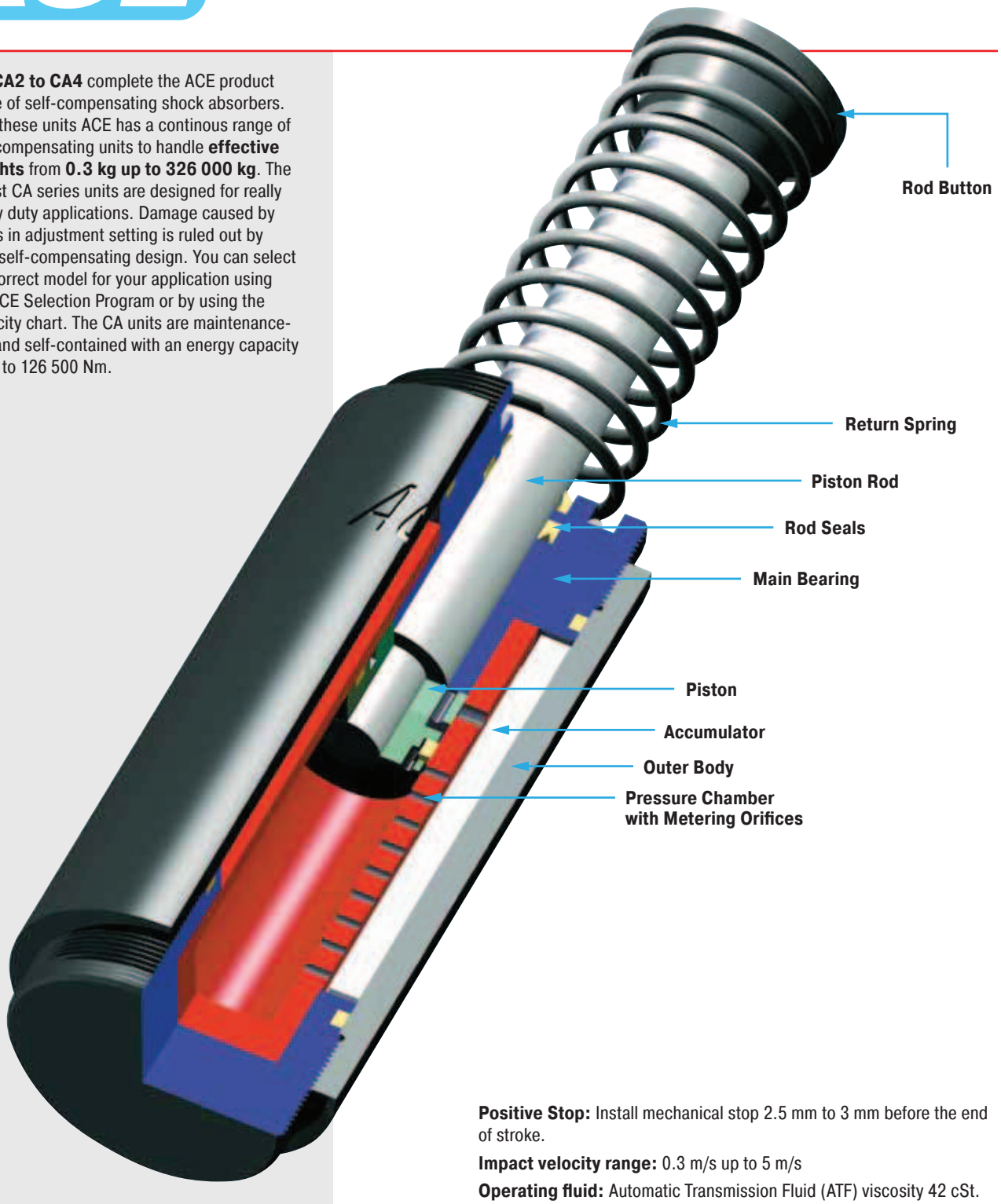
The **CA2 to CA4** complete the ACE product range of self-compensating shock absorbers. With these units ACE has a continous range of self-compensating units to handle **effective weights** from **0.3 kg up to 326 000 kg**. The robust CA series units are designed for really heavy duty applications. Damage caused by errors in adjustment setting is ruled out by their self-compensating design. You can select the correct model for your application using the ACE Selection Program or by using the capacity chart. The CA units are maintenance-free and self-contained with an energy capacity of up to 126 500 Nm.



