

# 771 XS BALL VALVE WITH ADA PNEUMATIC ACTUATOR

## MAIN CHARACTERISTIC

The 771 XS wafer ball valve is dedicated to the automatic shut-off of low and medium pressure industrial fluid lines up to 16 bar. The wafer design makes this valve perfectly adapted for lighter piping design in comparison with traditional flanged ball valves. With a full bore construction type, the 771 XS valve is CE PED 97/23 approved and ATEX certified.

The full ISO 5211 ISO pad enables the direct mounting of standardized actuators. The actuation is available in both double effect and spring return types with numerous options.

## AVAILABLE MODELS

Stainless steel body 1.4408

Sizes DN 15 to DN 100

Wafer type connection with flanges PN16 RF.

Short pattern EN 558-1 serial 27

## CLASSIFICATION FOLLOWING PED

Sizes < DN 25: not subjected to PED acc. to A3 §3

Sizes DN32 to 100: category III : CE 0035 homologation

## LIMITS OF USE

PS	TS
16 bar @ 20°C	-30°C/+180°C

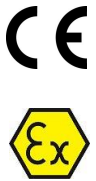
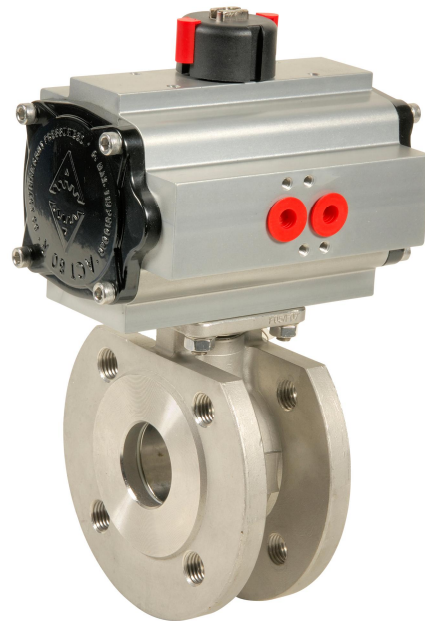
## STANDARDS OF CONSTRUCTION

Rating	EN 12516
Final test	EN 12266
Flanges	EN 1092-1 PN16 RF
Motorisation	ISO 5211
ATEX	II 2 G/D Tx area 1,21,2 and 22

## ACTUATOR TYPE ADA

See our technical data sheet FT1510 on page 5.

Modifications reserved



## MOTORIZATION WITH ADA ACTUATOR

The actuators are sized for following operating conditions :

- 6 bar compressed air supply,

- max. pressure differential up/downstream : 10 bar.

Size	Double effect	Spring return
15	ADA 20	ASR 20
20	ADA 20	ASR 20
25	ADA 40	ASR 80
32	ADA 40	ASR 80
40	ADA 40	ASR 80
50	ADA 80	ASR 200
65	ADA 130	ASR 300
80	ADA 130	ASR 300
100	ADA 200	ASR 500

For any other operating condition, please consult.

## OPTIONS

Declutchable gear box

Oversized actuator

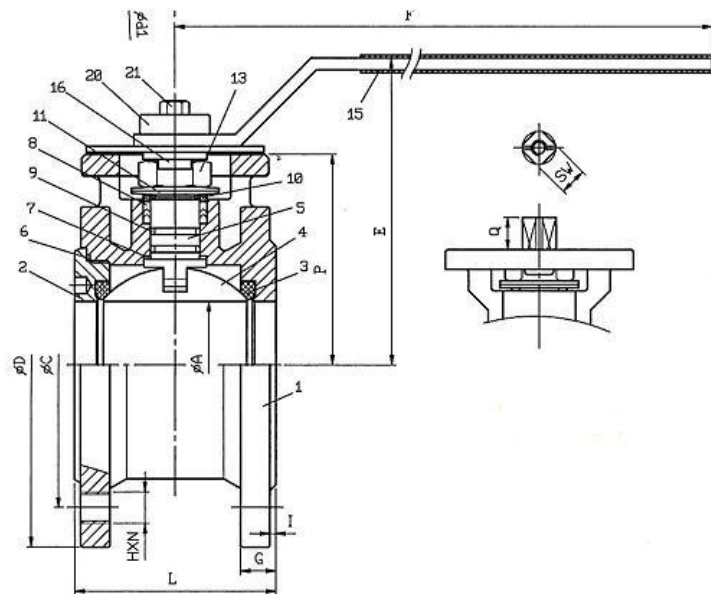
Limits switches box

NAMUR pilot valve

# 771 XS BALL VALVE WITH ADA PNEUMATIC ACTUATOR

## CONSTRUCTION

Item	Part	Material	Item	Part	Material
1	Body	SS 1.4408	11	Belleville-washer	SS 304
2	End cap	SS 1.4408	12	Handle	SS 304
3	Seats	PTFE+15% GF	13	Lever nut	SS 304
4	Ball	SS 316	14	Stop screw	SS 304
5	Stem	PTFE + graphite	15	Plastic coating	PVC
6	Body seal	PTFE + graphite	16	Locking tab	SS 304
7	Gasket	PTFE+15% GF	17	Spring	SS 316
8	Seal	PTFE + graphite	18	Static device	SS 316
9	O-ring	FKM	19	Stop plate	SS 304
10	Gland ring	SS 304	20	Washer	SS 304
			21	Screw	SS 304



