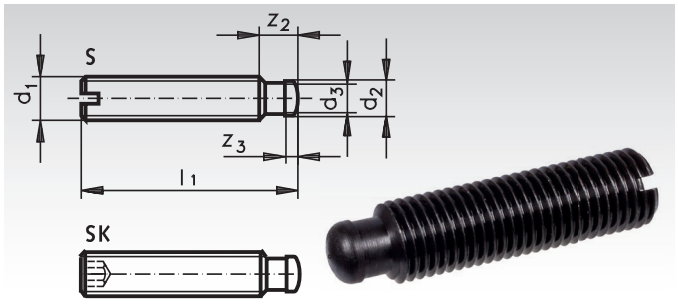
Grub Screws according to DIN 6332 with Thrust Point

Material: Steel quality 5.8, turned, thrust point hardened, burnished.

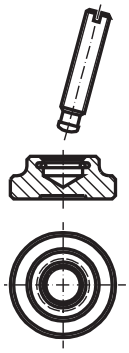
Type S: With slot.
Type SK: With internal hexagon.

Assembly: Turn thrust screw into thrust pad. The thrust pad has to be held thus that the spring retainer lies in the recess with its open side at the bottom. Now tilt the grub screw as far as possible towards the open side of the ring and press it in. To be combined with the thrust pads DIN 6311 below on this page.



Ordering Details: e.g.: Product No. 654 006 00, Grub Screw DIN 6332, Type S, M6

Product No. Type S	Product No. Type SK	d_1 mm	l_1 mm	d_2^{h11} mm	d_3 mm	Z_2 mm	Z_3 mm	Weight g
654 006 00	654 006 01	M6	30	4,5	4	6	2,5	4,9
654 007 00	654 007 01	M6	50	4,5	4	6	2,5	8,4
654 009 00	654 009 01	M8	40	6	5,4	7,5	3	11,8
654 011 00	654 011 01	M8	60	6	5,4	7,5	3	18,1
654 013 00	654 013 01	M10	60	8	7,2	9	4,5	27,5
654 015 00	654 015 01	M10	80	8	7,2	9	4,5	37,5
654 017 00	654 017 01	M12	60	8	7,2	10	4,5	40
654 019 00	654 019 01	M12	80	8	7,2	10	4,5	55
654 020 00	654 020 01	M12	100	8	7,2	10	4,5	69
654 024 00	654 024 01	M16	80	12	11	12	5	100
654 025 00	654 025 01	M16	100	12	11	12	5	126
654 026 00	654 026 01	M16	125	12	11	12	5	160
654 030 00	654 030 01	M20	100	15,5	14,4	14	5,5	190
654 031 00	654 031 01	M20	125	15,5	14,4	14	5,5	240
654 032 00	654 032 01	M20	150	15,5	14,4	14	5,5	290

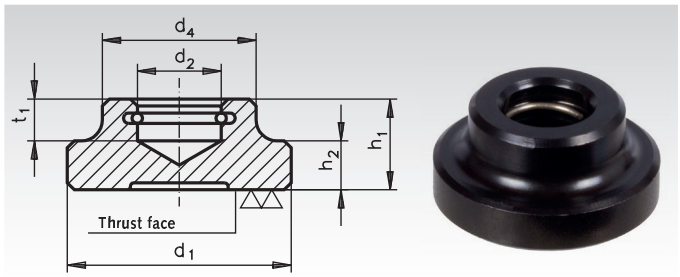


Thrust Pads with Spring Retainer according to DIN 6311 and Factory Standard

Material: Steel turned, case hardened, burnished.

Spring retainer included.

Up to size d_1= 40 mm for grub screws according to DIN 6332. from size d_1= 48 mm for grub screws according to factory standard, manufactured according to measuring table below.

