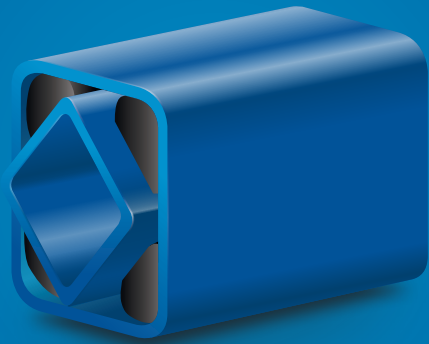


THE BLUE ONES FROM ROSTA

Components for increased output





Simple and clever

DEAR READER

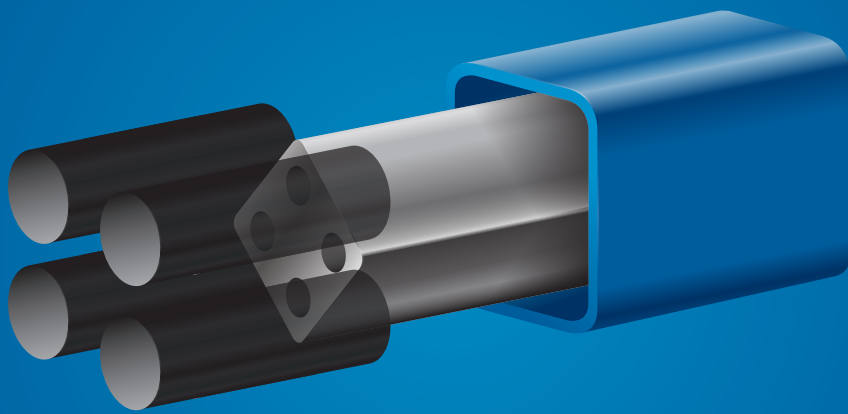
A unique success story for 75 years

Thanks to an innovative product idea, ROSTA is the world's leading manufacturer of rubber spring and damping systems. Since 1944, our consistent customer-centric approach has had top priority and contributes significantly to the sustained success of the company – enabling us to celebrate the 75th anniversary of our success story in 2019.

In addition to our headquarters and production site in Switzerland, ROSTA has 6 subsidiaries in Germany, Italy, Canada, the USA, China and Australia with over 120 employees. Our global network with over 30 partners in more than 40 countries positioning us to serve our customers far beyond our borders swiftly and promptly.

Many customers from all industries already benefit from our comprehensive know-how, becoming more profitable and competitive thanks to ROSTA products.

Our components are maintenance-free, noiseless, have a long service life and are used for a wide range of applications. Many years of experience in research and development in our own laboratory and the collaborative work with our partners and customers form an important knowledge base from which we can continue to offer innovative solutions.



Perfect combination

RUBBER SUSPENSION ELEMENTS

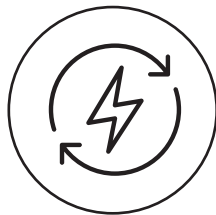
Torsion-elastic spring assemblies for contemporary engineering and design

- Pendulum suspensions for unbalanced motors
- Torque supports for gear motors
- Torsional springs for continuous surface pressure
- Fully customized rubber suspensions available in exclusive design upon request
- Torsion elastic mounts offering constant pressure on workparts (infeed devices)
- Energy absorbing impact suspensions

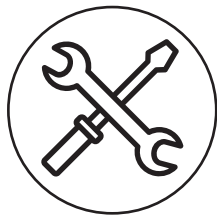
Product advantages:



long service life




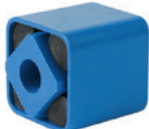
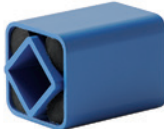

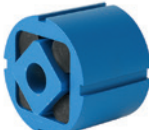
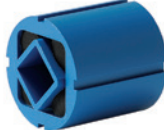




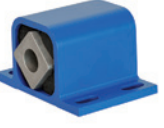



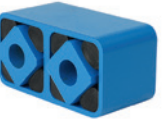
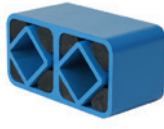
energy-saving



easy to install

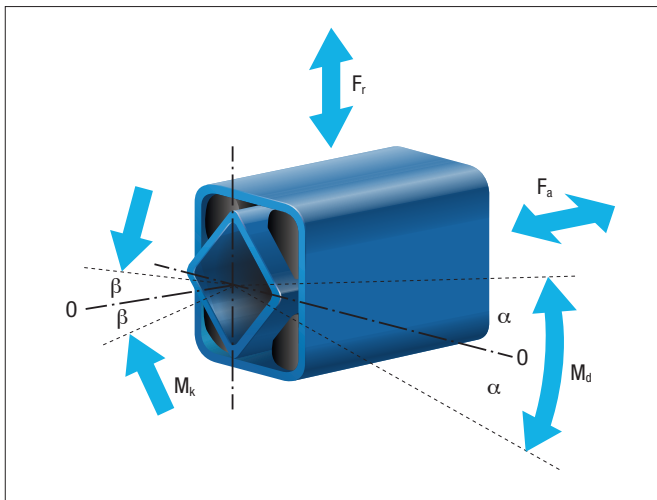


Selection table rubber suspension elements (Rubmix 10)

		Type inner square			
		A Aluminium profile (from size 60 in steel)	C Aluminium profile	S Steel tube for plug-in connection	
		Illustration			Page
Type housing	DR Steel tube	DR-A 	DR-C 	DR-S 	2.4– 2.6
	DK Aluminium profile	DK-A 	DK-C 	DK-S 	2.8– 2.9
	DW Aluminium profile (from size 60 steel welded construction)	DW-A 15 to 38 	DW-C 15 to 38 	DW-S 15 to 38 	2.11– 2.14
		DW-A 45 and 50 	DW-C 45 and 50 	DW-S 45 and 50 	
		DW-A 60 to 100 			
DO Aluminium profile (from size 50 in nodular iron)	DO-A 	DO-C 	DO-S 	2.15	

- DK-C, DO-C and DO-S only on request.
- Note about accessories (BR, BK, WS) on pages 2.7, 2.10, 2.16.
- Aluminium profiles: extruded profiles, seawater resistant (DIN 1725).
- Blue paint: thickness 40–80 µm.
- Mounting bolts: strength class of 8.8.
- Welding heat will affect or destroy the rubber inserts – ask for customized elements.
- Stainless steel, zinc-plated versions or special paintings upon request

List of torque and loads



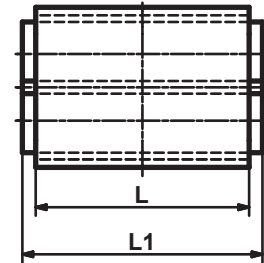
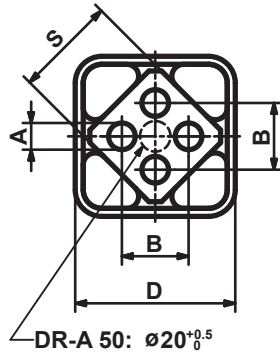
The values stated in the below mentioned list have been measured statically and are valid for the standard rubber quality «Rubmix 10». Intermediate values can be interpolated.

By applications with combined dynamic forces and high angles of oscillation please see chapter 7 «Technology» or contact ROSTA.

Element			Torque						Cardanic	Radial		Axial	
Nominal size	x	Length	M_d [Nm] angle $\pm\alpha^\circ$						M_k [Nm] bei Winkel $\pm\beta^\circ$	Deflection $\pm s_r$ [mm]	Load F_r [N]	Deflection $\pm s_a$ [mm]	Load F_a [N]
			5°	10°	15°	20°	25°	30°					
11	x	20	0.4	1.0	1.6	2.4	3.5	4.8	0.4	0.25	200	0.25	60
11	x	30	0.5	1.4	2.4	3.7	5.2	7.2	1.1	0.25	340	0.25	80
11	x	50	0.8	2.4	4.1	6.1	8.6	12.0	5.6	0.25	600	0.25	150
15	x	25	0.7	1.6	2.6	4.0	5.7	8.2	0.6	0.25	200	0.25	70
15	x	40	1.1	2.5	4.2	6.4	9.2	13.2	2.0	0.25	300	0.25	100
15	x	60	1.6	3.8	6.3	9.6	13.8	19.8	5.5	0.25	500	0.25	160
18	x	30	1.9	4.5	7.5	11.0	15.0	20.6	1.6	0.25	400	0.25	80
18	x	50	3.2	7.5	12.5	18.3	25.0	34.4	7.0	0.25	700	0.25	160
18	x	80	5.1	12.0	20.0	29.3	40.0	55.0	28.0	0.25	1000	0.25	300
27	x	40	4.7	10.7	17.5	26.9	39.5	57.0	3.8	0.5	800	0.5	200
27	x	60	7.0	16.0	26.3	40.3	59.3	85.5	11.5	0.5	1300	0.5	300
27	x	100	11.7	26.7	43.8	67.2	98.8	142.5	48.0	0.5	2400	0.5	600
38	x	60	13.0	30.4	50.6	78.0	113.0	162.0	11.4	0.5	1500	0.5	300
38	x	80	17.3	40.5	67.5	104.0	151.0	216.0	24.7	0.5	2000	0.5	500
38	x	120	26.0	60.8	101.2	156.0	226.0	324.0	76.0	0.5	3000	0.5	600
45	x	80	27.6	62.4	104.0	160.0	222.0	320.0	28.0	0.5	1900	0.5	560
45	x	100	34.5	78.0	130.0	200.0	278.0	400.0	54.0	0.5	3000	0.5	700
45	x	150	51.8	117.0	195.0	300.0	420.0	600.0	140.0	0.5	4800	0.5	1000
50	x	120	51	133	250	395	570	780	80	0.5	2800	0.5	800
50	x	160	77	197	363	570	820	1115	145	0.5	4500	0.5	950
50	x	200	102	260	475	745	1070	1450	250	0.5	6300	0.5	1100
50	x	300	150	385	700	1100	1590	2160	1200	0.5	8600	0.5	2200
60	x	150	75	170	300	460	700	1010	90	1.0	5400	1.0	1600
60	x	200	95	220	385	610	930	1380	250	1.0	7200	1.0	2200
60	x	300	140	365	630	995	1550	2240	900	1.0	9400	1.0	3200
70	x	200	140	380	650	1040	1490	2120	280	1.0	9000	1.0	2200
70	x	300	190	525	910	1470	2160	3150	1200	1.0	12000	1.0	3600
70	x	400	250	765	1315	2160	3175	4750	2200	1.0	14000	1.0	4000
80	x	200	200	500	850	1300	1900	2700	680	1.0	10000	1.0	2500
80	x	300	300	800	1300	2000	2900	4100	1500	1.0	15000	1.0	3800
80	x	400	400	1060	1800	2800	3900	5600	4600	1.0	19000	1.0	4700
100	x	250	400	1080	1800	2800	4100	6300	1200	1.0	15000	1.0	3200
100	x	400	640	1700	2900	4500	6600	10000	4300	1.0	28000	1.0	5800
100	x	500	800	2160	3600	5600	8200	12000	8000	1.0	38000	1.0	7500

