NEW

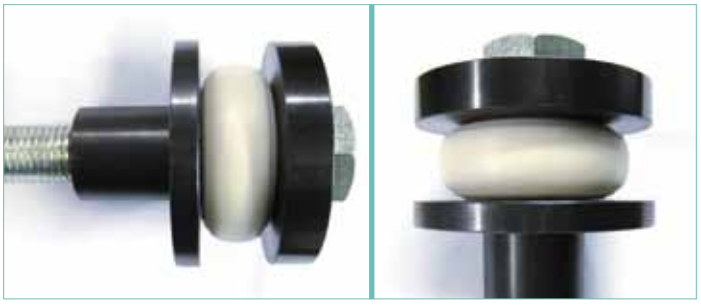
The new design of ACE down holder damper

The innovative down holder damper made of co-polyester elastomer results in a new solution as a damper in pressing tools and replaces overloaded PU springs.
Sheet metal forming is increasingly taking place in the automobile and household appliance industry with faster cycling speeds. When opening the press after the pressing process, the holding screws and therefore the actual tool are substantially protected. Due to the increasing return stroke speeds, the forces on the down holder dampers have increased significantly and the PU springs cannot meet the new conditions.
The PU springs often literally crumble after just a few cycles and leave holding screws, tools and down holders without protection. The holding screws tear-off and cause production failures and significant repair costs for the tools. As a result, the TUBUS-Special for holding screws from M10 to M30 were developed. The maximum energy absorption is between 5 Nm and 269 Nm.

In comparison to the standard PU springs, the TUBUS down holder dampers offer:

> A high service life and operational safety
> High force and energy absorption
> High effectiveness level
> Low setting behaviour
> Noise reduction
> UV protection
> Low abrasion
> Efficient work with higher cycle speeds
> More design freedom when setting up new tools

TUBUS-Special-D00015 (Down Holder Damper M16)



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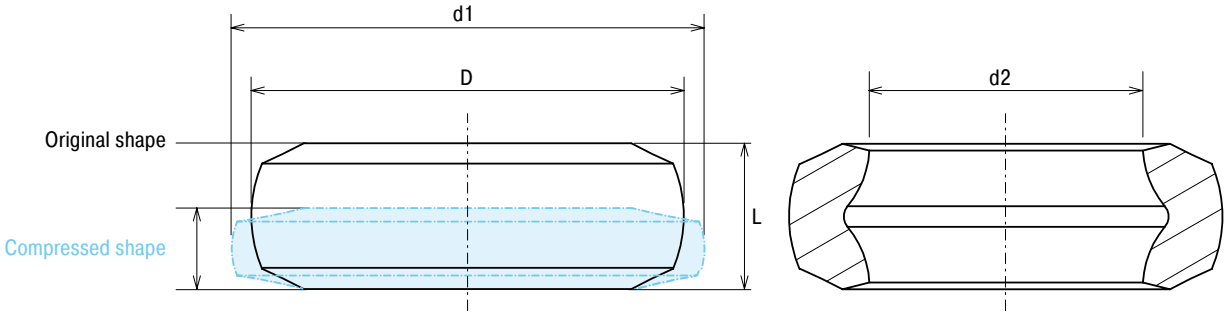
TUBUS-Down Holder Damper

