



The art of power and perfection



**PNEUMATIC ACTUATORS**



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.

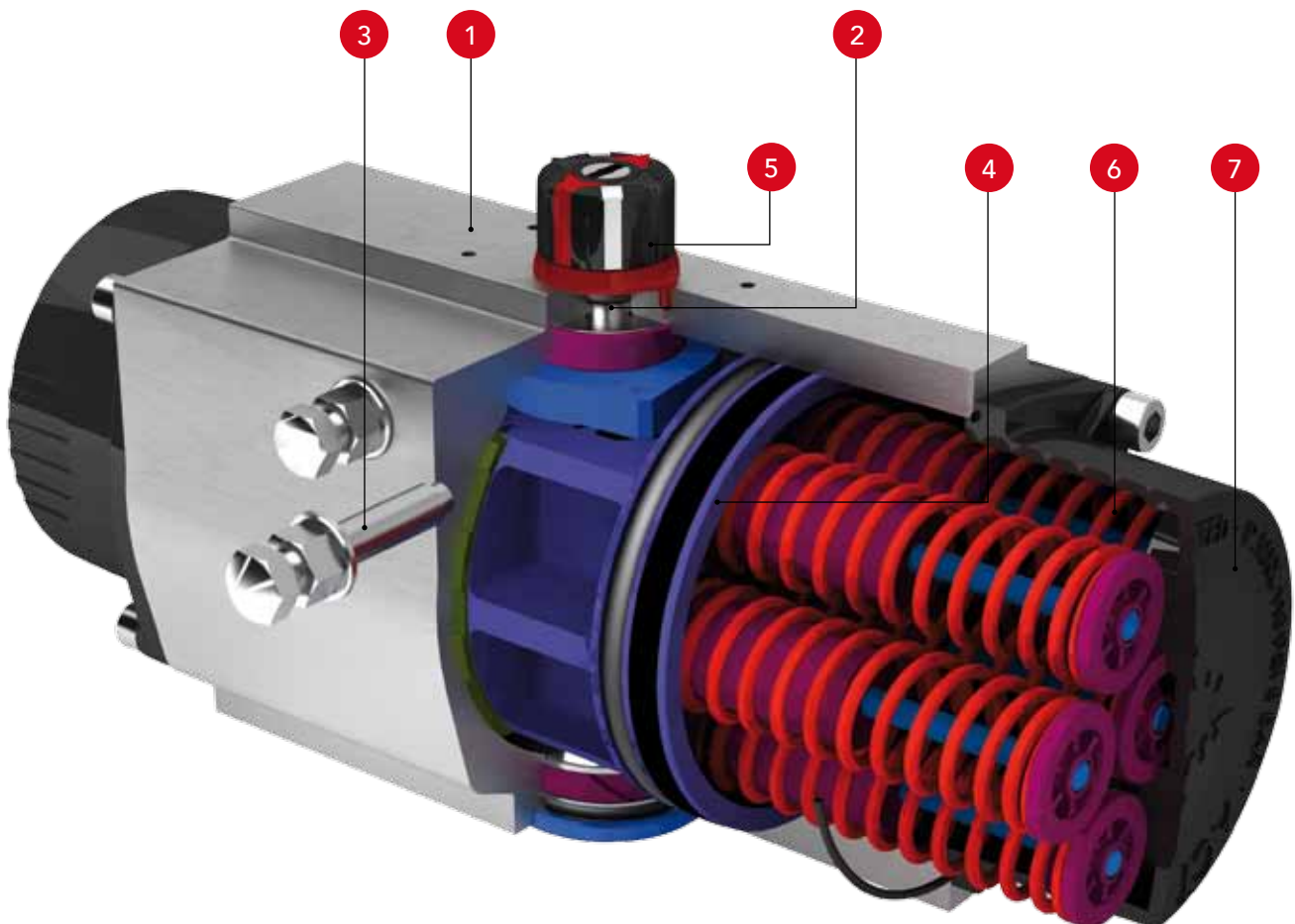
ACTREG pneumatic actuators have got SIL 3 (Safety integral level 3) certificate. The ACTREG actuators meets manufacturer design process requirements of Safety integral Level (SIL) 3. This is intended to achieve sufficient integrity against systematic errors of design by the manufacturer.



