

The **profile damper type TA** from the innovative ACE TUBUS series is a maintenance free, self-contained damping element made from a special Co-Polyester Elastomer.

As a result of the degressive damping characteristic it provides a high energy absorption at the beginning of its stroke. The excellent temperature characteristic of the material provides consistent damping performance over a temperature of -40 °C to 90 °C. The low installed weight, the economic price and the long operating life of up to 1 million cycles make this an attractive alternative to hydraulic end position damping, if the moving mass does not have to stop in an exact datum position and it is not necessary to absorb 100 % of the incoming energy.

The **space-saving package size** ranges from Ø 12 mm up to Ø 116 mm and is very simply and quickly installed with the supplied specially stepped mounting screw. The TA series have been specially developed to provide **maximum energy capacity** in the **minimum mounting space** in the capacity range from 2 Nm up to 2000 Nm.

Life expectancy is extremely high; **up to twenty times** longer than for urethane dampers, up to **ten times** longer than rubber bumpers and up to **five times** longer than steel springs.

Calculation and selection to be approved by ACE.



Impact velocity range: Up to max. 5 m/s

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

Capacity rating: For emergency use only (1 cycle) it is possible to exceed the W_3 rating by +40 %.

Mounting: In any position

Dynamic force range: 980 N to 82 000 N

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

Energy absorption:
40 % to 66 %

Material hardness rating:
Shore 55D

Mounting screw torque:

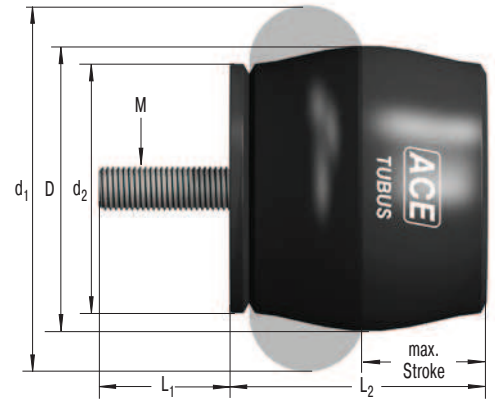
M3:	2 Nm
M4:	4 Nm
M5:	6 Nm
M6:	10 Nm
M8:	25 Nm
M12:	85 Nm
M16:	210 Nm

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



Ordering Example

TUBUS axial _____ **TA37-16**
 Outer-Ø 37 mm _____
 Stroke 16 mm _____



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

Dimensions and Capacity Chart

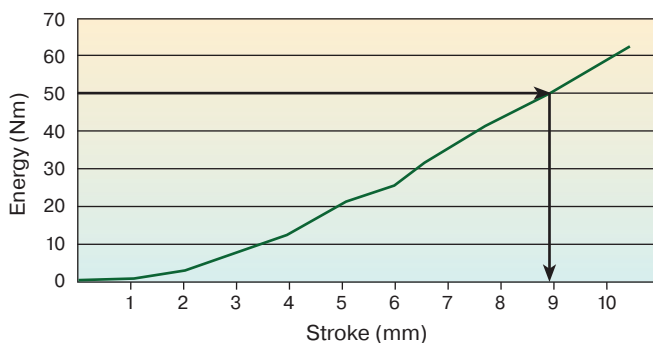
Type	¹ W ₃ Nm/Cycle	² W ₃ Nm/Cycle	Max. Stroke mm	D	L1	M	L2	d1	d2	Weight kg
TA12-5	2	3	5	12	3	M3	11	15	11	0.003
TA17-7	6	8.5	7	17	4	M4	16	22	15	0.004
TA21-9	10	14	9	21	5	M5	18	26	18	0.005
TA22-10	15	21	10	22	6	M6	19	27	19	0.005
TA28-12	30	42	12	28	6	M6	26	36	25	0.010
TA34-14	50	70	14	34	6	M6	30	43	30	0.020
TA37-16	65	91	16	37	6	M6	33	48	33	0.025
TA40-16	80	112	16	40	8	M8	35	50	34	0.030
TA43-18	100	140	18	43	8	M8	38	55	38	0.040
TA47-20	130	182	20	47	12	M12	41	60	41	0.050
TA50-22	160	224	22	50	12	M12	45	64	44	0.060
TA54-22	190	266	22	54	12	M12	47	68	47	0.065
TA57-24	230	322	24	57	12	M12	51	73	50	0.090
TA62-25	280	392	25	62	12	M12	54	78	53	0.105
TA65-27	350	490	27	65	12	M12	58	82	57	0.130
TA70-29	400	560	29	70	12	M12	61	86	60	0.145
TA72-31	500	700	31	72	16	M16	65	91	63	0.175
TA80-32	600	840	32	80	16	M16	69	100	69	0.225
TA82-35	700	980	35	82	16	M16	74	105	72	0.260
TA85-36	800	1 120	36	85	16	M16	76	110	75	0.300
TA90-38	900	1 260	38	90	16	M16	80	114	78	0.335
TA98-40	1 200	1 680	40	98	16	M16	86	123	85	0.425
TA116-48	2 000	2 800	48	116	16	M16	101	146	98	0.740

¹ Max. energy capacity per cycle for continuous use.

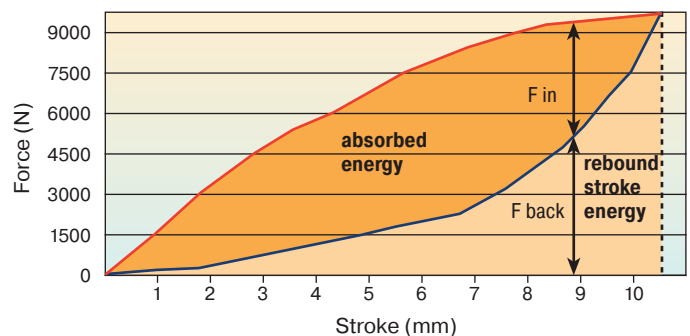
² Energy capacity per cycle for emergency use.

Characteristics of Type TA37-16

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



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 8.8 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 ($v \leq 0.5$ m/s) characteristics of all types are available on request.