STANDARD CLAMPING ELEMENTS

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CATALOGUE 2018

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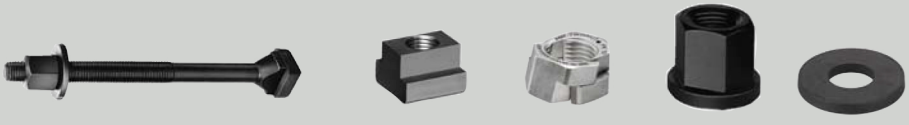

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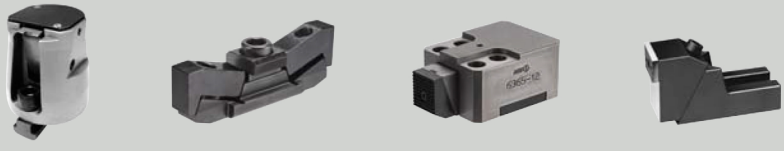

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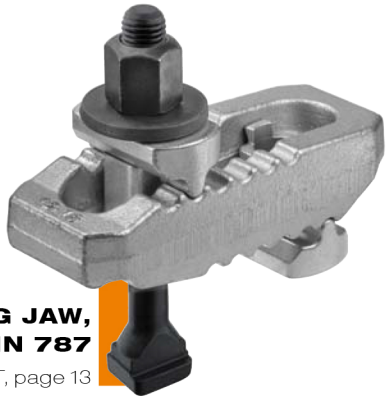
PARALLEL SUPPORTS-SET, SUPER-PRECISION

No. 6347SP, page 118

Optimised wooden case for perfect handling!



„CROCODILE“ CLAMPING JAW, COMPLETE WITH DIN 787

No. 6312VT, page 13

ALUMINIUM BASE

No. 6406AF, page 50

NEW!

POWER CLAMP

No. 7600, page 6
New size!

- + Low installation height
- + Clamping force up to 22 kN or 49 kN
- + Continuously adjustable

SPACER ELEMENT

No. 7600Z, page 7
New size!

PRESSURE PAD

No. 7600D, page 8
New sizes!

CLAMPING BOLTS, NUTS AND WASHERS - QUALITY OF AMF

> **Material:** Tempering steel to DIN regulations within tensile strength classes 8.8, 10.9 and 12.9.

> **Machining:** All bolts and studs have rolled threads and guarantee high clamping forces and long life.

> **Tempering:** Tensile strength classes according to DIN regulations.

Bolts, T-nuts and nuts are manufactured to DIN 267 and ISO 898. By galvanizing tempered and hardened components there is a certain risk of the material getting brittle. In the event of components being subsequently galvanized we refuse all possible claims regarding breakages and damages.

There are strong reasons for demanding operators to only use AMF-clamping bolts of highest quality:

> Strict checks guarantee a consistent quality level.

> High quality clamping bolts and nuts last longer, reduce tool management and idle periods resulting in more economy in the long run.

Please notice!

The torque which can be achieved by hand can be higher than required by DIN standard for screws sizes up to 12 mm dia. Result: Only under worst conditions will the screw first of all twist and eventually break when overstressed. A small but decisive contribution to safety at the workplace.

AMF-T-SLOT BOLTS DIN787 are manufactured within tensile strength classes 8.8, 10.9 and 12.9.

AMF-STUDS DIN6379 are manufactured within tensile strength class 8.8, 10.9 and 12.9.

AMF-HEXAGON NUTS DIN6330B, DIN6331 AND NO. 6334 are manufactured within tensile strength class 10.

The individual characteristics in tensile strength classes 8.8 and 12.9 are defined as follows:

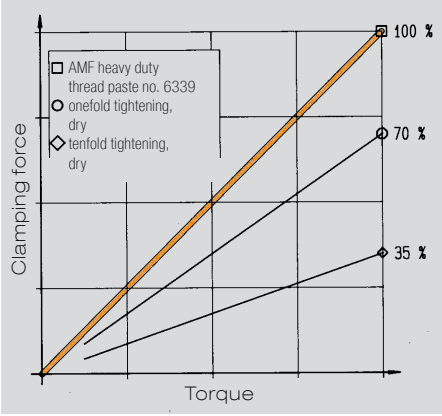
8. = minimum tensile strength = 800 N/mm²
.8 = minimum yield point (80% of min. tensile strength = 640 N/mm²
10. = minimum tensile strength = 1000 N/mm²
.9 = minimum yield point (90% of min. tensile strength) = 900 N/mm²
12. = minimum tensile strength = 1200 N/mm²
.9 = minimum yield point (90% of min. tensile strength = 1080 N/mm²

STRENGTH OF HEXAGON NUTS:

The individual characteristic in tensile strength class 10. defined is:
10. = minimum test strength = 1000 N/mm²
This test strength is equal to the minimum tensil strength of a screw which can be charged to its minimum breaking load, when matched with the respective nut.

A normal screw / nut combination for load transmission would be a nut of tensil strength class "8" for 8.8 screws. For manufacturing of this nut, a minor quality material than for 8.8 screws neccessary could be used, since lower tensions occur in the nut, compared with screw. But since nuts require a high wear resistance in addition to sufficient strength, we manufacture them of the same material as our 8.8-screws. This results with tensile strength class "10" for nuts.

Clamping forces depending on lubrication.



Test results revealed clearly:
Frequent use of non-greased bolt/nut connections in fixtures will reduce clamping forces consider-ably at still constant torques, with additional wear involved!

We therefore recommend the AMF-Heavy-duty thread paste no. 6339 (see page 42). It has a synergetic acting combination of highly active white solid lubrications and is resistant to heat and wash-off. It provides optimal sliding characteristics for increased clamping force and improved thread life.

Subject to technical alterations.

	Tensile strength classes			
	8.8	10.9	12.9	10
DIN 787	X	X	X	-
DIN 6379	X	X	-	-
DIN 6330B DIN 6331 No. 6334	-		-	X
Nominal tensile strength [N/mm²]	800	1000	1200	1000*
Minimum yield point [N/mm²]	640	900	1080	-

* Strength figures of the right bolts

CHART OF PERMISSIBLE AND POSSIBLE PRE-STRESS FORCES:

EXPLANATION OF TABLE CHARACTERISTICS:

> **PERMISSIBLE BOLT LOAD** is the maximum tension load, the screw can be stressed with talcing into account all active forces. The yield point is only utilized to 80% for safety.

> **PERMISSIBLE PRE-STRESS FORCE** is the load, the screw can be pre-stressed at most, when tightening the matching nut. Figures of table are valid for a friction of μ = 0,14 in thrust faces and thread, corresponding to the friction of greased medium faces.

> **REQUIRED LENGTH FOR LEVER OF SPANNER:** These length figures were calculated with the mean value of hand forces achieved in test series by different workmen.

STRENGTH FIGURES AND TORQUES FOR BOLTS AND NUTS:

Thead		Tensile	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M36	M42	M48
Pitch of thread	mm		1	1.25	1.50	1.75	2	2	2.50	2.50	2.50	3	3	3.50	4	4.50	5
Nuts:																	
Hardeness DIN6330/6331/6334	HRC	10	26 - 36													20 - 30	
Test force (AS x Sp) DIN EN ISO 898-2	kN	10	20.9	38.1	60.3	88.5	120.8	164.9	203.5	259.7	321.2	374.2	486.5	594.7	866	-	-
Nuts for T-Slots DIN508/DIN508L:																	
Size			M6x8	M8x10	M10x12	M12x14	-	M16x18	-	M20x22	-	M24x28	-	M30x36	M36x42	M42x48	M48x54
Hardeness	HRC		22 - 30														
Test force	kN		16	29	46	67	-	128	-	196	-	282	-	448	653	653	653
Bolts:																	
Hardeness	HRC	8.8	22 - 32						23 - 34								
		10.9	32 - 39														
		12.9	39 -44														

Tightening data: ( ) Not in the AMF-range.																	
Minimum breaking force (AS x Rm)	kN	8.8	(16)	(29)	(46)	(67)	92	125	159	203	252	293	381	466	678	930	1222
		10.9	21	38	60	88	(120)	(163)	(200)	(255)	(315)	(367)	(477)	(583)	(850)	(1165)	(1531)
		12.9	(24)	(45)	71	103	(140)	192	(234)	299	(370)	431	(560)	(684)	(997)	(1367)	(1797)
Permissible bolt load max. 80% of yield point	kN	8.8	10	19	30	43	59	80	101	129	160	186	242	296	431	591	777
		10.9	14	27	43	63	86	118	144	184	228	265	345	421	614	843	1107
		12.9	17	32	51	74	101	138	169	215	266	310	404	493	719	986	1296
Test force (AS x Sp) to DIN EN ISO 898, part 1	kN	8.8	(12)	(21	(34)	(49)	67	91	115	147	182	212	275	337	490	672	882
		10.9	17	30	48	70	(96)	(130)	(159)	(203)	(252)	(293)	(381)	(466)	(678)	(930)	(1222)
		12.9	(20)	(35)	56	82	(112)	152	(186)	238	(294)	342	(445)	(544)	(792)	(1087)	(1428)
Permissible pre-stress force max. 90% of yield point and friction μ = 0,14	kN	8.8	9	17	26	38	53	73	91	117	146	168	221	269	394	542	714
		10.9	13	25	38	55	77	107	130	167	208	240	315	384	561	773	1018
		12.9	15	29	44	65	91	125	152	196	243	281	369	449	657	904	1191
Required torque for permissible pre-stress force and friction μ = 0,14	Nm	8.8	10	25	46	82	130	206	284	407	542	698	1021	1355	2372	3802	5730
		10.9	14	36	67	120	191	302	405	580	772	994	1455	1930	3378	5415	8162
		12.9	17	43	79	141	223	354	474	679	903	1163	1703	2258	3953	6337	9571
Required length for lever to achieve permissible pre-stress force	mm	8.8	30	65	125	215	330	490	650	870	1100	1350	-	-	-	-	-
		10.9	42	90	175	300	450	700	920	1200	1560	-	-	-	-	-	-
		12.9	51	110	210	360	550	830	1100	1470	1860	-	-	-	-	-	-
Possible torque to obtain with standard spanner, resulting prestress force*	Nm	-	60	80	90	100	110	125	140	150	170	185	225	240	300	330	410
	kN	-	54	53	48	43	43	43	43	42	42	43	45	43	45	46	50
*With this pre-stress force there is danger of		8.8	breakage		permanent deformation			loosening of clamping unit at start of motive force									
		10.9															
		12.9															

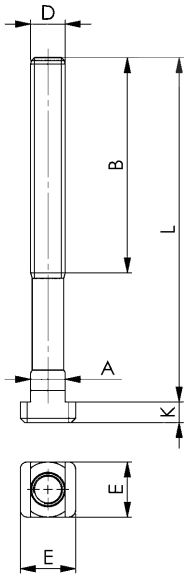
A_S = nominal cross section in mm² / S_p = min. clamping force in N/mm² / R_m = min. load factor in N/mm² / μ = friction

Subject to technical alterations.

