 | 111   | 66 | 55 | 12 | 12.5 | 17 | 22.5 | F05      | 50 | M6x10 | F07      | 70  | M8x16  | 55 | 3 | 19 |
| 130  | 258 | 196 | 147 | 122   | 71 | 60 | 12 | 12.5 | 17 | 22.5 | F05      | 50 | M6x10 | F07      | 70  | M8x16  | 55 | 3 | 22 |
| 200  | 299 | 225 | 165 | 135.5 | 78 | 70 | 12 | 12.5 | 17 | 22.5 | F07      | 70 | M8x16 | F10      | 102 | M10x16 | 55 | 3 | 23 |



## SIZES 2500



## SIZES 4000



## ISO 5211 DETAIL

### SIZES

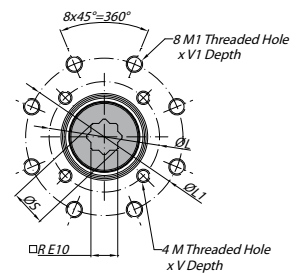
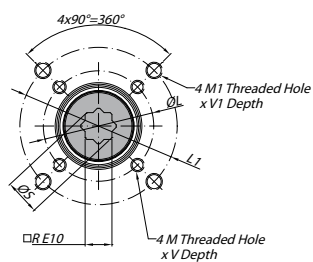
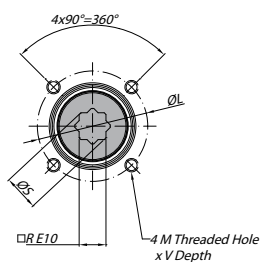
10 | 20 | 40 | 500 | 1750 | 2100 | 2500

### SIZES

20 | 80 | 130 | 200 | 300 | 850 | 1200

### SIZES

4000



## DOUBLE ACTING & SPRING RETURN ACTUATORS GENERAL DIMENSIONS in mm

| SIZE | A     | A'  | B   | C     | D     | E     | F  | I    | R  | øS   | ISO 5211 | øL  | MxV    | ISO 5211 | øL1 | M1xV1  | øT  | X | U  |
|------|-------|-----|-----|-------|-------|-------|----|------|----|------|----------|-----|--------|----------|-----|--------|-----|---|----|
| 300  | 348.5 | 273 | 182 | 152.5 | 86    | 80    | 12 | 12.5 | 22 | 28.5 | F07      | 70  | M8x16  | F10      | 102 | M10x16 | 70  | 3 | 24 |
| 500  | 397   | 304 | 199 | 173   | 96    | 85    | 12 | 12.5 | 22 | 28.5 | F10      | 102 | M10x16 | -        | -   | -      | 70  | 3 | 32 |
| 850  | 473   | 372 | 221 | 191.5 | 106   | 98    | 12 | 12.5 | 27 | 36.5 | F10      | 102 | M10x17 | F12      | 125 | M12x20 | 85  | 3 | 39 |
| 1200 | 560   | 439 | 249 | 212.5 | 116   | 114   | 16 | 18.6 | 36 | 48.5 | F10      | 102 | M10x17 | F14      | 140 | M16x26 | 100 | 4 | 48 |
| 1750 | 601   | 461 | 280 | 242.5 | 131   | 130   | 16 | 18.6 | 36 | 48.5 | F14      | 140 | M16x26 | -        | -   | -      | 100 | 4 | 50 |
| 2100 | 702   | 510 | 313 | 276.5 | 148   | 147   | 16 | 18.6 | 46 | 60.1 | F16      | 165 | M20x29 | -        | -   | -      | 130 | 4 | 50 |
| 2500 | 738   | 518 | 383 | 356   | 177.5 | 176.5 | 16 | 18.6 | 46 | 60.2 | F16      | 165 | M20x29 | -        | -   | -      | 130 | 4 | 58 |
| 4000 | 940   | 630 | 434 | 415   | 213   | 201   | 16 | 18.6 | 55 | 72.5 | F16      | 165 | M20x30 | F25      | 254 | M16x30 | 200 | 4 | 60 |

## DOUBLE ACTING ACTUATOR TORQUE OUTPUT in Nm

| Size | Output torque for double acting in Nm |     |         |     |       |     |         |     |       |     |         |     |       |     |         |     |       |     |       |     | Weight<br>(kg) |        |       |
|------|---------------------------------------|-----|---------|-----|-------|-----|---------|-----|-------|-----|---------|-----|-------|-----|---------|-----|-------|-----|-------|-----|----------------|--------|-------|
|      | 3 bar                                 |     | 3,5 bar |     | 4 bar |     | 4,5 bar |     | 5 bar |     | 5,5 bar |     | 6 bar |     | 6,5 bar |     | 7 bar |     | 8 bar |     |                | 10 bar |       |
|      | 0°                                    | 90° | 0°      | 90° | 0°    | 90° | 0°      | 90° | 0°    | 90° | 0°      | 90° | 0°    | 90° | 0°      | 90° | 0°    | 90° | 0°    | 90° |                | 0°     | 90°   |
| 10   | 6                                     |     | 8       |     | 9     |     | 10      |     | 11    |     | 11.5    |     | 12    |     | 12      |     | 13    |     | 14    |     | 15             |        | 0.64  |
| 20   | 9.7                                   |     | 11.4    |     | 13    |     | 14.6    |     | 16.2  |     | 17.8    |     | 19.5  |     | 21.1    |     | 23    |     | 26    |     | -              |        | 1.4   |
| 40   | 20.3                                  |     | 23.7    |     | 27.1  |     | 30.5    |     | 33.9  |     | 37.3    |     | 41    |     | 44      |     | 47    |     | 54    |     | -              |        | 2.1   |
| 80   | 38.5                                  |     | 44.9    |     | 51.3  |     | 57.7    |     | 64.1  |     | 70.5    |     | 77    |     | 83      |     | 90    |     | 103   |     | -              |        | 3     |
| 130  | 59.1                                  |     | 68.9    |     | 78.7  |     | 88.6    |     | 98.4  |     | 108.3   |     | 118   |     | 128     |     | 138   |     | 157   |     | -              |        | 3.8   |
| 200  | 88                                    |     | 102     |     | 117   |     | 131     |     | 146   |     | 161     |     | 175   |     | 190     |     | 205   |     | 234   |     | -              |        | 5.6   |
| 300  | 145                                   |     | 170     |     | 194   |     | 218     |     | 242   |     | 267     |     | 291   |     | 315     |     | 339   |     | 388   |     | -              |        | 8.5   |
| 500  | 217                                   |     | 253     |     | 289   |     | 325     |     | 361   |     | 397     |     | 433   |     | 469     |     | 505   |     | 577   |     | -              |        | 11.2  |
| 850  | 359                                   |     | 419     |     | 479   |     | 538     |     | 598   |     | 658     |     | 718   |     | 778     |     | 837   |     | 957   |     | -              |        | 16.9  |
| 1200 | 519                                   |     | 606     |     | 692   |     | 779     |     | 865   |     | 952     |     | 1038  |     | 1125    |     | 1211  |     | 1384  |     | -              |        | 25.8  |
| 1750 | 707                                   |     | 824     |     | 942   |     | 1060    |     | 1178  |     | 1295    |     | 1413  |     | 1531    |     | 1649  |     | 1884  |     | -              |        | 32.5  |
| 2100 | 1086                                  |     | 1267    |     | 1448  |     | 1629    |     | 1810  |     | 1991    |     | 2172  |     | 2353    |     | 2534  |     | 2896  |     | -              |        | 49.7  |
| 2500 | 1730                                  |     | 2019    |     | 2307  |     | 2596    |     | 2884  |     | 3172    |     | 3461  |     | 3749    |     | 4038  |     | 4614  |     | -              |        | 69.6  |
| 4000 | 2408                                  |     | 2809    |     | 3210  |     | 3612    |     | 4013  |     | 4414    |     | 4816  |     | 5217    |     | 5618  |     | 6421  |     | -              |        | 129.4 |

