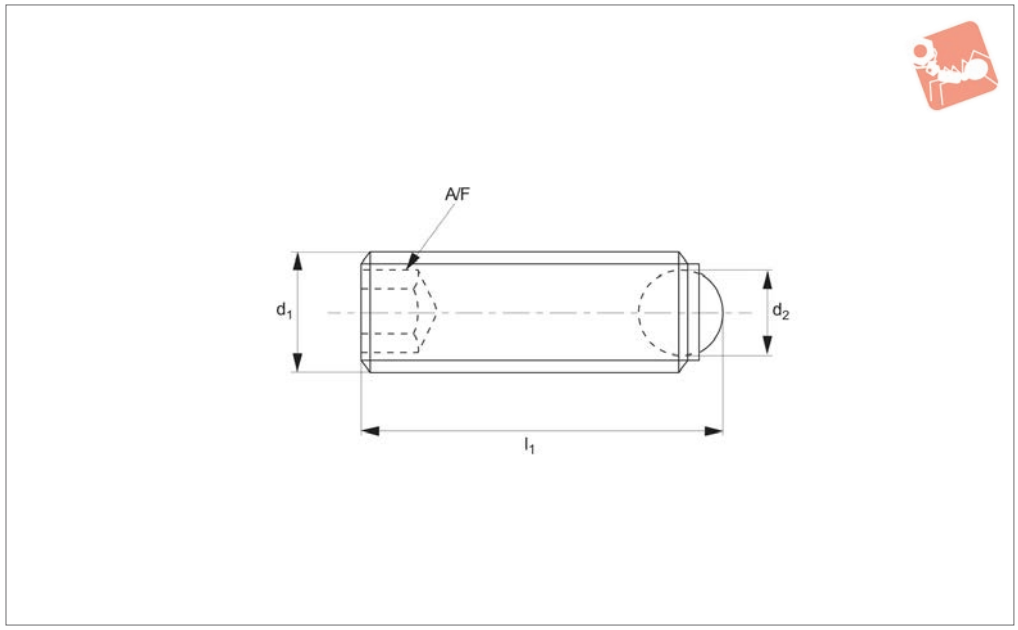
Thrust Screws - Ball Ended

headless - round ball - metal



34041

Material

Steel type-
Body: steel, heat-treated, 1200 ±100 N/mm^2.
Ball: ball bearing steel, hardened.
Stainless steel type-
Body: stainless steel (AISI 303, 1.4305).
Ball: stainless steel, hardened.

Technical Notes

For clamping, tightening or supporting of surfaces that are not exactly parallel.
Max. temperature 250°C.

Tips

Ball not secured against rotation. For other types see following pages.

Important Notes

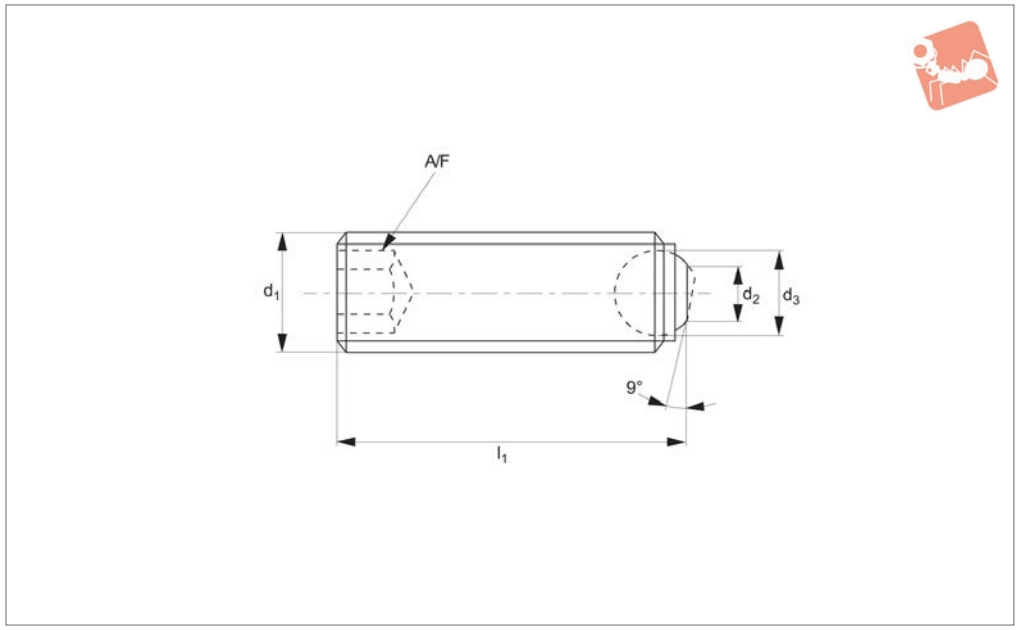
*Max. static load relates to steel version only.

Order No.	Material	Ball type	d_1	d_2	l_1	A/F	Static load kN max.	Weight g
34041.W0032	Steel	Round	M 3	1.5	5.0	1.5	2.5	0.2
34041.W0033	Steel	Round	M 3	1.5	7.5	1.5	2.5	0.2
34041.W0034	Steel	Round	M 3	1.5	10.0	1.5	2.5	0.3
34041.W0042	Steel	Round	M 4	2.5	6.0	2.0	3.5	0.5
34041.W0043	Steel	Round	M 4	2.5	8.0	2.0	3.5	0.6
34041.W0044	Steel	Round	M 4	2.5	10.0	2.0	3.5	0.8
34041.W0045	Steel	Round	M 4	2.5	12.0	2.0	3.5	0.7
34041.W0046	Steel	Round	M 4	2.5	16.0	2.0	3.5	1.2
34041.W0052	Steel	Round	M 5	3.0	8.0	2.5	4.5	0.8
34041.W0053	Steel	Round	M 5	3.0	10.0	2.5	4.5	1.1
34041.W0054	Steel	Round	M 5	3.0	12.0	2.5	4.5	1.3
34041.W0055	Steel	Round	M 5	3.0	16.0	2.5	4.5	1.5
34041.W0056	Steel	Round	M 5	3.0	20.0	2.5	4.5	2.2
34041.W0058	Steel	Round	M 5	3.0	25.0	2.5	4.5	2.8
34041.W0062	Steel	Round	M 6	4.0	10.8	3.0	9.0	1.5
34041.W0063	Steel	Round	M 6	4.0	12.8	3.8	9.0	1.9
34041.W0064	Steel	Round	M 6	4.0	16.8	3.0	9.0	2.5
34041.W0065	Steel	Round	M 6	4.0	20.8	3.0	9.0	3.3
34041.W0066	Steel	Round	M 6	4.0	25.8	3.0	9.0	4.0
34041.W0081	Steel	Round	M 8	5.5	11.2	4.0	15.0	2.6
34041.W0082	Steel	Round	M 8	5.5	13.2	4.0	15.0	3.0
34041.W0083	Steel	Round	M 8	5.5	17.2	4.0	15.0	4.2
34041.W0084	Steel	Round	M 8	5.5	21.2	4.0	15.0	5.4
34041.W0085	Steel	Round	M 8	5.5	26.2	4.0	15.0	6.9
34041.W0086	Steel	Round	M 8	5.5	31.2	4.0	15.0	8.4
34041.W0101	Steel	Round	M10	7.0	13.7	5.0	20.0	4.8
34041.W0102	Steel	Round	M10	7.0	17.7	5.0	20.0	6.2
34041.W0103	Steel	Round	M10	7.0	21.7	5.0	20.0	8.1
34041.W0104	Steel	Round	M10	7.0	26.7	5.0	20.0	11.0
34041.W0105	Steel	Round	M10	7.0	31.7	5.0	20.0	13.0

Thrust Screws - Ball Ended

headless - round ball - metal

Order No.	Material	Ball type	d_1	d_2	l_1	A/F	Static load kN max.	Weight g
34041.W0106	Steel	Round	M10	7.0	36.7	5.0	20.0	15.0
34041.W0108	Steel	Round	M10	7.0	41.7	5.0	20.0	15.0
34041.W0121	Steel	Round	M12	8.5	18.0	6.0	30.0	9.3
34041.W0122	Steel	Round	M12	8.5	22.0	6.0	30.0	11.0
34041.W0123	Steel	Round	M12	8.5	27.0	6.0	30.0	15.0
34041.W0124	Steel	Round	M12	8.5	32.0	6.0	30.0	18.0
34041.W0126	Steel	Round	M12	8.5	42.0	6.0	30.0	25.0
34041.W0128	Steel	Round	M12	8.5	52.0	6.0	30.0	32.5
34041.W0161	Steel	Round	M16	12.0	23.3	8.0	30.0	22.0
34041.W0162	Steel	Round	M16	12.0	28.3	8.0	60.0	27.0
34041.W0164	Steel	Round	M16	12.0	38.3	8.0	60.0	40.0
34041.W0166	Steel	Round	M16	12.0	53.3	8.0	60.0	62.0
34041.W0202	Steel	Round	M20	15.0	34.2	10.0	90.0	52.0
34041.W0204	Steel	Round	M20	15.0	42.2	10.0	90.0	72.0
34041.W0205	Steel	Round	M20	15.0	54.2	10.0	90.0	93.0
34041.W0206	Steel	Round	M20	15.0	64.2	10.0	90.0	115.0
34041.W0242	Steel	Round	M24	18.0	39.7	12.0	120.0	87.0
34041.W0244	Steel	Round	M24	18.0	54.7	12.0	120.0	129.0
34041.W0246	Steel	Round	M24	18.0	84.7	12.0	120.0	222.0
34041.W0747	Stainless	Round	M 3	1.5	5.0	1.5	-	0.2
34041.W0748	Stainless	Round	M 3	1.5	7.5	1.5	-	0.2
34041.W0749	Stainless	Round	M 3	1.5	10.0	1.5	-	0.3
34041.W0750	Stainless	Round	M 4	2.5	6.0	2.0	-	0.5
34041.W0752	Stainless	Round	M 4	2.5	8.0	2.0	-	0.6
34041.W0754	Stainless	Round	M 4	2.5	10.0	2.0	-	0.8
34041.W0756	Stainless	Round	M 4	2.5	12.0	2.0	-	0.7
34041.W0758	Stainless	Round	M 4	2.5	16.0	2.0	-	1.2
34041.W0760	Stainless	Round	M 5	3.0	8.0	2.5	-	0.8
34041.W0761	Stainless	Round	M 5	3.0	10.0	2.5	-	1.1
34041.W0762	Stainless	Round	M 5	3.0	12.0	2.5	-	1.3
34041.W0763	Stainless	Round	M 5	3.0	16.0	2.5	-	1.5
34041.W0764	Stainless	Round	M 5	3.0	20.0	2.5	-	2.2
34041.W0765	Stainless	Round	M 5	3.0	25.0	2.5	-	2.8
34041.W0770	Stainless	Round	M 6	4.0	10.8	3.0	-	1.5
34041.W0772	Stainless	Round	M 6	4.0	12.8	3.0	-	1.9
34041.W0774	Stainless	Round	M 6	4.0	16.8	3.0	-	2.5
34041.W0775	Stainless	Round	M 6	4.0	20.8	3.0	-	3.3
34041.W0776	Stainless	Round	M 6	4.0	25.8	3.0	-	4.0
34041.W0780	Stainless	Round	M 8	5.5	11.2	4.0	-	2.6
34041.W0782	Stainless	Round	M 8	5.5	13.2	4.0	-	3.0
34041.W0783	Stainless	Round	M 8	5.5	17.2	4.0	-	4.2
34041.W0784	Stainless	Round	M 8	5.5	21.2	4.0	-	5.4
34041.W0785	Stainless	Round	M 8	5.5	26.2	4.0	-	6.9
34041.W0786	Stainless	Round	M 8	5.5	31.2	4.0	-	8.4
34041.W0790	Stainless	Round	M10	7.0	13.7	5.0	-	4.8
34041.W0792	Stainless	Round	M10	7.0	17.7	5.0	-	6.2
34041.W0793	Stainless	Round	M10	7.0	21.7	5.0	-	8.1
34041.W0794	Stainless	Round	M10	7.0	26.7	5.0	-	11.0
34041.W0795	Stainless	Round	M10	7.0	31.7	5.0	-	13.0
34041.W0796	Stainless	Round	M10	7.0	36.7	5.0	-	15.0
34041.W0798	Stainless	Round	M10	7.0	41.7	5.0	-	15.0
34041.W0800	Stainless	Round	M12	8.5	18.0	6.0	-	9.3
34041.W0802	Stainless	Round	M12	8.5	22.0	6.0	-	11.0
34041.W0803	Stainless	Round	M12	8.5	27.0	6.0	-	15.0
34041.W0804	Stainless	Round	M12	8.5	32.0	6.0	-	18.0
34041.W0806	Stainless	Round	M12	8.5	42.0	6.0	-	25.0
34041.W0808	Stainless	Round	M12	8.5	52.0	6.0	-	32.5
34041.W0810	Stainless	Round	M16	12.0	23.3	8.0	-	22.0
34041.W0812	Stainless	Round	M16	12.0	28.3	8.0	-	27.0
34041.W0814	Stainless	Round	M16	12.0	38.3	8.0	-	40.0
34041.W0816	Stainless	Round	M16	12.0	53.3	8.0	-	62.0



34043

Material

Steel type-
Body: steel, heat-treated, 1200 ±100 N/mm^2.
Ball: ball bearing steel, hardened.
Stainless steel type-
Body: stainless steel (AISI 303, 1.4305).
Ball: stainless steel, hardened.

Technical Notes

For clamping, tightening or supporting surfaces that are not exactly parallel.
Max. temperature 250°C.

Tips

Ball not secured against rotation. It is possible for the flat-faced ball to flip and expose the spherical face of the ball. For other types see following pages.

Important Notes

*Max. static load relates to steel version only.

Order No.	Material	Ball type	d_1	d_2	d_3	l_1	A/F	Static load kN max.	Weight g
34043.W0542	Steel	Flat, Plain	M 4	1.8	2.5	5.6	2	3.5	0.3
34043.W0543	Steel	Flat, Plain	M 4	1.8	2.5	7.6	2	3.5	0.6
34043.W0544	Steel	Flat, Plain	M 4	1.8	2.5	9.6	2	3.5	0.5
34043.W0545	Steel	Flat, Plain	M 4	1.8	2.5	11.6	2	3.5	0.9
34043.W0546	Steel	Flat, Plain	M 4	1.8	2.5	15.6	2	3.5	1.0
34043.W0552	Steel	Flat, Plain	M 5	2.2	3.0	7.5	3	4.5	0.6
34043.W0553	Steel	Flat, Plain	M 5	2.2	3.0	9.5	3	4.5	0.8
34043.W0554	Steel	Flat, Plain	M 5	2.2	3.0	11.5	3	4.5	1.1
34043.W0555	Steel	Flat, Plain	M 5	2.2	3.0	15.5	3	4.5	1.7
34043.W0556	Steel	Flat, Plain	M 5	2.2	3.0	19.5	3	4.5	2.2
34043.W0558	Steel	Flat, Plain	M 5	2.2	3.0	24.5	3	4.5	2.6
34043.W0562	Steel	Flat, Plain	M 6	3.2	4.0	10.0	3	9.0	1.5
34043.W0563	Steel	Flat, Plain	M 6	3.2	4.0	12.0	3	9.0	1.6
34043.W0564	Steel	Flat, Plain	M 6	3.2	4.0	16.0	3	9.0	2.5
34043.W0565	Steel	Flat, Plain	M 6	3.2	4.0	20.0	3	9.0	3.2
34043.W0566	Steel	Flat, Plain	M 6	3.2	4.0	25.0	3	9.0	3.8
34043.W0581	Steel	Flat, Plain	M 8	4.5	5.5	10.0	4	15.0	2.6
34043.W0582	Steel	Flat, Plain	M 8	4.5	5.5	12.0	4	15.0	2.9
34043.W0583	Steel	Flat, Plain	M 8	4.5	5.5	16.0	4	15.0	4.0
34043.W0584	Steel	Flat, Plain	M 8	4.5	5.5	20.0	4	15.0	5.3
34043.W0585	Steel	Flat, Plain	M 8	4.5	5.5	25.0	4	15.0	6.8
34043.W0586	Steel	Flat, Plain	M 8	4.5	5.5	30.0	4	15.0	8.4
34043.W0601	Steel	Flat, Plain	M10	6.0	7.0	12.0	5	20.0	4.7
34043.W0602	Steel	Flat, Plain	M10	6.0	7.0	16.0	5	20.0	6.1
34043.W0603	Steel	Flat, Plain	M10	6.0	7.0	20.0	5	20.0	7.9
34043.W0604	Steel	Flat, Plain	M10	6.0	7.0	25.0	5	20.0	10.0
34043.W0605	Steel	Flat, Plain	M10	6.0	7.0	30.0	5	20.0	13.0
34043.W0606	Steel	Flat, Plain	M10	6.0	7.0	35.0	5	20.0	15.0

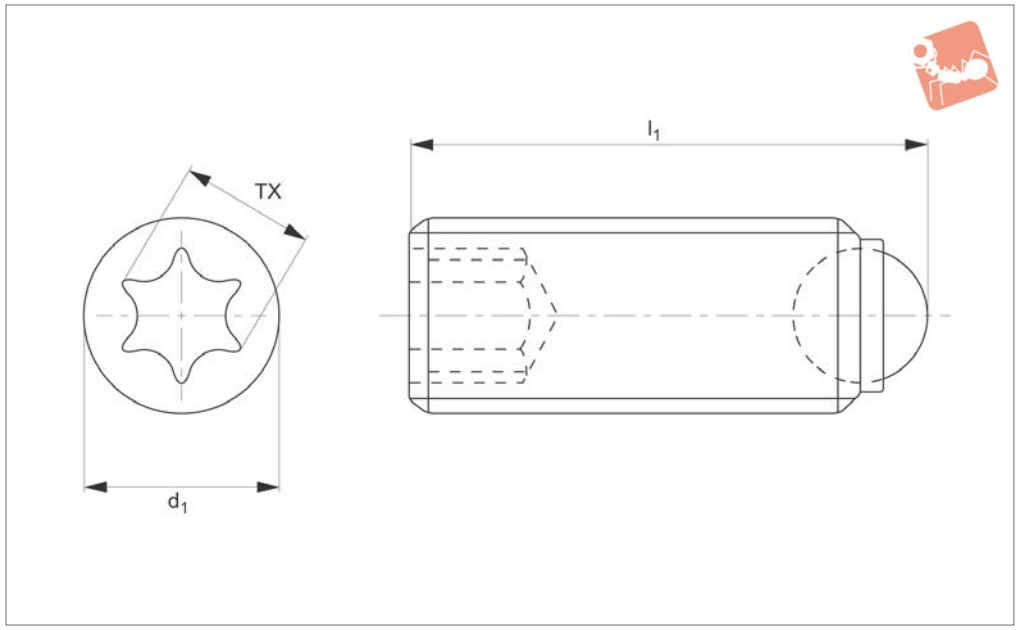
Thrust Screws - Ball Ended

headless - flat-faced ball - metal

Order No.	Material	Ball type	d_1	d_2	d_3	l_1	A/F	Static load kN max.	Weight g
34043.W0608	Steel	Flat, Plain	M10	6.0	7.0	40.0	5	20.0	18.0
34043.W0621	Steel	Flat, Plain	M12	7.2	8.5	16.0	6	30.0	9.1
34043.W0622	Steel	Flat, Plain	M12	7.2	8.5	20.0	6	30.0	11.0
34043.W0623	Steel	Flat, Plain	M12	7.2	8.5	25.0	6	30.0	14.0
34043.W0624	Steel	Flat, Plain	M12	7.2	8.5	30.0	6	30.0	18.0
34043.W0626	Steel	Flat, Plain	M12	7.2	8.5	40.0	6	30.0	25.0
34043.W0628	Steel	Flat, Plain	M12	7.2	8.5	50.0	6	30.0	32.0
34043.W0661	Steel	Flat, Plain	M16	10.7	12.0	20.0	8	60.0	21.0
34043.W0662	Steel	Flat, Plain	M16	10.7	12.0	25.0	8	60.0	26.0
34043.W0664	Steel	Flat, Plain	M16	10.7	12.0	35.0	8	60.0	39.0
34043.W0666	Steel	Flat, Plain	M16	10.7	12.0	50.0	8	60.0	60.0
34043.W0702	Steel	Flat, Plain	M20	13.5	15.0	30.0	10	90.0	49.0
34043.W0704	Steel	Flat, Plain	M20	13.5	15.0	40.0	10	90.0	70.0
34043.W0705	Steel	Flat, Plain	M20	13.5	15.0	50.0	10	90.0	90.0
34043.W0706	Steel	Flat, Plain	M20	13.5	15.0	60.0	10	90.0	111.0
34043.W0742	Steel	Flat, Plain	M24	15.8	18.0	35.0	12	120.0	86.0
34043.W0744	Steel	Flat, Plain	M24	15.8	18.0	50.0	12	120.0	128.0
34043.W0746	Steel	Flat, Plain	M24	15.8	18.0	80.0	12	120.0	219.0
34043.W0827	Stainless	Flat, Plain	M 4	1.8	2.5	5.6	2	-	0.5
34043.W0828	Stainless	Flat, Plain	M 4	1.8	2.5	7.6	2	-	0.6
34043.W0829	Stainless	Flat, Plain	M 4	1.8	2.5	9.6	2	-	0.5
34043.W0830	Stainless	Flat, Plain	M 4	1.8	2.5	11.6	2	-	0.9
34043.W0832	Stainless	Flat, Plain	M 4	1.8	2.5	15.6	2	-	1.0
34043.W0833	Stainless	Flat, Plain	M 5	2.2	3.0	7.5	3	-	0.6
34043.W0834	Stainless	Flat, Plain	M 5	2.2	3.0	9.5	3	-	0.8
34043.W0835	Stainless	Flat, Plain	M 5	2.2	3.0	11.5	3	-	1.1
34043.W0836	Stainless	Flat, Plain	M 5	2.2	3.0	15.5	3	-	1.7
34043.W0837	Stainless	Flat, Plain	M 5	2.2	3.0	19.5	3	-	2.2
34043.W0838	Stainless	Flat, Plain	M 5	2.2	3.0	24.5	3	-	2.6
34043.W0840	Stainless	Flat, Plain	M 6	3.2	4.0	10.0	3	-	1.5
34043.W0842	Stainless	Flat, Plain	M 6	3.2	4.0	12.0	3	-	1.6
34043.W0844	Stainless	Flat, Plain	M 6	3.2	4.0	16.0	3	-	2.5
34043.W0845	Stainless	Flat, Plain	M 6	3.2	4.0	20.0	3	-	3.2
34043.W0846	Stainless	Flat, Plain	M 6	3.2	4.0	25.0	3	-	3.8
34043.W0850	Stainless	Flat, Plain	M 8	4.5	5.5	10.0	4	-	2.6
34043.W0852	Stainless	Flat, Plain	M 8	4.5	5.5	12.0	4	-	2.9
34043.W0853	Stainless	Flat, Plain	M 8	4.5	5.5	16.0	4	-	4.0
34043.W0854	Stainless	Flat, Plain	M 8	4.5	5.5	20.0	4	-	5.3
34043.W0855	Stainless	Flat, Plain	M 8	4.5	5.5	25.0	4	-	6.8
34043.W0856	Stainless	Flat, Plain	M 8	4.5	5.5	30.0	4	-	8.4
34043.W0860	Stainless	Flat, Plain	M10	6.0	7.0	12.0	5	-	4.7
34043.W0862	Stainless	Flat, Plain	M10	6.0	7.0	16.0	5	-	6.1
34043.W0863	Stainless	Flat, Plain	M10	6.0	7.0	20.0	5	-	7.9
34043.W0864	Stainless	Flat, Plain	M10	6.0	7.0	25.0	5	-	10.0
34043.W0865	Stainless	Flat, Plain	M10	6.0	7.0	30.0	5	-	13.0
34043.W0866	Stainless	Flat, Plain	M10	6.0	7.0	35.0	5	-	15.0
34043.W0868	Stainless	Flat, Plain	M10	6.0	7.0	40.0	5	-	18.0
34043.W0870	Stainless	Flat, Plain	M12	7.2	8.5	16.0	6	-	9.1
34043.W0872	Stainless	Flat, Plain	M12	7.2	8.5	20.0	6	-	11.0
34043.W0873	Stainless	Flat, Plain	M12	7.2	8.5	25.0	6	-	14.0
34043.W0874	Stainless	Flat, Plain	M12	7.2	8.5	30.0	6	-	18.0
34043.W0876	Stainless	Flat, Plain	M12	7.2	8.5	40.0	6	-	25.0
34043.W0878	Stainless	Flat, Plain	M12	7.2	8.5	50.0	6	-	32.0
34043.W0880	Stainless	Flat, Plain	M16	10.7	12.0	20.0	8	-	21.0
34043.W0882	Stainless	Flat, Plain	M16	10.7	12.0	25.0	8	-	26.0
34043.W0884	Stainless	Flat, Plain	M16	10.7	12.0	35.0	8	-	39.0
34043.W0886	Stainless	Flat, Plain	M16	10.7	12.0	50.0	8	-	60.0

Thrust Screws - Headless -Torx drive

ball ended - round - metal



34047

Material

Steel type-

Body: heat treated steel, 1200 +/-100 N/mm².

Ball: ball bearing steel hardened.

Stainless steel type-

Body: stainless steel 1.4305 (AISI 303).

Ball: stainless steel, hardened.

Technical Notes

For clamping, tightening or supporting of surfaces that are not exactly parallel.

*** stated load capacity relate to steel version only.**

Torx drive for improved installation.

Tips

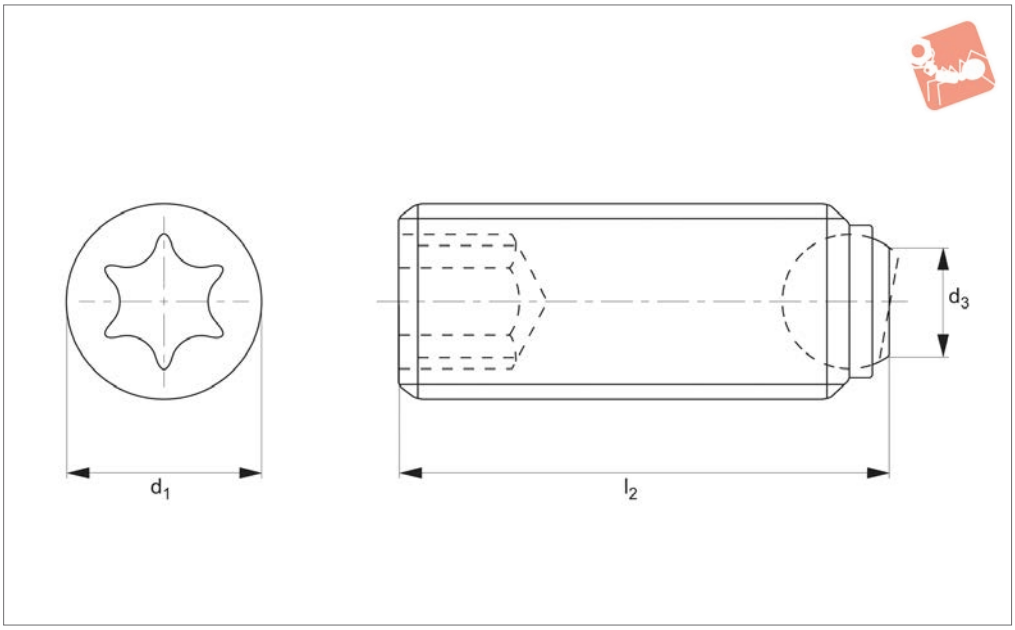
Ball not secured against rotation. For other types see following pages.

Order No.	Ball type	Material type	d_1	l_1	Ball dia.	TX drive	Static load kN max.	Weight g
34047.W1042	Round	Steel 12,9	M4	6.0	2.5	8	3.5	0.5
34047.W2042	Round	Stainless	M4	6.0	2.5	8	3.5	0.5
34047.W1044	Round	Steel 12,9	M4	10.0	2.5	8	3.5	0.6
34047.W2044	Round	Stainless	M4	10.0	2.5	8	3.5	0.6
34047.W1052	Round	Steel 12,9	M5	8.0	3.0	10	4.5	0.8
34047.W2052	Round	Stainless	M5	8.0	3.0	10	4.5	0.8
34047.W1054	Round	Steel 12,9	M5	12.0	3.0	10	4.5	1.3
34047.W2054	Round	Stainless	M5	12.0	3.0	10	4.5	1.3
34047.W1062	Round	Steel 12,9	M6	10.8	4.0	15	9.0	1.5
34047.W2062	Round	Stainless	M6	10.8	4.0	15	9.0	1.5
34047.W1064	Round	Steel 12,9	M6	16.8	4.0	15	9.0	1.9
34047.W2064	Round	Stainless	M6	16.8	4.0	15	9.0	1.9

Thrust Screws - Headless -Torx drive

ball ended - flat - metal

34048



Material

Steel type-
Body: heat treated steel, 1200 +/-100 N/mm².
Ball: ball bearing steel hardened.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Ball: stainless steel, hardened.

Technical Notes

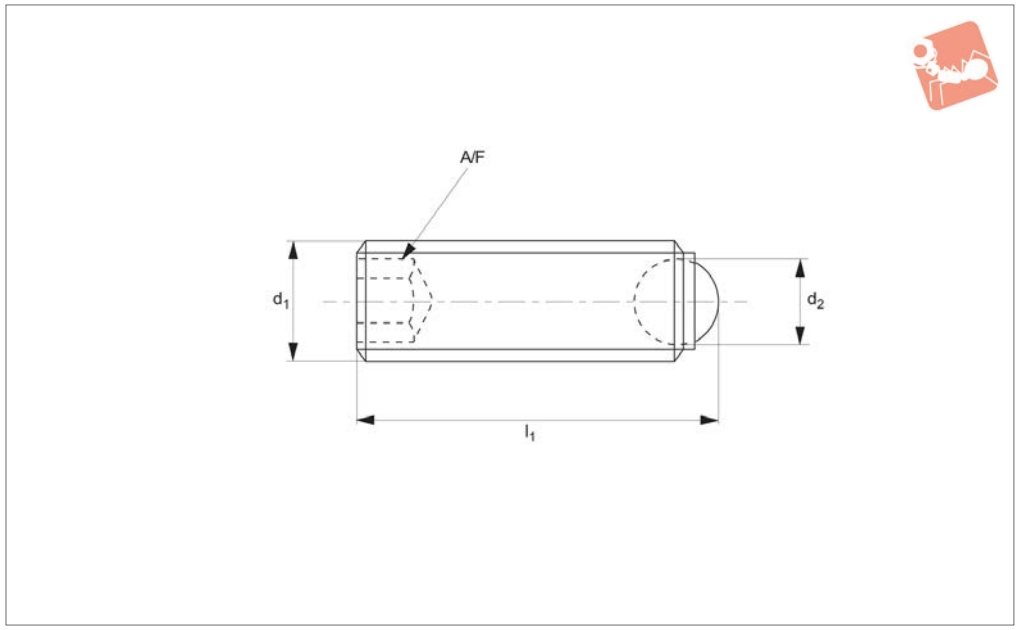
For clamping, tightening or supporting of surfaces that are not exactly parallel.
*** stated load capacity relate to steel version only.**

Torx drive for improved installation.

Tips

Ball not secured against rotation. For other types see following pages.

Order No.	Material	Ball type	d_1	l_1	Ball dia.	A/F	Static load kN max.	Weight g
34048.W1542	Steel	Flat, plain	M4	0.5	1.8	8	3.5	5.6
34048.W1544	Steel	Flat, plain	M4	0.5	1.8	8	3.5	9.6
34048.W1552	Steel	Flat, plain	M5	0.6	2.2	10	4.5	7.5
34048.W1554	Steel	Flat, plain	M5	1.1	2.2	10	4.5	11.5
34048.W1562	Steel	Flat, plain	M6	1.5	3.2	15	9.0	10.0
34048.W1564	Steel	Flat, plain	M6	2.5	3.2	15	9.0	16.0
34048.W2542	Stainless	Flat, plain	M4	0.5	1.8	8	3.5	5.6
34048.W2544	Stainless	Flat, plain	M4	0.5	1.8	8	3.5	9.6
34048.W2552	Stainless	Flat, plain	M5	0.6	2.2	10	4.5	7.5
34048.W2554	Stainless	Flat, plain	M5	1.1	2.2	10	4.5	11.5
34048.W2562	Stainless	Flat, plain	M6	1.5	3.2	15	9.0	10.0
34048.W2564	Stainless	Flat, plain	M6	2.5	3.2	15	9.0	16.0



34051

Material
Steel type-
Body: steel, heat-treated, 1200 ±100 N/mm².
Ball: ball bearing steel, hardened.
Stainless steel type-
Body: stainless steel (AISI 303, 1.4305).
Ball: stainless steel, hardened.

Technical Notes
For clamping, tightening or supporting surfaces that are not exactly parallel. These ball ended thrust screws have a fine thread, for precise adjustment.

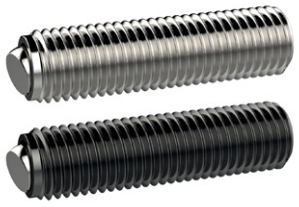
Tips
Ball not secured against rotation. For other types see following pages.

Important Notes
*Max. static load relates to steel version only.

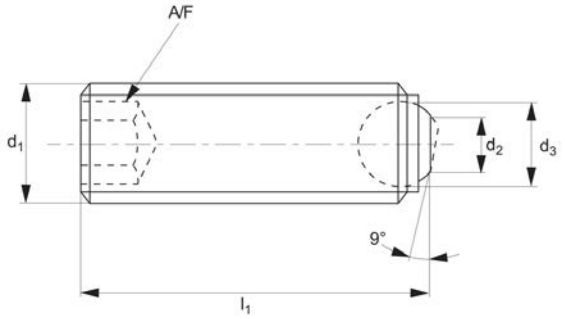
Order No.	Material	Ball type	d_1	d_2	l_1	A/F	Static load kN max.	Weight g
34051.W0030	Steel	Round	M 4x0,35	2.5	6.0	2	3.5	0.4
34051.W0032	Steel	Round	M 4x0,35	2.5	10.0	2	3.5	0.8
34051.W0040	Steel	Round	M 4x0,5	2.5	6.0	2	3.5	0.4
34051.W0042	Steel	Round	M 4x0,5	2.5	6.0	2	3.5	0.4
34051.W0052	Steel	Round	M 5x0,5	3.0	8.0	3	4.5	0.7
34051.W0054	Steel	Round	M 5x0,5	3.0	12.0	3	4.5	1.2
34051.W0062	Steel	Round	M 6x0,5	4.0	10.8	3	9.0	1.3
34051.W0063	Steel	Round	M 6x0,5	4.0	12.8	3	9.0	1.8
34051.W0064	Steel	Round	M 6x0,5	4.0	16.8	3	9.0	2.4
34051.W0065	Steel	Round	M 6x0,5	4.0	20.8	3	9.0	3.0
34051.W0066	Steel	Round	M 6x0,5	4.0	25.8	3	9.0	3.0
34051.W0081	Steel	Round	M 8x1,0	5.5	11.2	4	15.0	2.6
34051.W0084	Steel	Round	M 8x1,0	5.5	21.2	4	15.0	5.4
34051.W0730	Stainless	Round	M 4x0,35	2.5	6.0	2	-	0.4
34051.W0732	Stainless	Round	M 4x0,35	2.5	10.0	2	-	0.8
34051.W0740	Stainless	Round	M 4x0,5	2.5	6.0	2	-	0.4
34051.W0742	Stainless	Round	M 4x0,5	2.5	10.0	2	-	0.8
34051.W0760	Stainless	Round	M 5x0,5	3.0	8.0	3	-	0.7
34051.W0762	Stainless	Round	M 5x0,5	3.0	12.0	3	-	1.2
34051.W0770	Stainless	Round	M 6x0,5	4.0	10.8	3	-	1.3
34051.W0772	Stainless	Round	M 6x0,5	4.0	12.8	3	-	1.8
34051.W0774	Stainless	Round	M 6x0,5	4.0	16.8	3	-	2.4
34051.W0775	Stainless	Round	M 6x0,5	4.0	20.8	3	-	3.0
34051.W0776	Stainless	Round	M 6x0,5	4.0	25.8	3	-	3.0
34051.W0780	Stainless	Round	M 8x1,0	5.5	11.2	4	-	2.6
34051.W0784	Stainless	Round	M 8x1,0	5.5	21.2	4	-	5.4

Thrust Screws - Ball Ended

headless - fine thread - flat faced ball - metal



34053



Material

Steel type-
Body: steel, heat-treated, 1200 ±100 N/mm².
Ball: ball bearing steel, hardened.
Stainless steel type-
Body: stainless steel (AISI 303, 1.4305).
Ball: stainless steel, hardened.

Technical Notes

For clamping, tightening or supporting surfaces that are not exactly parallel. These ball ended thrust screws have a fine thread, for precise adjustment.

Tips

Ball not secured against rotation. It is possible for the flat faced ball to flip and expose the spherical face of the ball. For other types see following pages.

Important Notes

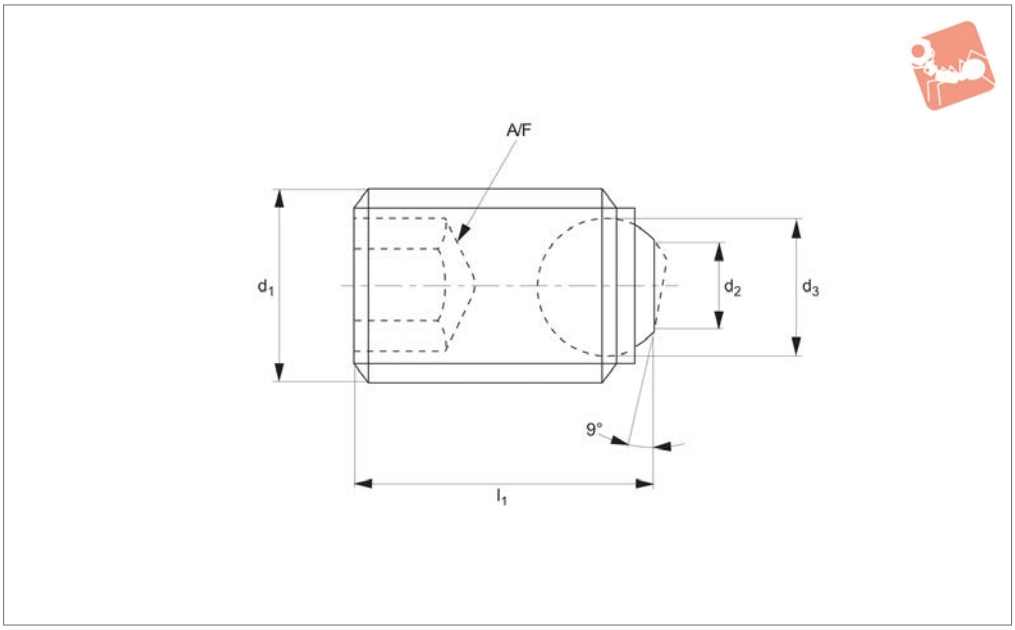
*Max static load relates to steel version only.

Order No.	Material	Type	d_1	d_2	d_3	l_2	A/F	Static load kN max.	Weight g
34053.W0530	Steel	Flat, Plain	M 4x0,35	1.3	2.5	5.6	2	3.5	0.6
34053.W0532	Steel	Flat, Plain	M 4x0,35	1.3	2.5	9.6	2	3.5	0.8
34053.W0540	Steel	Flat, Plain	M 4x0,5	1.3	2.5	5.6	2	3.5	0.4
34053.W0542	Steel	Flat, Plain	M 4x0,5	1.3	2.5	9.6	2	3.5	0.8
34053.W0552	Steel	Flat, Plain	M 5x0,5	2.2	3.0	7.5	3	4.5	0.7
34053.W0554	Steel	Flat, Plain	M 5x0,5	2.2	3.0	11.5	3	4.5	1.2
34053.W0562	Steel	Flat, Plain	M 6x0,5	3.2	4.0	10.0	3	9.0	1.3
34053.W0563	Steel	Flat, Plain	M 6x0,5	3.2	4.0	12.0	3	9.0	1.8
34053.W0564	Steel	Flat, Plain	M 6x0,5	3.2	4.0	16.0	3	9.0	2.4
34053.W0565	Steel	Flat, Plain	M 6x0,5	3.2	4.0	20.0	3	9.0	3.0
34053.W0566	Steel	Flat, Plain	M 6x0,5	3.2	4.0	25.0	3	9.0	3.0
34053.W0581	Steel	Flat, Plain	M 8x1,0	4.5	5.5	10.0	4	15.0	2.6
34053.W0584	Steel	Flat, Plain	M 8x1,0	4.5	5.5	20.0	4	15.0	5.3
34053.W0830	Stainless	Flat, Plain	M 4x0,35	1.3	2.5	5.6	2	-	0.6
34053.W0832	Stainless	Flat, Plain	M 4x0,35	1.3	2.5	9.6	2	-	0.8
34053.W0838	Stainless	Flat, Plain	M 4x0,5	1.3	2.5	5.6	2	-	0.4
34053.W0839	Stainless	Flat, Plain	M 4x0,5	1.3	2.5	9.6	2	-	0.8
34053.W0833	Stainless	Flat, Plain	M 5x0,5	2.2	3.0	7.5	3	-	0.7
34053.W0835	Stainless	Flat, Plain	M 5x0,5	2.2	3.0	11.5	3	-	1.2
34053.W0840	Stainless	Flat, Plain	M 6x0,5	3.2	4.0	10.0	3	-	1.3
34053.W0842	Stainless	Flat, Plain	M 6x0,5	3.2	4.0	12.0	3	-	1.8
34053.W0844	Stainless	Flat, Plain	M 6x0,5	3.2	4.0	16.0	3	-	2.4
34053.W0845	Stainless	Flat, Plain	M 6x0,5	3.2	4.0	20.0	3	-	3.0
34053.W0846	Stainless	Flat, Plain	M 6x0,5	3.2	4.0	25.0	3	-	3.0
34053.W0850	Stainless	Flat, Plain	M 8x1,0	4.5	5.5	10.0	4	-	2.6
34053.W0854	Stainless	Flat, Plain	M 8x1,0	4.5	5.5	20.0	4	-	5.3

Thrust Screws - Ball Ended

headless - short -flat faced ball

34060



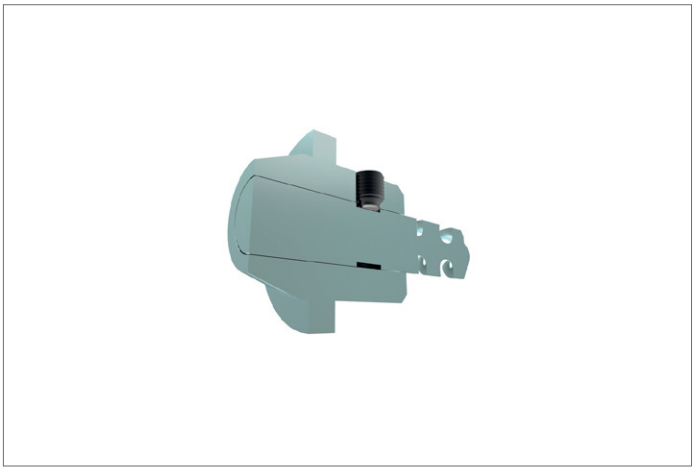
Material

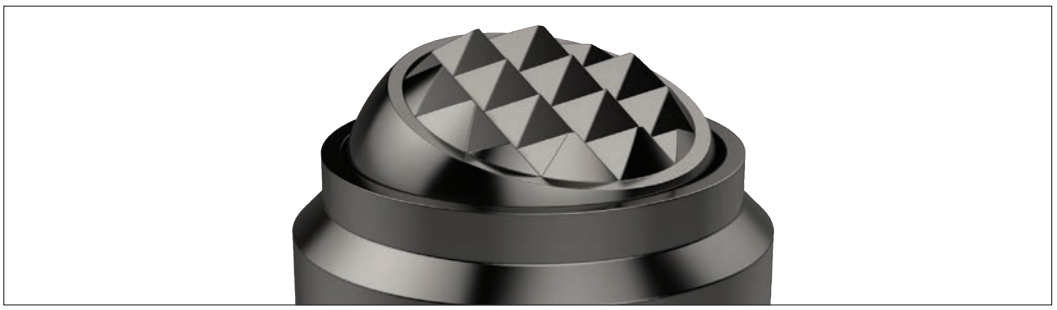
Body: steel, heat-treated, 1200 ±100 N/mm².
Ball: ball bearing steel, hardened.

Technical Notes

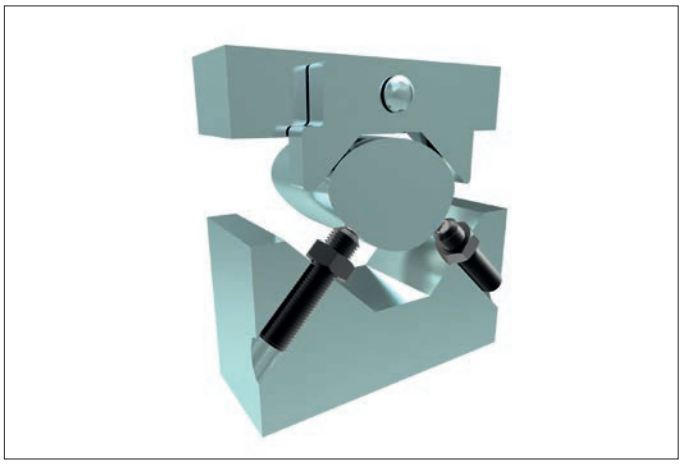
These short ball ended thrust screws are particularly suited for use with parallel shanks DIN 1835E, in combination with either Whistle Notch or Weldon Tool Holding fixtures.
Maximised load transmission due to movable ball.

Order No.	Ball type	d_1	d_2	d_3	l_1	A/F	Static load kN max.	Weight g
34060.W0641	Flat, Plain	M14	7.2	8.5	16	6	30	13
34060.W0660	Flat, Plain	M16	7.2	8.5	16	8	30	16
34060.W0682	Flat, Plain	M18x2	10.7	12.0	20	10	60	25
34060.W0692	Flat, Plain	M20x2	10.7	12.0	20	10	60	32
34060.W0693	Flat, Plain	M20x2	10.7	12.0	25	10	60	42
34060.W0730	Flat, Plain	M24x2	13.5	15.0	25	12	90	59



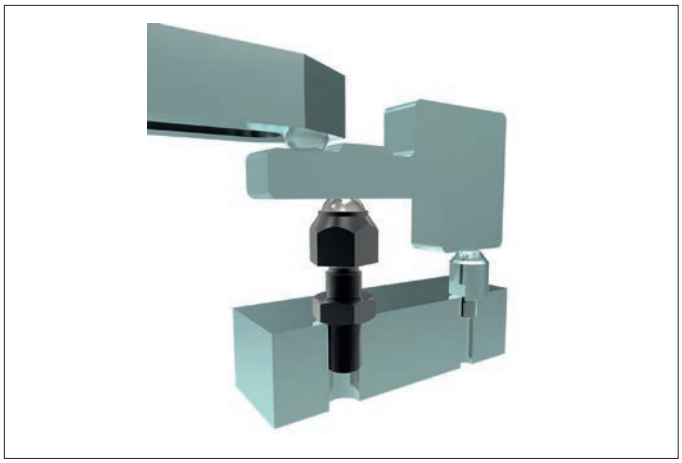


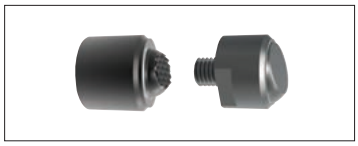
Clamping, supporting and aligning non-parallel and uneven surfaces is greatly simplified with the use of Wixroyd self-aligning pads and thrust screws. Available with ridged faces for improved holding of cast components, or plastic faces for holding more delicate parts.

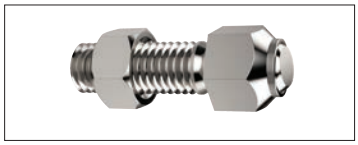


Self-aligning Thrust Screws

34000 to 34060 - Self-aligning thrust screws in sizes M6 to M24, ideal for clamping or supporting non-parallel surfaces.

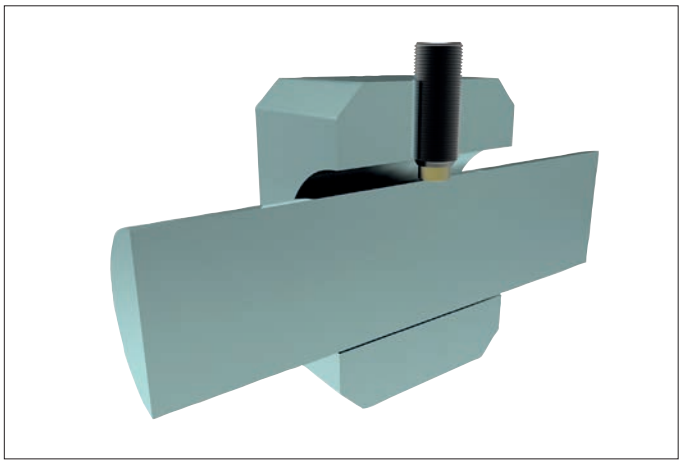






Self-aligning Pads

34080 to 34121 - Self-aligning pads, both male and female mounting, ideal for accommodating variations between parts in fixtures.



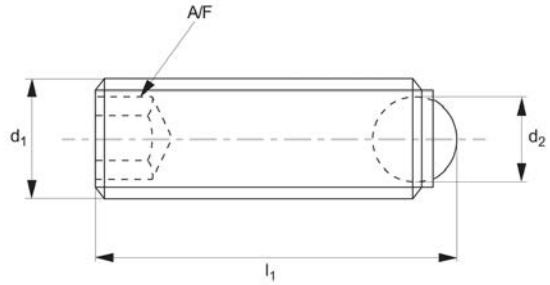
Thrust Screws

34140 to 34160 - Thrust screws, with either brass or thermoplastic pads, are suitable for gentle clamping and positioning more delicate parts.

Thrust Screws - Ball Ended

headless - round ball - thermoplastic

34042



Material

Steel type-

Body: steel, heat-treated, 1200 ±100 N/mm^2.

Ball: thermoplastic POM, white.

Stainless steel type-

Body: stainless steel (AISI 303, 1.4305).

Ball: thermoplastic POM, white.

Technical Notes

Ball-ended thrust screws with thermoplastic balls are used for brittle, pressure sensitive parts. For clamping, tightening or supporting surfaces that are not exactly parallel.

Max temperature -30°C to 80°C.

Tips

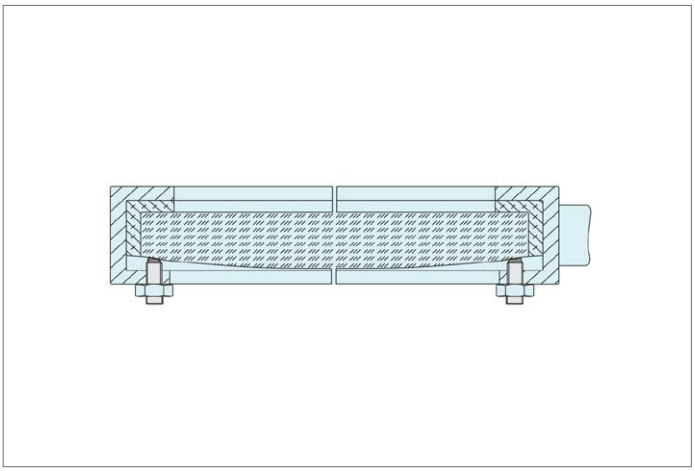
Ball not secured against rotation. For other types see following pages.

