

# 1121-1125 BUTTERFLY VALVE WITH ADA PNEUMATIC ACTUATOR

## MAIN CHARACTERISTICS

The 1121 to 1125 wafer butterfly valves are dedicated to the automatic shut-off of medium pressure industrial fluids' lines up to 16 bar. The body is in cast iron and several disc and liner materials' combinations allow his use on numerous applications. The construction includes a long neck for pipe's insulation. The stem's packing has a double tightness thought PTFE rings. The wafer connection of the valve is between flanges PN10/16 and ANSI 150. The valve is CE PED 97/23 certified.

The actuation is available in both double effect and spring return types with numerous options.



## LIMITS OF USE

Pressure of fluid : PS	16 bar up to DN 300
Temperature of fluid : TS	See table below
Forbidden use	Steam, natural gas
Ambient temperature	-10°C / +90°C
Compressed air feeding	mini 6 bar / maxi 10 bar



## AVAILABLE MODELS

Sizes 40 to 300

Wafer connection between PN10/16 and ANSI 150 RF flanges

Double effect and Spring return actuators

Ref.	Disc	Liner	Example of use	TS min	TS max
1121	Stainless steel	NBR	Liquid hydrocarbons – Compressed air	-10°C	+90°C
1123	Stainless steel	EPDM	Demineralized water – Alkali	-10°C	+110°C
1125	Cast iron	EPDM	Cold water – Hot water	-10°C	+110°C

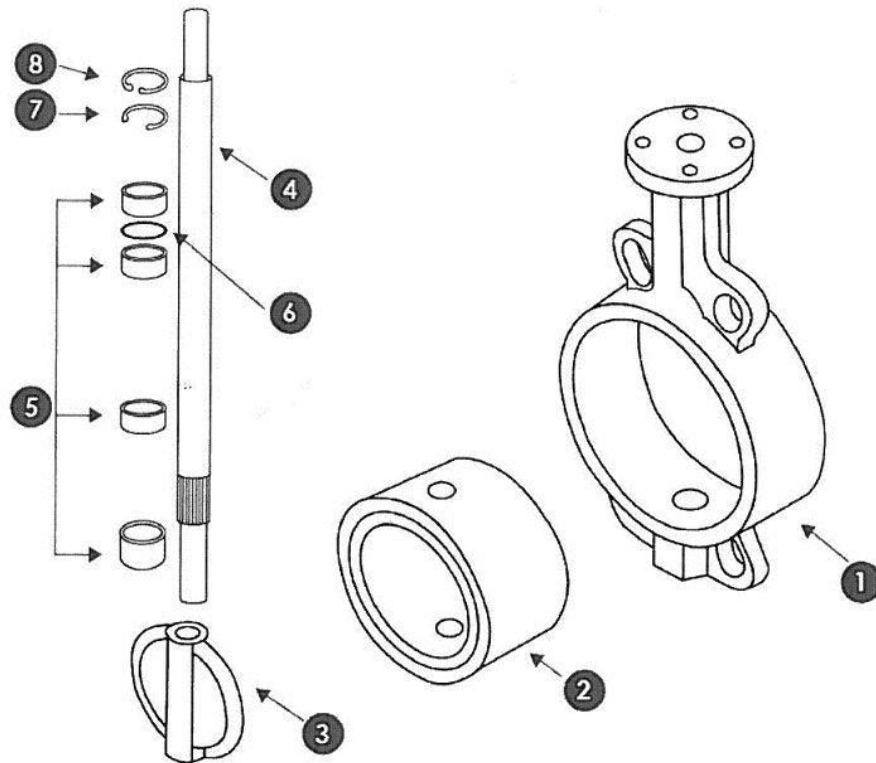
Modifications reserved

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		Ref.	1125+ADA
		Rev.	1
		Date	08/2013

# 1121-1125 BUTTERFLY VALVE WITH ADA PNEUMATIC ACTUATOR

## STANDARDS OF CONSTRUCTION


	Standard	NB		Standard
P.E.D 97/23	Cat. III module H	0035	Final testing	API 598
Face to face dimension	ISO 5752 serial 20		Pilote interface	NAMUR
Flanges' dimensions	EN 1092-1		Limit switches interface	VDI/VDE 3845
Actuator's connection	ISO 5211		SIL 3 level (actuator only)	EN 61508