## SPRING RETURN ACTUATOR TORQUE OUTPUT in Nm

| Size | Type Pressure | Output torque for spring return in Nm |      |         |      |       |      |         |      |       |      |         |      |       |      |         |      |       |      | Spring Stroke |      | Weight (kg) |        |           |      |
|------|---------------|---------------------------------------|------|---------|------|-------|------|---------|------|-------|------|---------|------|-------|------|---------|------|-------|------|---------------|------|-------------|--------|-----------|------|
|      |               | 3 bar                                 |      | 3,5 bar |      | 4 bar |      | 4,5 bar |      | 5 bar |      | 5,5 bar |      | 6 bar |      | 6,5 bar |      | 7 bar |      | 8 bar         |      |             |        |           |      |
|      |               | 0°                                    | 90°  | 0°      | 90°  | 0°    | 90°  | 0°      | 90°  | 0°    | 90°  | 0°      | 90°  | 0°    | 90°  | 0°      | 90°  | 0°    | 90°  | 0°            | 90°  |             | END 0° | START 90° |      |
| 20   | S04           |                                       |      | 8       | 5    | 9     | 7    | 11      | 8    | 13    | 10   | 14      | 12   | 16    | 13   | 17      | 15   | 19    | 17   | 22            | 20   | 4           | 7      | 1.51      |      |
|      | S06 A         |                                       |      |         |      |       |      |         |      | 11    | 7    | 12      | 9    | 14    | 10   | 15      | 12   | 17    | 13   | 20            | 17   | 7           | 11     | 1.54      |      |
|      | S08           |                                       |      |         |      |       |      |         |      |       |      | 10      | 5    | 12    | 7    | 14      | 9    | 15    | 10   | 18            | 14   | 9           | 15     | 1.56      |      |
| 40   | S04           | 16                                    | 14   | 20      | 17   | 23    | 20   | 26      | 24   | 30    | 27   | 33      | 30   | 37    | 34   | 40      | 37   | 43    | 41   | 50            | 47   | 5           | 8      | 2.17      |      |
|      | S06           | 14                                    | 10   | 18      | 14   | 21    | 17   | 24      | 20   | 28    | 24   | 31      | 27   | 34    | 30   | 38      | 34   | 41    | 37   | 48            | 44   | 7           | 12     | 2.20      |      |
|      | S08           |                                       |      | 15      | 10   | 19    | 14   | 22      | 17   | 26    | 20   | 29      | 24   | 32    | 27   | 36      | 30   | 39    | 34   | 46            | 41   | 10          | 16     | 2.23      |      |
|      | S10           |                                       |      |         |      |       |      | 20      | 14   | 24    | 17   | 27      | 20   | 30    | 24   | 34      | 27   | 37    | 30   | 44            | 37   | 12          | 20     | 2.26      |      |
|      | S12           |                                       |      |         |      |       |      |         |      | 21    | 13   | 25      | 17   | 28    | 20   | 32      | 24   | 35    | 27   | 42            | 34   | 15          | 24     | 2.29      |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      |       |      | 23      | 13   | 26    | 17   | 30      | 20   | 33    | 24   | 40            | 30   | 17          | 28     | 2.32      |      |
| 80   | S04           | 31                                    | 27   | 38      | 34   | 44    | 40   | 50      | 46   | 57    | 53   | 63      | 59   | 70    | 66   | 76      | 72   | 82    | 78   | 95            | 91   | 9           | 13     | 3.28      |      |
|      | S06           | 27                                    | 21   | 34      | 28   | 40    | 34   | 47      | 41   | 53    | 47   | 59      | 53   | 66    | 60   | 72      | 66   | 79    | 73   | 92            | 86   | 13          | 20     | 3.36      |      |
|      | S08           |                                       |      |         |      | 37    | 29   | 43      | 35   | 49    | 41   | 56      | 48   | 62    | 54   | 69      | 61   | 75    | 67   | 88            | 80   | 17          | 27     | 3.43      |      |
|      | S10           |                                       |      |         |      |       |      | 39      | 29   | 46    | 36   | 52      | 42   | 59    | 49   | 65      | 55   | 71    | 61   | 84            | 74   | 22          | 33     | 3.51      |      |
|      | S12           |                                       |      |         |      |       |      |         |      | 42    | 30   | 48      | 36   | 55    | 43   | 61      | 49   | 68    | 56   | 81            | 69   | 26          | 40     | 3.58      |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      |       |      | 45      | 31   | 51    | 37   | 58      | 44   | 64    | 50   | 77            | 63   | 30          | 47     | 3.65      |      |
| 130  | S06           | 43                                    | 36   | 52      | 46   | 62    | 56   | 72      | 65   | 82    | 75   | 92      | 85   | 102   | 95   | 111     | 105  | 121   | 115  | 141           | 134  | 19          | 27     | 4.40      |      |
|      | S08           |                                       |      | 47      | 38   | 57    | 48   | 67      | 58   | 76    | 68   | 86      | 77   | 96    | 87   | 106     | 97   | 116   | 107  | 135           | 127  | 26          | 36     | 4.50      |      |
|      | S10           |                                       |      |         |      | 51    | 40   | 61      | 50   | 71    | 60   | 81      | 70   | 91    | 80   | 100     | 89   | 110   | 99   | 130           | 119  | 32          | 45     | 4.60      |      |
|      | S12           |                                       |      |         |      |       |      | 56      | 42   | 65    | 52   | 75      | 62   | 85    | 72   | 95      | 82   | 105   | 92   | 124           | 111  | 39          | 54     | 4.70      |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      |       |      | 70      | 54   | 80    | 64   | 89      | 74   | 99    | 84   | 119           | 103  | 45          | 64     | 4.80      |      |
| 200  | S06           | 61                                    | 49   | 76      | 63   | 90    | 78   | 105     | 92   | 119   | 107  | 134     | 122  | 149   | 136  | 163     | 151  | 178   | 166  | 207           | 195  | 31          | 46     | 6.50      |      |
|      | S08           |                                       |      | 67      | 50   | 81    | 65   | 96      | 79   | 111   | 94   | 125     | 109  | 140   | 123  | 154     | 138  | 169   | 152  | 198           | 182  | 42          | 61     | 6.70      |      |
|      | S10           |                                       |      |         |      | 72    | 52   | 87      | 66   | 102   | 81   | 116     | 96   | 131   | 110  | 146     | 125  | 160   | 139  | 189           | 169  | 52          | 77     | 6.90      |      |
|      | S12           |                                       |      |         |      |       |      | 78      | 53   | 93    | 68   | 107     | 83   | 122   | 97   | 137     | 112  | 151   | 126  | 180           | 156  | 63          | 92     | 7.00      |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      |       |      | 99      | 70   | 113   | 84   | 128     | 99   | 142   | 113  | 172           | 143  | 73          | 107    | 7.30      |      |
| 300  | S06           | 102                                   | 75   | 126     | 99   | 151   | 123  | 175     | 148  | 199   | 172  | 223     | 196  | 247   | 220  | 272     | 245  | 296   | 269  | 344           | 317  | 51          | 83     | 9.65      |      |
|      | S08           |                                       |      | 112     | 76   | 136   | 100  | 160     | 124  | 185   | 148  | 209     | 173  | 233   | 197  | 257     | 221  | 281   | 245  | 330           | 294  | 68          | 111    | 9.92      |      |
|      | S10           |                                       |      |         |      | 122   | 76   | 146     | 101  | 170   | 125  | 194     | 149  | 219   | 173  | 243     | 198  | 267   | 222  | 315           | 270  | 85          | 138    | 10.20     |      |
|      | S12           |                                       |      |         |      |       |      | 131     | 77   | 156   | 101  | 180     | 126  | 204   | 150  | 228     | 174  | 253   | 198  | 301           | 247  | 102         | 166    | 10.50     |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      |       |      | 165     | 102  | 190   | 126  | 214     | 151  | 238   | 175  | 287           | 223  | 119         | 193    | 10.80     |      |