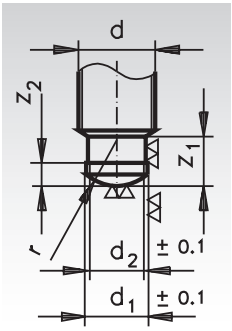


Ordering Details: e.g.: Product No. 654 106 00, Thrust Pad DIN 6311, d_1 = 12 mm

Product No.	d_1 mm	d_2^{h12} mm	d_4 mm	h_1 mm	h_2 mm	t_1 mm	f. Grub Screw/ Thrust Point	Weight g
654 106 00	12	4,6	10	7	2,5	4	DIN 6332/M6	4,4
654 108 00	16	6,1	12	9	4	5	DIN 6332/M8	9
654 110 00	20	8,1	15	11	5	6	DIN 6332/M10	17
654 112 00	25	8,1	18	13	6	7	DIN 6332/M12	33
654 116 00	32	12,1	22	15	7	7,5	DIN 6332/M16	57
654 120 00	40	15,6	28	16	9	8	DIN 6332/M20	103
654 124 00	48	17,7	32	24	12	12	Tr./M24	215
654 130 00	60	22	40	32	17	14	Tr./M28/30/32	465
654 140 00	80	30,3	60	45	25	17	Tr./M40	1287

Dimension Table for Thrust Points

For Thrust Pads d_1	d mm	d_1 mm	d_2 mm	z_1 mm	z_2 mm	r mm
48	Tr. 24	17,5	16,5	16,5	6,5	11
60	Tr. 28/30/32	21,8	20	20	8	13
80	Tr. 40	30	28,5	25	10	22



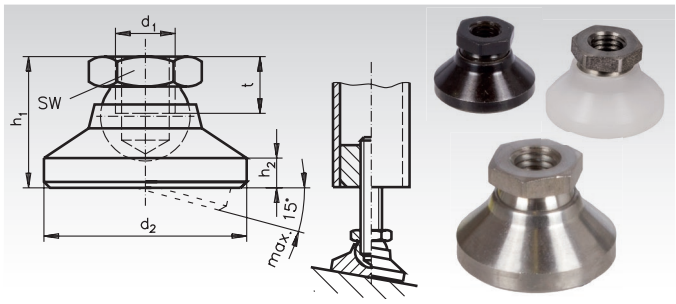
Levelling Pads 2259

Material Type A: Ball bearing: free cutting steel, induction hardened, burnished, Pad: steel, heat-treated, burnished.

Material Type D: Ball bearing: stainless steel 1.4305. Pad: Plastic POM, white, Temperature range: -30°C to +80°C.

Material Type N: Completely from stainless steel 1.4305.

STAINLESS



Ordering Details: e.g.: Product No. 655 206 00, Levelling Pad 2259, Type A, M6

Product No. Typ A	Product No. Typ D	Product No. Typ N	d_1 mm	d_2 mm	h_1 mm	h_2 mm	t mm	SW mm	Static Load Capacity* Typ A kN	Typ D** kN	Typ N kN	Weight Typ A g	Weight Typ D g	Weight Typ N g
655 206 00	655 226 00	655 992 06	M6	20	14	2,5	5	10	10	4	8	17,2	8,2	17,2
655 208 00	655 228 00	655 992 08	M8	25	18	4	7	13	18	7	14	36,7	17,2	36,7
655 210 00	655 230 00	655 992 10	M10	32	22	5	9	17	20	10	16	77,3	35,8	77,3
655 212 00	655 232 00	655 992 12	M12	40	26	6	11	19	35	18	28	125	54	125
655 216 00	655 236 00	655 992 16	M16	50	32	7	13,5	24	45	20	36	249	103	249
655 220 00	655 240 00	655 992 20	M20	60	42	8	17	30	55	22	44	478	205	478
655 224 00	655 244 00	655 992 24	M24	60	45	9,5	19	36	65	25	52	665	285	665

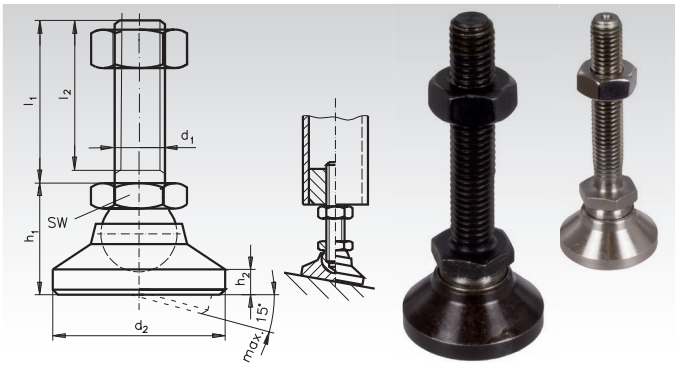
* Only suitable for compressive load.
** Figures apply to room temperature only, at higher temperatures the load bearing capacity is reduced.