DIN 787

Bolts for T-slots

Forged, T-slot guid-faces milled, rolled thread, AMF-symbol and strength class punched into head. M 6-M12 tempered to strength class 10.9, M14-M42 tempered to strength class 8.8



Order no.	D x Slot x L	A	B	E	K	Packaging Unit	Weight [g]
84004	M6x6x25	5,7	15	10	4	25	9
84012	M6x6x40	5,7	28	10	4	25	12
84020	M6x6x63	5,7	40	10	4	25	18
84038	M8x8x32	7,7	22	13	6	25	20
80374	M8x8x50	7,7	35	13	6	25	25
80382	M8x8x80	7,7	50	13	6	25	30
84046	M10x10x40	9,7	30	15	6	25	30
80390	M10x10x63	9,7	45	15	6	25	50
81323	M10x10x80	9,7	50	15	6	25	60
80408	M10x10x100	9,7	60	15	6	25	70
80416	(M12x12x50)	11,7	33	18	7	25	60
85605	M12x12x63	11,7	40	18	7	25	65
80424	M12x12x80	11,7	55	18	7	25	75
81406	M12x12x100	11,7	65	18	7	25	90
80432	M12x12x125	11,7	75	18	7	25	110
81497	M12x12x160	11,7	100	18	7	-	135
80440	M12x12x200	11,7	120	18	7	-	160
80457	(M12x14x50)	13,7	33	22	8	25	70
85613	M12x14x63	13,7	45	22	8	25	80
80465	M12x14x80	13,7	55	22	8	25	100
81851	M12x14x100	13,7	65	22	8	25	110
80473	M12x14x125	13,7	75	22	8	25	120
82966	M12x14x160	13,7	100	22	8	-	150
80481	M12x14x200	13,7	120	22	8	-	180
80499	M14x16x63	15,7	45	25	9	25	115
84426	M14x16x80	15,7	55	25	9	25	130
80507	M14x16x100	15,7	65	25	9	25	150
84434	M14x16x125	15,7	75	25	9	25	180
80515	M14x16x160	15,7	100	25	9	25	220
80523	M14x16x250	15,7	150	25	9	-	300
80531	(M16x16x63)	15,7	45	25	9	25	140
85621	(M16x16x80)	15,7	55	25	9	10	160
80549	(M16x16x100)	15,7	65	25	9	10	180
84384	(M16x16x125)	15,7	85	25	9	10	225
80556	(M16x16x160)	15,7	100	25	9	10	270
85647	(M16x16x200)	15,7	125	25	9	-	315
80564	(M16x16x250)	15,7	150	25	9	-	380
80572	M16x18x63	17,7	45	28	10	25	160
85639	M16x18x80	17,7	55	28	10	10	185
80580	M16x18x100	17,7	65	28	10	10	203
84400	M16x18x125	17,7	85	28	10	10	245
80598	M16x18x160	17,7	100	28	10	10	280
85654	M16x18x200	17,7	125	28	10	-	330
80606	M16x18x250	17,7	150	28	10	-	430
84103	(M20x20x80)	19,7	55	32	12	-	290
84053	(M20x20x100)	19,7	65	32	12	-	340
84111	(M20x20x125)	19,7	85	32	12	-	390
85662	(M20x20x160)	19,7	110	32	12	-	470
84129	(M20x20x200)	19,7	125	32	12	-	550
84079	(M20x20x250)	19,7	150	32	12	-	670
84137	(M20x20x315)	19,7	190	32	12	-	800
80614	M20x22x80	21,7	55	35	14	-	330
85829	M20x22x100	21,7	65	35	14	-	370
80622	M20x22x125	21,7	85	35	14	-	428
85670	M20x22x160	21,7	110	35	14	-	500
80630	M20x22x200	21,7	125	35	14	-	570
85845	M20x22x250	21,7	150	35	14	-	680
80648	M20x22x315	21,7	190	35	14	-	820
80770	(M24x24x100)	23,7	70	40	16	-	540
85688	(M24x24x125)	23,7	85	40	16	-	600
80788	(M24x24x160)	23,7	110	40	16	-	770
85704	(M24x24x200)	23,7	125	40	16	-	900
80796	(M24x24x250)	23,7	150	40	16	-	960
84061	(M24x24x315)	23,7	190	40	16	-	1270
80804	(M24x24x400)	23,7	240	40	16	-	1410
80655	M24x28x100	27,7	70	44	18	-	650
85696	M24x28x125	27,7	85	44	18	-	720
80663	M24x28x160	27,7	110	44	18	-	800
85712	M24x28x200	27,7	125	44	18	-	950

Recommendations

DIN 6331, page 84

DIN 6340, page 89

Subject to technical alterations.

DIN 787

Bolts for T-slots

Forged, T-slot guid-faces milled, rolled thread, AMF-symbol and strength class punched into head. M 6-M12 tempered to strength class 10.9, M14-M42 tempered to strength class 8.8

Order no.	D x Slot x L	A	B	E	K	Packaging Unit	Weight [g]
80671	M24x28x250	27,7	150	44	18	-	1120
84087	M24x28x315	27,7	190	44	18	-	1350
80689	M24x28x400	27,7	240	44	18	-	1490
87643	(M27x32x160)	31,6	100	50	20	-	1168
87783	(M27x32x200)	31,6	135	50	20	-	1345
87809	(M27x32x315)	31,6	200	50	20	-	1828
80697	M30x36x125	35,6	80	54	22	-	1250
85720	M30x36x160	35,6	110	54	22	-	1440
80705	M30x36x200	35,6	135	54	22	-	1630
85738	M30x36x250	35,6	150	54	22	-	1920
80713	M30x36x315	35,6	200	54	22	-	2100
80721	M30x36x500	35,6	300	54	22	-	3300
80739	M36x42x160	41,6	100	65	26	-	2200
80747	M36x42x250	41,6	175	65	26	-	2820
80754	M36x42x400	41,6	250	65	26	-	3930
80762	M36x42x600	41,6	340	65	26	-	5480
84145	M42x48x160	47,6	100	75	30	-	3400
84152	M42x48x250	47,6	175	75	30	-	4300
84160	M42x48x400	47,6	250	75	30	-	5800

( ) DIN extended.

panas

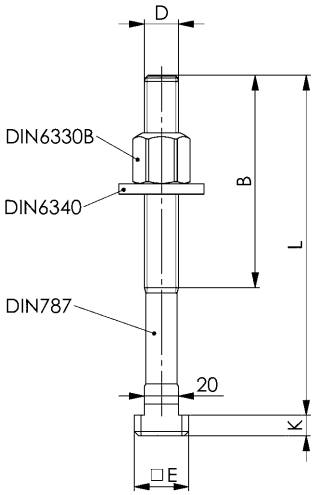
CAD

Subject to technical alterations.

DIN 787

Bolts for T-slots, complete

with hexagon nut DIN 6330B and washer DIN 6340.
Forged, milled T-groove, rolled thread, stamped with AMF logo and strength class. M6 to M12 hardened to strength class 10.9, M14 to M42 hardened to strength class 8.8.



Order no.	D x Slot x L	A	B	E	K	Weight [g]
84202	M6x6x25	5,7	15	10	4	19
84210	M6x6x40	5,7	28	10	4	22
84228	M6x6x63	5,7	40	10	4	28
84236	M8x8x32	7,7	22	13	6	40
80812	M8x8x50	7,7	35	13	6	45
80820	M8x8x80	7,7	50	13	6	55
84244	M10x10x40	9,7	30	15	6	65
80838	M10x10x63	9,7	45	15	6	80
81356	M10x10x80	9,7	50	15	6	90
80846	M10x10x100	9,7	60	15	6	110
80853	M12x12x50	11,7	35	18	7	120
85746	M12x12x63	11,7	40	18	7	128
80861	M12x12x80	11,7	55	18	7	130
81448	M12x12x100	11,7	65	18	7	145
80879	M12x12x125	11,7	75	18	7	170
81505	M12x12x160	11,7	100	18	7	195
80887	M12x12x200	11,7	120	18	7	220
80895	M12x14x50	13,7	35	22	8	130
85753	M12x14x63	13,7	45	22	8	145
80903	M12x14x80	13,7	55	22	8	155
82974	M12x14x100	13,7	65	22	8	155
80911	M12x14x125	13,7	75	22	8	180
84376	M12x14x160	13,7	100	22	8	210
80929	M12x14x200	13,7	120	22	8	240
80937	M14x16x63	15,7	45	25	9	200
84442	M14x16x80	15,7	55	25	9	220
80945	M14x16x100	15,7	65	25	9	230
84459	M14x16x125	15,7	75	25	9	280
80952	M14x16x160	15,7	100	25	9	310
80960	M14x16x250	15,7	120	25	9	390
80978	(M16x16x63)	15,7	45	25	9	250
85761	(M16x16x80)	15,7	55	25	9	275
80986	(M16x16x100)	15,7	65	25	9	290
84392	(M16x16x125)	15,7	85	25	9	300
80994	(M16x16x160)	15,7	100	25	9	380
85779	(M16x16x200)	15,7	125	25	9	435
81000	(M16x16x250)	15,7	150	25	9	530
81018	M16x18x63	17,7	45	28	10	260
85787	M16x18x80	17,7	55	28	10	305
81026	M16x18x100	17,7	65	28	10	315
84418	M16x18x125	17,7	85	28	10	360
81034	M16x18x160	17,7	100	28	10	400
85795	M16x18x200	17,7	125	28	10	448
81042	M16x18x250	17,7	150	28	10	560
84301	(M20x20x80)	19,7	55	32	12	520
81547	(M20x20x100)	19,7	65	32	12	570
84319	(M20x20x125)	19,7	85	32	12	560
85803	(M20x20x160)	19,7	110	32	12	680
84327	(M20x20x200)	19,7	125	32	12	700
81562	(M20x20x250)	19,7	150	32	12	800
84335	(M20x20x315)	19,7	190	32	12	940
81059	M20x22x80	21,7	55	35	14	530
85837	M20x22x100	21,7	65	35	14	610
81067	M20x22x125	21,7	85	35	14	670
85811	M20x22x160	21,7	110	35	14	710
81075	M20x22x200	21,7	125	35	14	750
85852	M20x22x250	21,7	150	35	14	850
81083	M20x22x315	21,7	190	35	14	980
81216	(M24x24x100)	23,7	70	40	16	910
85860	(M24x24x125)	23,7	85	40	16	970
81224	(M24x24x160)	23,7	110	40	16	1040
85878	(M24x24x200)	23,7	125	40	16	1265
81232	(M24x24x250)	23,7	150	40	16	1410
81588	(M24x24x315)	23,7	190	40	16	1640
81240	(M24x24x400)	23,7	240	40	16	1780
81091	M24x28x100	27,7	70	44	18	980
85886	M24x28x125	27,7	85	44	18	1010
81109	M24x28x160	27,7	110	44	18	1150
85894	M24x28x200	27,7	125	44	18	1240

Subject to technical alterations.

