

To achieve long lasting and trouble-free service life for our products please observe the following instructions. The operating instructions refer to all safety shock absorbers and are subdivided according to construction size and properties.



ACE safety shock absorbers are high-quality products. To achieve long-lasting and trouble free operating life the following points must be observed.

Pressure chamber properties

Pressure chambers are rated separately and produced for each application type. If several safety shock absorbers of the same installation size, but with different metering rating are used in one installation, the different identification of the mounting places must be observed. Safety shock absorbers therefore mustn't be relocated from one mounting place to another, as different deceleration characteristics or even damage may occur.

The calculation and rating of the appropriate safety shock absorber should be made or checked by ACE.

Allowable temperature range

The allowable **temperature range** is between **-12°C and 70°C**. Failure to comply with this temperature range can result in destruction of the sealing system. For higher operating temperatures use the HT-version.

Oil filling: ATF-oil

Environmental requirements

The shock absorbers of the SCS-series are provided with a sealing system consisting of lip seal and wiper. This sealing package prevents leakage of hydraulic oil from the shock absorber. The sealing system must not come in contact with **foreign matter** (e.g. cooling lubricants, cutting fluid or lubrication oils, splinters, wood chippings etc.). The sealing can be protected by using different accessories against the ingress of foreign matters.

Mounting the damper

To mount the damper, we recommend using original ACE accessories. The mounting construction of each shock absorber must be exactly positioned so that the reaction force (Q), see calculation, can be adequately transmitted into the mounting structure. ACE recommends installation via **front flange**. This ensures maximum protection against buckling. The damper must be mounted so that the moving loads are decelerated with the least possible side loading to the piston rod. The maximum permissible side load angles are detailed in the technical charts in our current catalogue. The entire stroke length must be used for deceleration. A reduced stroke can lead to overstressing to the shock absorber.

Initial Start-up

First impacts on the shock absorber should only be tried after mounting and with reduced impact speeds and – if possible – with reduced load. Differences between calculated and actual operating data can then be detected before production begins, and damage to your system can be avoided. If the shock absorbers were selected on calculated data that do not correspond to the maximum possible loading (e.g. selection

based on drive power being switched off or at reduced impacts speeds) then these restricted impact conditions must not be exceeded during initial testing or subsequent use of the system. Otherwise you risk damaging the shock absorbers and/or your machine by overstressing materials. After the initial trial check that the piston fully extends again and that there are no signs of oil leakage. Also check that the mounting hardware is still securely tightened up. Also check that no damage has occurred to the piston rod or the body or the mounting hardware.

Mechanical stop

Safety shock absorbers do not need an external positive stop. The stroke of the safety shock absorber is limited by the contact of the impact load through and integral stop sleeve attached to the shock absorber body.

What needs to be checked after a full load impact?

After the initial full load impact has occurred the shock absorber must be inspected. Check that the piston rod extends to its full original position, that there are no signs of oil leakage and that the mounting hardware is still securely fastened. Please check that no damage has occurred to the piston rod or the body or the mounting hardware. If there are any signs of damage, please remove and replace with new unit. (see start-up).

Maintenance

Safety shock absorbers are sealed systems and do not need special maintenance. Safety shock absorbers that are not used regularly (e.g. that are intended for emergency stop systems) should be checked within the normal time frame for safety checks, but **at least once a year**. At this time special attention must be paid to checking that the piston rod resets to its fully extended position, that there is no oil leakage and that the mounting brackets are still secure and undamaged. The piston rod must not show any signs of damage. Safety shock absorbers that are **in use regularly** should be checked **every three months**.

Repair notice

If any damage to the shock absorber is detected or if there are any doubts as to the proper functioning of the unit, please send the unit for service to ACE; alternatively contact your local ACE office for further advice.

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Pressure chamber properties

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The calculation and rating of the appropriate safety shock absorber should be made or checked by ACE.