Positive Stop: Install mechanical stop 2.5 mm to 3 mm before the end of stroke.

Impact velocity range: 0.3 m/s up to 5 m/s

Operating fluid: Automatic Transmission Fluid (ATF) viscosity 42 cSt. at 40 °C

Material: Body and accessories: Steel with black oxide finish. Piston rod: Steel hardened and chrome plated. Rod end button: Steel hardened with black oxide finish. Return spring: Zinc plated. For optimum heat dissipation do not paint outer body.

Capacity rating: For emergency use only applications it may be possible to exceed published energy per cycle (W_3) figures. Please consult ACE for further details.

Mounting: In any position

Operating temperature range: -12 °C to 85 °C

On request: Special oils, or for higher or lower impact velocities outside range shown above, or other options please consult ACE.

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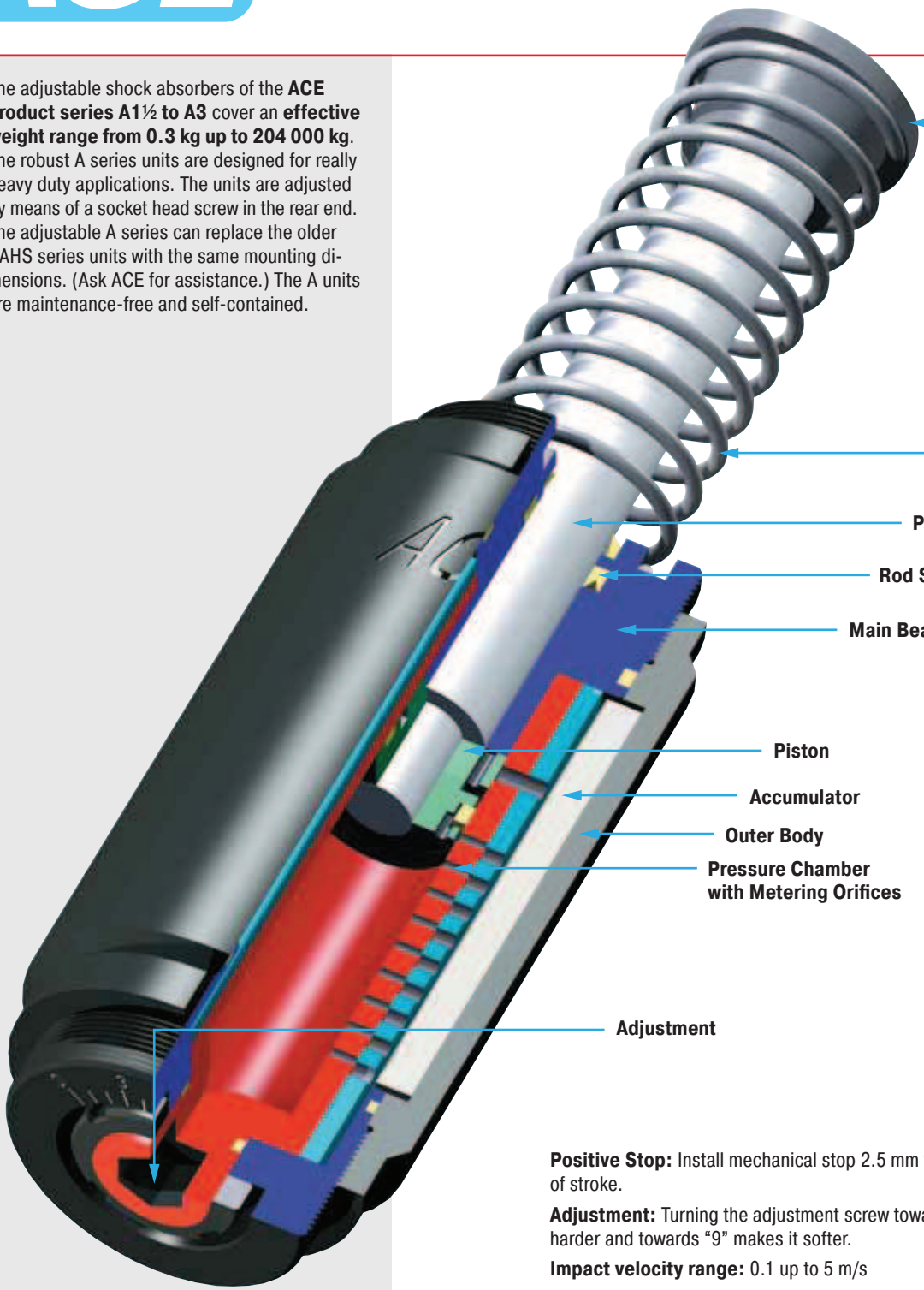
The adjustable shock absorbers of the **ACE product series A1½ to A3** cover an **effective weight range from 0.3 kg up to 204 000 kg**. The robust A series units are designed for really heavy duty applications. The units are adjusted by means of a socket head screw in the rear end. The adjustable A series can replace the older SAHS series units with the same mounting dimensions. (Ask ACE for assistance.) The A units are maintenance-free and self-contained.