## CONSTRUCTION

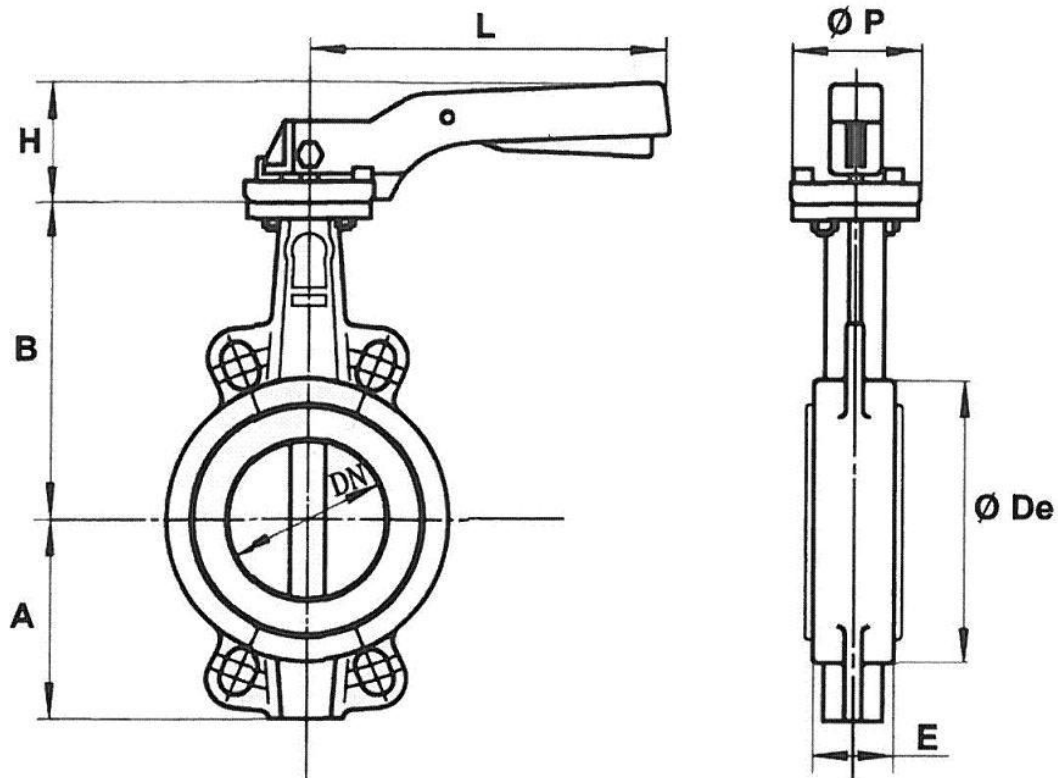
N°	Item	1121	1123	1125
1	Body	Cast iron EN GJL-250		
2	Liner	NBR	EPDM	EPDM
3	Disc	Stainless steel 1.4408	Stainless steel 1.4408	Cast iron EN GJS-400-15
4	Stem	Stainless steel 416		
5	Shaft'bearings	PTFE		
6	O-ring	NBR	NBR	NBR
7	Circlips	Steel		
8	Circlips	Steel		

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## DIMENSIONS (mm)



Size	40	50	65	80	100	125	150	200	250	300
A	61	77	87,5	95	107	121	144	171	205	235
B	130	136,5	142	158	180	192	215	242	280	310
Ø De	82	95	109	127	152	180	207	260	315	370
E	33	43	46	46	52	56	56	60	68	78
H	74	74	74	74	74	79	79	37	37	37
L	200	200	200	200	200	278	278	355	507	507
Ø P	65	65	65	65	65	90	90	125	150	150
Weight (kg)	1,8	2,5	2,9	3,2	4,12	6,7	7,8	14,2	23,4	33,8

## FLOW COEFFICIENT Kv (m<sup>3</sup>/h)

Size	40	50	65	80	100	125	150	200	250	300
Kv	78	98	167	258	512	872	1347	2675	4555	7037

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# 1121-1125 BUTTERFLY VALVE WITH ADA PNEUMATIC ACTUATOR

## ACTUATION WITH ADA ACTUATOR

The ACTREG actuators are sized for following operating conditions:

- rack and pignion anodized aluminium actuator,
- 1,3 minimum safety factor on nominal torque value of the valve,
- dry, non-lubricated 6 bar compressed air,
- max. differential pressure upstream/downstream  $\Delta P=10$  bar,

The mounting of the ADA actuator on the valve is:

- Direct mounting with aluminum ring for sizes 40 to 200,
- With stainless steel bracket according to EN 15081 for sizes 250 and 300.

