

Adjustable

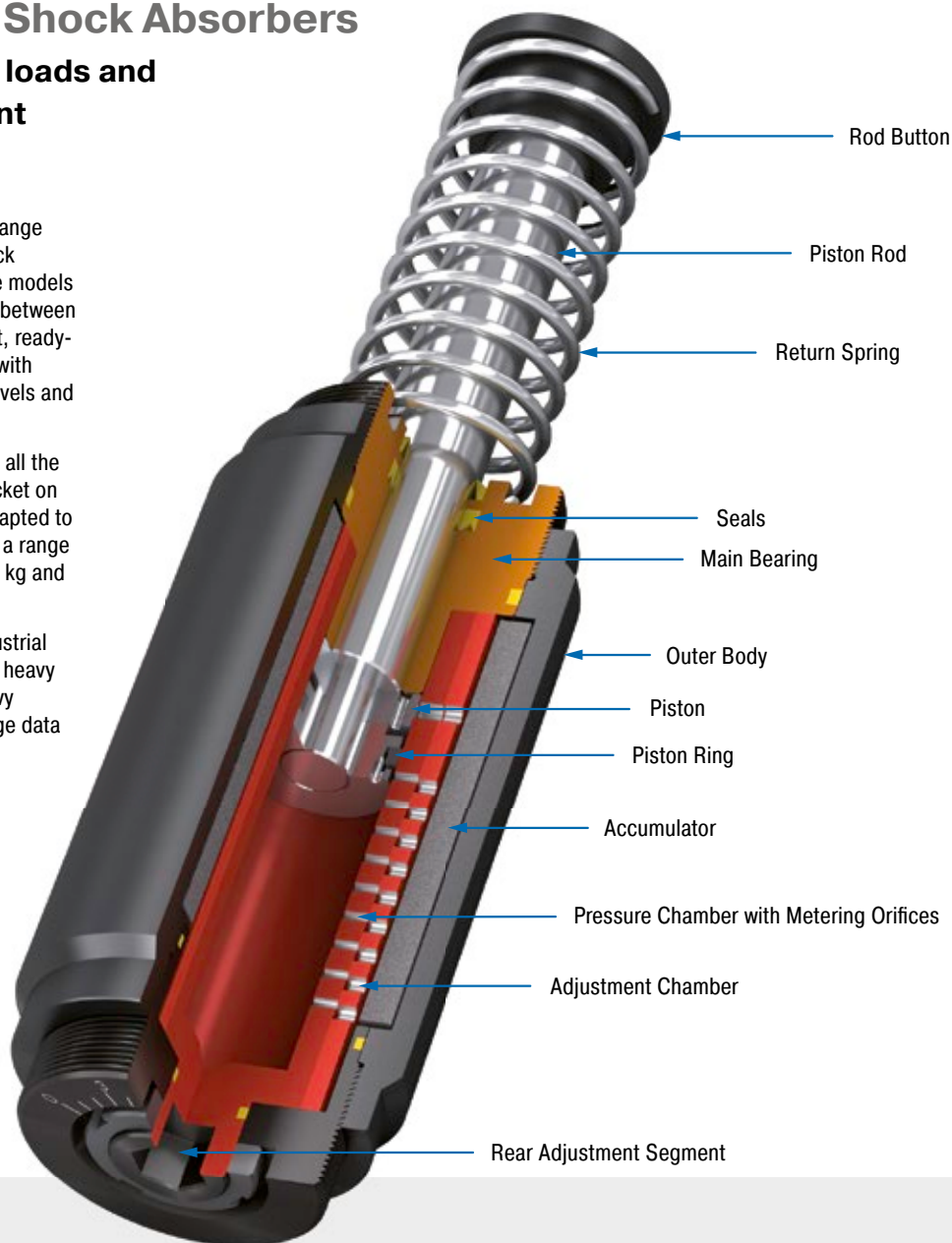
A1½ to A3 Heavy Industrial Shock Absorbers

Deceleration of heavy loads and progressive adjustment

Strong and adjustable: Also in ACE's range of units are heavy duty industrial shock absorbers, which can be adjusted. The models from the A1½ to 3 range, which weigh between 7.55 and 35.5 kg, are extremely robust, ready-to-install hydraulic machine elements with impressively high energy absorption levels and a wide range of damping rates.