Damping element for pressing tools



Dimensions and Capacity Chart

Type TUBUS-Special	Retainer screws	Standard	Ident-No.	W_3 Nm/Cycle	F max. N	max. Stroke mm	D	d_1	d_2	L	Material hardness Rating
D00002	M10	BMW	2 173 880	5.0	5 500	2.0	26.4	28.4	16.3	7.8	Shore 55D
D00003*	M12	BMW	2 173 881	14.2	9 000	4.4	32.1	35.1	20.3	10.8	Shore 72D
D00015*	M16	BMW	2 173 882	44.6	20 000	4.9	45.8	49.8	25.3	17.0	Shore 72D
D00013	M20	BMW	2 173 883	81.9	30 000	7.6	54.6	61.8	30.3	21.3	Shore 55D
D00006	M24	BMW	2 173 884	126.5	46 000	8.2	61.8	69.9	36.3	21.5	Shore 55D
D00014	M30	BMW	2 173 885	269.0	75 000	11.4	78.5	89.0	42.8	29.4	Shore 55D
D00020	M16	Daimler	prototype	3.8	5 000	1.7	29.3	30.7	16.7	8.1	Shore 55D
D00021	M20	Daimler	prototype	11.3	10 000	3.0	32.2	35.9	20.3	9.5	Shore 55D
D00047	M24	Daimler	prototype	16.3	11 000	2.7	51.8	53.7	33.3	16.9	Shore 55D
D00048	M24	Daimler	prototype	28.1	14 600	3.4	58.5	62.6	38.7	17.8	Shore 55D
D00044	M10	ThyssenKrupp	prototype	3.0	3 000	2.0	23.6	25.0	16.0	7.3	Shore 55D
D00045	M20	ThyssenKrupp	prototype	14.0	11 000	4.1	43.3	47.6	30.0	10.2	Shore 55D
D00046	M24	ThyssenKrupp	prototype	16.3	11 000	2.7	51.8	53.7	33.3	16.9	Shore 55D

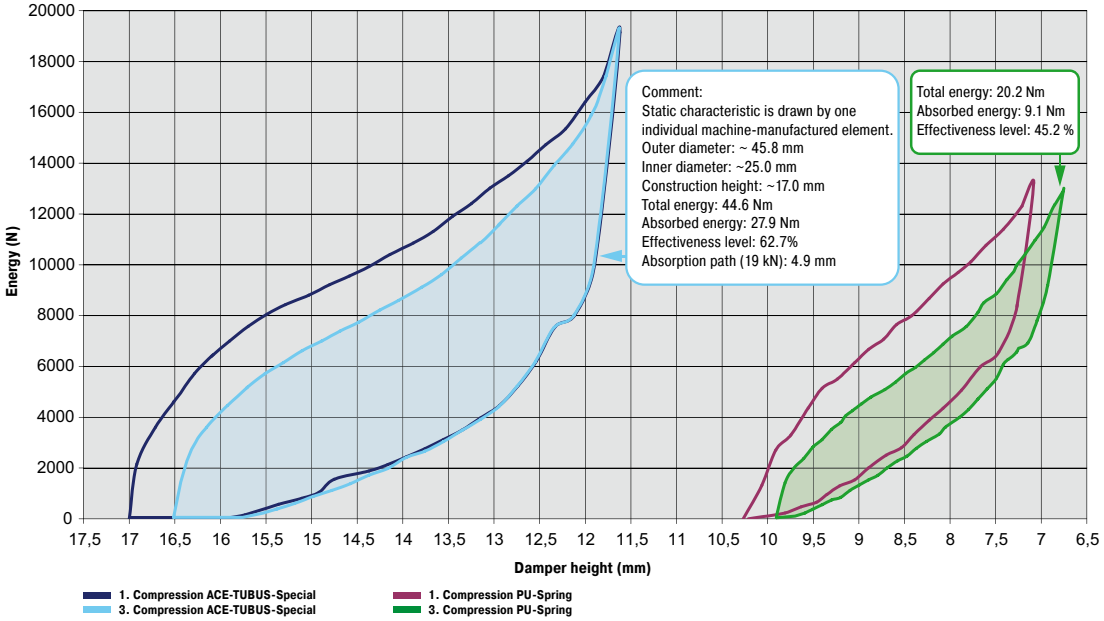
*Natural colour: without additional UV protection
Dimensions: Tolerance to DIN 16901

Environment: resistant against microbes, seawater, chemicals and with very good UV resistance.
No absorption of water and no swelling.

Operating temperature range: -40°C to 90°C

Upon request: special strokes, characteristics, sizes and materials.
More individual damping solutions for different tool standards are possible.

Down holder damper M16, TUBUS-Special-D00015,
machine-manufactured prototype, static compressions, v~150 mm/min., 08.09.2009



Graphic: From customer supplied PU Spring.