

STANDARD CLAMPING ELEMENTS



WE GENERATE EXCITEMENT.

Since its founding by Andreas Maier in 1890, our company has lived through many exciting times. Today we are the leading manufacturer in Europe, supplying over 5,000 different products from the fields of clamping, screwing and locking. With this extensive product range we can meet all of our customers' needs and requirements. But providing optimal quality means meeting the challenges at all levels: Expert consultation, modern team organisation, individual solutions (including special developments), flexibility in response to changing conditions, etc. And we ourselves find this so exciting that we look forward every day to shaping the market together with our employees and our customers – both now and in the future. That is something you can count on.

COMPANY HISTORY

- 1890** Company founded by Andreas Maier as a lock manufacturer.
- 1920** Production program extended to include spanners.
- 1928** Production-line assembly of „FELLBACH LOCKS“.
- 1951** With the introduction of clamping elements, AMF diversified into the fields of workpiece and tool clamping.
- 1965** Toggle clamps extend the AMF product range. AMF catalogues are now published in ten languages.
- 1975** Hydraulic clamping marks further specialisation.
- 1982** Clamping and fixture systems round off AMF's clamping expertise.
- 1996** Introduction of the AMF Team Organisation in all business sectors. Quality assurance certified to ISO 9001.
- 2001** Introduction of the AMF Service Guarantee for all products.
- 2004** Introduction of the ZPS zero-point clamping system.
- 2007** The magnetic clamping technology extend the AMF product range.
- 2009** Development and marketing of AMF Vacuum clamping technology
- 2012** AMF-Writer and AMF-Cleaner for automated labelling and cleaning via the tool spindle



MANAGING DIRECTORS

> Johannes Maier
Volker Göbel



THE AMF SERVICE GUARANTEE

> Assuredly on the way to the top

5 Individual development

You cannot find the product you need? Talk to us; we will find the right solution for you – from a special version, right through to a completely new development.

4 Warranty

We believe in the high quality of our products. Complaints are dealt with quickly, unbureaucratically and generously – as far as possible, even well-beyond the guarantee period.

3 Certified quality

AMF stands for painstaking production in our own works. We have followed this tradition since 1890 – today, of course, with a modern quality assurance system to ISO 9001.

2 Short delivery times

From the AMF finished-product stores with over 5.000 articles, we can supply 98 % of orders from stock. And you can be sure that every stock article ordered is dispatched the same day.

1 Real technical advice

Many tasks and a multitude of solutions. From AMF Professional Products you can find the right way to solve your problem – fast and reliably – either at your local dealer or with the help of the specialist in our team. Just call us!

E Made in Germany

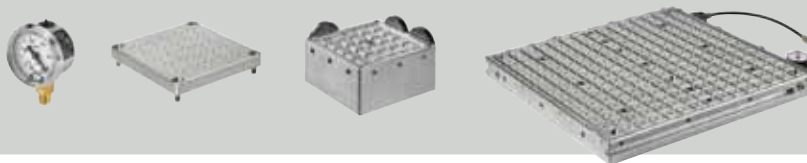
It goes without saying that our range of products is developed and manufactured by our team of employees in Germany.

PRODUCTS ON THE COVER

Single goose-neck clamp DIN 6316, page 41 · Aluminium screw jack no. 6406, page 69 · „Crocodile“ clamp no. 6312V, page 31

VACUUM CLAMPING TECHNOLOGY

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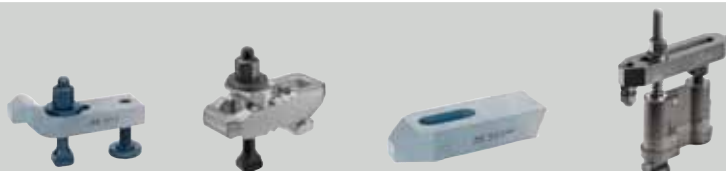
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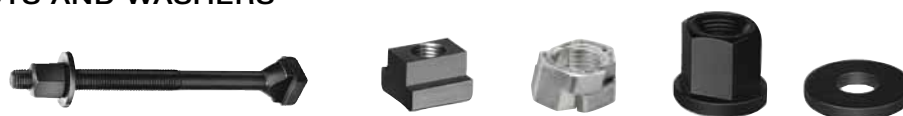
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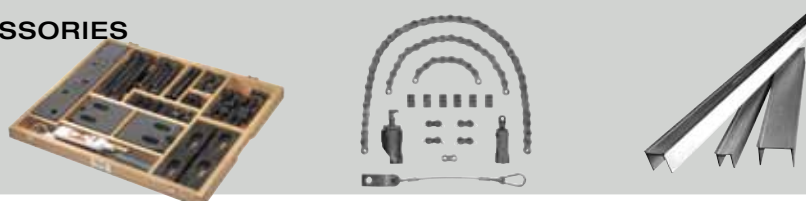
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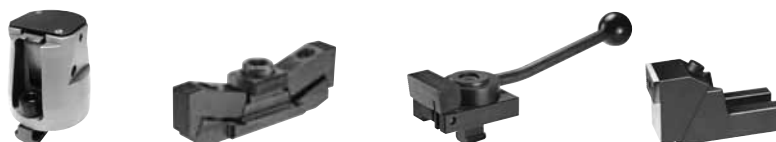
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NEU!



STOP, FIXED

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CLAMPS WITH PLASTIC CAP

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CLAMPING PLATE

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NEW!



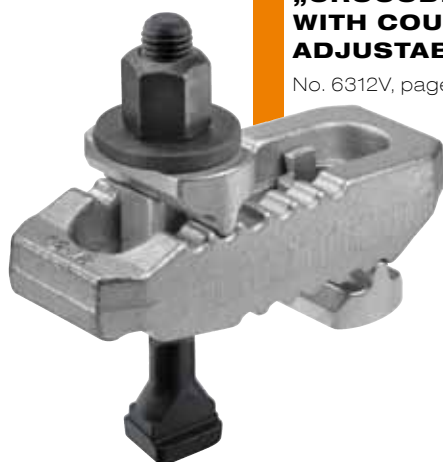
NEW!

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THE MOST IMPORTANT ON THE SUBJECT OF VACUUM CLAMPING TECHNOLOGY

WHAT IS A VACUUM?

A vacuum is the state in a space which is free of matter. In practice, we already call it a vacuum when the air pressure in a space is less than that of the atmosphere.

UNITS OF MEASUREMENT USED

The most common units are the pascal and the bar.

- > 100 Pa = 1 hPa
- > 1 hPa = 1 mbar
- > 1 mbar = 0.001 bar

VACUUM CLAMPING SYSTEMS

Vacuum clamping systems are used above all in the wood, plastics and non-ferrous metals industries for quick, simple machining; they are compatible with CNC machine tools. Here vacuum technology is used in connection with special handling systems, for example in order to fix an aluminium plate and machine it from all sides. This increases productivity and cost-effectiveness: the fixing does not cause any damage to the workpiece, and no laborious, time-consuming aligning of the workpiece is required. The latest clamping systems allow attachments of various sizes and shapes to be exchanged in a very short time, thus facilitating flexible handling of a wide range of workpiece shapes.

WHAT DOES VACUUM CLAMPING MEAN?

In vacuum clamping, an underpressure is generated under the workpiece being clamped, i.e. a pressure differential is created which presses the workpiece against the clamping plate. Thus the workpiece is not, as one might think, actually „sucked,“ but is rather pressed against the vacuum table. The sliding force of the workpiece depends on its surface structure, the pressure differential and the area on which the vacuum acts. The larger this area is, the better the holding forces.

WHY DOES A VACUUM GENERATE A HOLDING FORCE?

All surfaces of an object are subjected to an even pressure of approx. 1 bar by the surrounding atmosphere. The integrated Venturi nozzle or an external vacuum pump then removes some of the air from under the workpiece being held, thus removing part of the pressure load on that surface. What remains is a one-sided pressure on the top surface of the workpiece, whose size depends on the degree of the vacuum. Generally it is 0.7 - 0.8 bar. This means, for example, that a vacuum of 200mbar (absolute pressure) is generated. The pressure differential acting on the workpiece is therefore 800mbar (approx. 0.8 kp/cm). The size of the clamping force is then only dependent on the clamping area.

CALCULATION FORMULAE:

- > Force = Pressure x Area
- > $F \text{ (N)} = \text{bar} \times A \text{ (m}^2\text{)} \times 10^5$
- > 1 bar = 10 N / cm²



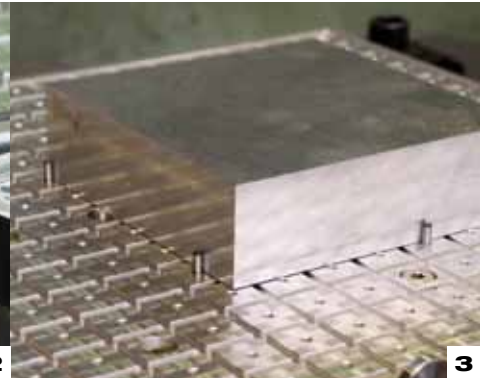
THE BENEFITS OF AMF VACUUM CLAMPING TECHNOLOGY



> The AMF vacuum clamping plate can be operated using compressed air and the integrated Venturi nozzle, or with an external vacuum pump.



> The height-adjustable eccentric stops absorb the sliding forces, and can be adjusted individually to the workpiece height.



> Easy positioning of workpieces by fastening with stop pins. These also absorb the sliding forces.



> Irregularities in the workpiece surface are compensated for by the sealing cord. The workpiece contour can be represented optimally using the grid pattern on the plate.



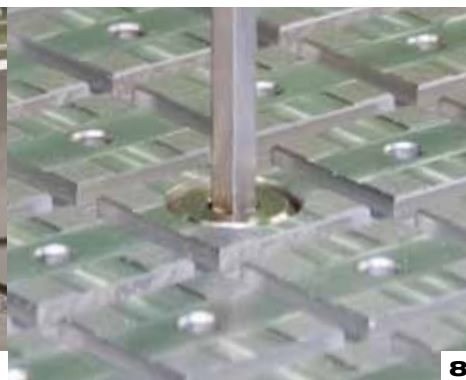
> Lateral grooves allow the vacuum clamping plate to be fastened to a baseplate or onto the machine table using AMF clamps No. 6325.



> Fixtures can be positioned on the vacuum clamping plate with a precision of ± 0.01 mm using one locating pin and one diamond pin each.



> The sound absorber is integrated into the vacuum clamping plate. We offer two different versions of the sound absorber (No. 7800VSDI and 7800VSD), depending on the specific application.



> Depending on the size of the clamping plate, workpieces can be clamped using more than one suction point. This can also be used to clamp multiple workpieces – even different ones.



> For efficient changing of the vacuum clamping plate, it can be used in combination with the AMF „Zero-Point“ clamping system. This minimises setup times and increases machine runtime.

No. 7800

Vacuum clamping plate

Included in scope of supply:

- Baseplate made of aluminium
- Integrated Venturi nozzle
- Sound absorber, supplied
- Vacuum meter
- Shut-off valve
- 6 eccentric stops
- 2 m pneumatic hose
- Plug-in nipple for compressed air connection
- 10 m sealing cord Ø 4 mm

Order no.	Operating pressure [bar]	max. vacuum [%]	Number of suction points	L	B	H ±0,1	R	Weight [Kg]
375105	3-8	93	1	150	150	40	25	1,0
374470	3-8	93	3	200	300	40	25	6,0
374488	3-8	93	9	300	400	40	25	12,0
374496	3-8	93	9	400	400	40	25	16,0
374504	3-8	93	9	400	600	40	25	24,0
375717	3-8	93	1	150	150	40	12,5	1,0
375733	3-8	93	3	200	300	40	12,5	6,0
375758	3-8	93	9	300	400	40	12,5	12,0
375774	3-8	93	9	400	400	40	12,5	16,0
375790	3-8	93	9	400	600	40	12,5	24,0

Design:

The vacuum plate has grooves and suction points on its upper side. By inserting the sealing cord, one or more fields can be defined for the desired workpiece size. All suction points are interconnected. Easy positioning via holes for stop pins or lateral, height-adjustable eccentric stops. Lateral grooves or fastening holes allow the vacuum clamping plate to be fastened to a baseplate (e.g. machine table).

Fixture plates can additionally be fixed using a sword or locating pin. It is also no problem to integrate the vacuum clamping plate into the AMF „Zero-Point“ clamping system (see the AMF catalogue „Zero-Point Systems“).

Application:

The workpieces being machined are clamped through generation of a vacuum by means of the integrated Venturi nozzle technology (included in scope of supply) or with an external vacuum pump. By means of individual grid allocation it is also possible to clamp and machine multiple, different workpieces at the same time.

Typical applications are milling and grinding operations.

The vacuum clamping plate is ready to use right away – all of the necessary components are included in the scope of supply.

Advantage:

- The AMF vacuum clamping plate can be operated using compressed air and the integrated Venturi nozzle, or with an external vacuum pump.
 - Cost savings through use of the Venturi nozzle
 - Low compressed air consumption, thus low operating costs
- Example: 1 m³ of compressed air costs 0.0078 €. At an average consumption of 40 l/min, this corresponds to 0.0187 €/h.
- Multiple suction points, thus flexible grid allocation and clamping of multiple parts possible
 - Vacuum plates can be combined with each other
 - High holding forces
 - Universal use
 - High coefficient of friction allows secure clamping of unmachined workpiece surfaces
 - Sealing cords compensate for small irregularities in the workpiece surface
 - Distortion-free, vibration-free five-sided machining

Note:

Operate only with dried, filtered, non-lubricated compressed air!

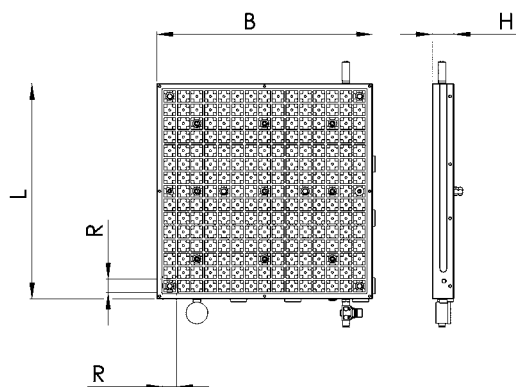
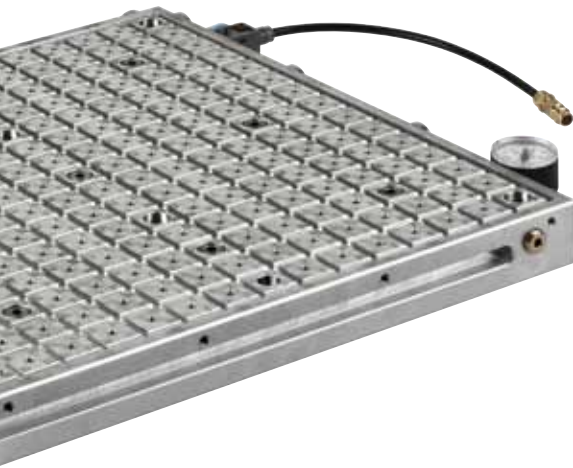
Max. suction volume against atmosphere: 21.8 l/min.