Order No.	Material	Ball type	d_1	d_2	l_1	A/F	Static load kN max.	Weight g
34042.W0252	Stainless	Round	M 4	2.5	6.0	2.0	0.3	0.2
34042.W0253	Stainless	Round	M 4	2.5	8.0	2.0	0.3	0.4
34042.W0254	Stainless	Round	M 4	2.5	10.0	2.0	0.3	0.7
34042.W0255	Stainless	Round	M 4	2.5	12.0	2.0	0.3	0.9
34042.W0256	Stainless	Round	M 4	2.5	16.0	2.0	0.3	1.1
34042.W0262	Stainless	Round	M 5	3.0	8.0	2.5	0.5	0.8
34042.W0263	Stainless	Round	M 5	3.0	10.0	2.5	0.5	0.8
34042.W0264	Stainless	Round	M 5	3.0	12.0	2.5	0.5	1.2
34042.W0265	Stainless	Round	M 5	3.0	16.0	2.5	0.5	1.4
34042.W0266	Stainless	Round	M 5	3.0	20.0	2.5	0.5	1.9
34042.W0267	Stainless	Round	M 5	3.0	25.0	2.5	0.5	2.5
34042.W0272	Stainless	Round	M 6	4.0	10.8	3.0	0.9	1.1
34042.W0273	Stainless	Round	M 6	4.0	12.8	3.0	0.9	1.4
34042.W0274	Stainless	Round	M 6	4.0	16.8	3.0	0.9	2.1
34042.W0275	Stainless	Round	M 6	4.0	20.8	3.0	0.9	2.8
34042.W0276	Stainless	Round	M 6	4.0	25.8	3.0	0.9	3.8
34042.W0281	Stainless	Round	M 8	5.5	11.2	4.0	1.5	1.9
34042.W0282	Stainless	Round	M 8	5.5	13.2	4.0	1.5	2.4
34042.W0283	Stainless	Round	M 8	5.5	17.2	4.0	1.5	3.6
34042.W0284	Stainless	Round	M 8	5.5	21.2	4.0	1.5	4.6
34042.W0285	Stainless	Round	M 8	5.5	26.2	4.0	1.5	6.3
34042.W0286	Stainless	Round	M 8	5.5	31.2	4.0	1.5	7.8
34042.W0291	Stainless	Round	M10	7.0	13.7	5.0	2.0	3.5
34042.W0292	Stainless	Round	M10	7.0	17.7	5.0	2.0	4.8
34042.W0293	Stainless	Round	M10	7.0	21.7	5.0	2.0	6.8
34042.W0294	Stainless	Round	M10	7.0	26.7	5.0	2.0	9.4
34042.W0295	Stainless	Round	M10	7.0	31.7	5.0	2.0	12.0
34042.W0296	Stainless	Round	M10	7.0	36.7	5.0	2.0	14.0
34042.W0297	Stainless	Round	M10	7.0	41.7	5.0	2.0	17.
34042.W0301	Stainless	Round	M12	8.5	18.0	6.0	3.0	6.8

Thrust Screws - Ball Ended

headless - round ball - thermoplastic

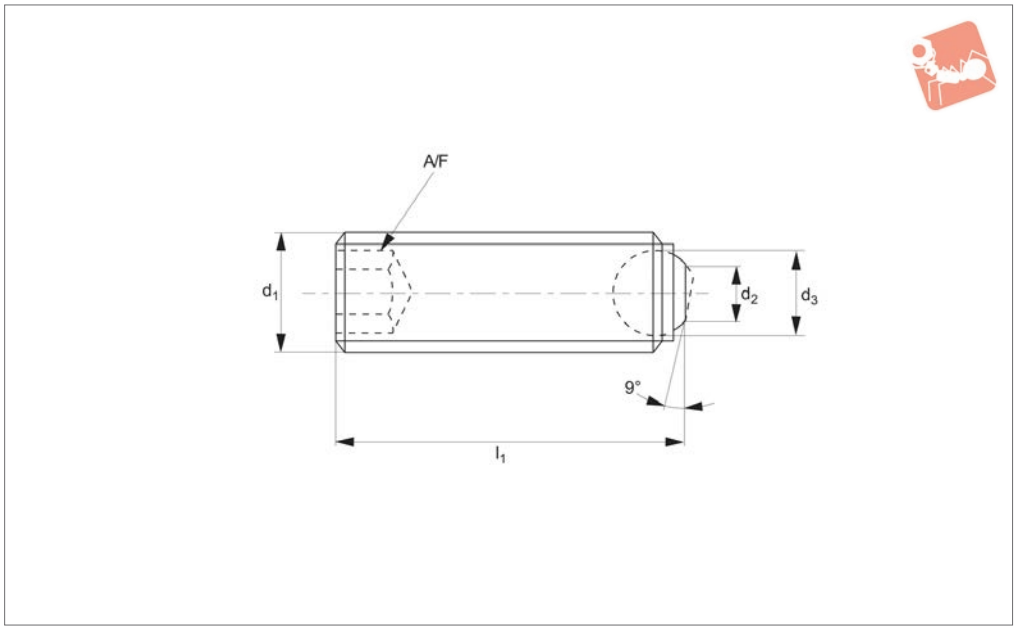
Order No.	Material	Ball type	d_1	d_2	l_1	A/F	Static load kN max.	Weight g
34042.W0302	Stainless	Round	M12	8.5	22.0	6.0	3.0	9.2
34042.W0303	Stainless	Round	M12	8.5	27.0	6.0	3.0	12.0
34042.W0304	Stainless	Round	M12	8.5	32.0	6.0	3.0	16.0
34042.W0306	Stainless	Round	M12	8.5	42.0	6.0	3.0	23.0
34042.W0308	Stainless	Round	M12	8.5	52.0	6.0	3.0	30.0
34042.W0342	Steel	Round	M 4	2.5	6.0	2.0	0.3	0.2
34042.W0343	Steel	Round	M 4	2.5	8.0	2.0	0.3	0.4
34042.W0344	Steel	Round	M 4	2.5	10.0	2.0	0.3	0.7
34042.W0345	Steel	Round	M 4	2.5	12.0	2.0	0.3	0.9
34042.W0346	Steel	Round	M 4	2.5	16.0	2.0	0.3	1.1
34042.W0352	Steel	Round	M 5	3.0	8.0	2.5	0.5	0.8
34042.W0353	Steel	Round	M 5	3.0	10.0	2.5	0.5	0.8
34042.W0354	Steel	Round	M 5	3.0	12.0	2.5	0.5	1.2
34042.W0355	Steel	Round	M 5	3.0	16.0	2.5	0.5	1.4
34042.W0356	Steel	Round	M 5	3.0	20.0	2.5	0.5	1.9
34042.W0358	Steel	Round	M 5	3.0	25.0	2.5	0.5	2.5
34042.W0362	Steel	Round	M 6	4.0	10.8	3.0	0.9	1.1
34042.W0363	Steel	Round	M 6	4.0	12.8	3.0	0.9	1.4
34042.W0364	Steel	Round	M 6	4.0	16.8	3.0	0.9	2.1
34042.W0365	Steel	Round	M 6	4.0	20.8	3.0	0.9	2.7
34042.W0366	Steel	Round	M 6	4.0	25.8	3.0	0.9	3.8
34042.W0381	Steel	Round	M 8	5.5	11.2	4.0	1.5	1.9
34042.W0382	Steel	Round	M 8	5.5	13.2	4.0	1.5	2.4
34042.W0383	Steel	Round	M 8	5.5	17.2	4.0	1.5	3.6
34042.W0384	Steel	Round	M 8	5.5	21.2	4.0	1.5	4.6
34042.W0385	Steel	Round	M 8	5.5	26.2	4.0	1.5	6.3
34042.W0386	Steel	Round	M 8	5.5	31.2	4.0	1.5	7.8
34042.W0401	Steel	Round	M10	7.0	13.7	5.0	2.0	3.5
34042.W0402	Steel	Round	M10	7.0	17.7	5.0	2.0	4.8
34042.W0403	Steel	Round	M10	7.0	21.7	5.0	2.0	6.8
34042.W0404	Steel	Round	M10	7.0	26.7	5.0	2.0	9.4
34042.W0405	Steel	Round	M10	7.0	31.7	5.0	2.0	12.0
34042.W0406	Steel	Round	M10	7.0	36.7	5.0	2.0	14.0
34042.W0408	Steel	Round	M10	7.0	41.7	5.0	2.0	17.0
34042.W0421	Steel	Round	M12	8.5	18.0	6.0	3.0	6.8
34042.W0422	Steel	Round	M12	8.5	22.0	6.0	3.0	9.2
34042.W0423	Steel	Round	M12	8.5	27.0	6.0	3.0	12.0
34042.W0424	Steel	Round	M12	8.5	32.0	6.0	3.0	16.0
34042.W0426	Steel	Round	M12	8.5	42.0	6.0	3.0	23.0
34042.W0428	Steel	Round	M12	8.5	52.0	6.0	3.0	30.0



Thrust Screws - Ball Ended

headless - flat faced ball - ribbed - metal

34044



Material

Body: steel, heat-treated, 1200 ±100 N/mm^2.
Ball: ball bearing steel, hardened.

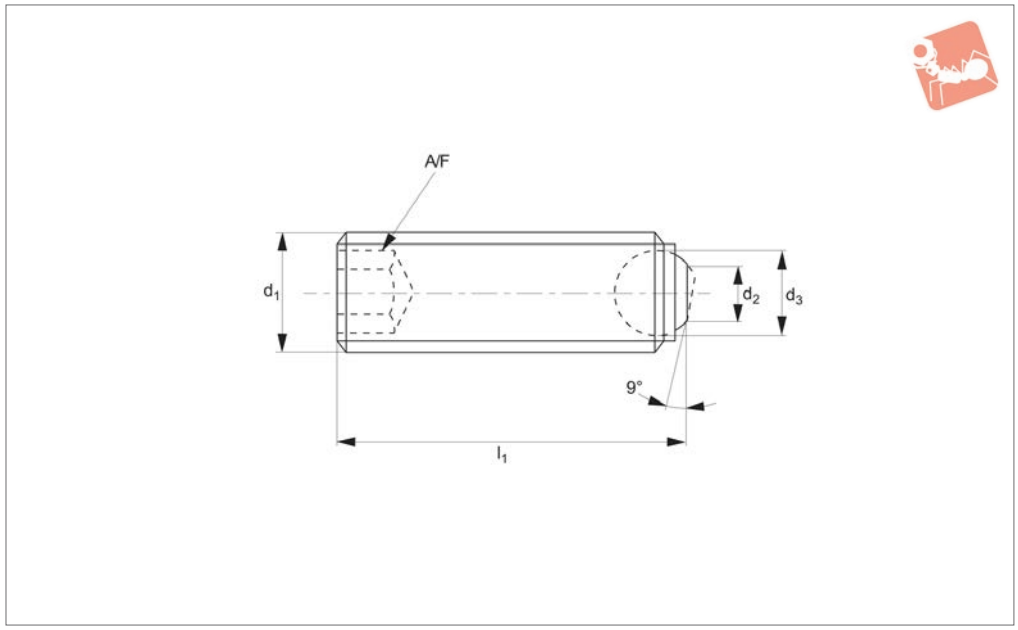
Technical Notes

For clamping, tightening or supporting of surfaces that are not exactly parallel. Max. operating temperature 250°C.

Tips

Ball not secured against rotation. It is possible for the flat faced ball to flip and expose the spherical face of the ball. For other types see following pages.

Order No.	Ball type	d_1	d_2	d_3	l_1	A/F	Static load kN max.	Weight g
34044.W0891	Flat, Ribbed	M 8	4.5	5.5	10	4	15	3
34044.W0892	Flat, Ribbed	M 8	4.5	5.5	12	4	15	3
34044.W0893	Flat, Ribbed	M 8	4.5	5.5	16	4	15	4
34044.W0894	Flat, Ribbed	M 8	4.5	5.5	20	4	15	5
34044.W0895	Flat, Ribbed	M 8	4.5	5.5	25	4	15	7
34044.W0896	Flat, Ribbed	M 8	4.5	5.5	30	4	15	8
34044.W0901	Flat, Ribbed	M10	6.0	7.0	12	5	20	5
34044.W0902	Flat, Ribbed	M10	6.0	7.0	16	5	20	6
34044.W0903	Flat, Ribbed	M10	6.0	7.0	20	5	20	8
34044.W0904	Flat, Ribbed	M10	6.0	7.0	25	5	20	10
34044.W0905	Flat, Ribbed	M10	6.0	7.0	30	5	20	13
34044.W0906	Flat, Ribbed	M10	6.0	7.0	35	5	20	15
34044.W0908	Flat, Ribbed	M10	6.0	7.0	40	5	20	17
34044.W0921	Flat, Ribbed	M12	7.2	8.5	16	6	30	9
34044.W0922	Flat, Ribbed	M12	7.2	8.5	20	6	30	11
34044.W0923	Flat, Ribbed	M12	7.2	8.5	25	6	30	14
34044.W0924	Flat, Ribbed	M12	7.2	8.5	30	6	30	18
34044.W0926	Flat, Ribbed	M12	7.2	8.5	40	6	30	25
34044.W0928	Flat, Ribbed	M12	7.2	8.5	50	6	30	32
34044.W0961	Flat, Ribbed	M16	10.7	12	20	8	60	21
34044.W0962	Flat, Ribbed	M16	10.7	12	25	8	60	26
34044.W0964	Flat, Ribbed	M16	10.7	12	35	8	60	40
34044.W0966	Flat, Ribbed	M16	10.7	12	50	8	60	60
34044.W0972	Flat, Ribbed	M20	13.5	15	30	10	90	50
34044.W0974	Flat, Ribbed	M20	13.5	15	40	10	90	70
34044.W0975	Flat, Ribbed	M20	13.5	15	50	10	90	89
34044.W0976	Flat, Ribbed	M20	13.5	15	60	10	90	111
34044.W0982	Flat, Ribbed	M24	15.8	18	35	12	120	84
34044.W0984	Flat, Ribbed	M24	15.8	18	50	12	120	125
34044.W0986	Flat, Ribbed	M24	15.5	18	80	12	120	219



34045

Material

Steel type-
Body: steel, heat-treated, 1200 ±100 N/mm².
Ball: thermoplastic, red (POM).
Stainless steel type-
Body: stainless steel (AISI 303, 1.4305).
Ball: thermoplastic, red (POM).

Technical Notes

Ball-ended thrust screws with thermoplastic balls are used for brittle, pressure sensitive parts. For clamping, tightening or supporting surfaces that are not exactly parallel.

Tips

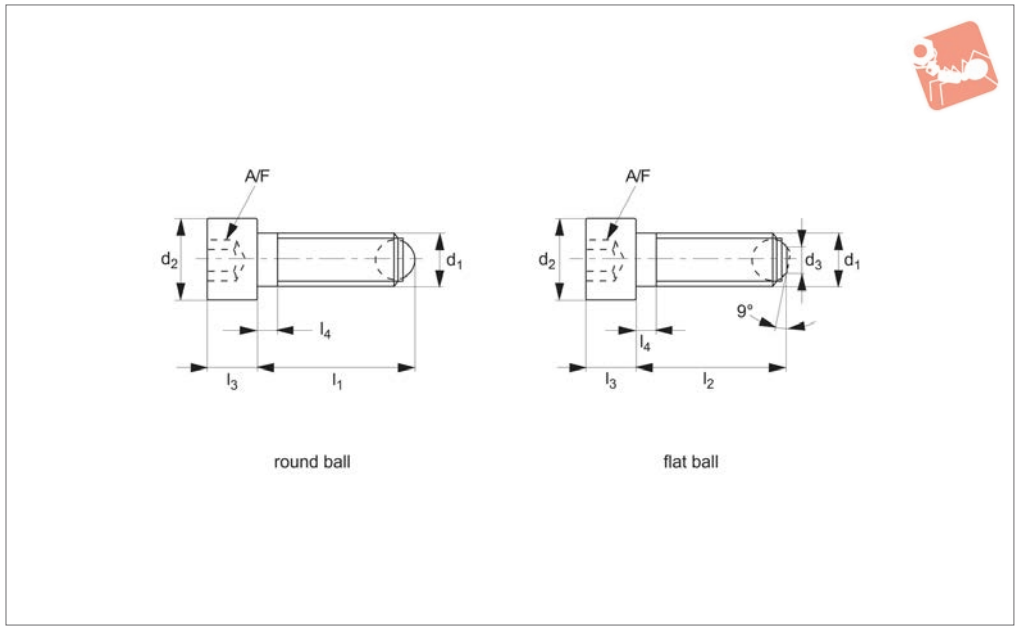
Ball not secured against rotation. It is possible for the flat faced ball to flip and expose the spherical pace of the ball.

Order No.	Material	Type	d_1	d_2	d_3	l_1	A/F	Static load kN max.	Weight g
34045.W0452	Steel	Flat, Plain	M 4	1.8	2.5	5.9	2	0.3	0.2
34045.W0453	Steel	Flat, Plain	M 4	1.8	2.5	7.9	2	0.3	0.4
34045.W0454	Steel	Flat, Plain	M 4	1.8	2.5	9.9	2	0.3	0.5
34045.W0455	Steel	Flat, Plain	M 4	1.8	2.5	11.9	2	0.3	0.9
34045.W0456	Steel	Flat, Plain	M 4	1.8	2.5	15.9	2	0.3	0.9
34045.W0462	Steel	Flat, Plain	M 5	2.1	3.0	7.8	3	0.5	0.8
34045.W0463	Steel	Flat, Plain	M 5	2.1	3.0	9.8	3	0.5	0.7
34045.W0464	Steel	Flat, Plain	M 5	2.1	3.0	11.8	3	0.5	1.2
34045.W0465	Steel	Flat, Plain	M 5	2.1	3.0	15.8	3	0.5	1.4
34045.W0466	Steel	Flat, Plain	M 5	2.1	3.0	19.8	3	0.5	2.0
34045.W0467	Steel	Flat, Plain	M 5	2.1	3.0	24.8	3	0.5	2.7
34045.W0472	Steel	Flat, Plain	M 6	3.0	4.0	10.3	3	0.9	1.1
34045.W0473	Steel	Flat, Plain	M 6	3.0	4.0	12.3	3	0.9	1.7
34045.W0474	Steel	Flat, Plain	M 6	3.0	4.0	16.3	3	0.9	2.1
34045.W0475	Steel	Flat, Plain	M 6	3.0	4.0	20.3	3	0.9	2.8
34045.W0476	Steel	Flat, Plain	M 6	3.0	4.0	25.3	3	0.9	3.6
34045.W0482	Steel	Flat, Plain	M 8	4.2	5.5	10.4	4	1.5	1.8
34045.W0483	Steel	Flat, Plain	M 8	4.2	5.5	12.4	4	1.5	2.2
34045.W0484	Steel	Flat, Plain	M 8	4.2	5.5	16.4	4	1.5	3.4
34045.W0485	Steel	Flat, Plain	M 8	4.2	5.5	20.4	4	1.5	4.8
34045.W0486	Steel	Flat, Plain	M 8	4.2	5.5	25.4	4	1.5	6.1
34045.W0487	Steel	Flat, Plain	M 8	4.2	5.5	30.4	4	1.5	7.6
34045.W0492	Stainless	Flat, Plain	M 4	1.8	2.5	5.9	2	0.3	0.2
34045.W0493	Stainless	Flat, Plain	M 4	1.8	2.5	7.9	2	0.3	0.4
34045.W0494	Stainless	Flat, Plain	M 4	1.8	2.5	9.9	2	0.3	0.5
34045.W0495	Stainless	Flat, Plain	M 4	1.8	2.5	11.9	2	0.3	0.9
34045.W0496	Stainless	Flat, Plain	M 4	1.8	2.5	15.9	2	0.3	0.9
34045.W0502	Stainless	Flat, Plain	M 5	2.1	3.0	7.8	3	0.5	0.8
34045.W0503	Stainless	Flat, Plain	M 5	2.1	3.0	9.8	3	0.5	0.7
34045.W0504	Stainless	Flat, Plain	M 5	2.1	3.0	11.8	3	0.5	1.2

Thrust Screws - Ball Ended

headless - flat faced ball - thermoplastic

Order No.	Material	Type	d_1	d_2	d_3	l_1	A/F	Static load kN max.	Weight g
34045.W0505	Stainless	Flat, Plain	M 5	2.1	3.0	15.8	3	0.5	1.4
34045.W0506	Stainless	Flat, Plain	M 5	2.1	3.0	19.8	3	0.5	2.0
34045.W0507	Stainless	Flat, Plain	M 5	2.1	3.0	24.8	3	0.5	2.7
34045.W0512	Stainless	Flat, Plain	M 6	3.0	4.0	10.3	3	0.9	1.1
34045.W0513	Stainless	Flat, Plain	M 6	3.0	4.0	12.3	3	0.9	1.7
34045.W0514	Stainless	Flat, Plain	M 6	3.0	4.0	16.3	3	0.9	2.1
34045.W0515	Stainless	Flat, Plain	M 6	3.0	4.0	20.3	3	0.9	2.8
34045.W0516	Stainless	Flat, Plain	M 6	3.0	4.0	25.3	3	0.9	3.6
34045.W0522	Stainless	Flat, Plain	M 8	4.2	5.5	10.4	4	1.5	1.8
34045.W0523	Stainless	Flat, Plain	M 8	4.2	5.5	12.4	4	1.5	2.2
34045.W0524	Stainless	Flat, Plain	M 8	4.2	5.5	16.4	4	1.5	3.4
34045.W0525	Stainless	Flat, Plain	M 8	4.2	5.5	20.4	4	1.5	4.8
34045.W0526	Stainless	Flat, Plain	M 8	4.2	5.5	25.4	4	1.5	6.1
34045.W0527	Stainless	Flat, Plain	M 8	4.2	5.5	30.4	4	1.5	7.6



34020

Material

Steel type-
Body: heat treated steel, 1200 +/-100 N/mm².
Ball: ball bearing steel, hardened.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Ball: stainless steel, hardened.

Technical Notes

For thrust screws secured against turning - see no. 34000/X34000#26 or 34002. For clamping, tightening or supporting surfaces that are not exactly parallel.

*** stated load capacity relate to steel version only.**

Tips

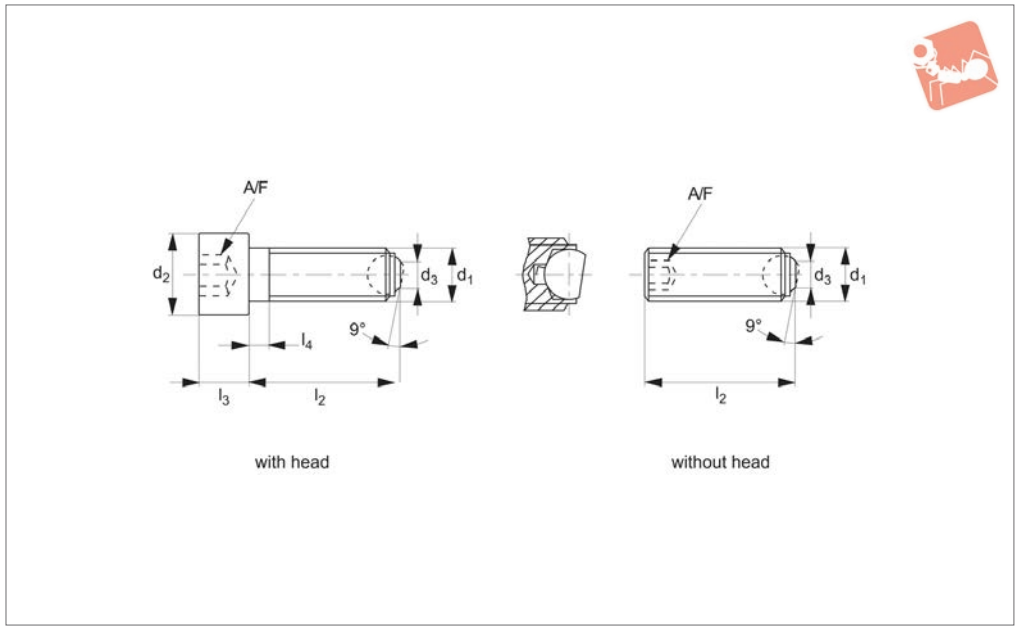
Ball not secured against rotation, it is possible for the flat faced ball to flip and expose the spherical face of the ball.

Order No.	Material	Ball face type	d_1	l_1	l_2	d_2	d_3	l_3	l_4	Ball dia.	A/F	Static load kN max.	Weight g
34020.W0062	Steel	Round	M_6	20.8	-	10	-	6	3.0	4.0	5	9	6.2
34020.W0064	Steel	Round	M_6	30.8	-	10	-	6	3.0	4.0	5	9	8.0
34020.W0066	Steel	Round	M_6	40.8	-	10	-	6	16.0	4.0	5	9	10.0
34020.W0082	Steel	Round	M_8	21.2	-	13	-	8	3.5	5.5	6	15	13.0
34020.W0084	Steel	Round	M_8	36.2	-	13	-	8	3.5	5.5	6	15	17.0
34020.W0086	Steel	Round	M_8	51.2	-	13	-	8	22.0	5.5	6	15	24.0
34020.W0102	Steel	Round	M10	26.7	-	16	-	10	4.5	7.0	8	20	24.0
34020.W0104	Steel	Round	M10	41.7	-	16	-	10	4.5	7.0	8	20	31.0
34020.W0106	Steel	Round	M10	61.7	-	16	-	10	28.0	7.0	8	20	44.0
34020.W0122	Steel	Round	M12	32.0	-	18	-	12	5.0	8.5	10	30	38.0
34020.W0124	Steel	Round	M12	52.0	-	18	-	12	5.0	8.5	10	30	52.0
34020.W0126	Steel	Round	M12	82.0	-	18	-	12	44.0	8.5	10	30	79.0
34020.W0162	Steel	Round	M16	43.3	-	24	-	16	6.0	12.0	14	60	94.0
34020.W0164	Steel	Round	M16	63.3	-	24	-	16	6.0	12.0	14	60	119.0
34020.W0166	Steel	Round	M16	83.3	-	24	-	16	36.0	12.0	14	60	156.0
34020.W0202	Steel	Round	M20	54.2	-	30	-	20	7.5	15.0	17	90	183.0
34020.W0204	Steel	Round	M20	84.2	-	30	-	20	28.0	15.0	17	90	254.0
34020.W0206	Steel	Round	M20	104.2	-	30	-	20	48.0	15.0	17	90	307.0
34020.W0242	Steel	Round	M24	64.7	-	36	-	24	9.0	18.0	19	120	331.0
34020.W0244	Steel	Round	M24	94.7	-	36	-	24	30.0	18.0	19	120	430.0
34020.W0246	Steel	Round	M24	124.7	-	36	-	24	60.0	18.0	19	120	537.0
34020.W0562	Steel	Flat, Plain	M_6	-	20.0	10	3.2	6	3.0	4.0	5	9	6.1
34020.W0564	Steel	Flat, Plain	M_6	-	30.0	10	3.2	6	3.0	4.0	5	9	7.6
34020.W0566	Steel	Flat, Plain	M_6	-	40.0	10	3.2	6	16.0	4.0	5	9	10.0
34020.W0582	Steel	Flat, Plain	M_8	-	20.0	13	4.5	8	3.5	5.5	6	15	13.0
34020.W0584	Steel	Flat, Plain	M_8	-	35.0	13	4.5	8	3.5	5.5	6	15	17.0
34020.W0586	Steel	Flat, Plain	M_8	-	50.0	13	4.5	8	22.0	5.5	6	15	23.0
34020.W0602	Steel	Flat, Plain	M10	-	25.0	16	6.0	10	4.5	7.0	8	20	24.0
34020.W0604	Steel	Flat, Plain	M10	-	40.0	16	6.0	10	4.5	7.0	8	20	31.0
34020.W0606	Steel	Flat, Plain	M10	-	60.0	16	6.0	10	28.0	7.0	8	20	43.0

Thrust Screws - Headed

ball ended - metal

Order No.	Material	Ball face type	d_1	l_1	l_2	d_2	d_3	l_3	l_4	Ball dia.	A/F	Static load kN max.	Weight g
34020.W0622	Steel	Flat, Plain	M12	-	30.0	18	7.2	12	5.0	8.5	10	30	38.0
34020.W0624	Steel	Flat, Plain	M12	-	50.0	18	7.2	12	5.0	8.5	10	30	52.0
34020.W0626	Steel	Flat, Plain	M12	-	80.0	18	7.2	12	44.0	8.5	10	30	79.0
34020.W0662	Steel	Flat, Plain	M16	-	40.0	24	10.7	16	6.0	12.0	14	60	92.0
34020.W0664	Steel	Flat, Plain	M16	-	60.0	24	10.7	16	6.0	12.0	14	60	120.0
34020.W0666	Steel	Flat, Plain	M16	-	80.0	24	10.7	16	36.0	12.0	14	60	155.0
34020.W0702	Steel	Flat, Plain	M20	-	50.0	30	13.5	20	7.5	15.0	17	90	182.0
34020.W0704	Steel	Flat, Plain	M20	-	80.0	30	13.5	20	28.0	15.0	17	90	255.0
34020.W0706	Steel	Flat, Plain	M20	-	100.0	30	13.5	20	48.0	15.0	17	90	305.0
34020.W0742	Steel	Flat, Plain	M24	-	60.0	36	15.8	24	9.0	18.0	19	120	325.0
34020.W0744	Steel	Flat, Plain	M24	-	90.0	36	15.8	24	30.0	18.0	19	120	422.0
34020.W0746	Steel	Flat, Plain	M24	-	120.0	36	15.8	24	60.0	18.0	19	120	534.0
34020.W0752	Stainless	Round	M_6	20.8	-	10	-	6	3.0	4.0	5	9	6.2
34020.W0754	Stainless	Round	M_6	30.8	-	10	-	6	3.0	4.0	5	9	8.0
34020.W0756	Stainless	Round	M_6	40.8	-	10	-	6	16.0	4.0	5	9	10.0
34020.W0762	Stainless	Round	M_8	21.2	-	13	-	8	3.5	5.5	6	15	13.0
34020.W0764	Stainless	Round	M_8	36.2	-	13	-	8	3.5	5.5	6	15	17.0
34020.W0766	Stainless	Round	M_8	51.2	-	13	-	8	22.0	5.5	6	15	24.0
34020.W0772	Stainless	Round	M10	26.7	-	16	-	10	4.5	7.0	8	20	24.0
34020.W0774	Stainless	Round	M10	41.7	-	16	-	10	4.5	7.0	8	20	31.0
34020.W0776	Stainless	Round	M10	61.7	-	16	-	10	28.0	7.0	8	20	44.0
34020.W0782	Stainless	Round	M12	32.0	-	18	-	12	5.0	8.5	10	30	38.0
34020.W0784	Stainless	Round	M12	52.0	-	18	-	12	5.0	8.5	10	30	52.0
34020.W0786	Stainless	Round	M12	82.0	-	18	-	12	44.0	8.5	10	30	79.0
34020.W0792	Stainless	Round	M16	43.3	-	24	-	16	6.0	12.0	14	60	94.0
34020.W0794	Stainless	Round	M16	63.3	-	24	-	16	6.0	12.0	14	60	119.0
34020.W0796	Stainless	Round	M16	83.3	-	24	-	16	36.0	12.0	14	60	156.0
34020.W0832	Stainless	Flat, Plain	M_6	-	20.0	10	3.2	6	3.0	4.0	5	9	6.1
34020.W0834	Stainless	Flat, Plain	M_6	-	30.0	10	3.2	6	3.0	4.0	5	9	7.6
34020.W0836	Stainless	Flat, Plain	M_6	-	40.0	10	3.2	6	16.0	4.0	5	9	10.0
34020.W0842	Stainless	Flat, Plain	M_8	-	20.0	13	4.5	8	3.5	5.5	6	15	13.0
34020.W0844	Stainless	Flat, Plain	M_8	-	35.0	13	4.5	8	3.5	5.5	6	15	17.0
34020.W0846	Stainless	Flat, Plain	M_8	-	50.0	13	4.5	8	22.0	5.5	6	15	23.0
34020.W0852	Stainless	Flat, Plain	M10	-	25.0	16	6.0	10	4.5	7.0	8	20	24.0
34020.W0854	Stainless	Flat, Plain	M10	-	40.0	16	6.0	10	4.5	8	8	20	31.0
34020.W0856	Stainless	Flat, Plain	M10	-	60.0	16	6.0	10	28.0	7.0	8	20	44.0
34020.W0862	Stainless	Flat, Plain	M12	-	30.0	18	7.2	12	5.0	8.5	10	30	38.0
34020.W0864	Stainless	Flat, Plain	M12	-	50.0	18	7.2	12	5.0	8.5	10	30	52.0
34020.W0866	Stainless	Flat, Plain	M12	-	80.0	18	7.2	12	44.0	8.5	10	30	79.0
34020.W0872	Stainless	Flat, Plain	M16	-	40.0	24	10.7	16	6.0	12.0	14	60	92.0
34020.W0874	Stainless	Flat, Plain	M16	-	60.0	24	10.7	16	6.0	12.0	14	60	120.0
34020.W0876	Stainless	Flat, Plain	M16	-	80.0	24	10.7	16	36.0	12.0	14	60	155.0
34020.W0892	Steel	Flat, Ribbed	M 8	-	20.0	13	4.5	8	3.5	5.5	6	15	12.0
34020.W0894	Steel	Flat, Ribbed	M 8	-	35.0	13	4.5	8	3.5	5.5	6	15	17.0
34020.W0896	Steel	Flat, Ribbed	M 8	-	50.0	13	4.5	8	22.0	5.5	6	15	23.0
34020.W0904	Steel	Flat, Ribbed	M10	-	40.0	16	6.0	10	4.5	7.0	8	20	31.0
34020.W0906	Steel	Flat, Ribbed	M10	-	60.0	16	6.0	10	28.0	7.0	8	20	44.0
34020.W0922	Steel	Flat, Ribbed	M12	-	30.0	18	7.2	12	5.0	8.5	10	30	39.0
34020.W0924	Steel	Flat, Ribbed	M12	-	50.0	18	7.2	12	5.0	8.5	10	30	53.0
34020.W0926	Steel	Flat, Ribbed	M12	-	80.0	18	7.2	12	44.0	8.5	10	30	79.0
34020.W0962	Steel	Flat, Ribbed	M16	-	40.0	24	10.7	16	6.0	12.0	14	60	92.0
34020.W0964	Steel	Flat, Ribbed	M16	-	60.0	24	10.7	16	6.0	12.0	14	60	118.0
34020.W0966	Steel	Flat, Ribbed	M16	-	80.0	24	10.7	16	36.0	12.0	14	60	155.0
34020.W0972	Steel	Flat, Ribbed	M20	-	50.0	30	13.5	20	7.5	15.0	17	90	180.0
34020.W0974	Steel	Flat, Ribbed	M20	-	80.0	30	13.5	20	28.0	15.0	17	90	254.0
34020.W0976	Steel	Flat, Ribbed	M20	-	100.0	30	13.5	20	48.0	15.0	17	90	303.0
34020.W0982	Steel	Flat, Ribbed	M24	-	60.0	36	15.8	24	9.0	18.0	19	120	324.0
34020.W0984	Steel	Flat, Ribbed	M24	-	90.0	36	15.8	24	30.0	18.0	19	120	427.0
34020.W0986	Steel	Flat, Ribbed	M24	-	120.0	36	15.8	24	60.0	18.0	19	120	536.0



34000

Material
Body: heat treated steel, 1200 +/-100 N/mm².
Ball: ball bearing steel, hardened.

Technical Notes
For clamping, tightening or supporting of surfaces that are not exactly parallel. Special finish in stainless steel possible, price and delivery on request.

Tips
Ball secured against rotation so the flat face ball cannot flip over - see technical diagram.

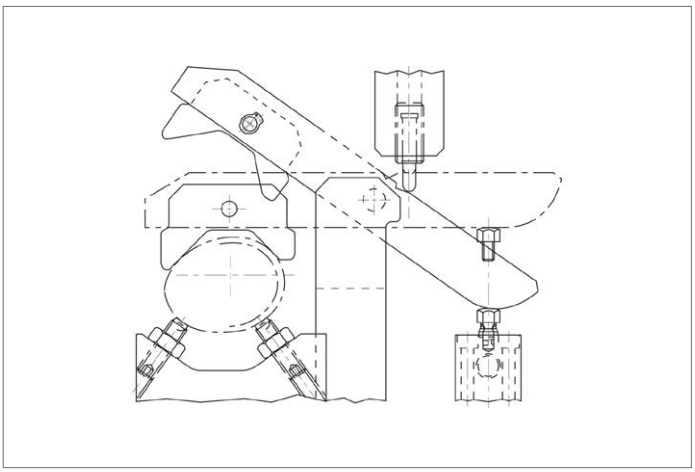
Order No.	Type	Ball face	d_1	l_2	d_2	d_3	l_3	l_4	Ball dia.	A/F	Static load kN max.	Weight g
34000.W0062	With Head	Plain	M 6	20	10	3.2	6	3.0	4.0	5	6	6.1
34000.W0064	With Head	Plain	M 6	30	10	3.2	6	3.0	4.0	5	6	7.7
34000.W0066	With Head	Plain	M 6	40	10	3.2	6	16.0	4.0	5	6	10.0
34000.W0082	With Head	Plain	M 8	20	13	4.5	8	3.5	5.5	6	9	13.0
34000.W0084	With Head	Plain	M 8	35	13	4.5	8	3.5	5.5	6	9	17.0
34000.W0086	With Head	Plain	M 8	50	13	4.5	8	22.0	5.5	6	9	23.0
34000.W0102	With Head	Plain	M10	25	16	6.0	10	4.5	7.0	8	12	24.0
34000.W0104	With Head	Plain	M10	40	16	6.0	10	4.5	7.0	8	12	31.0
34000.W0106	With Head	Plain	M10	60	16	6.0	10	28.0	7.0	8	12	44.0
34000.W0122	With Head	Plain	M12	30	18	7.2	12	5.0	8.5	10	18	38.0
34000.W0124	With Head	Plain	M12	50	18	7.2	12	5.0	8.5	10	18	52.0
34000.W0126	With Head	Plain	M12	80	18	7.2	12	44.0	8.5	10	18	80.0
34000.W0162	With Head	Plain	M16	40	24	10.7	16	6.0	12.0	14	36	92.0
34000.W0164	With Head	Plain	M16	60	24	10.7	16	6.0	12.0	14	36	118.0
34000.W0166	With Head	Plain	M16	80	24	10.7	16	36.0	12.0	14	36	153.0
34000.W0172	With Head	Plain	M20	50	30	13.5	20	7.5	15.0	17	60	181.0
34000.W0174	With Head	Plain	M20	80	30	13.5	20	28.0	15.0	17	60	255.0
34000.W0176	With Head	Plain	M20	100	30	13.5	20	48.0	15.0	17	60	304.0
34000.W0182	With Head	Plain	M24	60	36	15.8	24	9.0	18.0	19	80	325.0
34000.W0184	With Head	Plain	M24	90	36	15.8	24	30.0	18.0	19	80	430.0
34000.W0186	With Head	Plain	M24	120	36	15.8	24	60.0	18.0	19	80	535.0
34000.W0192	With Head	Ribbed	M 8	20	13	4.5	8	3.5	5.5	6	9	13.0
34000.W0194	With Head	Ribbed	M 8	35	13	4.5	8	3.5	5.5	6	9	17.0
34000.W0196	With Head	Ribbed	M 8	50	13	4.5	8	22.0	5.5	6	9	23.0
34000.W0202	With Head	Ribbed	M10	25	16	6.0	10	4.5	7.0	8	12	24.0
34000.W0204	With Head	Ribbed	M10	40	16	6.0	10	4.5	7.0	8	12	31.0
34000.W0206	With Head	Ribbed	M10	60	16	6.0	10	28.0	7.0	8	12	44.0
34000.W0222	With Head	Ribbed	M12	30	18	7.2	12	5.0	8.5	10	18	38.0
34000.W0224	With Head	Ribbed	M12	50	18	7.2	12	5.0	8.5	10	18	52.0
34000.W0226	With Head	Ribbed	M12	80	18	7.2	12	44.0	8.5	10	18	80.0

Thrust Screws - Steel

ball ended - flat - metal - secured

Order No.	Type	Ball face	d_1	l_2	d_2	d_3	l_3	l_4	Ball dia.	A/F	Static load kN max.	Weight g
34000.W0262	With Head	Ribbed	M16	40	24	10.7	16	6.0	12.0	14	36	92.0
34000.W0264	With Head	Ribbed	M16	60	24	10.7	16	6.0	12.0	14	36	118.0
34000.W0266	With Head	Ribbed	M16	80	24	10.7	16	36.0	12.0	14	36	153.0
34000.W0272	With Head	Ribbed	M20	50	30	13.5	20	7.5	15.0	17	60	181.0
34000.W0274	With Head	Ribbed	M20	80	30	13.5	20	28.0	15.0	17	60	255.0
34000.W0276	With Head	Ribbed	M20	100	30	13.5	20	48.0	15.0	17	60	304.0
34000.W0282	With Head	Ribbed	M24	60	36	15.8	24	9.0	18.0	19	80	325.0
34000.W0284	With Head	Ribbed	M24	90	36	15.8	24	30.0	18.0	19	80	430.0
34000.W0286	With Head	Ribbed	M24	120	36	15.8	24	60.0	18.0	19	80	535.0
34000.W0563	W/o Head	Plain	M 6	12	-	3.2	-	-	4.0	3	6	1.6
34000.W0564	W/o Head	Plain	M 6	16	-	3.2	-	-	4.0	3	6	2.3
34000.W0565	W/o Head	Plain	M 6	20	-	3.2	-	-	4.0	3	6	2.9
34000.W0566	W/o Head	Plain	M 6	25	-	3.2	-	-	4.0	3	6	3.8
34000.W0583	W/o Head	Plain	M 8	16	-	4.5	-	-	5.5	4	9	3.7
34000.W0584	W/o Head	Plain	M 8	20	-	4.5	-	-	5.5	4	9	5.1
34000.W0585	W/o Head	Plain	M 8	25	-	4.5	-	-	5.5	4	9	6.5
34000.W0586	W/o Head	Plain	M 8	30	-	4.5	-	-	5.5	4	9	8.1
34000.W0603	W/o Head	Plain	M10	20	-	6.0	-	-	7.0	5	12	7.6
34000.W0604	W/o Head	Plain	M10	25	-	6.0	-	-	7.0	5	12	10.0
34000.W0606	W/o Head	Plain	M10	35	-	6.0	-	-	7.0	5	12	15.0
34000.W0608	W/o Head	Plain	M10	40	-	6.0	-	-	7.0	5	12	17.0
34000.W0622	W/o Head	Plain	M12	20	-	7.2	-	-	8.5	6	18	11.0
34000.W0624	W/o Head	Plain	M12	30	-	7.2	-	-	8.5	6	18	18.0
34000.W0626	W/o Head	Plain	M12	40	-	7.2	-	-	8.5	6	18	24.0
34000.W0628	W/o Head	Plain	M12	50	-	7.2	-	-	8.5	6	18	32.0
34000.W0661	W/o Head	Plain	M16	20	-	10.7	-	-	12.0	8	36	22.0
34000.W0662	W/o Head	Plain	M16	25	-	10.7	-	-	12.0	8	36	28.0
34000.W0664	W/o Head	Plain	M16	35	-	10.7	-	-	12.0	8	36	38.0
34000.W0666	W/o Head	Plain	M16	50	-	10.7	-	-	12.0	8	36	60.0
34000.W0672	W/o Head	Plain	M20	30	-	13.5	-	-	15.0	10	60	52.0
34000.W0674	W/o Head	Plain	M20	40	-	13.5	-	-	15.0	10	60	70.0
34000.W0675	W/o Head	Plain	M20	50	-	13.5	-	-	15.0	10	60	90.0
34000.W0676	W/o Head	Plain	M20	60	-	13.5	-	-	15.0	10	60	111.0
34000.W0682	W/o Head	Plain	M24	35	-	15.8	-	-	18.0	12	80	86.0
34000.W0684	W/o Head	Plain	M24	50	-	15.8	-	-	18.0	12	80	125.0
34000.W0686	W/o Head	Plain	M24	80	-	15.8	-	-	18.0	12	80	216.0
34000.W0693	W/o Head	Ribbed	M 8	16	-	4.5	-	-	5.5	4	9	3.7
34000.W0694	W/o Head	Ribbed	M 8	20	-	4.5	-	-	5.5	4	9	5.1
34000.W0695	W/o Head	Ribbed	M 8	25	-	4.5	-	-	5.5	4	9	6.5
34000.W0696	W/o Head	Ribbed	M 8	30	-	4.5	-	-	5.5	4	9	8.1
34000.W0703	W/o Head	Ribbed	M10	20	-	6.0	-	-	7.0	5	12	7.6
34000.W0704	W/o Head	Ribbed	M10	25	-	6.0	-	-	7.0	5	12	10.0
34000.W0706	W/o Head	Ribbed	M10	35	-	6.0	-	-	7.0	5	12	15.0
34000.W0708	W/o Head	Ribbed	M10	40	-	6.0	-	-	7.0	5	12	17.0
34000.W0722	W/o Head	Ribbed	M12	20	-	7.2	-	-	8.5	6	18	11.0
34000.W0724	W/o Head	Ribbed	M12	30	-	7.2	-	-	8.5	6	18	18.0
34000.W0726	W/o Head	Ribbed	M12	40	-	7.2	-	-	8.5	6	18	24.0
34000.W0728	W/o Head	Ribbed	M12	50	-	7.2	-	-	8.5	6	18	32.0
34000.W0761	W/o Head	Ribbed	M16	20	-	10.7	-	-	12.0	8	36	22.0
34000.W0762	W/o Head	Ribbed	M16	25	-	10.7	-	-	12.0	8	36	28.0
34000.W0764	W/o Head	Ribbed	M16	35	-	10.7	-	-	12.0	8	36	38.0
34000.W0766	W/o Head	Ribbed	M16	50	-	10.7	-	-	12.0	8	36	60.0
34000.W0772	W/o Head	Ribbed	M20	30	-	13.5	-	-	15.0	10	60	52.0
34000.W0774	W/o Head	Ribbed	M20	40	-	13.5	-	-	15.0	10	60	70.0
34000.W0775	W/o Head	Ribbed	M20	50	-	13.5	-	-	15.0	10	60	90.0
34000.W0776	W/o Head	Ribbed	M20	60	-	13.5	-	-	15.0	10	60	111.0
34000.W0782	W/o Head	Ribbed	M24	35	-	15.8	-	-	18.0	12	80	86.0
34000.W0784	W/o Head	Ribbed	M24	50	-	15.8	-	-	18.0	12	80	125.0

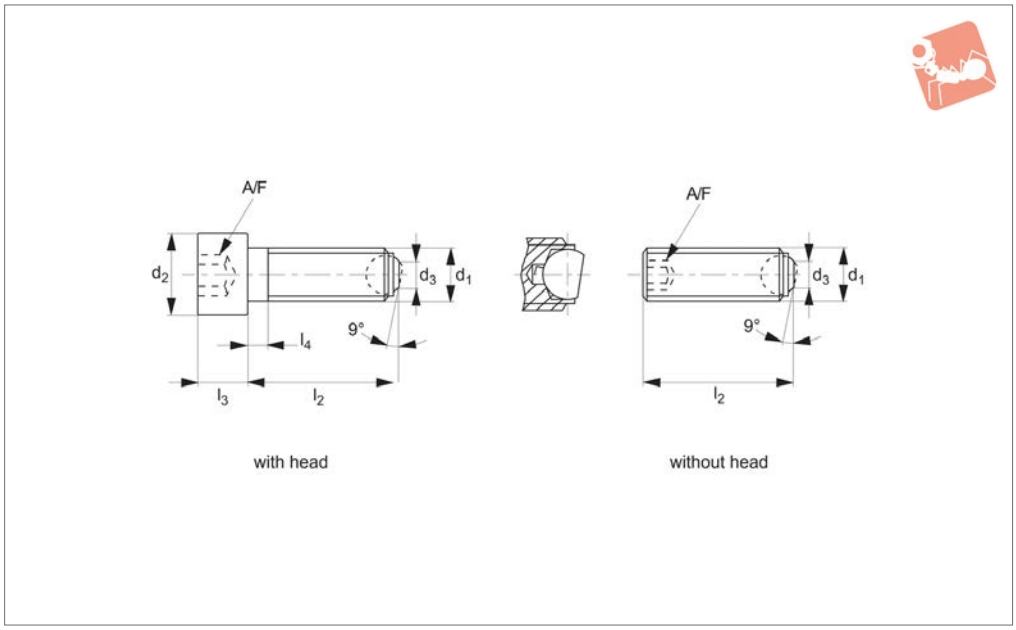
Order No.	Type	Ball face	d_1	l_2	d_2	d_3	l_3	l_4	Ball dia.	A/F	Static load kN max.	Weight g
34000.W0786	W/o Head	Ribbed	M24	80	-	15.8	-	-	18.0	12	80	216.0



Thrust Screws - Stainless

ball ended - flat - metal - secured

34002



Material

Screw: stainless steel 1.4305 (AISI 303).
Heat-treated steel, 1200±100 N/mm².
Ball: stainless steel, hardened

Technical Notes

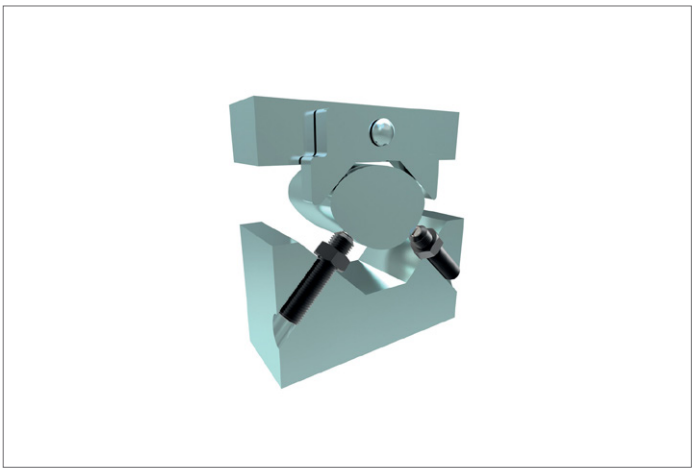
For clamping, tightening or supporting of surfaces that are not exactly parallel. Load transmission maximized due to moveable ball.
Note: thread runout l_4.

Tips

Ball secured against rotation so the flat face ball cannot flip over - see technical diagram

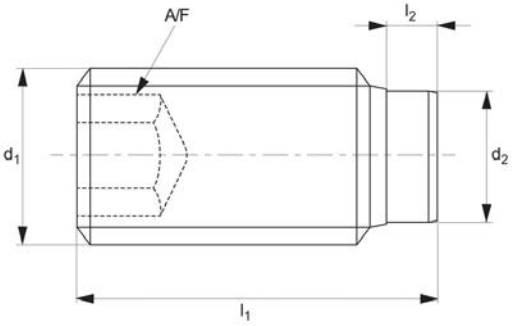
Order No.	Type	d_1	l_2	d_2	d_3	l_3	l_4	Ball dia.	A/F	Weight g
34002.W0302	With Head	M 6	20	10	3.2	6	3.0	4.0	5	6.1
34002.W0304	With Head	M 6	30	10	3.2	6	3.0	4.0	5	7.7
34002.W0306	With Head	M 6	40	10	3.2	6	16.0	4.0	5	10.0
34002.W0312	With Head	M 8	20	13	4.5	8	3.5	5.5	6	13.0
34002.W0314	With Head	M 8	35	13	4.5	8	3.5	5.5	6	17.0
34002.W0316	With Head	M 8	50	13	4.5	8	22.0	5.5	6	23.0
34002.W0322	With Head	M10	25	16	6.0	10	4.5	7.0	8	24.0
34002.W0324	With Head	M10	40	16	6.0	10	4.5	7.0	8	31.0
34002.W0326	With Head	M10	60	16	6.0	10	28.0	7.0	8	44.0
34002.W0332	With Head	M12	30	18	7.2	12	5.0	8.5	10	48.0
34002.W0334	With Head	M12	50	18	7.2	12	5.0	8.5	10	52.0
34002.W0336	With Head	M12	80	18	7.2	12	44.0	8.5	10	80.0
34002.W0342	With Head	M16	40	24	10.7	16	6.0	12.0	14	92.0
34002.W0344	With Head	M16	60	24	10.7	16	6.0	12.0	14	118.0
34002.W0346	With Head	M16	80	24	10.7	16	36.0	12.0	14	153.0
34002.W0803	W/o Head	M 6	12	-	3.2	-	-	4.0	3	1.6
34002.W0804	W/o Head	M 6	16	-	3.2	-	-	4.0	3	2.3
34002.W0805	W/o Head	M 6	20	-	3.2	-	-	4.0	3	2.9
34002.W0806	W/o Head	M 6	25	-	3.2	-	-	4.0	3	3.8
34002.W0813	W/o Head	M 8	16	-	4.5	-	-	5.5	4	3.7
34002.W0814	W/o Head	M 8	20	-	4.5	-	-	5.5	4	5.1
34002.W0815	W/o Head	M 8	25	-	4.5	-	-	5.5	4	6.5
34002.W0816	W/o Head	M 8	30	-	4.5	-	-	5.5	4	8.1
34002.W0823	W/o Head	M10	20	-	6.0	-	-	7.0	5	7.6
34002.W0824	W/o Head	M10	25	-	6.0	-	-	7.0	5	10.0
34002.W0826	W/o Head	M10	35	-	6.0	-	-	7.0	5	15.0
34002.W0828	W/o Head	M10	40	-	6.0	-	-	7.0	5	17.0
34002.W0832	W/o Head	M12	20	-	7.2	-	-	8.5	6	11.0
34002.W0834	W/o Head	M12	30	-	7.2	-	-	8.5	6	18.0
34002.W0836	W/o Head	M12	40	-	7.2	-	-	8.5	6	24.0
34002.W0838	W/o Head	M12	50	-	7.2	-	-	8.5	6	32.0

Order No.	Type	d_1	l_2	d_2	d_3	l_3	l_4	Ball dia.	A/F	Weight g
34002.W0841	W/o Head	M16	20	-	10.7	-	-	12.0	8	22.0
34002.W0842	W/o Head	M16	25	-	10.7	-	-	12.0	8	29.0
34002.W0844	W/o Head	M16	35	-	10.7	-	-	12.0	8	38.0
34002.W0846	W/o Head	M16	50	-	10.7	-	-	12.0	8	60.0



Thrust Screws - Brass Pad
steel

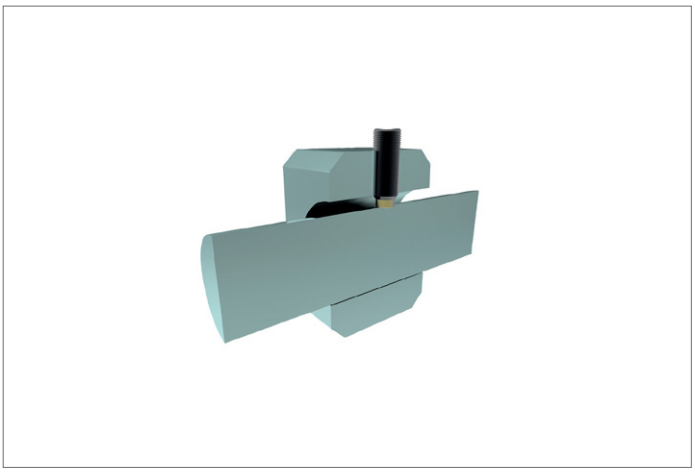
34140.1



Material
Screw: heat treated steel, 1200 +/-100 N/mm².
Pad: brass.

