ACE
A STABILUS COMPANY

TD, TDE
Door dampers

The safe way to close doors

Adjustable

Energy capacity from 75 Nm/cycle to 190 Nm/cycle

Stroke 50 mm to 120 mm

TD-28

TDE-28

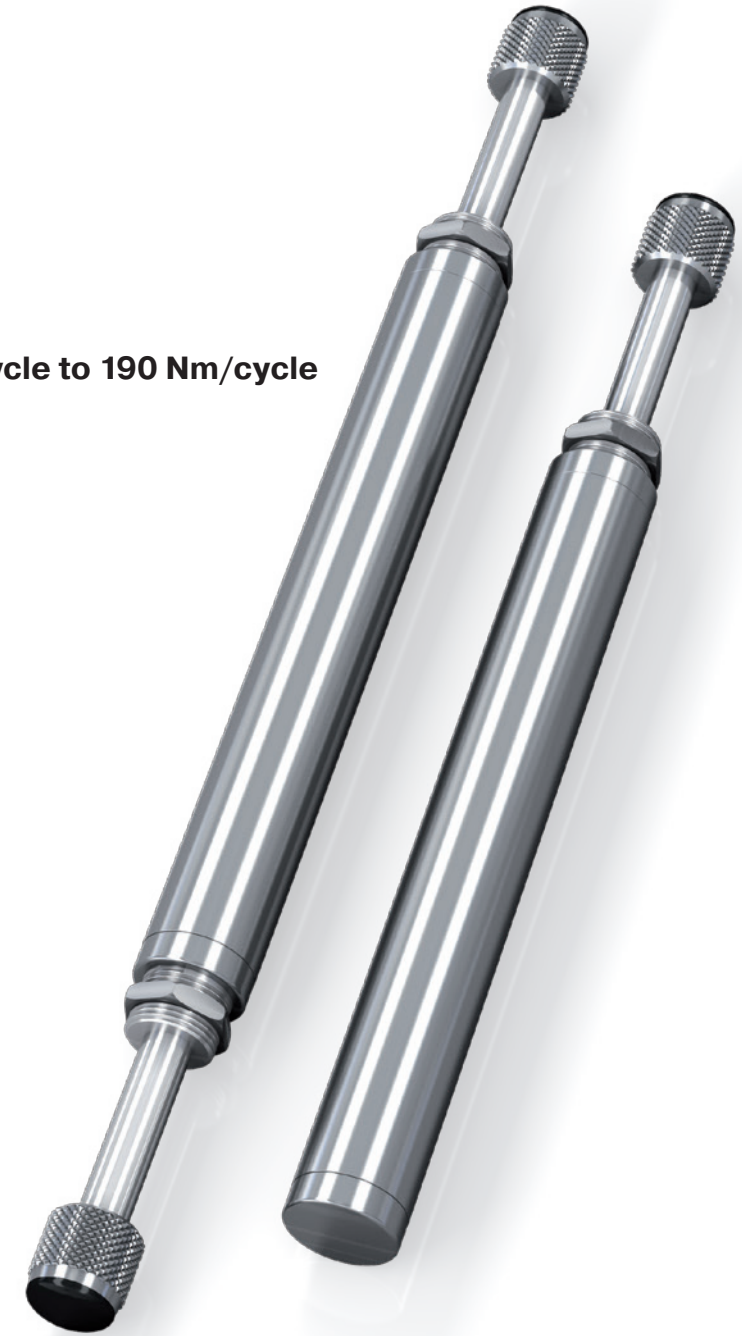


Table of contents **Page**

Door dampers TD-28 and TDE-28 (adjustable)

Manual

General instructions

This manual is for the disruption-free use of the product types listed on page 1; its compliance is a prerequisite for the fulfilment of any warranty claims.

Therefore, make sure to read this manual before use.

Always maintain the limits specified in the performance table. Take into account the predominant environmental conditions and restrictions. Note the regulations of the trade association, TÜV or corresponding national, international and European regulations. Installation and commissioning only according to mounting instructions.