Size	Double effect	V (liters)	Time (s)*	Sprin return	V (liters)	Time (s)*
40	ADA 20	0,13	1	ASR 40	0,27	1
50	ADA 20	0,13	1	ASR 40	0,27	1
65	ADA 40	0,27	1	ASR 80	0,64	1
80	ADA 40	0,27	1	ASR 80	0,64	1
100	ADA 80	0,64	2	ASR 130	0,77	1
125	ADA 80	0,64	2	ASR 200	1,2	2
150	ADA 130	0,77	2	ASR 300	1,96	2
200	ADA 200	1,2	2	ASR 500	2,95	3
250	ADA 300	1,96	3	ASR 850	4,7	3
300	ADA 500	2,95	3	ASR 1200	6,95	4


For all other duty services, please consult,

\*Average time for opening or closing for free of pressure valve.


## OPTIONS OF ACTUATION

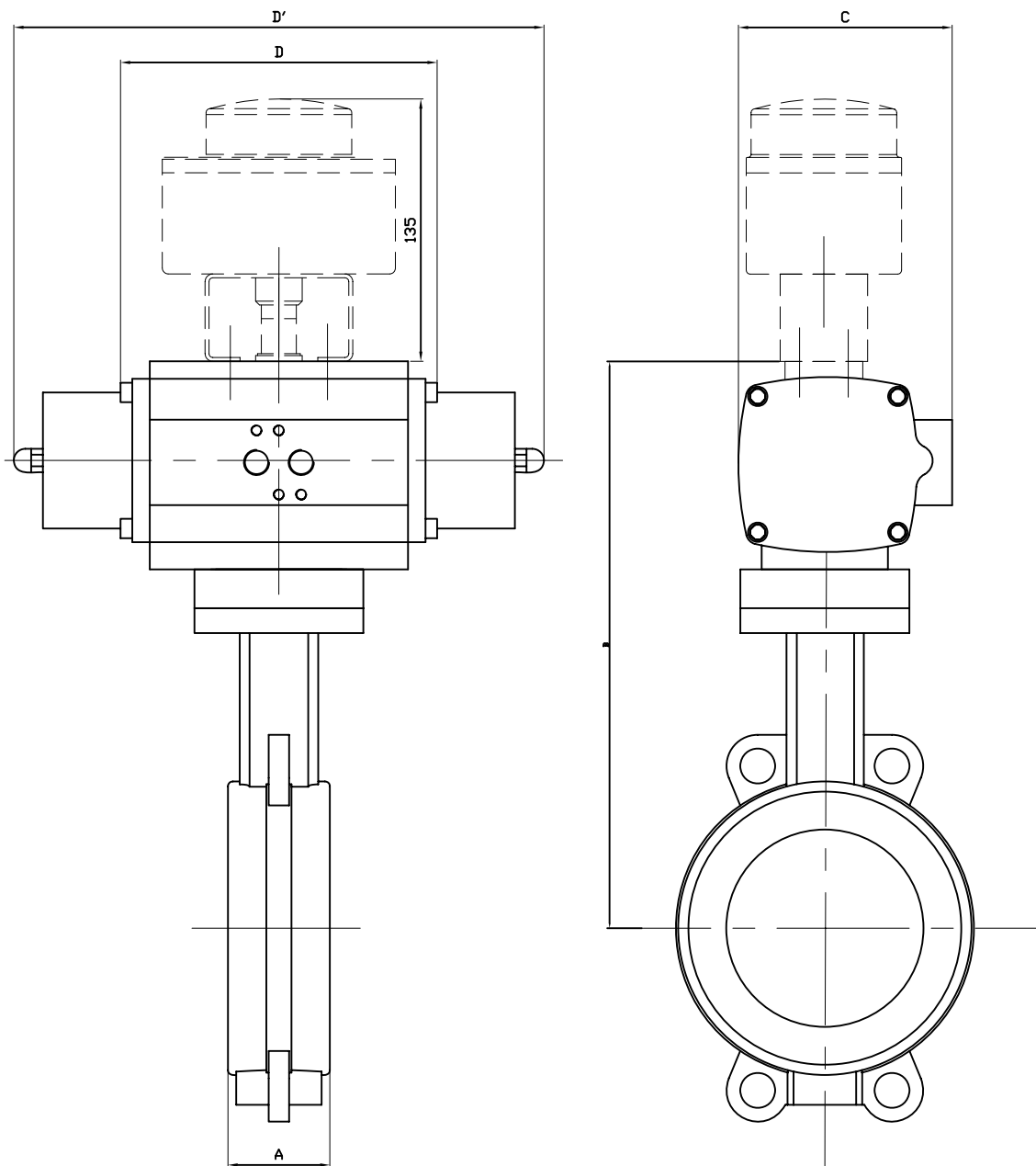
There are numerous options for which we advise you to ask our commercial department:

1	Oversized actuator for 3, 4 or 5 bar compressed air
2	Actuator sized of pressure differential > 10 bar
3	Special coated actuator, stainless steel actuator
4	Actuator for low temperature (-60°C) or high temperature (+150°C)
5	Declutchable manual gearbox
7	All types of limit switch box
8	Quick exhaust
9	Flow limiter on exhaust way



Modifications reserved

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DN	1 1/2		2		2 1/2		3		4		5		6		8		10		12	
ACTREG	20 DE	40 SE	20 DE	40 SE	40 DE	80 SE	40 DE	80 SE	80 DE	130 SE	80 DE	200 SE	130 DE	300 SE	200 DE	500 SE	300 DE	850 SE	500 DE	1200 SE
A	33		43		46		46		52		56		56		60		68		78	
B	216	235	223	242	247	269	263	285	307	316	325	353	357	393	397	431	512**	547**	559**	609**
C	76	90	76	90	90	111	90	111	111	121	111	135	121	151	135	172	151	192	172	212
D / D'	128	230	128	230	143	260	143	260	162	270	162	335	184	380	202	420	236	470	270	540

\*\* : 80 arcade editing

Information given for information only and subject to possible modifications				adding 1123	05/06/2006	A
Ech:	Date :07/05/2004	drawn by: F.G.	general tolerances: +/- 0.2	Modifications	Date	REV.
Actuator ACTREG + BFC Butterfly valve 1123-1125				Material :		
				Weight <Kg> :		
				Treatment: SANS		
				Plan n° Ens 772A		



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.