| 500  | S06           | 152                                   | 119  | 188     | 155  | 224   | 191  | 260     | 227  | 296   | 263  | 333     | 299  | 369   | 335  | 405     | 371  | 441   | 407  | 513           | 480  | 76          | 115    | 13.33     |      |
|      | S08           | 131                                   | 86   | 167     | 122  | 203   | 158  | 239     | 194  | 275   | 231  | 311     | 267  | 347   | 303  | 383     | 339  | 419   | 375  | 492           | 447  | 101         | 153    | 13.84     |      |
|      | S10           |                                       |      |         |      | 181   | 126  | 217     | 162  | 254   | 198  | 290     | 234  | 326   | 270  | 362     | 306  | 398   | 342  | 470           | 414  | 126         | 192    | 14.35     |      |
|      | S12           |                                       |      |         |      |       |      | 196     | 129  | 232   | 165  | 268     | 201  | 304   | 238  | 340     | 274  | 376   | 310  | 449           | 382  | 152         | 230    | 14.85     |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      |       |      | 247     | 169  | 283   | 205  | 319     | 241  | 355   | 277  | 427           | 349  | 177         | 268    | 15.36     |      |
| 850  | S06           | 260                                   | 209  | 320     | 269  | 380   | 328  | 440     | 388  | 500   | 448  | 559     | 508  | 619   | 568  | 679     | 627  | 739   | 687  | 858           | 807  | 116         | 177    | 19.7      |      |
|      | S08           | 227                                   | 159  | 287     | 218  | 347   | 278  | 407     | 338  | 467   | 398  | 526     | 458  | 586   | 518  | 646     | 577  | 706   | 637  | 826           | 757  | 155         | 236    | 20.3      |      |
|      | S10           |                                       |      | 254     | 168  | 314   | 228  | 374     | 288  | 434   | 348  | 494     | 408  | 553   | 467  | 613     | 527  | 673   | 587  | 793           | 707  | 193         | 295    | 20.9      |      |
|      | S12           |                                       |      |         |      |       |      | 341     | 238  | 401   | 298  | 461     | 358  | 521   | 417  | 580     | 477  | 640   | 537  | 760           | 657  | 232         | 353    | 21.6      |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      |       |      | 428     | 307  | 488   | 367  | 547     | 427  | 607   | 487  | 727           | 607  | 271         | 412    | 22.2      |      |
| 1200 | S06           | 373                                   | 289  | 460     | 376  | 546   | 462  | 633     | 549  | 720   | 635  | 806     | 722  | 893   | 808  | 979     | 895  | 1066  | 981  | 1239          | 1154 | 171         | 271    | 30.1      |      |
|      | S08           | 325                                   | 213  | 411     | 299  | 498   | 386  | 584     | 472  | 671   | 559  | 758     | 645  | 844   | 732  | 931     | 818  | 1017  | 905  | 1190          | 1078 | 229         | 361    | 31.1      |      |
|      | S10           | 276                                   | 136  | 363     | 222  | 449   | 309  | 536     | 395  | 622   | 482  | 709     | 569  | 795   | 655  | 882     | 742  | 969   | 828  | 1142          | 1001 | 286         | 451    | 32.2      |      |
|      | S12           |                                       |      |         |      | 401   | 232  | 487     | 319  | 574   | 405  | 660     | 492  | 747   | 578  | 833     | 665  | 920   | 751  | 1093          | 924  | 343         | 541    | 33.2      |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      | 525   | 329  | 612     | 415  | 698   | 502  | 785     | 588  | 871   | 675  | 1044          | 848  | 400         | 631    | 34.3      |      |
| 1750 | S06           | 477                                   | 349  | 595     | 466  | 712   | 584  | 830     | 702  | 948   | 820  | 1066    | 937  | 1183  | 1055 | 1301    | 1173 | 1419  | 1291 | 1654          | 1526 | 270         | 421    | 39.3      |      |
|      | S08           | 400                                   | 229  | 518     | 347  | 636   | 465  | 754     | 582  | 871   | 700  | 989     | 818  | 1107  | 936  | 1225    | 1053 | 1342  | 1171 | 1578          | 1407 | 360         | 562    | 41.0      |      |
|      | S10           |                                       |      | 441     | 228  | 559   | 345  | 677     | 463  | 795   | 581  | 912     | 699  | 1030  | 816  | 1148    | 934  | 1266  | 1052 | 1501          | 1287 | 451         | 702    | 42.7      |      |
|      | S12           |                                       |      |         |      |       |      | 600     | 344  | 718   | 461  | 836     | 579  | 954   | 697  | 1071    | 815  | 1189  | 933  | 1425          | 1168 | 541         | 843    | 44.4      |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      | 642   | 342  | 759     | 460  | 877   | 578  | 995     | 695  | 1113  | 813  | 1348          | 1049 | 631         | 983    | 46.0      |      |
| 2100 | S06           | 702                                   | 509  | 883     | 690  | 1064  | 871  | 1245    | 1052 | 1426  | 1233 | 1607    | 1414 | 1788  | 1595 | 1969    | 1776 | 2150  | 1957 | 2512          | 2319 | 384         | 577    | 60.3      |      |
|      | S08           | 574                                   | 316  | 755     | 497  | 936   | 678  | 1117    | 859  | 1298  | 1040 | 1479    | 1221 | 1660  | 1402 | 1841    | 1583 | 2022  | 1764 | 2384          | 2126 | 512         | 770    | 62.5      |      |
|      | S10           |                                       |      | 627     | 305  | 808   | 486  | 989     | 667  | 1170  | 848  | 1351    | 1029 | 1532  | 1210 | 1713    | 1391 | 1894  | 1572 | 2256          | 1934 | 640         | 962    | 64.2      |      |
|      | S12           |                                       |      |         |      |       |      | 861     | 474  | 1042  | 655  | 1223    | 836  | 1404  | 1017 | 1585    | 1198 | 1766  | 1379 | 2128          | 1741 | 768         | 1154   | 66.3      |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      | 914   | 463  | 1095    | 644  | 1276  | 825  | 1457    | 1006 | 1638  | 1187 | 2000          | 1549 | 896         | 1347   | 68.0      |      |
| 2500 | S06           | 1299                                  | 1045 | 1587    | 1333 | 1876  | 1622 | 2164    | 1910 | 2453  | 2199 | 2741    | 2487 | 3029  | 2755 | 3318    | 3064 | 3606  | 3352 | 4183          | 3929 | 508         | 806    | 85.9      |      |
|      | S08           | 1155                                  | 816  | 1444    | 1105 | 1732  | 1393 | 2020    | 1682 | 2309  | 1970 | 2597    | 2258 | 2886  | 2547 | 3174    | 2835 | 3462  | 3124 | 4039          | 3700 | 677         | 1075   | 89.4      |      |
|      | S10           |                                       |      | 1300    | 876  | 1588  | 1165 | 1877    | 1453 | 2165  | 1742 | 2453    | 2030 | 2742  | 2318 | 3030    | 2607 | 3319  | 2895 | 3895          | 3472 | 846         | 1344   | 92.9      |      |
|      | S12           |                                       |      |         |      | 1444  | 936  | 1733    | 1225 | 2021  | 1513 | 2310    | 1802 | 2598  | 2090 | 2886    | 2378 | 3175  | 2667 | 3752          | 3243 | 1015        | 1613   | 96.4      |      |
|      | S14 A         |                                       |      |         |      |       |      | 1589    | 996  | 1877  | 1285 | 2166    | 1573 | 2454  | 1861 | 2742    | 2150 | 3031  | 2438 | 3608          | 3015 | 1184        | 1882   | 99.9      |      |
| 4000 | S06           | 1763                                  | 1262 | 2165    | 1663 | 2566  | 2065 | 2967    | 2466 | 3369  | 2867 | 3770    | 3269 |       |      |         |      |       |      |               |      | 758         | 1348   | 158.7     |      |
|      | S08           | 1549                                  | 880  | 1950    | 1282 | 2351  | 1683 | 2752    | 2084 | 3154  | 2485 | 3555    | 2887 | 3956  | 3288 | 4358    | 3689 | 4759  | 4091 | 5068          | 4399 | 1011        | 1797   | 164.7     |      |
|      | S10           |                                       |      |         |      | 2136  | 1301 | 2538    | 1702 | 2939  | 2104 | 3340    | 2505 | 3742  | 2906 | 4143    | 3307 | 4544  | 3709 | 4853          | 4017 | 1264        | 2246   | 170.8     |      |
|      | S12           |                                       |      |         |      |       |      |         |      | 2323  | 1320 | 2724    | 1722 |       |      |         |      |       |      |               |      | 1516        | 2696   | 176.9     |      |
|      | S14 A         |                                       |      |         |      |       |      |         |      |       |      |         |      | 2911  | 1741 | 3312    | 2142 | 3713  | 2544 | 4115          | 2945 | 4423        | 3254   | 1769      | 3145 |

