



A STABILUS COMPANY

WHEN PERFORMANCE MATTERS

# Crash Damper

**NEW**

ACE: Your partner for industrial shock absorbers,  
gas springs and vibration control

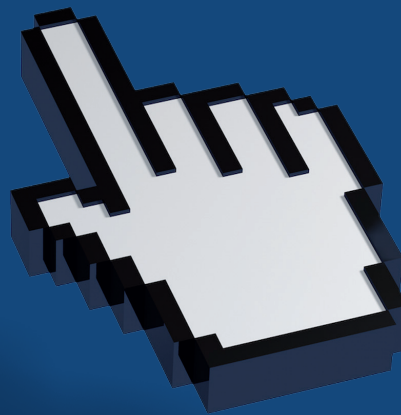
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# Crash Dampers

## Highly effective aluminium and steel emergency stop systems

As single-use solutions, the robust crash dampers complement ACE's range of safety products. They are made of special aluminium or steel piping that folds by design in the event of a crash, converting the kinetic energy generated into heat.

The tough crash elements efficiently protect structures when incidents occur by evenly absorbing 98 percent of the energy. They deliver great long-term stability in everyday operation and outstanding protection in the event of an emergency stop. All crash boxes are easy to install and replace after a crash. Crash dampers also offer impressive performance for the price.

98 percent energyabsorption

Excellent price-performance ratio

Very sturdy and reliable

Long stroke ensures low reacting forces

Easy to install and replace

High energy capacity



# Crash Dampers

Highly effective aluminium and steel energy absorption elements

**Single-use emergency stop dampers**

**Energy capacity 100 Nm/Cycle to 11.200 Nm/Cycle**

**Stroke 11 mm to 160 mm**

Single-use, yet extremely useful protection: With its crash dampers, ACE offers engineers a single-use solution as a high-efficiency plant safety option. Each crash element, made of custom designed aluminium piping or steel, absorbs even high inertia forces almost instantaneously in the event of an impact. When arranged in series or parallel, the crash elements can absorb even higher energy values at once.

Other advantages of the emergency stop systems developed in sophisticated test series are their simple installation, ease of retrofitting in existing plants, speed of replacement and reduced downtime after a crash. The deformation of the crash box also allows the incident to be reconstructed, ideally helping avoid the same problem in future.

With these benefits, the crash dampers are already protecting many linear axes in robotics applications as well as the limit positions of tool machines, conveyor systems and high bay rack feeders.



## Technical Data

**Energy capacity:** 100 Nm/Cycle to 11.200 Nm/Cycle

**Stroke:** 11 mm to 160 mm

**Energy absorption:** 98 %

**Max. Reacting Force:** approx. 13,000 N to 92,000 N

**Operating temperature range:** -30° C to + 100° C

**Standard colour:**  
 Umbra grey RAL 7022 (powder-coated):  
 Diameter 88 mm

Ruby red RAL 3003 (powder-coated):  
 Diameter 38 mm and 63 mm

Zinc-plated: Diameter 20 mm

Alu blank: Diameter 21 mm

**Construction size:** Diameter 20 mm to 88 mm

**Material:** Aluminium or Steel

**Mounting:** In any position

**Impact velocity range:** Max. 5 m/s

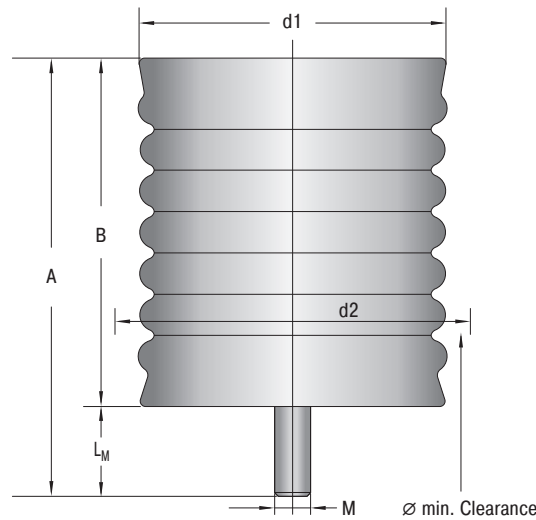
**Application field:** Emergency stop damping in linear axes, Portal systems, Tool machines, Test stations, Electro-mechanical drives

**Note:** The single-use damper must be replaced after each impact.

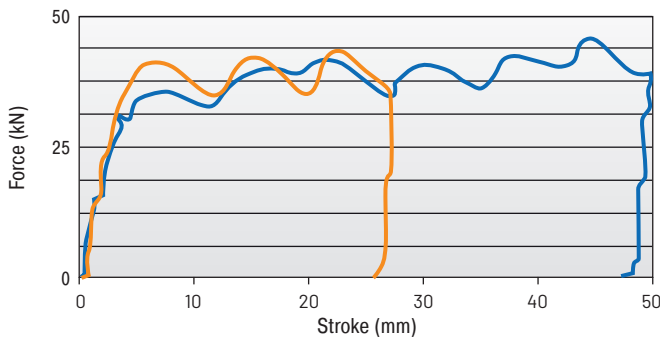
**Safety instructions:** Where necessary, use thread locking fluid to secure the threaded pins or the fixing screw

**On request:** Also available with centring pins and other special versions

## Crash Dampers



### Example CD-88-53 Force-Stroke Characteristic



	Stroke use 28 mm	Stroke use 50 mm
Stroke:	28 mm	50 mm
Absorbed energy:	779 Nm	1,468 Nm
Efficiency:	98 %	98 %
Approx. reacting force max.	40 kN	43 kN

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

### Ordering Example

Type \_\_\_\_\_  
 Outer diameter \_\_\_\_\_  
 Stroke \_\_\_\_\_  
 High energy absorption \_\_\_\_\_

**CD-88-145-H**

### Performance and Dimensions

TYPES	max. Energy capacity emergency use Nm/cycle	max. Stroke mm	max. Reacting Force N	Material	A mm	B mm	d1 mm	d2 mm	L <sub>M</sub> mm	M	Weight kg
CD-21-11	100	11	13,000	Aluminium	41	34	21	25	7	M5	0.03
CD-20-13	200	13	19,500	Steel	41	34	20	25	7	M5	0.02
CD-20-24	350	24	19,500	Steel	61	53	20	25	8	M5	0.03
CD-88-50	950	50	26,000	Aluminium	123	99	88	105	26	M10	0.41
CD-88-45	1,200	45	40,000	Aluminium	123	99	88	105	26	M10	0.44
CD-88-53	1,600	53	43,000	Aluminium	134	110	88	105	26	M10	0.52
CD-88-56	1,680	56	45,000	Aluminium	147	124	88	105	26	M10	0.54
CD-88-56-H	2,130	56	57,000	Aluminium	147	124	88	105	26	M10	0.56
CD-38-80	4,400	80	80,000	Steel	161	135	38	46	26	M16	0.46
CD-88-145	5,370	145	56,000	Aluminium	239	216	88	140	26	M10	0.72
CD-63-80	5,600	80	92,000	Steel	160	134	63	72	26	M16	0.72
CD-88-145-H	7,690	145	80,000	Aluminium	239	216	88	140	26	M10	0.75
CD-63-160	11,200	160	92,000	Steel	452	273	63	72	180	M36	2.20

All specifications are nominal dimensions. Tolerances are available on request.

## ACE Germany

The shortest way to the perfect shock absorber



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