Positive Stop: Install mechanical stop 2.5 mm to 3 mm before the end of stroke.

Adjustment: Turning the adjustment screw towards "0" makes the unit harder and towards "9" makes it softer.

Impact velocity range: 0.1 up to 5 m/s

Operating fluid: Models A1½: HLP46 viscosity 46cSt. at 40 °C. Models A2 and A3: Automatic Transmission Fluid (ATF) viscosity 42 cSt. at 40 °C.

Material: Body and accessories: Steel with black oxide finish. Piston rod: Steel hardened and chrome plated. Rod end button: Steel hardened with black oxide finish. Return spring: Zinc plated. For optimum heat dissipation do not paint outer body.

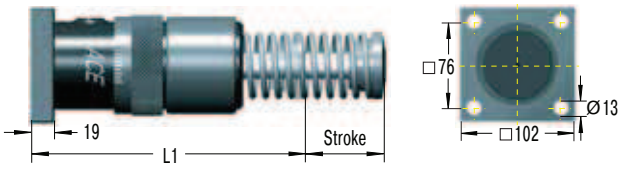
Capacity rating: For emergency use only applications it may be possible to exceed published energy per cycle (W_3) figures. Please consult ACE for further details.

Mounting: In any position

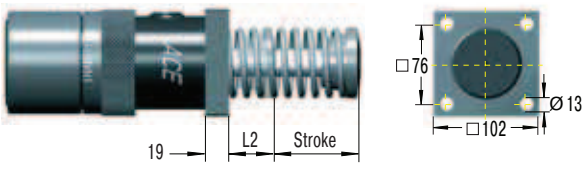
Operating temperature range: -12 °C to 85 °C

On request: Special oils, or for higher or lower impact velocities outside range shown above, or other options please consult ACE.

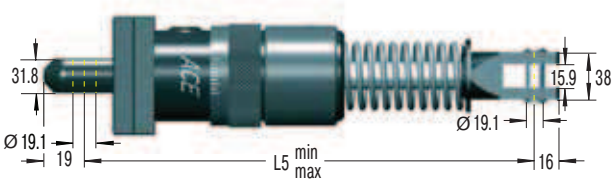
Rear Flange -R



Front Flange -F

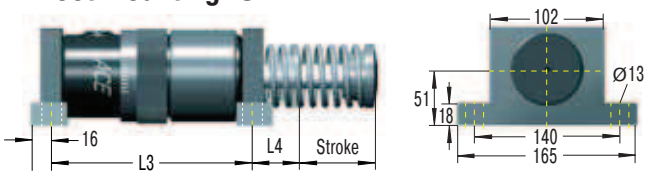


Clevis Mounting -C



Due to limited force capacity the respective ability should be reviewed by ACE.

