

HOME OF CLAMPING



2021
STANDARD CLAMPING ELEMENTS

WE GENERATE EXCITEMENT.

Since the foundation of the company in 1890 until today the goal has remained the same: the highest quality in products and services. Nevertheless, the circumstances, tasks and challenges have changed, of course. By focussing on our core areas of expertise, we have long set new standards for innovative clamping technology - driven by our own development, the greatest possible flexibility and passion for individual solutions.

All this is only possible with committed and contented employees. Respectful interaction with others, personal development and measures for the wellbeing of each individual are therefore values that matter to us.



Company Management:
Wolfgang Balle, Johannes Maier (CEO), Jürgen Förster

OUR COMPANY HISTORY

- 1890 Company founded as a lock manufacturer by Andreas Maier.
- 1920 Product range extended to include spanners.
- 1928 Production line assembly of FELLBACH LOCKS.
- 1951 Introduces clamping elements and diversifies into workpiece and tool clamping technology.
- 1965 Toggle clamps extend the AMF product range, AMF catalogues are now printed in ten languages.
- 1975 Further specialisation into hydraulic clamping technology.
- 1982 Clamping and fixture systems round off AMF's clamping expertise.
- 1996 AMF team organisation in all sectors of the business, Quality management with certification to ISO 9001.
- 2001 AMF Service Guarantee for all products.
- 2004 Introduction of the ZPS zero-point clamping system.
- 2007 The magnetic clamping technology extends the AMF product range.
- 2009 Development and marketing of AMF Vacuum clamping technology.
- 2012 LOW-COST AUTOMATION gripping, clamping, marking and cleaning.
- 2014 AMF presents the most extensive product range of automation solution in zero-point clamping technology.
- 2017 Wireless sensing systems extend the expertise into Industry 4.0 and blends seamlessly into the AMF product range.

PLEDGES THAT COUNT IN EVERYDAY LIFE

For this reason, we have a few principles that we follow by conviction and which always apply.

INDIVIDUAL DEVELOPMENT

Even if the product you need does not even exist yet, we will find the right solution with you: from special designs to new developments, everything is possible.

WARRANTY

If, despite our high quality standard, there is a complaint, this is dealt with quickly and unbureaucratically, even beyond the warranty period.

HIGHEST QUALITY STANDARDS

Careful manufacturing based on tradition since 1890, and naturally with a modern quality management system according to ISO 9001 for many years.

SHORT DELIVERY TIME

With over 5,000 articles in our warehouse, you can expect your order to be dispatched on the same day.

COMPETENT SERVICE FROM EXPERTS

Your local retail partner or the specialists in our team will find the right solution for every task.

MADE IN GERMANY

Our entire product range is developed and manufactured exclusively by our employees in Germany.

POWER CLAMPS



6 - 12

CLAMPS



13 - 40

SUPPORT BLOCKS



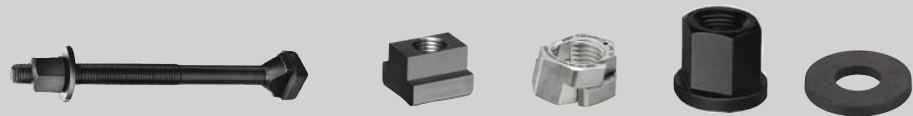
41 - 46

SETTING ELEMENTS MANDREL AND FLOATING CLAMP



47 - 78

CLAMPING BOLTS, NUTS AND WASHERS



79 - 101

CLAMPING SETS AND ACCESSORIES



102 - 108

PULL-DOWN CLAMPS



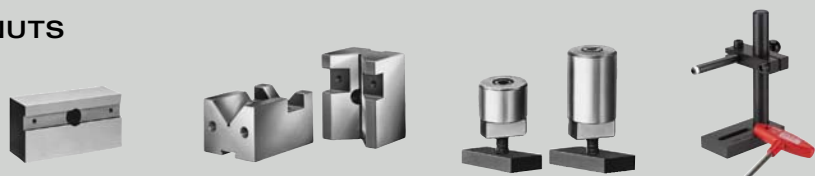
109 - 127

POSITIONING ELEMENTS



128 - 140

STOPS AND PRECISION T-NUTS



141 - 147

CENTRING CLAMPS AND ECCENTRIC CLAMPS



148 - 156

NEW!

SIDE CLAMP WITH CLAMPING POINT

No. 6472, page 123



SUPPORT ELEMENT WITH FINE THREAD

No. 6425A-230, page 54



SCREW JACK, MODULAR

No. 6425-706, page 50



NEW!

THRUST PIECE PLASTIC (PLAIN)

No. 7600DGK, page 8



SOLID CLAMPING JAWS, FLAT DESIGN

No. 6497F, page 114



MOUNTING KIT

Nr. 7600BFS, page 9
NEW SIZE!



POWER CLAMP

No. 7600, page 6
NEW SIZE!



NOT ONLY INCREDIBLE IN TERMS OF USE - OUR MODULAR SCREW JACK ALSO BOASTS AN IMPRESSIVE PRODUCT DESIGN.

Andreas Maier GmbH & Co. KG (AMF) has won an international design award. In the capital goods/tools category, our flexible, modular screw jack was able to convince the jury.



Focus Open 2020
Gold

**TAKE A LOOK AT OUR
PRIZE WINNER!**
MORE FROM PAGE 48 ...



THE POWER CLAMP THAT KEEPS ITS PROMISES

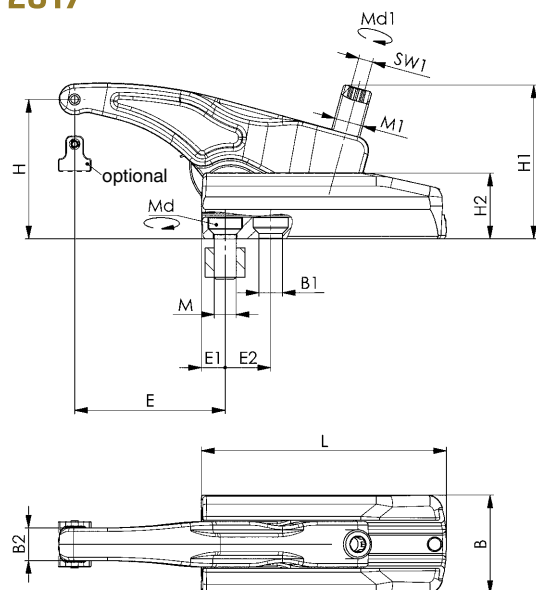
- > **Uses:** All clamping tasks in cutting and non-cutting finishing operations. There are no limits to the possible uses in tool-making, injection moulding, presses and die-cutters as well as in model- and mould-making.
- > **Characteristics:**
 - > Clamping force up to 22 kN or 49 kN
 - > Low installation height
 - > Fast and simple clamping possible
 - > Continuously adjustable

When using clamps in non-cutting and cutting metal finishing processes, as well as in mould making, clamping force and precision that meet the highest demands are required. With the sliding power clamp made of alloyed tempered steel, we offer an exceptionally robust and versatile mechanical clamping element, which can achieve extremely high clamping force of up to 49 kN. The power clamp, which is usable both horizontally and vertically, can be fastened to regular T-slot tables using T-nuts or, alternatively, to grid pallets using threaded mounting.

No. 7600

Power clamp

Continuously adjustable clamping element made of alloyed tempered steel in forged, black galvanised design. Complete with mounting kit 7600BFS.
Thrust piece in smooth and ribbed variant, optionally available.



NEW!

Order no.	Size	max. load static [kN]	M	Slot	H	E	L	Weight [g]
562184	22	22	M10	12	5 - 38	15 - 50	65	700
556406	22	22	M12	14	5 - 38	15 - 50	65	700
556186	30	30	M12	14	6 - 68	13 - 110	135	2013
556187	30	30	M16	18	6 - 68	16 - 114	135	2045
556189	32	32	M12	14	6 - 50	12 - 82	95	1462
556190	40	40	M16	18	6 - 50	15 - 95	110	2262
556188	43	43	M16	18	5 - 80	16 - 134	155	3158
563656	44	44	M18	20	7 - 88	19 - 165	175	5880
554198	49	49	M20	22	7 - 88	19 - 165	175	5928

Application:

1. Position carrier element on the tool table and secure with the specified tightening torque Md.
2. Move the clamp arm to the desired position.
3. Moving the adjusting screw clamps the workpiece.

Advantage:

- Low installation height
- High clamping force of 22 - 49 kN
- Height and length continuously adjustable
- The very robust design enables quick and easy clamping
- Elements easy to install
- For use in T-slots 12 - 28 mm and/or grid plates M10, M12, M16, M18, M20
- 2 thrust piece variants

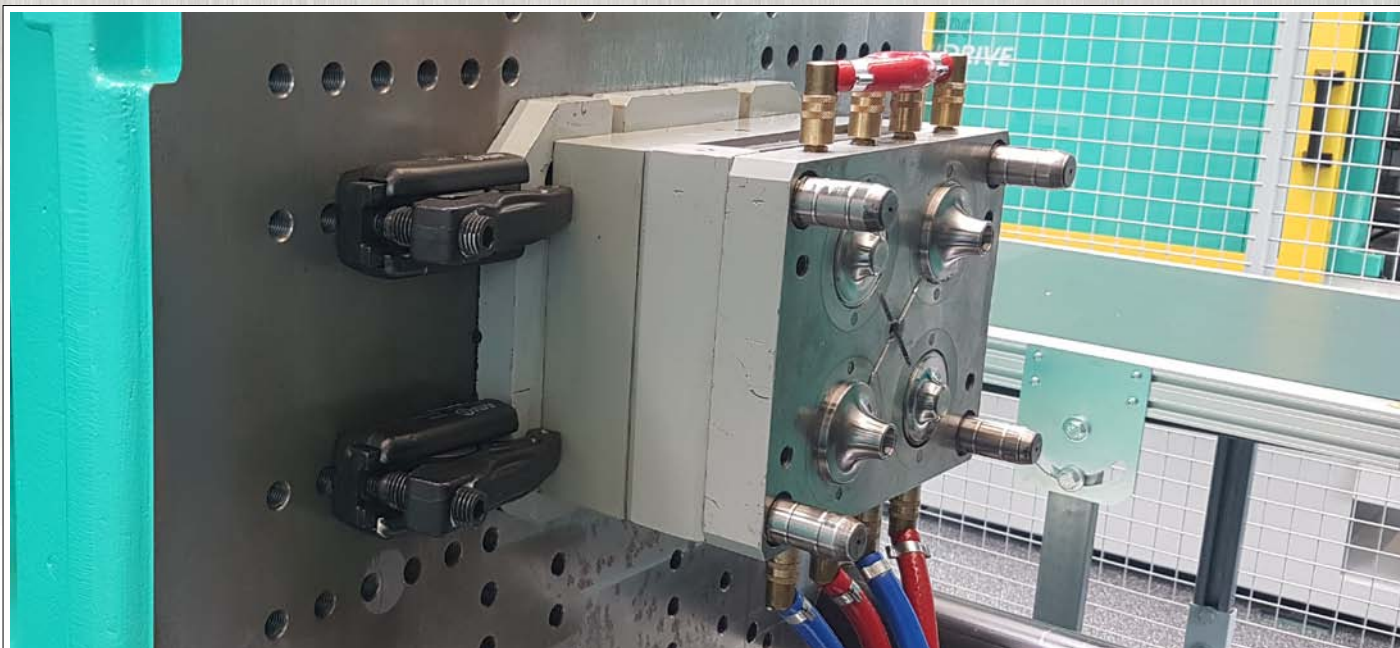
Note:

- The max. load may differ, depending on the manner of clamping and condition of the threads (lubrication).
- To reduce the wear on the adjusting screw, we recommend the use of AMF screw compound no. 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.
- Use only with the associated AMF mounting kit 7600BFS.
- Sizes 30 M16 / 44 M18 are not suitable for use with no. 7600Z.

Dimensions:

Order no.	Size	B	B1	B2	E1	E2	H1	H2	M1	SW1	Md 1 [Nm]	Md [Nm]
562184	22	45	13	13	11	-	58	30	M12	6	50	35
556406	22	45	13	13	11	-	58	30	M12	6	50	40
556186	30	54	13	18	13	25	85	36	M16	8	100	70
556187	30	54	17	18	16	28	85	36	M16	8	100	150
556189	32	54	13	18	12	20	78	36	M16	8	100	70
556190	40	60	17	20	15	26	92	42	M20	10	150	150
556188	43	60	17	20	16	32	105	42	M20	10	220	150
563656	44	75	17	25	19	36	125	52	M24	12	170	200
554198	49	75	21	25	19	36	125	52	M24	12	220	200

Subject to technical alterations.



No. 7600Z

Spacer element

Made of alloyed tempered steel in forged, black galvanised design. Complete with mounting kit.



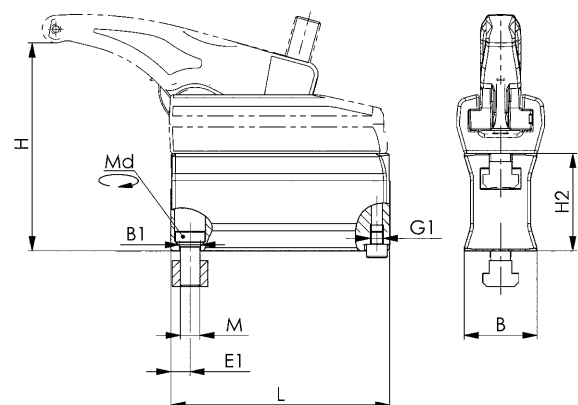
Order no.	Size	M	Slot	H	H2	L	Weight [g]
562185	22	M10	12	40 - 73	35	65	480
556407	22	M12	14	40 - 73	35	65	480
554821	30	M12	14	66 - 128	60	135	2300
554822	32	M12	14	66 - 110	60	95	1570
554823	40	M16	18	76 - 120	70	110	2290
554824	43	M16	18	75 - 150	70	155	3344
554825	49	M20	22	87 - 168	80	175	5286

Advantage:

- Additional clamping heights can be achieved by installing multiple spacer elements
- Continuous transition between the clamping heights
- For use in T-slots 12 - 28 mm and/or grid plates M10, M12, M16, M20

Note:

Use only the corresponding AMF mounting kit 7600BFS.



Recommendations



No. 6339, page 107

Dimensions:

Order no.	Size	B	B1	E1	G1	Md [Nm]
562185	22	36,0	14	12	M6	35
556407	22	36,0	13	12	M6	40
554821	30	44,5	13	12	M8	70
554822	32	44,5	13	12	M8	70
554823	40	47,5	17	16	M8	150
554824	43	47,5	17	16	M8	150
554825	49	58,0	21	19	M10	200

Subject to technical alterations.



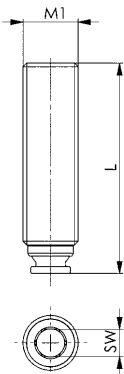
No. 7600S

Ball pressure screw

Tempered steel, burnished.



Order no.	Size	M1	L	SW	Weight [g]
556408	22	M12	43	6	30
553353	30	M16	62	8	80
554214	32	M16	55	8	70
554215	40	M20	65	10	128
553441	43	M20	78	10	165
554216	44 / 49	M24	93	12	275



No. 7600D

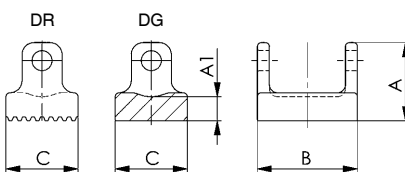
Pressure pad

Complete with dowel pin.
Stainless steel.



Order no.	Size	Form	A	A1	B	C	Weight [g]
556409	22	DG	14	4,5	19	12	11
556410	22	DR	14	4,5	19	12	10
553351	30 / 32	DG	19,5	6,0	25	18	28
553352	30 / 32	DR	19,5	6,0	25	18	27
553442	40 / 43	DG	24,0	6,5	30	20	47
553443	40 / 43	DR	24,0	6,5	30	20	48
554301	44 / 49	DG	28	7,0	36	25	75
554302	44 / 49	DR	28	7,0	36	25	78

DG = smooth contact surface, DR = wavy contact surface



Recommendations



ISO 2936C



No. 6339,
page 107

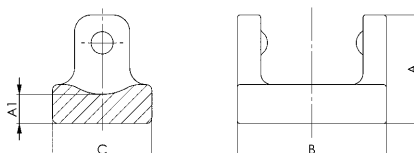


No. 7600DGK

Thrust piece plastic (plain)



Order no.	Size	A	A1	B	C	Weight [g]
563695	22	12,5	3,0	20	11,4	2
563697	30 / 32	19,5	5,25	27	18,0	6
563698	40 / 43	24,0	5,75	30	24	9
563699	44 / 49	28,0	6,25	38	25	15



Subject to technical alterations.

No. 7600BFS

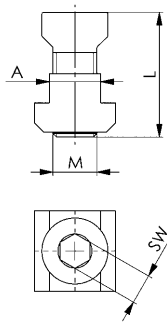
Mounting kit

comprising flat-head screw strength class 12.9 and T-nuts
DIN 508.



Order no.	Size	A	M	L	SW	Weight [g]
562186	22	12	M10	29,0	6	61
556576	22	14	M12	31,5	6	61
556152	30 / 32	14	M12	34,0	8	70
556153	30 / 32	16	M12	38,0	8	98
556154	30 / 32	18	M12	38,0	8	125
556155	30	18	M16	41,0	8	143
556156	30	20	M16	45,0	8	208
556157	30	22	M16	49,0	8	270
556158	30	24	M16	49,0	8	348
556159	40 / 43	18	M16	43,0	10	145
556160	40 / 43	20	M16	47,0	10	195
556161	40 / 43	22	M16	51,0	10	264
556162	40 / 43	24	M16	51,0	10	350
563658	44	20	M18	49,0	12	235
554298	49	22	M20	52,0	12	300
554299	49	24	M20	55,0	12	390
554300	49	28	M20	62,0	12	505

NEW!



Technische Änderungen vorbehalten.

No. 7630

Power clamp 3-step

Made of alloyed tempered steel, forged and black galvanized.
Complete with 3-step support element, clamping unit and mounting kit 7630BFS.
Thrust piece in smooth and ribbed variant, optionally available.



Order no.	Size	max. load static [kN]	M	Slot	H	E	L	Weight [g]
559877	22	22	M12	14	9 - 74	30 - 58	65	1120
559879	30	30	M12	14	13 - 129	37 - 106	130	4600
559881	43	43	M16	18	16 - 147	48 - 144	150	6844
559882	49	49	M20	22	16 - 169	68 - 172	170	10870

Application:

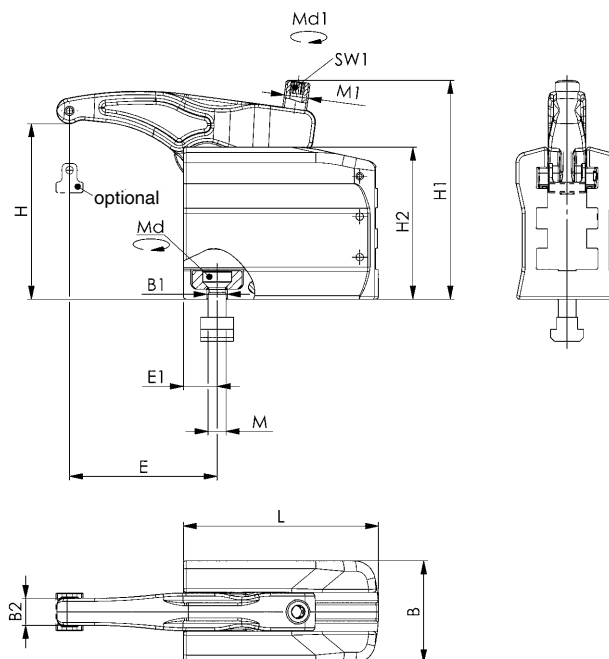
1. Position carrier element on the tool table and secure with the specified tightening torque Md.
2. Move the clamp arm to the desired position.
3. Moving the adjusting screw clamps the workpiece.

Advantage:

- Captive feature by means of threaded stud at all levels
- 3-fold continuously adjustable adjustment range
- High clamping forces of 22 kN - 49 kN
- Height and length continuously adjustable
- The very robust design enables quick and easy clamping
- Elements easy to install
- For use in T-slots 14 - 28 mm or grid plates M12, M16, M20
- 2 thrust piece variants

Note:

- The max. load may differ, depending on the manner of clamping and condition of the threads (lubrication).
- To reduce the wear on the adjusting screw, we recommend the use of AMF screw compound no. 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.
- Use only the corresponding AMF mounting kit No. 7630BFS
- **Not suitable for use on injection moulding and die-casting machines and presses.**



Dimensions:

Order no.	Size	B	B1	B2	E1	H1	H2	M1	SW1	Md [Nm]	Md 1 [Nm]
559877	22	52	13,5	13,0	14,5	98	67	M12	6	40	55
559879	30	68	13,5	18,0	22,5	146	101	M16	8	70	100
559881	43	75	17,5	20,0	25,0	175	116	M20	10	150	200
559882	49	85	22,0	25,0	29,0	207	140	M24	12	200	220

Subject to technical alterations.

CAD



No. 7630T

Carrier element 3-step

Made of alloyed tempered steel, forged and black galvanized.
Complete with pressure plate and mounting kit 7630BFS.



Order no.	Size	M	Slot	H	H2	L	Weight [g]
559925	22	M12	14	9 - 74	65	65	795
559926	30	M12	14	13 - 129	101	130	3440
559930	43	M16	18	16 - 147	116	150	5010
559931	49	M20	22	16 - 169	138	170	7710

Application:

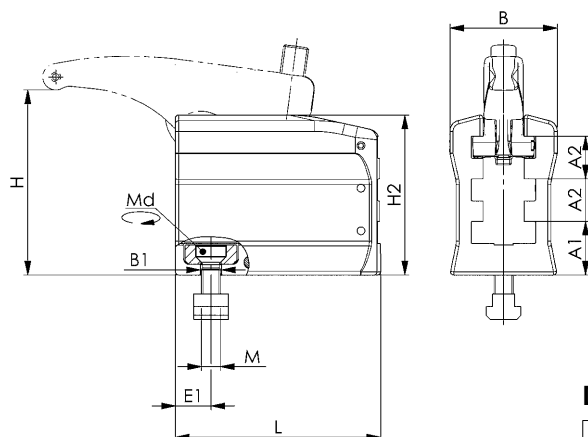
1. Position carrier element on the tool table and secure with the specified tightening torque Md.
2. Move the clamp arm to the desired position.
3. Moving the adjusting screw clamps the workpiece.

Advantage:

- Captive feature by means of threaded stud at all levels
- 3-fold continuously adjustable adjustment range
- High clamping forces of 22 kN - 49 kN
- Height and length continuously adjustable
- The very robust design enables quick and easy clamping
- Elements easy to install
- For use in T-slots 14 - 28 mm or grid plates M12, M16, M20
- 2 thrust piece variants

Note:

- The max. load may differ, depending on the manner of clamping and condition of the threads (lubrication).
- To reduce the wear on the adjusting screw, we recommend the use of AMF screw compound no. 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.
- Use only the corresponding AMF mounting kit No. 7630BFS
- **Not suitable for use on injection moulding and die-casting machines and presses.**



Dimensions:

Order no.	Size	A1	A2	B	B1	E1	Md [Nm]
559925	22	25	16	52	13,5	14,5	40
559926	30	34	27	68	13,5	22,5	70
559930	43	43	29	75	17,5	25,0	150
559931	49	52	34	85	22,0	29,0	200



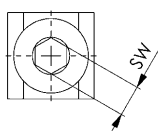
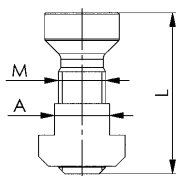
No. 7630BFS

Fastening kit for carrier element 3-step

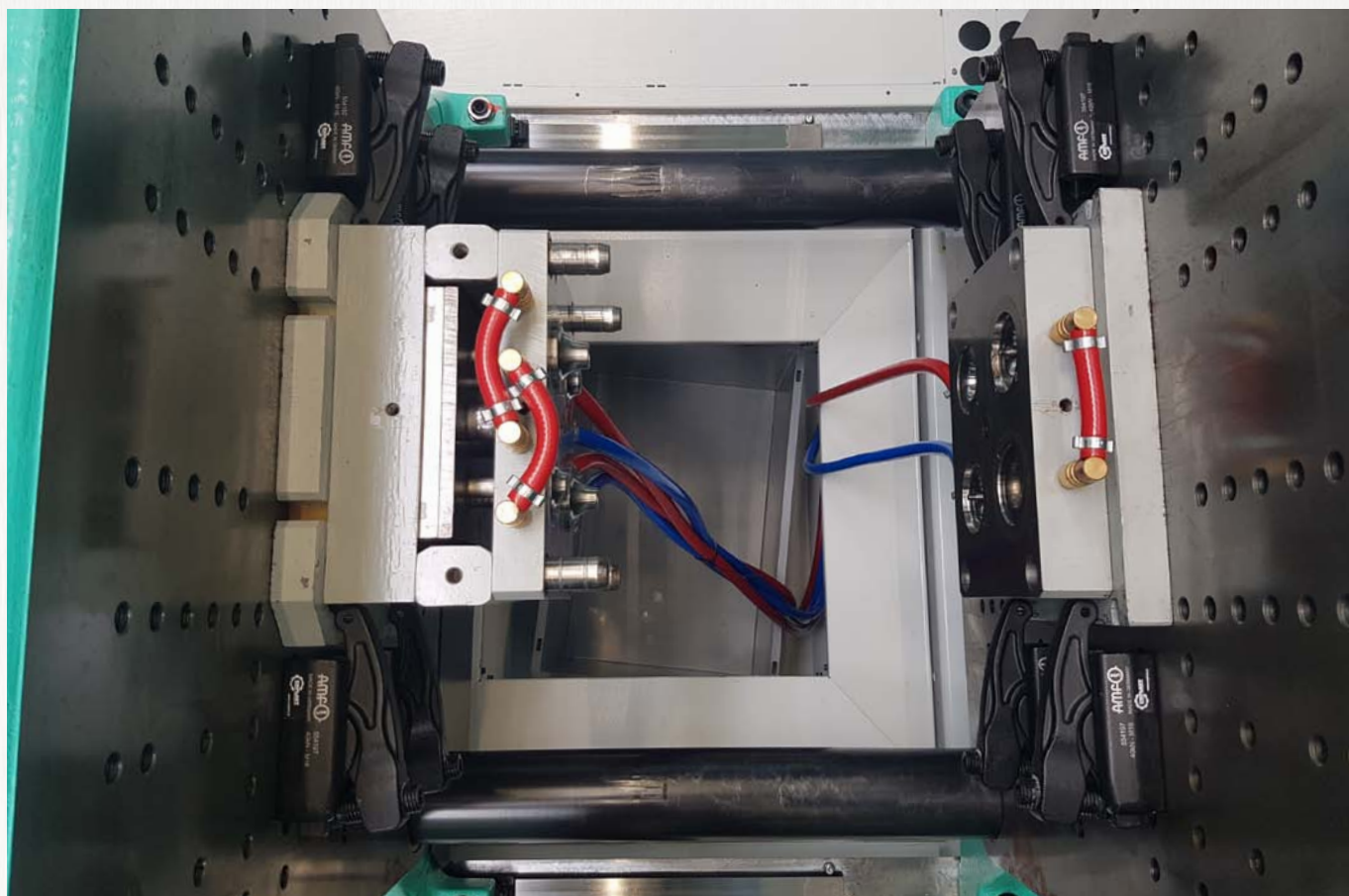
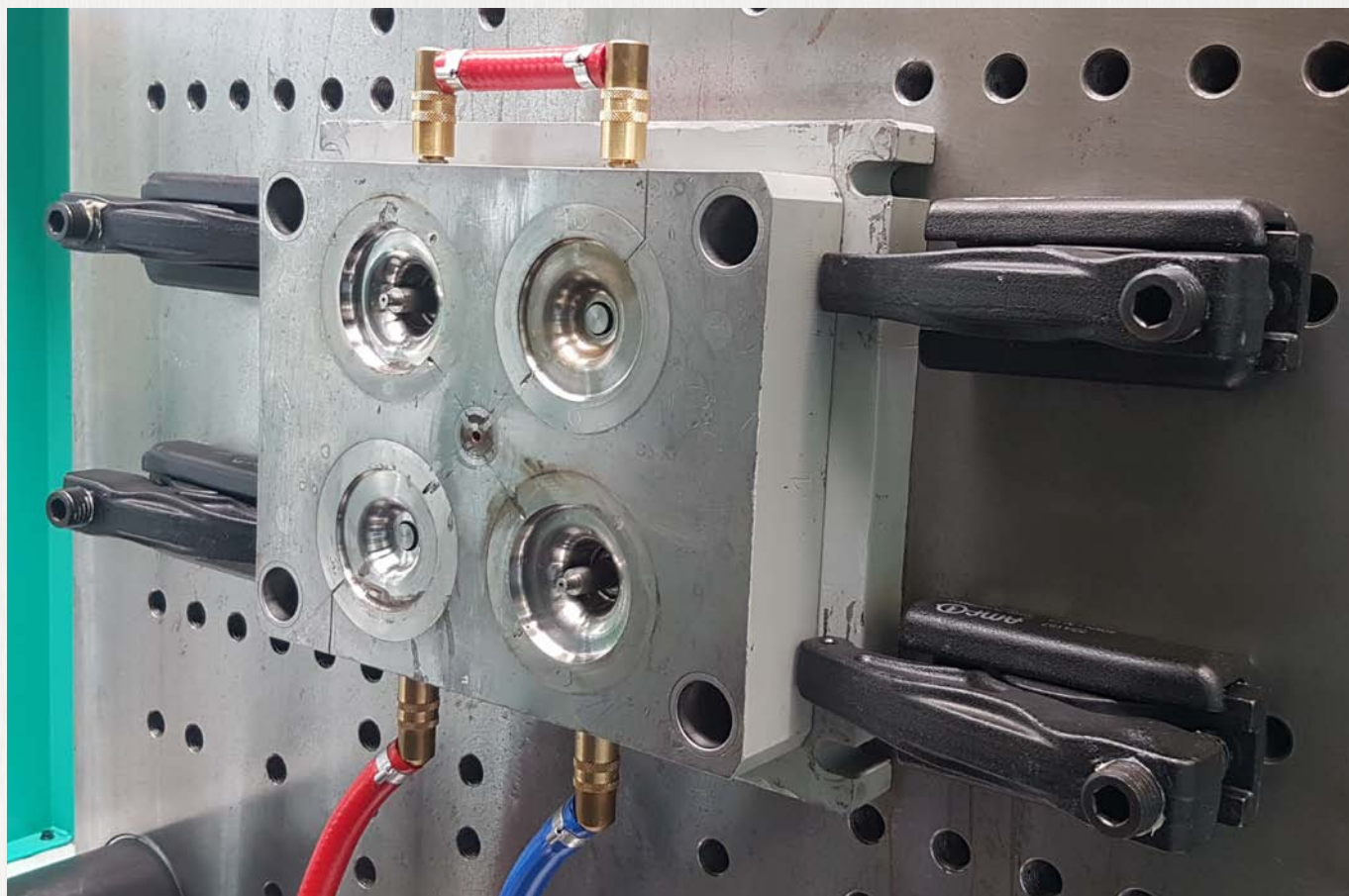
Comprising fastening bolt of strength class 12.9 and a T-nut key DIN 508.



Order no.	Size	A	M	L	SW	Weight [g]
559909	22	14	12	35,5	6	40
559912	30	14	12	41,0	8	78
559914	43	18	16	52,0	10	160
559915	49	22	20	66	12	330



Subject to technical alterations.



Subject to technical alterations.

CLAMPING WITH SINGLE CLAMPS OR WITH COMPACT CLAMPING UNITS

- > **Material:** Tempering steel to DIN regulations.
- > **Machining:** Plane-parallel base- and clamping faces ensure safe force transmission.
- > **Tempering:** According to DIN regulations.
- > **Finishing:** All clamps are abrasionproof quality varnished, or of equal quality finish.

Where high clamping forces or flexible adaption to shapes and sizes of workpieces are demanded, we offer our single clamps or clamping combinations by using our adjustable clamps.

All AMF-clamps shown in this catalogue be combined with different support blocks and are therefore adaptable to different shaped and sized workpieces.

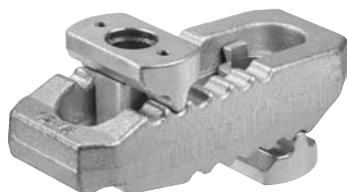
The Advantages of these adjustable clamps are their universal application abilities for single parts up to medium series production with changing clamping dimensions. They allow simple and fast horizontal and vertical application, are interchangeable and price worthy. Their compact design ensures high clamping forces even at large clamping dimensions.



No. 6312V

„Crocodile“ clamp

Continuously adjustable, tempered, galvanized, with undetachable compression piece and back support.



Order no.	B1	for clamping screw	Slot	Clamping force max.* [kN]	H1	L	Weight [g]
79756	13	M10, M12	10, 12, 14	30	0-55	115	661
79798	17	M12, M16	12, 14, 16, 18	40	0-70	150	1494
79855	21	M16, M20	16, 18, 20, 22	60	0-80	187	2252
79913	25	M20, M24	20, 22, 24, 28	75	0-100	235	3635
376475	25	M20, M24	20, 22, 24, 28	75	0-100	285	4335

* Specified clamping forces in optimal clamping position (smallest distance from the clamping screw to the clamping point). Clamping forces can vary depending clamping, strength class of the clamping screw and condition of the thread (lubrication).

Application:

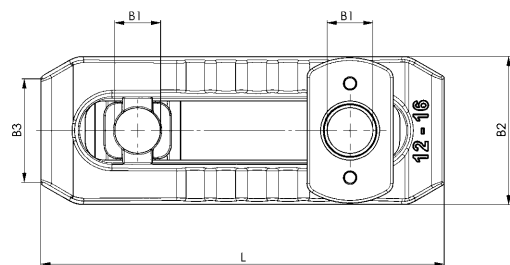
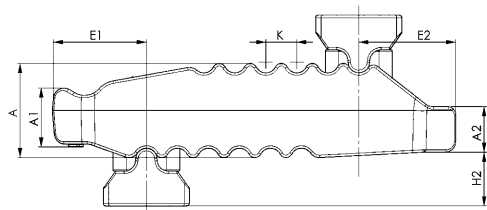
The crocodile clamping claw is used for all clamping tasks using T-slots and threaded holes. Thrust piece and counter-bearing are connected permanently to the clamping jaw, and thus the crocodile is quickly ready to use. The clamping jaw features two ridges and can be turned around easily depending on the application. In this way, it is possible to cover all fields of application involving cutting and non-cutting processes (e.g. injection moulding and pressure forming).

Advantage:

- Variable and fast adjustment option at a distance from the workpiece
- Use in all areas involving cutting and non-cutting processes
- Especially well-suited for use on injection moulding machines and presses
- No additional supports needed to achieve the required clamping height
- Thrust piece and counter-bearing are connected permanently to the clamping jaw
- The crocodile can be extended easily for every clamping height.

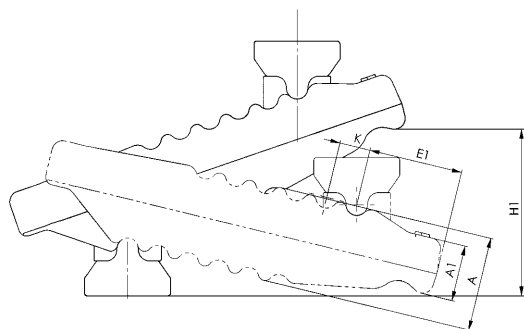
Note:

For clamping, either clamping studs DIN 787, studs DIN 6379 and cylinder screws ISO 4762 can be used. Greater clamping heights can be achieved using the support extension No. 6312S. A washer disc DIN 6340 must always be used between the hexagonal nut and compression piece!



Dimensions:

Order no.	A	A1	A2	B2	B3	E1	E2	H2	K
79756	27	17	12	44	30	25	30	18	11
79798	36	21	17	55	41	35	36	20	12
79855	42	27	20	62	30	44	44	30	14
79913	51	34	24	70	30	60	47	31	17
376475	56	35	24	73	30	62	51	35	17



Recommendations



No. 6312S,
page 18



No. 787,
page 84



No. 6379I,
page 90

CAD

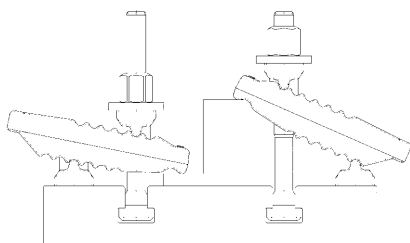
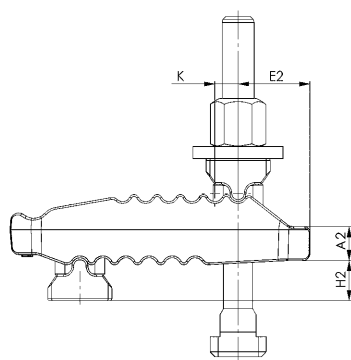
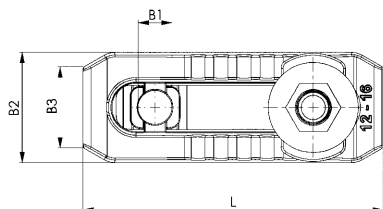
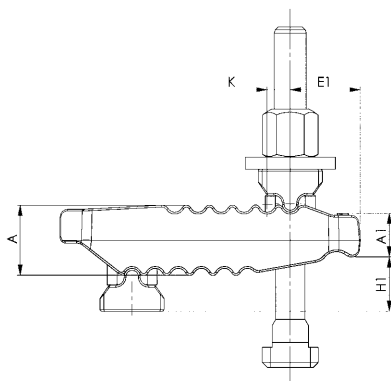


Subject to technical alterations.

No. 6312VT

„Crocodile“ clamp, complete with DIN 787

with clamping bolt DIN 787, washer DIN 6340 and nut DIN 6330B. Infinitely adjustable, tempered, galvanised with captive compression piece and counter bearing.



Order no.	B1	Slot	Clamping bolt DIN 787	Clamping force max.* [kN]	H1	Weight [g]
79780	13	10	M10x10x100	25	0-40	613
79806	13	12	M12x12x125	30	0-55	686
79822	13	14	M12x14x125	30	0-55	705
79848	17	12	M12x12x160	35	0-70	1591
79863	17	14	M12x14x160	35	0-70	1610
79889	17	16	M16x16x160	40	0-70	1798
79905	17	18	M16x18x160	40	0-70	1818
79921	21	16	M16x16x200	55	0-80	2715
79210	21	18	M16x18x200	55	0-80	3018
79228	21	20	M20x20x200	60	0-80	3018
374926	21	22	M20x22x200	60	0-80	3060
374942	25	20	M20x20x250	70	0-100	4368
374967	25	22	M20x22x250	70	0-100	4410
374983	25	24	M24x24x250	75	0-100	4895
375006	25	28	M24x28x250	75	0-100	4966

* Specified clamping forces in optimal clamping position (smallest distance from the clamping screw to the clamping point). Clamping forces can vary depending clamping, strength class of the clamping screw and condition of the thread (lubrication).

Application:

The crocodile clamping claw is used for all clamping tasks using T-slots and threaded holes. Thrust piece and counter-bearing are connected permanently to the clamping jaw, and thus the crocodile is quickly ready to use. The clamping jaw features two ridges and can be turned around easily depending on the application. In this way, it is possible to cover all fields of application involving cutting and non-cutting processes (e.g. injection moulding and pressure forming).

Advantage:

- Variable and fast adjustment option at a distance from the workpiece
- Use in all areas involving cutting and non-cutting processes
- Especially well-suited for use on injection moulding machines and presses
- No additional supports needed to achieve the required clamping height
- Thrust piece and counter-bearing are connected permanently to the clamping jaw
- The crocodile can be extended easily for every clamping height.

Note:

For missing dimensions, see No. 6312V.

Dimensions:

Order no.	A	A1	A2	B2 x L	B3	E1	E2	H2	K
79780	27	17	12	44x115	30	25	30	18	11
79806	27	17	12	44x115	30	25	30	18	11
79822	27	17	12	44x115	30	25	30	18	11
79848	36	21	17	55x150	41	35	36	20	12
79863	36	21	17	55x150	41	35	36	20	12
79889	36	21	17	55x150	41	35	36	20	12
79905	36	21	17	55x150	41	35	36	20	12
79921	42	27	20	62x187	30	44	44	30	14
79210	42	27	20	62x187	30	44	44	30	14
79228	42	27	20	62x187	30	44	44	30	14
374926	42	27	20	62x187	30	44	44	30	14
374942	51	34	24	70x235	30	60	47	31	17
374967	51	34	24	70x235	30	60	47	31	17
374983	51	34	24	70x235	30	60	47	31	17
375006	51	34	24	70x235	30	60	47	31	17

Recommendations



No. 6312S,
page 18



No. 787,
page 84



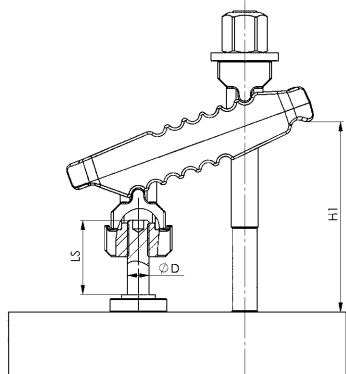
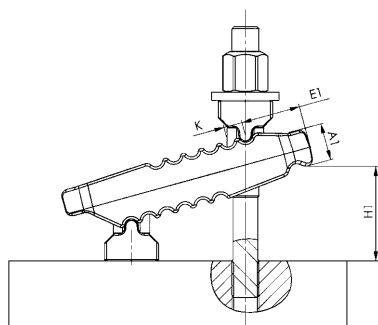
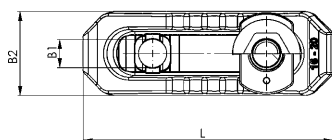
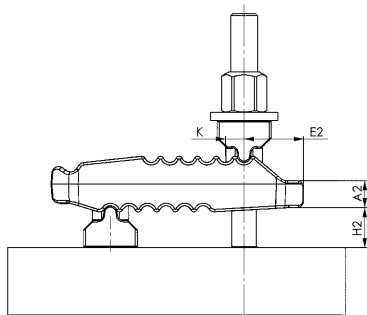
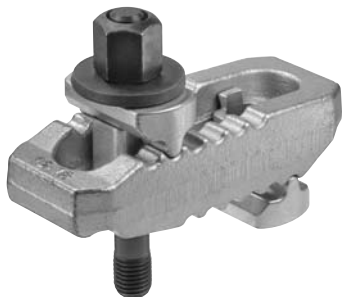
No. 6379I,
page 90



No. 6312VS

„Crocodile“ clamp, complete with DIN 6379

with stud bolt DIN 6379, washer DIN 6340 and nut DIN 6330B.
Infinitely adjustable, tempered, galvanised with captive
compression piece and counter bearing.



Order no.	B1	Clamping bolt DIN 6379	Support extension 6312V	Clamping force max.* [kN]	H1	Weight [g]
375766	13	M12x100	-	30	0-30	639
375782	13	M12x125	-	30	0-55	659
375808	17	M12x125	-	40	0-50	1535
375824	17	M12x160	-	40	0-70	1558
375840	17	M16x125	-	40	0-40	1660
375865	17	M16x160	-	40	0-70	1718
375881	21	M20x160	-	60	0-40	2754
375907	21	M20x200	-	60	0-80	2834
375923	25	M20x200	-	75	0-70	4072
375949	25	M20x250	-	75	0-100	4172
375964	25	M24x200	-	75	0-50	4374
375980	25	M24x250	-	75	0-100	4524
375816	21	M20x250	M16x55	60	30-141	3428
375832	21	M20x315	M16x90	60	40-190	3704
375857	25	M20x315	M20x69	75	50-175	5438
375873	25	M20x400	M20x109	75	50-220	5873
375899	25	M24x315	M20x69	75	45-180	5850
375915	25	M24x400	M20x109	75	45-215	6350

* Specified clamping forces in optimal clamping position (smallest distance from the clamping screw to the clamping point). Clamping forces can vary depending clamping, strength class of the clamping screw and condition of the thread (lubrication).

Application:

The crocodile clamping claw is used for all clamping tasks using T-slots and threaded holes. Thrust piece and counter-bearing are connected permanently to the clamping jaw, and thus the crocodile is quickly ready to use. The clamping jaw features two ridges and can be turned around easily depending on the application. In this way, it is possible to cover all fields of application involving cutting and non-cutting processes (e.g. injection moulding and pressure forming).

Advantage:

- Variable and fast adjustment option at a distance from the workpiece
- Use in all areas involving cutting and non-cutting processes
- Especially well-suited for use on injection moulding machines and presses
- No additional supports needed to achieve the required clamping height
- Thrust piece and counter-bearing are connected permanently to the clamping jaw
- The crocodile can be extended easily for every clamping height.

Note:

For missing dimensions, see no. 6312V.

Dimensions:

Order no.	A	A1	A2	B2 x L	B3	E1	E2	H2	K
375766	27	17	12	44x115	30	25	30	18	11
375782	27	17	12	44x115	30	25	30	18	11
375808	36	21	17	55x150	41	35	36	20	12
375824	36	21	17	55x150	41	35	36	20	12
375840	36	21	17	55x150	41	35	36	20	12
375865	36	21	17	55x150	41	35	36	20	12
375881	42	27	20	62x187	30	44	44	30	14
375907	42	27	20	62x187	30	44	44	30	14
375923	51	34	24	70x235	30	60	47	31	17
375949	51	34	24	70x235	30	60	47	31	17
375964	51	34	24	70x235	30	60	47	31	17
375980	51	34	24	70x235	30	60	47	31	17
375816	42	27	20	62x187	30	44	44	63-91	63
375832	42	27	20	62x187	30	44	44	63-123	63
375857	51	34	24	70x235	30	60	47	72-108	72
375873	51	34	24	70x235	30	60	47	72-147	72
375899	51	34	24	70x235	30	60	47	72-108	72
375915	51	34	24	70x235	30	60	47	72-147	72

Recommendations



No. 6312S,
page 18



No. 6379I,
page 90



Subject to technical alterations.

No. 6312VI

„Crocodile“ clamp, complete with no. 6379I

with stud no. 6379I, hexagon screwdriver ISO 2936C, washer DIN 6340 and nut DIN 6330B. Continuously adjustable, tempered, galvanised with captive thrust piece and counter bearing.



Order no.	B1	Clamping bolt No. 6379I	Clamping force max.* [kN]	H1	SW [mm]	Weight [g]
375956	13	M12x100	30	0-30	4	639
375972	13	M12x125	30	0-55	4	659
375998	17	M12x125	40	0-50	4	1535
376004	17	M12x160	40	0-70	4	1558
376012	17	M16x125	40	0-40	4	1660
376020	17	M16x160	40	0-70	4	1718
376038	21	M16x160	60	0-40	4	2587
376046	21	M16x200	60	0-80	4	2625
376053	21	M20x160	60	0-40	5	2745
376061	21	M20x200	60	0-80	5	2834
376079	25	M20x200	75	0-70	5	4072
376087	25	M20x250	75	0-100	5	4172
376103	25	M24x200	75	0-50	5	4374
376095	25	M24x250	75	0-100	5	4524

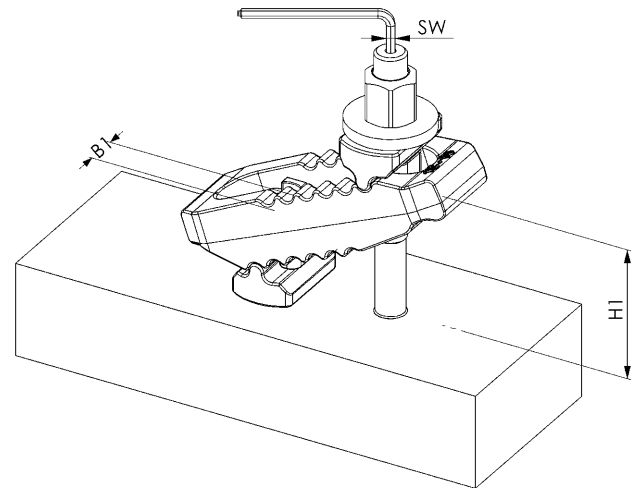
* Specified clamping forces in optimal clamping position (smallest distance from the clamping screw to the clamping point). Clamping forces can vary depending clamping, strength class of the clamping screw and condition of the thread (lubrication).

Advantage:

For better handling when setting up the clamping element, the threaded pin can be mounted and removed using an Allen key.

Note:

Use the Allen key only to set up the clamping element, not for clamping!
For missing dimension, see no. 6312V.



Recommendations



No. 6312S,
page 18

Subject to technical alterations.



No. 6312S

Support extension

Steel, galvanised and tempered, support screw, hardened, strength class 8.8. Comprising body, support screw and fastening bolts.



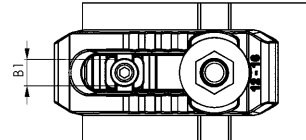
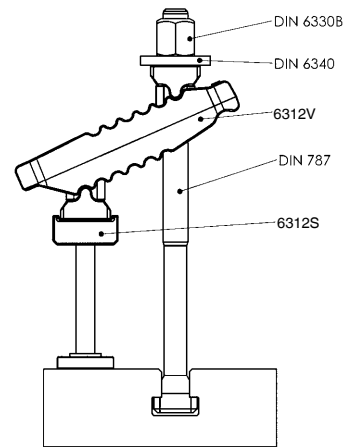
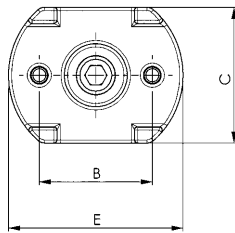
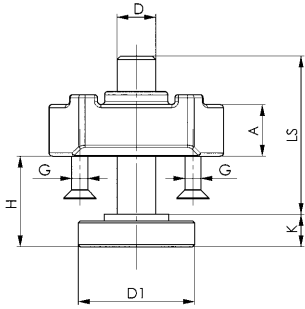
Order no.	D x LS	A	B	B1	C	D1	E	G	H	K	Weight [g]
79772	M10x39	10	30	13	30	30	44	M5	8-30	8	197
79814	M12x49	16	35	17	42	36	54	M5	10-37	10	433
79830	M12x94	16	35	17	42	36	54	M5	10-80	10	473
79871	M16x55	20	40	21	50	42	60	M5	13-41	13	608
79897	M16x90	20	40	21	50	42	60	M5	13-73	13	640
79749	M20x69	25	50	25	50	50	70	M6	16-52	16	1136
79764	M20x109	25	50	25	50	50	70	M6	16-91	16	1396

Application:

To increase the clamping height, the support extension is screwed to the counter-bearing of the crocodile.

Advantage:

Continuous adjustment of clamping heights.



The right size for your application is always available, for example, order no. 6312V, without clamping bolt

Requirements: Table slot 18 / required clamping height: 125 mm / required clamping force: 35 kN

1) Select clamp no. 6312V

Groove 18 ► clamping force 40 kN ► B1 = 17 ► crocodile order no. 79798

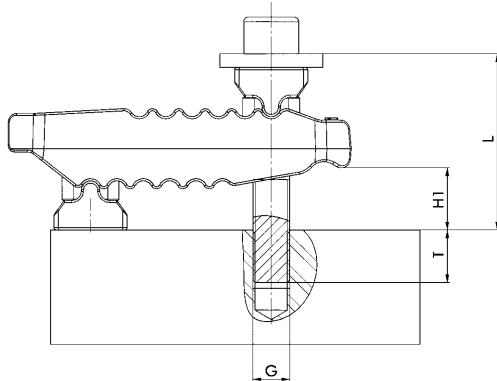
2) For a clamping height of 125 mm, support extension no. 6312S is used

B1 = 17 ► groove 18 ► clamping height 125 mm (clamping range 26-166 mm) ► D x LS = M12x94
► Support extension order no. 79830

3) Size of the T-slot bolts DIN787, complete with washer and hexagon nut

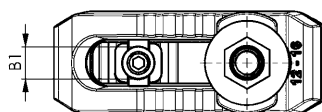
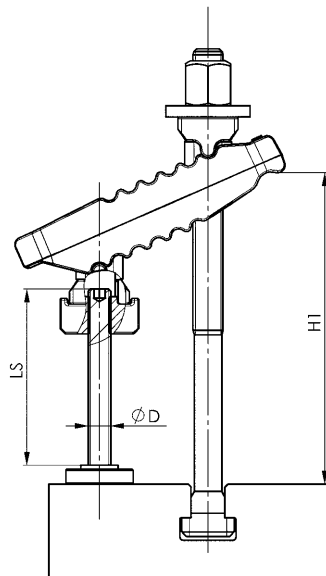
M16x18x250 ► order no. 81042

Installation recommendations and dimensions when using the clamping bolt ISO 4762 (without support extension 6312S)



B1	Dimensions ISO 4762 G x L	Clamping height H1	Thread depth T
13	M10x80	4-25	15-31
13	M10x90	17-40	15-31
13	M10x100	31-55	15-31
13	M12x80	0-20	18-33
13	M12x90	10-34	18-36
13	M12x100	22-50	18-36
17	M12x90	0-22	18-34
17	M12x110	24-50	18-36
17	M12x120	38-66	18-36
17	M16x100	0-26	24-43
17	M16x110	12-40	24-44
17	M16x120	26-55	24-44
21	M16x120	2-29	24-44
21	M16x130	15-43	24-44
21	M16x150	43-72	24-44
21	M20x140	18-48	30-52
21	M20x150	31-63	30-52
21	M20x160	45-78	30-52
25	M20x160	23-54	30-52
25	M20x180	51-83	30-52
25	M20x195	72-100	34-52
25	M24x140	0-15	36-48
25	M24x160	10-42	36-60
25	M24x180	37-71	36-60

Installation recommendations and dimensions when using the clamping bolt DIN 787 (with support extension 6312S)



B1	D x LS	Dimensions DIN 787	Clamping range H1
13	M10x39	M10x10x100	18-31
13	M10x39	M12x12x160	18-95
13	M10x39	M12x14x160	18-95
17	M12x49	M12x12x200	26-123
17	M12x49	M12x14x200	26-123
17	M12x49	M16x16x200	26-123
17	M12x49	M16x18x200	26-123
17	M12x94	M12x12x200	26-120
17	M12x94	M12x14x200	26-120
17	M12x94	M16x16x250	26-166
17	M12x94	M16x18x250	26-166
21	M16x55	M16x16x250	33-141
21	M16x55	M16x18x250	33-141
21	M16x55	M20x20x250	33-141
21	M16x55	M20x22x250	33-141
21	M16x90	M16x16x250	33-150
21	M16x90	M16x18x250	33-150
21	M16x90	M20x20x315	33-173
21	M16x90	M20x22x315	33-173
25	M20x69	M20x20x315	41-177
25	M20x69	M20x22x315	41-177
25	M20x69	M24x24x315	41-177
25	M20x69	M24x28x315	41-177
25	M20x109	M20x20x315	41-197
25	M20x109	M20x22x315	41-193
25	M20x109	M24x24x315	41-180
25	M20x109	M24x28x315	41-180

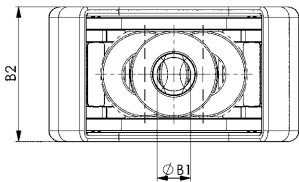
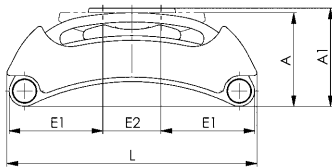
No. 6310

Clamp with plastic cap

and U-piece undetachable, (without clamping stud),
burnished tempered steel.



CAD



Order no.	Size	for clamping screw	H1 *	B1	B2	L	A	A1	E1	Weight [g]
376863	10	M10	0-15	11	44	80	30,5	32,0	30	257
376889	14	M12 M14	0-33	14	57	125	47,0	49,5	37	708
376905	18	M16 M18	0-45	18	67	160	58,5	62,0	49	1235
376921	22	M20 M22	0-65	22	72	200	71,5	75,0	58	1880
376947	26	M22 M24	0-85	26	82	250	89,5	94,0	74	2799

*depending on depth of slot to DIN 650 and position of fixture nut.

Application:

The clamp is used for all clamping tasks in which clamping is effected via T-grooves, grooves and threaded bores.

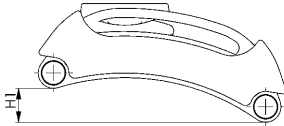
Advantage:

Weight-saving thanks to lightweight design. Variable and fast adjustment option at a distance from the workpiece. No additional clamping supports are needed to reach the required clamping height. The U-piece is undetachable from the clamp.

Note:

For clamping, either clamping screws DIN 787, stud bolts DIN 6379 and cheese head screws ISO 4762 can be used.

A washer DIN 6340 must always be used between the hexagonal nut and U-piece!



Recommendations



DIN 6340,
page 101



DIN 787,
page 82

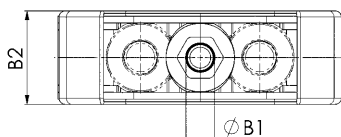
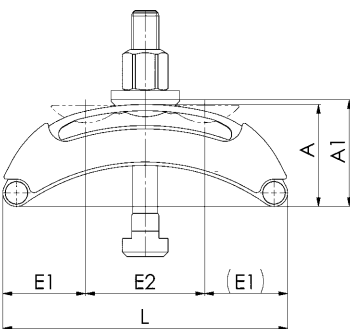


DIN 6330B,
page 95

No. 6310

Clamp with plastic cap, complete

with DIN 787, DIN 6340, DIN 6330B and undetachable U-piece,
burnished tempered steel.



Order no.	Slot	with clamping stud	H1 *	B1	B2	L	A	A1	E1	E2	Weight [g]
376555	10	M10x10x80	0-15	11	44	80	30,5	32,0	30	19	349
376871	12	M12x12x100	0-33	14	57	125	47,0	49,5	37	51	886
376897	14	M12x14x125	0-33	14	57	125	47,0	49,5	37	51	905
376913	16	M16x16x160	0-45	18	67	160	58,5	62,0	49	63	1648
376939	18	M16x18x160	0-45	18	67	160	58,5	62,0	49	63	1668

*depending on depth of slot to DIN 650 and position of fixture nut.

Application:

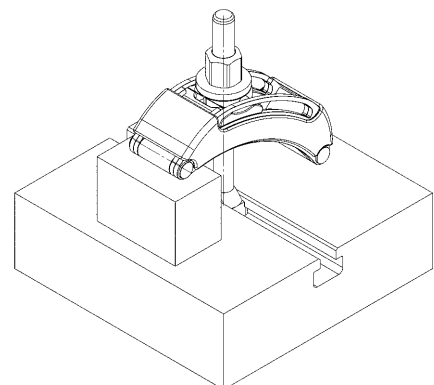
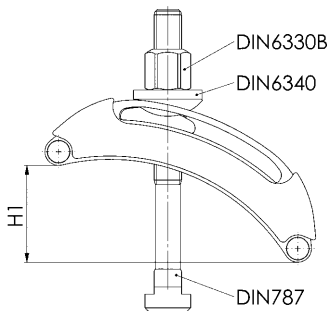
The clamp is used for all clamping tasks in which clamping is effected via T-grooves, grooves and threaded bores.

Advantage:

Weight-saving thanks to lightweight design. Variable and fast adjustment option at a distance from the workpiece. No additional clamping supports are needed to reach the required clamping height. The U-piece is undetachable from the clamp.

Note:

A washer DIN 6340 must always be used between the hexagonal nut and U-piece!



Subject to technical alterations.

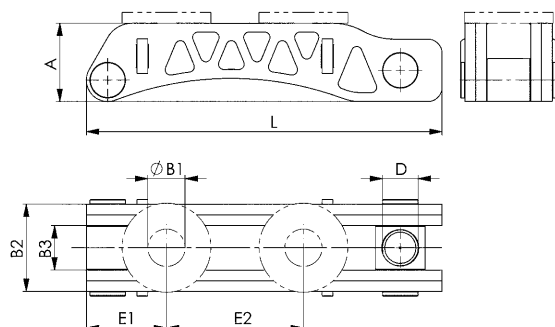
No. 6311

Clamp, „light design“

Tempered steel, burnished.