Levelling Pads 2259, with external Thread

Material Type AG: Ball with threated bolt: free cutting steel, induction hardened, burnished. Pad: steel, heat-treated, burnished.

Material Type NG: Stainless steel 1.4305.

STAINLESS



Ordering Details: e.g.: Product No. 655 206 01, Levelling Pad 2259, Type AG, M6 x 60

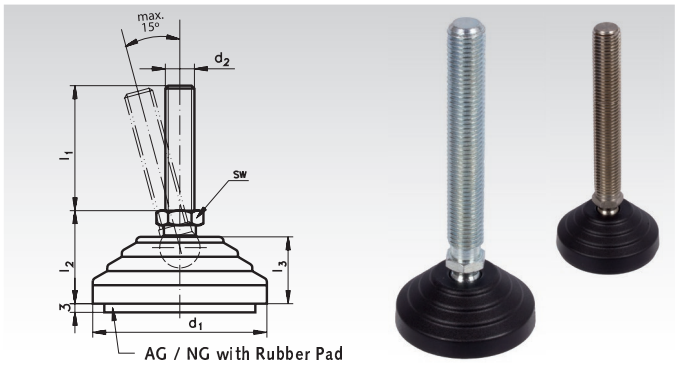
Product No. Typ AG	Product No. Typ NG	d_1 mm	l_1 mm	d_2 mm	l_2 mm	h_1 mm	h_2 mm	SW mm	Static Load Capacity* Typ AG kN	Typ NG kN	Weight AG, NG g
655 206 01	655 206 91	M6	60	20	57	14	2,5	10	10	8	29
655 208 01	655 208 91	M8	80	25	76	18	4	13	18	14	66
655 210 01	655 210 91	M10	100	32	95,5	22	5	17	20	16	133
655 210 02	655 210 92	M10	150	32	145,5	22	5	17	20	16	159
655 212 01	655 212 91	M12	100	40	94,5	26	6	19	35	28	211
655 212 02	655 212 92	M12	150	40	144,5	26	6	19	35	28	247
655 216 01	655 216 91	M16	100	50	94	32	7	24	45	36	407
655 216 02	655 216 92	M16	200	50	194	32	7	24	45	36	540
655 220 01	655 220 91	M20	100	60	92,5	42	8	30	55	44	722
655 220 02	655 220 92	M20	200	60	192,5	42	8	30	55	44	924
655 224 01	655 224 91	M24	100	60	91	45	9,5	36	65	52	935
655 224 02	655 224 92	M24	200	60	191	45	9,5	36	65	52	1231

* Only suitable for compressive load.

Articulated Levelling Feets 344 and 344.5 Plastic with Steel or Stainless Steel Bolt

Material Version 344: base: plastic (polyamide), glass-fibre reinforced, matt finish black.
Bolt: steel, strength class 5.8., zinc plated, chromated.
Rubber pad: NBR (perbunan) 70° Shore hardness, black.
Type A: without nut, without rubber pad, bolt steel.
Type AG: without nut, with rubber pad, bolt steel.

Material Version 344.5: Base: Plastic (polyamide), glass-fibre reinforced, matt finish black. Bolt M10, M12, M16 (SW16): 1.4305.
Bolt M20, M24: 1.4301.
Rubber pad: NBR (perbunan) 70° Shore hardness, black.
Type N: without nut, without rubber pad, bolt stainless steel.
Type NG: without nut, with rubber pad, bolt stainless steel.