Foot Mounting -S



Not available on 2" stroke models.

Install mechanical stop 2.5 mm to 3 mm before end of stroke.

Ordering Example

A1½x2EUR

- Adjustable
- Bore Size Ø 1½"
- Stroke Length 2" = 50.8 mm
- EU Compliant
- Rear Flange Mounting

Model Type Prefix

A = self-contained with return spring (This is standard model)

AA = air/oil return without return spring. Use only with external air/oil tank.

NA = self-contained without return spring

SA = air/oil return with return spring. Use only with external air/oil tank.

Dimensions

Type	Stroke mm	L1	L2	L3	L4	L5
A1½x2EU	50	195.2	54.2	–	–	277.8 - 328.6
A1½x3½EU	89	233	54.2	170	58.6	316.6 - 405.6
A1½x5EU	127	271.5	54.2	208	58.6	354.8 - 481.8
A1½x6½EU	165	329	73	246	78	412 - 577

Capacity Chart

Type	Max. Energy Capacity [2] W_3 Nm/Cycle	Max. Energy Capacity [3] W_4 Self-Contained Nm/h	Max. Energy Capacity [3] W_4 with Air/Oil Tank Nm/h	[1] Effective Weight me min. kg	[1] Effective Weight me max. kg	Min. Return Force N	Max. Return Force N	Rod Reset Time s	Max. Side Load Angle °	Weight kg
A1½x2EU	2 350	362 000	452 000	195	32 000	160	210	0.1	5	7.55
A1½x3½EU	4 150	633 000	791 000	218	36 000	110	210	0.25	4	8.9
A1½x5EU	5 900	904 000	1 130 000	227	41 000	90	230	0.4	3	9.35
A1½x6½EU	7 700	1 180 000	1 469 000	308	45 000	90	430	0.4	2	11.95

[1] The effective weight range limits can be raised or lowered to special order.
[2] For emergency use only applications it may be possible to exceed these max. capacity ratings. Please consult ACE for further details.
[3] Figures for oil recirculation systems on request.

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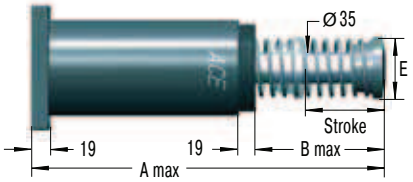
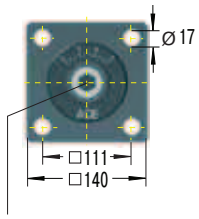
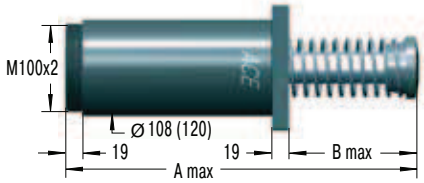
Rear Flange -R



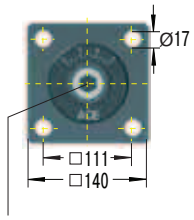


Adjuster – model A2 only

Front Flange -F

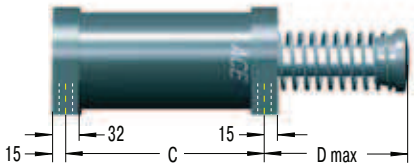


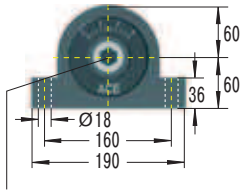
Dimension in ( ) for model A2 only



Adjuster – model A2 only

Foot Mounting -SM





Adjuster – model A2 only

Dimensions of clevis mountings available on request.