## DIMENSIONS (mm)

DN	15	20	25	32	40	50	65	80	100
A	16	20	25	32	40	50	65	80	96
C	65	75	85	100	110	125	145	160	180
D	95	105	115	140	150	165	185	200	220
E	89	89	101	112	116	125	154	165	180
F	114	114	187	187	222	222	350	350	350
G	14	16	16	16	16	18	18	20	20
H x N	M12x4	M12x4	M12x4	M16x4	M16x4	M16x4	M16x4	M16x8	M16x8
L	42	44	50	54	68	82	103	122	152
I	2	2	2	2	3	3	3	3	3
P	54	56	62.5	72	78	87.2	107	117,3	132.3
W (kg)	1.45	1.92	2.60	3.70	4.65	6.45	10.25	13.55	19.85

Modifications reserved

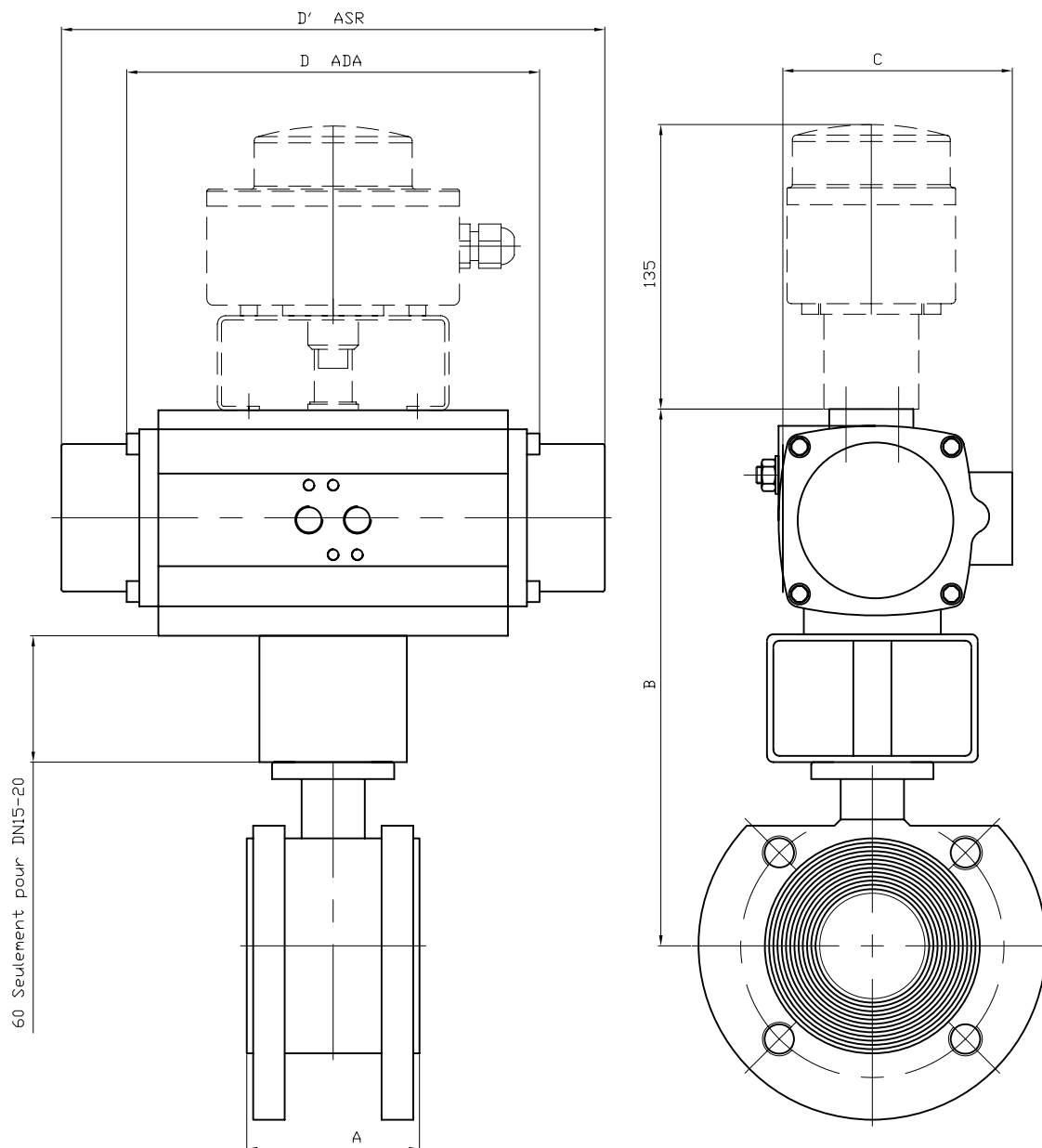


Réf : FT 771XADAENG

Rev : 0


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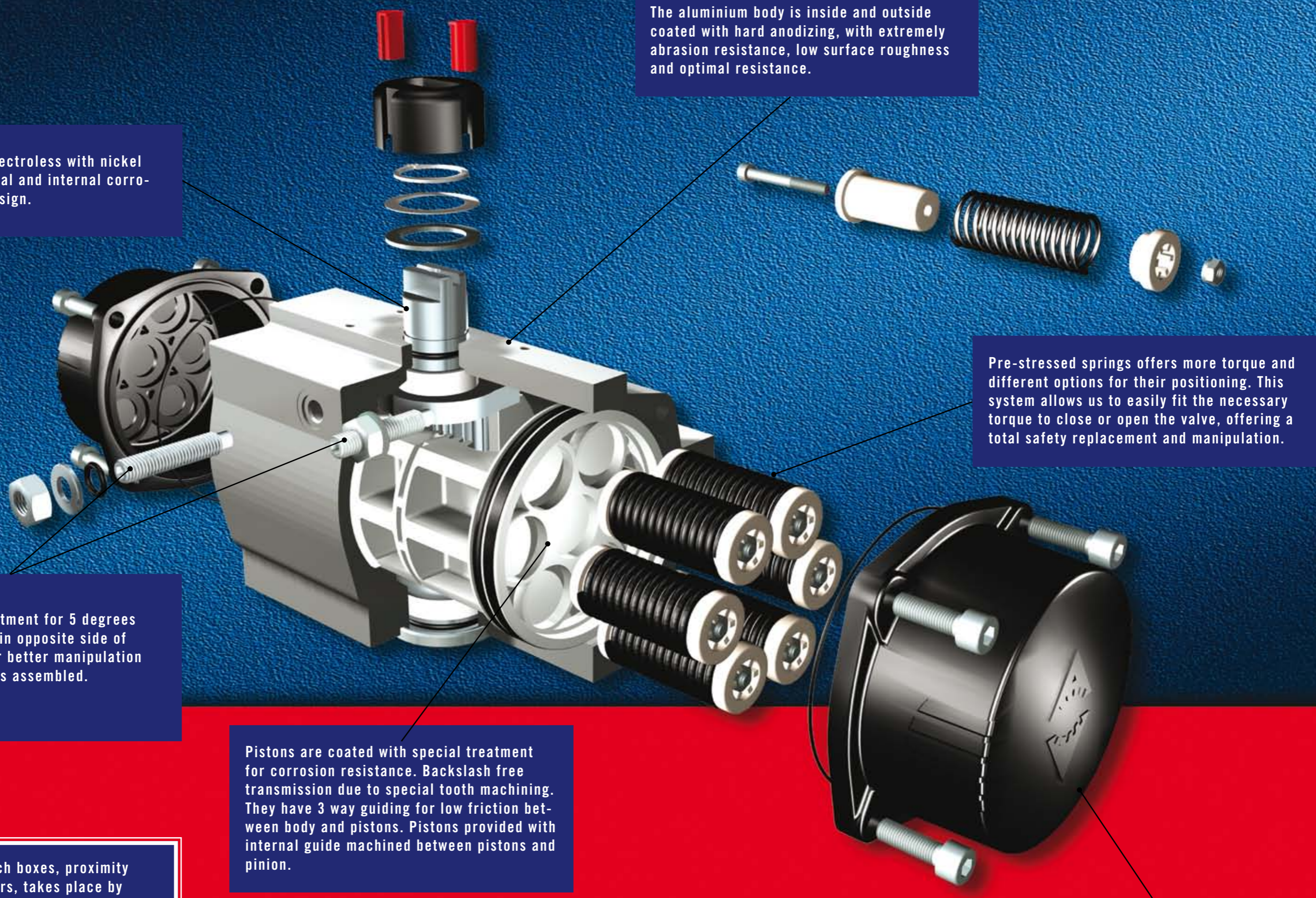
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DN	15		20		25		32		40		50		65		80		100	
ACTREG	ADA20	ASR20	ADA20	ASR20	ADA40	ASR80	ADA40	ASR80	ADA40	ASR80	ADA80	ASR200	ADA130	ASR300	ADA130	ASR300	ADA200	ASR500
A	42		44		50		54		68		82		103		122		152	
B	180	180	182	182	147.5	169.5	157	179	163	185	194.2	222.2	180	180	234.3	269.3	267.3	301.5
C	76	76	76	76	91	111	91	111	91	111	111	135.5	122	152.5	122	152.5	135.5	173
D	145	-	145	-	158	-	158	-	158	-	177	-	196	-	196	-	225	-
D'	-	163	-	163	-	217	-	217	-	217	-	299	-	348.5	-	348.5	-	397

Informations données à titre indicatif et sous réserve de modifications éventuelles

Ech: /	Date :17/01/2011	Dessiné par : E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
VANNE A SPHERE 771XS ACTONNEUR ACTREG + BFC				Matière :		
				Poids (Kg) :		
 45, Rue du Ruisseau 38297 SAINT QUENTIN FALLAVIER				Traitement : SANS		
				Plan n° Ens 1075		



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

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