CAD



Order no.	Size	for clamping screw	B1	B2	B3	D	L	A	E1	E2	Weight [g]
376962	22	M20 M22	22	49	25	M20	200	44	45	77	1289
377002	26	M24	26	54	30	M24	250	44	46	116	1630
377044	33	M30	33	72	40	M30	315	71	59	152	4522
377069	43	M36 M42	43	102	54	M30	400	80	74	209	9709

*depending on depth of slot to DIN 650 and position of fixture nut.

Application:

The clamp is used for all clamping tasks in which clamping is effected via T-grooves, grooves and threaded bores.

Advantage:

Through the weight-saving design, the clamping iron is up to 50% lighter, but still offers 100% clamping force and can thus also be used even for rotating clamping tasks. Variable and fast adjustment option at a distance from the workpiece.

Note:

For clamping, either clamping screws DIN 787, stud bolts DIN 6379 and cheese head screws ISO 4762 can be used.

**Up to 50 % lighter –
100 % clamping force**

No. 6311

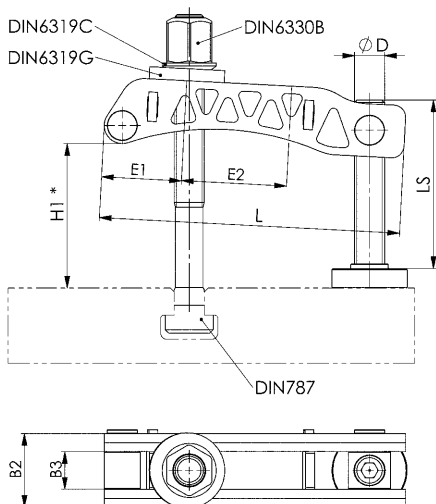
Clamp „light design“, with adjustable support screw, complete

with DIN 787, DIN 6340, DIN 6330B.

Tempered steel, burnished.



CAD



Order no.	Slot	with clamping stud	H1 *	D x LS	B1	B2	B3	L	A	E1	E2	Weight [g]
376731	20	M20x20x160	8-58	M20x69	22	49	25	200	44	45	77	2434
376756	20	M20x20x200	8-98	M20x109	22	49	25	200	44	45	77	2531
376772	24	M24x28x200	10-81	M24x87	26	54	30	250	44	46	116	3779
376798	24	M24x28x250	10-130	M24x137	26	54	30	250	44	59	116	3884
376814	36	M30x36x315	7-214	M30x180	33	72	40	315	71	59	152	9044
376830	48	M36x42x400	7-153	M30x180	43	102	54	400	80	74	209	17560

*depending on depth of slot to DIN 650 and position of fixture nut.

Application:

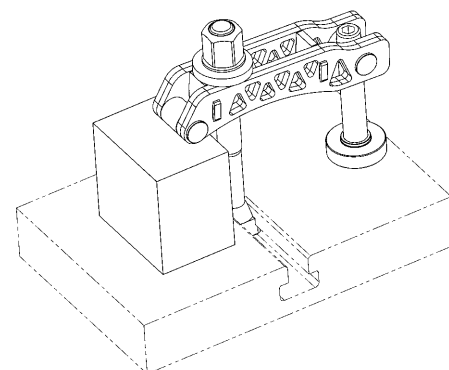
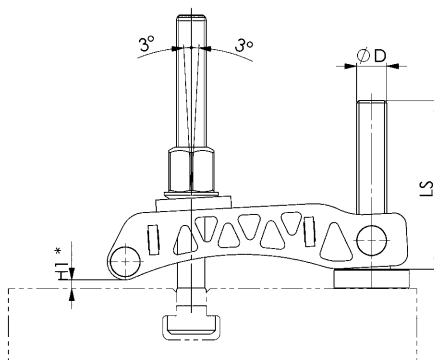
The clamp is used for all clamping tasks in which clamping is effected via T-grooves, grooves and threaded bores.

Advantage:

Through the weight-saving design, the clamping iron is up to 50% lighter, but still offers 100% clamping force and can thus also be used even for rotating clamping tasks. Variable and fast adjustment option at a distance from the workpiece.

Note:

For clamping, either clamping screws DIN 787, stud bolts DIN 6379 and cheese head screws ISO 4762 can be used.

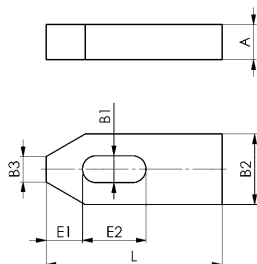


Subject to technical alterations.

DIN 6314

Clamp, flat

Tempering steel, varnished.



Order no.	B1	L	for clamping screw metric	for clamping screw inch	A	B2	B3	E1	E2	Weight [g]
70003	6,6	50	M6	1/4	10	20	8	10	20	63
70011	9	60	M8	5/16	12	25	10	13	22	113
70029	11	80	M10	3/8	15	30	12	15	30	226
70037	14	100	M12 M14	1/2	20	40	14	21	40	490
70045	14	125	M12 M14	1/2	20	40	14	21	50	621
70052	18	125	M16 M18	5/8	25	50	18	26	45	960
70060	18	160	M16 M18	5/8	25	50	18	26	65	1240
70078	22	160	M20 M22	3/4	30	60	22	30	60	1787
70086	22	200	M20 M22	3/4	30	60	22	30	80	2237
70094	26	200	M24	1	30	70	26	35	80	2580
70102	26	250	M24	1	35 *	70	26	35	105	3800
70110	33	250	M30	1 1/4	40	80	34	45	100	4934
70128	33	315	M30	1 1/4	50	80	34	45	130	7788
70136	43 *	400	M36 M42	1 1/2 1 5/8	60	100	43	100	150	15000

* Size not included in DIN, dimensions similar to DIN

Recommendations



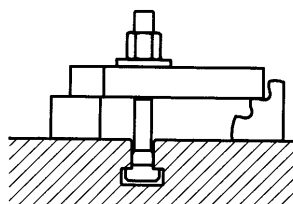
DIN 787,
page 82



DIN 508,
page 92



DIN 6331,
page 96



CAD



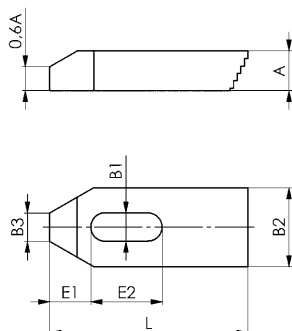
Subject to technical alterations.

No. 6314Z

Step clamp

Tempering steel, varnished.

Only match step blocks no. 6500E. The longer versions are used for large clamping distances due to large T-slot distance or enlarged work depth, i.e. on graving machines.



Order no.	B1	L	for clamping screw metric	for clamping screw inch	A	B2	B3	E1	E2	Weight [g]
70359	6,6	50	M6	1/4	10	20	8	10	20	55
70227	6,6	80	M6	1/4	10	20	8	10	45	90
70367	9	60	M8	5/16	12	25	10	13	22	100
70243	9	100	M8	5/16	12	25	10	13	60	180
70375	11	80	M10	3/8	15	30	12	15	30	200
70235	11	125	M10	3/8	15	30	12	15	70	350
70383	14	100	M12 M14	1/2	20	40	14	21	40	450
70250	14	160	M12 M14	1/2	20	40	14	21	90	770
70391	18	125	M16 M18	5/8	25	50	18	26	45	900
70334	18	200	M16 M18	5/8	25	50	18	26	110	1500
70409	22	160	M20 M22	3/4	30	60	22	30	60	1700
70417	26	200	M24	1	30	70	26	35	80	2500

Recommendations



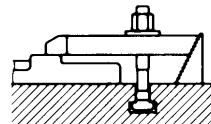
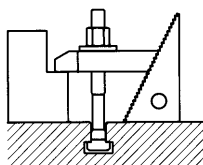
No. 6500E,
page 43



No. 6379I,
page 90



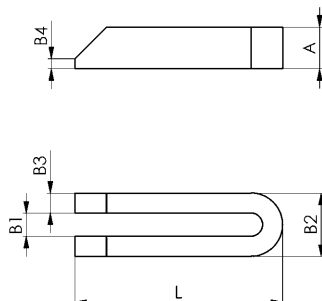
DIN 508,
page 92



DIN 6315B

Forked clamp tapered

Tempering steel, varnished.



Order no.	B1	L	for clamping screw metric	for clamping screw inch	A	B2	B3	B4	Weight [g]
70466	6,6	60	M6	1/4	12	19	6	3	60
70474	9	80	M8	5/16	15	25	8	4	140
70482	11	100	M10	3/8	20	31	10	5	300
70490	14	125	M12 M14	1/2	25	38	12	6	570
70508	14	160	M12 M14	1/2	25	38	12	6	730
70516	14	200	M12 M14	1/2	25	38	12	6	910
70524	18	160	M16 M18	5/8	30	48	15	8	1080
70532	18	200	M16 M18	5/8	30	48	15	8	1360
70540	18	250	M16 M18	5/8	40	48	15	10	2250
70557	22	200	M20 M22	3/4	40	52	15	10	1800
70565	22	250	M20 M22	3/4	40	62	20	10	3000
70573	22	315	M20 M22	3/4	40	62	20	10	3850
70425	22 *	500	M20 M22	3/4	50	62	20	10	7500
70581	26	200	M24	1	40	66	20	10	2400
70599	26	250	M24	1	40	66	20	10	3000
70607	26	315	M24	1	40	66	20	10	3850
37390	26 *	400	M24	1	50	66	20	10	5962
70433	26 *	500	M24	1	50	66	20	10	7600
3079	26 *	600	M24	1	50	66	20	10	9042
30064	26 *	800	M24	1	50	66	20	10	12122
70615	33	250	M30	1 1/4	50	74	20	12	3700
70623	33	315	M30	1 1/4	50	74	20	12	4750
70631	33	400	M30	1 1/4	50	74	20	12	6100
70441	33 *	600	M30	1 1/4	50	74	20	12	9200
70458	33 *	1000	M30	1 1/4	60	94	30	12	28000
70649	40 *	400	M36	1 1/2	60	100	30	12	11000
70656	40 *	600	M36	1 1/2	60	100	30	12	16500
70672	43 *	600	M36 M42	1 1/2 1 5/8	80	123	40	12	29600

* Size not included in DIN, dimensions similar to DIN

Recommendations



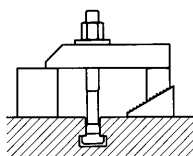
DIN 787,
page 82



DIN 508,
page 92



DIN 6331,
page 96

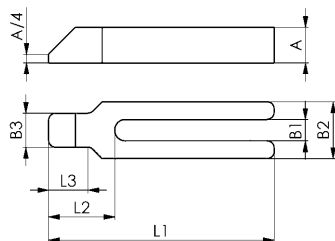


Subject to technical alterations.

No. 6315GN

Forked clamp with shoe

Tempering steel, varnished.



Order no.	B1	L1	for clamping screw metric	for clamping screw inch	A	B2	B3	L2	L3	Weight [g]
70862	9	100	M8	5/16	15	30	16	32	18	240
70870	11	125	M10	3/8	20	30	20	38	24	380
70888	14	160	M12 M14	1/2	25	40	24	47	30	800
70896	14	200	M12 M14	1/2	25	40	24	47	30	950
70904	18	200	M16 M18	5/8	30	50	28	57	36	1500
70912	18	250	M16 M18	5/8	30	50	28	57	36	1850
70920	22	250	M20 M22	3/4	40	60	35	68	45	2900
70938	22	315	M20 M22	3/4	40	60	35	68	45	3600
70946	26	250	M24	1	40	70	43	83	56	3400
70953	26	315	M24	1	40	70	43	83	56	4300
70961	33	315	M30	1 1/4	50	80	50	88	56	6000
70979	33	400	M30	1 1/4	50	80	50	88	56	7300

Recommendations



DIN 787,
page 82



DIN 508,
page 92



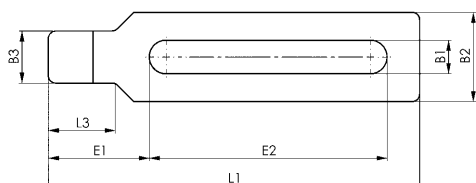
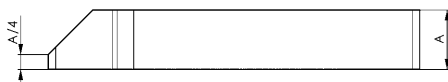
DIN 6331,
page 96



No. 6315NG

Clamp with nose, closed

Infinitely adjustable, tempered and painted, with closed slot for use with rotating workpieces

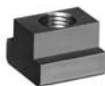


Order no.	B1	L	for clamping screw metric	for clamping screw inch	A	B2	B3	E1	E2	L3	Weight [g]
376145	22	250	M20 M22	3/4	40	60	35	68	160	45	3025
376160	22	315	M20 M22	3/4	40	60	35	68	220	45	3810
376186	22	400	M20 M22	3/4	50	60	35	68	300	45	5995
376202	22	500	M20 M22	3/4	50	60	35	68	400	45	7440
376228	26	250	M24	1	40	70	43	83	140	56	3639
376244	26	315	M24	1	40	70	43	83	200	56	4560
376269	26	400	M24	1	50	70	43	83	270	56	7243
376285	26	500	M24	1	50	70	43	83	370	56	8937
376301	33	315	M30	1 1/4	50	80	50	88	200	56	6367
376327	33	400	M30	1 1/4	50	80	50	88	283	56	7798
376343	33	500	M30	1 1/4	50	80	50	88	383	56	9607

Recommendations



DIN 787,
page 82



DIN 508,
page 92



DIN 6331,
page 96

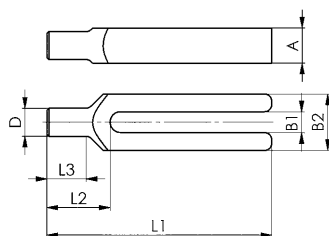


Subject to technical alterations.

DIN 6315C

Forked clamp with pin end

Tempering steel, varnished.



Order no.	B1	L1	for clamping screw metric	for clamping screw inch	A	B2	D	L2	L3	Weight [g]
70706	9	100	M8	5/16	15	30	12	30	18	220
70714	11	125	M10	3/8	20	30	16	36	24	350
70722	14	160	M12 M14	1/2	25	40	20	45	30	750
70730	14	200	M12 M14	1/2	25	40	20	45	30	950
70748	18	200	M16 M18	5/8	30	50	24	55	36	1400
70755	18	250	M16 M18	5/8	30	50	24	55	36	1750
70763	22	250	M20 M22	3/4	40	60	30	65	45	2700
70771	22	315	M20 M22	3/4	40	60	30	65	45	3400
70789	26	250	M24	1	40	70	38	80	56	3200
70797	26	315	M24	1	40	70	38	80	56	4100
70805	33	315	M30	1 1/4	50	80	45	85	56	5700
70813	33	400	M30	1 1/4	50	80	45	85	56	7000

Recommendations



DIN 787,
page 82



DIN 508,
page 92



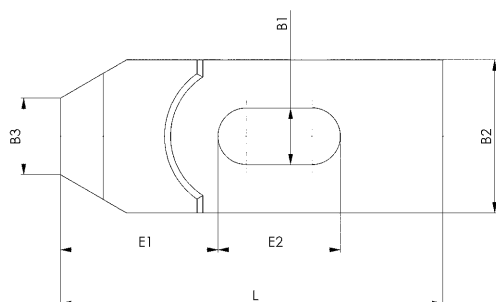
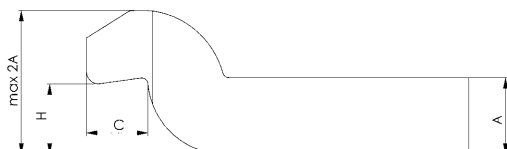
DIN 6331,
page 96



DIN 6316

Clamp, cranked

Tempering steel, varnished.



Order no.	B1	L	for clamping screw metric	for clamping screw inch	A	B2	B3	C	E1	E2	H	Weight [g]
71027	6,6	60	M6	1/4	10	20	10	8	22,0	20	9	81
71035	9	80	M8	5/16	12	25	12	9	27,5	25	11	166
71043	11	100	M10	3/8	15	30	15	12	36,0	32	14	299
71050	14	125	M12 M14	1/2	20	40	20	16	44,0	40	18	678
71068	18 *	125	M16 M18	5/8	25	50	25	20	51,5	40	23	1049
71076	18	160	M16 M18	5/8	25	50	25	20	51,5	50	23	1366
71084	22 *	160	M20 M22	3/4	30	60	30	24	59,0	55	27	1911
71092	22	200	M20 M22	3/4	30	60	30	24	59,0	70	27	2417
71100	26 *	200	M24	1	35	70	35	25	76,5	60	32	3315
71118	26	250	M24	1	35	70	35	25	76,5	80	32	4132
71126	33 *	250	M30	1 1/4	40	80	40	40	96,0	80	45	5225
71134	33	315	M30	1 1/4	50	80	40	40	96,0	100	45	8459
71159	43 *	400	M36 M42	1 1/2 1 5/8	60	100	50	50	105,0	120	55	17078

* Size not included in DIN, dimensions similar to DIN

Recommendations



DIN 787,
page 82



DIN 508,
page 92



DIN 6331,
page 96



Subject to technical alterations.

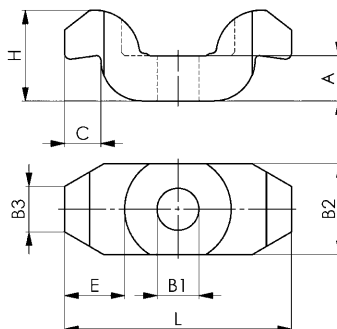
No. 6317

Double goose-neck clamp

Tempering steel, varnished.

Order no.	B1	L	for clamping screw	A	B2	B3	C	E	H	Weight [g]
71340	18	100	M12-M18	20	40	20	16	26	40	620
71357	25	140	M20-M24	30	60	30	24	38	60	2040

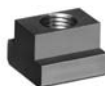
For use with washers DIN 6340 or DIN 6319G.



Recommendations



DIN 787,
page 82



DIN 508,
page 92



DIN 6331,
page 96

CAD



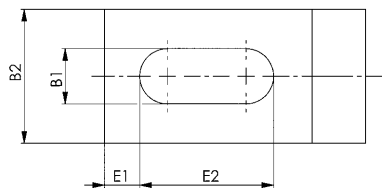
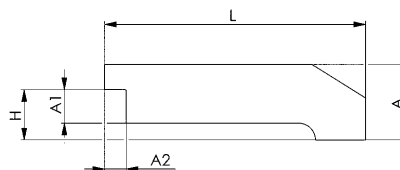
Technische Änderungen vorbehalten.

No. 6325

Clamps for machine vices

Tempered steel, milled, blued in black oxide finish, packed in pairs.

Order no.	B1	H	L	for clamping screw metric	for clamping screw inch	A	A1	A2	B2	E1	E2	Weight [g]
74682	16,5	15	78	M12, 14, 16	1/2, 5/8	22,5	10	6,5	40	10,5	40	660
74690	16,5	20	78	M12, 14, 16	1/2, 5/8	27,5	10	6,5	40	10,5	40	705



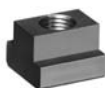
Recommendations



DIN 787,
page 82



No. 63791,
page 90



DIN 508,
page 92

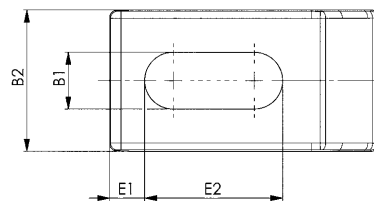
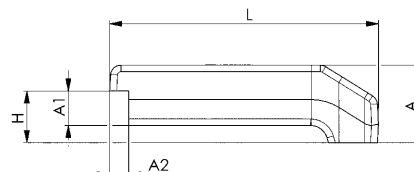


No. 6325G

Clamps for machine vices

Forged design, packaged in pairs.

Order no.	B1	H	L	for clamping screw metric	for clamping screw inch	A	A1	A2	B2	E1	E2	Weight [g]
373878	16,5	15	78	M12, 14, 16	1/2, 5/8	22,5	10	5,5	41	10	40	570
373886	16,5	20	78	M12, 14, 16	1/2, 5/8	27,5	10	6,5	41	10	40	620



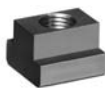
Recommendations



DIN 787,
page 82



No. 63791,
page 90



DIN 508,
page 92



Subject to technical alterations.

No. 6314V

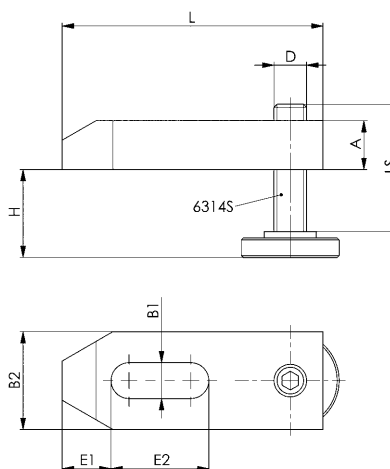
Tapered clamp with adjusting support screw

(without clamping stud)
Painted tempered steel.



Order no.	for clamping screw	H*	sim. DIN6314 B1 x L	D x LS	A	B2	E1	E2	Weight [g]
70177	M10	8-37	11x80	M10x39	15	30	15	30	200
70193	M12 M14	10-47	14x100	M12x49	20	40	21	40	560
70821	M12 M14	10-92	14x100	M12x94	20	40	21	40	635
70219	M16 M18	13-52	18x125	M16x55	25	50	26	45	1110
70839	M16 M18	13-87	18x125	M16x90	25	50	26	45	1230
70201	M20 M22	16-65	22x160	M20x69	30	60	30	60	2050
70847	M20 M22	16-105	22x160	M20x109	30	60	30	60	2230
70151	M24	20-83	26x200	M24x87	30	70	35	80	3200
70854	M24	20-133	26x200	M24x137	30	70	35	80	3470
373928	M24	20-80	26x250	M24x87	35	70	35	105	4340
373936	M24	20-130	26x250	M24x137	35	70	35	105	4520
374405	M30	24-150	33x315	M30x180	50	80	45	130	11215
374439	M36 M42	24-150	43x400	M30x180	80	100	80	170	24350

*depending on depth of slot to DIN 650 and position of fixture nut.
Clamps without T-bolts are same item for sizes 12 and 14, 16 and 18, 20 and 22, each.



No. 6314V

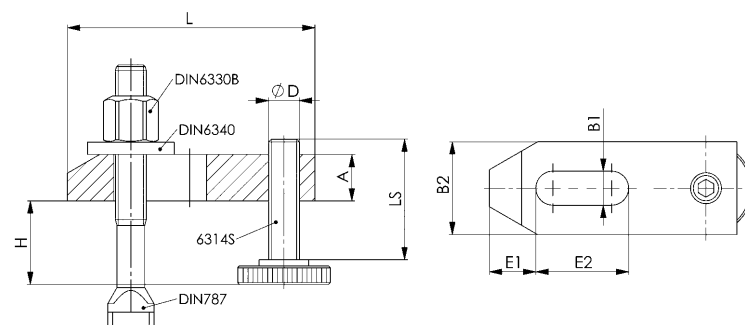
Tapered clamp with adjusting support screw, complete

with DIN 787, DIN 6340, DIN 6330B. Painted tempered steel.



Order no.	Slot	with clamping stud	H*	sim. DIN6314 B1 x L	D x LS	A	B2	E1	E2	Weight [g]
70268	10	M10x10x80	8-32	11x80	M10x39	15	30	15	30	340
70276	12	M12x12x100	10-40	14x100	M12x49	20	40	21	40	700
72801	12	M12x12x160	24-92	14x100	M12x94	20	40	21	40	830
70284	14	M12x14x100	10-38	14x100	M12x49	20	40	21	40	720
72827	14	M12x14x160	23-92	14x100	M12x94	20	40	21	40	845
70292	16	M16x16x125	13-48	18x125	M16x55	25	50	26	45	1400
72942	16	M16x16x160	15-83	18x125	M16x90	25	50	26	45	1610
70300	18	M16x18x125	13-46	18x125	M16x55	25	50	26	45	1400
73056	18	M16x18x160	13-81	18x125	M16x90	25	50	26	45	1630
70326	20	M20x20x160	16-65	22x160	M20x69	30	60	30	60	2600
73064	20	M20x20x200	21-105	22x160	M20x109	30	60	30	60	2930
70318	22	M20x22x160	16-65	22x160	M20x69	30	60	30	60	2770
73072	22	M20x22x200	19-105	22x160	M20x109	30	60	30	60	2980
373944	28	M24x28x200	20-80	26x250	M24x87	35	70	35	105	5486
373951	28	M24x28x250	30-130	26x250	M24x137	35	70	35	105	5716
381988	36	M30x36x315	24-150	33x315	M30x180	50	80	45	130	11995
382002	42	M36x42x400	24-150	43x400	M30x180	80	100	80	170	25683

*depending on depth of slot to DIN 650 and position of fixture nut.
Clamps without T-bolts are same item for sizes 12 and 14, 16 and 18, 20 and 22, each.



Recommendations



No. 6621,
page 34



Subject to technical alterations.

No. 6316V

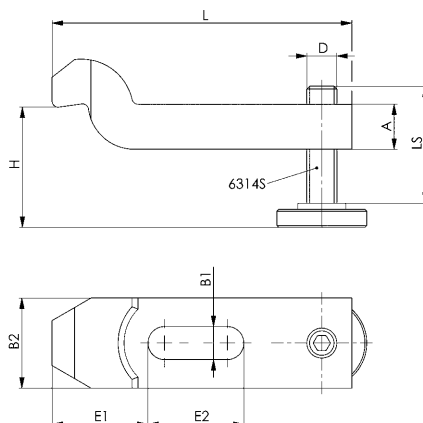
Cranked clamp with adjusting support screw

(without clamping stud)
Painted tempered steel.



Order no.	for clamping screw	H*	sim. DIN6316 B1 x L	D x LS	A	B2	E1	E2	Weight [g]
71183	M10	22-51	11x100	M10x39	15	30	36,0	32	344
71209	M12 M14	28-65	14x125	M12x49	20	40	44,0	40	761
71225	M16 M18	36-75	18x160	M16x55	25	50	51,5	50	1516
71217	M20 M22	43-92	22x200	M20x69	30	60	59,0	70	2669
71266	M24	52-115	26x200	M24x87	35	70	76,5	60	3810

*depending on depth of slot to DIN 650 and position of fixture nut.



No. 6316V

Cranked clamp with adjusting support screw, complete

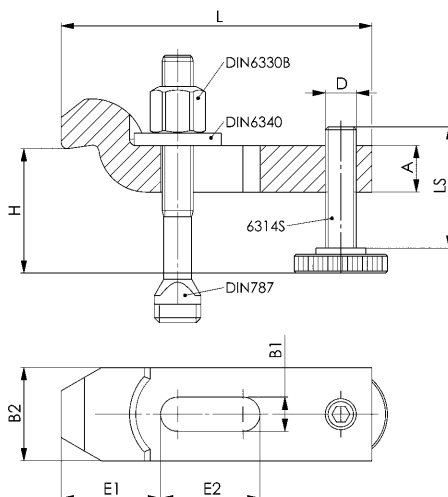
with DIN 787, DIN 6340, DIN 6330B.
Painted tempered steel.



Order no.	Slot	with clamping stud	H*	sim. DIN6316 B1 x L	D x LS	A	B2	E1	E2	Weight [g]
71274	10	M10x10x80	22-46	11x100	M10x39	15	30	36,0	32	440
71282	12	M12x12x100	28-58	14x125	M12x49	20	40	44,0	40	906
71290	14	M12x14x100	28-56	14x125	M12x49	20	40	44,0	40	926
71308	16	M16x16x125	36-71	18x160	M16x55	25	50	51,5	50	1859
71316	18	M16x18x125	36-69	18x160	M16x55	25	50	51,5	50	1875
71332	20	M20x20x160	43-92	22x200	M20x69	30	60	59,0	70	3322
71324	22	M20x22x160	43-92	22x200	M20x69	30	60	59,0	70	3352

*depending on depth of slot to DIN 650 and position of fixture nut.

Clamps without T-bolts are same item for sizes 12 and 14, 16 and 18, 20 and 22, each.



No. 6314AV

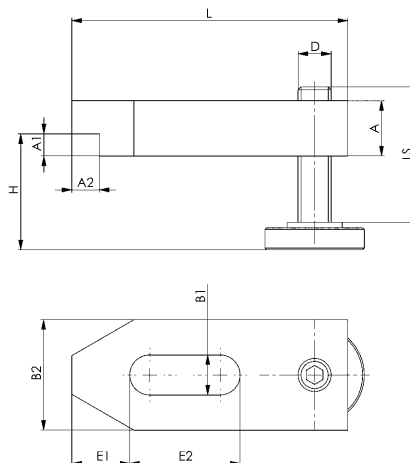
Stepped clamp with adjusting support screw

(without clamping stud)
Painted tempered steel.



Order no.	for clamping screw	H*	sim. DIN6314 B1 x L	D x LS	A	A1xA2	B2	E1	E2	Weight [g]
74567	M12, M14	10-55	14x100	M12x49	20	8 x10,0	40	21	40	580
74575	M16, M18	13-62	18x125	M16x55	25	10x12,5	50	26	45	1140
74583	M20, M22	16-77	22x160	M20x69	30	12x15,0	60	30	60	2100

*depending on depth of slot to DIN 650 and position of fixture nut.
To clamp thin parts, turn the clamp over.



CAD



No. 6314AV

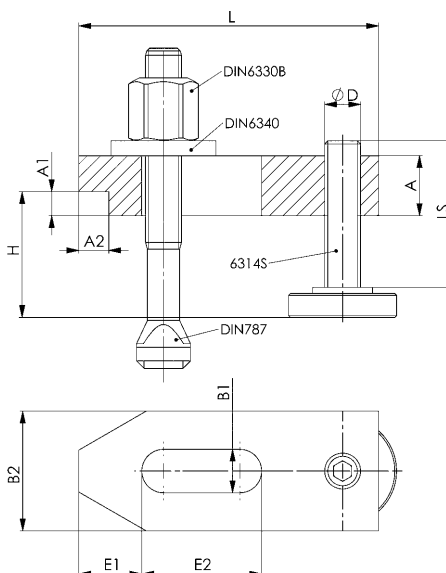
Stepped clamp with adjusting support screw, complete

with DIN 787, DIN 6340, DIN 6330B.
Painted tempered steel.



Order no.	Slot	with clamping stud	H*	sim. DIN6314 B1 x L	D x LS	A	A1xA2	B2	E1	E2	Weight [g]
74591	12	M12x12x100	10-48	14x100	M12x49	20	8 x10,0	40	21	40	745
74625	14	M12x14x100	10-46	14x100	M12x49	20	8 x10,0	40	21	40	764
74633	16	M16x16x125	13-58	18x125	M16x55	25	10x12,5	50	26	45	1510
74641	18	M16x18x125	13-56	18x125	M16x55	25	10x12,5	50	26	45	1530
74658	20	M20x20x160	16-77	22x160	M20x69	30	12x15,0	60	30	60	2800
74666	22	M20x22x160	16-77	22x160	M20x69	30	12x15,0	60	30	60	2840

*depending on depth of slot to DIN 650 and position of fixture nut.
To clamp thin parts, turn the clamp over.
Clamps without T-bolts are same item for sizes 12 and 14, 16 and 18, 20 and 22, each.



CAD

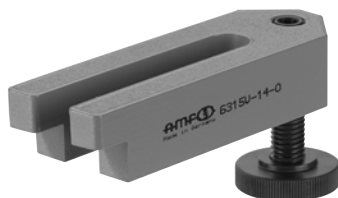


Subject to technical alterations.

No. 6315V

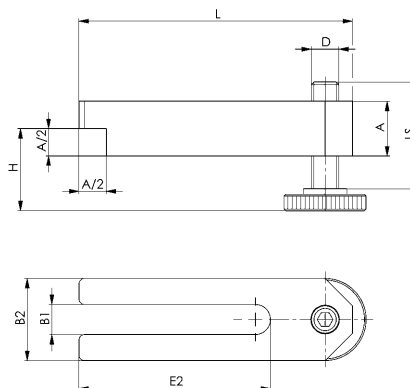
Stepped clamp with adjusting support screw

(without clamping stud)
Painted tempered steel.



Order no.	for clamping screw	H*	sim. DIN 6315B B1 x L	D x LS	A	B2	E2	Weight [g]
71167	M10	8-47	11x100	M10x39	20	30	70	330
71175	M12 M14	10-59	14x125	M12x49	25	40	90	700
71191	M16 M18	13-67	18x160	M16x55	30	50	110	1300
71258	M20 M22	16-85	22x200	M20x69	40	60	135	2600

*depending on depth of slot to DIN 650 and position of fixture nut.
To clamp thin parts, turn the clamp over.



Recommendations



No. 6342, page 107

CAD



No. 6315V

Stepped clamp with adjusting support screw, complete

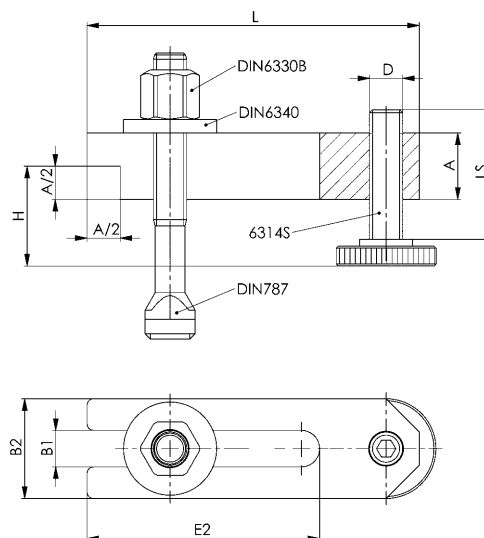
with DIN 787, DIN 6340, DIN 6330B.
Painted tempered steel.



Order no.	Slot	with clamping stud	H*	sim. DIN 6315B B1 x L	D x LS	A	B2	E2	Weight [g]
73189	10	M10x10x 80	8-37	11x100	M10x39	20	30	70	403
73197	12	M12x12x100	10-48	14x125	M12x49	25	40	90	920
73205	14	M12x14x100	10-45	14x125	M12x49	25	40	90	940
73247	16	M16x16x125	13-58	18x160	M16x55	30	50	110	1860
73254	18	M16x18x125	13-56	18x160	M16x55	30	50	110	1880
73262	20	M20x20x160	16-77	22x200	M20x69	40	60	135	3610
73288	22	M20x22x160	16-75	22x200	M20x69	40	60	135	3650

*depending on depth of slot to DIN 650 and position of fixture nut.
To clamp thin parts, turn the clamp over.

Clamps without T-bolts are same item for sizes 12 and 14, 16 and 18, 20 and 22, each.



Subject to technical alterations.

CAD



No. 6313K

Clamp, short, with U-piece

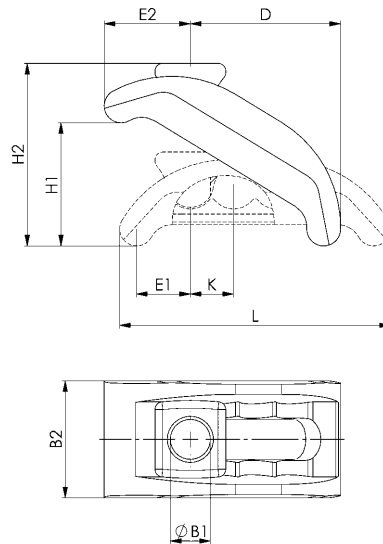
(without clamping bolt)
continuously adjustable, tempered and galvanized.



Order no.	Size	for clamping screw	H1	B1	B2 x L	D	E1	E2	H2	K	Weight [g]
73932	13	M12	0-35	13	38x88	48	23	28	30-55	14	260
73940	18	M16	0-55	18	56x130	74	29	38	42-84	18	809
73957	22	M20	0-65	22	66x144	80	32	46	50-100	20	1253
73965	26	M24	0-75	25	76x174	100	39	52	54-111	24	1718
73973	32	M30	0-80	31	90x200	110	44	61	62-125	28	2785

Note:

Suitable fastening elements: DIN 787 clamping bolts, DIN 6340 washers and DIN 6330B hexagon nuts.



CAD



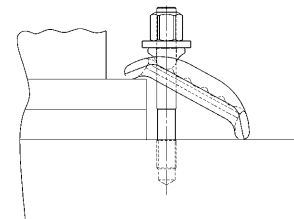
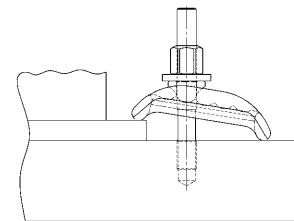
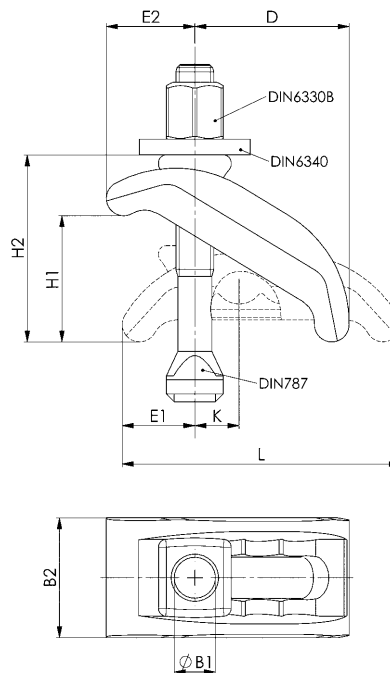
No. 6313K

Clamp, short, with U-piece, complete

with DIN 787, DIN 6340, DIN 6330B.
continuously adjustable, tempered and galvanized.



Order no.	Slot	with clamping stud	H1	B1	B2 x L	D	E1	E2	H2	K	Weight [g]
77149	12	M12x12x100	0-35	13	38x88	52	23	27	30-55	14	395
77156	14	M12x14x100	0-35	13	38x88	52	23	27	30-55	14	415
77180	16	M16x16x160	0-55	18	56x130	79	29	37	42-84	18	1130
77198	18	M16x18x160	0-55	18	56x130	79	29	37	42-84	18	1550
77206	20	M20x20x200	0-65	22	66x144	84	32	42	50-100	20	1880



CAD

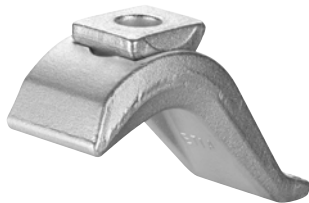


Subject to technical alterations.

No. 6321

Clamp, continuously adjustable

with U-piece. Steel, forged and tempered, galvanised.



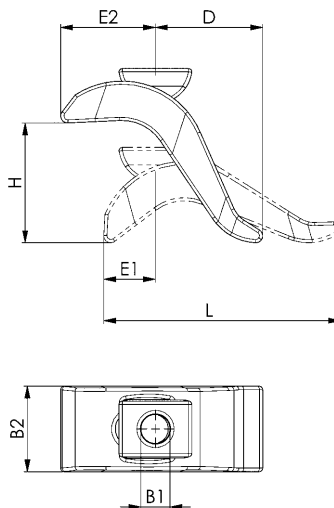
Order no.	Size	for clamping screw	H	B1	B2 x L	D	E1	E2	Weight [g]
71522	17	M12, M14, M16	0-75	17	50x140	60	30	55	900
71530	21	M20	0-85	21	60x175	80	40	70	1600

Application:

Stepless clamp for fast coverage of several ranges of work height without additional supports. Low space requirement on machine table. Heavy-duty design and specially suitable for clamping of press- and punching tools.

Note:

Suitable fastening elements: DIN 787 clamping bolts, DIN 6340 washers and DIN 6330B hexagon nuts.



No. 6321

Clamp, continuously adjustable, complete

with DIN 787, DIN 6340, DIN 6330B and U-piece. Steel, forged and tempered, galvanised.



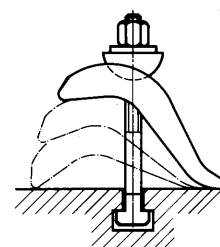
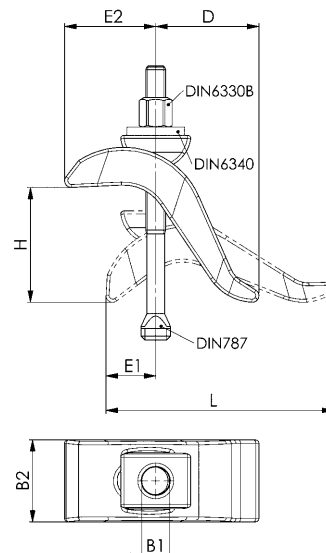
Order no.	Slot	with clamping stud	H	B1	B2 x L	D	E1	E2	Weight [g]
74906	12	M12x12x125	0-50	17	50x140	60	30	55	1070
74914	14	M12x14x125	0-50	17	50x140	60	30	55	1080
74922	16	M16x16x160	0-75	17	50x140	60	30	55	1270
74930	18	M16x18x160	0-75	17	50x140	60	30	55	1280
74971	20	M20x20x200	0-85	21	60x175	80	40	70	2300
74963	22	M20x22x200	0-85	21	60x175	80	40	70	2370

Application:

Stepless clamp for fast coverage of several ranges of work height without additional supports. Low space requirement on machine table. Heavy-duty design and specially suitable for clamping of press- and punching tools.

Note:

With the clamping jaw size 17 a maximum clamping height of 75 mm can be achieved with screws for T-slots DIN 787, length 160 mm.



Recommendations



No. 6312V,
page 14



No. 6312VT,
page 15

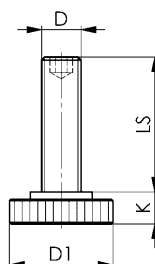
Subject to technical alterations.

No. 6314S

Support screw

Hardened, strength class 8.8 Suitable for all lockable clamps.

Order no.	D x LS	D1	K	Weight [g]
73437	M10x39	30	8	52
73445	M12x49	36	10	96
74039	M12x94	36	10	145
73452	M16x55	42	13	180
74047	M16x90	42	13	230
73460	M20x69	50	16	320
74054	M20x109	50	16	400
73478	M24x87	60	20	590
74062	M24x137	60	20	820
374413	M30x180	80	24	1704



CAD

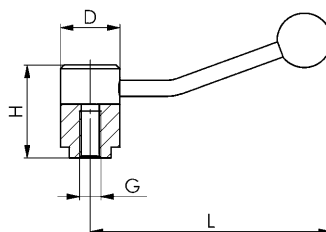


No. 6621

Detent clamp lever

Steel, blued. Suitable for adjustable clamps no. 6313K, 6314V, 6315V, 6316V and 6321.

Order no.	G	D	H	L	Weight [g]
74609	M12	33	48	135	360
74617	M16	40	64	158	620



CAD

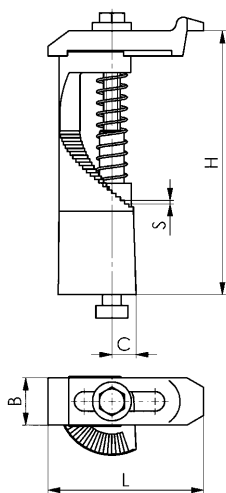


Subject to technical alterations.

No. 7000

Step clamp

Special cast iron, screw and bushing 8.8.



Recommendations



No. 6312V,
page 14



No. 6312VT,
page 15

Order no.	Size	Slot	Clamping force max. * [kN]	Md [Nm]	B	C	H	L	S	Weight [g]
74708	12-0	12	11,5	50	34	14	0- 45	140	0,75	700
74716	12-1	12	11,4	50	34	14	15- 45	112	0,75	600
74724	12-2	12	11,4	50	34	15	30- 75	112	1,25	800
74732	12-3	12	11,4	50	34	16	60-135	112	2,50	1200
74740	12-4	12	11,4	50	34	18	120-195	112	2,50	1700
74757	12-5	12	11,4	50	34	19	180-255	112	2,50	2200
74765	14-0	14	15,5	80	34	14	0- 45	140	0,75	700
74773	14-1	14	15,3	80	34	14	15- 45	112	0,75	600
74781	14-2	14	15,3	80	34	15	30- 75	112	1,25	800
74799	14-3	14	15,3	80	34	16	60-135	112	2,50	1200
74807	14-4	14	15,3	80	34	18	120-195	112	2,50	1700
74815	14-5	14	15,3	100	34	19	180-255	112	2,50	2200
74823	16-0	16	15,3	100	50	20	0- 70	160	1,25	1900
74831	16-1	16	16,3	100	50	20	25- 70	125	1,25	1700
74849	16-2	16	16,3	100	50	21	50-120	125	2,50	2500
74856	16-3	16	16,3	100	50	21	100-220	125	3,75	3540
74864	16-4	16	16,3	100	50	24	200-320	125	3,75	4900
74989	18-0	18	17,8	130	50	20	0- 70	160	1,25	1870
74997	18-1	18	19,0	130	50	20	25- 70	125	1,25	1670
75002	18-2	18	19,0	130	50	21	50-120	125	2,50	2500
75010	18-3	18	19,0	130	50	21	100-220	125	3,75	3580
75028	18-4	18	19,0	130	50	24	200-320	125	3,75	4750

* Specified clamping forces in optimal clamping position (smallest distance of the clamping screw to the clamping position).

Application:

- thanks to the compact design the helical clamp requires little space on the machine table

Advantage:

- quickly ready
- The spiral serration allows fast adapting to any workpiece height up to approx. 320 mm



Subject to technical alterations.

No. 6314AT

Clamping unit to clamp outside of the tool table

Tempered steel. Infinitely adjustable.



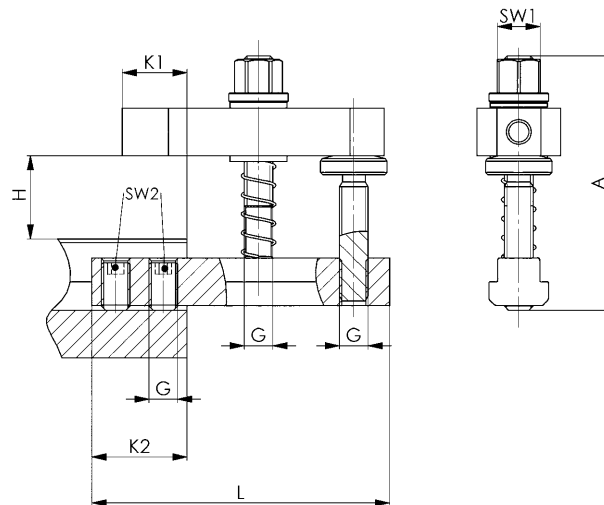
Order no.	Clamping force [kN]	Tightening torque [Nm]	Slot	G	H	Weight [g]
73999	15	70	18	M12	20-35	840
73981	25	170	22	M16	30-45	2126
79194	50	320	28	M20	40-53	5000

Application:

Used for clamping outside of the tool table. For use when clamping large workpieces or tools that do not allow any space for clamping elements on the tool or machine table.

Note:

For the installation dimensions of the clamp, see No. 7110GX-**-1.
Do not use on presses!



Dimensions:

Order no.	A	L	K1	K2	SW1	SW2
73999	105	125	27	40	18	6
73981	168	165	35	55	24	8
79194	206	255	33	85	30	10



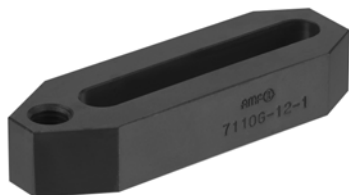
Subject to technical alterations.

CAD

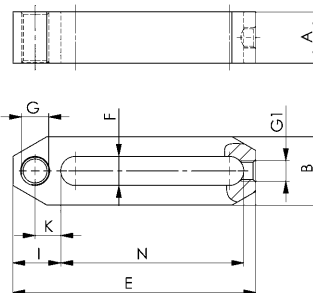


No. 7110GX-**-1

Clamp, straight
tempered.



Order no.	Size	A x B	E	F	G	G1	I	K	N	Weight [g]
73528	12	20x35	110	12,5	M12	M10	21,5	11,5	82	340
73536	16	30x40	142	17,0	M16	M12	28,0	15,0	107	770
73544	20	40x50	200	21,0	M20	M16	38,0	21,0	150	1800

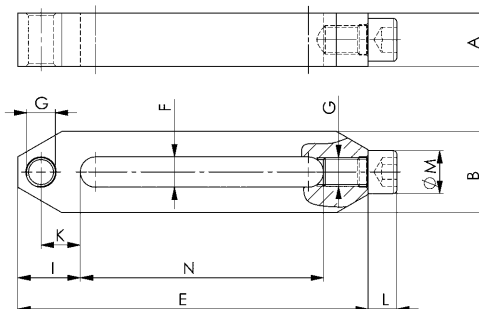


No. 7110GLX-**-1

Clamp, straight (long)
with screw-in pin end tempered.



Order no.	Size	A x B	E	F	G	I	K	L	M	N	Weight [g]
73551	12	20x35,0	156	12,5	M12	30	20	12	18	106	600
73577	16	30x45,5	196	17,0	M16	35	22	16	24	136	1400
73585	20	40x60,0	298	21,0	M20	47	30	20	30	221	3900



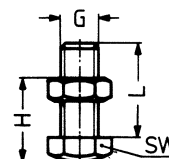
No. 7110DX-**-xM**

Set screw

ball-shaped, strength class 10.9.



Order no.	Size	G x L	H	SW	Weight [g]
73593	12xM12	M12x30	16-28	19	50
73601	16xM16	M16x40	20-38	24	100



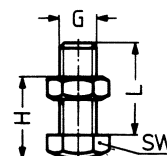
No. 7110DMX-**-xM**

Set screw

ball-shaped, brass, with steel nut.



Order no.	Size	G x L	H	SW	Weight [g]
73635	12xM12	M12x30	16-28	19	50
73643	16xM16	M16x40	20-38	24	100

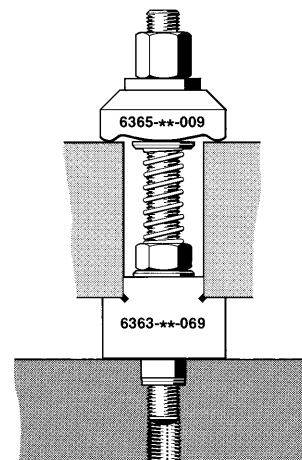
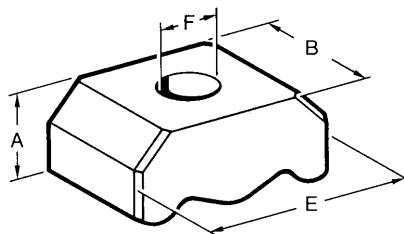


No. 6365-**-009

Clamp, double

tempered.

Order no.	Size	A	B	E	F	Weight [g]
78626	12	20	30	48	14	192
78667	16	25	40	62	18	385



No. 7110GD-**-1

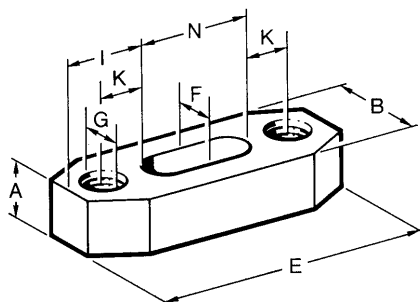
Clamp, double (short)

tempered.

Order no.	Size	A x B	E	F	G	I	K	N	Weight [g]
78956	12	15x30	80	12,5	M12	23,5	13,5	33	200
78972	16	25x40	100	17	M16	29	16	42	525

Note:

For pressure screws that fit, see accessories.



No. 7110GD-**-2

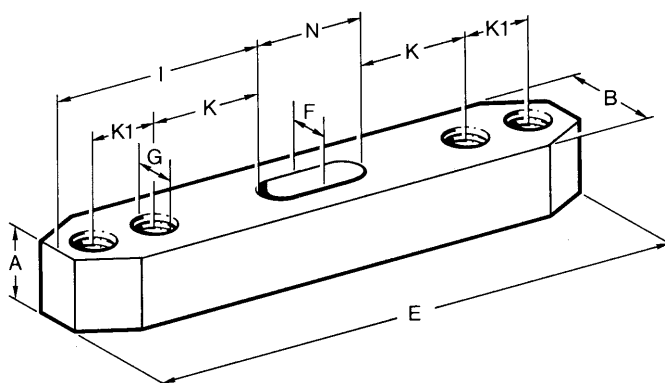
Clamp, double (long)

tempered.

Order no.	Size	A x B	E	F	G	I	K	K1	N	Weight [g]
78964	12	20x30	160	12,5	M12	63,5	33,5	20	33	610
78980	16	30x40	200	17	M16	79	41	25	42	1480

Note:

For pressure screws that fit, see accessories.



Subject to technical alterations.

No. 7110DHX-**xM**

Set screw with ball

Adjustable, ribbed, with nut ISO 4035.
Flat-faced ball: ball bearing steel, hardened, ribbed
body: tempered steel, tempered



Order no.	Size	G	H	dia. K	L	SW1	SW2	max. load static [kN]	max. torque [Nm]	Weight [g]
374447	M8	M8	11,6	5,8	25	13	13	8	25	20
73650	M12	M12	15,7	8,6	35	17	17	15	82	55
73668	M16	M16	20,7	10,5	40	24	24	25	206	128
73692	M20	M20	27,3	20,0	50	30	30	90	407	274

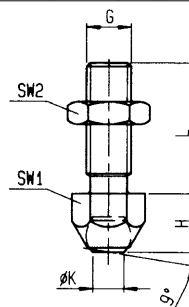
No. 7110DIX-**xM**

Set screw with ball

Adjustable, plain, with nut ISO 4035.
Flat-faced ball: ball bearing steel, hardened, ribbed
body: tempered steel, tempered



Order no.	Size	G	H	dia. K	L	SW1	SW2	max. load static [kN]	max. torque [Nm]	Weight [g]
374454	M8	M8	11,6	5,8	25	13	13	8	25	20
73684	M12	M12	15,7	8,6	35	17	17	15	82	55
73718	M16	M16	20,7	10,5	40	24	24	25	206	128
73726	M20	M20	27,3	20,0	50	30	30	90	407	275



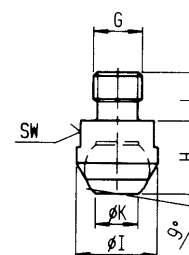
No. 7110DKX-**xM**

Set screw with ball, plain

Flat-faced ball: ball bearing steel, hardened, ribbed
body: tempered steel, tempered



Order no.	Size	G	H	dia. I	dia. K	L	SW	max. load static [kN]	max. torque [Nm]	Weight [g]
374462	M8	M8	13	13	7,2	8	11	10	25	13
73734	M12	M12	18	20	10,5	12	17	25	82	43
73742	M16	M16	27	30	20,0	16	27	90	206	150
73759	M20	M20	35	50	34,5	20	41	165	407	486



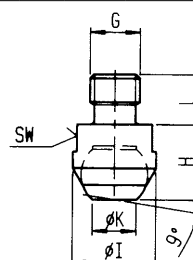
No. 7110DFX-**xM**

Set screw with flat-faced ball, ribbed

Flat-faced ball: ball bearing steel, hardened, ribbed
body: tempered steel, tempered



Order no.	Size	G	H	dia. I	dia. K	L	SW	max. load static [kN]	max. torque [Nm]	Weight [g]
75432	M8	M8	13	13	7,2	8	11	10	25	13
73767	M12	M12	18	20	10,5	12	17	25	82	43
73775	M16	M16	27	30	20,0	16	27	90	206	150
73783	M20	M20	35	50	34,5	20	41	165	407	520





- + Fully automatic cleaning of the fixture and the complete inside space of the machine
- + Removes from employees the burden of disliked and unproductive tasks



- + Economical marking of workpieces directly in the machine tool
- + Reduces throughput times of parts in production



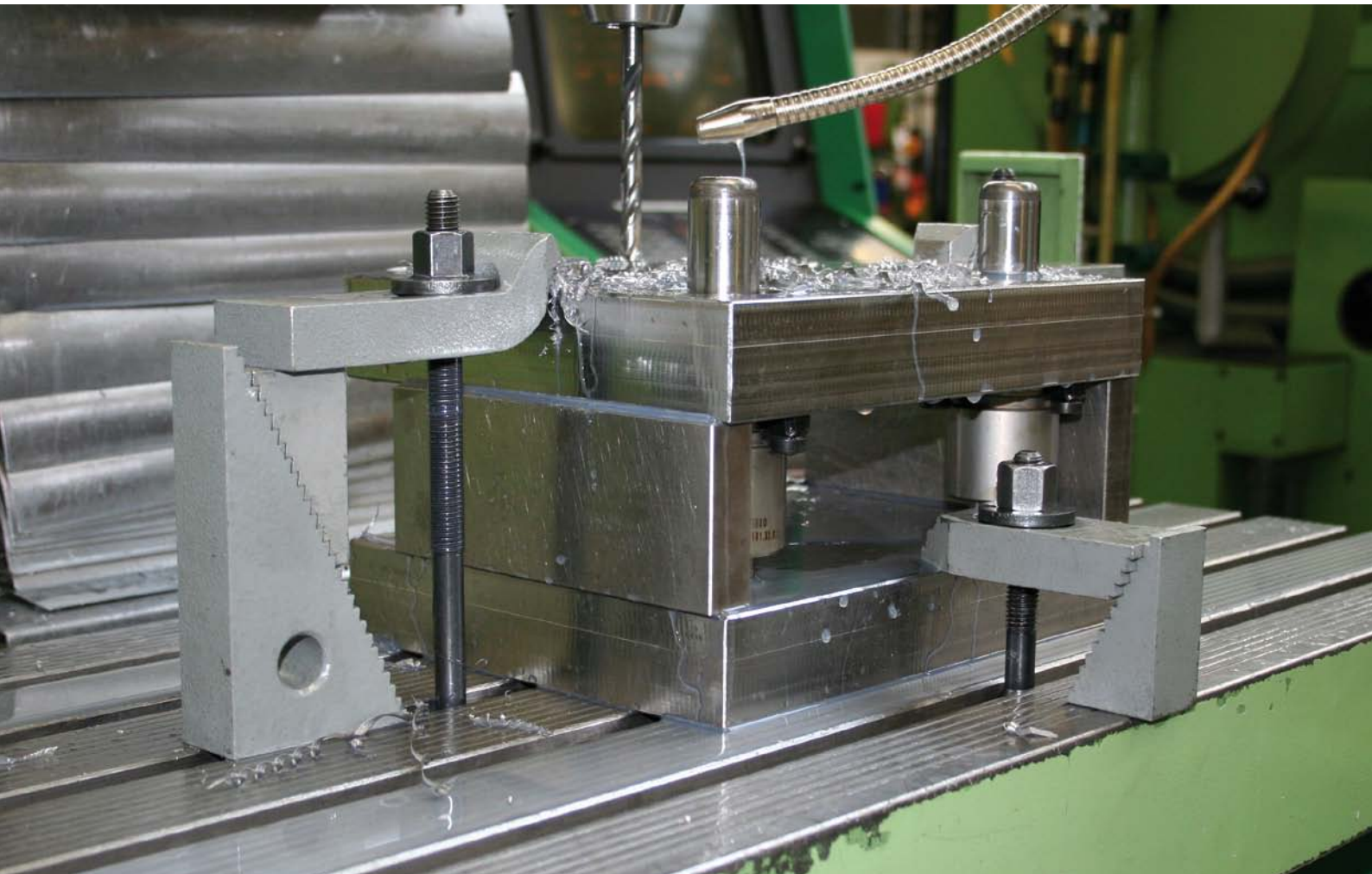
THE MOST IMPORTANT FACTS ABOUT SUPPORT BLOCKS

- > **Material:** High quality tempering steel resp. castings.
- > **Machining:** All support blocks shown, have machined base- and contact faces. The serrated elements are precisely milled or broached. Leveled work support and safe force transmission are therefore provided.
- > **Execution:** To DIN regulations.
- > **Finishing:** All support blocks are abrasionproof quality varnished.