NOTE! For replacement of existing SAHS 2" foot mounted units order the old type foot mounting S2-A.

Ordering Example — CA2x4EU-3F

- Self-Compensating
- Bore Size Ø 2"
- Stroke Length 4" = 102 mm
- EU Compliant
- Effective Weight Range Version
- Front Flange Mounting

Model Type Prefix

A, CA = self-contained with return spring (This is standard model)

AA, CAA = air/oil return without return spring. Use only with external air/oil tank.

NA, CNA = self-contained without return spring

SA, CSA = air/oil return with return spring. Use only with external air/oil tank.

Dimensions

Type	Stroke mm	A max	B max	C	D max	E
2x2EU	50	313	110	173	125	70
2x4EU	102	414	160	224	175	70
2x6EU	152	516	211	275	226	70
2x8EU	203	643	287	326	302	92
2x10EU	254	745	338	377	353	108

Capacity Chart CA2

Type	Max. Energy Capacity			¹ Effective Weight me				Min. Return Force	Max. Return Force	Rod Reset Time	Max. Side Load Angle	Weight
				Soft ←			→ Hard					
	² W_3 Nm/Cycle	³ W_4 Self-Contained Nm/h	³ W_4 with Air/Oil Tank Nm/h	-1 min. max. kg	-2 min. max. kg	-3 min. max. kg	-4 min. max. kg	N	N	s	°	kg
CA2x2EU	3 600	1 100 000	1 350 000	700 - 2 200	1 800 - 5 400	4 500 - 13 600	11 300 - 34 000	210	285	0.25	3	12.8
CA2x4EU	7 200	1 350 000	1 700 000	1 400 - 4 400	3 600 - 11 000	9 100 - 27 200	22 600 - 68 000	150	285	0.5	3	14.8
CA2x6EU	10 800	1 600 000	2 000 000	2 200 - 6 500	5 400 - 16 300	13 600 - 40 800	34 000 - 102 000	150	400	0.6	3	16.9
CA2x8EU	14 500	1 900 000	2 400 000	2 900 - 8 700	7 200 - 21 700	18 100 - 54 400	45 300 - 136 000	230	650	0.7	3	19.3
CA2x10EU	18 000	2 200 000	2 700 000	3 600 - 11 000	9 100 - 27 200	22 600 - 68 000	56 600 - 170 000	160	460	0.80	3	22.8

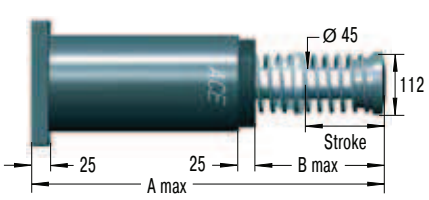
Capacity Chart A2

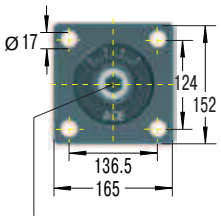
Type	Max. Energy Capacity			¹ Effective Weight me		Min. Return Force	Max. Return Force	Rod Reset Time	Max. Side Load Angle	Weight
	² W_3 Nm/Cycle	³ W_4 Self-Contained Nm/h	³ W_4 with Air/Oil Tank Nm/h	me min. kg	me max. kg	N	N	s	°	kg
A2x2EU	3 600	1 100 000	1 350 000	250	77 000	210	285	0.25	3	14.3
A2x4EU	9 000	1 350 000	1 700 000	250	82 000	150	285	0.5	3	16.7
A2x6EU	13 500	1 600 000	2 000 000	260	86 000	150	400	0.6	3	19.3
A2x8EU	19 200	1 900 000	2 400 000	260	90 000	230	650	0.7	3	22.3
A2x10EU	23 700	2 200 000	2 700 000	320	113 000	160	460	0.8	3	26.3

¹ The effective weight range limits can be raised or lowered to special order.
² For emergency use only applications it may be possible to exceed these max. capacity ratings. Please consult ACE for further details.
³ Figures for oil recirculation systems on request.