Operating pressure for max. suction volume flow: 3.5 bar.

Please observe installation manual 7800.

On request:

Special dimensions



Recommendations



No. 7800AMG,
page 10



No. 7800APA,
page 11



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page 13

CAD



Subject to technical alterations.



No. 7800AMG

Adapter mat, rubber

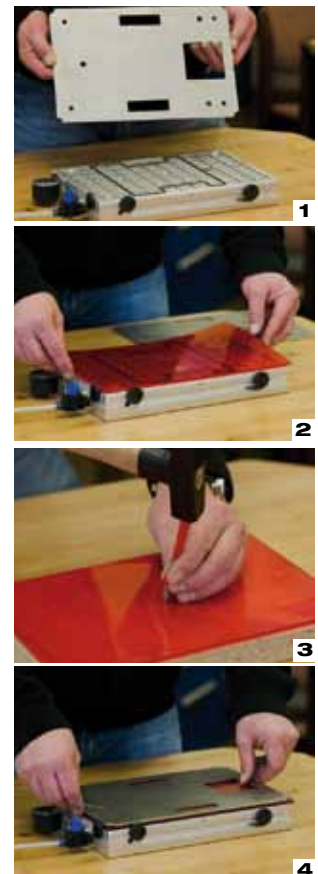
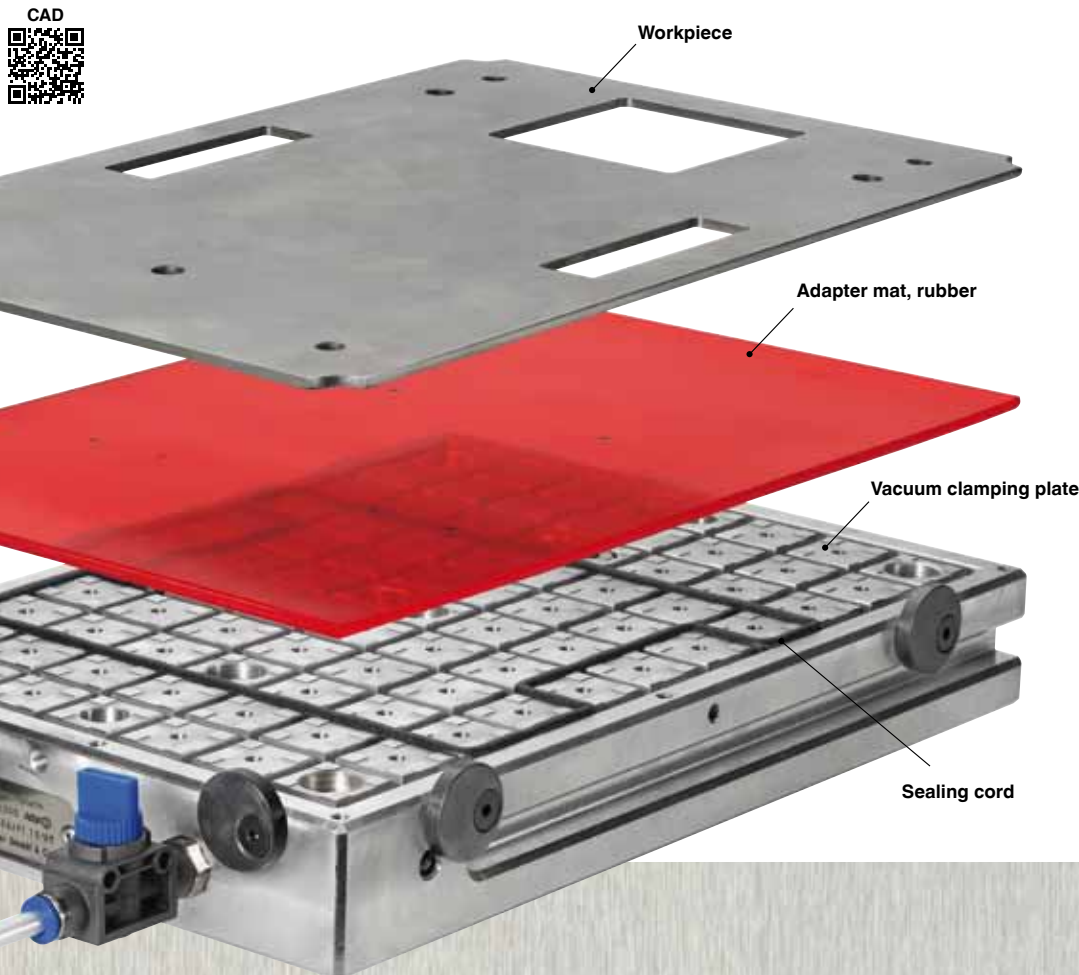
Order no.	Dimension [mm]	Material thickness ± 0.2 [mm]	Weight [g]
375485	150x150	4	110
375014	300x200	4	275
375022	300x400	4	550
375030	400x400	4	780
375048	400x600	4	1100

Application:

1. The sealing cord is placed in the grid of the vacuum clamping plate. It goes up to the end of the area to be worked on in the workpiece.
2. The adapter mat is placed onto the vacuum clamping plate.
3. Holes are made in the adapter mat within the marked clamping surface over a wood plate with a 3-5 mm diameter hole punch. The location of the holes must be in the area of the grid cuts of the vacuum clamping plate.
4. The workpiece to be worked on is placed on it and fixed using the adjustable eccentric stops.

Advantage:

- The good coefficient of friction offers especially good resistance against the displacement forces that arise during processing.
- The adapter mat can be cut into up to 2 mm deep without problem.
- If the same contours are used, the adapter mat can be reused almost any number of times, since it does not undergo wear.



Subject to technical alterations.

No. 7800APA

Adapter plate, aluminium

Order no.	Dimension [mm]	Material thickness ± 0.1 [mm]	Weight [Kg]
375097	150x150	10	0,6
374876	300x200	10	1,6
374892	300x400	10	3,3
374900	400x400	10	4,4
374918	400x600	10	6,6

Application:

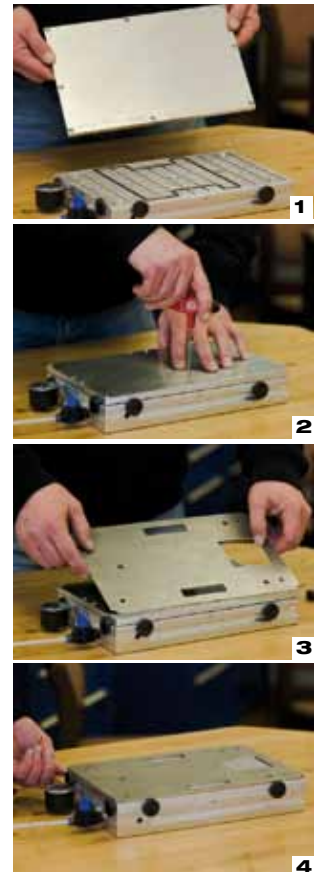
1. The sealing cord is placed in the grid of the vacuum clamping plate. It goes up to the end of the area to be worked on in the workpiece.
2. The adapter plate is screwed to the vacuum clamping plate.
3. The workpiece to be worked on is placed on it.
4. The workpiece is fixed using the adjustable eccentric stops.

Advantage:

- The adapter plate can be overcut by up to 2 mm (elimination of cuts).
- Preferred uses are for processing thin sheet metal, foils, boards and even paper.



CAD



Subject to technical alterations.

No. 7810AB

Surface-mounted block

The following are supplied as standard:

- Surface-mounted block from aluminium, grid 12.5 x 12.5 mm
- 3 eccentric stops with fixing screws
- 1 m sealing cord Ø 2.0 mm

Order no.	max. vacuum [%]	Number of suction points	L	B	H	Weight [g]
375626	93	1	78	78	40	600

Design:

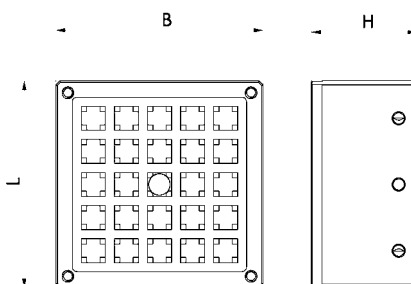
The surface-mounted block has grooves and a suction point on its upper side. The grid spacing is 12.5 mm. The field size is individually defined by inserting the sealing cord. The surface-mounted block is placed directly over a suction point on the vacuum clamping plate no. 7800. The underside is equipped with a sealing cord Ø 2.0 mm.

Application:

The use of surface-mounted blocks allows openings for finishing. Workpieces can be through-bored without the vacuum clamping plate or the component itself being damaged.

Note:

Please order sealing cord Ø 4.0 mm separately (OrderNo. 374512).



No. 7810APA

Adapter plate, aluminium

Suitable for surface-mounted block no. 7810AB.

Order no.	Dimension [mm]	Material thickness ±0.1 [mm]	Weight [g]
375634	78 x 78	10	200

Advantage:

- The adapter plate can be milled down to 2 mm (millings on both sides).
- Preferred applications are the finishing of thin sheets, foils, PCBs and even paper.



No. 7810AMG

Adapter mat, rubber

Suitable for surface-mounted block no. 7810AB.

Order no.	Dimension [mm]	Material thickness ±0.2 [mm]	Weight [g]
375642	78 x 78	4	60

Advantage:

- The good coefficient of friction offers particularly favourable resistance to the resulting displacement forces during finishing.
- Milling down to 2 mm deep in the adaptermat is no problem.
- If the same contours are always applied, the adapter mat can be reused any number of times, since they do not suffer any wear.



No. 7800VP

Rotary vane vacuum pump

Included in scope of supply:

- suction-side fine-mesh filter
- oil mist separator
- reversing valve for coarse or fine vacuum operation
- anti-vibration buffer
- initial oil fill
- without gas ballast



Order no.	Vacuum [%]	Suction performance [m³/h]	Lubrication	Motor rating [V/Hz]	Noise level [dB (A)]	Code class	Continuous operation [%]	Weight [Kg]
374991	99	15	15	230/50	59	54	100	19

Application:

If compressed air is present where the vacuum clamping plate is used, we recommend using the AMF rotary vane vacuum pump. It ensures reliable continuous operation of the clamping plates used. Due to its small design, the pump can be attached directly to your machine.

On request:

Other sizes and suction performances are available on request.

No. 7800VPF

Liquid separator

included in scope of supply:

- Water separator
- Vacuum filter
- Fastening unit
- Ball valve
- Coupling plug 1/2" external thread - 15 mm
- Plastic tube Ø 15 x 12 mm, length 2 m
- Coupler socket
- Double nipple



Order no.	Size	Connection	Flow [m³/h]	Weight [g]
374975	D100x250	3/4"	15	1610

Application:

The liquid separator effectively removes condensate (water) from the vacuum clamping system and so protects it from contamination.

Advantage:

- Removal of 99% of the contained liquid
- maintenance-free
- system's operation and maintenance costs are minimised
- easy to install (before the vacuum pump)

Note:

The set is supplied in the assembled state.

Application example:



Subject to technical alterations.

No. 7800VPE

Vacuum pump, external



Order no.	max. vacuum [%]	Max. suction volume flow [l/min.]	min. operating pressure [bar]	Vacuum connection Outside dia. [mm]	Pneum. connection Outside dia. [mm]	Weight [g]
376434	93	21,8	3,5	6	6	47

Design:

- Silencer open
- Ball valve
- Plug connection for hose

Application:

A small plastic ejector that is used to clamp suction-tight workpieces. For use in systems with external (decentralised) vacuum generation.

Advantage:

Very small design, universal use and economical.

No. 7800D

Sealing cord

Shore hardness: 8-13°.



Order no.	Groove width [mm]	dia. [mm]	Length [m]	Weight [g]
374512	4	4,0 ±0,45	10	320

Application:

The sealing cord is inserted in the groove to delimit the clamping surface.

Advantage:

Multiple workpieces can be clamped, even with different sizes.

No. 7800V

Vacuum meter



Order no.	Indicators area [bar]	dia. [mm]	Connection below	Weight [g]
374694	-1 ... 0	40	G1/8	73

No. 7800VDS

Vacuum pressure sensor with accessories

Electrical connection:

Cable with connector according to EN 60947-5-2, round design M 8x1, 4-pin, Cable length 0.3 m.

Scope of supply consists of:

- Pressure sensor
- Vacuum hose, outer Ø 4 mm, length 30 cm
- Plug connection G1/8-4



Order no.	Indicators area [bar]	Ambient temp. [°C]	Weight [g]
374520	-1 ... 0	0-50	80

Application:

The threshold values (variable: 2 x relative pressure) are set on the pressure sensor using teaching. If the vacuum pressure drops, the machine is switched off.

Advantage:

The vacuum pressure sensor serves to monitor the applied air pressure. If the pressure drops, the machine is switched off. This contributes decisively to process reliability.

No. 7800VD

Sealing ring

for vacuum meter



Order no.	Connection	Weight [g]
374561	G1/8	0,5

Application:

Sealing ring is used in installation of the vacuum meter.

No. 7800E

Eccentric stop, dia. 30 mm

Steel, blued.

Complete with flat-head screw.



CAD



Order no.	dia. [mm]	Weight [g]
374538	30	26

Advantage:

Individual adjustment to the workpiece height. The sliding forces are absorbed by the stop.

No. 7800VSD

Sound absorber

Housing and absorber insert of PE.



CAD



Order no.	Connection	Ambient temp. [°C]	Weight [g]
374579	G1/8	-10 - 60	5

Application:

Can be screwed directly into the in vacuum clamping plate.

Note:

Check sound absorber regularly for fouling.

No. 908-G1/8

Screw plug

with rubber seal



CAD



Order no.	Connection	Weight [g]
374553	G1/8	7

No. 7800VAF

Suction filter

Housing of brass, filter insert of tin bronze.



Order no.	Connection	Weight [g]
374884	G1/8	2

Application:

The suction filter is screwed into the vacuum clamping plate.

Note:

Check suction filter regularly for fouling.

No. 7800AV

Ball-Valve

manually operated.

Order no.	Connection	Hose dia. [mm]	Weight [g]
374587	G 1/8	6	40

Application:

The hand valve is screwed into the plate directly. With O-ring seal.



CAD



No. 7800VNS

Plug-in nipple for quick coupling

with cap nut DN7.2. Brass.

Order no.	Hose dia., outer [mm]	Weight [g]
374595	6	17

Advantage:

Easy connection with the pneumatic hose of the vacuum clamping plate.



No. 7800ZS

ISO 8734-4x12-A cylinder pin

Steel.

Order no.	Packaging unit [pc]	Weight [g]
374603	10	15

Application:

Easy positioning of workpieces by fastening in the holes provided in the vacuum clamping plate.

Advantage:

The sliding forces are absorbed by the stop.