The following pages contain suitable support blocks, finely graduated or infinitely adjustable, for any application. Support heights from 12.5 to 340 mm are achievable with all support blocks.

For clamping heights over 340 mm, we recommend our screw jacks on pages 66 to 67.

- > Conventional workpiece clamping for drilling and pinning a fixture.



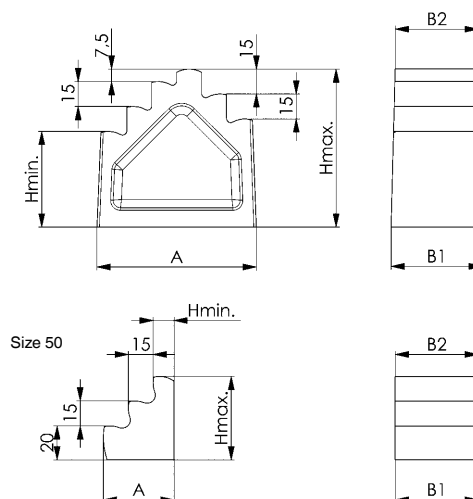
DIN 6318

Step blocks

with step increments of 7.5 mm each. Machine casting, varnished, base and step faces milled.



Order no.	Size	H min.	H max.	A	B1	B2	Weight [g]
71365	50	12,5	50	42,5	50	50	500
71373	95	57,5	95	95,0	55	50	1600
71381	140	102,5	140	100,0	60	50	2000
71399	185	147,5	185	105,0	65	50	2900
71407	230	192,5	230	110,0	70	50	3600
71415	275	237,5	275	115,0	75	50	4300
71423	320	282,5	320	120,0	80	50	5200



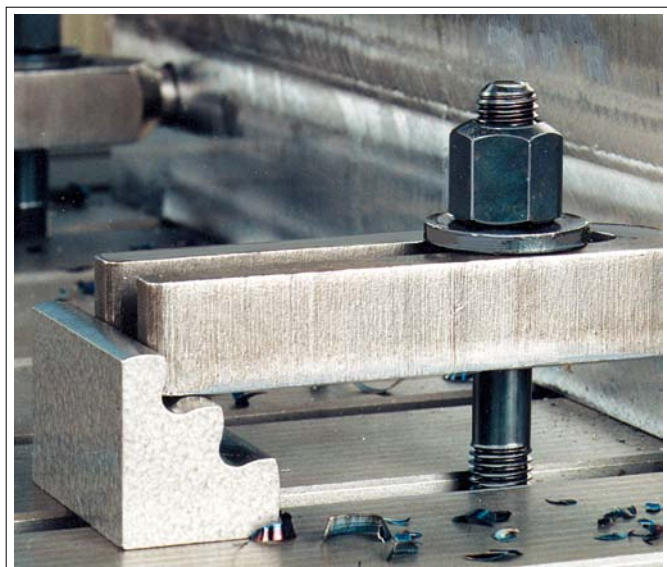
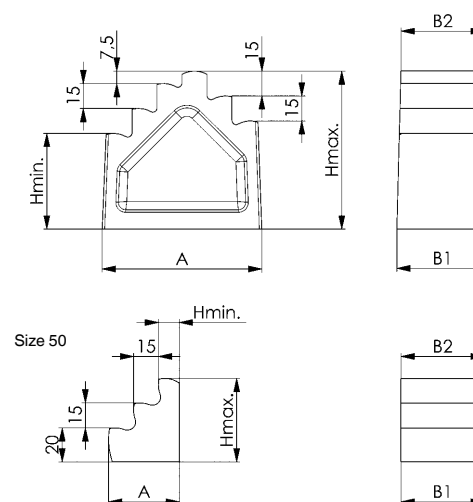
No. 6318B

Step blocks, wide

with step increments of 7.5 mm each. Machine casting, varnished, base and step faces milled.



Order no.	Size	H min.	H max.	A	B1	B2	Weight [g]
71480	50	12,5	50	42,5	80	80	800
71498	95	57,5	95	95,0	85	80	2300
71506	140	102,5	140	100,0	90	80	3450



Subject to technical alterations.

No. 6500E

Universal step blocks

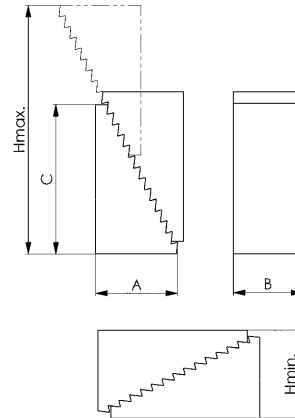
Step increments: vertical 4.65 mm, horizontal 2.3 mm.
Tempering steel, varnished.



Order no.	Size	H min.	H max.	A	B	C	Weight [g]
73296	1	23	51	19,0	30	33	90
73304	2	39	107	35,5	30	66	300
73312	3	71	208	68,0	30	131	1050

Application:

For use in pairs with all clamps and single use with clamp no. 6314Z.



Recommendations



No. 6314Z,
page 23



No. 6501,
page 44

CAD



No. 6500H

Universal step block set

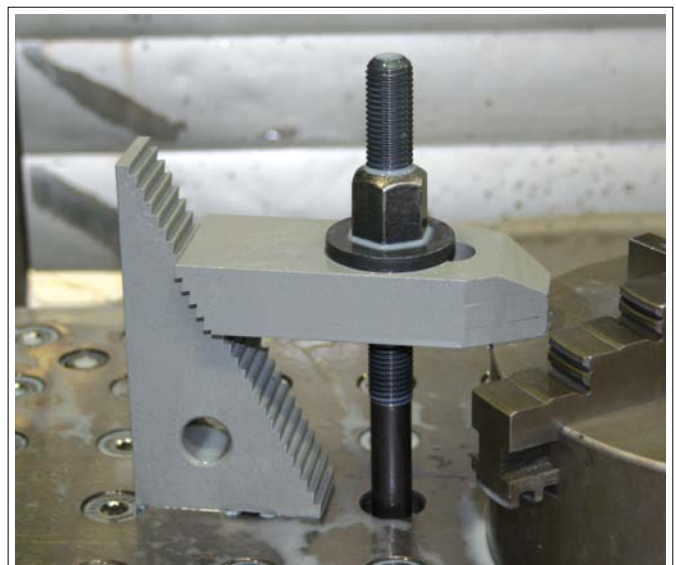
in solid wooden case with lid.
Tempering steel, varnished.



Order no.	Contents	H min.	H max.	Case L x B x H	Weight [Kg]
73346	8x6500E-1, 8x6500E-2, 4x6500E-3	23	208	280x155x40	8,4

Application:

For use in pairs with all clamps and single use with clamp no. 6314Z.



Subject to technical alterations.

No. 6501

Step block

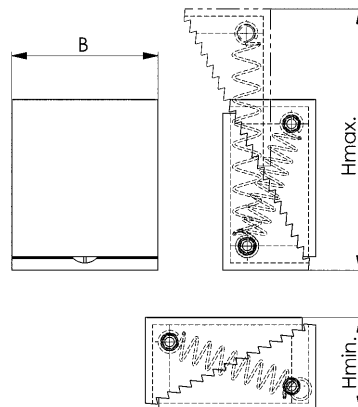
contact face 60 mm wide. With link spring.
Step increments: vertical 4.65 mm, horizontal 2.3 mm.
Tempering steel, varnished.



Order no.	Size	H min.	H max.	B	Weight [g]
73353	2	37	107	60	1000

Note:

The two parts of this AMF-support blocks are linked with a spring for easy handling.



No. 6501M

Support block with magnet

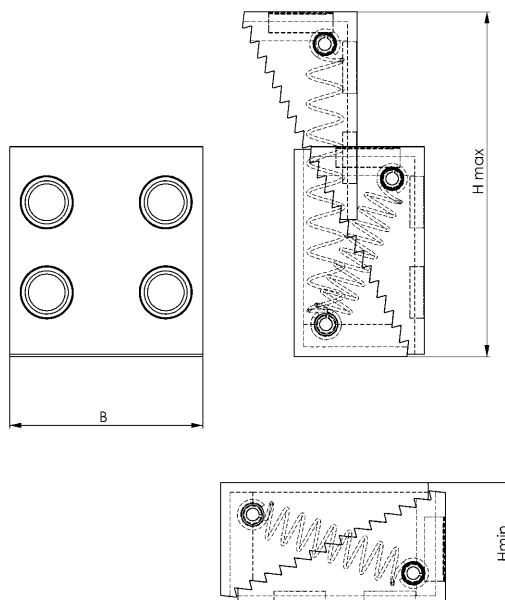
Mounting surface 60 mm wide, with connecting spring.
Step increments: vertical 4.65 mm, horizontal 2.3 mm.
Tempered steel, burnished.



Order no.	Size	H min.	H max.	B	Weight [g]
373969	2	37	107	60	980

Note:

The two parts of this AMF support block are connected by a spring for ease of handling.
Holding force 4 magnets = 380 N
Holding force 2 magnets = 280 N



Version with connecting springs no. 6501 and 6501M

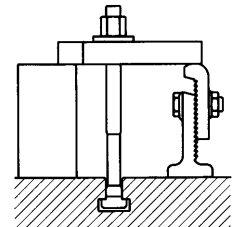
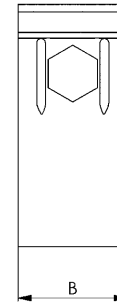
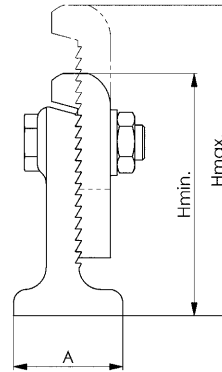
Subject to technical alterations.

No. 6510

Serrated heel block

(serrated jacks). Step increments: 5.2 mm. Malleable casting, varnished. Base mill finished.

Order no.	Size	H min.	H max.	A	B	Clamping force [kN]	Weight [g]
73379	2	111	147	50	50	40	1225
73387	3	155	223	60	60	60	2607
73395	4	220	340	80	80	90	6028



DIN 6326

Support blocks for continuous adjustment, combination

with spiral gearing. Tempering steel, varnished.

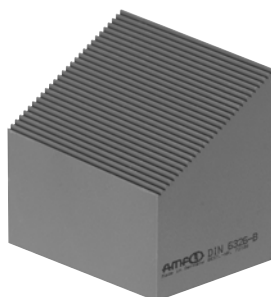


Order no.	Combination	H min.	H max.	Lower part	H1	Upper part	H2	Weight [g]
71969	AK	25	45	A	42	K	24	1050
71977	AG	45	65	A	42	G	44	1350
71985	BK	65	85	B	82	K	24	2500
71993	BG	85	105	B	82	G	44	2800
72009	CK	105	125	C	122	K	24	4000
72017	CG	125	145	C	122	G	44	4300
72025	AKG	25	65	A	42	K / G	24 / 44	1550
72033	BKG	65	105	B	82	K / G	24 / 44	3000
72041	CKG	105	145	C	122	K / G	24 / 44	4500

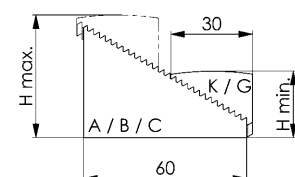
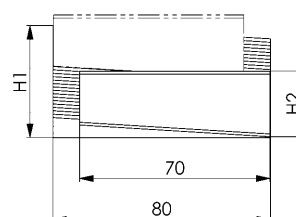
DIN 6326

Support blocks for continuous adjustment, single

with spiral gearing. Tempering steel, varnished.



Order no.	Single parts	H1	H2	Weight [g]
72090	A	42	-	850
72108	B	82	-	2300
72116	C	122	-	3800
72124	K	-	24	200
72132	G	-	44	500





- + Outstanding price-performance ratio
- + Drastically reduced tooling time
- + Immediate improvement of productivity
- + Repeat accuracy < 5µm
- + Stainless steel
- + Form fit



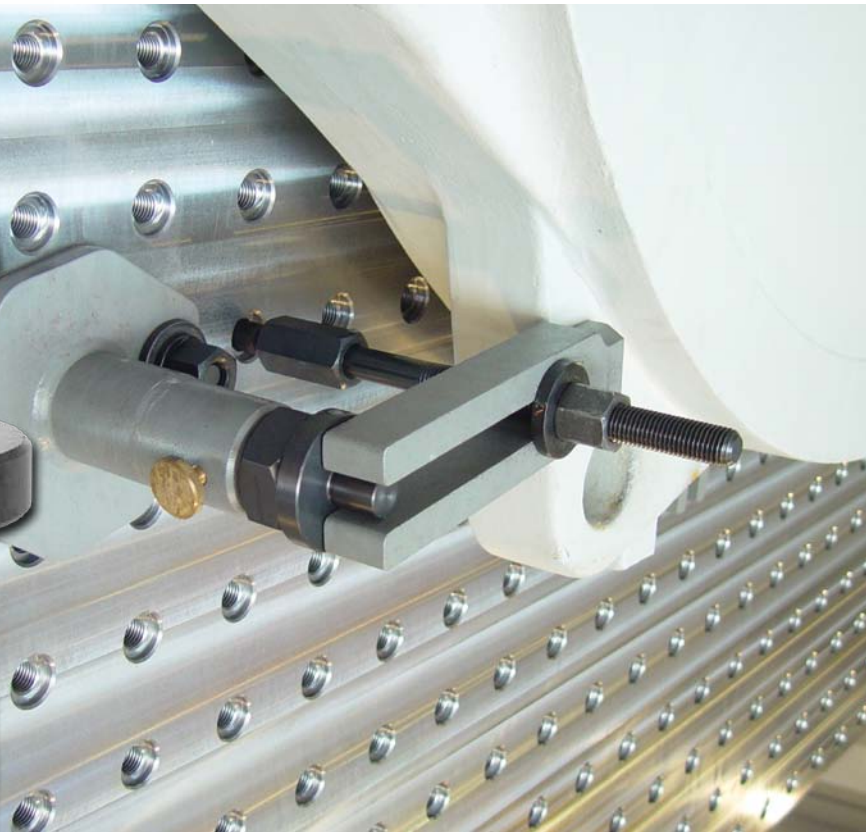
Subject to technical alterations.

THE MOST IMPORTANT FACTS ABOUT SETTING ELEMENTS

Developed by AMF and proven in service for decades, these screw and aligning jacks offer a broad range of applications. Due to their robust construction, these screw jacks function securely and precisely, with stepless adjustment even under heavy loads.

APPLICATIONS AND COMBINATIONS:

- > Safe and reliable clamp supports for heights from 38 to 1250 mm.
- > Accurate and safe supporting and setting of any workpiece in various levels and heights.
- > Aluminium screw jacks for delicate machine tables, surface plates and plane tables.
- > Magnetic screw jacks for horizontal and vertical supporting and setting.



SIMPLY CLEVERLY COMBINE – THE MODULAR SCREW JACK FROM AMF

With the modular screw jack from AMF your production becomes even more flexible and economical.

When cleverly combined, you can achieve a maximum height of 1620 mm. The screw jack can be used on T-slots and grid plates. The individual elements are plugged together, connected by means of a threaded ring ensuring process reliability and guarantee you maximum flexibility during the installation.

THE BENEFITS:

- > The maximum height of 1620 mm is continuously adjustable and a height overlap is attainable.
- > The connecting points are protected against soiling.
- > Improved handling by means of individual elements.
- > Set-up time saving thanks to flexibility of parts.
- > Storage optimisation.

SUPPORT ELEMENT WITH FINE THREAD

- > Used as an extra support point to prevent sagging and vibration of the workpiece.
- > Mounted directly under a clamping point, distortion of the workpiece is prevented.



SCREW JACK ELEMENT

SPACER ELEMENTS

BASE ELEMENTS

THREAD ADAPTER

M16

M20

M24

M24

M20

M16

No. 6425-706

Screw jack, modular

Tempered steel, burnished.

Comprising:

- Screw jack element with base element 6425FB
- Spacer element small
- Spacer element medium
- Thread adapter M16, M20, M24
- T-nuts groove 18, 22, 28
- Insertion tool



CAD

Order no.	TR	H min.	H max.	F max. [kN]	Weight [g]
562000	40 x 7	306	706	60	21481

Application:

Can be used on T-slots and grid plates by means of adapters, which are screwed in the base element. The individual elements are plugged together and connected by means of a threaded ring ensuring process reliability. The threaded ring must not be retightened under load. The insertion tool makes it possible to use the head and base elements as well as thread adapter.

Advantage:

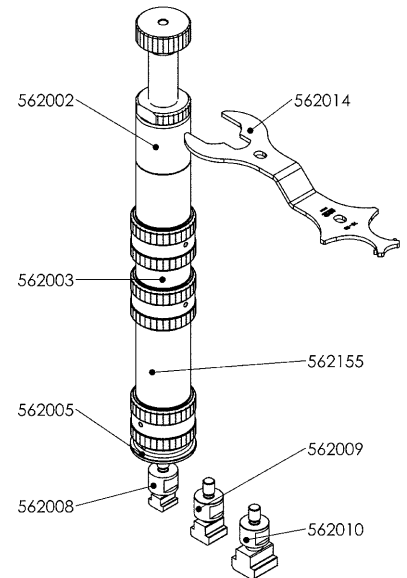
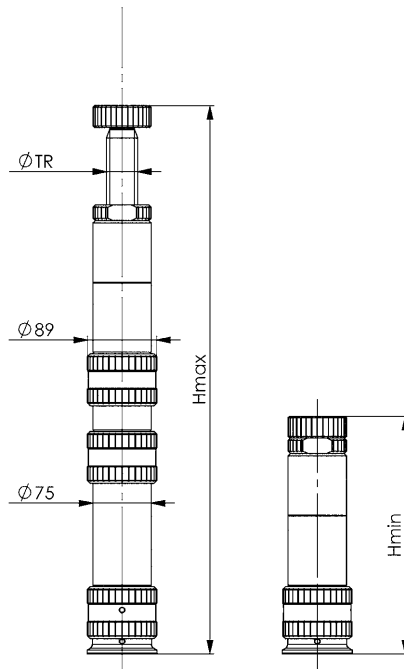
- The maximum height of 1620 mm is continuously adjustable and a height overlap is attainable (with base element 6425FG or 6425FY).
- The connecting points are protected against soiling.
- Improved handling by means of individual elements.
- Set-up time saving thanks to flexibility of parts.
- Storage optimisation.

Note:

- The modular design makes it possible to use different head and intermediate elements. Thus, a maximum height (with base element 6425FG or 6425FY) of 1620 mm with a permissible support force of 60 kN is possible. In addition, there is a risk of buckling.
- Do not adjust under load.



Focus Open 2020
Gold



Recommendations



No. 6425FY,
page 53



No. 6425FG,
page 53



No. 6425WW,
page 56

Subject to technical alterations.

No. 6425S-406

Screw jack element with acme thread and base element 6425FB

with locknut for locking, centring hole diameter 12 mm. Spindle with acme thread made completely of tempered steel, spindle head burnished.

Body and base element, tempered steel, burnished.



Focus Open 2020
Gold



Recommendations



No. 6425Z,
page 51



No. 6425MW,
page 56

Order no.	TR	H min.	H max.	F max. [kN]	Weight [g]
562002	40 x 7	306	406	60	9436

Application:

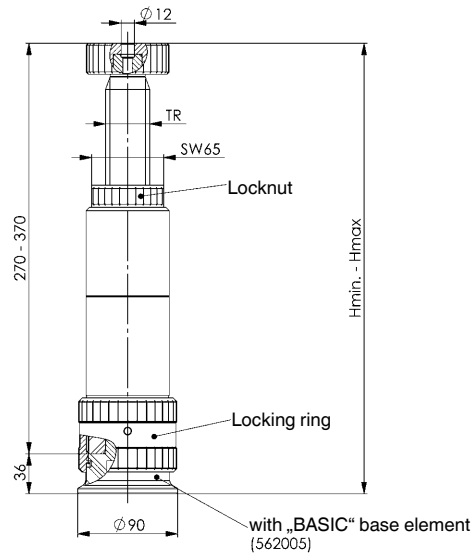
Can be used on T-slots and grid plates by means of adapters, which are screwed in the base element. The individual elements are plugged together and connected by means of a threaded ring ensuring process reliability. The insertion tool makes it possible to use the locknut and base element as well as the thread adapter.

Advantage:

- Can be used modularly.

Note:

- The use as a head element in the screw jack modular makes a maximum height of 1620 mm with a permissible support force of 60 kN possible. In addition, there is a risk of buckling.
- Do not adjust under load.



CAD



No. 6425Z

Spacer element

Tempered steel, burnished.



Order no.	Size	H	H1	Weight [g]
562003	100	100	150 - 166,5	3132
562155	200	200	250 - 266,5	6228
562004	300	300	350 - 366,5	7493

Application:

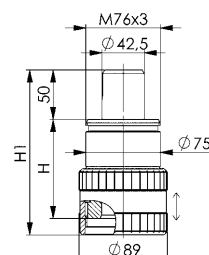
- As a supplement of the screw jack modular for achieving the maximum permitted support height of 1620 mm.

Advantage:

- The maximum height of 1620 mm is continuously adjustable and a height overlap is attainable.
- The connecting points are protected against soiling.
- Improved handling by means of individual elements.
- Set-up time saving thanks to flexibility of parts.
- Storage optimisation.

Note:

- The use as an intermediate element in the screw jack modular makes a maximum height of 1620 mm with a permissible support force of 60 kN possible. In addition, there is a risk of buckling.
- Do not adjust under load.



CAD



Subject to technical alterations.

No. 6425FB

Base element

Tempered steel, burnished.



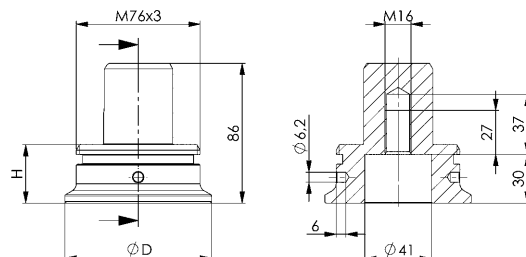
CAD



Order no.	D	H	Weight [g]
562005	90	36	1497

Application:

Can be used on T-slots and grid plates by means of adapters, which are screwed in the base element. The individual elements are plugged together and connected by means of a threaded ring ensuring process reliability. The insertion tool makes it possible to use the base element as well as thread adapter.



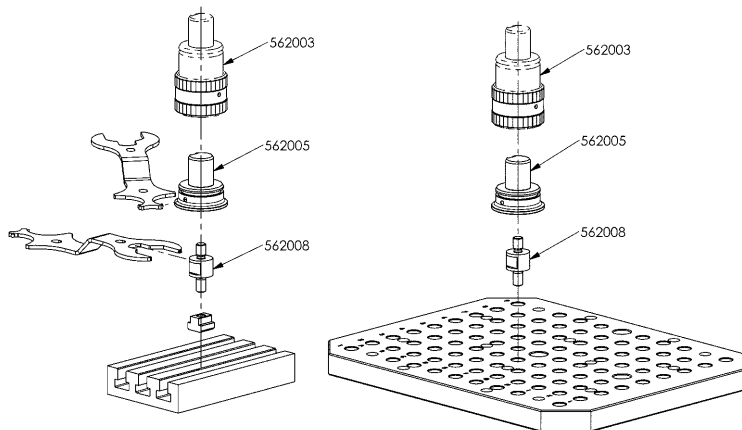
Recommendations



No. 6425GA,
page 52



No. 6425MW,
page 56



No. 6425GA

Thread adapter

Tempered steel, burnished.



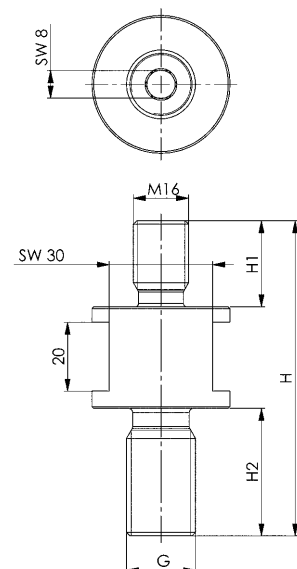
CAD



Order no.	G	H	H1	H2	Weight [g]
562008	M16	83,5	25	29	339
562009	M20	91,5	25	37	381
562010	M24	101,5	25	47	452

Application:

The thread adapters are screwed in the base element 6425FB and can thus be used on T-slots and grid plates. The insertion tool makes it easy to use the thread adapter.



Subject to technical alterations.

No. 6425FG

Base element

Tempered steel, burnished.



CAD

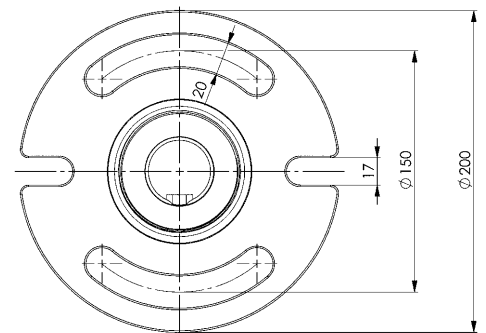
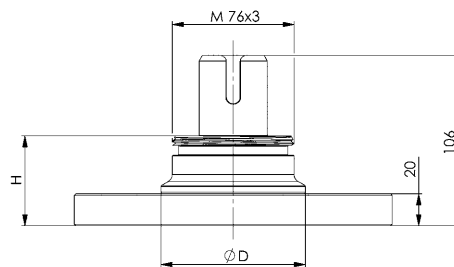
Order no.	D	H	Weight [g]
562006	90	56	5717

Application:

Can be used on T-slots and grid plates. The individual elements are plugged together and connected by means of a threaded ring ensuring process reliability. The insertion tool makes it possible to use the base element as well as thread adapter.

Advantage:

- Enables variable positioning on the machine table.
- The threaded interface allows the base element to be replaced easily on the modular screw jack.



No. 6425FY

Base element

Tempered steel, burnished.



CAD

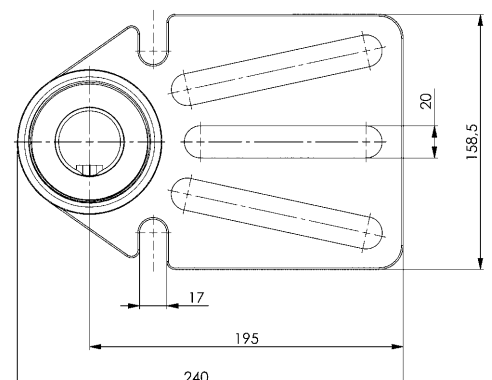
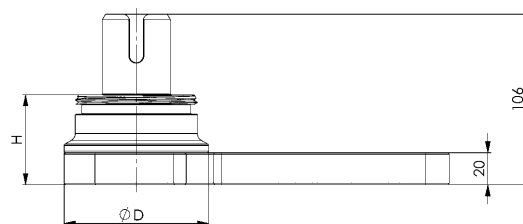
Order no.	D	H	Weight [g]
562007	90	56	5652

Application:

Can be used on T-slots and grid plates. The individual elements are plugged together and connected by means of a threaded ring ensuring process reliability. The insertion tool makes it possible to use the base element as well as thread adapter.

Advantage:

- Enables variable positioning on the machine table.
- The threaded interface allows the base element to be replaced easily on the modular screw jack.



Subject to technical alterations.

No. 6425A-230

Support element with fine thread and base element 6425FB

Body and base element, tempered steel, burnished.
Spindle and bearing smooth, tempered steel, plasma-nitrided and burnished.



CAD

Order no.	H min.	H max. *	F max. [kN]	Weight [g]
562001	210	230	35	6671

* maximum attainable height with an spacer element 6425Z-100 is 330 mm

Application:

Can be used on T-slots and grid plates by means of adapters, which are screwed in the base element. The support element can be sensitively adjusted to a maximum bearing height of 330 mm under load. The bearings can be adjusted with an angle of $\pm 3^\circ$.

Advantage:

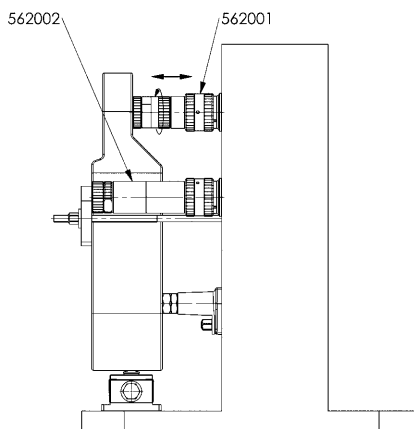
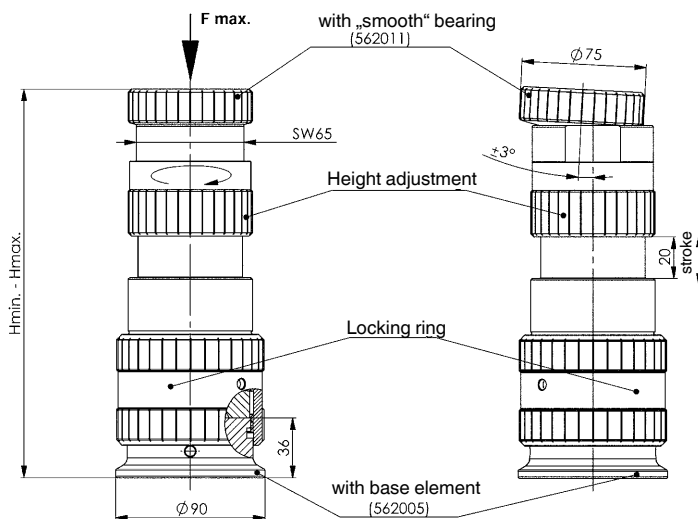
- Used as an extra support point to prevent sagging and vibration of the workpiece.
- Mounted directly under a clamping point, distortion of the workpiece is prevented.
- Compensation of large workpiece tolerances (castings and forgings).
- For use in horizontal and vertical clamping.

Note:

- maximum height 330 mm
- 3 different bearings are held in place by magnets
- bearings (smooth, spherical, point) are interchangeable



Focus Open 2020
Gold



Subject to technical alterations.

No. 6425AB

Bearing, spherical

Tempered steel, plasma-nitrided and burnished.



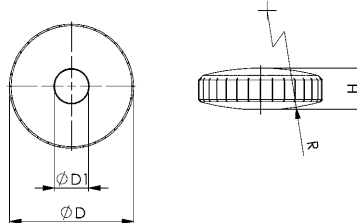
Order no.	dia. D	dia. D1	H	R	Weight [g]
562012	75	20,5	24,7	140	655

Application:

- Interchangeable bearing for the support element 6425A-230.

Advantage:

- Compensation of large workpiece tolerances (castings and forgings).
- For use in horizontal and vertical clamping, since secured by magnet and cylinder pin.



No. 6425AG

Bearing, smooth

Tempered steel, plasma-nitrided and burnished.



CAD



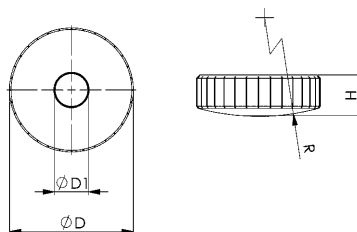
Order no.	dia. D	dia. D1	H	R	Weight [g]
562011	75	20,5	24,7	140	739

Application:

- Interchangeable bearing for the support element 6425A-230.

Advantage:

- Compensation of large workpiece tolerances (castings and forgings).
- For use in horizontal and vertical clamping, since secured by magnet and cylinder pin.



No. 6425AP

Bearing, point

Tempered steel, plasma-nitrided and burnished.



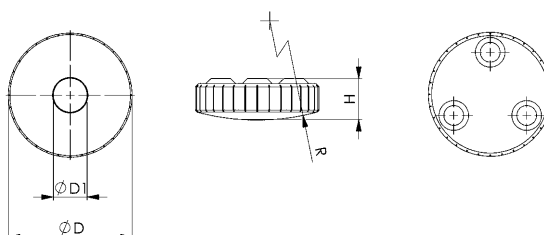
Order no.	dia. D	dia. D1	H	R	Weight [g]
562013	75	20,5	24,7	140	651

Application:

- Interchangeable bearing for the support element 6425A-230.

Advantage:

- Compensation of large workpiece tolerances (castings and forgings).
- For use in horizontal and vertical clamping, since secured by magnet and cylinder pin.



No. 6425WW

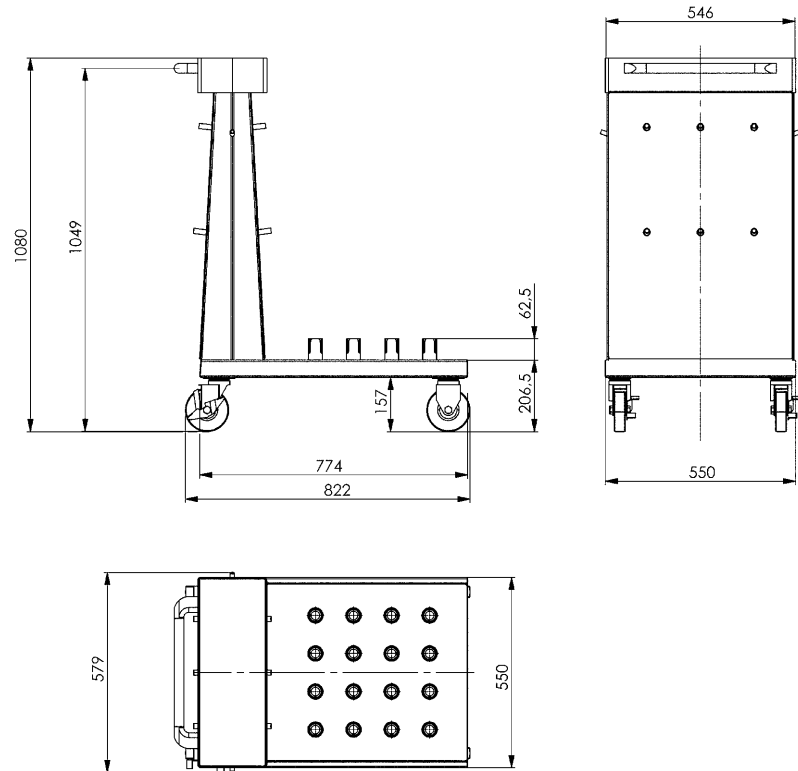
Tool cart

without screw jack elements
Steel housing powder-coated.
All surfaces protected with rubber mats.
2 rollers + 2 castors with locking brake

Order no.	Height x length	Weight [g]
	[mm]	
562015	1080 x 822	63240

Advantage:

- mobile = quickly ready when needed at the workplace
- Tidy = convenient, space-saving and always readily available
- Individual equipment configurations possible through construction of many mounting points



No. 6425MW

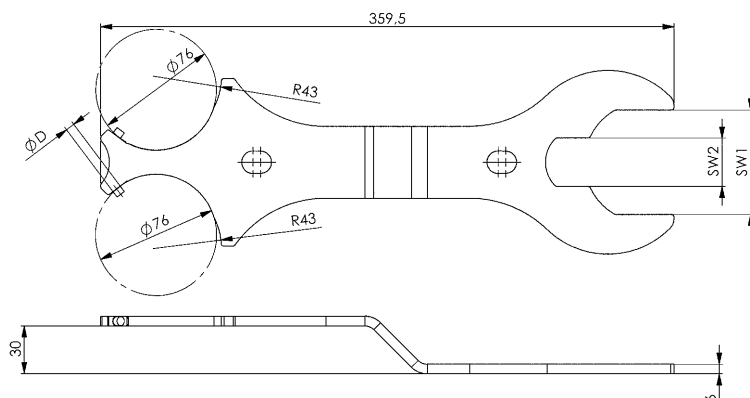
Insertion tool

Special steel, hardened and blued in black oxide finish.

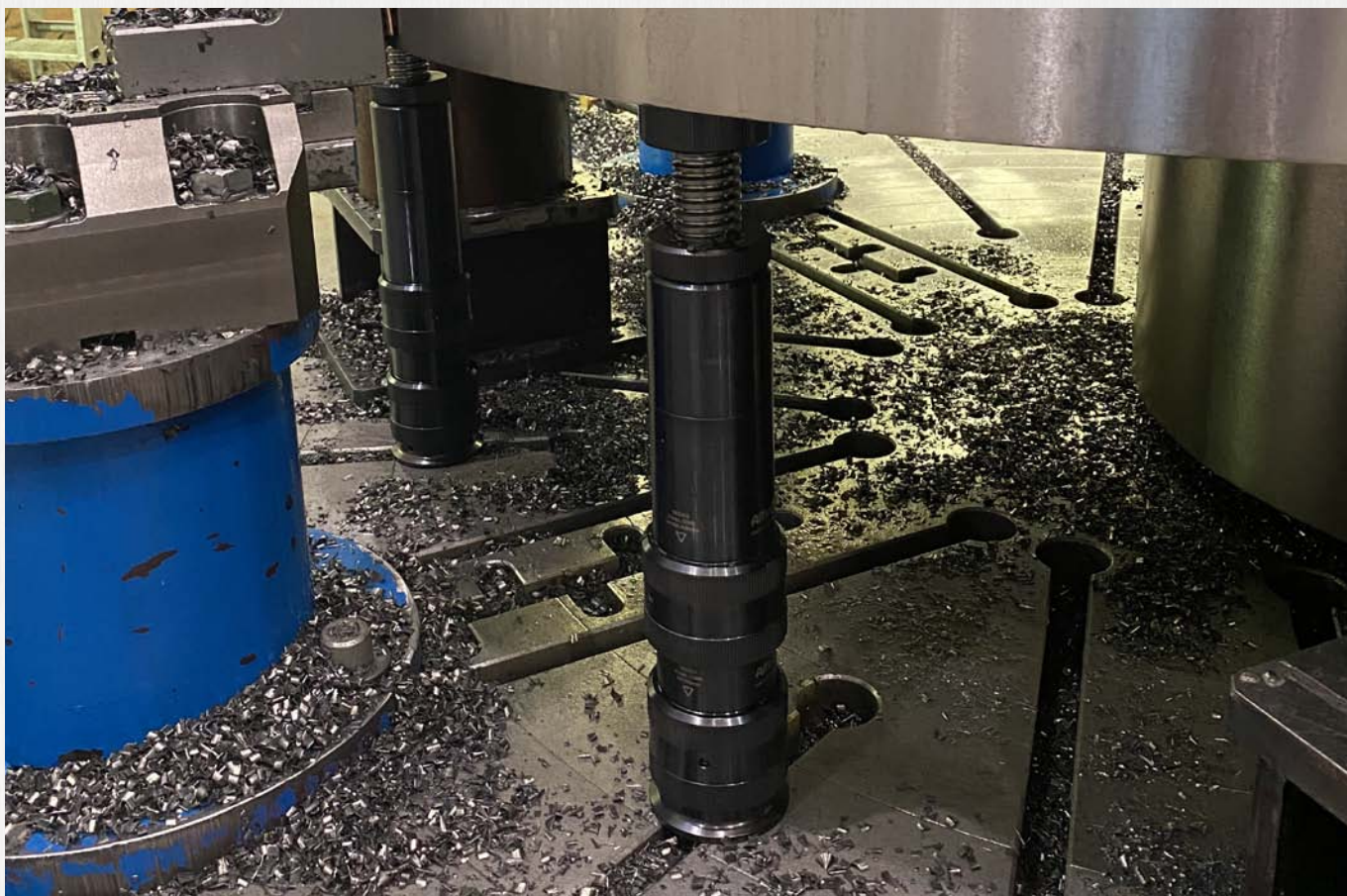
Order no.	Size	D	SW1	SW2	Weight [g]
562014	76	6	65	30	960

Application:

The insertion tool makes it possible to use the head and base elements of the screw jack modular as well as thread adapter.



Subject to technical alterations.



No. 6415

Height setting screw jack

with a cylinder pin ISO8734-12x50. Centring hole $\varnothing 12$ mm. Spindle: Metric fine thread M30x1.5 with final stop. Sliding insert runs on pressed plain bearing bushing. Tempered steel, burnished.



Order no.	Size	H min.	H max.	D1	D2	H1 min.	H1 max.	F max. [kN]	Weight [g]
86504	75	55	75	50	34	82	102	30	680
86512	115	75	115	50	34	102	142	30	950

Application:

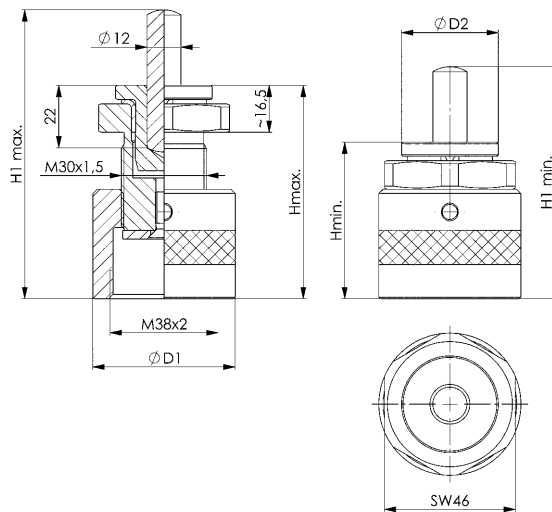
The height guide bench vice can also be used without cylinder pin or with the attachments No. 6440 and No. 6441. The combination with all AMF screw jacks is possible with centring plate.

Advantage:

Sensitive adjustment. A bearing insert prevents the workpiece from being turned while the jack is adjusted.

Note:

Suitable attachments: No. 6440, 6441 and 6442.
Suitable support: No. 6442G.



Recommendations



No. 6440,
page 68



No. 6441,
page 68



No. 6442,
page 68

CAD



No. 6416

Height setting screw jack with magnetic base

with a cylinder pin ISO8737-12x50. Centring hole $\varnothing 12$ mm. Spindle: Metric fine thread M30x1.5 with final stop. Sliding insert runs on pressed plain bearing bushing. Tempered steel, burnished.



Order no.	Size	H min.	H max.	D1	D2	H1 min.	H1 max.	F max. [kN]	Weight [g]
86520	85	65	85	50	34	92	112	30	800
86538	125	85	125	50	34	112	152	30	1000

Application:

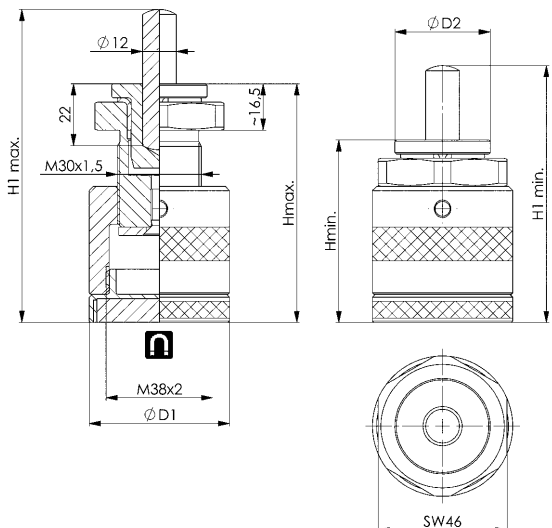
The height guide bench vice can also be used without cylinder pin or with the attachments No. 6440 and No. 6441. The combination with all AMF screw jacks is possible with centring plate.

Advantage:

Sensitive adjustment. A bearing insert prevents the workpiece from being turned while the jack is adjusted.

Note:

Suitable attachments: No. 6440, 6441 and 6442.
Suitable support for dismantled magnetic base: No. 6442G.



Recommendations



No. 6315GN,
page 24



No. 6315GNG,
page 24

CAD



Subject to technical alterations.

No. 6420

Height setting screw jack with pivotable ball

Steel tempered, burnished. Ball made of hardened steel.



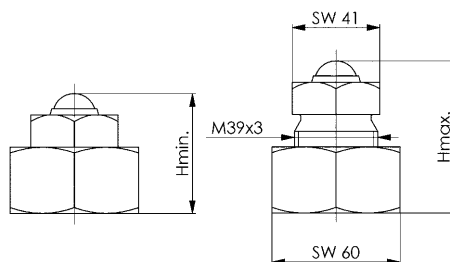
Order no.	Size	H min.	H max.	F max. [kN]	Weight [g]
72546	70	56	70	30	950

Application:

This element with its punctual support is particularly useful in the support and alignment of free-form surfaces e.g. of workpieces which are made of cast iron and forging-grade steels. The precision of alignment is approx. 0.1 mm.

Advantage:

- The pivotable ball minimizes the friction on the support and reduces the required operating forces.
- The use of a point-like support prevents the transmission of the torsional force created by the movement of the spindle. The position of the workpiece remains unchanged.
- The simple and rugged construction provides for a long lasting service life.



Recommendations



No. 6415, page 58

No. 6400

Screw jack with flat support

Centring hole dia. 12 mm. Spindle: Trapezoidal thread, self-locking with end stopbody. Tempering steel, varnished.



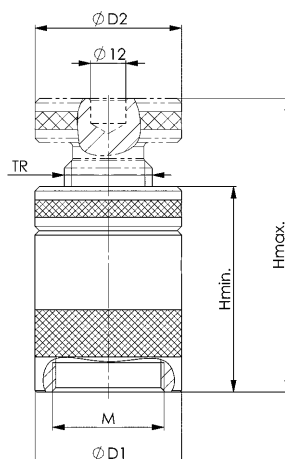
Order no.	Size	H min.	H max.	TR	D1	D2	M	F max. [kN]	Weight [g]
72397	50	38	50	20 x 4	31	31	-	25	190
72389	52	42	52	30 x 4	50	50	M38 x 2	100	550
72405	70	50	70	30 x 4	50	50	M38 x 2	100	620
72413	100	70	100	30 x 4	50	50	M38 x 2	100	900
72421	140	100	140	40 x 7	68	68	-	120	2760
72439	210	140	210	50 x 8	80	70	-	170	4600
72496	200	140	200	65 x 10	100	80	-	350	6900
72447	300	190	300	65 x 10	100	80	-	350	9000
72504	280	190	280	80 x 10	140	110	-	600	19000

Advantage:

Higher support forces F max. through material optimisation with sizes 50 - 140.

Note:

Size 50 without centring hole $\varnothing 12$ mm. The sizes 52-100 are suitable for clamps with a slot width of approx. 14-22 mm. The screw jack no. 6430 represents a useful addition for large clamping heights. The sizes 140-300 are suitable for clamps with a slot width of approx. 20-40 mm. For these, the screw jacks no. 6435S represent a useful addition for large clamping heights. When using clamps DIN 6315B, 6315C and 6315GN from 26 mm slot width, we recommend, fixing cap no. 6443. The sizes 200-280 are intended for supporting large workpieces. Suitable attachments for screw jack sizes 52-280 are nos. 6440, 6441, 6442, 6443 and 6445. The suitable support for sizes 52-100 is no. 6442. Do not adjust screw jack under load!



Recommendations



No. 6440, page 68



No. 6441, page 68

Subject to technical alterations.

No. 6400M

Screw jack with flat support and magnetic base

Centring hole dia. 12 mm. Spindle: Self-locking trapezoidal thread with final stop. Painted tempered steel.



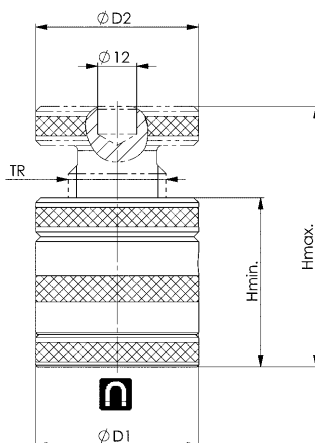
Order no.	Size	H min.	H max.	TR	D1	D2	F max. [kN]	Weight [g]
73320	62	52	62	30x4	50	50	100	700
73361	80	60	80	30x4	50	50	100	770
73403	110	80	110	30x4	50	50	100	1050

Advantage:

Higher support forces F max through material optimisation.

Note:

AMF screw jacks with magnetic base are designed for horizontal and vertical application. The permanent magnet allows permanent and exact positioning of the workpiece in a vertical position. The screw jacks are suitable for clamps of approx. 14-22 mm. When using clamps DIN 6415B, 6315C and 6315GN from 26 mm slot width, we recommend, by way of precaution, fixing cap no. 6443. Suitable attachments: No. 6440, 6441, 6442, 6443 and 6445. Suitable support for dismantled magnetic base: No. 6442G. Do not adjust screw jack under load!



Recommendations



No. 6440,
page 68



No. 6443,
page 69

CAD



No. 6400G

Screw jack with flat support and thread

Thread for fastening. Centring hole M12. Spindle: Trapezoidal thread, self-locking with end stopbody. Tempering steel, varnished.



Order no.	Size	H min.	H max.	TR	D1	D2	F max. [kN]	Weight [g]
376194	52	42	52	30x4	50	50	100	550
376210	70	50	70	30x4	50	50	100	620
376236	100	70	100	30x4	50	50	100	948

Application:

Especially suited for use on vertical turning and boring machines to achieve optimal clamping heights and absorb centrifugal forces.

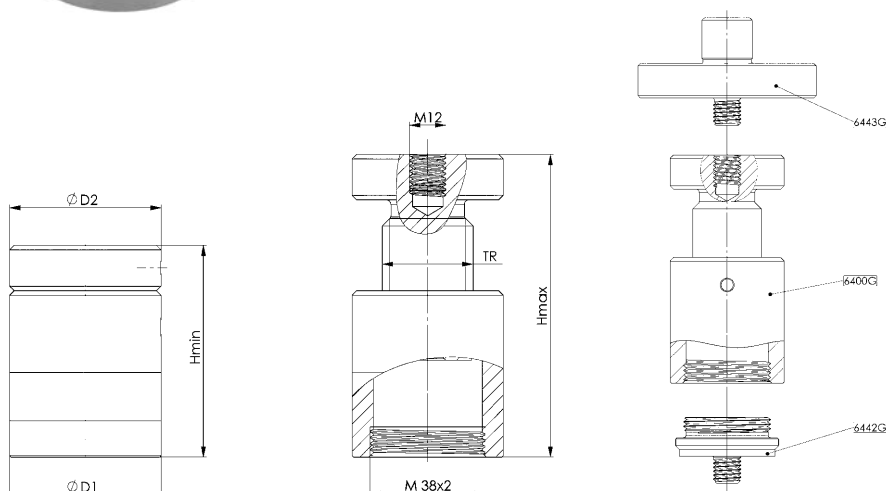
Advantage:

Screw jack can be screwed onto the heavy-duty screw jack no. 6435SG to guarantee optimum security against the occurrence of centrifugal forces. Fixing cap no. 6443G or a screw for retaining a clamp can be incorporated into the screw jack top.

Higher support forces through material optimisation with sizes 52 - 100.

Note:

Do not adjust screw jack under load!



Recommendations



No. 6442G,
page 70



No. 6443G,
page 70

CAD



Subject to technical alterations.

No. 6401

Aluminium screw jack

Centring hole dia. 12 mm. Spindle: Tempering steel, blued, Trapezoidal thread, self-locking with end stopbody. Base: Aluminium 400 N/mm² tensile strength.



Order no.	Size	H min.	H max.	TR	D1	D2	M	F max. [kN]	Weight [g]
75770	52	42	52	30x4	50	50	M38 x 2	30 *	370
75788	70	50	70	30x4	50	50	M38 x 2	30 *	430
75796	100	70	100	30x4	50	50	M38 x 2	30 *	600

Application:

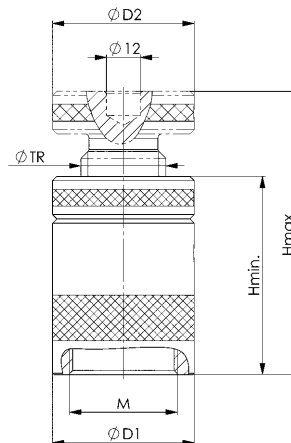
Protects the tables from precision machines (steel chips do not penetrate into the machine table, but into the aluminium base). Suitable for all machine tool tables as well as for guide and measuring plates with precision machined surfaces.

Advantage:

Greater clamping heights can be achieved using the support with aluminium intermediate rings 6406A.

Note:

F max.* until max. 350 mm total height ensured. In addition, there is a risk of buckling. Suitable attachments: no. 6440, 6441, 6442, 6443/14 and 6445. Do not subject the screw jack to excessive load!



Recommendations



No. 6442, page 68



No. 6440, page 68

No. 6405

Aluminium screw jack with magnetic base

Centring hole dia. 12 mm. Spindle: Tempering steel, blued. Trapezoidal thread, self-locking with end stopbody. Base: Aluminium 400 N/mm² tensile strength.



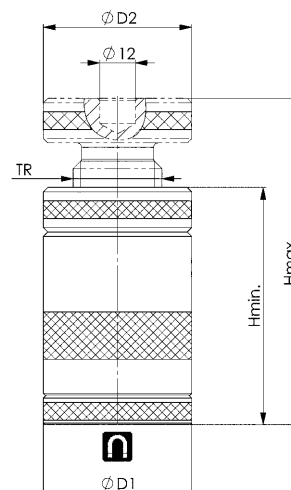
Order no.	Size	H min.	H max.	TR	D1	D2	F max. [kN]	Weight [g]
75804	62	52	62	30x4	50	50	30 *	380
75812	80	60	80	30x4	50	50	30 *	550
75820	110	80	110	30x4	50	50	30 *	710

Advantage:

Greater clamping heights can be achieved by installing aluminium intermediate rings 6406A. Magnetic base removable.

Note:

AMF screw jacks with magnetic base are designed for horizontal and vertical application. The permanent magnet allows permanent and exact positioning of the workpiece in a vertical position. F max.* until max. 350 mm total height ensured. In addition, there is a risk of buckling. Suitable attachments: No. 6440, 6441, 6442, 6443/14 and 6445. Do not adjust screw jack under load!



No. 6406

Aluminium screw jack with swarf protection

Scraper ring protects screw jack spindle against chips. Centring hole dia. 12 mm. Spindle tempering steel, blued. Trapezoidal thread, self-locking with end stopbody.

Composed of:

- screw jack with swarf protection
- Alu-base (size 10) or magnetic base (size 20).



CAD



Order no.	Size	H min.	H max.	TR	D1	D2	F max. [kN]	Weight [g]
72850	10	75	88	30x4	50	50	30	630
72868	20	75	88	30x4	50	50	30	720

Application:

AMF screw jacks with magnetic base are designed for horizontal and vertical application. The permanent magnet allows permanent and exact positioning of the workpiece in a vertical position.

Advantage:

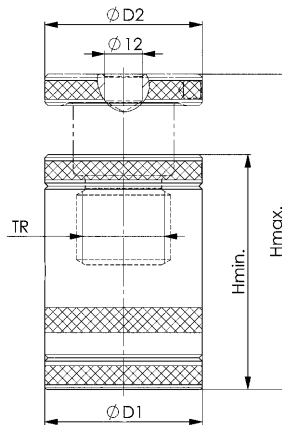
The screw jack thread is protected from the penetration of chips by the scraper.

Note:

F max. until max. 350 mm total height ensured. In addition, there is a risk of buckling.

Suitable attachments: no. 6440, 6441 and 6445

Do not subject the screw jack to excessive load!



Recommendations



No. 6440,
page 68



No. 6441,
page 68

No. 6406A

Alu-intermediate ring

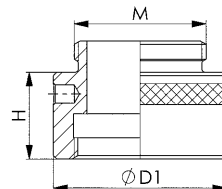
for the height extension of aluminium screw jacks.



CAD



Order no.	Size	H	D1	M	F max. [kN]	Weight [g]
72876	12	12,5	50	M38 x 2	30	38
72884	25	25,0	50	M38 x 2	30	76
72926	50	50,0	50	M38 x 2	30	165



No. 6401M

Magnetic base for screw jacks

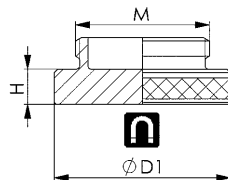
Case: Steel, zinc-plated



CAD



Order no.	H	D1	M	Weight [g]
558436	10	50	M38 x 2	125



No. 6406AF

Aluminium base for screw jacks

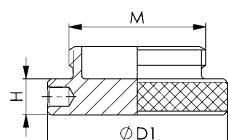
Case: Aluminium



CAD



Order no.	H	D1	M	Weight [g]
557186	10	50	M38 x 2	60



Subject to technical alterations.

No. 6406-125

Aluminium screw jack with swarf protection

Scraper ring protects screw jack spindle against chips. Centring hole dia. 12 mm. Spindle tempering steel, blued. Trapezoidal thread, self-locking with end stopbody.

Composed of:

- screw jack with swarf protection
- intermediate ring 12.5 mm
- intermediate ring 25 mm and
- Alu- and magnetic base.

Order no.	Size	H min.	H max.	TR	D1	D2	F max. [kN]	Weight [g]
72371	125	75	125	30x4	50	50	30*	920

Application:

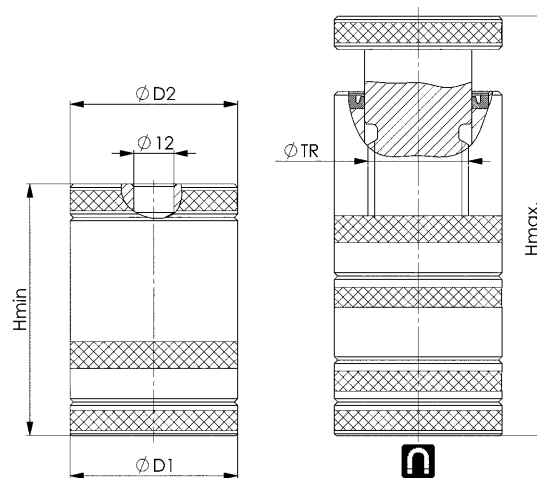
AMF screw jacks with magnetic base are designed for horizontal and vertical application. The permanent magnet allows permanent and exact positioning of the workpiece in a vertical position.

Advantage:

The screw jack thread is protected from the penetration of chips by the scraper.

Note:

F max. until max. 350 mm total height ensured. In addition, there is a risk of buckling. Suitable attachments: no. 6440, 6441 and 6445 do not subject the screw jack to excessive load!



Recommendations



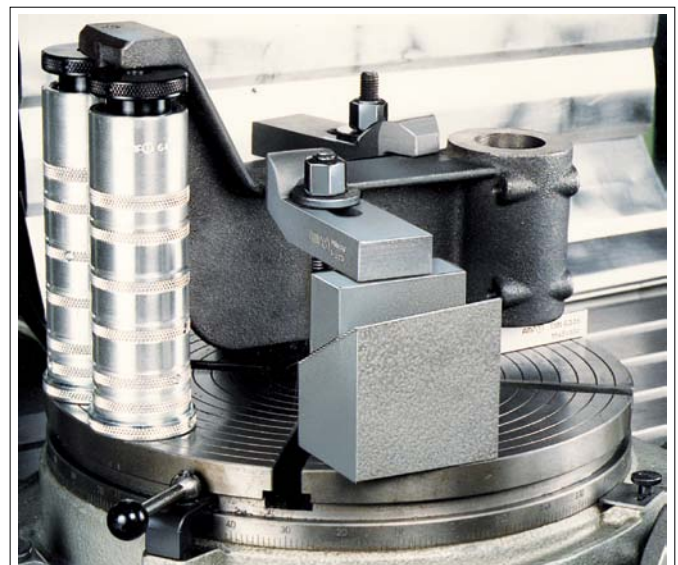
No. 6440,
page 68



No. 6441,
page 68



No. 6445,
page 69



Subject to technical alterations.



No. 6460

Wedge block „Herkules“ height wedge

Centering hole dia. 12 mm. Spherical graphite cast iron and steel tempered and burnished. Wedge faces precision machined. Complete with one ball-pad no. 6440.



Recommendations



No. 6400M,
page 60



No. 6420,
page 59



No. 6444,
page 69

Order no.	Size	H min.	H max.	B1	B2	H1	H4	L	SW	H/U* [mm]	F max. [kN]	Weight [g]
72777	63	50	68	63	40	80	7	63	13	0,86	40	1700
72785	125	100	125	115	60	135	20	125	24	1,16	100	8600
72793	190	170	190	145	80	200	20	175	36	2,02	250	23750

*H/U= height adjustment per single turn.

