TUBUS TS

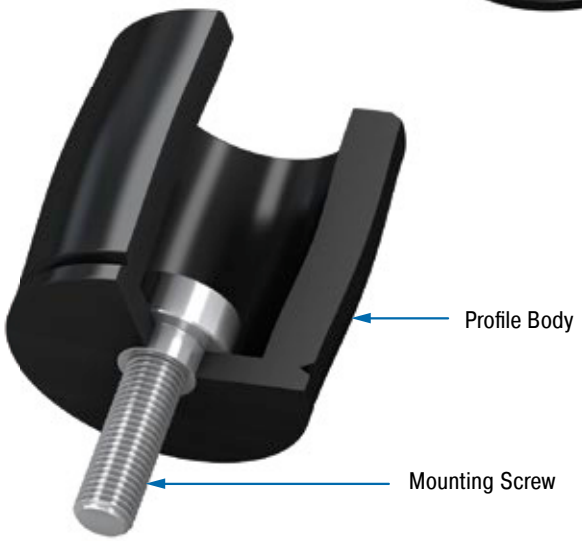
Compact size and smooth deceleration

Axial Soft Damping
Energy capacity 2 Nm/Cycle to 966 Nm/Cycle
Maximum stroke 7 mm to 56 mm

Energy absorption in a compact and uniform way: The TS (TUBUS soft) profile dampers are also manufactured from co-polyester elastomer. Due to the almost linear damping characteristic curve, the maintenance-free, ready-to-install components softly absorb the energy with minimum strain on the machine. Consistent damping is helped by the low temperature increase of the material during operation.

The TS-Series impresses with maximum energy absorption within a range of 2 Nm to 966 Nm within a minimum height. The space-saving design has been implemented from Ø 14 mm to Ø 107 mm. The special screw supplied is used to simply and quickly fix the profile dampers in place.

Suitable for emergency stop and permanent applications, the cost-effective, durable TUBUS TS can be used as end position dampers in linear axes, in toolmaking and tool machines and in hydraulic, pneumatic and handling equipment.



Technical Data

Energy capacity: 2 Nm/Cycle to 966 Nm/Cycle

Energy absorption: 35 % to 64 %

Dynamic force range: 533 N to 23,500 N

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

Construction size: 14 mm to 107 mm

Mounting: In any position

Material hardness rating: Shore 40D

Material: Profile body: Co-Polyester Elastomer

Environment: Resistant to microbes, seawater or chemical attack. Excellent UV and ozone resistance. Material does not absorb water or swell.

Impact velocity range: Max. 5 m/s

Torque max.:
M4: 1.7 Nm
M5: 2.3 Nm
M6: 6 Nm
M12: 50 Nm
M16: 120 Nm

Application field: Linear slides, Pneumatic cylinders, Handling modules, Machines and plants, Swivel units, Electro-mechanical drives, Crane systems, Conveyor systems, Crane systems

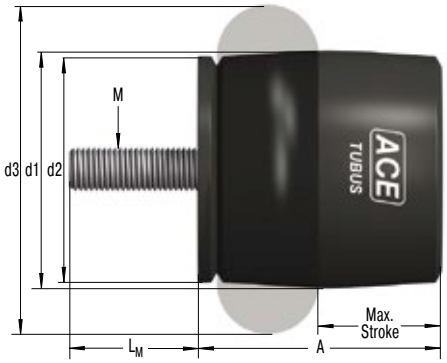
Note: Suitable for emergency stop applications and for continous use. For applications with preloading and increased temperatures please consult ACE.

Safety instructions: Mounting screw should additionally be secured with Loctite.

On request: Special strokes, -characteristics, -spring rates, -sizes and -materials.