Their special aspect is the flexibility, as all the absorbers can be adjusted using a socket on the absorber base and be perfectly adapted to the required data. The A models cover a range of effective loads from 195 to 204,000 kg and can absorb up to 44,000 Nm energy.

These heavy duty, adjustable ACE industrial shock absorbers are the first choice in heavy duty applications and generally in heavy mechanical engineering when the usage data has not been exactly determined.



Technical Data

Energy capacity: 2,350 Nm/Cycle to 44,000 Nm/Cycle

Impact velocity range: 0.1 m/s to 5 m/s. Other speeds on request.

Operating temperature range: -12 °C to +66 °C. Other temperatures on request.

Mounting: In any position

Positive stop: External positive stops 2.5 mm to 3 mm before the end of stroke provided by the customer.

Adjustment: Hard impact at the start of stroke, adjust the ring towards 9. Hard impact at the end of stroke, adjust the ring towards 0.

Material: Outer body: Steel corrosion-resistant coating; Piston rod: Hard chrome plated steel; Rod end button: Hardened steel and corrosion-resistant coating; Return spring: Zinc plated steel

Damping medium: Automatic Transmission Fluid (ATF)

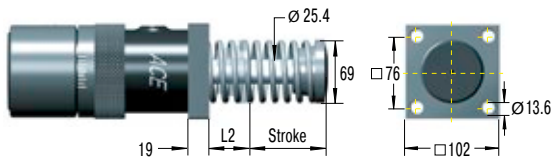
Application field: Portal systems, Machines and plants, Conveyor systems, Crane systems

Note: For emergency use only applications and for continuous use it is possible to exceed the published max. capacity ratings. In this case, please consult ACE.

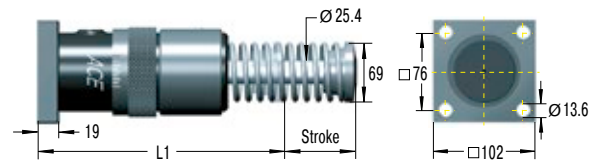
Safety instructions: External materials in the surrounding area can attack the seal components and lead to a shorter service life. Please contact ACE for appropriate solution suggestions. Do not paint the shock absorbers due to heat emission.

On request: Special oils, nickel-plated, increased corrosion protection or other special options are available on request.

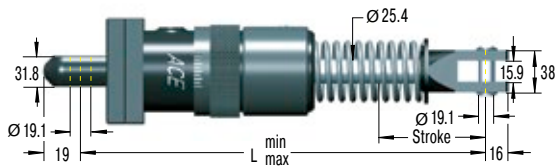
A1½EU-F Front Flange



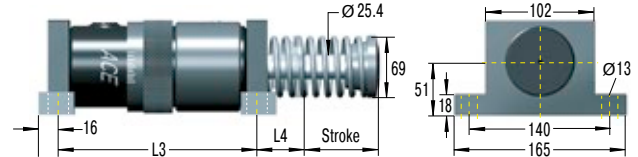
A1½EU-R Rear Flange



A1½EU-C Clevis Mount



A1½EU-S Foot Mount



The calculation and selection of the most suitable damper should be carried out or be approved by ACE.

Model Type Prefix

Standard Models

A: Self-contained with return spring, adjustable

Special Models

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.

Ordering Example

Adjustable _____ **A1½x2EUR**
 Bore Size Ø 1½" _____
 Stroke Length 2" = 50.8 mm _____
 EU Compliant _____
 Rear Flange Mounting _____

Dimensions

| TYPES | Stroke mm | L min. mm | L max. mm | L1 mm | L2 mm | L3 mm | L4 mm |
|----------|--------------|--------------|--------------|----------|----------|----------|----------|
| A1½x2EU | 50 | 277.8 | 328.6 | 195.2 | 54.2 | - | - |
| A1½x3½EU | 89 | 316.6 | 405.6 | 233 | 54.2 | 170 | 58.6 |
| A1½x5EU | 127 | 354.8 | 481.8 | 271.5 | 54.2 | 208 | 58.6 |
| A1½x6½EU | 165 | 412 | 577 | 329 | 73 | 246 | 78 |

