



PA Ventiler AB  
EN DEL AV BEI/ERTECH

# VRIDSPJÄLLVENTIL

## Med pneumatiskt vriddon

PA 208 SR

### LUGGAD TYP MED ENKELVERKANDE VRIDDON

#### GO WITH OUR FLOW

#### APPLIKATION

spjällventiler är avsedda för ON/OFF eller reglering i rörsystem för vätska eller tex. tryckluft

- Användningsområde: VVS, Industri etc.



-Media: kallt vatten, varmt vatten, avloppsvatten, syror etc.  
«Inte lämplig för ånga»

#### GENERELA EGENSKAPER

**STORLEK** : Från DN40 till DN300.

- Design enligt NF EN 593.
- Fastvulkaniserat gummifoder i EPDM
- Luggad typ med gängade hål
- Tätning i båda cirkulationsriktningarna för rören.
- Bearbetad skiva som garanterar en perfekt täthet.
- Förlängd hals som är kompatibel med rörisolering
- Reducerat manövreringsmoment.
- Spjällaxel monterad på skiva med konisk stift.
- Minskade tryckförluster
- Enkelverkande vriddon
- ISO 5211 monteringsplatta.



|                   |   |
|-------------------|---|
| <b>Design</b>     | Tillverkning enligt kraven i det europeiska direktivet 2014/68/UE «Utrustning under tryck»: modul H.  |
| <b>Bygglängd</b>  | Bygglängd enligt standarderna NF EN 558-1 serie 20, ISO 5272 serie 20, DIN 3202.  |
| <b>Anslutning</b> | Montering mellan flänsar ISO PN10/16 enligt EN1092-2, BS450, AISI B16.1-5.<br>Justerbar mellan flänsar ASME B16.5 Classe 150 och JIS 10K. GOST PN10/16. |
| <b>Prestanda</b>  | Trycktest enligt standarderna EN12266-1, DIN 3230, BS 5154 och ISO 5208:<br>-Hus : 24 bar<br>-Säte :17.6 bar  |

#### PRODUKT GODKÄNNANDE

CE EAC På Förfrågan

PA VENTILER AB • Sagbäcksvägen 3B, 437 31  
Lindome • Tel 031-99 25 00 • Fax 031-99 25 03 •  
[info@paventiler.se](mailto:info@paventiler.se) • [paventiler.se](http://paventiler.se)

ISO 9001  
ISO 14001  
BUREAU VERITAS  
Certification



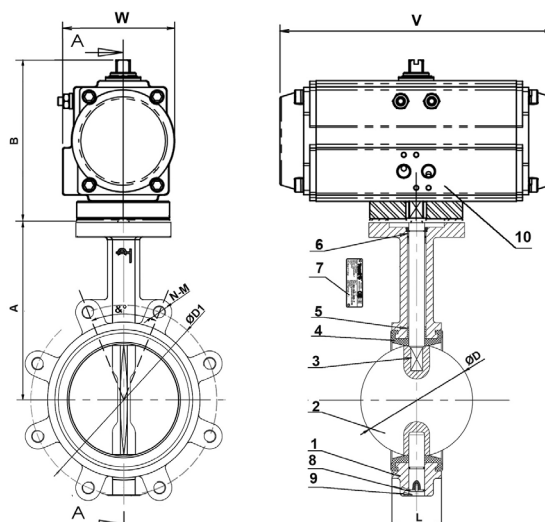
# VRIDSPJÄLLVENTIL MED ENKELVERKANDE VRIDDON



PA Ventiler AB  
EN DEL AV BEJERTECH

PA 208 SR

## DIMENSIONER



| Pos. | ST | Beskrivning         | Material             | Ekvivalenser    |                  |                |
|------|----|---------------------|----------------------|-----------------|------------------|----------------|
|      |    |                     |                      | DIN             | ASTM             | BS             |
| 1    | 1  | Hus                 | Segjärn EN-GJS-500-7 | GGG50           | A536 70-50-05    | EN-JS1050      |
| 2    | 1  | Skiva               | Syrafaststål CF8M    | G-X6CrNiMo18 10 | A 351 Grade CF8M | 1504 316 C16   |
| 3    | 2  | Axel                | Rostfrittstål 410    |                 |                  |                |
| 4    | 1  | Tätning             | Heat EPDM            |                 |                  |                |
| 5    | 4  | Lagring             | PTFE                 |                 |                  |                |
| 6    | 1  | O ring              | EPDM                 |                 |                  |                |
| 7    | 1  | Namnskylt           | Rostfrittstål 304    | X5CrNi 18 10    | A 182 AISI 304   | 1449-2 304 S15 |
| 8    | 1  | Lagring             | Stål                 |                 |                  |                |
| 9    | 1  | Bottendel           | Segjärn EN-GJS-500-7 |                 |                  |                |
| 10   | 1  | Pneumatiskt vriddon |                      |                 |                  |                |

| DN  |       | A   | B   | L  | Ø D   | Ø D1 | N-M    | &°  | W     | V   | Vriddon modell | Weight (kg) |
|-----|-------|-----|-----|----|-------|------|--------|-----|-------|-----|----------------|-------------|
| mm  | inch  |     |     |    |       |      |        |     |       |     |                |             |
| 40  | 1 1/2 | 120 | 112 | 33 | 39.2  | 110  | 4-M16  | 90° | 67.5  | 146 | ASR-40         | 3.8         |
| 50  | 2     | 140 | 112 | 43 | 52.9  | 125  | 4-M16  | 90° | 67.5  | 146 | ASR-40         | 4.4         |
| 65  | 2 1/2 | 150 | 128 | 46 | 64.5  | 145  | 4-M16  | 90° | 80.5  | 169 | ASR-80         | 6.3         |
| 80  | 3     | 156 | 128 | 46 | 78.8  | 160  | 8-M16  | 90° | 80.5  | 169 | ASR-80         | 8.3         |
| 100 | 4     | 175 | 146 | 52 | 104   | 180  | 8-M16  | 45° | 97    | 210 | ASR-130        | 10.8        |
| 125 | 5     | 190 | 146 | 56 | 123.3 | 210  | 8-M16  | 45° | 97    | 210 | ASR-200        | 16.1        |
| 150 | 6     | 211 | 154 | 56 | 155.1 | 240  | 8-M20  | 45° | 103   | 264 | ASR-300        | 25          |
| 200 | 8     | 235 | 207 | 60 | 202.5 | 295  | 8-M20  | 45° | 134.5 | 302 | ASR-500        | 37          |
| 250 | 10    | 265 | 224 | 68 | 250.5 | 350  | 12-M20 | 30° | 142   | 398 | ASR-500        | 57.4        |
| 300 | 12    | 305 | 249 | 78 | 301.5 | 400  | 12-M20 | 30° | 161   | 456 | ASR-850        | 65          |