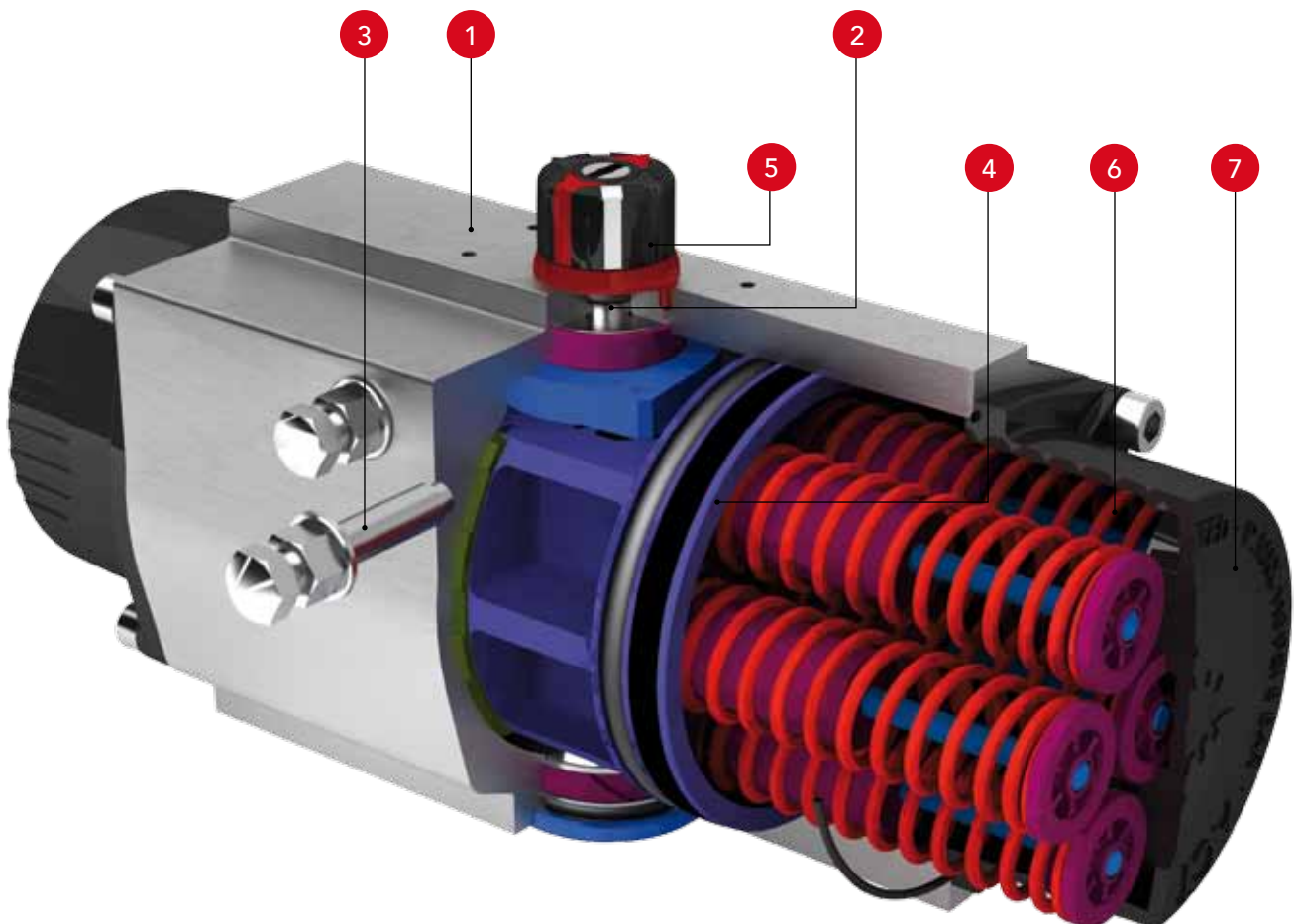


# perfection



# 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:

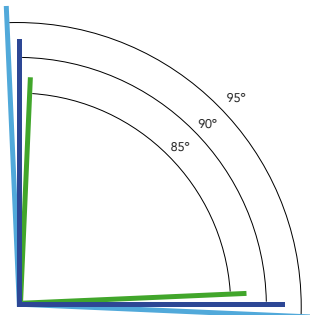
8 bar (116 psig). (Except ADA10 at 10 bar)

## 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...)

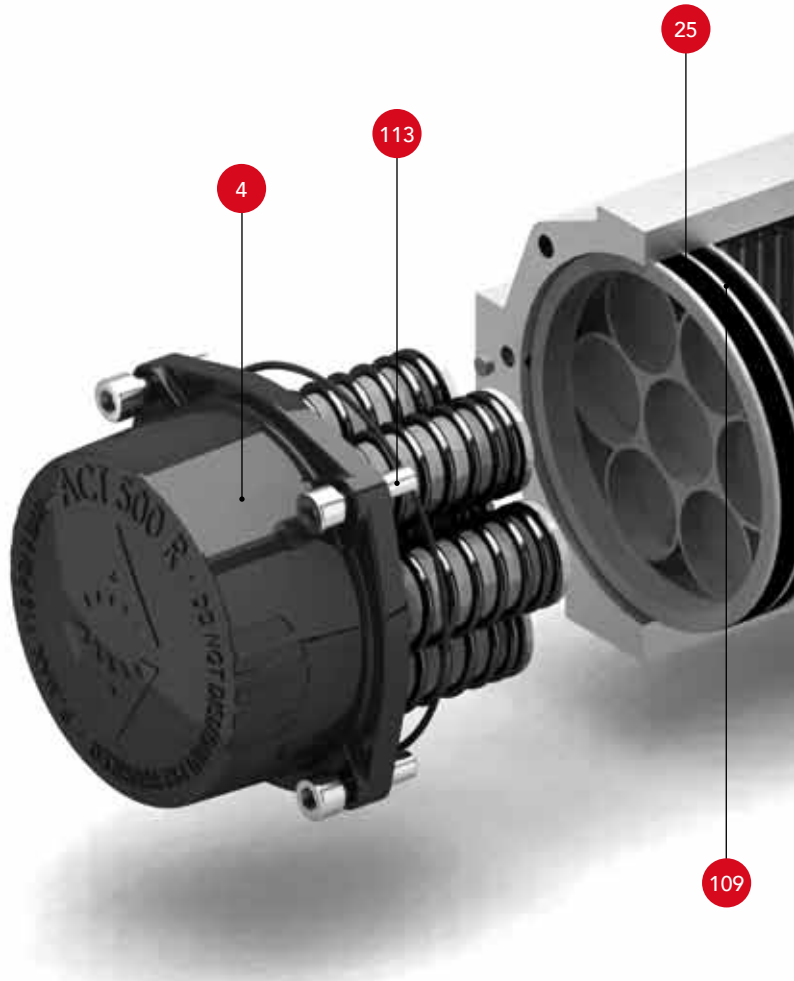


Inductive switches indicating open and closed position (up/down detecting switches...)