No. 2800W-06

Pneumatic hose

Order no.	Hose dia. [mm]	Length [m]	Weight [g]
374611	6	10	300



No. 7800VAB

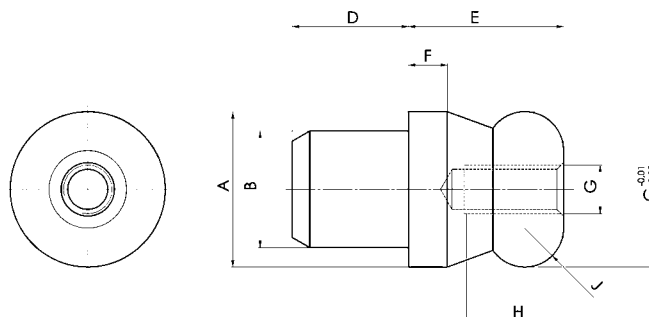
Locating pin

Steel.

Order no.	A	B	C	D	E	F	G	H	J	Weight [g]
374629	16	12	16	12	16	4	M5	10	R4	30

Advantage:

Quick, precise alignment of the fixtures being clamped.



No. 7800VSB

Diamond pin

Steel.

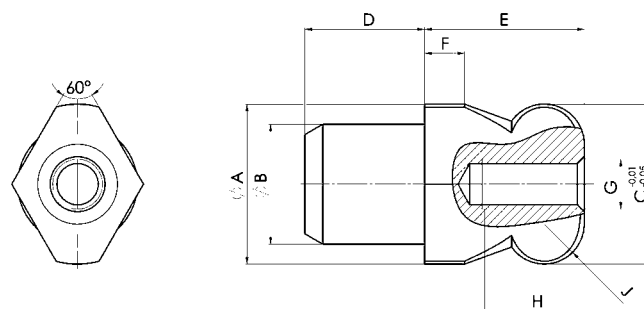
Order no.	A	B	C	D	E	F	G	H	J	K	Weight [g]
374637	16	12	16	12	16	4	M5	10	R4	4,3	23

Application:

The sword pin is used for tolerance compensation (± 0.01).

Advantage:

Quick, precise alignment of the fixtures being clamped.

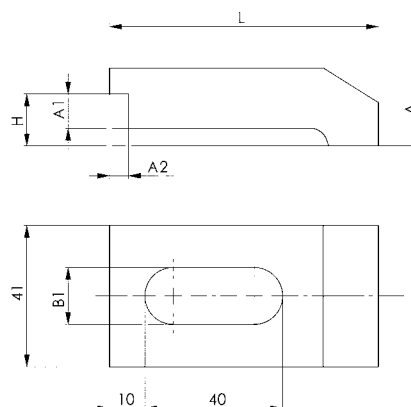


No. 6325

Clamps for machine vices

Tempering steel, blued, packaged in pairs.

Order no.	B1	L	for clamping screw metric	for clamping screw inch	for jaw width	A	A1xA2	H	Weight [g]
74682	16,5	78	M12, 14, 16	1/2, 5/8	100	22,5	10x5,5	15	685



Subject to technical alterations.

No. 6370ZN-20

Clamping nipple for clamping modules K20

Hardened, for hydraulic and pneumatic clamping modules size K20.



Order no.	Size	dia. DN	dia. D1	dia. D2	H	H1	M	T	Weight [g]
303149	K20	32,0	25	12	28	23	-	5	110
303156	K20	32,0	25	12	28	23	-	5	110
303164	K20	31,8	25	12	28	23	-	5	110

Design:

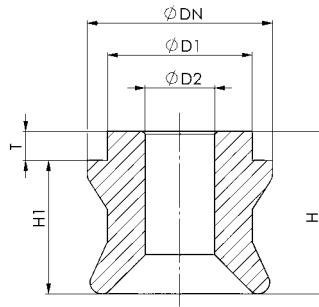
Order no. 303149: Zero point nipple

Order no. 303156: Slit nipple

Order no. 303164: Undersized nipple

Note:

The slit nipple has an additional auxiliary bore, which can be optionally used for simple installation.



CAD



No. 6370ZNS-001

Engagement nipple screw

Strength class 10.9.

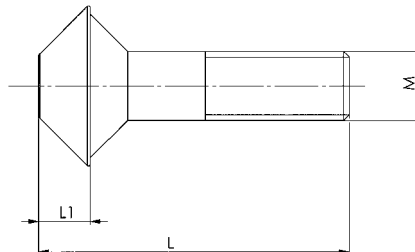
Suitable for clamping nipple, article no. 6370ZN.



Order no.	Size	M	L	L1	Weight [g]
303222	K20	M12	54	9,0	70

On request:

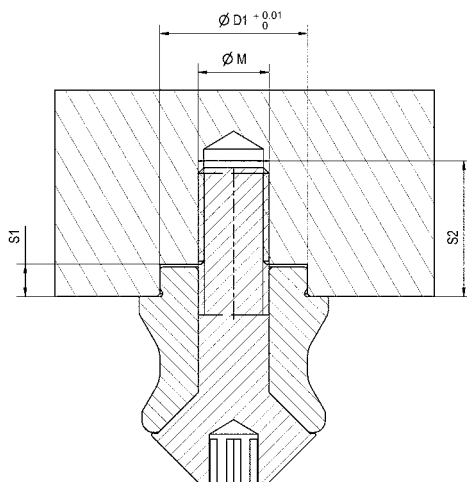
Engagement nipple screws in various lengths and materials (e.g. high-grade stainless steel).



CAD



Dimensions for machining nipple mountings



Size	ØD1	ØM	S1	S2
K20	25	M12	5,5	23

Figure:

Shown with clamping nipple and engagement nipple screw.

THE POWER CLAMP THAT KEEPS ITS PROMISES

- > **Material:** Robust clamping element made of alloyed tempered and forged steel
- > **Applications:** All clamping tasks in cutting and non-cutting finishing operations.
- > **Features:**
 - > Clamping force of up to 25 kN
 - > Two joints for minimal wear
 - > Chip-deflecting design
 - > Simple installation in T-slots or on grid plates

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 25 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.

- > Robust and powerful but easy to use - the power clamp that keeps its promises.



No. 7500K

Power Clamp for injection moulding

Complete with mounting.

Robust clamping element made of alloyed tempered steel, forged, for variable clamping heights, with sliding base element.

Components:

- Base element
- Carrier element



Order no.	Size	max. load [kN]	G	H min.	H max.	Weight [g]
372961	16	16	M12	11	48	1240
373894	25	25	M12	0	63	2943
373902	25	25	M16	0	63	2922

Application:

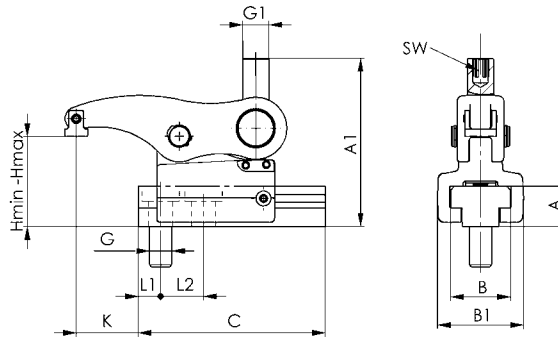
1. Position and fasten carrier element on the tool plate.
2. Push the base element into the desired position on the carrier table. After this is done, it is ready for operation.
3. Adjust the height of the clamping arm with the adjusting bolt and clamp the tool.
4. The very robust design enables quick and easy clamping.

Advantage:

- max. load 16 kN / 25 kN
- Two joints for minimal wear
- Use on tool plates with T-grooves and pitch
- Low installation height provided by adjusting bolt with hexagon socket

Note:

To reduce wear to the adjusting bolt, we recommend using AMF screw compound No. 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.



Recommendations



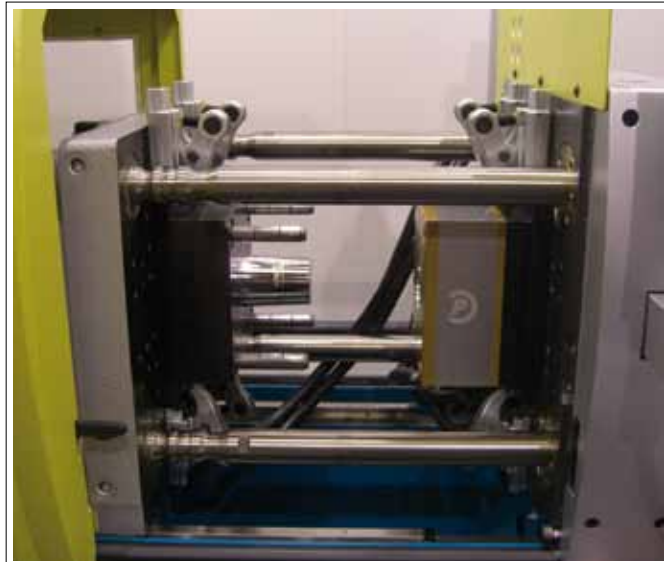
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No. 7500SP,
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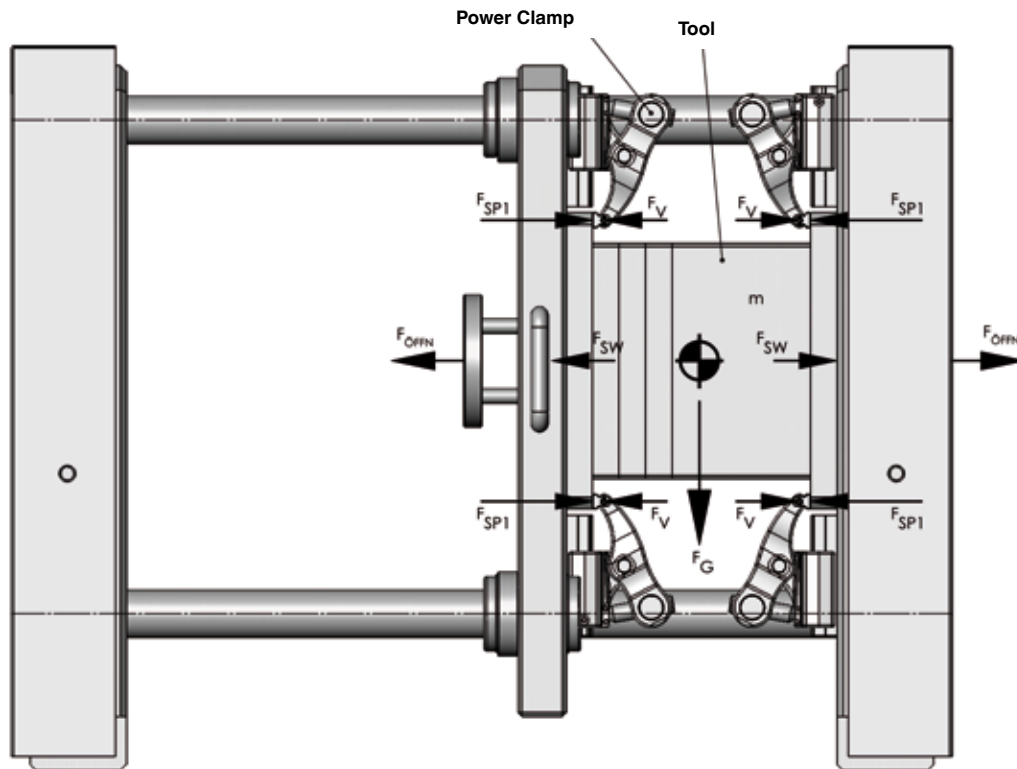
Dimensions:

Order no.	Size	A	A1	B	B1	C	G1	K	L1	L2	SW
372961	16	21,5	90	32	46	100	M14	8-43	12	23	8
373894	25	32,0	125	40	54	135	M16	32-97	16	25	8
373902	25	32,0	125	40	54	135	M16	32-97	20	30	8



Subject to technical alterations.

Reference formulae for the number of power clamps on injection moulding machines



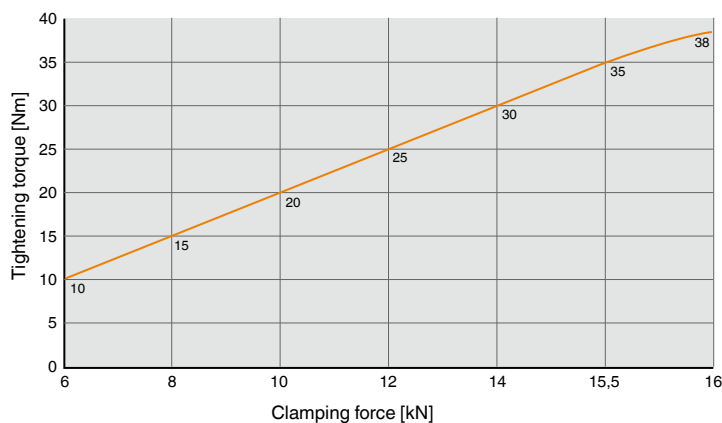
Legend:

- F_G = Weight [kN]
- F_{SW} = Required tool clamping force on basis of tool weight [kN]
- F_{SP} = Max. load of power clamp [kN] (see no. 7500K)
- F_{SP1} = Difference between F_{SP} and F_V [kN]
- F_V = Pre-tensioning force of power clamp [kN]
- F_{OFFN} = Opening force of injection moulding machines [kN] (see datasheet on injection moulding machine)
- g = Acceleration (9.81 m/s²)
- m = Tool mass [kg]
- $n1$ = No. of power clamps required on basis of tool weight
- $n2$ = No. of power clamps required on basis of opening force
- μ = Friction coefficient (~0.14)

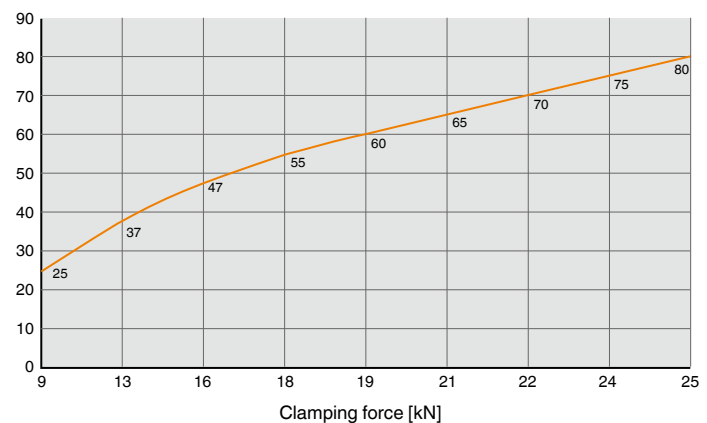
Reference formulae:

1. Calculation of weight [kN]: $F_G = \frac{m \times g}{1000}$
2. Calculation of tool force [kN]: $F_{SW} = \frac{F_G}{\mu}$
3. No. of power clamps required on basis of tool weight: $n1 = \frac{F_{SW}}{F_{SP1}}$
4. No. of power clamps required on basis of opening force: $n2 = \frac{F_{OFFN}}{F_{SP1}}$
5. Result = comparison between $n1$ and $n2$
Use the larger number per tool page

Torque/force path no. 7500S-16



no. 7500S-25



No. 7500S

Power Clamp, sliding

complete with mounting.

Robust clamping element made of alloyed tempered steel, forged, for variable clamping heights, with sliding base element.