## Teknisk Data

Maximalt arbetstryck: 16 bar

Maximalt vakumtryck: 0.8 bar i 10 minuter

Maximal arbetstemperatur : -15°C / +130°C

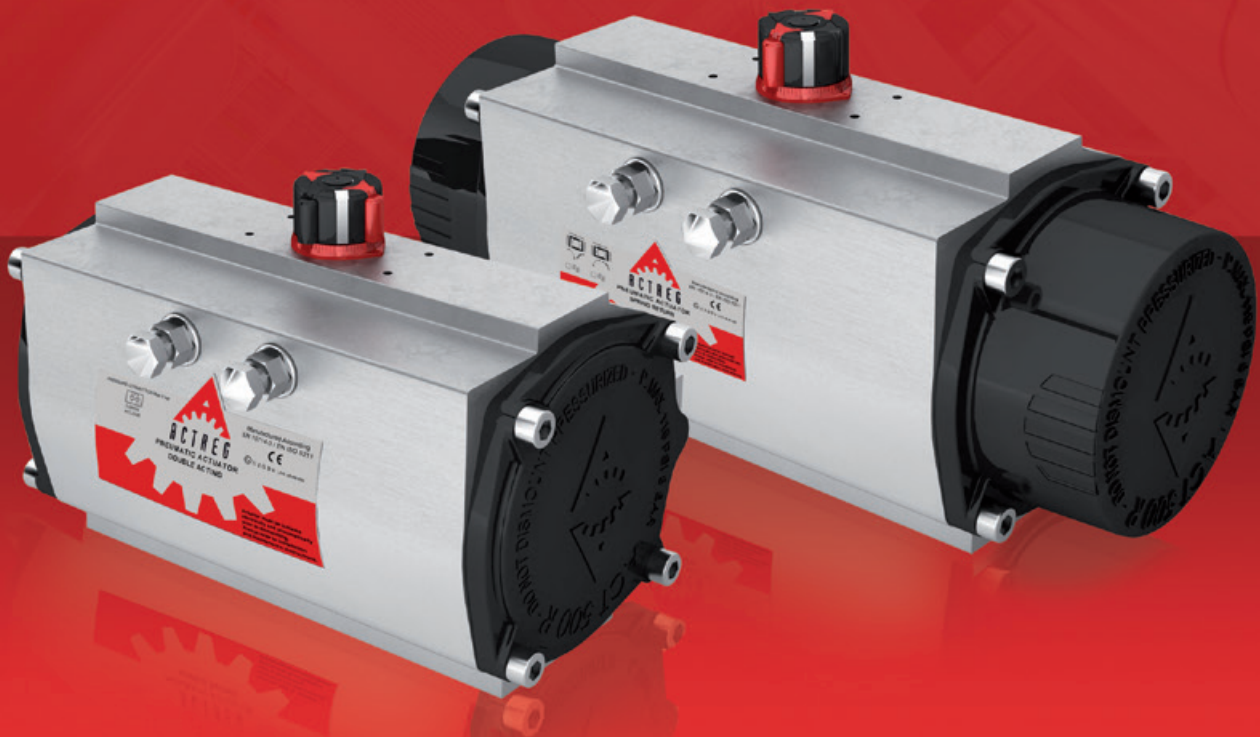
Peak temperaturer : -30°C / +150°C

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The art of power and perfection



**PNEUMATIC ACTUATORS  
RACK AND PINION**





The art of power and perfection

ACTREG, established in 1992, is a multinational company specializing 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 leader in actuation technology.



ACTREG provides world coverage thanks to the strategic locations of its factories and offices. The international distribution ensures quick availability and more important, personalized service for valve manufacturers, valve stocking distributors 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 700.000 Nm. Our products offer reliable and dependable automation for ¼ turn valves.

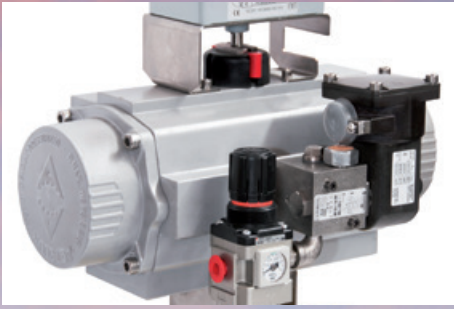
Engineered and built to withstand most of the applications and environmental conditions, the precision in design and quality provides a long and safe operational performance in valve control.

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 requirements.



The art of power and



SCOTCH YOKE  
**Heavy duty service**

TORQUES UP TO  
**700.000 Nm**

ACTUATORS IN  
**29 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 to LCIE, No. LCIE 05 AR 022.

ACTREG pneumatic actuators have SIL 3 (Safety Integrity level 3) certificate. The ACTREG actuators meets manufacturer design process requirements of Safety Integrity 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 body is hard anodized aluminum with low surface roughness making it extremely abrasion resistant. Every single actuator is tested and provided with a unique serial number for traceability. This heat number is stamped on the body.
- 2 PINION**

The carbon steel shaft is electroless nickel plated that protects against external and internal corrosion and is an anti-blowout design.
- 3 ADJUSTMENT STROKE**

External stroke adjustment for 5 degree is placed on opposite side of Namur connection for better manipulation when the solenoid valve is assembled.
- 4 PISTONS**

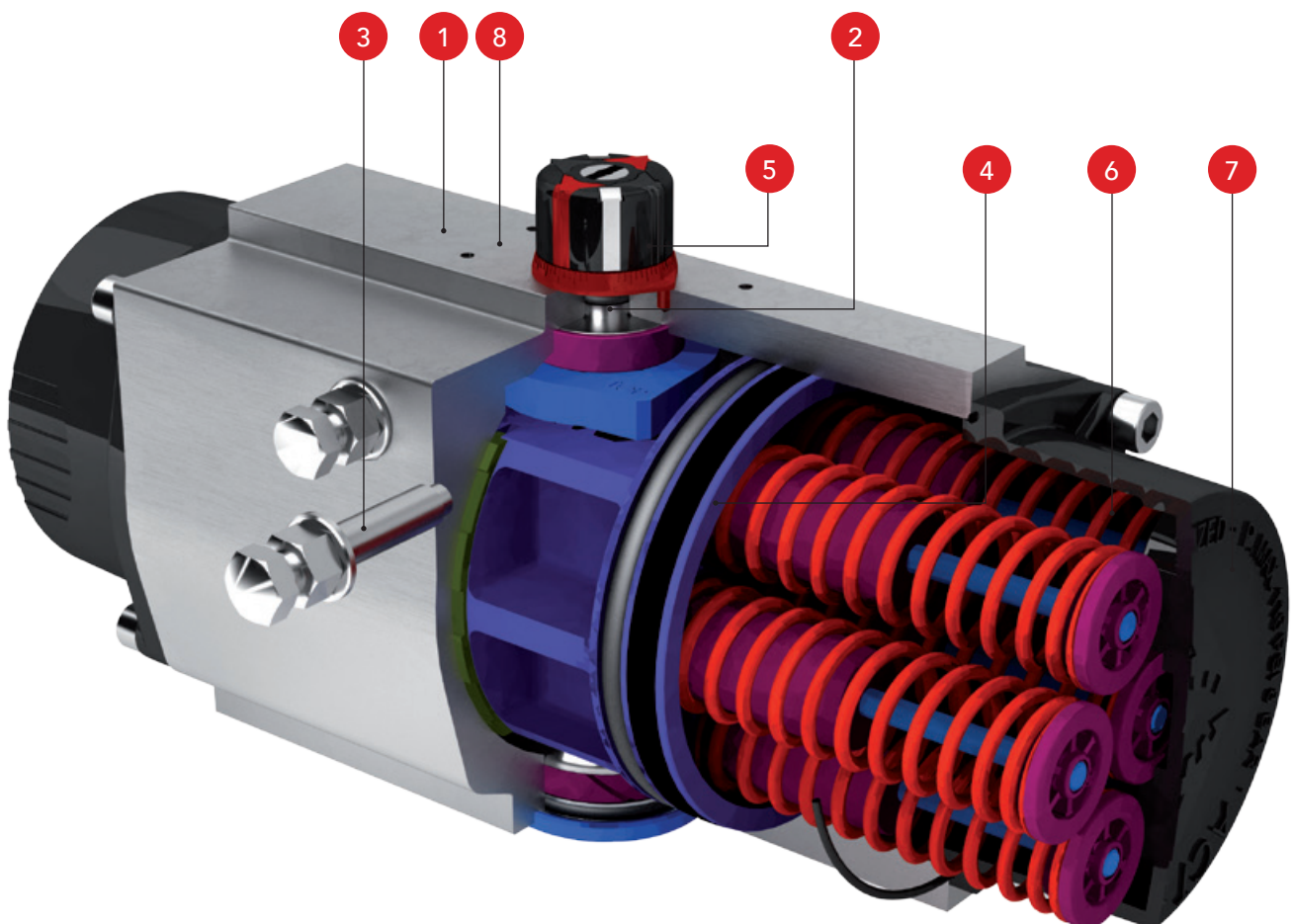
Pistons are coated with a special treatment for corrosion resistance. Backlash is avoided by a special tooth machining. The pistons have a 3-way guide for low friction between body and pistons. The pistons are also provided with an integral guide machined between pistons and pinion.
- 5 POSITION INDICATOR**