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:

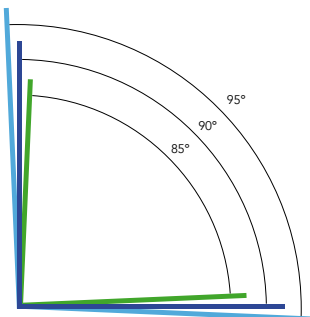
8 bar (116 psig). (Except ADA10 at 10 bar)

## 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...)

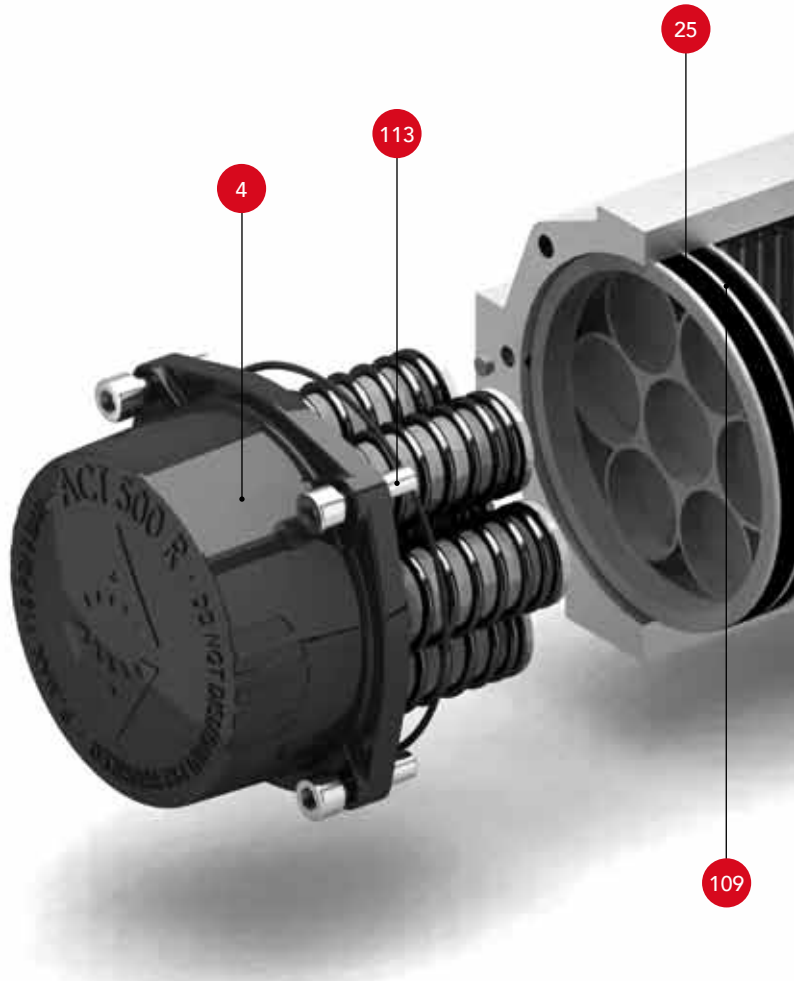


Inductive switches indicating open and closed position (up/down detecting switches...)