Application:

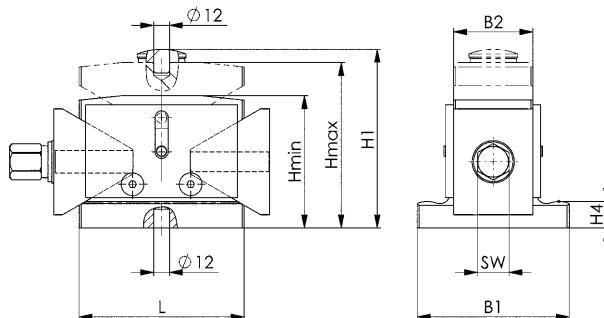
The fine-machined wedge surfaces permits a smooth, precise adjustment to less than 1/10 mm. The double wedge effect produces a large stroke and precise vertical movement with no lateral shift. The height wedge proves its worth with heavy castings or forgings on large tool machines. The AMF „Herkules“ whipstock has an additional centring hole in the floor of the base area. This enables the whipstock to be mounted on „heavy screw jacks“. A ISO8734-12x30 cylinder pin is required for this purpose.

Note:

Suitable attachments for wedge block No. 6460 are No. 6440, 6441 and 6442.

All sizes with lateral clamping rim for fastening on the machine table.

For size 63, the base plate is removable for reaching Hmin.



No. 6465

Precision wedge block

Centring hole Ø 12 mm. Case-hardened steel and fine-machined wedge surfaces. A spherical attachment no. 6440 is included with every precision whipstock.



Recommendations



No. 6440,
page 68



No. 6445,
page 69



No. 6443,
page 69

Order no.	Size	H min.	H max.	H/U* [mm]	F max. [kN]	SW [mm]	Weight [Kg]
375592	55	50	55	0,71	40	22	2,8
375618	85	77	85	0,71	250	36	11,5

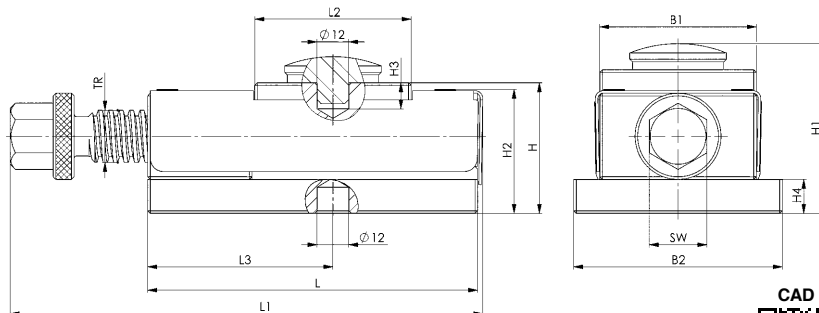
*H/U= height adjustment per single turn.

Application:

- The fine-machined wedge surfaces permits a smooth, precise adjustment to less than 1/10 mm.
- Operation can be via an open-ended spanner - hence ensuring enhanced safety and ease of handling due to the large adjusting forces.
- The double wedge effect produces a precise vertical movement with no lateral slide.
- The flat design of the precision height wedge enables higher safety properties to be realised when aligning heavy and large components.
- The precision whipstock has an additional centring hole in the floor of the base surface for alignment on the machine table. (suitable for a pin ISO 8734 - 12 mm diameter)

Note:

- Suitable caps for the precision whipstock are nos. 6440, 6441 and 6442
- Precision whipstock can be adjusted under load
- Height adjustment is 0.71 mm / revolution



Dimensions:

Order no.	B1	B2	TR	H1	H2	H3	H4	L	L1	L2	L3
375592	60	80	20	60-65	47,5	10	13	128	150-179	60	71
375618	100	140	30	87-95	74,0	15	15	204	242-287	81	102

Subject to technical alterations.



- MODULAR HEIGHT ADAPTER FOR YOUR FLEXIBLE PRODUCTION**
- + Simple direct clamping of the workpiece
 - + Flexibly adaptable to every workpiece size and thickness
 - + Convenient 5-sided processing
 - + Freely selectable standard dimension



No. 6430S

Atlas screw jack with counter nut

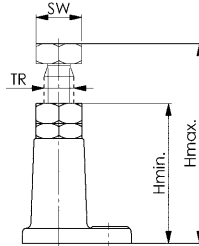
Centring hole dia. 12 mm. Spindle complete: tempering steel with trapezoidal thread. Spindle head blued. Housing: cast iron, varnished.



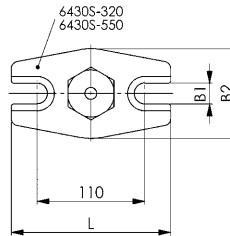
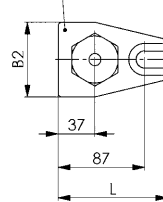
Order no.	Size	H min.	H max.	TR	B1	B2	L	SW	F max. [kN]	Weight [Kg]
72553	140	100	140	30x6	18	75	110	46	60	1,8
72561	200	140	200	30x6	18	75	110	46	60	2,2
72579	320	200	320	30x6	22	90	160	46	40	3,8
72587	550	320	550	30x6	22	90	160	46	25	4,9

Note:

When using clamps DIN 6315B, 6315C and no. 6315GN with slot-sizes above 26 mm we recommend the use of locating pad no. 6443 for safety. Suitable pads are no. 6440, 6441, 6442, 6443 and 6445. Do not adjust screw jack under load!



6430S-140
6430S-200



Recommendations



No. 6442,
page 68



No. 6443,
page 69



No. 6445,
page 69

CAD



No. 6435S

Heavy screw jack

with nickel lock bolt. Centring hole D12 / M10. Spindle: Tempered steel, self-locking acme thread, with final stop. Spindle head burnished. Body: tempered steel, painted.



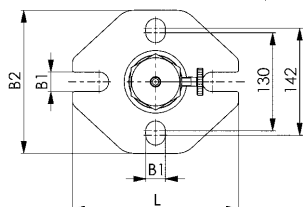
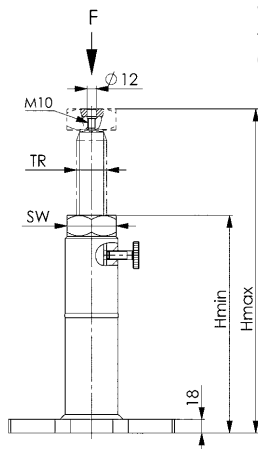
Advantage:

- Thread M10 on the spindle top for fixing attachment elements.
- Greater clamping heights can be achieved by installing with No. 6442G and No. 6415.
- Base plate with closed slots for fastening on the machine table.

Note:

When using clamps DIN 6315B, 6315C and No. 6315GN from 26 mm slot width, we recommend the fixing cap No. 6443. Suitable attachments for screw jack No. 6435S are No. 6440, 6441, 6442, 6443, 6445 and 6442G.

Do not adjust screw jack under load!



Recommendations



No. 6440,
page 68



No. 6441,
page 68



No. 6445,
page 69

CAD



Subject to technical alterations.

No. 6438S

Screw jack, quick-action

continuously adjustable with nickel lock bolt.
Centring hole D12 / M10. Spindle: Tempered steel, self-locking
acme thread with final stop.
Spindle head burnished. Body: tempered steel, painted.

Order no.	Size	H min.	H max.	TR	B1	B2	D	L	SW	F max. [kN]	Weight [Kg]
75705	450	320	450	40x7	26	190	90	220	65	50	11,5
75713	710	450	710	40x7	26	190	90	220	65	40	13,7
75721	1250	710	1250	40x7	26	190	90	220	65	30	18,3

Application:

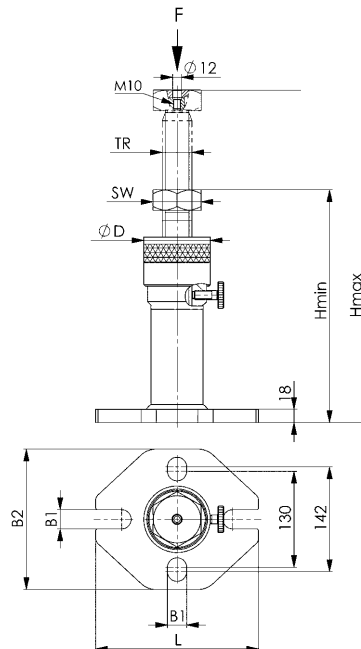
This screw jack allows fast adjustment and continuous adjustment within the entire height range.
Suitable attachments: No. 6440, 6441, 6443, 6445 and 6442G.

Advantage:

- Thread M10 on the spindle top for fixing attachment elements.
- Greater clamping heights can be achieved by installing with No. 6442G and No. 6415.
- Base plate with closed slots for fastening on the machine table.

Note:

- Hold spindle, max. 6 kg
 - Undo lock bolt
 - Turn actuating ring to undo the spindle
 - Adjust height
 - Turn actuating ring to fasten the spindle
 - Secure spindle with lock bolt
- Do not subject the screw jack to excessive load!



Recommendations



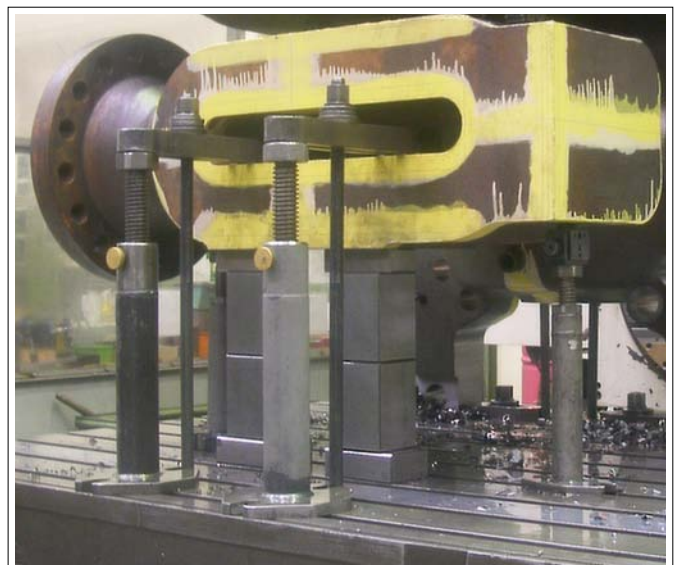
No. 6440,
page 68



No. 6441,
page 68



No. 6442,
page 68



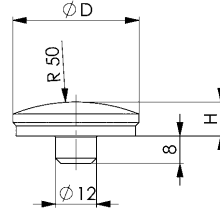
Subject to technical alterations.

No. 6440

Ball-pad

Steel tempered, burnished.

Order no.	H	D	Weight [g]
72710	10	37	90



CAD

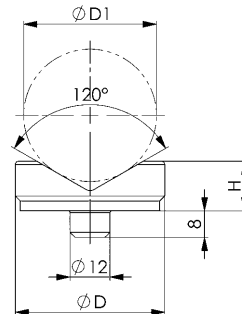


No. 6441

Vee-pad

Steel tempered, burnished.

Order no.	Size	H	D	D1 min.	D1 max.	Weight [g]
72728	45	15	45	10	50	120
72769	65	30	65	22	100	545



CAD

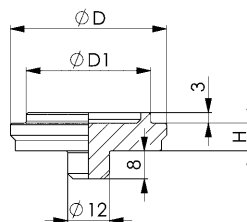


No. 6442

Centering-pad

Steel tempered, burnished.

Order no.	H	D	D1	Weight [g]
72736	8	45	35,8	120



CAD



Subject to technical alterations.

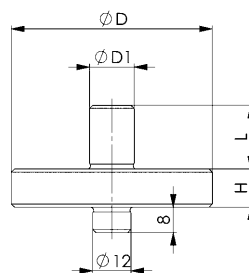
No. 6443

Locating-pad

for forked clamps. Steel tempered, burnished.



Order no.	Size	H	D	D1	L	Weight [g]
72751	14	12	63	14	15	310
72744	25	15	78	25	25	650



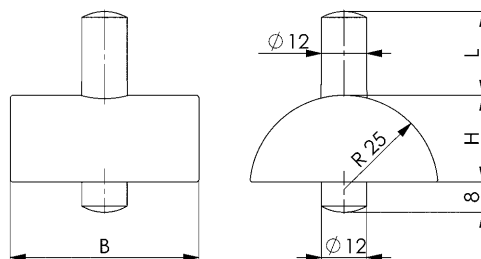
No. 6444

Locating-pad

with cylindrical face. Steel tempered and burnished.



Order no.	H	B	L	Weight [g]
72454	23	50	19	370



No. 6445

Support with pivotable ball

Steel tempered, burnished. Ball made of hardened steel.



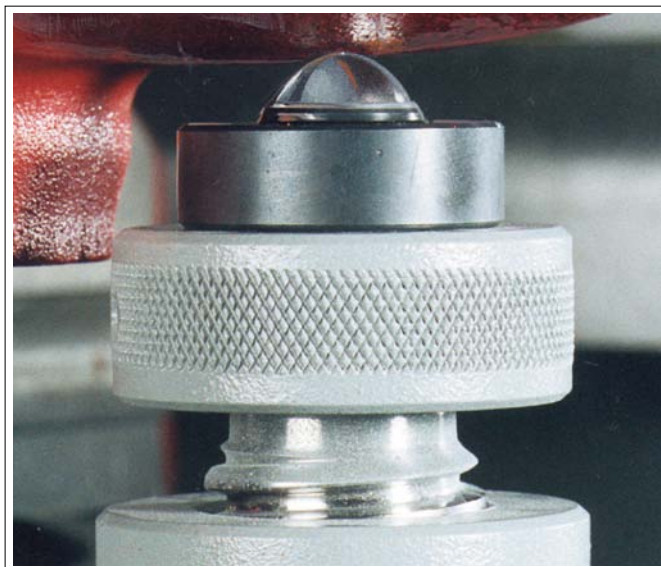
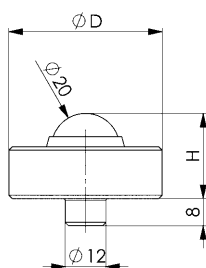
Order no.	H	D	F max. [kN]	Weight [g]
72819	25	45	30	240

Application:

This rugged element was designed for the supporting and alignment of workpieces made of cast iron and forging-grade steels. Designed for use with AMF-screw jacks.

Advantage:

- The pivotable ball minimizes the friction on the support and reduces the required operating forces.
- The use of a point-like support prevents the transmission of the torsional force created by the movement of the spindle. The position of the workpiece remains unchanged.
- The simple and rugged construction provides for a long lasting service life.



Subject to technical alterations.

No. 6442G

Centring plate with thread

Steel tempered, burnished.



Order no.	Size	D1	D2	H	H1	H2	M	Weight [g]
562125	M10	50	11,9	10	33	25	M38x2	200

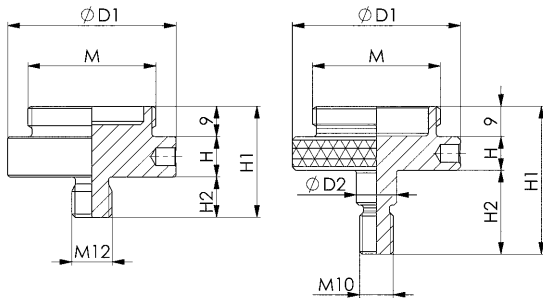
Advantage:

Centring plate can be screwed onto screw jacks. The screw jacks can be screwed onto the centring plate.

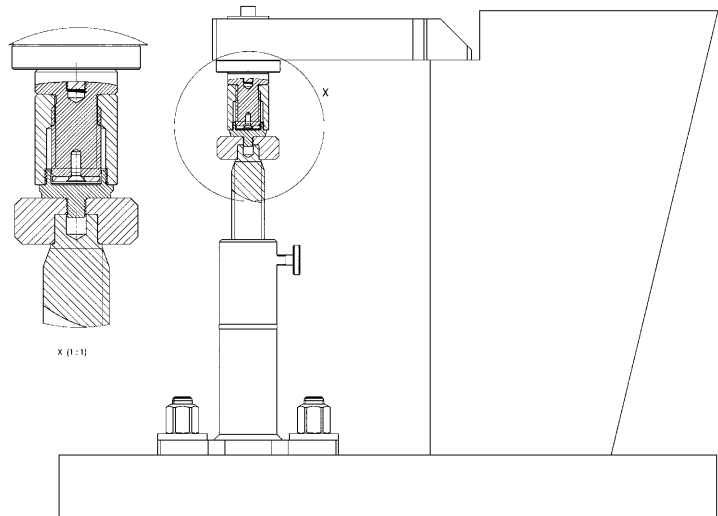
- Height guide bench 6415
- Screw jack with flat bearing 6400-52 /-70/-100
- Screw jack with flat bearing and thread 6400G
- Aluminium-screw jack 6401

Note:

The maximum possible support force of the screw jack combination must be adjusted to the support force (Fmax.) of the screw jack used.



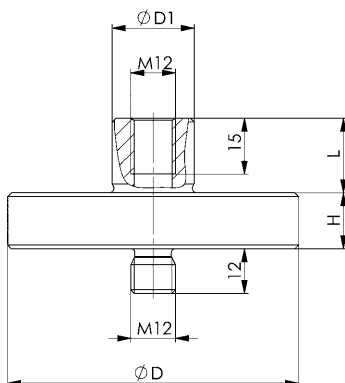
CAD



No. 6443G

Fixing cap with thread

for forked clamps. Steel tempered, burnished.



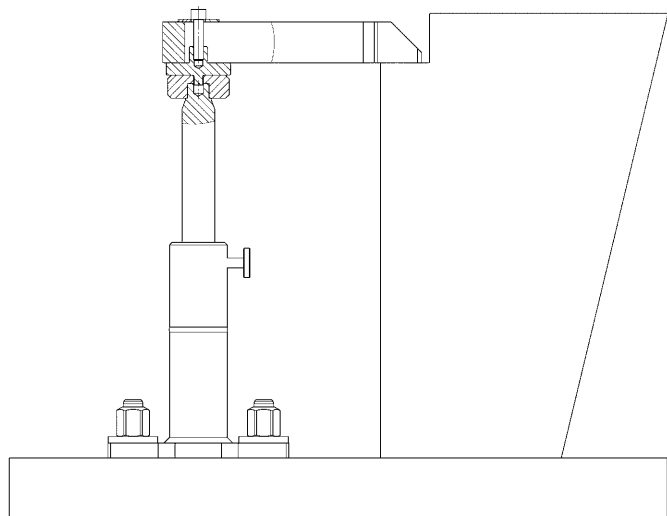
CAD



Order no.	Size	H	D	D1	L	Weight [g]
376350	25	15	78	22	20	601

Advantage:

Centring plate can be screwed onto screw jacks. Internal thread for additional fastening of clamps onto screw jacks. Safety with vertical turning and boring machines.



No. 6417
Mandrel

blued, with brass thrust piece.

Order no.	Size	Slot	H ±0,1	H1 min.	H1 max.	H2 min.	H2 max.	dia. D1	dia. D2	dia. D3	G1	G2	SW	Weight [g]
74179	80	14	80	116	148	8	40	40	50	32	M12	M16	27	1270

Application:

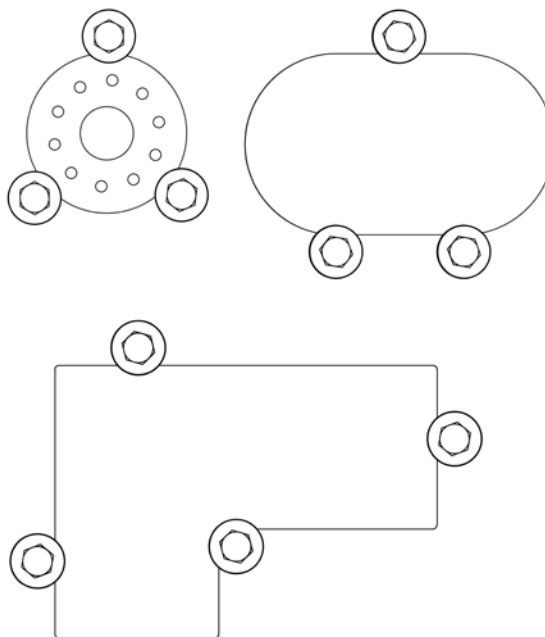
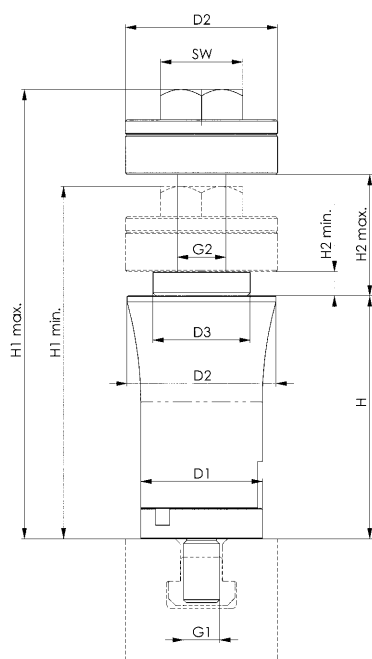
- The mandrels are fastened to the machine table by means of T-nuts.
- The mandrel is fixed on the slotted table by operating the SW 27 mm pre-tensioning nut.
- Clamping is by means of the SW 27 mm screw of tempered steel.
- Damage to the workpiece is prevented by a brass clamping ring.

Advantage:

- Reduced tooling time and tool elements cuts tooling costs
- Optimal use of the machine table
- Tension on flat workpieces increased to make holes, threads and grooves

Note:

- Suitable for workpiece thicknesses from 8 to 40 mm
- Support height 80 mm
- Also available is an extension screw for workpiece thicknesses from 40 - 72 mm and spacer elements of 25 mm and 50 mm to increase the support height


Recommendations

 No. 6417Z,
page 72

 No. 6417SP,
page 72


Subject to technical alterations.

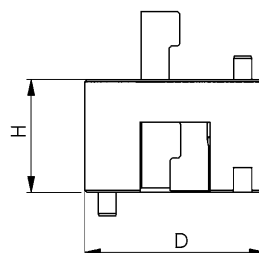
No. 6417Z
Spacer element

blued.

Order no.	Size	dia. D	H	Weight [g]
74195	25	40	25	214
74211	50	40	50	459

Application:

Used to increase the support height.



CAD

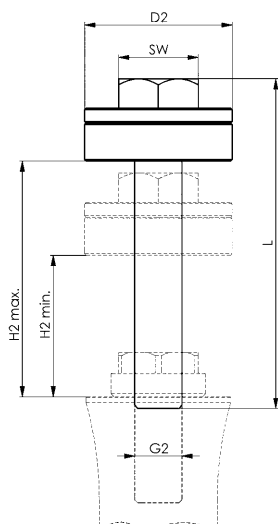

No. 6417SP
Spindle, long

blued.

Order no.	Size	L	dia. D2	G2	SW	H2 min.	H2 max.	Weight [g]
74237	M16	104	50	M16	27	40	72	423

Application:

Used to increase the clamping height.



CAD



Subject to technical alterations.

No. 6418

Support element, mechanical

incl. DIN 508-M12x14 nut for T-grooves, M12x30-10.9 threaded stud. Body: Case-hardened steel, manganese phosphatised and ground. Body: Aluminium.



Order no.	Size	Support force F max. [kN]	H	Stroke [mm]	SW1	SW2	G	Weight [g]
75416	M12	8	78-83	5	21	6	M12	939

Application:

1. Fasten support element (2x M6 connecting thread) on fixture.
- Note operator side!
- Alternatively: Remove M12 x 10 threaded stud and replace with M12 x 30 threaded stud and mount the support element with key (size 21), e.g. for T-groove mounting
- (No defined operator side ensured).
2. Turning the clamping cam (hexagon socket size 6) on the outside surface of the red protective sleeve positions the supporting bolt against the workpiece with light spring force.
3. Turning further as far as it will go (lock) - a total of 180° - locks the clamping mechanism of the supporting bolt without length change.
The support element is positioned on the workpiece and locked.
4. Turning in the opposite direction (unlock) releases the clamping. Continuing to turn back as far as it will go - a total of 180° - moves the supporting bolt to the end position.

Advantage:

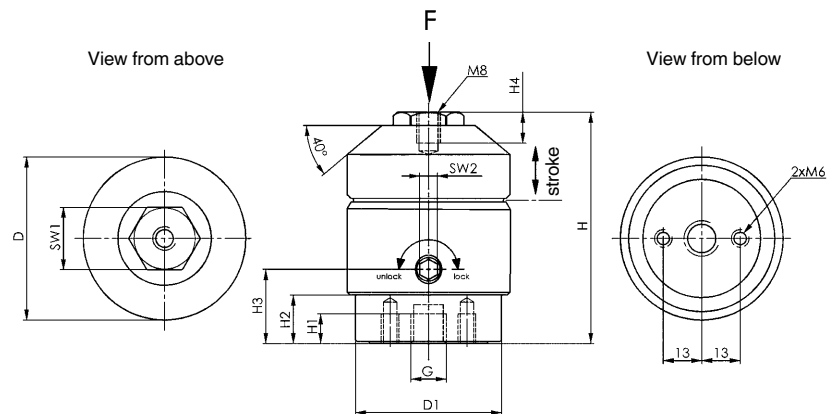
- Used as an extra support to prevent sagging and vibration of the workpiece.
- Mounted directly under a clamping point, it prevents distortion of the workpiece.
- Compensation of large workpiece tolerances (castings).

Note:

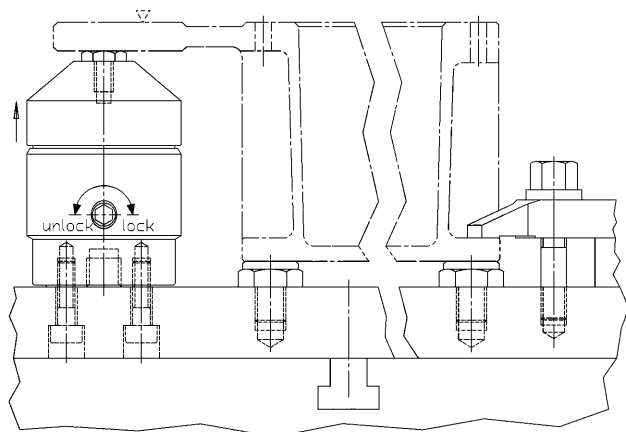
- M8 thread on supporting bolt can be mounted with pressure screws (Nos. 7110DHX, 7110DIX, 7110DKX, 7110DFX).
- Customer-specific extensions can also be mounted.
- For reliable function the M12 threaded hole must always be closed.

Dimensions:

Order no.	Size	D	D1	H1	H2	H3	H4
75416	M12	55	49,4	10	16	25	10,5



Application example:



Subject to technical alterations.

No. 6419

Floating clamp

combined support and clamping,
incl. fastening for T-slots.



Order no.	Size	Slot	G	Md min. - max. [Nm]	F [kN]	Setting travel H	Clamping stroke H2*	Weight [g]
75754	12	14	M12	15-30	2-8	102-112	0-12	1880
75622	16	18	M16	50-115	8-25	163-175	10-25	6250

* Clamping stroke = clamping range with upper and lower standard clamping jaw.

Application:

1. Fasten floating clamp on fixture or machine table.
2. Adjust height stop and swivel range with red adjustment sleeve and lock with threaded stud. When setting the upwards height limitation, allow for generous play (workpiece manufacturing tolerance).
3. Press floating clamp downwards.
4. Swivel clamping jaws in as far as they will go.
- The floating clamp is positioned with light spring force on bottom of workpiece.
5. Tighten floating clamp with hexagon nut.
- During the clamping process the workpiece is clamped and at the same time supported.
6. Unclamping is carried out in the reverse sequence.

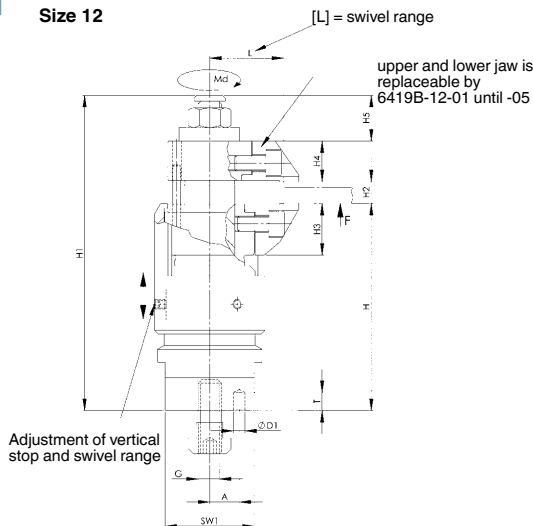
Advantage:

- Especially suitable for large, hard-to-machine components (size 16).
- No deformation when clamping weak components.
- Vibration suppression during machining.
- Clamping of ribs, creases and tabs for stiffening on clamped components.
- Deformation-free clamping of blanks.

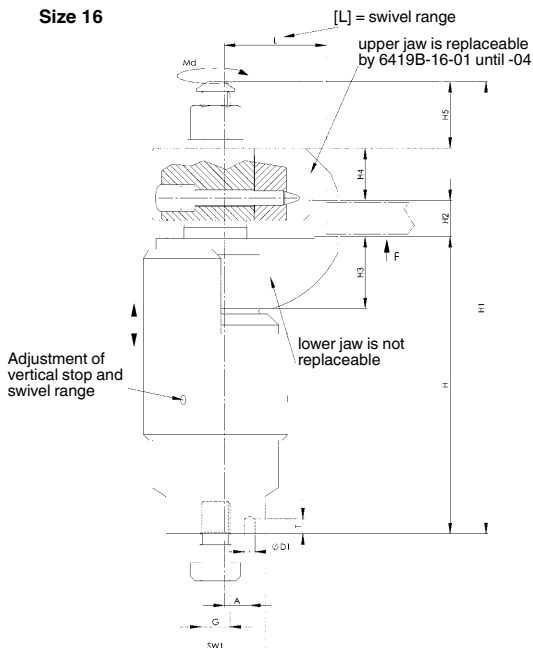
Note:

- The floating clamp is used to clamp and support overdetermined clamping points on components.
- For customer-specific clamping situations the supplied clamping jaws can be replaced with the following clamping jaws (Nos. 6419B-12 and 6418B-16) (max. tightening torque = 43 Nm)

Size 12



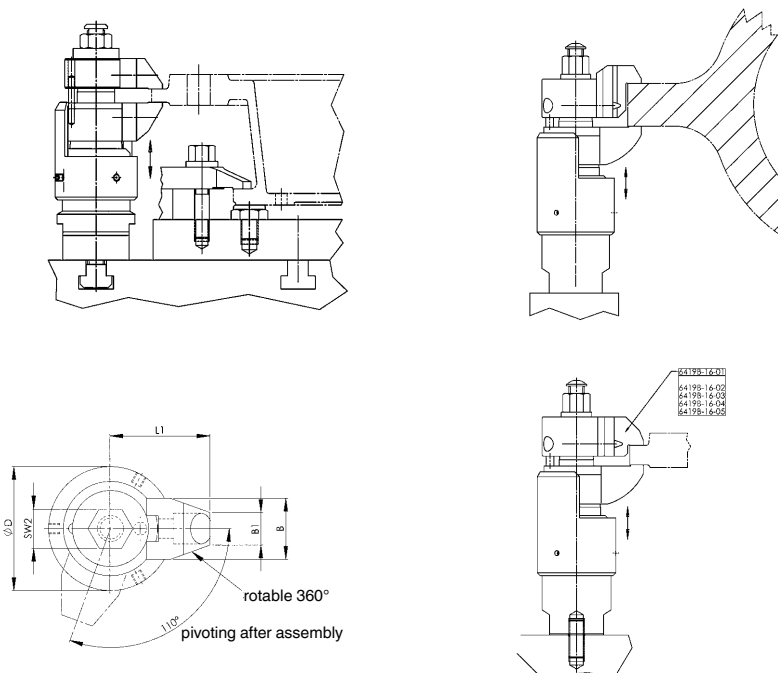
Size 16



Dimensions:

Order no.	Size	A	B	B1	D	ØD1 +0.3	H1	H3	H4	H5	L	SW2	SW1	L1	T
75754	12	14	28	15	57	6	163	26,8	21	32	39	18	46	46	8
75622	16	20	54	20	80	6	261	40,0	29	45	54	24	55	68	8

Application examples:



CAD



Subject to technical alterations.

No. 6419B-12-01

Clamping jaw

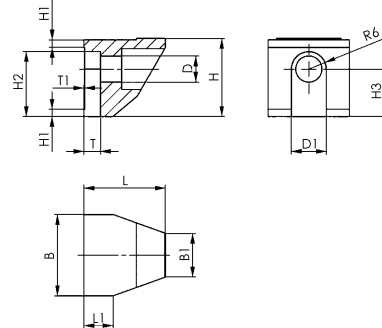
Case-hardened steel, nitrided and burnished.
Lower standard clamping jaw.



Order no.	Size	B	B1	D	D1 +0,02	H -0,1	H1	H2 -0,1	H3 ±0,1	L	L1	T +0,2	T1	Weight [g]
71233	12	28	15	9	12	26,8	2,5	22,3	16,3	28	10	5,5	0,2	83

Note:

Fastening with ISO 4762-M8 cylinder bolts.



No. 6419B-12-02

Clamping jaw

Case-hardened steel, nitrided and burnished.
Upper standard clamping jaw.

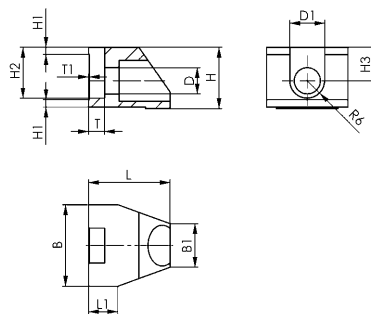


Order no.	Size	B	B1	D	D1 +0,02	H -0,1	H1	H2 -0,1	H3 ±0,1	L	L1	T +0,2	T1	Weight [g]
71605	12	28	15	9	12	21	2,5	17,5	11,5	29,5	11,5	5,5	0,2	71

Clamping range = workpiece thickness 0-12 mm.

Note:

Fastening with ISO 4762-M8 cylinder bolts.



No. 6419B-12-03

Clamping jaw

Case-hardened steel, nitrided and burnished.
Upper exchangeable clamping jaw.

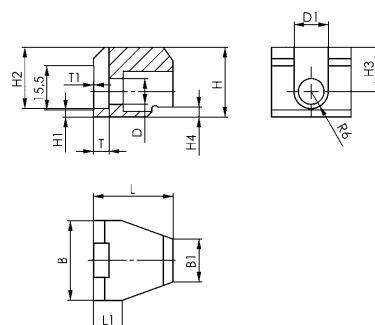


Order no.	Size	B	B1	D	D1 +0,02	H -0,1	H1	H2 -0,1	H3 ±0,1	H4	L	L1	T +0,2	T1	Weight [g]
74229	12	28	15	9	12	24,5	2,5	21,5	15,5	3,5	29,5	11,5	5,5	0,2	94

Clamping range = workpiece thickness 4-16 mm.

Note:

Fastening with ISO 4762-M8 cylinder bolts.



No. 6419B-12-04

Clamping jaw

Case-hardened steel, nitrided and burnished.
Upper exchangeable clamping jaw.

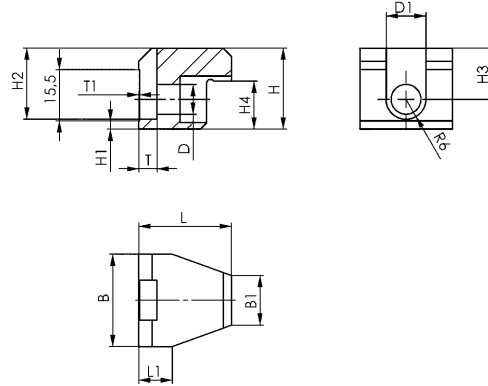


Order no.	Size	B	B1	D	D1 +0,02	H -0,1	H1	H2 -0,1	H3 ±0,1	H4	L	L1	T +0,2	T1	Weight [g]
74245	12	28	15	9	12	24,5	2,5	21,5	15,5	14,5	29,5	11,5	5,5	0,2	90

Clamping range = workpiece thickness 15-27 mm.

Note:

Fastening with ISO 4762-M8 cylinder bolts.



CAD



No. 6419B-12-05

Clamping jaw

Case-hardened steel, nitrided and burnished.
Upper exchangeable clamping jaw.

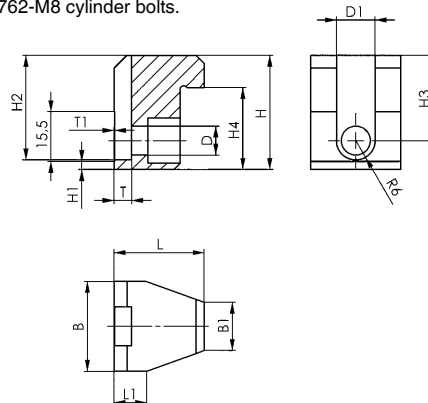


Order no.	Size	B	B1	D	D1 +0,02	H -0,1	H1	H2 -0,1	H3 ±0,1	H4	L	L1	T +0,2	T1	Weight [g]
75051	12	28	15	9	12	35,5	2,5	32,5	26,5	25,5	29,5	11,5	5,5	0,2	132

Clamping range = workpiece thickness 26-38 mm.

Note:

Fastening with ISO 4762-M8 cylinder bolts.



CAD



No. 6419B-16-01

Clamping jaw

Case-hardened steel, nitrided and manganese phosphatised.
Upper standard clamping jaw.

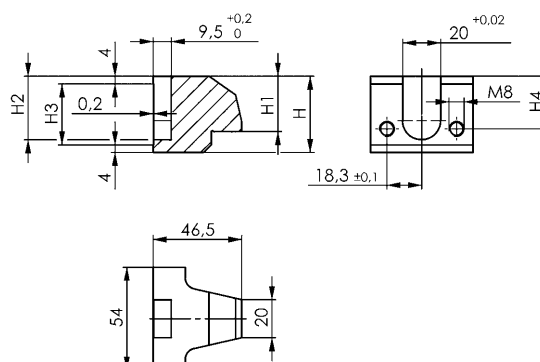


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75382	16	40	29	33,3	32	27,6	400

Clamping range = workpiece thickness 10-25 mm.

Note:

Fastening with ISO 4762-M8x50 cylinder bolts.



CAD



Subject to technical alterations.

No. 6419B-16-02

Clamping jaw

Case-hardened steel, nitrided and manganese phosphatised.
Upper exchangeable clamping jaw.

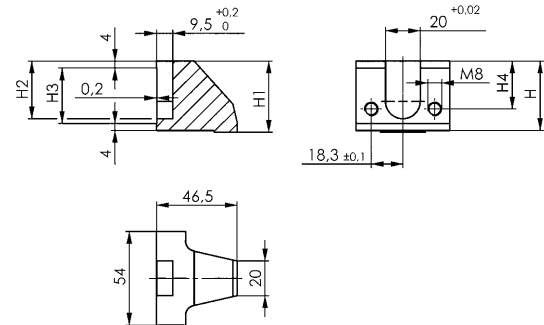


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75424	16	40	41	33,3	32	27,6	380

Clamping range = workpiece thickness 0-14 mm.

Note:

Fastening with ISO 4762-M8x50 cylinder bolts.



No. 6419B-16-03

Clamping jaw

Case-hardened steel, nitrided and manganese phosphatised.
Upper exchangeable clamping jaw.

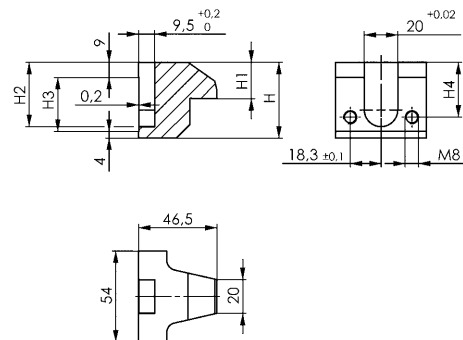


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75440	16	45	21,6	38,3	32	32,6	440

Clamping range = workpiece thickness 23-38 mm.

Note:

Fastening with ISO 4762-M8x50 cylinder bolts.



No. 6419B-16-04

Clamping jaw

Case-hardened steel, nitrided and manganese phosphatised.
Upper exchangeable clamping jaw.

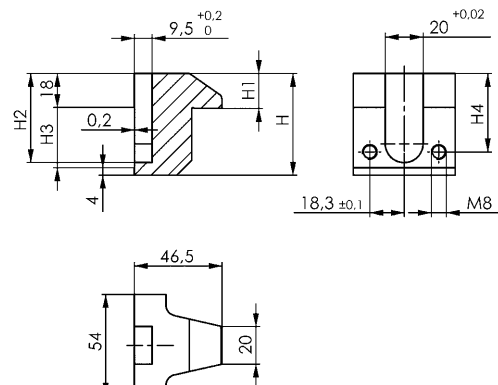


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75630	16	54	18,6	47,3	32	41,6	510

Clamping range = workpiece thickness 35-50 mm.

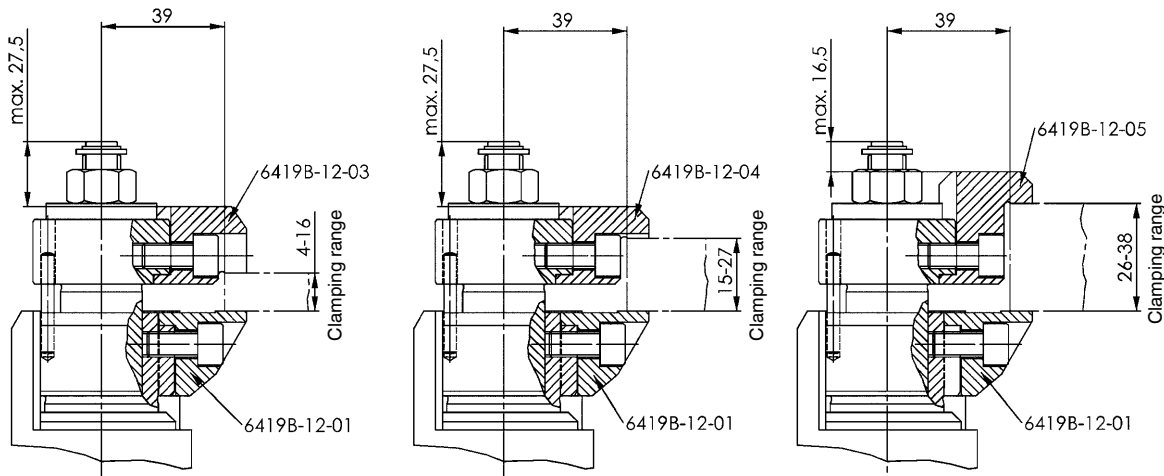
Note:

Fastening with ISO 4762-M8x50 cylinder bolts.

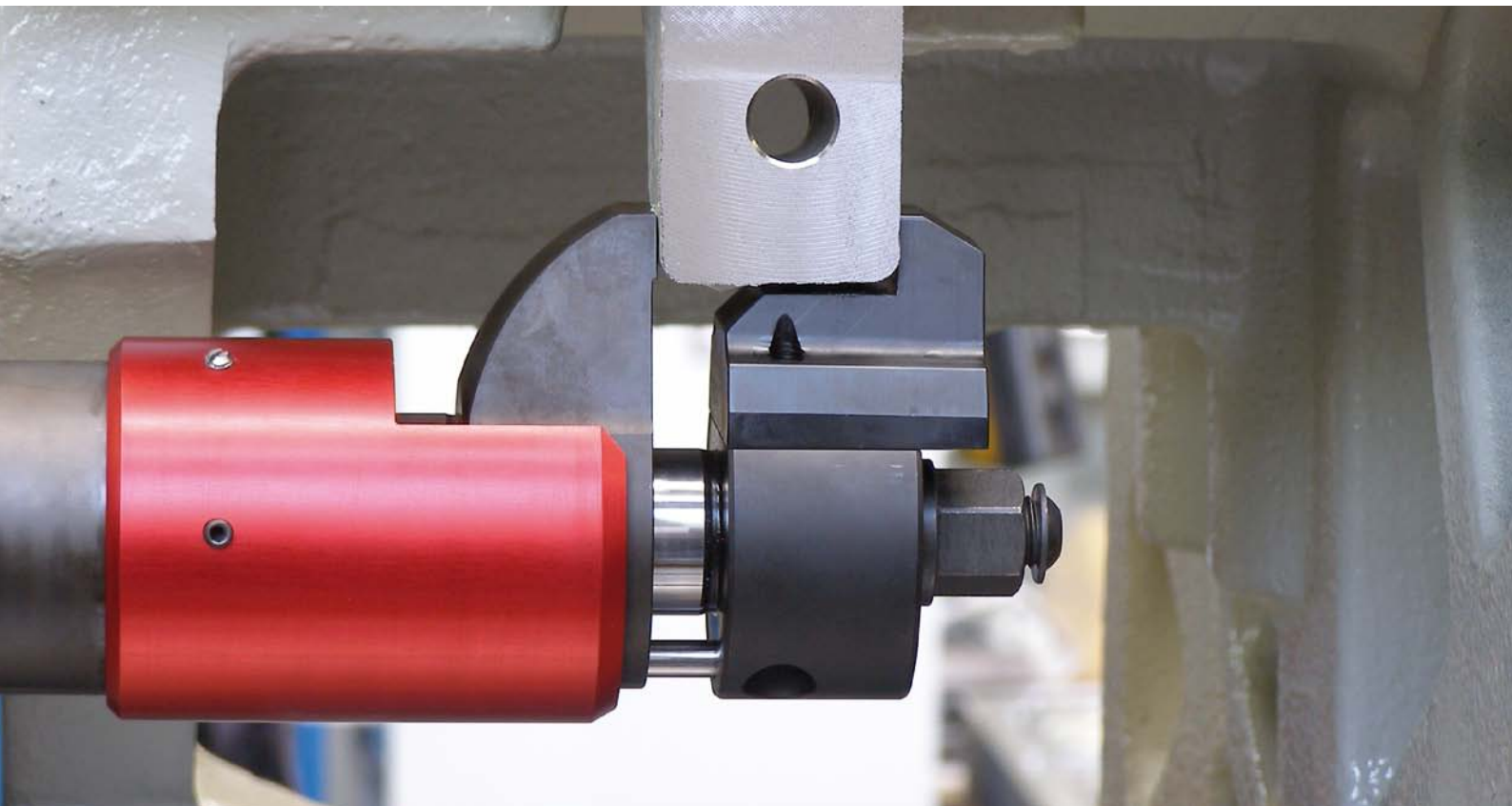
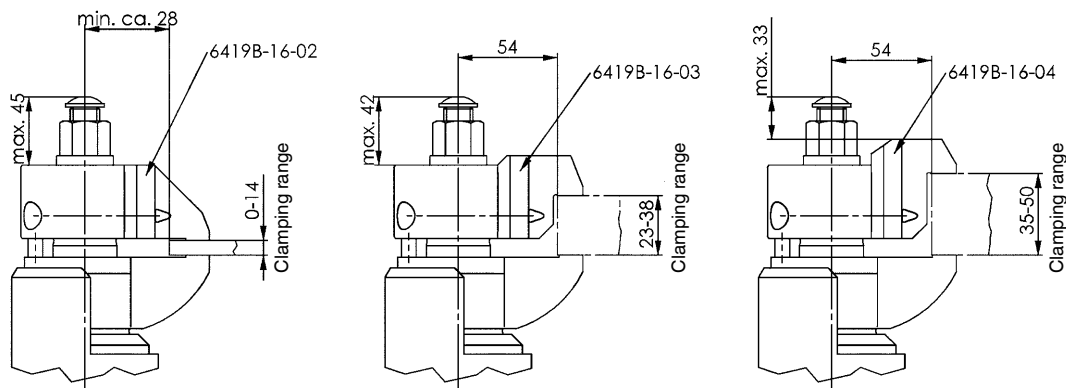


Subject to technical alterations.

Application examples clamping jaw 6419B-12



Application examples clamping jaw 6419B-16



CLAMPING BOLTS, NUTS AND WASHERS - QUALITY OF AMF

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.

- > **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.





AMF-T-SLOT BOLTS DIN 787 and No. 787

are manufactured within tensile strength classes 8.8, 10.9 and 12.9.

AMF-STUDS DIN 6379 and No. 6379

are manufactured within tensile strength classes 8.8, 10.9 and 12.9.

AMF-HEXAGON NUTS DIN 6330B, DIN 6331 and No. 6334

are manufactured within tensile strength class 10.

The individual characteristics in tensile strength classes 8.8, 10.9 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:

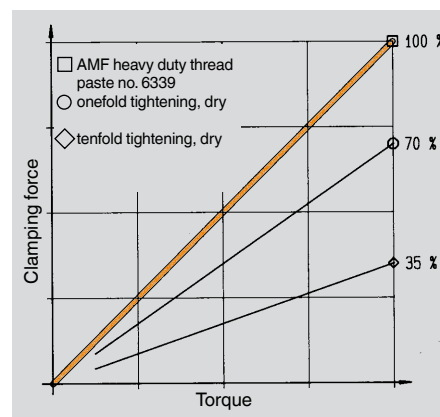
The individual characteristic in tensile strength class 10. defined is:

10. = minimum test strength = 1000 N/mm²

This test strength is equal to the minimum tensile 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 tensile strength class "8" for 8.8 screws. For manufacturing of this nut, a minor quality material than for 8.8 screws necessary 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:

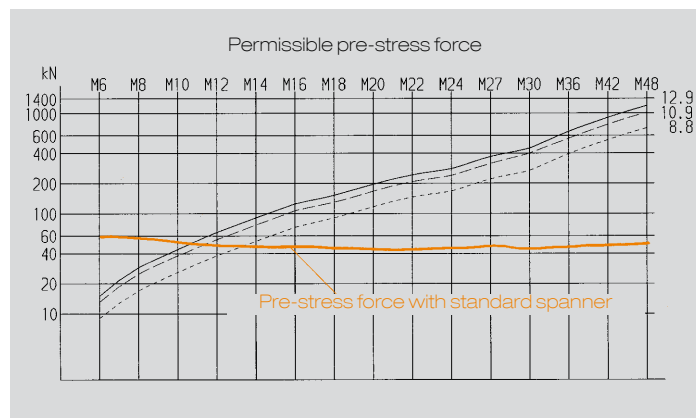
Frequent use of non-greased bolt/nut connections in fixtures will reduce clamping forces considerably at still constant torques, with additional wear involved!

We therefore recommend the AMF-Heavy-duty thread paste no. 6339. 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.

	Tensile strength classes			
	8.8	10.9	12.9	10
DIN 787 / No. 787 	X	X	X	-
DIN 6379 / No. 6379 	X	X	X	-
DIN 6330B DIN 6331 No. 6334 	-	-	-	X
Nominal tensile strength [N/mm ²]	800	1000	1200	1000*
Minimum yield point [N/mm ²]	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 taking 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 $\mu = 0,14$ 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:

Thread	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:																	
Hardness 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	
Hardness	HRC		22 - 30														
Test force to DIN 508	kN		16	29	46	67	-	128	-	196	-	282	-	448	653	653	653
Bolts:																	
Hardness	HRC	8.8	22 - 32						23 - 34								
		10.9							32 - 39								
		12.9							39 - 44								

PERMITTED SCREW LOADS AND TIGHTENING TORQUES:

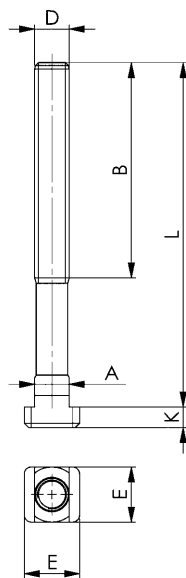
		8.8	10.9	12.9	10
Minimum breaking force (AS x R _m)	kN	16	29	46	67
Permissible bolt load max. 80% of yield point	kN	14	27	43	63
Test force (AS x Sp) to DIN EN ISO 898, part 1	kN	17	30	48	70
Permissible pre-stress force max. 90% of yield point and friction $\mu = 0,14$	kN	13	25	38	55
Necessary tightening torque for permissible pre-tensioning force and a friction of $\mu=0.14$	Nm	10	25	46	82
Required length for lever to achieve permissible pre-stress force	mm	30	67	120	205
Combination wrench test torque in accordance with ISO 1711-1	Nm	58	107	175	230

AS = nominal cross section in mm² / S_p = min. clamping force in N/mm² / R_m = minimum tensile strength in N/mm² / μ = friction

DIN 787

Bolts for T-slots

forged, T-slot guide cleared, rolled thread, stamped with AMF logo and strength class. M6 to M12 tempered to strength class 10.9, M14 to M42 tempered to strength class 8.8.



Recommendations



DIN 6331,
page 96



DIN 6340,
page 101

Order no.	D x Slot x L	Strength class	A	B	E	K	Packaging Unit	Weight [g]
84004	M6x6x25	10.9	5,7	15	10	4	25	9
84012	M6x6x40	10.9	5,7	28	10	4	25	12
84038	M8x8x32	10.9	7,7	22	13	6	25	20
80374	M8x8x50	10.9	7,7	35	13	6	25	25
80382	M8x8x80	10.9	7,7	50	13	6	25	30
84046	M10x10x40	10.9	9,7	30	15	6	25	30
80390	M10x10x63	10.9	9,7	45	15	6	25	50
81323	M10x10x80 *	10.9	9,7	50	15	6	25	60
80408	M10x10x100	10.9	9,7	60	15	6	25	70
80416	M12x12x50 *	10.9	11,7	33	18	7	25	60
85605	M12x12x63 *	10.9	11,7	40	18	7	25	65
80424	M12x12x80	10.9	11,7	55	18	7	25	75
81406	M12x12x100 *	10.9	11,7	65	18	7	25	90
80432	M12x12x125	10.9	11,7	75	18	7	25	110
81497	M12x12x160 *	10.9	11,7	100	18	7	-	135
80440	M12x12x200	10.9	11,7	120	18	7	-	160
80457	M12x14x50	10.9	13,7	35	22	8	25	70
85613	M12x14x63 *	10.9	13,7	45	22	8	25	80
80465	M12x14x80	10.9	13,7	55	22	8	25	100
81851	M12x14x100 *	10.9	13,7	65	22	8	25	110
80473	M12x14x125	10.9	13,7	75	22	8	25	120
82966	M12x14x160 *	10.9	13,7	100	22	8	-	150
80481	M12x14x200	10.9	13,7	120	22	8	-	180
80499	M14x16x63 *	8.8	15,7	45	25	9	25	115
84426	M14x16x80 *	8.8	15,7	55	25	9	25	130
80507	M14x16x100 *	8.8	15,7	65	25	9	25	150
84434	M14x16x125 *	8.8	15,7	75	25	9	25	180
80515	M14x16x160 *	8.8	15,7	100	25	9	25	220
80523	M14x16x250 *	8.8	15,7	150	25	9	-	300
80531	M16x16x63 *	8.8	15,7	45	25	9	25	140
85621	M16x16x80 *	8.8	15,7	55	25	9	10	160
80549	M16x16x100 *	8.8	15,7	65	25	9	10	180
84384	M16x16x125 *	8.8	15,7	85	25	9	10	225
80556	M16x16x160 *	8.8	15,7	100	25	9	10	270
85647	M16x16x200 *	8.8	15,7	125	25	9	-	315
80564	M16x16x250 *	8.8	15,7	150	25	9	-	380
80572	M16x18x63	8.8	17,7	45	28	10	25	160
85639	M16x18x80 *	8.8	17,7	55	28	10	10	185
80580	M16x18x100	8.8	17,7	65	28	10	10	203
84400	M16x18x125 *	8.8	17,7	85	28	10	10	230
80598	M16x18x160	8.8	17,7	100	28	10	10	280
85654	M16x18x200 *	8.8	17,7	125	28	10	-	330
80606	M16x18x250	8.8	17,7	150	28	10	-	430
84103	M20x20x80 *	8.8	19,7	55	32	12	-	290
84053	M20x20x100 *	8.8	19,7	65	32	12	-	340
84111	M20x20x125 *	8.8	19,7	85	32	12	-	390
85662	M20x20x160 *	8.8	19,7	110	32	12	-	470
84129	M20x20x200 *	8.8	19,7	125	32	12	-	550
84079	M20x20x250 *	8.8	19,7	150	32	12	-	670
84137	M20x20x315 *	8.8	19,7	190	32	12	-	800
80614	M20x22x80	8.8	21,7	55	35	14	-	330
85829	M20x22x100 *	8.8	21,7	65	35	14	-	370
80622	M20x22x125	8.8	21,7	85	35	14	-	428
85670	M20x22x160 *	8.8	21,7	110	35	14	-	500
80630	M20x22x200	8.8	21,7	125	35	14	-	570
85845	M20x22x250 *	8.8	21,7	150	35	14	-	680
80648	M20x22x315	8.8	21,7	190	35	14	-	820
80770	M24x24x100 *	8.8	23,7	70	40	16	-	540
85688	M24x24x125 *	8.8	23,7	85	40	16	-	600
80788	M24x24x160 *	8.8	23,7	110	40	16	-	770
85704	M24x24x200 *	8.8	23,7	125	40	16	-	900
80796	M24x24x250 *	8.8	23,7	150	40	16	-	960
84061	M24x24x315 *	8.8	23,7	190	40	16	-	1270
80804	M24x24x400 *	8.8	23,7	240	40	16	-	1410
80655	M24x28x100	8.8	27,7	70	44	18	-	650
85696	M24x28x125 *	8.8	27,7	85	44	18	-	720
80663	M24x28x160	8.8	27,7	110	44	18	-	800
85712	M24x28x200 *	8.8	27,7	125	44	18	-	950
80671	M24x28x250	8.8	27,7	150	44	18	-	1120

Subject to technical alterations.

DIN 787

Bolts for T-slots

forged, T-slot guide cleared, rolled thread, stamped with AMF logo and strength class. M6 to M12 tempered to strength class 10.9, M14 to M42 tempered to strength class 8.8.

Order no.	D x Slot x L	Strength class	A	B	E	K	Packaging Unit	Weight [g]
84087	M24x28x315 *	8.8	27,7	190	44	18	-	1350
80689	M24x28x400 *	8.8	27,7	240	44	18	-	1490
87643	M27x32x160 *	8.8	31,6	100	50	20	-	1168
87783	M27x32x200 *	8.8	31,6	135	50	20	-	1345
87809	M27x32x315 *	8.8	31,6	200	50	20	-	1828
80697	M30x36x125	8.8	35,6	80	54	22	-	1250
85720	M30x36x160 *	8.8	35,6	110	54	22	-	1440
80705	M30x36x200	8.8	35,6	135	54	22	-	1630
85738	M30x36x250 *	8.8	35,6	150	54	22	-	1920
80713	M30x36x315	8.8	35,6	200	54	22	-	2100
80721	M30x36x500	8.8	35,6	300	54	22	-	3300
80739	M36x42x160	8.8	41,6	100	65	26	-	2200
80747	M36x42x250	8.8	41,6	175	65	26	-	2820
80754	M36x42x400	8.8	41,6	250	65	26	-	3930
84152	M42x48x250	8.8	47,6	175	75	30	-	4300
84160	M42x48x400	8.8	47,6	250	75	30	-	5800

* Size not included in DIN, dimensions similar to DIN

Advantage:

Benefits of thread rolling:

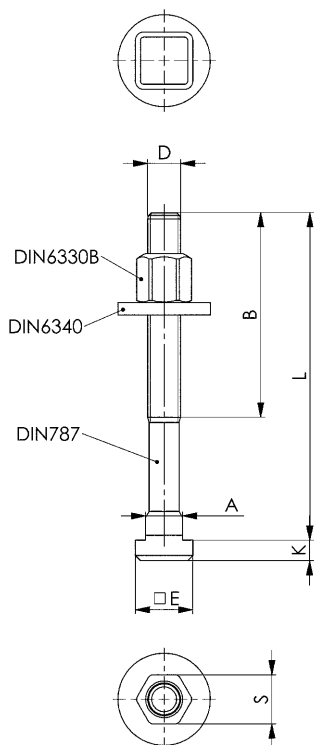
- no interrupted fibre orientation
- reduced notch sensitivity
- very good roughness values on the thread flanks and in the base radius



No. 787

Bolts for T-slots, complete

with DIN 787 screws for T-slots, hexagon nut DIN 6330B and washer DIN 6340.
Forged, T-slot guide cleared, rolled thread, stamped with AMF logo and strength class. M6 to M12 tempered to strength class 10.9, M14 to M42 tempered to strength class 8.8.