Rubber Suspension Element

DR-A



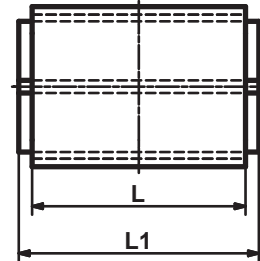
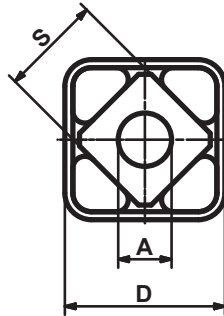
Part no.	Type	$\varnothing A$	B	$\square D$	$\square S$	L	L1	Weight [kg]
01 011 001	DR-A 15 × 25	$5^{+0.5}_0$	10 ± 0.2	$27^{+0.4}_0$	15	25	30 ± 0.2	0.06
01 011 002	DR-A 15 × 40	$5^{+0.5}_0$	10 ± 0.2	$27^{+0.4}_0$	15	40	45 ± 0.2	0.10
01 011 003	DR-A 15 × 60	$5^{+0.5}_0$	10 ± 0.2	$27^{+0.4}_0$	15	60	65 ± 0.2	0.15
01 011 004	DR-A 18 × 30	$6^{+0.5}_0$	12 ± 0.3	$32^{+0.3}_{-0.1}$	18	30	35 ± 0.2	0.10
01 011 005	DR-A 18 × 50	$6^{+0.5}_0$	12 ± 0.3	$32^{+0.3}_{-0.1}$	18	50	55 ± 0.2	0.16
01 011 006	DR-A 18 × 80	$6^{+0.5}_0$	12 ± 0.3	$32^{+0.3}_{-0.1}$	18	80	85 ± 0.2	0.26
01 011 007	DR-A 27 × 40	$8^{+0.5}_0$	20 ± 0.4	$45^{+0.4}_0$	27	40	45 ± 0.2	0.24
01 011 008	DR-A 27 × 60	$8^{+0.5}_0$	20 ± 0.4	$45^{+0.4}_0$	27	60	65 ± 0.2	0.36
01 011 009	DR-A 27 × 100	$8^{+0.5}_0$	20 ± 0.4	$45^{+0.4}_0$	27	100	105 ± 0.2	0.60
01 011 010	DR-A 38 × 60	$10^{+0.5}_0$	25 ± 0.4	$60^{+0.3}_{-0.2}$	38	60	70 ± 0.2	0.57
01 011 011	DR-A 38 × 80	$10^{+0.5}_0$	25 ± 0.4	$60^{+0.3}_{-0.2}$	38	80	90 ± 0.2	0.75
01 011 012	DR-A 38 × 120	$10^{+0.5}_0$	25 ± 0.4	$60^{+0.3}_{-0.2}$	38	120	130 ± 0.2	1.11
01 011 023	DR-A 45 × 80	$12^{+0.5}_0$	35 ± 0.5	$75^{+0.3}_{-0.2}$	45	80	90 ± 0.2	1.26
01 011 024	DR-A 45 × 100	$12^{+0.5}_0$	35 ± 0.5	$75^{+0.3}_{-0.2}$	45	100	110 ± 0.2	1.56
01 011 025	DR-A 45 × 150	$12^{+0.5}_0$	35 ± 0.5	$75^{+0.3}_{-0.2}$	45	150	160 ± 0.2	2.32
01 011 026	DR-A 50 × 120	M12 × 40	40 ± 0.5	$80^{+0.3}_{-0.2}$	50	120	130 ± 0.2	2.06
01 011 027	DR-A 50 × 200	M12 × 40	40 ± 0.5	$80^{+0.3}_{-0.2}$	50	200	210 ± 0.2	3.42
01 011 028	DR-A 50 × 300	M12 × 40	40 ± 0.5	$80^{+0.3}_{-0.2}$	50	300	310 ± 0.2	5.11

List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Rubber Suspension Element

DR-C



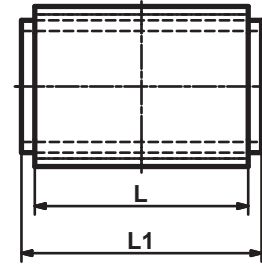
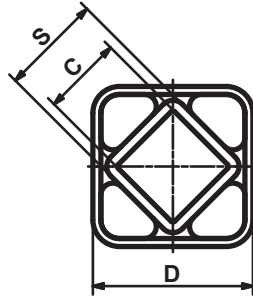
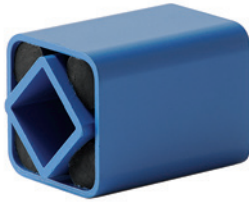
Part no.	Type	$\varnothing A$	B	$\square D$	$\square S$	L	L1	Weight [kg]
01 031 010	DR-C 15 x 25	10 ^{+0.4} _{-0.2}	10 ±0.2	27 ^{+0.4} ₀	15	25	30 ±0.2	0.06
01 031 011	DR-C 15 x 40	10 ^{+0.4} _{-0.2}	10 ±0.2	27 ^{+0.4} ₀	15	40	45 ±0.2	0.10
01 031 012	DR-C 15 x 60	10 ^{+0.4} _{-0.2}	10 ±0.2	27 ^{+0.4} ₀	15	60	65 ±0.2	0.15
01 031 001	DR-C 18 x 30	13 ⁰ _{-0.2}	12 ±0.3	32 ^{+0.3} _{-0.1}	18	30	35 ±0.2	0.11
01 031 002	DR-C 18 x 50	13 ⁰ _{-0.2}	12 ±0.3	32 ^{+0.3} _{-0.1}	18	50	55 ±0.2	0.16
01 031 003	DR-C 18 x 80	13 ⁰ _{-0.2}	12 ±0.3	32 ^{+0.3} _{-0.1}	18	80	85 ±0.2	0.26
01 031 004	DR-C 27 x 40	16 ^{+0.5} _{-0.3}	20 ±0.4	45 ^{+0.4} ₀	27	40	45 ±0.2	0.24
01 031 005	DR-C 27 x 60	16 ^{+0.5} _{-0.3}	20 ±0.4	45 ^{+0.4} ₀	27	60	65 ±0.2	0.36
01 031 006	DR-C 27 x 100	16 ^{+0.5} _{-0.3}	20 ±0.4	45 ^{+0.4} ₀	27	100	105 ±0.2	0.60
01 031 007	DR-C 38 x 60	20 ^{+0.5} _{-0.2}	25 ±0.4	60 ^{+0.3} _{-0.2}	38	60	70 ±0.2	0.57
01 031 008	DR-C 38 x 80	20 ^{+0.5} _{-0.2}	25 ±0.4	60 ^{+0.3} _{-0.2}	38	80	90 ±0.2	0.75
01 031 009	DR-C 38 x 120	20 ^{+0.5} _{-0.2}	25 ±0.4	60 ^{+0.3} _{-0.2}	38	120	130 ±0.2	1.12
01 031 023	DR-C 45 x 80	24 ^{+0.5} _{-0.2}	35 ±0.5	75 ^{+0.3} _{-0.2}	45	80	90 ±0.2	1.25
01 031 024	DR-C 45 x 100	24 ^{+0.5} _{-0.2}	35 ±0.5	75 ^{+0.3} _{-0.2}	45	100	110 ±0.2	1.53
01 031 025	DR-C 50 x 120	30 ^{+0.5} _{-0.2}	40 ±0.5	80 ^{+0.3} _{-0.2}	50	120	130 ±0.2	2.04
01 031 026	DR-C 50 x 200	30 ^{+0.5} _{-0.2}	40 ±0.5	80 ^{+0.3} _{-0.2}	50	200	210 ±0.2	3.45

List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Rubber Suspension Element

DR-S



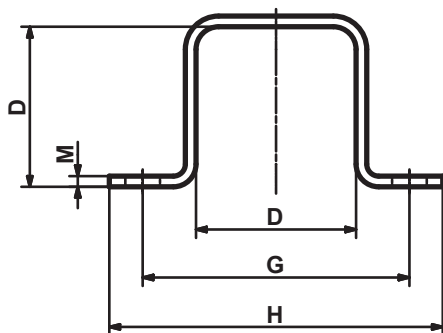
Part no.	Type	□C	□D	□S	L	L1	Weight [kg]
01 021 001	DR-S 11 × 20	8 ^{+0.25} ₀	20 ^{+0.3} _{-0.1}	11	20	25 ±0.2	0.04
01 021 002	DR-S 11 × 30	8 ^{+0.25} ₀	20 ^{+0.3} _{-0.1}	11	30	35 ±0.2	0.05
01 021 003	DR-S 11 × 50	8 ^{+0.25} ₀	20 ^{+0.3} _{-0.1}	11	50	55 ±0.2	0.08
01 021 004	DR-S 15 × 25	11 ^{+0.25} ₀	27 ^{+0.4} ₀	15	25	30 ±0.2	0.07
01 021 005	DR-S 15 × 40	11 ^{+0.25} ₀	27 ^{+0.4} ₀	15	40	45 ±0.2	0.12
01 021 006	DR-S 15 × 60	11 ^{+0.25} ₀	27 ^{+0.4} ₀	15	60	65 ±0.2	0.17
01 021 007	DR-S 18 × 30	12 ^{+0.25} ₀	32 ^{+0.3} _{-0.1}	18	30	35 ±0.2	0.13
01 021 008	DR-S 18 × 50	12 ^{+0.25} ₀	32 ^{+0.3} _{-0.1}	18	50	55 ±0.2	0.21
01 021 009	DR-S 18 × 80	12 ^{+0.25} ₀	32 ^{+0.3} _{-0.1}	18	80	85 ±0.2	0.33
01 021 010	DR-S 27 × 40	22 ^{+0.25} ₀	45 ^{+0.4} ₀	27	40	45 ±0.2	0.26
01 021 011	DR-S 27 × 60	22 ^{+0.25} ₀	45 ^{+0.4} ₀	27	60	65 ±0.2	0.39
01 021 012	DR-S 27 × 100	22 ^{+0.25} ₀	45 ^{+0.4} ₀	27	100	105 ±0.2	0.65
01 021 013	DR-S 38 × 60	30 ^{+0.25} ₀	60 ^{+0.3} _{-0.2}	38	60	70 ±0.2	0.65
01 021 014	DR-S 38 × 80	30 ^{+0.25} ₀	60 ^{+0.3} _{-0.2}	38	80	90 ±0.2	0.85
01 021 015	DR-S 38 × 120	30 ^{+0.25} ₀	60 ^{+0.3} _{-0.2}	38	120	130 ±0.2	1.25
01 021 026	DR-S 45 × 80	35 ^{+0.4} ₀	75 ^{+0.3} _{-0.2}	45	80	90 ±0.2	1.41
01 021 027	DR-S 45 × 100	35 ^{+0.4} ₀	75 ^{+0.3} _{-0.2}	45	100	110 ±0.2	1.75
01 021 028	DR-S 45 × 150	35 ^{+0.4} ₀	75 ^{+0.3} _{-0.2}	45	150	160 ±0.2	2.59
01 021 029	DR-S 50 × 120	40 ^{+0.4} ₀	80 ^{+0.3} _{-0.2}	50	120	130 ±0.2	2.30
01 021 030	DR-S 50 × 200	40 ^{+0.4} ₀	80 ^{+0.3} _{-0.2}	50	200	210 ±0.2	3.79
01 021 031	DR-S 50 × 300	40 ^{+0.4} ₀	80 ^{+0.3} _{-0.2}	50	300	310 ±0.2	5.66