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.

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

Pistons are coated with special treatment for corrosion resistance. Backlash free transmission due to special tooth machining. They have 3 way guiding for low friction between body and pistons. Pistons provided with internal guide machined between pistons and pinion.

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

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

Different end caps for double or single acting for fast and safety identification without the need to read the label, in addition less air consumption in double acting actuators. Epoxy coated as standard protected against environment corrosion.



ADA 10



SIZES:  
20 TO 2100



SIZE: 2500



SIZE: 4000



## TYPES OF ACTUATORS DOUBLE ACTING & SPRING RETURN

### GENERAL CHARACTERISTICS

- ADA type: Double acting.
- ASR type: Spring return.
- Rack and pinion design.
- Linear torque.
- Rotation angle  $90^\circ \pm 5^\circ$
- Antifriction sliding bearings.
- Long life without maintenance.
- Protected against environmental corrosion:
  - Hard anodized Aluminium body,
  - Electroless Nickel Plated pinion,
  - Epoxy coated end caps,
  - Stainless steel bolts, studs and nuts.
- Working temperature:  $-30^\circ\text{C}$  to  $100^\circ\text{C}$  in Standard Construction
  - $-15^\circ\text{C}$  to  $150^\circ\text{C}$  with FKM O-rings
  - $-40^\circ\text{C}$  to  $80^\circ\text{C}$  with Silicone O-rings
- Maximum working pressure: 8 bar (116 psig). (Except ADA10 at 10 bar)
- 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)
- Position indicator can be used also to operate mechanical limit switches.