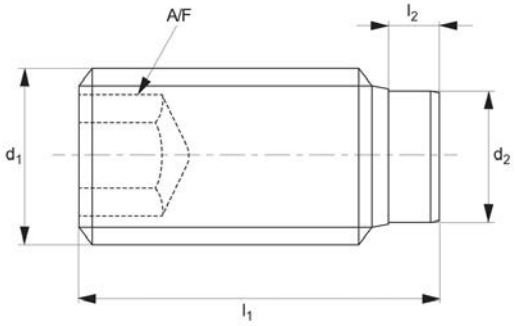
Technical Notes
Brass pad pressed in. These thrust screws can be used for gentle clamping or pressing of threaded spindles, axles, shafts or surface treated parts.

Order No.	Material	Type	d_1	l_1	l_2	d_2	A/F	Weight g
34140.W0034	Steel	Brass Pad	M 3	7.5	1.0	1.5	1.5	0.3
34140.W0036	Steel	Brass Pad	M 3	10.0	1.0	1.5	1.5	0.5
34140.W0042	Steel	Brass Pad	M 4	6.5	1.2	2.5	2.0	0.3
34140.W0044	Steel	Brass Pad	M 4	10.5	1.2	2.5	2.0	0.8
34140.W0046	Steel	Brass Pad	M 4	16.5	1.2	2.5	2.0	1.2
34140.W0052	Steel	Brass Pad	M 5	8.5	1.3	3.0	2.5	0.9
34140.W0054	Steel	Brass Pad	M 5	12.5	1.3	3.0	2.5	1.4
34140.W0056	Steel	Brass Pad	M 5	20.5	1.3	3.0	2.5	2.1
34140.W0062	Steel	Brass Pad	M 6	11.5	1.9	4.0	3.0	1.7
34140.W0064	Steel	Brass Pad	M 6	17.5	1.9	4.0	3.0	2.7
34140.W0066	Steel	Brass Pad	M 6	26.5	1.9	4.0	3.0	4.2
34140.W0080	Steel	Brass Pad	M 8	8.0	1.4	5.5	4.0	2.2
34140.W0082	Steel	Brass Pad	M 8	12.0	2.5	5.5	4.0	3.0
34140.W0086	Steel	Brass Pad	M 8	22.0	2.5	5.5	4.0	5.8
34140.W0088	Steel	Brass Pad	M 8	32.0	2.5	5.5	4.0	8.9
34140.W0102	Steel	Brass Pad	M10	14.0	2.7	7.0	5.0	5.6
34140.W0104	Steel	Brass Pad	M10	18.0	2.7	7.0	5.0	6.7
34140.W0106	Steel	Brass Pad	M10	27.0	2.7	7.0	5.0	11.0
34140.W0108	Steel	Brass Pad	M10	37.0	2.7	7.0	5.0	16.0
34140.W0122	Steel	Brass Pad	M12	18.5	3.4	8.5	6.0	10.0
34140.W0124	Steel	Brass Pad	M12	22.5	3.4	8.5	6.0	12.0
34140.W0126	Steel	Brass Pad	M12	32.5	3.4	8.5	6.0	20.0
34140.W0128	Steel	Brass Pad	M12	42.5	3.4	8.5	6.0	29.0



Thrust Screws - Brass Pad
stainless steel

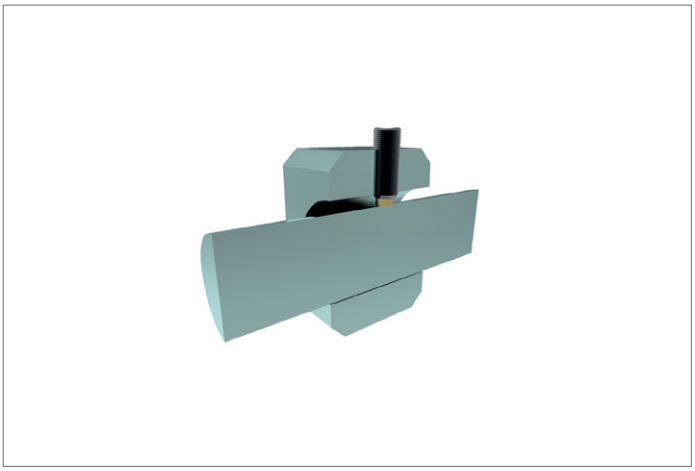
34140.2



Material
Screw: stainless steel 1.4305 (AISI 303).
Pad: brass.

Technical Notes
Brass pad pressed in. These thrust screws can be used for gentle clamping or pressing of threaded spindles, axles, shafts or surface treated parts.

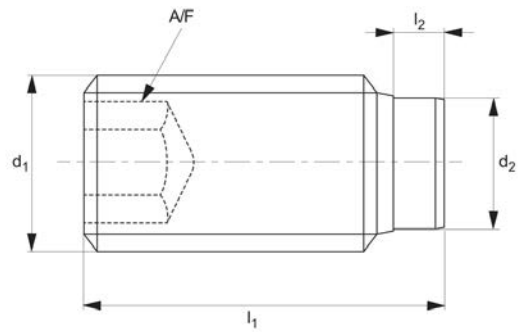
Order No.	Material	Type	d_1	l_1	l_2	d_2	A/F	Weight g
34140.W0432	Stainless	Brass Pad	M 3	5.0	1.0	1.5	1.5	0.2
34140.W0434	Stainless	Brass Pad	M 3	7.5	1.0	1.5	1.5	0.3
34140.W0436	Stainless	Brass Pad	M 3	10.0	1.0	1.5	1.5	0.5
34140.W0442	Stainless	Brass Pad	M 4	6.5	1.2	2.5	2.0	0.3
34140.W0444	Stainless	Brass Pad	M 4	10.5	1.2	2.5	2.0	0.8
34140.W0446	Stainless	Brass Pad	M 4	16.5	1.2	2.5	2.0	1.2
34140.W0452	Stainless	Brass Pad	M 5	8.5	1.3	3.0	2.5	0.9
34140.W0454	Stainless	Brass Pad	M 5	12.5	1.3	3.0	2.5	1.4
34140.W0456	Stainless	Brass Pad	M 5	20.5	1.3	3.0	2.5	2.1
34140.W0462	Stainless	Brass Pad	M 6	11.5	1.9	4.0	3.0	1.7
34140.W0464	Stainless	Brass Pad	M 6	17.5	1.9	4.0	3.0	2.7
34140.W0466	Stainless	Brass Pad	M 6	26.5	1.9	4.0	3.0	4.2
34140.W0482	Stainless	Brass Pad	M 8	12.0	2.5	5.5	4.0	3.0
34140.W0486	Stainless	Brass Pad	M 8	22.0	2.5	5.5	4.0	5.8
34140.W0488	Stainless	Brass Pad	M 8	32.0	2.5	5.5	4.0	8.9
34140.W0502	Stainless	Brass Pad	M10	14.0	2.7	7.0	5.0	5.6
34140.W0504	Stainless	Brass Pad	M10	18.0	2.7	7.0	5.0	6.7
34140.W0506	Stainless	Brass Pad	M10	27.0	2.7	7.0	5.0	11.0
34140.W0508	Stainless	Brass Pad	M10	37.0	2.7	7.0	5.0	16.0
34140.W0522	Stainless	Brass Pad	M12	18.5	3.4	8.5	6.0	10.0
34140.W0524	Stainless	Brass Pad	M12	22.5	3.4	8.5	6.0	12.0
34140.W0526	Stainless	Brass Pad	M12	32.5	3.4	8.5	6.0	20.0
34140.W0528	Stainless	Brass Pad	M12	42.5	3.4	8.5	6.0	29.0



Thrust Screws - Plastic Pad

steel

34160.1



Material

Screw: heat treated steel, 1200 +/-100 N/mm².
Pad: thermoplastic POM, white.

Technical Notes

Thermoplastic bolt pressed in.
For gentle clamping or pressing of thread spindles, axles, shafts and surface treated parts.

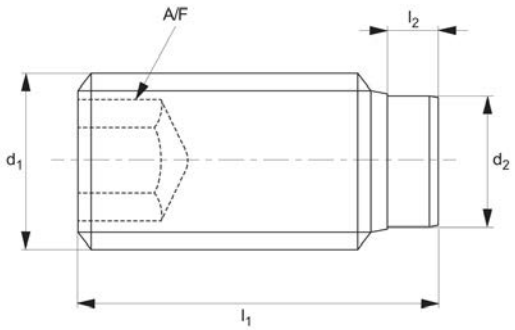
Order No.	Material	Type	d_1	l_1	l_2	d_2	A/F	Weight g
34160.W0242	Steel	Thermo Pad	M 4	7.0	1.0	2.0	2.0	0.3
34160.W0243	Steel	Thermo Pad	M 4	9.0	1.0	2.0	2.0	0.4
34160.W0244	Steel	Thermo Pad	M 4	11.0	1.0	2.0	2.0	0.6
34160.W0245	Steel	Thermo Pad	M 4	13.0	1.0	2.0	2.0	0.7
34160.W0246	Steel	Thermo Pad	M 4	17.0	1.0	2.0	2.0	1.0
34160.W0247	Steel	Thermo Pad	M 4	21.0	1.0	2.0	2.0	1.3
34160.W0252	Steel	Thermo Pad	M 5	9.0	1.0	3.0	2.5	0.7
34160.W0253	Steel	Thermo Pad	M 5	11.0	1.0	3.0	2.5	0.8
34160.W0254	Steel	Thermo Pad	M 5	13.0	1.0	3.0	2.5	1.0
34160.W0255	Steel	Thermo Pad	M 5	17.0	1.0	3.0	2.5	1.2
34160.W0256	Steel	Thermo Pad	M 5	21.0	1.0	3.0	2.5	2.0
34160.W0257	Steel	Thermo Pad	M 5	26.0	1.0	3.0	2.5	2.6
34160.W0262	Steel	Thermo Pad	M 6	11.3	1.3	3.5	3.0	1.2
34160.W0263	Steel	Thermo Pad	M 6	13.3	1.3	3.5	3.0	1.5
34160.W0264	Steel	Thermo Pad	M 6	17.3	1.3	3.5	3.0	2.2
34160.W0265	Steel	Thermo Pad	M 6	21.3	1.3	3.5	3.0	2.8
34160.W0266	Steel	Thermo Pad	M 6	26.3	1.3	3.5	3.0	3.8
34160.W0267	Steel	Thermo Pad	M 6	33.3	1.3	3.5	3.0	4.9
34160.W0268	Steel	Thermo Pad	M 6	41.3	1.3	3.5	3.0	6.3
34160.W0270	Steel	Thermo Pad	M 6	51.3	1.3	3.5	3.0	7.9
34160.W0282	Steel	Thermo Pad	M 8	13.6	1.6	5.0	4.0	2.6
34160.W0283	Steel	Thermo Pad	M 8	17.6	1.6	5.0	4.0	3.6
34160.W0284	Steel	Thermo Pad	M 8	21.6	1.6	5.0	4.0	5.0
34160.W0285	Steel	Thermo Pad	M 8	26.6	1.6	5.0	4.0	6.4
34160.W0286	Steel	Thermo Pad	M 8	33.6	1.6	5.0	4.0	8.5
34160.W0287	Steel	Thermo Pad	M 8	41.6	1.6	5.0	4.0	11.0
34160.W0288	Steel	Thermo Pad	M 8	51.6	1.6	5.0	4.0	14.0
34160.W0290	Steel	Thermo Pad	M 8	64.6	1.6	5.0	4.0	18.0
34160.W0302	Steel	Thermo Pad	M10	17.9	1.9	6.5	5.0	5.2
34160.W0303	Steel	Thermo Pad	M10	21.9	1.9	6.5	5.0	7.1
34160.W0304	Steel	Thermo Pad	M10	26.9	1.9	6.5	5.0	9.9
34160.W0305	Steel	Thermo Pad	M10	33.9	1.9	6.5	5.0	13.0
34160.W0306	Steel	Thermo Pad	M10	41.9	1.9	6.5	5.0	17.0
34160.W0307	Steel	Thermo Pad	M10	51.9	1.9	6.5	5.0	22.0

Order No.	Material	Type	d_1	l_1	l_2	d_2	A/F	Weight g
34160.W0308	Steel	Thermo Pad	M10	64.9	1.9	6.5	5.0	28.0
34160.W0310	Steel	Thermo Pad	M10	81.9	1.9	6.5	5.0	36.0
34160.W0322	Steel	Thermo Pad	M12	22.1	2.1	8.0	6.0	9.0
34160.W0323	Steel	Thermo Pad	M12	27.1	2.1	8.0	6.0	10.0
34160.W0324	Steel	Thermo Pad	M12	34.1	2.1	8.0	6.0	19.0
34160.W0325	Steel	Thermo Pad	M12	42.1	2.1	8.0	6.0	24.0
34160.W0326	Steel	Thermo Pad	M12	52.1	2.1	8.0	6.0	31.0
34160.W0327	Steel	Thermo Pad	M12	65.1	2.1	8.0	6.0	40.0
34160.W0330	Steel	Thermo Pad	M12	82.1	2.1	8.0	6.0	51.0
34160.W0332	Steel	Thermo Pad	M12	102.1	2.1	8.0	6.0	66.0

Thrust Screws - Plastic Pad

stainless steel

34160.2



Material
Screw: stainless steel 1.4305 (AISI 303).
Pad: thermoplastic POM, white.

Technical Notes
Thermoplastic bolt pressed in.
For gentle clamping or pressing of thread spindles, axles, shafts and surface treated parts.

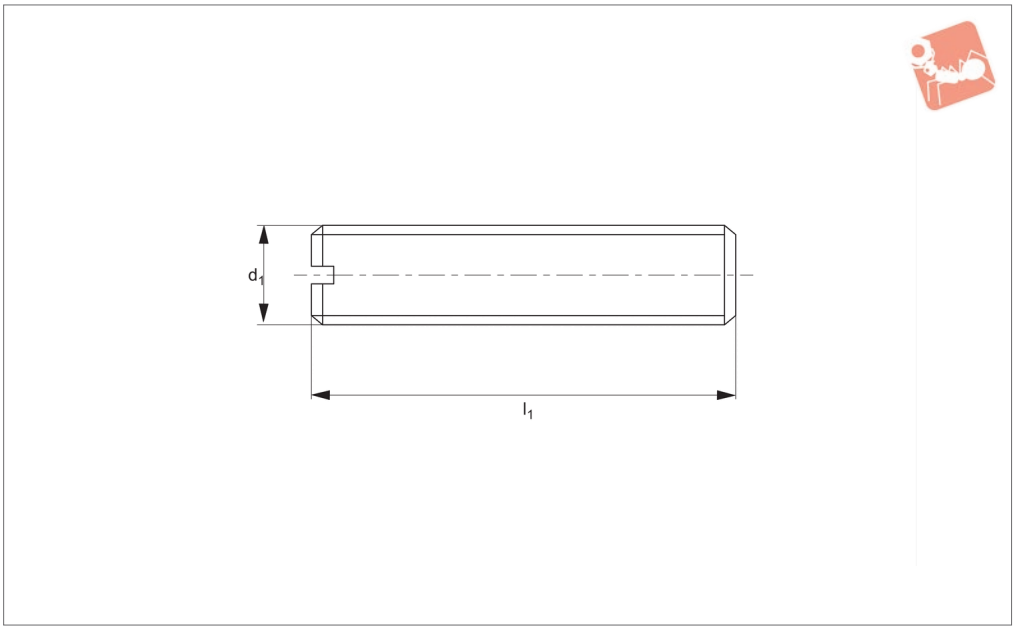
Order No.	Material	Type	d_1	l_1	l_2	d_2	A/F	Weight g
34160.W0632	Stainless	Thermo Pad	M 3	3.8	0.8	1.5	1.5	0.2
34160.W0634	Stainless	Thermo Pad	M 3	5.8	0.8	1.5	1.5	0.3
34160.W0636	Stainless	Thermo Pad	M 3	8.8	0.8	1.5	1.5	0.4
34160.W0638	Stainless	Thermo Pad	M 3	10.8	0.8	1.5	1.5	0.5
34160.W0642	Stainless	Thermo Pad	M 4	7.0	1.0	2.0	2.0	0.3
34160.W0643	Stainless	Thermo Pad	M 4	9.0	1.0	2.0	2.0	0.4
34160.W0644	Stainless	Thermo Pad	M 4	11.0	1.0	2.0	2.0	0.6
34160.W0645	Stainless	Thermo Pad	M 4	13.0	1.0	2.0	2.0	0.7
34160.W0646	Stainless	Thermo Pad	M 4	17.0	1.0	2.0	2.0	1.0
34160.W0652	Stainless	Thermo Pad	M 5	9.0	1.0	3.0	2.5	0.7
34160.W0653	Stainless	Thermo Pad	M 5	11.0	1.0	3.0	2.5	0.8
34160.W0654	Stainless	Thermo Pad	M 5	13.0	1.0	3.0	2.5	1.0
34160.W0655	Stainless	Thermo Pad	M 5	17.0	1.0	3.0	2.5	1.2
34160.W0656	Stainless	Thermo Pad	M 5	21.0	1.0	3.0	2.5	2.0
34160.W0662	Stainless	Thermo Pad	M 6	11.3	1.3	3.5	3.0	1.2
34160.W0663	Stainless	Thermo Pad	M 6	13.3	1.3	3.5	3.0	1.5
34160.W0664	Stainless	Thermo Pad	M 6	17.3	1.3	3.5	3.0	2.2
34160.W0665	Stainless	Thermo Pad	M 6	21.3	1.3	3.5	3.0	2.8
34160.W0666	Stainless	Thermo Pad	M 6	26.3	1.3	3.5	3.0	3.8
34160.W0667	Stainless	Thermo Pad	M 6	33.3	1.3	3.5	3.0	4.9
34160.W0682	Stainless	Thermo Pad	M 8	13.6	1.6	5.0	4.0	2.6
34160.W0683	Stainless	Thermo Pad	M 8	17.6	1.6	5.0	4.0	3.6
34160.W0684	Stainless	Thermo Pad	M 8	21.6	1.6	5.0	4.0	5.0
34160.W0685	Stainless	Thermo Pad	M 8	26.6	1.6	5.0	4.0	6.4
34160.W0686	Stainless	Thermo Pad	M 8	33.6	1.6	5.0	4.0	8.5
34160.W0687	Stainless	Thermo Pad	M 8	41.6	1.6	5.0	4.0	11.0
34160.W0702	Stainless	Thermo Pad	M10	17.9	1.9	6.5	5.0	5.2
34160.W0703	Stainless	Thermo Pad	M10	21.9	1.9	6.5	5.0	7.1
34160.W0704	Stainless	Thermo Pad	M10	26.9	1.9	6.5	5.0	9.9
34160.W0705	Stainless	Thermo Pad	M10	33.9	1.9	6.5	5.0	13.0
34160.W0706	Stainless	Thermo Pad	M10	41.9	1.9	6.5	5.0	17.0
34160.W0707	Stainless	Thermo Pad	M10	51.9	1.9	6.5	5.0	22.0
34160.W0722	Stainless	Thermo Pad	M12	22.1	2.1	8.0	6.0	9.0
34160.W0723	Stainless	Thermo Pad	M12	27.1	2.1	8.0	6.0	10.0

Thrust Screws - Plastic Pad
stainless steel

Order No.	Material	Type	d_1	l_1	l_2	d_2	A/F	Weight g
34160.W0724	Stainless	Thermo Pad	M12	34.1	2.1	8.0	6.0	19.0
34160.W0725	Stainless	Thermo Pad	M12	42.1	2.1	8.0	6.0	24.0
34160.W0726	Stainless	Thermo Pad	M12	52.1	2.1	8.0	6.0	31.0
34160.W0727	Stainless	Thermo Pad	M12	65.1	2.1	8.0	6.0	40.0

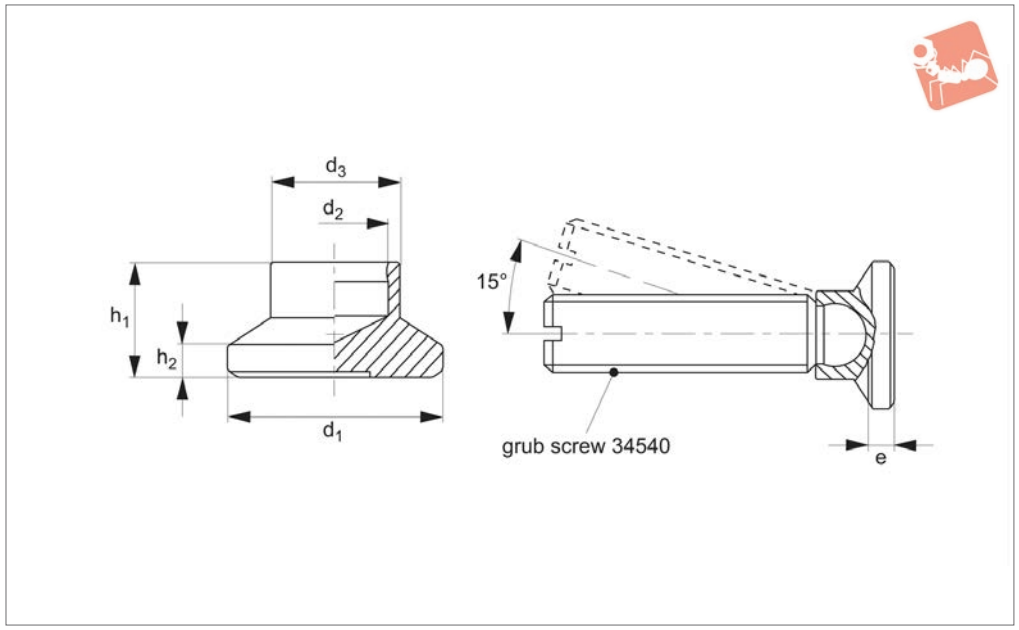
Grub Screws Threaded Rods
with slot end

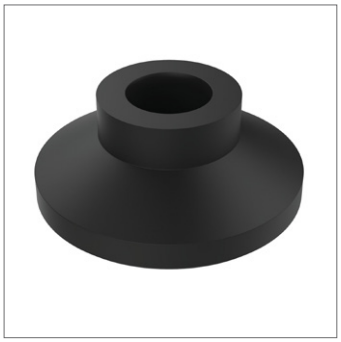
34300



Material
Body: steel to tensile strength 500 N/mm², blackened.

Order No.	d_1	l_1
34300.W0060	M 6	20
34300.W0063	M 6	35
34300.W0064	M 6	40
34300.W0065	M 6	45
34300.W0066	M 6	50
34300.W0088	M 8	70
34300.W0089	M 8	80
34300.W0100	M10	25
34300.W0105	M10	50
34300.W0106	M10	55
34300.W0109	M10	80
34300.W0120	M12	30
34300.W0122	M12	40
34300.W0123	M12	45
34300.W0124	M12	50
34300.W0125	M12	55
34300.W0126	M12	60
34300.W0128	M12	80
34300.W0129	M12	100
34300.W0160	M16	30
34300.W0164	M16	50
34300.W0167	M16	70





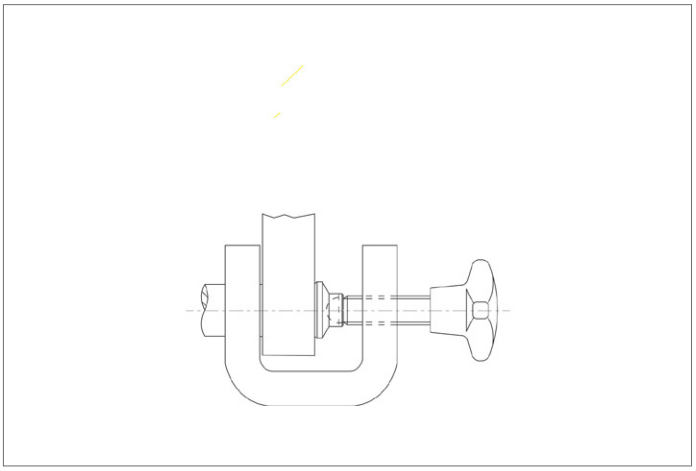
34530

Material
Thermoplastic (POM) black, matte.

Technical Notes
Can be used with grub screw no. 34540<X\
34540#26>.

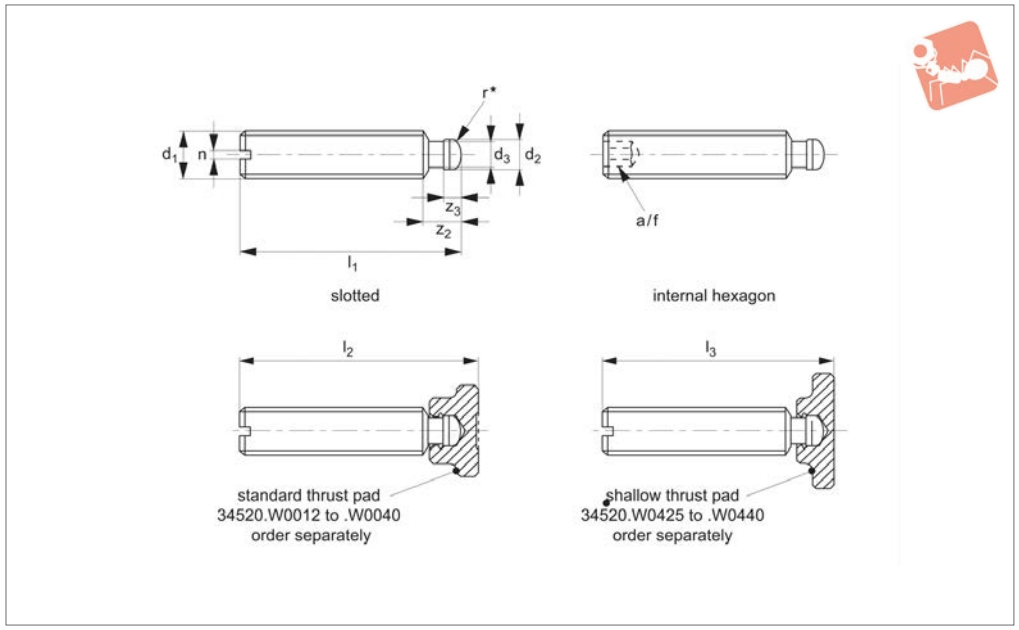
Order No.	d_1	d_2	d_3	e ≈	h_1	h_2	Load capacity for static load kN max.	For grub screws 34540	Weight g
34530.W0014	15	4.5	8.6	3.6	7.6	2.5	3.5	M 6	1.0
34530.W0015	15	6.1	8.6	2.5	7.6	2.5	3.5	M 8	1.0
34530.W0017	18	6.1	10.8	4.2	9.2	2.5	3.5	M 8	1.8
34530.W0018	18	7.8	10.8	3.4	9.2	2.5	3.5	M10	2.0
34530.W0019	21	6.1	12.8	5.0	10.0	3.0	3.5	M 8	3.0
34530.W0020	21	7.8	12.8	4.3	10.0	3.0	3.5	M10	2.6
34530.W0021	21	9.4	12.8	3.4	10.0	3.0	3.5	M12	3.0
34530.W0023	25	6.1	13.0	5.5	10.5	3.0	3.5	M 8	4.0
34530.W0024	25	7.8	13.0	4.6	10.5	3.0	3.5	M10	3.6
34530.W0025	25	9.4	13.0	3.6	10.5	3.0	3.5	M12	3.4
34530.W0032	32	6.1	14.0	6.0	11.0	3.0	3.5	M 8	5.0
34530.W0033	32	7.8	14.0	5.0	11.0	3.0	3.5	M10	5.0
34530.W0034	32	9.4	14.0	4.2	11.0	3.0	3.5	M12	5.0
34530.W0040	40	6.1	16.0	8.0	13.0	4.0	3.5	M 8	11.0
34530.W0041	40	7.8	16.0	7.0	13.0	4.0	3.5	M10	10.0
34530.W0042	40	9.4	16.0	6.2	13.0	4.0	3.5	M12	10.0

Thrust Pads
plastic



Grub Screws

with slot or hex end, and thrust point - form S - DIN



34500

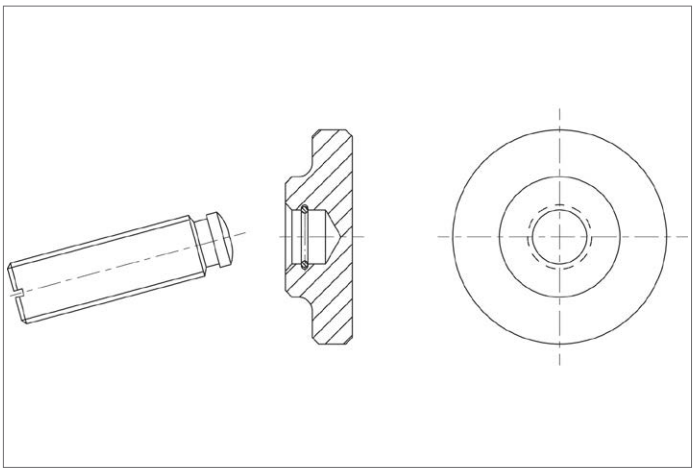
Material
Body: steel to quality 5.8, thrust point hardened, blackened.

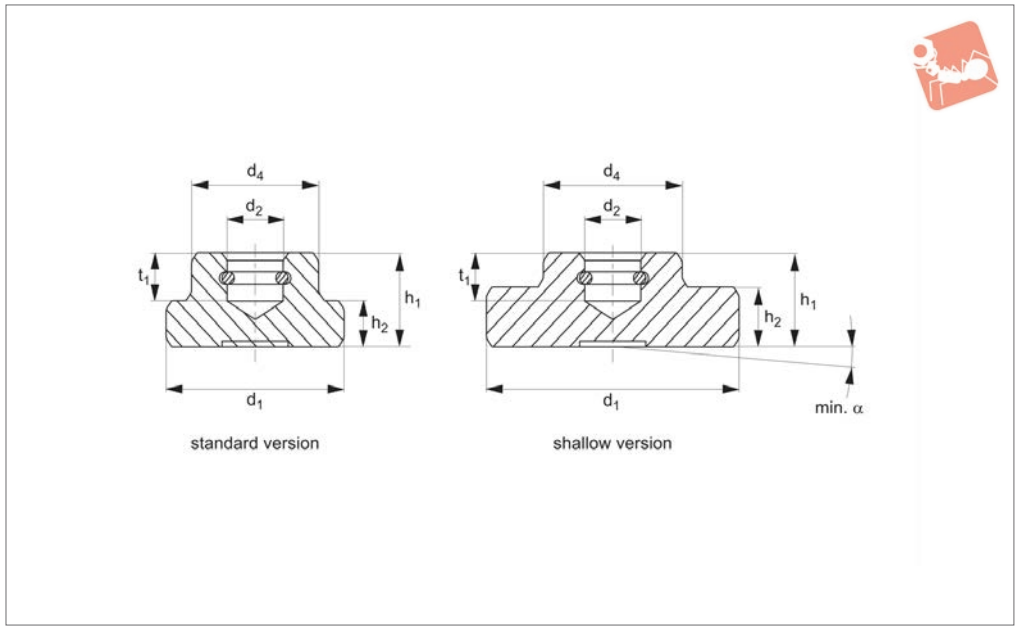
Technical Notes
The grub screws can be used with thrust pads no. 34520<X\34520#26> standard or shallow type.
To ease assembly, DIN specification has been amended by addition of radius r*.

Order No.	Type	d_1	d_2 tol. h11	d_3	l_1	l_2 ≈	l_3 ≈	n	z_2	z_3	A/F	Weight g
34500.W0061	Slotted	M 6	4.5	4.0	30	32.1	-	1.0	6.0	2.5	-	4.5
34500.W0062	Slotted	M 6	4.5	4.0	50	52.1	-	1.0	6.0	2.5	-	7.8
34500.W0081	Slotted	M 8	6.0	5.4	40	43.0	42.5	1.2	7.5	3.0	-	11.0
34500.W0082	Slotted	M 8	6.0	5.4	60	63.0	62.5	1.2	7.5	3.0	-	17.0
34500.W0101	Slotted	M10	8.0	7.2	60	63.6	62.6	1.6	9.0	4.5	-	27.0
34500.W0102	Slotted	M10	8.0	7.2	80	83.6	82.6	1.6	9.0	4.5	-	37.0
34500.W0121	Slotted	M12	8.0	7.2	60	64.6	62.6	2.0	10.0	4.5	-	38.0
34500.W0122	Slotted	M12	8.0	7.2	80	84.6	82.6	2.0	10.0	4.5	-	51.0
34500.W0123	Slotted	M12	8.0	7.2	100	104.6	102.6	2.0	10.0	4.5	-	65.0
34500.W0161	Slotted	M16	12.0	11.0	80	85.4	82.9	2.5	12.0	5.0	-	100.0
34500.W0162	Slotted	M16	12.0	11.0	100	105.4	102.9	2.5	12.0	5.0	-	126.0
34500.W0163	Slotted	M16	12.0	11.0	125	130.4	127.9	2.5	12.0	5.0	-	160.0
34500.W0201	Slotted	M20	15.5	14.4	100	105.5	-	3.0	14.0	5.5	-	190.0
34500.W0202	Slotted	M20	15.5	14.4	125	130.5	-	3.0	14.0	5.5	-	240.0
34500.W0203	Slotted	M20	15.5	14.4	150	155.5	-	3.0	14.0	5.5	-	290.0
34500.W0361	Internal Hexagon	M 6	4.5	4.0	30	32.1	-	-	6.0	2.5	3	4.3
34500.W0362	Internal Hexagon	M 6	4.5	4.0	50	52.1	-	-	6.0	2.5	3	7.6
34500.W0381	Internal Hexagon	M 8	6.0	5.4	40	43.0	42.5	-	7.5	3.0	4	11.0
34500.W0382	Internal Hexagon	M 8	6.0	5.4	60	63.0	62.5	-	7.5	3.0	4	17.0
34500.W0401	Internal Hexagon	M10	8.0	7.2	60	63.6	62.6	-	9.0	4.5	5	26.0
34500.W0402	Internal Hexagon	M10	8.0	7.2	80	83.6	82.6	-	9.0	4.5	5	36.0
34500.W0421	Internal Hexagon	M12	8.0	7.2	60	64.6	62.6	-	10.0	4.5	6	36.0
34500.W0422	Internal Hexagon	M12	8.0	7.2	80	84.6	82.6	-	10.0	4.5	6	57.0
34500.W0423	Internal Hexagon	M12	8.0	7.2	100	104.6	102.6	-	10.0	4.5	6	64.0
34500.W0461	Internal Hexagon	M16	12.0	11.0	80	85.4	82.9	-	12.0	5.0	8	91.0
34500.W0462	Internal Hexagon	M16	12.0	11.0	100	105.4	102.9	-	12.0	5.0	8	118.0
34500.W0463	Internal Hexagon	M16	12.0	11.0	125	130.4	127.9	-	12.0	5.0	8	150.0
34500.W0501	Internal Hexagon	M20	15.5	14.4	100	105.5	-	-	14.0	5.5	10	182.0
34500.W0502	Internal Hexagon	M20	15.5	14.4	125	130.5	-	-	14.0	5.5	10	233.0
34500.W0503	Internal Hexagon	M20	15.5	14.4	150	155.5	-	-	14.0	5.5	10	284.0

Grub Screws

with slot or hex end, and thrust point - form S - DIN



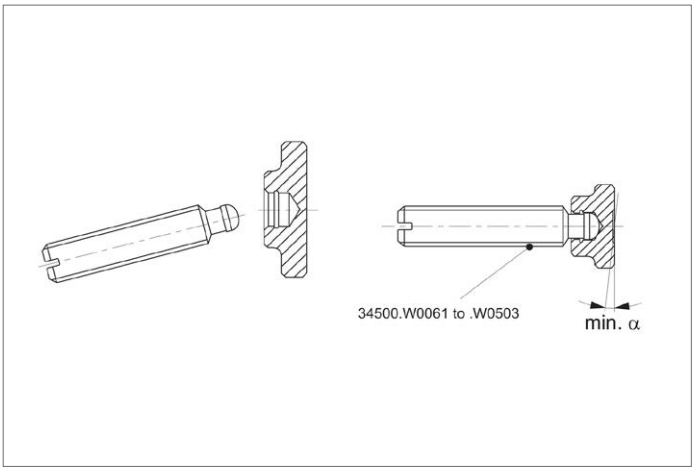


34520

Material
Case-hardened steel, spring retainer inserted.

Technical Notes
For use with grub screws part no. 34500<X\34500#26>.

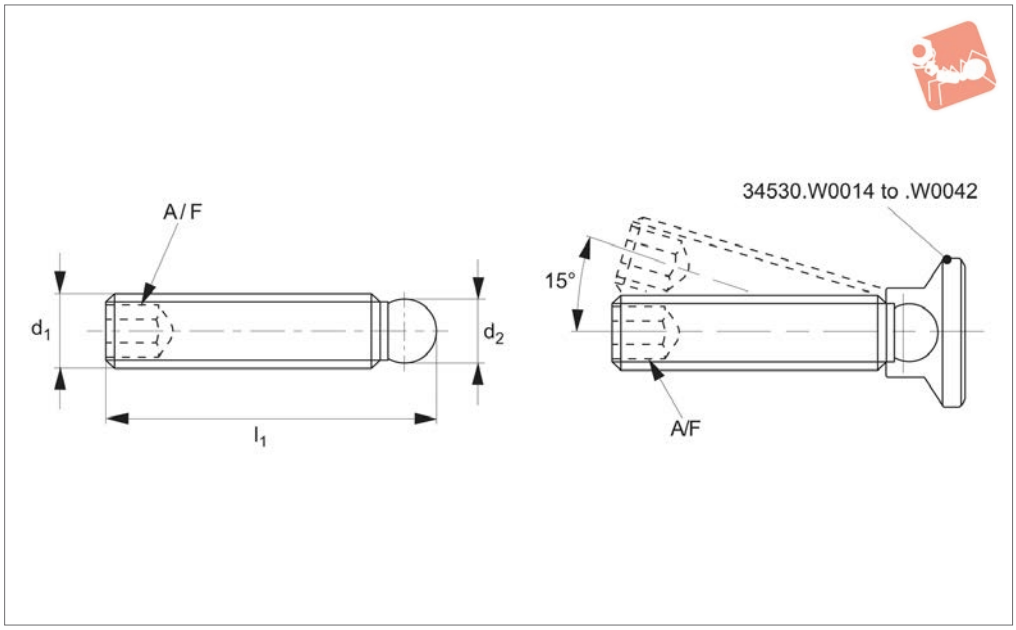
Order No.	Type	d_1	d_2 tol. H12	d_4	h_1	h_2	t_1	α °	For grub screws 34500	Weight g
34520.W0012	Standard	12	4.6	10	7	2.5	4.0	7	M 6	4.3
34520.W0016	Standard	16	6.1	12	9	4.0	5.0	4	M 8	9.4
34520.W0020	Standard	20	8.1	15	11	5.0	6.0	3	M10	18.0
34520.W0025	Standard	25	8.1	18	13	6.0	7.0	3	M12	30.0
34520.W0032	Standard	32	12.1	22	15	7.0	7.5	5	M16	59.0
34520.W0040	Standard	40	15.6	28	16	9.0	8.0	4	M20	106.0
34520.W0425	Shallow	25	6.1	12	8	4.0	4.5	4	M 8	18.0
34520.W0432	Shallow	32	8.1	18	10	6.0	6.0	3	M10/M12	43.0
34520.W0440	Shallow	40	12.1	22	12	7.0	7.0	5	M16	75.0



Grub Screws

with hex end and ball thrust point, stainless steel

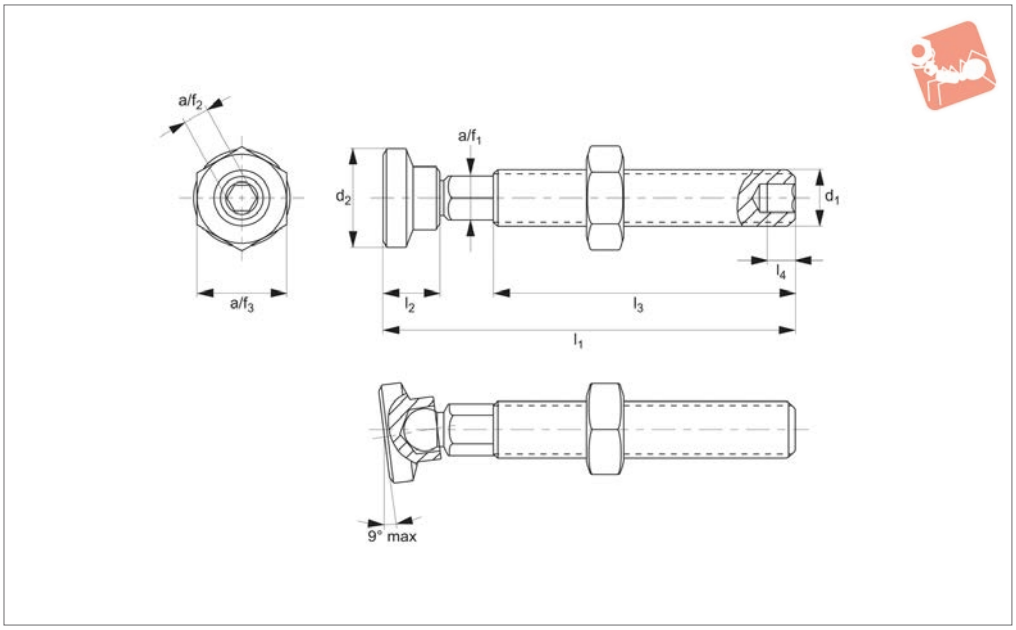
34540



Material
Steel type:
free cutting steel, quality 5.8, blackened.
Stainless steel type:
stainless steel1.4305 (AISI 303).

Technical Notes
Can be used with thrust pads no. 34530<X\ 34530#26>.

Order No.	Material	d_1	d_2 +0.05	l_1	A/F	Weight g
34540.W0210	Steel	M 6	4.47	30	3	5.1
34540.W0214	Steel	M 6	4.47	40	3	5.9
34540.W0218	Steel	M 6	4.47	50	3	7.6
34540.W0219	Steel	M 8	6.10	25	4	5.8
34540.W0220	Steel	M 8	6.10	40	4	11.0
34540.W0224	Steel	M 8	6.10	50	4	14.0
34540.W0228	Steel	M 8	6.10	63	4	18.0
34540.W0248	Steel	M10	7.80	40	5	16.0
34540.W0250	Steel	M10	7.80	50	5	21.0
34540.W0254	Steel	M10	7.80	63	5	27.0
34540.W0258	Steel	M10	7.80	80	5	36.0
34540.W0316	Steel	M12	9.40	40	6	23.0
34540.W0320	Steel	M12	9.40	63	6	39.0
34540.W0324	Steel	M12	9.40	80	6	51.0
34540.W0328	Steel	M12	9.40	100	6	65.0
34540.W0710	Stainless	M 6	4.47	30	3	5.1
34540.W0714	Stainless	M 6	4.47	40	3	5.9
34540.W0718	Stainless	M 6	4.47	50	3	7.6
34540.W0719	Stainless	M 8	6.10	25	4	5.8
34540.W0720	Stainless	M 8	6.10	40	4	11.0
34540.W0724	Stainless	M 8	6.10	50	4	14.0
34540.W0728	Stainless	M 8	6.10	63	4	18.0
34540.W0748	Stainless	M10	7.80	40	5	16.0
34540.W0750	Stainless	M10	7.80	50	5	21.0
34540.W0754	Stainless	M10	7.80	63	5	27.0
34540.W0758	Stainless	M10	7.80	80	5	36.0
34540.W0816	Stainless	M12	9.40	40	6	23.0
34540.W0820	Stainless	M12	9.40	63	6	39.0
34540.W0824	Stainless	M12	9.40	80	6	51.0
34540.W0828	Stainless	M12	9.40	100	6	65.0



34544

Material
Ball: stainless steel 1.4305
Nut: stainless steel A2

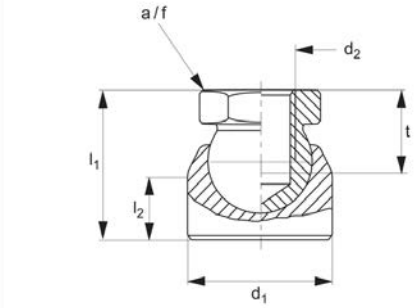
Pad: Plastic (PEEK), blue

Tips
For use on high quality surfaces, design is suitable for non-parallel surfaces.

Order No.	d_1	d_2	l_1	l_2	l_3	l_4	A/F_1	A/F_2	A/F_3	Weight g
34544.W0005	M 5	8.5	37.0	5.0	27.0	2.5	4.0	2.5	8	6
34544.W0006	M 6	8.5	44.0	5.0	31.5	3.0	4.5	3.0	10	9
34544.W0008	M 8	12.5	63.3	8.7	49.0	4.0	6.0	4.0	13	25
34544.W0010	M10	12.5	73.3	8.7	68.9	5.0	8.0	5.0	17	48
34544.W0012	M12	16.8	84.4	12.0	64.3	6.0	9.0	6.0	19	74
34544.W0016	M16	16.8	84.4	12.0	64.0	8.0	11.0	8.0	24	125

Thrust Pad - Self-levelling

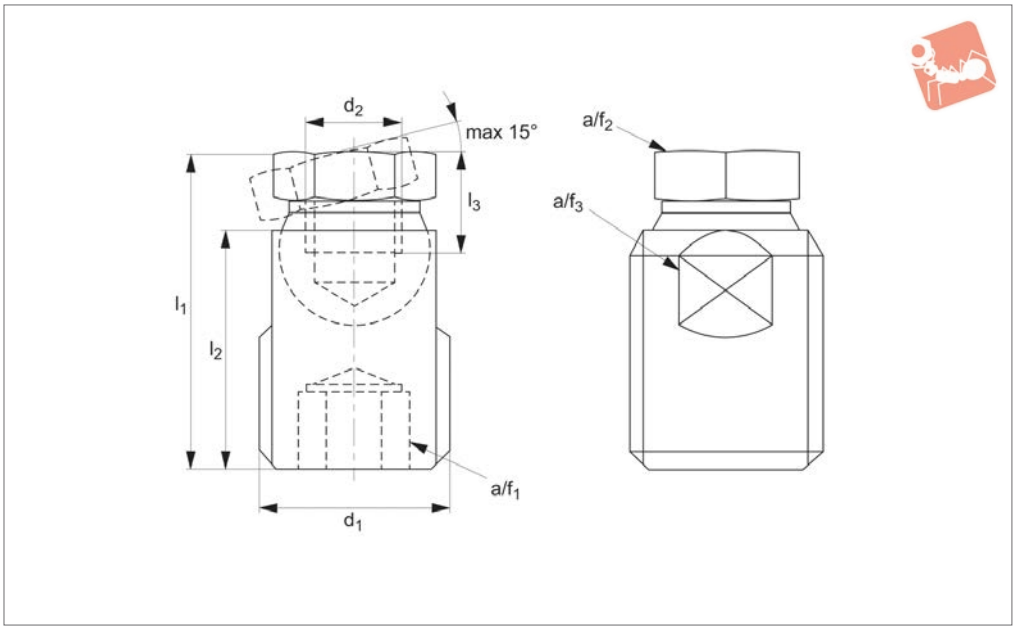
34600



Material
Steel, tensile strength 500N/mm², zinc plated, blue passivated.

Important Notes
Pad swivels 10° from vertical in all directions.

Order No.	d_1	d_2	l_1 ≈	l_2	t min.	Static load N	A/F
34600.W0016	16	M 8	19	7	9	5000	12
34600.W0020	20	M10	22	8	11	7500	15
34600.W0024	24	M12	25	10	12	10000	17
34600.W0030	30	M16	34	13	16	15000	24



34602

Material

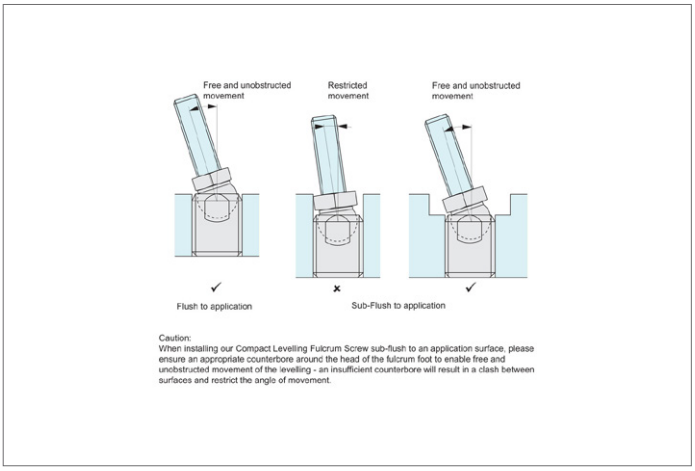
steel type:
Body: heat treated steel, tempered, blackened.
Ball: free cutting steel, induction hardened.

Stainless steel type: Body and ball: stainless steel 1.4305 (AISI 1303)

Technical Notes

Can be used as foot or thrust pad.
Compact design for simple levelling by means of the spanner flat at the bushing or preferably by means of a hexagon socket.
Should only be used for static loads

Order No.	Finish	d_1	d_2	l_1 ±0.5	l_2	l_3 min.	A/F_1	A/F_2	A/F_3	Static load kN max.	Weight g
34602.W0006	Steel	M12	M 6	21.2	16	5.0	6	9	10	10	11
34602.W0008	Steel	M16	M 8	26.5	20	7.0	8	12	14	18	24
34602.W0010	Steel	M24	M10	39.9	30	9.0	12	19	20	35	87
34602.W0012	Steel	M24	M12	39.9	30	9.0	12	19	20	35	82
34602.W0016	Steel	M30x2	M16	47.4	36	13.5	12	24	27	45	165
34602.W0206	Stainless	M12	M 6	21.2	16	5.0	6	9	10	8	11
34602.W0208	Stainless	M16	M 8	26.5	20	7.0	8	12	14	14	24
34602.W0210	Stainless	M24	M10	39.9	30	9.0	12	19	20	28	87
34602.W0212	Stainless	M24	M12	39.9	30	9.0	12	19	20	28	82
34602.W0216	Stainless	M30x2	M16	47.4	36	13.5	12	24	27	36	165



Wixroyd Levelling Feet

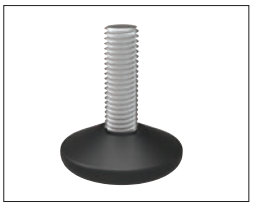
A Range of features to suit your application

Product selection

To ensure you select the most suitable levelling feet for your application consider the following questions:

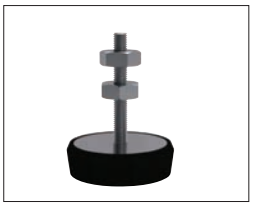
- Tilting or fixed?
- Material required - steel, stainless or plastic?
- Load carrying capacity - light, medium or heavy duty?
  (Review the quoted load capacities in the individual product tables).
- Bolt down feature required?
- Threaded or plastic insert required for mounting?
- Optional extras: hygiene seal, rubber pad, (subject to minimum quantity and selected model).

Key types



Fixed feet

Articulating levelling feet



Machine mounts

Fulcrum screw

Available features

Articulation

Standard nylon base

Anti-slip base

Bolt down base

Hygienic seal

Hex for easy installation

Materials

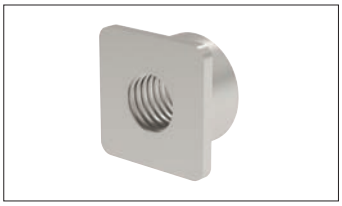
Steel thread - Nylon base

Stainless thread - Nylon base

Steel thread - Steel base

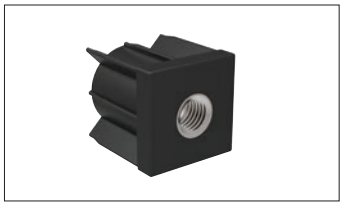
Stainless thread - Stainless base

Mounting inserts



Weldable insert

Hollow section insert

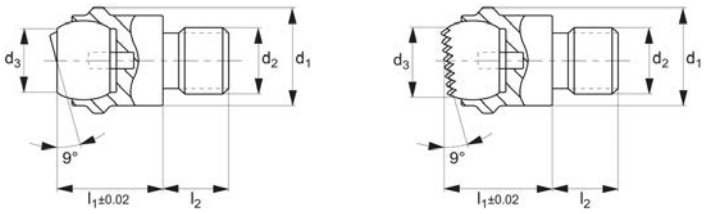


Hollow section bushed insert

Additional technical information

◀ For applications under greater loads and requiring increased precision of adjustment see our range of Precision Height Adjusters.

▶ For applications exposed to extreme vibrations see our range of Anti-Vibration Mounts.