Allowable temperature range

The allowable **temperature range** is between **-12°C and 66°C**. Failure to comply with this temperature range can result in destruction of the sealing system.

Oil filling: ATF-oil

Environmental requirements

The shock absorbers of the SCS-series are provided with a sealing system consisting of lip seal and wiper. This sealing package prevents leakage of hydraulic oil from the shock absorber. The sealing system must not come in contact with **foreign matter** (e.g. cooling lubricants, cutting fluid or lubrication oils, splinters, wood chippings etc.). The sealing can be protected by using different accessories against the ingress of foreign matters.

Mounting the damper

To mount the damper, we recommend using original ACE accessories. The mounting construction of each shock absorber must be exactly positioned so that the reaction force (Q), see calculation, can be adequately transmitted into the mounting structure. ACE recommends installation via **front flange**. This ensures maximum protection against buckling. The damper must be mounted so that the moving loads are decelerated with the least possible side loading to the piston rod. The maximum permissible side load angles are detailed in the technical charts in our current catalogue. The entire stroke length must be used for deceleration. A reduced stroke can lead to overstressing to the shock absorber.

Initial Start-up

First impacts on the shock absorber should only be tried after mounting and with reduced impact speeds and – if possible – with reduced load. Differences between calculated and actual operating data can then be detected before production begins, and damage to your system can be avoided. If the shock absorbers were selected on calculated data that do not correspond to the maximum possible loading (e.g. selection based on drive power being switched off or at reduced

impacts speeds) then these restricted impact conditions must not be exceeded during initial testing or subsequent use of the system. Otherwise you risk damaging the shock absorbers and/or your machine by overstressing materials. After the initial trial check that the piston fully extends again and that there are no signs of oil leakage. Also check that the mounting hardware is still securely tightened up. Also check that no damage has occurred to the piston rod or the body or the mounting hardware.

Mechanical stop

Safety shock absorbers do not need an external positive stop. The stroke of the safety shock absorber is limited by the stop of the collision head on the absorber body.

What needs to be checked after a full load impact?

After the initial full load impact has occurred the shock absorber must be inspected. Check that the piston rod extends to its full original position, that there are no signs of oil leakage and that the mounting hardware is still securely fastened. Please check that no damage has occurred to the piston rod or the body or the mounting hardware. If there are any signs of damage, please remove and replace with new unit. (see start-up).

Maintenance

Safety shock absorbers are sealed systems and do not need special maintenance. Safety shock absorbers that are not used regularly (e.g. that are intended for emergency stop systems) should be checked within the normal time frame for safety checks, but **at least once a year**. At this time special attention must be paid to checking that the piston rod resets to its fully extended position, that there is no oil leakage and that the mounting brackets are still secure and undamaged. The piston rod must not show any signs of damage. Safety shock absorbers that are **in use regularly** should be checked **every three months**.

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Allowable temperature range

The allowable **temperature range** is between **-12°C and 66°C**. Failure to comply with this temperature range can result in destruction of the sealing system.

Oil filling: ATF-oil

Environmental requirements

The shock absorbers of the CB-series are provided with a sealing system consisting of lip seal and wiper. This sealing package prevents leakage of hydraulic oil from the shock absorber. The sealing system must not come in contact with **foreign matter** (e.g. cooling lubricants, cutting fluid or lubrication oils, splinters, wood chippings etc.). The sealing can be protected by using different accessories against the ingress of foreign matters.

Mounting the damper

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Initial Start-up

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Mechanical stop

Safety shock absorbers do not need an external positive stop. The stroke of the safety shock absorber is limited by the stop of the collision head on the absorber body.

What needs to be checked after a full load impact?

After the initial full load impact has occurred the shock absorber must be inspected. Check that the piston rod extends to its full original position, that there are no signs of oil leakage and that the mounting hardware is still securely fastened. Please check that no damage has occurred to the piston rod or the body or the mounting hardware. If there are any signs of damage, please remove and replace with new unit. (see start-up).

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