TUBUS TC and TC-S

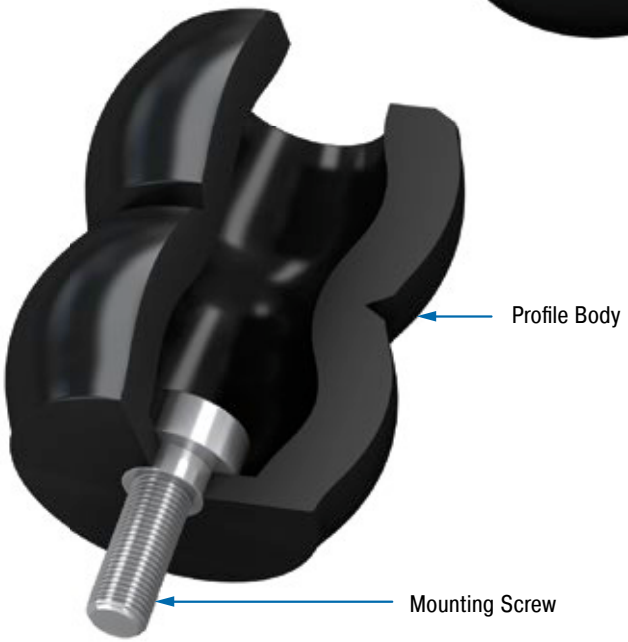
Compact powerhouse

Crane Installations
Energy capacity 630 Nm/Cycle to 17,810 Nm/Cycle
Maximum stroke 62 mm to 198 mm

For even more protection: The profile dampers from the TC range of the ACE TUBUS-Series can also be used as safety dampers. These maintenance-free, ready-to-install damping elements made of co-polyester elastomer have been specially developed for use in crane systems and fulfil the international industry standards OSHA and CMAA. In the special TC-S design, managed to achieve the spring rate required for crane systems with the unique dual concept.

Whether TC-S or TC, this range of models represents a cost-effective solution with high energy absorption for energy management systems. The very small and light design of Ø 64 mm to Ø 176 mm progressively covers energy absorption within a range of 450 Nm to 17,810 Nm.

The profile dampers from the TC range protect cranes, loading and lifting equipment, hydraulic units and much more.



Technical Data

Energy capacity: 630 Nm/Cycle to 17,810 Nm/Cycle

Energy absorption: 31 % to 64 %

Dynamic force range: 80,000 N to 978,000 N

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

Construction size: 64 mm to 176 mm

Material hardness rating: Shore 55D

Material: Profile body: Co-Polyester Elastomer

Mounting: In any position

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.:
M12: 50 Nm
M16: 40 Nm (DIN912)
M16: 120 Nm (shouldered screw)

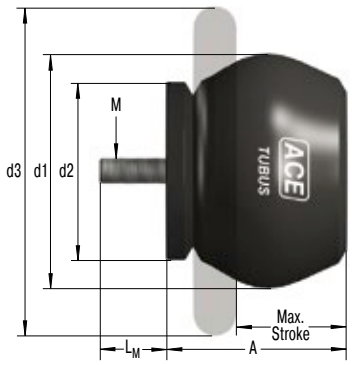
Application field: Crane systems, Loading and lifting equipment, Hydraulic devices, Electro-mechanical drives

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

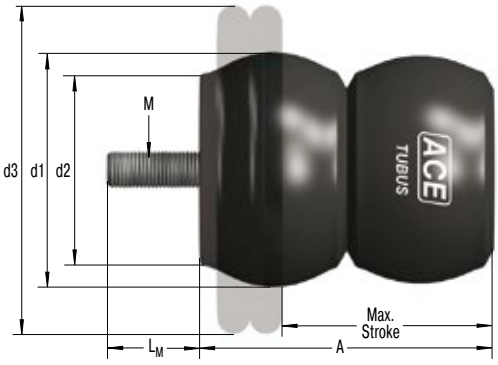
On request: Special strokes, -characteristics, -spring rates, -sizes and -materials.