DIN 787

Bolts for T-slots, complete

with hexagon nut DIN 6330B and washer DIN 6340.
Forged, milled T-groove, rolled thread, stamped with AMF logo and strength class. M6 to M12 hardened to strength class 10.9, M14 to M42 hardened to strength class 8.8.

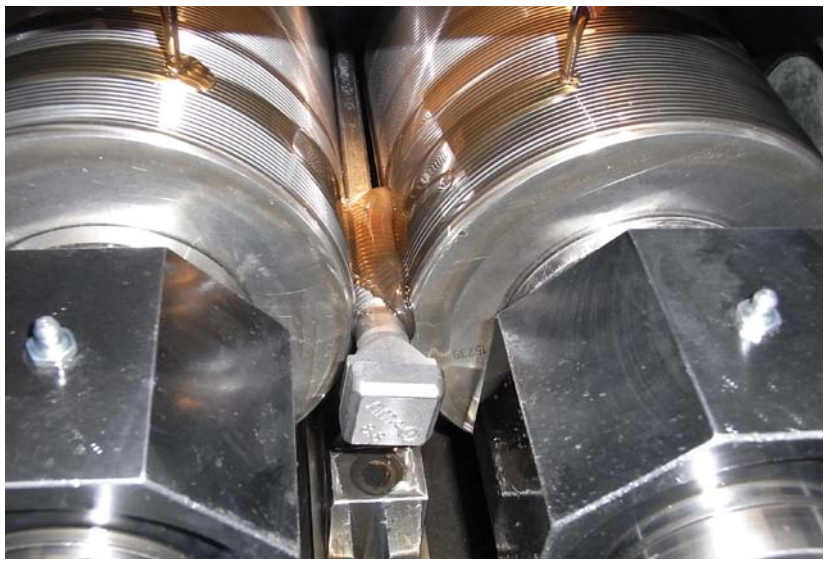
Order no.	D x Slot x L	A	B	E	K	Weight [g]
81117	M24x28x250	27,7	150	44	18	1500
81604	M24x28x315	27,7	190	44	18	1730
81125	M24x28x400	27,7	240	44	18	1860
81133	M30x36x125	35,6	80	54	22	1860
85902	M30x36x160	35,6	110	54	22	1950
81141	M30x36x200	35,6	135	54	22	2230
85910	M30x36x250	35,6	150	54	22	2555
81158	M30x36x315	35,6	200	54	22	2950
81166	M30x36x500	35,6	300	54	22	3950
81174	M36x42x160	41,6	100	65	26	3220
81182	M36x42x250	41,6	175	65	26	3840
81190	M36x42x400	41,6	250	65	26	4950
81208	M36x42x600	41,6	340	65	26	6500
84178	M42x48x160	47,6	100	75	30	6000
84186	M42x48x250	47,6	175	75	30	6900
84194	M42x48x400	47,6	250	75	30	8400

( ) DIN extended.

panas

Note:

AMF quality starts with controlled raw material!
Our fully-automated forging plant produces clamping screws. Once cleared, the thread is rolled.



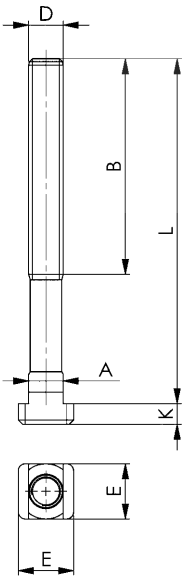
CAD

Subject to technical alterations.

DIN 787

Bolts for T-slots (12.9)

Forged, T-slot guid-faces broached, rolled. Thread, tempered to strength class 12.9. Strenght class punched into head.



Order no.	D x Slot x L	A	B	E	K	Packaging Unit	Weight [g]
83956	M10x10x40	9,7	30	15	6	25	30
83972	M10x10x50	9,7	35	15	6	25	40
83998	M10x10x80	9,7	50	15	6	25	60
83923	M10x10x100	9,7	60	15	6	25	70
86140	M12x12x50	11,7	35	18	7	25	60
86231	M12x12x63	11,7	40	18	7	25	65
86157	M12x12x80	11,7	55	18	7	25	75
86256	M12x12x100	11,7	65	18	7	25	90
86165	M12x12x125	11,7	75	18	7	25	110
87304	M12x12x160	11,7	100	18	7	-	135
86173	M12x12x200	11,7	120	18	7	-	160
86181	M12x14x50	13,7	35	22	8	25	70
86611	M12x14x63	13,7	45	22	8	25	80
86199	M12x14x80	13,7	55	22	8	25	100
86678	M12x14x100	13,7	65	22	8	25	110
86207	M12x14x125	13,7	75	22	8	25	120
87320	M12x14x160	13,7	100	22	8	-	150
86215	M12x14x200	13,7	120	22	8	-	180
86264	(M16x16x63)	15,7	45	25	9	25	140
87346	(M16x16x80)	15,7	55	25	9	10	160
86272	(M16x16x100)	15,7	65	25	9	10	180
87361	(M16x16x125)	15,7	85	25	9	10	225
86280	(M16x16x160)	15,7	100	25	9	10	270
87387	(M16x16x200)	15,7	125	25	9	-	315
86298	(M16x16x250)	15,7	150	25	9	-	380
86306	M16x18x63	17,7	45	28	10	25	160
86629	M16x18x80	17,7	55	28	10	10	185
86314	M16x18x100	17,7	65	28	10	10	203
86645	M16x18x125	17,7	85	28	10	10	230
86322	M16x18x160	17,7	100	28	10	10	280
87403	M16x18x200	17,7	125	28	10	-	330
86330	M16x18x250	17,7	150	28	10	-	430
86421	(M20x20x80)	19,7	55	32	12	-	290
86439	(M20x20x125)	19,7	85	32	12	-	390
87429	(M20x20x160)	19,7	110	32	12	-	470
86447	(M20x20x200)	19,7	125	32	12	-	550
87437	(M20x20x250)	19,7	150	32	12	-	670
86454	(M20x20x315)	19,7	190	32	12	-	800
86348	M20x22x80	21,7	55	35	14	-	330
86355	M20x22x125	21,7	85	35	14	-	428
87445	M20x22x160	21,7	110	35	14	-	500
86363	M20x22x200	21,7	125	35	14	-	570
87510	M20x22x250	21,7	150	35	14	-	680
86371	M20x22x315	21,7	190	35	14	-	820
86462	(M24x24x100)	23,7	70	40	16	-	540
86470	(M24x24x160)	23,7	110	40	16	-	770
87577	(M24x24x200)	23,7	125	40	16	-	900
86488	(M24x24x250)	23,7	150	40	16	-	960
86496	(M24x24x400)	23,7	240	40	16	-	1410
86389	M24x28x100	27,7	70	44	18	-	650
86397	M24x28x160	27,7	110	44	18	-	800
87585	M24x28x200	27,7	125	44	18	-	950
86405	M24x28x250	27,7	150	44	18	-	1120
86413	M24x28x400	27,7	240	44	18	-	1490
81281	M30x36x160	35,6	110	54	22	-	1950
81364	M30x36x200	35,6	135	54	22	-	2230
81463	M30x36x250	35,6	150	54	22	-	2555
82131	M30x36x315	35,6	200	54	22	-	2950

Matching nuts DIN 6330B and washers DIN 6340.
( ) DIN extended.

Recommendations

DIN 6330B, page 83

DIN 6340, page 89

CAD

Subject to technical alterations.

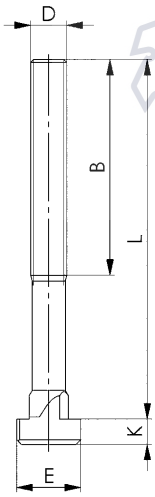
No. 797

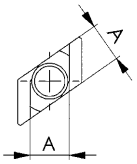
Rhombus-head screw for T-slots

forged, T-slots milled, rolled thread, heat-treated to strength grade 8.8. Lower load capacities compared with comparable sizes of DIN 787 due to reduced bearing surface in the T-slots.

Order no.	D x Slot x L	A	B	E	K	Weight [g]
87296	M12x14x 50	13,7	35	22	8	70
87312	M12x14x 80	13,7	55	22	8	100
87338	M12x14x125	13,7	75	22	8	120
87353	M16x18x 63	17,7	45	28	10	160
87379	M16x18x100	17,7	65	28	10	220
87395	M16x18x160	17,7	100	28	10	280
86793	M20x22x 80	21,7	55	35	14	330
86801	M20x22x125	21,7	85	35	14	430
86819	M20x22x200	21,7	120	35	14	570
86827	M24x28x100	27,7	70	44	18	650
86959	M24x28x125	27,7	85	44	18	770
87114	M24x28x250	27,7	150	44	18	1120

Matching nuts DIN 6330B and washers DIN 6340.





panas

Recommendations

DIN 6331, page 84

DIN 6340, page 89

Application:

Additional clamping point with fixture already clamped.
Also possible to set-up a clamping point retrospectively, despite machine T-groove already being occupied. Rhombus screw no. can be inserted into the T-groove from above. This is also possible with the combination between rhombus groove no. 510 and stud bolt DIN 6379.

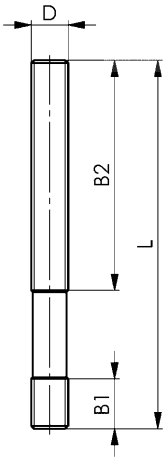
CAD

Subject to technical alterations.

DIN 6379

Studs

Rolled thread. M 6-M12 tempered to strength class 10.9, M14-M42 tempered to strength class 8.8.