Multi-function indicator suitable for mechanical or inductive switches is a standard feature. There are many different combinations so no need for external indicators.
- 6 SPRINGS**

This system allows an easy fit for the necessary torque to open or close the valve which offers safe replacement and manipulation.
- 7 END CAPS**

There are different end caps for double acting and spring return for quick and safe identification without need to read label. End caps are epoxy coated as a standard protecting them against environmental corrosion.
- 8 CONNECTION VDI/VDE 3845**

The assembly of switch boxes, proximity switches or positioners take place by means of the Namur connection VDI/VDE 3845, which is a standard feature in all of our models. The height of the axis for all our products is 30mm, which means with a single model box or positioner all manufacturing ranges can be covered.



# 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 inductive 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).
- 60° C to 80° C with Silicone O-rings and 316 pinion (extreme low temperature).

### Maximum working pressure:

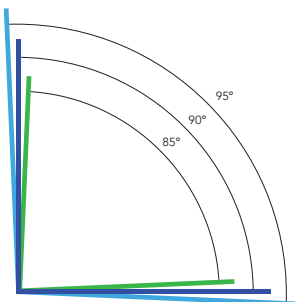
8 bar (116 psig). (Except ADA10 at 10 barg)

## 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 travel limits are 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

- Locking device with padlock.
- Fast acting actuators.
- 100% travel adjustment stroke.
- Fire proof systems (K-mass, blanket).

## Coatings for special applications

Actreg Pneumatic actuators are protected against external corrosion by proper material selection or surface treatment.

### Standard execution

Anticorrosive C3 according to EN-ISO 12944-2

| PARTS    | 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 $\mu\text{m}$ |
| SCREWS   | A2                 |                     |

### Execution A

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

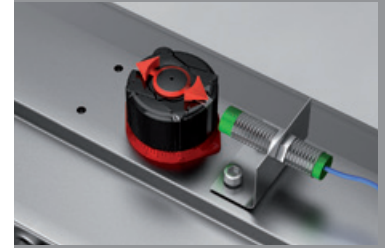
| PARTS    | DESCRIPTION   | COATING               |
|----------|---------------|-----------------------|
| BODY     | Epoxy painted | 200-300 $\mu\text{m}$ |
| END CAPS | Epoxy painted | 140-180 $\mu\text{m}$ |
| STEM     | SS 316        |                       |
| SCREWS   | A4            |                       |

### Execution B

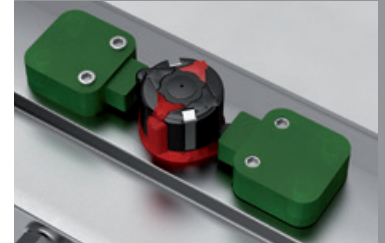
Anticorrosive C4 according EN-ISO 12944-2

| PARTS    | DESCRIPTION        | COATING             |
|----------|--------------------|---------------------|
| BODY     | Epoxy painted      | 80-90 $\mu\text{m}$ |
| END CAPS | Epoxy painted      | 80-90 $\mu\text{m}$ |
| STEMS    | Carbon Steel + ENP |                     |
| SCREWS   | A2                 |                     |

## Multi-function position indicator



Inductive switch indicating open or closed position



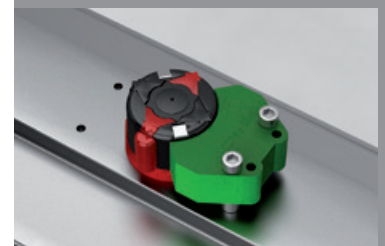
Mechanical switches indicating open and close



Inductive switches indicating open and closed position



Namur connection for direct mounting switch box



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

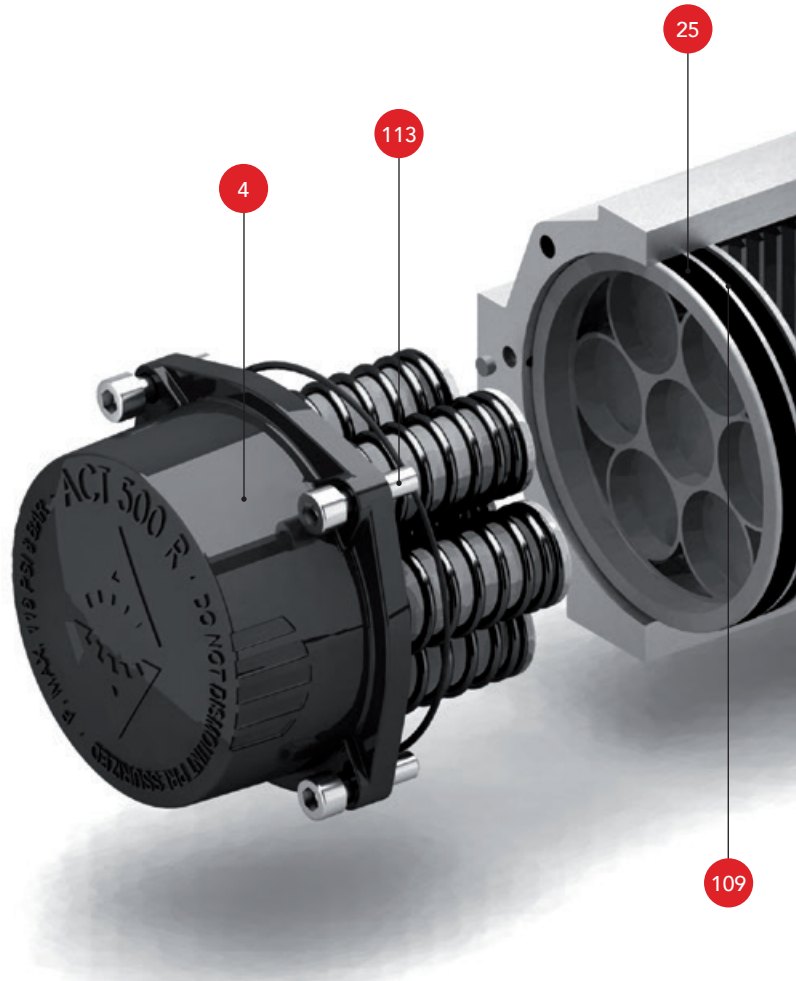


Inductive switches indicating open and closed position (up/down detecting switches...)