# 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

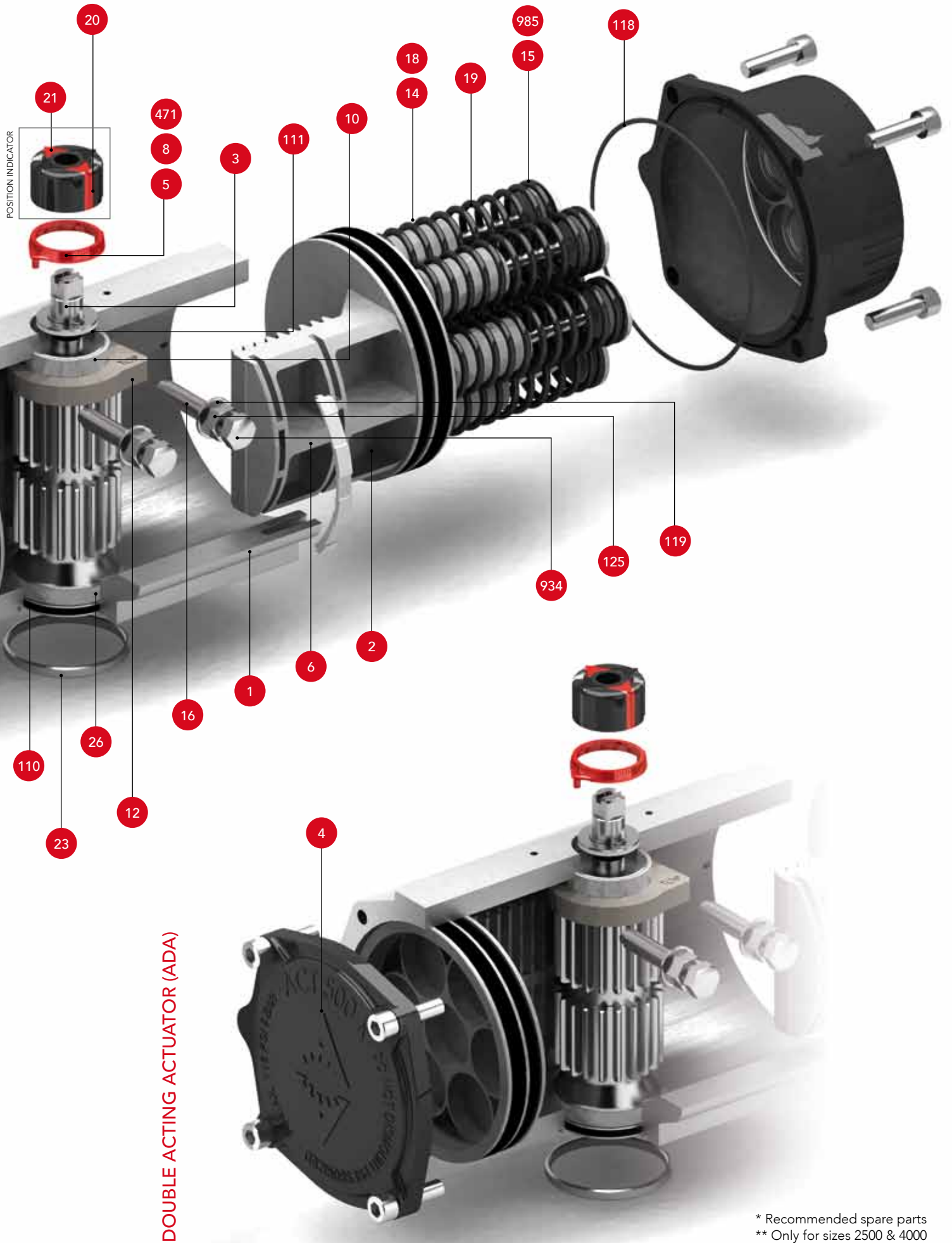


Inserts  
Stainless Steel

FROM SIZE 1200 TO 4000



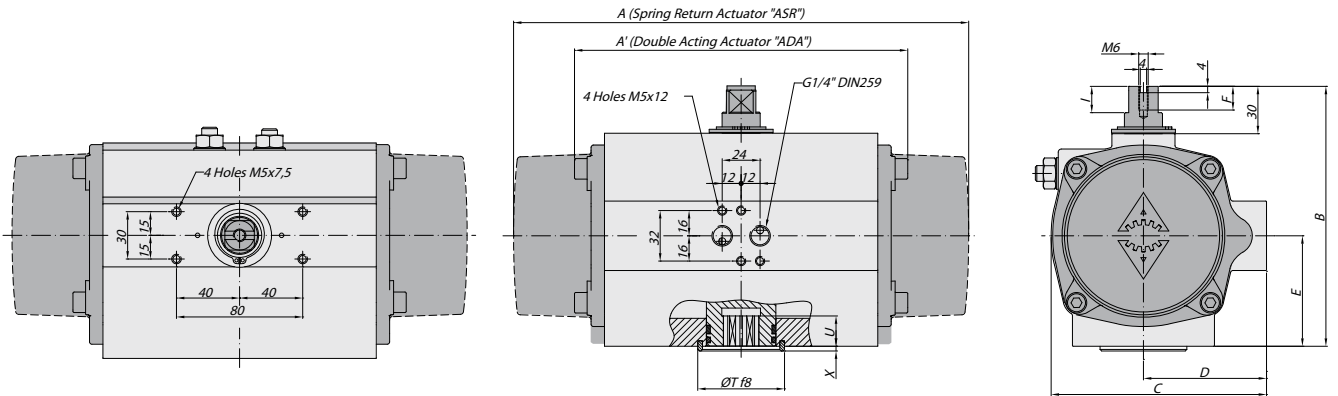
Position indicator & Cams  
Polypropylene