Components:

- Base element
- Carrier element
- Thrust piece with smooth surface
- Mounting kit No. 7500BF

Order no.	Size = clamping force [kN]	G	Slot	H min.	H max.	Weight [g]
372854	16	M12	14	11	48	1340
372888	16	M12	16	15	52	1475
372896	16	M12	18	15	52	1512
74096	25	M12	14	0	63	3016
74104	25	M12	16	0	63	3042
75762	25	M16	18	0	63	3360
75838	25	M16	20	0	63	3420
75846	25	M16	22	0	63	3480
75853	25	M16	24	0	63	3580
75861	25	M16	28	0	63	3700

Application:

1. Position and fasten carrier element on the tool table.
2. Push the base element into the desired position on the carrier element. After this is done, it is ready for operation.
3. Adjust the height of the clamping arm with the adjusting bolt and clamp the workpiece.
4. The very robust design enables quick and easy clamping.

Advantage:

- Up to 16 kN / 25 kN clamping force
- Two joints for minimal wear
- Chip-deflecting design
- 14 - 28 mm T-grooves or M12 and M16 grid pallets
- 4 thrust-piece variants
- Variable clamping height, 0 - 180 mm

Note:

When size 16 and size 25 are employed and the Power Clamp is inserted parallel to the groove, mounting kit no. 7500BF must be used with the base element for grooves size 18 or greater. To reduce wear to the adjusting bolt, we recommend using AMF screw compound No. 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.

Recommendations



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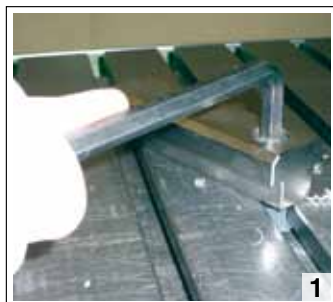
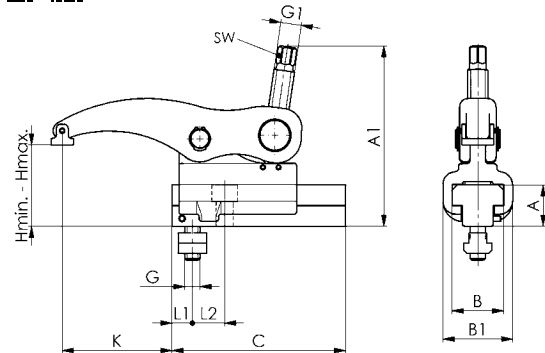
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No. 7500BZ,
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Dimensions:

Order no.	Size	A	A1	B	B1	C	G1	K	L1	L2	SW
372854	16	21,5	105	32	46	100	M14	8-43	12	23	10
372888	16	21,5	105	32	46	100	M14	8-43	12	23	10
372896	16	21,5	105	32	46	100	M14	8-43	12	23	10
74096	25	32,0	135	40	54	135	M16	32-97	16	25	13
74104	25	32,0	135	40	54	135	M16	32-97	16	25	13
75762	25	32,0	135	40	54	135	M16	32-97	20	30	13
75838	25	32,0	135	40	54	135	M16	32-97	20	30	13
75846	25	32,0	135	40	54	135	M16	32-97	20	30	13
75853	25	32,0	135	40	54	135	M16	32-97	20	30	13
75861	25	32,0	135	40	54	135	M16	32-97	20	30	13



Subject to technical alterations.

No. 7500E

Power Clamp with Spacer element, sliding

complete with mounting.

Clamping force 25 kN.

Robust clamping unit made of alloyed tempered steel, forged, for variable clamping heights, with sliding base element.

Components:

- Base element
- Spacer element
- Thrust piece with smooth surface
- Mounting kit No. 7500BZ



Recommendations



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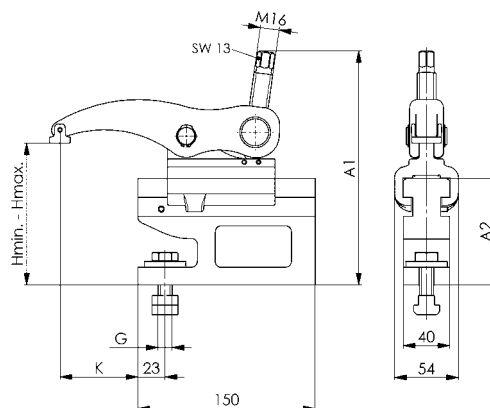


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Order no.	G	Slot	H min.	H max.	A1	A2	K	Weight [g]
75937	M12	14	60	120	198	90	32-84	4580
75945	M12	16	60	120	198	90	32-84	4600
76463	M16	18	60	120	198	90	32-84	4700
76471	M16	20	60	120	198	90	32-84	4760
76489	M16	22	60	120	198	90	32-84	4820
76851	M16	24	60	120	198	90	32-84	4920
76877	M16	28	60	120	198	90	32-84	5050
76406	M12	14	120	180	258	150	32-84	6040
76422	M12	16	120	180	258	150	32-84	6065
76919	M16	18	120	180	258	150	32-84	6160
76901	M16	20	120	180	258	150	32-84	6220
76927	M16	22	120	180	258	150	32-84	6280
77495	M16	24	120	180	258	150	32-84	6380
77503	M16	28	120	180	258	150	32-84	6500

Application:

1. Position and secure the spacer element on the tool table.
2. Push the base element (base body and clamping arm) into the desired position on the spacer element. It is then ready for operation.
3. Adjust the height of the clamping arm with the adjusting bolt and clamp the workpiece.
4. The very robust design facilitates a quick and easy clamping.



No. 7500G

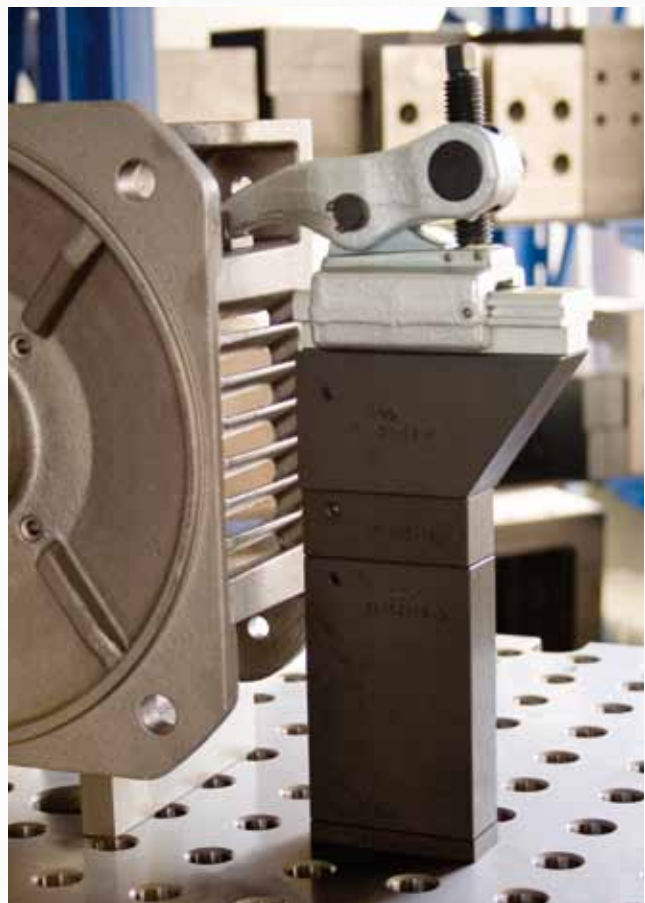
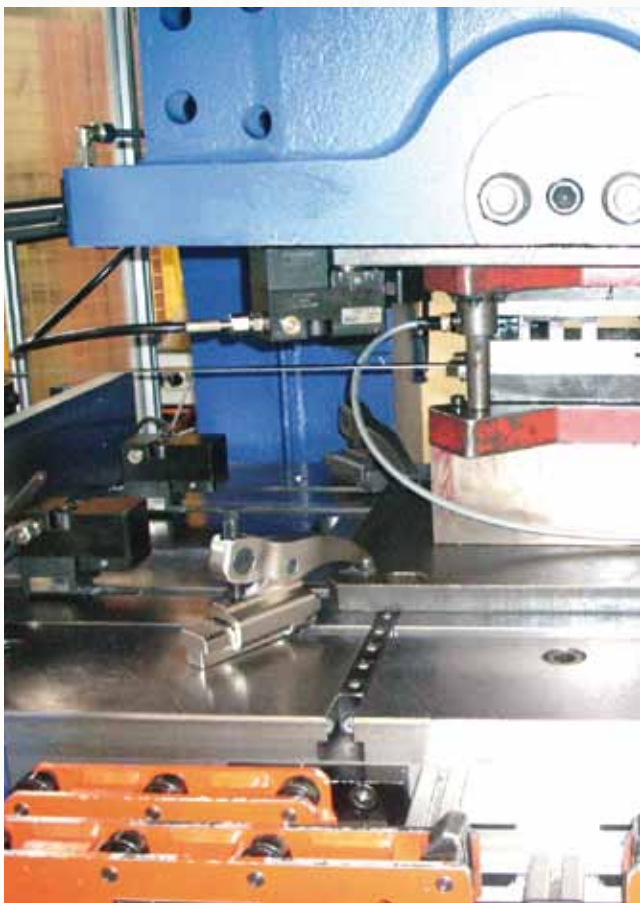
Base Element

with hexagon head or socket.

Tempered steel, hardened.



Order no.	Size = clamping force [kN]	Slot	SW outside	SW inside	Weight [g]
372912	16	14-18	10	-	885
372920	16	14-18	-	8	868
74872	25	14-28	13	-	1960
76604	25	14-28	-	8	1940



Subject to technical alterations.

No. 7500F

Foot element

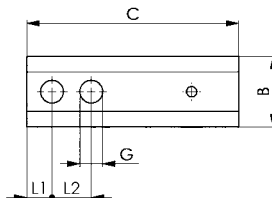
Complete with mounting screw.

Tempered steel, hardened. Recommended use: groove size 16 and greater for size 16; groove size 25 and greater for size 18.

Order no.	Size = clamping force [kN]	G	Slot	H min.	H max.	A	B	C	L1	L2	Weight [g]
372904	16	M12	14-18	15	52	5	35	100	12	23	115
74153	25	M12	14-18	3	69	8	45	135	16	25	314
74161	25	M16	18-28	3	69	8	45	135	20	30	304

Note:

Mounting kits no. 7500BZ, comprising cylinder-head bolt of grade 12.9 and T-groove key DIN 508, are not included in pack.

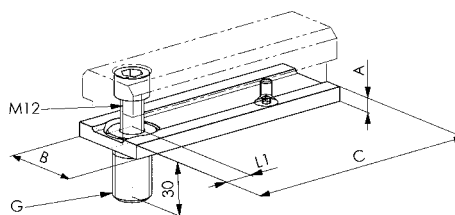


No. 7500A

Adapter element

for M18, M20 and M24 positioning holes. Tempered steel, hardened. Consists of spacer plate, adapter screw and cylinder screw ISO 4762-M12.

Order no.	Size = clamping force [kN]	G	H min.	H max.	A	B	C	L1	Weight [g]
79715	25	M18	3	69	8	45	135	16	425
79723	25	M20	3	69	8	45	135	16	440
79727	25	M24	3	69	8	45	135	16	472



No. 7110M-**-2

Adapter element

for Block Clamping System no. 7110.

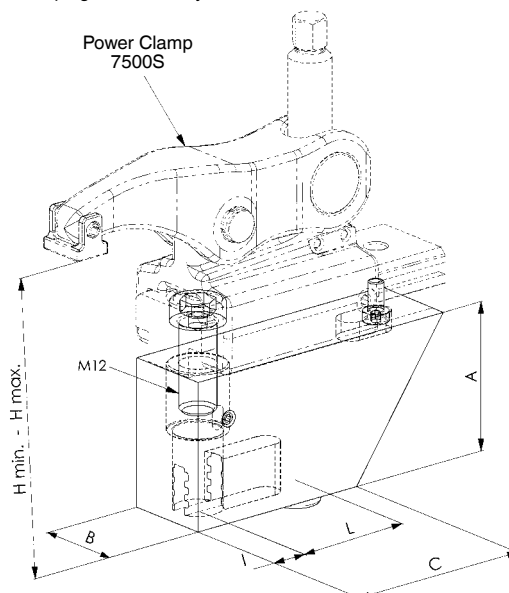
Order no.	Size	Suitable for power clamps, large	A	B	C	I	L	H min.	H max.	Weight [g]
77800	12	16	50	30	65	12,5	40	61	98	935
77909	16	25	50	30	80	16,0	49	50	113	1230

Application:

Through the combined use of the adapter element with Power Clamp No. 7500 and Block Clamping System No. 7110, large clamping heights can be achieved.

Note:

Additional elements of the AMF Block Clamping System can be found in our AMF catalogue „Clamping and fixture systems“.



No. 7500T

Carrier

Tempering steel, hardened.

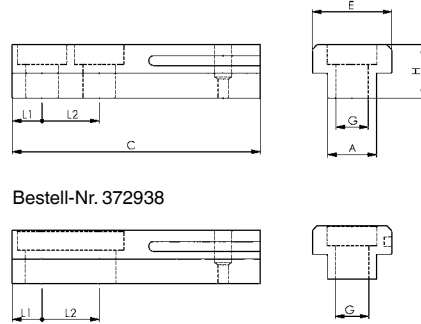
Order no.	Size = clamping force [kN]	G	Slot	A	C	E	H	L1	L2	Weight [g]
372870	16	M12	14-18	20	100	32	21,5	12	23	364
372938	16	M12	14-18	20	100	32	21,5	12	23	335
74138	25	M12	14-18	24	135	40	32,0	16	25	946
74146	25	M16	18	24	135	40	32,0	20	30	885

Note:

Mounting kits no. 7500BZ, comprising cylinder-head bolt of grade 12.9 and T-groove key DIN 508, are not included in pack.



Order no. 372938



CAD



No. 7500Z

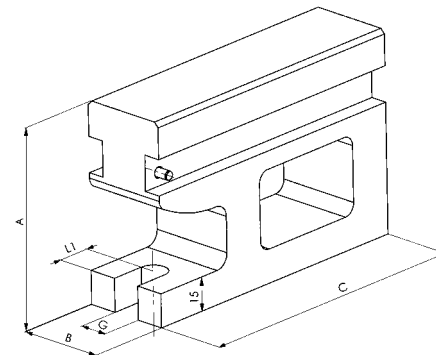
Spacer element

Tempering steel, hardened.

Order no.	Size = clamping force [kN]	G	Slot	H min.	H max.	A	B	C	L1	Weight [g]
74120	25	M12	14-18	60	120	90	40	150	23	2520
74484	25	M16	18-28	60	120	90	40	150	23	2520
74476	25	M12	14-18	120	180	150	40	150	23	4020
74492	25	M16	18-28	120	180	150	40	150	23	4020

Note:

Mounting kits no. 7500BZ, comprising hexagonal bolt ISO 4017-12.9, washer DIN 6340 and T-groove key DIN 508, are not included in pack.