# 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 (bronze for sizes 500 and 2100)
- 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
- 109 O-Ring \*  
NBR
- 110 O-Ring \*  
NBR
- 111 O-Ring \*  
NBR

## SPRING RETURN ACTUATOR (ASR)



- 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

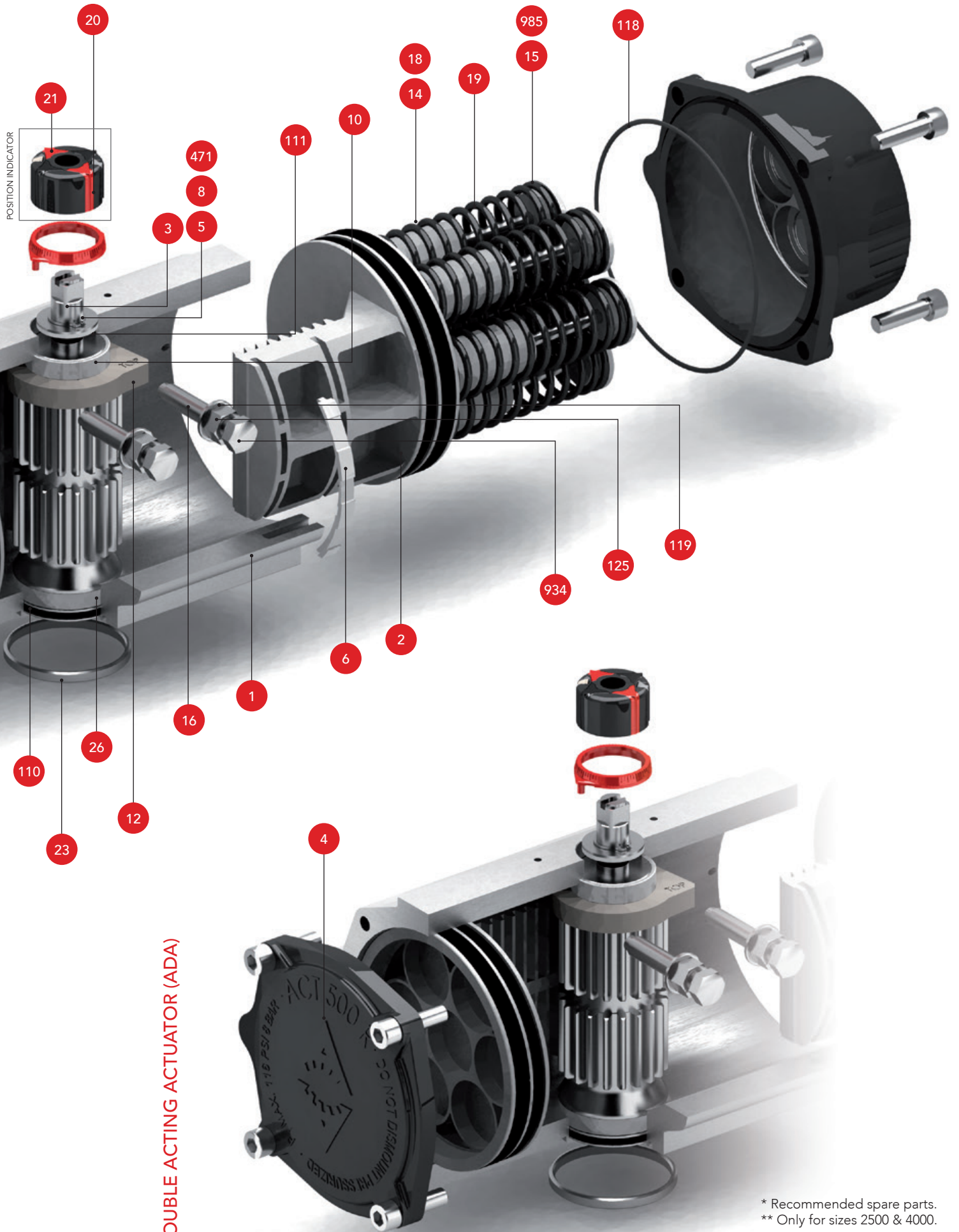


Inserts  
Stainless Steel

FROM SIZE 1200 TO 4000



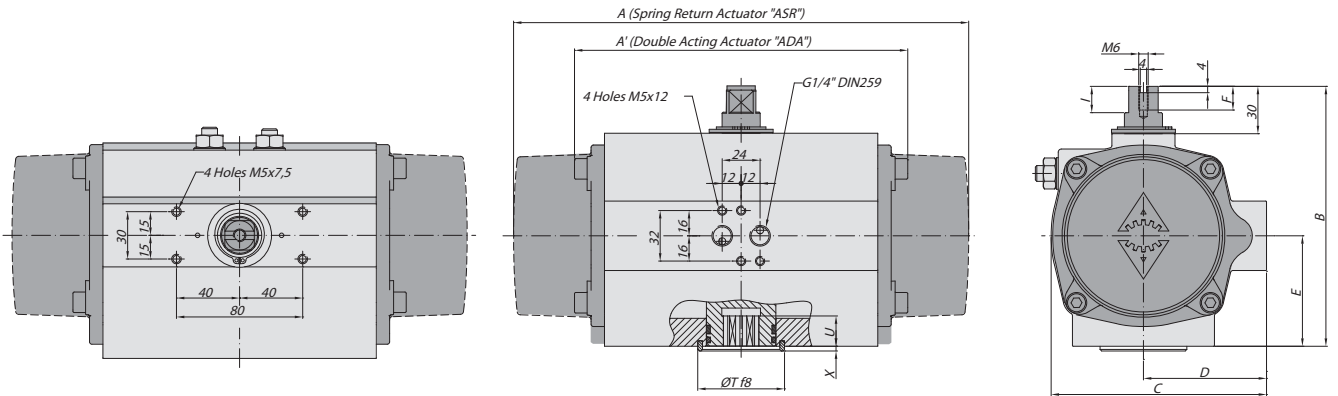
Position indicator & Cams  
Polypropylene



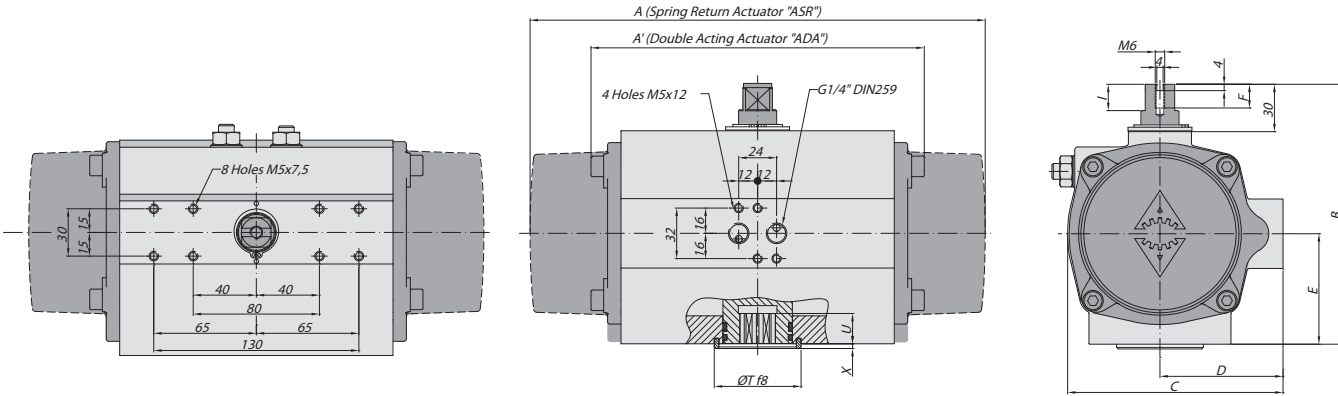
\* Recommended spare parts.  
 \*\* Only for sizes 2500 & 4000.