AG / NG with Rubber Pad

Ordering Details: e.g.: Product No. 655 301 00 Foot 344, A, Ø 60 x 43 mm

Version 344, steel		Version 344.5, stainless										
Product No. Type A	Product No. Type AG	Product No. Type N	Product No. Type NG	d_1 mm	d_2 mm	l_1 mm	l_2 mm	l_3 mm	sw mm	Ball Ø mm	Static Load N*	Weight kg
655 301 00	655 331 00	655 993 01	655 993 31	60	M10	43	32	23	14	14	14000	0,05
655 302 00	655 332 00	655 993 02	655 993 32	60	M10	68	32	23	14	14	14000	0,08
655 303 00	655 333 00	655 993 03	655 993 33	60	M10	98	32	23	14	14	14000	0,16
655 304 00	655 334 00	655 993 04	655 993 34	60	M12	43	32	23	14	14	14000	0,07
655 305 00	655 335 00	655 993 05	655 993 35	60	M12	68	32	23	14	14	14000	0,10
655 306 00	655 336 00	655 993 06	655 993 36	60	M12	98	32	23	14	14	14000	0,19
655 311 00	655 341 00	655 993 11	655 993 41	60	M16	68	32	23	16	14	14000	0,14
655 312 00	655 342 00	655 993 12	655 993 42	60	M16	108	32	23	16	14	14000	0,12
655 313 00	655 343 00	655 993 13	655 993 43	60	M16	148	32	23	16	14	14000	0,27
655 314 00	655 344 00	655 993 14	655 993 44	80	M16	68	32	23	16	14	16000	0,16
655 315 00	655 345 00	655 993 15	655 993 45	80	M16	108	32	23	16	14	16000	0,21
655 316 00	655 346 00	655 993 16	655 993 46	80	M16	148	32	23	16	14	16000	0,26
655 321 00	655 351 00	655 993 21	655 993 51	80	M20	98	42	23	24	24	18000	0,36
655 322 00	655 352 00	655 993 22	655 993 52	80	M20	138	42	23	24	24	18000	0,43
655 323 00	655 353 00	655 993 23	655 993 53	80	M20	158	42	23	24	24	18000	0,47
655 324 00	655 354 00	655 993 24	655 993 54	100	M20	98	42	23	24	24	25000	0,44
655 325 00	655 355 00	655 993 25	655 993 55	100	M20	138	42	23	24	24	25000	0,48
655 326 00	655 356 00	655 993 26	655 993 56	100	M20	158	42	23	24	24	25000	0,50
655 327 00	655 357 00	655 993 27	655 993 57	100	M24	98	42	23	24	24	25000	0,61
655 328 00	655 358 00	655 993 28	655 993 58	100	M24	158	42	23	24	24	25000	0,77
655 329 00	655 359 00	655 993 29	655 993 59	100	M24	198	42	23	24	24	25000	0,88

* Static Load

The load figures specified in the table above are guide line values. If these are exceeded, serious permanent deformation or breakage of the plastic base can occur.

These values were established through a series of tests, where with a certain number of levelling feet, a vertical force was applied on the disk for a certain time.

Dependend on the application and the load, a safety factor has to be taken into account, so that the permissable load may be below the guide line values stated in the table.

We cannot accept any liability for possible damages which could be caused by the incorrect use of the articulated feet.

General

Articulated Feet 344 and 344.5 are slightly stepped, this makes them look good and easy to clean.

Due to the use of a high grade plastic material and their shape (ribbed base), that serves to spread the weight over a larger area, the feet have a high load bearing capacity.
The rubber pad is fixed to the base with four pins/bores. The rubber pad levels out slightly uneven ground and makes the foot non-slip.

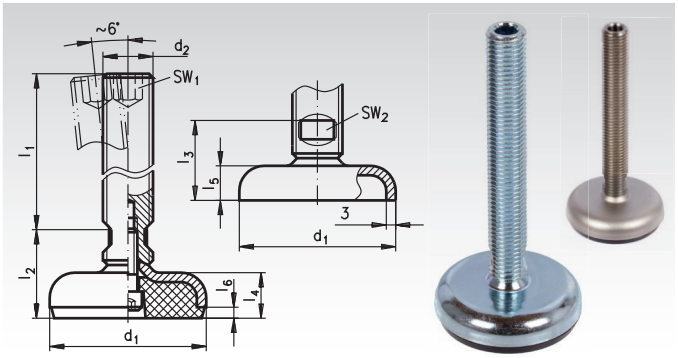
Levelling Feets 340 of Steel and 340.5 of Stainless Steel

Material Version 340: Steel, zinc plated, chromated.
Rubber pad: NBR (perbunan) 80 - 85° Shore hardness, black.

