

Calculation and dimensioning

In order to guarantee the long life time of the shock absorber it must be correctly calculated and dimensioned. For that the following parameters must be considered:

- moving mass [kg]
- impact velocity of moving mass onto the shock absorber [m/s]
- additional acting propelling force, motor power or propelling torque [N, kW, Nm]
- number of parallel acting shock absorbers [n]
- number of strokes or cycles per hour [1/h]

WARNING

- ⚠ The shock absorbers have to be dimensioned in such a way that the calculated values do not exceed the maximum values of the individual capacity chart (see main catalogue):
 W_s [Nm/stroke]
 W_d [Nm/h]
 effective weight me
 max. side load angle [°]
- ⚠ To correctly calculate the shock absorber it must be the only active brake system in place. Additional deceleration systems, such as pneumatic cushioning, must be rendered ineffective and not allowed to interfere with the shock absorber deceleration.

The correct dimensioning of shock absorbers can be made with the ACE online calculation program at www.ace-ace.com. Alternatively the filled out online form may be sent to us via E-Mail. Or call our free of charge calculation service: +49-2173-9226-20

Installation information and initial start-up

Prior to installation and use, check if the identification number on the shock absorber or on the package corresponds to the number on the delivery sheet. Industrial shock absorbers are maintenance-free and ready-to-fit.

WARNING

- ⚠ Thermal effect: The values given in the capacity chart W_d and m_e (see main catalogue) are valid for room temperature. Different values apply for higher temperatures.

Mounting: In any position, but always so that the complete stroke can be used. The shock absorber is to be mounted so that the forces can be guided centrally via the piston rod. The maximum permissible side load (see main catalogue) may not be exceeded. An existing side load leads generally to a reduced lifetime. When exceeding the maximum permissible side load, a side load adaptor must be used.

WARNING

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

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

Adjustment: The scale displays a setting range between 0 to 9. The adjustment can be made via an adjustment ring in the middle of the shock absorber. The equipment should be adjusted several times after mounting the shock absorber, using the adjusting ring until the optimum deceleration (no hard impact at either the beginning or the end of stroke) is achieved.

Hard impact at the beginning of stroke, turn scale towards 9.

Hard impact at the end of stroke, turn scale towards 0.

After the adjustment secure ring with set screw.

The shock absorber is always preset to 5 upon delivery.

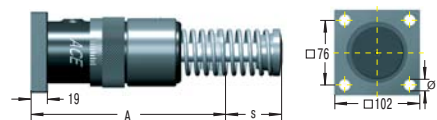
WARNING

- ⚠ Moving masses can lead to injuries or bodily harm when installing the shock absorber. Secure moving masses against accidental movement.
- ⚠ The shock absorbers may be unsuitable for the application and show insufficient damping performance. Check for proper suitability of shock absorber.
- ⚠ When operating outside the allowed temperature range, the shock absorber may lose its function. Permissible temperature range must be adhered to. Do not paint the shock absorber due to heat radiation.
- ⚠ Ambient fluids, gases and dirt particles may affect or damage the sealing system and lead to failure of the shock absorber. Piston rods and sealing systems must be protected against foreign substances.
- ⚠ Damage to the piston rod surface may destroy the sealing system. Do not grease, oil, etc. the piston rod and protect it from dirt particles.
- ⚠ The piston rod can be torn out of the shock absorber. Do not put tensile stress on the piston rod.
- ⚠ The shock absorber can tear off upon impact. The connection must be calculated so that the maximum operating reaction forces can be accepted with sufficient safety. The maximum reaction forces given in the calculation report may deviate from the actual reaction forces since these are based on theoretical values.

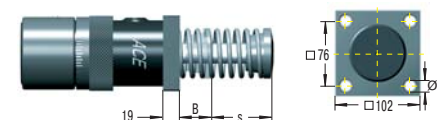
Disposal of packaging: Dispose packaging in an environmentally safe manner. The recycling of packaging saves raw materials and lowers the amount of waste. The used packaging materials do not contain illegal substances.

Issue 8.2010 Specifications subject to change

Rear Flange



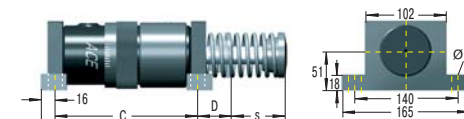
Front Flange



Clevis Mounting



Foot Mounting



Dimensions

Type	s (stroke)	A	B	C	D	E
Part Number						
A11/2x2EU	50	195.2	54.2	—	—	277.8 - 328.6
A11/2x3 1/2EU	89	233	54.2	170	58.6	316.6 - 405.6
A11/2x5EU	127	271.5	54.2	208	58.6	354.8 - 481.8
A11/2x6 1/2EU	165	329	73	246	78	412 - 577

Accessories

When using accessories and mounting elements, pay attention to the separate mounting instructions.

EU Marking

Starting with the production date September 2010 (Code IB or 10244) all shock absorbers are to be marked with an additional EU letter code in the identification number. The EU marking refers to the adherence to the required norms, laws, and guidelines of the EU. Only products marked with EU ensure the world wide standard and the guarantee for liability.

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