Order no.	D x Slot x L	Strength class	A	B	E	K	S	Weight [g]
84202	M6x6x25	10.9	5,7	15	10	4	10	19
84210	M6x6x40	10.9	5,7	28	10	4	10	22
84236	M8x8x32	10.9	7,7	22	13	6	13	40
80812	M8x8x50	10.9	7,7	35	13	6	13	45
80820	M8x8x80	10.9	7,7	50	13	6	13	55
84244	M10x10x40	10.9	9,7	30	15	6	16	65
80838	M10x10x63	10.9	9,7	45	15	6	16	80
81356	M10x10x80	10.9	9,7	50	15	6	16	90
80846	M10x10x100	10.9	9,7	60	15	6	16	110
80853	M12x12x50	10.9	11,7	35	18	7	18	120
85746	M12x12x63	10.9	11,7	40	18	7	18	128
80861	M12x12x80	10.9	11,7	55	18	7	18	130
81448	M12x12x100	10.9	11,7	65	18	7	18	145
80879	M12x12x125	10.9	11,7	75	18	7	18	170
81505	M12x12x160	10.9	11,7	100	18	7	18	195
80887	M12x12x200	10.9	11,7	120	18	7	18	220
80895	M12x14x50	10.9	13,7	35	22	8	18	130
85753	M12x14x63	10.9	13,7	45	22	8	18	145
80903	M12x14x80	10.9	13,7	55	22	8	18	155
82974	M12x14x100	10.9	13,7	65	22	8	18	155
80911	M12x14x125	10.9	13,7	75	22	8	18	180
84376	M12x14x160	10.9	13,7	100	22	8	18	210
80929	M12x14x200	10.9	13,7	120	22	8	18	240
80937	M14x16x63	8.8	15,7	45	25	9	21	200
84442	M14x16x80	8.8	15,7	55	25	9	21	220
80945	M14x16x100	8.8	15,7	65	25	9	21	230
84459	M14x16x125	8.8	15,7	75	25	9	21	280
80952	M14x16x160	8.8	15,7	100	25	9	21	310
80960	M14x16x250	8.8	15,7	120	25	9	21	390
80978	M16x16x63	8.8	15,7	45	25	9	24	250
85761	M16x16x80	8.8	15,7	55	25	9	24	275
80986	M16x16x100	8.8	15,7	65	25	9	24	290
84392	M16x16x125	8.8	15,7	85	25	9	24	300
80994	M16x16x160	8.8	15,7	100	25	9	24	380
85779	M16x16x200	8.8	15,7	125	25	9	24	435
81000	M16x16x250	8.8	15,7	150	25	9	24	530
81018	M16x18x63	8.8	17,7	45	28	10	24	260
85787	M16x18x80	8.8	17,7	55	28	10	24	305
81026	M16x18x100	8.8	17,7	65	28	10	24	315
84418	M16x18x125	8.8	17,7	85	28	10	24	360
81034	M16x18x160	8.8	17,7	100	28	10	24	400
85795	M16x18x200	8.8	17,7	125	28	10	24	448
81042	M16x18x250	8.8	17,7	150	28	10	24	560
84301	M20x20x80	8.8	19,7	55	32	12	30	520
81547	M20x20x100	8.8	19,7	65	32	12	30	570
84319	M20x20x125	8.8	19,7	85	32	12	30	560
85803	M20x20x160	8.8	19,7	110	32	12	30	680
84327	M20x20x200	8.8	19,7	125	32	12	30	700
81562	M20x20x250	8.8	19,7	150	32	12	30	800
84335	M20x20x315	8.8	19,7	190	32	12	30	940
81059	M20x22x80	8.8	21,7	55	35	14	30	530
85837	M20x22x100	8.8	21,7	65	35	14	30	610
81067	M20x22x125	8.8	21,7	85	35	14	30	670
85811	M20x22x160	8.8	21,7	110	35	14	30	710
81075	M20x22x200	8.8	21,7	125	35	14	30	750
85852	M20x22x250	8.8	21,7	150	35	14	30	850
81083	M20x22x315	8.8	21,7	190	35	14	30	980
81216	M24x24x100	8.8	23,7	70	40	16	36	910
85860	M24x24x125	8.8	23,7	85	40	16	36	970
81224	M24x24x160	8.8	23,7	110	40	16	36	1040
85878	M24x24x200	8.8	23,7	125	40	16	36	1265
81232	M24x24x250	8.8	23,7	150	40	16	36	1410
81588	M24x24x315	8.8	23,7	190	40	16	36	1640
81240	M24x24x400	8.8	23,7	240	40	16	36	1780
81091	M24x28x100	8.8	27,7	70	44	18	36	980
85886	M24x28x125	8.8	27,7	85	44	18	36	1010
81109	M24x28x160	8.8	27,7	110	44	18	36	1150
85894	M24x28x200	8.8	27,7	125	44	18	36	1240
81117	M24x28x250	8.8	27,7	150	44	18	36	1500

Subject to technical alterations.

No. 787

Bolts for T-slots, complete

with DIN 787 screws for T-slots, hexagon nut DIN 6330B and washer DIN 6340.

Forged, T-slot guide cleared, rolled thread, stamped with AMF logo and strength class. M6 to M12 tempered to strength class 10.9, M14 to M42 tempered to strength class 8.8.

Order no.	D x Slot x L	Strength class	A	B	E	K	S	Weight [g]
81604	M24x28x315	8.8	27,7	190	44	18	36	1730
81125	M24x28x400	8.8	27,7	240	44	18	36	1860
81133	M30x36x125	8.8	35,6	80	54	22	46	1860
85902	M30x36x160	8.8	35,6	110	54	22	46	1950
81141	M30x36x200	8.8	35,6	135	54	22	46	2230
85910	M30x36x250	8.8	35,6	150	54	22	46	2555
81158	M30x36x315	8.8	35,6	200	54	22	46	2950
81166	M30x36x500	8.8	35,6	300	54	22	46	3950
81174	M36x42x160	8.8	41,6	100	65	26	55	3220
81182	M36x42x250	8.8	41,6	175	65	26	55	3840
81190	M36x42x400	8.8	41,6	250	65	26	55	4950
84186	M42x48x250	8.8	47,6	175	75	30	65	6900
84194	M42x48x400	8.8	47,6	250	75	30	65	8400

Advantage:

Benefits of thread rolling:

- no interrupted fibre orientation
- reduced notch sensitivity
- very good roughness values on the thread flanks and in the base radius

Note:

AMF quality starts with controlled raw material!

Our fully-automated forging plant produces clamping screws. Once cleared, the thread is rolled.



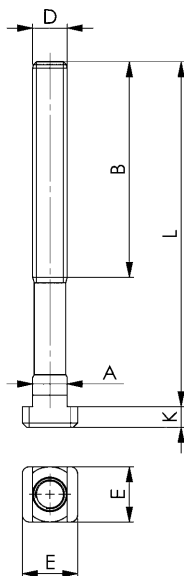
Subject to technical alterations.



No. 787

Screws for T-slot, strength class 12.9

Forged, T-slot guid-faces broached. rolled. Thread, tempered.
Strength 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

Advantage:

- higher strength class compared to DIN 787

Benefits of thread rolling:

- no interrupted fibre orientation
- reduced notch sensitivity
- very good roughness values on the thread flanks and in the base radius

Recommendations



DIN 6330B,
page 95



DIN 6340,
page 101



Subject to technical alterations.

No. 797

Rhombus-head screws for T-slots

forged, T-slots milled, rolled thread, heat-treated.



Order no.	D x Slot x L	Strength class	A	B	E	K	Weight [g]
87296	M12x14x 50	8.8	13,7	35	22	8	70
87312	M12x14x 80	8.8	13,7	55	22	8	100
87338	M12x14x125	8.8	13,7	75	22	8	120
87353	M16x18x 63	8.8	17,7	45	28	10	160
87379	M16x18x100	8.8	17,7	65	28	10	220
87395	M16x18x160	8.8	17,7	100	28	10	280
86793	M20x22x 80	8.8	21,7	55	35	14	330
86801	M20x22x125	8.8	21,7	85	35	14	430
86819	M20x22x200	8.8	21,7	120	35	14	570
86959	M24x28x125	8.8	27,7	85	44	18	770
87114	M24x28x250	8.8	27,7	150	44	18	1120

Application:

- additional setup of a clamping point for a previously clamped fixture
- subsequent setup of a clamping point for previously occupied machine table T-slot
- Insertion of the rhombus-head screw from above into the T-slot and turning up to the stop in the T-slot
- This is also possible with the combination of rhombus-head screw no. 510 and stud DIN 6379

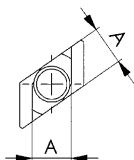
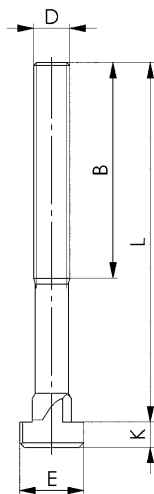
Advantage:

Benefits of thread rolling:

- no interrupted fibre orientation
- reduced notch sensitivity
- very good roughness values on the thread flanks and in the base radius

Note:

Owing to the reduced contact surface in the T-slot, the max. permissible screw load capacity corresponds to the values for strength class 8.8.
Matching nuts DIN 6330B and washers DIN 6340.



Recommendations



DIN 6331,
page 96



DIN 6340,
page 101



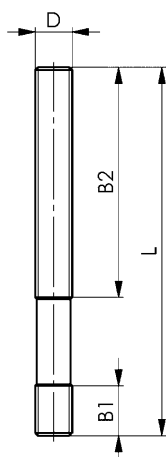
Subject to technical alterations.



DIN 6379

Studs for nuts and T-slots

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



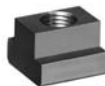
Recommendations



DIN 6331,
page 96



DIN 6340,
page 101



DIN 508,
page 92

Order no.	D x L	Strength class	B1	B2	Packaging Unit	Weight [g]
84772	M 6x 32 *	10.9	9	16	50	8
86546	M 6x 40 *	10.9	9	20	50	9
84780	M 6x 50	10.9	9	30	50	11
85522	M 6x 63 *	10.9	9	40	50	14
84798	M 6x 80	10.9	9	50	50	18
81257	M 8x 40	10.9	11	20	100	10
84806	M 8x 63	10.9	11	40	50	20
81273	M 8x 80 *	10.9	11	50	50	25
84814	M 8x100	10.9	11	63	50	30
84756	M 8x125 *	10.9	11	75	50	36
84822	M 8x160 *	10.9	11	100	50	45
81299	M10x 50	10.9	13	25	50	25
84830	M10x 80	10.9	13	50	50	40
86041	M10x100 *	10.9	13	75	50	50
81315	M10x125	10.9	13	75	25	62
85928	M10x160 *	10.9	13	100	50	80
84848	M10x200	10.9	13	125	-	100
84855	M12x 50	10.9	15	25	25	37
81331	M12x 63 *	10.9	15	32	25	45
84863	M12x 80	10.9	15	50	50	55
81349	M12x100 *	10.9	15	63	50	70
84871	M12x125	10.9	15	75	25	90
85480	M12x160 *	10.9	15	100	25	113
84889	M12x200 *	10.9	15	125	-	140
81372	M14x 63 *	8.8	17	32	25	80
84467	M14x80 *	8.8	17	50	25	85
81380	M14x100 *	8.8	17	63	25	90
84475	M14x125 *	8.8	17	75	25	120
81398	M14x160 *	8.8	17	100	25	150
86553	M14x200 *	8.8	17	125	-	195
84897	M14x250 *	8.8	17	160	-	240
84905	M16x 63	8.8	19	32	25	85
81414	M16x 80 *	8.8	19	50	25	105
84913	M16x100	8.8	19	63	25	130
81422	M16x125 *	8.8	19	75	25	160
84921	M16x160	8.8	19	100	25	218
85498	M16x200 *	8.8	19	125	-	280
84939	M16x250	8.8	19	160	-	325
85548	M16x315 *	8.8	19	190	-	425
85472	M16x500 *	8.8	19	315	-	650
84947	M18x 80 *	8.8	23	50	25	130
84954	M18x125 *	8.8	23	75	25	200
86561	M18x160 *	8.8	23	100	-	255
81471	M18x200 *	8.8	23	125	-	320
81489	M18x250 *	8.8	23	150	-	400
84962	M18x315 *	8.8	23	180	-	500
84970	M20x 80	8.8	27	32	-	185
84988	M20x125	8.8	27	70	-	255
85506	M20x160 *	8.8	27	100	-	330
81513	M20x200	8.8	27	125	-	410
81521	M20x250 *	8.8	27	160	-	510
84996	M20x315	8.8	27	190	-	640
85977	M20x400 *	8.8	27	250	-	815
85001	M20x500 *	8.8	27	315	-	1020
85019	M22x100 *	8.8	31	45	-	270
81539	M22x160 *	8.8	31	100	-	430
86579	M22x200 *	8.8	31	125	-	500
81554	M22x250 *	8.8	31	160	-	670
86595	M22x315 *	8.8	31	190	-	790
85027	M22x400 *	8.8	31	250	-	1070
85035	M24x100	8.8	35	45	-	290
85563	M24x125 *	8.8	35	70	-	380
81570	M24x160	8.8	35	100	-	470
85514	M24x200 *	8.8	35	125	-	580
81596	M24x250	8.8	35	160	-	730
86009	M24x315 *	8.8	35	190	-	920
85043	M24x400	8.8	35	250	-	1160
86025	M24x500 *	8.8	35	315	-	1460
85050	M24x630 *	8.8	35	315	-	1860

Subject to technical alterations.

DIN 6379

Studs for nuts and T-slots

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

Order no.	D x L	Strength class	B1	B2	Packaging Unit	Weight [g]
81695	M27x125 *	8.8	39	56	-	485
81703	M27x200 *	8.8	39	125	-	770
81711	M27x315 *	8.8	39	190	-	1110
86587	M27x400 *	8.8	39	250	-	1535
81729	M27x500 *	8.8	39	315	-	1930
85068	M30x125	8.8	43	56	-	590
81612	M30x200 *	8.8	43	125	-	950
81620	M30x315	8.8	43	190	-	1490
81638	M30x500	8.8	43	315	-	2360
81646	M30x700 *	8.8	43	400	-	3300
81661	M30x1000 *	8.8	43	400	-	4700
85076	M36x160	8.8	51	80	-	1100
81653	M36x200 *	8.8	51	125	-	1340
85084	M36x250	8.8	51	160	-	1710
85555	M36x315 *	8.8	51	190	-	2150
85092	M36x400	8.8	51	250	-	2700
81679	M36x500 *	8.8	51	315	-	3450
81687	M36x700 *	8.8	51	400	-	4750
85589	M42x315 *	8.8	59	190	-	2950
85597	M42x400 *	8.8	59	250	-	3750
85530	M42x500 *	8.8	59	315	-	4690

* Size not included in DIN, dimensions similar to DIN

Advantage:

Benefits of thread rolling:

- no interrupted fibre orientation
- reduced notch sensitivity
- very good roughness values on the thread flanks and in the base radius



CAD

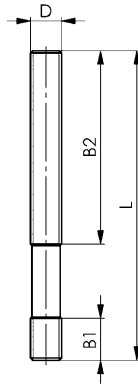


Subject to technical alterations.

No. 6379

Studs for nuts and T-slots, strength class 12.9

Steel, tempered, rolled thread.



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	125	-	280
87791	M16x250	19	160	-	325
87668	M20x125	27	70	-	255
87684	M20x160	27	100	-	330
87700	M20x200	27	125	-	410
87742	M20x250	27	160	-	510
87833	M20x315	27	200	-	640
87692	M20x500	27	315	-	1020
88286	M24x160	35	100	-	470
88930	M24x200	35	125	50	580
89094	M24x250	35	160	-	730
89136	M24x315	35	200	-	920
89151	M24x400	35	250	-	1160
89177	M24x500	35	315	-	1460

Advantage:

- higher strength class compared to IN 6379

Benefits of thread rolling:

- no interrupted fibre orientation
- reduced notch sensitivity
- very good roughness values on the thread flanks and in the base radius

CAD



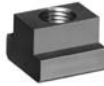
Recommendations



DIN 6331,
page 96



DIN 6340,
page 101

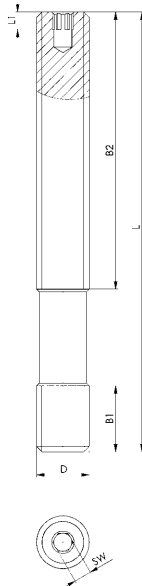


DIN 508,
page 92

No. 6379I

Studs with hexagon socket, strength class 12.9

Steel, tempered, rolled thread.



Order no.	D x L	Strength class	B1	B2	L1	SW	Weight [g]
381954	M12x100	12.9	15	63	4	4	70
381913	M12x125	12.9	15	75	4	4	90
381970	M12x160	12.9	15	100	4	4	113
381996	M16x125	12.9	19	75	4	4	160
381939	M16x160	12.9	19	100	4	4	218
382010	M16x200	12.9	19	125	4	4	280
382028	M20x160	12.9	27	100	5	5	330
382036	M20x200	12.9	27	125	5	5	410
382044	M20x250	12.9	27	160	5	5	510
382051	M24x200	12.9	35	125	5	5	580
382069	M24x250	12.9	35	160	5	5	730

Application:

- For use in all areas of cutting and non-cutting production
- particularly suitable for use on injection moulding machines and presses

Advantage:

- fast loosening or tightening by additional hexagon socket
- variable and fast adjustment options at a distance from the workpiece
- higher strength class compared to IN 6379

Benefits of thread rolling:

- no interrupted fibre orientation
- reduced notch sensitivity
- very good roughness values on the thread flanks and in the base radius

Note:

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

CAD

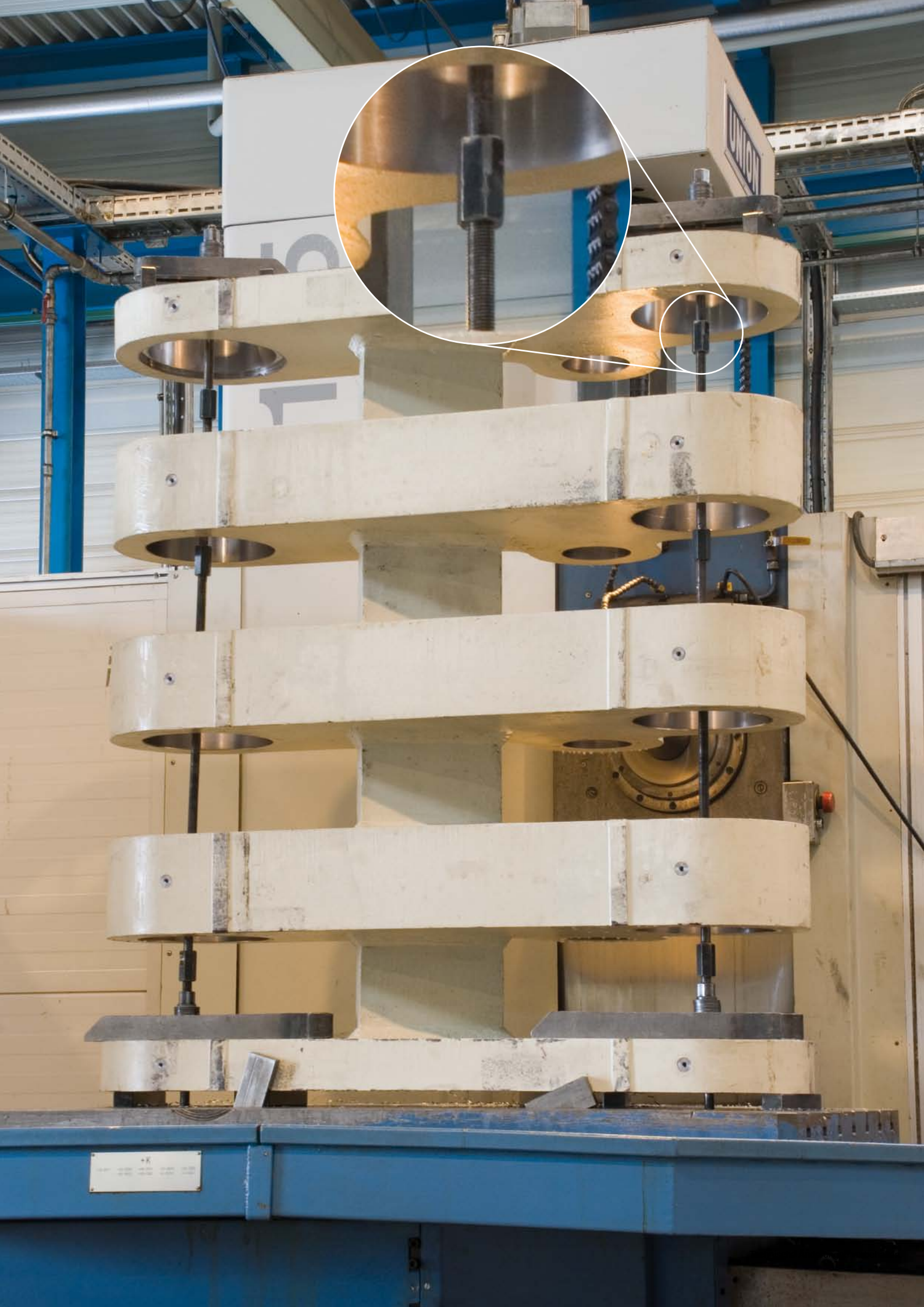


Recommendations



ISO 2936C

Subject to technical alterations.

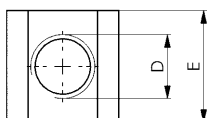
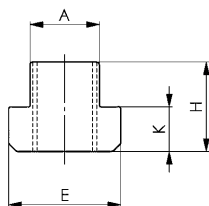


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DIN 508

Nuts for T-slots (T-nuts)

tempered, grade 10.



Order no.	D x Slot	Test force [kN]	A	E	H	K	Packaging Unit	Weight [g]
80002	M 5x 6	11,4	5,7	10	8	4	50	4
80010	M 6x 8	16,0	7,7	13	10	6	100	9
80028	M 8x10	29,0	9,7	15	12	6	100	12
140301	M 8x12*	29,0	11,7	18	14	7	50	22
140327	M 8x14*	29,0	13,7	22	16	8	50	41
153460	M 8x16*	29,0	15,7	25	18	9	25	50
153478	M 8x18*	29,0	17,7	28	20	10	25	91
80036	M10x12	46,0	11,7	18	14	7	50	22
80234	M10x14*	46,0	13,7	22	16	8	50	37
80366	M10x16*	46,0	15,7	25	18	9	25	60
81265	M10x18*	46,0	17,7	28	20	10	25	87
80044	M12x14	67,0	13,7	22	16	8	50	35
80168	M12x16*	67,0	15,7	25	18	9	25	50
158907	M12x18*	67,0	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	128,0	17,7	28	20	10	50	70
80184	M16x20*	128,0	19,7	32	24	12	25	110
155630	M16x22*	128,0	21,7	35	28	14	25	176
159418	M16x24*	128,0	23,7	40	32	16	10	260
159426	M16x28*	128,0	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	196,0	21,7	35	28	14	25	155
80192	M20x24*	196,0	23,7	40	32	16	10	235
158899	M20x28*	196,0	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	282,0	27,7	44	36	18	-	322
80200	M24x30*	282,0	29,7	48	38	19	-	440
80218	M24x36*	282,0	35,6	54	44	22	-	700
80119	M27x32*	-	31,6	50	40	20	-	460
80127	M30x36	448,0	35,6	54	44	22	-	590
80226	M30x42*	448,0	41,6	65	52	26	-	1150
80135	M36x42	653,0	41,6	65	52	26	-	1010
80143	M42x48	653,0	47,6	75	60	30	-	1600
80150	M48x54	653,0	53,6	85	70	34	-	2300

* Size not included in DIN, dimensions similar to DIN

Note:

The full load capacity can only be achieved if the screw connection is applied over the entire length „H“ of the thread.

For test force see DIN 508

On request:

Special makes on request.

Recommendations



DIN 6379,
page 88



DIN 6331,
page 96



DIN 6340,
page 101

CAD

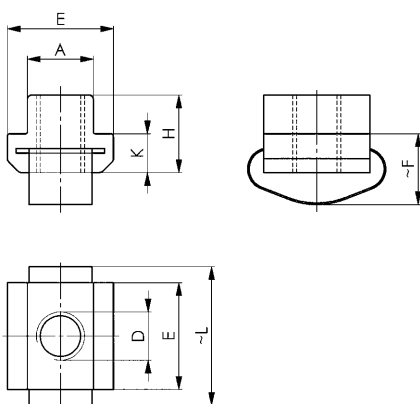


Subject to technical alterations.

No. 508F

T-nuts with spring

tempered, grade 10.
Spring: Stainless steel.



Order no.	D x Slot	Test force [kN]	A	E	F	H	K	L	Weight [g]
89730	M8x12	29	11,7	18	12,5	14	7	31	24
89755	M8x14	29	13,7	22	13,5	16	8	33	42
89789	M8x16	29	15,7	25	15,5	18	9	42	63
89748	M10x12	46	11,7	18	12,5	14	7	31	21
89763	M10x14	46	13,7	22	13,5	16	8	33	38
89797	M10x16	46	15,7	25	15,5	18	9	42	60
89813	M10x18	46	17,7	28	17,5	20	10	43	87
89771	M12x14	67	13,7	22	13,5	16	8	33	34
89839	M16x18	128	17,7	28	17,5	20	10	43	70
89904	M20x22	196	21,7	35	21,5	28	14	56	153

Advantage:

- stable position in the T-slot, especially in vertical position
- easy screwing of the stud, pull rod etc.
- slot cleaning effect

Note:

For test force see DIN 508

Recommendations



DIN 6379,
page 88



DIN 6331,
page 96



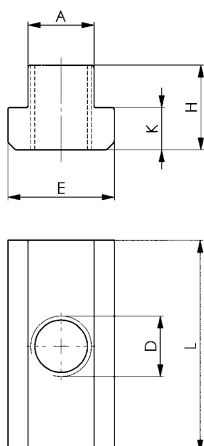
DIN 6340,
page 101



No. 508L

Nuts for T-slots, extended

tempered, grade 10.



Order no.	D x Slot	Test force [kN]	A	E	H	K	L	Packaging Unit	Weight [g]
84640	M5x6	11,4	5,7	10	8	4	20	50	8
84657	M6x8	16,0	7,7	13	10	6	26	50	14
84665	M8x10	29,0	9,7	15	12	6	30	50	30
84673	M10x12	46,0	11,7	18	14	7	36	50	49
84681	M12x14	67,0	13,7	22	16	8	44	25	82
84699	M14x16	-	15,7	25	18	9	50	50	120
84707	M16x18	128,0	17,7	28	20	10	56	20	170
84715	M18x20	-	19,7	32	24	12	64	10	260
84723	M20x22	196,0	21,7	35	28	14	70	-	360
84749	M24x28	282,0	27,7	44	36	18	88	-	730
84764	M30x36	448,0	35,6	54	44	22	108	-	1390

Advantage:

This extended form safeguards the T-slots of precision machine tables.

Note:

For test force see DIN 508

Recommendations



DIN 6379,
page 88



DIN 6331,
page 96



DIN 6340,
page 101

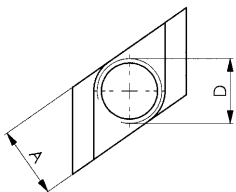
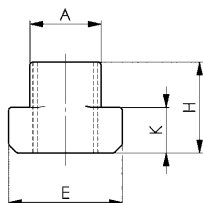


Subject to technical alterations.

No. 510

Nuts for T-slots „Rhombus“

Tempered.



Order no.	D x Slot	Test force [kN]	A	E	H	K	Packaging Unit	Weight [g]
85993	M 6x8	10	7,7	13	10	6	50	7
87411	M 8x10	19	9,7	15	12	6	50	11
80259	M10x12	30	11,7	18	14	7	50	14
158220	M10x14	30	13,7	22	16	8	50	27
158238	M10x18	30	17,7	28	20	10	25	64
80267	M12x14	43	13,7	22	16	8	50	22
80275	M14x16	59	15,7	25	18	9	25	33
80283	M16x18	80	17,7	28	20	10	25	46
80341	M16x20	80	19,7	32	24	12	25	79
158246	M16x22	80	21,7	35	28	14	25	119
158253	M16x28	80	27,7	44	36	18	-	278
80291	M18x20	101	19,7	32	24	12	25	70
80309	M20x22	129	21,7	35	28	14	25	98
88153	M20x24	129	23,7	40	32	16	-	170
84731	M20x28	129	27,7	44	36	18	-	248
80317	M24x28	186	27,7	44	36	18	-	215
80325	M30x36	296	35,6	54	44	22	-	430
80333	M36x42	431	41,6	65	52	26	-	690

Application:

- additional setup of a clamping point for a fixture already clamped
- subsequent setup of a clamping point for machine table T-slots already occupied
- Insertion of the nut for „Rhombus“ T-slots from above into the T-slot and turning up to the stop in the T-slot
- To be used in conjunction with the studs DIN 6379

Note:

The nuts for „Rhombus“ T-slots are tempered to grade 10. Owing to the reduced contact surface in the T-slot, the load capacity is less than with the comparable sizes of DIN 508. The screw connection must be applied over the entire length of thread „H“.

Recommendations



DIN 6379,
page 88



DIN 6331,
page 96



DIN 6340,
page 101

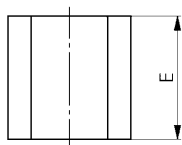
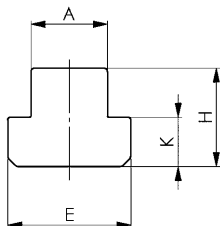
CAD



No. 508R

Blanks for T-nuts

Tempered steel 0.35-0.45 % C, unhardened, bare.



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 grade 10 according to 22-32 HRC. 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



DIN 6379,
page 88



DIN 6331,
page 96



DIN 6340,
page 101

CAD

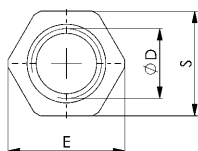
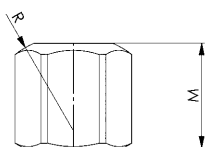


Subject to technical alterations.

DIN 6330B

Hexagon nuts (1.5 d high)

Steel, tempered, strength class 10.
Can be used for conical socket DIN 6319D or DIN 6319G.
Can be used with the flat end for washers DIN 6340.



Order no.	Size D	E	M	R	S	Packaging Unit	Weight [g]
82362	M6	11,05	9	9	10	100	5
82370	M8	14,38	12	12	13	100	9
82354	M10	17,77	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 *	23,36	21	20	21	50	34
82404	M14 *	24,49	21	20	22 *	50	45
82412	M16	26,75	24	22	24	50	58
82420	M18 *	30,14	27	24	27	25	83
82438	M20	33,53	30	27	30	25	110
82339	M22 *	37,72	33	30	34	10	185
82446	M22 *	35,72	33	30	32 *	10	130
82453	M24	39,98	36	32	36	10	195
82461	M27 *	45,63	40	36	41	-	280
82479	M30	51,28	45	41	46	-	405
82487	M36	61,31	54	50	55	-	715
82495	M42	72,61	63	58	65	-	1170
82503	M48	83,91	72	67	75	-	1800

* Size not included in DIN, dimensions similar to DIN

Recommendations



DIN 6379,
page 88



DIN 787,
page 82



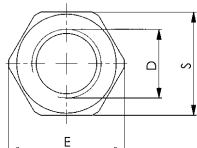
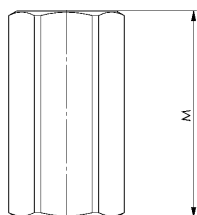
DIN 6340,
page 101



No. 6334

Elongation nuts (3.0 d high)

Steel, tempered, strength class 10.



Order no.	Size D	E	M	S	Packaging Unit	Weight [g]
82651	M6	11,05	18	10	100	8
82669	M8	14,38	24	13	50	19
82271	M10	17,77	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	23,36	42	21	25	73
82693	M14	24,49	42	22	25	95
82701	M16	26,75	48	24	25	120
82719	M18	30,14	54	27	20	170
82727	M20	33,53	60	30	10	240
82305	M22	37,72	66	34	10	390
82735	M22	35,72	66	32	10	280
82743	M24	39,98	72	36	-	400
82750	M27	45,63	81	41	-	600
82768	M30	51,28	90	46	-	850
82776	M36	61,31	108	55	-	1470
82784	M42	72,61	126	65	-	2340
82792	M48	83,91	144	75	-	3600

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 1,2 x D

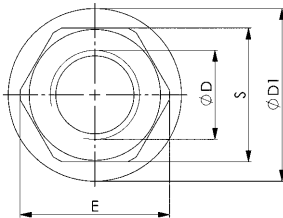
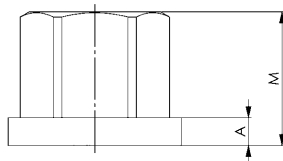


Subject to technical alterations.

DIN 6331

Hexagonal nuts with collar (1.5 d high)

Steel, turned, tempered, strength class 10.



Order no.	Size D	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	14,38	12	13	50	12
82222	M10	4,0	22	17,77	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	23,36	21	21	25	43
82560	M14 *	4,5	28	24,49	21	22 *	25	51
82578	M16	5,0	31	26,75	24	24	25	70
82586	M18 *	5,0	34	30,14	27	27	25	95
82594	M20	6,0	37	33,53	30	30	25	130
82255	M22 *	6,0	40	37,72	33	34	10	200
82602	M22 *	6,0	40	35,72	33	32 *	10	160
82610	M24	6,0	45	39,98	36	36	10	230
82628	M27	8,0	50	45,63	40	41	-	320
82636	M30	8,0	58	51,28	45	46	-	470
82644	M36	10,0	68	61,31	54	55	-	800
82511	M42	12,0	80	72,61	63	65	-	1340
82800	M48	14,0	92	83,91	72	75	-	2040

* Size not included in DIN, dimensions similar to DIN

Advantage:

- very good roughness values on the clamping surface by means of lathed surface

Recommendations



DIN 6379,
page 88



DIN 787,
page 82

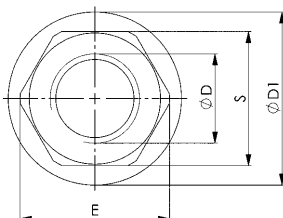
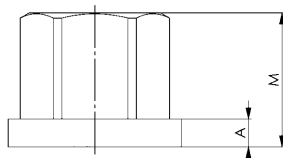
CAD



DIN 6331

Hexagonal nuts with collar (1.5 d high)

Steel, forged, tempered, strength class 10.



Order no.	Size D	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	14,38	12	13	50	12
82214	M10	4,0	22	17,77	15	16	50	21
82107	M12	4,0	25	20,03	18	18	25	30
82149	M16	5,0	31	26,75	24	24	25	70
82206	M18 *	5,0	34	30,14	27	27	25	95
82156	M20	6,0	37	33,53	30	30	25	130
82164	M24	6,0	45	39,98	36	36	10	230
82313	M27	8,0	50	45,63	40	41	-	320
82172	M30	8,0	58	51,28	45	46	-	470

* Size not included in DIN, dimensions similar to DIN

Recommendations



DIN 6379,
page 88



DIN 787,
page 82

CAD

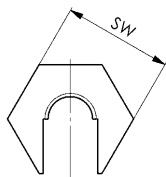
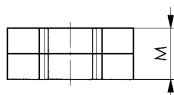


Subject to technical alterations.

No. 6332S

Quick-action clamping nut without collar

hardened and zinc-plated, strength class 6.



Order no.	Size	Test force [kN]	SW	M	Weight [g]
88146	M 6	13,5	16	9,0	10
88534	M 8	24,9	19	10,5	15
88559	M10	39,4	22	12,5	23
88567	M12	59,0	27	15,0	44
88575	M16	109,9	34	16,0	68
88583	M20	176,4	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:

- time-saving in the case of long and damaged studding
- easy assembly/disassembly at narrow and non-visible places
- no seizing up on the thread by external influences
- no impairment by soiling such as paint residues or rust

Note:

For test force see EN ISO 898-2



Recommendations



DIN 6379,
page 88



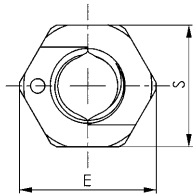
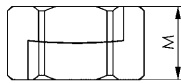
DIN 787,
page 82



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.

Recommendations



DIN 6379,
page 88

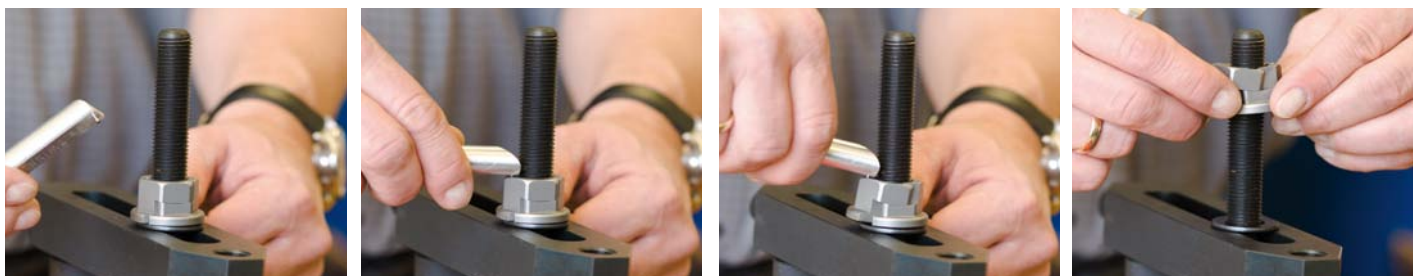


DIN 787,
page 82

Easy mounting of the TWINNUT collar nut:



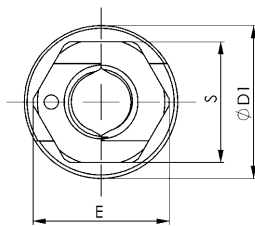
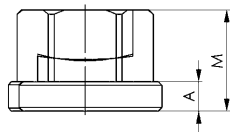
Easy removal of the TWINNUT collar nut:



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



DIN 6379,
page 88



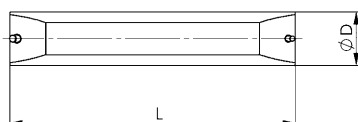
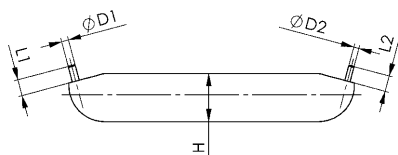
DIN 787,
page 82



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

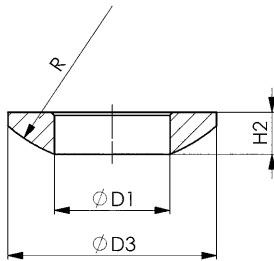
Application:

- for opening the AMF-TWINNUT nuts
- can be used for all nut sizes

DIN 6319C

Spherical seat washer

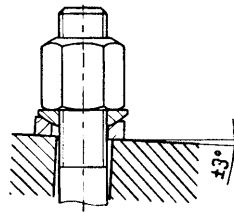
Case hardened.



CAD



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



Recommendations

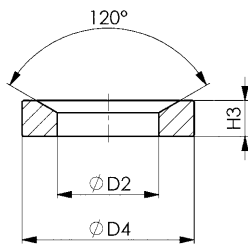


DIN 6330B,
page 95

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).

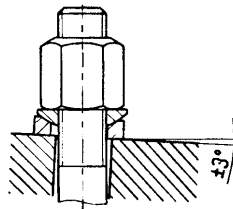


CAD



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.



Recommendations

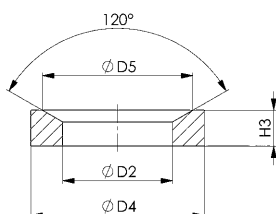


DIN 6330B,
page 95

No. 6319D

Conical sockets, tempered

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	D2	D4	D5	H3	F max. [kN]	Packaging Unit	Weight [g]
87171	M12	14,2	24	20	5,0	38	100	10
87197	M16	19,0	30	26	6,2	73	50	19
87239	M20	23,2	36	31	7,5	117	25	32
87254	M24	28,0	44	37	9,5	168	25	63

Note:

F max. = max. transferable static screw force.

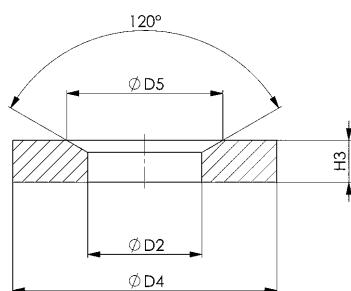
Subject to technical alterations.

DIN 6319G

Dished washer

Steel, tempered to 350 + 80 HV30.

Suitable for clamping over slots with clamps.



CAD

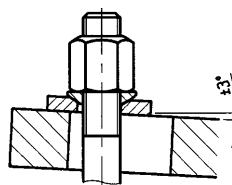


Order no.	Size	D2	D4	D5	H3	F max. [kN]	Packaging Unit	Weight [g]
82073	M6	7,1	17	11,0	4	9	25	5,5
81984	M8	9,6	24	14,5	5	17	100	13
81992	M10	12,0	30	18,5	5	26	100	19
82008	M12	14,2	36	20,0	6	38	100	32
82016	M14	16,5	40	24,8	6	53	50	48
82024	M16	19,0	44	26,0	7	73	50	56
82032	M20	23,2	50	31,0	8	117	25	94
82040	M24	28,0	60	37,0	10	168	10	169
82057	M30	35,0	68	49,0	12	269	-	230
82065	M36 *	42,0	80	60,0	12	394	-	350
82081	M42 *	49,0	100	70,0	15	-	-	640
82099	M48 *	56,0	108	82,0	17	-	-	830

* Size not included in DIN, dimensions similar to DIN

Note:

F max. = max. transferable static screw force.



Recommendations



DIN 6330B,
page 95

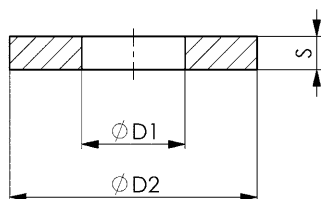


DIN 6319G,
page 100

DIN 6340

Washers for clamping tools

Steel, tempered (350 + 80 HV30)

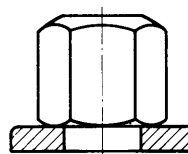


CAD



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	108	17	-	920

* Size not included in DIN, dimensions similar to DIN



Recommendations



DIN 6379,
page 88



DIN 787,
page 82

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.

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.

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

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.

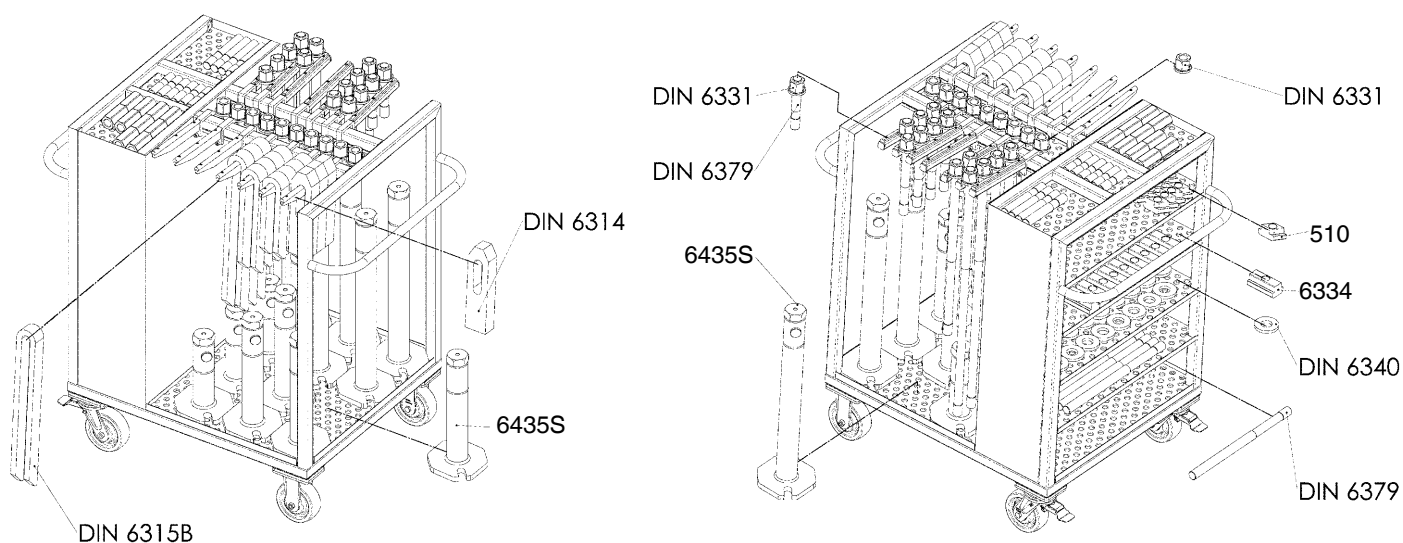


Order no.	Size	Holder no. 6470H-01 [St.]	Holder no. 6470H-02 [St.]	Weight [Kg]
72520	M16	5	4	257,0
73270	M20	5	4	277,0
74674	M24	5	4	304,0
74880	M30	7	4	512,5

Design:

	Order no. 72520 (Size M16)			Order no. 73270 (Size M20)			Order no. 74674 (Size M24)			Order no. 74880 (Size M30)		
Product	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

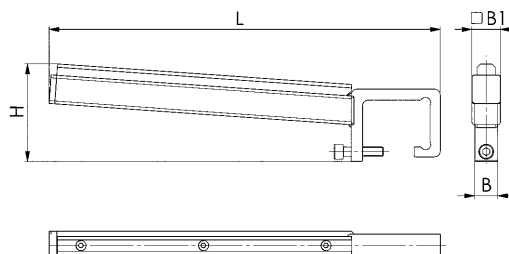
Subject to technical alterations.



No. 6470H-1

Holder for clamping bolts

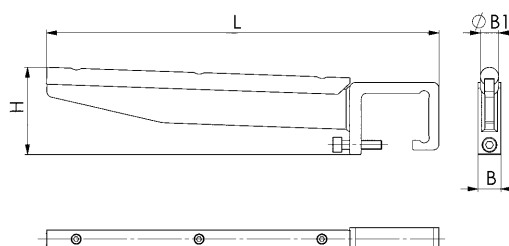
Order no.	L [mm]	B [mm]	B1 [mm]	H [mm]	Weight [g]
74187	342	20	25	85	866



No. 6470H-2

Holder for clamps

Order no.	L [mm]	B [mm]	B1 [mm]	H [mm]	Weight [g]
74203	342	20	16	76	870



No. 6535

Set of assorted plastic clamping elements

depending on size consisting of:
 4 x support blocks with stepped teeth
 2 x clamping jaws with stepped teeth
 2 x clamping jaws double
 10 x knurled nuts with hexagonal
 high-strength plastic PBT, red.
 Studs: Aluminium anodised.



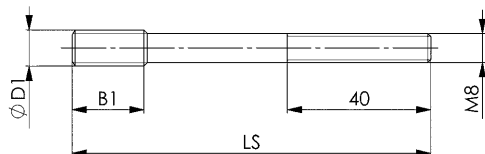
Order no.	Size	D1 x M	B1	St. x LS	L x W x H	Weight [g]
83071	06	M6 x M8	10	4x100, 4x125, 4x150, 4x175, 4x200	440x370x50	1700
83105	08	M8 x M8	40	4x100, 4x125, 4x150, 4x175, 4x200	440x370x50	1740
83089	10	M10 x M8	20	4x100, 4x125, 4x150, 4x175, 4x200	440x370x50	1770
83097	12	M12 x M8	25	4x100, 4x125, 4x150, 4x175, 4x200	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.



Recommendations



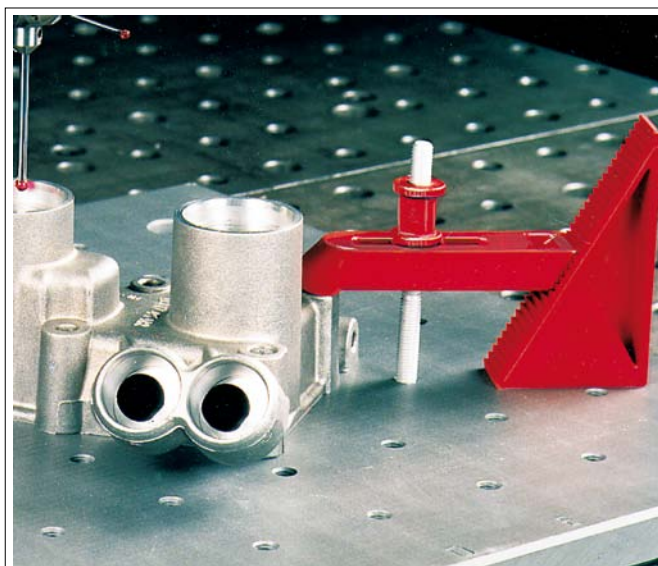
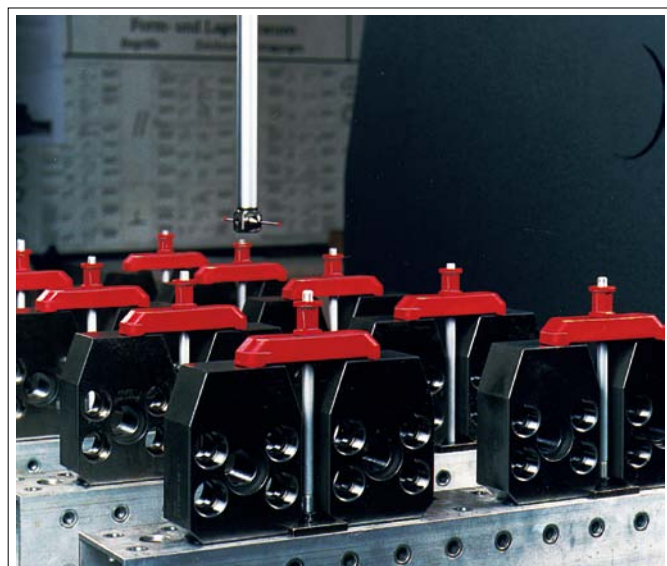
No. 6530,
page 102



No. 6531,
page 102



No. 6520,
page 103



Subject to technical alterations.

No. 6339

Heavy duty thread paste



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

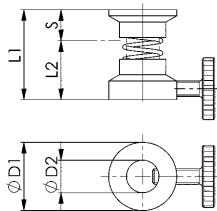
Features:

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.

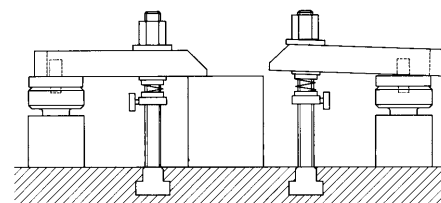
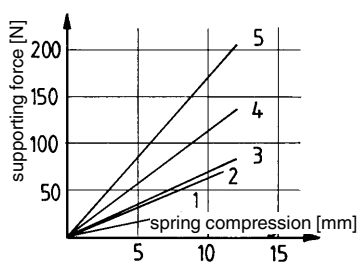
Recommendations



DIN 6379,
page 88



DIN 787,
page 82



No. 6485

T-slot scraper

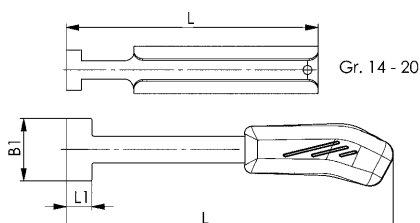
Steel, zinc-plated.



Order no.	Size	Slot	B1	L1	L	Packaging Unit	Weight [g]
72892	14-20	14-20	22,5	8,5	142	100	105
72900	22-32	22-32	35,0	14,5	184	50	170
72918	36-54	35-54	54,0	23,0	260	-	525

Note:

Size 14-20 without 2k hand grip.



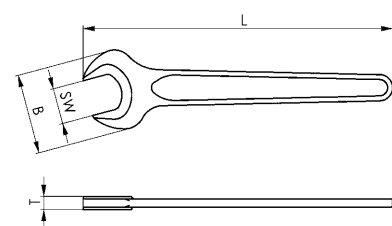
DIN 894

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	100	4	10	15
53595	10	6	22	105	5	10	22
53611	12	-	26	125	5	10	31
53629	13	8	29	130	5	10	37
53645	17	10*	36	160	6	10	81
53520	18	12	39	160	7	10	89
53652	19	12*	40	175	7	10	98
53660	22	14*	46	195	8	10	139
53678	24	16	50	215	9	10	165
53686	27	18	56	235	10	10	210
53694	30	20	62	260	11	10	290
53702	32	22*	67	275	12	10	333
53710	36	24	74	300	13	10	500

* Size not according to DIN ISO 272.



No. 6486

T-slot cover

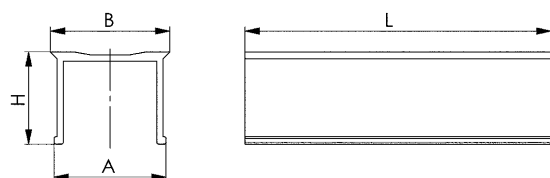
Made of aluminium profile.

Cutting to the desired length is easily done with a fine saw blade.

Order no.	Size	Slot	A	B	H	L	Weight [g]
71449	12x1000	12	12,0	13,0	10,5	1000	88
71456	14x1000	14	14,0	15,5	11,5	1000	100
71464	16x1000	16	16,0	17,5	14,0	1000	120
71472	18x1000	18	18,0	19,5	15,0	1000	135
71928	20x1000	20	20,5	21,5	16,5	1000	150
71936	22x1000	22	22,5	23,5	18,0	1000	165
71787	24x1000	24	24,5	25,5	20,0	1000	170
71944	28x1000	28	28,5	29,5	22,0	1000	200
71951	36x1000	36	36,5	38,0	22,0	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.



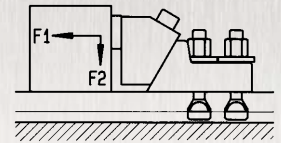
CAD



Subject to technical alterations.

The wedge action of clamping jaws is the characteristic feature of these pull down clamps. It causes the "pull down effect", which presses the workpiece against both, stop and machine table. The clamping force is resolved to its horizontal and vertical components F_1 and F_2 . The lateral catch of jaws allows complete machining from above of top faces even for low sized workpieces without problems.

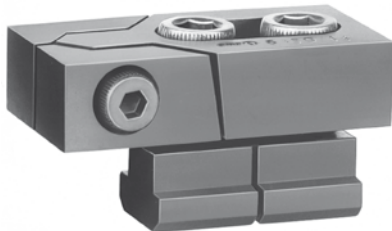
The clamp forces mentioned in the tables are achieved by using the optimal size of bolts and utilizing the respective permissible torque. Force F_1 presses the workpiece against the stop, pull down force F_2 is achieved with a plain face of workpiece.



No. 6490

Low height clamping jaws, model „Bulle“

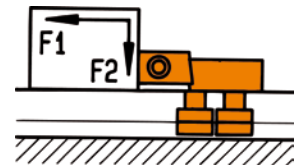
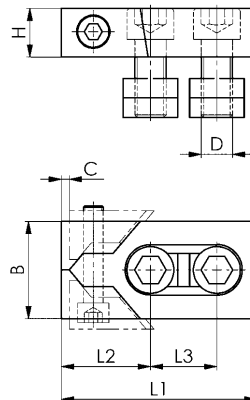
tempered and blued in black oxide finish. Complete with fastening bolts ISO 4762 (10.9), nuts for T-slots DIN 508 and hexagon screwdriver ISO 2936. Packed in carton in pairs.



Order no.	Slot	B	C	D	H	L1	L2	L3	F1 [kN]	F2 [kN]	Weight [g]
72959	12	40	3	M10	20	80	39	26	16	0,6	1150
72967	14	40	3	M12	20	80	39	26	22	0,9	1250
72975	16	40	3	M12	20	80	39	26	22	0,9	1330
72983	16	50	4	M14	25	100	46	34	32	1,2	2340
72991	18	50	4	M16	25	100	46	34	36	1,4	2540
73007	20	50	4	M16	25	100	46	34	36	1,4	2660
73015	22	78	5	M20	30	140	65	50	36	1,4	5980
73023	24	78	5	M20	30	140	65	50	36	1,4	6330
73031	28	78	5	M24	30	140	65	50	40	1,6	7060
73049	30	78	5	M24	30	140	65	50	40	1,6	7580

Note:

The clamping forces F_1 and F_2 are achieved with optimum design and utilisation of the max. tightening torque of the fastening bolts.



No. 6491

Slot stop

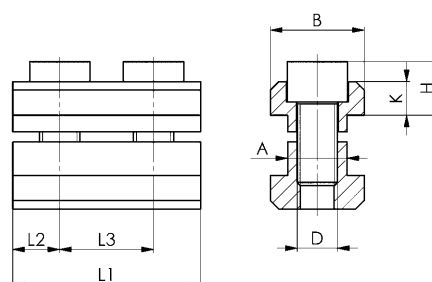
tempered and burnished.



Order no.	Slot	A	B	D	H	K	L1	L2	L3	Weight [g]
73817	12	11,7	18	M8	12	7	36	9,0	18	100
73825	14	13,7	22	M8	12	8	44	11,0	22	140
73833	16	15,7	25	M12	15	9	50	12,5	25	240
73841	18	17,7	28	M12	16	10	56	14,0	28	340
73858	20	19,7	32	M16	19	12	64	16,0	32	520
73866	22	21,7	35	M16	21	14	70	17,5	35	720
73874	24	23,7	40	M20	23	16	80	20,0	40	880
73882	28	27,7	44	M20	24	18	88	22,0	44	1460

Application:

To be used for longitudinal or transversal function. The low overall height allows application with flat workpieces.



Recommendations



No. 911LG-H100F

Subject to technical alterations.

No. 6492

Flat clamp, model „Mini-Bulle“

tempered and blued in black oxide finish. Complete with fastening bolts ISO 4762 (8.8), and hexagon screwdriver ISO 2936.

Packed in carton in pairs.



Order no.	Slot	H min.	H max.	B	C	H1	L	X	F1 [kN]	F2 [kN]	Weight [g]
73098	12	2,5	13,5	18	1,8	11	52	5	5,0	0,6	300
73106	14	1,5	13,5	22	1,8	11	55	5	5,5	0,7	380
73114	16	2,5	17,0	25	2,5	15	68	6	8,0	0,9	700
73122	18	1,5	16,0	28	2,5	15	71	6	9,0	1,0	830
73080	22	4,5	21,5	35	3,0	20	89	9	16	1,9	1740

Application:

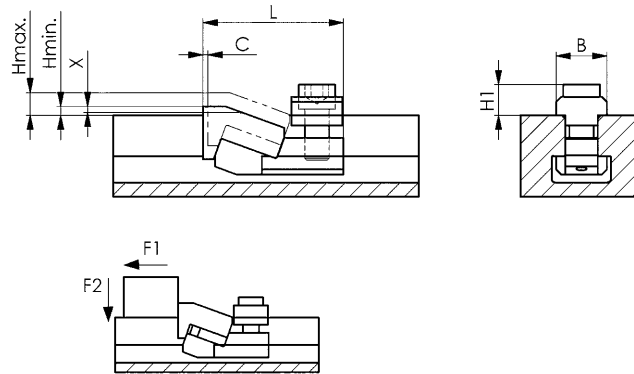
These tempered clamps are designed for extremely low workpieces. Wedge action of jaws presses the workpiece firmly and safely against the machine table. The horizontal forces are compensated by a screw related to slot size, which blocks the clamp without damage to table.