Type AG: Steel, with rubber pad.

Material Version 340.5: Stainless steel 1.4301.
Rubber pad: NBR (perbunan) 70° Shore hardness, black.

Type NG: Stainless Steel, with rubber pad.



Ordering Details: e.g.: Product No. 655 741 00 Levelling Foot 340, Type AG, 50 x M16 x 75

Product No. Version 340 Steel	Product No. Version 340.5 Stainless Steel	d_1 mm	d_2 mm	l_1 mm	l_2 mm	l_3 mm	approx. l_4 mm	l_5 mm	l_6 mm	sw_1 mm	sw_2 mm	Static Load* Vers. 340 kN	Vers. 340.5 kN	Weight g
655 741 00	655 997 41	50	M16	75	29	25,5	14,5	11	3,5	8	12	16	28	193
655 742 00	655 997 42	50	M16	100	29	25,5	14,5	11	3,5	8	12	16	28	270
655 743 00	655 997 43	50	M16	125	29	25,5	14,5	11	3,5	8	12	16	28	290
655 744 00	655 997 44	50	M16	150	29	25,5	14,5	11	3,5	8	12	16	28	310
655 751 00	655 997 51	60	M16	75	30	26	16	12	4	8	12	16	28	280
655 752 00	655 997 52	60	M16	100	30	26	16	12	4	8	12	16	28	300
655 753 00	655 997 53	60	M16	125	30	26	16	12	4	8	12	16	28	320
655 754 00	655 997 54	60	M16	150	30	26	16	12	4	8	12	16	28	340
655 761 00	655 997 61	80	M16	75	32	27	18	13	5	8	12	12	19	400
655 762 00	655 997 62	80	M16	100	32	27	18	13	5	8	12	12	19	450
655 763 00	655 997 63	80	M16	125	32	27	18	13	5	8	12	12	19	470
655 764 00	655 997 64	80	M16	150	32	27	18	13	5	8	12	12	19	500
655 765 00	655 997 65	80	M20	75	33	28	18	13	5	10	15	12	19	490
655 766 00	655 997 66	80	M20	100	33	28	18	13	5	10	15	12	19	525
655 767 00	655 997 67	80	M20	125	33	28	18	13	5	10	15	12	19	570
655 768 00	655 997 68	80	M20	150	33	28	18	13	5	10	15	12	19	630
655 771 00	655 997 71	100	M20	75	35	29	20	14	6	10	15	11	17	610
655 772 00	655 997 72	100	M20	100	35	29	20	14	6	10	15	11	17	660
655 773 00	655 997 73	100	M20	125	35	29	20	14	6	10	15	11	17	680
655 774 00	655 997 74	100	M20	150	35	29	20	14	6	10	15	11	17	780
655 775 00	655 997 75	100	M24	100	38	32	20	14	6	12	19	11	17	840
655 776 00	655 997 76	100	M24	125	38	32	20	14	6	12	19	11	17	890
655 777 00	655 997 77	100	M24	150	38	32	20	14	6	12	19	11	17	940

* Static Load

The static load is limited by any deformation of the steel base (3 mm thick).

The load figures specified in the table above are based on a series of tests in which a vertical load was applied on the base. At the values stated in the table, a slight deformation of the base might occur.

General

A feature of the leveling feet is the firmly bonded rubber pad in the steel foot also fixed by a screw.
The bolt can be adjusted either at the hexagon at the upper end or at the spanner flats at the bottom end.