CAD



No. 7500D

Pressure pad

complete with dowel pin.
Stainless steel.

7500DG smooth contact surface,
7500DR wavy contact surface,
7500DL contact surface for cyl. workpieces, lengthwise,
7500DQ contact surface for cyl. workpieces, transverse.

Order no.	Size = clamping force [kN]	Form	A	B	C	Weight [g]
372862	16	DG	14	17	12,5	9,0
74419	25	DG	16	25	17,5	19,5
74427	25	DR	16	25	17,5	17,8
74435	25	DL	19	25	17,5	24,5
74443	25	DQ	19	25	17,5	25,0



Order no. 372862 / 74419



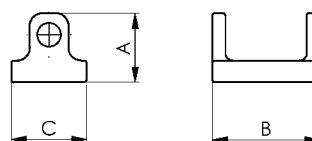
Order no. 74427



Order no. 74435



Order no. 74443



CAD

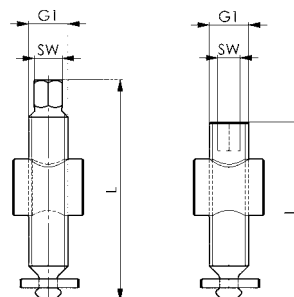


Subject to technical alterations.

No. 7500SP

Clamping Bolt Set

Hex head or socket, consisting of ball-thrust bolt, supporting bolt and 2 pins. Tempering steel, hardened.

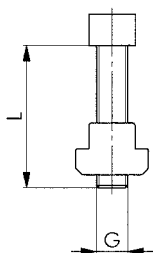


Order no.	Size = clamping force [kN]	G1	L	SW outside	SW inside	Weight [g]
372946	16	M14	78	10	-	126
372953	16	M14	63	-	8	110
75408	25	M16	100	13	-	220
78121	25	M16	85	-	8	200

No. 7500BF

Mounting kit for carrier element

comprising hexagonal bolt grade 12.9 and T-groove key DIN 508.

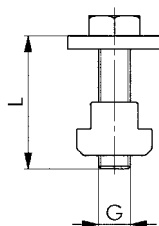


Order no.	Size = clamping force [kN]	G	Slot	L	for 7500S	for 7500S+7500F	Weight [g]
372979	16	M12	14	35	●	-	81
372987	16	M12	16	40	-	●	107
372995	16	M12	18	45	-	●	138
79590	25	M12	14	45	●	-	98
79608	25	M12	14	50	-	●	100
79616	25	M12	16	45	●	-	118
79624	25	M12	16	50	-	●	122
79632	25	M12	18	45	●	-	145
75747	25	M12	18	55	-	●	153
79640	25	M16	18	50	●	-	182
79657	25	M16	18	55	-	●	190
79665	25	M16	20	55	●	-	240
79673	25	M16	20	60	-	●	250
79681	25	M16	22	55	●	-	298
79699	25	M16	22	65	-	●	312
79707	25	M16	24	60	●	-	400
75671	25	M16	24	65	-	●	405
75689	25	M16	28	70	●	●	537

No. 7500BZ

Mounting kit for intermediate element

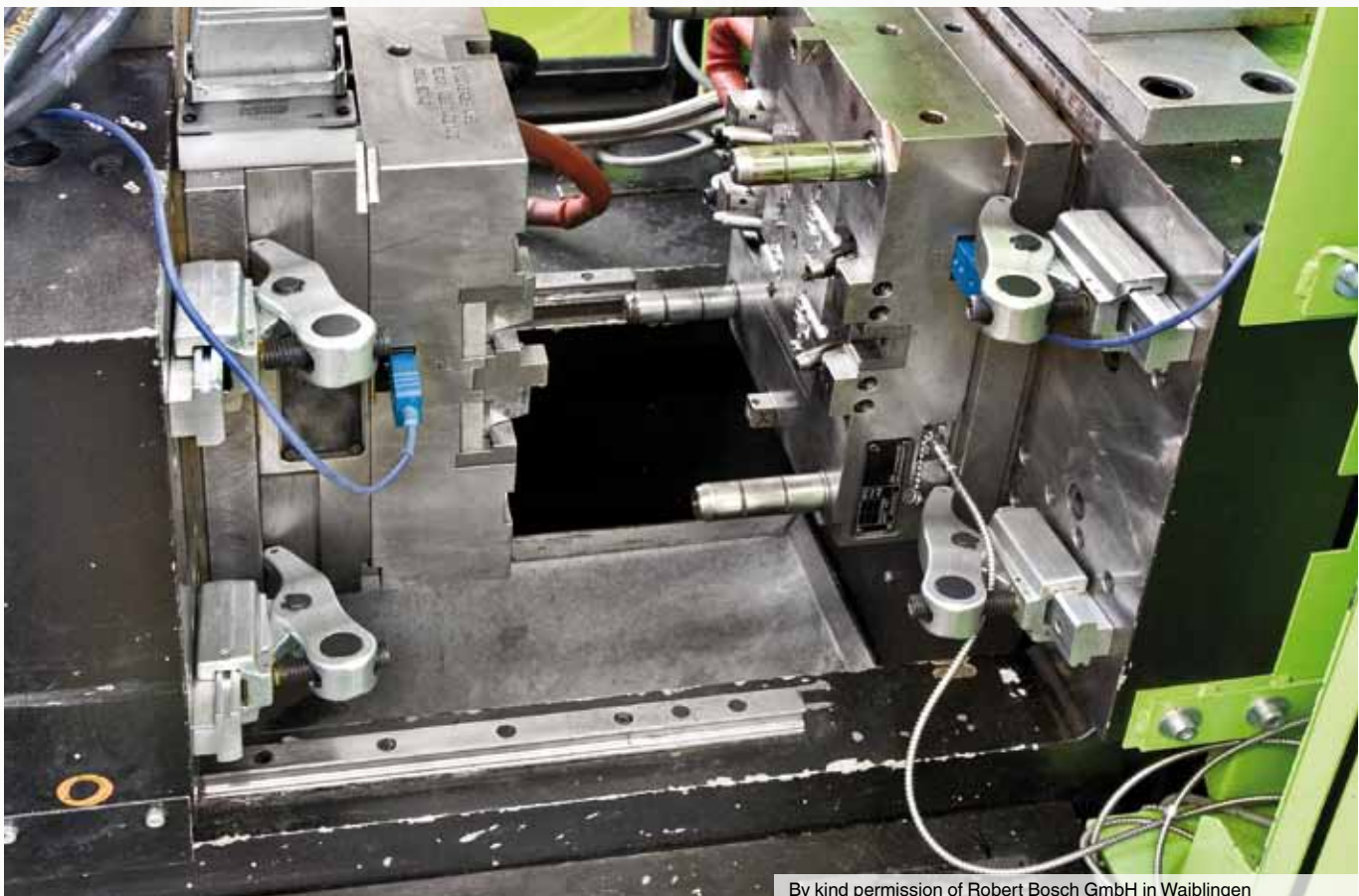
comprising hexagonal bolt ISO 4017-12.9, washer DIN 6340 and T-groove key DIN 508.



Order no.	Size = clamping force [kN]	G	Slot	L	Weight [g]
75036	25	M12	14	45	130
75044	25	M12	16	50	154
75069	25	M12	18	50	180
75077	25	M16	18	55	265
75127	25	M16	20	60	322
75390	25	M16	22	60	380
75697	25	M16	24	65	482
75739	25	M16	28	70	612



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By kind permission of Robert Bosch GmbH in Waiblingen

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.

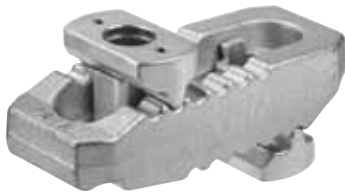
The Advantages of these adjustable clamps are their universal application abilities for single parts up to medium series production with changing clamping dimensions. They allow simple and fast horizontal and vertical application, are interchangeable and price worthy. Their compact design ensures high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



No. 6312V

„Crocodile“ clamp with counterholder, adjustable

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



Order no.	B1	Slot	Clamping force max.* [kN]	H1	Weight [g]
79756	13	10, 12, 14	30	0-55	661
79798	17	12, 14, 16, 18	40	0-70	1494
79855	21	16, 18, 20, 22	60	0-80	2252
79913	25	20, 22, 24, 28	75	0-100	3635
376475	25	20, 22, 24, 28	75	0-100	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 is used for all clamping tasks over T-grooves and Nuten und threaded holes. The compression piece and the counterholder are connected undetachably to the clamping shoe, and so the crocodile can be used quickly. The clamping plate is equipped with two clamping surfaces and can be easily turned depending on use. As a result, all non-cutting and cutting processing types (e.g. injection moulding and presses) are covered.

Advantage:

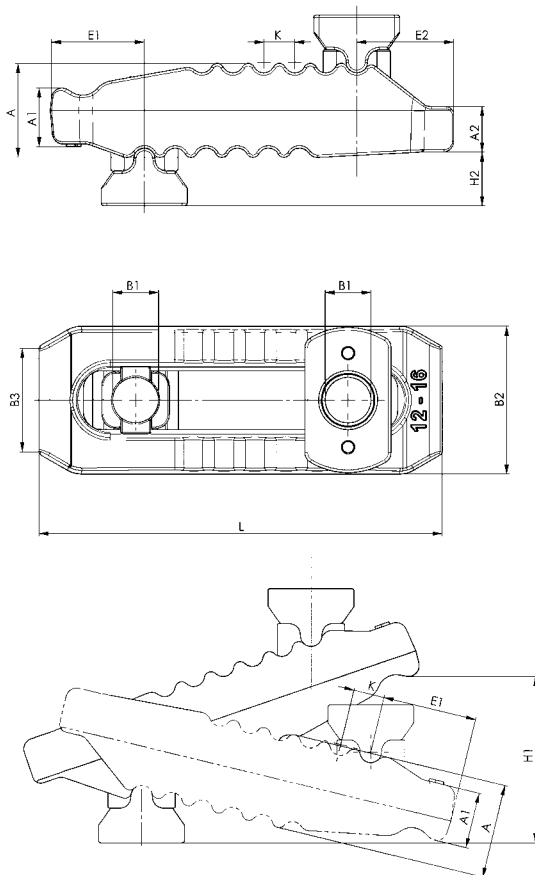
- Possibility of variable and quick adjustment at a distance from the workpiece
- Use in all areas of cutting and non-cutting processing
- Especially suitable for use on injection moulding machines and presses
- No additional supports to achieve the required clamping height
- Compression piece and counterholder are connected undetachably to the clamping shoe
- The crocodile clamping element can be variably expanded for every clamping height.

Note:

Your choice of tensioning screws DIN 787, stud screws DIN 6379 and the cylinder screws DIN 912 can be used for clamping. Greater clamping heights can be achieved through use of the support extension no. 6312S.

Dimensions:

Order no.	A	A1	A2	B2 x L	B3	E1	E2	H2	K
79756	27	17	12	44x115	30	25	30	18	11
79798	36	21	17	55x150	41	35	36	20	12
79855	42	27	20	62x187	30	44	44	30	14
79913	51	34	24	70x235	30	60	47	31	17
376475	56	35	24	73x285	30	62	51	35	17



Recommendations



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CAD

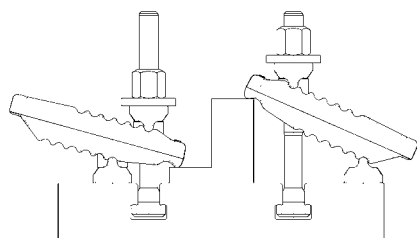
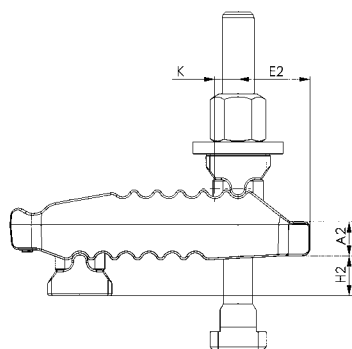
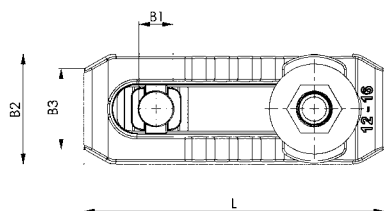
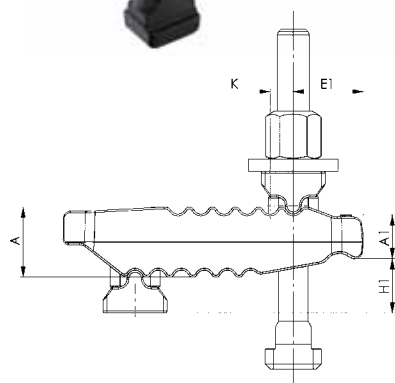


Subject to technical alterations.

No. 6312V

„Crocodile“ clamp with counterholder, adjustable

complete 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 is used for all clamping tasks over T-grooves and Nuten und threaded holes. The compression piece and the counterholder are connected undetachably to the clamping shoe, and so the crocodile can be used quickly. The clamping plate is equipped with two clamping surfaces and can be easily turned depending on use. As a result, all non-cutting and cutting processing types (e.g. injection moulding and presses) are covered.

Advantage:

- Possibility of variable and quick adjustment at a distance from the workpiece
- Use in all areas of cutting and non-cutting processing
- Especially suitable for use on injection moulding machines and presses
- No additional supports to achieve the required clamping height
- Compression piece and counterholder are connected undetachably to the clamping shoe
- The crocodile clamping element can be variably expanded 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



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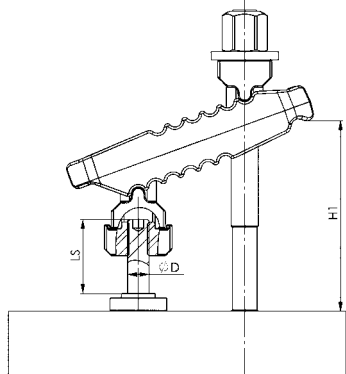
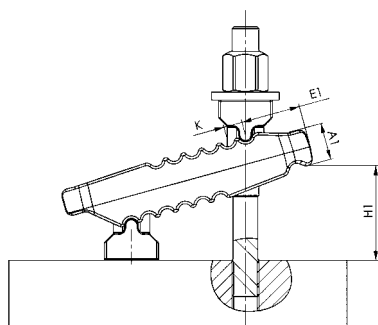
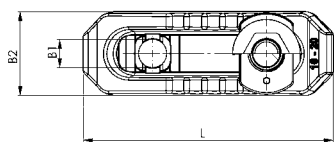
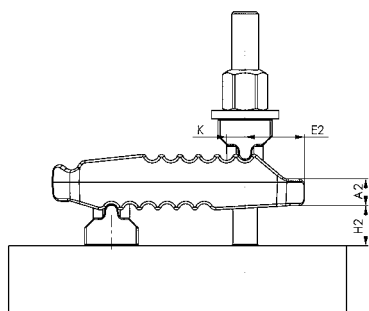


Subject to technical alterations.