Safety information

WARNING

If ACE door dampers are used where a failure of the product could lead to personal injuries and/or material damage, additional safety elements must be implemented.

Intended use

Door dampers by ACE are used wherever moving masses are to be subjected to an even, defined speed. The damping is retracting and/or extending. The damping is adjustable in both directions independently of one another.

Description and function

Door dampers are maintenance-free and ready to install. They are available off-the-shelf with a body diameter of 28 mm.

When extending or retracting the piston rod, the hydraulic fluid, located in the cylinder space in front of the piston, is displaced by the piston and pressed through the throttle into the cylinder space behind the piston. The balance is realised by an accumulator in order to avoid free travel. The sealing system reliably takes care of the sealing of the chrome-plated piston rod on the outside. In order to adjust the damping, the respective adjustment segment is twisted and the metering orifice is further opened or closed. The damping can be variably adjusted from the outside in both directions.

The door damper does not have its own return force and must be guided over the total working stroke in both directions.

The application range in the compression and tension can be found in the diagrams.

Calculation and design

In order to ensure an optimum and durable function of the door dampers they must be correctly dimensioned and designed. The following parameters must be known:

- Moving mass
- Feed force
- Feed speed
- Number of strokes or cycles per minute

For the correct sizing, please phone the following number for free advice: +49 (0)2173 - 9226-20.

Delivery and storage

- After delivery please check the door dampers for any damage.
- The door damper can become damaged if it falls down; remove gas spring from packaging carefully.
- Door dampers can generally be stored in any position.
- Always store door dampers in a dry place in order to avoid oxidation.
- The recommended maximum storage time is 1 year.
- Any protective packaging must be removed before installation.

Maintenance and care

Regularly check the door dampers for oil loss, function and external damage.

Door dampers are maintenance-free and ready to install.

Door dampers are machine elements that are subject to continuous wear.

Disassembly and disposal

Take account of environmental protection during disposal of the door dampers.

The corresponding disposal instructions are available on request. You can return the door dampers to ACE for disposal that is free of charge.

ACE door dampers are repairable.

Faulty door dampers can be sent to our service department for determination of the cause of failure and for repair.

Door dampers TD-28 (adjustable)

Mounting instructions and mounting accessories

Installation instructions

Before installation and use check whether the identification number on the product or on the packaging matches the respective designation on the delivery note. The door damper TD-28 is maintenance-free and ready to install.

Adjustment

The adjustment of the door damper takes place by twisting the knurled head in a completely extended state of the piston rod.

Thanks to a tooth adjustment, the damping of the TD-28 can be separately adjusted on both sides.

Mounting accessories

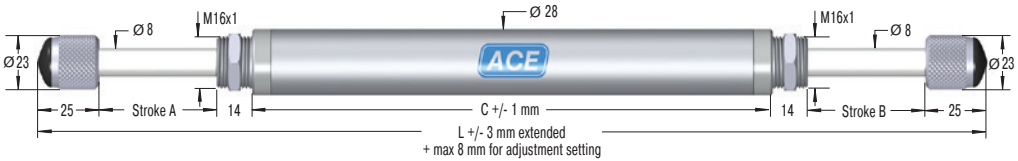
TD-28

Before installation check whether the identification number on the packaging matches the respective designation on the delivery note.

Note the dimensioning for mounting when using accessory parts. Bolts for fitting of accessories are not included.

If you have any questions, please phone +49 (0)2173 - 9226-20 for free advice.

TD



WARNING

If the temperature exceeds or falls below the maximum or minimum temperature, the gas spring may fail.
Always maintain temperature range of -20 °C to +80 °C.

Fluids, gases and dirt particles in the environment can attack or destroy the seal system of the gas spring and cause it to fail. Protect piston rod and seal system from external materials in the environment.

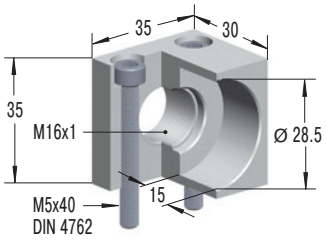
Damage to the piston rod surface can destroy the seal system.
Do not grease, oil, paint piston rod, etc.; protect against dirt particles.