# GENERAL DIMENSIONS

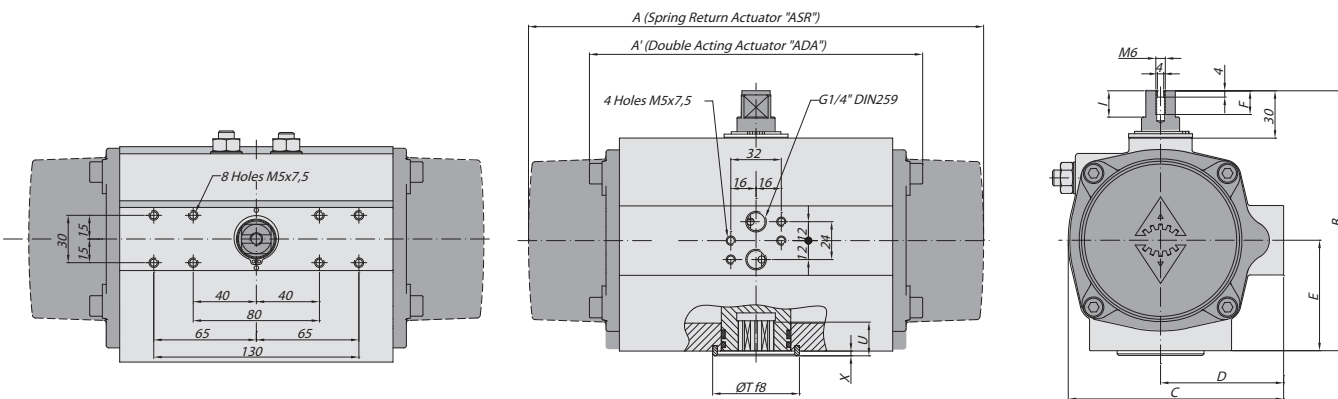
SIZES 10 | 20 | 40 | 80 | 130 | 200 | 300 | 500 | 850



SIZES 1200 | 1750



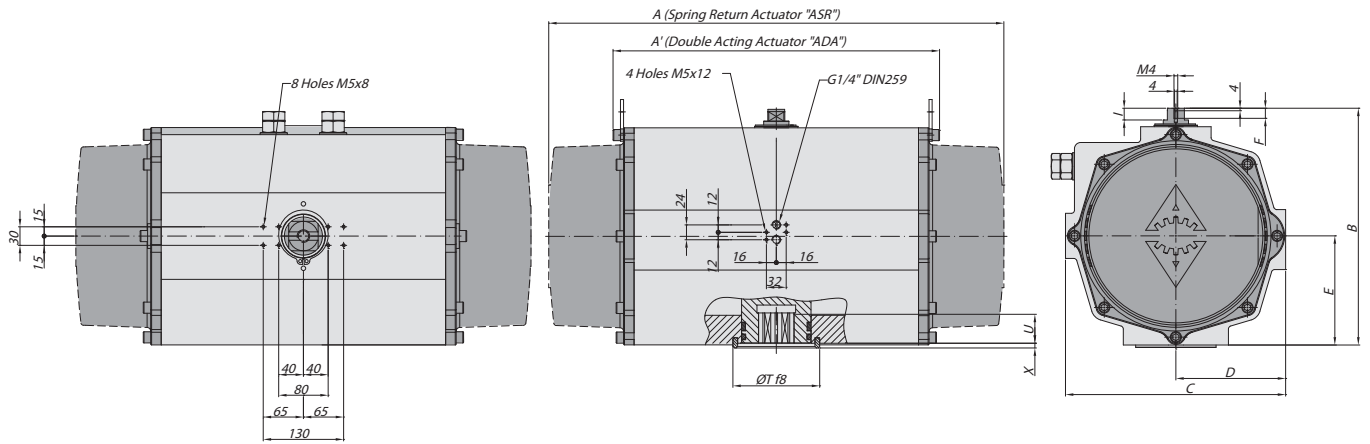
SIZE 2100



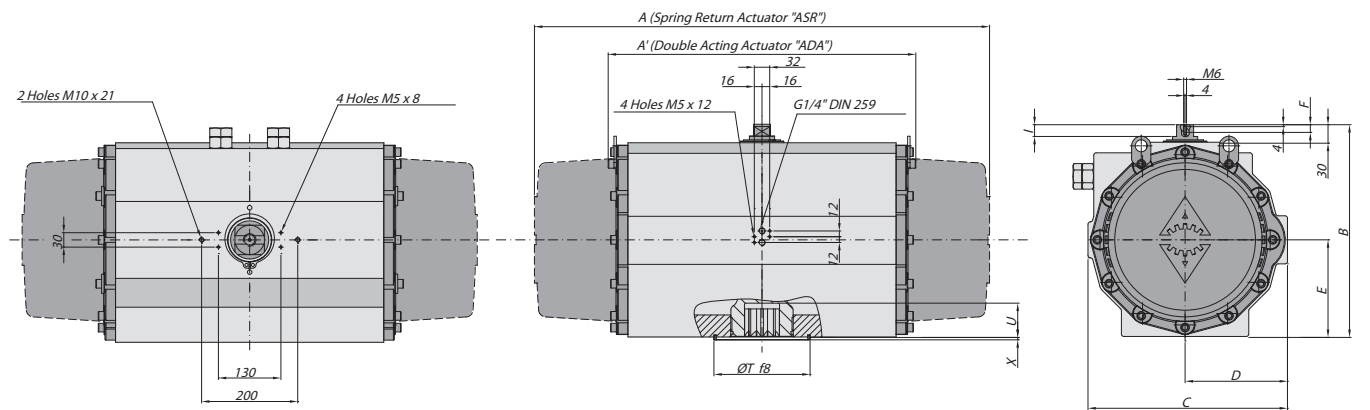
## DOUBLE ACTING & SPRING RETURN ACTUATORS GENERAL DIMENSIONS (mm)

| 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 |

## SIZE 2500



## SIZE 4000



## ISO 5211 DETAIL

### SIZES

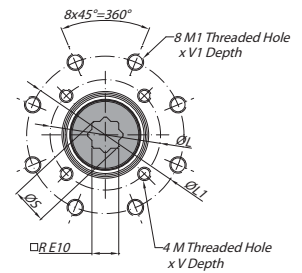
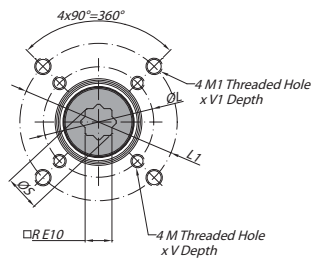
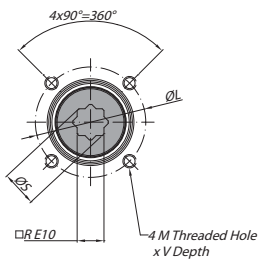
10 | 20 | 40 | 500 | 1750 | 2100 | 2500