No. 6312V

„Crocodile“ clamp with counterholder, adjustable

complete 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 is used for all clamping tasks over T-grooves and Nuten und threaded holes. The compression piece and the counterholder are connected undetachably to the clamping shoe, and so the crocodile can be used quickly. The clamping plate is equipped with two clamping surfaces and can be easily turned depending on use. As a result, all non-cutting and cutting processing types (e.g. injection moulding and presses) are covered.

Advantage:

- Possibility of variable and quick adjustment at a distance from the workpiece
- Use in all areas of cutting and non-cutting processing
- Especially suitable for use on injection moulding machines and presses
- No additional supports to achieve the required clamping height
- Compression piece and counterholder are connected undetachably to the clamping shoe
- The crocodile clamping element can be variably expanded 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



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page 96



CAD

Subject to technical alterations.

No. 6312VI

„Crocodile“ clamp with counterholder, adjustable

complete with stud bolt No. 6379I, washer DIN 6340 and nut DIN 6330B. Infinitely adjustable, tempered, galvanised with captive compression 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

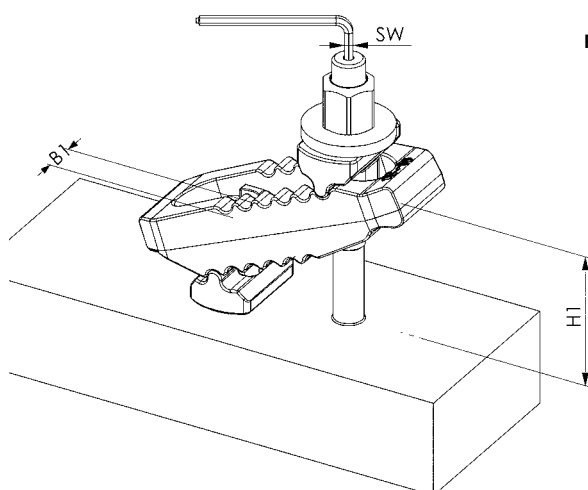
* Specified clamping forces in optimal clamping position (smallest distance from the clamping screw to the clamping point). Clamping forces can vary depending clamping, strength class of the clamping screw and condition of the thread (lubrication).

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



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Subject to technical alterations.

No. 6312S

Support extension

Hardened and zinc-plated steel, hardened support screw, strength class 8.8. Consisting of compression piece, support screw and fastening bolts.



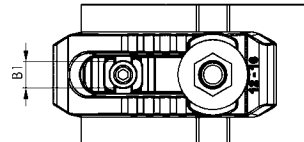
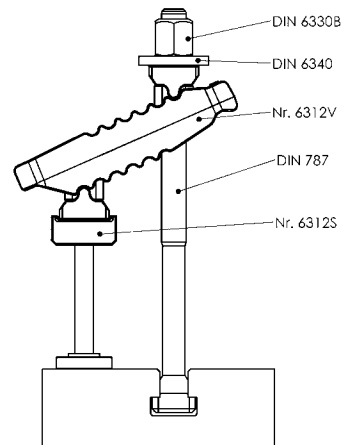
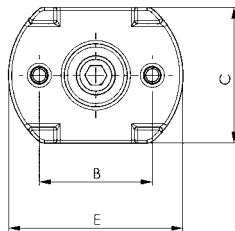
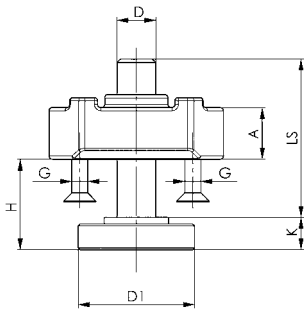
Order no.	D x LS	A	B	B1	C	D1	E	G	H	K	Weight [g]
79772	M10x39	10	30	13	30	30	44	M5	8-30	8	197
79814	M12x49	16	35	17	42	36	54	M5	10-37	10	433
79830	M12x94	16	35	17	42	36	54	M5	10-80	10	473
79871	M16x55	20	40	21	50	42	60	M5	13-41	13	608
79897	M16x90	20	40	21	50	42	60	M5	13-73	13	640
79749	M20x69	25	50	25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

Application:

The support extension is screwed to the counterholder of the crocodile to increase the clamping height.

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 (order table P. 30)

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

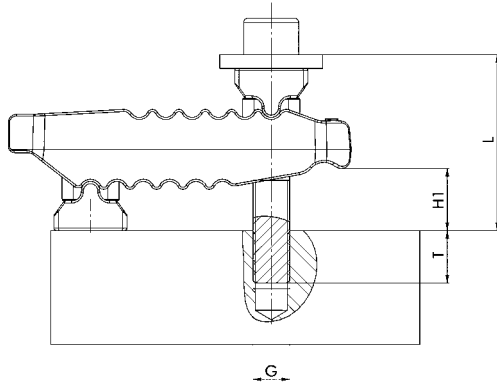
2) For a clamping height of 125 mm, support extension no. 6312S is used (table p. 35, bottom)

B1 = 17 ► groove 18 ► clamping height 125 mm ((clamping range 26-166 mm) ► DxLS = M12x94
► Support extension order no. 79830 (table S. 34)

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

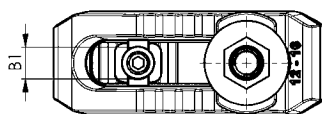
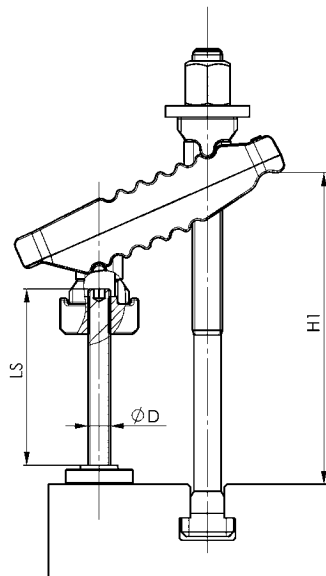
M16x18x250 ► order no. 81042

Installation recommendations and dimensions when using the clamping bolt DIN 912 (without support extension 6312S)



B1	Dimensions DIN 912 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)

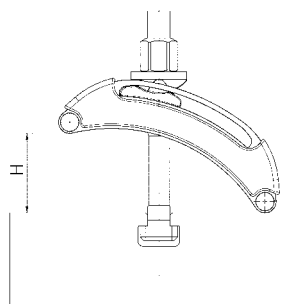
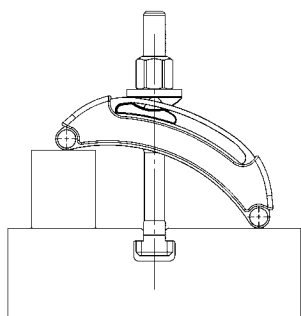
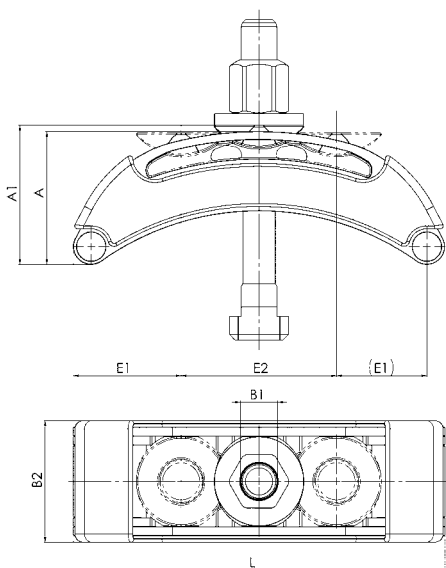


B1	D x LS	Dimensions DIN 787	Clamping range H1
13	M10x39	M10x10x100	18-31
13	M10x39	M12x12x160	18-95
13	M10x39	M12x14x160	18-95
17	M12x49	M12x12x200	26-123
17	M12x49	M12x14x200	26-123
17	M12x49	M16x16x200	26-123
17	M12x49	M16x18x200	26-123
17	M12x94	M12x12x200	26-120
17	M12x94	M12x14x200	26-120
17	M12x94	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

Clamps with plastic cap

with captive compression piece



Order no.	B1	Slot	Clamping bolt DIN 787	for clamping screw metric	for clamping screw inch	Weight [g]
376863	11	10	-	M10	3/8	257
376889	14	12+14	-	M12 M14	1/2	708
376905	18	16+18	-	M16 M18	5/8	1235
376921	22	20+22	-	M20 M22	3/4	1880
376947	26	24+28	-	M22 M24	3/4 1	2799
376555	11	10	M10x10x80	M10	3/8	349
376871	14	12	M12x12x100	M12	1/2	886
376897	14	14	M12x14x125	M12	1/2	905
376913	18	16	M16x16x160	M16	5/8	1648
376939	18	18	M16x18x160	M16	5/8	1668

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 shim cannot be detached from the clamp.

Note:

For clamping, either clamping screws DIN 787, stud bolts DIN 6379 and cheese head screws DIN 912 can be used.

Dimensions:

Order no.	L	H1	A	A1	B2	E1	E2
376863	80	0-15	30,5	32,0	44	30	19
376889	125	0-33	47,0	49,5	57	37	51
376905	160	0-45	58,5	62,0	67	49	63
376921	200	0-65	71,5	75,0	72	58	83
376947	250	0-85	89,5	94,0	82	74	102
376555	80	0-15	30,5	32,0	44	30	19
376871	125	0-33	47,0	49,5	57	37	51
376897	125	0-33	47,0	49,5	57	37	51
376913	160	0-45	58,5	62,0	67	49	63
376939	160	0-45	58,5	62,0	67	49	63

Recommendations



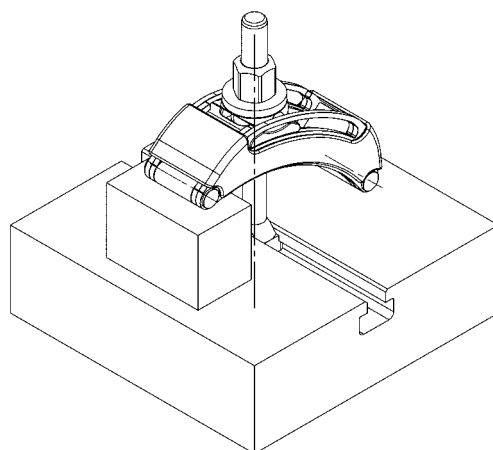
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CAD



Subject to technical alterations.

No. 6311

Clamps, lightweight



Order no.	B1	Groove DIN 508	Clamping bolt DIN 787	for clamping screw metric	for clamping screw inch	Weight [g]
376962	22	20, 22, 24, 28	-	M20 M22	3/4	1289
377002	26	24, 28, 30, 36	-	M24	1	1630
377044	33	36, 42	-	M30	1 1/4	4522
377069	43	42, 48	-	M36 M42	1 1/2	9709
376731	22	20	M20x20x160	M20 M22	3/4	2434
376756	22	20	M20x20x200	M20 M22	1	2531
376772	26	24	M24x28x200	M24	1	3779
376798	26	24	M24x28x250	M24	1 1/4	3884
376814	33	36	M30x36x315	M30	1 1/4	9044
376830	43	48	M36x42x400	M36 M42	1 1/2	17560

Application:

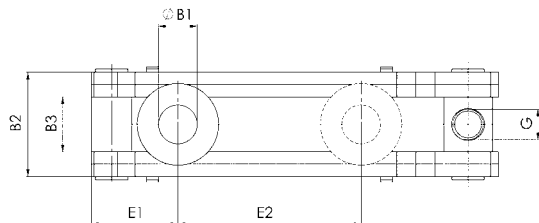
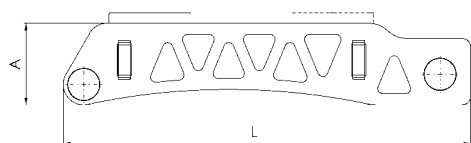
The clamp is used for all clamping tasks in which clamping is effected via T-grooves, grooves and threaded bores.

Advantage:

The significant weight-saving achieved by the lightweight design means this clamp can be used for rotating clamping tasks, in addition to all other clamping tasks. Variable and fast adjustment option at a distance from the workpiece. No additional clamping supports are needed to reach the required clamping height. The shim cannot be detached from the clamp.

Note:

For clamping, either clamping screws DIN 787, stud bolts DIN 6379 and cheese head screws DIN 912 can be used.

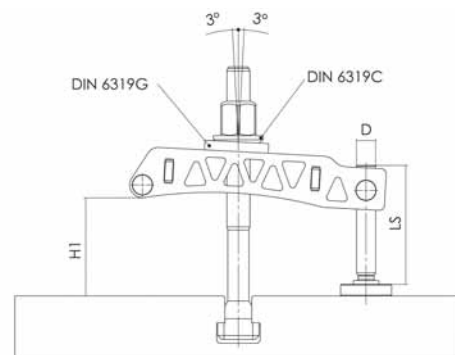
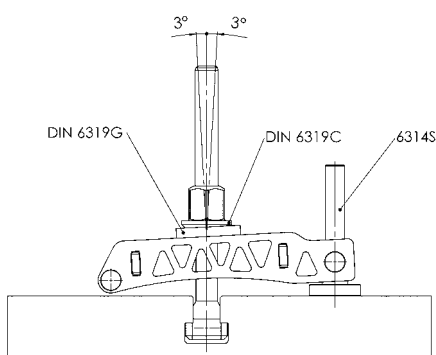
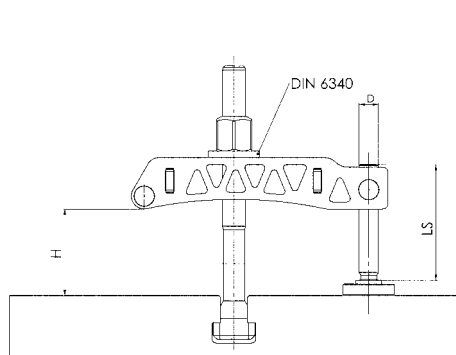
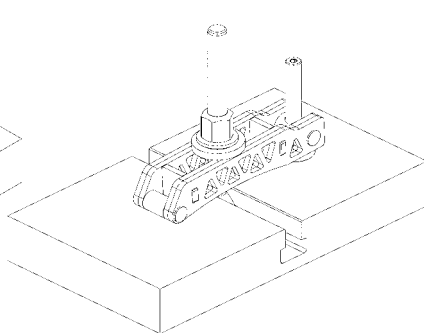
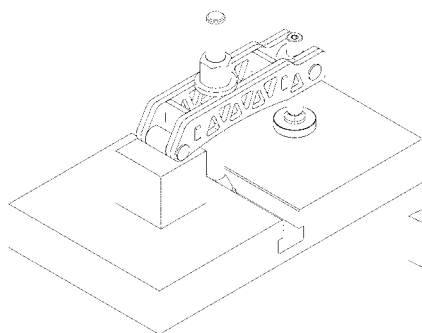


Recommendations



Dimensions:

Order no.	L	H	H1	A	B2	B3	E1	E2	G	G
376962	200	-	-	44	49	25	43	89	M20	-
377002	250	-	-	44	54	30	46	116	M24	-
377044	315	-	-	71	72	40	59	152	M30	-
377069	400	-	-	80	102	54	74	209	M30	-
376731	200	16-49	8-58	44	49	25	43	89	M20	M20x69
376756	200	16-89,5	8-98	44	49	25	44	89	M20	M20x109
376772	250	20-69	10-81	44	54	30	46	116	M24	M24x87
376798	250	20-120	10-130	44	54	30	59	116	M24	M24x137
376814	315	18-142	7-214	71	72	40	59	152	M30	M30x180
376830	400	18-135	7-153	80	102	54	74	209	M30	M30x180



Subject to technical alterations.