Order no.	D x L	B1	B2	Packaging Unit	Weight [g]
84772	(M 6x 32)	9	16	50	8
86546	(M 6x 40)	9	20	50	9
84780	M 6x 50	9	30	50	11
85522	(M 6x 63)	9	40	50	14
84798	M 6x 80	9	50	50	18
81257	M 8x 40	11	20	100	10
84806	M 8x 63	11	40	50	20
81273	(M 8x 80)	11	50	50	25
84814	M 8x100	11	63	50	30
84756	(M 8x125)	11	75	50	36
84822	(M 8x160)	11	100	50	45
81299	M10x 50	13	25	50	25
84830	M10x 80	13	50	50	40
86041	(M10x100)	13	75	50	50
81315	M10x125	13	75	25	62
85928	(M10x160)	13	100	50	80
84848	(M10x200)	13	122	-	100
84855	M12x 50	15	25	25	37
81331	(M12x 63)	15	32	25	45
84863	M12x 80	15	50	50	55
81349	(M12x100)	15	63	50	70
84871	M12x125	15	75	25	90
85480	(M12x160)	15	100	25	113
84889	(M12x200)	15	122	-	140
81372	(M14x 63)	17	32	25	80
84467	(M14x80)	17	50	25	85
81380	(M14x100)	17	63	25	90
84475	(M14x125)	17	75	25	120
81398	(M14x160)	17	100	25	150
86553	(M14x200)	17	122	-	195
84897	(M14x250)	17	160	-	240
84905	M16x 63	19	32	25	85
81414	(M16x 80)	19	50	25	105
84913	M16x100	19	63	25	130
81422	(M16x125)	19	75	25	160
84921	M16x160	19	100	25	218
85498	(M16x200)	19	122	-	280
84939	M16x250	19	160	-	325
85548	(M16x315)	19	180	-	425
85472	(M16x500)	19	315	-	650
84947	(M18x 80)	23	50	25	130
84954	(M18x125)	23	75	25	200
86561	(M18x160)	23	100	-	255
81471	(M18x200)	23	122	-	320
81489	(M18x250)	23	150	-	400
84962	(M18x315)	23	180	-	500
84970	M20x 80	27	32	-	185
84988	M20x125	27	70	-	255
85506	(M20x160)	27	100	-	330
81513	M20x200	27	122	-	410
81521	(M20x250)	27	160	-	510
84996	M20x315	27	200	-	640
85977	(M20x400)	27	250	-	815
85001	(M20x500)	27	315	-	1020
85019	(M22x100)	31	45	-	270
81539	(M22x160)	31	100	-	430
86579	(M22x200)	31	122	-	500
81554	(M22x250)	31	160	-	670
86595	(M22x315)	31	180	-	790
85027	(M22x400)	31	250	-	1070
85035	M24x100	35	45	-	290
85563	(M24x125)	35	70	-	380
81570	M24x160	35	100	-	470
85514	(M24x200)	35	122	-	580
81596	M24x250	35	160	-	730
86009	(M24x315)	35	200	-	920
85043	M24x400	35	250	-	1160
86025	(M24x500)	35	315	-	1460
85050	(M24x630)	35	315	-	1860

Recommendations

DIN 6331, page 84

DIN 6340, page 89

DIN 508, page 80

Subject to technical alterations.

DIN 6379

Studs

Rolled thread. M 6-M12 tempered to strength class 10.9, M14-M42 tempered to strength class 8.8.

Order no.	D x L	B1	B2	Packaging Unit	Weight [g]
81695	(M27x125)	39	56	-	485
81703	(M27x200)	39	122	-	770
81711	(M27x315)	39	200	-	1110
86587	(M27x400)	39	250	-	1535
81729	(M27x500)	39	315	-	1930
85068	M30x125	43	56	-	590
81612	(M30x200)	43	122	-	950
81620	M30x315	43	200	-	1490
81638	M30x500	43	315	-	2360
81646	(M30x700)	43	400	-	3300
81661	(M30x1000)	43	400	-	4700
85076	M36x160	51	80	-	1100
81653	(M36x200)	51	122	-	1340
85084	M36x250	51	160	-	1710
85555	(M36x315)	51	200	-	2150
85092	M36x400	51	250	-	2700
81679	(M36x500)	51	315	-	3450
81687	(M36x700)	51	400	-	4750
85589	(M42x315)	59	200	-	2950
85597	(M42x400)	59	250	-	3750
85530	(M42x500)	59	315	-	4690

( ) DIN extended.

panas

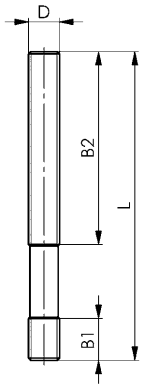
CAD

Subject to technical alterations.

DIN 6379

Studs (12.9)

rolled thread. Tempered to strength class 12.9.

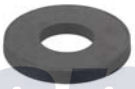


Order no.	D x L	B1	B2	Packaging Unit	Weight [g]
82123	(M12x 80)	15	50	50	55
89193	(M12x100)	15	63	25	70
89250	(M12x125)	15	75	25	90
89276	(M12x160)	15	100	25	113
82180	(M16x 80)	19	50	25	105
82263	(M16x100)	19	63	25	130
85571	(M16x125)	19	75	25	160
87734	(M16x160)	19	100	25	218
87759	(M16x200)	19	122	-	280
87791	(M16x250)	19	160	-	325
87668	(M20x125)	27	70	-	255
87684	(M20x160)	27	100	-	330
87700	(M20x200)	27	122	-	410
87742	(M20x250)	27	160	-	510
87833	(M20x315)	27	200	-	640
87692	(M20x500)	27	315	-	1020
88286	(M24x160)	35	100	-	470
88930	(M24x200)	35	122	50	580
89094	(M24x250)	35	160	-	730
89136	(M24x315)	35	200	-	920
89151	(M24x400)	35	250	-	1160
89177	(M24x500)	35	315	-	1460

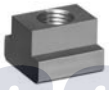
( ) DIN extended.

Recommendations

DIN 6331, page 84



DIN 6340, page 89



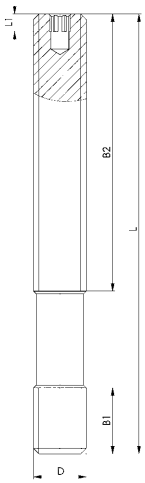
DIN 508, page 80

CAD

No. 6379I

Threaded pins (12.9) with hexagon socket

rolled thread. Tempered to strength class 12.9.



Order no.	D x L	B1	B2	L1	SW	Weight [g]
381954	M12x100 *	15	63	4	4	82
381913	M12x125 *	15	75	4	4	90
381970	M12x160 *	15	100	4	4	130
381996	M16x125	19	75	4	4	161
381939	M16x160	19	100	4	4	207
382010	M16x200	19	122	4	4	259
382028	M20x160	27	100	5	5	321
382036	M20x200	27	122	5	5	410
382044	M20x250	27	160	5	5	577
382051	M24x200	35	122	5	5	670
382069	M24x250	35	160	5	5	835

* Tensile strength class 10.9.

Application:

The threaded pin also has a hexagon socket. Through this, fast release or clamping is possible. Use in all areas of cutting and non-cutting processing.

Advantage:

- Variable and fast adjustment possibility at a distance from the workpiece
- Especially suitable for use on injection moulding machines and presses

Note:

The nuts DIN 6330B, strength class 10 and washers DIN 6340 must be used in combination with this threaded pin.

Recommendations

ISO 2936C

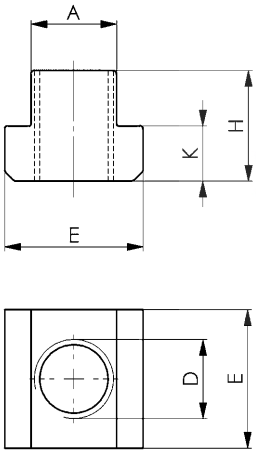
CAD

Subject to technical alterations.

DIN 508

Nuts for T-slots (T-nuts)

tempered, strength class 10. The nuts for the T groove can only experience a full load when the screw connection exists over the entire length of the thread.



Order no.	D x Slot	A	E	H	K	Packaging Unit	Weight [g]
80002	M 5x 6	5,7	10	8	4	50	4
80010	M 6x 8	7,7	13	10	6	100	9
80028	M 8x10	9,7	15	12	6	100	12
140301	M 8x12*	11,7	18	14	7	50	22
140327	M 8x14*	13,7	22	16	8	50	41
153460	M 8x16*	15,7	25	18	9	25	50
153478	M 8x18*	17,7	28	20	10	25	91
80036	M10x12	11,7	18	14	7	50	22
80234	M10x14*	13,7	22	16	8	50	37
80366	M10x16*	15,7	25	18	9	25	60
81265	M10x18*	17,7	28	20	10	25	87
80044	M12x14	13,7	22	16	8	50	35
80168	M12x16*	15,7	25	18	9	25	50
158907	M12x18*	17,7	28	20	10	25	82
80051	M14x16*	15,7	25	18	9	25	50
80176	M14x18*	17,7	28	20	10	25	70
80069	M16x18	17,7	28	20	10	50	70
80184	M16x20*	19,7	32	24	12	25	110
155630	M16x22*	21,7	35	28	14	25	176
159418	M16x24*	23,7	40	32	16	10	260
159426	M16x28*	27,7	44	36	18	-	383
80077	M18x20*	19,7	32	24	12	25	110
80242	M18x22*	21,7	35	28	14	10	163
80085	M20x22	21,7	35	28	14	25	155
80192	M20x24*	23,7	40	32	16	10	235
158899	M20x28*	27,7	44	36	18	-	355
80093	M22x24*	23,7	40	32	16	10	220
80358	M22x28*	27,7	44	36	18	10	340
80101	M24x28	27,7	44	36	18	-	322
80200	M24x30*	29,7	48	38	19	-	440
80218	M24x36*	35,6	54	44	22	-	700
80119	M27x32*	31,6	50	40	20	-	460
80127	M30x36	35,6	54	44	22	-	590
80226	M30x42*	41,6	65	52	26	-	1150
80135	M36x42	41,6	65	52	26	-	1010
80143	M42x48	47,6	75	60	30	-	1600
80150	M48x54	53,6	85	70	34	-	2300

* AMF works standard.

On request:

Special makes on request.

Recommendations

DIN 6379, page 76

DIN 6331, page 84

DIN 6340, page 89

CAD

Subject to technical alterations.

No. 508F

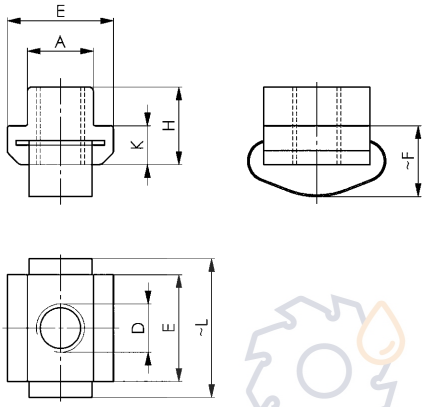
T-nuts with spring

(T groove key), with spring. Hardened, strength class 10. Spring: Stainless steel.

Order no.	D x Slot	A	E	F	H	K	L	Weight [g]
89730	M8x12	11,7	18	12,5	14	7	31	24
89755	M8x14	13,7	22	13,5	16	8	33	42
89789	M8x16	15,7	25	15,5	18	9	42	63
89748	M10x12	11,7	18	12,5	14	7	31	21
89763	M10x14	13,7	22	13,5	16	8	33	38
89797	M10x16	15,7	25	15,5	18	9	42	60
89813	M10x18	17,7	28	17,5	20	10	43	87
89771	M12x14	13,7	22	13,5	16	8	33	34
89839	M16x18	17,7	28	17,5	20	10	43	70
89904	M20x22	21,7	35	21,5	28	14	56	153

Advantage:

- Stable position of fixture without workpiece, particularly on vertical faces.
- easy insertion of studs etc. (no groping for threadholes)
- slot clearing effect.