## DOUBLE ACTING ACTUATOR TORQUE OUTPUT in ft lb

| Size | Output torque for double acting in ft lb |     |          |     |        |     |          |     |          |     |        |     |        |     |          |     |         |     | Weight<br>(lb) |         |     |         |       |
|------|------------------------------------------|-----|----------|-----|--------|-----|----------|-----|----------|-----|--------|-----|--------|-----|----------|-----|---------|-----|----------------|---------|-----|---------|-------|
|      | 43.5 psi                                 |     | 50.8 psi |     | 58 psi |     | 65.3 psi |     | 72.5 psi |     | 80 psi |     | 87 psi |     | 94.3 psi |     | 102 psi |     |                | 116 psi |     | 145 psi |       |
|      | 0°                                       | 90° | 0°       | 90° | 0°     | 90° | 0°       | 90° | 0°       | 90° | 0°     | 90° | 0°     | 90° | 0°       | 90° | 0°      | 90° |                | 0°      | 90° | 0°      | 90°   |
| 10   | 4.4                                      |     | 6        |     | 6.5    |     | 7.4      |     | 8        |     | 8.5    |     | 9      |     | 9        |     | 9.5     |     | 10.3           |         | 12  |         | 1.4   |
| 20   | 7.2                                      |     | 8.4      |     | 9.6    |     | 10.8     |     | 11.9     |     | 13.1   |     | 14.4   |     | 15.6     |     | 17      |     | 19.2           |         | -   |         | 3.1   |
| 40   | 15.0                                     |     | 17.5     |     | 20.0   |     | 22.5     |     | 25.0     |     | 27.5   |     | 30.2   |     | 32.4     |     | 34.6    |     | 39.8           |         | -   |         | 4.6   |
| 80   | 28.4                                     |     | 33.1     |     | 37.8   |     | 42.5     |     | 47.2     |     | 52.0   |     | 56.7   |     | 61.2     |     | 66      |     | 76             |         | -   |         | 6.6   |
| 130  | 43.6                                     |     | 50.8     |     | 58.0   |     | 65.3     |     | 72.5     |     | 79.8   |     | 87     |     | 94       |     | 102     |     | 116            |         | -   |         | 8.4   |
| 200  | 64.9                                     |     | 75.2     |     | 86.2   |     | 96.5     |     | 108      |     | 119    |     | 129    |     | 140      |     | 151     |     | 172            |         | -   |         | 12.3  |
| 300  | 107                                      |     | 125.3    |     | 143    |     | 161      |     | 178      |     | 197    |     | 214    |     | 232      |     | 250     |     | 286            |         | -   |         | 18.7  |
| 500  | 160                                      |     | 186      |     | 213    |     | 240      |     | 266      |     | 293    |     | 319    |     | 346      |     | 372     |     | 425            |         | -   |         | 24.7  |
| 850  | 265                                      |     | 309      |     | 353    |     | 397      |     | 441      |     | 485    |     | 529    |     | 573      |     | 617     |     | 705            |         | -   |         | 37.3  |
| 1200 | 383                                      |     | 447      |     | 510    |     | 574      |     | 638      |     | 702    |     | 765    |     | 829      |     | 893     |     | 1020           |         | -   |         | 56.9  |
| 1750 | 521                                      |     | 607      |     | 694    |     | 781      |     | 868      |     | 954    |     | 1041   |     | 1128     |     | 1215    |     | 1389           |         | -   |         | 71.6  |
| 2100 | 801                                      |     | 934      |     | 1068   |     | 1201     |     | 1335     |     | 1468   |     | 1602   |     | 1735     |     | 1869    |     | 2136           |         | -   |         | 109.5 |
| 2500 | 1275                                     |     | 1488     |     | 1700   |     | 1913     |     | 2126     |     | 2338   |     | 2551   |     | 2763     |     | 2976    |     | 3401           |         | -   |         | 153.4 |
| 4000 | 1775                                     |     | 2070     |     | 2366   |     | 2662     |     | 2958     |     | 3253   |     | 3549   |     | 3845     |     | 4140    |     | 4732           |         | -   |         | 285.3 |