Note:

Hmin./Hmax.: depending on the groove depth according to DIN 650.

The clamping piece can be ground by X mm. This allows lower clamping heights to be achieved.

The clamping forces F1 and F2 are achieved with optimum design and utilisation of the max. tightening torque of the fastening bolts.



CAD

No. 6365

Pull-Down Clamp

Hardened steel

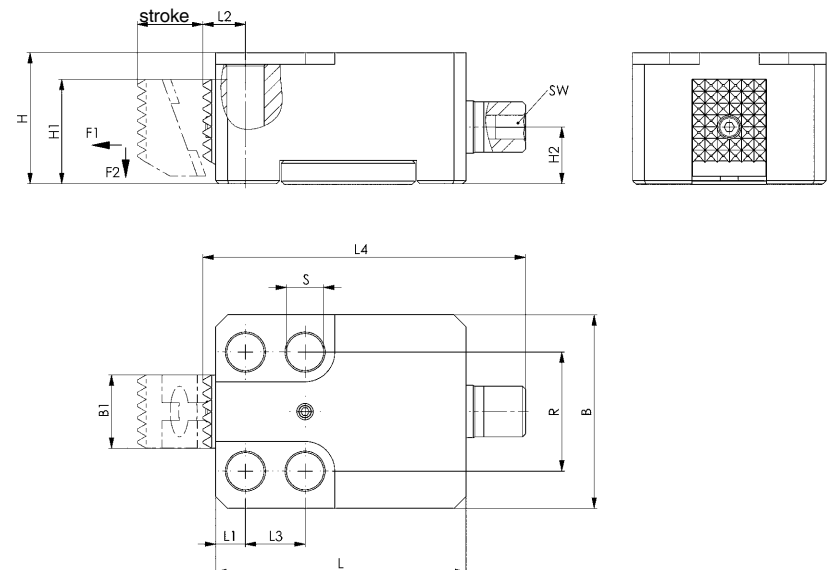


CAD

Order no.	Size	B	B1	H	H1	H2	F1 [kN]	F2 [kN]	Weight [g]
88492	12	65	25	44	36	19	20	2	1515
79392	16	80	30	50	41	21	40	4	2604

Application:

This clamping jaw must be able to run on the mounting surface.



Dimensions:

Order no.	L	L1	L2	L3	L4	R	dia. S	SW	Stroke [mm]
88492	84	10	14	20	108,5	40	12,5	8	22
79392	102	15	18	25	123,0	50	16,5	10	27

Recommendations



No. 6365G,
page 111



No. 6365N,
page 111

Subject to technical alterations.

No. 6365G

Clamping Jaws, serrated

Hardened steel

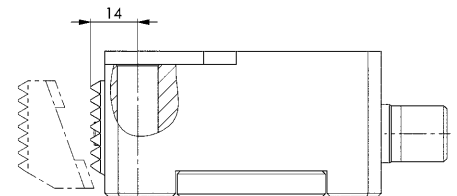
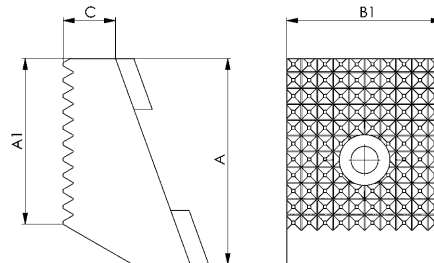
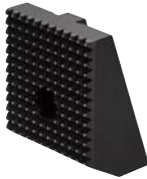


CAD

Order no.	Size	A	A1	B1	C	Weight [g]
88500	12	32,5	26	24,6	8,5	69
120360	16	37,5	31	29,8	7,5	99

Note:

This clamping jaw be part of standart sortiment for draw-down clamp 6365-**-001.



No. 6365N

Clamping Jaws, with ridge

hardened steel

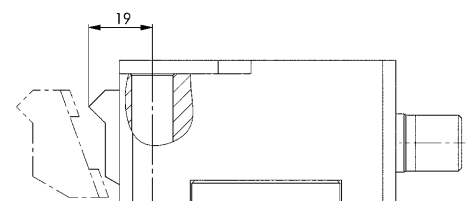
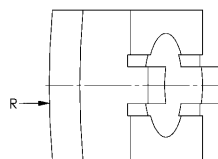
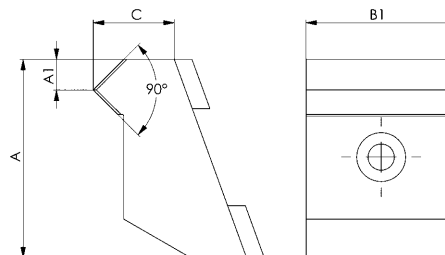


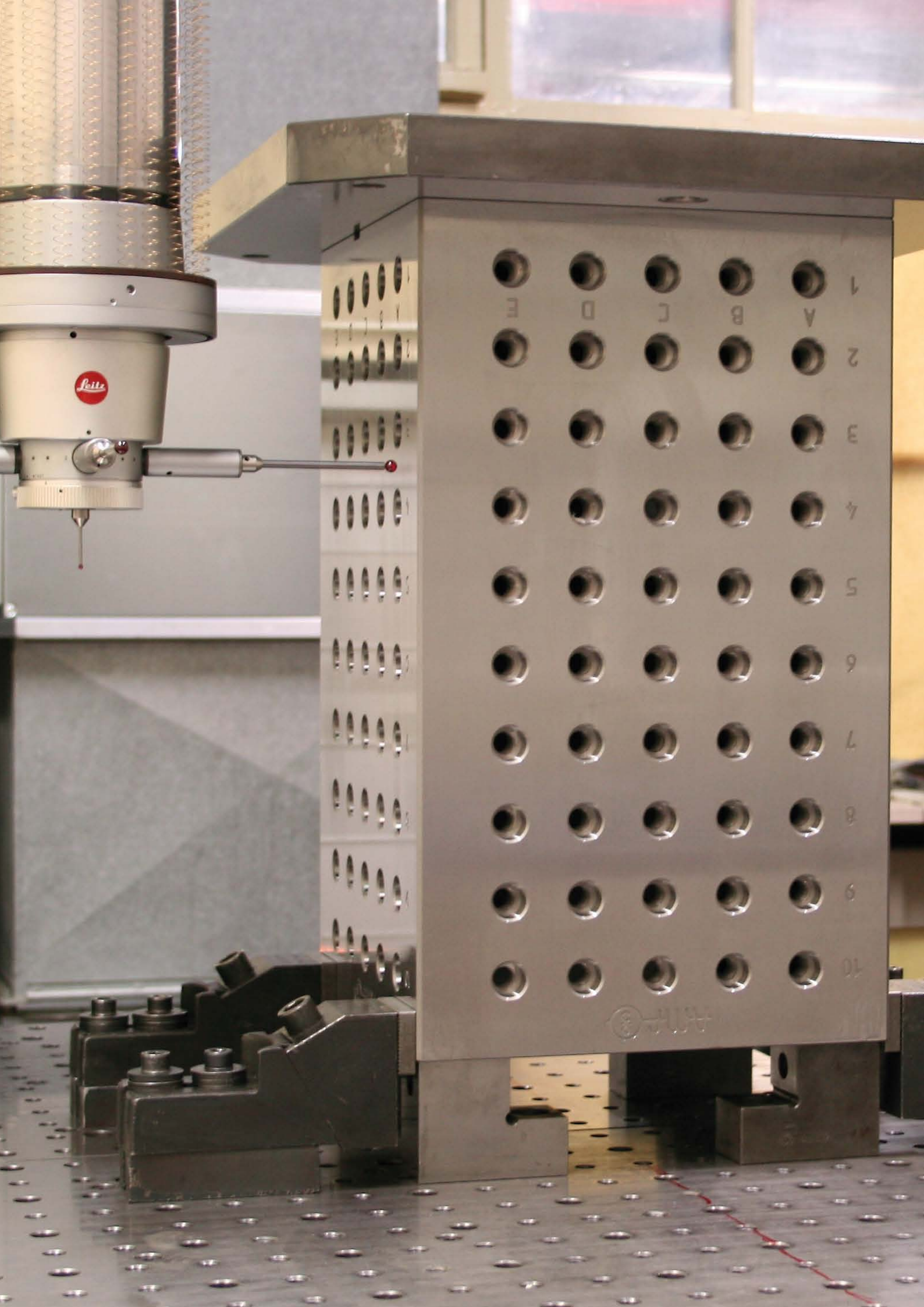
CAD

Order no.	Size	A	A1	B1	C	R	Weight [g]
88526	12	32,5	5	24,6	13	200	74
88542	16	37,5	5	29,8	12,5	250	110

Application:

Suitable for pull-down clamp no. 6365. Especially suitable for workpieces with a very uneven or hard surface (castings).





No. 6494

Low height clamping jaws, model „Maxi-Bulle“

Body: spherical casting. Jaws: tempered and burnished.
Packing: 2 units in carton with hexagon key ISO 2936 without screw s
or bolts. Available in pairs only!



CAD

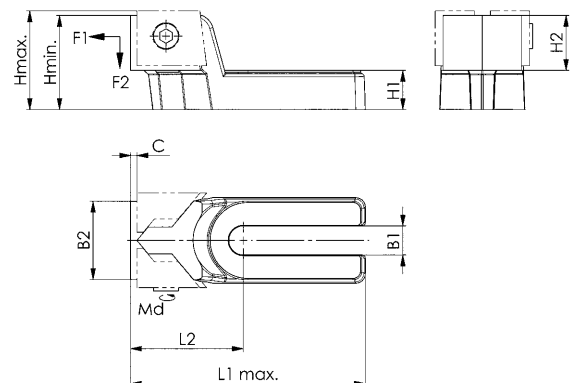


Order no.	Slot	B1	B2	C	H min.	H max.	H1	H2	L1 max.	L2	F1* [kN]	F2* [kN]	Weight:/ pair [g]
73130	10 12 14	13	40	3	50	52	20	30	115	60	6 10 15	0,2 0,4 0,6	1590
73148	16 18 20	19	50	4	60	63	25	35	150	72	20 28 36	0,8 1,1 1,4	2940
73155	22 24 28 30 32 36	31	80	5	75	79	30	45	205	102	38 38 40 40 44 44	1,5 1,5 1,6 1,6 1,7 1,7	7900

* Clamping forces F1 and F2 depend on the groove width.

Application:

The clamping jaws „Maxi-Bulle“ for work on larger heights was developed from the tried and tested Model „Bulle“ no. 6490. The wedge faces of these clamps are skilfully arranged to achieve maximum clamping force with low exertion. For fastening, 2 T-slot bolts DIN 787 for each clamping jaw, according to T-slot size in use, should be ordered separately. For lower arrangement of clamping screws use cap screws ISO 4762 with washers DIN 6340 and T-nuts 508.



Recommendations



No. 911LG-H100F

Subject to technical alterations.

No. 6497F

Solid clamping jaws, flat design

with exact prismatic guide.

Body: Tempered steel.

Clamping jaws: Case-hardened steel, case-hardened.

Reversible clamping jaws with smooth side for machined workpieces and serrated side for rough clamping surfaces.



CAD

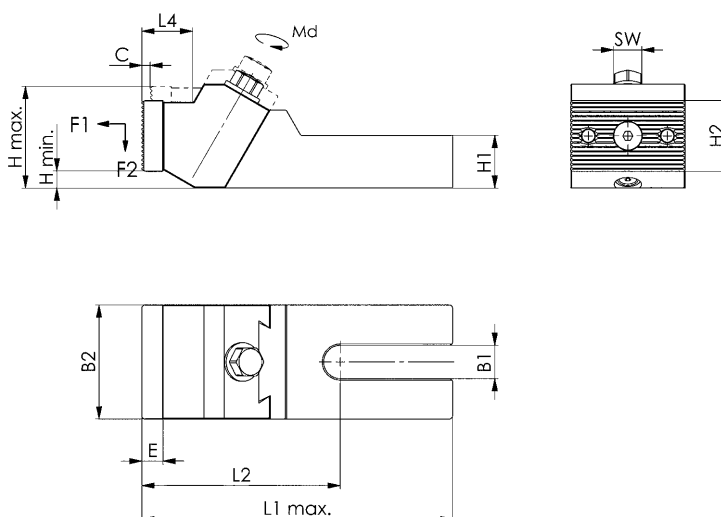


Order no.	Slot	B1	B2	C	E	H min.	H max.	H1	H2	L1 max.	L2	L4	SW	F1* [kN]	F2* [kN]	Md [Nm]	Weight [g]
564074	12 14	13	40	3	8	3	33,5	20	25,4	128	82	19	13	8 15	1,2 2,2	20 40	840
562016	12 14 16 18	19	65	6	12	20	60	30	40	177	113	29	16	8 15 20 28	1,2 2,2 3,0 4,2	20 40 45 60	3020
562017	20 22 24 28 30	26	75	7,5	12	33	73	36	40	224	135	29	18	25 25 32 32 36	4,5 4,5 4,8 4,8 5,4	85 85 95 95 110	4880
562018	32 36 42	38	90	10	12	51	91,5	46	40	256	152	34	21	50	7,5	160	7715

* Clamping forces F1 and F2 depend on the groove width

Application:

The large clamping surface makes these solid clamping jaws suitable for laterally clamping workpieces. We recommend using two clamping studs for fastening the solid clamping jaw on the machine table. Screws for T-slots DIN 787 - two screws per clamping jaw - should be ordered separately as a fastening bolt depending on the width of the slot.



No. 6497

Extra strong clamping jaw

High design with exact prismatic guide.

Main body: malleable iron.

Clamping jaws: case-hardening steel, case-hardened. Reversible clamping jaws with smooth side for machined workpieces and serrated side for rough clamping surfaces.



CAD

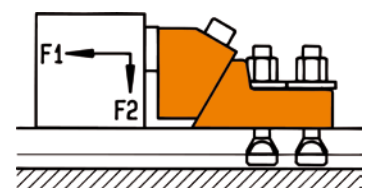
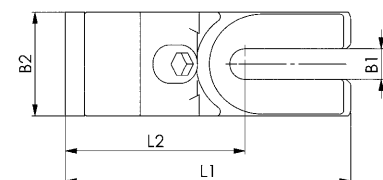
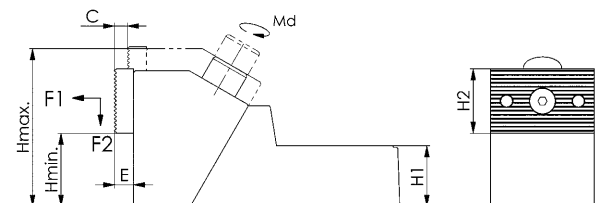


Order no.	Slot	B1	B2	C	E	H min.	H max.	H1	H2	L1	L2	F1* [kN]	F2* [kN]	Md [Nm]	Weight [g]
73213	12	19	65	8	12	46	99	38	40	179	112,5	8	1,2	20	4037
	14											15	2,2	40	
	16											20	3,0	45	
	18											28	4,2	60	
73221	20	26	75	11	12	61	118	45	40	230	138,5	25	4,5	85	6688
	22											25	4,5	85	
	24											32	4,8	95	
	28											32	4,8	95	
	30											36	5,4	110	
73239	32	38	90	15	12	89	145	56	40	265	158	50	7,5	160	11031
	36														
	42														

* Clamping forces F1 and F2 depend on the groove width.

Application:

Due to their large clamping faces these clamping jaws are suitable for lateral clamping of high workpieces. For fastening on the machine table we recommend the use of 2 clamping screws! Related to T-slot size in use, 2 T-slot bolts DIN 787 for each clamp should be ordered separately.



Subject to technical alterations.

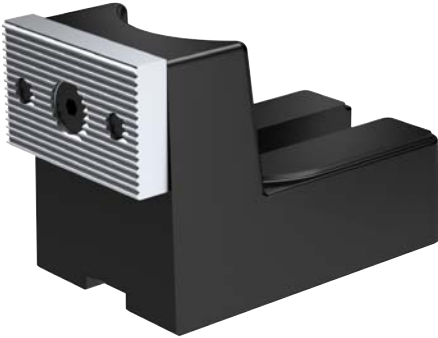
No. 6497A

Stop, fixed

High design.
Body: Cast steel.
Clamping jaws: Case-hardening steel, case-hardened.
Reversible clamping jaws with smooth side for machined workpieces and serrated side for rough clamping surfaces.



CAD



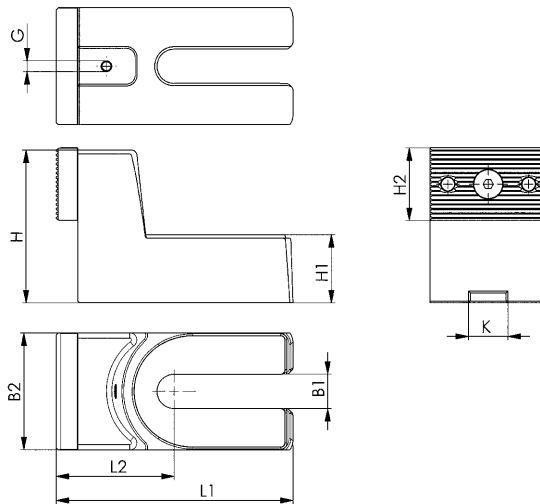
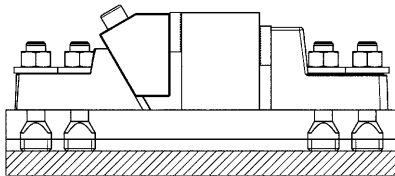
Order no.	Slot	B1	B2	E	G	H	H1	H2	K	L1	L2	Weight [g]
550509	12 14 16 18	19	65	12	M6	85	38	40	20	132	66,0	2857
550510	20 22 24 28 30	26	75	12	M6	100	45	40	20	177	85,5	4673
550511	32 36 42	38	90	12	M6	120	56	40	20	211	95,0	7900

Application:

Stop for workpieces or fixtures that are clamped or fastened to the machine table using a stable clamping jaw. Depending on requirements, the clamping jaw can be rotated so that either a smooth surface or a serrated surface is available.

Note:

Flat sliding block no. 6322A or 6322B enables the stop to be accurately positioned in the machine table groove.



Recommendations



No. 6497B,
page 117

Subject to technical alterations.

No. 6497B

Clamping jaw

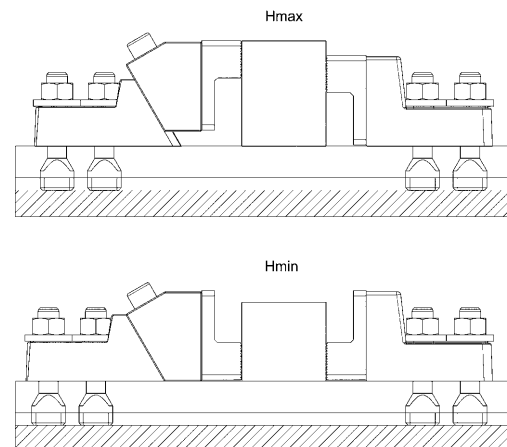
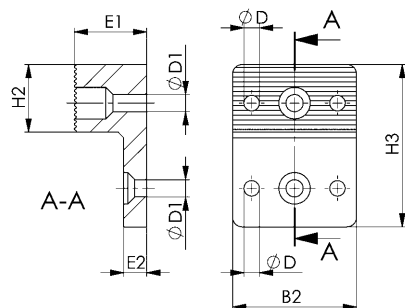
Case-hardened steel, nitrided, with fastening bolt M8



Order no.	Size	B2	D	D1	E1	E2	H2	H3	Weight [g]
550512	19	65	8,1	9	38	12	35	85	889
550513	26	75	8,1	9	38	12	45	100	1306
550514	38	90	8,1	9	38	12	50	120	1829

Application:

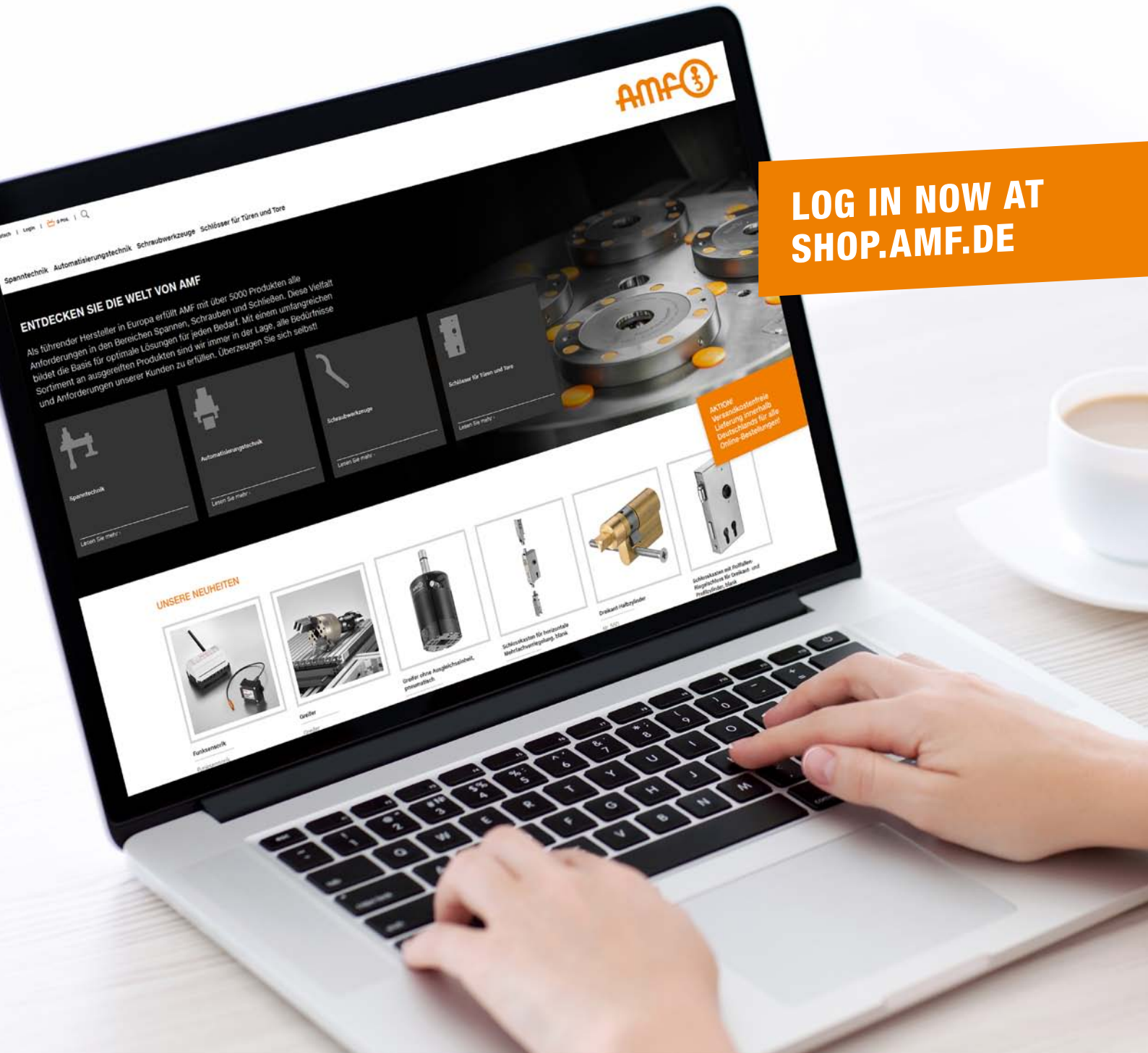
Clamping jaw with serrated surface for machining of unmachined parts. Can be mounted on the stable clamping jaw or the stop.





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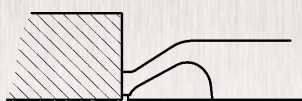


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CLAMPING WITH HORIZONTAL PRESSURE:

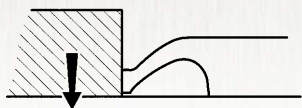
Fastening the horizontal clamp with screws is sufficient to hold and clamp the workpiece. The active part of the clamp consists of three elements - one rigid and two flexible parts

A workpiece is clamped in 3 steps:



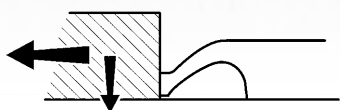
Contact:

The flexible clamp elements are positioned against the workpiece.



Hold:

The flexible clamp elements push the workpiece down until it comes into contact with the rigid clamping fingers.

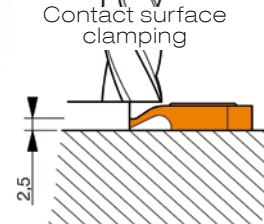
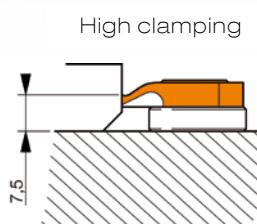
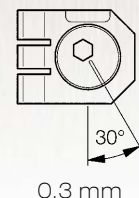
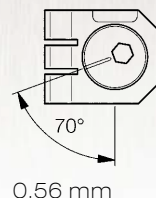


Clamping and positioning:

The rigid clamping finger clamps the workpiece.

Clamping force: 4,000 N
Tightening torque: 9 Nm
Cam stroke: 1.2 mm

Use of the cam:
1/4-turn quick clamp



No. 6493SP

Clamping element, horizontal



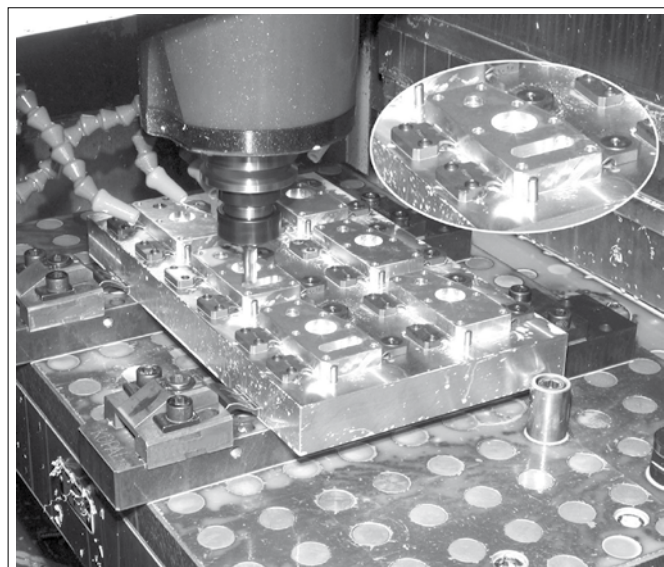
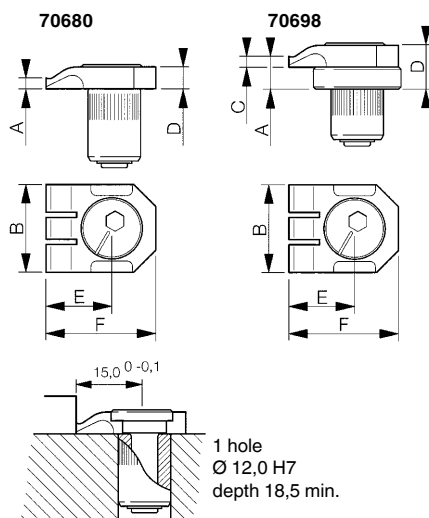
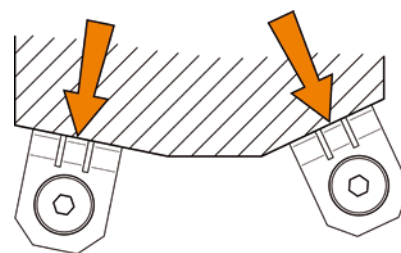
Order no.	Clamping force [N]	Clamping height A [mm]	Stroke Eccentric [mm]	Md Eccentric [Nm]	B	C	D	E	F	Weight [g]
70680	4000	2,5	0,86	9	20	-	5	15	25	29
70698	4000	7,5	0,86	9	20	2,5	10	15	25	29

SW of the cam stroke = 4 mm

Application:

These hold-down clamps rotate around a camshaft that provides the clamping force. They can clamp in any direction.

Clamping element (1 rigid stop) enables the workpiece to lie flush with the stops.



Subject to technical alterations.



No. 6493S

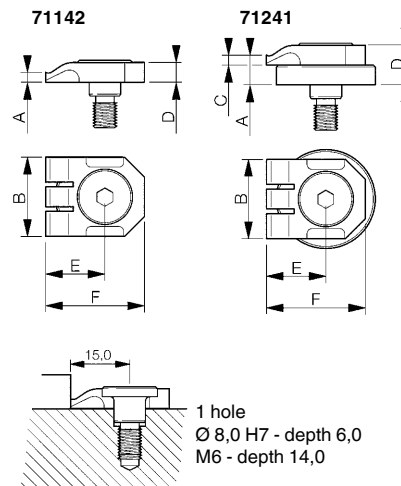
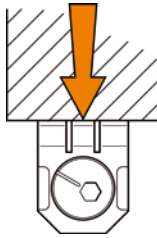
Stop, pivoting

the rigid, ground, pivoting stops are secured by special screws that guarantee high accuracy during installation.

Order no.	Clamping height A [mm]	B	C	D	E	F	Weight [g]
71142	2,5	20	-	5	15	25	19
71241	7,5	20	2,5	10	15	25	19

Application:

The pivoting stop (1 rigid stop) requires two stops to position a workpiece along a straight line.



CAD



Subject to technical alterations.

No. 6493F

Stop, fixed

the ground, fixed stops are secured by special screws that guarantee high accuracy during installation.

Size 1 - Simple stop

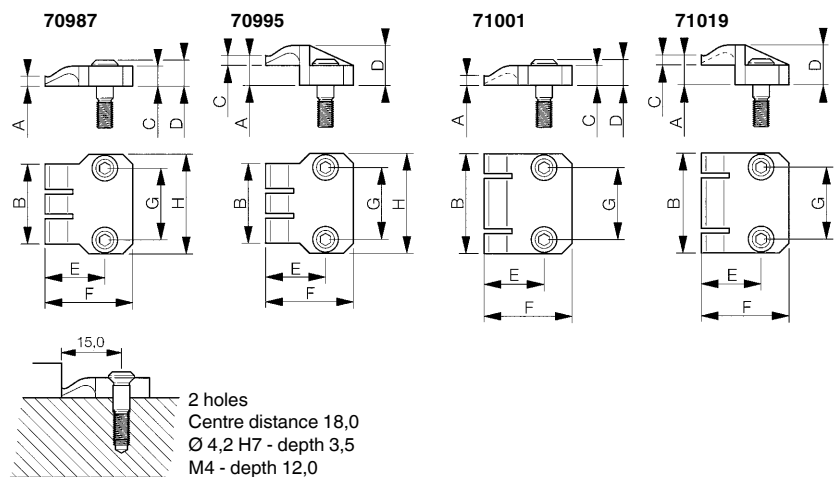
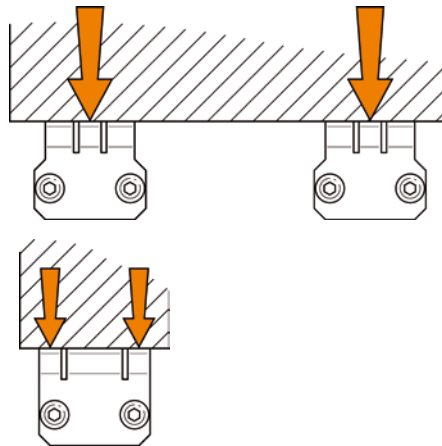
Size 2 - Double stop

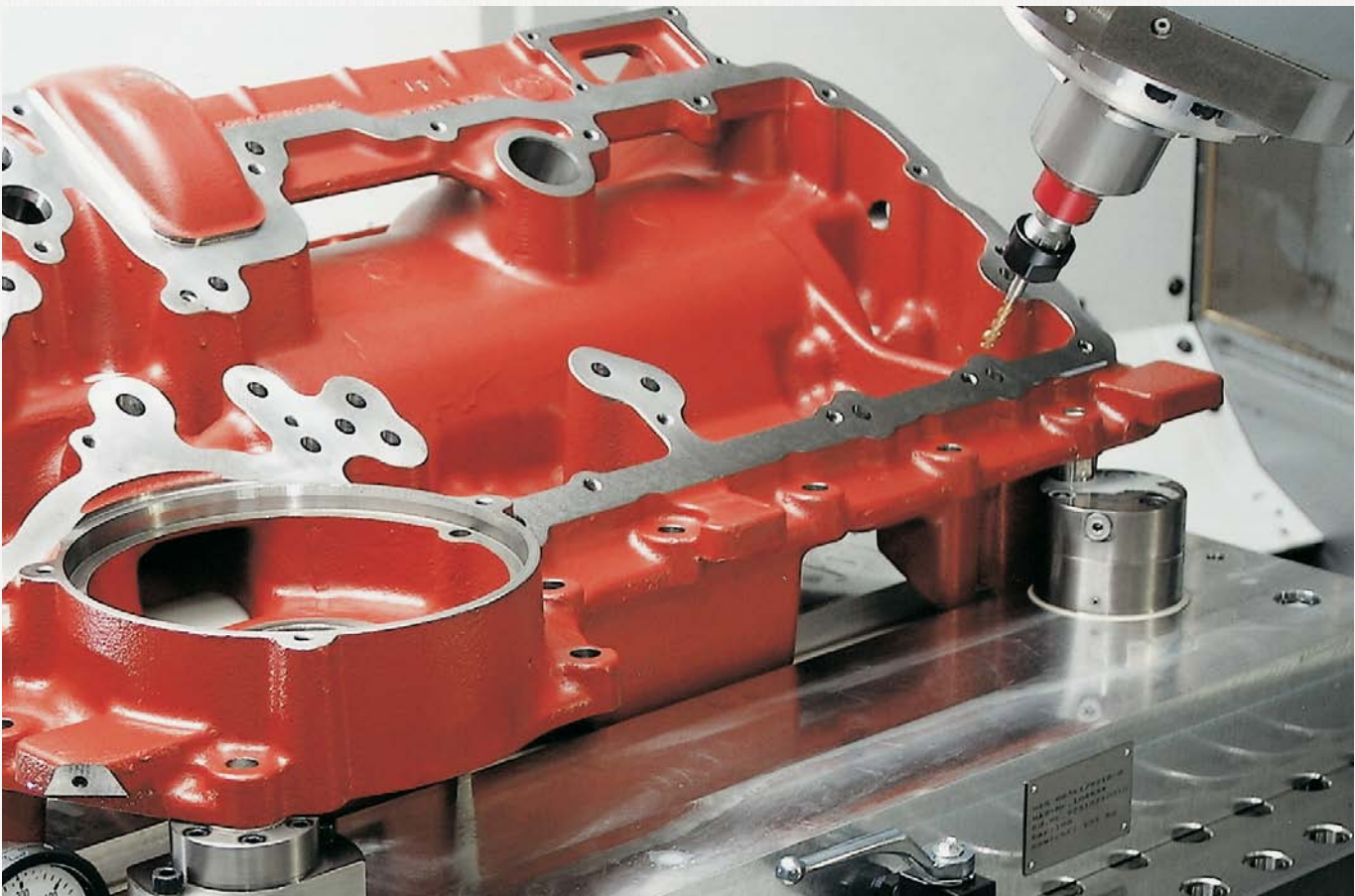
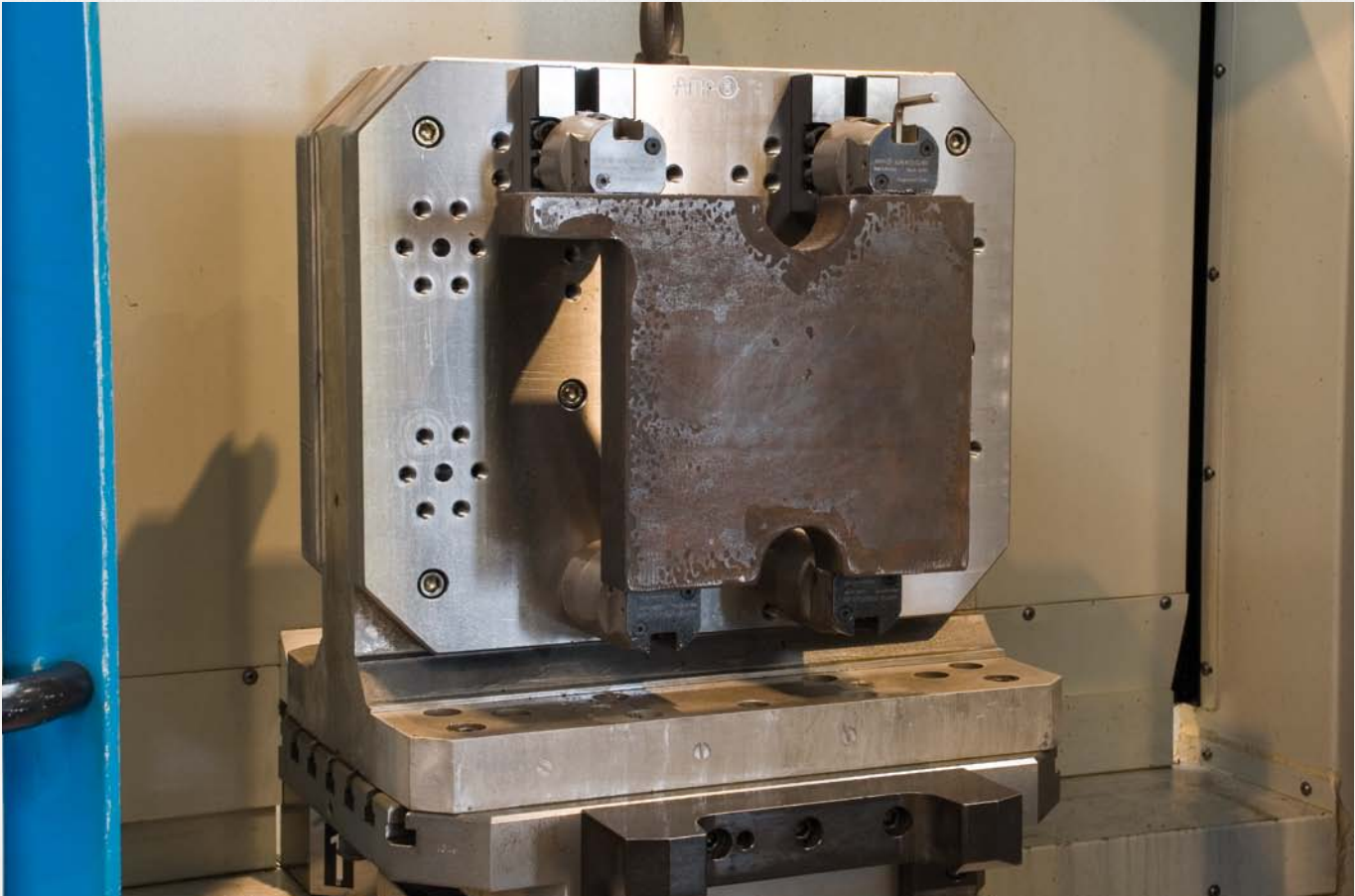
Order no.	Size	Clamping height A [mm]	B	C	D	E	F	G	H	Weight [g]
70987	1	2,5	20	5,0	6,5	15	22	18	25	23
70995	1	7,5	20	2,5	10,0	15	22	18	25	23
71001	2	2,5	25	5,0	6,5	15	22	18	-	23
71019	2	7,5	25	2,5	10,0	15	22	18	-	23

Application:

Size 1 - Single stop (1 rigid stop): Two stops are required to position a workpiece along a straight line.

Size 2 - Double stop (2 rigid stops): One stop is sufficient to position a workpiece along a straight line.





Subject to technical alterations.

No. 6472

Side clamp with clamping point

(without pull-down action)

Complete with fastening bolts ISO4014 (8.8) and nuts for T-slots DIN508.

NEW!



Order no.	Size	Slot	F1 [kN]	B	H	H1	L	Stroke	Weight [g]
564012	M12 x 14	14	20	47,5	50,5	22,5	98	6	1974

Application:

The mechanical side clamp without pull-down effect can be used as a clamping element and as a stop element.

When used in conjunction with the base plate with slot 6498FT (73908), the side clamp can also be placed across the table slot.

Advantage:

- compact design
- horizontal and vertical use

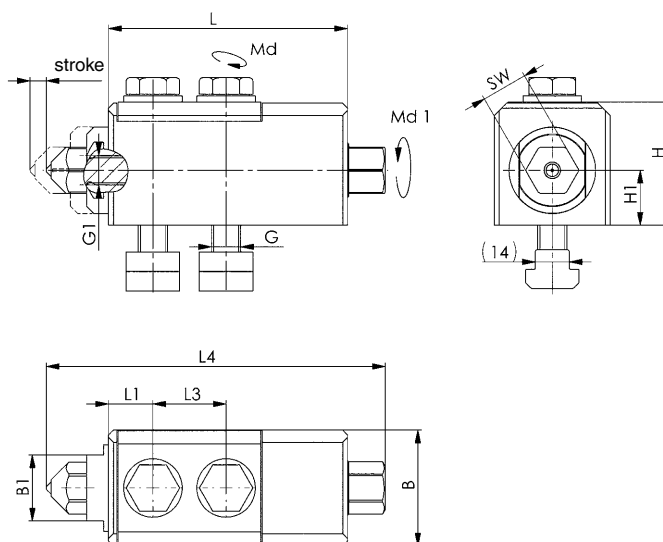
Note:

The clamping force is achieved with optimum design and utilisation of the max. tightening torque of the fastening bolts.

The set screw is changeable.

Suitable set screws:

- 7110DKX-12xM12 Set screw with flat-faced ball, plain
- 7110DFX-12xM12 Set screw with flat-faced ball, ribbed
- 7110DS-12xM12 Set screw with point



Recommendations



No. 7110DKX-12xM12, page 39



No. 7110DFX-12xM12, page 39

Dimensions:

Order no.	Size	B1	G	G1	L1	L2	L3	L4	SW	torque Md [Nm]	Tightening torque Md1 [Nm]
564012	M12 x 14	27	M12	M12	18,2	43,7	30	139	19	83	60

No. 6498

Edge Clamp

complete with mounting kit. Fastened with screws of strength class 10.9.



Order no.	Size	Slot	torque Md [Nm]	H ±0,1	F1 [kN]	F2 [kN]	Weight [g]
73890	M12x14	14	75	65	12	7	1530
375501	M16x18	18	80	75	20	10	2627
374355	M20x22	22	160	100	25	17	5996

Application:

The mechanical side clamp with hold-down effect can be used as a clamping element and as a fixed stop. Moving the adjusting bolt causes hook ends to clamp the workpiece. At the same time, a pull-down effect occurs on the contact surface. Attaching a lateral stop enables the workpiece to be repeatedly clamped. When used in conjunction with base plate 6498FT, the side clamp can also be placed across the table groove. In conjunction with round base plate no. 6498FR, only along the table groove.

Advantage:

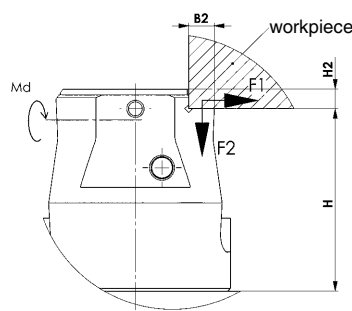
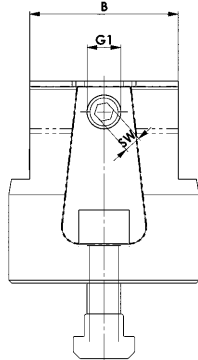
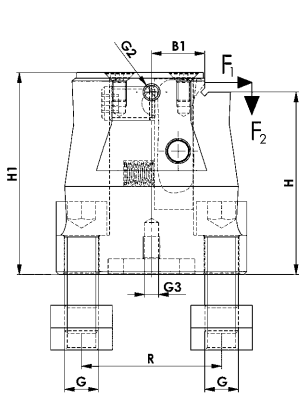
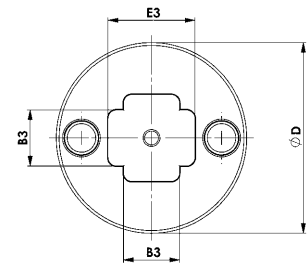
- compact dimensions
- workpiece fastened rigid and secure through pull-down effect
- plate tension increased to make holes and grooves
- lateral plate tension to completely finish surfaces without collision contour
- lateral thread enables a stop to be fastened
- can be used for horizontal and vertical applications
- reduced tooling time and tool elements cuts tooling costs
- diverse and variable applications.

Note:

Use of a flat sliding block no. 6322A or no. 6322B enables the side clamp to be accurately positioned in the machine table groove.

On request:

Special versions (dimension H ±0.01) are available.



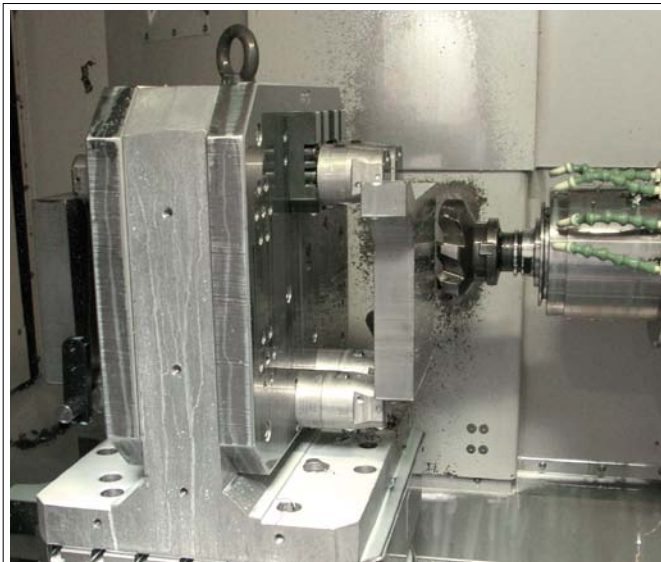
Recommendations



No. 911LG-H100F

Dimensions:

Order no.	Size	B	B1	B2	B3	D +2	E3	G	G1	G2	G3	H1	H2	R	SW
73890	M12x14	53	19,0	9,0	20	68	31,0	M12	M12	M6	M6	72	7	50	6
375501	M16x18	60	20,5	13,5	20	78	25,5	M16	M16	M6	M6	95	20	50	8
374355	M20x22	88	28,5	18,0	20	108	38,0	M20	M16	M6	M6	118	18	75	10



Subject to technical alterations.

No. 6498FR

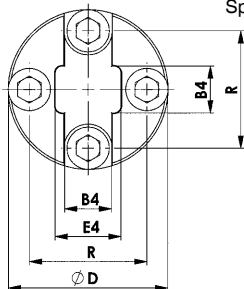
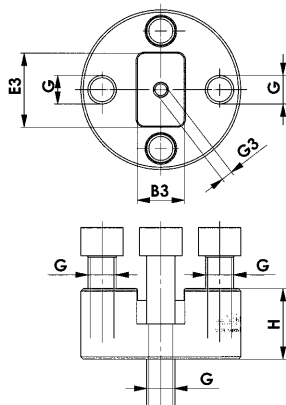
Base plate, round

complete with fixing screws. Fastened with screws of strength class 10.9.



view from below

view from above



Order no.	Size	Slot	H ±0,1	B3	B4	D +2	E3	E4	G	G3	R	Weight [g]
73916	M12x14	14	30	20	20	68	31,0	28,0	M12	M6	50	930
375527	M16x18	18	50	20	20	78	25,5	25,5	M16	M6	50	1780
374371	M20x22	22	60	20	22	108	38,5	38,5	M20	M6	75	4680

Application:

Used in conjunction with side clamp no. 6498 to clamp across and along the table groove. The size M16x18 fits properly for use on the M16 grid plate.

Advantage:

- Increase in the workpiece mounting surface.

Note:

The flat T-nut no. 6322A or 6322B allows the side clamp to be connected exactly to the round base plate. The base plate can be positioned exactly on the machine table using the flat T-nuts 6322A or 6322B.

On request:

Special versions (dimension H ±0.01) are available.

Recommendations



No. 911LG-H100F

No. 6498FT

Base plate with groove

complete with mounting kit. Fastened with screws of strength class 10.9.



Order no.	Size	Slot	H ±0,1	B	E1	E2	G	L	R	Weight [g]
73908	M12x14	14	30	70	40	65	M12	110	50	1330
375543	M16x18	18	50	125	40	90	M16	130	100	4864
374397	M20x22	22	60	120	75	150	M20	200	85	7614

Application:

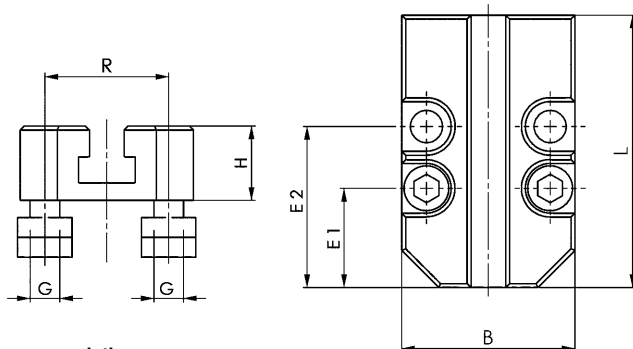
Used in conjunction with side clamp no. 6498 to also clamp across the table groove.

Advantage:

- Simple use of the side clamp when clamping even across the groove
- Increase in the workpiece mounting surface.

On request:

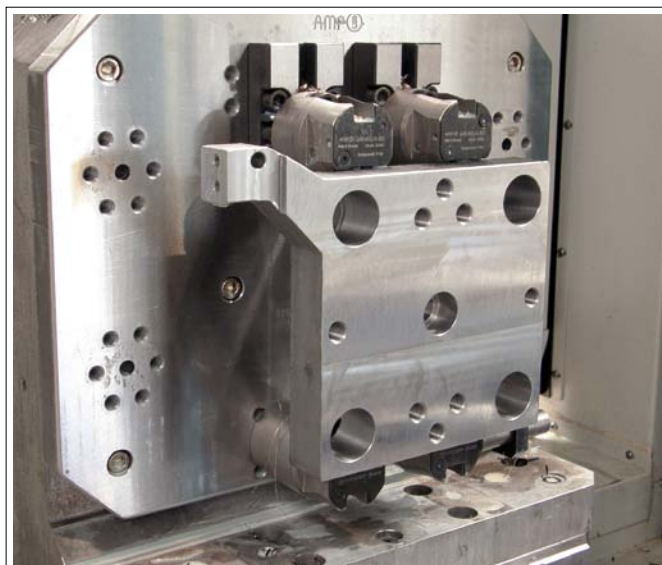
Special versions (dimension H ±0.01) are available.



Recommendations



No. 911LG-H100F



Subject to technical alterations.

No. 6495

T-slot clamp

complete with mounting.
Steel, tempered and burnished.



Order no.	Size	Slot	F1 [kN]	F2 [kN]	H2	SW [mm]	Weight [g]
374140	12	14	7	3,5	10	5	91
374132	16	18	10	5,0	12	6	188
374124	20	22	16	8,0	15	8	363

Application:

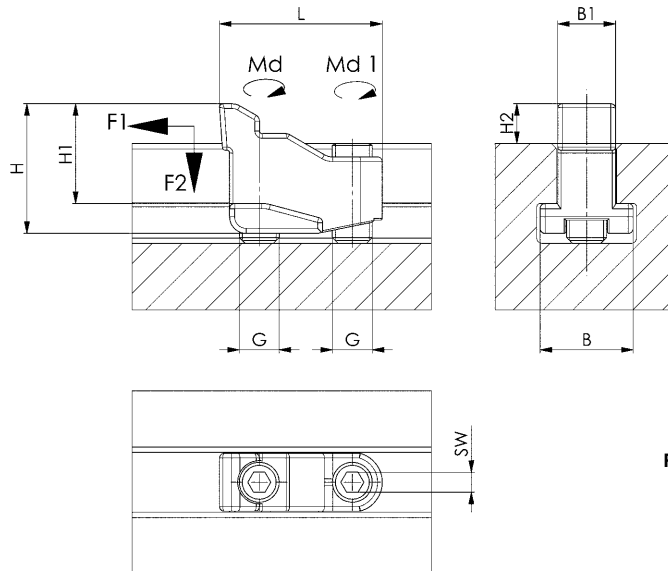
1. Slide T-slot clamp into T-slot of the machine table.
2. Position on workpiece.
3. Secure fastening bolt for machine table.
4. Actuating the clamping bolt clamps the workpiece.

Advantage:

- For clamping of very thin workpieces
- Lateral clamping of workpieces to completely finish surfaces without interference contours
- Can be used for horizontal and vertical applications.

Note:

- To reduce the wear on the fastening bolt, we recommend using AMF screw compound 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.
- Use the associated AMF fastening bolt 6495S.



Recommendations



No. 911LG-H100F

Dimensions:

Order no.	Size	B	B1	G	H	H1	L	Md [Nm]	Md 1 [Nm]
374140	12	22	13,6	M10	31	24	40	18	9
374132	16	28	17,4	M12	39	30	49	32	15
374124	20	35	21,5	M16	50	37	63	75	35

CAD



No. 6495S

Fastening bolt for T-slot clamp

Strength class 10.9



Order no.	Size	G	L	SW [mm]	Weight [g]
79186	12	M10	25	5	14
78907	16	M12	30	6	24
77834	20	M16	40	8	59

No. 6496

Flat clamp

Complete with mounting.
Steel, tempered and burnished.



Order no.	Size	Slot	G	F1 [kN]	F2 [kN]	H min.	H max.	Weight [g]
374157	M12x14	14	M12	15	7,5	16	25	579
374165	M12x16	16	M12	15	7,5	16	25	600
374173	M16x18	18	M16	25	12,5	19	30	1011
374181	M16x20	20	M16	25	12,5	19	30	1055
374199	M20x22	22	M20	36	18,0	22	36	1670
374207	M20x24	24	M20	36	18,0	22	36	1705
374215	M20x28	28	M20	36	18,0	22	36	1807

Application:

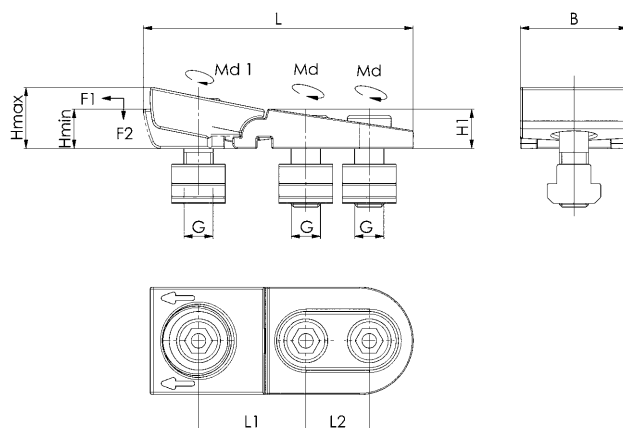
1. Slide flat clamp into T-groove of the machine table.
2. Position on workpiece.
3. Secure fastening bolts for machine table.
4. Actuating the clamping bolt clamps the workpiece.

Advantage:

- For clamping of very thin workpieces
- Lateral clamping of workpieces to completely finish surfaces without interference contours
- Can be used for horizontal and vertical applications.

Note:

- To reduce the wear on the fastening bolts, we recommend using AMF screw compound 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.
- Use only the corresponding AMF mounting kit 6496BF.



Dimensions:

Order no.	Size	B	H1	L	L1 min.	L1 max.	L2	Md [Nm]	Md 1 [Nm]
374157	M12x14	44	16	110	45	48	26	65	52
374165	M12x16	44	16	110	45	48	26	65	52
374173	M16x18	56	19	130	50	54	33	150	120
374181	M16x20	56	19	130	50	54	33	150	120
374199	M20x22	62	22	152	58	63	41	300	240
374207	M20x24	62	22	152	58	63	41	300	240
374215	M20x28	62	22	152	58	63	41	300	240



No. 6496BF

Mounting kit for flat clamp

comprising 3 DIN 6912 hexagonal bolts, 3 DIN 508 T-groove nuts and 1 DIN 6319C spherical washer.



Order no.	Size	Slot	G	L	SW [mm]	Weight [g]
313379	M12x14	14	M12	30	10	49
313395	M12x16	16	M12	35	10	56
313411	M16x18	18	M16	35	14	90
313437	M16x20	20	M16	40	14	104
313452	M20x22	22	M20	45	17	177
313478	M20x24	24	M20	45	17	189
313494	M20x28	28	M20	55	17	228

Recommendations



No. 911LG-H100F

Subject to technical alterations.

ABOUT ALIGNING AND POSITIONING

- > **Design:** The skilfull graduation of sizes to DIN series figures allows for numerous combinations.
- > **Quality:** AMF-parallels guarantee for long life due to their high wear resistance.
- > **The right quality for any application:** Our parallel washers are available in three quality levels:

Standard	★
Precision	★★
Super-precision	★★★

AMF-parallels are used as packing blocks, stops or distance pieces on machine tools. They are indispensable for the parallel support of components in machine vices and on surface plates.

- > AMF parallel washers, stops and power clamp being used for drilling a base plate.



DIN 6346

Parallel supports-set

In wooden box with detachable folding lid.
Plain parallel, fine-ground, in pairs.
Size data on the product.
Case-hardened.

Pair tolerance in height tp2 and width tp1 to IT 5.
Rated dimensional tolerance in height and width to DIN ISO 2768m.
Remaining dimensions to DIN ISO 2768m.

Geometrical graduation enables full use of the support height.
2.5 - 25 mm over 40 different heights 2.5 - 45 mm
4 - 32 mm over 40 different heights 4 - 57 mm
4 - 40 mm over 40 different heights 4 - 72 mm
8 - 50 mm over 30 different heights 8 - 90 mm
8 - 63 mm over 40 different heights 8 - 113 mm
20 - 100 mm over 14 different heights 20 - 180 mm.



Order no.	Size	Pair	Case L x B x H	Weight [Kg]
72322	2,5-25	9	200x100x 36	1,3
72330	4-40	7	305x115x 50	3,8
72348	8-63	5	305x115x 70	7,4
72355	20-100	3	280x215x125	27,1
72165	4-32	5	132x145x 50	1,5
72173	8-50	4	192x158x 75	4,9

Note:

Workshop sets

Size 2.5-25 including (BxHxL):

2.5x8x63 / 3.2x10x63 / 4.0x12x63 / 5.0x16x63 / 6.3x20x63 / 4.0x12x100 / 5.0x16x100 / 6.3x20x100 / 8.0x25x100 mm

Size 4.0-40 including (BxHxL):

4.0x12x100 / 5.0x16x100 / 6.3x20x100 / 8.0x25x100 / 8.0x25x160 / 10.0x32x160 / 12.0x40x160 mm

Size 8.0-63 including (BxHxL):

8.0x25x100 / 10.0x32x100 / 12.0x40x100 / 16.0x50x160 / 20.0x63x160 mm

Size 20-100 including (BxHxL):

20.0x63x250 / 25.0x80x250 / 32.0x100x250 mm

Vice sets

Size 4.0-32 including (BxHxL):

4.0x12x100 / 5.0x16x100 / 6.3x20x100 / 8.0x25x100 / 10.0x32x100 mm

Size 8.0-50 including (BxHxL):

8.0x25x160 / 10.0x32x160 / 12.0x40x160 / 16.0x50x160 mm

DIN 6346P

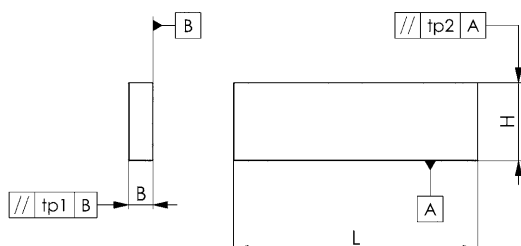
Parallel supports-pairs

Plain parallel, fine-ground, in pairs.
Size data on the product.
Case-hardened.

Pair tolerance in height tp2 and width tp1 to IT 5.
Rated dimensional tolerance in height and width to DIN ISO 2768m.
Remaining dimensions to DIN ISO 2768m.