DIN 6314

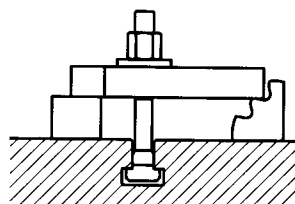
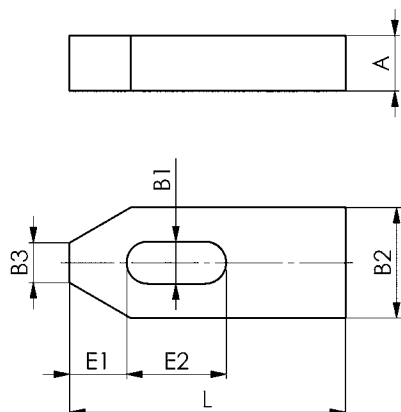
Plain clamp

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	60	100	43	100	150	15000

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CAD



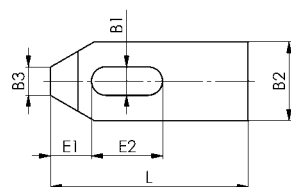
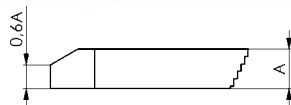
Subject to technical alterations.

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



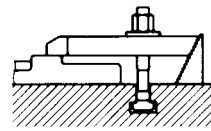
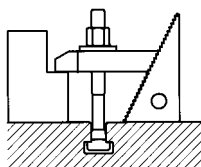
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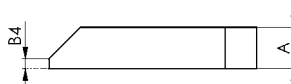
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DIN 6315B

Forked clamp tapered

Tempering steel, varnished.



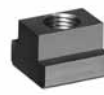
Order no.	B1	L	for clamping screw metric	for clamping screw inch	A	B2	B3	B4	Weight [g]
70466	6,6	60	M6	1/4	12	19	6	3	60
70474	9	80	M8	5/16	15	25	8	4	140
70482	11	100	M10	3/8	20	31	10	5	300
70490	14	125	M12 M14	1/2	25	38	12	6	570
70508	14	160	M12 M14	1/2	25	38	12	6	730
70516	14	200	M12 M14	1/2	25	38	12	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	80	123	40	12	29600

() DIN extended.

Recommendations



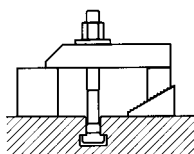
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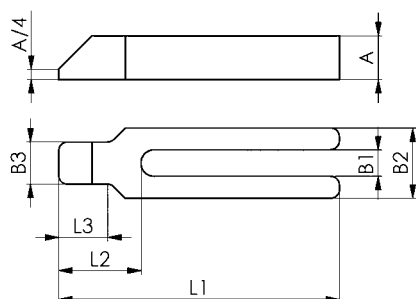


Subject to technical alterations.

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

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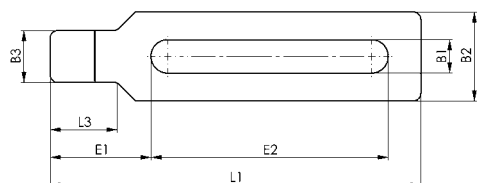
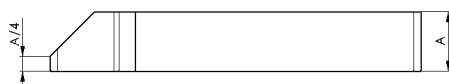
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No. 6315NG

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
376137	45	400	M36	1 1/2	60	115	95	125	220	90	19987
376152	45	500	M36	1 1/2	60	115	95	125	330	90	24022
376178	45	800	M36	1 1/2	80	115	95	125	630	90	36953

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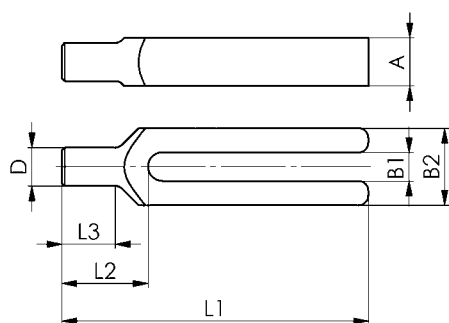


Subject to technical alterations.

DIN 6315C

Forked clamp with pin end

Tempering steel, varnished.

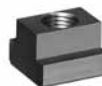


Order no.	B1	L1	for clamping screw metric	for clamping screw inch	A	B2	D	L2	L3	Weight [g]
70706	9	100	M8	5/16	15	30	12	30	18	220
70714	11	125	M10	3/8	20	30	16	36	24	350
70722	14	160	M12 M14	1/2	25	40	20	45	30	750
70730	14	200	M12 M14	1/2	25	40	20	45	30	950
70748	18	200	M16 M18	5/8	30	50	24	55	36	1400
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

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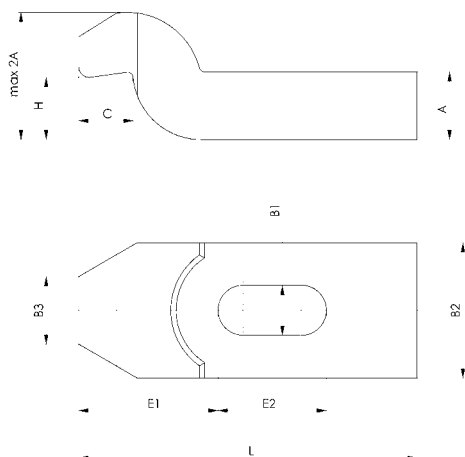
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DIN 6316

Single goose-neck clamp

Tempering steel, varnished.



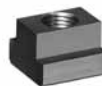
Order no.	B1	L	for clamping screw metric	for clamping screw inch	A	B2	B3	C	E1	E2	H	Weight [g]
71027	6,6	60	M6	1/4	10	20	10	8	22,0	20	9	81
71035	9	80	M8	5/16	12	25	12	9	27,5	25	11	166
71043	11	100	M10	3/8	15	30	15	12	36,0	32	14	299
71050	14	125	M12 M14	1/2	20	40	20	16	44,0	40	18	678
71068	(18)	125	M16 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 7/16 1 1/2	60	100	50	50	105,0	120	55	17078

() DIN extended.

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Subject to technical alterations.

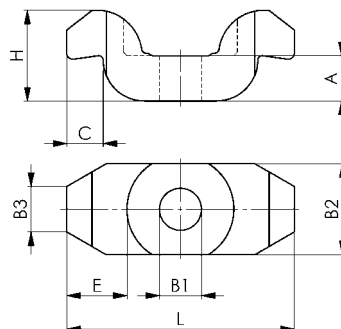
No. 6317

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

These clamps to match with large washer DIN 6340 or DIN 6319G.

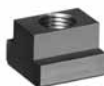


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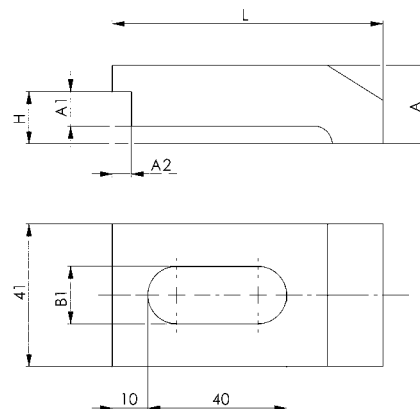
Subject to technical alterations.

No. 6325

Clamps for machine vices

Tempering steel, blued, packaged in pairs.

Order no.	B1	L	for clamping screw metric	for clamping screw inch	for jaw width	A	A1x A2	H	Weight [g]
74682	16,5	78	M12, 14, 16	1/2, 5/8	100	22,5	10x5,5	15	685
74690	16,5	78	M12, 14, 16	1/2, 5/8	125/160	27,5	10x6,5	20	705



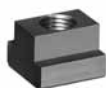
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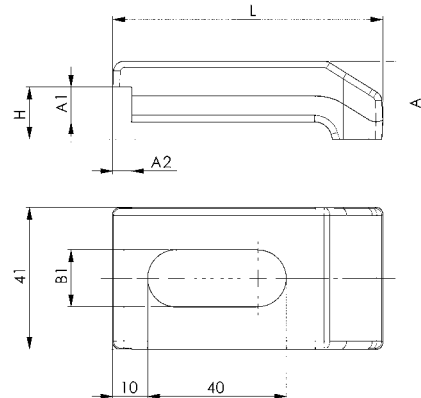


No. 6325G

Clamps for machine vices

Forged design, packaged in pairs.

Order no.	B1	L	for clamping screw metric	for clamping screw inch	for jaw width	A	A1x A2	H	Weight [g]
373878	16,5	78	M12, 14, 16	1/2, 5/8	100	22,5	10x5,5	15	570
373886	16,5	78	M12, 14, 16	1/2, 5/8	125/160	27,5	10x6,5	20	620



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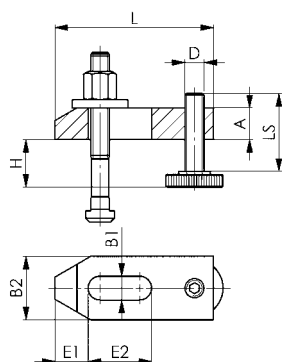


Subject to technical alterations.

No. 6314V

Tapered clamp with adjusting support screw

Tempering steel, varnished.



CAD



Order no.	Slot	H*	sim. DIN6314 B1xL	Clamping screw	D x LS	A	B2	E1	E2	Weight [g]
70177	10	8-37	11x80	-	M10x39	15	30	15	30	200
70193	12+14	10-47	14x100	-	M12x49	20	40	21	40	560
70821	12+14	10-92	14x100	-	M12x94	20	40	21	40	635
70219	16+18	13-52	18x125	-	M16x55	25	50	26	45	1110
70839	16+18	13-87	18x125	-	M16x90	25	50	26	45	1230
70201	20+22	16-65	22x160	-	M20x69	30	60	30	60	2050
70847	20+22	16-105	22x160	-	M20x109	30	60	30	60	2230
70151	24+28	20-83	26x200	-	M24x87	30	70	35	80	3200
70854	24+28	20-133	26x200	-	M24x137	30	70	35	80	3470
373928	24+28	20-80	26x250	-	M24x87	35	70	35	105	4340
373936	24+28	20-130	26x250	-	M24x137	35	70	35	105	4520
374405	36	24-150	33x315	-	M30x180	50	80	45	130	11215
374439	42	24-150	43x400	-	M30x180	80	100	80	170	24350
70268	10	8-32	11x80	M10x10x80	M10x39	15	30	15	30	340
70276	12	10-40	14x100	M12x12x100	M12x49	20	40	21	40	700
72801	12	24-92	14x100	M12x12x160	M12x94	20	40	21	40	830
70284	14	10-38	14x100	M12x14x100	M12x49	20	40	21	40	720
72827	14	23-92	14x100	M12x14x160	M12x94	20	40	21	40	845
70292	16	13-48	18x125	M16x16x125	M16x55	25	50	26	45	1400
72942	16	15-83	18x125	M16x16x160	M16x90	25	50	26	45	1610
70300	18	13-46	18x125	M16x18x125	M16x55	25	50	26	45	1400
73056	18	13-81	18x125	M16x18x160	M16x90	25	50	26	45	1630
70326	20	16-65	22x160	M20x20x160	M20x69	30	60	30	60	2600
73064	20	21-105	22x160	M20x20x200	M20x109	30	60	30	60	2930
70318	22	16-65	22x160	M20x22x160	M20x69	30	60	30	60	2770
73072	22	19-105	22x160	M20x22x200	M20x109	30	60	30	60	2980
373944	28	20-80	26x250	M24x28x200	M24x87	35	70	35	105	5486
373951	28	30-130	26x250	M24x28x250	M24x137	35	70	35	105	5716
381988	36	24-150	33x315	M30x36x315	M30x180	50	80	45	130	11995
382002	42	24-150	43x400	M36x42x400	M30x180	80	100	80	170	25683

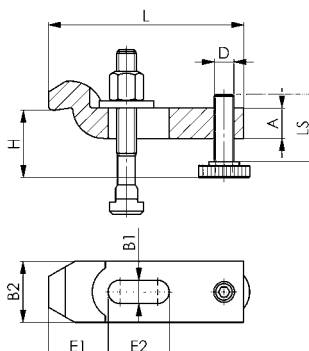
*depending on depth of slot to DIN 650 and position of fixture nut.

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

No. 6316V

Cranked clamp with adjusting support screw

Tempering steel, varnished.



CAD



Order no.	Slot	H*	sim. DIN6316 B1 x L	Clamping screw	D x LS	A	B2	E1	E2	Weight [g]
71183	10	22-51	11x100	-	M10x39	15	30	36,0	32	344
71209	12+14	28-65	14x125	-	M12x49	20	40	44,0	40	761
71225	16+18	36-75	18x160	-	M16x55	25	50	51,5	50	1516
71217	20+22	43-92	22x200	-	M20x69	30	60	59,0	70	2669
71266	24+28	52-115	26x200	-	M24x87	35	70	76,5	60	3810
71274	10	22-46	11x100	M10x10x80	M10x39	15	30	36,0	32	440
71282	12	28-58	14x125	M12x12x100	M12x49	20	40	44,0	40	906
71290	14	28-56	14x125	M12x14x100	M12x49	20	40	44,0	40	926
71308	16	36-71	18x160	M16x16x125	M16x55	25	50	51,5	50	1859
71316	18	36-69	18x160	M16x18x125	M16x55	25	50	51,5	50	1875
71332	20	43-92	22x200	M20x20x160	M20x69	30	60	59,0	70	3322
71324	22	43-92	22x200	M20x22x160	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.

Subject to technical alterations.

No. 6314AV

Stepped clamp with adjusting support screw

Tempering steel, varnished.

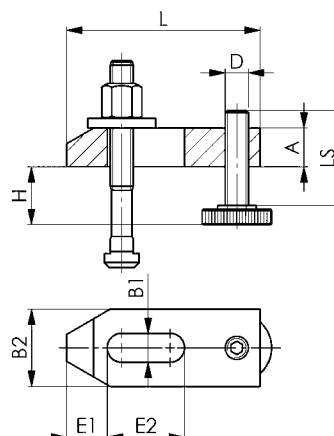


Order no.	Slot	H*	sim. DIN6314 B1xL	Clamping screw	D x LS	A	A1xA2	B2	E1	E2	Weight [g]
74567	12+14	10-55	14x100	-	M12x49	20	8 x10,0	40	21	40	580
74575	16+18	13-62	18x125	-	M16x55	25	10x12,5	50	26	45	1140
74583	20+22	16-77	22x160	-	M20x69	30	12x15,0	60	30	60	2100
74591	12	10-48	14x100	M12x12x100	M12x49	20	8 x10,0	40	21	40	745
74625	14	10-46	14x100	M12x14x100	M12x49	20	8 x10,0	40	21	40	764
74633	16	13-58	18x125	M16x16x125	M16x55	25	10x12,5	50	26	45	1510
74641	18	13-56	18x125	M16x18x125	M16x55	25	10x12,5	50	26	45	1530
74658	20	16-77	22x160	M20x20x160	M20x69	30	12x15,0	60	30	60	2800
74666	22	16-77	22x160	M20x22x160	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.