### OPTIONS ON REQUEST

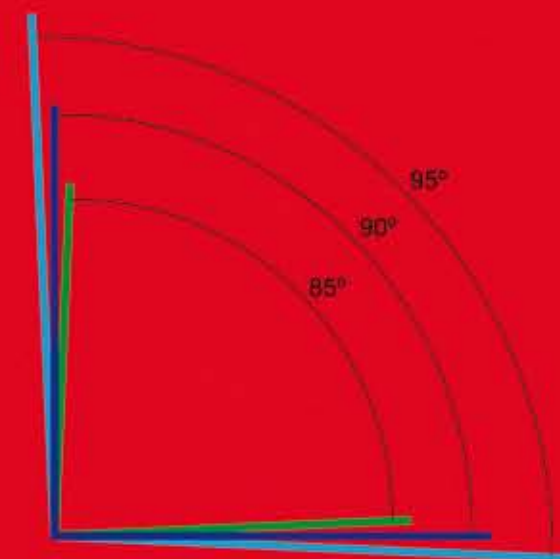
- Epoxy coated body.
- Electroless Nickel Plated body and end caps.
- High temperature construction.
- Low temperature construction.
- Stainless steel pinion
- Fast acting actuators
- Actuators with 100% travel adjustment stroke.

### BI-DIRECTIONAL TRAVEL STOPS

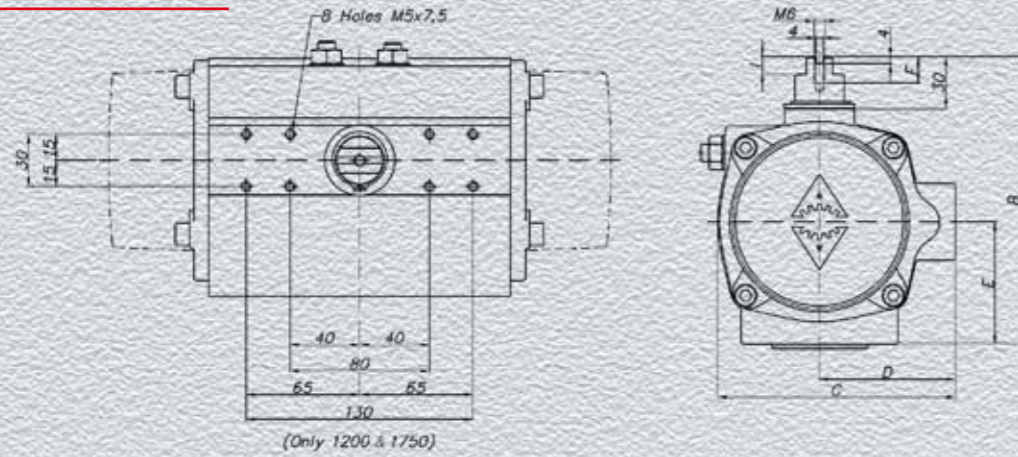
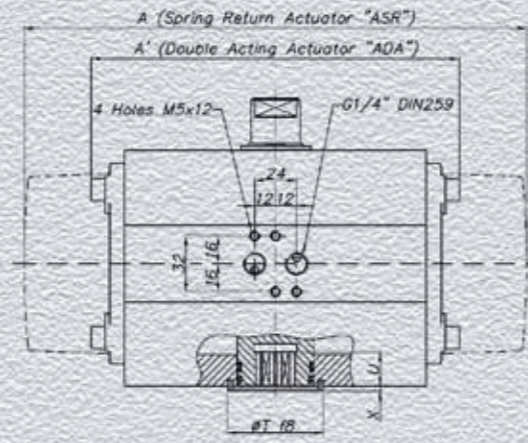
ACTREG pneumatic actuators are provided with bi-directional pinion travel stops.

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.



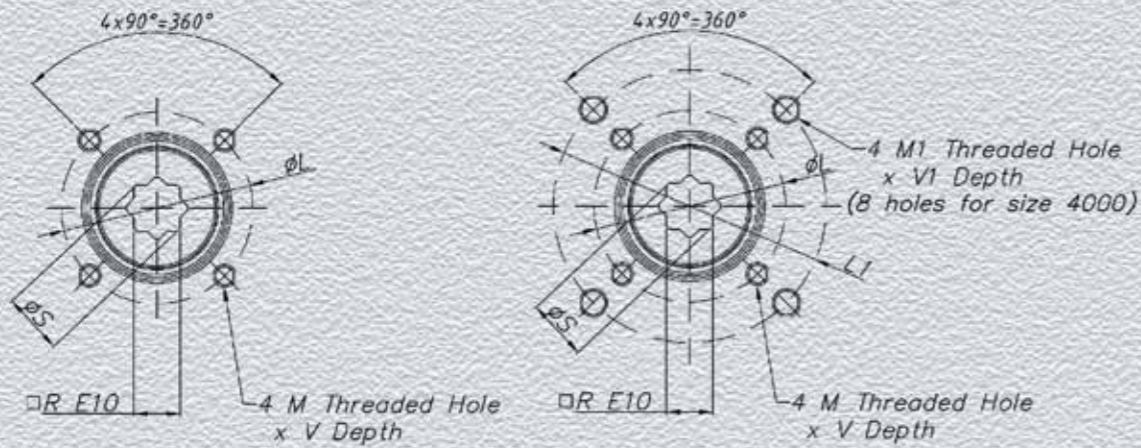
- 20
- 40
- 80
- 130
- SIZES: •200
- 300
- 500
- 850
- 1200
- 1750
- 2100