34090

Material
Spring element: thermoplastic PUR.
Ball: Ball-bearing steel, hardened, bright. stainless steel 1.3541, nickel-plated.
Body: Heat-treated steel, tempered, phosphated. stainless steel 1.4057, heat-treated.

Technical Notes
Ball protected against rotating.

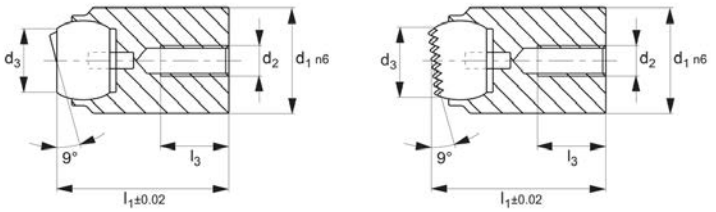
loading capacity vaild for steel and stainles steel design.

Order No.	Material	Ball	d_1	d_2	d_3	l_1	l_2 -0.5	A/F	Load capacity for static load kN max.	Tightening torque Nm max.	Weight g
34090.W0012	Steel Plain Surface	10	13	M 6	7.2	13	8	11	10	13	13
34090.W0013	Steel Plain Surface	10	13	M 8	7.2	13	8	11	10	14	14
34090.W0018	Steel Plain Surface	16	20	M 8	10.5	18	10	17	25	25	39
34090.W0019	Steel Plain Surface	16	20	M10	10.5	18	10	17	25	46	40
34090.W0020	Steel Plain Surface	16	20	M10	10.5	18	10	17	25	46	44
34090.W0030	Steel Plain Surface	25	30	M16	20	27	16	27	90	206	153
34090.W0050	Steel Plain Surface	40	50	M20	34.5	35	20	41	165	407	491
34090.W0060	Steel Plain Surface	40	50	M24	34.5	35	24	41	165	698	526
34090.W0112	Stainless Plain Surface	10	13	M 6	7.2	13	8	11	10	13	13
34090.W0113	Stainless Plain Surface	10	13	M 8	7.2	13	8	11	10	14	14
34090.W0118	Stainless Plain Surface	16	20	M 8	10.5	18	10	17	25	25	39
34090.W0119	Stainless Plain Surface	16	20	M10	10.5	18	10	17	25	46	40
34090.W0120	Stainless Plain Surface	16	20	M10	10.5	18	10	17	25	46	44
34090.W0130	Stainless Plain Surface	25	30	M16	20	27	16	27	90	206	153
34090.W0150	Stainless Plain Surface	40	50	M20	34.5	35	20	41	165	407	491
34090.W0160	Stainless Plain Surface	40	50	M24	34.5	35	24	41	165	698	526
34090.W0312	Steel Ribbed Surface	10	13	M 6	7.2	13	8	11	10	13	13
34090.W0313	Steel Ribbed Surface	10	13	M 8	7.2	13	8	11	10	14	14
34090.W0318	Steel Ribbed Surface	16	20	M 8	10.5	18	10	17	25	25	39
34090.W0319	Steel Ribbed Surface	16	20	M10	10.5	18	10	17	25	46	40
34090.W0320	Steel Ribbed Surface	16	20	M10	10.5	18	10	17	25	46	44
34090.W0330	Steel Ribbed Surface	25	30	M16	20	27	16	27	90	206	153
34090.W0350	Steel Ribbed Surface	40	50	M20	34.5	35	20	41	165	407	491
34090.W0360	Steel Ribbed Surface	40	50	M24	34.5	35	24	41	165	698	526

Self-Aligning Pads

Self-Aligning Pads

34091



Material

Spring element: thermoplastic PUR.
Ball: Ball-bearing steel, hardened, bright. stainless steel 1.3541, nickel-plated.
Body: Heat-treated steel, tempered, phosphated. stainless steel 1.4057, heat-treated.

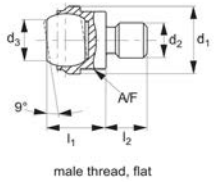
Technical Notes

Ball protected against rotating.

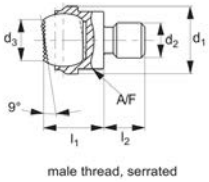
loading capacity vaild for steel and stainles steel design.

Order No.	Material	Ball	d_1	d_2	d_3	Weight g
34091.W0412	Steel Plain Surface	10	12 tol. n6	M 3	7.2	14
34091.W0418	Steel Plain Surface	16	18 tol. n6	M 4	10.5	40
34091.W0428	Steel Plain Surface	25	28 tol. n6	M 5	20.0	150
34091.W0452	Stainless Plain Surface	10	12 tol. n6	M 3	7.2	14
34091.W0458	Stainless Plain Surface	16	18 tol. n6	M 4	10.5	40
34091.W0468	Stainless Plain Surface	25	28 tol. n6	M 5	20.0	150
34091.W0712	Steel Ribbed Surface	10	12 tol. n6	M 3	7.2	14
34091.W0718	Steel Ribbed Surface	16	18 tol. n6	M 4	10.5	40
34091.W0728	Steel Ribbed Surface	25	28 tol. n6	M 5	20.0	150

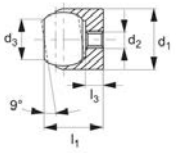
Order No.	l_1	l_3 max.	H7 diameter	Load capacity for static load kN max.	Depth min.	Tightening torque Nm max.
34091.W0412	17	3.2	12	10	12	1.3
34091.W0418	23	4.0	18	25	14	2.9
34091.W0428	34	6.0	28	90	22	6.0
34091.W0452	17	3.2	12	10	12	1.3
34091.W0458	23	4.0	18	25	14	2.9
34091.W0468	34	6.0	28	90	22	6.0
34091.W0712	17	3.2	12	10	12	1.3
34091.W0718	23	4.0	18	25	14	2.9
34091.W0728	34	6.0	28	90	22	6.0



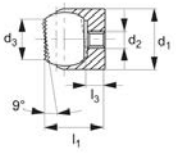
male thread, flat



male thread, serrated



female thread, flat



female thread, serrated

34100

Material
Body: steel, heat-treated, phosphated.
Ball: ball bearing steel, hardened, bright.

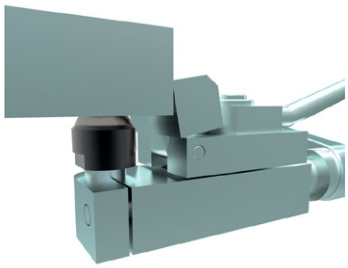
Technical Notes
These self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing clamping elements.

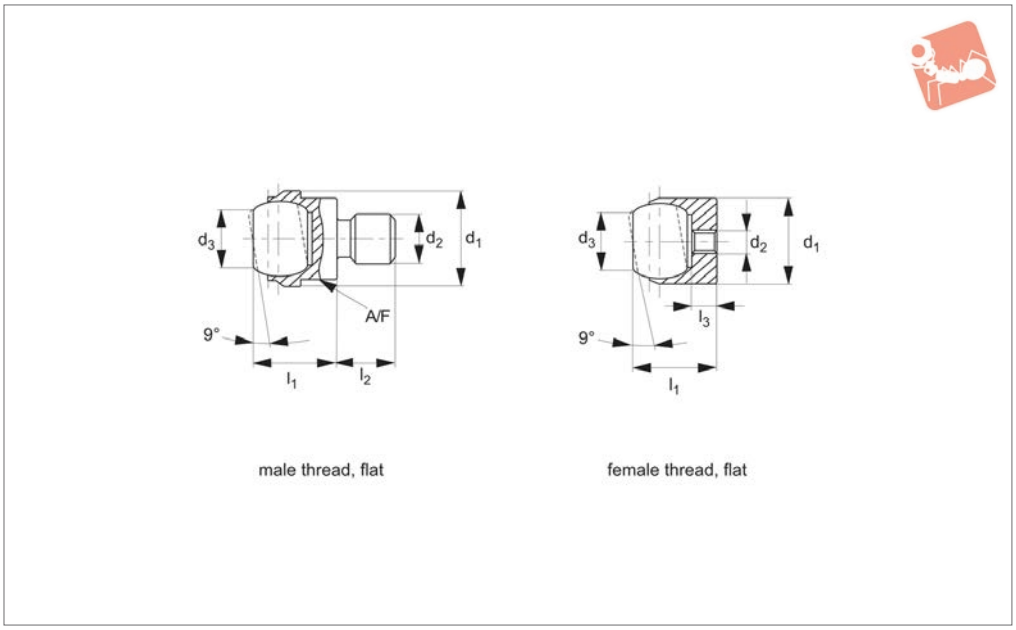
Tips
Max. load* for female threads (see table) applies only when the minimum location hole depth is adhered to.
Ball secured against turning.

Order No.	Thread and face type	Ball dia.	d_1	d_2	d_3	l_1 ±0.02	l_2 -0.5	l_3 max.	A/F	Location hole tol. H7	Static load kN max.	Tightening torque Nm max.	Weight g
34100.W0012	Male, Flat	10	13	M 6	7,2	13	8		11		10	10	12
34100.W0013	Male, Flat	10	13	M 8	7,2	13	8		11		10	25	13
34100.W0018	Male, Flat	16	20	M 8	10,5	18	10		17		25	25	39
34100.W0019	Male, Flat	16	20	M10	10,5	18	10		17		25	46	41
34100.W0020	Male, Flat	16	20	M12	10,5	18	12		17		25	82	44
34100.W0030	Male, Flat	25	30	M16	20,0	27	16		27		90	206	151
34100.W0050	Male, Flat	40	50	M20	34,5	35	20		41		165	407	489
34100.W0060	Male, Flat	40	50	M24	34,5	35	24		41		165	698	526
34100.W0312	Male, Serrated	10	13	M 6	7,2	13	8		11		10	10	12
34100.W0313	Male, Serrated	10	13	M 8	7,2	13	8		11		10	25	13
34100.W0318	Male, Serrated	16	20	M 8	10,5	18	10		17		25	25	38
34100.W0319	Male, Serrated	16	20	M10	10,5	18	10		17		25	46	40
34100.W0320	Male, Serrated	16	20	M12	10,5	18	12		17		25	82	43
34100.W0330	Male, Serrated	25	30	M16	20,0	27	16		27		90	206	150
34100.W0350	Male, Serrated	40	50	M20	34,5	35	20		41		165	407	486
34100.W0360	Male, Serrated	40	50	M24	34,5	35	24		41		165	698	521
34100.W0412	Female, Flat	10	12 tol. n_6	M 3	7,2	11		3,2		Ø12x6min	10*	1,3	8
34100.W0418	Female, Flat	16	18 tol. n_6	M 4	10,5	17		4,0		Øx18x8min	25*	2,9	29
34100.W0428	Female, Flat	25	28 tol. n_6	M 5	20,0	25		5,5		Ø28x13min	90*	6,0	109
34100.W0712	Female, Serrated	10	12 tol. n_6	M 3	7,2	11		3,2		Ø12x6min	10*	1,3	8
34100.W0718	Female, Serrated	16	18 tol. n_6	M 4	10,5	17		4,0		Ø18x8min	25*	2,9	29
34100.W0728	Female, Serrated	25	28 tol. n_6	M 5	20,0	25		5,5		Ø28x13min	90*	6,0	108

Self-Aligning Pads

fixed - steel





34101

Material
Body: stainless steel (AISI 431, 1.4057), heat-treated.
Ball: stainless steel (1.3541), nickel plated.

Technical Notes
These self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing clamping elements.

Tips
Max. load* for female threads (see table) applies only when the minimum location hole depth is adhered to.

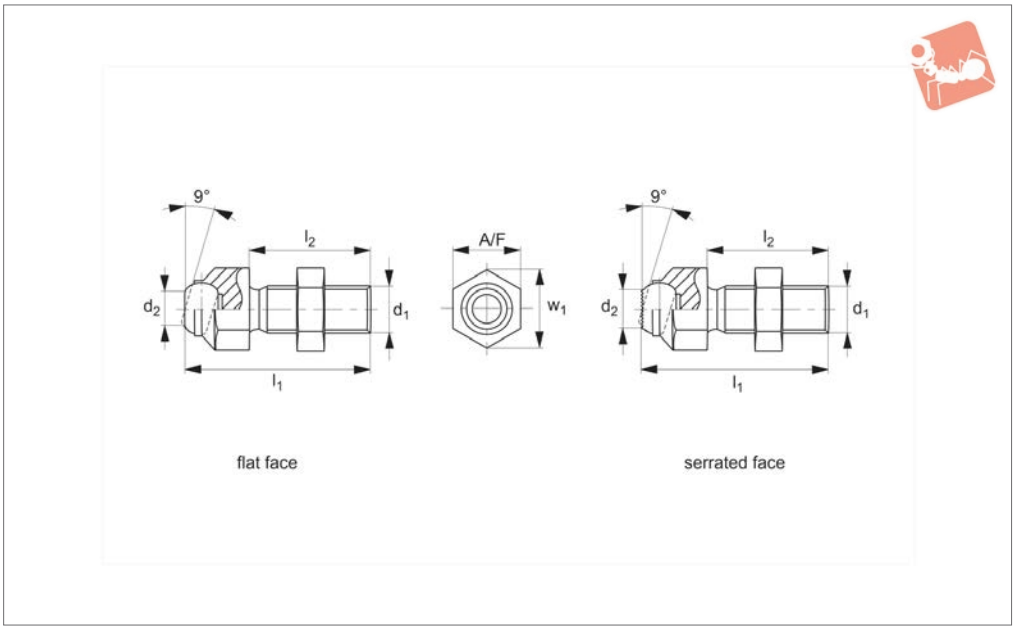
Ball secured against turning.

Order No.	Thread and face type	Ball dia.	d_1	d_2	d_3	Weight g
34101.W0112	Male, Flat	10	13	M 6	7.2	12
34101.W0113	Male, Flat	10	13	M 8	7.2	13
34101.W0118	Male, Flat	16	20	M 8	10.5	39
34101.W0119	Male, Flat	16	20	M10	10.5	41
34101.W0120	Male, Flat	16	20	M12	10.5	44
34101.W0130	Male, Flat	25	30	M16	20.0	151
34101.W0150	Male, Flat	40	50	M20	34.5	489
34101.W0160	Male, Flat	40	50	M24	34.5	526
34101.W0452	Female, Flat	10	12 tol. n6	M 3	7.2	8
34101.W0458	Female, Flat	16	18 tol. n6	M 4	10.5	29
34101.W0468	Female, Flat	25	28 tol. n6	M 5	20.0	109

Order No.	l_1 ±0.02	l_2 -0.5	l_3 max.	A/F	Location hole tol. H7	Static load kN max.	Tightening torque Nm max.
34101.W0112	13	8	-	11	-	10	10.0
34101.W0113	13	8	-	11	-	10	25.0
34101.W0118	18	10	-	17	-	25	25.0
34101.W0119	18	10	-	17	-	25	46.0
34101.W0120	18	12	-	17	-	25	82.0
34101.W0130	27	16	-	27	-	90	206.0
34101.W0150	35	20	-	41	-	165	407.0
34101.W0160	35	24	-	41	-	165	698.0
34101.W0452	11	-	3.2	-	Ø12x6min	10*	1.3
34101.W0458	17	-	4.0	-	Ø18x8min	25*	2.9
34101.W0468	25	-	5.5	-	Ø28x13min	90*	6.0

Self-Aligning Pads
adjustable - steel

34120

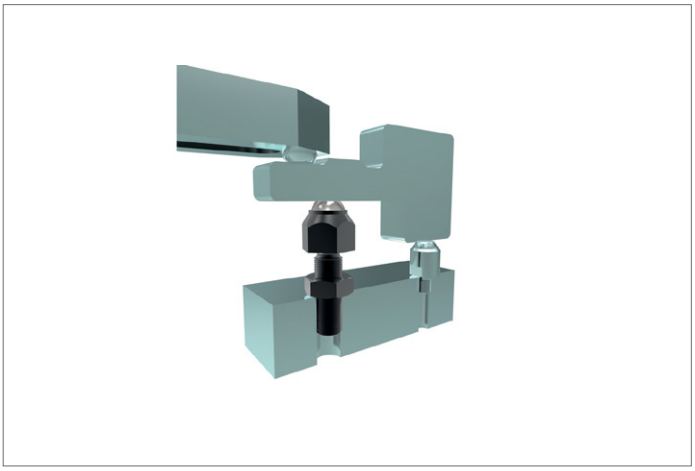


Material
Body: steel, heat-treated, phosphated.
Ball: ball-bearing steel, hardened, bright.

Technical Notes
These self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing clamping elements.

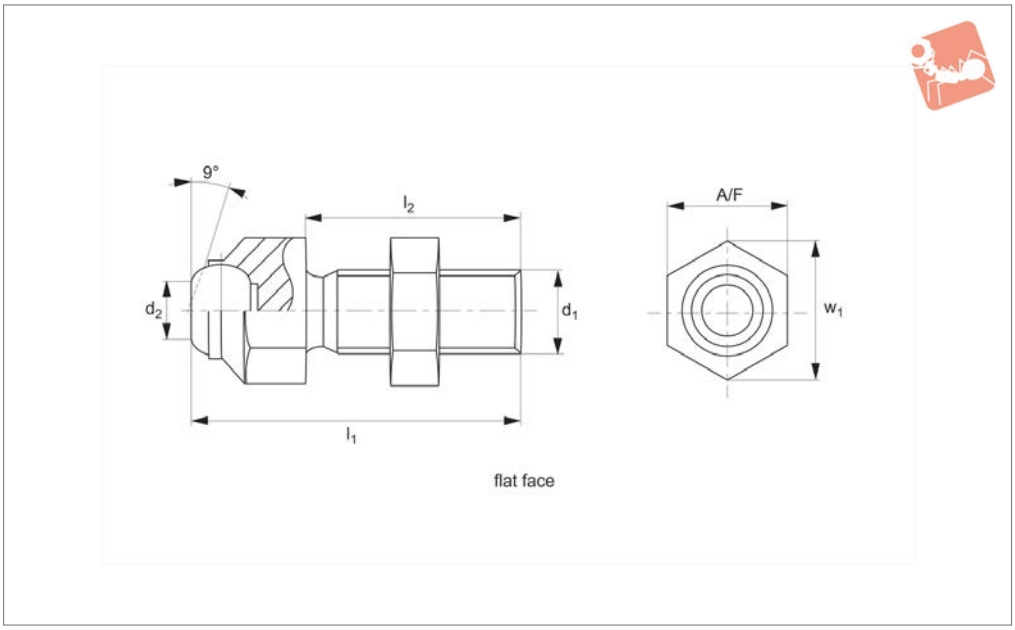
Tips
Ball secured against turning.

Order No.	Ball type	Ball dia.	d_1	d_2	l_1	l_2	w_1	A/F	Static load kN max.	Tightening torque Nm max.	Weight g
34120.W0013	Flat, Smooth	8.5	M 8	5.8	36.6	25	14.5	13	8	25	21
34120.W0016	Flat, Smooth	12.0	M10	8.6	45.7	30	19.0	17	8	46	44
34120.W0017	Flat, Smooth	12.0	M12	8.6	50.7	35	19.0	17	15	82	55
34120.W0024	Flat, Smooth	16.0	M16	10.5	60.7	40	27.0	24	25	206	28
34120.W0030	Flat, Smooth	25.0	M20	20.0	77.3	50	33.0	30	90	407	75
34120.W0036	Flat, Smooth	25.0	M24	20.0	100.0	70	40.0	36	90	698	472
34120.W0046	Flat, Smooth	40.0	M30x1,5	34.6	100.0	65	51.0	46	165	1355	772
34120.W0313	Flat, Serrated	8.5	M 8	5.8	36.6	25	14.5	13	8	25	20
34120.W0316	Flat, Serrated	12.0	M10	8.6	45.7	30	19.0	17	8	46	44
34120.W0317	Flat, Serrated	12.0	M12	8.6	50.7	35	19.0	17	15	82	55
34120.W0324	Flat, Serrated	16.0	M16	10.5	60.7	40	27.0	24	25	206	128
34120.W0330	Flat, Serrated	25.0	M20	20.0	77.3	50	33.0	30	90	407	274
34120.W0336	Flat, Serrated	25.0	M24	20.0	100.0	70	40.0	36	90	698	472
34120.W0346	Flat, Serrated	40.0	M30x1,5	34.6	100.0	65	51.0	46	165	1355	772



Self-Aligning Pads
adjustable - stainless steel

34121

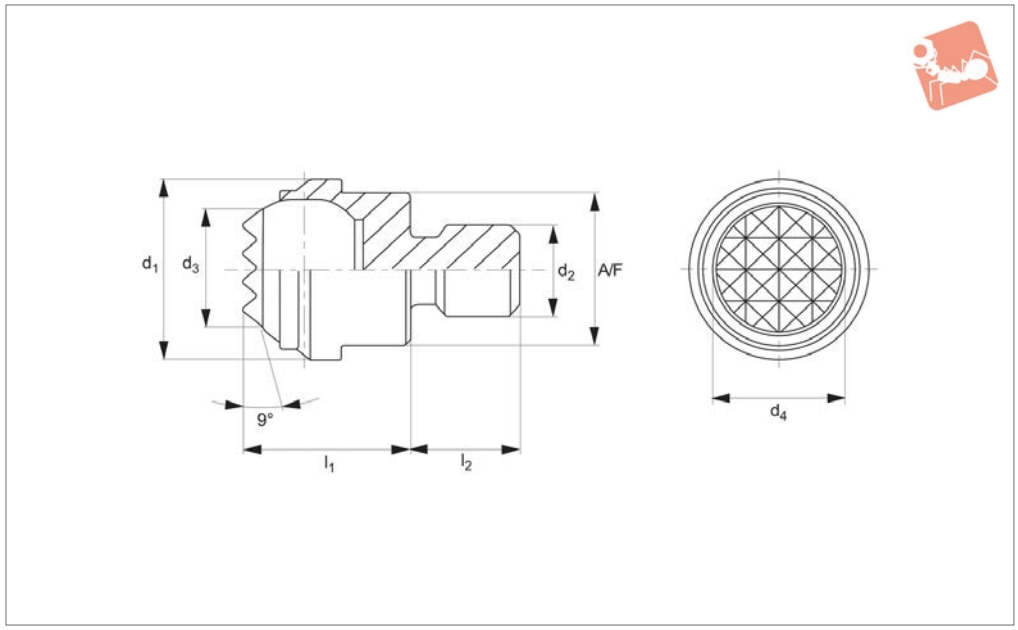


Material
Body: stainless steel (AISI 431, 1.4057), heat-treated.
Ball: stainless steel (1.3541), nickel plated.
Nut: stainless steel.

Technical Notes
These self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing clamping elements.

Tips
Ball secured against turning.

Order No.	Ball type	Ball dia.	d_1	d_2	l_1	l_2	w_1	A/F	Static load kN max.	Tightening torque Nm max.	Weight g
34121.W0013	Flat, Smooth	8.5	M 8	5.8	36.6	25	14.5	13	8	25	20
34121.W0016	Flat, Smooth	12.0	M10	8.6	45.7	30	19.0	17	8	46	44
34121.W0017	Flat, Smooth	12.0	M12	8.6	50.7	35	19.0	17	15	82	56
34121.W0024	Flat, Smooth	16.0	M16	10.5	60.7	40	27.0	24	25	206	128
34121.W0030	Flat, Smooth	25.0	M20	20.0	77.3	50	33.0	30	90	407	275
34121.W0036	Flat, Smooth	25.0	M24	20.0	100.0	70	40.0	36	90	698	472
34121.W0046	Flat, Smooth	40.0	M30x1,5	34.6	100.0	65	51.0	46	165	1355	772



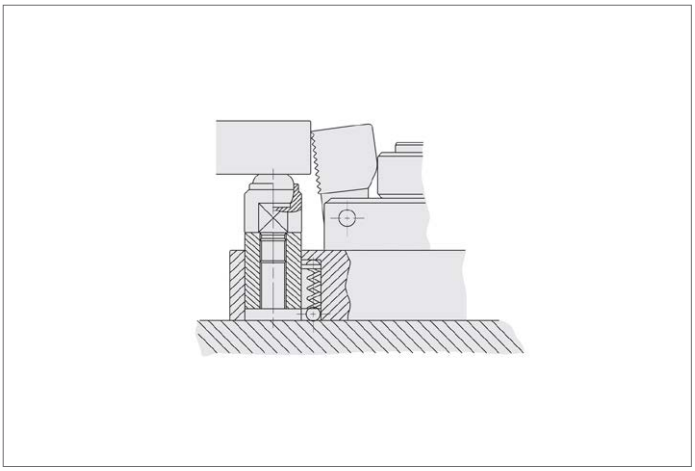
34080

Material
Body: steel, heat-treated, phosphated.
Ball: hard metal, nickel plated.

Technical Notes
Ideal as stop, support or thrust pad especially where cast components are being machined. Insert is brazed in position.

Tips
Ball secured against turning.

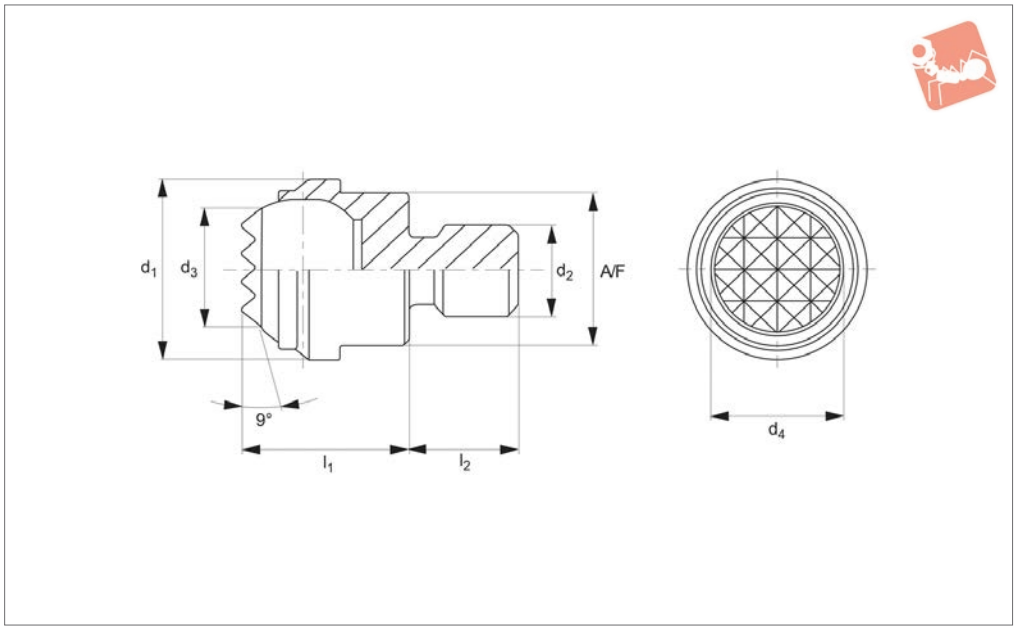
Order No.	d_1	d_2	d_3	d_4	l_1 ±0.2	l_2 -0.5	A/F	Static load kN max.	Tightening torque Nm max.	Weight g
34080.W0362	13	M 6	8.3	10	13	8	11	10	10	14.0
34080.W0363	13	M 8	8.3	10	13	8	11	10	25	16.0
34080.W0378	20	M 8	12.8	16	18	10	17	25	25	49.0
34080.W0379	20	M10	12.8	16	18	10	17	25	46	57.0
34080.W0380	20	M12	12.8	16	18	12	17	25	82	54.0
34080.W0381	30	M16	20.0	16	27	16	27	90	206	190.0
34080.W0382	50	M20	34.5	40	35	20	41	165	407	639.0
34080.W0383	50	M24	34.5	40	35	24	41	165	698	673.0



Self-Aligning Pads

hard metal ball - ribbed - stainless steel

34081

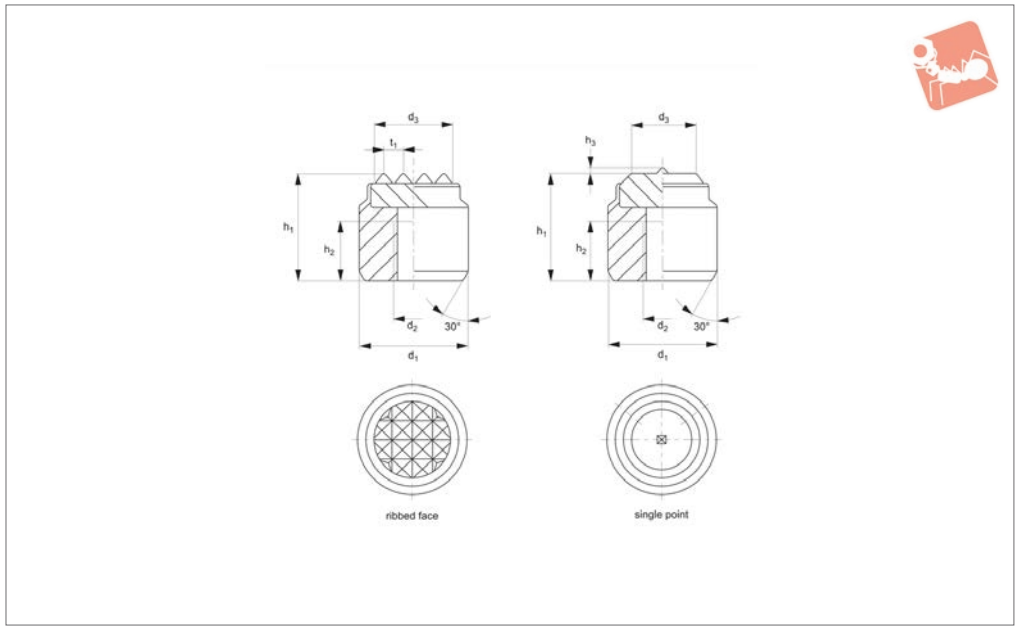


Material
Body: stainless steel (AISI 431, 1.4057), heat treated.
Ball: hard metal, nickel plated.

Technical Notes
Ideal as stop, support or thrust pad especially where cast components are being machined. Insert is brazed in position.

Tips
Ball secured against turning.

Order No.	d_1	d_2	d_3	d_4	l_1 ±0.2	l_2 -0.5	A/F	Static load kN max.	Tightening torque Nm max.	Weight g
34081.W0390	13	M 6	8.3	10	13	8	11	10	10	14.0
34081.W0392	13	M 8	8.3	10	13	8	11	10	25	16.0
34081.W0394	20	M 8	12.8	16	18	10	17	25	25	49.0
34081.W0396	20	M10	12.8	16	18	10	17	25	46	51.0
34081.W0398	20	M12	12.8	16	18	12	17	25	82	54.0
34081.W0399	30	M16	20.0	25	27	16	27	90	206	190.0
34081.W0400	50	M20	34.5	40	35	20	41	165	407	639.0
34081.W0401	50	M24	34.5	40	35	24	41	165	407	673.0



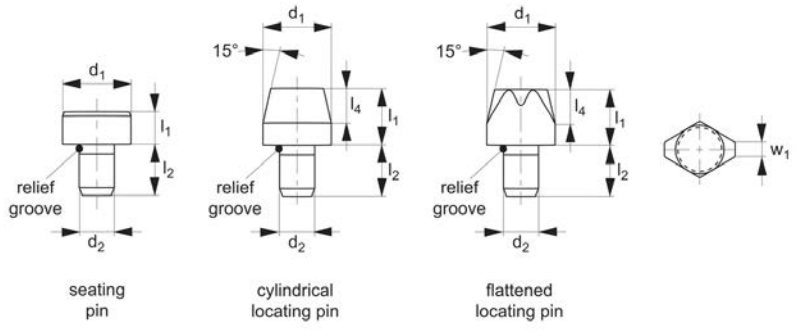
34082

Material
Body: steel, heat-treated, phosphated.
Insert: steel, heat-treated.

Technical Notes
Ideal as stop, support or thrust pad especially where cast components are being machined. Insert is brazed in position.

Order No.	Type	d_1 tol. n6	d_2	d_3 ≈	h_1	h_2 min.	h_3	t_1	Location hole tol. H7	Weight g
34082.W0208	Ribbed Face	10	M 5	7.7	13	6	-	2	10	8
34082.W0211	Ribbed Face	14	M 6	10.6	13	6	-	2	14	15
34082.W0213	Ribbed Face	16	M 6	11.9	13	6	-	3	16	20
34082.W0215	Ribbed Face	20	M 6	16.0	13	6	-	3	20	32
34082.W0217	Ribbed Face	25	M 6	21.0	13	6	-	3	25	51
34082.W0228	Single Point	10	M 5	6.3	13	6	0.8	-	10	8
34082.W0231	Single Point	14	M 6	9.3	13	6	0.8	-	14	16
34082.W0233	Single Point	16	M 6	10.0	13	6	0.8	-	16	21

36220



Material

Tool steel, hardened, ground. Bearing surface without centre.

Technical Notes

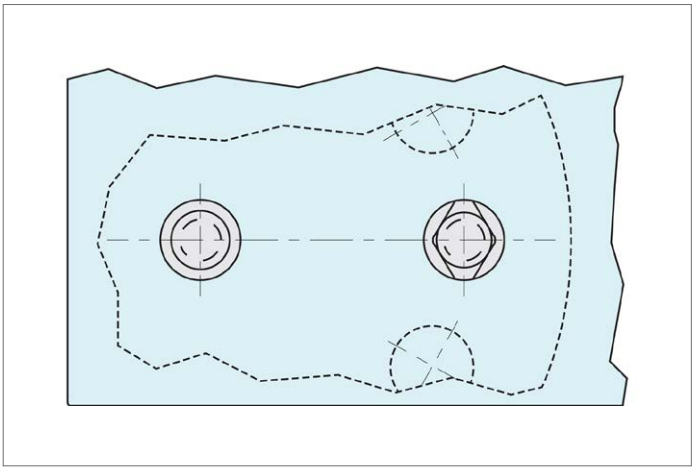
Produced to DIN 6321.
Cylindrical locating pins serve to locate workpieces and fixture elements into toleranced holes. The flattened locating pin can be used to overcome differences in tolerances, between holes or to position an element in one direction only.
Standard seating pins 36220.W0011 to .W0014 only, have tolerance h9 on dimension l_1, and can act as bearing surfaces for tools and jigs.

Tips

Suggested hole tolerance for shaft d_2, is a hole to H7.
For standard type length tolerance is $h_{<9}$, for all other types length tolerance is ±0,1.

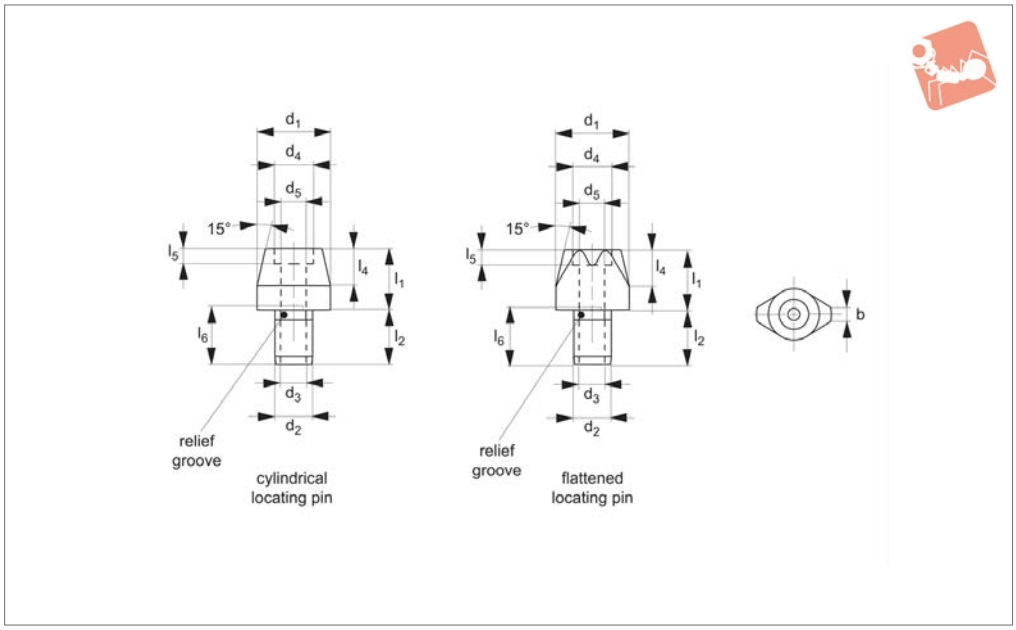
Order No.	Size	Type	d_1 tol. g6	l_1	d_2 tol. n6	l_2	l_3	w_1	Weight g
36220.W0011	Short	Standard seating pin	6	5	4	6	-	-	2
36220.W0012	Short	Standard seating pin	10	6	6	9	-	-	6
36220.W0013	Short	Standard seating pin	16	8	8	12	-	-	17
36220.W0014	Short	Standard seating pin	25	10	12	18	-	-	50
36220.W0020	Short	Cylindrical locating pin	6	7	4	6	4	-	2
36220.W0021	Long	Cylindrical locating pin	6	12	4	6	6	-	3
36220.W0022	Short	Cylindrical locating pin	8	10	6	9	6	-	5
36220.W0023	Long	Cylindrical locating pin	8	16	6	9	6	-	8
36220.W0024	Short	Cylindrical locating pin	10	10	6	9	8	-	7
36220.W0025	Long	Cylindrical locating pin	10	18	6	9	9	-	12
36220.W0026	Short	Cylindrical locating pin	12	10	6	9	9	-	10
36220.W0027	Long	Cylindrical locating pin	12	18	6	9	4	-	17
36220.W0028	Short	Cylindrical locating pin	16	13	8	12	4	-	23
36220.W0029	Long	Cylindrical locating pin	16	22	8	12	6	-	36
36220.W0030	Short	Cylindrical locating pin	20	15	12	18	6	-	47
36220.W0031	Long	Cylindrical locating pin	20	25	12	18	6	-	72
36220.W0032	Short	Cylindrical locating pin	25	15	12	18	6	-	66
36220.W0033	Long	Cylindrical locating pin	25	25	12	18	6	-	106
36220.W0040	Short	Diamond locating pin	6	7	4	6	6	1.0	2
36220.W0041	Long	Diamond locating pin	6	12	4	6	8	1.0	2
36220.W0042	Short	Diamond locating pin	8	10	6	9	8	1.6	5
36220.W0043	Long	Diamond locating pin	8	16	6	9	9	1.6	6
36220.W0044	Short	Diamond locating pin	10	10	6	9	9	2.5	6
36220.W0045	Long	Diamond locating pin	10	18	6	9	9	2.5	9
36220.W0046	Short	Diamond locating pin	12	10	6	9	9	2.5	7
36220.W0047	Long	Diamond locating pin	12	18	6	9	4	2.5	11
36220.W0048	Short	Diamond locating pin	16	13	8	12	6	3.5	17
36220.W0049	Long	Diamond locating pin	16	22	8	12	6	3.5	26
36220.W0050	Short	Diamond locating pin	20	15	12	18	6	5.0	39
36220.W0051	Long	Diamond locating pin	20	25	12	18	8	5.0	55

Order No.	Size	Type	d_1 tol. g6	l_1	d_2 tol. n6	l_2	l_3	w_1	Weight g
36220.W0052	Short	Diamond locating pin	25	15	12	18	9	5.0	49
36220.W0053	Long	Diamond locating pin	25	25	12	18	9	5.0	72



Locating Pins
with bore holes - similar to DIN 6321

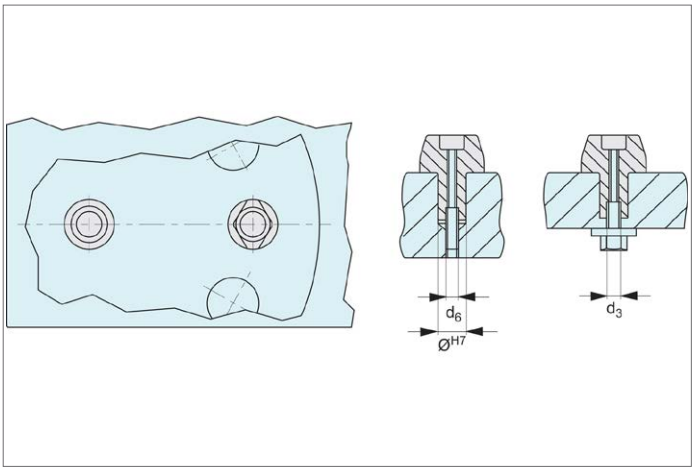
36240



Material
Case hardened steel, blackened and ground.

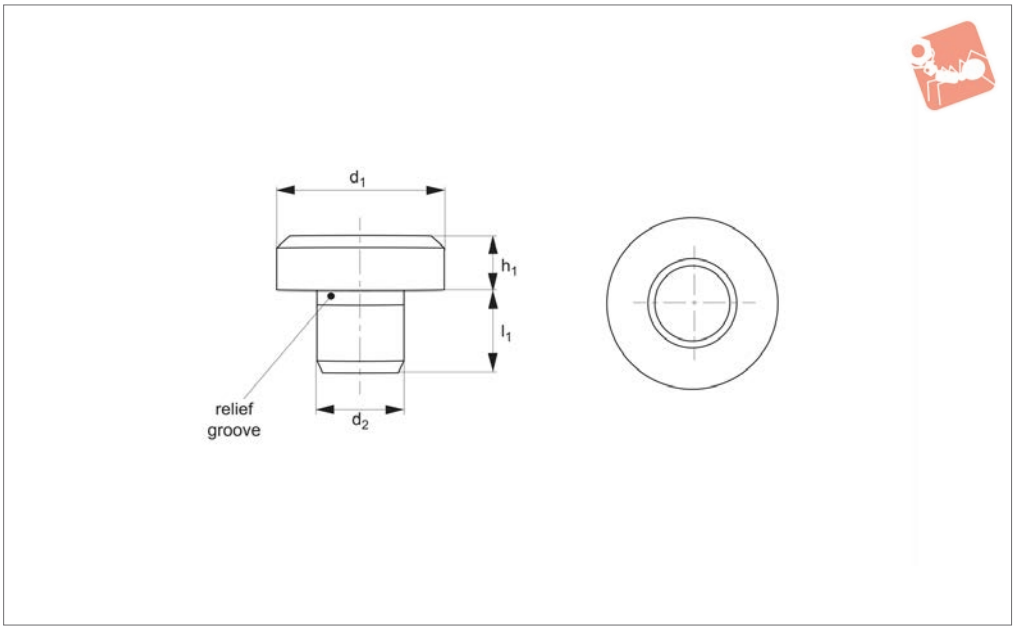
Technical Notes
Cylindrical locating pins for locating work pieces in toleranced holes and also to be used as stops and feet. Flattened locating pins used to overcome differences in tolerances, between holes or to position an element in one direction only.
Outer dimensions similar to DIN 63210.
For additional safety these parts can be secured to the jig from above, see dimension d_6 for cap screw size, or from below, see dimension d_3 for thread size.
*** size d_1 = 6, can only be fixed from above.**
Suggested hole tolerance for shaft d_2, is a hole to H7.

Order No.	Type	b	d_1 tol. g6	l_1	d_2 tol. k6	l_2	d_3	d_4	l_4	d_5	l_5	d_6	l_6	Weight g
36240.W0220	Cylindrical	-	6*	7	4	6	-	-	4	2.1	-	M2,0	-	1.2
36240.W0221	Cylindrical	-	6*	12	4	6	-	-	4	2.1	-	M2,0	-	2.0
36240.W0222	Cylindrical	-	8	10	6	9	M 3	-	6	2.6	-	M2,5	10	3.9
36240.W0223	Cylindrical	-	8	16	6	9	M 3	-	6	2.6	-	M2,5	10	6.6
36240.W0224	Cylindrical	-	10	10	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	5.9
36240.W0225	Cylindrical	-	10	18	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	8.5
36240.W0226	Cylindrical	-	12	10	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	8.4
36240.W0227	Cylindrical	-	12	18	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	10.5
36240.W0228	Cylindrical	-	16	13	8	12	M 4	6.5	8	3.3	3.1	M3,0	13	19.5
36240.W0229	Cylindrical	-	16	22	8	12	M 4	6.5	8	3.3	3.1	M3,0	13	27.7
36240.W0230	Cylindrical	-	20	15	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	39.5
36240.W0231	Cylindrical	-	20	25	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	53.5
36240.W0232	Cylindrical	-	25	15	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	57.5
36240.W0233	Cylindrical	-	25	25	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	87.5
36240.W0240	Flattened	1.0	6*	7	4	6	-	-	4	2.1	-	M2,0	-	0.7
36240.W0241	Flattened	1.0	6*	12	4	6	-	-	4	2.1	-	M2,0	-	0.9
36240.W0242	Flattened	1.6	8	10	6	9	M 3	-	6	2.6	-	M2,5	10	2.9
36240.W0243	Flattened	1.6	8	16	6	9	M 3	-	6	2.6	-	M2,5	10	4.1
36240.W0244	Flattened	2.5	10	10	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	4.5
36240.W0245	Flattened	2.5	10	18	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	7.4
36240.W0246	Flattened	2.5	12	10	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	5.9
36240.W0247	Flattened	2.5	12	18	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	9.8
36240.W0248	Flattened	3.5	16	13	8	12	M 4	6.5	8	3.3	3.1	M3,0	13	14.5
36240.W0249	Flattened	3.5	16	22	8	12	M 4	6.5	8	3.3	3.1	M3,0	13	22.2
36240.W0250	Flattened	5.0	20	15	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	30.3
36240.W0251	Flattened	5.0	20	25	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	43.9
36240.W0252	Flattened	5.0	25	15	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	40.6
36240.W0253	Flattened	5.0	25	25	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	61.7


d6
ØH7
d3

Seating Pins

36300

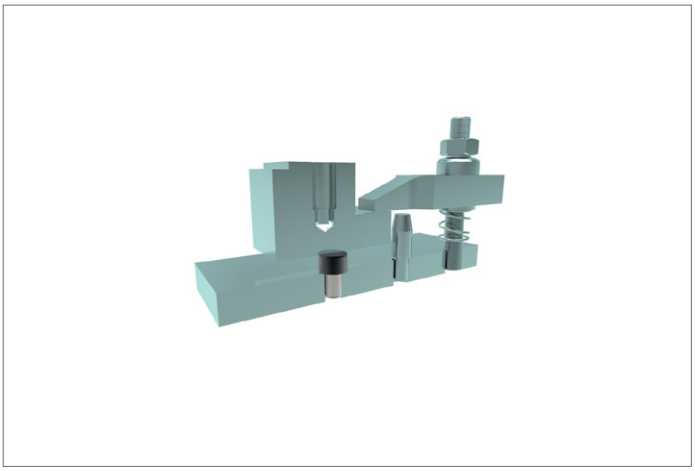


Material
Tool steel (DIN 6321), hardened and ground.

Technical Notes
Bearing surface without centering.

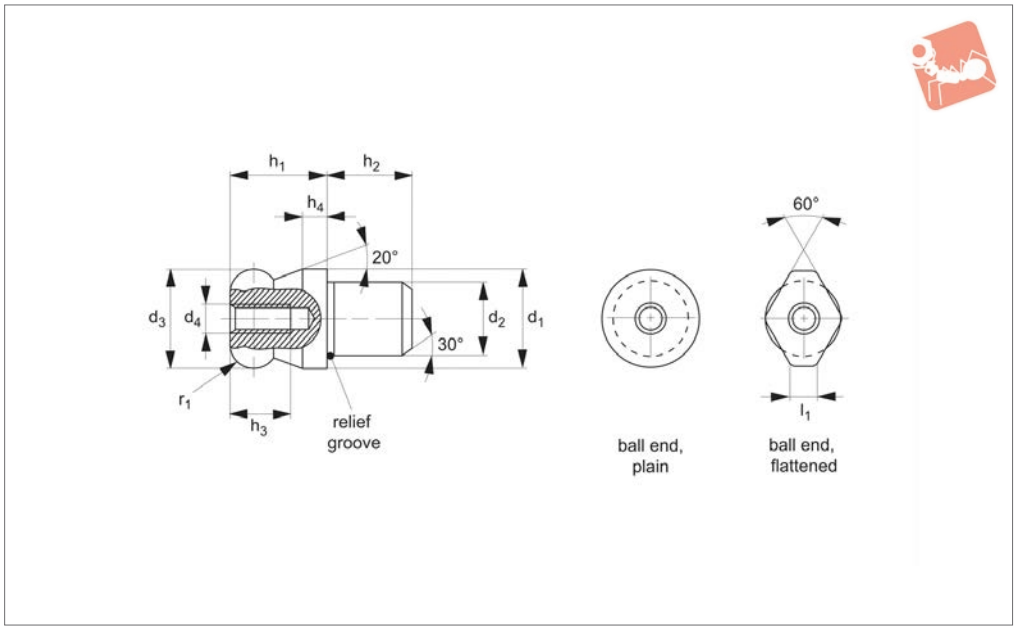
Seating pins serve as bearing surfaces for tools and jigs.
Suggested hole tolerance for shaft d_2 is a hole to N6.

Order No.	Type	d_1	l_1	d_2 tol. N6	h_1 tol. H9	Location hole = d_2 to tol. H7	Weight g
36300.W0001	DIN 6321 Standard	6	6.0	4	5.0	4	1.8
36300.W0002	DIN 6321 Standard	10	8.0	6	8.0	6	6.5
36300.W0003	DIN 6321 Standard	16	10.0	8	5.0	8	11
36300.W0004	DIN 6321 Standard	16	10.0	8	13.0	8	24
36300.W0005	DIN 6321 Standard	25	14.0	12	8.0	12	41
36300.W0006	DIN 6321 Standard	25	14.0	12	20.0	12	88
36300.W0007	DIN 6321 Standard	40	20.0	20	13.0	20	171
36300.W0008	DIN 6321 Standard	40	20.0	20	32.0	20	358
36300.W0110	Intermediate Sizes	6	6.5	4	2.5	4	1.2
36300.W0112	Intermediate Sizes	6	8.5	4	4.5	4	1.9
36300.W0116	Intermediate Sizes	8	8.0	5	4.0	5	3.1
36300.W0118	Intermediate Sizes	8	8.0	5	7.0	5	4.2
36300.W0120	Intermediate Sizes	10	8.5	6	4.5	6	4.4
36300.W0124	Intermediate Sizes	12	10.0	6	6.0	6	7.6
36300.W0126	Intermediate Sizes	12	10.0	6	10.0	6	11
36300.W0130	Intermediate Sizes	20	12.0	10	6.0	10	21
36300.W0132	Intermediate Sizes	20	12.0	10	12.0	10	36
36300.W0135	Intermediate Sizes	25	14.0	12	30.0	12	125
36300.W0137	Intermediate Sizes	30	20.0	16	25.0	16	164
36300.W0140	Intermediate Sizes	30	20.0	16	40.0	16	248
36300.W0144	Intermediate Sizes	30	20.0	16	50.0	16	305
36300.W0148	Intermediate Sizes	30	20.0	16	65.0	16	385
36300.W0152	Intermediate Sizes	30	20.0	20	80.0	20	485
36300.W0156	Intermediate Sizes	30	20.0	20	100.0	20	594



Location Pins
ball end

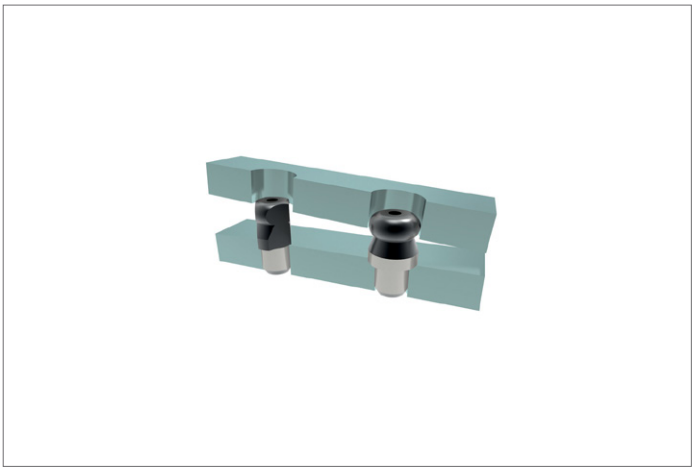
36340



Material
Steel type:
Tool steel, hardened, blackened and ground.
Stainless steel type:
Stainless steel (AISI 303, 1.4305), ground, surface heat-treated.

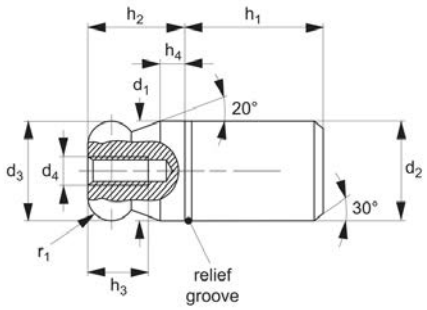
Technical Notes
Ball ended straight pins facilitate inserting workpieces and avoid clamping inclination. Suggested installation is a hole = d_2 H7 tolerance.