## SPRING RETURN ACTUATOR TORQUE OUTPUT in lb

| Size | Type Pressure | Output torque for spring acting in ft lb |     |          |      |        |      |          |      |          |      |        |      |        |      |          |      |         |      |         |      | Spring Stroke |           | Weight (lb) |
|------|---------------|------------------------------------------|-----|----------|------|--------|------|----------|------|----------|------|--------|------|--------|------|----------|------|---------|------|---------|------|---------------|-----------|-------------|
|      |               | 43.5 psi                                 |     | 50.8 psi |      | 58 psi |      | 65.3 psi |      | 72.5 psi |      | 80 psi |      | 87 psi |      | 94.3 psi |      | 102 psi |      | 116 psi |      |               |           |             |
|      |               | 0°                                       | 90° | 0°       | 90°  | 0°     | 90°  | 0°       | 90°  | 0°       | 90°  | 0°     | 90°  | 0°     | 90°  | 0°       | 90°  | 0°      | 90°  | 0°      | 90°  | END 0°        | START 90° |             |
| 20   | S04           |                                          |     | 6        | 4    | 7      | 5    | 8        | 6    | 9        | 7    | 10     | 9    | 12     | 10   | 13       | 11   | 14      | 12   | 16      | 15   | 3             | 5         | 3.33        |
|      | S06 A         |                                          |     |          |      |        |      |          |      | 8        | 5    | 9      | 6    | 10     | 8    | 11       | 9    | 13      | 10   | 15      | 12   | 5             | 8         | 3.40        |
|      | S08           |                                          |     |          |      |        |      |          |      |          |      | 8      | 4    | 9      | 5    | 10       | 6    | 11      | 8    | 14      | 10   | 7             | 11        | 3.44        |
| 40   | S04           | 12                                       | 10  | 14       | 12   | 17     | 15   | 19       | 17   | 22       | 20   | 24     | 22   | 27     | 25   | 29       | 27   | 32      | 30   | 37      | 35   | 4             | 6         | 4.78        |
|      | S06           | 10                                       | 7   | 13       | 10   | 15     | 12   | 18       | 15   | 21       | 18   | 23     | 20   | 25     | 22   | 28       | 25   | 30      | 27   | 35      | 32   | 5             | 9         | 4.85        |
|      | S08           |                                          |     | 11       | 7    | 14     | 10   | 16       | 12   | 19       | 15   | 21     | 18   | 24     | 20   | 27       | 22   | 29      | 25   | 34      | 30   | 7             | 12        | 4.92        |
|      | S10           |                                          |     |          |      |        |      | 15       | 10   | 18       | 13   | 20     | 15   | 22     | 18   | 25       | 20   | 27      | 22   | 32      | 27   | 9             | 15        | 4.98        |
|      | S12           |                                          |     |          |      |        |      |          |      | 15       | 10   | 18     | 13   | 21     | 15   | 24       | 18   | 26      | 20   | 31      | 25   | 11            | 18        | 5.05        |
|      | S14 A         |                                          |     |          |      |        |      |          |      |          |      | 15     | 10   | 19     | 13   | 22       | 15   | 24      | 18   | 29      | 22   | 13            | 21        | 5.11        |
| 80   | S04           | 23                                       | 20  | 28       | 25   | 32     | 29   | 37       | 34   | 42       | 39   | 46     | 43   | 52     | 49   | 56       | 53   | 60      | 57   | 70      | 67   | 6             | 10        | 7.23        |
|      | S06           | 20                                       | 16  | 25       | 21   | 30     | 25   | 35       | 30   | 39       | 35   | 43     | 39   | 49     | 44   | 53       | 49   | 58      | 54   | 68      | 63   | 10            | 15        | 7.41        |
|      | S08           |                                          |     |          |      | 27     | 21   | 32       | 26   | 36       | 30   | 41     | 35   | 46     | 40   | 51       | 45   | 55      | 49   | 65      | 59   | 13            | 20        | 7.56        |
|      | S10           |                                          |     |          |      |        |      | 29       | 21   | 34       | 27   | 38     | 31   | 43     | 36   | 48       | 41   | 52      | 45   | 62      | 55   | 16            | 25        | 7.74        |
|      | S12           |                                          |     |          |      |        |      |          |      | 31       | 22   | 35     | 27   | 41     | 32   | 45       | 36   | 50      | 41   | 60      | 51   | 19            | 29        | 7.89        |
|      | S14 A         |                                          |     |          |      |        |      |          |      |          |      | 33     | 23   | 38     | 27   | 43       | 32   | 47      | 37   | 57      | 46   | 22            | 34        | 8.05        |
| 130  | S06           | 31                                       | 26  | 39       | 34   | 46     | 41   | 53       | 48   | 60       | 55   | 68     | 63   | 75     | 70   | 82       | 77   | 89      | 85   | 104     | 99   | 14            | 20        | 9.70        |
|      | S08           |                                          |     | 35       | 28   | 42     | 35   | 49       | 43   | 56       | 50   | 63     | 57   | 71     | 64   | 78       | 71   | 85      | 79   | 99      | 94   | 19            | 27        | 9.92        |
|      | S10           |                                          |     |          |      | 38     | 29   | 45       | 37   | 52       | 44   | 60     | 52   | 67     | 59   | 74       | 66   | 81      | 73   | 96      | 88   | 24            | 33        | 10.14       |
|      | S12           |                                          |     |          |      |        |      | 41       | 31   | 48       | 38   | 55     | 46   | 63     | 53   | 70       | 60   | 77      | 68   | 91      | 82   | 29            | 40        | 10.36       |