List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Rubber Suspension Element

Bracket BR

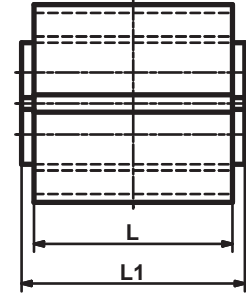
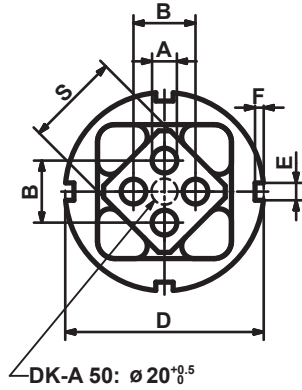


Part no.	Type	D	G	H	øl	K	M	Weight [kg]
01 500 001	BR 11	20	37	50	6	20	2	0.02
01 500 002	BR 15	27	50	65	7	25	2	0.04
01 500 003	BR 18	32	60	80	9	30	2.5	0.08
01 500 004	BR 27	45	80	105	11	35	3	0.14
01 500 005	BR 38	60	100	125	13	40	4	0.27
01 500 026	BR 45	75	120	150	13	45	5	0.47
01 500 027	BR 50	80	135	175	18	50	6	0.70

If no other units are specified, the numbers given are in mm.

Rubber Suspension Element

DK-A



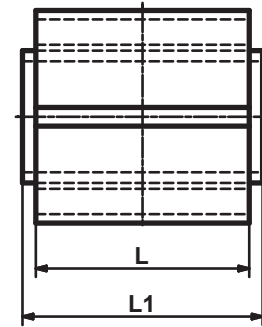
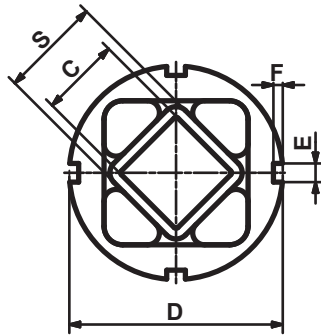
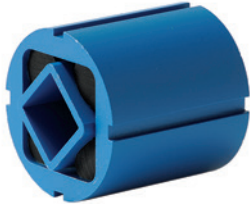
Part no.	Type	$\varnothing A$	B	$\varnothing D$	E	F	$\square S$	L	L1	Weight [kg]
01 071 001	DK-A 15 × 25	$5^{+0.5}_0$	10 ± 0.2	$36^{+0.5}_{-0.1}$	5	2.5	15	25	30 ± 0.2	0.05
01 071 002	DK-A 15 × 40	$5^{+0.5}_0$	10 ± 0.2	$36^{+0.5}_{-0.1}$	5	2.5	15	40	45 ± 0.2	0.08
01 071 003	DK-A 15 × 60	$5^{+0.5}_0$	10 ± 0.2	$36^{+0.5}_{-0.1}$	5	2.5	15	60	65 ± 0.2	0.12
01 071 004	DK-A 18 × 30	$6^{+0.5}_0$	12 ± 0.3	$45^{+0.6}_{-0.1}$	5	2.5	18	30	35 ± 0.2	0.10
01 071 005	DK-A 18 × 50	$6^{+0.5}_0$	12 ± 0.3	$45^{+0.6}_{-0.1}$	5	2.5	18	50	55 ± 0.2	0.16
01 071 006	DK-A 18 × 80	$6^{+0.5}_0$	12 ± 0.3	$45^{+0.6}_{-0.1}$	5	2.5	18	80	85 ± 0.2	0.25
01 071 007	DK-A 27 × 40	$8^{+0.5}_0$	20 ± 0.4	$62^{+0.7}_{-0.1}$	6	3	27	40	45 ± 0.2	0.25
01 071 008	DK-A 27 × 60	$8^{+0.5}_0$	20 ± 0.4	$62^{+0.7}_{-0.1}$	6	3	27	60	65 ± 0.2	0.37
01 071 009	DK-A 27 × 100	$8^{+0.5}_0$	20 ± 0.4	$62^{+0.7}_{-0.1}$	6	3	27	100	105 ± 0.2	0.61
01 071 010	DK-A 38 × 60	$10^{+0.5}_0$	25 ± 0.4	$80^{+0.8}_{-0.1}$	7	3.5	38	60	70 ± 0.2	0.62
01 071 011	DK-A 38 × 80	$10^{+0.5}_0$	25 ± 0.4	$80^{+0.8}_{-0.1}$	7	3.5	38	80	90 ± 0.2	0.82
01 071 012	DK-A 38 × 120	$10^{+0.5}_0$	25 ± 0.4	$80^{+0.8}_{-0.1}$	7	3.5	38	120	130 ± 0.2	1.22
01 071 013	DK-A 45 × 80	$12^{+0.5}_0$	35 ± 0.5	$95^{+1.0}_{-0.1}$	8	4	45	80	90 ± 0.2	1.14
01 071 014	DK-A 45 × 100	$12^{+0.5}_0$	35 ± 0.5	$95^{+1.0}_{-0.1}$	8	4	45	100	110 ± 0.2	1.41
01 071 015	DK-A 45 × 150	$12^{+0.5}_0$	35 ± 0.5	$95^{+1.0}_{-0.1}$	8	4	45	150	160 ± 0.2	2.11
01 071 016	DK-A 50 × 120	M12 × 40	40 ± 0.5	$108^{+1.2}_{-0.1}$	8	4	50	120	130 ± 0.2	2.26
01 071 017	DK-A 50 × 200	M12 × 40	40 ± 0.5	$108^{+1.2}_{-0.1}$	8	4	50	200	210 ± 0.2	3.74
01 071 018	DK-A 50 × 300	M12 × 40	40 ± 0.5	$108^{+1.2}_{-0.1}$	8	4	50	300	310 ± 0.2	5.62

List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Rubber Suspension Element

DK-S



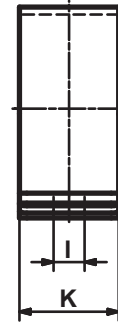
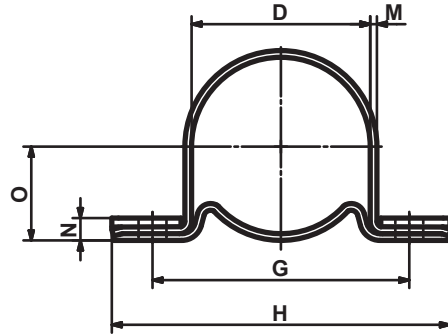
Part no.	Type	□C	∅D	E	F	□S	L	L1	Weight [kg]
01 081 001	DK-S 11 × 20	8 ^{+0.25} ₀	28 ^{+0.5} _{-0.1}	4	2.5	11	20	25 ±0.2	0.03
01 081 002	DK-S 11 × 30	8 ^{+0.25} ₀	28 ^{+0.5} _{-0.1}	4	2.5	11	30	35 ±0.2	0.04
01 081 003	DK-S 11 × 50	8 ^{+0.25} ₀	28 ^{+0.5} _{-0.1}	4	2.5	11	50	55 ±0.2	0.07
01 081 004	DK-S 15 × 25	11 ^{+0.25} ₀	36 ^{+0.5} _{-0.1}	5	2.5	15	25	30 ±0.2	0.06
01 081 005	DK-S 15 × 40	11 ^{+0.25} ₀	36 ^{+0.5} _{-0.1}	5	2.5	15	40	45 ±0.2	0.10
01 081 006	DK-S 15 × 60	11 ^{+0.25} ₀	36 ^{+0.5} _{-0.1}	5	2.5	15	60	65 ±0.2	0.14
01 081 007	DK-S 18 × 30	12 ^{+0.25} ₀	45 ^{+0.6} _{-0.1}	5	2.5	18	30	35 ±0.2	0.13
01 081 008	DK-S 18 × 50	12 ^{+0.25} ₀	45 ^{+0.6} _{-0.1}	5	2.5	18	50	55 ±0.2	0.21
01 081 009	DK-S 18 × 80	12 ^{+0.25} ₀	45 ^{+0.6} _{-0.1}	5	2.5	18	80	85 ±0.2	0.32
01 081 010	DK-S 27 × 40	22 ^{+0.25} ₀	62 ^{+0.7} _{-0.1}	6	3	27	40	45 ±0.2	0.27
01 081 011	DK-S 27 × 60	22 ^{+0.25} ₀	62 ^{+0.7} _{-0.1}	6	3	27	60	65 ±0.2	0.40
01 081 012	DK-S 27 × 100	22 ^{+0.25} ₀	62 ^{+0.7} _{-0.1}	6	3	27	100	105 ±0.2	0.66
01 081 013	DK-S 38 × 60	30 ^{+0.25} ₀	80 ^{+0.8} _{-0.1}	7	3.5	38	60	70 ±0.2	0.70
01 081 014	DK-S 38 × 80	30 ^{+0.25} ₀	80 ^{+0.8} _{-0.1}	7	3.5	38	80	90 ±0.2	0.92
01 081 015	DK-S 38 × 120	30 ^{+0.25} ₀	80 ^{+0.8} _{-0.1}	7	3.5	38	120	130 ±0.2	1.36
01 081 016	DK-S 45 × 80	35 ^{+0.4} ₀	95 ^{+1.0} _{-0.1}	8	4	45	80	90 ±0.2	1.30
01 081 017	DK-S 45 × 100	35 ^{+0.4} ₀	95 ^{+1.0} _{-0.1}	8	4	45	100	110 ±0.2	1.65
01 081 018	DK-S 45 × 150	35 ^{+0.4} ₀	95 ^{+1.0} _{-0.1}	8	4	45	150	160 ±0.2	2.38
01 081 019	DK-S 50 × 120	40 ^{+0.4} ₀	108 ^{+1.2} _{-0.1}	8	4	50	120	130 ±0.2	2.50
01 081 020	DK-S 50 × 200	40 ^{+0.4} ₀	108 ^{+1.2} _{-0.1}	8	4	50	200	210 ±0.2	4.14
01 081 021	DK-S 50 × 300	40 ^{+0.4} ₀	108 ^{+1.2} _{-0.1}	8	4	50	300	310 ±0.2	5.59