Order No.	Type	Material	d_1 tol. g6	l_1	d_2 tol. n6	d_3 -0.01 | -0.05	d_4	h_1	h_2	h_3	h_4	r_1	Weight g
36340.W0310	Plain	Steel	10	-	7	10	M 3	10	7	6	2.5	2.5	7
36340.W0312	Plain	Steel	12	-	8	12	M 4	12	8	8	3.0	3.0	11
36340.W0316	Plain	Steel	16	-	12	16	M 5	16	12	10	4.0	4.0	30
36340.W0320	Plain	Steel	20	-	14	20	M 5	20	14	10	5.0	5.0	57
36340.W0322	Plain	Steel	22	-	16	22	M 5	22	16	10	5.5	5.5	79
36340.W0325	Plain	Steel	25	-	18	25	M 5	25	18	10	6.0	6.0	116
36340.W0410	Flattened	Steel	10	2.5	7	10	M 3	10	7	6	2.5	2.5	5
36340.W0412	Flattened	Steel	12	2.5	8	12	M 4	12	8	8	3.0	3.0	8
36340.W0416	Flattened	Steel	16	4.3	12	16	M 5	16	12	10	4.0	4.0	23
36340.W0420	Flattened	Steel	20	5.0	14	20	M 5	20	14	10	5.0	5.0	45
36340.W0422	Flattened	Steel	22	5.0	16	22	M 5	22	16	10	5.5	5.5	62
36340.W0425	Flattened	Steel	25	5.6	18	25	M 5	25	18	10	6.0	6.0	91
36340.W0350	Plain	Stainless	10	-	7	10	M 3	10	7	6	2.5	2.5	7
36340.W0352	Plain	Stainless	12	-	8	12	M 4	12	8	8	3.0	3.0	11
36340.W0356	Plain	Stainless	16	-	12	16	M 5	16	12	10	4.0	4.0	30
36340.W0360	Plain	Stainless	20	-	14	20	M 5	20	14	10	5.0	5.0	57
36340.W0450	Flattened	Stainless	10	2.5	7	10	M 3	10	7	6	2.5	2.5	5
36340.W0452	Flattened	Stainless	12	2.5	8	12	M 4	12	8	8	3.0	3.0	8
36340.W0456	Flattened	Stainless	16	4.3	12	16	M 5	16	12	10	4.0	4.0	23
36340.W0460	Flattened	Stainless	20	5.0	14	20	M 5	20	14	10	5.0	5.0	45



Location Pins - Non-Stepped
ball end

36341



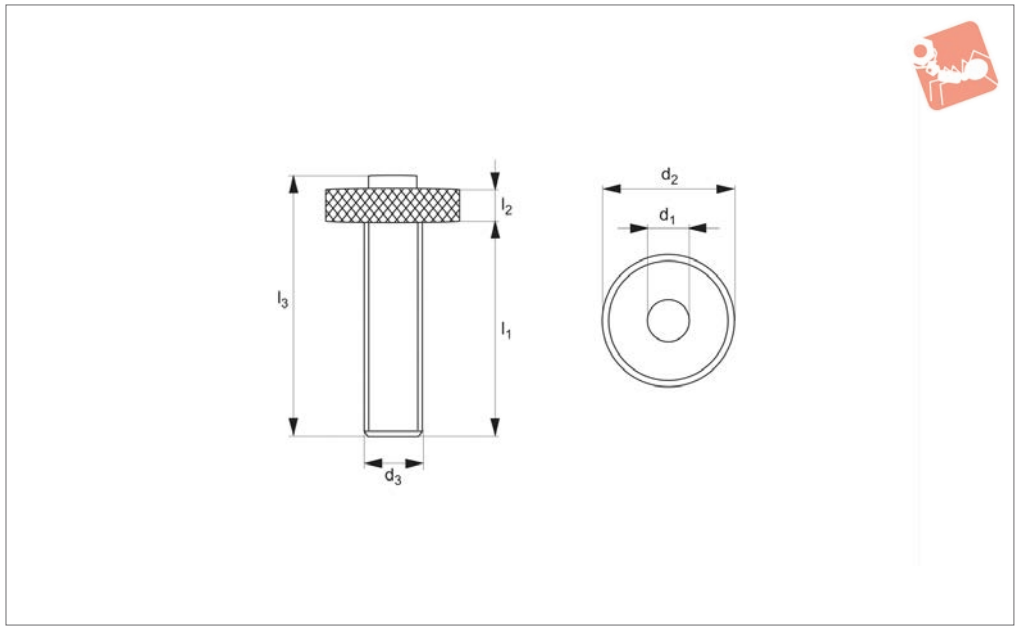

ball end, plain

ball end, flattened

Material
Steel type:
Tool steel, hardened, ground, blackened.
Stainless steel type:
Stainless steel 1.4305 (AISI 303), ground, surface heat-treated.

Technical Notes
Ball ended straight pins facilitate inserting workpieces and avoid clamping inclination.
Suggested installation is a hole = d_2 H7

Order No.	Type	Material	d_1 tol. g6	l_1	d_2 tol. n6	d_3 -0.01 | -0.05	d_4	h_1	h_2	h_3	h_4	r_1	Weight g
36341.W0508	Plain	Steel	8	-	8	8	M 3	10	8	6	2.0	2.0	6
36341.W0510	Plain	Steel	10	-	10	10	M 3	13	10	6	2.5	2.5	12
36341.W0512	Plain	Steel	12	-	12	12	M 4	15	12	8	3.0	3.0	21
36341.W0516	Plain	Steel	16	-	16	16	M 5	20	16	10	4.0	4.0	51
36341.W0520	Plain	Steel	20	-	20	20	M 5	25	20	10	5.0	5.0	101
36341.W0525	Plain	Steel	25	-	25	25	M 5	25	25	10	6.0	6.0	176
36341.W0530	Plain	Steel	30	-	30	30	M 6	30	30	12	8.0	8.0	307
36341.W0540	Plain	Steel	40	-	40	40	M 6	40	40	12	10.0	10.0	729
36341.W0550	Plain	Steel	50	-	50	50	M 6	50	50	12	12.0	12.0	1422
36341.W0608	Flattened	Steel	8	1.9	8	8	M 3	10	8	6	2.0	2.0	5
36341.W0610	Flattened	Steel	10	2.5	10	10	M 3	13	10	6	2.5	2.5	11
36341.W0612	Flattened	Steel	12	2.5	12	12	M 4	15	12	8	3.0	3.0	17
36341.W0616	Flattened	Steel	16	4.3	16	16	M 5	20	16	10	4.0	4.0	44
36341.W0620	Flattened	Steel	20	5.0	20	20	M 5	25	20	10	5.0	5.0	88
36341.W0625	Flattened	Steel	25	5.6	25	25	M 5	25	25	10	6.0	6.0	149
36341.W0630	Flattened	Steel	30	8.8	30	30	M 6	30	30	12	8.0	8.0	270
36341.W0640	Flattened	Steel	40	12.8	40	40	M 6	40	40	12	10.0	10.0	657
36341.W0650	Flattened	Steel	50	16.7	50	50	M 6	50	50	12	12.0	12.0	1243
36341.W0568	Plain	Stainless	8	-	8	8	M 3	10	8	6	2.0	2.0	6
36341.W0570	Plain	Stainless	10	-	10	10	M 3	13	10	6	2.5	2.5	12
36341.W0572	Plain	Stainless	12	-	12	12	M 4	15	12	8	3.0	3.0	21
36341.W0576	Plain	Stainless	16	-	16	16	M 5	20	16	10	4.0	4.0	51
36341.W0580	Plain	Stainless	20	-	20	20	M 5	25	20	10	5.0	5.0	101
36341.W0668	Flattened	Stainless	8	1.9	8	8	M 3	10	8	6	2.0	2.0	5
36341.W0670	Flattened	Stainless	10	2.5	10	10	M 3	13	10	6	2.5	2.5	11
36341.W0672	Flattened	Stainless	12	2.5	12	12	M 4	15	12	8	3.0	3.0	17
36341.W0676	Flattened	Stainless	16	4.3	16	16	M 5	20	16	10	4.0	4.0	44
36341.W0680	Flattened	Stainless	20	5.0	20	20	M 5	25	20	10	5.0	5.0	88



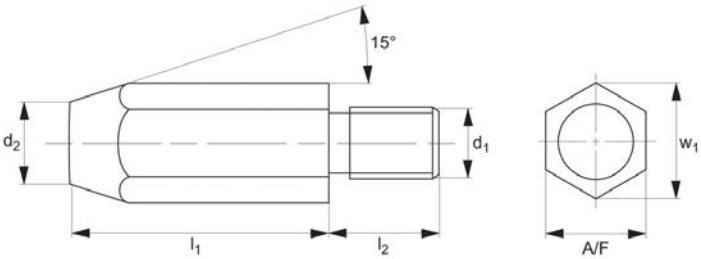
18420

Material
Steel, heat-treated.

Order No.	d_1	d_2	d_3	l_1	l_2	l_3	Weight g
18420.W0001	12	28	M12	46	8	58	70
18420.W0002	16	34	M16	57	9	72	150

Locating Feet
threaded shank

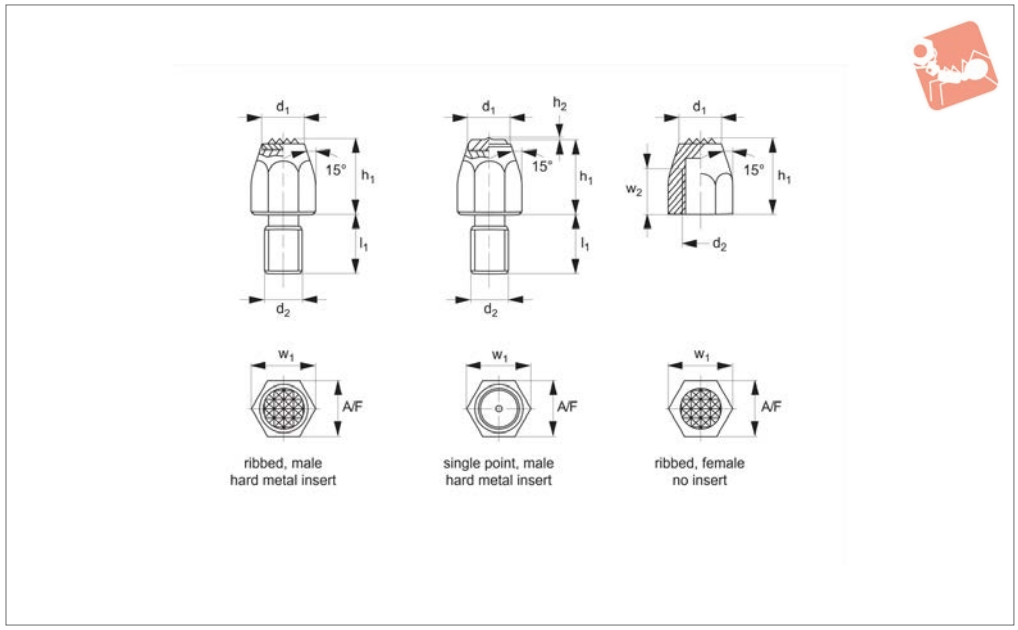
36000



Material
Heat-treated steel (DIN 6320), blackened, turned, unhardened.

Technical Notes
Bearing surface without centre.
Locating pins nos. 36220 and 36300 can also be used as feet.

Order No.	d_1	l_1	d_2	l_2	w_1	A/F	Torque to Nm max.	Weight g
36000.W0061	M 6	10	8	11	11.5	10	7	8
36000.W0062	M 6	20	6	11	11.5	10	7	13
36000.W0081	M 8	15	10	13	15.0	13	7	19
36000.W0082	M 8	30	9	13	15.0	13	18	35
36000.W0101	M10	20	13	16	19.6	17	32	41
36000.W0102	M10	40	13	16	19.6	17	32	81
36000.W0121	M12	25	15	20	21.9	19	60	70
36000.W0122	M12	50	15	20	21.9	19	60	129



36200

Material

With hard metal insert:
Body: heat-treated steel, tempered, blackened.
Insert: hard metal, brazed-in.

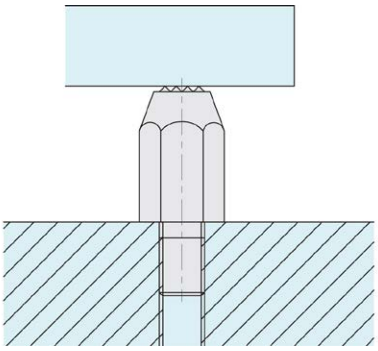
Without hard metal insert:
Body: free-cutting steel, case-hardened, blackened.

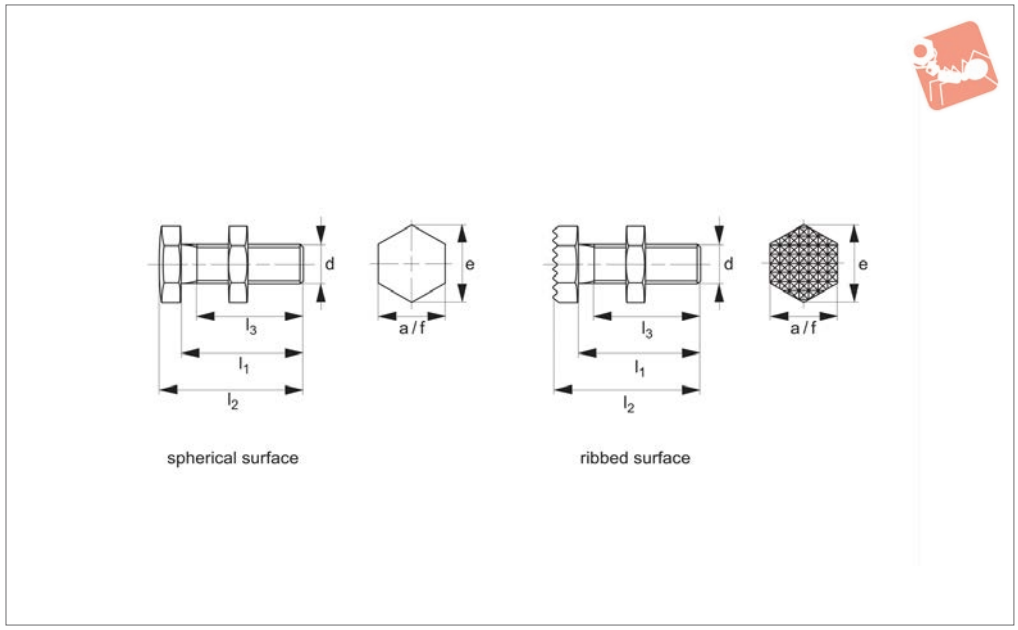
Technical Notes

For workpieces having a rough surface. The single pointed type is ideal for cast parts.

Order No.	Type	Insert material	d_1	l_1	d_2	h_1	h_2	w_1	w_2	A/F	Torque to Nm max.	Weight g
36200.W0061	Ribbed, Male	Hard Metal	9.5	11	M 6	10	-	11.5	-	10	7	9
36200.W0081	Ribbed, Male	Hard Metal	12.5	13	M 8	15	-	15.0	-	13	18	22
36200.W0101	Ribbed, Male	Hard Metal	12.5	15	M10	20	-	19.6	-	17	32	40
36200.W0121	Ribbed, Male	Hard Metal	13.8	20	M12	25	-	21.9	-	19	60	64
36200.W0063	Single Point, Male	Hard Metal	9.5	11	M 6	10	0.8	11.5	-	10	7	9
36200.W0083	Single Point, Male	Hard Metal	12.5	13	M 8	15	0.8	15.0	-	13	18	23
36200.W0103	Single Point, Male	Hard Metal	12.5	15	M10	20	0.8	19.6	-	17	32	40
36200.W0123	Single Point, Male	Hard Metal	13.8	20	M12	25	0.8	21.9	-	19	60	65
36200.W0142	Ribbed, Female	W/O Insert	9.0	-	M 8	20	-	15.0	10	13	18	14
36200.W0144	Ribbed, Female	W/O Insert	9.0	-	M 8	25	-	15.0	10	13	18	20
36200.W0164	Ribbed, Female	W/O Insert	12.5	-	M10	25	-	19.6	13	17	32	1
36200.W0166	Ribbed, Female	W/O Insert	12.5	-	M10	30	-	19.6	13	17	32	40
36200.W0168	Ribbed, Female	W/O Insert	12.5	-	M10	40	-	19.6	13	17	32	60
36200.W0184	Ribbed, Female	W/O Insert	13.0	-	M12	25	-	21.9	15	19	60	33
36200.W0186	Ribbed, Female	W/O Insert	13.0	-	M12	30	-	21.9	15	19	60	44
36200.W0188	Ribbed, Female	W/O Insert	13.0	-	M12	40	-	21.9	15	19	60	69

Locating Pins
with and without hard metal insert



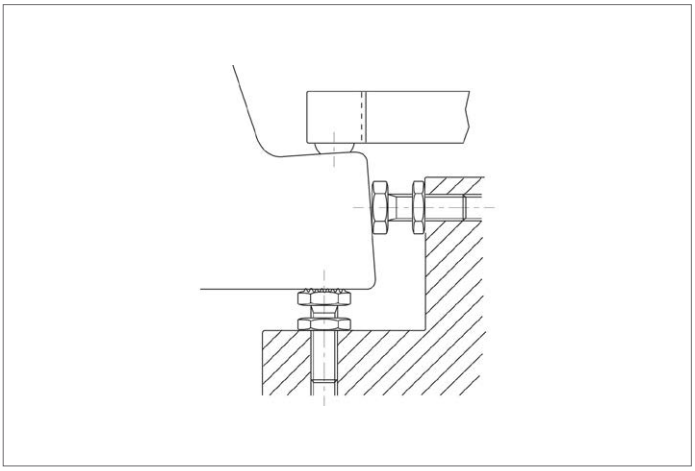


36210

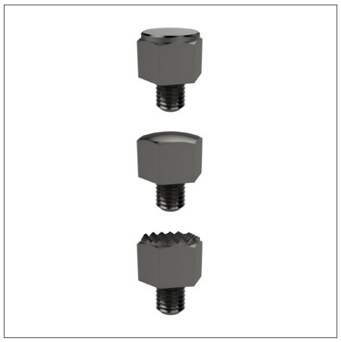
Material
Body and nut: heat treated steel, tempered, blackened and support induction hardened, quality 10,9.

Technical Notes
Ideal for use as seats and stops.

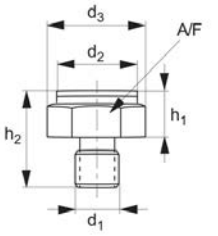
Order No.	Finish	d	l_1 ±1.5	l_2 ±1.5	l_3 min.	e	A/F	Weight g
36210.W0606	Spherical Surface	M 6	20	23.5	19.0	11.5	10	6.8
36210.W0608	Spherical Surface	M 8	25	30.0	21.0	14.5	13	15.0
36210.W0610	Spherical Surface	M10	30	36.0	25.5	19.6	17	31.0
36210.W0612	Spherical Surface	M12	35	42.0	29.7	21.9	19	48.0
36210.W0616	Spherical Surface	M16	40	49.5	34.0	27.7	24	99.0
36210.W0620	Spherical Surface	M20	45	57.0	37.0	34.6	30	179.0
36210.W0624	Spherical Surface	M24	50	64.0	40.0	41.6	36	294.0
36210.W0626	Ribbed Surface	M 6	20	23.5	19.0	11.5	10	6.7
36210.W0628	Ribbed Surface	M 8	25	30.0	21.0	14.5	13	15.0
36210.W0630	Ribbed Surface	M10	30	36.0	25.5	19.6	17	32.0
36210.W0632	Ribbed Surface	M12	35	42.0	29.7	21.9	19	49.0
36210.W0636	Ribbed Surface	M16	40	49.5	34.0	27.7	24	99.0
36210.W0640	Ribbed Surface	M20	45	57.0	37.0	34.6	30	177.0
36210.W0644	Ribbed Surface	M24	50	64.0	40.0	41.6	36	296.0



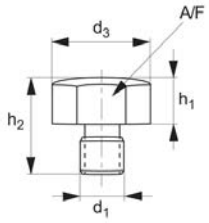
Threaded Rest Buttons
male thread



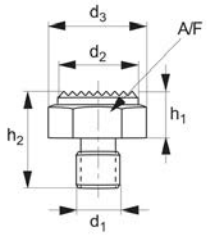
36401



flat, male



spherical, male



ribbed, male

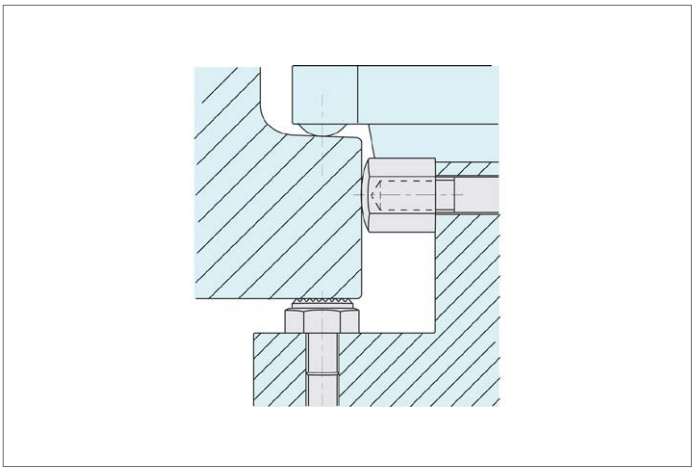
Material
Free-cutting steel, case-hardened and blackened. Thread not hardened.

Technical Notes
The buttons are used as seats, stops and thrust pads in jigs and fixtures as well as machine and equipment design. Dimension h_1 tolerance of ±0,01 for flat face type only, other types have h_1 tolerance of ±0,1. Stated starting torque for female thread is based on use of bolt of strength class 8 or greater and with full engagement of female thread.

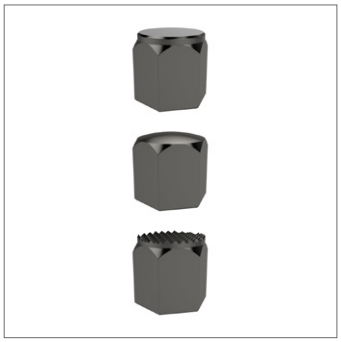
Tips
For female thread see 36402.

Order No.	Type	d_1	d_2	d_3	h_1	h_2	A/F	Torque to Nm max.	Weight g
36401.W0021	Flat Face	M 8	17	19.4	10	20	17	18	21
36401.W0031	Flat Face	M10	19	21.9	10	22	19	32	28
36401.W0032	Flat Face	M10	19	21.9	15	27	19	32	40
36401.W0001	Flat Face	M12	22	25.2	10	24	22	60	34
36401.W0002	Flat Face	M12	22	25.2	15	29	22	60	56
36401.W0042	Flat Face	M16	30	33.0	15	34	30	140	110
36401.W0043	Flat Face	M16	30	33.0	20	39	30	140	140
36401.W0052	Flat Face	M20	36	40.0	20	44	36	290	214
36401.W0053	Flat Face	M20	36	40.0	25	49	36	290	257
36401.W0062	Flat Face	M24	41	46.0	20	49	41	498	300
36401.W0063	Flat Face	M24	41	46.0	25	54	41	498	356
36401.W0064	Flat Face	M24	41	46.0	30	59	41	498	412
36401.W0121	Spherical Face	M 8	-	19.4	10	20	17	18	20
36401.W0131	Spherical Face	M10	-	21.9	10	22	19	32	30
36401.W0132	Spherical Face	M10	-	21.9	15	27	19	32	40
36401.W0101	Spherical Face	M12	-	25.2	10	24	22	60	38
36401.W0102	Spherical Face	M12	-	25.2	15	29	22	60	53
36401.W0142	Spherical Face	M16	-	33.0	15	34	30	140	105
36401.W0143	Spherical Face	M16	-	33.0	20	39	30	140	135
36401.W0152	Spherical Face	M20	-	40.0	20	44	36	290	206
36401.W0153	Spherical Face	M20	-	40.0	25	49	36	290	249
36401.W0162	Spherical Face	M24	-	46.0	20	49	41	498	258
36401.W0163	Spherical Face	M24	-	46.0	25	54	41	498	342
36401.W0164	Spherical Face	M24	-	46.0	30	59	41	498	398
36401.W0221	Ribbed Face	M 8	17	19.4	10	20	17	18	21
36401.W0231	Ribbed Face	M10	19	21.9	10	22	19	32	30
36401.W0232	Ribbed Face	M10	19	21.9	15	27	19	32	41
36401.W0201	Ribbed Face	M12	22	25.2	10	24	22	60	38
36401.W0202	Ribbed Face	M12	22	25.2	15	29	22	60	54
36401.W0242	Ribbed Face	M16	30	33.0	15	34	30	140	106
36401.W0243	Ribbed Face	M16	30	33.0	20	39	30	140	136

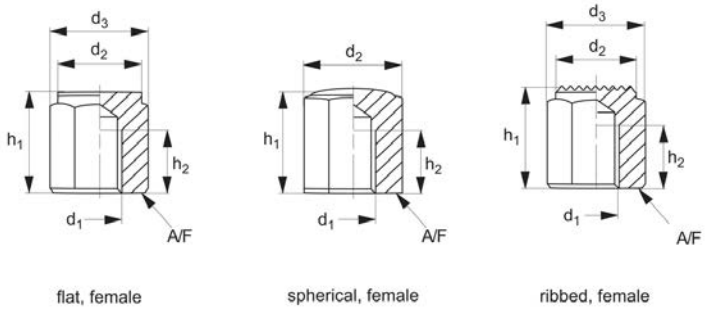
Order No.	Type	d_1	d_2	d_3	h_1	h_2	A/F	Torque to Nm max.	Weight g
36401.W0252	Ribbed Face	M20	36	40.0	20	44	36	290	206
36401.W0253	Ribbed Face	M20	36	40.0	25	49	36	290	253
36401.W0262	Ribbed Face	M24	41	46.0	20	49	41	498	297
36401.W0263	Ribbed Face	M24	41	46.0	25	54	41	498	353
36401.W0264	Ribbed Face	M24	41	46.0	30	59	41	498	410



Threaded Rest Buttons
female thread



36402



Material
Free-cutting steel, case-hardened and blackened. Thread not hardened.

Technical Notes
The buttons are used as seats, stops and thrust pads in jigs and fixtures as well as machine and equipment design. Dimension h_1 tolerance of ±0,01 for flat face type only, other types have h_1 tolerance of ±0,1. Stated starting torque for female thread is based on use of bolt strength class 8 or greater and with full engagement of female thread.

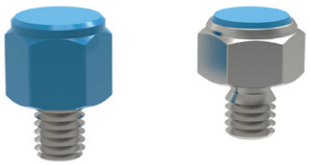
Tips
For male thread see 36401.

Order No.	Type	d_1	d_2	d_3	h_1	h_2	A/F	Torque to Nm max.	Weight g
36402.W0321	Flat Face	M 8	17	19.4	15	6	17	25	25
36402.W0323	Flat Face	M 8	17	19.4	25	12	17	25	42
36402.W0333	Flat Face	M10	19	21.9	20	10	19	46	40
36402.W0335	Flat Face	M10	19	21.9	30	15	19	46	61
36402.W0337	Flat Face	M10	19	21.9	40	15	19	46	85
36402.W0301	Flat Face	M12	22	25.2	20	10	22	82	52
36402.W0302	Flat Face	M12	22	25.2	25	15	22	82	65
36402.W0303	Flat Face	M12	22	25.2	30	18	22	82	79
36402.W0304	Flat Face	M12	22	25.2	40	18	22	82	111
36402.W0305	Flat Face	M12	22	25.2	50	18	22	82	142
36402.W0343	Flat Face	M16	30	33.0	30	20	30	206	140
36402.W0345	Flat Face	M16	30	33.0	50	24	30	206	257
36402.W0353	Flat Face	M20	36	40.0	40	26	36	407	279
36402.W0355	Flat Face	M20	36	40.0	60	38	36	407	431
36402.W0363	Flat Face	M24	41	46.0	40	26	41	698	341
36402.W0365	Flat Face	M24	41	46.0	60	38	41	698	530
36402.W0421	Spherical Face	M 8	-	19.4	15	6	17	25	23
36402.W0423	Spherical Face	M 8	-	19.4	25	12	17	25	41
36402.W0433	Spherical Face	M10	-	21.9	20	10	19	46	38
36402.W0435	Spherical Face	M10	-	21.9	30	15	19	46	60
36402.W0437	Spherical Face	M10	-	21.9	40	15	19	46	84
36402.W0401	Spherical Face	M12	-	25.2	20	10	22	82	50
36402.W0402	Spherical Face	M12	-	25.2	25	15	22	82	62
36402.W0403	Spherical Face	M12	-	25.2	30	18	22	82	76
36402.W0404	Spherical Face	M12	-	25.2	40	18	22	82	109
36402.W0405	Spherical Face	M12	-	25.2	50	18	22	82	141
36402.W0443	Spherical Face	M16	-	33.0	30	20	30	206	136
36402.W0445	Spherical Face	M16	-	33.0	50	24	30	206	252
36402.W0453	Spherical Face	M20	-	40.0	40	26	36	407	272
36402.W0455	Spherical Face	M20	-	40.0	60	38	36	407	423

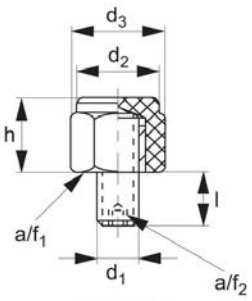
Order No.	Type	d_1	d_2	d_3	h_1	h_2	A/F	Torque to Nm max.	Weight g
36402.W0463	Spherical Face	M24	-	46.0	40	26	41	698	340
36402.W0465	Spherical Face	M24	-	46.0	60	38	41	698	530
36402.W0521	Ribbed Face	M 8	17	19.4	15	6	17	25	24
36402.W0523	Ribbed Face	M 8	17	19.4	25	12	17	25	41
36402.W0533	Ribbed Face	M10	19	21.9	20	10	19	46	38
36402.W0535	Ribbed Face	M10	19	21.9	30	15	19	46	60
36402.W0537	Ribbed Face	M10	19	21.9	40	15	19	46	84
36402.W0501	Ribbed Face	M12	22	25.2	20	10	22	82	50
36402.W0502	Ribbed Face	M12	22	25.2	25	15	22	82	63
36402.W0503	Ribbed Face	M12	22	25.2	30	18	22	82	77
36402.W0504	Ribbed Face	M12	22	25.2	40	18	22	82	109
36402.W0505	Ribbed Face	M12	22	25.2	50	18	22	82	141
36402.W0543	Ribbed Face	M16	30	33.0	30	20	30	206	137
36402.W0545	Ribbed Face	M16	30	33.0	50	24	30	206	254
36402.W0553	Ribbed Face	M20	36	40.0	40	26	36	407	266
36402.W0555	Ribbed Face	M20	36	40.0	60	38	36	407	418
36402.W0563	Ribbed Face	M24	41	46.0	40	26	41	698	338
36402.W0565	Ribbed Face	M24	41	46.0	60	38	41	698	528

Screwed Rest Buttons - Plastic

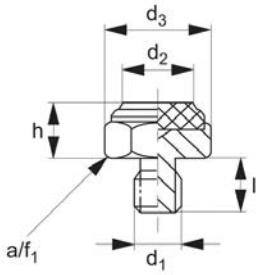
male thread



36403



Type One



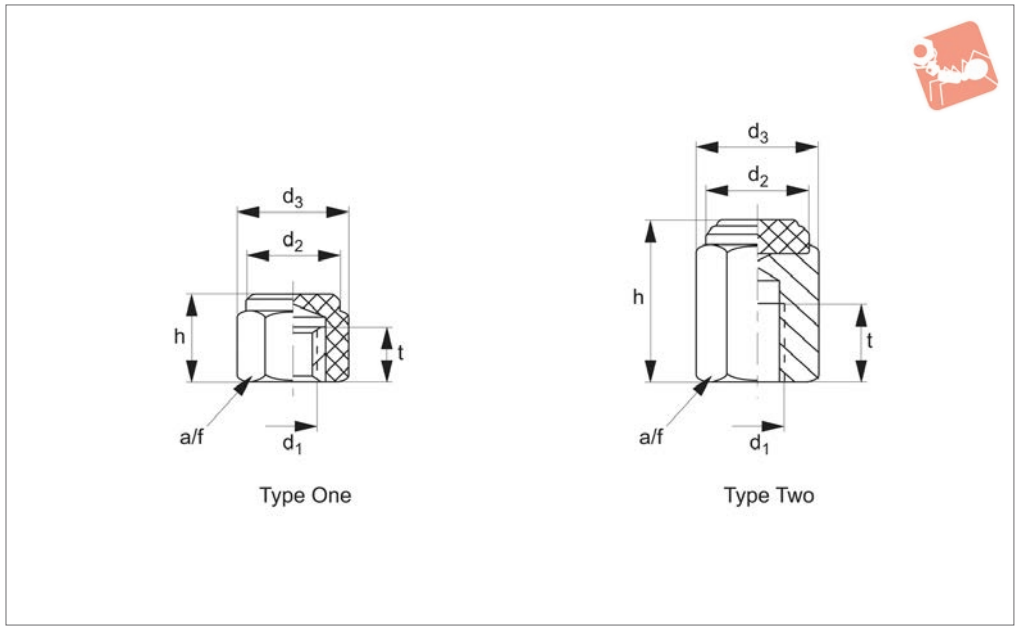
Type Two

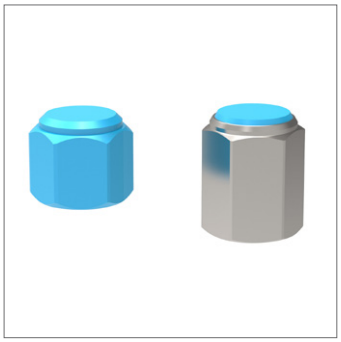
Material
Body: stainless steel 1.4305
Pad: plastic (PEEK), blue

Technical Notes
The buttons are used as seats, stops, supports and thrust pads in jigs and fixtures as well as machine and equipment design.
Temperature range -60 to +250°C.

Tips
For female thread see 36404.

Order No.	d_1	d_2	d_3	h ±0.1	l	A/F_1	A/F_2	Static load kN max.	Tightening torque Nm max.	Weight g
36403.W0122	M 8	17.0	19.0	15	8	17	4	2.1	10	12
36403.W0133	M10	19.0	21.5	20	10	19	5	2.4	10	18
36403.W0143	M12	22.0	25.0	20	14	22	6	3.4	10	24
36403.W0021	M 8	12.5	19.4	10	10	17	-	2.8	18	15
36403.W0031	M10	14.5	21.9	10	12	19	-	3.8	2	21
36403.W0032	M10	14.5	21.9	15	12	19	-	3.8	32	33
36403.W0041	M12	17.5	25.2	10	14	22	-	5.5	60	30
36403.W0042	M12	17.5	25.2	15	14	22	-	5.5	60	46





36404

Material
Body: stainless steel 1.4305
Pad: plastic (PEEK), blue

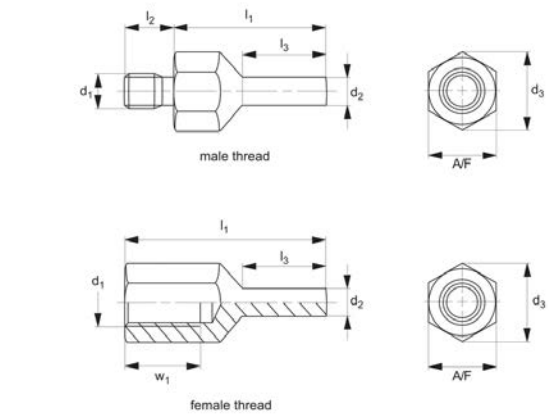
Technical Notes
The buttons are used as seats, stops, supports and thrust pads in jigs and fixtures as well as machine and equipment design.
Stated starting torque for female thread is based on use of bolt strength class 8 or greater, and with full engagement of female thread.
Temperature range -60 to +250°C.

Tips
For male thread see 36403.

Order No.	Type	d_1	d_2	d_3	h_1 ±0.1	t_1	A/F_1	Static load kN	Tightening torque Nm max.	Weight g
36404.W0222	One	M 8	17.0	19.0	15	9	-	2.1	10	7
36404.W0233	One	M10	19.0	21.5	20	10	-	2.4	10	11
36404.W0243	One	M12	22.0	25.0	20	12	-	3.4	10	16
36404.W0324	Two	M 8	12.5	19.4	25	12	17	2.8	18	36
36404.W0335	Two	M10	14.5	21.9	30	15	19	3.8	32	54
36404.W0345	Two	M12	17.5	25.2	30	18	22	5.5	60	71

Locating Pins
pin shaped

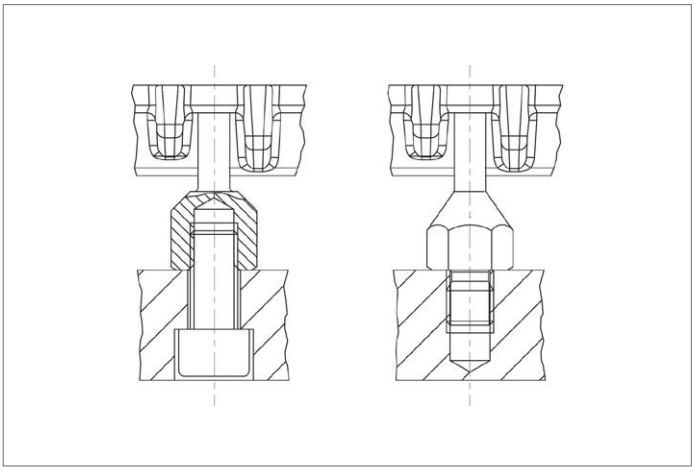
36440



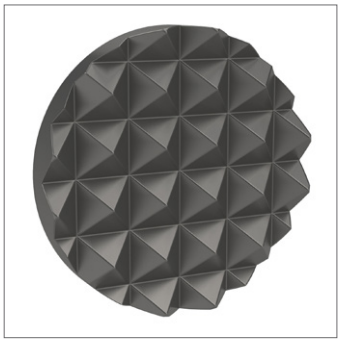
Material
Heat-treated steel, blackened. Surface induction hardened and ground.

Technical Notes
To be used as solid and precise seat and stop. The pin-shaped form of this locating pin allows an application in components with narrow seating points.

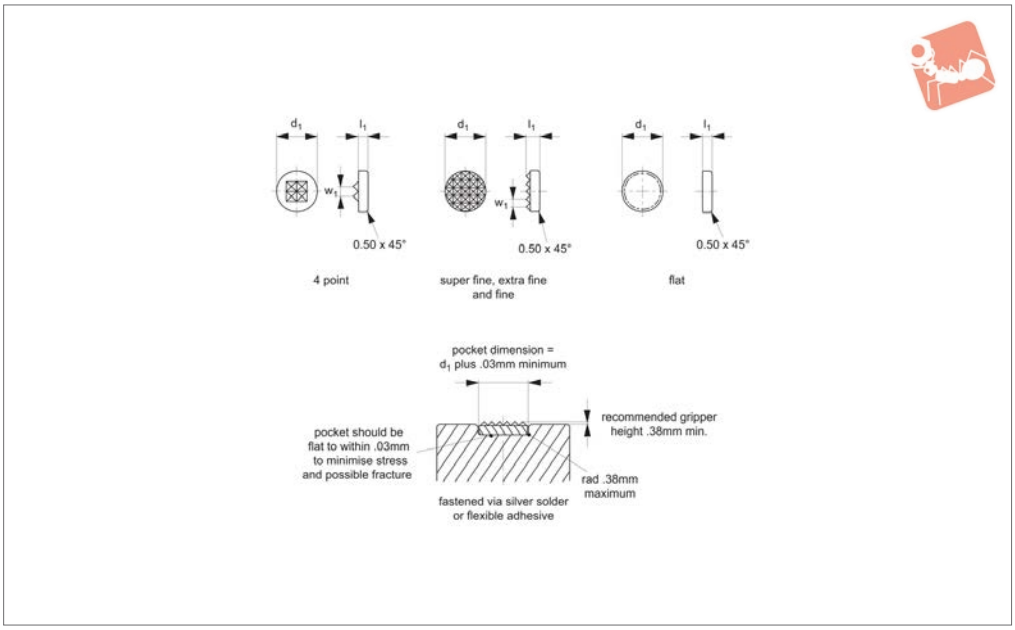
Order No.	Finish	d_1	l_1 ±0.01	d_2	l_2	d_3	l_3	w_1	A/F	Torque to Nm max.	Weight g
36440.W0402	Male Thread	M 6	20	4	8	11.0	10.0	-	10	7	8
36440.W0404	Male Thread	M 6	30	4	8	11.0	15.0	-	10	7	12
36440.W0412	Male Thread	M 8	30	4	10	14.4	15.0	-	13	18	17
36440.W0414	Male Thread	M 8	40	4	10	14.4	20.0	-	13	18	23
36440.W0416	Male Thread	M 8	30	6	10	14.4	15.0	-	13	18	20
36440.W0418	Male Thread	M 8	40	6	10	14.4	20.0	-	13	18	27
36440.W0422	Male Thread	M10	30	6	14	19.0	15.0	-	17	32	30
36440.W0424	Male Thread	M10	50	6	14	19.0	25.0	-	17	32	51
36440.W0426	Male Thread	M10	30	8	14	19.0	15.0	-	17	32	35
36440.W0428	Male Thread	M10	50	8	14	19.0	25.0	-	17	32	58
36440.W0432	Male Thread	M12	40	6	14	21.2	20.0	-	19	60	48
36440.W0434	Male Thread	M12	60	6	14	21.2	30.0	-	19	60	75
36440.W0436	Male Thread	M12	40	8	14	21.2	20.0	-	19	60	56
36440.W0438	Male Thread	M12	60	8	14	21.2	30.0	-	19	60	83
36440.W0452	Female Thread	M 6	20	4	-	11.0	8.5	6	10	7	6
36440.W0454	Female Thread	M 6	30	4	-	11.0	13.5	9	10	7	9
36440.W0462	Female Thread	M 8	30	4	-	14.4	13.0	10	13	18	13
36440.W0464	Female Thread	M 8	40	4	-	14.4	18.0	14	13	18	18
36440.W0466	Female Thread	M 8	30	6	-	14.4	13.0	10	13	18	16
36440.W0468	Female Thread	M 8	40	6	-	14.4	18.0	14	13	18	21
36440.W0472	Female Thread	M10	30	6	-	19.0	12.0	10	17	32	24
36440.W0474	Female Thread	M10	50	6	-	19.0	25.0	15	17	32	38
36440.W0476	Female Thread	M10	30	8	-	19.0	12.0	10	17	32	28
36440.W0478	Female Thread	M10	50	8	-	19.0	25.0	15	17	32	44
36440.W0482	Female Thread	M12	40	6	-	21.2	18.0	12	19	60	36
36440.W0484	Female Thread	M12	60	6	-	21.2	28.0	18	19	60	56
36440.W0486	Female Thread	M12	40	8	-	21.2	18.0	12	19	60	41
36440.W0488	Female Thread	M12	60	8	-	21.2	28.0	18	19	60	63



Gripper Pads - Carbide
round



35300

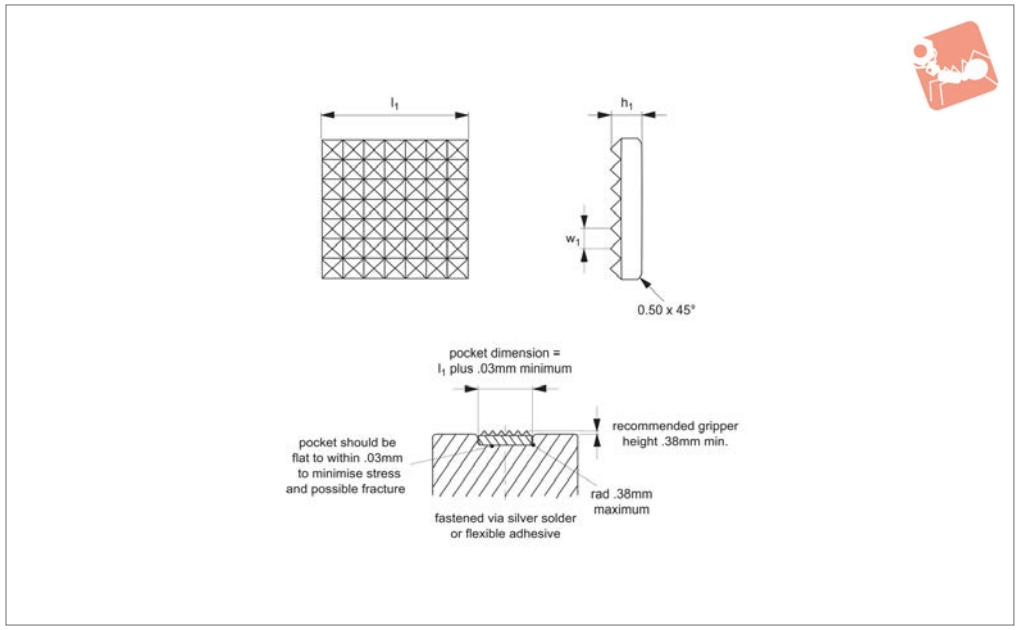


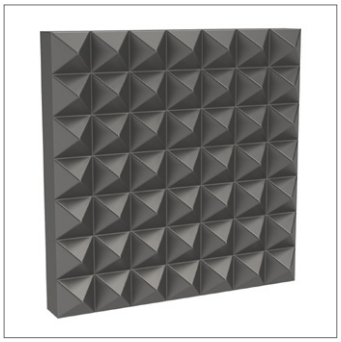
Material
Solid carbide.

Technical Notes
Solid carbide pads are mounted into fixtures and press down on the surface of the clamped workpiece to give safe holding without distortion. Carbide insert pads are especially suited for clamping cast and forged parts, as well as delicate workpieces such as pipes and tubes. Carbide insert pads can be built into clamps, stops and fixtures as well as chucks and vices.

Tips
Can be fastened via silver solder or a flexible adhesive. Note installation recommendations in technical diagram.

Order No.	Tooth pattern	d_1 +0.00|-0.13	l_1 +0.13|-0.00	w_1
35300.W0004	4 Point	7.9	3.2	3,9x90°
35300.W0008	4 Point	9.5	3.2	3,9x90°
35300.W0012	4 Point	11.1	3.2	3,9x90°
35300.W0015	4 Point	12.7	4.0	3,9x90°
35300.W0025	Super Fine	6.4	3.2	1,6x90°
35300.W0026	Super Fine	7.9	3.2	1,6x90°
35300.W0001	Extra Fine	6.4	3.2	2,4x90°
35300.W0003	Extra Fine	7.9	3.2	2,4x90°
35300.W0007	Extra Fine	9.5	3.2	2,4x90°
35300.W0011	Extra Fine	11.1	3.2	2,4x90°
35300.W0014	Extra Fine	12.7	3.2	2,4x90°
35300.W0018	Extra Fine	15.9	3.2	2,4x90°
35300.W0021	Extra Fine	19.1	3.2	2,4x90°
35300.W0023	Extra Fine	25.4	4.0	2,4x90°
35300.W0006	Fine	9.5	3.2	2,2x90°
35300.W0010	Fine	11.1	3.2	2,2x90°
35300.W0013	Fine	12.7	3.2	2,2x90°
35300.W0017	Fine	15.9	3.2	2,2x90°
35300.W0020	Fine	19.1	3.2	2,2x90°
35300.W0002	Flat	6.4	3.2	-
35300.W0005	Flat	7.9	3.2	-
35300.W0009	Flat	9.5	3.2	-
35300.W0016	Flat	12.7	3.2	-
35300.W0019	Flat	15.9	3.2	-
35300.W0022	Flat	19.1	3.2	-
35300.W0024	Flat	25.4	4.0	-





35310

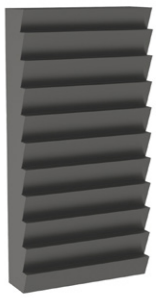
Material
Solid carbide.

Technical Notes
Solid carbide pads are mounted into fixtures and press down on the surface of the clamped workpiece to give safe holding without distortion. Carbide insert pads are especially suited for clamping cast and forged parts, as well as delicate workpieces such as pipes and tubes. Carbide insert pads can be built into clamps, stops and fixtures as well as chucks and vices.

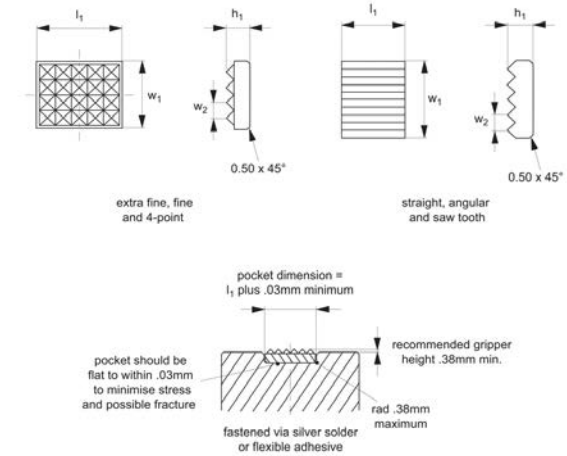
Tips
Can be fastened via silver solder or a flexible adhesive.
Note installation recommendations in technical diagram.

Order No.	Tooth pattern	l_1 +0.00|-0.13	w_1	h_1 +0.13|-0.00
35310.W0000	Fine	9.5	3,2x90°	3.2
35310.W0001	Fine	12.7	3,2x90°	3.2
35310.W0002	Extra Fine	12.7	2,4x90°	3.2
35310.W0003	Extra Fine	15.9	2,4x90°	3.2
35310.W0004	Extra Fine	19.1	2,4x90°	4.0
35310.W0005	Extra Fine	25.4	2,4x90°	4.0
35310.W0006	Extra Fine	9.5	2,4x90°	3.2

Gripper Pads - Carbide
rectangular



35320

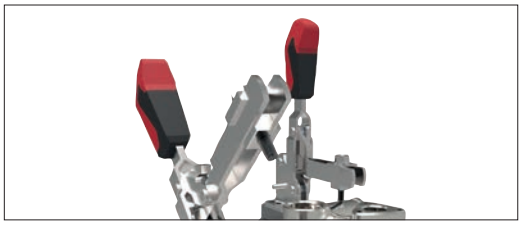


Material
Solid carbide.

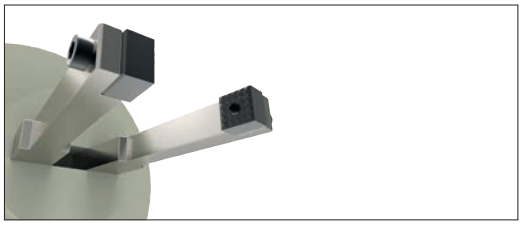
Technical Notes
Solid carbide pads are mounted into fixtures and press down on the surface of the clamped workpiece to give safe holding without distortion. Carbide insert pads are especially suited for clamping cast and forged parts, as well as delicate workpieces such as pipes and tubes. Carbide insert pads can be built into clamps, stops and fixtures as well as chucks and vices.

Tips
Can be fastened via silver solder or a flexible adhesive. Note installation recommendations in technical diagram.

Order No.	Tooth pattern	l_1 +0.00|-0.13	w_1 +0.00|-0.13	w_2	h_1 +0.13|-0.00
35320.W0001	Extra Fine	9.5	6.4	2,4x90°	3.2
35320.W0003	Extra Fine	12.7	10.3	2,4x90°	3.2
35320.W0008	Extra Fine	25.4	12.7	2,4x90°	4.8
35320.W0002	Fine	12.7	10.3	3,2x90°	3.2
35320.W0005	Fine	11.5	10.3	3,2x90°	3.2
35320.W0004	4 Point	11.5	10.3	3,9x90°	3.2
35320.W0006	Straight	11.5	10.3	2,9x90°	3.2
35320.W0007	Angular	11.5	10.3	2,9x90°	3.2
35320.W0009	Saw Tooth	25.4	12.7	-	4.8
35320.W0010	Saw Tooth	38.1	19.1	-	6.4



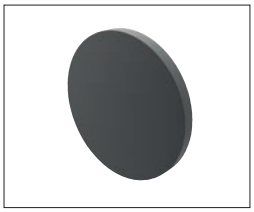
Grippers enhance workholding for multiple machining operations.



Grippers increase handling capability.

Pads and Gripper Options

Pads

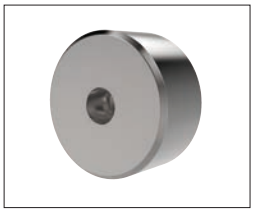


Solid Carbide

High impact carbide pads, can be brazed or bonded into place.

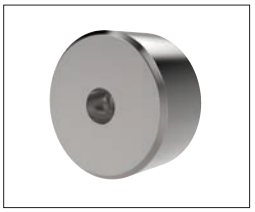
Carbide Tipped

Constructed with high impact carbide pad brazed to a heat treated alloy steel body. Mount via tapped hole or a flat on the outside diameter for set screw mounting.



Hardened Steel

Made from 8620 steel, carburized and hardened to Rc 58/60 1.2mm with black oxide finish. Mount via tapped or counter bored hole.

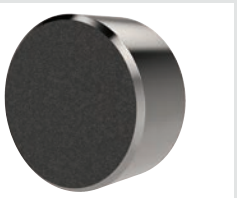


Non-marking Thermoplast

Made from white thermoplast. Mount via tapped or counter bored hole.

Stainless Steel

Pad from 17-4 stainless steel, hardened to Rc 43/46. Mount via tapped or counter bored hole.



Abrasive Diamond Surface

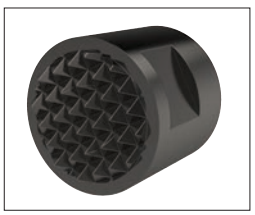
Abrasive surface permanently fused to a 17-4 stainless steel pad, hardened to Rc 43/46. The surface texture is comparable to a 100 grit abrasive. Mount via tapped or counter bored hole.