ISO 5211 DETAIL

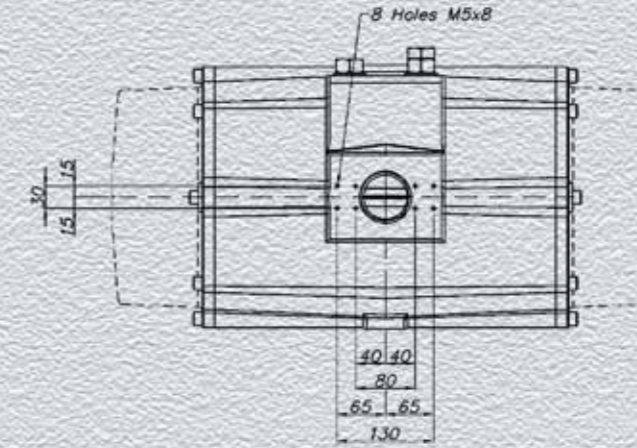
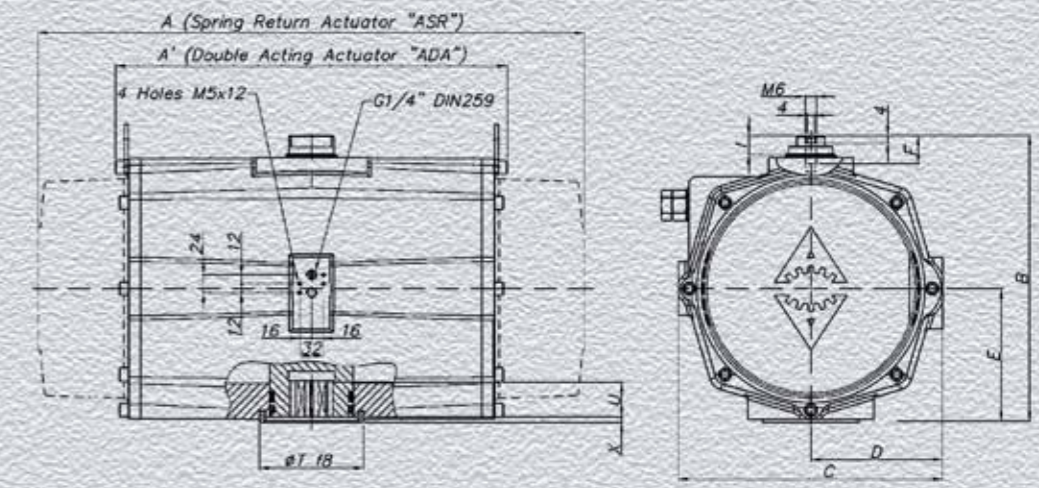
SIZES: •20•40•500•1750•2100•2500

SIZES: •20•40•130  
200•300•850•1200•4000

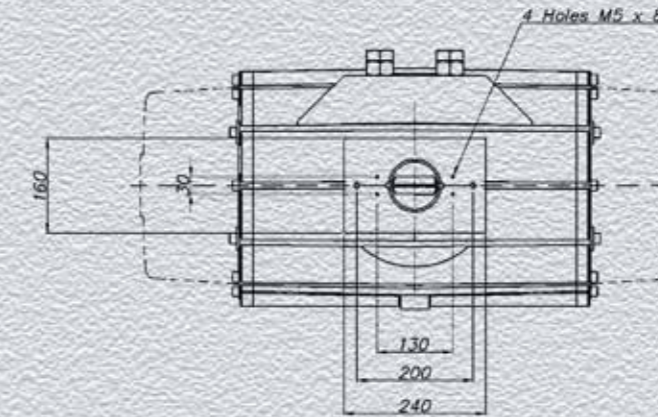
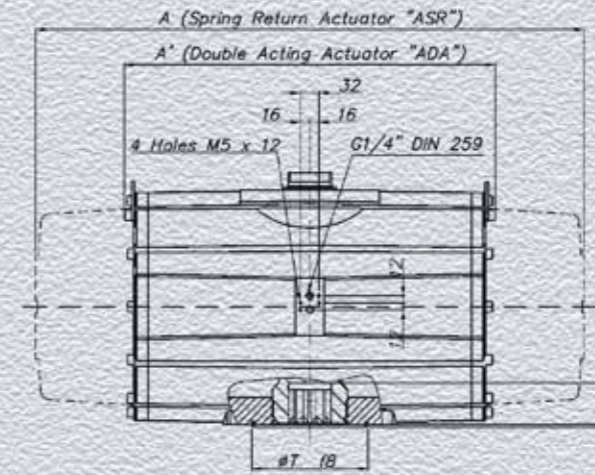