# 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

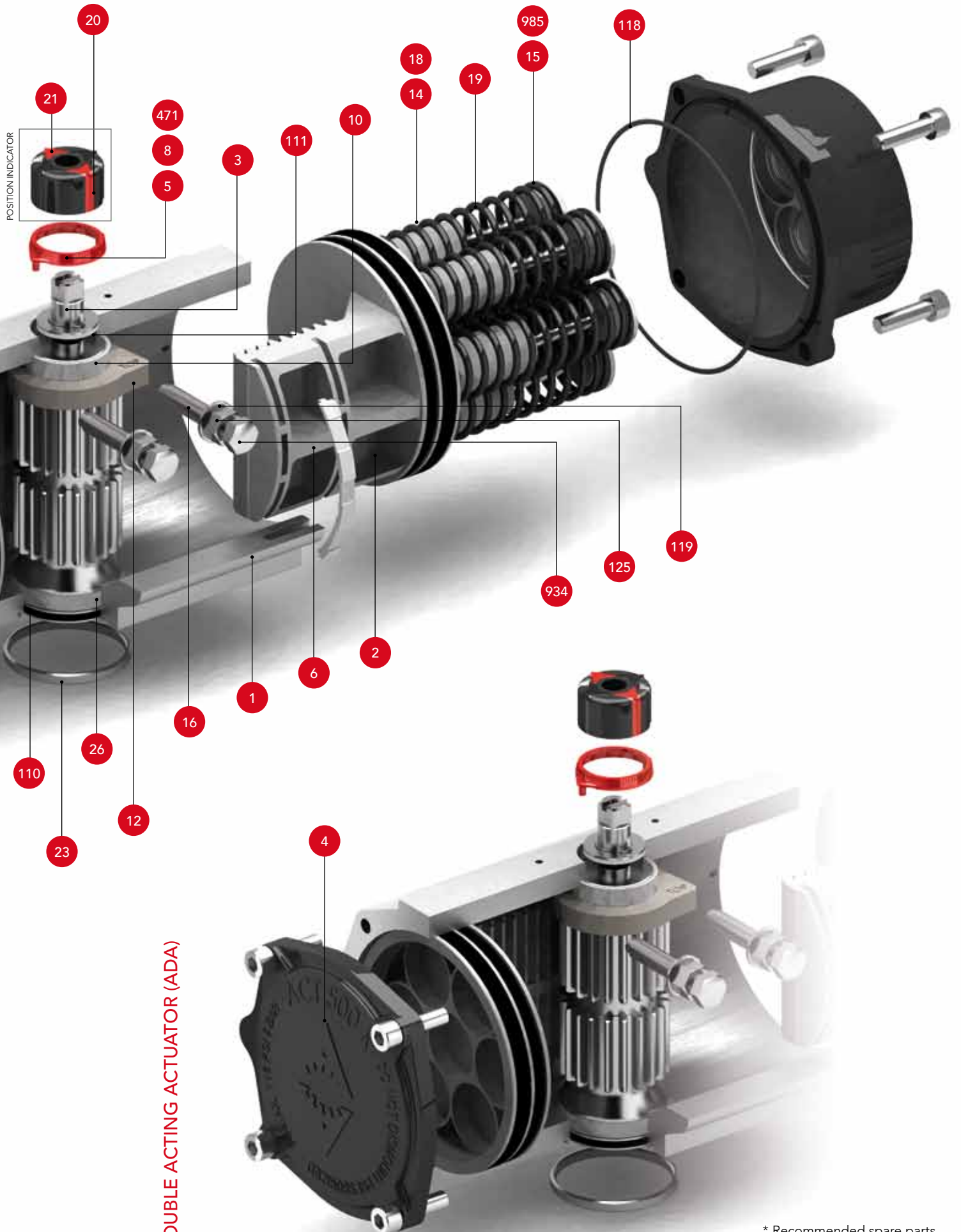


Inserts  
Stainless Steel

FROM SIZE 1200 TO 4000



Position indicator & Cams  
Polypropylene

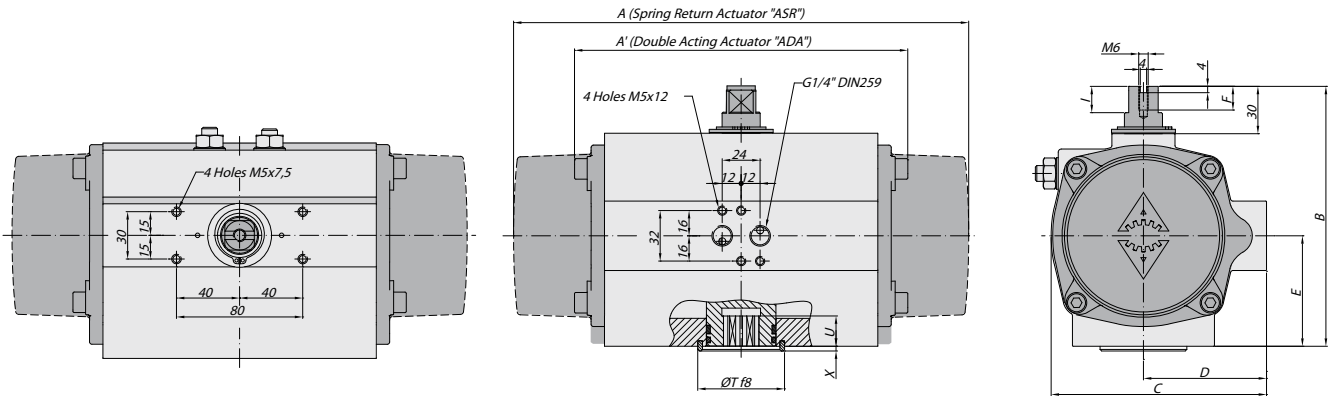