Soft Urethane Surface

Urethane surface is permanently bonded to a 300 series stainless steel pad. The urethane provides excellent protection against damage on delicate work surfaces. Tapped hole mounting.

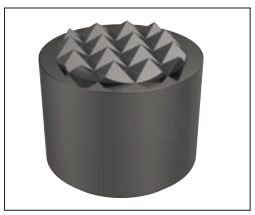
see our website for our full range:
wixroyd.com

Grippers



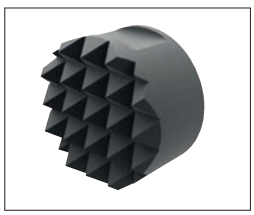
High Speed Tool Steel

Manufactured from M-2 high speed tool steel, hardened to Rc 60/62 with black oxide finish. Mount via tapped hole, counter bored hole or a flat on the outside diameter for set screw mounting.



Carbide Tipped

Constructed with high impact carbide pad brazed to a heat treated alloy steel body. Mounts via tapped hole or a flat on the outside diameter for set screw mounting.



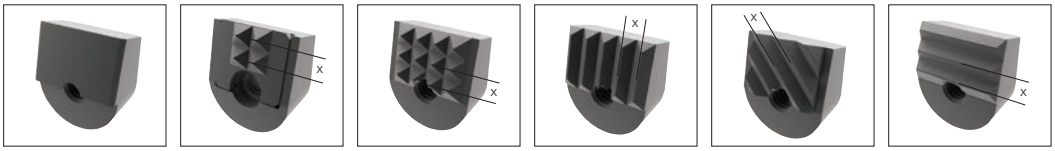
Solid Carbide

Manufactured from high impact carbide in a solid gripper pad or as a solid gripper body with a threaded brazed-in steel insert. Mount via tapped hole or a flat on the outside diameter for set screw mounting.

Tooth Pattern Specifications

Angular Grippers

Our carbide and hardened steel grippers are available with a variety of tooth patterns, as specified on the product data tables.



Smooth

4 Point
x = 3.429 x 90°

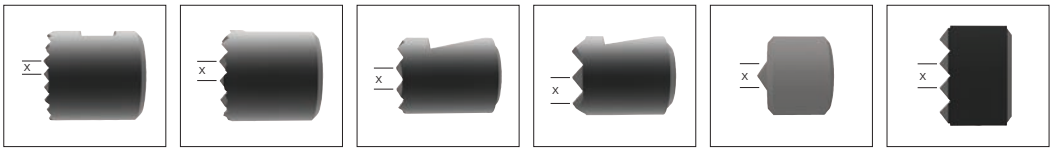
Fine
x = 2.921 x 90°

Straight
x = 2.921 x 90°

Angular straight
x = 2.921 x 90°

3 Point/90° straight
x = 3.175 x 90°

Round/Square Grippers



Super Fine "SF"
x = 1.600 x 90°

Extra Fine "EF"
x = 2.387 x 90°

Fine
x = 3.175 x 90°

Coarse
x = 4.775 x 90°

Single point
x = 5.461 x 90°

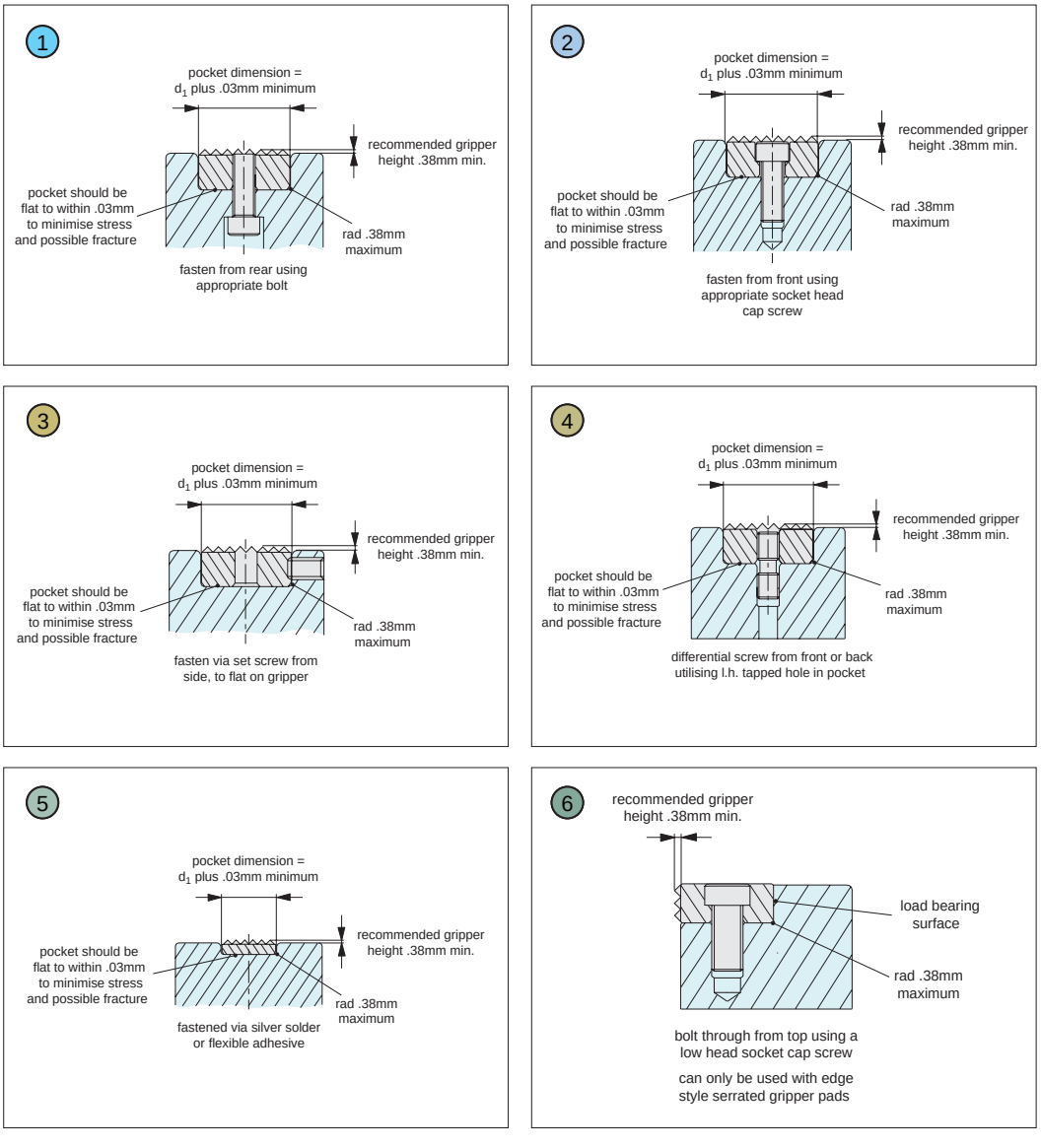
4 Point square
x = 3.962 x 90°

Mounting options

Mounting Options for Carbide and Hardened Steel Grippers and Inserts.

Our carbide grippers and inserts can be installed in a number of different ways, the most suitable mounting method depends upon the specific insert – please refer to the product data table for specific information.

1. Round or square grippers and rest pads with tapped blind-hole or through hole tap.
2. Round or square grippers and rest pads with counter-bored hole.
3. Round grippers with flat on the O.D. for set screw mounting. Also square gripper mounting.
4. Round or square grippers with through tapped hole.
5. Round or square carbide pads.
6. Counter-bored edge grippers.



A Range of Specialist Gripping Pads to Suit Your Application

Urethane Coated

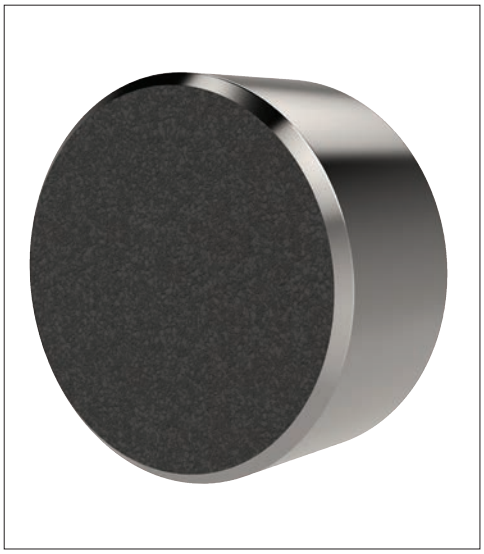
Unique urethane coat prevents marking of delicate components during machining or manipulation by robots. The urethane pad is permanently bonded to the stainless steel body of the gripping pad. With a bubbled texture, air is able to escape and hence avoid any suction action - enabling easy releasing of parts.

These are available in three different urethane durometers.

35 durometer: Pencil rubber top

60 durometer: Car tyre

80 durometer: Skateboard wheel

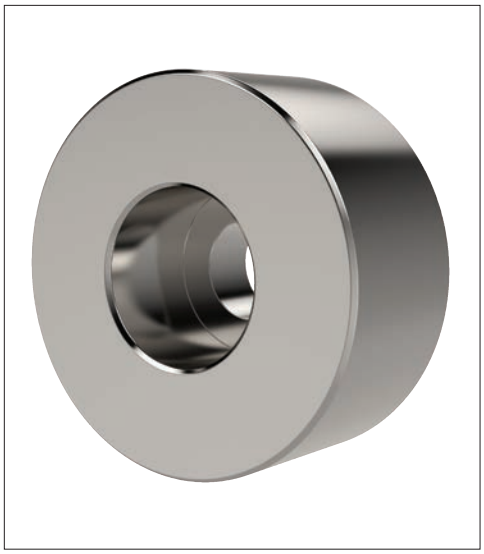


Abrasive Diamond Coated

To improve handling of smooth or slippery components, with a minimum of clamping pressure, our abrasive diamond coated pads provide an excellent solution.

Diamond powders are permanently fused to a 17-4 stainless pad, to provide an abrasive surface comparable to 100 grit value.

Sandpaper of 100 grit texture

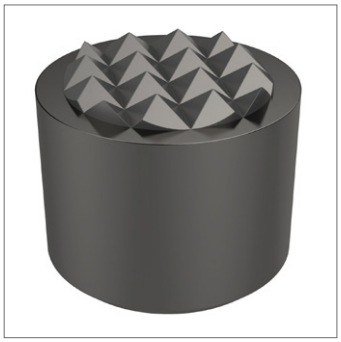


Stainless Pads

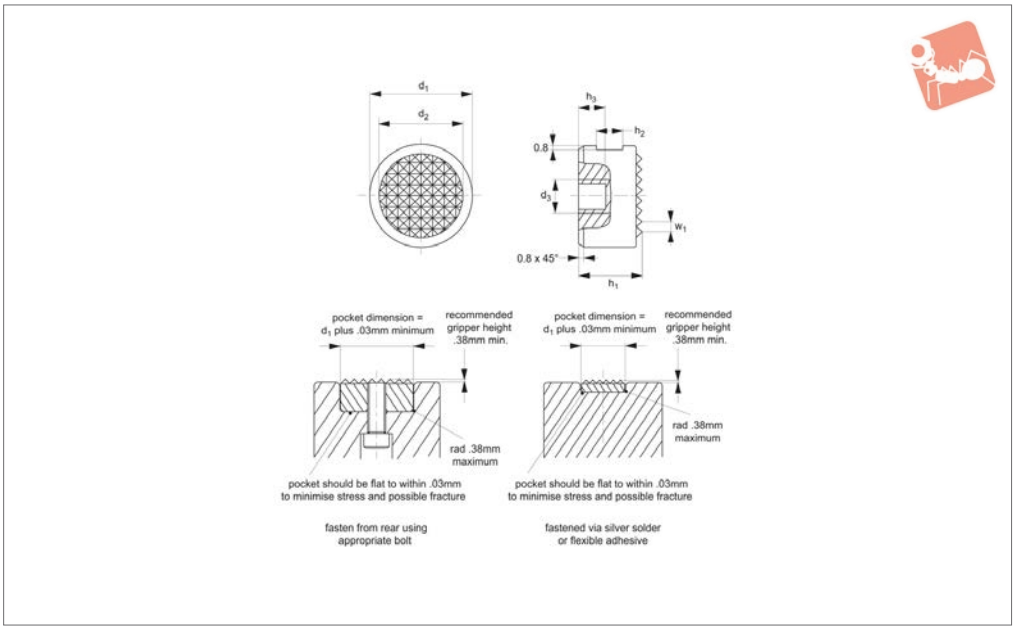
Pads of 17-4 Stainless, hardened to RC 43/46 provide solutions to applications where material selection is of greater importance; for example nuclear or food processing or pharmaceutical applications.

Grippers - Carbide Tipped

steel body - round - rear fixing



35330



Material

Solid carbide tipped grippers, in steel body.

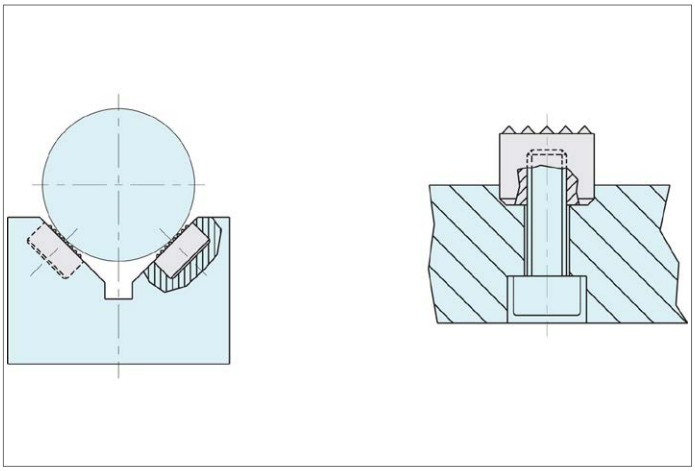
Technical Notes

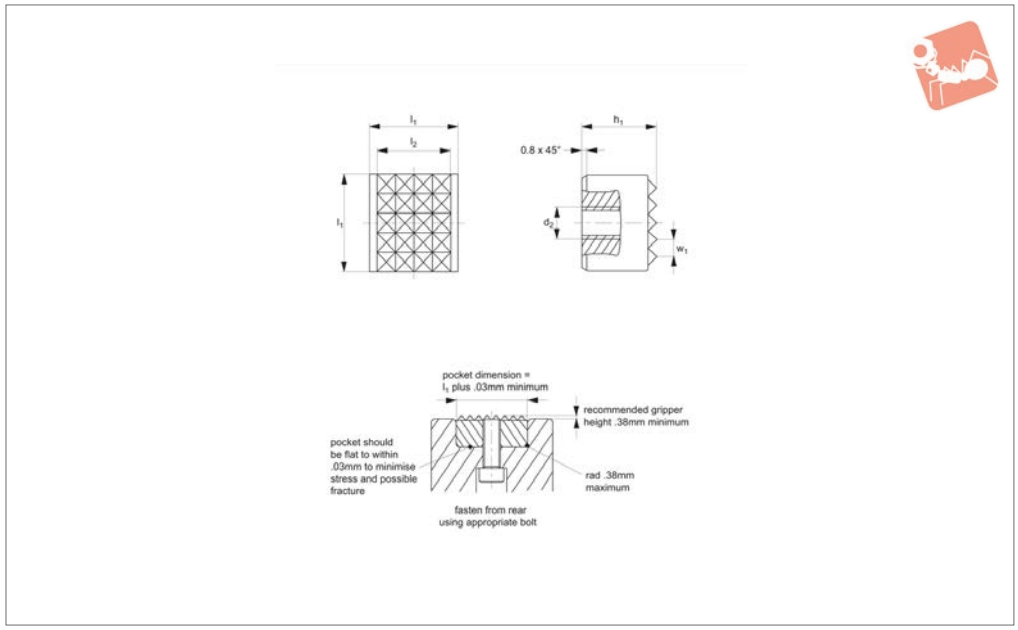
These carbide tipped gripping pads press down onto the surface of the components to give safe holding without distortion. Especially suitable in chucks, vices and robotic grippers for extra grip.

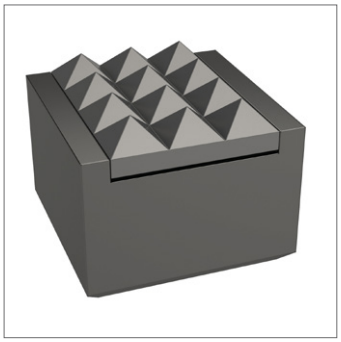
Tips

Can be fastened via use of set screw from side to flat on gripper, or from rear using appropriate bolt of thread d_2. Note installation recommendations in technical diagram.

Order No.	Tooth pattern	d_1 +0.00|-0.13	h_1 +0.00|-0.13	h_2	h_3	d_2	d_3	w_1
35330.W0001	Extra Fine	10	10	4.5	4.8	7.9	M 5x0,8	2,4x90°
35330.W0002	Extra Fine	10	12	6.0	4.8	7.9	M 5x0,8	2,4x90°
35330.W0003	Fine	12	10	4.5	4.8	9.5	M 5x0,8	3,2x90°
35330.W0004	Fine	12	12	6.0	4.8	9.5	M 5x0,8	3,2x90°
35330.W0005	Fine	16	10	4.5	4.8	12.7	M 6x1,0	3,2x90°
35330.W0006	Fine	16	12	6.0	4.8	12.7	M 6x1,0	3,2x90°
35330.W0007	Fine	20	10	4.5	4.8	15.9	M 6x1,0	3,2x90°
35330.W0008	Fine	20	12	6.0	4.8	15.9	M 6x1,0	3,2x90°
35330.W0009	Fine	25	10	4.5	4.8	19.1	M 6x1,0	3,2x90°
35330.W0010	Fine	25	12	6.0	4.8	19.1	M 6x1,0	3,2x90°







35340

Material
Solid carbide tipped grippers, in steel body.

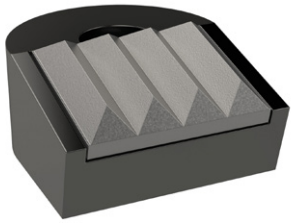
Technical Notes
These carbide tipped gripping pads press down onto the surface of the component to give safe holding without distortion. Especially suitable in chucks, vices and robotic grippers for extra grip.

Tips
Can be fastened from rear using appropriate bolt. Note installation recommendations in technical diagram.

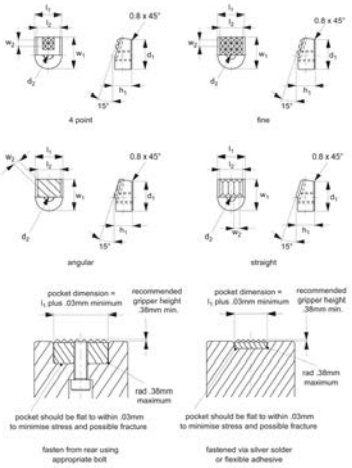
Order No.	Tooth pattern	l_1	l_2	h_1	d_2	w_1
35340.W0001	Fine	12.0	10.32	10.00	M 5x0,8	3,175x90°
35340.W0002	Fine	12.0	10.32	12.00	M 5x0,8	3,175x90°
35340.W0003	Ex-fine	12.7	10.32	9.53	M 6x1,0	2,387x90°

Grippers - Carbide Tipped

steel body - angled - rear fixing



35350



Material

Steel, heat-treated with brazed on carbide pad.

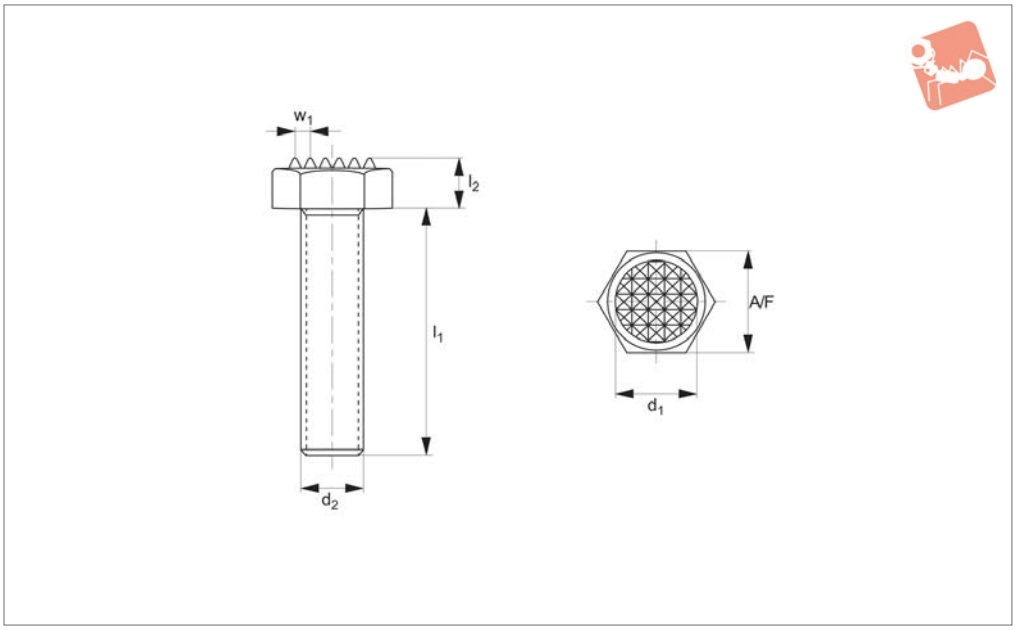
Technical Notes

Also available with imperial threads on request. These angle gripper inserts press down on the surface of the clamped workpiece to give safe holding without distortion. They can be built into clamps, stops and fixtures, as well as chucks, vices and robotic grippers for extra grip.

Tips

Can be fastened from rear using appropriate bolt. Note installation recommendations in technical diagram.

Order No.	Tooth pattern	d_1	l_1 +0.000|-0.002	l_2	h_1 +0.000|-0.005	d_2	w_1 +0.000|-0.010	w_2
35350.W0001	4 Point	15	14.29	11.9	9.5	M 5x0,8	16.5	3,4x90°
35350.W0002	Fine	15	14.29	11.9	9.5	M 5x0,8	16.5	2,9x90°
35350.W0003	Straight	15	14.29	11.9	9.5	M 5x0,8	16.5	2,9x90°
35350.W0004	Angular	15	14.29	11.9	9.5	M 5x0,8	16.5	2,9x90°



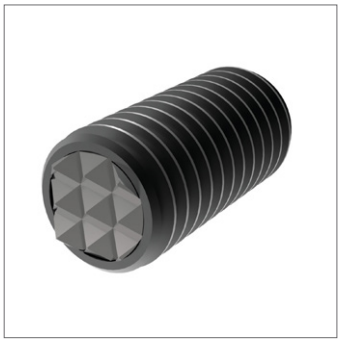
35400

Material
Hex headed steel bolt with solid carbide tipped insert.

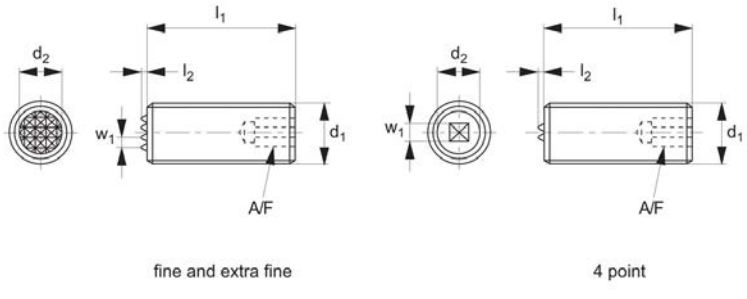
Technical Notes
Adjustable carbide tipped grippers are used in jigs and fixtures, modular fixtures and tooling. They are especially suitable for holding castings and other components. Adjustment can be made within the thread length. Use a DIN 439B hex. nut for adjustment and securing.

Order No.	Tooth pattern	d_1	l_1	l_2	d_2	w_1	A/F
35400.W0001	Ex-fine	7.94	12	5.0	M 6x1,00	2,387x90°	10
35400.W0002	Ex-fine	7.94	25	5.0	M 6x1,00	2,387x90°	10
35400.W0003	Fine	9.53	12	6.4	M 8x1,25	3,175x90°	13
35400.W0004	Fine	9.53	25	6.4	M 8x1,25	3,175x90°	13
35400.W0005	Fine	9.53	35	6.4	M 8x1,25	3,175x90°	13
35400.W0006	Fine	12.70	12	7.5	M10x1,50	3,175x90°	17
35400.W0007	Fine	12.70	25	7.5	M10x1,50	3,175x90°	17
35400.W0008	Fine	12.70	40	7.5	M10x1,50	3,175x90°	17
35400.W0009	Fine	15.88	25	8.7	M12x1,75	3,175x90°	19
35400.W0010	Fine	15.88	40	8.7	M12x1,75	3,175x90°	19
35400.W0011	Fine	19.05	35	11.0	M16x2,00	3,175x90°	24
35400.W0012	Fine	19.05	50	11.0	M16x2,00	3,175x90°	24
35400.W0013	Ex-fine	25.40	40	13.7	M20x2,50	2,387x90°	30
35400.W0014	Ex-fine	25.40	60	13.7	M20x2,50	2,387x90°	30

Grippers - Carbide Tipped
set screw



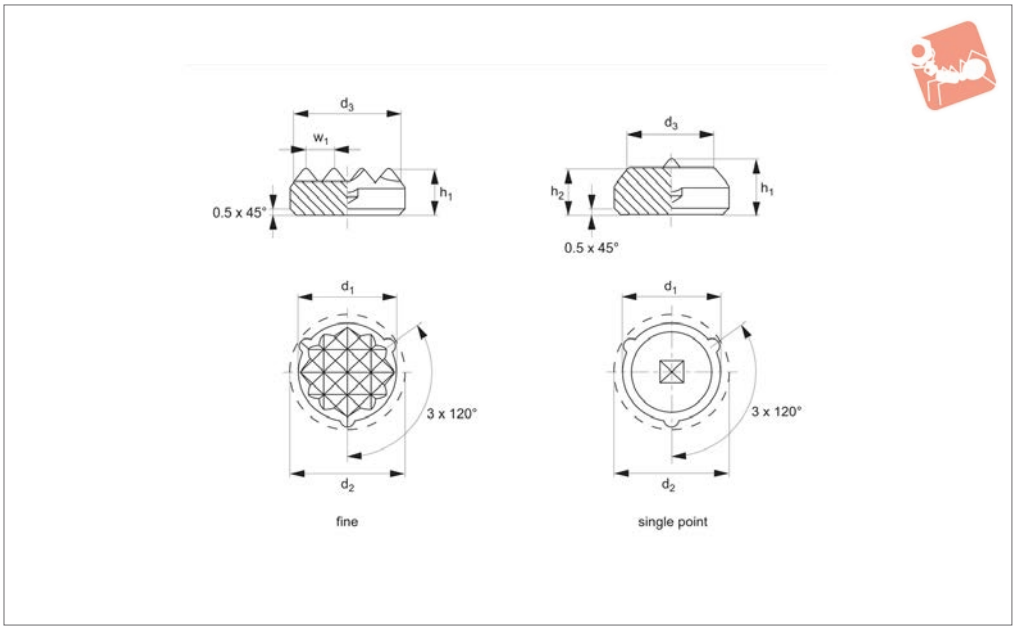
35410



Material
Steel set screw with hex socket and solid carbide tipped insert.

Technical Notes
Adjustable carbide tipped grippers are used in jigs and fixtures, modular fixtures and tooling. They are especially suitable for holding castings and other components. Adjustment can be made by using the hex key in socket, and can be adjusted within the thread length. Use a DIN 439B hex nut for adjustment and securing.

Order No.	Tooth pattern	d_1	l_1	l_2	d_2	w_1	A/F
35410.W0001	Extra Fine	M10x1,5	25	1.3	6.4	2,4x90°	5
35410.W0002	Extra Fine	M10x1,5	50	1.3	6.4	2,4x90°	5
35410.W0004	Extra Fine	M12x1,75	25	1.3	7.9	2,4x90°	6
35410.W0006	Extra Fine	M12x1,75	50	1.3	7.9	2,4x90°	6
35410.W0014	Extra Fine	M20x2,5	50	1.3	12.7	2,4x90°	10
35410.W0008	Fine	M16x2,0	25	1.3	11.1	3,2x90°	8
35410.W0010	Fine	M16x2,0	50	1.3	11.1	3,2x90°	8
35410.W0012	Fine	M20x2,5	25	1.3	12.7	3,2x90°	10
35410.W0003	4 Point	M12x1,75	25	1.3	7.9	3,9x90°	6
35410.W0005	4 Point	M12x1,75	50	1.3	7.9	3,9x90°	6
35410.W0007	4 Point	M16x2,0	25	1.3	11.1	3,9x90°	8
35410.W0009	4 Point	M16x2,0	50	1.3	11.1	3,9x90°	8
35410.W0011	4 Point	M20x2,5	25	1.3	12.7	3,9x90°	10
35410.W0013	4 Point	M20x2,5	50	1.3	12.7	3,9x90°	10



35440

Material
Hard metal ribbed, hard metal pointed, 60 HRc.

Technical Notes
d_1 - for use when press-fitting into softer metals such as aluminium. The three protrusions ensure centering of insert.
d_2 - for use when gluing or soldering in place.

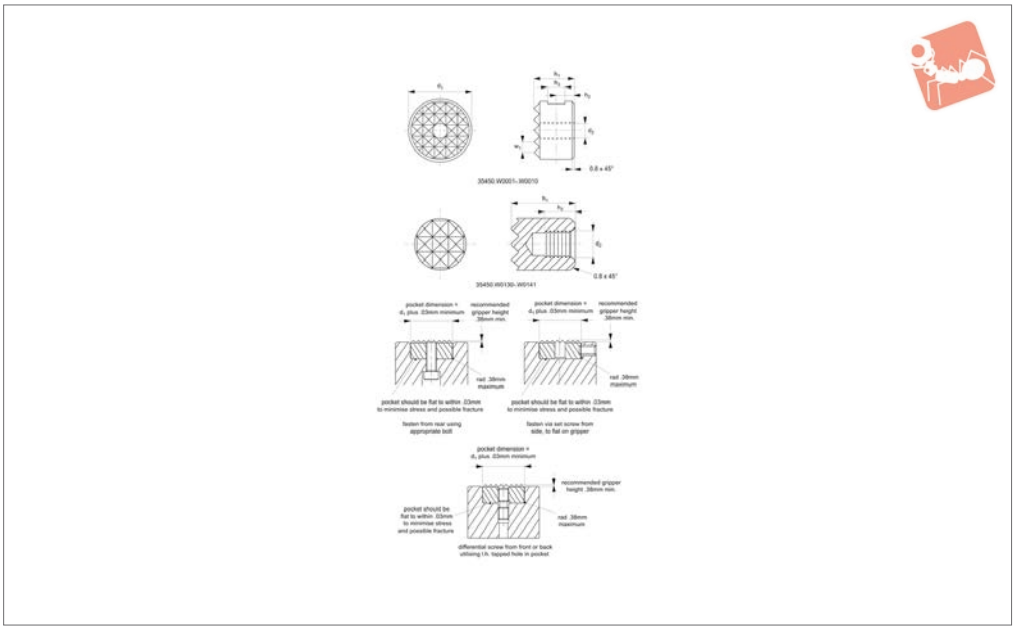
Tips
Can be integrated into fixtures, clamping jaws etc., to provide an abrasion-proof transmission of high holding forces on cast or forged workpieces.

Order No.	Tooth pattern	d_1 ±0.1	h_1	h_2	d_2 ±0.2	d_3 ≈	w_1	Weight g
35440.W0608	Fine	8.3	5.0	-	9.1	7.7	2	3
35440.W0611	Fine	11.3	5.0	-	12.1	10.6	2	6
35440.W0613	Fine	12.6	5.0	-	13.4	11.9	3	7
35440.W0615	Fine	$16{,}6^{\pm,15}$	5.0	-	17.4	16.0	3	12
35440.W0617	Fine	$21{,}6^{\pm,15}$	5.0	-	22.4	21.0	3	20
35440.W0628	Single Point	8.3	5.8	5	9.1	6.3	-	3
35440.W0631	Single Point	11.3	5.8	5	12.1	9.3	-	7
35440.W0633	Single Point	12.6	5.8	5	13.4	10.0	-	8

Grippers - Hard Tool Steel

round - screw fixing

35450



Material

M2 tungsten-molybdenum high-speed steel, hardened to HRc 60-62.

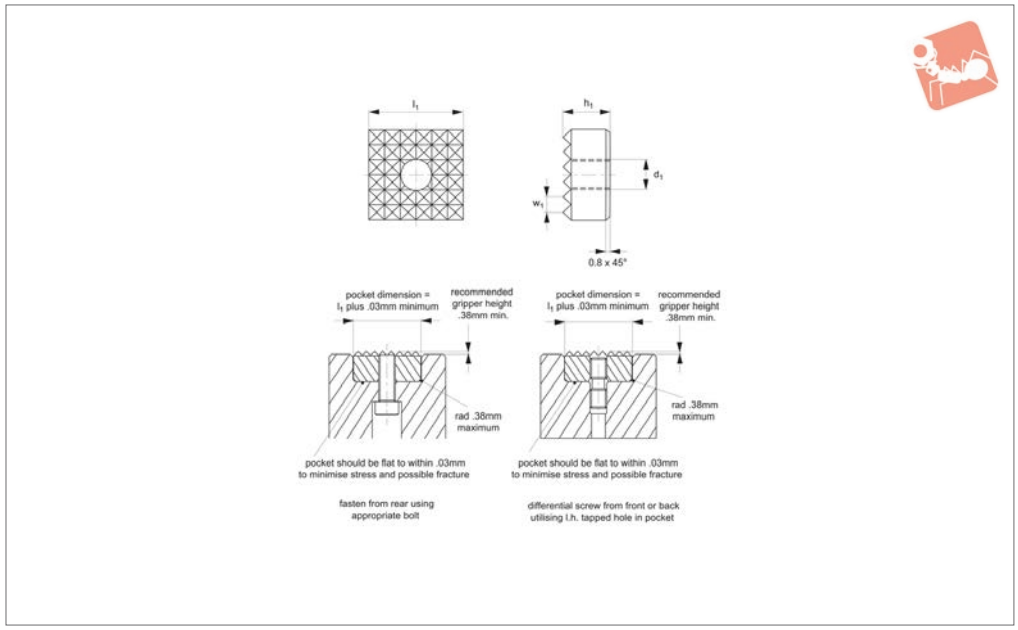
Technical Notes

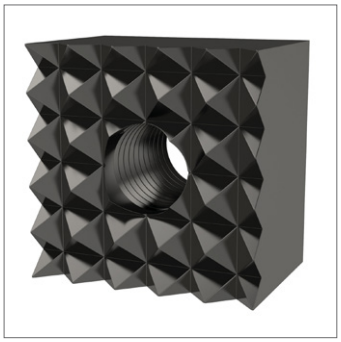
These hardened steel gripping pads press down on to the surface of the clamped workpiece for safe holding without distortion. They are especially suitable where high load or clamping force is applied. Can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip. M3 to M4 blind hole tapped.

Tips

Can be fastened via use of set screw or from rear using appropriate screw (thread d_2). Note installation recommendations in technical diagram.

Order No.	Tooth pattern	d_1 +0.00|-0.13	h_1 +0.00|-0.13	h_2	d_2	h_3	w_1
35450.W0001	Extra Fine	10	10	4.5	M 5x0,8	4.8	2,4x90°
35450.W0002	Extra Fine	10	12	6.0	M 5x0,8	4.8	2,4x90°
35450.W0003	Fine	12	10	4.5	M 5x0,8	4.8	3,2x90°
35450.W0004	Fine	12	12	6.0	M 5x0,8	4.8	3,2x90°
35450.W0005	Fine	16	10	4.5	M 6x1,0	4.8	3,2x90°
35450.W0006	Fine	16	12	6.0	M 6x1,0	4.8	3,2x90°
35450.W0007	Fine	20	10	4.5	M 6x1,0	4.8	3,2x90°
35450.W0008	Fine	20	12	6.0	M 6x1,0	4.8	3,2x90°
35450.W0009	Fine	25	10	4.5	M 6x1,0	4.8	3,2x90°
35450.W0010	Fine	25	12	6.0	M 6x1,0	4.8	3,2x90°
35450.W0130	Super Fine	6	10	5.0	M 3x0,5	-	1,6x90°
35450.W0131	Super Fine	6	12	7.0	M 3x0,5	-	1,6x90°
35450.W0140	Super Fine	8	10	5.0	M 4x0,7	-	1,6x90°
35450.W0141	Super Fine	8	12	7.0	M 4x0,7	-	1,6x90°





35460

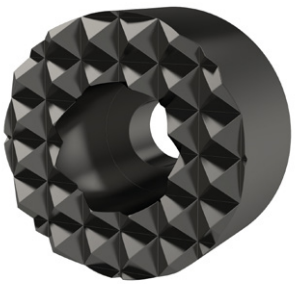
Material
M2 tungsten-molybdenum high-speed steel, hardened to HRc 60-62.

Technical Notes
These hardened steel gripping pads press down on to the surface of the clamped workpiece for safe holding without distortion. They are especially suitable where high load or clamping force is applied. Can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip.

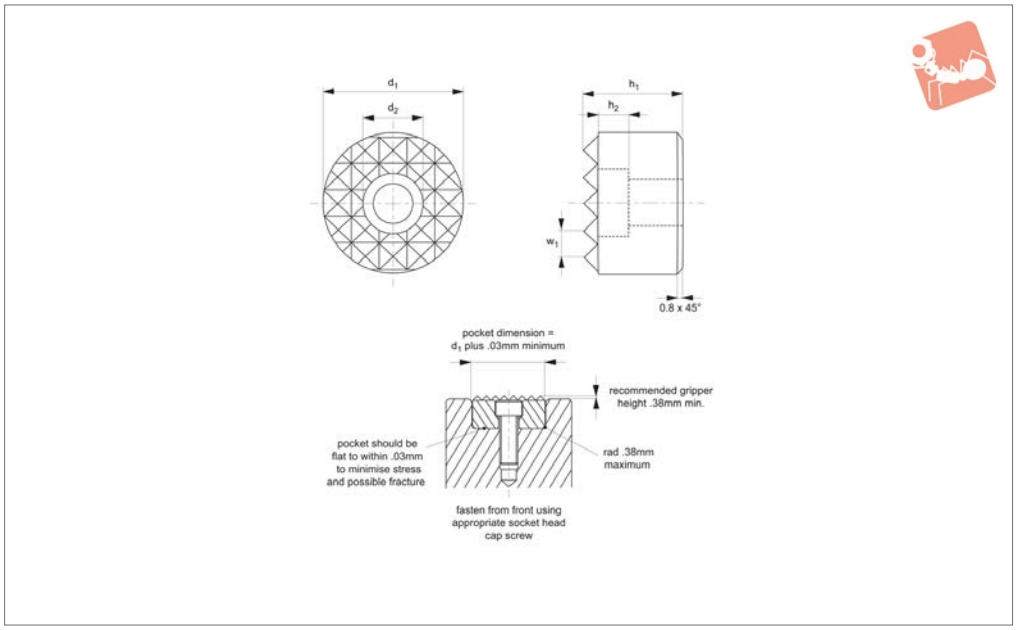
Tips
Can be fastened via use of set screw or from rear using appropriate screw (thread d_2). Note installation recommendations in technical diagram.

Order No.	Tooth pattern	l_1 +0.00|-0.13	d_1	h_1 +0.00|-0.13	w_1
35460.W0001	Extra Fine	10	M 5x0,8	10	2,4x90°
35460.W0002	Extra Fine	10	M 5x0,8	12	2,4x90°
35460.W0003	Fine	12	M 5x0,8	10	3,2x90°
35460.W0004	Fine	12	M 5x0,8	12	3,2x90°
35460.W0005	Fine	20	M 5x0,8	10	3,2x90°
35460.W0006	Fine	20	M 5x0,8	12	3,2x90°
35460.W0007	Fine	25	M 6x1,0	10	3,2x90°
35460.W0008	Fine	25	M 6x1,0	12	3,2x90°
35460.W0161	Fine	16	M 6x1,0	10	3,2x90°
35460.W0162	Fine	16	M 6x1,0	12	3,2x90°

Grippers - Hard Tool Steel
round - front fixing



35480

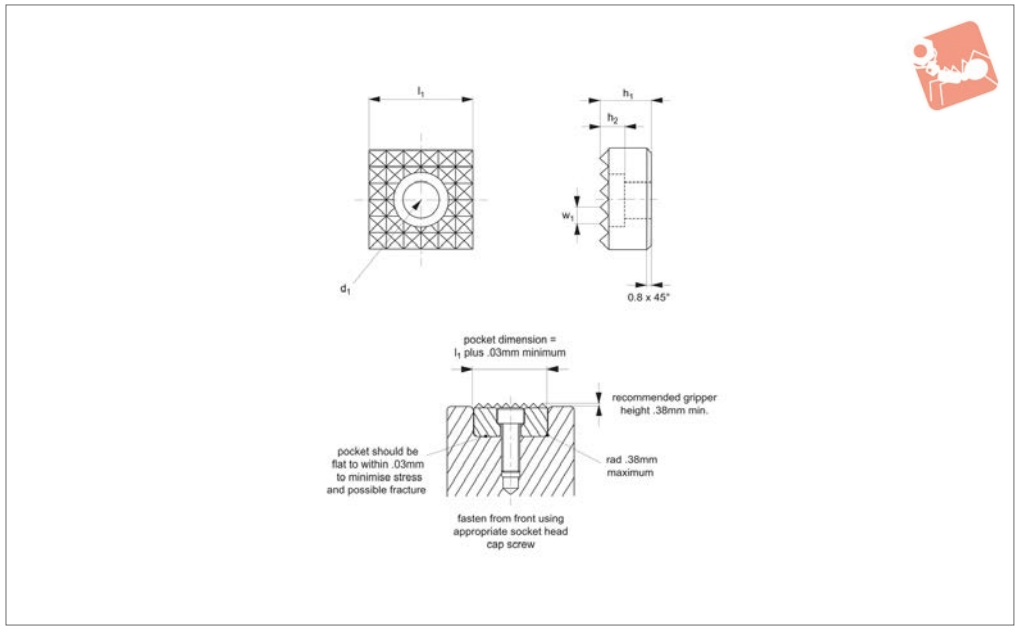


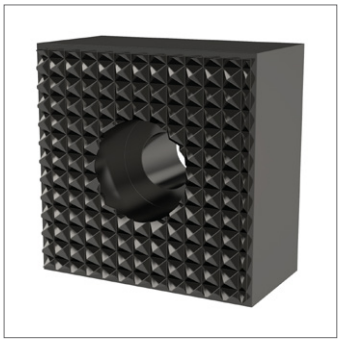
Material
M2 tungsten-molybdenum high-speed steel, hardened to HRc 60-62.

Technical Notes
These hardened steel gripping pads press down onto the surface of the clamped workpiece for safe holding without distortion. They are especially suitable where a high load or clamping force is applied. They can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip.

Tips
Can be fastened from the front using a socket head cap screw.
Note installation recommendations in technical diagram.

Order No.	Tooth pattern	d_1 +0.00|-0.13	h_1 +0.00|-0.13	h_2	d_2 to fit DIN 912	w_1
35480.W0001	Fine	12	10	5.6	M 4	3,2x90°
35480.W0002	Fine	12	12	5.6	M 4	3,2x90°
35480.W0003	Fine	16	10	5.6	M 4	3,2x90°
35480.W0004	Fine	16	12	5.6	M 4	3,2x90°
35480.W0005	Fine	20	10	6.6	M 5	3,2x90°
35480.W0006	Fine	20	12	6.6	M 5	3,2x90°
35480.W0007	Fine	25	10	7.6	M 6	3,2x90°
35480.W0008	Fine	25	12	7.6	M 6	3,2x90°





35490

Material
M2 tungsten-molybdenum high-speed steel, hardened to HRc 60-62.

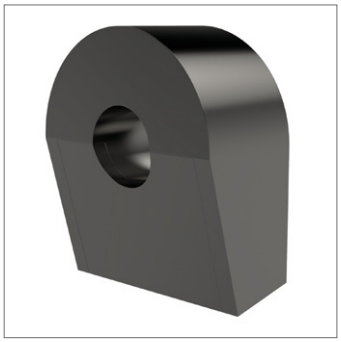
Technical Notes
These hardened steel gripping pads press down onto the surface of the clamped workpiece for safe holding without distortion. They are especially suitable where a high load or clamping force is applied. They can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip.

Tips
Can be fastened from the front using a socket head cap screw.
Note installation recommendations in technical diagram.

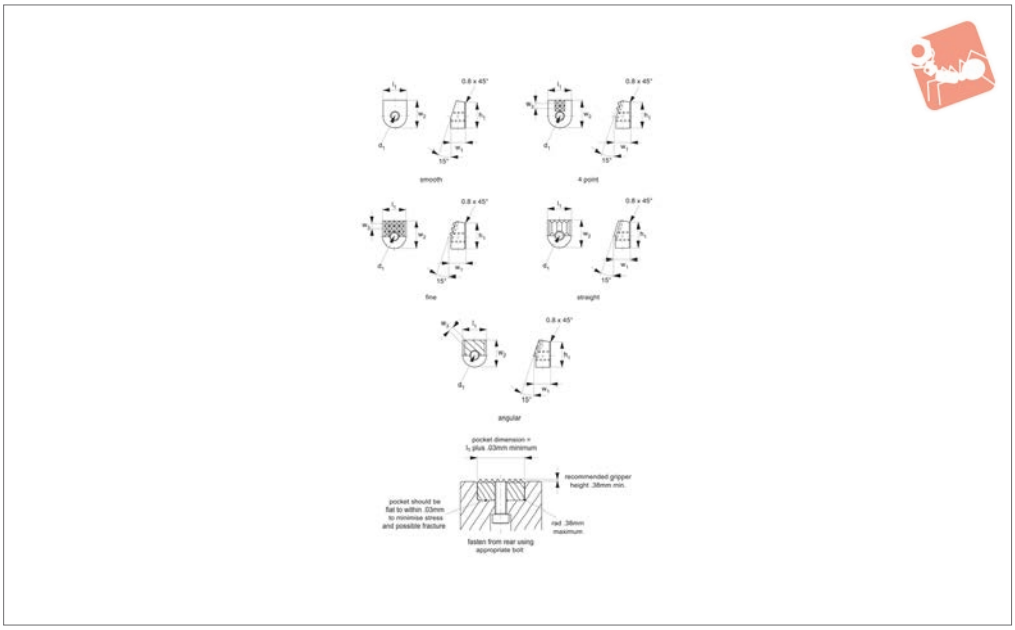
Order No.	Tooth pattern	l_1 +0.00|-0.13	d_1 to fit DIN 912	h_1 +0.00|-0.13	h_2	w_1
35490.W0001	Fine	12	M 4	10	5.6	3,2x90°
35490.W0002	Fine	12	M 4	12	5.6	3,2x90°
35490.W0003	Fine	20	M 5	10	6.6	3,2x90°
35490.W0004	Fine	20	M 5	12	6.6	3,2x90°
35490.W0005	Fine	25	M 6	10	7.6	3,2x90°
35490.W0006	Fine	25	M 6	12	7.6	3,2x90°
35490.W0161	Fine	16	M 4	10	5.6	3,2x90°
35490.W0162	Fine	16	M 4	12	5.6	3,2x90°

Grippers - Hard Tool Steel

angled - rear fixing



35500



Material

High-speed steel (M2), hardened to HRc 60-62.

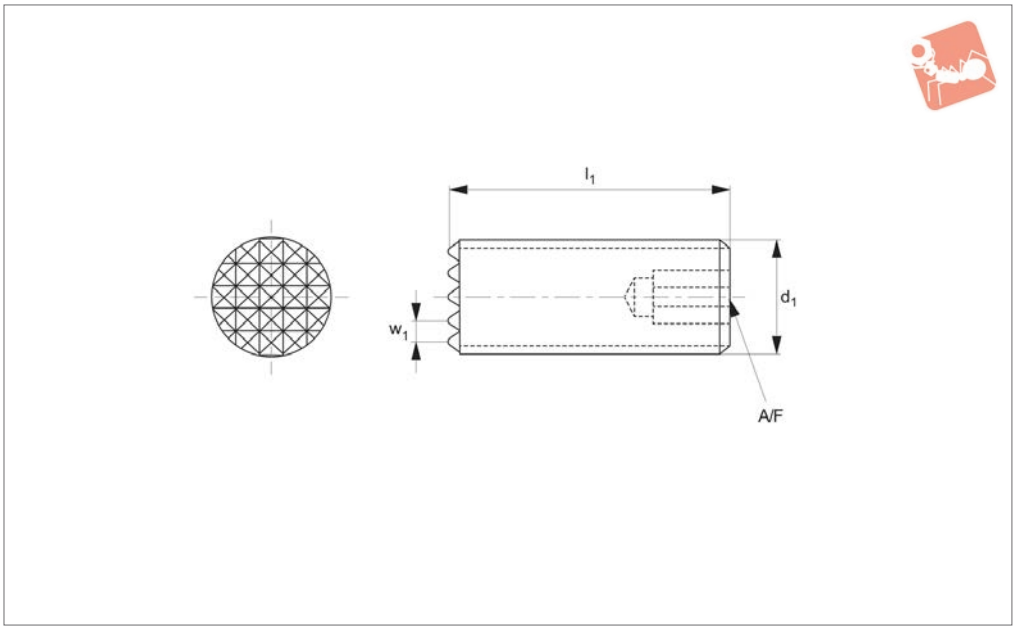
Technical Notes

These angle gripper inserts press down onto the surface of the clamped workpiece for safe holding without distortion. Especially suitable where a high load or clamping force is applied. They can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip.

Tips

Can be fastened from rear using appropriate bolt. Note installation recommendations in technical diagram.

Order No.	Tooth pattern	l_1 +0.000|-0.002	d_1	h_1	w_1 +0.000|-0.005	w_2 +0.000|-0.005	w_3
35500.W0002	4 Point	14.3	M 5x0,8	15.2	9.5	16.5	3,4x90°
35500.W0009	4 Point	10.0	M 5x0,8	15.2	9.5	16.5	3,4x90°
35500.W0003	Fine	14.3	M 5x0,8	15.2	9.5	16.5	2,9x90°
35500.W0006	Straight	14.3	M 5x0,8	15.2	9.5	16.5	2,9x90°
35500.W0010	Straight	10.0	M 5x0,8	15.2	9.5	16.5	2,9x90°
35500.W0008	Smooth	10.0	M 5x0,8	15.2	9.5	16.5	-
35500.W0007	Angular	14.3	M 5x0,8	15.2	9.5	16.5	2,9x90°
35500.W0011	Angular	10.0	M 5x0,8	15.2	9.5	16.5	2,9x90°



35510

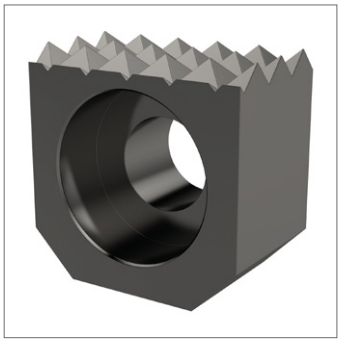
Material
Hardened tool steel to HRc 55-58, black oxide finish.

Technical Notes
These hardened tool steel gripping pads press down on to the surface of the clamped workpiece for safe holding without distortion. They are especially suitable where high load or clamping force is applied. Can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip. Use a DIN 439B hex. nut for adjustment and securing.