List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Rubber Suspension Element

Bracket BK



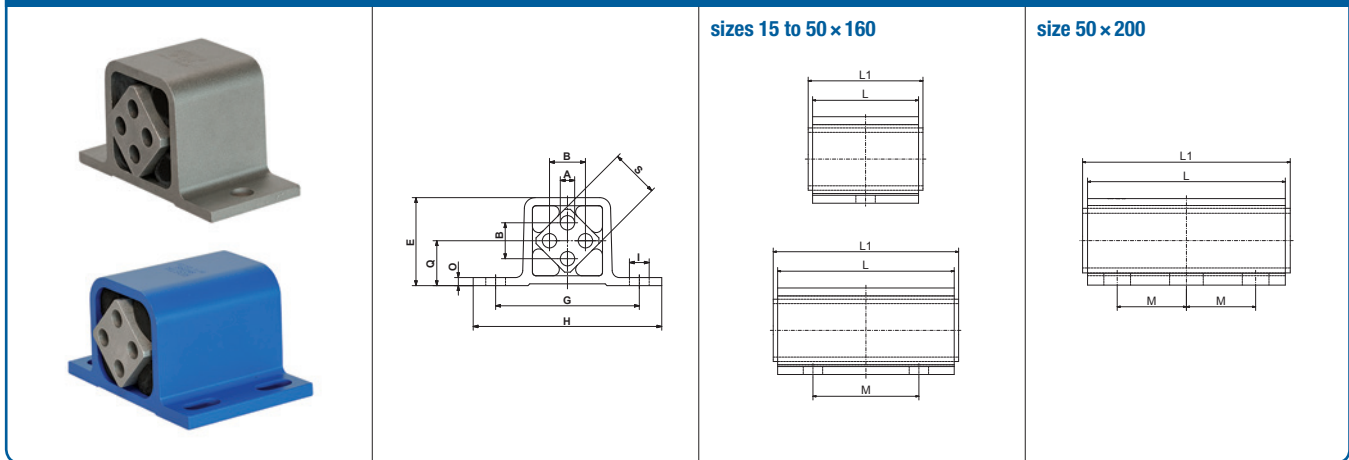
Part no.	Type	D	G	H	ϕI	K	M	N	O	Weight [kg]
01 520 001	BK 11	28	45	60	6.5	20	1.5	6	15.5	0.05
01 520 002	BK 15	36	55	75	6.5	25	2	7	20.0	0.09
01 520 003	BK 18	45	68	90	8.5	30	2	8	24.5	0.14
01 520 004	BK 27	62	92	125	10.5	35	2.5	10	33.5	0.28
01 520 005	BK 38	80	115	150	12.5	40	3	11	43.0	0.47
01 520 006	BK 45	95	130	165	12.5	45	4	14	51.5	0.77
01 520 007	BK 50	108	152	195	16.5	50	4	15	58.0	1.04

If no other units are specified, the numbers given are in mm.

With the BK bracket, the position of the DK element can be freely selected over 360°.

Rubber Suspension Element

DW-A 15 to 50



Part no.	Type	ϕA	B	E	G	H	ϕI	O	Q	$\square S$	L	L1	M	Weight [kg]
01 101 016	DW-A 15 × 25	5 ^{+0.5} ₀	10 ±0.2	29	50	65	7	3	15	15	25	30 ⁰ _{-0.3}	–	0.04
01 101 017	DW-A 15 × 40	5 ^{+0.5} ₀	10 ±0.2	29	50	65	7	3	15	15	40	45 ⁰ _{-0.3}	–	0.07
01 101 018	DW-A 15 × 60	5 ^{+0.5} ₀	10 ±0.2	29	50	65	7	3	15	15	60	65 ⁰ _{-0.3}	40	0.10
01 101 019	DW-A 18 × 30	6 ^{+0.5} ₀	12 ±0.3	35	60	80	9	3.5	18	18	30	35 ⁰ _{-0.3}	–	0.08
01 101 020	DW-A 18 × 50	6 ^{+0.5} ₀	12 ±0.3	35	60	80	9	3.5	18	18	50	55 ⁰ _{-0.3}	–	0.13
01 101 021	DW-A 18 × 80	6 ^{+0.5} ₀	12 ±0.3	35	60	80	9	3.5	18	18	80	85 ⁰ _{-0.3}	50	0.20
01 101 022	DW-A 27 × 40	8 ^{+0.5} ₀	20 ±0.4	49	80	105	11	4.5	25	27	40	45 ⁰ _{-0.3}	–	0.21
01 101 023	DW-A 27 × 60	8 ^{+0.5} ₀	20 ±0.4	49	80	105	11	4.5	25	27	60	65 ⁰ _{-0.3}	–	0.31
01 101 024	DW-A 27 × 100	8 ^{+0.5} ₀	20 ±0.4	49	80	105	11	4.5	25	27	100	105 ⁰ _{-0.3}	60	0.51
01 101 025	DW-A 38 × 60	10 ^{+0.5} ₀	25 ±0.4	67	100	125	13	6	34	38	60	70 ⁰ _{-0.3}	–	0.57
01 101 026	DW-A 38 × 80	10 ^{+0.5} ₀	25 ±0.4	67	100	125	13	6	34	38	80	90 ⁰ _{-0.3}	40	0.75
01 101 027	DW-A 38 × 120	10 ^{+0.5} ₀	25 ±0.4	67	100	125	13	6	34	38	120	130 ⁰ _{-0.3}	80	1.12
01 101 043	DW-A 45 × 80	12 ^{+0.5} ₀	35 ±0.5	81	115	145	13 × 27	9	41	45	80	90 ⁰ _{-0.3}	–	1.08
01 101 044	DW-A 45 × 100	12 ^{+0.5} ₀	35 ±0.5	81	115	145	13 × 27	9	41	45	100	110 ⁰ _{-0.3}	58	1.35
01 101 045	DW-A 45 × 150	12 ^{+0.5} ₀	35 ±0.5	81	115	145	13 × 27	9	41	45	150	160 ⁰ _{-0.3}	90	2.00
01 101 046	DW-A 50 × 120	M12 × 40	40 ±0.5	88	130	170	17 × 27	12	45	50	120	130 ⁰ _{-0.3}	60	1.91
01 101 047	DW-A 50 × 160	M12 × 40	40 ±0.5	88	130	170	17 × 27	12	45	50	160	170 ⁰ _{-0.3}	70	2.57
01 101 048	DW-A 50 × 200	M12 × 40	40 ±0.5	88	130	170	17 × 27	12	45	50	200	210 ⁰ _{-0.3}	70	3.18

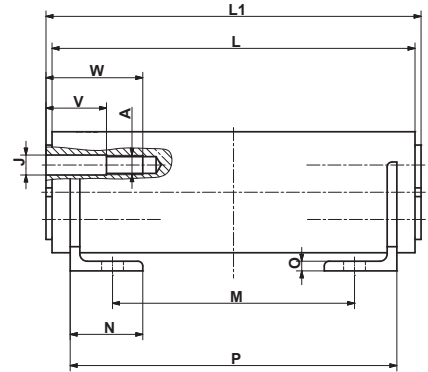
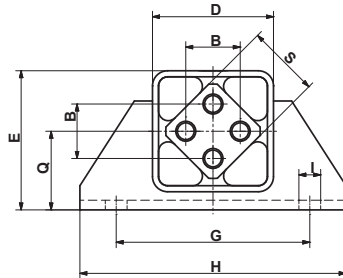
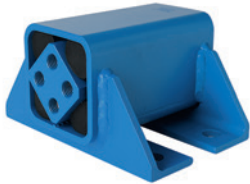
List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Housing sizes 45 and 50 painted blue.

Rubber Suspension Element

DW-A 60 to 100



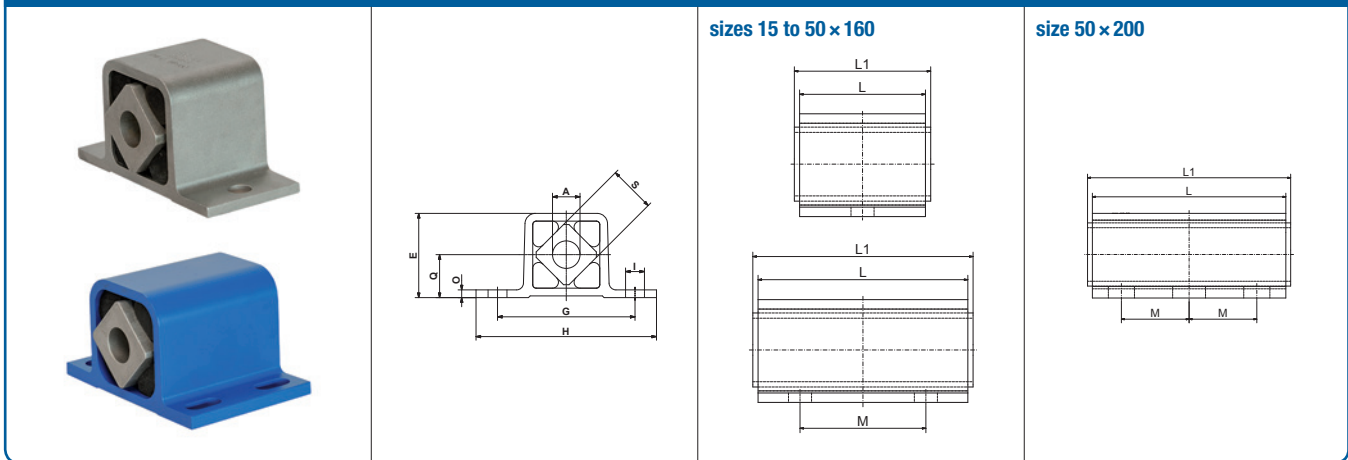
Part no.	Type	A	B	D	E	G	H	øI	øJ	N	O	Q	□S	V	W	L	L1	M	P	Weight [kg]
01 101 031	DW-A 60 × 150	M16	45	100	115	160	220	18	16.5	60	8	65	60	40	70	150	160 ±0.2	60	130	8.74
01 101 032	DW-A 60 × 200	M16	45	100	115	160	220	18	16.5	60	8	65	60	50	80	200	210 ±0.2	100	170	11.10
01 101 033	DW-A 60 × 300	M16	45	100	115	160	220	18	16.5	60	8	65	60	50	80	300	310 ±0.2	200	270	15.90
01 101 034	DW-A 70 × 200	M20	50	120	140	200	260	22	20.5	65	9	80	70	50	90	200	210 ±0.2	100	170	15.87
01 101 035	DW-A 70 × 300	M20	50	120	140	200	260	22	20.5	65	9	80	70	50	90	300	310 ±0.2	200	270	21.70
01 101 036	DW-A 70 × 400	M20	50	120	140	200	260	22	20.5	65	9	80	70	50	90	400	410 ±0.2	300	370	28.20
01 101 037	DW-A 80 × 200	M20	60	136	153	220	280	22	20.5	80	10	85	80	50	90	200	210 ±0.2	80	170	21.70
01 101 038	DW-A 80 × 300	M20	60	136	153	220	280	22	20.5	80	10	85	80	50	90	300	310 ±0.2	180	270	29.40
01 101 039	DW-A 80 × 400	M20	60	136	153	220	280	22	20.5	80	10	85	80	50	90	400	410 ±0.2	280	370	39.40
01 101 040	DW-A 100 × 250	M24	75	170	195	300	380	26	25	100	12	110	100	50	100	250	260 ±0.2	110	220	41.00
01 101 041	DW-A 100 × 400	M24	75	170	195	300	380	26	25	100	12	110	100	50	100	400	410 ±0.2	260	370	64.70
01 101 042	DW-A 100 × 500	M24	75	170	195	300	380	26	25	100	12	110	100	50	100	500	510 ±0.2	360	470	78.70