|      | S14 A         |                                          |     |          |      |        |      |          |      |          |      | 52     | 40   | 59     | 47   | 66       | 55   | 73      | 62   | 88      | 76   | 33            | 47        | 10.58       |
| 200  | S06           | 45                                       | 36  | 56       | 46   | 66     | 57   | 77       | 68   | 88       | 79   | 99     | 90   | 110    | 100  | 120      | 111  | 131     | 122  | 153     | 144  | 23            | 34        | 14.33       |
|      | S08           |                                          |     | 49       | 37   | 60     | 48   | 71       | 58   | 82       | 69   | 92     | 80   | 103    | 91   | 113      | 102  | 125     | 112  | 146     | 134  | 31            | 45        | 14.77       |
|      | S10           |                                          |     |          |      | 53     | 38   | 64       | 49   | 75       | 60   | 85     | 71   | 97     | 81   | 108      | 92   | 118     | 102  | 139     | 125  | 38            | 56        | 15.21       |
|      | S12           |                                          |     |          |      |        |      | 57       | 39   | 69       | 50   | 79     | 61   | 90     | 71   | 101      | 83   | 111     | 93   | 133     | 115  | 46            | 68        | 15.43       |
|      | S14 A         |                                          |     |          |      |        |      |          |      |          |      | 73     | 52   | 83     | 62   | 94       | 73   | 105     | 83   | 127     | 105  | 54            | 79        | 16.09       |
| 300  | S06           | 75                                       | 55  | 93       | 73   | 111    | 91   | 129      | 109  | 147      | 127  | 164    | 144  | 182    | 162  | 200      | 181  | 218     | 198  | 254     | 234  | 38            | 61        | 21.27       |
|      | S08           |                                          |     | 83       | 56   | 100    | 74   | 118      | 91   | 136      | 109  | 154    | 128  | 172    | 145  | 189      | 163  | 207     | 181  | 243     | 217  | 50            | 81        | 21.87       |
|      | S10           |                                          |     |          |      | 90     | 56   | 108      | 74   | 125      | 92   | 143    | 110  | 161    | 128  | 179      | 146  | 197     | 164  | 232     | 199  | 63            | 102       | 22.49       |
|      | S12           |                                          |     |          |      |        |      | 97       | 57   | 115      | 74   | 133    | 93   | 150    | 111  | 168      | 128  | 186     | 146  | 222     | 182  | 75            | 122       | 23.15       |
|      | S14 A         |                                          |     |          |      |        |      |          |      |          |      | 122    | 75   | 140    | 93   | 158      | 111  | 175     | 129  | 212     | 164  | 88            | 143       | 23.81       |
| 500  | S06           | 112                                      | 88  | 139      | 114  | 165    | 141  | 192      | 167  | 218      | 194  | 245    | 220  | 272    | 247  | 298      | 273  | 325     | 300  | 378     | 354  | 56            | 85        | 29.39       |
|      | S08           | 97                                       | 63  | 123      | 90   | 150    | 116  | 176      | 143  | 203      | 170  | 229    | 197  | 256    | 223  | 282      | 250  | 309     | 276  | 363     | 329  | 74            | 113       | 30.51       |
|      | S10           |                                          |     |          |      | 133    | 93   | 160      | 119  | 187      | 146  | 214    | 172  | 240    | 199  | 267      | 226  | 293     | 252  | 346     | 305  | 93            | 141       | 31.64       |
|      | S12           |                                          |     |          |      |        |      | 144      | 95   | 171      | 122  | 198    | 148  | 224    | 175  | 251      | 202  | 277     | 228  | 331     | 282  | 112           | 170       | 32.74       |
|      | S14 A         |                                          |     |          |      |        |      |          |      |          |      | 182    | 125  | 209    | 151  | 235      | 178  | 262     | 204  | 315     | 257  | 130           | 198       | 33.86       |
| 850  | S06           | 192                                      | 154 | 236      | 198  | 280    | 242  | 324      | 286  | 369      | 330  | 412    | 374  | 456    | 419  | 500      | 462  | 545     | 506  | 632     | 595  | 85            | 130       | 43.43       |
|      | S08           | 167                                      | 117 | 212      | 161  | 256    | 205  | 300      | 249  | 344      | 293  | 388    | 338  | 432    | 382  | 476      | 425  | 520     | 469  | 609     | 558  | 114           | 174       | 44.75       |
|      | S10           |                                          |     | 187      | 124  | 231    | 168  | 276      | 212  | 320      | 256  | 364    | 301  | 408    | 344  | 452      | 388  | 496     | 433  | 584     | 521  | 143           | 217       | 46.08       |
|      | S12           |                                          |     |          |      |        |      | 251      | 175  | 296      | 220  | 340    | 264  | 384    | 307  | 427      | 352  | 472     | 396  | 560     | 484  | 171           | 260       | 47.62       |
|      | S14 A         |                                          |     |          |      |        |      |          |      |          |      | 315    | 226  | 360    | 270  | 403      | 315  | 447     | 359  | 536     | 447  | 200           | 304       | 48.94       |
| 1200 | S06           | 275                                      | 213 | 339      | 277  | 402    | 340  | 467      | 405  | 531      | 468  | 594    | 532  | 658    | 595  | 722      | 660  | 786     | 723  | 913     | 850  | 126           | 199       | 66.36       |
|      | S08           | 240                                      | 157 | 303      | 220  | 367    | 284  | 430      | 348  | 495      | 412  | 559    | 475  | 622    | 539  | 686      | 603  | 750     | 667  | 877     | 794  | 168           | 266       | 68.56       |