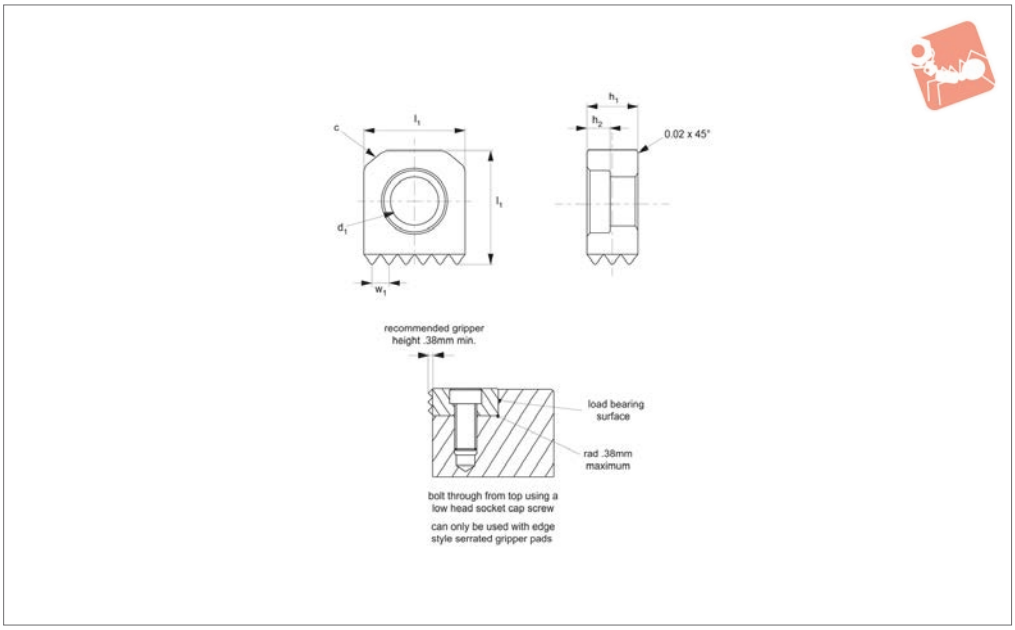
Order No.	Tooth pattern	l_1	d_1	w_1	A/F
35510.W0001	Extra Fine	40	M10x1,50	2,4x90°	3
35510.W0002	Fine	25	M12x1,75	3,2x90°	5
35510.W0003	Fine	40	M12x1,75	3,2x90°	5
35510.W0004	Fine	40	M16x2,00	3,2x90°	6
35510.W0005	Fine	40	M20x2,50	3,2x90°	8

Grippers - Hard Tool Steel

edge gripper - front fixing



35520



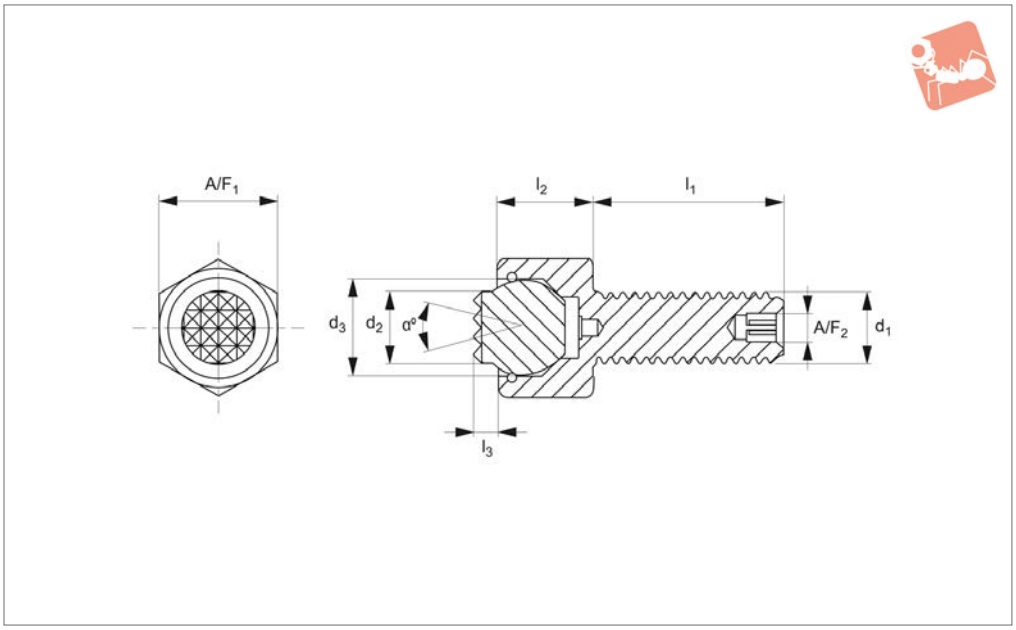
Material

Tool steel, hardened to HRc 60-62.

Technical Notes

Square edge grippers have serrations on one side. Counterbored hole for front mounting with a socket head or low head cap screw (SHCS - socket head cap screw, LHCS- low head cap screw).

Order No.	Tooth pattern	Serration type	l_1 +0.00|-0.13	d_1	h_1 +0.00|-0.13	h_2	Chamfer c	w_1
35520.W0201	Extra Fine	Diamond	10	M 3 SHCS	6	3.8	1,6x45°	2,4x90°
35520.W0202	Extra Fine	Diamond	10	M 3 SHCS	10	3.8	1,6x45°	2,4x90°
35520.W0203	Fine	Diamond	12	M 4 SHCS	6	4.1	2,3x45°	3,2x90°
35520.W0204	Fine	Diamond	12	M 4 SHCS	10	4.1	2,3x45°	3,2x90°
35520.W0205	Fine	Diamond	12	M 4 SHCS	12	4.1	2,3x45°	3,2x90°
35520.W0206	Fine	Diamond	16	M 6 LHCS	6	4.2	3,2x45°	3,2x90°
35520.W0207	Fine	Diamond	16	M 6 LHCS	10	4.2	3,2x45°	3,2x90°
35520.W0208	Fine	Diamond	16	M 6 LHCS	12	5.1	3,2x45°	3,2x90°
35520.W0209	Fine	Diamond	20	M 8 LHCS	6	5.1	3,2x45°	3,2x90°
35520.W0210	Fine	Diamond	20	M 8 LHCS	10	5.1	3,2x45°	3,2x90°
35520.W0211	Fine	Diamond	20	M 8 LHCS	12	5.1	3,2x45°	3,2x90°
35520.W0212	Fine	Diamond	25	M10 LHCS	10	6.6	3,2x45°	3,2x90°
35520.W0213	Fine	Diamond	25	M10 LHCS	12	6.6	3,2x45°	3,2x90°
35520.W0301	Extra Fine	Straight	10	M 3 SHCS	6	3.8	1,6x45°	2,4x90°
35520.W0302	Extra Fine	Straight	10	M 3 SHCS	10	3.8	1,6x45°	2,4x90°
35520.W0303	Fine	Straight	12	M 4 SHCS	6	4.1	2,3x45°	3,2x90°
35520.W0304	Fine	Straight	12	M 4 SHCS	10	4.1	2,3x45°	3,2x90°
35520.W0305	Fine	Straight	12	M 4 SHCS	12	4.1	2,3x45°	3,2x90°
35520.W0306	Fine	Straight	16	M 6 LHCS	6	4.2	3,2x45°	3,2x90°
35520.W0307	Fine	Straight	16	M 6 LHCS	10	4.2	3,2x45°	3,2x90°
35520.W0308	Fine	Straight	16	M 6 LHCS	12	4.2	3,2x45°	3,2x90°
35520.W0309	Fine	Straight	20	M 8 LHCS	6	5.1	3,2x45°	3,2x90°
35520.W0310	Fine	Straight	20	M 8 LHCS	10	5.1	3,2x45°	3,2x90°
35520.W0311	Fine	Straight	20	M 8 LHCS	12	5.1	3,2x45°	3,2x90°
35520.W0312	Fine	Straight	25	M10 LHCS	10	6.6	3,2x45°	3,2x90°
35520.W0313	Fine	Straight	25	M10 LHCS	12	6.6	3,2x45°	3,2x90°



35530.1

Material
Body: steel, hardened to HRc 43/46, black oxide finish.
Ball: M2 high speed steel, hardened to HRc 60/62.

Viton o-ring holds ball in place and prevents ingress of other material.

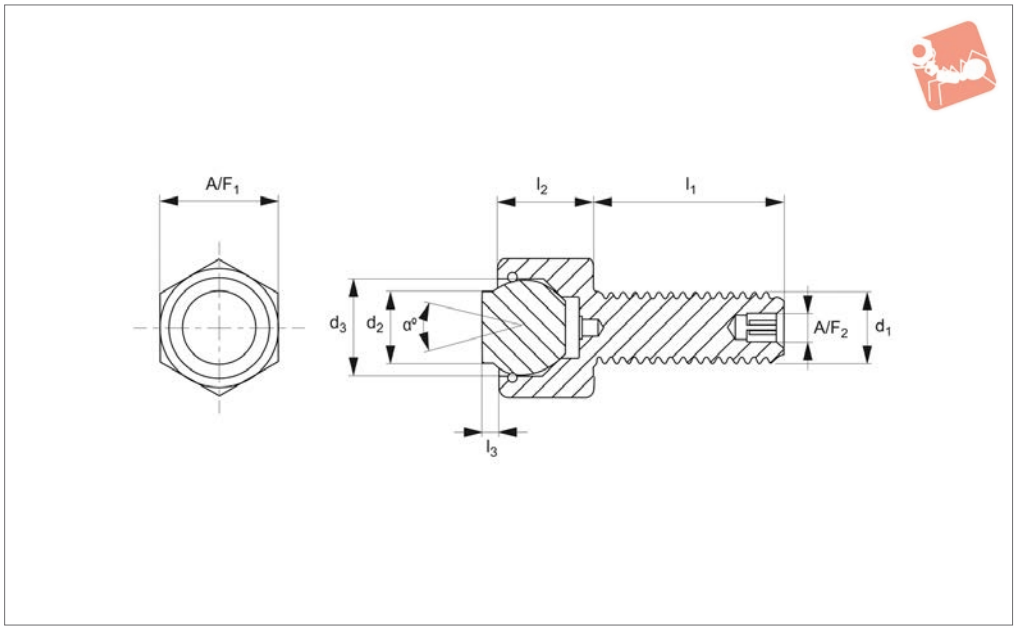
Technical Notes
These adjustable self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.
Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

Order No.	Tooth pattern	d_1	d_2	d_3	l_1	l_2 ±0.05	l_3	Swivel angle a °	Load rating kg	A/F_1	A/F_2
35530.W0001	Super Fine	M6X1,0	6.0	7	12	8.0	1.5	28	935	10	-
35530.W0002	Super Fine	M6X1,0	6.0	7	12	8.0	3.0	28	935	10	-
35530.W0003	Super Fine	M6X1,0	6.0	7	25	8.0	1.5	28	935	10	-
35530.W0004	Super Fine	M6X1,0	6.0	7	25	8.0	3.0	28	935	10	-
35530.W0005	Super Fine	M6X1,0	6.0	7	40	8.0	1.5	28	935	10	-
35530.W0006	Super Fine	M6X1,0	6.0	7	40	8.0	3.0	28	935	10	-
35530.W0007	Extra Fine	M8X1,25	8.5	10	12	11.5	1.5	24	1565	13	-
35530.W0008	Extra Fine	M8X1,25	8.5	10	12	11.5	3.0	24	1565	13	-
35530.W0009	Extra Fine	M8X1,25	8.5	10	25	11.5	1.5	24	1565	13	-
35530.W0010	Extra Fine	M8X1,25	8.5	10	25	11.5	3.0	24	1565	13	-
35530.W0011	Extra Fine	M8X1,25	8.5	10	40	11.5	1.5	24	1565	13	-
35530.W0012	Extra Fine	M8X1,25	8.5	10	40	11.5	3.0	24	1565	13	-
35530.W0013	Extra Fine	M10X1,5	10.0	13	15	13.0	4.0	42	1902	17	3
35530.W0014	Extra Fine	M10X1,5	10.0	13	15	13.0	6.0	42	1902	17	3
35530.W0015	Extra Fine	M10X1,5	10.0	13	30	13.0	4.0	42	1902	17	3
35530.W0016	Extra Fine	M10X1,5	10.0	13	30	13.0	6.0	42	1902	17	3
35530.W0017	Extra Fine	M10X1,5	10.0	13	50	13.0	4.0	42	1902	17	3
35530.W0018	Extra Fine	M10X1,5	10.0	13	50	13.0	6.0	42	1902	17	3
35530.W0019	Fine	M12X1,75	12.0	15	20	15.0	4.0	45	3006	19	5
35530.W0020	Fine	M12X1,75	12.0	15	20	15.0	6.0	45	3006	19	5
35530.W0021	Fine	M12X1,75	12.0	15	40	15.0	4.0	45	3006	19	5
35530.W0022	Fine	M12X1,75	12.0	15	40	15.0	6.0	45	3006	19	5
35530.W0023	Fine	M12X1,75	12.0	15	60	15.0	4.0	45	3006	19	5
35530.W0024	Fine	M12X1,75	12.0	15	60	15.0	6.0	45	3006	19	5
35530.W0025	Fine	M16X2,0	16.0	20	25	19.0	4.0	40	5073	24	6
35530.W0027	Fine	M16X2,0	16.0	20	50	19.0	4.0	40	5073	24	6
35530.W0028	Fine	M16X2,0	16.0	20	50	19.0	6.0	40	5073	24	6
35530.W0029	Fine	M16X2,0	16.0	20	80	19.0	4.0	40	5073	24	6
35530.W0030	Fine	M16X2,0	16.0	20	80	19.0	6.0	40	5073	24	6

Grippers - Self Aligning - HTS

flat - threaded bolt

35530.2



Material

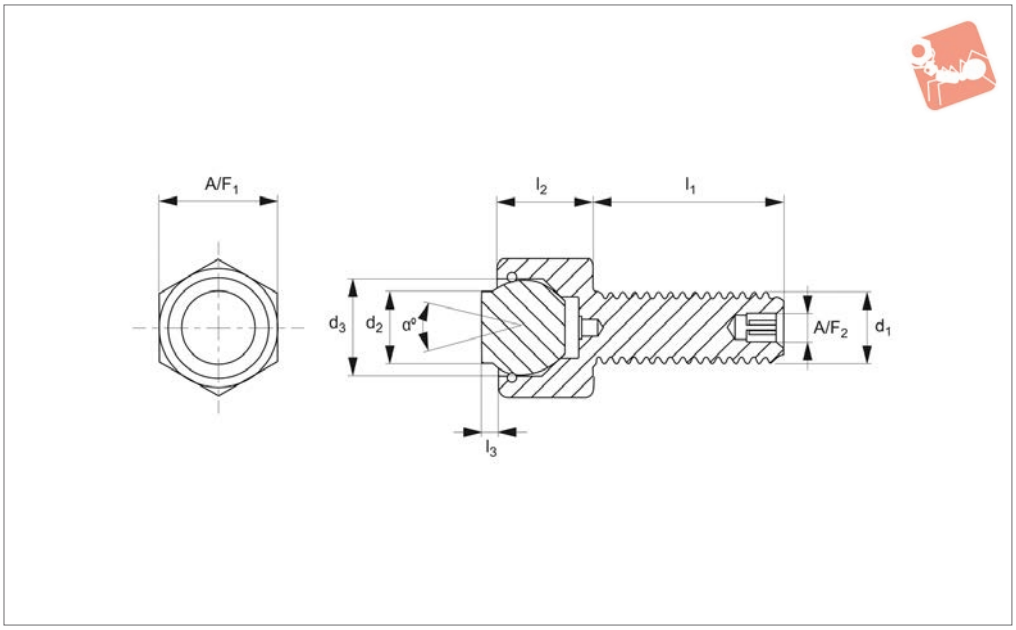
Body: steel, hardened to HRc 43/46, black oxide finish.
Ball: M2 high speed steel, hardened to HRc 60/62.

Viton o-ring holds ball in place and prevents ingress of other material.

Technical Notes

These adjustable self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.
Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

Order No.	d_1	d_2	d_3	l_1	l_2 ±0.05	l_3	Swivel angle a °	Load rating kg	A/F_1	A/F_2
35530.W0101	M6X1,0	6.0	7	12	8.0	1.5	28	935	10	-
35530.W0102	M6X1,0	6.0	7	12	8.0	3.0	28	935	10	-
35530.W0103	M6X1,0	6.0	7	25	8.0	1.5	28	935	10	-
35530.W0104	M6X1,0	6.0	7	25	8.0	3.0	28	935	10	-
35530.W0105	M6X1,0	6.0	7	40	8.0	1.5	28	935	10	-
35530.W0106	M6X1,0	6.0	7	40	8.0	3.0	28	935	10	-
35530.W0107	M8X1,25	8.5	10	12	11.5	1.5	24	1565	13	-
35530.W0108	M8X1,25	8.5	10	12	11.5	3.0	24	1565	13	-
35530.W0109	M8X1,25	8.5	10	25	11.5	1.5	24	1565	13	-
35530.W0110	M8X1,25	8.5	10	25	11.5	3.0	24	1565	13	-
35530.W0111	M8X1,25	8.5	10	40	11.5	1.5	24	1565	13	-
35530.W0112	M8X1,25	8.5	10	40	11.5	3.0	24	1565	13	-
35530.W0113	M10X1,5	10.0	13	15	13.0	4.0	42	1902	17	3
35530.W0114	M10X1,5	10.0	13	15	13.0	6.0	42	1902	17	3
35530.W0115	M10X1,5	10.0	13	30	13.0	4.0	42	1902	17	3
35530.W0116	M10X1,5	10.0	13	30	13.0	6.0	42	1902	17	3
35530.W0117	M10X1,5	10.0	13	50	13.0	4.0	42	1902	17	3
35530.W0118	M10X1,5	10.0	13	50	13.0	6.0	42	1902	17	3
35530.W0119	M12X1,75	12.0	15	20	15.0	4.0	45	3006	19	5
35530.W0120	M12X1,75	12.0	15	20	15.0	6.0	45	3006	19	5
35530.W0121	M12X1,75	12.0	15	40	15.0	4.0	45	3006	19	5
35530.W0122	M12X1,75	12.0	15	40	15.0	6.0	45	3006	19	5
35530.W0123	M12X1,75	12.0	15	60	15.0	4.0	45	3006	19	5
35530.W0124	M12X1,75	12.0	15	60	15.0	6.0	45	3006	19	5
35530.W0125	M16X2,0	16.0	20	25	19.0	4.0	40	5073	24	6
35530.W0127	M16X2,0	16.0	20	50	19.0	4.0	40	5073	24	6
35530.W0129	M16X2,0	16.0	20	80	19.0	4.0	40	5073	24	6



35530.3

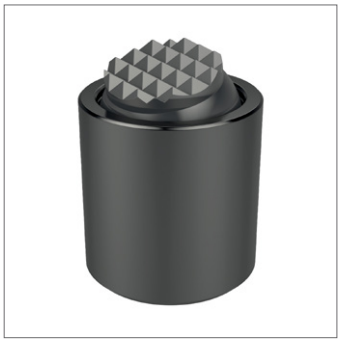
Material
Body: steel, hardened to HRc 43/46, black oxide finish.
Ball: thermoplastic, white.
Viton o-ring holds ball in place and prevents ingress of other material.

Technical Notes
These adjustable self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.
Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

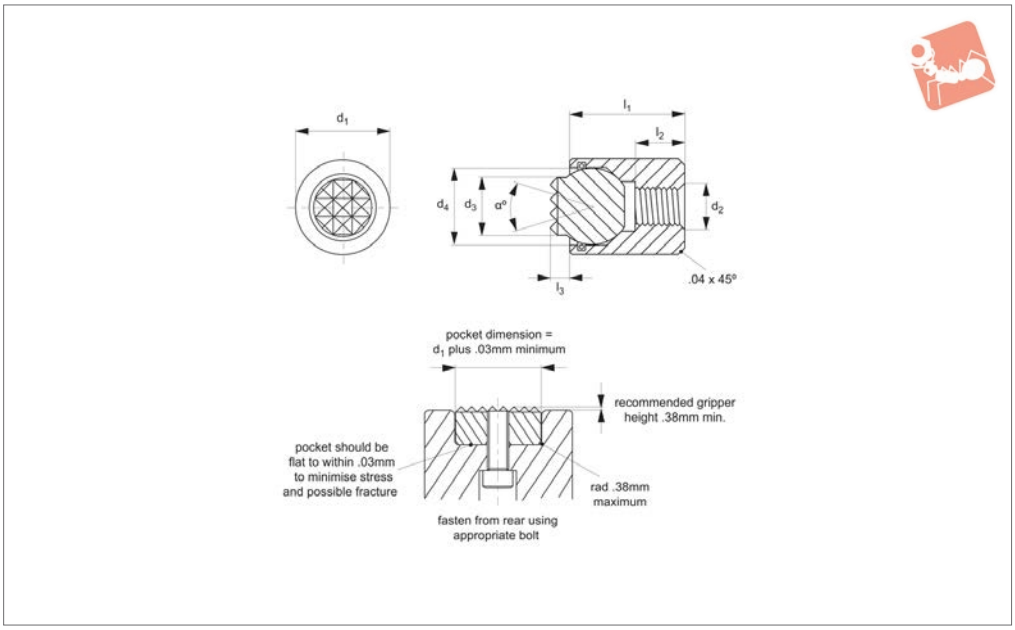
Order No.	d_1	d_2	d_3	l_1	l_2 ±0.05	l_3	Swivel angle a °	A/F_1	A/F_2
35530.W0201	M 6X1,0	6.0	7	12	8.0	1.5	28	10	-
35530.W0202	M 6X1,0	6.0	7	12	8.0	3.0	28	10	-
35530.W0203	M 6X1,0	6.0	7	25	8.0	1.5	28	10	-
35530.W0204	M 6X1,0	6.0	7	25	8.0	3.0	28	10	-
35530.W0205	M 6X1,0	6.0	7	40	8.0	1.5	28	10	-
35530.W0206	M 6X1,0	6.0	7	40	8.0	3.0	28	10	-
35530.W0207	M 8X1,25	8.5	10	12	11.5	1.5	24	13	-
35530.W0208	M 8X1,25	8.5	10	12	11.5	3.0	24	13	-
35530.W0209	M 8X1,25	8.5	10	25	11.5	1.5	24	13	-
35530.W0210	M 8X1,25	8.5	10	25	11.5	3.0	24	13	-
35530.W0211	M 8X1,25	8.5	10	40	11.5	1.5	24	13	-
35530.W0212	M 8X1,25	8.5	10	40	11.5	3.0	24	13	-
35530.W0213	M10X1,5	10.0	13	15	13.0	4.0	42	17	3
35530.W0214	M10X1,5	10.0	13	15	13.0	6.0	42	17	3
35530.W0215	M10X1,5	10.0	13	30	13.0	4.0	42	17	3
35530.W0216	M10X1,5	10.0	13	30	13.0	6.0	42	17	3
35530.W0217	M10X1,5	10.0	13	50	13.0	4.0	42	17	3
35530.W0218	M10X1,5	10.0	13	50	13.0	6.0	42	17	3
35530.W0219	M12X1,75	12.0	15	20	15.0	4.0	45	19	5
35530.W0220	M12X1,75	12.0	15	20	15.0	6.0	45	19	5
35530.W0221	M12X1,75	12.0	15	40	15.0	4.0	45	19	5
35530.W0222	M12X1,75	12.0	15	40	15.0	6.0	45	19	5
35530.W0223	M12X1,75	12.0	15	60	15.0	4.0	45	19	5
35530.W0224	M12X1,75	12.0	15	60	15.0	6.0	45	19	5
35530.W0225	M16X2,0	16.0	20	25	19.0	4.0	40	24	6
35530.W0227	M16X2,0	16.0	20	50	19.0	4.0	40	24	6
35530.W0229	M16X2,0	16.0	20	80	19.0	4.0	40	24	6

Grippers - Self Aligning - HTS

serrated - female threaded housing



35540.1



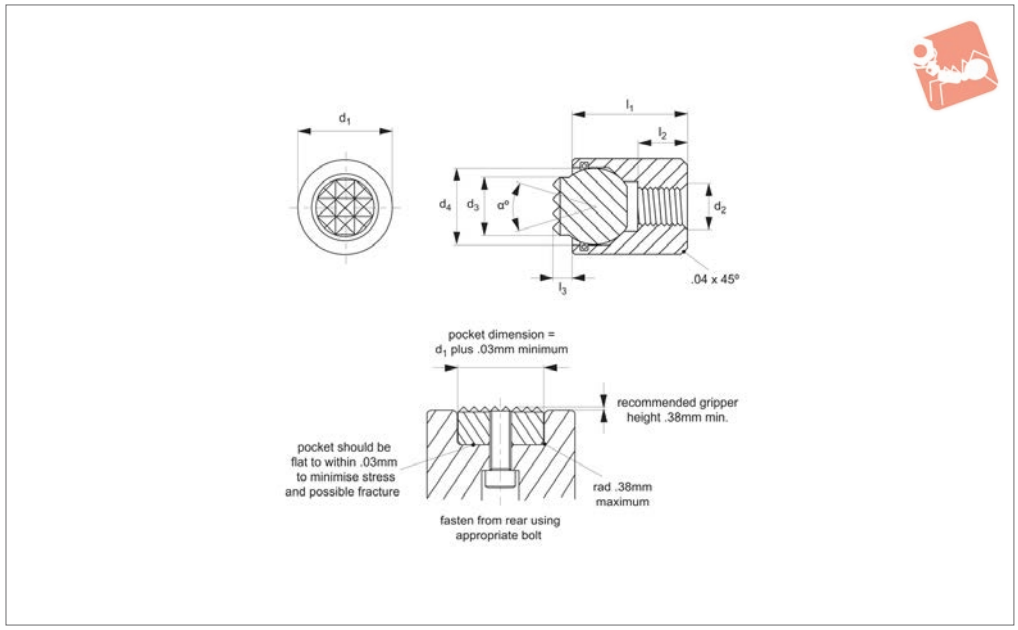
Material

Body: steel, hardened to HRc 43/46, black oxide finish.
Ball: M2 high speed steel, hardened to HRc 60/62.
Viton o-ring holds ball in place and prevents ingress of other material.

Technical Notes

These adjustable self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.
Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

Order No.	Tooth pattern	Type	d_1 +0.00|-0.13	d_2	d_3	d_4	l_1 ±0.05	l_2 ±0.25	l_3	Swivel angle a °	Load rating kg
35540.W0001	Super Fine	Serrated	10	M 4x0,7	6.0	7	10.5	3.5	1.5	28	1173
35540.W0002	Super Fine	Serrated	10	M 4x0,7	6.0	7	10.5	3.5	3.0	28	1173
35540.W0003	Super Fine	Serrated	10	M 4x0,7	6.0	7	23.5	9.0	1.5	28	1173
35540.W0004	Super Fine	Serrated	10	M 4x0,7	6.0	7	23.5	9.0	3.0	28	1173
35540.W0005	Extra Fine	Serrated	13	M 5x0,8	8.5	10	14.5	6.5	1.5	24	2019
35540.W0006	Extra Fine	Serrated	13	M 5x0,8	8.5	10	14.5	6.5	3.0	24	2019
35540.W0007	Extra Fine	Serrated	13	M 5x0,8	8.5	10	23.5	9.0	1.5	24	2019
35540.W0008	Extra Fine	Serrated	13	M 5x0,8	8.5	10	23.5	9.0	3.0	24	2019
35540.W0009	Extra Fine	Serrated	17	M 6x1,0	10.0	13	18.0	7.5	4.0	42	2799
35540.W0010	Extra Fine	Serrated	17	M 6x1,0	10.0	13	18.0	7.5	6.0	42	2799
35540.W0011	Fine	Serrated	19	M 8x1,25	12.0	15	20.0	8.5	4.0	45	3941
35540.W0012	Fine	Serrated	19	M 8x1,25	12.0	15	20.0	8.5	6.0	45	3941
35540.W0013	Fine	Serrated	24	M10x1,5	16.0	20	24.0	9.0	4.0	40	5950
35540.W0014	Fine	Serrated	24	M10x1,5	16.0	20	24.0	9.0	6.0	40	5950



35540.2

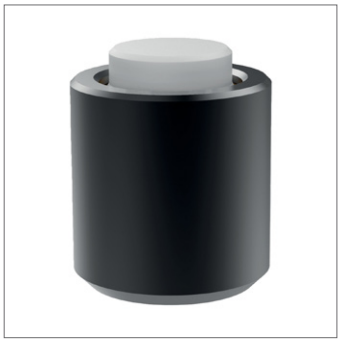
Material
Body: steel, hardened to HRc 43/46, black oxide finish.
Ball: M2 high speed steel, hardened to HRc 60/62.
Viton o-ring holds ball in place and prevents ingress of other material.

Technical Notes
These adjustable self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.
Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

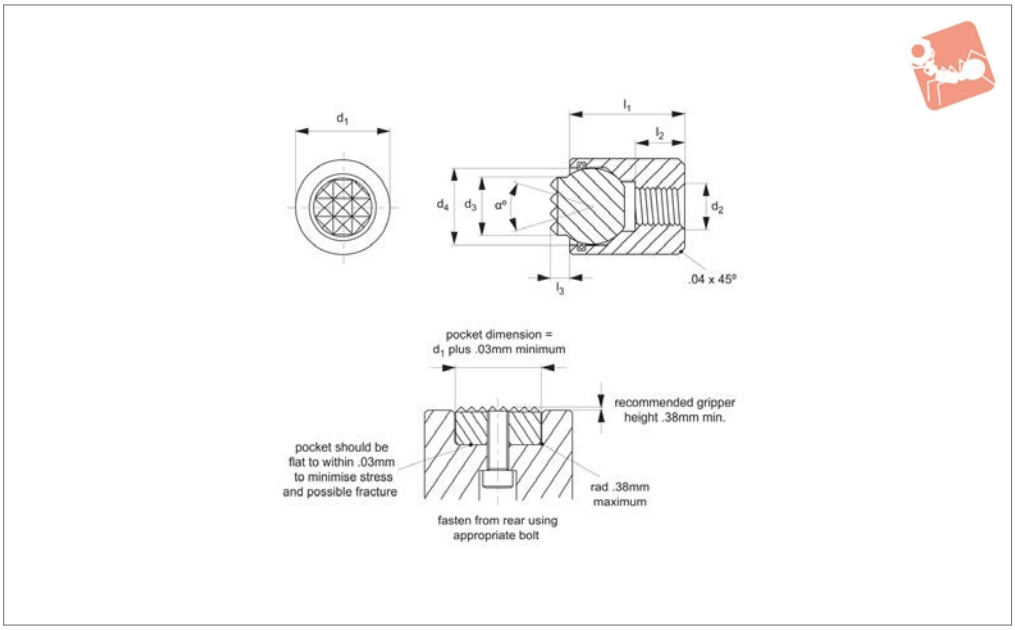
Order No.	Type	d_1	d_2	d_3	d_4	l_1 ±0.05	l_2 ±0.25	l_3	Swivel angle a °	Load rating kg
35540.W0101	Flat, Steel	10	M 4 x 0,7	6.0	7	10.5	3.5	1.5	28	1173
35540.W0102	Flat, Steel	10	M 4 x 0,7	6.0	7	10.5	3.5	3.0	28	1173
35540.W0103	Flat, Steel	10	M 4 x 0,7	6.0	7	23.5	9.0	1.5	28	1173
35540.W0104	Flat, Steel	10	M 4 x 0,7	6.0	7	23.5	9.0	3.0	28	1173
35540.W0105	Flat, Steel	13	M 5 x 0,8	8.5	10	14.5	6.5	1.5	24	2019
35540.W0106	Flat, Steel	13	M 5 x 0,8	8.5	10	14.5	6.5	3.0	24	2019
35540.W0107	Flat, Steel	13	M 5 x 0,8	8.5	10	23.5	9.0	1.5	24	2019
35540.W0108	Flat, Steel	13	M 5 x 0,8	8.5	10	23.5	9.0	3.0	24	2019
35540.W0109	Flat, Steel	17	M 6 x 1,0	10.0	13	18.0	7.5	4.0	42	2799
35540.W0110	Flat, Steel	17	M 6 x 1,0	10.0	13	18.0	7.5	6.0	42	2799
35540.W0111	Flat, Steel	19	M 8 x 1,25	12.0	15	20.0	8.5	4.0	45	3941
35540.W0112	Flat, Steel	19	M 8 x 1,25	12.0	15	20.0	8.5	6.0	45	3941
35540.W0113	Flat, Steel	24	M10 x 1,5	16.0	20	24.0	9.0	4.0	40	5950
35540.W0114	Flat, Steel	24	M10 x 1,5	16.0	20	24.0	9.0	6.0	40	5950

Grippers - Self Aligning - Plastic

flat - female threaded housing



35540.3



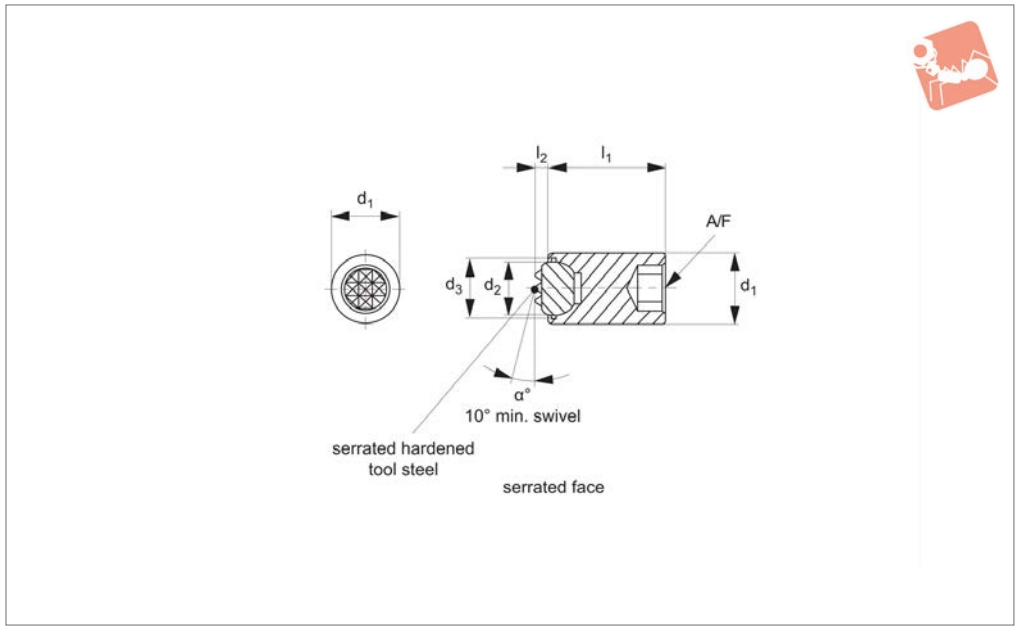
Material

Body: steel, hardened to HRc 43/46, black oxide finish.
Ball: thermoplastic, white.
Viton o-ring holds ball in place and prevents ingress of other material.

Technical Notes

These adjustable self-aligning pads serve as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.
Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

Order No.	Type	d_1	d_2	d_3	d_4	l_1 ±0.05	l_2 ±0.25	l_3	Swivel angle a °
35540.W0201	Flat, Plastic	10	M 4 x 0,7	6.0	7.0	10.5	3.5	1.5	28
35540.W0202	Flat, Plastic	10	M 4 x 0,7	6.0	7.0	10.5	3.5	3.0	28
35540.W0203	Flat, Plastic	10	M 4 x 0,7	6.0	7.0	23.5	9.0	1.5	28
35540.W0204	Flat, Plastic	10	M 4 x 0,7	6.0	7.0	23.5	9.0	3.0	28
35540.W0205	Flat, Plastic	13	M 5 x 0,8	8.5	10.0	14.5	6.5	1.5	24
35540.W0206	Flat, Plastic	13	M 5 x 0,8	8.5	10.0	14.5	6.5	3.0	24
35540.W0207	Flat, Plastic	13	M 5 x 0,8	8.5	10.0	23.5	9.0	1.5	24
35540.W0208	Flat, Plastic	13	M 5 x 0,8	8.5	10.0	23.5	9.0	3.0	24
35540.W0209	Flat, Plastic	17	M 6 x 1,0	10.0	13.0	18.0	7.5	4.0	42
35540.W0210	Flat, Plastic	17	M 6 x 1,0	10.0	13.0	18.0	7.5	6.0	42
35540.W0211	Flat, Plastic	19	M 8 x 1,25	12.0	15.0	20.0	8.5	4.0	45
35540.W0212	Flat, Plastic	19	M 8 x 1,25	12.0	15.0	20.0	8.5	6.0	45
35540.W0213	Flat, Plastic	24	M10 x 1,5	16.0	20.0	24.0	9.0	4.0	40
35540.W0214	Flat, Plastic	24	M10 x 1,5	16.0	20.0	24.0	9.0	6.0	40



35550.1

Material
Body: steel set screw with hardened tool steel or thermoplastic inserts.

Technical Notes
These adjustable ball end gripping screws also serve as stops, supports elements.

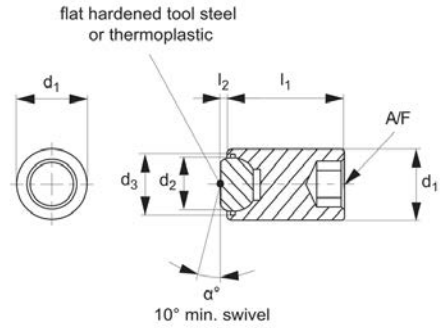
They can be inserted into jigs, fixtures and other workholding elements.

Order No.	Tooth pattern	d_1 +0.00|-0.13	d_2	d_3	l_1	l_2	Swivel angle a °	Load rating kg	A/F
35550.W0001	Super Fine	4	M10x1,5	5	25	1.5	30	-	5
35550.W0002	Super Fine	4	M10x1,5	5	35	1.5	30	-	5
35550.W0003	Super Fine	4	M10x1,5	5	50	1.5	30	-	5
35550.W0004	Super Fine	6	M12x1,75	7	25	1.5	28	1560	6
35550.W0005	Super Fine	6	M12x1,75	7	25	3.0	28	1560	6
35550.W0006	Super Fine	6	M12x1,75	7	35	1.5	28	1560	6
35550.W0007	Super Fine	6	M12x1,75	7	35	3.0	28	1560	6
35550.W0008	Super Fine	6	M12x1,75	7	50	1.5	28	1560	6
35550.W0009	Super Fine	6	M12x1,75	7	50	3.0	28	1560	6
35550.W0010	Extra Fine	8.5	M16x2,0	10	25	1.5	24	2354	8
35550.W0011	Extra Fine	8.5	M16x2,0	10	25	3.0	24	2354	8
35550.W0012	Extra Fine	8.5	M16x2,0	10	35	1.5	24	2354	8
35550.W0013	Extra Fine	8.5	M16x2,0	10	35	3.0	24	2354	8
35550.W0014	Extra Fine	8.5	M16x2,0	10	50	1.5	24	2354	8
35550.W0015	Extra Fine	8.5	M16x2,0	10	50	3.0	24	2354	8
35550.W0016	Extra Fine	10	M20x2,5	13	30	4.0	42	3800	10
35550.W0017	Extra Fine	10	M20x2,5	13	30	6.0	42	3800	10
35550.W0018	Extra Fine	10	M20x2,5	13	50	4.0	42	3800	10
35550.W0019	Extra Fine	10	M20x2,5	13	50	6.0	42	3800	10
35550.W0020	Extra Fine	10	M20x2,5	13	70	4.0	42	3800	10
35550.W0021	Extra Fine	10	M20x2,5	13	70	6.0	42	3800	10
35550.W0022	Fine	12	M24x3,0	15	40	4.0	45	5549	10
35550.W0023	Fine	12	M24x3,0	15	40	6.0	45	5549	10
35550.W0024	Fine	12	M24x3,0	15	80	4.0	45	5549	10
35550.W0025	Fine	12	M24x3,0	15	80	6.0	45	5549	10

Grippers - Self Aligning - HTS

flat - set screw

35550.2

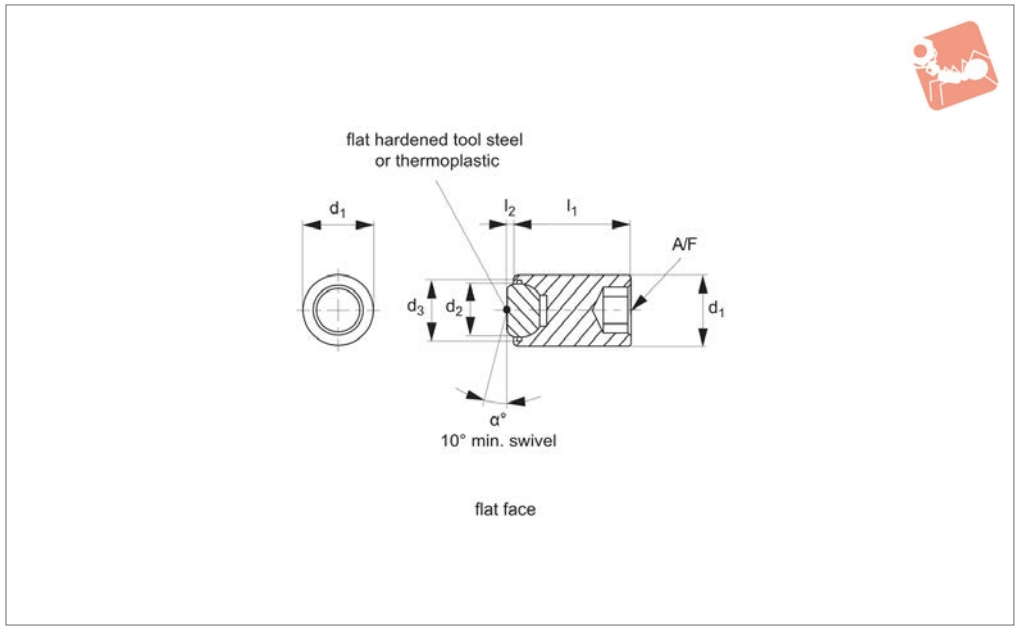


Material
Body: steel set screw with hardened tool steel or thermoplastic inserts.

Technical Notes
These adjustable ball end gripping screws also serve as stops, supports elements.

They can be inserted into jigs, fixtures and other workholding elements.

Order No.	d_1 +0.00|-0.13	d_2	d_3	l_1	l_2	Swivel angle a °	Load rating kg	A/F
35550.W0101	6.0	M12x1,75	7	25	1.5	28	1560	6
35550.W0102	6.0	M12x1,75	7	25	3.0	28	1560	6
35550.W0103	6.0	M12x1,75	7	35	1.5	28	1560	6
35550.W0104	6.0	M12x1,75	7	35	3.0	28	1560	6
35550.W0105	6.0	M12x1,75	7	50	1.5	28	1560	6
35550.W0106	6.0	M12x1,75	7	50	3.0	28	1560	6
35550.W0107	8.5	M16x2,0	10	25	1.5	24	2354	8
35550.W0108	8.5	M16x2,0	10	25	3.0	24	2354	8
35550.W0109	8.5	M16x2,0	10	35	1.5	24	2354	8
35550.W0110	8.5	M16x2,0	10	35	3.0	24	2354	8
35550.W0111	8.5	M16x2,0	10	50	1.5	24	2354	8
35550.W0112	8.5	M16x2,0	10	50	3.0	24	2354	8
35550.W0113	10.0	M20x2,5	13	30	4.0	42	3800	10
35550.W0114	10.0	M20x2,5	13	30	6.0	42	3800	10
35550.W0115	10.0	M20x2,5	13	50	4.0	42	3800	10
35550.W0116	10.0	M20x2,5	13	50	6.0	42	3800	10
35550.W0117	10.0	M20x2,5	13	70	4.0	42	3800	10
35550.W0118	10.0	M20x2,5	13	70	6.0	42	3800	10
35550.W0119	12.0	M24x3,0	15	40	4.0	45	5549	10
35550.W0120	12.0	M24x3,0	15	40	6.0	45	5549	10
35550.W0121	12.0	M24x3,0	15	80	4.0	45	5549	10
35550.W0122	12.0	M24x3,0	15	80	6.0	45	5549	10



35550.3

Material
Body: steel set screw with hardened tool steel or thermoplastic inserts.

Technical Notes
These adjustable ball end gripping screws also serve as stops, supports elements.

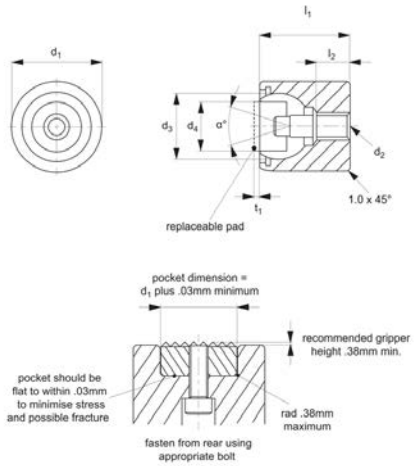
They can be inserted into jigs, fixtures and other workholding elements.

Order No.	d_1 +0.00|-0.13	d_2	d_3	l_1	l_2	Swivel angle a °	Load rating kg	A/F
35550.W0201	6.0	M12x1,75	7	25	1.5	28	1560	6
35550.W0202	6.0	M12x1,75	7	25	3.0	28	1560	6
35550.W0203	6.0	M12x1,75	7	35	1.5	28	1560	6
35550.W0204	6.0	M12x1,75	7	35	3.0	28	1560	6
35550.W0205	6.0	M12x1,75	7	50	1.5	28	1560	6
35550.W0206	6.0	M12x1,75	7	50	3.0	28	1560	6
35550.W0207	8.5	M16x2,0	10	25	1.5	24	2354	8
35550.W0208	8.5	M16x2,0	10	25	3.0	24	2354	8
35550.W0209	8.5	M16x2,0	10	35	1.5	24	2354	8
35550.W0210	8.5	M16x2,0	10	35	3.0	24	2354	8
35550.W0211	8.5	M16x2,0	10	50	1.5	24	2354	8
35550.W0212	8.5	M16x2,0	10	50	3.0	24	2354	8
35550.W0213	10.0	M20x2,5	13	30	4.0	42	3800	10
35550.W0214	10.0	M20x2,5	13	30	6.0	42	3800	10
35550.W0215	10.0	M20x2,5	13	50	4.0	42	3800	10
35550.W0216	10.0	M20x2,5	13	50	6.0	42	3800	10
35550.W0217	10.0	M20x2,5	13	70	4.0	42	3800	10
35550.W0218	10.0	M20x2,5	13	70	6.0	42	3800	10
35550.W0219	12.0	M24x3,0	15	40	4.0	45	5549	10
35550.W0220	12.0	M24x3,0	15	40	6.0	45	5549	10
35550.W0221	12.0	M24x3,0	15	80	4.0	45	5549	10
35550.W0222	12.0	M24x3,0	15	80	6.0	45	5549	10

Grippers - Self Aligning - Housing

female threaded housing only

35580



Material

Body: steel, heat treated to HRc 43/46, back oxide finish.
Ball: stainless steel (440C), hardened to HRc58/60.

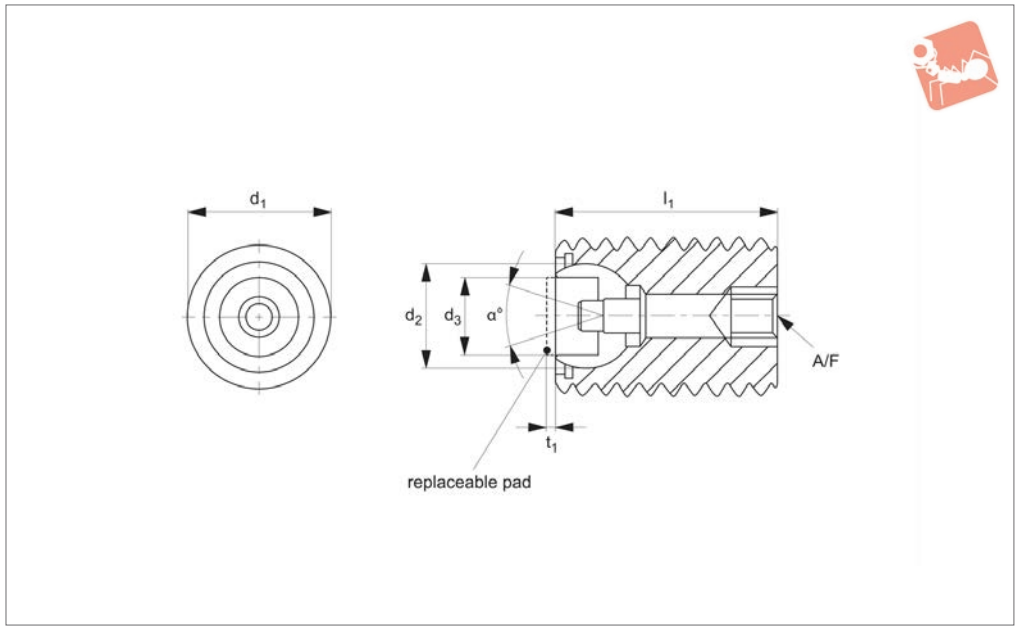
Technical Notes

These adjustable self-aligning ball units accept inserts:
- no. 35330 carbide tipped grippers.
- no. 35450 hardened tool steel grippers.
- no. 35980 steel/thermoplastic rest pads.

These must be ordered separately.
These parts can serve as stops, supports and thrust elements in jigs and fixtures.

They can also be fitted to existing workholding elements.

Order No.	Ball dia. d_3	d_1 +0.00|-0.13	d_2	Replaceable pad dia. d_4	l_1 ±0.05	l_2 ±0.25	t_1	α °	Load kg max.
35580.W0001	13	17	M 6x1,0	10	18	7.5	4	20	2799
35580.W0004	15	19	M 8x1,25	12	20	8.5	4	20	3941
35580.W0007	20	24	M10x1,5	16	24	9.0	4	20	5952
35580.W0010	23	30	M12x1,75	20	26	8.5	4	20	9683
35580.W0013	28	36	M12x1,75	25	32	12.0	4	20	13861



35590

Material
Body: steel, heat treated to HRc 43/46, back oxide finish.
Ball: stainless steel (440C), hardened to HRc 58/60.

Technical Notes
These adjustable self-aligning ball units accept inserts:
- no. 35330 carbide tipped grippers.
- no. 35450 hardened tool steel grippers.
- no. 35980 steel/thermoplastic rest pads.

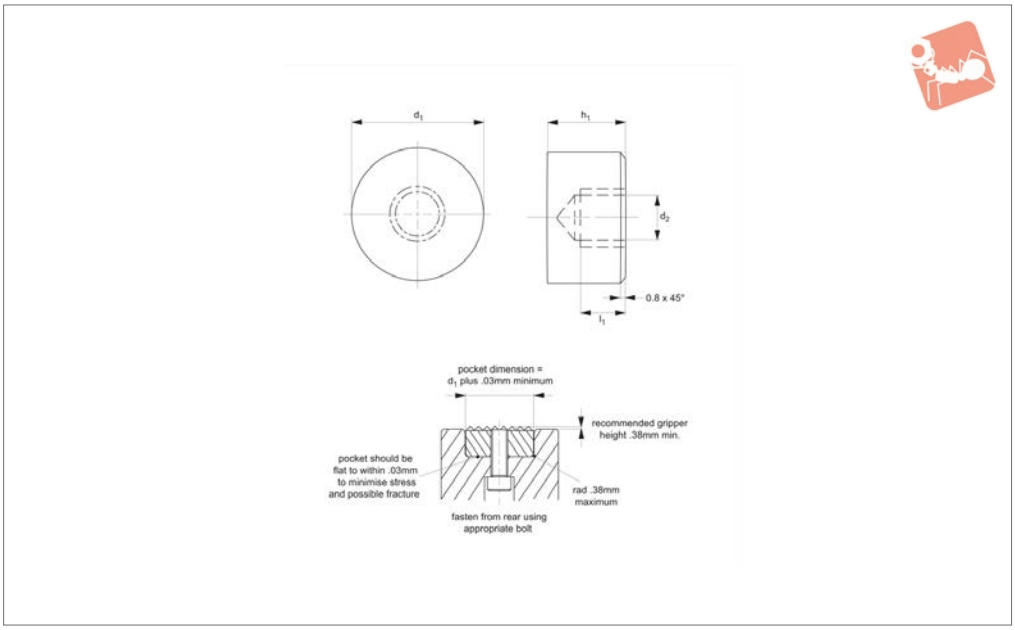
These must be ordered separately.
These parts can serve as stops, supports and thrust elements in jigs and fixtures.
They can also be fitted to existing workholding elements.

Order No.	Ball dia. d_2	d_1	Replaceable pad dia. d_3	l_1	t_1	Swivel angle a °	Load kg max.	A/F
35590.W0001	13	M20x2,5	10	30	6	20	3801	10
35590.W0004	13	M20x2,5	10	50	6	20	3801	10
35590.W0007	13	M20x2,5	10	70	6	20	3801	10
35590.W0010	15	M24x3,0	12	40	6	20	5549	10
35590.W0013	15	M24x3,0	12	80	6	20	5549	10

Rest Pads - Steel and Thermoplastic

round - rear fixing

35980



Material

Steel (AISI 8620), hardened to HRc 58-60, black oxide finish.
Thermoplastic, white.

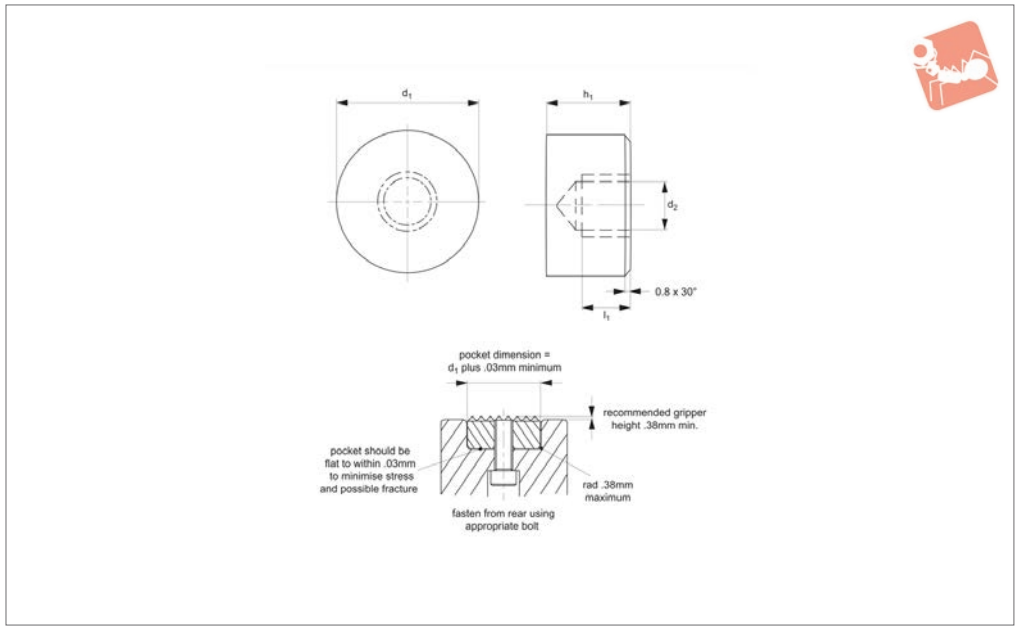
Technical Notes

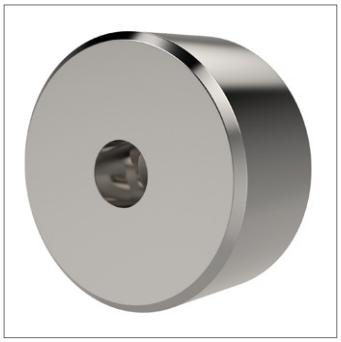
Can be used as rest pads, stops, supports etc in jigs and fixtures.
h_1 = tol. of steel ±0,03, tol., for thermoplastic +0,00 -0,13.