The body tube can become deformed.
Do not allow any transverse or lateral forces on the door damper. Do not clamp the body tube.

High forces may cause the hydraulic door damper to compress or overstretch.
Apply mechanical stops.

Door dampers without return springs can only be moved alternately.

MB-16
Clamp mount
incl. M5x40 bolts



Packaging disposal

Please dispose of the transportation packaging in an environmentally-friendly manner. Recycling packaging materials saves raw materials and reduces waste. The packaging materials do not contain any prohibited materials.

Performance data and dimensions

TYPES	Energy capacity Nm/cycle	Reacting force N	Impact mass max. kg	Stroke A mm	Stroke B mm	C mm	L extended mm	Return Force max. N	[1]Return	Weight kg
TD-28-50-50-F	75	1,550	150	50	50	220	402	30	F	0.738
TD-28-70-70-F	70	1,500	200	70	70	260	482	30	F	0.840
TD-28-100-100-F	80	1,500	250	100	100	220	502	40	F	0.750
TD-28-120-120-D	165	3,800	250	120	120	208	417	-	D	0.8195

[1] Standard type. Further versions upon request.

Model type prefix

F: automatically extending with return springs

D: without return springs. When actuating a piston rod, the opposite piston rod is extended (the actuation of the piston rod may only take place alternately).

Technical data

Outer body diameter: Ø 28 mm
Piston rod diameter: Ø 8 mm
Free travel: minimal
Operating temperature range: -20 °C to +80 °C
Mounting: in any position
Adjustment: By twisting the pulled out piston rod on the knurled head, the damping can be separately adjusted by a tooth adjustment for both sides. This allows the dimension L to be extended by max. 8 mm.
Material: Outer body: Steel-plated; piston rod: Chrome-plated steel
Impact velocity range: 0.1 m/s to 2 m/s
Strokes per minute: max. 10
Application field: Doors, lift doors, automatic doors
Note: ACE door dampers are hydraulic, adjustable shock absorbers working on one side or two.
On request: Special oils and other special options and further accessories are available.

Door dampers TD-28 (adjustable)

Mounting instructions and mounting accessories

Installation instructions

Before installation and use check whether the identification number on the product or on the packaging matches the respective designation on the delivery note. The door damper TD-28 is maintenance-free and ready to install.

Adjustment

The adjustment of the door damper takes place by twisting the knurled head in a completely extended state of the piston rod.

Mounting accessories

TDE-28

Before installation check whether the identification number on the packaging matches the respective designation on the delivery note.

Note the dimensioning for mounting when using accessory parts. Bolts for fitting of accessories are not included.

If you have any questions, please phone +49 (0)2173 - 9226-20 for free advice.

WARNING

If the temperature exceeds or falls below the maximum or minimum temperature, the gas spring may fail.
Always maintain temperature range of -20 °C to +80 °C.

Fluids, gases and dirt particles in the environment can attack or destroy the seal system of the gas spring and cause it to fail. Protect piston rod and seal system from external materials in the environment.

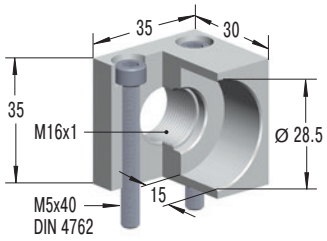
Damage to the piston rod surface can destroy the seal system.
Do not grease, oil, paint piston rod, etc.; protect against dirt particles.

The body tube can become deformed.
Do not allow any transverse or lateral forces on the door damper. Do not clamp the body tube.

High forces may cause the hydraulic door damper to compress or overstretch.
Apply mechanical stops.

Door dampers without return springs can only be moved alternately.