DOUBLE ACTING & SPRING RETURN ACTUATORS GENERAL DIMENSIONS IN mm

SIZE	A	A'	B	C	D	E	F	I	R	ρS	ISO 5211	ρL	MxV	ISO 5211	ρL1	M1xV1	ρT	X	U
20	163	145	96	76	48	34	9	6	9	12,5	F03	36	M5x8				25	2	10
20	163	145	96	76	48	34	9	6	14	18,1	F05	50	M6x10				35	3	12
20	163	145	96	76	48	34	9	6	14	18,1	F04	42	M5x10				35	3	12
40	195	158	115	91	56	45	9	6	14	18,1	F04	42	M5x10				35	3	12
40	195	158	115	91	56	45	9	6	14	18,1	F05	50	M6x10				35	3	12
80	217	177	137	111	66	55	12	8	17	22,5	F05	50	M6x10	F07	70	M8x16	55	3	19
130	258	196	147	122	71	60	15	8	17	22,5	F05	50	M6x10	F07	70	M8x16	55	3	22
200	299	225	165	135,5	78	70	15	10	17	22,5	F07	70	M8x16	F10	102	M10x16	55	3	23
300	348,5	273	182	152,5	86	80	16	12	22	28,5	F07	70	M8x16	F10	102	M10x16	70	3	24
500	397	304	199	173	96	85	17	15	22	28,5	F10	102	M10x16				70	3	32
850	473	372	221	191,5	106	98	15	15	27	36,5	F10	102	M10x17	F12	125	M12x20	85	3	39
1200	560	439	249	212,5	116	114	16	15	36	48,5	F10	102	M10x17	F14	140	M16x26	100	4	48
1750	601	461	280	242,5	131	130	16	15	36	48,5	F14	140	M16x26				100	4	50
2100	702	510	313	276,5	148	147	16	15	46	65,1	F16	165	M20x29				130	4	50