Recommendations

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CAD

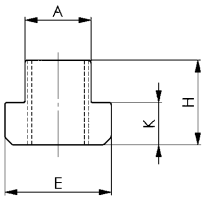
No. 508L

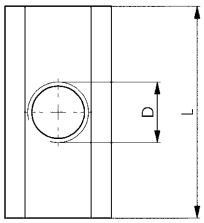
Nuts for T-slots, extended

Hardened, strength class 10

Order no.	D x Slot	A	E	H	K	L	Packaging Unit	Weight [g]
84640	M5x6	5,7	10	8	4	20	50	8
84657	M6x8	7,7	13	10	6	26	50	14
84665	M8x10	9,7	15	12	6	30	50	30
84673	M10x12	11,7	18	14	7	36	50	49
84681	M12x14	13,7	22	16	8	44	25	82
84699	M14x16	15,7	25	18	9	50	50	120
84707	M16x18	17,7	28	20	10	56	20	170
84715	M18x20	19,7	32	24	12	64	10	260
84723	M20x22	21,7	35	28	14	70	-	360
84749	M24x28	27,7	44	36	18	88	-	730
84764	M30x36	35,6	54	44	22	108	-	1390

This extended form safegards the T-slots of precission machine tables.





Recommendations

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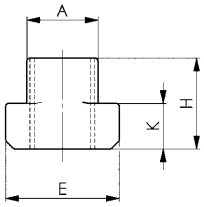
CAD

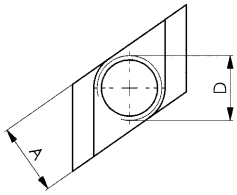
Subject to technical alterations.

No. 510

Nuts for T-slots „Rhombus“

Tempered, for tensile strength classes see adjoining table. Lower load capacities compared with com parable sizes of DIN 508 due to reduced bearing surface in the T-slots.





Order no.	D x Slot	Strength class	A	E	H	K	Packaging Unit	Weight [g]
85993	M 6x8	8	7,6	13	10	5,8	50	7
87411	M 8x10	8	9,7	15	12	6	50	11
80259	M10x12	8	11,7	18	14	7	50	14
158220	M10x14	8	13,7	22	16	8	50	27
158238	M10x18	8	17,7	28	20	10	25	64
80267	M12x14	8	13,7	22	16	8	50	22
80275	M14x16	6	15,7	25	18	9	25	33
80283	M16x18	6	17,7	28	20	10	25	46
80341	M16x20	8	19,7	32	24	12	25	79
158246	M16x22	8	21,7	35	28	14	25	119
158253	M16x28	8	27,7	44	36	18	-	278
80291	M18x20	6	19,7	32	24	12	25	70
80309	M20x22	6	21,7	35	28	14	25	98
88153	M20x24	6	23,7	40	32	16	-	170
84731	M20x28	8	27,7	44	36	18	-	248
80317	M24x28	6	27,7	44	36	18	-	215
80325	M30x36	6	35,6	54	44	22	-	430
80333	M36x42	6	41,6	65	52	26	-	690

Recommendations

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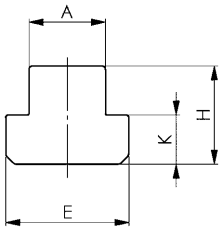
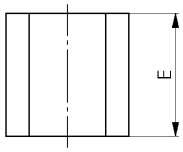
CAD

No. 508R

Blanks for T-nuts

Tempering steel 0.35-0.45 % C.





Order no.	Slot	A	E	H	K	Packaging Unit	Weight [g]
84509	6	5,7	10	8	4	25	4
84517	8	7,7	13	10	6	25	10
84525	10	9,7	15	12	6	50	16
84533	12	11,7	18	14	7	50	27
84541	14	13,7	22	16	8	50	50
84558	16	15,7	25	18	9	25	70
84566	18	17,7	28	20	10	25	95
84574	20	19,7	32	24	12	25	150
84582	22	21,7	35	28	14	25	210
84590	24	23,7	40	32	16	10	300
84608	28	27,7	44	36	18	-	430
84483	32	31,7	50	40	20	-	630
84632	36	35,6	54	44	22	-	800
84491	42	41,6	65	52	26	-	1400
84616	48	47,6	75	60	30	-	2100
84624	54	53,6	85	70	34	-	3150

Note:

Heat treatment for achieving strength class 10 according to 22-32HRC. Harden: 880°C for 45 minutes, quench in oil at 75°C. Temper: 550°C for 2 hours. This blank can be used to economically produce „Nuts for T-slots“ with customised thread.

Recommendations

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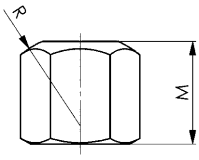
CAD

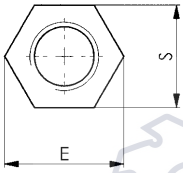
Subject to technical alterations.

DIN 6330B

Hexagon nut

1.5 d high, tempered, strength class 10. Can be used for conical sockets DIN 6319D or G. With the flat end, can be used for washers DIN 6340.





Order no.	Size	E	M	R	S	Packaging Unit	Weight [g]
82362	M6	11,05	9	9	10	100	5
82370	M8	14,40	12	12	13	100	9
82354	M10	17,80	15	15	16	50	14
82388	M10	18,90	15	15	*17	50	20
82347	M12	20,03	18	17	18	50	20
82396	M12	21,10	18	17	*19	50	28
82321	(M14)	23,40	21	20	21	50	34
82404	(M14)	24,50	21	20	*22	50	45
82412	M16	26,80	24	22	24	50	58
82420	(M18)	30,10	27	24	27	25	83
82438	M20	33,50	30	27	30	25	110
82339	(M22)	37,70	33	30	34	10	185
82446	(M22)	35,70	33	30	*32	10	130
82453	M24	40,00	36	32	36	10	195
82461	(M27)	45,60	40	36	41	-	280
82479	M30	51,30	45	41	46	-	405
82487	M36	61,30	54	50	55	-	715
82495	M42	72,60	63	58	65	-	1170
82503	M48	83,90	72	67	75	-	1800

* Old DIN standard.
( ) DIN expanded.

Recommendations

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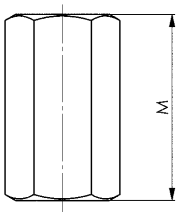
DIN 6340, page 89

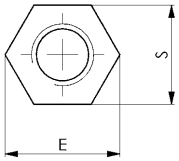
CAD

No. 6334

Extension nut

height 3,0 dia. Tempered, tensile strength class 10.





Order no.	Size	E	M	S	Packaging Unit	Weight [g]
82651	M6	11,05	18	10	100	8
82669	M8	14,40	24	13	50	19
82271	M10	17,80	30	16	25	30
82677	M10	18,90	30	*17	25	42
82289	M12	20,03	36	18	25	48
82685	M12	21,10	36	*19	25	64
82297	M14	23,40	42	21	25	73
82693	M14	24,50	42	*22	25	95
82701	M16	26,80	48	24	25	120
82719	M18	30,10	54	27	20	170
82727	M20	33,50	60	30	10	240
82305	M22	37,70	66	34	10	390
82735	M22	35,70	66	*32	10	280
82743	M24	40,00	72	36	-	400
82750	M27	45,60	81	41	-	600
82768	M30	51,30	90	46	-	850
82776	M36	61,30	108	55	-	1470
82784	M42	72,60	126	65	-	2340
82792	M48	83,90	144	75	-	3600

* old DIN standard.

Application:

The extension nut no. 6334 is used to connect T-slot bolts DIN 787 with studs DIN 6379. Through-drive of thread is not possible. For function and safety both screws should match half the length of nut on either side. Minimum depth is 1 x dia of thread.

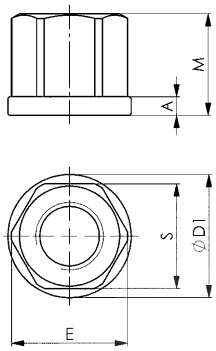
CAD

Subject to technical alterations.

DIN 6331

Collar nut

height 1,5 dia. Turned and milled. Tempered, tensile strength class 10.



Order no.	Size	A	D1	E	M	S	Packaging Unit	Weight [g]
82529	M6	3,0	14	11,05	9	10	50	6
82537	M8	3,5	18	14,40	12	13	50	12
82222	M10	4,0	22	17,80	15	16	50	21
82545	M10	4,0	22	18,90	15	*17	50	25
82230	M12	4,0	25	20,03	18	18	25	30
82552	M12	4,0	25	21,10	18	*19	25	36
82248	(M14)	4,5	28	23,40	21	21	25	43
82560	(M14)	4,5	28	24,50	21	*22	25	51
82578	M16	5,0	31	26,80	24	24	25	70
82586	(M18)	5,0	34	30,10	27	27	25	95
82594	M20	6,0	37	33,50	30	30	25	130
82255	(M22)	6,0	40	37,70	33	34	10	200
82602	(M22)	6,0	40	35,70	33	*32	10	160
82610	M24	6,0	45	40,00	36	36	10	230
82628	M27	8,0	50	45,60	40	41	-	320
82636	M30	8,0	58	51,30	45	46	-	470
82644	M36	10,0	68	61,30	54	55	-	800
82511	M42	12,0	80	72,60	63	65	-	1340
82800	M48	14,0	92	83,90	72	75	-	2040

* Old DIN standard.
( ) DIN expanded.

Recommendations

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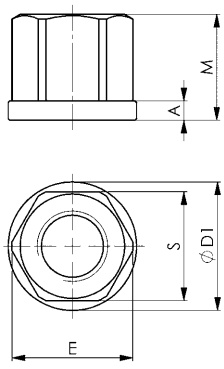
CAD

panas

DIN 6331

Collar nut

height 1,5 dia. Forged. Tempered, tensile strength class 10.



Order no.	Size	A	D1	E	M	S	Packaging Unit	Weight [g]
82198	M6	3,0	14	11,05	9	10	50	6
82115	M8	3,5	18	14,40	12	13	50	12
82214	M10	4,0	22	17,80	15	16	50	21
82107	M12	4,0	25	20,03	18	18	25	30
82149	M16	5,0	31	26,80	24	24	25	70
82206	(M18)	5,0	34	30,10	27	27	25	95
82156	M20	6,0	37	33,50	30	30	25	130
82164	M24	6,0	45	40,00	36	36	10	230
82313	M27	8,0	50	45,60	40	41	-	320
82172	M30	8,0	58	51,30	45	46	-	470

( ) DIN extended.

Recommendations

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CAD

Subject to technical alterations.

No. 6332S

Quick-action clamping nut without collar

hardened and zinc-plated, strength class 6.