List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Rubber Suspension Element

DW-C



Part no.	Type	$\varnothing A$	E	G	H	$\varnothing l$	O	Q	$\square S$	L	L1	M	Weight [kg]
01 121 101	DW-C 15 x 25	10 ^{+0.4} _{-0.2}	29	50	65	7	3	15	15	25	30 ⁰ _{-0.3}	—	0.05
01 121 102	DW-C 15 x 40	10 ^{+0.4} _{-0.2}	29	50	65	7	3	15	15	40	45 ⁰ _{-0.3}	—	0.07
01 121 103	DW-C 15 x 60	10 ^{+0.4} _{-0.2}	29	50	65	7	3	15	15	60	65 ⁰ _{-0.3}	40	0.11
01 121 104	DW-C 18 x 30	13 ⁰ _{-0.2}	35	60	80	9	3.5	18	18	30	35 ⁰ _{-0.3}	—	0.08
01 121 105	DW-C 18 x 50	13 ⁰ _{-0.2}	35	60	80	9	3.5	18	18	50	55 ⁰ _{-0.3}	—	0.13
01 121 106	DW-C 18 x 80	13 ⁰ _{-0.2}	35	60	80	9	3.5	18	18	80	85 ⁰ _{-0.3}	50	0.20
01 121 107	DW-C 27 x 40	16 ^{+0.5} _{-0.3}	49	80	105	11	4.5	25	27	40	45 ⁰ _{-0.3}	—	0.21
01 121 108	DW-C 27 x 60	16 ^{+0.5} _{-0.3}	49	80	105	11	4.5	25	27	60	65 ⁰ _{-0.3}	—	0.31
01 121 109	DW-C 27 x 100	16 ^{+0.5} _{-0.3}	49	80	105	11	4.5	25	27	100	105 ⁰ _{-0.3}	60	0.50
01 121 110	DW-C 38 x 60	20 ^{+0.5} _{-0.2}	67	100	125	13	6	34	38	60	70 ⁰ _{-0.3}	—	0.58
01 121 111	DW-C 38 x 80	20 ^{+0.5} _{-0.2}	67	100	125	13	6	34	38	80	90 ⁰ _{-0.3}	40	0.76
01 121 112	DW-C 38 x 120	20 ^{+0.5} _{-0.2}	67	100	125	13	6	34	38	120	130 ⁰ _{-0.3}	80	1.13
01 121 113	DW-C 45 x 80	24 ^{+0.5} _{-0.2}	81	115	145	13 x 27	9	41	45	80	90 ⁰ _{-0.3}	—	1.10
01 121 114	DW-C 45 x 100	24 ^{+0.5} _{-0.2}	81	115	145	13 x 27	9	41	45	100	110 ⁰ _{-0.3}	58	1.35
01 121 115	DW-C 45 x 150	24 ^{+0.5} _{-0.2}	81	115	145	13 x 27	9	41	45	150	160 ⁰ _{-0.3}	90	2.00
01 121 116	DW-C 50 x 120	30 ^{+0.5} _{-0.2}	88	130	170	17 x 27	12	45	50	120	130 ⁰ _{-0.3}	60	1.90
01 121 117	DW-C 50 x 160	30 ^{+0.5} _{-0.2}	88	130	170	17 x 27	12	45	50	160	170 ⁰ _{-0.3}	70	2.50
01 121 118	DW-C 50 x 200	30 ^{+0.5} _{-0.2}	88	130	170	17 x 27	12	45	50	200	210 ⁰ _{-0.3}	70	3.10

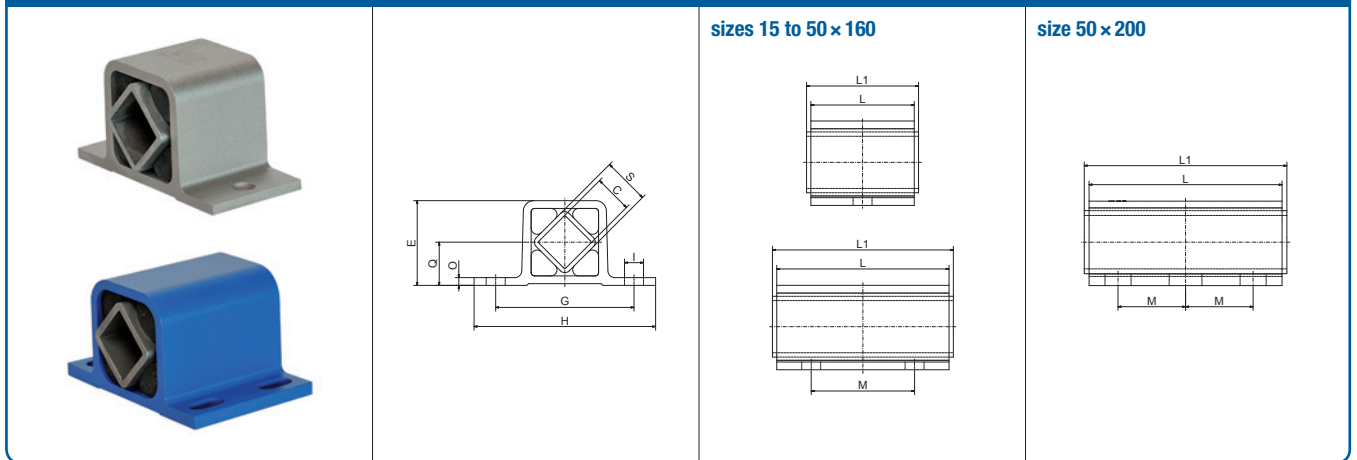
List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Housing sizes 45 and 50 painted blue.

Rubber Suspension Element

DW-S



Part no.	Type	□C	E	G	H	∅	O	Q	□S	L	L1	M	Weight [kg]
01 111 201	DW-S 15 × 25	11 ^{+0.25} ₀	29	50	65	7	3	15	15	25	30 ±0.2	–	0.06
01 111 202	DW-S 15 × 40	11 ^{+0.25} ₀	29	50	65	7	3	15	15	40	45 ±0.2	–	0.09
01 111 203	DW-S 15 × 60	11 ^{+0.25} ₀	29	50	65	7	3	15	15	60	65 ±0.2	40	0.13
01 111 204	DW-S 18 × 30	12 ^{+0.25} ₀	35	60	80	9	3.5	18	18	30	35 ±0.2	–	0.13
01 111 205	DW-S 18 × 50	12 ^{+0.25} ₀	35	60	80	9	3.5	18	18	50	55 ±0.2	–	0.11
01 111 206	DW-S 18 × 80	12 ^{+0.25} ₀	35	60	80	9	3.5	18	18	80	85 ±0.2	50	0.27
01 111 207	DW-S 27 × 40	22 ^{+0.25} ₀	49	80	105	11	4.5	25	27	40	45 ±0.2	–	0.22
01 111 208	DW-S 27 × 60	22 ^{+0.25} ₀	49	80	105	11	4.5	25	27	60	65 ±0.2	–	0.33
01 111 209	DW-S 27 × 100	22 ^{+0.25} ₀	49	80	105	11	4.5	25	27	100	105 ±0.2	60	0.56
01 111 210	DW-S 38 × 60	30 ^{+0.25} ₀	67	100	125	13	6	34	38	60	70 ±0.2	–	0.65
01 111 211	DW-S 38 × 80	30 ^{+0.25} ₀	67	100	125	13	6	34	38	80	90 ±0.2	40	0.85
01 111 212	DW-S 38 × 120	30 ^{+0.25} ₀	67	100	125	13	6	34	38	120	130 ±0.2	80	1.27
01 111 213	DW-S 45 × 80	35 ^{+0.4} ₀	81	115	145	13 × 27	9	41	45	80	90 ±0.2	–	1.26
01 111 214	DW-S 45 × 100	35 ^{+0.4} ₀	81	115	145	13 × 27	9	41	45	100	110 ±0.2	58	1.60
01 111 215	DW-S 45 × 150	35 ^{+0.4} ₀	81	115	145	13 × 27	9	41	45	150	160 ±0.2	90	2.30
01 111 216	DW-S 50 × 120	40 ^{+0.4} ₀	88	130	170	17 × 27	12	45	50	120	130 ±0.2	60	2.16
01 111 217	DW-S 50 × 160	40 ^{+0.4} ₀	88	130	170	17 × 27	12	45	50	160	170 ±0.2	70	2.87
01 111 218	DW-S 50 × 200	40 ^{+0.4} ₀	88	130	170	17 × 27	12	45	50	200	210 ±0.2	70	3.55

List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Housing sizes 45 and 50 painted blue.

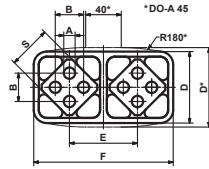
Inner square steel electrodeposited galvanic zinc coating.