\* Recommended spare parts  
 \*\* Only for sizes 2500 & 4000

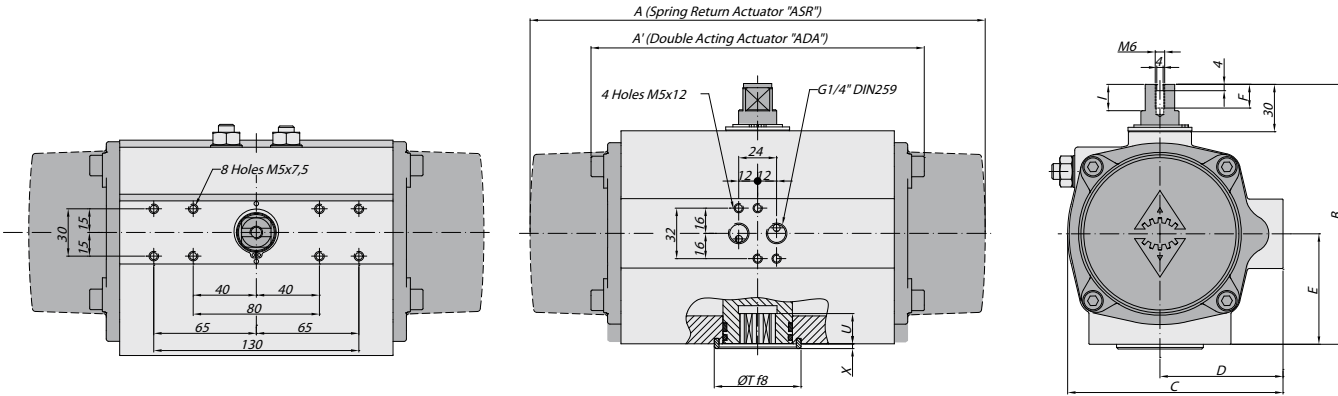


# GENERAL DIMENSIONS

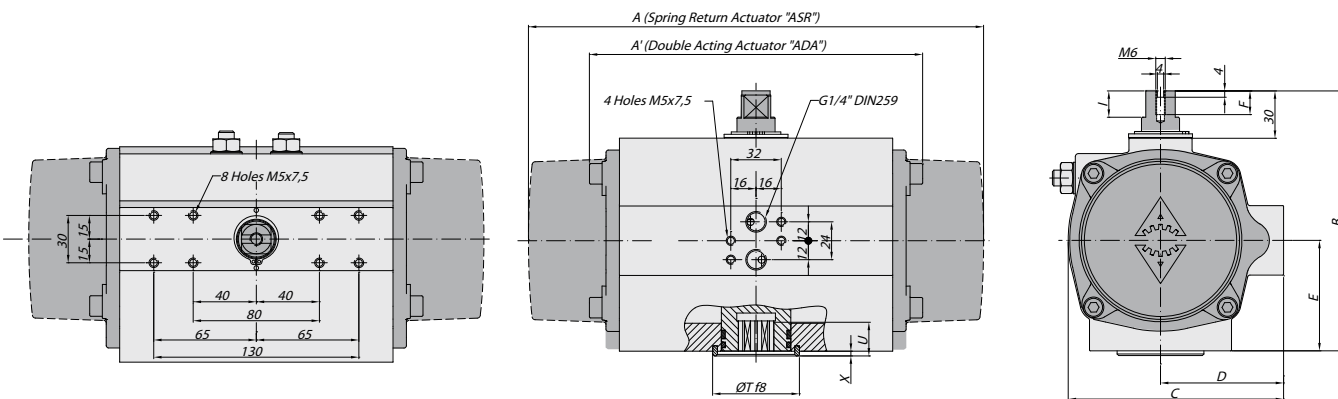
SIZES 10 | 20 | 40 | 80 | 130 | 200 | 300 | 500 | 850