### SIZES

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

### SIZE

4000



## DOUBLE ACTING & SPRING RETURN ACTUATORS GENERAL DIMENSIONS (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 (Nm)

| Size | 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 |     | Weight (kg) |
|------|-------|-----|---------|-----|-------|-----|---------|-----|-------|-----|---------|-----|-------|-----|---------|-----|-------|-----|-------|-----|--------|-----|-------------|
|      | 0°    | 90° | 0°      | 90° | 0°    | 90° | 0°      | 90° | 0°    | 90° | 0°      | 90° | 0°    | 90° | 0°      | 90° | 0°    | 90° | 0°    | 90° | 0°     | 90° |             |
| 10   | 3     |     | 4       |     | 4,5   |     | 5,1     |     | 6     |     | 6,5     |     | 7     |     | 7,5     |     | 8,2   |     | 9,1   |     | 11     |     | 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 (Nm)

| Size | Type Pressure | 3 bar |     | 3,5 bar |     | 4 bar |     | 4,5 bar |      | 5 bar |      | 5,5 bar |      | 6 bar |      | 6,5 bar |      | 7 bar |      | 8 bar |      | Spring Stroke |       | Weight (kg) |     |      |
|------|---------------|-------|-----|---------|-----|-------|-----|---------|------|-------|------|---------|------|-------|------|---------|------|-------|------|-------|------|---------------|-------|-------------|-----|------|
|      |               | 0°    | 90° | 0°      | 90° | 0°    | 90° | 0°      | 90°  | 0°    | 90°  | 0°      | 90°  | 0°    | 90°  | 0°      | 90°  | 0°    | 90°  | 0°    | 90°  | END           | START |             |     |      |
| 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        |     |      |
| 80   | S14 A         |       |     |         |     |       |     |         |      |       |      | 23      | 13   | 26    | 17   | 30      | 20   | 33    | 24   | 40    | 30   | 17            | 28    | 2,32        |     |      |
|      | 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        |     |      |
| 130  | 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        |     |      |
|      | 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        |     |      |
| 200  | 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        |     |      |
|      | 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        |     |      |
| 300  | 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        |     |      |
|      | 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       |     |      |
| 500  | 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       |     |      |
|      | 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       |     |      |
| 850  | 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       |     |      |
|      | 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        |     |      |
| 1200 | 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        |     |      |
|      | 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        |     |      |
| 1750 | 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 |
|      | 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        |     |      |
| 2100 | 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        |     |      |
|      | 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  |       |      |         |      |       |      |         |      |       |      |       |      |               |       |             |     |      |

## DOUBLE ACTING ACTUATOR TORQUE OUTPUT (inch lb)

| Size | 43.5 psi |     | 50 psi |     | 60 psi |     | 70 psi |     | 80 psi |     | 90 psi |     | 100 psi |     | 110 psi |     | 116 psi |     | 145 psi |     | Weight (lb) |
|------|----------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|---------|-----|---------|-----|---------|-----|---------|-----|-------------|
|      | 0°       | 90° | 0°     | 90° | 0°     | 90° | 0°     | 90° | 0°     | 90° | 0°     | 90° | 0°      | 90° | 0°      | 90° | 0°      | 90° | 0°      | 90° |             |
| 10   | 27       |     | 35     |     | 41     |     | 50     |     | 58     |     | 64     |     | 71      |     | 77      |     | 81      |     | 97      |     | 1.4         |
| 20   | 86       |     | 99     |     | 119    |     | 139    |     | 158    |     | 179    |     | 200     |     | 219     |     | 230     |     | -       |     | 3.1         |
| 40   | 180      |     | 207    |     | 248    |     | 290    |     | 331    |     | 374    |     | 411     |     | 453     |     | 478     |     | -       |     | 4.6         |
| 80   | 341      |     | 392    |     | 470    |     | 548    |     | 626    |     | 704    |     | 784     |     | 864     |     | 912     |     | -       |     | 6.6         |
| 130  | 523      |     | 601    |     | 721    |     | 841    |     | 962    |     | 1082   |     | 1204    |     | 1321    |     | 1390    |     | -       |     | 8.4         |
| 200  | 779      |     | 890    |     | 1070   |     | 1247   |     | 1430   |     | 1605   |     | 1788    |     | 1966    |     | 2071    |     | -       |     | 12.3        |
| 300  | 1283     |     | 1482   |     | 1777   |     | 2070   |     | 2372   |     | 2665   |     | 2958    |     | 3256    |     | 3434    |     | -       |     | 18.7        |
| 500  | 1921     |     | 2207   |     | 2647   |     | 3087   |     | 3526   |     | 3966   |     | 4406    |     | 4846    |     | 5107    |     | -       |     | 24.7        |
| 850  | 3177     |     | 3655   |     | 4386   |     | 5112   |     | 5845   |     | 6578   |     | 7304    |     | 8035    |     | 8470    |     | -       |     | 37.3        |
| 1200 | 4594     |     | 5287   |     | 6340   |     | 7397   |     | 8456   |     | 9510   |     | 10566   |     | 11622   |     | 12249   |     | -       |     | 56.9        |
| 1750 | 6257     |     | 7189   |     | 8630   |     | 10071  |     | 11503  |     | 12945  |     | 14386   |     | 15822   |     | 16675   |     | -       |     | 71.7        |
| 2100 | 9612     |     | 11054  |     | 13264  |     | 15475  |     | 17686  |     | 19897  |     | 22107   |     | 24318   |     | 25632   |     | -       |     | 109.6       |
| 2500 | 15312    |     | 17614  |     | 21135  |     | 24659  |     | 28177  |     | 31703  |     | 35228   |     | 38747   |     | 40837   |     | -       |     | 153.4       |
| 4000 | 21313    |     | 24507  |     | 29407  |     | 34311  |     | 39210  |     | 44116  |     | 49014   |     | 53917   |     | 56831   |     | -       |     | 285.3       |