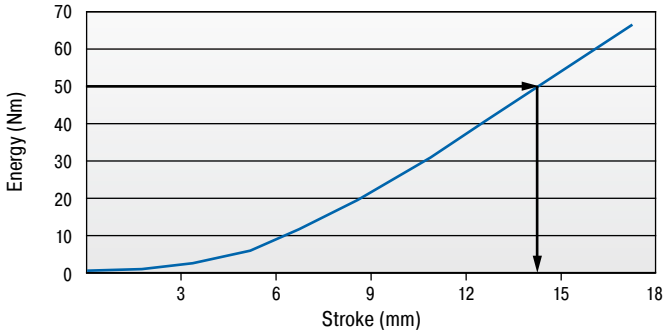
Issue 07.2017 – Specifications subject to change

TS

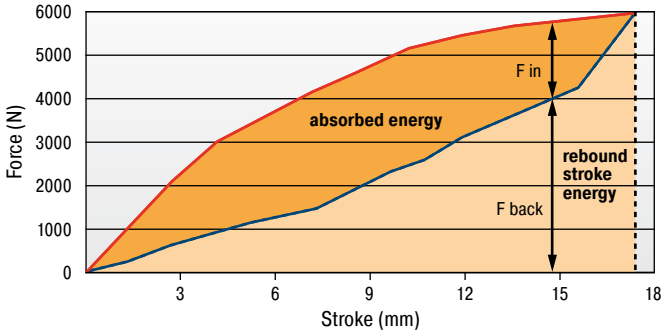


Characteristics

Type TS44-23
Energy-Stroke Characteristic (dynamic)
(with impact velocity over 0.5 m/s)



Type TS44-23
Force-Stroke Characteristic (dynamic)
(with impact velocity over 0.5 m/s)



With the aid of the characteristic curves above you can estimate the proportion of the total energy that will be absorbed.
Example: With impact energy of 50 Nm the Energy-Stroke diagram shows that a stroke of about 14 mm is needed.
On the Force-Stroke diagram you can estimate the proportion of absorbed energy to rebound energy at this stroke length.
Dynamic (v > 0.5 m/s) and static (v ⩽ 0.5 m/s) characteristics of all types are available on request.

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

Ordering Example **TS44-23**

TUBUS Axial Soft
Outer-Ø 44 mm
Stroke 23 mm

Performance and Dimensions

TYPES	[1] W_3 Nm/cycle	Emergency Stop W_3 Nm/cycle	Stroke max. mm	A mm	d1 mm	d2 mm	d3 mm	L_M mm	M	Weight kg
TS14-7	2.0	3	7	15	14	13	19	4	M4	0.003
TS18-9	4.0	6	9	18	18	16	24	5	M5	0.006
TS20-10	6.0	7	10	21	20	19	27	6	M6	0.009
TS26-15	11.5	15	15	28	26	25	37	6	M6	0.016
TS32-16	23.0	26	16	32	32	30	44	6	M6	0.021
TS35-19	30.0	36	19	36	35	33	48	6	M6	0.028
TS40-19	34.0	42	19	38	40	34	51	6	M6	0.031
TS41-21	48.0	63	21	41	41	38	55	12	M12	0.060
TS44-23	63.0	72	23	45	44	40	60	12	M12	0.070
TS48-25	81.0	91	25	49	48	44	64	12	M12	0.080
TS51-27	92.0	114	27	52	51	47	69	12	M12	0.095
TS54-29	122.0	158	29	55	54	50	73	12	M12	0.105
TS58-30	149.0	154	30	59	58	53	78	12	M12	0.132
TS61-32	163.0	169	32	62	61	56	83	16	M16	0.203
TS64-34	208.0	254	34	66	64	60	87	16	M16	0.232
TS68-36	227.0	272	36	69	68	63	92	16	M16	0.248
TS75-39	291.0	408	39	75	75	69	101	16	M16	0.301
TS78-40	352.0	459	40	79	78	72	105	16	M16	0.339
TS82-44	419.0	620	44	84	82	75	110	16	M16	0.346
TS84-43	475.0	635	43	85	84	78	115	16	M16	0.402
TS90-47	580.0	778	47	92	90	84	124	16	M16	0.490
TS107-56	902.0	966	56	110	107	100	147	16	M16	0.733

[1] Max. energy capacity per cycle for continous use.

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