SIZES 1200 | 1750



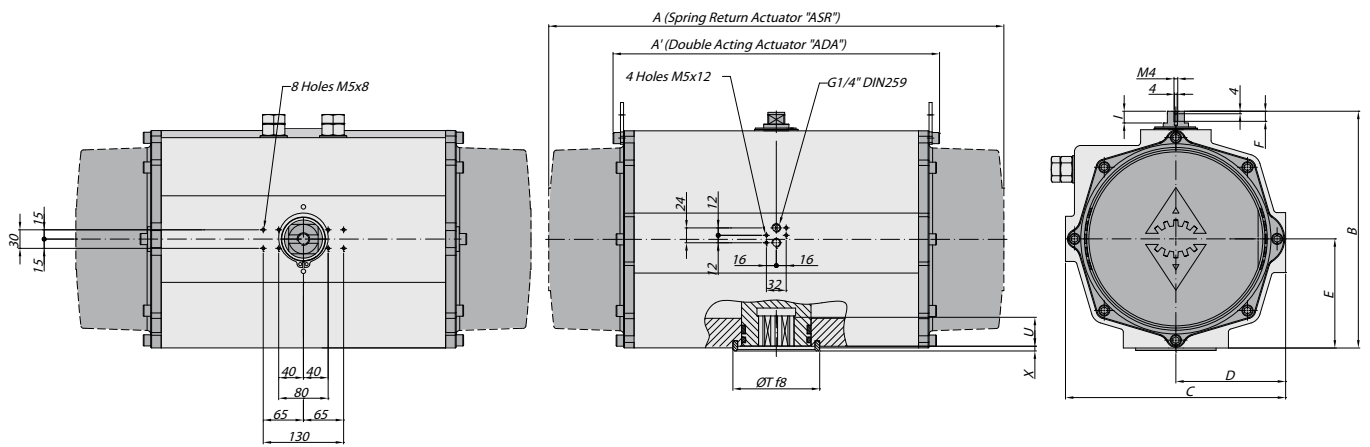
SIZES 2100



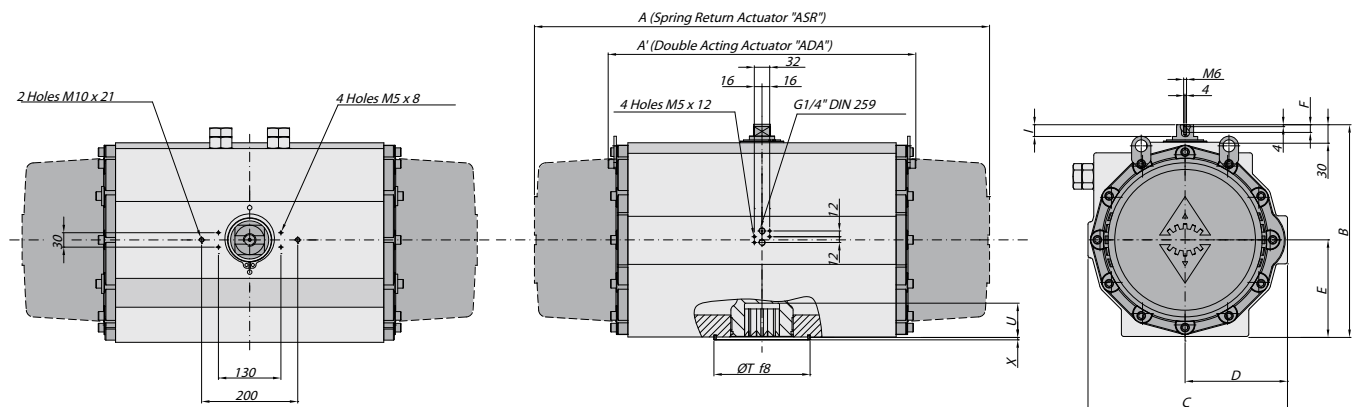
## DOUBLE ACTING & SPRING RETURN ACTUATORS GENERAL DIMENSIONS in mm

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

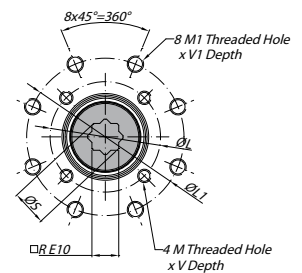
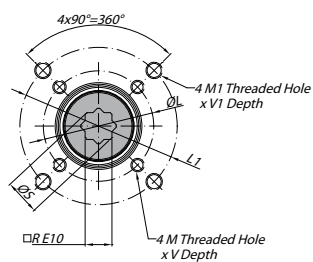
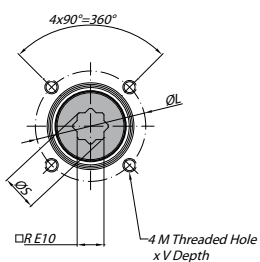
10 | 20 | 40 | 500 | 1750 | 2100 | 2500

### 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