## SPRING RETURN ACTUATOR TORQUE OUTPUT (inch lb)

| Size | Type Pressure | 43.5 psi |      | 50 psi |      | 60 psi |      | 70 psi |       | 80 psi |       | 90 psi |       | 100 psi |       | 110 psi |       | 116 psi |       | Spring Stroke |       | Weight (lb) |      |       |
|------|---------------|----------|------|--------|------|--------|------|--------|-------|--------|-------|--------|-------|---------|-------|---------|-------|---------|-------|---------------|-------|-------------|------|-------|
|      |               | 0°       | 90°  | 0°     | 90°  | 0°     | 90°  | 0°     | 90°   | 0°     | 90°   | 0°     | 90°   | 0°      | 90°   | 0°      | 90°   | 0°      | 90°   | END           | START |             |      |       |
| 20   | S04           |          |      | 64     | 40   | 85     | 64   | 109    | 82    | 125    | 107   | 145    | 122   | 165     | 147   | 184     | 166   | 195     | 177   | 35            | 62    | 3.3         |      |       |
|      | S06 A         |          |      |        |      |        |      | 64     | 41    | 107    | 80    | 128    | 96    | 147     | 113   | 166     | 136   | 177     | 150   | 62            | 97    | 3.4         |      |       |
|      | S08           |          |      |        |      |        |      |        |       |        | 89    | 45     | 114   | 69      | 131   | 87      | 148   | 109     | 159   | 124           | 80    | 133         | 3.4  |       |
| 40   | S04           | 142      | 124  | 173    | 148  | 211    | 187  | 253    | 230   | 293    | 267   | 339    | 312   | 375     | 356   | 417     | 394   | 443     | 416   | 44            | 71    | 4.8         |      |       |
|      | S06           | 124      | 89   | 156    | 120  | 193    | 158  | 236    | 200   | 275    | 240   | 316    | 280   | 358     | 322   | 399     | 364   | 425     | 389   | 62            | 106   | 4.9         |      |       |
|      | S08           |          |      | 119    | 80   | 176    | 131  | 218    | 168   | 258    | 213   | 298    | 250   | 340     | 294   | 382     | 337   | 407     | 363   | 89            | 142   | 4.9         |      |       |
|      | S10           |          |      |        |      |        |      | 200    | 141   | 240    | 178   | 280    | 224   | 322     | 260   | 364     | 302   | 389     | 327   | 106           | 177   | 5.0         |      |       |
|      | S12           |          |      |        |      |        |      | 123    | 76    | 222    | 152   | 263    | 192   | 304     | 234   | 346     | 276   | 372     | 301   | 133           | 212   | 5.0         |      |       |
| 80   | S14 A         |          |      |        |      |        |      |        |       | 205    | 116   | 245    | 162   | 287     | 205   | 329     | 244   | 354     | 266   | 150           | 248   | 5.1         |      |       |
|      | S04           | 274      | 239  | 330    | 295  | 404    | 369  | 483    | 448   | 560    | 525   | 642    | 606   | 715     | 680   | 794     | 758   | 841     | 805   | 80            | 115   | 7.2         |      |       |
|      | S06           | 239      | 186  | 295    | 242  | 371    | 318  | 451    | 398   | 525    | 472   | 606    | 553   | 687     | 634   | 767     | 714   | 814     | 761   | 115           | 177   | 7.4         |      |       |
|      | S08           |          |      |        |      | 342    | 272  | 416    | 345   | 498    | 427   | 575    | 504   | 653     | 582   | 732     | 661   | 779     | 708   | 150           | 239   | 7.6         |      |       |
|      | S10           |          |      |        |      |        |      | 386    | 298   | 463    | 374   | 544    | 456   | 618     | 529   | 696     | 608   | 743     | 655   | 195           | 292   | 7.7         |      |       |
| 130  | S12           |          |      |        |      |        |      | 245    | 175   | 427    | 321   | 509    | 403   | 589     | 483   | 670     | 564   | 717     | 611   | 230           | 354   | 7.9         |      |       |
|      | S14 A         |          |      |        |      |        |      |        |       | 400    | 276   | 477    | 353   | 556     | 432   | 634     | 510   | 682     | 558   | 266           | 416   | 8.0         |      |       |
|      | S06           | 381      | 319  | 452    | 398  | 574    | 518  | 696    | 634   | 818    | 756   | 936    | 878   | 1053    | 1000  | 1175    | 1117  | 1248    | 1186  | 168           | 239   | 9.7         |      |       |
|      | S08           |          |      | 374    | 303  | 529    | 450  | 646    | 572   | 765    | 685   | 887    | 807   | 1009    | 929   | 1126    | 1051  | 1195    | 1124  | 230           | 319   | 9.9         |      |       |
|      | S10           |          |      |        |      | 476    | 379  | 598    | 501   | 720    | 623   | 839    | 742   | 956     | 859   | 1078    | 981   | 1151    | 1053  | 283           | 398   | 10.1        |      |       |
| 200  | S12           |          |      |        |      |        |      | 548    | 430   | 667    | 552   | 789    | 674   | 912     | 797   | 1029    | 913   | 1097    | 982   | 345           | 478   | 10.4        |      |       |
|      | S14 A         |          |      |        |      |        |      |        |       | 623    | 481   | 742    | 604   | 859     | 726   | 981     | 843   | 1053    | 912   | 398           | 566   | 10.6        |      |       |
|      | S06           | 540      | 434  | 659    | 545  | 834    | 725  | 1011   | 902   | 1191   | 1085  | 1371   | 1259  | 1549    | 1443  | 1727    | 1621  | 1832    | 1726  | 274           | 407   | 14.3        |      |       |
|      | S08           |          |      | 534    | 398  | 754    | 610  | 937    | 787   | 1112   | 970   | 1291   | 1144  | 1469    | 1321  | 1647    | 1502  | 1752    | 1611  | 372           | 540   | 14.8        |      |       |
|      | S10           |          |      |        |      | 674    | 495  | 858    | 672   | 1032   | 855   | 1215   | 1029  | 1391    | 1205  | 1568    | 1387  | 1673    | 1496  | 460           | 682   | 15.2        |      |       |
| 300  | S12           |          |      |        |      |        |      | 778    | 557   | 952    | 740   | 1136   | 914   | 1312    | 1090  | 1488    | 1272  | 1593    | 1381  | 558           | 814   | 15.4        |      |       |
|      | S14 A         |          |      |        |      |        |      |        |       | 881    | 625   | 1056   | 799   | 1232    | 975   | 1413    | 1157  | 1522    | 1266  | 646           | 947   | 16.1        |      |       |
|      | S06           | 903      | 664  | 1094   | 855  | 1396   | 1151 | 1689   | 1450  | 1982   | 1743  | 2279   | 2040  | 2577    | 2338  | 2870    | 2632  | 3045    | 2806  | 451           | 735   | 21.3        |      |       |
|      | S08           |          |      | 892    | 605  | 1263   | 945  | 1562   | 1238  | 1858   | 1540  | 2151   | 1833  | 2445    | 2126  | 2743    | 2424  | 2921    | 2602  | 602           | 982   | 21.9        |      |       |
|      | S10           |          |      |        |      | 1139   | 735  | 1432   | 1034  | 1726   | 1327  | 2028   | 1624  | 2321    | 1922  | 2614    | 2216  | 2788    | 2390  | 752           | 1221  | 22.5        |      |       |
| 500  | S12           |          |      |        |      |        |      | 1305   | 822   | 1602   | 1124  | 1895   | 1417  | 2195    | 1710  | 2490    | 2008  | 2664    | 2186  | 903           | 1469  | 23.1        |      |       |
|      | S14 A         |          |      |        |      |        |      |        |       | 1469   | 911   | 1771   | 1208  | 2064    | 1506  | 2362    | 1800  | 2540    | 1974  | 1053          | 1708  | 23.8        |      |       |
|      | S06           | 1345     | 1053 | 1632   | 1340 | 2072   | 1780 | 2511   | 2219  | 2960   | 2659  | 3400   | 3099  | 3839    | 3539  | 4279    | 3983  | 4540    | 4248  | 673           | 1018  | 29.4        |      |       |
|      | S08           | 1159     | 761  | 1446   | 1048 | 1886   | 1488 | 2326   | 1933  | 2765   | 2376  | 3205   | 2816  | 3645    | 3255  | 4090    | 3695  | 4355    | 3956  | 894           | 1354  | 30.5        |      |       |
|      | S10           |          |      |        |      | 1691   | 1204 | 2137   | 1644  | 2579   | 2084  | 3019   | 2524  | 3459    | 2963  | 3899    | 3403  | 4160    | 3664  | 1115          | 1699  | 31.6        |      |       |
| 850  | S12           |          |      |        |      |        |      | 1945   | 1352  | 2385   | 1792  | 2824   | 2240  | 3264    | 2680  | 3709    | 3120  | 3974    | 3381  | 1345          | 2036  | 32.7        |      |       |
|      | S14 A         |          |      |        |      |        |      |        |       | 2199   | 1509  | 2639   | 1948  | 3078    | 2388  | 3518    | 2828  | 3779    | 3089  | 1567          | 2372  | 33.9        |      |       |
|      | S06           | 2301     | 1850 | 2779   | 2328 | 3512   | 3052 | 4245   | 3785  | 4969   | 4517  | 5702   | 5247  | 6434    | 5974  | 7162    | 6707  | 7594    | 7143  | 1027          | 1567  | 43.4        |      |       |
|      | S08           | 2009     | 1407 | 2487   | 1877 | 3220   | 2609 | 3953   | 3342  | 4677   | 4075  | 5410   | 4804  | 6142    | 5532  | 6875    | 6265  | 7311    | 6700  | 1372          | 2089  | 44.8        |      |       |
|      | S10           |          |      | 2023   | 1338 | 2928   | 2167 | 3661   | 2900  | 4393   | 3632  | 5118   | 4356  | 5850    | 5089  | 6583    | 5822  | 7019    | 6257  | 1708          | 2611  | 46.1        |      |       |
| 1200 | S12           |          |      |        |      |        |      | 3369   | 2457  | 4101   | 3189  | 4831   | 3914  | 5558    | 4647  | 6291    | 5379  | 6727    | 5815  | 2053          | 3124  | 47.6        |      |       |
|      | S14 A         |          |      |        |      |        |      |        |       | 3809   | 2738  | 4538   | 3471  | 5266    | 4204  | 5999    | 4937  | 6434    | 5372  | 2399          | 3647  | 48.9        |      |       |
|      | S06           | 3301     | 2558 | 3994   | 3251 | 5048   | 4305 | 6111   | 5361  | 7165   | 6421  | 8223   | 7475  | 9281    | 8530  | 10338   | 9586  | 10966   | 10214 | 1513          | 2399  | 66.4        |      |       |
|      | S08           | 2876     | 1885 | 3562   | 2570 | 4621   | 3630 | 5677   | 4686  | 6739   | 5740  | 7793   | 6798  | 8849    | 7856  | 9905    | 8913  | 10532   | 9541  | 2027          | 3195  | 68.6        |      |       |
|      | S10           | 2443     | 1204 | 3136   | 1889 | 4190   | 2948 | 5246   | 4004  | 6306   | 5067  | 7360   | 6121  | 8422    | 7176  | 9480    | 8232  | 10108   | 8860  | 2531          | 3992  | 71.0        |      |       |
| 1750 | S12           |          |      |        |      |        |      | 4819   | 3326  | 5872   | 4385  | 6931   | 5439  | 7989    | 6495  | 9046    | 7550  | 9674    | 8178  | 3036          | 4788  | 73.2        |      |       |
|      | S14 A         |          |      |        |      |        |      |        |       | 3067   | 1922  | 5447   | 3704  | 6501    | 4763  | 7557    | 5820  | 8612    | 6878  | 9240          | 7505  | 3540        | 5585 | 75.6  |
|      | S06           | 4222     | 3089 | 5162   | 4021 | 6594   | 5461 | 8035   | 6903  | 9476   | 8335  | 10909  | 9776  | 12350   | 11217 | 13786   | 12653 | 14639   | 13506 | 2390          | 3726  | 86.6        |      |       |
|      | S08           | 3540     | 2027 | 4480   | 2967 | 7357   | 5840 | 8795   | 7282  | 10236  | 8719  | 11671  | 10155 | 13110   | 11597 | 13966   | 12453 | 15316   | 14537 | 3186          | 4974  | 90.4        |      |       |
|      | S10           |          |      | 3513   | 1816 | 5240   | 3346 | 6681   | 4787  | 8114   | 6228  | 9555   | 7661  | 10996   | 9102  | 12432   | 10538 | 13285   | 11391 | 3992          | 6213  | 94.1        |      |       |
| 2100 | S12           |          |      |        |      |        |      | 6000   | 3728  | 7441   | 5166  | 8879   | 6608  | 10315   | 8049  | 11756   | 9485  | 12612   | 10338 | 4788          | 7461  | 97.9        |      |       |
|      | S14 A         |          |      |        |      |        |      |        |       | 3750   | 1998  | 6759   | 4113  | 8207    | 5551  | 9642    | 6987  | 11078   | 8428  | 11931         | 9284  | 5585        | 8700 | 101.4 |
|      | S06           | 6213     | 4505 | 7655   | 5947 | 9866   | 8158 | 12076  | 10368 | 14287  | 12579 | 16498  | 14790 | 18709   | 17001 | 20919   | 19211 | 22233   | 20525 | 3399          | 5107  | 132.9       |      |       |
|      | S08           | 5080     | 2797 | 6522   | 4239 | 8733   | 6449 | 10944  | 8660  | 13154  | 10871 | 15365  | 13082 | 17576   | 15292 | 19787   | 17503 | 21100   | 18817 | 4532          | 6815  | 137.8       |      |       |
|      | S10           |          |      | 4994   | 2430 | 7600   | 4750 | 9811   | 6961  | 120    |       |        |       |         |       |         |       |         |       |               |       |             |      |       |