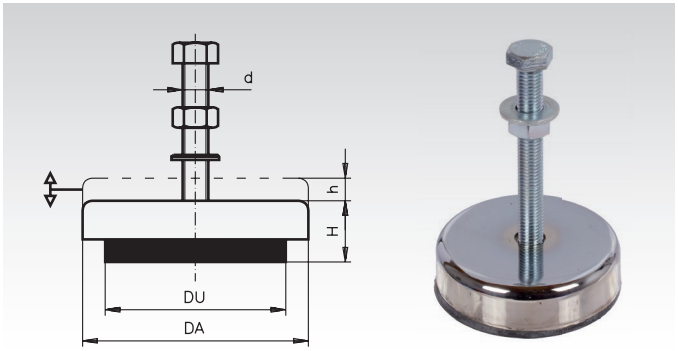
Machine Mounts KA with Chromated Steel Plate and Vacuum Profile

Material:
Elastomer: NBR (perbunan) 70° Shore, oil resistant.
Case: Steel, chromated.

Machine mount with vacuum profile, height adjustable without need for bolting down.

For a first, rough calculation:

$$\frac{\text{Overall weight to be supported}}{\text{Number of mounting points}} = \text{Load per machine mount}$$



Ordering Details: e.g.: Product No. 685 912 00, Machine Mount KA 010

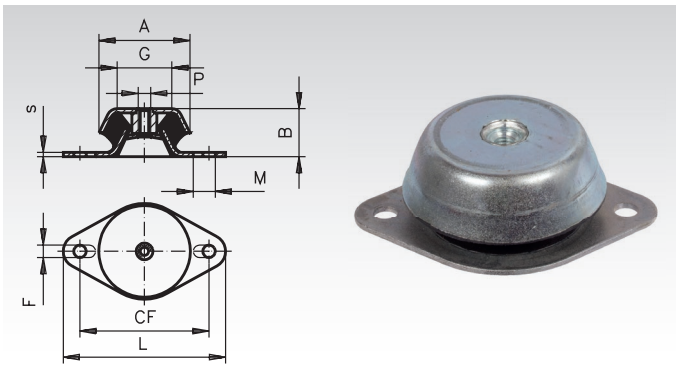
Product No.	Size	DA Ø mm	DU Ø mm	Height H mm	Height Adjustment h mm	Thread d mm	Thread Length mm	Weight kg
685 912 00	KA 010	73	53	30	10	M10	60	0,27
685 913 00	KA 090	90	73	35	10	M12	100	0,60
685 915 00	KA 015	120	95	35	12	M12	100	0,94
685 918 00	KA 020	150	120	40	12	M16	100	2,24
685 921 00	KA 030	200	170	45	15	M20 x 1,5	120	4,90

Load Bearing Cap.per Element (in Newton)		KA 010	KA 090	KA 015	KA 020	KA 030
General Machines		1500	4200	6500	14000	34000
Milling Machines and Lathes			2100	3500	12000	28000
Presses, Stroke/min. up to	100			4200	8000	25000
	150			2400	4000	13500
	170			1750	2500	9000
	200			1400	2000	4500
Permiss. Stat. Max. Load			6300	11000	18000	40000

Machine Mounts (Failsafe)

Material:
Elastomer: Natural rubber 60° +/-5° Shore.
Metal parts: Steel, quality 5.6.

Failsafe machine mounts can be universally used as elastic mounts for all kind of machines. Especially if tensile forces can be expected, these failsafe mounts are the perfect choice of damping element.



Ordering Details: e.g.: Product No. 685 950 00, Machine Mount, 77 x 128

Product No.	A mm	B mm	P mm	F (xM) mm	CF mm	G mm	L mm	s mm	Weight kg
685 950 00	77	30	M10	9	110	59	128	2	0,30
685 955 00	92	45	M12	10,5	110	73,5	138	3	0,69
685 960 00	106	38	M12	14 x 18	138/146	81	172	3	0,75
685 965 00	108	50	M16	16,5	160	83	190	5	1,12
685 970 00	121	42	M16	13,5	158	92	188	3	0,97

Product No.	Permissable Permanent Static Load* N	Compression mm	Spring Load N/mm
685 950 00	2700	2,8	964
685 955 00	6000	3,3	1818
685 960 00	5500	2,8	1964
685 965 00	8100	2,9	2793
685 970 00	6800	3,5	1942

The stated values are guideline values for the static load at durometer of 60° Shore A (medium).

* Tensile / compressive load. No damping for tensile load.