Rubber Suspension Element

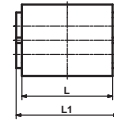
DO-A



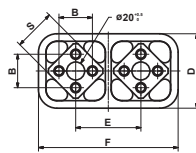
sizes 15 to 45



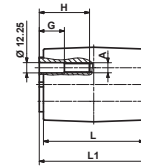
sizes 15 to 45



size 50



size 50



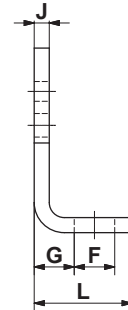
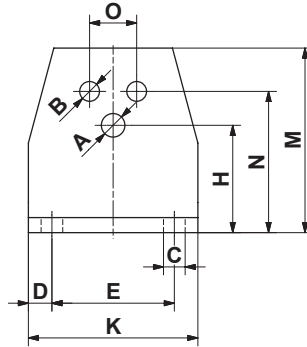
Part no.	Type	ϕA	B	D	E	F	$\square S$	G	H	L	L1	Weight [kg]
01 041 001	DO-A 15 × 25	5 ^{+0.5} ₀	10 ±0.2	28 ±0.15	25.5	53.5 ±0.2	15	–	–	25	30 ±0.2	0.07
01 041 002	DO-A 15 × 40	5 ^{+0.5} ₀	10 ±0.2	28 ±0.15	25.5	53.5 ±0.2	15	–	–	40	45 ±0.2	0.11
01 041 003	DO-A 15 × 60	5 ^{+0.5} ₀	10 ±0.2	28 ±0.15	25.5	53.5 ±0.2	15	–	–	60	65 ±0.2	0.15
01 041 004	DO-A 18 × 30	6 ^{+0.5} ₀	12 ±0.3	34 ±0.15	31	65 ±0.2	18	–	–	30	35 ±0.2	0.12
01 041 005	DO-A 18 × 50	6 ^{+0.5} ₀	12 ±0.3	34 ±0.15	31	65 ±0.2	18	–	–	50	55 ±0.2	0.20
01 041 006	DO-A 18 × 80	6 ^{+0.5} ₀	12 ±0.3	34 ±0.15	31	65 ±0.2	18	–	–	80	85 ±0.2	0.31
01 041 007	DO-A 27 × 40	8 ^{+0.5} ₀	20 ±0.4	47 ±0.15	44	91 ±0.2	27	–	–	40	45 ±0.2	0.32
01 041 008	DO-A 27 × 60	8 ^{+0.5} ₀	20 ±0.4	47 ±0.15	44	91 ±0.2	27	–	–	60	65 ±0.2	0.47
01 041 009	DO-A 27 × 100	8 ^{+0.5} ₀	20 ±0.4	47 ±0.15	44	91 ±0.2	27	–	–	100	105 ±0.2	0.76
01 041 010	DO-A 38 × 60	10 ^{+0.5} ₀	25 ±0.4	63 ±0.2	60	123 ±0.3	38	–	–	60	70 ±0.2	0.88
01 041 011	DO-A 38 × 80	10 ^{+0.5} ₀	25 ±0.4	63 ±0.2	60	123 ±0.3	38	–	–	80	90 ±0.2	1.14
01 041 012	DO-A 38 × 120	10 ^{+0.5} ₀	25 ±0.4	63 ±0.2	60	123 ±0.3	38	–	–	120	130 ±0.2	1.69
01 041 013	DO-A 45 × 80	12 ^{+0.5} ₀	35 ±0.5	85 ±0.5	73	150 ±1	45	–	–	80	90 ±0.2	1.84
01 041 014	DO-A 45 × 100	12 ^{+0.5} ₀	35 ±0.5	85 ±0.5	73	150 ±1	45	–	–	100	110 ±0.2	2.27
01 041 015	DO-A 45 × 150	12 ^{+0.5} ₀	35 ±0.5	85 ±0.5	73	150 ±1	45	–	–	150	160 ±0.2	3.37
01 041 016	DO-A 50 × 120	M12	40 ±0.5	89	78	168	50	30	60	120	130 ±0.2	5.48
01 041 019	DO-A 50 × 160	M12	40 ±0.5	89	78	168	50	30	60	160	170 ±0.2	7.18
01 041 017	DO-A 50 × 200	M12	40 ±0.5	89	78	168	50	40	70	200	210 ±0.2	9.27

List of torque and loads on page 2.3.

If no other units are specified, the numbers given are in mm.

Rubber Suspension Element

Bracket WS



Part no.	Type	Fit for tensioner devices			Fit for DR-A, DK-A, DW-A													Weight [kg]
		SE nominal size	øA	H	Element nominal size	øB	N	O	C	D	E	F	G	J	K	L	M	
06 590 001	WS 11-15	11	6.5	27	15	5.5	35	10	7	7.5	30	13	11.5	4	45	30	46	0.08
06 590 002	WS 15-18	15	8.5	34	18	6.5	44	12	7	7.5	40	13	13.5	5	55	32	58	0.15
06 590 003	WS 18-27	18	10.5	43	27	8.5	55	20	9.5	10	50	15.5	16.5	6	70	38	74	0.30
06 590 004	WS 27-38	27	12.5	57	38	10.5	75	25	11.5	12.5	65	21.5	21	8	90	52	98	0.66
06 590 005	WS 38-45	38	16.5	66	45	12.5	85	35	14	15	80	24	21	8	110	55	116	0.94
06 590 006	WS 45-50	45	20.5	80	50	12.5	110	40	18	20	100	30	26	10	140	66	140	1.74

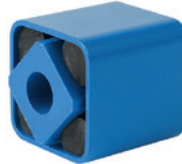
If no other units are specified, the numbers given are in mm.

Rubber suspension elements

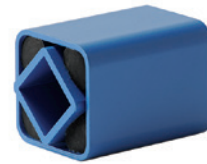
Description of inner squares



A
Suitable for alternating deflection via the element rest position. Nominal sizes 15 to 45: Fastening with 2 to 4 continuous screws (of which nominal sizes 27 to 45 with threads are available).



C
Attachment with central screw for frictional connection with 360° adjustment. For optimum frictional connection, please remove the paint on the front side. Alternating deflection up to max. $\pm 10^\circ$.

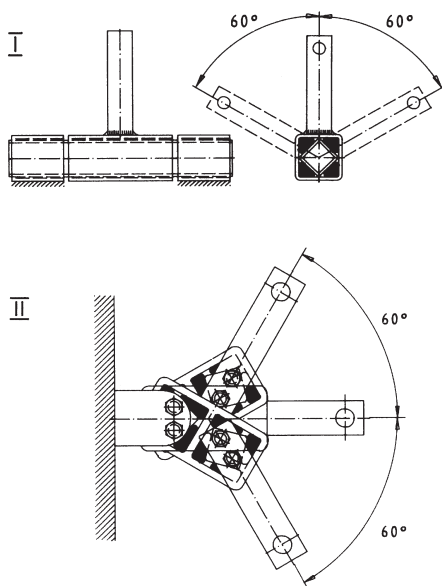


S
For plug-in connections, select plug-in length at least $2 \times$ light dimension «C». The inserted square must be blank, with a tolerance of h9 to h11. The corners may be over-rotating, the inner radius is max. 1.5 mm). Up to nominal size 18, a frictional connection can be made with one screw. No reciprocal deflection over the element zero position.

Serial and parallel connection

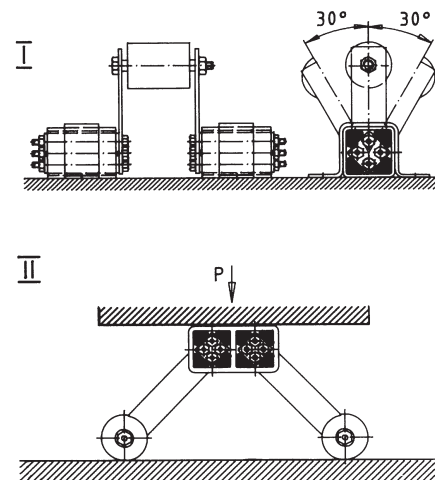
Serial connection

Double oscillating angle ($\pm 60^\circ$) with a constant torque.



Parallel connection

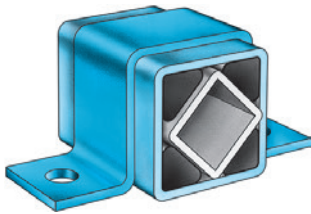
Double torque at constant oscillating angle ($\pm 30^\circ$).



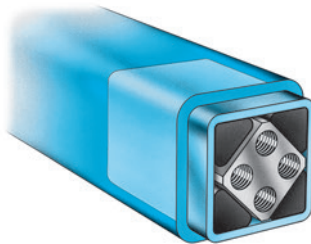
Rubber suspension elements

Examples of fixations

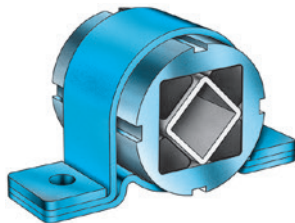
Housing



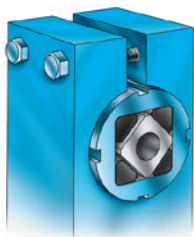
Outer tube with bracket BR



Plug-in connection

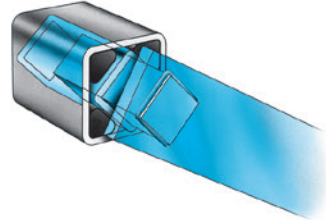


Round housing with bracket BK

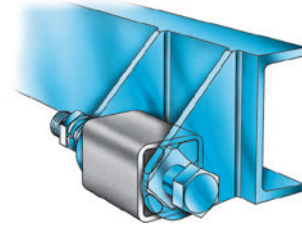


Outer housing in clamping jaw

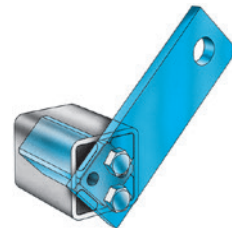
Inner Square Section



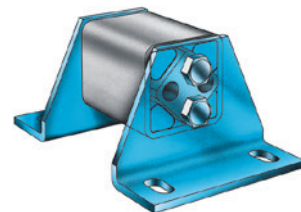
Plug-in connections: inner square made of tubular steel, lever arm with welded-on square profile



Inner square section with a central through bore



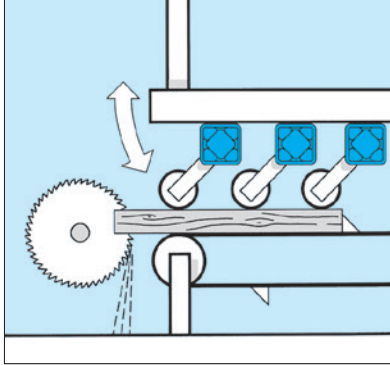
Inner square with through holes and bolted-on lever arm



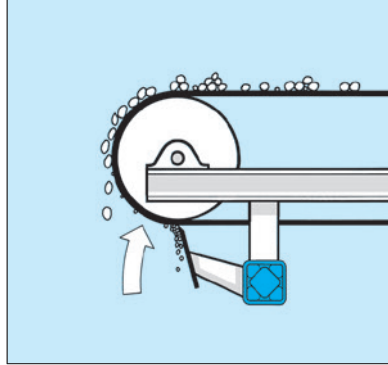
Inner square with through holes and brackets WS