Issue 07.2017 – Specifications subject to change

TC



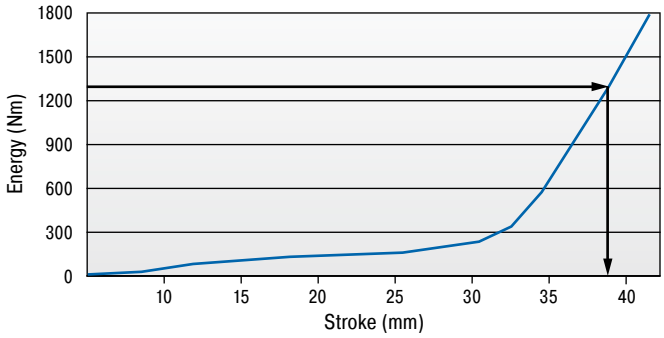
Model Type TC



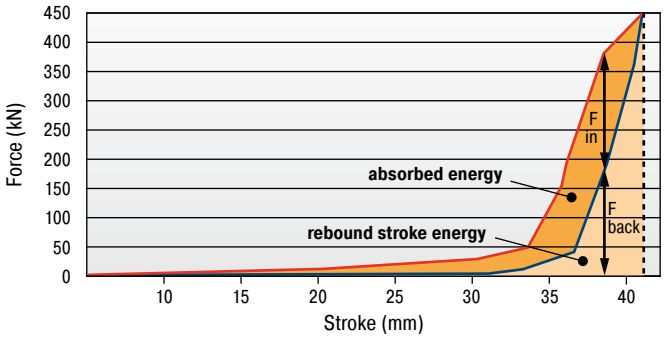
Model Type TC-S

Characteristics

Type TC90-49
Energy-Stroke Characteristic (dynamic)
(with impact velocity over 0.5 m/s)



Type TC90-49
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 1,300 Nm the Energy-Stroke diagram shows that a stroke of about 38 mm is needed.
On the Force-Stroke diagram you can estimate the proportion of absorbed energy to rebound energy at this stroke length.
Note: With these types the return force towards the end of the stroke is significant and we recommend you try to use a minimum of 90 % of the total stroke available.
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 **TC83-73-S**

TUBUS Crane Buffer
Outer-Ø 83 mm
Stroke 73 mm
Model Type Soft

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
TC64-62-S	450	630	62	79	64	52	89	12	M12	0.174
TC74-76-S	980	1,372	76	96	74	61	114	12	M12	0.260
TC83-73-S	1,940	2,715	73	94	83	69	127	12	M12	0.328
TC86-39	1,210	1,695	39	56	86	78	133	12	M12	0.284
TC90-49	1,640	2,295	49	68	90	67	124	12	M12	0.264
TC100-59	1,785	2,500	59	84	100	91	149	12	M12	0.452
TC102-63	1,970	2,760	63	98	102	82	140	22	M16	0.662
TC108-30	1,900	2,660	30	53	108	77	133	12	M12	0.392
TC117-97	3,710	5,195	97	129	117	100	188	16	M16	1.043
TC134-146-S	7,310	10,230	146	188	134	117	215	30	M16	1.573
TC136-65	4,250	5,950	65	106	136	106	178	16	M16	1.147
TC137-90	6,350	8,890	90	115	137	113	216	21	M16	1.201
TC146-67-S	8,330	11,660	67	118	146	99	191	16	M16	1.573
TC150-178-S	8,860	12,400	178	241	150	132	224	16	M16	2.674
TC153-178-S	7,260	10,165	178	226	153	131	241	16	M16	2.522
TC168-124	10,100	14,140	124	166	168	147	260	16	M16	2.533
TC176-198-S	12,725	17,810	198	252	176	150	279	16	M16	3.685

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

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