SIZES: •2500

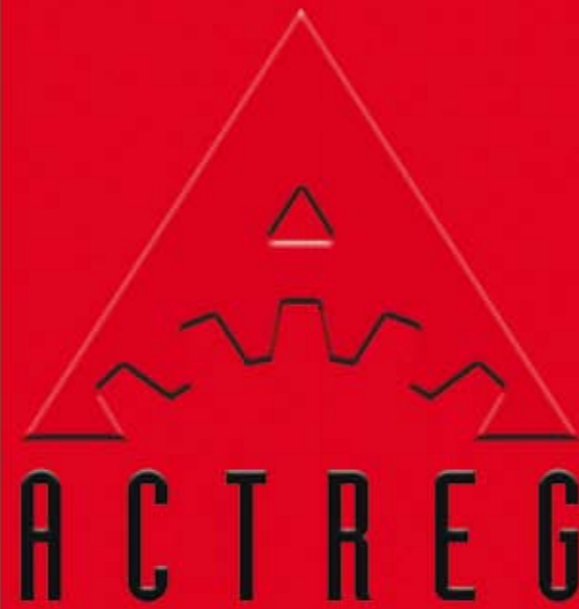


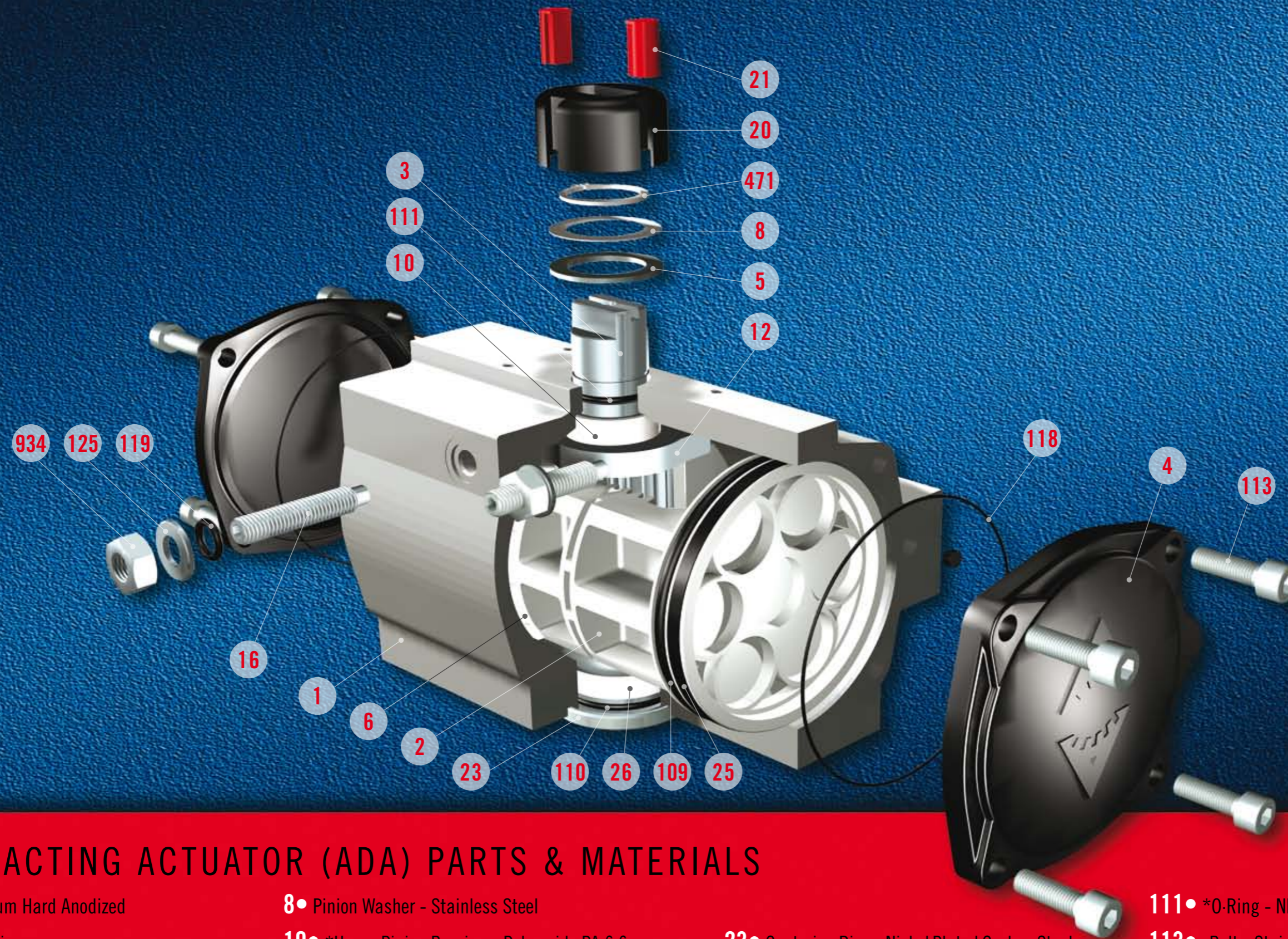
SIZES: •4000

DOUBLE ACTING & SPRING RETURN ACTUATORS GENERAL DIMENSIONS IN mm

SIZE	A	A'	B	C	D	E	F	I	R	ρS	ISO 5211	ρL	MxV	ISO 5211	ρL1	M1xV1	ρT	X	U
2500	738	518	383	356	177,5	176,5	16	15	46	60,2	F16	165	M20x29				130	4	58
4000	940	630	434	415	213	201	16	15	55	72,5	F16	165	M20x30	F25	254	M16x30	200	4	60

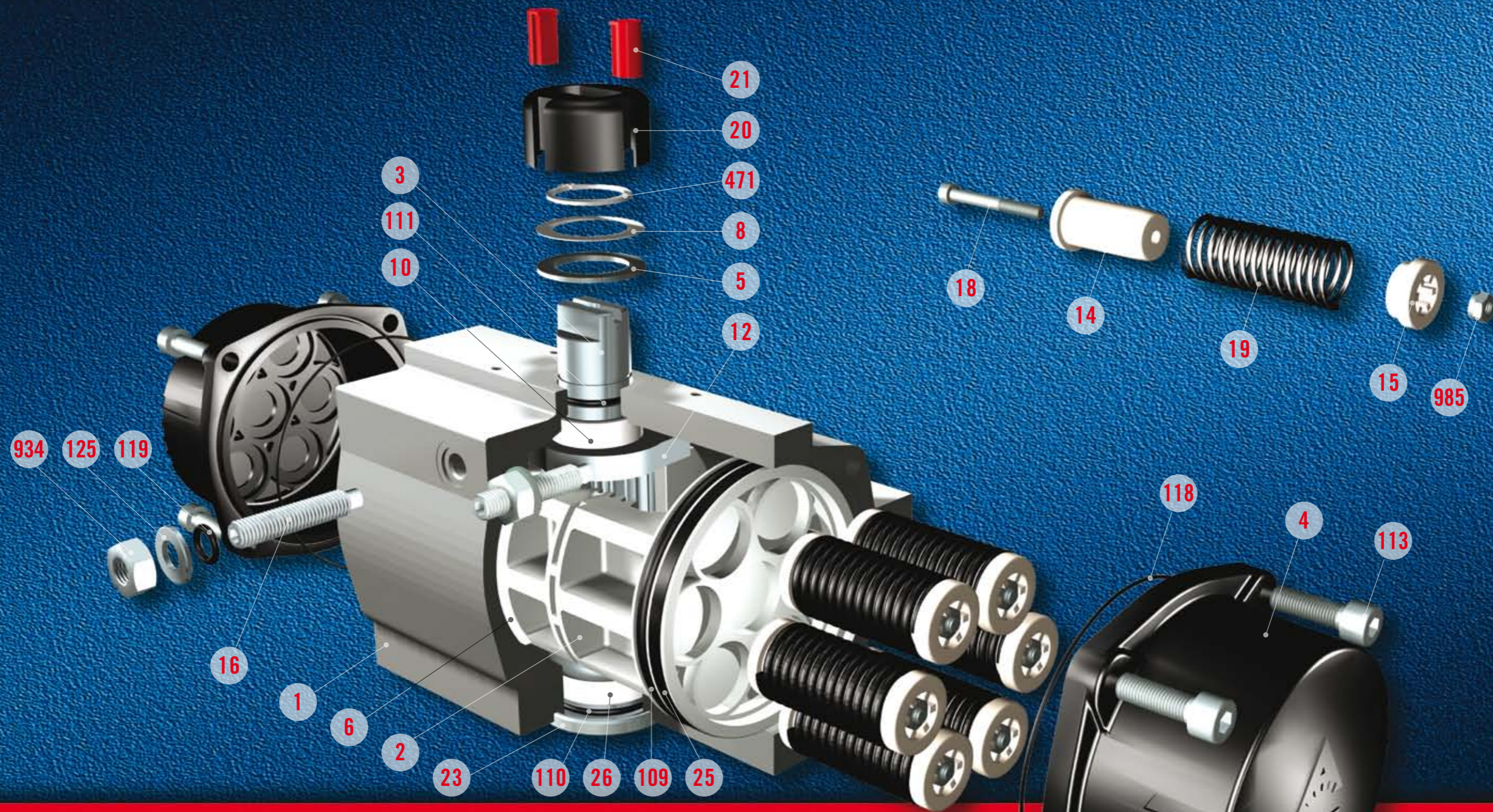
NOTE: See page 8 for the ISO Detail.