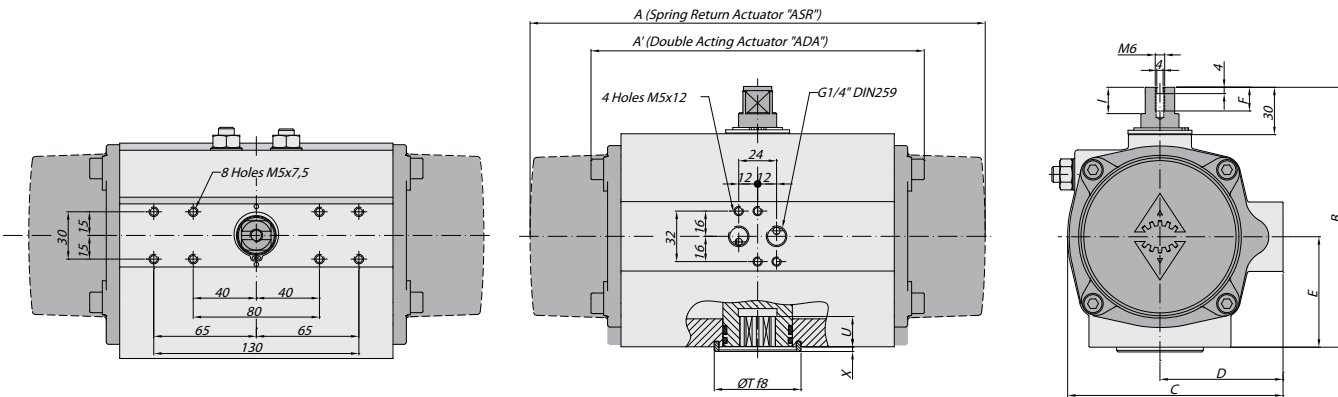
\* Recommended spare parts  
 \*\* Only for sizes 2500 & 4000

# GENERAL DIMENSIONS

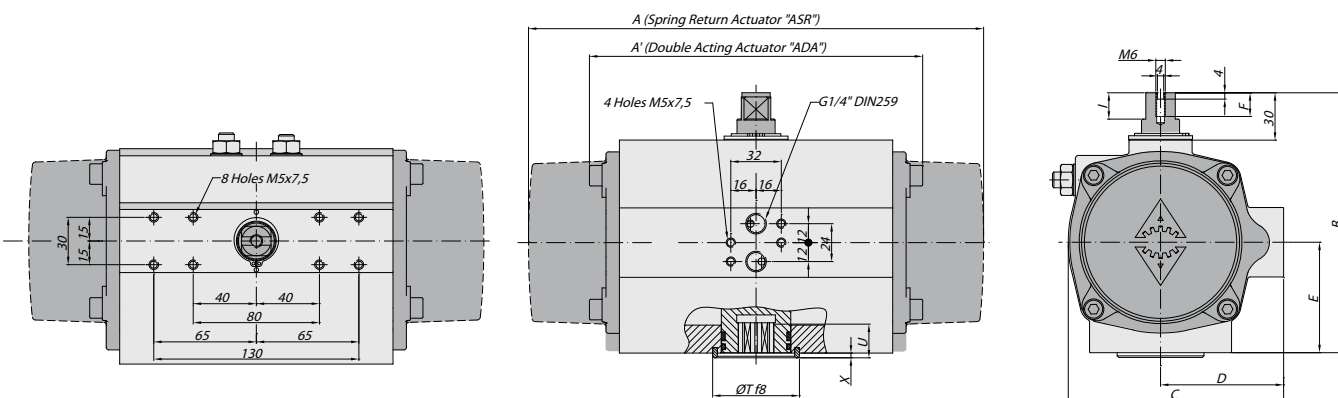
SIZES 10 | 20 | 40 | 80 | 130 | 200 | 300 | 500 | 850