Rubber suspension elements

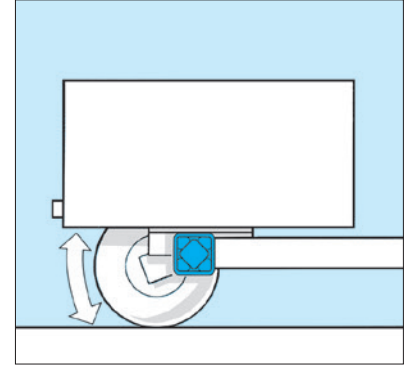
Application examples



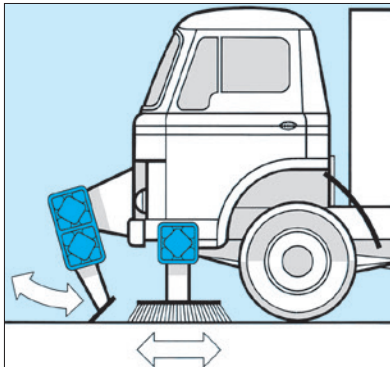
Pressure rollers in saw device



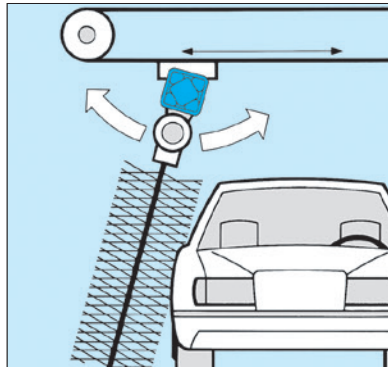
Conveyor-belt scraper



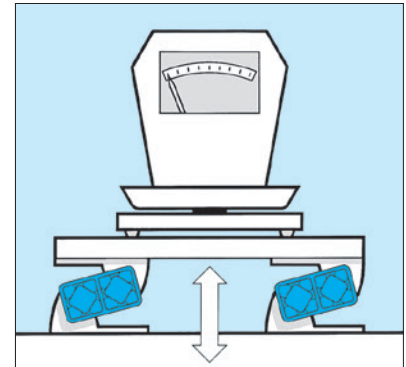
Independent wheel suspension



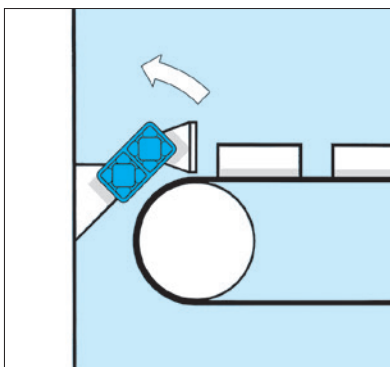
Elastic scraper / brushing joint



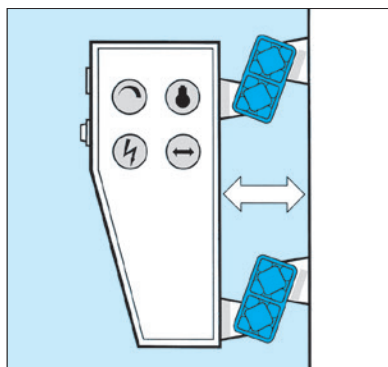
Self-aligning bearing for cleaning brushes



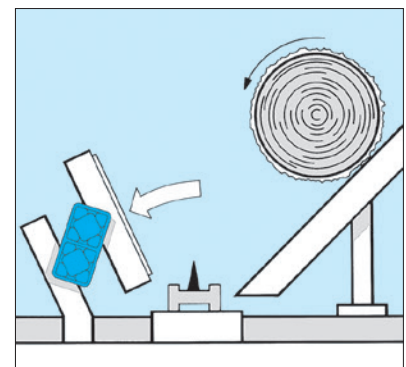
Passive insulation



Shock absorber



Control unit insulation



Impact suspension in feeder

TECHNOLOGY

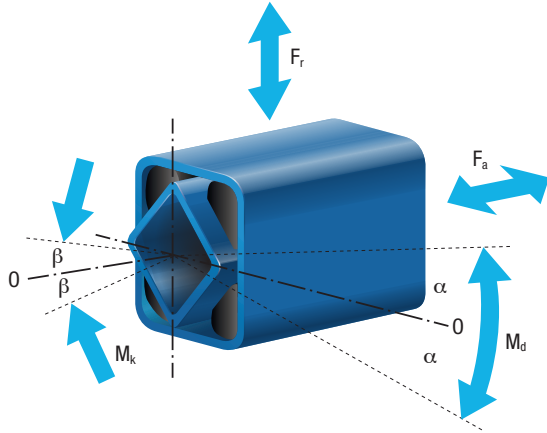
A unique spring system from experienced specialists

We at ROSTA have experienced the needs and solved the problems of our customers for 75 years. Together with our customers, we analyse their applications and concerns based on decades of experience. We help them to optimise their products and plants and improve their process safety. The result is higher productivity and a true competitive advantage.

Who doesn't want that?

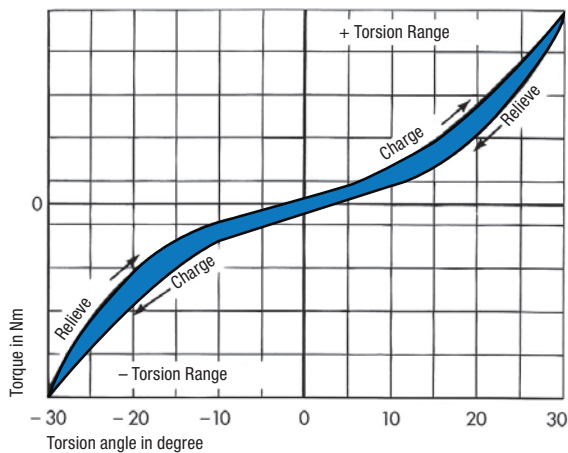
ROSTA Basics

Function



The ROSTA rubber suspension elements are mainly designed for applications as torsional spring devices offering operation angles of $\pm 30^\circ$. Depending on the particular function, not only torsional moments are generated by pivoting the spring device. According to the specific application additional radial F_r , axial F_a and / or cardanic M_k forces have usually to be taken in consideration. The occurring torques of the different elements and the additional load characteristics are indicated in the respective chapter.

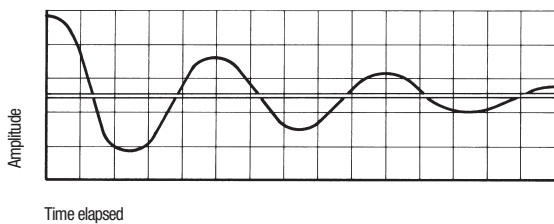
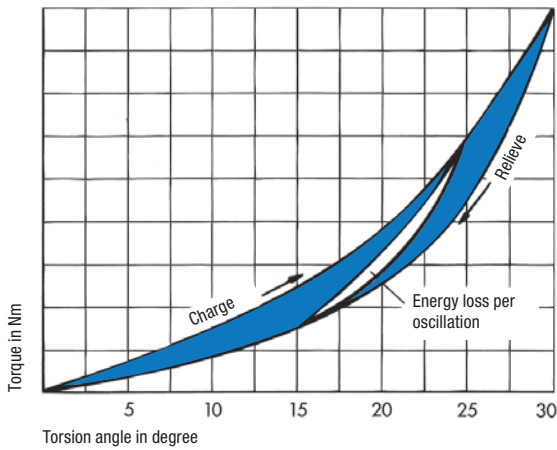
Spring characteristic



Due to the specific construction characteristics of the ROSTA rubber suspension element, pivoting the device \pm results in a slightly progressive spring characteristic. The torsion angle is limited to ± 30 for most elements.

ROSTA Basics

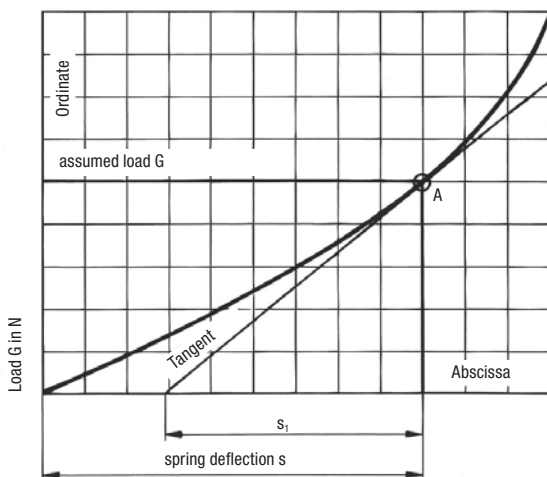
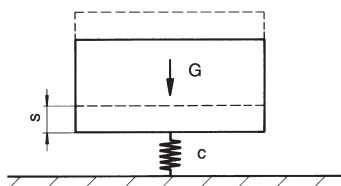
Damping



The occurring hysteresis in the ROSTA element is added to the resulting energy loss work in the rubber inserts during the pivoting activity of the spring device. In the process of the element actuation a part of the resulting energy is transformed into frictional work generating heat. The shaded surface between load and relieve headline indicates the effective energy loss. At element actuation out of the zero position up to 30°, the resulting average energy loss is at 15 to 20 %. At the actuation of a pre-tensioned element, the resulting ± working angle is usually only a few degrees, therefore the energy loss reduces within a limit (see graph).

Uniquely animated element oscillations fade within short term, due to the occurring energy loss at each following post-pulse oscillation. (Very important at the use of ROSTA screen mountings – during the operation procedure of the screen the resulting power loss in the ROSTA mountings is neglectable; during the running down phase, close to the resonance frequency of the suspensions, an important amplitude exaggeration occurs. The high energy loss in the ROSTA screen mountings dampens and absorbs these exaggerations within only a few post-pulse oscillations.)