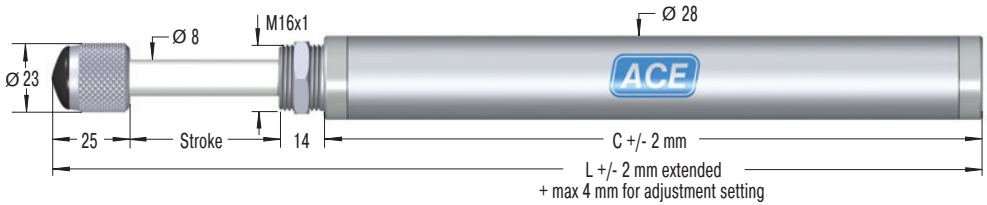
MB-16
Clamp mount
incl. M5x40 bolts



Packaging disposal

Please dispose of the transportation packaging in an environmentally-friendly manner. Recycling packaging materials saves raw materials and reduces waste. The packaging materials do not contain any prohibited materials.

TDE



Performance data and dimensions

TYPES	Energy capacity Nm/cycle	Reacting force N	Impact mass max. kg	Stroke mm	C mm	L extended mm	Return Force max. N	Weight kg
TDE-28-50	80	2,400	4,000	50	130	219	30	0.455
TDE-28-70	112	2,400	5,600	70	158	267	30	0.516
TDE-28-100	160	2,400	8,000	100	193	332	30	0.593
TDE-28-120	190	2,400	7,000	120	214	371	40	0.636

Technical data

Outer body diameter: Ø 28 mm
Piston rod diameter: Ø 8 mm
Free travel: minimal
Operating temperature range: -20 °C to +80 °C
Mounting: in any position
Adjustment: By twisting the pulled out piston rod on the knurled head, the damping can be adjusted by a tooth adjustment. This allows the dimension L to be extended by max. 4 mm.
Material: Outer body: Steel-plated; piston rod: Chrome-plated steel
Impact velocity range: 0.1 m/s to 2 m/s
Strokes per minute: max. 10
Application field: Doors, lift doors, automatic doors
Note: ACE door dampers are hydraulic, adjustable shock absorbers working on one side or two.
On request: Special oils and other special options and further accessories are available.

Door dampers TD-28 and TDE-28 (adjustable)

Manual

Warranty

Fundamentally, all modifications to the product by third parties lead to exclusion from the warranty.

Obvious defects must be reported to the vendor in writing immediately after delivery, no later than one week, but in any case before processing or installation, otherwise the assertion of a warranty claim is excluded. A timely dispatch is sufficient to keep the term.

The vendor is to be given an opportunity to check on site. If the complaint is justified the vendor offers warranty by repair or replacement at its own discretion. If the rectification fails, the buyer may choose to demand reduction of payment (abatement) or cancellation of the contract (withdrawal). If there is only a minor lack of conformity, particularly with only minor defects, the buyer nevertheless has a right of withdrawal.

If, after failed rectification, the buyer chooses to cancel the contract due to a defect of title or material defect, they are not entitled to additionally claim for damages.

If, after failed fulfilment, the buyer chooses compensation, the goods remain with the buyer, if this is reasonable. The compensation is limited to the difference between the purchase price and the value of the defective item. This does not apply if the vendor maliciously causes the breach of contract.

The quality of the goods is only considered as agreed upon with the product description of the vendor. Public statements, claims or advertising of the manufacturer do not represent an additional contractual specification of quality of the goods.

If the buyer receives defective mounting instructions, the buyer is only obligated to deliver defect-free mounting instructions and only if the defect to the mounting instructions prevents proper mounting.

The warranty period is two years and begins upon completion. Exchange and return of custom products are fundamentally excluded. The factory conditions of the manufacturing factory apply to parts not manufactured and processed by the vendor, which can be viewed by the orderer at the vendor at any time. Construction and installation parts are delivered according to the present standard of engineering.

Expected service life

In general, door dampers are machine elements that are subject to wear. Wear parts such as seals and pistons are excluded from the general warranty. The wear of seals is largely dependent upon the operating conditions and the respective application with its operating parameters.

In general, the door damper TD-28/TDE-28 by ACE is tested over a lifetime of approx. 10,000 m.

Adverse environmental and operating conditions can significantly reduce the expected service life.