Order no.	H	B	L	Pair tolerance (tp1 / /tp2)	Weight [g]
75309	8	2,5	63	IT5	20
75317	10	3,2	63	IT5	30
75325	12	4,0	63	IT5	45
75333	16	5,0	63	IT5	80
75341	20	6,3	63	IT5	125
72181	12	4,0	100	IT5	75
72199	16	5,0	100	IT5	125
72207	20	6,3	100	IT5	200
72215	25	8,0	100	IT5	315
72223	32	10,0	100	IT5	500
72231	40	12,0	100	IT5	750
72249	25	8,0	160	IT5	500
72256	32	10,0	160	IT5	800
72264	40	12,0	160	IT5	1200
72272	50	16,0	160	IT5	2000
72280	63	20,0	160	IT5	3170
72298	63	20,0	250	IT5	4950
72306	80	25,0	250	IT5	7900
72314	100	32,0	250	IT5	12680
72363	100	40,0	400	IT5	25300



Subject to technical alterations.

No. 6347

Parallel support set in wooden box

with 14 pairs of parallel supports.
Plain parallel, finely ground, in pairs.
Case-hardened.



Order no.	Quality level	H	H Rated dimensional tolerance	H Pair tolerance (tp)	B	L	Case [mm]	Weight [Kg]
558279	SP	14, 16, 18, 20, 22, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50	$\pm 0,004$	0,004	10	150	435 x 200 x 64	10,9
558280	P	14, 16, 18, 20, 22, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50	$\pm 0,01$	0,01	10	150	435 x 200 x 64	10,9
558281	S	14, 16, 18, 20, 22, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50	2768 - m	0,01	10	150	435 x 200 x 64	10,9

Design:

Content per 1 pair (WxH):
10x14 / 10x16 / 10x18 / 10x22 / 10x24 / 10x26 / 10x28 / 10x30 / 10x32 / 10x35 / 10x40 / 10x45 / 10x50 mm.

Quality level:

SP = Super-precision, P = Precision, S = Standard

Application:

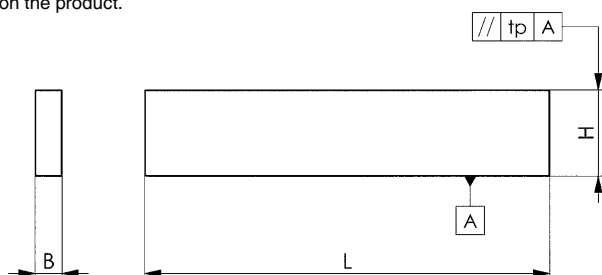
These documents are used as washers for workpieces exposed to diverse machining processes. The high precision of the parallel washers guarantees parallel workpiece clamping.

Advantage:

- high wear resistance and long service life
- wooden box with removable lid for perfect handling at the workplace and safe storage
- different quality levels for any application

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on the product.



**Optimised wooden case
for perfect handling!**

No. 6347PSP

Parallel supports-pairs, super-precision

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Super-precision ***



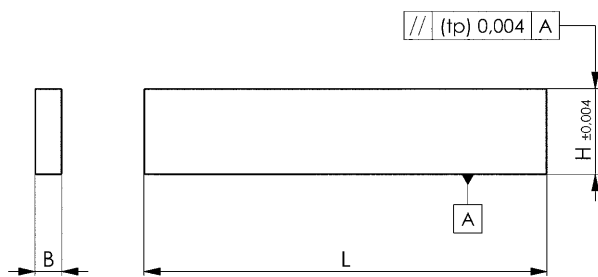
Order no.	H Rated dimensional tolerance ± 0.004	H Pair tolerance (tp)	B	L	Weight [g]
75473	14	0,004	10	150	330
75481	16	0,004	10	150	380
75499	18	0,004	10	150	420
75507	20	0,004	10	150	470
75515	22	0,004	10	150	520
75523	24	0,004	10	150	570
75531	26	0,004	10	150	610
75549	28	0,004	10	150	660
75556	30	0,004	10	150	710
75564	32	0,004	10	150	750
75572	35	0,004	10	150	830
75580	40	0,004	10	150	940
75291	45	0,004	10	150	1060
75283	50	0,004	10	150	1180

Application:

These documents are used as washers for workpieces exposed to diverse machining processes. The high precision of the parallel washers guarantees parallel workpiece clamping.

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on the product.



No. 6347PP

Parallel supports-pairs, precision

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Precision **



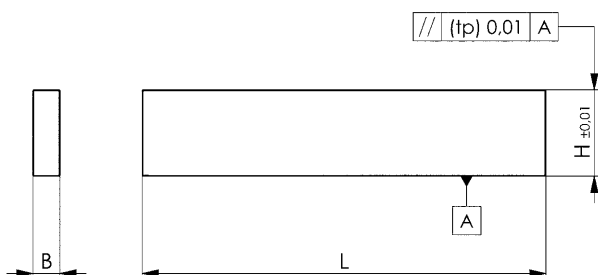
Order no.	H Rated dimensional tolerance ± 0.01	H Pair tolerance (tp)	B	L	Weight [g]
370684	14	0,01	10	150	330
370692	16	0,01	10	150	380
370700	18	0,01	10	150	420
370718	20	0,01	10	150	470
370726	22	0,01	10	150	520
370734	24	0,01	10	150	570
370742	26	0,01	10	150	610
370759	28	0,01	10	150	660
370767	30	0,01	10	150	710
370775	32	0,01	10	150	750
370783	35	0,01	10	150	830
370791	40	0,01	10	150	940
370809	45	0,01	10	150	1060
370817	50	0,01	10	150	1180

Application:

These documents are used as washers for workpieces exposed to diverse machining processes.

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on the product.



Subject to technical alterations.

No. 6347PS

Parallel supports-pairs, standard

Plain parallel, finely ground, in pairs.
Case-hardened.

Quality level: Standard *



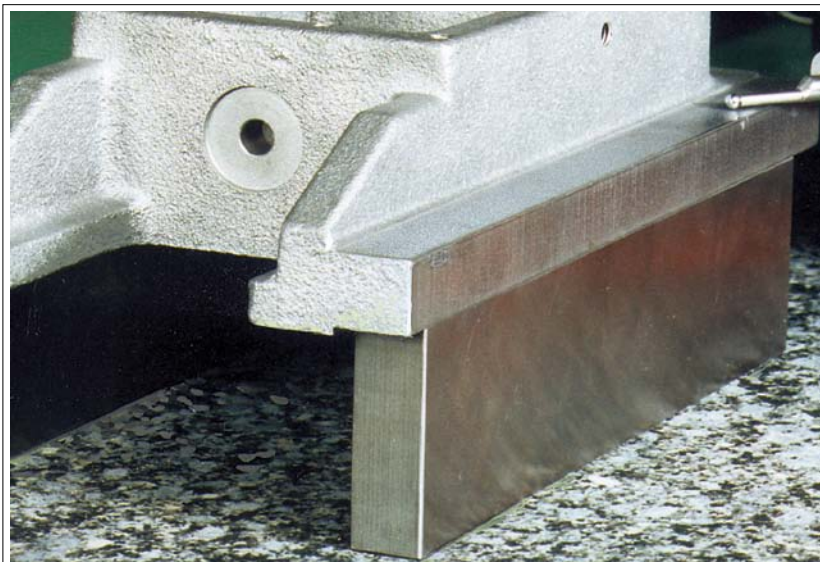
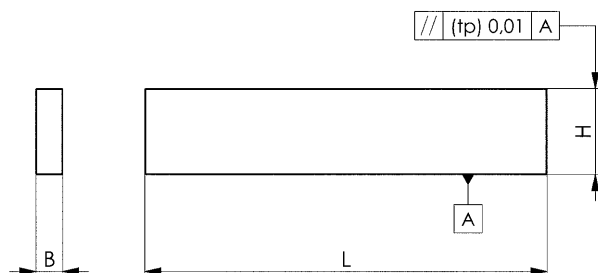
Order no.	H Rated dimensional tolerance DIN ISO 2768 - m	H Pair tolerance (tp)	B	L	Weight [g]
370825	14	0,01	10	150	330
370833	16	0,01	10	150	380
370841	18	0,01	10	150	420
370858	20	0,01	10	150	470
370866	22	0,01	10	150	520
370874	24	0,01	10	150	570
370882	26	0,01	10	150	610
370890	28	0,01	10	150	660
370908	30	0,01	10	150	710
370916	32	0,01	10	150	750
370924	35	0,01	10	150	830
370932	40	0,01	10	150	940
370940	45	0,01	10	150	1060
370957	50	0,01	10	150	1180

Application:

These documents are used as washers for workpieces exposed to diverse machining processes.

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on the product.



Subject to technical alterations.

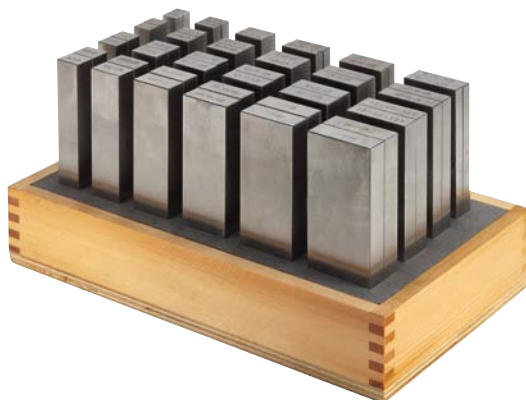
CAD



No. 6348

Parallel support set in wooden stand

Plain parallel, finely ground, in pairs.
Case-hardened.



Order no.	Quality level	Size	Pair	H Rated dimensional tolerance	H Pair tolerance (tp)	B Rated dimensional tolerance	L	Weight [Kg]
75606	SP	100	20	±0,01	IT5	±0,01	100	2,2
75614	SP	125	24	±0,01	IT5	±0,01	125	14
75648	SP	150	24	±0,01	IT5	±0,01	150	17
371062	P	100	20	±0,01	IT5	2768 - m	100	2,2
371070	P	125	24	±0,01	IT5	2768 - m	125	14
371088	P	150	24	±0,01	IT5	2768 - m	150	17
371096	S	100	20	2768 - m	IT5	2768 - m	100	2,2
371104	S	125	24	2768 - m	IT5	2768 - m	125	14
371112	S	150	24	2768 - m	IT5	2768 - m	150	17

Design:

Size 100, content per 1 pair (WxH):

2x5 / 2x10/ 2x15/ 2x20/ 3x6 / 3x11 / 3x16 / 3x21 / 4x7 / 4x12 / 4x17 / 4x22 / 5x8 / 5x13 / 5x18 / 5x23 / 6x9 / 6x14 / 6x19 / 6x24 mm

Size 125 and 150, content per 1 pair (WxH):

8x11 / 8x16 / 8x21 / 8x26 / 8x31 / 8x36 / 10x13 / 10x18 / 10x23 / 10x28 / 10x33 / 10x38 / 12x15 / 12x20 / 12x25 / 12x30 / 12x35 / 12x40 / 14x17 / 14x22 / 14x27 / 14x32 / 14x37 / 14x42 mm

Quality level:

SP = Super-precision, P = Precision, S = Standard

Application:

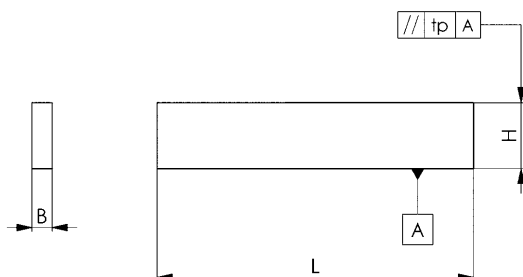
These documents are used as washers for workpieces exposed to diverse machining processes. The high precision of the parallel washers guarantees parallel workpiece clamping.

Advantage:

- high wear resistance and long service life
- wooden box with removable lid for perfect handling at the workplace and safe storage
- different quality levels for any application

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on front of product.



No. 6348PSP

Parallel supports-pairs, super-precision, 100 mm long

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Super-precision ***



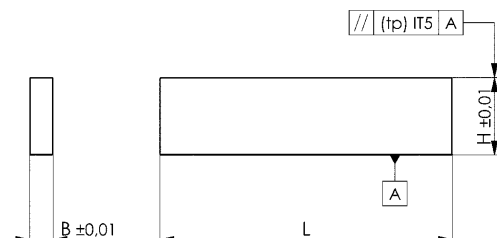
Order no.	H Rated dimensional tolerance ± 0.01	H Pair tolerance (tp)	B Rated dimensional tolerance ± 0.01	L	Weight [g]
370007	5	IT5	2	100	16
370015	10	IT5	2	100	31
370023	15	IT5	2	100	47
370031	20	IT5	2	100	62
370049	6	IT5	3	100	28
370056	11	IT5	3	100	51
370064	16	IT5	3	100	75
370072	21	IT5	3	100	98
370080	7	IT5	4	100	44
370098	12	IT5	4	100	75
370106	17	IT5	4	100	106
370114	22	IT5	4	100	137
370122	8	IT5	5	100	62
370130	13	IT5	5	100	101
370148	18	IT5	5	100	140
370155	23	IT5	5	100	179
370163	9	IT5	6	100	84
370171	14	IT5	6	100	131
370189	19	IT5	6	100	178
370197	24	IT5	6	100	224

Application:

These documents are used as washers for workpieces exposed to diverse machining processes. The high precision of the parallel washers guarantees parallel workpiece clamping.

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on the product.



No. 6348PSP

Parallel supports-pairs, super-precision, 125 mm long

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Super-precision ***



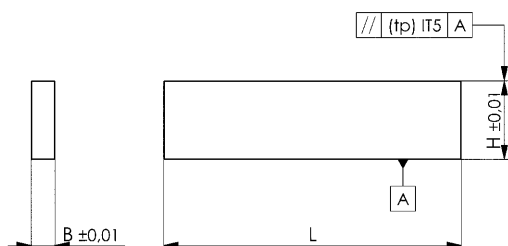
Order no.	H Rated dimensional tolerance ± 0.01	H Pair tolerance (tp)	B Rated dimensional tolerance ± 0.01	L	Weight [g]
370205	11	IT5	8	125	171
370213	16	IT5	8	125	249
370221	21	IT5	8	125	326
370239	26	IT5	8	125	404
370247	31	IT5	8	125	482
370254	36	IT5	8	125	561
370262	13	IT5	10	125	253
370270	18	IT5	10	125	351
370288	23	IT5	10	125	448
370296	28	IT5	10	125	545
370304	33	IT5	10	125	642
370312	38	IT5	10	125	741
370320	15	IT5	12	125	350
370338	20	IT5	12	125	466
370346	25	IT5	12	125	583
370353	30	IT5	12	125	700
370361	35	IT5	12	125	817
370379	40	IT5	12	125	933
370387	17	IT5	14	125	462
370395	22	IT5	14	125	599
370403	27	IT5	14	125	734
370411	32	IT5	14	125	871
370429	37	IT5	14	125	1009
370437	42	IT5	14	125	1144

Application:

These documents are used as washers for workpieces exposed to diverse machining processes. The high precision of the parallel washers guarantees parallel workpiece clamping.

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on the product.

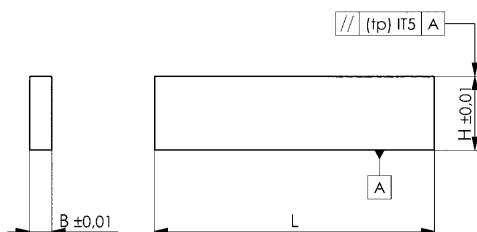


Subject to technical alterations.

No. 6348PSP

Parallel supports-pairs, super-precision, 150 mm long

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Super-precision ***



Order no.	H Rated dimensional tolerance ±0.01	H Pair tolerance (tp)	B Rated dimensional tolerance ±0.01	L	Weight [g]
370445	11	IT5	8	150	203
370452	16	IT5	8	150	295
370460	21	IT5	8	150	389
370478	26	IT5	8	150	482
370486	31	IT5	8	150	574
370494	36	IT5	8	150	668
370502	13	IT5	10	150	300
370510	18	IT5	10	150	417
370528	23	IT5	10	150	533
370536	28	IT5	10	150	649
370544	33	IT5	10	150	768
370551	38	IT5	10	150	884
370569	15	IT5	12	150	416
370577	20	IT5	12	150	556
370585	25	IT5	12	150	694
370593	30	IT5	12	150	835
370601	35	IT5	12	150	974
370619	40	IT5	12	150	1113
370627	17	IT5	14	150	550
370635	22	IT5	14	150	714
370643	27	IT5	14	150	879
370650	32	IT5	14	150	1040
370668	37	IT5	14	150	1203
370676	42	IT5	14	150	1369

Application:

These documents are used as washers for workpieces exposed to diverse machining processes. The high precision of the parallel washers guarantees parallel workpiece clamping.

Note:

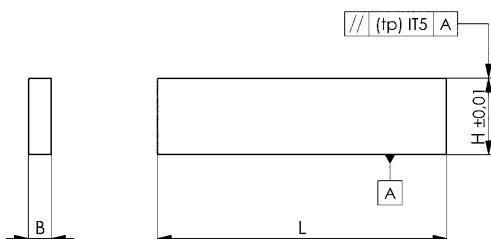
Remaining dimensions according to DIN ISO 2768 - m.
Size data on the product.



No. 6348PP

Parallel supports-pairs, precision, 100 mm long

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Precision **



Order no.	H Rated dimensional tolerance ±0.01	H Pair tolerance (tp)	B	L	Weight [g]
371120	5	IT5	2	100	16
371138	10	IT5	2	100	31
371146	15	IT5	2	100	47
371153	20	IT5	2	100	62
371161	6	IT5	3	100	28
371179	11	IT5	3	100	51
371187	16	IT5	3	100	75
371195	21	IT5	3	100	98
371203	7	IT5	4	100	44
371211	12	IT5	4	100	75
371229	17	IT5	4	100	106
371237	22	IT5	4	100	137
371245	8	IT5	5	100	62
371252	13	IT5	5	100	101
371260	18	IT5	5	100	140
371278	23	IT5	5	100	179
371286	9	IT5	6	100	84
371294	14	IT5	6	100	131
371302	19	IT5	6	100	178
371310	24	IT5	6	100	224

Application:

These documents are used as washers for workpieces exposed to diverse machining processes.

Note:

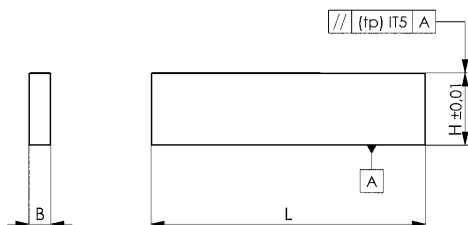
Remaining dimensions according to DIN ISO 2768 - m.
Size data on front of product.



No. 6348PP

Parallel supports-pairs, precision, 125 mm long

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Precision **



Order no.	H Rated dimensional tolerance ±0.01	H Pair tolerance (tp)	B	L	Weight [g]
371328	11	IT5	8	125	171
371336	16	IT5	8	125	249
371344	21	IT5	8	125	326
371351	26	IT5	8	125	404
371369	31	IT5	8	125	482
371377	36	IT5	8	125	561
371385	13	IT5	10	125	253
371393	18	IT5	10	125	351
371401	23	IT5	10	125	448
371419	28	IT5	10	125	545
371427	33	IT5	10	125	642
371435	38	IT5	10	125	741
371443	15	IT5	12	125	350
371450	20	IT5	12	125	466
371468	25	IT5	12	125	583
371476	30	IT5	12	125	700
371484	35	IT5	12	125	817
371492	40	IT5	12	125	933
371500	17	IT5	14	125	462
371518	22	IT5	14	125	599
371526	27	IT5	14	125	734
371534	32	IT5	14	125	871
371542	37	IT5	14	125	1009
371559	42	IT5	14	125	1144

Application:

These documents are used as washers for workpieces exposed to diverse machining processes.

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on front of product.

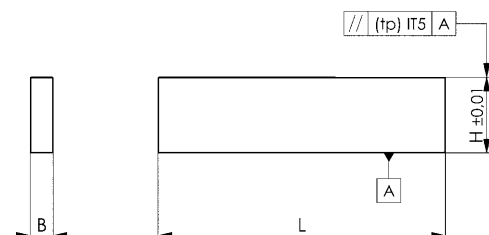
CAD



No. 6348PP

Parallel supports-pairs, precision, 150 mm long

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Precision **



Order no.	H Rated dimensional tolerance ±0.01	H Pair tolerance (tp)	B	L	Weight [g]
372243	11	IT5	8	150	203
372250	16	IT5	8	150	295
372268	21	IT5	8	150	389
372276	26	IT5	8	150	482
372284	31	IT5	8	150	574
372292	36	IT5	8	150	668
372300	13	IT5	10	150	300
372318	18	IT5	10	150	417
372326	23	IT5	10	150	533
372334	28	IT5	10	150	649
372342	33	IT5	10	150	768
372359	38	IT5	10	150	884
372367	15	IT5	12	150	416
372375	20	IT5	12	150	556
372383	25	IT5	12	150	694
372391	30	IT5	12	150	835
372409	35	IT5	12	150	974
372417	40	IT5	12	150	1113
372425	17	IT5	14	150	550
372433	22	IT5	14	150	714
372441	27	IT5	14	150	879
372458	32	IT5	14	150	1040
372466	37	IT5	14	150	1203
372474	42	IT5	14	150	1369

Application:

These documents are used as washers for workpieces exposed to diverse machining processes.

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on front of product.

CAD

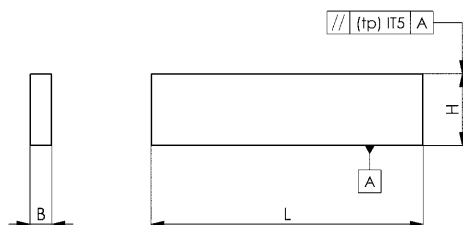


Subject to technical alterations.

No. 6348PS

Parallel supports-pairs, standard, 100 mm long

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Standard *



Order no.	H Rated dimensional tolerance DIN ISO 2768 - m	H Pair tolerance (tp)	B	L	Weight [g]
371807	5	IT5	2	100	16
371815	10	IT5	2	100	31
371823	15	IT5	2	100	47
371831	20	IT5	2	100	62
371849	6	IT5	3	100	28
371856	11	IT5	3	100	51
371864	16	IT5	3	100	75
371872	21	IT5	3	100	98
371880	7	IT5	4	100	44
371898	12	IT5	4	100	75
371906	17	IT5	4	100	106
371914	22	IT5	4	100	137
371922	8	IT5	5	100	62
371930	13	IT5	5	100	101
371948	18	IT5	5	100	140
371955	23	IT5	5	100	179
371963	9	IT5	6	100	84
371971	14	IT5	6	100	131
371989	19	IT5	6	100	178
371997	24	IT5	6	100	224

Application:

These documents are used as washers for workpieces exposed to diverse machining processes.

Note:

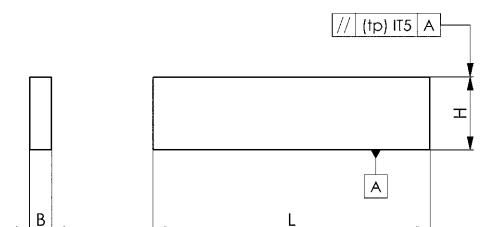
Remaining dimensions according to DIN ISO 2768 - m.
Size data on front of product.



No. 6348PS

Parallel supports-pairs, standard, 125 mm long

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Standard *



Order no.	H Rated dimensional tolerance DIN ISO 2768 - m	H Pair tolerance (tp)	B	L	Weight [g]
372003	11	IT5	8	125	171
372011	16	IT5	8	125	249
372029	21	IT5	8	125	326
372037	26	IT5	8	125	404
372045	31	IT5	8	125	482
372052	36	IT5	8	125	561
372060	13	IT5	10	125	253
372078	18	IT5	10	125	351
372086	23	IT5	10	125	448
372094	28	IT5	10	125	545
372102	33	IT5	10	125	642
372110	38	IT5	10	125	741
372128	15	IT5	12	125	350
372136	20	IT5	12	125	466
372144	25	IT5	12	125	583
372151	30	IT5	12	125	700
372169	35	IT5	12	125	817
372177	40	IT5	12	125	933
372185	17	IT5	14	125	462
372193	22	IT5	14	125	599
372201	27	IT5	14	125	734
372219	32	IT5	14	125	871
372227	37	IT5	14	125	1009
372235	42	IT5	14	125	1144

Application:

These documents are used as washers for workpieces exposed to diverse machining processes.

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on front of product.



Subject to technical alterations.

No. 6348PS

Parallel supports-pairs, standard, 150 mm long

Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Standard *



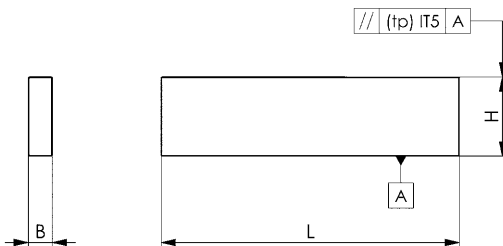
Order no.	H Rated dimensional tolerance DIN ISO 2768 - m	H Pair tolerance (tp)	B	L	Weight [g]
371567	11	IT5	8	150	203
371575	16	IT5	8	150	295
371583	21	IT5	8	150	389
371591	26	IT5	8	150	482
371609	31	IT5	8	150	574
371617	36	IT5	8	150	668
371625	13	IT5	10	150	300
371633	18	IT5	10	150	417
371641	23	IT5	10	150	533
371658	28	IT5	10	150	649
371666	33	IT5	10	150	768
371674	38	IT5	10	150	884
371682	15	IT5	12	150	416
371690	20	IT5	12	150	556
371708	25	IT5	12	150	694
371716	30	IT5	12	150	835
371724	35	IT5	12	150	974
371732	40	IT5	12	150	1113
371740	17	IT5	14	150	550
371757	22	IT5	14	150	714
371765	27	IT5	14	150	879
371773	32	IT5	14	150	1040
371781	37	IT5	14	150	1203
371799	42	IT5	14	150	1369

Application:

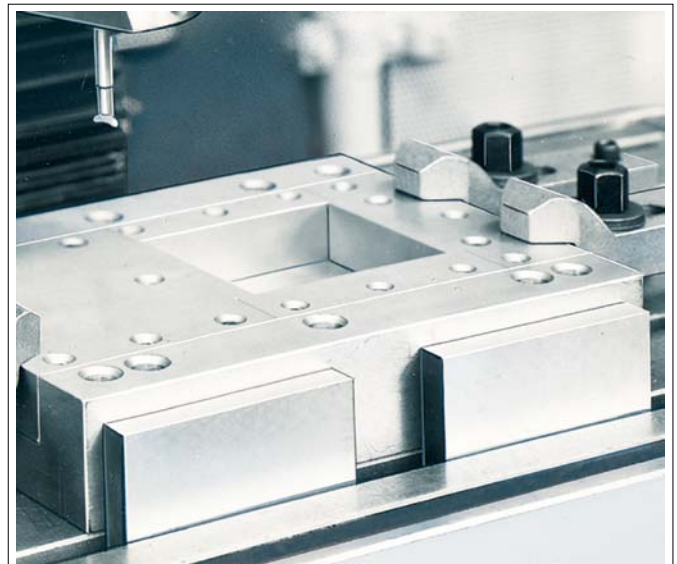
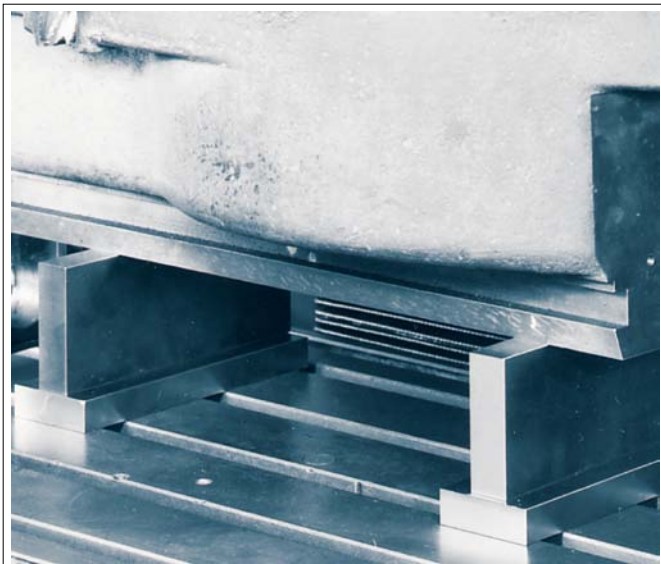
These documents are used as washers for workpieces exposed to diverse machining processes.

Note:

Remaining dimensions according to DIN ISO 2768 - m.
Size data on front of product.



CAD



Subject to technical alterations.

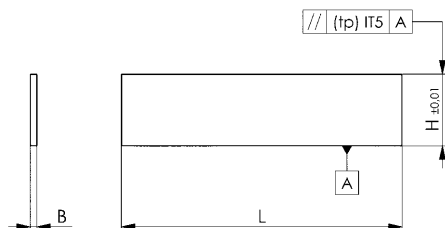
No. 6349PP

Parallel supports-pairs, precision

Plain parallel, finely ground, in pairs.

Case-hardened.

Quality level: Precision **



Order no.	H Rated dimensional tolerance ±0.01	H Pair tolerance (tp)	B	L	Weight [g]
372508	11	IT5	3	125	64
372516	12	IT5	3	125	70
372524	13	IT5	3	125	76
372532	14	IT5	3	125	82
372540	15	IT5	3	125	88
372557	16	IT5	3	125	94
372565	17	IT5	3	125	100
372573	18	IT5	3	125	106
372581	19	IT5	3	125	112
372599	20	IT5	3	125	118
372607	21	IT5	3	125	124
372615	22	IT5	3	125	130
372623	23	IT5	3	125	136
372631	24	IT5	3	125	142
372649	25	IT5	3	125	148
372656	26	IT5	3	125	154
372664	27	IT5	3	125	160
372672	28	IT5	3	125	164
372680	29	IT5	3	125	170
372698	30	IT5	3	125	176
372706	31	IT5	3	125	182
372714	32	IT5	3	125	188
372722	33	IT5	3	125	194
372730	34	IT5	3	125	200
372748	35	IT5	3	125	206
372755	36	IT5	3	125	212
372763	37	IT5	3	125	218
372771	38	IT5	3	125	224
372789	39	IT5	3	125	230
372797	40	IT5	3	125	236
372805	41	IT5	3	125	242
372813	42	IT5	3	125	248

Application:

These documents are used as washers for workpieces exposed to diverse machining processes.

Note:

Remaining dimensions according to DIN ISO 2768 - m.

Size data on front of product.

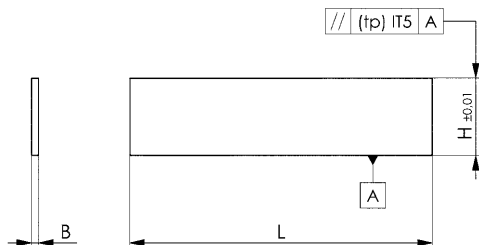


Subject to technical alterations.

No. 6349P

Parallel supports-pairs, precision

In wooden stand.
Plain parallel, finely ground, in pairs.
Case-hardened.
Quality level: Precision **



Order no.	Size	Pair	H Rated dimensional tolerance ±0.01	H Pair tolerance (tp)	B	L	Weight [Kg]
372482	24	24	11, 13, 15, 16, 17, 18, 20, 21, 22, 23, 25, 26, 27, 28, 30, 31, 32, 33, 35, 36, 37, 38, 40, 42	IT5	3	125	4,5
372490	32	32	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 42	IT5	3	125	5,5

Design:

Size 24, content per 1 pair (W x H):

3x11 / 3x13 / 3x15 / 3x16 / 3x17 / 3x18 / 3x20 / 3x21 / 3x22 / 3x23 / 3x25 / 3x26 / 3x27 / 3x28 / 3x30 / 3x31 / 3x32 / 3x33 / 3x35 / 3x36 / 3x37 / 3x38 / 3x40 / 3x42 mm.

Size 32 content per 1 pair (W x H):

3x11 / 3x12 / 3x13 / 3x14 / 3x15 / 3x16 / 3x17 / 3x18 / 3x19 / 3x20 / 3x21 / 3x22 / 3x23 / 3x24 / 3x25 / 3x26 / 3x27 / 3x28 / 3x29 / 3x30 / 3x31 / 3x32 / 3x33 / 3x34 / 3x35 / 3x36 / 3x37 / 3x38 / 3x39 / 3x40 / 3x41 / 3x42 mm.

Wooden stand: 276 x 162 x 55 mm

Application:

These documents are used as washers for workpieces exposed to diverse machining processes.

Advantage:

- high wear resistance and long service life
- Wooden stand for perfect handling at the workplace.

Note:

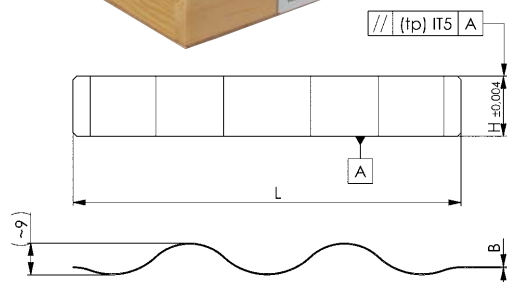
Remaining dimensions according to DIN ISO 2768 - m.
Size data on front of product.

No. 6344SP

Parallel supports-set, corrugated

In wooden box with folding lid.
Hardened, tempered spring steel.
Precision ground.
Height graduation 2 mm.
Quality level: Super-precision ***

Pair tolerance tp in height IT 5.
Rated dimensional tolerance in height ±0.004 mm.
Remaining dimensions according to DIN ISO 2768 - m.



Order no.	Size	Pair	H ±0.004	H Pair tolerance (tp)	B	L	Weight [g]
372821	9 -23	8	9, 11, 13, 15, 17, 19, 21, 23	IT5	0,3	110	450
372839	25-39	8	25, 27, 29, 31, 33, 35, 37, 39	IT5	0,3	110	490

Design:

Size 9-23, 1 pair each (B x H):

0.3x9 / 0.3x11 / 0.3x13 / 0.3x15 / 0.3x17 / 0.3x19 / 0.3x21 / 0.3x23 mm.

Size 25-39, 1 pair each (B x H):

0.3x25 / 0.3x27 / 0.3x29 / 0.3x31 / 0.3x33 / 0.3x35 / 0.3x37 / 0.3x39 mm.

Application:

The corrugated parallel washers create a time-saving when clamping workpieces for grinding, milling, cutting, boring, etc.

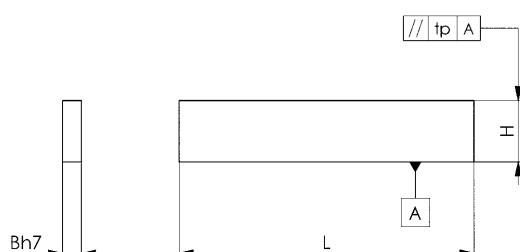
Advantage:

- no swarf remains on the mounting surface
- parallelism of the clamped workpiece is not affected
- several flat or single thin workpieces can easily be clamped.

Subject to technical alterations.

No. 6350
Parallel stops in pairs

For machine grooves.
Can also be used as parallel washers.
Plain parallel in height, fine-ground, in pairs.
Case-hardened.



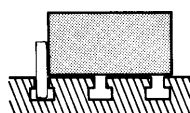
Order no.	B	H	H Pair tolerance (tp)	L	Weight [g]
74260	8	25	IT5	100	315
74278	10	32	IT5	100	500
74286	12	40	IT5	100	750
74294	14	50	IT5	100	1100
74302	16	50	IT5	160	2000
74310	18	63	IT5	160	2850
74328	20	63	IT5	160	3170
74336	22	80	IT5	160	IT5
74344	24	80	IT5	160	4800
74351	28	100	IT5	160	7000

Application:

The parallel stops are intended primarily for small to medium-sized machines. Their thickness is matched to the machine groove with a tolerance of H8. A pair of these stops is inserted into a machine groove, allowing the workpieces to be quickly positioned parallel to the table.

Note:

Rated dimensional tolerance in height according to DIN ISO 2768 - m.
Rated dimensional tolerance in width according to DIN EN ISO 286: h7.
Remaining dimensions according to DIN ISO 2768 -m.


No. 6328
Cylindrical stop

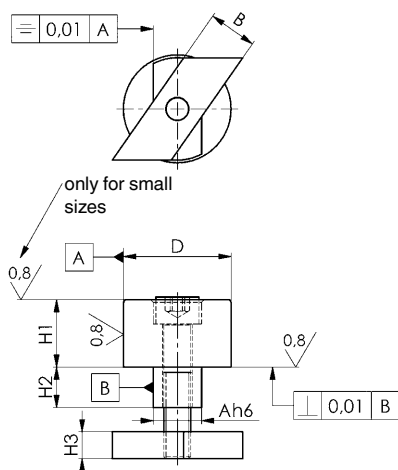
case hardened and ground. The short version, ground to ± 0.01 mm tolerance in height can be used as support.



Order no.	Slot	A h6	B -0.6	D ± 0.01	H1 ± 0.01 short	H1 ± 0.2 long	H2	H3	Screw ISO 4762	Weight [g]
75150	12	0-0,011	12	20	15	-	8	6	M6x25	55
75192	12	0-0,011	12	20	-	25	8	6	M6x35	80
75200	14	0-0,011	14	32	25	-	9	8	M8x35	200
75218	14	0-0,011	14	32	-	50	9	8	M8x60	355
75168	16	0-0,011	16	32	25	-	10	8	M8x45	220
75176	16	0-0,011	16	32	-	50	10	8	M8x70	375
75226	18	0-0,011	18	40	25	-	15	10	M10x50	360
75234	18	0-0,011	18	40	-	50	15	10	M10x75	600
75242	22	0-0,013	20	40	25	-	15	14	M10x55	410
75259	22	0-0,013	20	40	-	50	15	14	M10x80	650
75267	28	0-0,013	22	46	25	-	20	16	M12x60	630
75275	28	0-0,013	22	46	-	50	20	16	M12x90	950

On request:

Further sizes available.



Subject to technical alterations.

No. 6351

Parallel stop, single

case hardened and ground. Parallelism within 0.02 mm, matched tolerance 0.02 mm. Nominal tolerance DIN 7168 medium.



Order no.	Slot	B	C	H	L	suitable bolt combination: DIN508, ISO4762, DIN6340, DIN787 compl.	Weight [Kg]
74369	10-24	60	40	30	125	M10x10-M20x24	1,6
74377	12-36	80	55	60	160	M12x12-M24x36	5,7
74385	12-36	100	75	100	160	M12x12-M24x36	12,1



No. 6351

Parallel stop, in pairs

case hardened and ground. Parallelism within 0.02 mm, matched tolerance 0.02 mm. Nominal tolerance DIN 7168 medium.



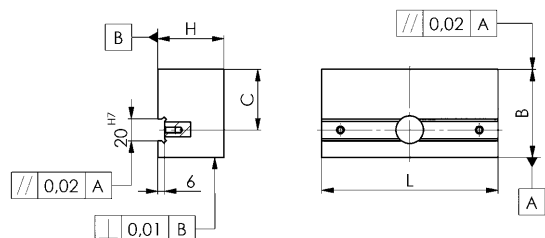
Order no.	Slot	B	C	H	L	suitable bolt combination: DIN508, ISO4762, DIN6340, DIN787 compl.	Weight [Kg]
75358	10-24	60	40	30	125	M10x10-M20x24	3,2
75366	12-36	80	55	60	160	M12x12-M24x36	11,4
75374	12-36	100	75	100	160	M12x12-M24x36	24,2

Application:

Parallel stops are the ideal setting elements for medium and large sized machines. Fixed type blocks. 6322 A and sliding blocks DIN 6323 fit the 20H7 slots of the parallel stop. Combinations with the various precision blocks allow use on tables with different slot sizes.

The following clamping options on the machine table are possible:

- 1) Bolts for T-slots DIN 787 complete (consisting of bolts for T-slots DIN 787, hexagonal nuts DIN 6330B and washers DIN6340) or
- 2) Allen bolts ISO 4762 with T-nuts DIN 508 and washers DIN 6340.



No. 6353

Precision angle stop

case hardened and ground.

Setting: parallel and at angles of 30, 45, 60 and 90° related to T-slots. Guaranteed precision for all faces according to slots $\pm 30''$.



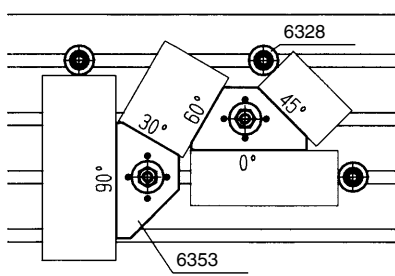
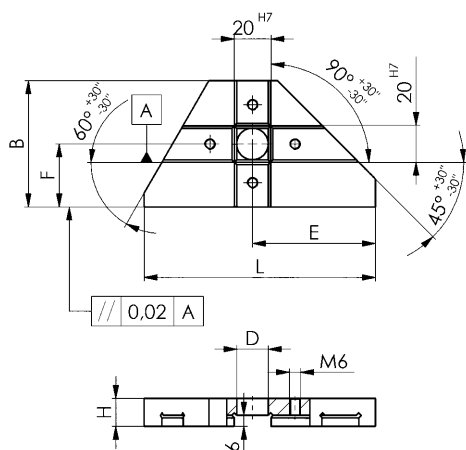
Order no.	Size	Slot	B	D	E	F	H	L	Weight [g]
74450	125	10-20	68	17	66,5	34	15	125	550
74468	200	12-36	98	25	100,0	49	20	200	1900

Application:

Fixed type tenons no. 6322A and loose type tenons DIN 6323 match with the mentioned table slots.

The universal stops can alternatively be fastened complete with T-slots bolts DIN 787 or with T-nuts DIN 508 with screws ISO 4762 and washers DIN 6340. The high precision of the above mentioned universal stops guarantees the positioning accuracy required for almost any machining job.

Machining can start straight away. There is no need to meter stop.



Subject to technical alterations.

No. 6355V
Prismatic clamping block, single

case hardened and ground

Order no.	Size	B	D	E ±0.01	F	G1	G2	H1 ±0.014	H2	L1	L2	L3	Weight [Kg]
75085	12-65	80	12-65	30,0	15	M 12	M 8	35	60	100	56	27	3,2
75093	20-110	125	20-110	52,5	25	M 16	M 10	55	100	100	53	32	8,1

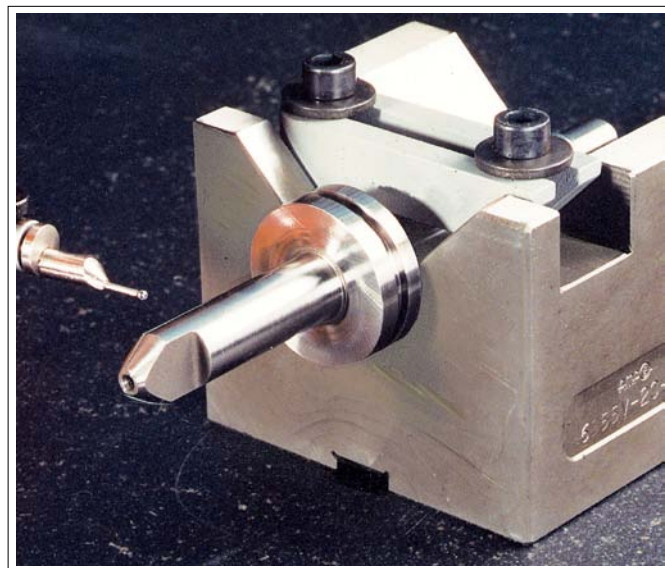
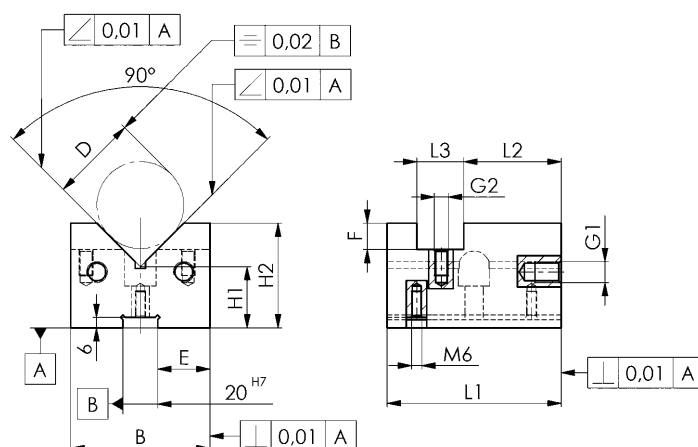

No. 6355V
Prismatic clamping block, pair

case hardened and ground

Order no.	Size	B	D	E ±0.01	F	G1	G2	H1 ±0.014	H2	L1	L2	L3	Weight [Kg]
75143	12-65	80	12-65	30,0	15	M 12	M 8	35	60	100	56	27	6,4
75184	20-110	125	20-110	52,5	25	M 16	M 10	55	100	100	53	32	16,2

Application:

For alignment and clamping of round shafts and workpieces parallel and centric to a table slot. Can be used as parallel stops and supports!



Subject to technical alterations.

No. 6357

Stop, adjustable

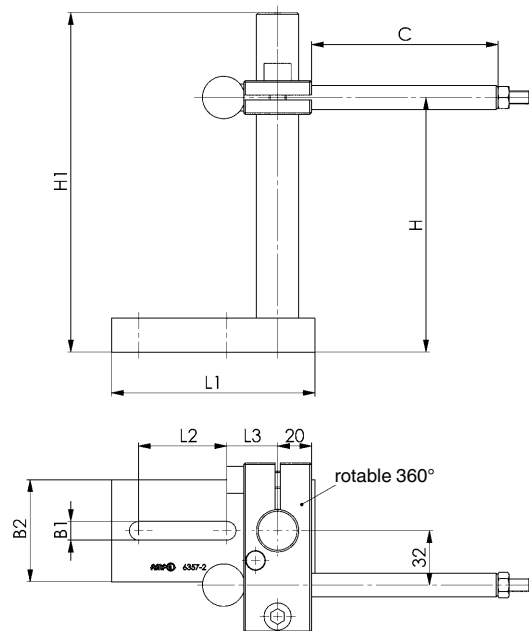
with hexagon key.
Tempering steel



Order no.	Size	Slot	B1	B2	C	H	H1	L1	L2	L3	Weight [g]
75655	2	10, 12, 14, 16, 18	11	60	0-110	30-190	200	120	52	30	2450
75663	3	16, 18, 20, 22, 24, 28	17	80	0-110	30-190	200	160	73	40	3250

Application:

The quickly adjustable stop is suitable for positioning workpieces on various tooling machines and vices. It has a wide range for height and length adjustments. Setting is done with the supplied T-handle hexagon key.



No. 6358

Side stop

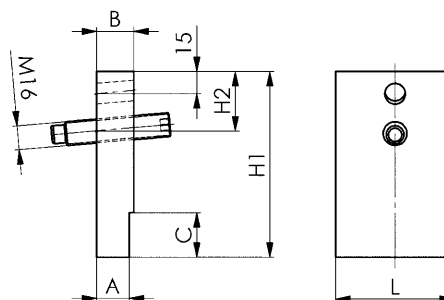
Tempering steel blued, with 2 threaded holes M16 for 2 positions.
Set screw DIN 915 M16x80.



Order no.	Slot	B	C	H1	H2	L	Weight [g]
75879	18	20	20	100	40	50	805
75887	20	25	30	125	40	80	1880
75895	22	25	30	125	40	80	1920
75903	24	32	40	150	65	100	3515
75911	28	32	40	150	65	100	3645
75929	36	40	50	160	65	120	4870

Application:

The stop is used for safe positioning of long and heavy workpieces on slotted machine tables. It is inserted into the slot - at an inclined position due to its undersize and locks the workpiece against the parallel stop, e.g. no. 6351.



DIN 6323

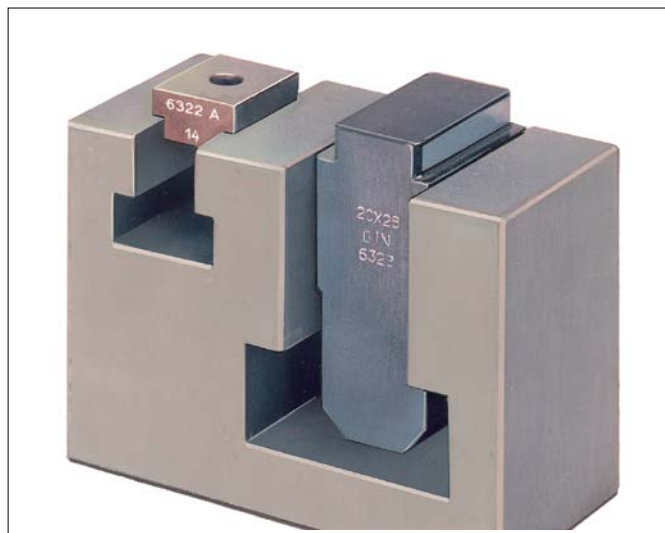
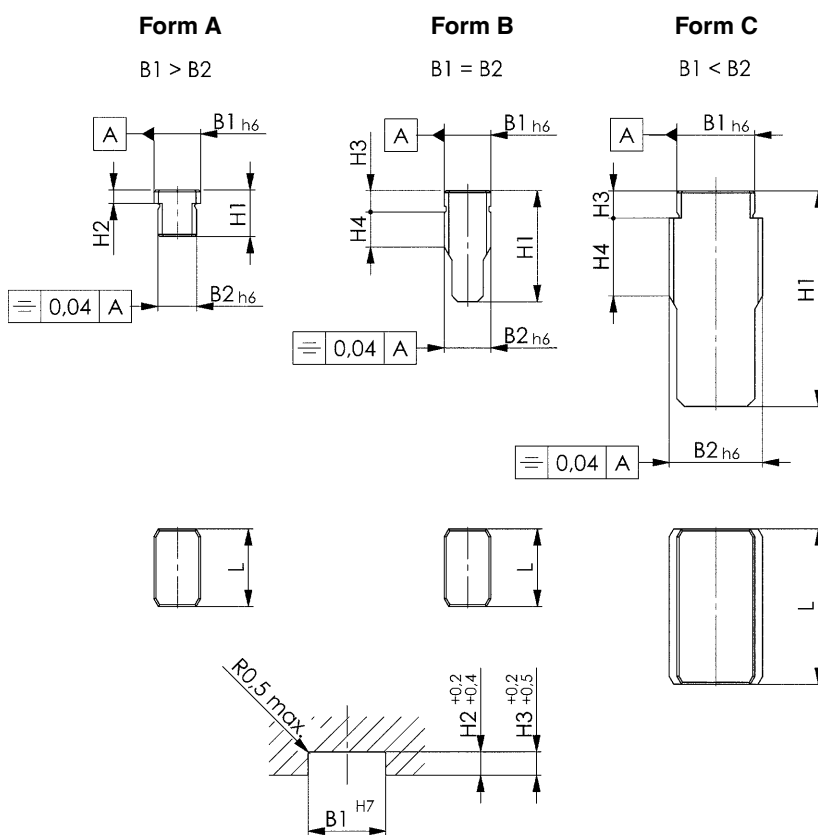
Loose type tenons

Steel C15, case hardened and ground.

Order no.	Nominal width of T-slot on fixture B1	Nominal width of T-slot on machine B2	Form	H1	H2	H3	H4	L	Weight [g]
71811	12	10	A	12,0	3,6	-	-	20	20
71829	12	12	B	28,6	-	5,5	9	20	45
71837	20	12	A	14,0	5,5	-	-	32	50
71845	20	14	A	14,0	5,5	-	-	32	55
71852	20	16	A	14,0	5,5	-	-	32	60
71860	20	18	A	14,0	5,5	-	-	32	65
71878	20	20	B	45,5	-	7	16	32	200
71886	20	22	C	50,5	-	7	18	40	290
71894	20	24	C	55,5	-	7	20	40	350
71902	20	28	C	61,5	-	7	24	40	460
71910	20	36	C	76,5	-	7	30	50	940

Application:

After rough alignment of fixture, the tenons DIN 6323 are pushed into T-slot from the side. No fixed T-nuts can obstruct the transport of fixtures and no damage to machine tables can occur.



Subject to technical alterations.



No. 6322A

Fixed type tenons

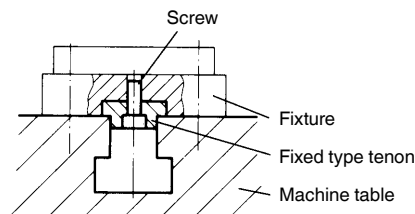
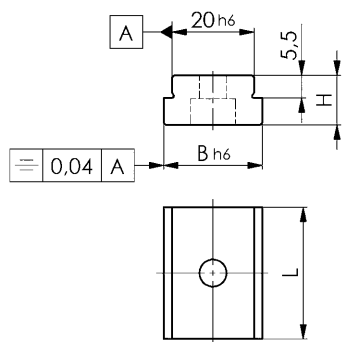
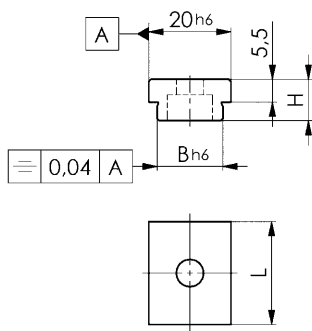
(previously DIN 6322 developed 1957)
C15 case-hardened.



Order no.	Nominal width of T-slot on machine B	Nominal width of T-slot on fixture	H	L	Screw DIN84 or ISO4762	Weight [g]
71555	10	20	10	22	M6x10	20
71563	12	20	10	22	M6x10	25
71571	14	20	10	25	M6x16	28
71589	16	20	10	25	M6x16	30
71597	18	20	10	25	M6x16	30
71613	22	20	12	32	M6x16	50
71621	24	20	12	32	M6x16	55
71639	28	20	12	32	M6x16	60
71647	36	20	12	32	M6x16	75

Application:

These fixed type tenons are screwed in pairs into the standard 20 mm wide set slots of vices or fixtures. By changing the tenons you can work on machines with different slot sizes. For very heavy fixtures we recommend the use of loose type tenons DIN 6323.



No. 6322B

Low type tenons

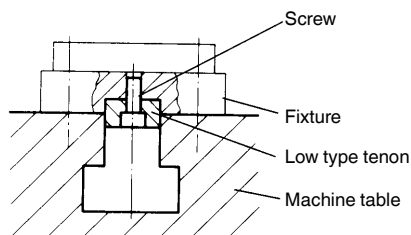
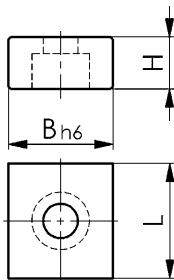
Steel C15, case hardened and ground.



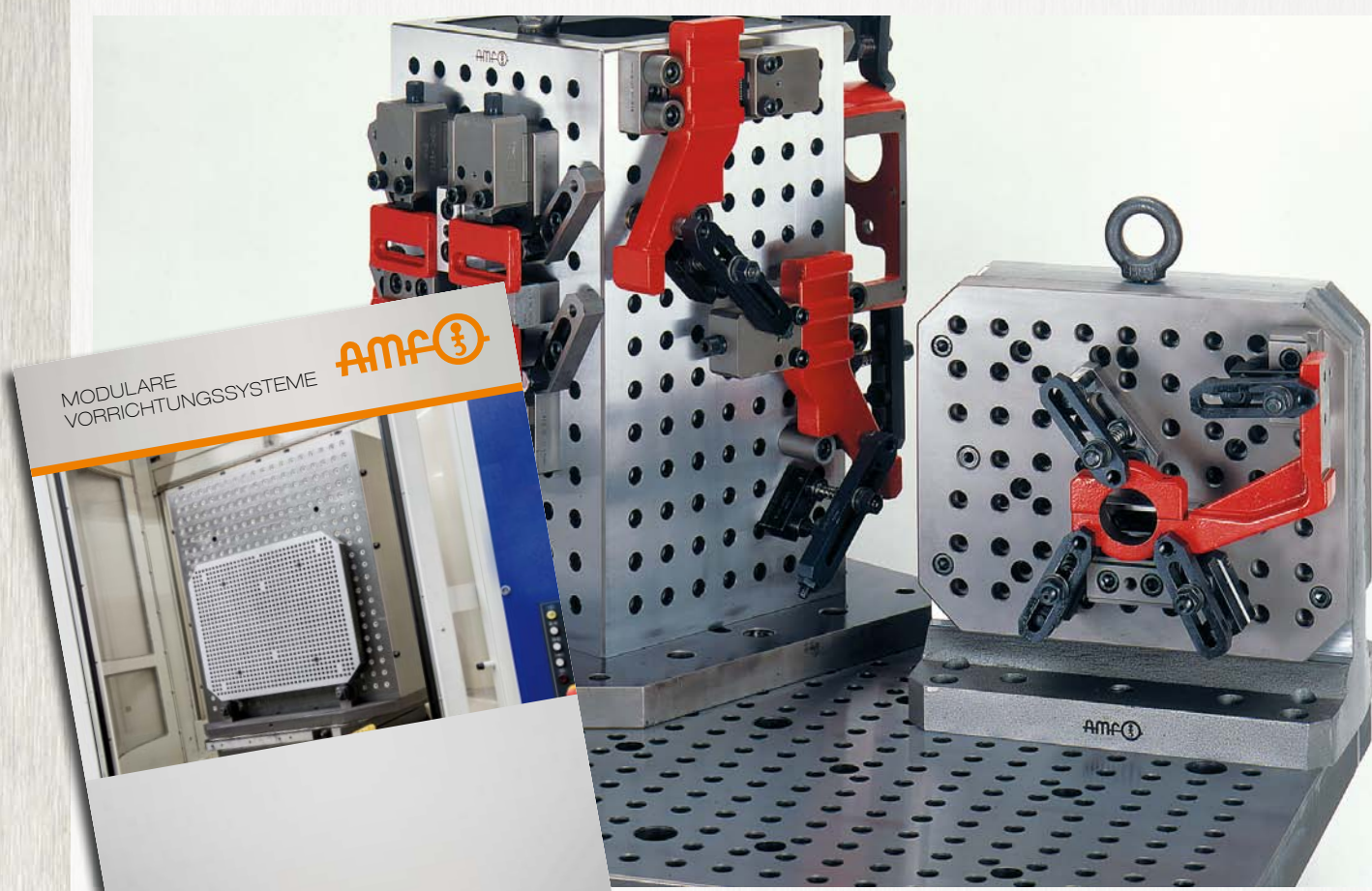
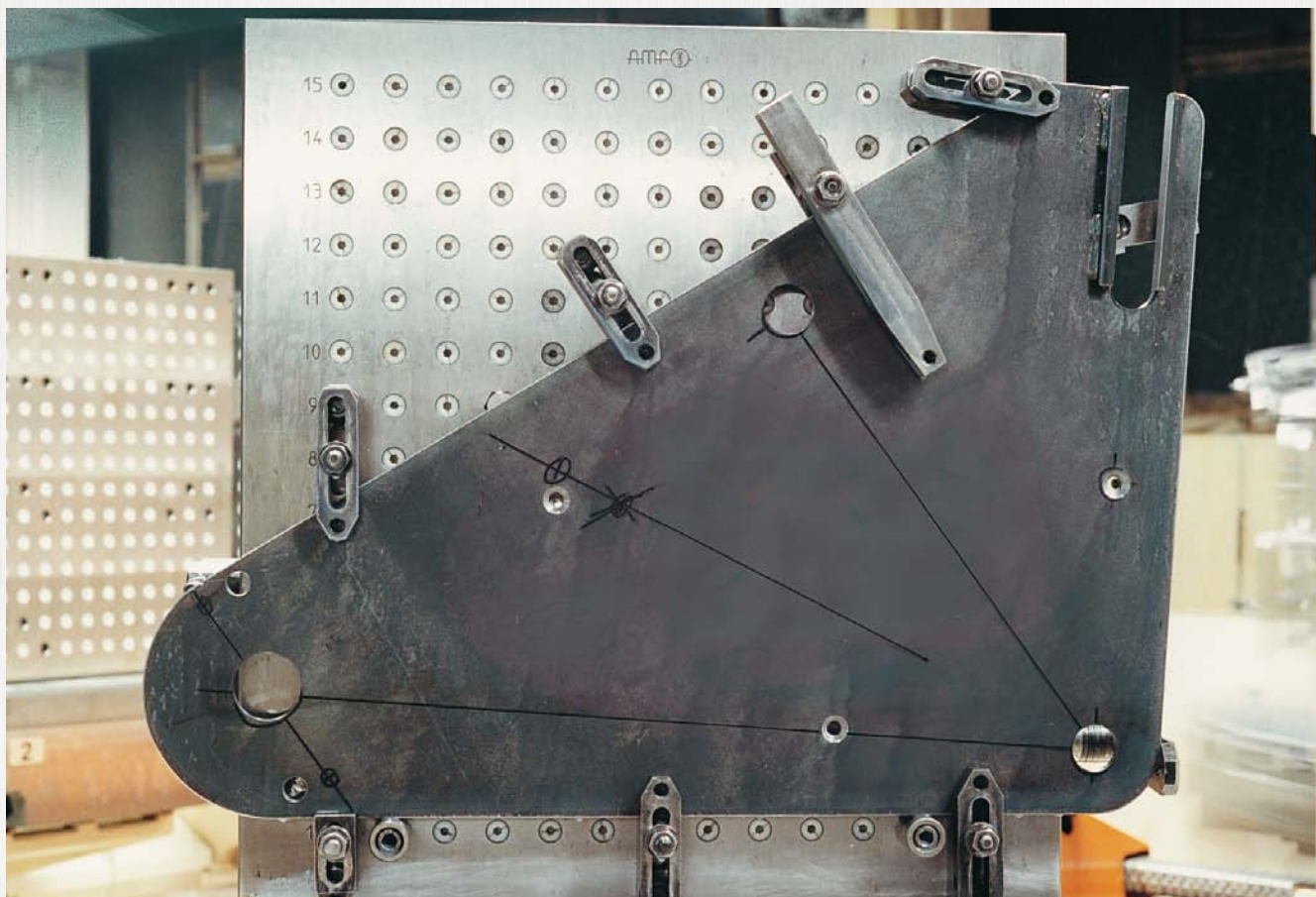
Order no.	B	H	L	Screw DIN84 or ISO4762	Weight [g]
71696	10	8	20	M4x10	15
71704	12	8	20	M5x12	19
71712	14	10	22	M6x16	21
71720	16	10	22	M6x16	26
71738	18	10	22	M6x16	30
71746	20	10	22	M6x16	34
71753	22	12	32	M6x16	55
71761	24	12	32	M6x16	62

Application:

Low-type tenons are useful and inexpensive to use, when a fixture is always used on the same machine. For very heavy fixtures we recommend the use of loose type tenons DIN 6323.