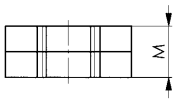
Order no.	Size	SW	M	Weight [g]
88146	M 6	16	9,0	10
88534	M 8	19	10,5	15
88559	M10	22	12,5	23
88567	M12	27	15,0	44
88575	M16	34	16,0	68
88583	M20	41	22,0	85

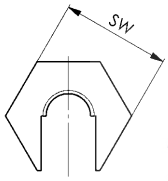
Application:

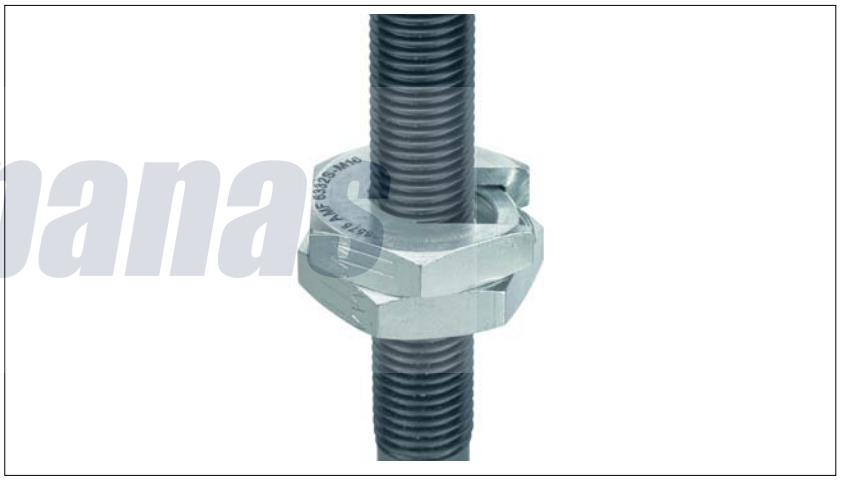
Slide quick-action clamping nut directly over screw thread up to clamping point and then lock it. If the quick-action clamping nut base is firmly in contact at the clamping point, then the head can be locked with the base by means of a 1/4 to 1/2 turn.

Advantage:

- effortless bridging of long screw thread and clamping spindles
- easy assembly/disassembly in tight and invisible spaces
- no searching for the thread
- no seizing on the thread due to outside influences
- no impaired performance through contamination such as paint residues or even rust.







Recommendations

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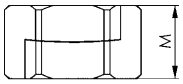
CAD

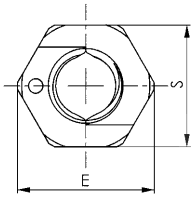
Subject to technical alterations.

No. 6333S

AMF-TWINNUT nut - without collar

with hard detent.
Bright, strength class 10.





Order no.	Size	E	M	S	Weight [g]
381772	M6	11	6	10	3
381780	M8	14	8	13	6
381798	M10	19	10	17	14
381806	M12	21	12	19	20
381814	M16	27	16	24	39
381822	M20	33	20	30	75
381830	M24	40	24	36	131

Application:

Separable bolt nuts for quick-mounting applications. It can be simply pushed over long or damaged studding. Nut halves are undetachable through the separation block, even in the swivelled out condition.

Advantage:

- Time saved with long and damaged studding
- Overcomes studding that is corroded, damaged at the thread and even bent up to approx. 20°
- Compact design., extremely easy to handle
- Fast installation and disassembly using standard tools
- Retention as solid nuts of the same size with strength class 10.

Note:

After they are pushed together, a 1/4 to 1/2 turn suffices for locking.

On request:

Other materials and special sizes on request.

panas

Recommendations

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Easy mounting of the TWINNUT collar nut:

Easy removal of the TWINNUT collar nut:

Subject to technical alterations.

No. 6333SB

AMF-TWINNUT nut - with collar

with hard detent.
Bright, strength class 10.

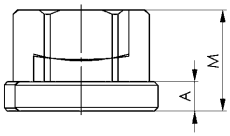
Order no.	Size	A	D1	E	M	S	Weight [g]
381848	M6	3,0	14	11	9	10	5
381855	M8	3,5	18	14	12	13	12
381863	M10	4,0	22	19	14	17	24
381871	M12	4,0	25	21	16	19	33
381889	M16	5,0	31	27	21	24	62
381897	M20	6,0	37	33	26	30	114
381905	M24	6,0	45	40	30	36	188

Application:

Separable bolt nuts for quick-mounting applications. It can be simply pushed over long or damaged studding. Nut halves are undetachable through the separation block, even in the swivelled out condition.

Advantage:

- Time saved with long and damaged studding
- Overcomes studding that is corroded, damaged at the thread and even bent up to approx. 20°
- Compact design., extremely easy to handle
- Fast installation and disassembly using standard tools
- Retention as solid nuts of the same size with strength class 10.

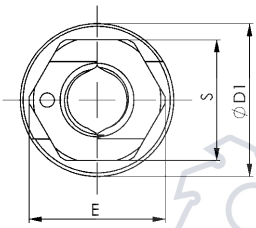


Note:

After they are pushed together, a 1/4 to 1/2 turn suffices for locking.

On request:

Other materials and special sizes on request.



Recommendations

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panas

CAD

No. 6333

Mounting key

Aluminium.

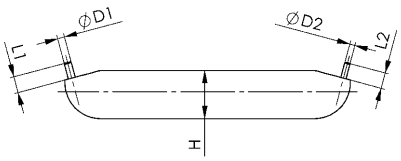
Order no.	D	D1	D2	H	L	L1	Weight [g]
381921	15	2	1,5	13,3	80	5	36

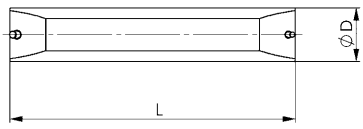
Application:

For easy opening of the AMF-TWINNUT nuts.

Note:

Usable for all nut sizes.





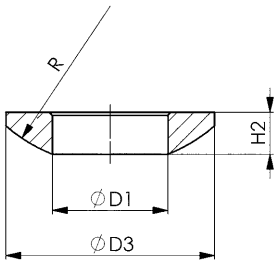
Subject to technical alterations.

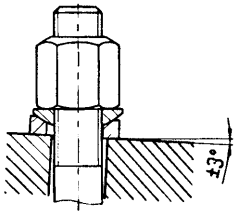
DIN 6319C

Spherical seat washer

Case hardened.

Order no.	Size	D1	D3	H2	R	Packaging Unit	Weight [g]
81828	M6	6,4	12	2,3	9	100	1,0
81737	M8	8,4	17	3,2	12	100	2,5
81745	M10	10,5	21	4,0	15	100	5,0
81752	M12	13	24	4,6	17	100	7,0
81760	M14	15	28	5,0	22	50	10
81778	M16	17	30	5,3	22	100	12
81786	M20	21	36	6,3	27	50	23
81794	M24	25	44	8,2	32	25	42
81802	M30	31	56	11,2	41	-	87
81810	M36	37	68	14,0	50	-	184
81836	M42	43	78	17,0	58	-	297
81844	M48	50	92	21,0	67	-	525





CAD

Recommendations

DIN 6330B, page 83

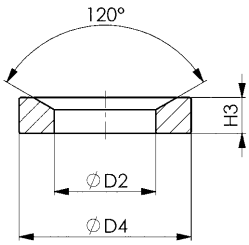
DIN 6319D

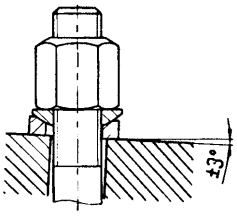
Dished washer

Case hardened. Designed for screw solidity in compliance with 8.8. Limited for use on flat closed ring areas (not allowed for elongated holes, we recommend DIN 6319G for these).

Order no.	Size	max.* [kN]	D2	D4	H3	Packaging Unit	Weight [g]
81950	M6	9	7,1	12	2,8	100	1,5
81869	M8	17	9,6	17	3,5	100	4,0
81877	M10	26	12,0	21	4,2	100	6,5
81885	M12	38	14,2	24	5,0	100	10
81893	M14	53	16,5	28	5,6	50	18
81901	M16	73	19,0	30	6,2	50	19
81919	M20	117	23,2	36	7,5	25	32
81927	M24	168	28,0	44	9,5	25	63
81935	M30	269	35,0	56	12	-	133
81943	M36	394	42,0	68	15	-	236
81968	M42	542	49,0	78	18	-	365
81976	M48	714	56,0	92	22	-	641

* max. transmittable static screw force.





CAD

Recommendations

DIN 6330B, page 83

No. 6319D

Dished washer

made of C45. Designed for screw solidity in compliance with 12.9. Limited for use on flat closed ring areas (not allowed for elongated holes, we recommend DIN 6319G for these).

Order no.	Size	max.* [kN]	D2	D4	H3	Packaging Unit	Weight [g]
87171	M12	65	14,2	24	5,0	100	10
87197	M16	125	19,0	30	6,2	50	19
87239	M20	196	23,2	36	7,5	25	32
87254	M24	281	28,0	44	9,5	25	63

* max. transmittable static screw force.

CAD

Subject to technical alterations.

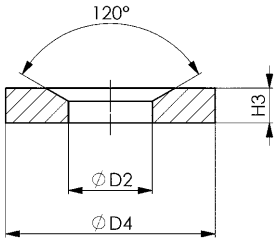
DIN 6319G

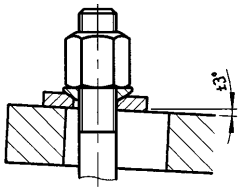
Dished washer

tempered. Due to large dia and thickness more suitable to match slotted clamps.

Order no.	Size	D2	D4	H3	Packaging Unit	Weight [g]
82073	M6	7,1	17	4	25	5,5
81984	M8	9,6	24	5	100	13
81992	M10	12,0	30	5	100	19
82008	M12	14,2	36	6	100	32
82016	M14	16,5	40	6	50	48
82024	M16	19,0	44	7	50	56
82032	M20	23,2	50	8	25	94
82040	M24	28,0	60	10	10	169
82057	M30	35,0	68	10*	-	218
82065	M(36)	42,0	80	12	-	350
82081	M(42)	49,0	100	15	-	640
82099	M(48)	56,0	110	17	-	830

( ) DIN extended
* different from DIN.





Recommendations

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CAD

panas

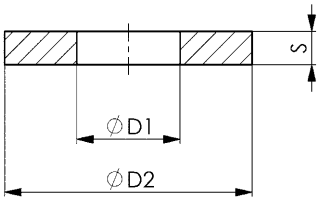
DIN 6340

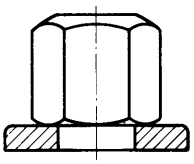
Washer

tempered (350 + 80 HV30)

Order no.	Size	Size inch	D1	D2	S	Packaging Unit	Weight [g]
82818	M6	1/4	6,4	17	3	100	5
82826	M8	5/16	8,4	23	4	100	10
82834	M10	3/8	10,5	28	4	100	16
82842	M12	1/2	13	35	5	100	35
82859	(M14)	-	15	40	5	50	40
82867	M16	5/8	17	45	6	50	60
82875	(M18)	-	19	45	6	50	60
82883	M20	3/4	21	50	6	50	73
82891	(M22)	7/8	23	50	8	25	92
82909	M24	7/8	25	60	8	20	170
82917	(M27)	1 1/16	28	68	10	-	210
82925	M30	1 1/8, 1 3/16	31	68	10	-	230
82933	(M36)	1 1/4, 1 3/8	38	80	10	-	350
82941	(M42)	1 1/2	44	100	15	-	670
82958	(M48)	1 3/4	50	110	17	-	920

( ) DIN extended.