|      | S10           | 203                                      | 100 | 268      | 164  | 331    | 228  | 395      | 291  | 458      | 355  | 523    | 419  | 586    | 483  | 650      | 547  | 714     | 610  | 842     | 738  | 210           | 332       | 70.99       |
|      | S12           |                                          |     |          |      | 296    | 171  | 359      | 235  | 423      | 298  | 486    | 363  | 551    | 426  | 614      | 490  | 678     | 553  | 806     | 681  | 253           | 399       | 73.19       |
|      | S14 A         |                                          |     |          |      |        |      |          |      | 387      | 242  | 451    | 306  | 514    | 370  | 579      | 433  | 642     | 497  | 769     | 625  | 295           | 465       | 75.62       |
| 1750 | S06           | 352                                      | 257 | 439      | 343  | 525    | 430  | 612      | 517  | 699      | 604  | 786    | 691  | 872    | 778  | 959      | 865  | 1046    | 951  | 1219    | 1125 | 199           | 310       | 86.64       |
|      | S08           | 295                                      | 169 | 382      | 256  | 469    | 343  | 556      | 429  | 642      | 516  | 729    | 603  | 816    | 690  | 903      | 776  | 989     | 863  | 1163    | 1037 | 265           | 414       | 90.39       |
|      | S10           |                                          |     | 325      | 168  | 412    | 254  | 499      | 341  | 586      | 428  | 672    | 515  | 759    | 601  | 846      | 688  | 933     | 775  | 1106    | 949  | 332           | 517       | 94.14       |
|      | S12           |                                          |     |          |      |        |      | 442      | 254  | 529      | 340  | 616    | 427  | 703    | 514  | 789      | 601  | 876     | 688  | 1050    | 861  | 399           | 621       | 97.88       |
|      | S14 A         |                                          |     |          |      |        |      |          |      | 473      | 252  | 559    | 339  | 646    | 426  | 733      | 512  | 820     | 599  | 993     | 773  | 465           | 724       | 101.41      |
| 2100 | S06           | 518                                      | 375 | 651      | 509  | 785    | 642  | 918      | 776  | 1052     | 909  | 1185   | 1043 | 1319   | 1176 | 1452     | 1310 | 1586    | 1443 | 1853    | 1710 | 283           | 426       | 132.28      |
|      | S08           | 423                                      | 233 | 557      | 367  | 690    | 500  | 824      | 634  | 957      | 767  | 1091   | 901  | 1224   | 1034 | 1358     | 1168 | 1491    | 1301 | 1758    | 1568 | 378           | 568       | 136.69      |
|      | S10           |                                          |     | 462      | 225  | 596    | 358  | 729      | 492  | 863      | 625  | 996    | 759  | 1130   | 892  | 1263     | 1032 | 1397    | 1159 | 1664    | 1426 | 472           | 710       | 141.09      |
|      | S12           |                                          |     |          |      |        |      | 635      | 350  | 768      | 483  | 902    | 617  | 1035   | 750  | 1169     | 884  | 1302    | 1017 | 1569    | 1284 | 566           | 851       | 145.50      |
|      | S14 A         |                                          |     |          |      |        |      |          |      | 674      | 341  | 808    | 475  | 941    | 608  | 1074     | 742  | 1208    | 875  | 1475    | 1142 | 661           | 993       | 149.91      |
| 2500 | S06           | 957                                      | 770 | 1170     | 982  | 1383   | 1195 | 1595     | 1408 | 1808     | 1621 | 2020   | 1833 | 2232   | 2045 | 2445     | 2258 | 2658    | 2470 | 3083    | 2896 | 374           | 594       | 189.38      |
|      | S08           | 851                                      | 601 | 1064     | 814  | 1276   | 1027 | 1489     | 1240 | 1702     | 1452 | 1914   | 1664 | 2127   | 1877 | 2339     | 2089 | 2551    | 2302 | 2977    | 2727 | 499           | 792       | 197.09      |
|      | S10           |                                          |     | 958      | 646  | 1170   | 859  | 1383     | 1071 | 1596     | 1284 | 1808   | 1496 | 2021   | 1708 | 2233     | 1921 | 2446    | 2134 | 2871    | 2559 | 624           | 991       | 204.81      |
|      | S12           |                                          |     |          |      | 1064   | 690  | 1277     | 903  | 1489     | 1115 | 1702   | 1328 | 1915   | 1540 | 2127     | 1753 | 2340    | 1966 | 2765    | 2390 | 748           | 1189      | 212.52      |
|      | S14 A         |                                          |     |          |      |        |      | 1171     | 734  | 1383     | 947  | 1596   | 1159 | 1809   | 1372 | 2021     | 1585 | 2234    | 1797 | 2659    | 2222 | 873           | 1387      | 220.24      |
| 4000 | S06           | 1299                                     | 930 | 1596     | 1226 | 1891   | 1522 | 2187     | 1817 | 2483     | 2113 | 2778   | 2409 |        |      |          |      |         |      |         |      | 559           | 993       | 349.87      |
|      | S08           | 1142                                     | 649 | 1437     | 945  | 1733   | 1240 | 2028     | 1536 | 2324     | 1831 | 2620   | 2128 | 2916   | 2423 | 3212     | 2719 | 3507    | 3015 | 3735    | 3242 | 745           | 1323      | 363.10      |
|      | S10           |                                          |     |          |      | 1574   | 959  | 1871     | 1254 | 2166     | 1551 | 2462   | 1846 | 2758   | 2142 | 3053     | 2437 | 3349    | 2734 | 3577    | 2961 | 932           | 1655      | 376.55      |
|      | S12           |                                          |     |          |      |        |      | 1712     | 973  | 2008     | 1269 | 2303   | 1565 | 2599   | 1860 | 2895     | 2156 | 3190    | 2452 | 3418    | 2680 | 1117          | 1987      | 389.99      |
|      | S14 A         |                                          |     |          |      |        |      |          |      |          |      | 2145   | 1283 | 2441   | 1879 | 2736     | 1875 | 3033    | 2170 | 3260    | 2398 | 1304          | 2318      | 403.22      |