Performance

| TYPES | Max. Energy Capacity | | | Effective Weight | | Return force min. N | Return force max. N | Return time s | Side Load Angle max. ° | Weight kg |
|----------|---|-------------------------------------|--|----------------------------|----------------------------|---------------------------|---------------------------|------------------|------------------------------|--------------|
| | ¹ W ₃ Nm/cycle | ² W ₄ Nm/h | ² W ₄ with Air/Oil Tank Nm/h | ³ me min. kg | ³ me max. kg | | | | | |
| A1½x2EU | 2,350 | 362,000 | 452,000 | 195 | 32,000 | 160 | 210 | 0.10 | 5 | 7.55 |
| A1½x3½EU | 4,150 | 633,000 | 791,000 | 218 | 36,000 | 110 | 210 | 0.25 | 4 | 8.90 |
| A1½x5EU | 5,900 | 904,000 | 1,130,000 | 227 | 41,000 | 90 | 230 | 0.40 | 3 | 9.35 |
| A1½x6½EU | 7,700 | 1,180,000 | 1,469,000 | 308 | 45,000 | 90 | 430 | 0.40 | 2 | 11.95 |

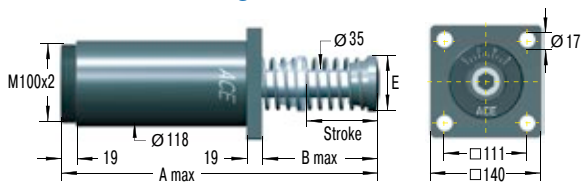
¹ For emergency use only applications it is sometimes possible to exceed the above ratings. Please consult ACE for further details.

² Figures for oil recirculation systems on request.

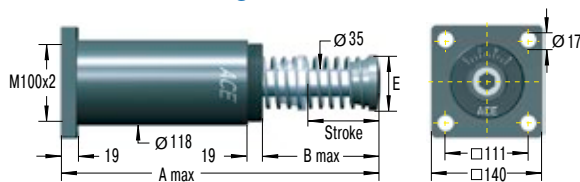
³ The effective weight range limits can be raised or lowered to special order.

Adjustable

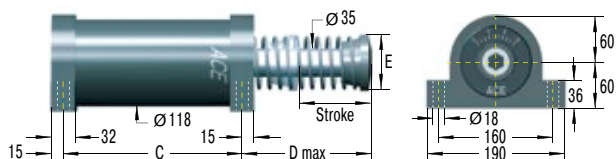
A2EU-F Front Flange



A2EU-R Rear Flange



A2EU-SM Foot Mount



The calculation and selection of the most suitable damper should be carried out or be approved by ACE.

Model Type Prefix

Standard Models

A: Self-contained with return spring, adjustable

Special Models

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.

Ordering Example

Adjustable _____ **A2x6EU-R**
 Bore Size Ø 2" _____
 Stroke Length 6" = 152 mm _____
 EU Compliant _____
 Rear Flange Mounting _____

Dimensions

| TYPES | Stroke mm | A max. mm | B max. mm | C mm | D max. mm | E mm |
|---------|--------------|--------------|--------------|---------|--------------|---------|
| A2X2EU | 50 | 313 | 110 | 173 | 125 | 70 |
| A2X4EU | 102 | 414 | 160 | 224 | 175 | 70 |
| A2X6EU | 152 | 516 | 211 | 275 | 226 | 70 |
| A2X8EU | 203 | 643 | 287 | 326 | 302 | 92 |
| A2X10EU | 254 | 745 | 338 | 377 | 353 | 108 |