Recommendations

DIN 6379, page 76

DIN 787, page 70

CAD

Subject to technical alterations.

No. 6530

Boxed set of assorted clamping elements

With deep clamping jaw no. 6490 and screw compound no. 6339. The clamping tool assortment boxes are designed for machine tools with T-slot tables and contain all the elements required for the fast clamping of tools, fixtures and workpieces. They are produced from tempered steel according to DIN or factory standards. Screw parts strength class 8 and/or 10. In a sturdy and high-quality wooden box with removable folding lid.

Order no.	Slot	No. 6500E Pcs.xSize	No. 6314Z Pcs.xSize	DIN 787 Pcs.xLength	DIN 6379 Pcs.xLength	DIN 6330B	DIN 6319G	No. 6334	No. 6490* Pcs.xSize	No. 6485 Pcs.xSize	No. 3113A Pcs.xSize	No. 6339	L x W x H	Weight [Kg]
83584	M10x10	4x1, 4x2, 2x3	4x 11x80	2x40, 4x63, 4x100	4x80	6x	6x	4x	4x12	-	1x 16x16	1x	355x270x47	9,2
83592	M12x12	4x2, 4x3	4x 14x100	2x50, 4x80, 4x125	4x100	6x	6x	4x	4x12	-	1x 18x18	1x	460x330x50	14,3
83600	M12x14	4x2, 4x3	4x 14x100	2x50, 4x80, 4x125	4x100	6x	6x	4x	4x14	1x 14-20	1x 18x18	1x	460x330x50	14,6
83691	M14x16	4x2, 4x3	2x 14x100, 4x 14x160	2x63,4x100,4x160	4x125	6x	6x	4x	4x16	1x 14-20	1x 22x22	1x	510x415x50	18,5
83618	M16x16	4x2, 4x3	4x 18x125	2x63,4x100,4x160	4x125	6x	6x	4x	4x16	1x 14-20	1x 24x24	1x	510x415x50	21,5
83626	M16x18	4x2, 4x3	4x 18x125	2x63,4x100,4x160	4x125	6x	6x	4x	4x18	1x 14-20	1x 24x24	1x	510x415x50	21,5

* The low height clamping jaws no. 6490 are complete sets with T-nuts DIN 508, screws ISO 4762 and two hexagon keys ISO 2936.
Single items available.

panas

No. 6531

Boxed set of assorted clamping elements

With sprung clamp holder no. 6342 and screw compound no. 6339.
The clamping tool assortment boxes are designed for machine tools with T-slot tables and contain all the elements required for the fast clamping of tools, fixtures and workpieces. They are produced from tempered steel according to DIN or factory standards. Screw parts strength class 8 and/or 10. In a sturdy and high-quality wooden box with removable folding lid.

Order no.	Slot	No. 6500E Pcs.xSize	No. 6314Z Pcs.xSize	DIN 787 Pcs.xLength	DIN 6379 Pcs.xLength	DIN 508	DIN 6330B	DIN 6319G	No. 6485 Pcs.xSize	No. 3113A Pcs.xSize	DIN 6342 Pcs.xSize	No. 6334	No. 6339	L x W x H	Weight [Kg]
83808	M10x10	4x1, 4x2, 2x3	4x 11x80	4x63, 4x100	4x80	-	6x	6x	-	1x 16x16	4x1	4x	1x	350x225x47	6,5
83816	M12x12	4x2, 4x3	4x 14x100	4x80, 4x125	4x100	-	4x	6x	-	1x 18x18	4x2	4x	1x	359x333x57	11,0
83824	M12x14	4x2, 4x3	4x 14x100	4x80, 4x125	4x100	-	4x	6x	1x 14-20	1x 18x18	4x2	4x	1x	359x333x57	11,0
83832	M16x16	4x2, 4x3	4x 18x125	4x100, 4x160	4x125	-	4x	6x	1x 14-20	1x 24x24	4x3	4x	1x	390x415x55	16,5
83840	M16x18	4x2, 4x3	4x 18x125	4x100, 4x160	4x125	-	4x	6x	1x 14-20	1x 24x24	4x3	4x	1x	390x415x55	16,5
83634	M20x20	4x2, 4x3	4x 22x160	4x125, 4x200	4x125	-	6x	6x	1x 14-20	1x 30x30	4x4	4x	1x	480x528x60	24,5
83642	M20x22	4x2, 4x3	4x 22x160	4x125, 4x200	4x125	-	6x	6x	1x 22-32	1x 30x30	4x4	4x	1x	480x528x60	24,5
83659	M20x24	4x2, 4x3	4x 22x160	-	4x200, 8x125	8x	6x	6x	1x 22-32	1x 30x30	4x4	4x	1x	480x528x60	24,8

Single items available.

Subject to technical alterations.

No. 6520

T-bolt set

In a sturdy and high-quality wooden box with removable folding lid. All parts tempered, strength class 8 or 10.

Order no.	Slot	DIN 787 Pcs.xLength	DIN 6379 Pcs.xLength	DIN 508	DIN 6330B	No. 6334	DIN 6319C+G	DIN 6340	L x W x H	Weight [Kg]
82982	M10x10	2x40, 4x63, 4x100	4x50, 4x80, 4x200	1)	4x	4x	4x	4x	254x188x32	2,0
82990	M12x12	2x50, 4x80, 4x125	4x63, 4x100, 4x200	1)	4x	4x	4x	4x	278x234x36	3,2
83006	M12x14	2x50, 4x80	4x63, 4x100, 4x125, 4x200	4x	4x	4x	4x	4x	278x234x36	3,5
83014	M14x16	2x63, 4x100	4x63, 4x100, 4x160, 4x250	4x	4x	4x	4x	4x	317x239x44	5,4
83022	M16x16	2x63,4x100,4x160	4x80, 4x125, 4x250	1)	4x	4x	4x	4x	339x294x48	7,4
83030	M16x18	2x63, 4x100	4x80, 4x125, 4x160, 4x250	4x	4x	4x	4x	4x	339x294x48	7,4
83048	M18x20	2)	6x80, 8x125, 4x200, 4x315	10x	4x	4x	-	10x	359x342x56	11,0
83055	M20x22	2x80, 4x125	4x80, 4x125, 4x200, 4x315	4x	4x	4x	4x	4x	358x342x56	13,5
83063	M24x28	2x100, 4x160	4x100, 4x160, 4x250, 4x400	4x	4x	4x	4x	4x	444x409x72	23,6

1) = T-nuts DIN 508 not suitable for this size.
2) = M18x20, included instead DIN 787 are 4 studs DIN 6379x125 mm and 2x80 mm,with DIN 508 T-nuts and DIN 6340 washers each.
Single items available.

panas

No. 6532

Basic sortiment

All parts are produced from tempered steel according to DIN or factory standards, screw parts tempered to strength class 8 or 10. Ideal for tool making, manufacturing and training facilities.

Order no.	Size	Clamping force [kN]	max. clamping height using 2 clamps [mm]	max. clamping height using 4 clamps [mm]	No. 6314Z Pcs.xSize	No. 6500E Pcs.xSize	DIN 787 Pcs.xLength	DIN 6379 Pcs.xLength	DIN 6330B	DIN 6340	No. 6334	Weight [Kg]
83899	M12x14	20	165	70	2x14x100,2x14x160	4x2, 4x3	2x50,4x80,4x125	2x100	6x	6x	2x	10,0
83915	M14x16	28	195	100	2x14x100,2x14x160	4x2, 4x3	2x63,4x100,4x160	2x100, 2x160	6x	6x	2x	11,1
83907	M16x18	40	205	130	2x18x125,2x18x200	4x2, 4x3	2x63,4x80,4x160	2x200, 4x125	6x	6x	4x	15,2

Subject to technical alterations.

No. 6470

Trolley for clamping equipment

without clamping equipment and without holders.
Rugged steel housing, storage compartments designed with rubber mats. 2 rollers + 2 castors with locking brake.

Order no.	Load [Kg]	Height [cm]	Width [cm]	Depth [cm]	Weight [Kg]
74252	400	126	123	80	100

Advantage:

- Mobile = quickly ready when needed at the workplace
- Tidy = convenient, space-saving and always readily available
- Individual equipment configurations possible through variable arrangement of holders

Note:

Holders for clamps (No. 6470H-2) and clamping bolts (No. 6470H-1) can be selected as required.

No. 6470-Mxx

Trolley for clamping equipment with basic set of clamping equipment

incl. clamping equipment tool cart no. 6470.

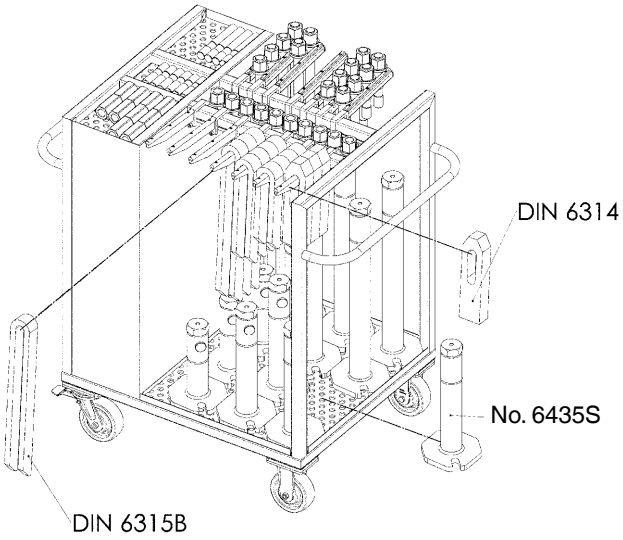
Order no.	Size	Holder no. 6470H-01 [St.]	Holder no. 6470H-02 [St.]	Weight [Kg]
72520	M16	5	4	257,0
73270	M20	5	4	277,0
74674	M24	5	4	304,0
74880	M30	7	4	512,5

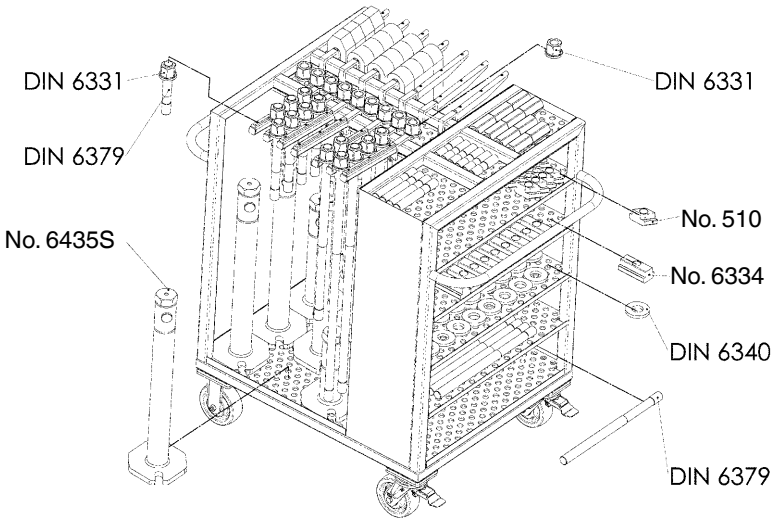
panas

Design:

	Order no. 72520 (Size M16)			Order no. 73270 (Size M20)			Order no. 74674 (Size M24)			Order no. 74880 (Size M30)		
Item	**Order no.**	**Size**	**Pc.**	**Order no.**	**Size**	**Pc.**	**Order no.**	**Size**	**Pc.**	**Order no.**	**Size**	**Pc.**
DIN 6379	81422	M16x125	6	84988	M20x125	6	85563	M24x125	6	85068	M30x125	6
	85498	M16x200	6	81513	M20x200	6	85514	M24x200	6	81612	M30x200	6
	85548	M16x315	6	84996	M20x315	6	86009	M24x315	6	81620	M30x315	6
	85472	M16x500	6	85001	M20x500	6	86025	M24x500	6	81638	M30x500	6
										81646	M30x700	6
										81661	M30x1000	6
DIN 6331	82578	M16	30	82594	M20	30	82610	M24	30	82636	M30	30
DIN 6340	82867	M16	30	82883	M20	30	82909	M24	30	82925	M30	30
DIN 6314	70060	18x160	4	70086	22x200	4	70102	26x250	4	70128	33x315	4
DIN 6315B	70524	18x160	4	70557	22x200	4	70581	26x250	4	70623	33x315	4
	70532	18x200	4	70573	22x315	4	70607	26x315	4	70631	33x400	4
	70540	18x250	4	70425	22x500	4	70433	26x500	4	70441	33x600	4
No. 6334	82701	M16	10	82727	M20	10	82743	M24	10	82768	M30	10
No. 6400	72413	100	4									
	72439	210	4									
No. 6435S	72637	300	4	72637	300	4	72637	300	4	72645	460	4
	72645	460	4	72645	460	4	72645	460	4	72652	750	4
										72660	1250	4
No. 508L	84707	M16x18	10	84723	M20x22	10	84749	M24x28	10	84764	M30x36	10
No. 510	80283	M16x18	10	88153	M20x24	10	80317	M24x28	10	80325	M30x36	10

Subject to technical alterations.





No. 6470H-1

Holder for clamping bolts

Order no.	Length [mm]	Width [mm]	Height [mm]	Weight [g]
74187	338	20	86	866

panas

No. 6470H-2

Holder for clamps

Order no.	Length [mm]	Width [mm]	Height [mm]	Weight [g]
74203	340	20	86	870

Subject to technical alterations.

No. 6535

Set of assorted plastic clamping elements

including 55 elements. Clamps, step blocks and nuts: high strength plastic PBT, red. Stud bolts: aluminium anodised.

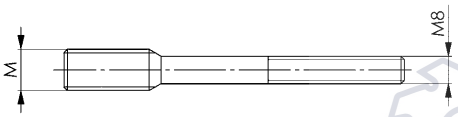
Order no.	Size	M	L x W x H	Weight [g]
83071	06	M6	440x370x50	1700
83105	08	M8	440x370x50	1740
83089	10	M10	440x370x50	1770
83097	12	M12	440x370x50	1800

Application:

Most suitable for 3D-coordinate measuring machines, engraving and E.D.M. machine application and any light duty clamping. The possible clamping force (up to 500 N), depending on the actual leverage, can be achieved by manual tightening of knurled nut, while its hexagon section allows release through use of open jaw wrench.

Advantage:

- The weight is only 1/4 compared with aluminium and 1/10 compared with steel elements.
- anticorrosive against hand sweat
- very easy to handle
- no damage to surface plate, supporting table or workpiece
- suitable for multi-combination.



panas

Recommendations

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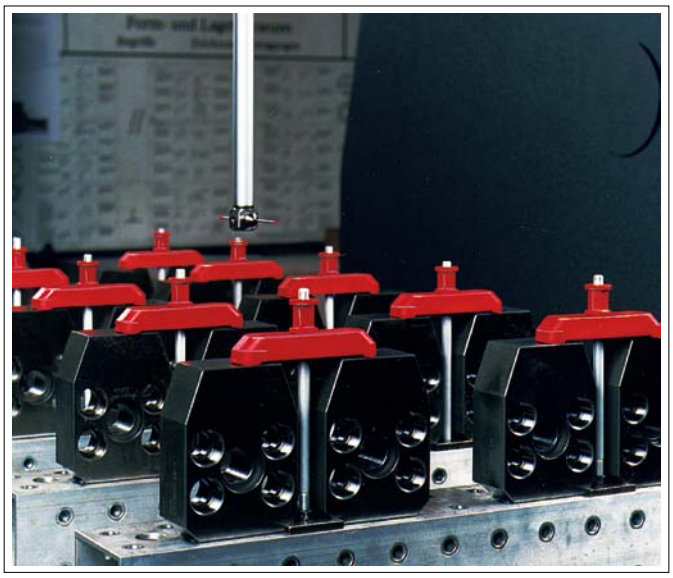
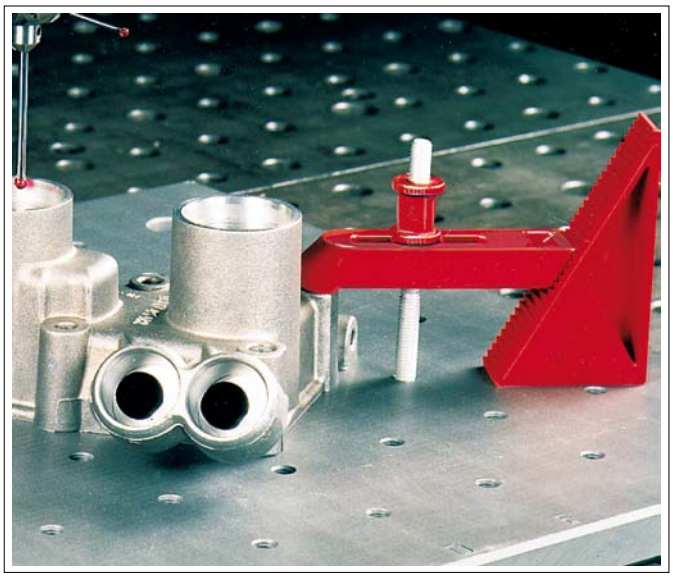




Subject to technical alterations.

No. 6339

Heavy duty thread paste

Order no.	Temperature range	Contents [ml]	Packaging Unit	Weight [g]
86686	-25 - + 125°C	75	12	75

Application:

For lubricating screw connections in clamping fixtures. Especially when aggressive coolants are used. Unlubricated (dry) screw connections are subjected to high friction forces (clamping force reduction) and rapid wear when tightened securely often. Thanks to its optimal lubricity, AMF screw compound increases the achievable clamping force and protects the material (longer service life).

Features:

The paste, based on mineral fat, has a synergetic acting combination of highly active white solid lubricants. It is resistant to heat and wash off. (Washouttest according DIN 51807, part 2; loss of lubricant after 1 h/37.8°C = 1.4%).

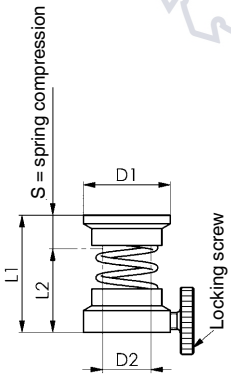
No. 6342

Spring type clamp support

with brass locking screw

Order no.	Size	D1	D2	L1	L2	Travel of spring S	for clamping screw	Weight [g]
75952	1	22	10,5	30	22	8	M8-M10	41
75960	2	26	14,5	32	22	10	M12-M14	55
75978	3	32	18,5	38	26	12	M16-M18	89
75986	4	38	22,5	40	28	12	M20-M22	133
75994	5	45	27,5	44	32	12	M24-M27	177

The spring type clamp support holds the clamp while the work piece is removed and loaded, ensuring fast and safe clamping sequence.



Recommendations

DIN 6379, page 76

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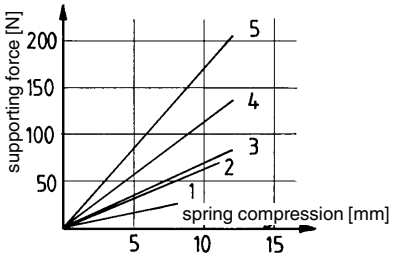
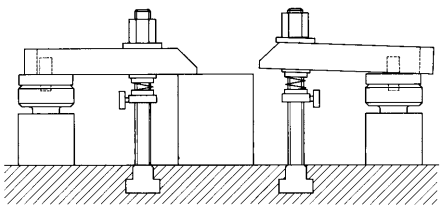




CAD

No. 6485

T-slot scraper

Order no.	Size	Slot	Packaging Unit	Weight [g]
72892	14-20	14-20	100	105
72900	22-32	22-32	50	100
72918	36-54	35-54	-	360

CAD

Subject to technical alterations.

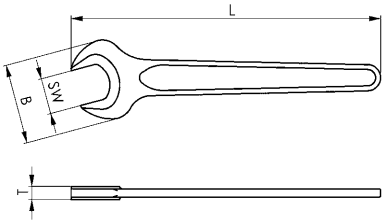
DIN 894

Open-ended spanner, single-ended

Special steel forging, jaws machined, angle of jaws 15°, hardened and phosphated.

Order no.	SW	Thread metric	B	L	T	Packaging unit	Weight [g]
53579	8	5	19	94	4	10	13
53595	10	6	22	105	5	10	20
53611	12	-	26	125	5	10	28
53629	13	8	29	125	5	10	35
53645	17	10*	36	155	6	10	65
53520	18	12	39	155	7	10	70
53652	19	12*	40	170	7	10	83
53660	22	14*	46	195	8	10	105
53678	24	16	50	215	9	10	150
53686	27	18	56	240	10	10	200
53694	30	20	62	265	11	10	265
53702	32	22*	67	275	12	10	295
53710	36	24	74	300	13	10	425

* Size to old DIN standard.



No. 6486

T-slot cover

Made of aluminium profile.
Cutting to the desired length is easily done with a fine saw blade.

Order no.	Size	Slot	Length [mm]	Weight [g]
71449	12x1000	12	1000	88
71456	14x1000	14	1000	100
71464	16x1000	16	1000	120
71472	18x1000	18	1000	135
71928	20x1000	20	1000	150
71936	22x1000	22	1000	165
71787	24x1000	24	1000	170
71944	28x1000	28	1000	200
71951	36x1000	36	1000	220

Advantage:

The thorough subsequent cleaning of the slot on the machine table is no longer required. Always cover free slots by using the original AMF-T-slot cover before starting with machining. The T-slot covers can easily be removed after machining.

CAD

Subject to technical alterations.