Subject to technical alterations.



Subject to technical alterations.

No. 6600

Eccentric clamp with end clamping

hardened and burnished.

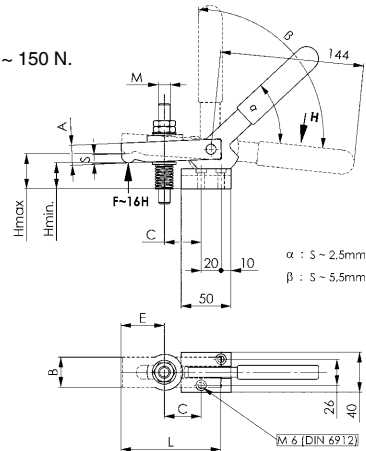


Order no.	Size	H min.	H max.	A	B	C	E	L	M	Weight [g]
73502	1	26	35	20	30	37	21-43	100	M12	1000
73510	2	26	35	20	40	45	34-66	125	M16	1400

Eccentric clamps are useful for specialized fixtures.

Note:

Actuation by hand - hand force ~ 150 N.



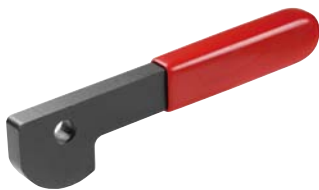
CAD



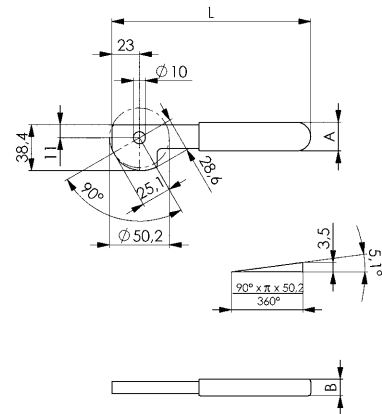
No. 6601

Eccentric lever, loose

for end clamping
(part of 6600)



Order no.	A	B	L	Weight [g]
73569	24	14	167	300



CAD



No. 6610

Eccentric clamp with middle clamping

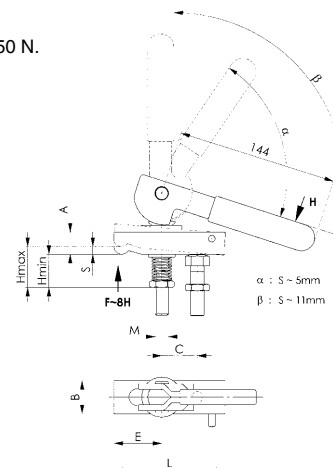
hardened and burnished, lever plastic coated.



Order no.	Size	H min.	H max.	A	B	C	E	L	M	Weight [g]
73619	1	30	45	20	30	32	21-43	100	M12	1000
73627	2	35	50	20	40	40	34-66	125	M16	1450

Note:

Actuation by hand - hand force ~ 150 N.



CAD



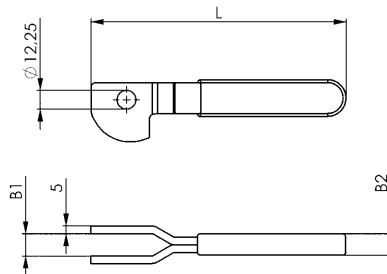
Subject to technical alterations.

No. 6611

Eccentric lever, loose

for middle clamping
(part of 6610)

Order no.	B1	B2	L	Weight [g]
73676	14	14	167	310

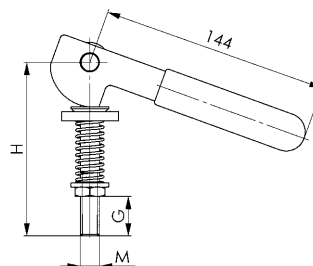


No. 6612

Eccentric lever with eye bolt

(part of 6610)

Order no.	Size	G	H	M	Weight [g]
74500	1	25	110	M12	500
74518	2	30	120	M16	610

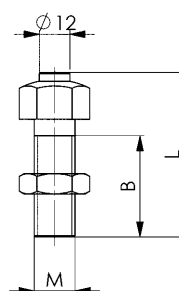


No. 6616

Set screw with nut

(part of 6610)

Order no.	Size	B	L	M	Weight [g]
74542	1	40	58,5	M12	70
74559	2	40	65,0	M16	135



Subject to technical alterations.

No. 6383ZEK

Centring clamp with ball

Can be used from above.
 Repeatability ± 0.025 mm
 Concentricity ± 0.050 mm



Order no.	D min.	D max.	A min.	A max.	H	P [kN]	Weight [g]
373357	11,7	14,2	3,0	4,2	10,0	0,5	18
373365	14,5	18,5	8,6	9,8	14,5	3,5	20
373373	18,5	22,5	10,4	11,6	16,5	4,0	40
373381	22,5	26,5	13,0	14,2	19,8	4,5	60
373399	26,5	30,5	13,0	14,2	19,8	4,5	86
373407	30,5	38,5	11,9	14,2	23,1	4,5	125
373415	38,5	46,5	15,5	17,8	27,2	6,5	235
373423	46,5	54,5	15,7	18,0	27,2	6,5	325
373431	54,5	70,5	19,1	23,7	40,6	8,0	655
373449	70,5	86,5	23,7	28,3	46,1	10,0	1270
373456	86,5	102,5	25,7	30,2	51,0	12,5	1785

Application:

For central positioning and clamping in holes where slight ball impressions are acceptable.

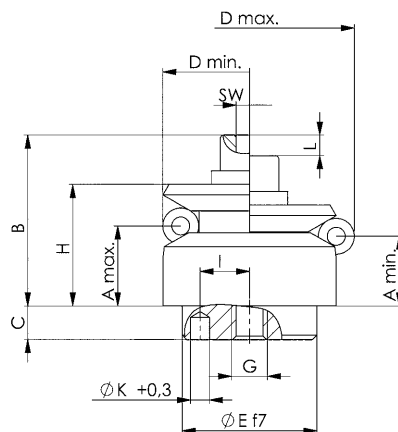
Advantage:

- Low installation height
- Clamping in the zero point
- Pull-down effect
- Distortion-free clamping

Note:

For deep installation, clearance D max. must be provided.

Installation tool: Retaining pin for determining the precise position of the balls. (supplied without installation tool)



Dimensions:

Order no.	B	C	E f7	F	G	I $\pm 0,1$	K	L	Q	QD	SW	T
373357	15,0	3,5	10	9,2	M4	3,5	1,5	1,5	3	2,5	3	2,0
373365	19,5	5,5	12	9,1	M4	4,5	2,0	2,3	3	4,0	3	2,5
373373	23,5	7,5	15	11,6	M5	5,5	2,5	2,3	3	4,0	4	3,5
373381	28,8	6,0	20	15,1	M6	7,0	3,0	2,3	3	4,0	5	3,5
373399	28,8	6,0	20	15,1	M6	7,0	3,0	2,3	3	4,0	5	3,5
373407	32,7	7,0	25	15,2	M6	9,0	4,0	4,6	3	8,0	5	3,5
373415	39,2	7,5	30	18,1	M8	11,0	4,0	4,6	6	8,0	6	4,5
373423	39,2	7,5	30	18,1	M8	11,0	4,0	4,6	6	8,0	6	6,5
373431	54,6	9,0	45	23,7	M10	15,0	5,0	9,3	6	16,0	8	6,5
373449	63,1	10,0	60	28,3	M12	17,0	5,0	9,3	6	16,0	10	6,5
373456	73,0	10,0	60	28,3	M16	25,0	5,0	9,3	6	16,0	14	6,5

Q = number of balls, QD = diameter of the balls

No. 6383ZES

Centring clamp with protective segments

Can be used from above.
Repeatability ± 0.025 mm
Concentricity ± 0.050 mm



Order no.	D min.	D max.	A min.	A max.	H	P [kN]	Weight [g]
373464	14,5	18,5	8,6	9,8	14,5	3,5	20
373472	18,5	22,5	10,4	11,6	16,5	4,0	40
373480	22,5	26,5	13,0	14,2	19,8	4,5	60
373498	26,5	30,5	13,0	14,2	19,6	4,5	85
373506	30,5	38,5	11,9	14,2	23,1	4,5	125
373514	38,5	46,5	15,5	17,8	27,2	6,5	235
373522	46,5	54,5	15,7	18,0	27,2	6,5	325
373530	54,5	70,5	19,1	23,7	40,6	8,0	655
373548	70,5	86,5	23,7	28,3	46,1	10,0	1270
373555	86,5	102,5	25,7	30,2	51,0	12,5	1785

Application:

For unmarred surfaces with central positioning and clamping in holes.

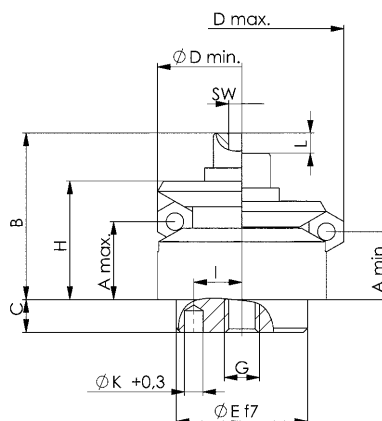
Advantage:

- Low installation height
- Clamping in the zero point
- Pull-down effect
- Distortion-free clamping

Note:

For deep installation, clearance D max. must be provided.

Installation tool: Retaining pin for determining the precise position of the segments. (supplied without installation tool)



Dimensions:

Order no.	B	C	E f7	F	G	I $\pm 0,1$	K	L	Q	QD	SW	T
373464	19,5	5,5	12	4,3	M4	4,5	2,0	2,3	3	4	3	4,3
373472	23,5	7,5	15	5,3	M5	5,5	2,5	2,3	3	4	4	5,3
373480	28,8	6,0	20	6,4	M6	7,0	3,0	2,3	3	4	5	6,4
373498	28,8	6,0	20	6,4	M6	7,0	3,0	2,3	3	4	5	6,4
373506	32,7	7,0	25	6,4	M6	9,0	4,0	4,6	3	8	5	6,4
373514	39,2	7,5	30	8,4	M8	11,0	4,0	4,6	6	8	6	8,4
373522	39,2	7,5	30	8,4	M8	11,0	4,0	4,6	6	8	6	8,4
373530	54,6	9,0	45	10,5	M10	15,0	5,0	9,3	6	16	8	10,5
373548	63,1	10,0	60	13,0	M12	17,0	5,0	9,3	6	16	10	13,0
373555	73,0	10,0	60	17,0	M16	25,0	5,0	9,3	6	16	14	13,0

Q = number of segments, QD = diameter of the segments



No. 6383ZUK

Centring clamp with ball

Can be used from below.
Repeatability ± 0.025 mm
Concentricity ± 0.050 mm



Order no.	D min.	D max.	A min.	A max.	H	P [kN]	Weight [g]
373563	11,7	14,2	3,0	4,0	10,0	0,5	8
373571	14,5	18,5	8,6	9,8	14,5	3,5	18
373589	18,5	22,5	10,4	11,6	16,5	4,0	36
373597	22,5	26,5	13,0	14,2	19,8	4,5	61
373605	26,5	30,5	13,0	14,2	19,8	4,5	80
373613	30,5	38,5	11,9	14,2	23,2	4,5	114
373621	38,5	46,5	15,5	17,8	27,2	6,5	221
373639	46,5	54,5	15,7	18,0	27,2	6,5	305
373647	54,5	70,5	19,1	23,7	40,6	8,0	590
373654	70,5	86,5	23,7	28,3	46,1	10,0	1180
373662	86,5	102,5	25,7	30,2	51,0	12,5	1880

Application:

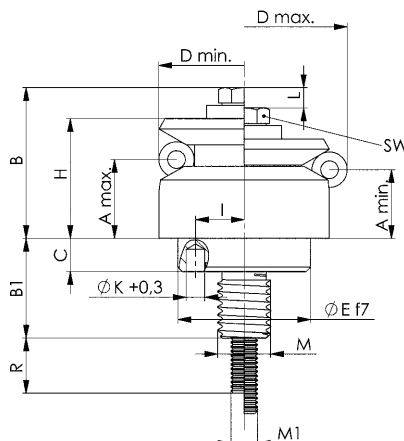
For central positioning and clamping in blind holes where slight ball impressions are acceptable.
Operation from below, automated or manual.

Advantage:

- Low installation height
- Clamping in the zero point
- Pull-down effect
- Distortion-free clamping

Note:

For deep installation, clearance D max. must be provided.
Installation tool: Hole K for retaining pin for determining the precise position of the balls. (supplied without installation tool)



Dimensions:

Order no.	B	B1	C	E f7	F	G	I $\pm 0,1$	K	L	M	M1	Q	QD	R	SW	T
373563	12,8	11,0	3,5	10	5	M5	3,5	1,5	1,4	M5	M3	3	2,5	10	5,5	2,0
373571	17,3	14,1	5,5	12	6	M6	4,5	2,0	2,3	M6	M3	3	4,0	12	5,5	2,5
373589	20,9	18,2	7,5	15	8	M8	5,5	2,5	2,3	M8	M4	3	4,0	14	7,0	3,5
373597	25,4	17,4	6,0	20	10	M10	7,0	3,0	2,3	M10	M5	3	4,0	15	8,0	3,5
373605	25,4	17,4	6,0	20	10	M10	7,0	3,0	2,3	M10	M5	3	4,0	15	8,0	3,5
373613	30,3	21,9	7,0	25	12	M12	9,0	4,0	4,6	M12	M6	3	8,0	20	10,0	3,5
373621	34,2	22,5	7,5	30	12	M12	11,0	4,0	4,6	M12	M6	6	8,0	20	10,0	4,5
373639	34,2	22,5	7,5	30	12	M12	11,0	4,0	4,6	M12	M6	6	8,0	20	10,0	6,5
373647	49,9	24,5	9,0	45	14	M14 x 1,5	15,0	5,0	9,3	M14 x 1,5	M8	6	16,0	32	13,0	6,5
373654	55,4	29,4	10,0	60	16	M16 x 1,5	17,0	5,0	9,3	M16 x 1,5	M8	6	16,0	20	13,0	6,5
373662	61,6	29,4	10,0	60	16	M16 x 1,5	25,0	5,0	9,3	M16 x 1,5	M10	6	16,0	25	16,0	6,5

Q = number of balls, QD = diameter of the balls

No. 6383ZUS

Centring clamp with protective segments

Can be used from below.
Repeatability ± 0.025 mm
Concentricity ± 0.025 mm



Order no.	D min.	D max.	A min.	A max.	H	P [kN]	Weight [g]
373670	14,5	18,5	8,6	9,8	14,5	3,5	18
373688	18,5	22,5	10,4	11,6	16,5	4,0	36
373696	22,5	26,5	13,0	14,2	19,8	4,5	61
373704	26,5	30,5	13,0	14,2	19,8	4,5	80
373712	30,5	38,5	11,9	14,2	23,2	4,5	114
373720	38,5	46,5	15,5	17,8	27,2	6,5	221
373738	46,5	54,5	15,7	18,0	27,2	6,5	305
373746	54,5	70,5	19,1	23,7	40,6	8,0	590
373753	70,5	86,5	23,7	28,3	46,1	10,0	1180
373761	86,5	102,5	25,7	30,2	51,0	12,5	1880

Application:

For unmarred surfaces with central positioning and clamping in blind holes. Operation from below, automated or manual.

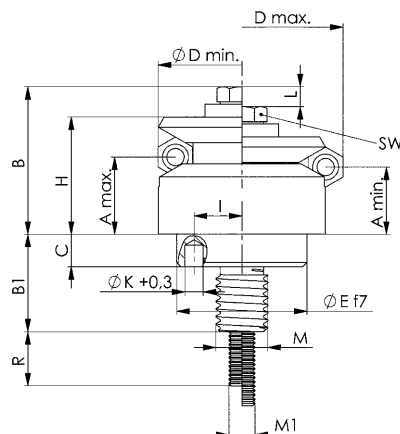
Advantage:

- Low installation height
- Clamping in the zero point
- Pull-down effect
- Distortion-free clamping

Note:

For deep installation, clearance D max. must be provided.

Installation tool: Hole K for retaining pin for determining the precise position of the segments.
(supplied without installation tool)



Dimensions:

Order no.	B	B1	C	E f7	F	G	I $\pm 0,1$	K	L	M	Q	M1	QD	R	SW	T
373670	17,3	14,1	5,5	12	6	M6	4,5	2,0	2,3	M6	3	M3	4	12	5,5	2,5
373688	20,9	18,2	7,5	15	8	M8	5,5	2,5	2,3	M8	3	M4	4	14	7,0	3,5
373696	25,4	17,4	6,0	20	10	M10	7,0	3,0	2,3	M10	3	M5	4	15	8,0	3,5
373704	25,4	17,4	6,0	20	10	M10	7,0	3,0	2,3	M10	3	M5	4	15	8,0	3,5
373712	30,3	21,9	7,0	25	12	M12	9,0	4,0	4,6	M12	3	M6	8	20	10,0	3,5
373720	34,2	22,5	7,5	30	12	M12	11,0	4,0	4,6	M12	6	M6	8	20	10,0	4,5
373738	34,2	22,5	7,5	30	12	M12	11,0	4,0	4,6	M12	6	M6	8	20	10,0	6,5
373746	49,9	24,5	9,0	45	14	M14 x 1,5	15,0	5,0	9,3	M14 x 1,5	6	M8	16	32	13,0	6,5
373753	55,4	29,4	10,0	60	16	M16 x 1,5	17,0	5,0	9,3	M16 x 1,5	6	M8	16	20	13,0	6,5
373761	61,6	29,4	10,0	60	16	M16 x 1,5	25,0	5,0	9,3	M16 x 1,5	6	M10	16	25	16,0	6,5

Q = number of segments, QD = diameter of the segments

THE FIRST STEP FOR USE AND EMPLOYMENT OF SIDE THRUST PIECES:

- > What is being positioned or clamped?
- > Which side thrust pieces will be used?
- > What size corresponds to the workpiece?
- > What tolerance does the workpiece have?
- > How large is the dimension Y? (Workpiece height)
- > How large is the dimension X? (See table)
- > Should the spring deflection be completely used?
- > How is the coordinate dimension determined?

EXAMPLE: POSITIONING OR CLAMPING A PLATE 100 X 50 X 8 MM

Should the pin diameter be 5, 6 or 8 mm?

- > If nothing may extend over the plate 5 mm
- > If projection would not be a problem 6 or 8 mm
- > If clamping will be done additionally 6 mm
- > If drilling will be performed without additional clamping 8 mm

Workpiece height Y?

The tolerance can be ignored

What force should be selected?

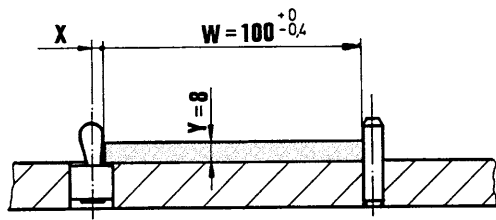
- > For positioning tasks 30 - 60 N
- > For clamping forces 90 - 150 N

Length / width of the workpiece?

- > Length = $100 +0/-0.4$ = medium dimension 99,8 mm
- > Width = $50 +0,2/-0.2$ = medium dimension 50,0 mm

Dimension X for side thrust pieces with steel spring?

- > See table or formula below

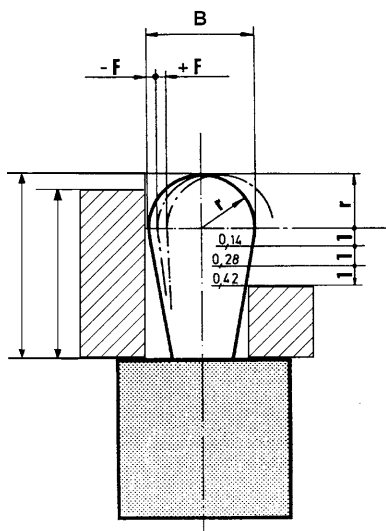


W = workpiece (+/- tolerance)
- F = pre-tension
F = (-F) + (+F)

Y = workpiece height
+ F = clamping force (spring deflection for tolerance)
T = tolerance

For workpieces that are higher than C minus r, the table values for dimension X or the formula $X = B/2 - (-F)$ apply.

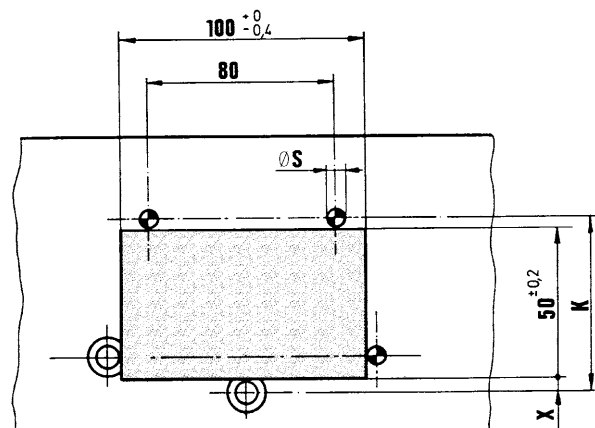
For workpieces that are smaller than C minus r, the table values for dimension X or the formula $X = B/2 - (-F) - [(C - r - Y) \times 0,123]$ apply.



Formula for coordinates:

$$K = W - T/2 + x + S/2$$

The table values are standard values that should ideally be checked using a sample clamping.



No. 6380D

Side thrust piece, with seal

against chips and dirt.

Steel pin for clamping: hardened and galvanised

Sleeve: Aluminium

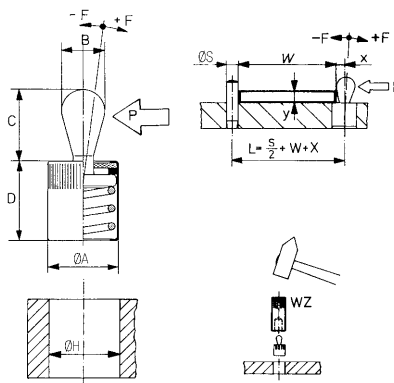


Order no.	dia. A	B	~P Spring force [N]	C	D -1	ØH H8	F	X	Tool 6380WZ	Weight [g]
373159	6	3	10	4	7	6	±0,5	0,9	03	0,6
373167	6	3	20	4	7	6	±0,5	0,9	03	0,6
373175	6	3	40	4	7	6	±0,5	0,9	03	0,7
373183	10	5	20	6	12	10	±0,8	1,6	05	2,7
373191	10	5	50	6	12	10	±0,8	1,6	05	2,9
373209	10	5	100	6	12	10	±0,8	1,6	05	2,9
373217	10	6	40	10	12	10	±1,0	1,8	06	3,1
373225	10	6	75	10	12	10	±1,0	1,8	06	3,6
373233	10	6	150	10	12	10	±1,0	1,8	06	3,7
373241	12	8	50	13	14	12	±1,3	2,6	08	3,9
373258	12	8	100	13	14	12	±1,3	2,6	08	7,1
373266	12	8	200	13	14	12	±1,3	2,6	08	7,3
373274	16	10	100	16	18	16	±1,6	3,2	10	7,6
373282	16	10	200	16	18	16	±1,6	3,2	10	15
373290	16	10	300	16	18	16	±1,6	3,2	10	15,4

Note:

With sealing for chip-producing operations with dirt, temperature-resistant up to 150°C.

Sealing: CR, black, 60 Shore. Installation by pressing in.



Recommendations



No. 6380WZ,
page 156



Subject to technical alterations.

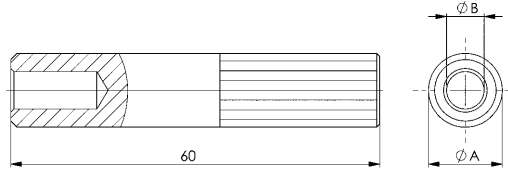
No. 6380WZ

Insertion tool

for pressing in the lateral pressure pad.



Order no.	Size	dia. A	B	Weight [g]
373308	03	8	3,1	16
373316	05/06	12	6,1	19
373332	08	14	8,1	64
373340	10	18	10,2	105



No. 6387

Eccentric clamping bolt

clamp in x-y direction with pull down effect.
Hardened steel 56±1 HRC.



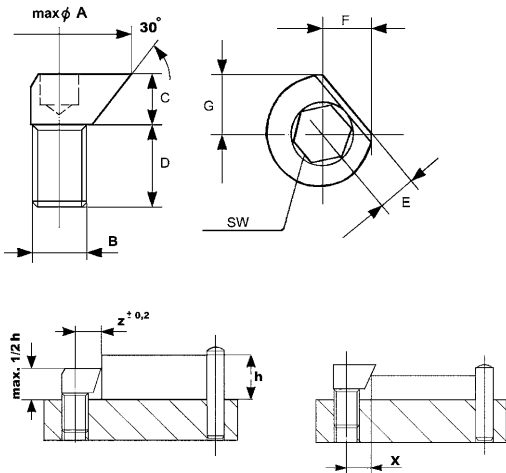
Order no.	dia. A	B	C	D	E	F	G	SW	X	Z	max. holding force [kN]	Md [Nm]	Weight [g]
373779	9,2	M4	3	8	3,0	4,6	4,0	2,5	3,5	4,2	0,09	1,5	2
373787	14,2	M6	5	12	4,5	7,1	6,1	4,0	5,4	6,4	0,3	5,0	6
373795	18,0	M8	6	16	5,5	8,9	7,7	5,0	6,6	8,0	2,7	22,0	9
373803	22,2	M10	7	20	6,5	11,1	9,4	6,0	8,3	9,8	4,0	35,0	16
373811	27,0	M12	9	24	8,0	13,5	11,6	8,0	10,1	12,0	5,4	45,0	31

Application:

- Clamping above the machining surface
- Clamping below the machining surface
- Clamping in holes.

Advantage:

- stepless adjustment with eccentric
- high wear resistance.



Clamping above the machining surface



Clamping below the machining surface



Subject to technical alterations.



WE DEVELOP THE RIGHT SOLUTION – POTENTIAL SAVINGS BY REDUCING SET-UP TIMES

As a system provider with its own production facility, not only do we have the right product for every need. With many years of experience from all fields of clamping technology we develop the perfect solution for different industries, special projects and for very individual requirements.

With full concentration on a single project, an entire team supports you at AMF, which unites all facets for a successful result.

In close cooperation and with short communication channels, our experienced experts from sales, proposal preparation and purchasing work together with our engineers and designers from the development and production departments.

Thus, we can always ensure that all criteria for a costeffective production process are met – our specialists look forward to exciting new challenges.

Just talk to us!



... BY ITEM NO.

Article no.	Page	Article no.	Page	Article no.	Page	Article no.	Page	Article no.	Page
DIN 508	92	No. 6318B	42	No. 6383ZES	151	No. 6425WW	56	No. 6500E	43
DIN 6314	22	No. 6319D	100	No. 6383ZUK	152	No. 6425Z	51	No. 6500H	43
DIN 6315B	23	No. 6321	33	No. 6383ZUS	153	No. 6425-706	50	No. 6501	44
DIN 6315C	25	No. 6322A	146	No. 6387	156	No. 6430S	66	No. 6501M	44
DIN 6316	25	No. 6322B	146	No. 6400	59	No. 6435S	66	No. 6510	45
DIN 6318	42	No. 6325	27	No. 6400G	60	No. 6438S	67	No. 6520	103
DIN 6319C	100	No. 6325G	27	No. 6400M	60	No. 6440	68	No. 6530	102
DIN 6319D	100	No. 6328	141	No. 6401	61	No. 6441	68	No. 6531	102
DIN 6319G	101	No. 6332S	97	No. 6401M	62	No. 6442	68	No. 6532	103
DIN 6323	145	No. 6333	99	No. 6405	61	No. 6442G	70	No. 6535	106
DIN 6326	45	No. 6333S	98	No. 6406	62	No. 6443	69	No. 6600	148
DIN 6330B	95	No. 6333SB	99	No. 6406A	62	No. 6443G	70	No. 6601	148
DIN 6331	96	No. 6334	95	No. 6406AF	62	No. 6444	69	No. 6610	148
DIN 6340	101	No. 6339	107	No. 6406-125	63	No. 6445	69	No. 6611	149
DIN 6346	129	No. 6342	107	No. 6415	58	No. 6460	64	No. 6612	149
DIN 6346P	129	No. 6344SP	140	No. 6416	58	No. 6465	64	No. 6616	149
DIN 6379	88, 89	No. 6347	130	No. 6417	71	No. 6470	104	No. 6621	34
DIN 787	82, 83	No. 6347PP	131	No. 6417SP	72	No. 6470H-1	105	No. 7000	35
DIN 894	108	No. 6347PS	132	No. 6417Z	72	No. 6470H-2	105	No. 7110DFX-**xM**	39
No. 508F	93	No. 6347PSP	131	No. 6418	73	No. 6470-Mxx	104	No. 7110DHX-**xM**	39
No. 508L	93	No. 6348	133	No. 6419	74	No. 6472	123	No. 7110DIX-**xM**	39
No. 508R	94	No. 6348PP	135, 136	No. 6419B-12-01	75	No. 6485	107	No. 7110DKX-**xM**	39
No. 510	94	No. 6348PS	137, 138	No. 6419B-12-02	75	No. 6486	108	No. 7110DMX-**xM**	37
No. 6310	20	No. 6348PSP	134, 135	No. 6419B-12-03	75	No. 6490	109	No. 7110DX-**xM**	37
No. 6311	21	No. 6349P	140	No. 6419B-12-04	76	No. 6491	109	No. 7110GD-**-1	38
No. 6312S	18	No. 6349PP	139	No. 6419B-12-05	76	No. 6492	110	No. 7110GD-**-2	38
No. 6312V	14	No. 6350	141	No. 6419B-16-01	76	No. 6493F	121	No. 7110GLX-**-1	37
No. 6312VI	17	No. 6351	142	No. 6419B-16-02	77	No. 6493S	120	No. 7110GX-**-1	37
No. 6312VS	16	No. 6353	142	No. 6419B-16-03	77	No. 6493SP	119	No. 7600	6
No. 6312VT	15	No. 6355V	143	No. 6419B-16-04	77	No. 6494	113	No. 7600BFS	9
No. 6313K	32	No. 6357	144	No. 6420	59	No. 6495	126	No. 7600D	8
No. 6314AT	36	No. 6358	144	No. 6425AB	55	No. 6495S	126	No. 7600DGK	8
No. 6314AV	30	No. 6365	110	No. 6425AG	55	No. 6496	127	No. 7600S	8
No. 6314S	34	No. 6365G	111	No. 6425AP	55	No. 6496BF	127	No. 7600Z	7
No. 6314V	28	No. 6365N	111	No. 6425A-230	54	No. 6497	115	No. 7630	10
No. 6314Z	23	No. 6365-**-009	38	No. 6425FB	52	No. 6497A	116	No. 7630BFS	11
No. 6315GN	24	No. 6379	90	No. 6425FG	53	No. 6497B	117	No. 7630T	11
No. 6315GNG	24	No. 6379I	90	No. 6425FY	53	No. 6497F	114	No. 787	84-86
No. 6315V	31	No. 6380D	155	No. 6425GA	52	No. 6498	124	No. 797	87
No. 6316V	29	No. 6380WZ	156	No. 6425MW	56	No. 6498FR	125		
No. 6317	26	No. 6383ZEK	150	No. 6425S-406	51	No. 6498FT	125		

... BY ORDER NO.

Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page
120360	111	370056	134	370338	134	370619	135	370890	132
140301	92	370064	134	370346	134	370627	135	370908	132
140327	92	370072	134	370353	134	370635	135	370916	132
153460	92	370080	134	370361	134	370643	135	370924	132
153478	92	370098	134	370379	134	370650	135	370932	132
155630	92	370106	134	370387	134	370668	135	370940	132
158220	94	370114	134	370395	134	370676	135	370957	132
158238	94	370122	134	370403	134	370684	131	371062	133
158246	94	370130	134	370411	134	370692	131	371070	133
158253	94	370148	134	370429	134	370700	131	371088	133
158899	92	370155	134	370437	134	370718	131	371096	133
158907	92	370163	134	370445	135	370726	131	371104	133
159418	92	370171	134	370452	135	370734	131	371112	133
159426	92	370189	134	370460	135	370742	131	371120	135
30064	23	370197	134	370478	135	370759	131	371138	135
3079	23	370205	134	370486	135	370767	131	371146	135
313379	127	370213	134	370494	135	370775	131	371153	135
313395	127	370221	134	370502	135	370783	131	371161	135
313411	127	370239	134	370510	135	370791	131	371179	135
313437	127	370247	134	370528	135	370809	131	371187	135
313452	127	370254	134	370536	135	370817	131	371195	135
313478	127	370262	134	370544	135	370825	132	371203	135
313494	127	370270	134	370551	135	370833	132	371211	135
370007	134	370288	134	370569	135	370841	132	371229	135
370015	134	370296	134	370577	135	370858	132	371237	135
370023	134	370304	134	370585	135	370866	132	371245	135
370031	134	370312	134	370593	135	370874	132	371252	135
370049	134	370320	134	370601	135	370882	132	371260	135

... BY ORDER NO.

Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page
371278	135	372003	137	372730	139	373787	156	376145	24
371286	135	372011	137	372748	139	373795	156	376160	24
371294	135	372029	137	372755	139	373803	156	376186	24
371302	135	372037	137	372763	139	373811	156	376194	60
371310	135	372045	137	372771	139	373878	27	376202	24
371328	136	372052	137	372789	139	373886	27	376210	60
371336	136	372060	137	372797	139	37390	23	376228	24
371344	136	372078	137	372805	139	373928	28	376236	60
371351	136	372086	137	372813	139	373936	28	376244	24
371369	136	372094	137	372821	140	373944	28	376269	24
371377	136	372102	137	372839	140	373951	28	376285	24
371385	136	372110	137	373159	155	373969	44	376301	24
371393	136	372128	137	373167	155	374124	126	376327	24
371401	136	372136	137	373175	155	374132	126	376343	24
371419	136	372144	137	373183	155	374140	126	376350	70
371427	136	372151	137	373191	155	374157	127	376475	14
371435	136	372169	137	373209	155	374165	127	376555	20
371443	136	372177	137	373217	155	374173	127	376731	21
371450	136	372185	137	373225	155	374181	127	376756	21
371468	136	372193	137	373233	155	374199	127	376772	21
371476	136	372201	137	373241	155	374207	127	376798	21
371484	136	372219	137	373258	155	374215	127	376814	21
371492	136	372227	137	373266	155	374355	124	376830	21
371500	136	372235	137	373274	155	374371	125	376863	20
371518	136	372243	136	373282	155	374397	125	376871	20
371526	136	372250	136	373290	155	374405	28	376889	20
371534	136	372268	136	373308	156	374413	34	376897	20
371542	136	372276	136	373316	156	374439	28	376905	20
371559	136	372284	136	373332	156	374447	39	376913	20
371567	138	372292	136	373340	156	374454	39	376921	20
371575	138	372300	136	373357	150	374462	39	376939	20
371583	138	372318	136	373365	150	374926	15	376947	20
371591	138	372326	136	373373	150	374942	15	376962	21
371609	138	372334	136	373381	150	374967	15	377002	21
371617	138	372342	136	373399	150	374983	15	377044	21
371625	138	372359	136	373407	150	375006	15	377069	21
371633	138	372367	136	373415	150	375501	124	381772	98
371641	138	372375	136	373423	150	375527	125	381780	98
371658	138	372383	136	373431	150	375543	125	381798	98
371666	138	372391	136	373449	150	375592	64	381806	98
371674	138	372409	136	373456	150	375618	64	381814	98
371682	138	372417	136	373464	151	375766	16	381822	98
371690	138	372425	136	373472	151	375782	16	381830	98
371708	138	372433	136	373480	151	375808	16	381848	99
371716	138	372441	136	373498	151	375816	16	381855	99
371724	138	372458	136	373506	151	375824	16	381863	99
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371740	138	372474	136	373522	151	375840	16	381889	99
371757	138	372482	140	373530	151	375857	16	381897	99
371765	138	372490	140	373548	151	375865	16	381905	99
371773	138	372508	139	373555	151	375873	16	381913	90
371781	138	372516	139	373563	152	375881	16	381921	99
371799	138	372524	139	373571	152	375899	16	381939	90
371807	137	372532	139	373589	152	375907	16	381954	90
371815	137	372540	139	373597	152	375915	16	381970	90
371823	137	372557	139	373605	152	375923	16	381988	28
371831	137	372565	139	373613	152	375949	16	381996	90
371849	137	372573	139	373621	152	375956	17	382002	28
371856	137	372581	139	373639	152	375964	16	382010	90
371864	137	372599	139	373647	152	375972	17	382028	90
371872	137	372607	139	373654	152	375980	16	382036	90
371880	137	372615	139	373662	152	375998	17	382044	90
371898	137	372623	139	373670	153	376004	17	382051	90
371906	137	372631	139	373688	153	376012	17	382069	90
371914	137	372649	139	373696	153	376020	17	53520	108
371922	137	372656	139	373704	153	376038	17	53579	108
371930	137	372664	139	373712	153	376046	17	53595	108
371948	137	372672	139	373720	153	376053	17	53611	108
371955	137	372680	139	373738	153	376061	17	53629	108
371963	137	372698	139	373746	153	376079	17	53645	108
371971	137	372706	139	373753	153	376087	17	53652	108
371989	137	372714	139	373761	153	376095	17	53660	108
371997	137	372722	139	373779	156	376103	17	53678	108

... BY ORDER NO.

Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page
53686	108	562004	51	70490	23	71233	75	72108	45
53694	108	562005	52	70508	23	71241	120	72116	45
53702	108	562006	53	70516	23	71258	31	72124	45
53710	108	562007	53	70524	23	71266	29	72132	45
550509	116	562008	52	70532	23	71274	29	72165	129
550510	116	562009	52	70540	23	71282	29	72173	129
550511	116	562010	52	70557	23	71290	29	72181	129
550512	7, 117	562011	55	70565	23	71308	29	72199	129
550513	7, 117	562012	55	70573	23	71316	29	72207	129
550514	7, 117	562013	55	70581	23	71324	29	72215	129
553351	8	562014	56	70599	23	71332	29	72223	129
553352	8	562015	56	70607	23	71340	26	72231	129
553353	8	562016	114	70615	23	71357	26	72249	129
553441	8	562017	114	70623	23	71365	42	72256	129
553442	8	562018	114	70631	23	71373	42	72264	129
553443	8	562125	70	70649	23	71381	42	72272	129
554198	6	562155	51	70656	23	71399	42	72280	129
554214	8	562184	6	70672	23	71407	42	72298	129
554215	8	562185	7	70680	119	71415	42	72306	129
554216	8	562186	9	70698	119	71423	42	72314	129
554298	9	563656	6	70706	25	71449	108	72322	129
554299	9	563658	9	70714	25	71456	108	72330	129
554300	9	563695	8	70722	25	71464	108	72348	129
554301	8	563697	8	70730	25	71472	108	72355	129
554302	8	563698	8	70748	25	71480	42	72363	129
554821	7	563699	8	70755	25	71498	42	72371	63
554822	7	564012	123	70763	25	71506	42	72389	59
554823	7	564074	114	70771	25	71522	33	72397	59
554824	7	70003	22	70789	25	71530	33	72405	59
554825	7	70011	22	70797	25	71555	146	72413	59
556152	9	70029	22	70805	25	71563	146	72421	59
556153	9	70037	22	70813	25	71571	146	72439	59
556154	9	70045	22	70821	28	71589	146	72447	59
556155	9	70052	22	70839	28	71597	146	72454	69
556156	9	70060	22	70847	28	71605	75	72496	59
556157	9	70078	22	70854	28	71613	146	72504	59
556158	9	70086	22	70862	24	71621	146	72520	104
556159	9	70094	22	70870	24	71639	146	72546	59
556160	9	70102	22	70888	24	71647	146	72553	66
556161	9	70110	22	70896	24	71696	146	72561	66
556162	9	70128	22	70904	24	71704	146	72579	66
556186	6	70136	22	70912	24	71712	146	72587	66
556187	6	70151	28	70920	24	71720	146	72637	66
556188	6	70177	28	70938	24	71738	146	72645	66
556189	6	70193	28	70946	24	71746	146	72652	66
556190	6	70201	28	70953	24	71753	146	72660	66
556406	6	70219	28	70961	24	71761	146	72710	68
556407	7	70227	23	70979	24	71787	108	72728	68
556408	8	70235	23	70987	121	71811	145	72736	68
556409	8	70243	23	70995	121	71829	145	72744	69
556410	8	70250	23	71001	121	71837	145	72751	69
556576	9	70268	28	71019	121	71845	145	72769	68
557186	62	70276	28	71027	25	71852	145	72777	64
558279	130	70284	28	71035	25	71860	145	72785	64
558280	130	70292	28	71043	25	71878	145	72793	64
558281	130	70300	28	71050	25	71886	145	72801	28
558436	62	70318	28	71068	25	71894	145	72819	69
559877	10	70326	28	71076	25	71902	145	72827	28
559879	10	70334	23	71084	25	71910	145	72850	62
559881	10	70359	23	71092	25	71928	108	72868	62
559882	10	70367	23	71100	25	71936	108	72876	62
559909	11	70375	23	71118	25	71944	108	72884	62
559912	11	70383	23	71126	25	71951	108	72892	107
559914	11	70391	23	71134	25	71969	45	72900	107
559915	11	70409	23	71142	120	71977	45	72918	107
559925	11	70417	23	71159	25	71985	45	72926	62
559926	11	70425	23	71167	31	71993	45	72942	28
559930	11	70433	23	71175	31	72009	45	72959	109
559931	11	70441	23	71183	29	72017	45	72967	109
562000	50	70458	23	71191	31	72025	45	72975	109
562001	54	70466	23	71209	29	72033	45	72983	109
562002	51	70474	23	71217	29	72041	45	72991	109
562003	51	70482	23	71225	29	72090	45	73007	109

... BY ORDER NO.

Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page
73015	109	73841	109	74823	35	75788	61	80200	92
73023	109	73858	109	74831	35	75796	61	80218	92
73031	109	73866	109	74849	35	75804	61	80226	92
73049	109	73874	109	74856	35	75812	61	80234	92
73056	28	73882	109	74864	35	75820	61	80242	92
73064	28	73890	124	74880	104	75879	144	80259	94
73072	28	73908	125	74906	33	75887	144	80267	94
73080	110	73916	125	74914	33	75895	144	80275	94
73098	110	73932	32	74922	33	75903	144	80283	94
73106	110	73940	32	74930	33	75911	144	80291	94
73114	110	73957	32	74963	33	75929	144	80309	94
73122	110	73965	32	74971	33	75952	107	80317	94
73130	113	73973	32	74989	35	75960	107	80325	94
73148	113	73981	36	74997	35	75978	107	80333	94
73155	113	73999	36	75002	35	75986	107	80341	94
73189	31	74039	34	75010	35	75994	107	80358	92
73197	31	74047	34	75028	35	77149	32	80366	92
73205	31	74054	34	75051	76	77156	32	80374	82
73213	115	74062	34	75085	143	77180	32	80382	82
73221	115	74179	71	75093	143	77198	32	80390	82
73239	115	74187	105	75143	143	77206	32	80408	82
73247	31	74195	72	75150	141	77834	126	80416	82
73254	31	74203	105	75168	141	78626	38	80424	82
73262	31	74211	72	75176	141	78667	38	80432	82
73270	104	74229	75	75184	143	78907	126	80440	82
73288	31	74237	72	75192	141	78956	38	80457	82
73296	43	74245	76	75200	141	78964	38	80465	82
73304	43	74252	104	75218	141	78972	38	80473	82
73312	43	74260	141	75226	141	78980	38	80481	82
73320	60	74278	141	75234	141	79186	126	80499	82
73346	43	74286	141	75242	141	79194	36	80507	82
73353	44	74294	141	75259	141	79210	15	80515	82
73361	60	74302	141	75267	141	79228	15	80523	82
73379	45	74310	141	75275	141	79392	110	80531	82
73387	45	74328	141	75283	131	79749	18	80549	82
73395	45	74336	141	75291	131	79756	14	80556	82
73403	60	74344	141	75309	129	79764	18	80564	82
73437	34	74351	141	75317	129	79772	18	80572	82
73445	34	74369	142	75325	129	79780	15	80580	82
73452	34	74377	142	75333	129	79798	14	80598	82
73460	34	74385	142	75341	129	79806	15	80606	82
73478	34	74450	142	75358	142	79814	18	80614	82
73502	148	74468	142	75366	142	79822	15	80622	82
73510	148	74500	149	75374	142	79830	18	80630	82
73528	37	74518	149	75382	76	79848	15	80648	82
73536	37	74542	149	75416	73	79855	14	80655	82
73544	37	74559	149	75424	77	79863	15	80663	82
73551	37	74567	30	75432	39	79871	18	80671	82
73569	148	74575	30	75440	77	79889	15	80689	82
73577	37	74583	30	75473	131	79897	18	80697	82
73585	37	74591	30	75481	131	79905	15	80705	82
73593	37	74609	34	75499	131	79913	14	80713	82
73601	37	74617	34	75507	131	79921	15	80721	82
73619	148	74625	30	75515	131	80002	92	80739	82
73627	148	74633	30	75523	131	80010	92	80747	82
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73676	149	74682	27	75572	131	80069	92	80804	82
73684	39	74690	27	75580	131	80077	92	80812	84
73692	39	74708	35	75606	133	80085	92	80820	84
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73783	39	74781	35	75713	67	80168	92	80903	84
73817	109	74799	35	75721	67	80176	92	80911	84
73825	109	74807	35	75754	74	80184	92	80929	84
73833	109	74815	35	75770	61	80192	92	80937	84

... BY ORDER NO.

Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page
80945	84	81711	88	82446	95	83642	102	84715	93
80952	84	81729	88	82453	95	83659	102	84723	93
80960	84	81737	100	82461	95	83691	102	84731	94
80978	84	81745	100	82479	95	83808	102	84749	93
80986	84	81752	100	82487	95	83816	102	84756	88
80994	84	81760	100	82495	95	83824	102	84764	93
81000	84	81778	100	82503	95	83832	102	84772	88
81018	84	81786	100	82511	96	83840	102	84780	88
81026	84	81794	100	82529	96	83899	103	84798	88
81034	84	81802	100	82537	96	83907	103	84806	88
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81059	84	81828	100	82552	96	83923	86	84822	88
81067	84	81836	100	82560	96	83956	86	84830	88
81075	84	81844	100	82578	96	83972	86	84848	88
81083	84	81851	82	82586	96	83998	86	84855	88
81091	84	81869	100	82594	96	84004	82	84863	88
81109	84	81877	100	82602	96	84012	82	84871	88
81117	84	81885	100	82610	96	84038	82	84889	88
81125	84	81893	100	82628	96	84046	82	84897	88
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81158	84	81927	100	82651	95	84079	82	84921	88
81166	84	81935	100	82669	95	84087	82	84939	88
81174	84	81943	100	82677	95	84103	82	84947	88
81182	84	81950	100	82685	95	84111	82	84954	88
81190	84	81968	100	82693	95	84129	82	84962	88
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81232	84	81992	101	82727	95	84160	82	84996	88
81240	84	82008	101	82735	95	84186	84	85001	88
81257	88	82016	101	82743	95	84194	84	85019	88
81265	92	82024	101	82750	95	84202	84	85027	88
81273	88	82032	101	82768	95	84210	84	85035	88
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81299	88	82057	101	82784	95	84244	84	85050	88
81315	88	82065	101	82792	95	84301	84	85068	88
81323	82	82073	101	82800	96	84319	84	85076	88
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81349	88	82099	101	82826	101	84335	84	85092	88
81356	84	82107	96	82834	101	84376	84	85472	88
81364	86	82115	96	82842	101	84384	82	85480	88
81372	88	82123	90	82859	101	84392	84	85498	88
81380	88	82131	86	82867	101	84400	82	85506	88
81398	88	82149	96	82875	101	84418	84	85514	88
81406	82	82156	96	82883	101	84426	82	85522	88
81414	88	82164	96	82891	101	84434	82	85530	88
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81448	84	82180	90	82917	101	84459	84	85555	88
81463	86	82198	96	82925	101	84467	88	85563	88
81471	88	82206	96	82933	101	84475	88	85571	90
81489	88	82214	96	82941	101	84483	94	85589	88
81497	82	82222	96	82958	101	84491	94	85597	88
81505	84	82230	96	82966	82	84509	94	85605	82
81513	88	82248	96	82974	84	84517	94	85613	82
81521	88	82255	96	82982	103	84525	94	85621	82
81539	88	82263	90	82990	103	84533	94	85639	82
81547	84	82271	95	83006	103	84541	94	85647	82
81554	88	82289	95	83014	103	84558	94	85654	82
81562	84	82297	95	83022	103	84566	94	85662	82
81570	88	82305	95	83030	103	84574	94	85670	82
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81661	88	82396	95	83592	102	84665	93	85761	84
81679	88	82404	95	83600	102	84673	93	85779	84
81687	88	82412	95	83618	102	84681	93	85787	84
81695	88	82420	95	83626	102	84699	93	85795	84
81703	88	82438	95	83634	102	84707	93	85803	84

Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page
85811	84	86322	86	86793	87	87734	90	89797	93
85829	82	86330	86	86801	87	87742	90	89813	93
85837	84	86348	86	86819	87	87759	90	89839	93
85845	82	86355	86	86959	87	87783	82	89904	93
85852	84	86363	86	87114	87	87791	90		
85860	84	86371	86	87171	100	87809	82		
85878	84	86389	86	87197	100	87833	90		
85886	84	86397	86	87239	100	88146	97		
85894	84	86405	86	87254	100	88153	94		
85902	84	86413	86	87296	87	88286	90		
85910	84	86421	86	87304	86	88492	110		
85928	88	86439	86	87312	87	88500	111		
85977	88	86447	86	87320	86	88526	111		
85993	94	86454	86	87338	87	88534	97		
86009	88	86462	86	87346	86	88542	111		
86025	88	86470	86	87353	87	88559	97		
86041	88	86488	86	87361	86	88567	97		
86140	86	86496	86	87379	87	88575	97		
86157	86	86504	58	87387	86	88583	97		
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86264	86	86595	88	87585	86	89730	93		
86272	86	86611	86	87643	82	89748	93		
86280	86	86629	86	87668	90	89755	93		
86298	86	86645	86	87684	90	89763	93		
86306	86	86678	86	87692	90	89771	93		
86314	86	86686	107	87700	90	89789	93		

This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. There are no margins, text, or other markings on the page.

... IN ALPHABETICAL ORDER

Description	Page
A	
Alu-intermediate ring	62
Aluminium base for screw jacks	62
Aluminium screw jack	61
Aluminium screw jack with magnetic base	61
Aluminium screw jack with swarf protection	62, 63
AMF-TWINNUT nut - with collar	99
AMF-TWINNUT nut - without collar	98
Atlas screw jack with counter nut	66
B	
Ball pressure screw	8
Ball-pad	68
Base element	52, 53
Base plate, round	125
Base plate with groove	125
Basic sortiment	103
Bearing, point	55
Bearing, smooth	55
Bearing, spherical	55
Blanks for T-nuts	94
Bolts for T-slots	82, 83
Bolts for T-slots, complete	84, 85
Boxed set of assorted clamping elements	102
C	
Carrier element 3-step	11
Centering-pad	68
Centring clamp with ball	150, 152
Centring clamp with protective segments	151, 153
Centring plate with thread	70
Clamp, continuously adjustable	33
Clamp, continuously adjustable, complete	33
Clamp, cranked	25
Clamp, double	38
Clamp, double (long)	38
Clamp, double (short)	38
Clamp, flat	22
Clamp, „light design“	21
Clamp „light design“, with adjustable support screw, complete	21
Clamp, short, with U-piece	32
Clamp, short, with U-piece, complete	32
Clamp, straight	37
Clamp, straight (long)	37
Clamp with nose, closed	24
Clamp with plastic cap	20
Clamp with plastic cap, complete	20
Clamping element, horizontal	119
Clamping jaw	7, 75, 76, 77, 117
Clamping Jaws, serrated	111
Clamping Jaws, with ridge	111
Clamping unit to clamp outside of the tool table	36
Clamps for machine vices	27
Conical sockets, tempered	100
Cranked clamp with adjusting support screw	29
Cranked clamp with adjusting support screw, complete	29
„	
„Crocodile“ clamp	14
„Crocodile“ clamp, complete with DIN 6379	16
„Crocodile“ clamp, complete with DIN 787	15
„Crocodile“ clamp, complete with no. 6379I	17
C	
Cylindrical stop	141
D	
Detent clamp lever	34
Dished washer	100, 101
Double goose-neck clamp	26
E	
Eccentric clamp with end clamping	148
Eccentric clamp with middle clamping	148
Eccentric clamping bolt	156
Eccentric lever, loose	148, 149
Eccentric lever with eye bolt	149
Edge Clamp	124

Description	Page
Elongation nuts (3.0 d high)	95
Extra strong clamping jaw	115
F	
Fastening bolt for T-slot clamp	126
Fastening kit for carrier element 3-step	11
Fixed type tenons	146
Fixing cap with thread	70
Flat clamp	127
Flat clamp, model „Mini-Bulle“	110
Floating clamp	74
Forked clamp tapered	23
Forked clamp with pin end	25
Forked clamp with shoe	24
H	
Heavy duty thread paste	107
Heavy screw jack	66
Height setting screw jack	58
Height setting screw jack with magnetic base	58
Height setting screw jack with pivotable ball	59
Hexagon nuts (1.5 d high)	95
Hexagonal nuts with collar (1.5 d high)	96
Holder for clamping bolts	105
Holder for clamps	105
I	
Insertion tool	56, 156
L	
Locating-pad	69
Loose type tenons	145
Low height clamping jaws, model „Bulle“	109
Low height clamping jaws, model „Maxi-Bulle“	113
Low type tenons	146
M	
Magnetic base for screw jacks	62
Mandrel	71
Mounting key	99
Mounting kit	9
Mounting kit for flat clamp	127
N	
Nuts for T-slots, extended	93
Nuts for T-slots „Rhombus“	94
Nuts for T-slots (T-nuts)	92
O	
Open-ended spanner, single-ended	108
P	
Parallel stop, in pairs	142
Parallel stop, single	142
Parallel stops in pairs	141
Parallel support set in wooden box	130
Parallel support set in wooden stand	133
Parallel supports-pairs	129
Parallel supports-pairs, precision	131, 139, 140
Parallel supports-pairs, precision, 100 mm long	135
Parallel supports-pairs, precision, 125 mm long	136
Parallel supports-pairs, precision, 150 mm long	136
Parallel supports-pairs, standard	132
Parallel supports-pairs, standard, 100 mm long	137
Parallel supports-pairs, standard, 125 mm long	137
Parallel supports-pairs, standard, 150 mm long	138
Parallel supports-pairs, super-precision	131
Parallel supports-pairs, super-precision, 100 mm long	134
Parallel supports-pairs, super-precision, 125 mm long	134
Parallel supports-pairs, super-precision, 150 mm long	135
Parallel supports-set	129
Parallel supports-set, corrugated	140
Power clamp	6
Power clamp 3-step	10
Precision angle stop	142
Precision wedge block	64
Pressure pad	8
Prismatic clamping block, pair	143
Prismatic clamping block, single	143
Pull-Down Clamp	110

Description	Page
Q	
Quick-action clamping nut without collar	97
R	
Rhombus-head screws for T-slots	87
S	
Screw jack element with acme thread and base element 6425FB	51
Screw jack, modular	50
Screw jack, quick-action	67
Screw jack with flat support	59
Screw jack with flat support and magnetic base	60
Screw jack with flat support and thread	60
Screws for T-slot, strength class 12.9	86
Serrated heel block	45
Set of assorted plastic clamping elements	106
Set screw	37
Set screw with ball	39
Set screw with ball, plain	39
Set screw with flat-faced ball, ribbed	39
Set screw with nut	149
Side clamp with clamping point	123
Side stop	144
Side thrust piece, with seal	155
Slot stop	109
Solid clamping jaws, flat design	114
Spacer element	7, 51, 72
Spherical seat washer	100
Spindle, long	72
Spring type clamp support	107
Step block	44
Step blocks	42
Step blocks, wide	42
Step clamp	23, 35
Stepped clamp with adjusting support screw	30, 31
Stepped clamp with adjusting support screw, complete	30, 31
Stop, adjustable	144
Stop, fixed	116, 121

Description	Page
Stop, pivoting	120
Studs for nuts and T-slots	88, 89
Studs for nuts and T-slots, strength class 12.9	90
Studs with hexagon socket, strength class 12.9	90
Support block with magnet	44
Support blocks for continuous adjustment, combination	45
Support blocks for continuous adjustment, single	45
Support element, mechanical	73
Support element with fine thread and base element 6425FB	54
Support extension	18
Support screw	34
Support with pivotable ball	69
T	
Tapered clamp with adjusting support screw	28
Tapered clamp with adjusting support screw, complete	28
T-bolt set	103
Thread adapter	52
Thrust piece plastic (plain)	8
T-nuts with spring	93
Tool cart	56
Trolley for clamping equipment	104
Trolley for clamping equipment with basic set of clamping equipment	104
T-slot clamp	126
T-slot cover	108
T-slot scraper	107
U	
Universal step block set	43
Universal step blocks	43
V	
Vee-pad	68
W	
Washers for clamping tools	101
Wedge block „Herkules“ height wedge	64

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.