Performance

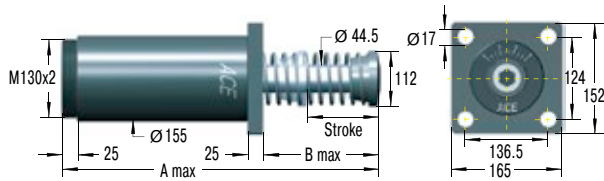
| TYPES | Max. Energy Capacity | | | Effective Weight | | Return force min. N | Return force max. N | Return time s | Side Load Angle max. ° | Weight kg |
|---------|---|-------------------------------------|--|----------------------------|----------------------------|---------------------------|---------------------------|------------------|------------------------------|--------------|
| | ¹ W ₃ Nm/cycle | ² W ₄ Nm/h | ² W ₄ with Air/Oil Tank Nm/h | ³ me min. kg | ³ me max. kg | | | | | |
| A2X2EU | 3,600 | 1,100,000 | 1,350,000 | 250 | 77,000 | 210 | 285 | 0.25 | 3 | 13.50 |
| A2X4EU | 9,000 | 1,350,000 | 1,700,000 | 250 | 82,000 | 150 | 285 | 0.50 | 3 | 19.85 |
| A2X6EU | 13,500 | 1,600,000 | 2,000,000 | 260 | 86,000 | 150 | 400 | 0.60 | 3 | 19.30 |
| A2X8EU | 19,200 | 1,900,000 | 2,400,000 | 260 | 90,000 | 230 | 650 | 0.70 | 3 | 19.85 |
| A2X10EU | 23,700 | 2,200,000 | 2,700,000 | 320 | 113,000 | 160 | 460 | 0.80 | 3 | 19.85 |

¹ For emergency use only applications it is sometimes possible to exceed the above ratings. Please consult ACE for further details.

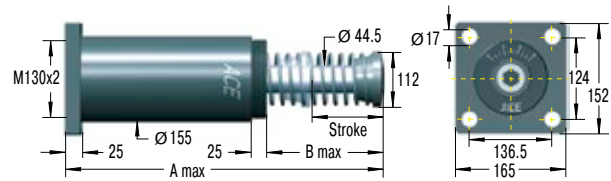
² Figures for oil recirculation systems on request.

³ The effective weight range limits can be raised or lowered to special order.

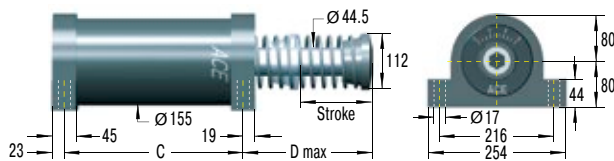
A3EU-F Front Flange



A3EU-R Rear Flange



A3EU-S Foot Mount



The calculation and selection of the most suitable damper should be carried out or be approved by ACE.

Model Type Prefix

Standard Models

A: Self-contained with return spring, adjustable

Special Models

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.

Ordering Example

Adjustable _____ **A3x8EU**
 Bore Size Ø 3" _____
 Stroke Length 8" = 203 mm _____
 EU Compliant _____
 Rear Flange Mounting _____

Dimensions

| TYPES | Stroke mm | A max. mm | B max. mm | C mm | D max. mm |
|---------|--------------|--------------|--------------|---------|--------------|
| A3X5EU | 127 | 490.5 | 211 | 254 | 224 |
| A3X8EU | 203 | 641 | 286 | 330 | 300 |
| A3X12EU | 305 | 890 | 434 | 432 | 447 |

Performance

| TYPES | Max. Energy Capacity | | | Effective Weight | | Return force min. N | Return force max. N | Return time s | Side Load Angle max. ° | Weight kg |
|---------|---|-------------------------------------|--|----------------------------|----------------------------|---------------------------|---------------------------|------------------|------------------------------|--------------|
| | ¹ W ₃ Nm/cycle | ² W ₄ Nm/h | ² W ₄ with Air/Oil Tank Nm/h | ³ me min. kg | ³ me max. kg | | | | | |
| A3X5EU | 15,800 | 2,260,000 | 2,800,000 | 480 | 154,000 | 270 | 710 | 0.6 | 3 | 35.50 |
| A3X8EU | 28,200 | 3,600,000 | 4,520,000 | 540 | 181,500 | 280 | 740 | 0.8 | 3 | 46.20 |
| A3X12EU | 44,000 | 5,400,000 | 6,780,000 | 610 | 204,000 | 270 | 730 | 1.2 | 3 | 48.00 |

¹ For emergency use only applications it is sometimes possible to exceed the above ratings. Please consult ACE for further details.

² Figures for oil recirculation systems on request.

³ The effective weight range limits can be raised or lowered to special order.