SIZES 1200 | 1750



SIZES 2100

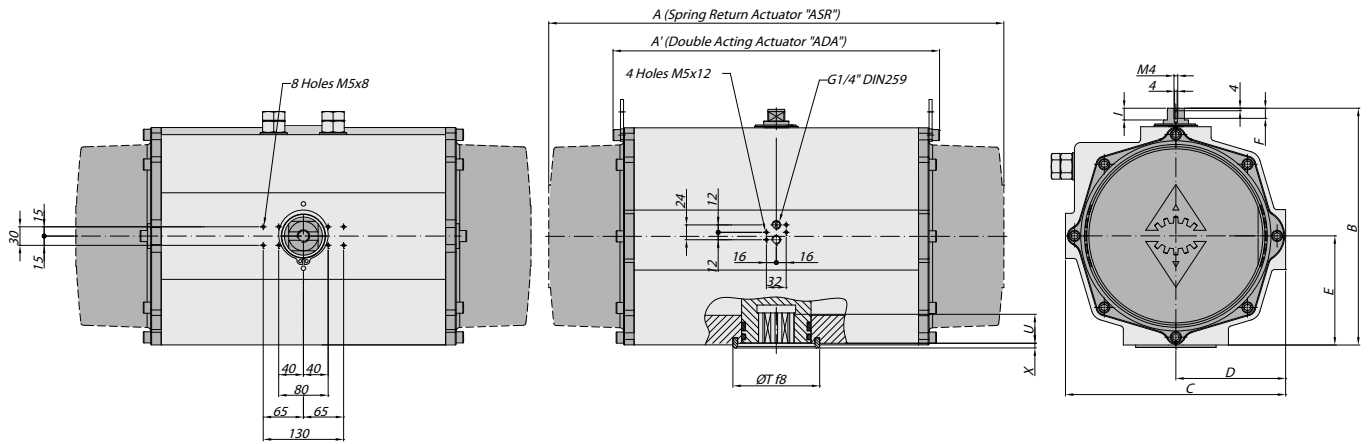


## DOUBLE ACTING & SPRING RETURN ACTUATORS GENERAL DIMENSIONS in mm

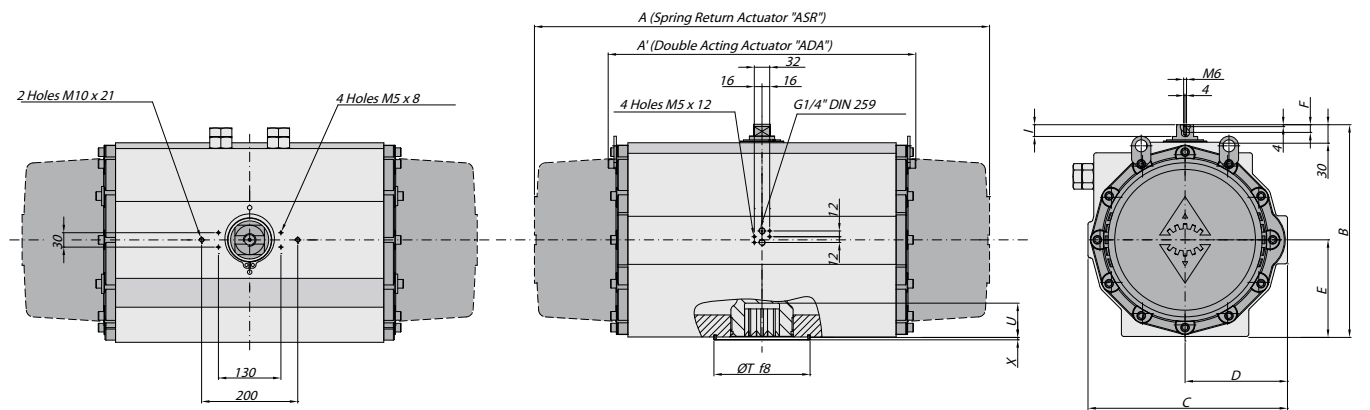
SIZE	A	A'	B	C	D	E	F	I	R	øS	ISO 5211	øL	MxV	ISO 5211	øL1	M1xV1	øT	X	U
10	-	100	76	56	33	23	9	6	9	12.5	F03	36	M5x8	-	-	-	11	2	12
20	163	145	96	76	48	34	9	12.5	9	12.5	F03	36	M5x8	F05	50	M6x10	25	2	10
20	163	145	96	76	48	34	9	12.5	14	18.1	F05	50	M6x10	-	-	-	35	3	12
20	163	145	96	76	48	34	9	12.5	14	18.1	F04	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

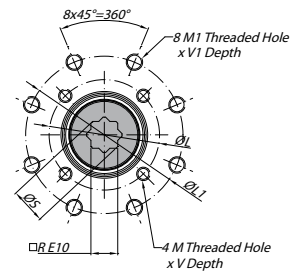
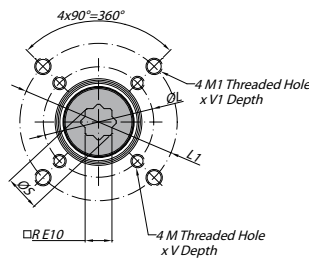
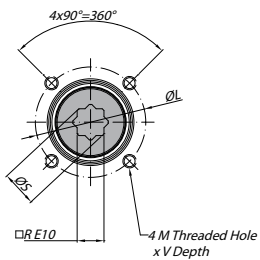
10 | 20 | 40 | 500 | 1750 | 2100 | 2500

### 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