Issue 6.2011 Specifications subject to change

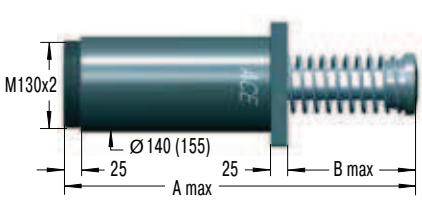
Rear Flange -R



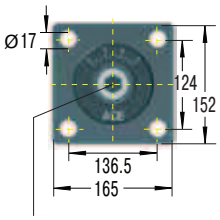


Adjuster – model A3 only

Front Flange -F

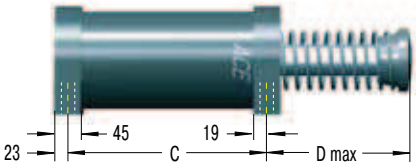


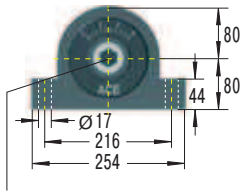
Dimension in ( ) for model A3 only



Adjuster – model A3 only

Foot Mounting -S





Adjuster – model A3 only

Dimensions of clevis mountings available on request.

NOTE! For replacement of existing SAHS 3" foot mounted units please consult ACE.

Ordering Example — A3x8EUR

- Adjustable
- Bore Size Ø 3"
- Stroke Length 8" = 203 mm
- EU Compliant
- Rear Flange Mounting

Model Type Prefix

A, CA = self-contained with return spring (This is standard model)

AA, CAA = air/oil return without return spring. Use only with external air/oil tank.

NA, CNA = self-contained without return spring

SA, CSA = air/oil return with return spring. Use only with external air/oil tank.

Abmessungen

Type	Hub mm	A max	B max	C	D max
3x5EU	127	490,5	211	254	224
3x8EU	203	641	286	330	300
3x12EU	305	890	890	432	447

Capacity Chart CA3

Type	Max. Energy Capacity			¹ Effective Weight me				Min. Return Force	Max. Return Force	Rod Reset Time	Max. Side Load Angle	Weight
				Soft ◄			► Hard					
	² W_3	³ W_4 Self-	³ W_4 with	-1	-2	-3	-4					
	Nm/Cycle	Contained Nm/h	Air/Oil Tank Nm/h	min. max. kg	min. max. kg	min. max. kg	min. max. kg	N	N	s	°	kg
CA3x5EU	14 125	2 260 000	2 800 000	2 900 - 8 700	7 250 - 21 700	18 100 - 54 350	45 300 - 135 900	270	710	0.6	3	28.9
CA3x8EU	22 600	3 600 000	4 520 000	4 650 - 13 900	11 600 - 34 800	29 000 - 87 000	72 500 - 217 000	280	740	0.8	3	33.4
CA3x12EU	33 900	5 400 000	6 780 000	6 950 - 20 900	17 400 - 52 200	43 500 - 130 450	108 700 - 326 000	270	730	1.2	3	40.6

Capacity Chart A3

Type	Max. Energy Capacity			¹ Effective Weight me		Min. Return Force	Max. Return Force	Rod Reset Time	Max. Side Load Angle	Weight
	² W_3	³ W_4	³ W_4	me min.	me max.					
	Nm/Cycle	Self-Contained Nm/h	with Air/Oil Tank Nm/h	kg	kg	N	N	s	°	kg
A3x5EU	15 800	2 260 000	2 800 000	480	154 000	270	710	0.6	3	35.5
A3x8EU	28 200	3 600 000	4 520 000	540	181 500	280	740	0.8	3	39.6
A3x12EU	44 000	5 400 000	6 780 000	610	204 000	270	730	1.2	3	35.5

¹ The effective weight range limits can be raised or lowered to special order.
² For emergency use only applications it may be possible to exceed these max. capacity ratings. Please consult ACE for further details.
³ Figures for oil recirculation systems on request.

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