

## Profile Dampers TS, Axial Soft Damping

**Material:** Co-Polyester Elastomer.

Maintenance free, self-contained damping elements. Due to the almost linear damping characteristics it provides very smooth energy absorption along with minimum reaction loads on the machine. The excellent temperature characteristic of the material provides consistent damping performance over a temperature range of  $-40^{\circ}\text{C}$  to  $+90^{\circ}\text{C}$ . The low installed weight, the economic price and the long operating life of up to 1 million cycles makes this an attractive alternative to hydraulic end position damping, if the moving mass does not need to stop in an exact datum position and it is not necessary to absorb 100% of the incoming energy. The life cycle is up to 20 times longer than the urethane dampers and up to 10 times longer than for rubber.

**Environment:** Resistant to microbes, seawater, chemicals and exhibits excellent UV and ozone resistance.

Material does not absorb water and swell.

**Dynamic Force Range:** 533 N to 23,500 N.

**Permissible temperature range:**  $-40^{\circ}\text{C}$  to  $+90^{\circ}\text{C}$ .

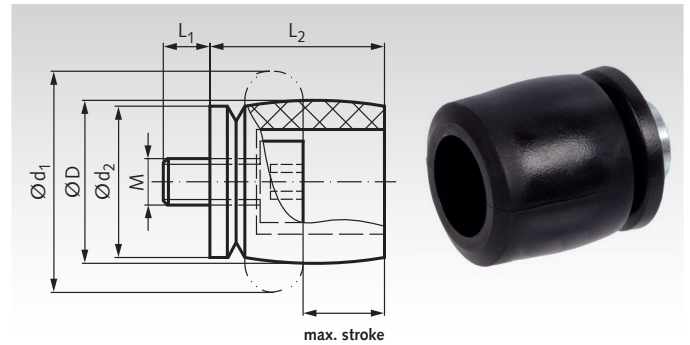
**Energy absorption:** 35% to 64%.

**Material hardness:** Shore 40D.

**Ordering Details:** e.g.: Product No. 691 114 00, Profile Damper TS 14-7

Product No.	Type mm	$W_3^{1)}$ Nm/Stroke	$W_{3\max}^{2)}$ Nm/Stroke	max. Stroke mm	D mm	$d_1$ mm	$d_2$ mm	$L_1$ mm	$L_2$ mm	M Thread	Weight g
691 114 00	14-7	2	3	7	14	19	13	4	15	M4	3
691 118 00	18-9	4	6	9	18	24	16	5	18	M5	6
691 120 00	20-10	6	7	10	20	27	19	6	21	M6	9
691 126 00	26-15	11,5	15	15	26	37	25	6	28	M6	16
691 132 00	32-16	23	26	16	32	44	30	6	32	M6	21
691 135 00	35-19	30	36	19	35	48	33	6	36	M6	28
691 140 00	40-19	34	42	19	40	51	34	6	38	M6	31
691 141 00	41-21	48	63	21	41	55	38	12	41	M12	60
691 144 00	44-23	63	72	23	44	60	40	12	45	M12	70
691 148 00	48-25	81	91	25	48	64	44	12	49	M12	80
691 151 00	51-27	92	114	27	51	69	47	12	52	M12	95
691 154 00	54-29	122	158	29	54	73	50	12	55	M12	105
691 158 00	58-30	149	154	30	58	78	53	12	59	M12	132
691 161 00	61-32	163	169	32	61	83	56	16	62	M16	203
691 164 00	64-34	208	254	34	64	87	60	16	66	M16	232
691 168 00	68-36	227	272	36	68	92	63	16	69	M16	248
691 175 00	75-39	291	408	39	75	101	69	16	75	M16	301
691 178 00	78-40	352	459	40	78	105	72	16	79	M16	339
691 182 00	82-44	419	620	44	82	110	75	16	84	M16	346
691 184 00	84-43	475	635	43	84	115	78	16	85	M16	402
691 190 00	90-47	580	778	47	90	124	84	16	92	M16	490
691 195 00	107-56	902	966	56	107	147	100	16	110	M16	733

<sup>1)</sup> Max. energy capacity per cycle for continuous use. <sup>2)</sup> For a single cycle, e.g. an emergency stop.



**Mounting:** in any position. **Impact Velocity range:** up to max. 5 m/s.

**Mounting Bolt Torque:**

M4: 2 Nm      M12: 50 Nm

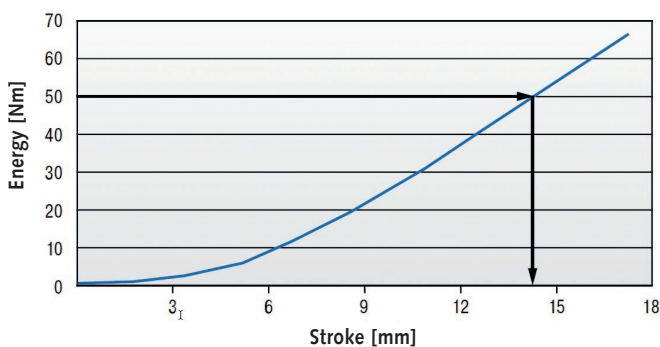
M5: 4 Nm      M16: 120 Nm

M6: 6 Nm

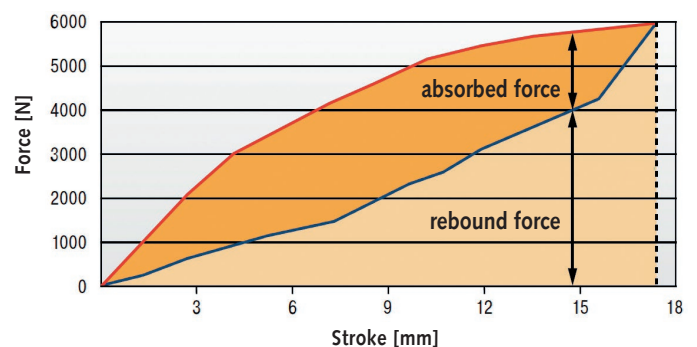
**On request:** special strokes, characteristics, spring rates, sizes and materials.

### Characteristics for Product No. 691 144 00

Energy-Stroke Characteristics (dynamic)



Force-Stroke Characteristics (dynamic)



With aid of the characteristics curves above you can determine the amount of energy that will be absorbed.

Example: Energy to be absorbed 50 Nm = stroke needed 14 mm see chart energy-stroke characteristic. The energy stroke chart serves to determine the absorbed or rebound energy at a given stroke length.

**Dynamic ( $v > 0.5$  m/s) and static ( $v \leq 0.5$  m/s) characteristics for all types available on request.**