# 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.



## DECLUTCHABLE GEAR BOXES

- Aluminium Housing.
- Rugged construction.
- Sealed 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 upon 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

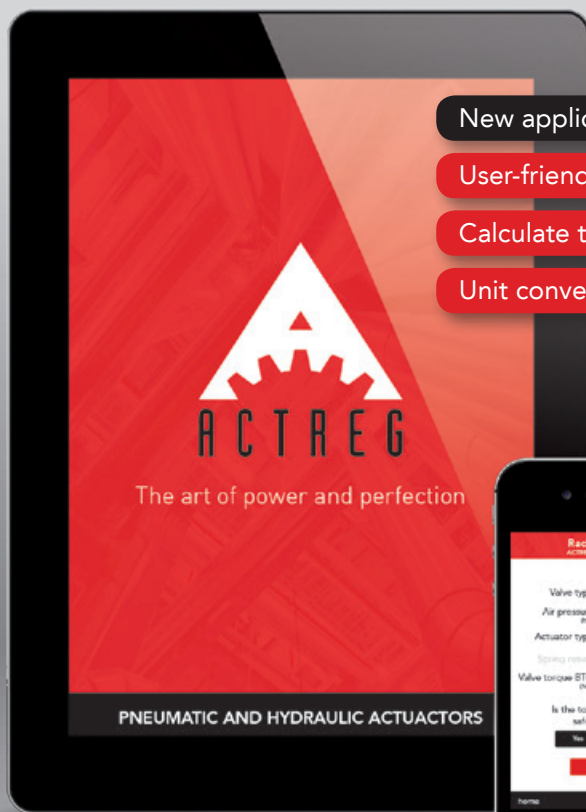
- FIRE-proof.
- Fast acting actuators.
- 100% adjustment stroke actuators.
- Special coatings.
- Special actuators for critical applications.

# ACTREG MOBILE APPLICATION

The all-in-one ACTREG interface is a “must have” for the modern automation valve business. Ideal for work, the ACTREG interface can be used to calculate torques with or without safety factors and allows you to make your own configuration with ACTREG actuators. You can also convert any unit of measurement, dimensions, torques, temperatures, and material 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, allowing you to convert quickly while on-the-go.

We have also included some information about ACTREG and the entire product range. This is a highly effective interface made by ACTREG. Anytime, anywhere, and in any situation.

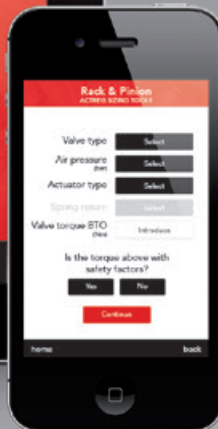


New application

User-friendly interface

Calculate torques

Unit converter



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