## DOUBLE ACTING ACTUATOR (ADA) PARTS & MATERIALS

- |  |  |   |                                     |
|--|--|---|-------------------------------------|
| 1• Body - Aluminium Hard Anodized              | 8• Pinion Washer - Stainless Steel   | 23• Centering Ring - Nickel Plated Carbon Steel | 111• *O-Ring - NBR                  |
| 2• Piston - Aluminium                          | 10• *Upper Pinion Bearing - Polyamide PA 6,6<br>Size 500 & greater in Reinforced Br. | 25• *Slide Guide - Polyamide PA 6,6 + 30% G.F.  | 113• Bolt - Stainless Steel         |
| 3• Pinion - Nickel Plated Carbon Steel         | 12• Stop - ASTM A-105  | 26• *Lower Pinion Bearing - Polyamide PA 6,6    | 118• *O-Ring - NBR                  |
| 4• End Caps - Aluminium Epoxy Coated           | 16• Adjustment Stroke Screw - Stainless Steel  | 41• **Stop Washer Pinion - Stainless Steel      | 119• *O-Ring - NBR                  |
| 5• *Soft Washer Pinion - Polyamide PA 6.6      | 20• Position Indicator - Polyamide   | 109• *O-Ring - NBR                              | 125• Washer - Stainless Steel       |
| 6• *Slide Piston - Polyamide PA 6,6 + 30% G.F. | 21• Cam - Polyamide  | 110• *O-Ring - NBR                              | 471• *Slip Washer - Stainless Steel |
| 7• **Lug - Nickel Plated Carbon Steel          |  |   | 934• Nut - Stainless Steel          |



## SPRING RETURN ACTUATOR (ASR) PARTS & MATERIALS

- |  |  |   |                                     |
|--|--|---|-------------------------------------|
| 1• Body - Aluminium Hard Anodized              | 10• *Upper Pinion Bearing - Polyamide PA 6,6<br>Size 500 & greater in Reinforced Br. | 20• Position Indicator - Polyamide              | 111• *O-Ring - NBR                  |
| 2• Piston - Aluminium                          | 12• Stop - ASTM A-105  | 21• Cam - Polyamide                             | 113• Bolt - Stainless Steel         |
| 3• Pinion - Nickel Plated Carbon Steel         | 14• Spring's Long Support - Polyamide PA 6.6   | 23• Centering Ring - Nickel Plated Carbon Steel | 118• *O-Ring - NBR                  |
| 4• End Caps - Aluminium Epoxy Coated           | 15• Spring's Short Support - Polyamide PA 6.6  | 25• *Slide Guide - Polyamide PA 6,6 + 30% G.F.  | 119• *O-Ring - NBR                  |
| 5• *Soft Washer Pinion- Polyamide PA 6.6       | 16• Adjustment Stroke Screw-Stainless Steel  | 26• *Lower Pinion Bearing - Polyamide PA 6,6    | 125• Washer - Stainless Steel       |
| 6• *Slide Piston - Polyamide PA 6,6 + 30% G.F. | 18• Bolt - Stainless Steel   | 41• **Stop Washer Pinion - Stainless Steel      | 471• *Slip Washer - Stainless Steel |
| 7• **Lug - Nickel Plated Carbon Steel          | 19• Spring - DIN 2076 · D-5.6  | 109• *O-Ring - NBR                              | 934• Nut - Stainless Steel          |
| 8• Pinion Washer - Stainless Steel             |  | 110• *O-Ring - NBR                              | 985• Nut - Stainless Steel          |

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



Double Acting Actuator Torque Output in Nm																								
Size	TYPE	Output Torque For Double Acting in Nm													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		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	D	6	8	9	10	11	11,5	12	12	13	14	15												0,64
20	D	9,7	11,4	13	14,6	16,2	17,8	19,5	21,1	23	26	-	-	-	-	-	-	-	-	-	-	-	-	1,4
40	D	20,3	23,7	27,1	30,5	33,9	37,3	41	44	47	54	47	54	47	54	47	54	47	54	47	54	47	54	2,1
80	D	38,5	44,9	51,3	57,7	64,1	70,5	77	83	90	103	-	-	-	-	-	-	-	-	-	-	-	-	3
130	D	59,1	68,9	78,7	88,6	98,4	108,3	118	128	138	157	-	-	-	-	-	-	-	-	-	-	-	-	3,8
200	D	88	102	117	131	146	161	175	190	205	234	-	-	-	-	-	-	-	-	-	-	-	-	5,6
300	D	145	170	194	218	242	267	291	315	339	388	-	-	-	-	-	-	-	-	-	-	-	-	8,5
500	D	217	253	289	325	361	397	433	469	505	577	-	-	-	-	-	-	-	-	-	-	-	-	11,2
850	D	359	419	479	538	598	658	718	778	837	957	-	-	-	-	-	-	-	-	-	-	-	-	16,9
1200	D	519	606	692	779	865	952	1038	1125	1211	1384	-	-	-	-	-	-	-	-	-	-	-	-	25,8
1750	D	707	824	942	1060	1178	1295	1413	1531	1649	1884	-	-	-	-	-	-	-	-	-	-	-	-	32,5
2100	D	1086	1267	1448	1629	1810	1991	2172	2353	2534	2896	-	-	-	-	-	-	-	-	-	-	-	-	40,8
2500	D	1730	2019	2307	2596	2884	3172	3461	3749	4038	4614	-	-	-	-	-	-	-	-	-	-	-	-	69,6
4000	D	2408	2809	3210	3612	4013	4414	4816	5217	5618	6421	-	-	-	-	-	-	-	-	-	-	-	-	129,4

▲ DOUBLE ACTING ACTUATOR TORQUE OUTPUT in Nm  
▼ SPRING RETURN ACTUATOR TORQUE OUTPUT in Nm

Spring Return Actuator Torque Output in Nm																								
Size	TYPE	Output Torque For Double Acting 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°	0°	90°	0°	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	21	17	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	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	47	34	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	96	84	26	40	3,58
	S14 A							45	31	51	37	58	44	64	50	77	63	90	77	107	93	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	145	128	171	154	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	200	177	226	197	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	319	253	354	287	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	477	397	542	454	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	817	697	1017	897	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	1200	1040	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					