Natural frequency



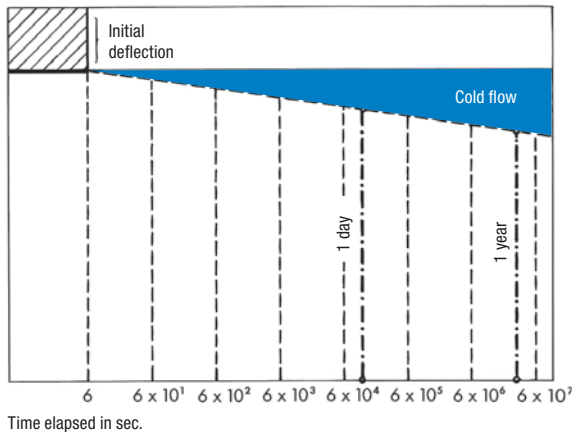
The determination of the natural frequency of a ROSTA suspension has to be carried out by spreading the tangent at the loading point «A» on the parabolic arc of the load deflection curve. The resulting distance s_1 on the axis of abscissa comes up to the arithmetical spring deflection in mm, required for the determination of the natural frequency.

$$\text{Natural frequency } n_e = \frac{300}{\sqrt{s_1 \text{ (in cm)}}} = \text{min}^{-1}$$

$$\text{or } f_e = \frac{5}{\sqrt{s_1 \text{ (in cm)}}} = \text{Hz}$$

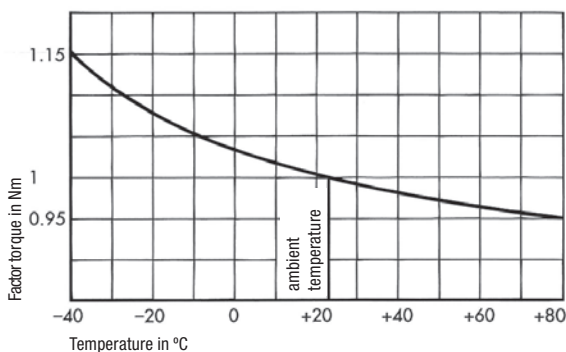
ROSTA Basics

Cold flow and settling of the rubber suspensions



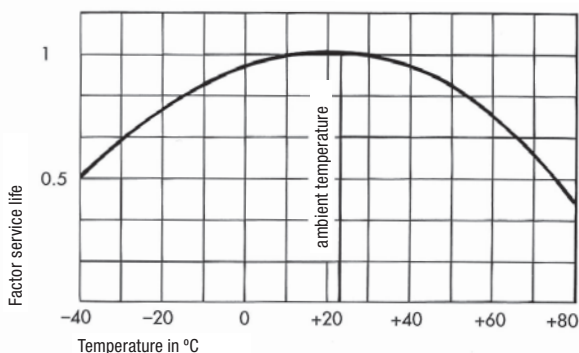
All elastic materials show more or less permanent measurable deformation over time when subjected to a load. This is noticeable in a relatively small additional deflection, the cold flow. This cold flow runs over a linear logarithmic time scale. The illustration shows that after being under a load for one day, already compensates for more than half of the flow deformation of a year; after one year of use, the overall element settling is largely compensated (depending on the temperature and frequency). Empirical findings show that the settling factor lies within a 3° to 5° loss of the element to the neutral 0° position, with combined vibrating bearings at approx. $+10\%$ of the respective nominal deflection according to the catalogue specification.

Temperature influence



The ROSTA rubber suspension elements are designed in the standard rubber quality «Rubmix 10» for use in the temperature range of -40°C to $+80^\circ\text{C}$. As the temperature rises, the mechanical torque strength decreases. This decrease is at a low approx. 5% in the upper temperature range ($+80^\circ\text{C}$). At lower ambient temperatures, i.e. in the minus range, the mechanical torsional stiffness increases (at -40°C up to 15%). The internal damping of the elements undergoes a similar process: when the temperature drops, the damping percentage increases and then falls again when the temperature rises. Due to the internal friction (energy loss work), the rubber inserts in the suspension elements warm up with every movement, meaning the effective element temperature may vary in relation to the ambient temperature.

Service life



Provided the rubber suspension elements are selected according to the technical specifications, i.e. are operating within the given frequencies and oscillation angles and under the mentioned surrounding conditions, no loss of performance and functionality can be expected for many years. Extremely low or high permanent surrounding temperatures considerably shorten the lifetime expectancy of the rubber suspension elements. The opposite service life curve indicates the relevant life deduction at extreme \pm temperatures from factor 1 at room temperature of $+22^\circ\text{C}$.

ROSTA Basics

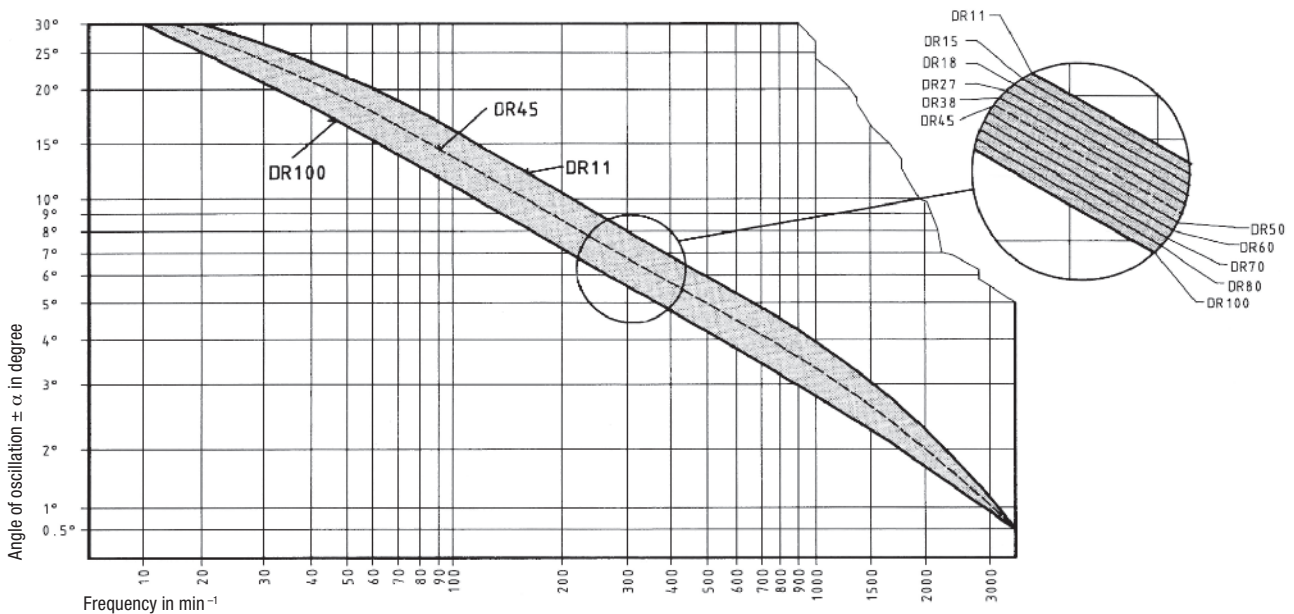
Quality control and tolerances

Since December 1992 ROSTA AG has been an ISO 9001 standard certified development, manufacture and distribution company. All products undergo regular functional and quality testing. The rubber inserts are continuously tested and controlled on the test machines of the in-house laboratory with regard to Shore A hardness, compression set, abrasive wear, rebound resilience, tensile strength, breaking elongation and aging behaviour. The dimensional tolerance of the rubber inserts is defined according DIN 7715 standard and the Shore A hardness according to DIN 53505 standard. The inner-core profiles and housings of the rubber suspension elements are subject to the tolerance guidelines of the relevant production process and respective supplier (e.g.

cast, extruded, edge rolled) and the individual material consistence (e.g. aluminium casting, steel tube, nodular cast iron part, etc.). The resulting torsional moments and spring deflections of the ROSTA rubber suspension elements are within a tolerance range of $\pm 15\%$ at the most, but usually lie in a much narrower range!



Permissible frequencies



Alignment chart for determining the permissible frequencies and oscillation angles in relation to the respective rubber suspension element type (DR 11, 15, 18, etc.). The higher the frequency in min^{-1} , the lower the oscillation angle should be and vice versa.

Example: (see blue indication on chart) A rubber suspension of type DR 50 may be rotated from the neutral position (0°) to an oscillation angle of $\pm 6^\circ$ by a max. frequency of 340 min^{-1} . For applications of «pre-tensioned» elements working, e.g. under 15° of pre-tension and describing oscillation angles of $\pm 5^\circ$ at 250 min^{-1} , it is absolutely necessary to consult ROSTA.

ROSTA Basics

Rubber qualities

The majority of all ROSTA rubber suspension elements are equipped with the standard quality «Rubmix 10» rubber inserts. This rubber quality is based on a high content of natural rubber, offers good shape memory, low settling factors (cold flow), high mechanical strength and moderate aging behaviour (little embrittlement/hardening of the rubber inserts).

Where high oil consistency, heat resistance or even greater torques are required, other resilient inserts with the corresponding characteristics can be installed in the rubber suspension elements.

Special qualities on request.

Rubber quality	Factor in relation to the list «torque and loads» (chapter 2 rubber suspension elements)	Working temperature	Material	Comments
Rubmix 10	1.0	-40° to +80°C	NR	- Standard quality - Highest elasticity - Lowest cold flow
Rubmix 20	approx. 1.0	-30° to +90°C	CR	- Good oil-resistance - Elements marked with yellow dot
Rubmix 40	approx. 0.6	-35° to +120°C	EPDM-Silicone	- High temperature resistance - Elements marked with red dot
Rubmix 50	approx. 3.0	-35° to +90°C	PUR	- Max. oscillation angle ±20° - Limited oscillation frequencies - No permanent water contact - Elements marked with green dot

Chemical resistance

The standardised ROSTA rubber suspension elements are equipped with «Rubmix 10» elastic inserts. These have a high chemical resistance compared to many media. For specific applications, however, the elements must be provided with additional protection or synthetically constructed elastomer inserts should be used («Rubmix 20», «Rubmix 40» or «Rubmix 50»), which will slightly change the characteristics compared to the standard quality (see Rubber qualities).

The resistance table below is only a guideline and is incomplete. In practical use, data for the concentration of the respective medium and the operating temperature are required to determine the resistance. Please contact us in this regard.

Rubmix	10	20	40	50
Acetone	+	00	++	00
Alcohol	++	++	++	0
Benzene	00	00	00	00
Caustic soda solution up to 25% (20°)	++	++	++	00
Citric acid	++	+	0	00
Diesel	00	+	00	+
Formic acid	+	+	0	00
Glycerine	+	+	++	00
Hydraulic fluid	0	+	00	00
Hydrochloric acid up to 15%	++	+	0	00
Javelle water	0	+	++	00
Lactic acid	++	++	++	+

Rubmix	10	20	40	50
Liquid ammonia	+	+	++	00
Lubricating grease and oil	00	+	00	+
Nitric acid up to 10%	00	+	+	00
Nitro thinner	00	00	00	00
Petrol (fuel)	00	0	00	++
Petroleum	00	+	00	++
Phosphoric acid up to 85%	00	00	00	00
Seawater	++	+	++	00
Sulphuric acid up to 10%	+	0	0	00
Tannic acid	++	+	++	00
Toluene	00	00	00	00
Treacle	++	++	++	0

++ excellent consistency, + good consistency, 0 sufficient consistency, 00 insufficient consistency

PRODUCTIVITY THROUGH COMPETENCE

Head office

Switzerland www.rosta.ch

Subsidiaries

Germany www.rosta.de Italy www.rostaitalia.com

Canada www.rosta.ca USA www.rosta.us

Australia www.rostaaustralia.com.au China www.rostachina.com

Distribution partners

For informations about our distribution partners worldwide please go to www.rosta.ch/en/contacts/distribution-partners



ROSTA AG

Hauptstrasse 58
5502 Hunzenschwil
Switzerland
+41 62 889 04 00
info.ch@rosta.com
www.rosta.com



Changes regarding data reserved.
Any reprint, also in extracts, requires
our explicit and confirmed approval.