Tips

Can be fastened from rear using appropriate bolt or alternatively via use of a differential screw. Note installation recommendations in technical diagram.

Order No.	Material	d_1 +0.00|-0.13	d_2	h_1	l_1
35980.W0011	Steel	8	M 4x0,7	10	5.0
35980.W0012	Steel	8	M 4x0,7	12	6.4
35980.W0001	Steel	10	M 5x0,8	10	5.0
35980.W0002	Steel	10	M 5x0,8	12	6.4
35980.W0003	Steel	12	M 5x0,8	10	5.0
35980.W0004	Steel	12	M 5x0,8	12	6.4
35980.W0005	Steel	16	M 6x1,0	10	5.0
35980.W0006	Steel	16	M 6x1,0	12	6.4
35980.W0007	Steel	20	M 6x1,0	10	5.0
35980.W0008	Steel	20	M 6x1,0	12	6.4
35980.W0009	Steel	25	M 6x1,0	10	5.0
35980.W0010	Steel	25	M 6x1,0	12	6.4
35980.W0211	Plastic	8	M 4x0,7	10	5.0
35980.W0212	Plastic	8	M 4x0,7	12	6.4
35980.W0201	Plastic	10	M 5x0,8	10	5.0
35980.W0202	Plastic	10	M 5x0,8	12	6.4
35980.W0203	Plastic	12	M 5x0,8	10	5.0
35980.W0204	Plastic	12	M 5x0,8	12	6.4
35980.W0205	Plastic	16	M 6x1,0	10	5.0
35980.W0206	Plastic	16	M 6x1,0	12	6.4
35980.W0207	Plastic	20	M 6x1,0	10	5.0
35980.W0208	Plastic	20	M 6x1,0	12	6.4
35980.W0209	Plastic	25	M 6x1,0	10	5.0
35980.W0210	Plastic	25	M 6x1,0	12	6.4





35982

Material
Stainless steel (AISI 630), hardened to HRc 43-46.

Technical Notes
Can be used as rest pads, stops, supports etc in jigs and fixtures.

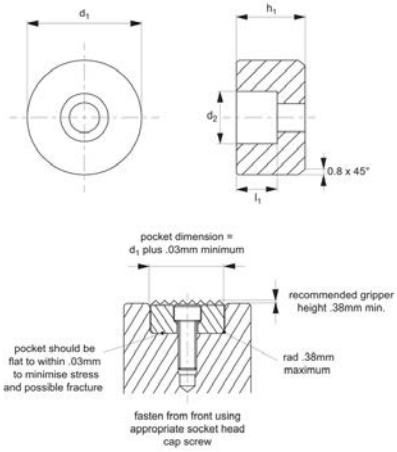
Tips
Can be fastened from rear using appropriate bolt, or alternatively via use of a differential screw. Note installation recommendations in technical diagram.

Order No.	d_1 +0.00|-0.13	d_2	h_1 ±0.03	l_1
35982.W0080	8	M 4x0,7	10	5.0
35982.W0082	8	M 4x0,7	12	6.4
35982.W0100	10	M 5x0,8	10	5.0
35982.W0102	10	M 5x0,8	12	6.4
35982.W0120	12	M 5x0,8	10	5.0
35982.W0122	12	M 5x0,8	12	6.4
35982.W0160	16	M 6x1,0	10	5.0
35982.W0162	16	M 6x1,0	12	6.4
35982.W0200	20	M 6x1,0	10	5.0
35982.W0202	20	M 6x1,0	12	6.4
35982.W0250	25	M 6x1,0	10	5.0
35982.W0252	25	M 6x1,0	12	6.4

Rest Pads - Steel and Thermoplastic

round - front fixing

35984



Material

Steel (AISI 8620), hardened to HRc 58-60. Black oxide finish.
Thermoplastic, white.

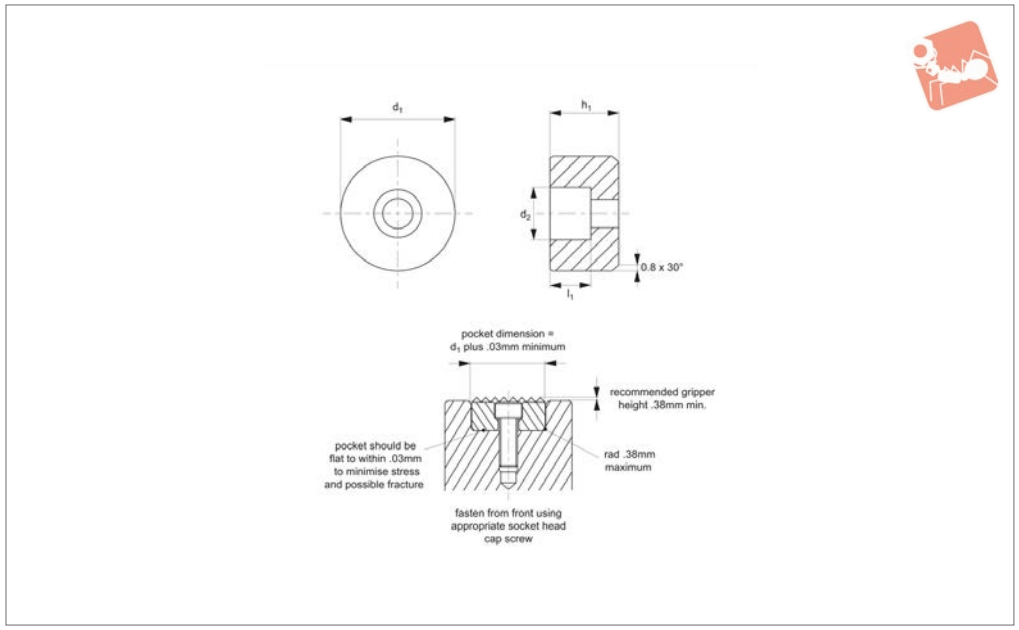
Technical Notes

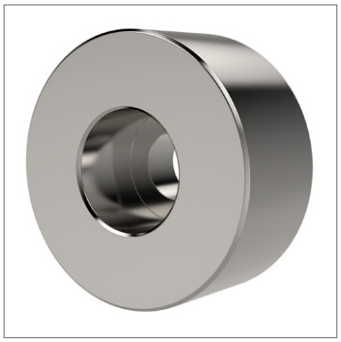
Can be used as rest pads, stops, supports etc in jigs and fixtures.
h_1 = tol. of steel ±0,03, tol. of thermoplastic +0,00 -0,13.

Tips

Fasten from front using appropriate socket head cap screw. Note installation recommendations in technical diagram.

Order No.	Material	d_1 +0.00|-0.13	d_2 to fit DIN 912	h_1	l_1
35984.W0100	Steel	10	M 3	10	5.0
35984.W0102	Steel	10	M 3	12	5.0
35984.W0120	Steel	12	M 4	10	5.6
35984.W0122	Steel	12	M 4	12	5.6
35984.W0160	Steel	16	M 5	10	6.6
35984.W0162	Steel	16	M 5	12	6.6
35984.W0200	Steel	20	M 6	10	7.6
35984.W0202	Steel	20	M 6	12	7.6
35984.W0250	Steel	25	M 6	10	7.6
35984.W0252	Steel	25	M 6	12	7.6
35984.W1100	Plastic	10	M 3	10	5.0
35984.W1102	Plastic	10	M 3	12	5.0
35984.W1120	Plastic	12	M 4	10	5.6
35984.W1122	Plastic	12	M 4	12	5.6
35984.W1160	Plastic	16	M 5	10	6.6
35984.W1162	Plastic	16	M 5	12	6.6
35984.W1200	Plastic	20	M 6	10	7.6
35984.W1202	Plastic	20	M 6	12	7.6
35984.W1250	Plastic	25	M 6	10	7.6
35984.W1252	Plastic	25	M 6	12	7.6





35986

Material
Stainless steel (AISI 630), hardened to RHc 43-46.

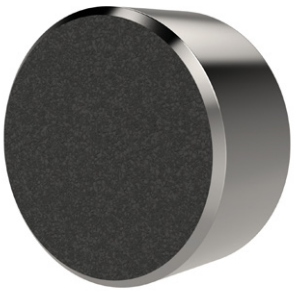
Technical Notes
Stainless steel provides high strength as well as protection against chemical and environmental corrosion.

Tips
Counterbored hole for front mounting with a socket head cap screw. Note installation recommendations in technical diagram.

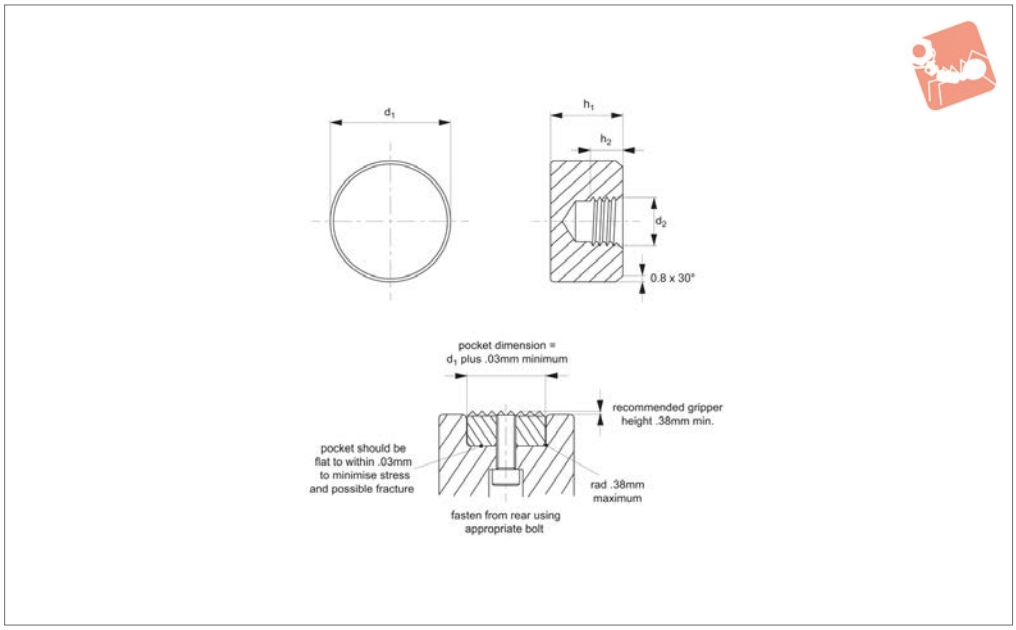
Order No.	d_1 +0.00 | -0.13	d_2 to fit DIN 912	h_1 ±0.03	l_1
35986.W0100	10	M 3	10	5.0
35986.W0102	10	M 3	12	5.0
35986.W0120	12	M 4	10	5.6
35986.W0122	12	M 4	12	5.6
35986.W0160	16	M 5	10	6.6
35986.W0162	16	M 5	12	6.6
35986.W0200	20	M 6	10	7.6
35986.W0202	20	M 6	12	7.6
35986.W0250	25	M 6	10	7.6
35986.W0252	25	M 6	12	7.6

Gripping Pads - Diamond Coated

stainless - round - rear fixing



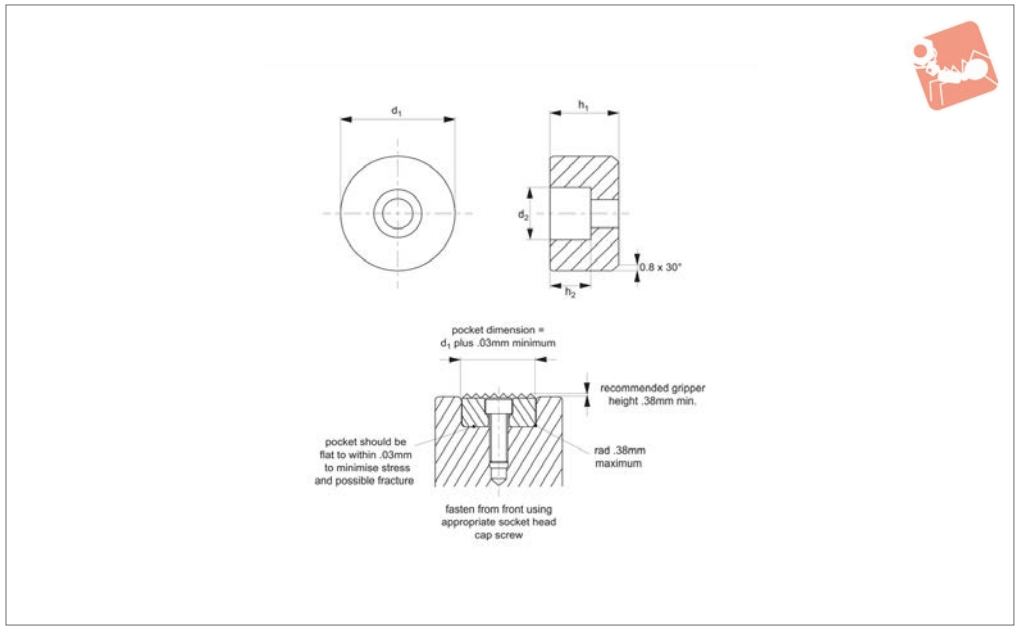
35630

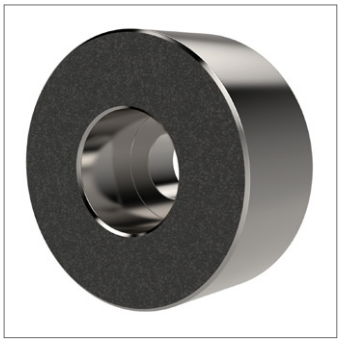


Material
Stainless steel (AISI 630, precipitation-hardened), heat treated to HRc 43-46.

Technical Notes
Permanently fused diamond powder creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear resistance.

Order No.	d_1 +0.00|-0.13	d_2	h_1 +0.00|-0.13	h_2
35630.W0841	8	M 4x0,7	10	5.0
35630.W0842	8	M 4x0,7	12	6.4
35630.W1051	10	M 5x0,8	10	5.0
35630.W1052	10	M 5x0,8	12	6.4
35630.W1251	12	M 5x0,8	10	5.0
35630.W1252	12	M 5x0,8	12	6.4
35630.W1661	16	M 6x1,0	10	5.0
35630.W1662	16	M 6x1,0	12	6.4
35630.W2061	20	M 6x1,0	10	5.0
35630.W2062	20	M 6x1,0	12	6.4
35630.W2561	25	M 6x1,0	10	5.0
35630.W2562	25	M 6x1,0	12	6.4





35632

Material
Stainless steel (AISI 630, precipitation-hardened), heat treated to HRc 43-46.

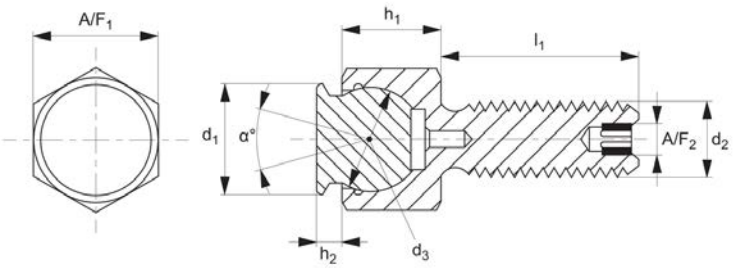
Technical Notes
Permanently fused diamond powder creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear resistance.

Order No.	d_1 +0.00|-0.13	d_2 to fit DIN 912	h_1 +0.00|-0.13	h_2
35632.W1051	10	M 3	10	5.0
35632.W1052	10	M 3	12	5.0
35632.W1251	12	M 4	10	5.6
35632.W1252	12	M 4	12	5.6
35632.W1661	16	M 5	10	6.6
35632.W1662	16	M 5	12	6.6
35632.W2061	20	M 6	10	7.6
35632.W2062	20	M 6	12	7.6
35632.W2561	25	M 6	10	7.6
35632.W2562	25	M 6	12	7.6

Grippers - Self Aligning

diamond coated - threaded bolt

35640



Material

Housing body: alloy steel, heat treated to HRc 43-46, black oxide finish.
Pad: diamond powder bonded to AISI 300 series stainless steel ball.

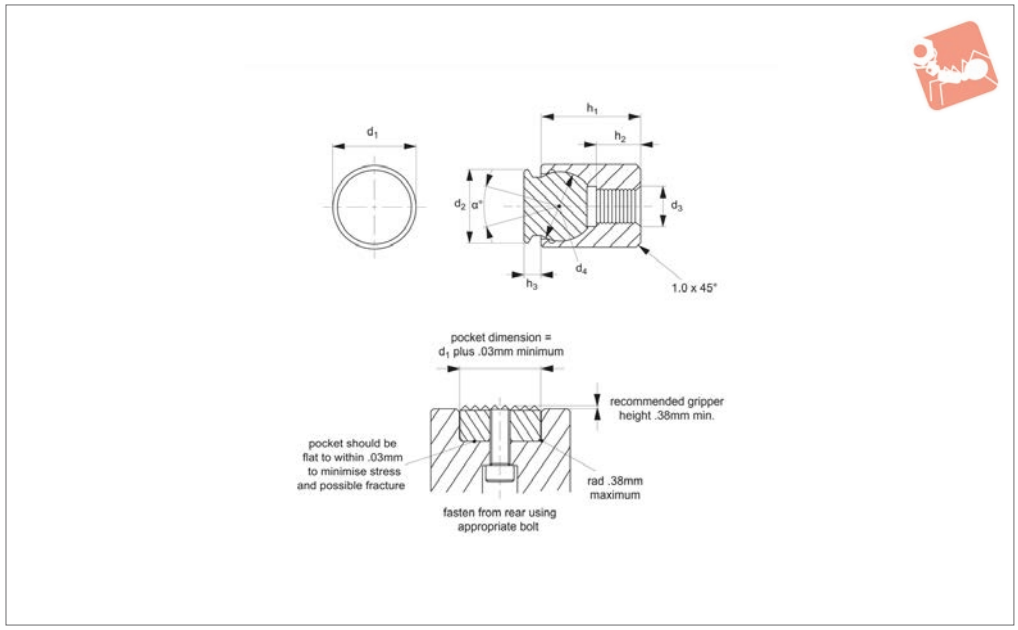
Technical Notes

Permanently fused diamond powder creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear resistance.

Tips

Re-seating: expel air by using 0.3 monofilament line between ball and housing, remove line when seated correctly.

Order No.	d_1	d_2	d_3	h_1 ±0.05	h_2	l_1	A/F_1	A/F_2	Swivel angle a °	Load kg max.
35640.W0861	8	M 6x1,0	7	8.0	2	12	10	-	28	935
35640.W0862	8	M 6x1,0	7	8.0	2	25	10	-	28	935
35640.W0863	8	M 6x1,0	7	8.0	2	40	10	-	28	935
35640.W1181	11	M 8x1,25	10	11.5	3	12	13	-	28	1565
35640.W1182	11	M 8x1,25	10	11.5	3	25	13	-	28	1565
35640.W1183	11	M 8x1,25	10	11.5	3	40	13	-	28	1565
35640.W1410	14	M10x1,5	13	13.0	3	15	17	3	28	1902
35640.W1412	14	M10x1,5	13	13.0	3	30	17	3	28	1902
35640.W1413	14	M10x1,5	13	13.0	3	50	17	3	28	1902
35640.W1912	19	M12x1,75	15	15.0	4	20	19	5	24	3006
35640.W1913	19	M12x1,75	15	15.0	4	40	19	5	24	3006
35640.W1914	19	M12x1,75	15	15.0	4	60	19	5	24	3006
35640.W2116	21	M16x2,0	20	19.0	4	25	24	6	24	5073
35640.W2117	21	M16x2,0	20	19.0	4	50	24	6	24	5073
35640.W2118	21	M16x2,0	20	19.0	4	80	24	6	24	5073



35642

Material
Housing: alloy steel, heat treated to HRc 43-46 with black oxide finish.
Pad: diamond powder bonded to AISI 300 series stainless steel ball.

Technical Notes
Permanently fused diamond powder creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear resistance.

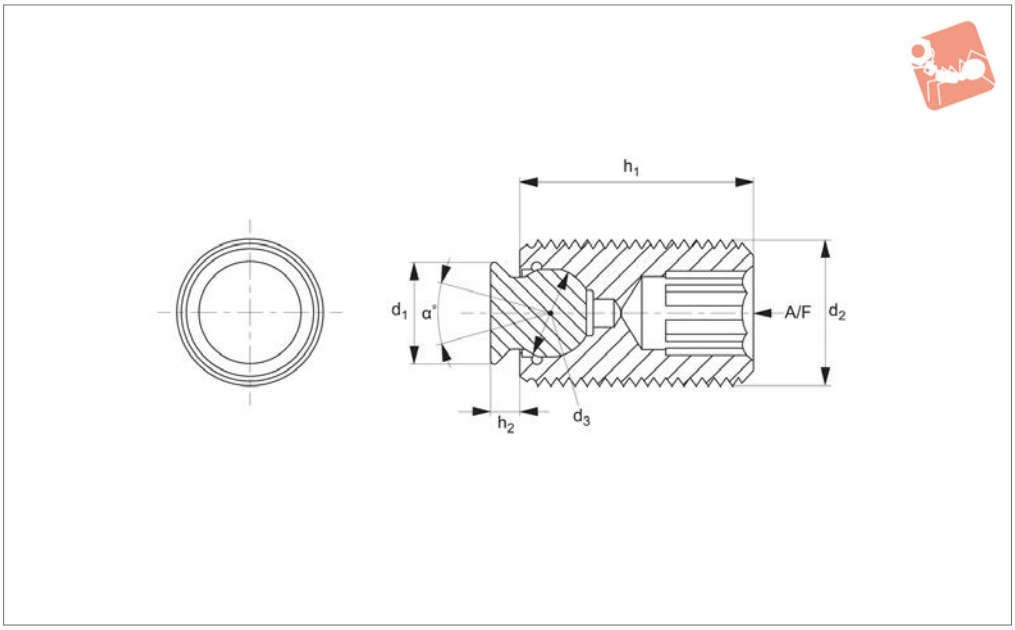
Tips
Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

Order No.	d_1 +0.00|-0.13	d_2 +0.00|-0.13	d_3	d_4	h_1 ±0.05	h_2 ±0.25	h_3	Swivel angle a °	Load kg max.
35642.W0841	10	8	M 4x0,7	7	10.5	3.5	2	28	1.2
35642.W0842	10	8	M 4x0,7	7	23.5	9.0	2	28	1.2
35642.W1151	13	11	M 5x0,8	10	14.5	6.5	3	28	2.0
35642.W1152	13	11	M 5x0,8	10	23.5	9.0	3	28	2.0
35642.W1461	17	14	M 6x1,0	13	18.0	7.5	3	28	2.8
35642.W1981	19	19	M 8x1,25	15	20.0	8.5	4	24	3.9
35642.W2110	24	21	M10x1,5	20	24.0	9.0	4	24	6.0

Grippers - Self Aligning

set screw - diamond coated

35644



Material

Housing: alloy steel, heat treated to HRc 43-46 with black oxide finish.
Pad: diamond powder bonded to AISI 300 series stainless steel ball.

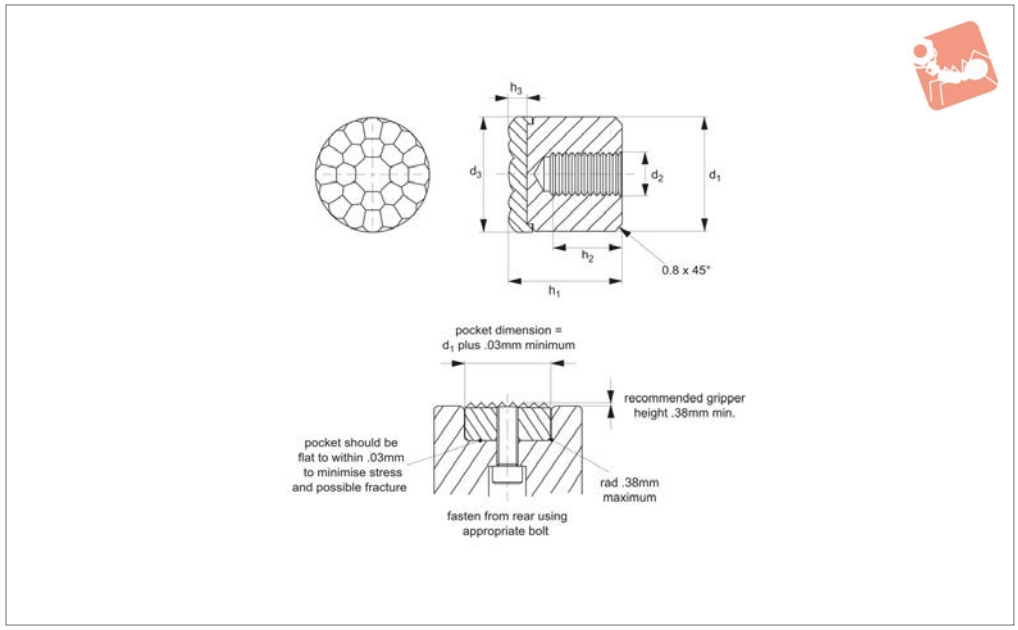
Technical Notes

Permanently fused diamond powder creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear resistance.

Tips

Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

Order No.	d_1	d_2	d_3	h_1	h_2	A/F	Swivel angle a °	Load kg max.
35644.W0610	6	M10x1,5	5	25	1.5	5	28	-
35644.W0611	6	M10x1,5	5	35	1.5	5	28	-
35644.W0612	6	M10x1,5	5	50	1.5	5	28	-
35644.W0812	8	M12x1,75	7	25	2.0	6	28	1.6
35644.W0813	8	M12x1,75	7	35	2.0	6	28	1.6
35644.W0814	8	M12x1,75	7	50	2.0	6	28	1.6
35644.W1116	11	M16x2,0	10	25	3.0	8	28	2.4
35644.W1117	11	M16x2,0	10	35	3.0	8	28	2.4
35644.W1118	11	M16x2,0	10	50	3.0	8	28	2.4
35644.W1420	14	M20x2,5	13	30	3.0	10	28	3.8
35644.W1421	14	M20x2,5	13	50	3.0	10	28	3.8
35644.W1422	14	M20x2,5	13	70	3.0	10	28	3.8
35644.W1924	19	M24x3,0	15	40	4.0	10	24	5.6
35644.W1925	19	M24x3,0	15	80	4.0	10	24	5.6



35610

Material
Body: AISI 300 series stainless steel.
Pad: urethane; non-marking, non-staining

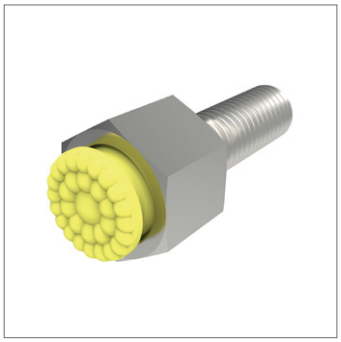
Technical Notes
Non-marking, non-staining urethane pad is permanently bonded to the stainless steel body. Available in three different durometers: 35, 60 &80 (see table). Bubbled texture of urethane pad allows air to escape so avoiding any suction action.

Important Notes
Load compression ratings based on load required to compress urethane surface 0,812mm for 2mm thick pad. Compression ratings vary greatly depending upon temperature and other application-specific factors.

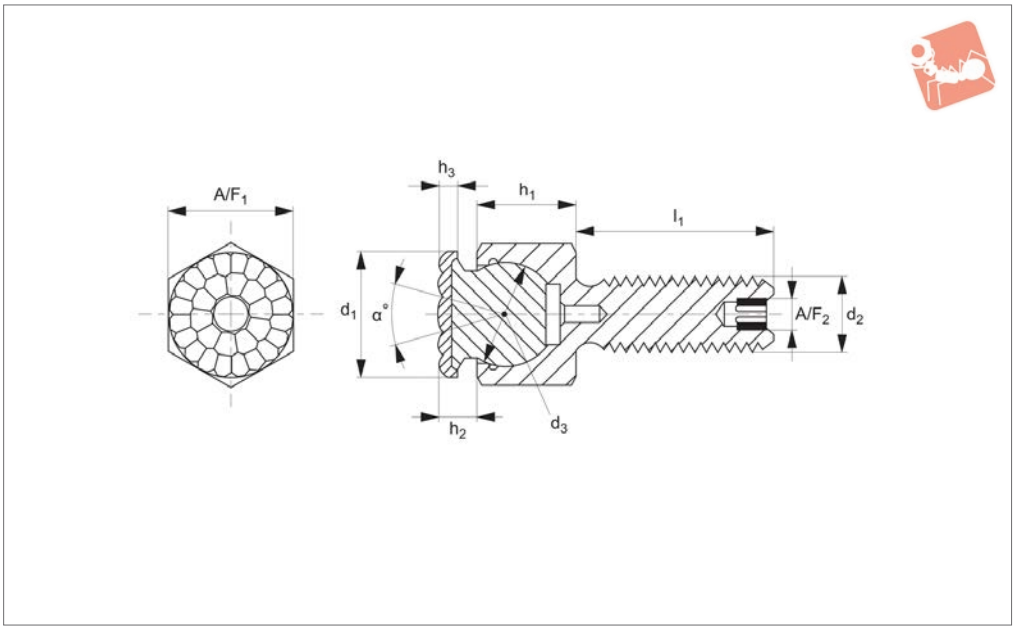
Order No.	d_1 +0.00|-0.13	d_2	d_3	h_1	h_2	Urethane thickness h_3	Durometer	Load compression kg
35610.W0083	8	M 4x0,7	8	12	6	2	35	4
35610.W0086	8	M 4x0,7	8	12	6	2	60	13
35610.W0088	8	M 4x0,7	8	12	6	2	80	20
35610.W0103	10	M 5x0,8	10	12	6	2	35	5
35610.W0106	10	M 5x0,8	10	12	6	2	60	15
35610.W0108	10	M 5x0,8	10	12	6	2	80	40
35610.W0123	12	M 5x0,8	13	12	6	2	35	18
35610.W0126	12	M 5x0,8	13	12	6	2	60	34
35610.W0128	12	M 5x0,8	13	12	6	2	80	86
35610.W0163	16	M 6x1,0	16	12	6	2	35	36
35610.W0166	16	M 6x1,0	16	12	6	2	60	72
35610.W0168	16	M 6x1,0	16	12	6	2	80	117
35610.W0203	20	M 6x1,0	21	12	6	3	35	38
35610.W0206	20	M 6x1,0	21	12	6	3	60	104
35610.W0208	20	M 6x1,0	21	12	6	3	80	165
35610.W0253	25	M 6x1,0	27	12	6	3	35	65
35610.W0256	25	M 6x1,0	27	12	6	3	60	136
35610.W0258	25	M 6x1,0	27	12	6	3	80	272

Grippers - Self Aligning

urethane coated - threaded bolt



35620



Material

Housing body: alloy steel, heat treated to HRc 43-46, black oxide finish.
Pad: urethane, bonded to AISI 300 series stainless steel ball.

Technical Notes

Non-marking, non-staining urethane pad is permanently bonded to the stainless steel body. Available in three different durometers: 35, 60 & 80 (see table). Bubbled texture of urethane pad allows air to escape so avoiding any suction action.

Tips

Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

Important Notes

Load compression ratings based on load required to compress urethane surface 0,812mm for 2mm thick pad. Compression ratings vary greatly depending upon temperature and other application-specific factors.

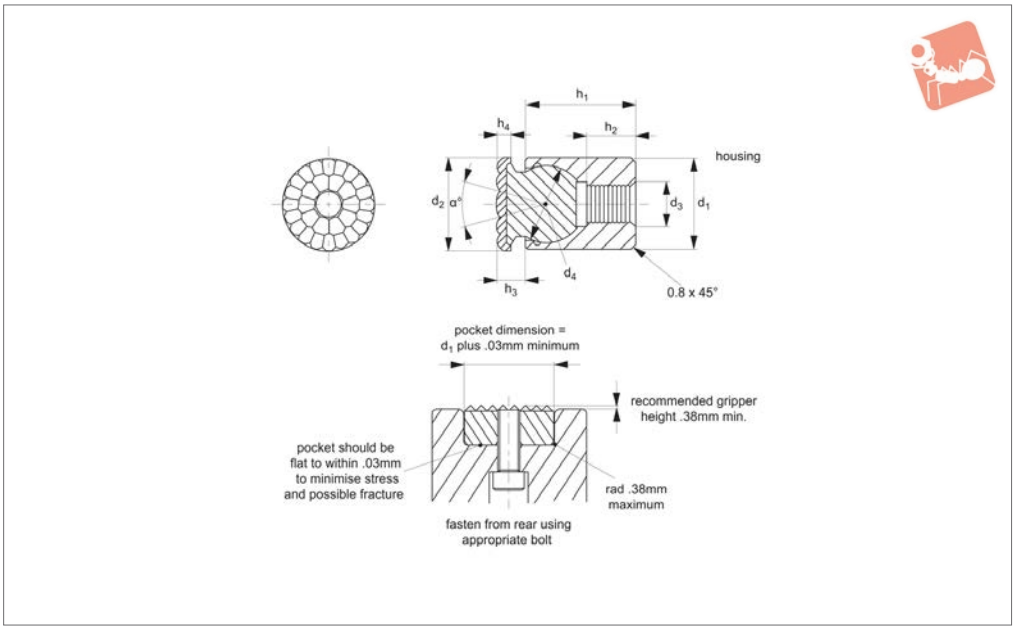
Order No.	d_1	d_2	l_1	d_3	h_1 ±0.05	h_2	A/F_1	A/F_2	Urethane thickness h_3	Durometer	Swivel angle a °	Load compression kg
35620.W3062	10	M 6x1,0	25	7	8.0	4	10	-	2	35	28	3
35620.W3063	10	M 6x1,0	40	7	8.0	4	10	-	2	35	28	3
35620.W3121	21	M12x1,75	20	15	15.0	6	19	5	2	35	24	68
35620.W6061	10	M 6x1,0	12	7	8.0	4	10	-	2	60	28	11
35620.W6062	10	M 6x1,0	25	7	8.0	4	10	-	2	60	28	11
35620.W6063	10	M 6x1,0	40	7	8.0	4	10	-	2	60	28	11
35620.W6081	13	M 8x1,25	12	10	11.5	5	13	-	2	60	28	34
35620.W6082	13	M 8x1,25	25	10	11.5	5	13	-	2	60	28	34
35620.W6083	13	M 8x1,25	40	10	11.5	5	13	-	2	60	28	34
35620.W6101	16	M10x1,5	15	13	13.0	5	17	3	2	60	28	65
35620.W6102	16	M10x1,5	30	13	13.0	5	17	3	2	60	28	65
35620.W6103	16	M10x1,5	50	13	13.0	5	17	3	2	60	28	65
35620.W6121	21	M12x1,75	20	15	15.0	6	19	5	2	60	24	154
35620.W6122	21	M12x1,75	40	15	15.0	6	19	5	2	60	24	154
35620.W6123	21	M12x1,75	60	15	15.0	6	19	5	2	60	24	154
35620.W6161	23	M16x2,0	25	20	19.0	6	24	6	2	60	24	181
35620.W6162	23	M16x2,0	50	20	19.0	6	24	6	2	60	24	181
35620.W6163	23	M16x2,0	80	20	19.0	6	24	6	2	60	24	181
35620.W8061	10	M 6x1,0	12	7	8.0	4	10	-	2	80	28	29
35620.W8062	10	M 6x1,0	25	7	8.0	4	10	-	2	80	28	29
35620.W8063	10	M 6x1,0	40	7	8.0	4	10	-	2	80	28	29
35620.W8081	13	M 8x1,25	12	10	11.5	5	13	-	2	80	28	68
35620.W8082	13	M 8x1,25	25	10	11.5	5	13	-	2	80	28	68
35620.W8083	13	M 8x1,25	40	10	11.5	5	13	-	2	80	28	68
35620.W8101	16	M10x1,5	15	13	13.0	5	17	3	2	80	28	97
35620.W8102	16	M10x1,5	30	13	13.0	5	17	3	2	80	28	97
35620.W8103	16	M10x1,5	50	13	13.0	5	17	3	2	80	28	97
35620.W8121	21	M12x1,75	20	15	15.0	6	19	5	2	80	24	238
35620.W8122	21	M12x1,75	40	15	15.0	6	19	5	2	80	24	238

Order No.	d_1	d_2	l_1	d_3	h_1 ±0.05	h_2	A/F_1	A/F_2	Urethane thickness h_3	Durometer	Swivel angle a °	Load compression kg
35620.W8123	21	M12x1,75	60	15	15.0	6	19	5	2	80	24	238
35620.W8161	23	M16x2,0	25	20	19.0	6	24	6	2	80	24	272
35620.W8162	23	M16x2,0	0	20	19.0	6	24	6	2	80	24	272
35620.W8163	23	M16x2,0	80	20	19.0	6	24	6	2	80	24	272

Grippers - Self Aligning

urethane coated - female threaded housing

35622



Material

Housing body: alloy steel, heat treated to HRc 43-46, black oxide finish.
Pad: urethane, bonded to AISI 300 series stainless steel ball.

Technical Notes

Non-marking, non-staining urethane pad is permanently bonded to the stainless steel body. Available in three different durometers: 35, 60 & 80 (see table). Bubbled texture of urethane pad allows air to escape so avoiding any suction action.

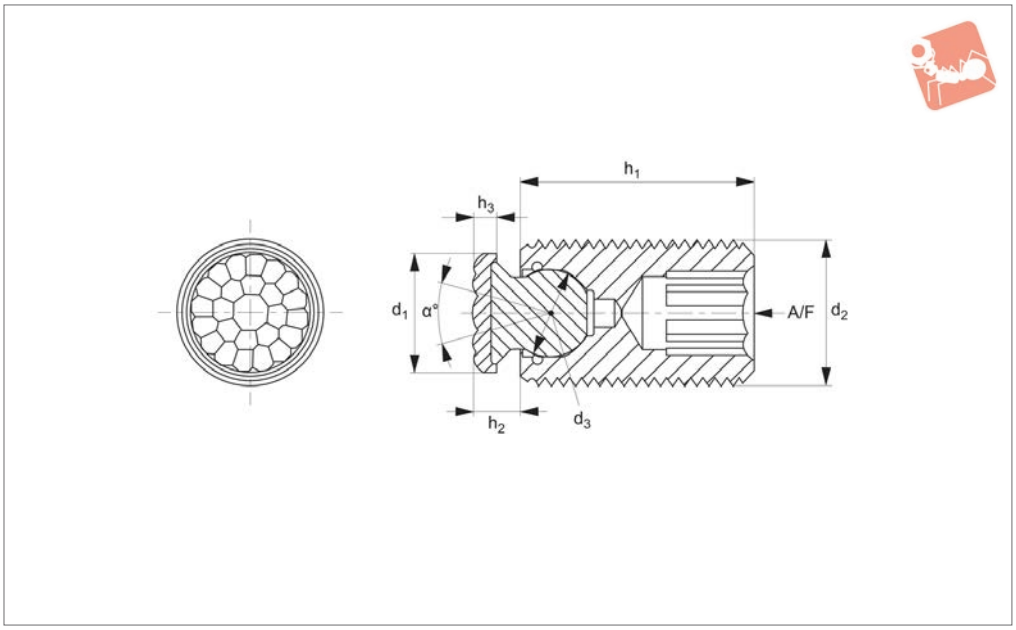
Tips

Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

Important Notes

Load compression ratings based on load required to compress urethane surface 0,812mm for 2mm thick pad. Compression ratings vary greatly depending upon temperature and other application-specific factors.

Order No.	d_1 +0.00|-0.13	d_2	d_3	d_4	h_1 ±0.05	h_2 ±0.25	h_3	Urethane thickness h_4	Durometer	Swivel angle a °	Load compression kg
35622.W3041	10	10	M 4x0,7	7	10.5	3.5	4	2	35	28	3
35622.W3042	10	10	M 4x0,7	7	23.5	9.0	4	2	35	28	3
35622.W3051	13	13	M 5x0,8	10	14.5	6.5	5	2	35	28	18
35622.W3052	13	13	M 5x0,8	10	23.5	9.0	5	2	35	28	18
35622.W3061	17	16	M 6x1,0	13	18.0	7.5	5	2	35	28	24
35622.W3081	19	21	M 8x1,25	15	20.0	8.5	6	2	35	24	68
35622.W3101	24	23	M10x1,5	20	24.0	9.0	6	2	35	24	102
35622.W6041	10	10	M 4x0,7	7	10.5	3.5	4	2	60	28	11
35622.W6042	10	10	M 4x0,7	7	23.5	9.0	4	2	60	28	11
35622.W6051	13	13	M 5x0,8	10	14.5	6.5	5	2	60	28	34
35622.W6052	13	13	M 5x0,8	10	23.5	9.0	5	2	60	28	34
35622.W6061	17	16	M 6x1,0	13	18.0	7.5	5	2	60	28	63
35622.W6081	19	21	M 8x1,25	15	20.0	8.5	6	2	60	24	154
35622.W6101	24	23	M10x1,5	20	24.0	9.0	6	2	60	24	181
35622.W8041	10	10	M 4x0,7	7	10.5	3.5	4	2	80	28	29
35622.W8042	10	10	M 4x0,7	7	23.5	9.0	4	2	80	28	29
35622.W8051	13	13	M 5x0,8	10	14.5	6.5	5	2	80	28	68
35622.W8052	13	13	M 5x0,8	10	23.5	9.0	5	2	80	28	68
35622.W8061	17	16	M 6x1,0	13	18.0	7.5	5	2	80	28	97
35622.W8081	19	21	M 8x1,25	15	20.0	8.5	6	2	80	24	238
35622.W8101	24	23	M10x1,5	20	24.0	9.0	6	2	80	24	272



35624

Material
Housing body: alloy steel, heat treated to HRc 43-46, black oxide finish.
Pad: urethane, bonded to AISI 300 series stainless steel ball.

Technical Notes
Available in three different durometers: 35, 60 & 80 (see table).
Bubbled texture of urethane pad allows air to escape so avoiding any suction action.

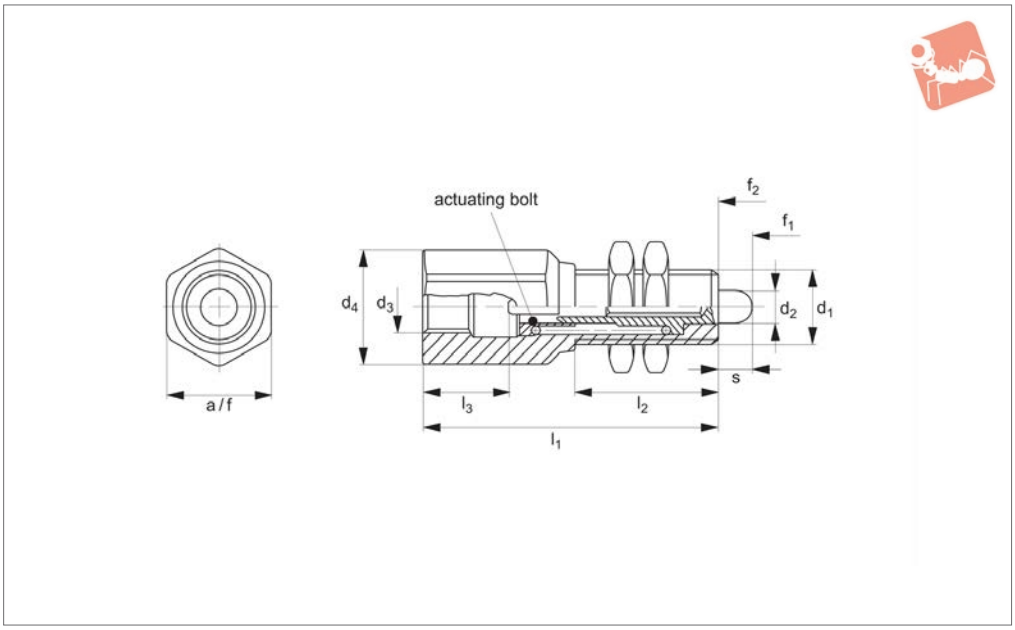
Tips
Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

Important Notes
Load compression ratings based on load required to compress urethane surface 0,812mm for 2mm thick pad. Compression ratings vary greatly depending upon temperature and other application-specific factors.

Order No.	d_1	d_2	d_3	h_1	h_2	h_3	A/F	Durometer	Swivel angle a °	Load compression kg
35624.W6101	8	M10x1,5	5	25	3.5	2	5	60	28	9
35624.W6102	8	M10x1,5	5	35	3.5	2	5	60	28	9
35624.W6103	8	M10x1,5	5	50	3.5	2	5	60	28	9
35624.W6121	10	M12x1,75	7	25	4.0	2	6	60	28	11
35624.W6122	10	M12x1,75	7	35	4.0	2	6	60	28	11
35624.W6123	10	M12x1,75	7	50	4.0	2	6	60	28	11
35624.W6161	13	M16x2,0	10	25	5.0	2	8	60	28	34
35624.W6162	13	M16x2,0	10	35	5.0	2	8	60	28	34
35624.W6163	13	M16x2,0	10	50	5.0	2	8	60	28	34
35624.W6201	16	M20x2,5	13	30	5.0	2	10	60	28	63
35624.W6202	16	M20x2,5	13	50	5.0	2	10	60	28	63
35624.W6203	16	M20x2,5	13	70	5.0	2	10	60	28	63
35624.W6241	21	M24x3,0	15	40	6.0	2	10	60	24	154
35624.W6242	21	M24x3,0	15	80	6.0	2	10	60	24	154
35624.W8101	8	M10x1,5	5	25	3.5	2	5	80	28	18
35624.W8102	8	M10x1,5	5	35	3.5	2	5	80	28	18
35624.W8103	8	M10x1,5	5	50	3.5	2	5	80	28	18
35624.W8121	10	M12x1,75	7	25	4.0	2	6	80	28	29
35624.W8122	10	M12x1,75	7	35	4.0	2	6	80	28	29
35624.W8123	10	M12x1,75	7	50	4.0	2	6	80	28	29
35624.W8161	13	M16x2,0	10	25	5.0	2	8	80	28	68
35624.W8162	13	M16x2,0	10	35	5.0	2	8	80	28	68
35624.W8163	13	M16x2,0	10	50	5.0	2	8	80	28	68
35624.W8201	16	M20x2,5	13	30	5.0	2	10	80	28	97
35624.W8202	16	M20x2,5	13	50	5.0	2	10	80	28	97
35624.W8203	16	M20x2,5	13	70	5.0	2	10	80	28	97
35624.W8241	21	M24x3,0	15	40	6.0	2	10	80	24	238
35624.W8242	21	M24x3,0	15	80	6.0	2	10	80	24	238

Sensing Elements
with sensor adapter, stainless steel

38700

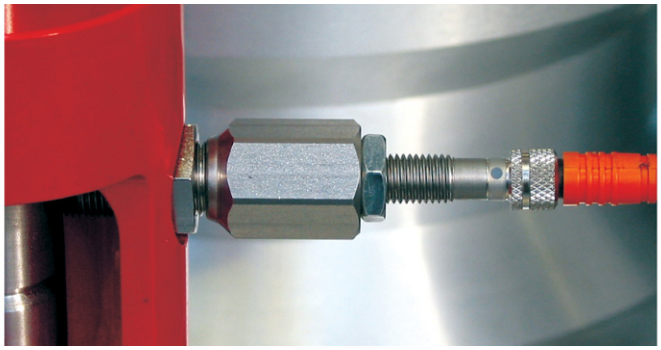


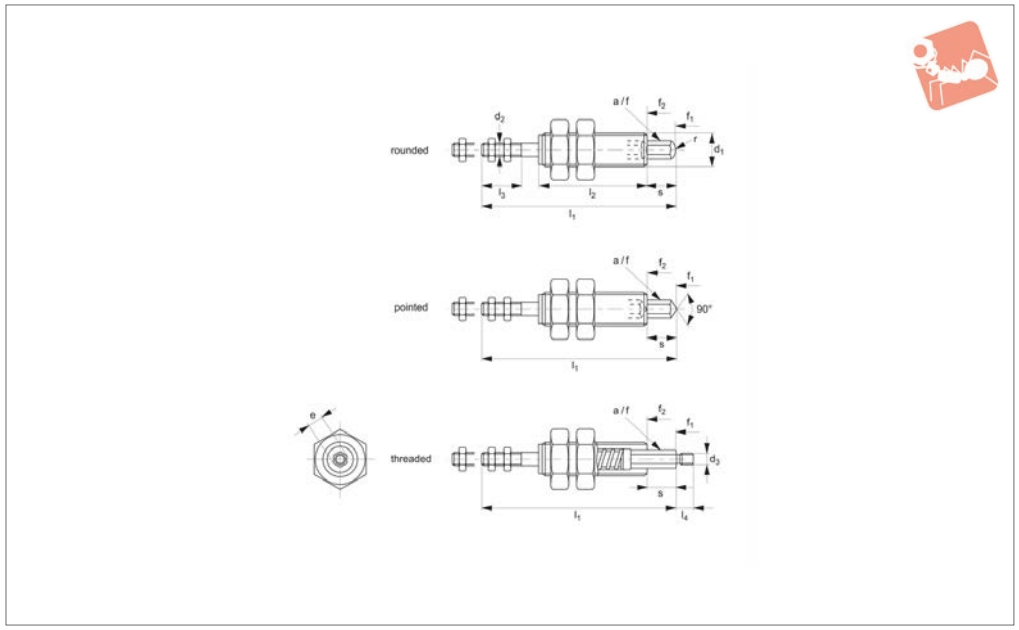
Material
Housing: stainless steel 1.4305
Spring: stainless steel
Pin: stainless steel 1.4305
Nut: (ISO 4035), nickle plated.

Technical Notes
Spring plunger with integrated position sensing via standard inductive sensors. Adjustment of the sensor screw enables variation of the switching range. Sensitivity of switch can be adjusted throughout the entire stroke. Suitable for inductive sensors with flush contact. Spring loads * = statistical average value.

Tips
Suitable for multiple applications, e.g. position control.

Order No.	d_1	d_2	d_3	d_4	l_1	l_2	l_3 ≈	s	A/F	Spring load F_1 N ≈	Spring load F_2 N ≈	Weight g
38700.W0012	M12x1	6.2	M_8x1	19.0	44	20	15.5	5.6	17	24.0	47.3	57
38700.W0016	M16x1	8.5	M12×1	21.5	65	32	20.0	7.5	19	32.5	65.5	103





38720

Material
Bolt: steel, nitrided, black.
Nut: steel, quality 8.8, blackened (ISO 4035).
Actuating bolt: nitrided, black.
Spring: stainless steel.

Technical Notes
Spring plunger with position sensing by means of an actuating bolt (protected against turning). Threaded tip allows for fitting of special purpose adapters. A switching element can be fitted to the fastening thread of the actuating bolt, most commonly used switches are suitable.
Spring loads * = statistical average values.

Tips
Suitable for multiple applications, e.g. as lift-off pin in tools with position control.

Order No.	Type	d_1	d_2	d_3	e ≈	l_1	l_2	l_3 min.	l_4	R	s	A/F	Spring load F_1 N ≈	Spring load F_2 N ≈	Weight g
38720.W0008	Rounded Tip	M 8	M2,5	-	3.5	50	32	9	-	1.75	6	3	4.1	7.6	15
38720.W0010	Rounded Tip	M10	M 3	-	4.6	59	35	11	-	2.30	8	4	5.0	9.0	28
38720.W0012	Rounded Tip	M12	M 4	-	5.8	68	38	14	-	2.90	10	5	5.1	11.0	44
38720.W0016	Rounded Tip	M16	M 5	-	6.9	78	42	16	-	3.50	12	6	7.5	13.8	87
38720.W0058	Pointed Tip	M 8	M2,5	-	3.5	50	32	9	-	-	6	3	4.1	7.6	14
38720.W0060	Pointed Tip	M10	M 3	-	4.6	59	35	11	-	-	8	4	5.0	9.0	29
38720.W0062	Pointed Tip	M12	M 4	-	5.8	68	38	14	-	-	10	5	5.1	11.0	44
38720.W0066	Pointed Tip	M16	M 5	-	6.9	78	42	16	-	-	12	6	7.5	13.8	88
38720.W0108	Threaded Tip	M 8	M2,5	M2,5	3.5	50	32	9	4	-	6	3	4.1	7.6	15
38720.W0110	Threaded Tip	M10	M 3	M 3	4.6	59	35	11	5	-	8	4	5.0	9.0	29
38720.W0112	Threaded Tip	M12	M 4	M 4	5.8	68	38	14	6	-	10	5	5.1	11.0	44
38720.W0116	Threaded Tip	M16	M 5	M 5	6.9	78	42	16	7	-	12	6	7.5	13.8	89

Sensing Elements

with actuating bolt, protected against rotating