# OTHER PRODUCTS



## SY SERIES

- Heavy duty applications.
- Hydraulic or pneumatic actuators.
- Scotch yoke design.
- Up to 258616 Nm in double acting and 111245 Nm in Spring return.
- Modular design.
- ATEX.
- CE.
- VDI/VDE 3845.
- ISO 5211.



## DECLUTCH GEAR BOXES

- Aluminium Housing.
- Rugged construction.
- Sealing to IP-65.
- ACTREG's Actuators direct mounting.
- Compact design-low weight.
- Integral top flange.
- User friendly.
- Double adjustment stroke.



## BRACKETS AND COUPLINGS

- Stainless steel, carbon steel or other materials under request.
- Machined for every kind of valve.



## SWITCH BOXES

- Micromechanical switches or inductive switches.
- Inductive switches for direct mounting.
- ATEX execution.
- Feedback and positioner.



## PNEUMATIC CONTROL DESIGNS

- Solenoid valves, filters, quick exhaust valves, tubing, regulators...
- Line Break systems.
- Emergency shut down systems.
- Design and manufacturing control cabinets.
- Remote control cabinets.



## SPECIAL ACTUATORS

- FIRE-proof.
- Fast acting actuators.
- 100% adjustment stroke actuators.
- Special coatings.
- Special actuators for critical applications.

# ACTREG MOBILE APPLICATION

The All-in-one ACTREG interface is a “must have” for the modern automation valve business. Ideal for work, use the ACTREG interface to calculate torques with and without safety factors, and do your own configuration with ACTREG actuators. You can also convert any unit of measurement, dimensions, torques, temperatures and materials equivalences from most common standards.

The sleek, easy-to-use interface makes actuator and torque calculations quick and easy. The user-friendly screen interface lets you see items at-a-glance, so you can convert quickly while you are on the go.

We have also included some quick information about ACTREG, and all their product range. A very useful interface made by ACTREG. Anytime, anywhere and in any situation.



New application

User-friendly interface

Calculate torques

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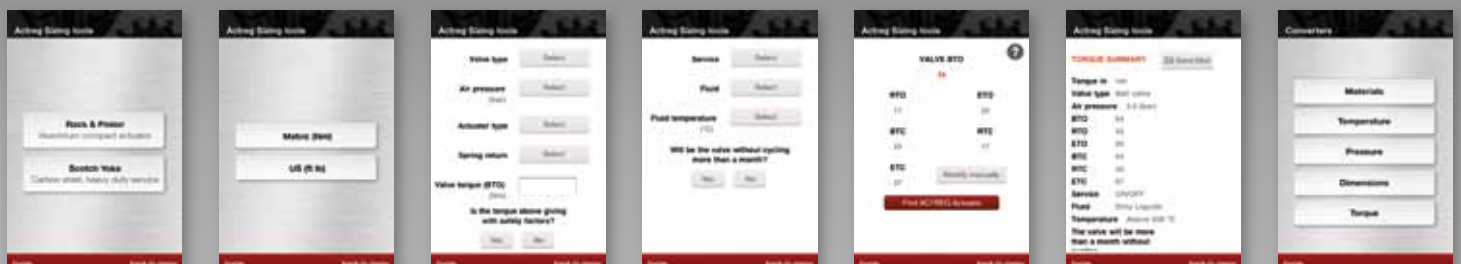
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## SCREENSHOTS





**ACTREG, S.A. (Headquarters)**

C/ Cantabria, 2  
Polígono Industrial Les Salines  
08830 Sant Boi del Llobregat  
Barcelona (Spain)  
Phone +34 93 661 44 10  
Fax +34 93 654 33 93  
[actreg@actreg.com](mailto:actreg@actreg.com)

**ACTREG do Brasil, Sorocaba (SP)**

Avenida Liberdade, 4565  
Bairro Iporanga - Sorocaba - SP  
CEP 18.087-170  
Sao Paulo, Brasil  
Phone: 0055 (0) 15 3228 1010  
Fax: 055 (0) 15 3235 9511  
[actreg@actregdobrasil.com.br](mailto:actreg@actregdobrasil.com.br)

**ACTREG Shangai Actuator Co. Ltd.**

No.658, Block A, Qiang Ye Road  
SheShan Industrial Zone  
SongJiang District, Shanghai  
P.R.C. 201602  
Phone: 0086 21 57796818  
Fax: 0086 21 57792426  
[sale@actreg.net.cn](mailto:sale@actreg.net.cn)

**ACTREG UK, LTD**

Units 2 & 3 Henson Close  
Telford Way Industrial Estate  
Kettering Northants NN 16 8PZ  
United Kingdom  
Phone: 0044 1536412525  
Fax: 0044 1536521616  
[sales@actreg.co.uk](mailto:sales@actreg.co.uk)

**ACTREG North America**

20201 Clark Graham  
Baie D'Urfé, Québec  
H9X 3T5 Canada  
Phone: 001 514 457 5777  
Fax: 001 514 457 1348  
Toll Free: 1 800 667 4819  
[jp@trueline.ca](mailto:jp@trueline.ca)