TUBUS-Series Type TR-L

Profile Damper Radial Damping (Long Version)

The **radial tube damper type TR-L** from the innovative ACE TUBUS series is a maintenance free, self-contained damping element made from a special Co-Polyester Elastomer.
The radial deformation of the TR series provides a very long and soft deceleration with a progressive energy absorption towards the end of stroke. The excellent temperature characteristic of the material provides consistent damping performance over a temperature of -40 °C to 90 °C. The tube damper has been specially developed for applications that require very low reaction forces. The actual force generated depends upon the length of the tube damper chosen. The TUBUS TR-L type is suitable for a wide range of applications that require protection from shock or impact anywhere along a straight line. Typical applications include mining equipment, dockyard handling equipment and on baggage handling and conveyor systems. The TR-L series have been developed to provide **maximum stroke in the minimum mounting space**.

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:
6 800 N to 286 000 N

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

Energy absorption:
14 % to 26 %

Material hardness rating:
Shore 40D

Mounting screw torque:
M5: 6 Nm
M8: 25 Nm
M16: 210 Nm

On request: Special strokes, -colours, -sizes and materials.

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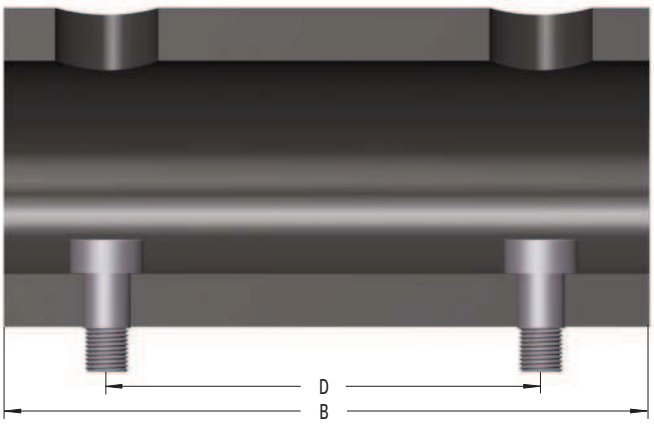

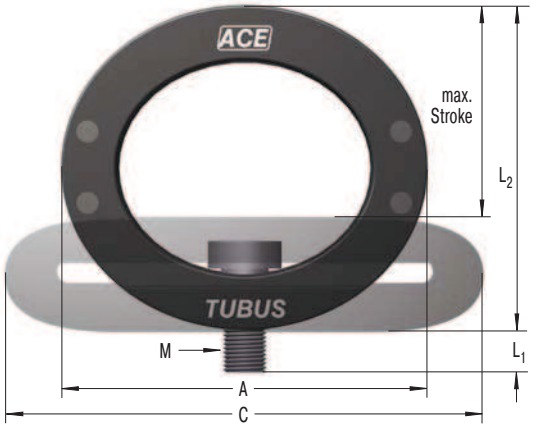

Ordering Example

TR66-40L-2

TUBUS radial long
Outer-Ø 66 mm
Stroke 40 mm
Length 2 = 305 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	A	B	C	D	M	L1	L2	Weight kg
TR29-17L	12	17	17	29	80	38	40	M5	5	25	0.06
TR43-25L	16	22.5	25	43	80	58	40	M5	5	37	0.06
TR63-43L	30	42	43	63	80	87	40	M5	5	55	0.10
TR66-40L-1	100	140	40	66	152	87	102	M8	8	59	0.25
TR66-40L-2	200	280	40	66	305	87	254	M8	8	59	0.55
TR66-40L-3	300	420	40	66	457	87	406	M8	8	59	0.80
TR66-40L-4	400	560	40	66	610	87	559	M8	8	59	1.10
TR66-40L-5	500	700	40	66	762	87	711	M8	8	59	1.30
TR76-45L-1	135	190	45	76	152	100	102	M8	8	68	0.35
TR76-45L-2	270	378	45	76	305	100	254	M8	8	68	0.70
TR76-45L-3	400	560	45	76	457	100	406	M8	8	68	1.10
TR76-45L-4	535	750	45	76	610	100	559	M8	8	68	1.40
TR76-45L-5	670	940	45	76	762	100	711	M8	8	68	1.70
TR83-48L-1	155	217	48	83	152	106	102	M8	8	73	0.45
TR83-48L-2	315	440	48	83	305	106	254	M8	8	73	0.90
TR83-48L-3	470	660	48	83	457	106	406	M8	8	73	1.35
TR83-48L-4	625	875	48	83	610	106	559	M8	8	73	4.80
TR83-48L-5	780	1 092	48	83	762	106	711	M8	8	73	2.25
TR99-60L-1	205	287	60	99	152	130	102	M16	16	88	0.60
TR99-60L-2	410	574	60	99	305	130	254	M16	16	88	1.10
TR99-60L-3	615	861	60	99	457	130	406	M16	16	88	1.75
TR99-60L-4	820	1 148	60	99	610	130	559	M16	16	88	2.35
TR99-60L-5	1 025	1 435	60	99	762	130	711	M16	16	88	2.90
TR99-60L-6	1 230	1 722	60	99	914	130	864	M16	16	88	3.50
TR99-60L-7	1 435	2 010	60	99	1 067	130	1 016	M16	16	88	4.10
TR143-86L-1	575	805	86	143	152	191	76	M16	16	127	1.25
TR143-86L-2	1 155	1 617	86	143	305	191	203	M16	16	127	2.50
TR143-86L-3	1 730	2 422	86	143	457	191	355	M16	16	127	3.80
TR143-86L-4	2 305	3 227	86	143	610	191	508	M16	16	127	5.10
TR143-88L-5	2 880	4 032	86	143	762	191	660	M16	16	127	6.40
TR143-86L-6	3 455	4 837	86	143	914	191	812	M16	16	127	7.70
TR143-86L-7	4 030	5 642	86	143	1 067	191	965	M16	16	127	9.00
TR188-108L-1	1 350	1 890	108	188	152	245	76	M16	16	165	2.15
TR188-108L-2	2 710	3 794	108	188	305	245	203	M16	16	165	4.45
TR188-108L-3	4 060	5 684	108	188	457	245	355	M16	16	165	6.70
TR188-108L-4	5 420	7 588	108	188	610	245	508	M16	16	165	9.00
TR188-108L-5	6 770	9 478	108	188	762	245	660	M16	16	165	11.20
TR188-108L-6	8 120	11 368	108	188	914	245	812	M16	16	165	13.45
TR188-108L-7	9 480	13 272	108	188	1 067	245	965	M16	16	165	15.75

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

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