No. 6315V

Stepped clamp with adjusting support screw

Tempering steel, varnished.

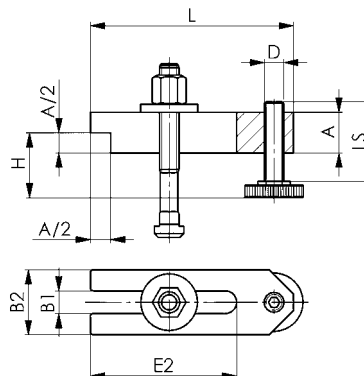


Order no.	Slot	H*	sim. DIN 6315B B1 x L	Clamping screw	D x LS	A	B2	E2	Weight [g]
71167	10	8-47	11x100	-	M10x39	20	30	70	330
71175	12+14	10-59	14x125	-	M12x49	25	40	90	700
71191	16+18	13-67	18x160	-	M16x55	30	50	110	1300
71258	20+22	16-85	22x200	-	M20x69	40	60	135	2600
73189	10	8-37	11x100	M10x10x 80	M10x39	20	30	70	403
73197	12	10-48	14x125	M12x12x100	M12x49	25	40	90	920
73205	14	10-45	14x125	M12x14x100	M12x49	25	40	90	940
73247	16	13-58	18x160	M16x16x125	M16x55	30	50	110	1860
73254	18	13-56	18x160	M16x18x125	M16x55	30	50	110	1880
73262	20	16-77	22x200	M20x20x160	M20x69	40	60	135	3610
73288	22	16-75	22x200	M20x22x160	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.

No. 6313K

Clamp short with saddle

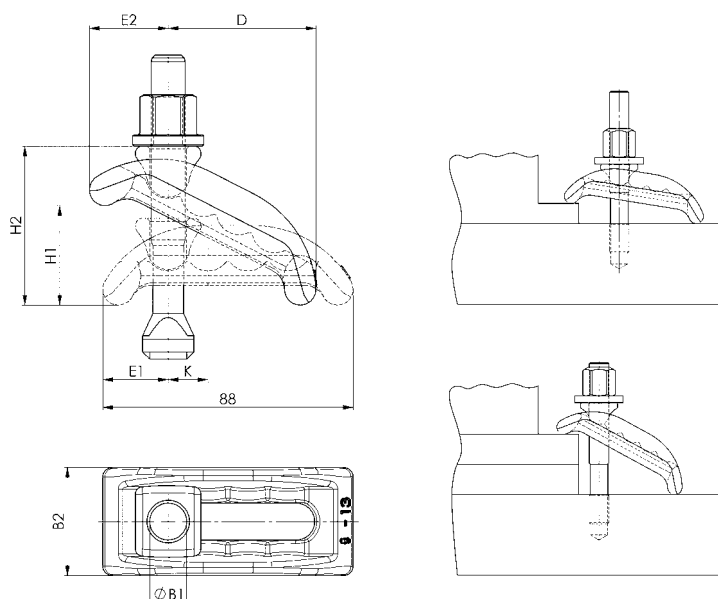
continuously adjustable, tempered, galvanized and blue passivated.



Order no.	B1	Slot	Clamping screw	B2 x L	D	E1	E2	H1	H2	K	Weight [g]
73932	13	12+14	-	38x88	48	23	28	0-35	30-55	14	260
73940	18	16+18	-	56x130	74	29	38	0-55	42-84	18	809
73957	22	20+22	-	66x140	80	32	46	0-65	50-100	20	1253
73965	26	24+28	-	76x174	100	39	52	0-75	54-111	24	1718
73973	32	36	-	90x200	110	44	61	0-80	62-125	28	2785
77149	13	12	M12x12x100	38x88	52	23	27	0-35	30-55	14	395
77156	13	14	M12x14x100	38x88	52	23	27	0-35	30-55	14	415
77180	18	16	M16x16x160	56x130	79	29	37	0-55	42-84	18	1130
77198	18	18	M16x18x160	56x130	79	29	37	0-55	42-84	18	1550
77206	22	20	M20x20x200	66x144	84	32	42	0-65	50-100	20	1880

Note:

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



CAD



No. 6313L

Goose-neck clamp long with saddle

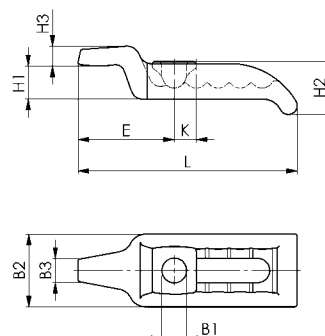
(without clamping bolt)
continuously adjustable, tempered, galvanized and blue passivated.



Order no.	B1	Slot	for clamping screw	B2 x L	B3	E	H1	H2	H3	K	Weight [g]
74005	22	20+22	M20	66x200	20	88	25-50	60	18	20	1608
74013	26	24+28	M24	76x232	23	97	30-70	70	22	24	2204
74021	32	36	M30	90x263	25	107	40-75	80	25	28	3559

Note:

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



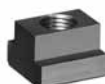
Recommendations



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CAD



Subject to technical alterations.

No. 6321

Stepless height adjustable clamp

Steel, forged and tempered, zinc-plated.

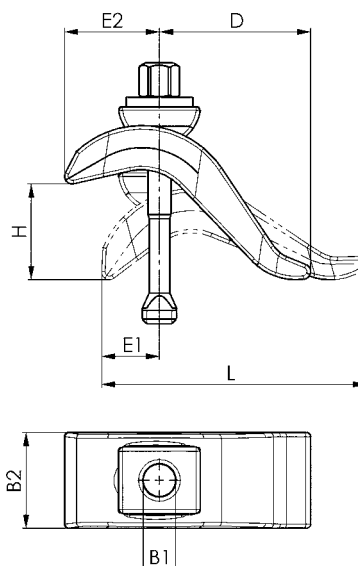
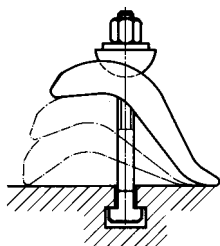
Order no.	Slot	B1	B2 x L	D	E1	E2	H	Clamping screw	Weight [g]
71522	-	17	50x140	60	30	55	75	-	900
71530	-	21	60x175	80	40	70	85	-	1600
74906	12	17	50x140	60	30	55	0-50	M12x12x125	1070
74914	14	17	50x140	60	30	55	0-50	M12x14x125	1080
74922	16	17	50x140	60	30	55	0-75	M16x16x160	1270
74930	18	17	50x140	60	30	55	0-75	M16x18x160	1280
74971	20	21	60x175	80	40	70	0-85	M20x20x200	2300
74963	22	21	60x175	80	40	70	0-85	M20x22x200	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:

To achieve the full (75 mm) clamping height with clamps nos. 6321-12 and 6321-14, DIN787 T-slot bolts 160 mm long must be used.



Recommendations



No. 6312V,
page 32



No. 6312V,
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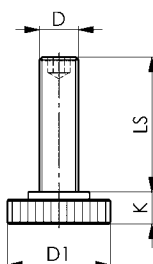
Subject to technical alterations.

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

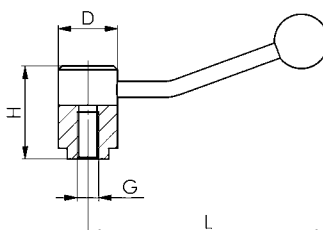


No. 6621

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

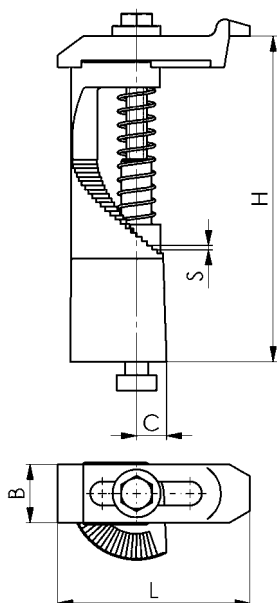
Special cast iron, screw and bushing 8.8.



Order no.	Size	Slot	B	C	H	L	S	Weight [g]
74708	0	12	34	14	0- 45	140	0,75	700
74716	1	12	34	14	15- 45	110	0,75	600
74724	2	12	34	15	30- 75	112	1,25	800
74732	3	12	34	16	60-135	112	2,50	1200
74740	4	12	34	18	120-195	112	2,50	1700
74757	5	12	34	19	180-255	112	2,50	2200
74765	0	14	34	14	0- 45	140	0,75	700
74773	1	14	34	14	15- 45	112	0,75	600
74781	2	14	34	15	30- 75	112	1,25	800
74799	3	14	34	16	60-135	112	2,50	1200
74807	4	14	34	18	120-195	112	2,50	1700
74815	5	14	34	19	180-255	112	2,50	2200
74823	0	16	50	20	0- 70	160	1,25	1900
74831	1	16	50	20	25- 70	125	1,25	1700
74849	2	16	50	21	50-120	125	2,50	2500
74856	3	16	50	21	100-220	125	3,75	3540
74864	4	16	50	24	200-320	125	3,75	4900
74989	0	18	50	20	0- 70	160	1,25	1870
74997	1	18	50	20	25- 70	125	1,25	1670
75002	2	18	50	21	50-120	125	2,50	2500
75010	3	18	50	21	100-220	125	3,75	3580
75028	4	18	50	24	200-320	125	3,75	4750

Application:

Clamping unit for quick application. The spiral serration allows fast adjusting to any work height up to 320 mm. Low space requirement on machine table due to compact design.



Recommendations



No. 6312V,
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No. 6312V,
page 32



Subject to technical alterations.

No. 6314AT

Clamping unit to clamp outside of the tool table

Tempered steel. Infinitely adjustable.

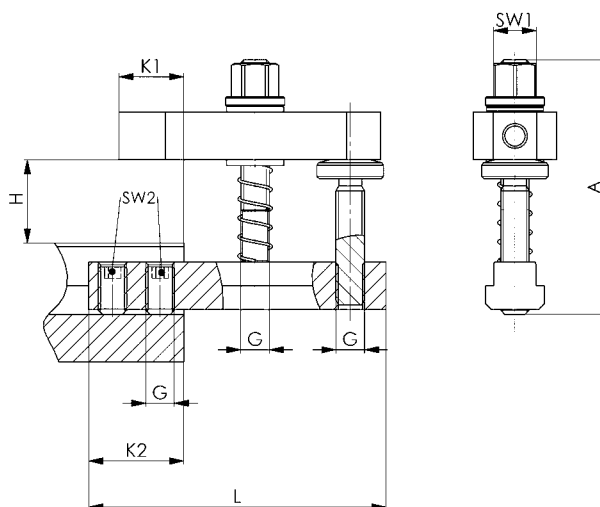
Order no.	Clamping force [kN]	Tightening torque [Nm]	Slot	G	H	Weight [g]
73999	15	70	18	M12	20-35	840
73981	25	170	22	M16	30-45	2126
79194	50	320	28	M20	40-53	5000

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

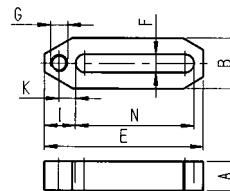


No. 7110GX-**-1

Clamp, straight
tempered.



Order no.	Size	A x B	E	F	G	I	K	N	Weight [g]
73528	12-1	20x35	110	12,5	M12	21,5	11,5	82	340
73536	16-1	30x40	142	17,0	M16	28,0	15,0	107	770
73544	20-1	40x50	200	21,0	M20	38,0	21,0	150	1800

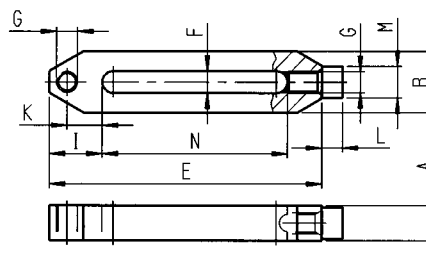


No. 7110GLX-**-1

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	12-1	20x35,0	156	12,5	M12	30	20	12	18	106	600
73577	16-1	30x45,5	196	17,0	M16	35	22	16	24	136	1400
73585	20-1	40x60,0	298	21,0	M20	47	30	20	30	221	3900



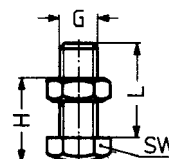
No. 7110DX-**-xM**

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



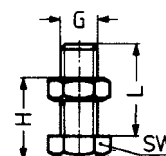
No. 7110DMX-**-xM**

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. 7110DHX-**xM**

Set screw

with flat-faced ball, adjustable, ribbed.



Order no.	Size	G x L	H	dia. K	SW1	SW2	Weight [g]
374447	8xM8	M8x25	11,6	5,5	13	13	25
73650	12xM12	M12x35	15,7	8,6	17	19	55
73668	16xM16	M16x40	20,7	10,5	24	24	115
73692	20xM20	M20x50	27,3	20,0	30	30	230

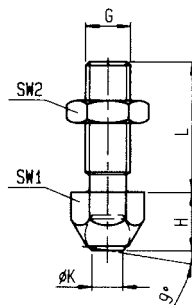
No. 7110DIX-**xM**

Set screw

with flat-faced ball, adjustable, plain.



Order no.	Size	G x L	H	dia. K	SW1	SW2	Weight [g]
374454	8xM8	M8x25	11,6	5,5	13	13	25
73684	12xM12	M12x35	15,7	8,6	17	19	55
73718	16xM16	M16x40	20,7	10,5	24	24	115
73726	20xM20	M20x50	27,3	20,0	30	30	230



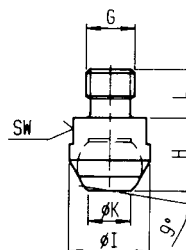
No. 7110DKX-**xM**

Set screw

with flat-faced ball.



Order no.	Size	G x L	H	dia. I	dia. K	SW	Weight [g]
374462	8xM8	M8x8	13	13	7,2	11	13
73734	12xM12	M12x12	18	20	10,5	17	43
73742	16xM16	M16x16	27	30	20,0	27	149
73759	20xM20	M20x20	35	50	34,5	41	520



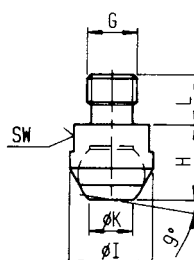
No. 7110DFX-**xM**

Set screw

with flat-faced ball, ribbed.



Order no.	Size	G x L	H	dia. I	dia. K	SW	Weight [g]
75432	8xM8	M8x8	13	13	7,2	11	13
73767	12xM12	M12x12	18	20	10,5	17	43
73775	16xM16	M16x16	27	30	20,0	27	149
73783	20xM20	M20x20	35	50	34,5	41	520

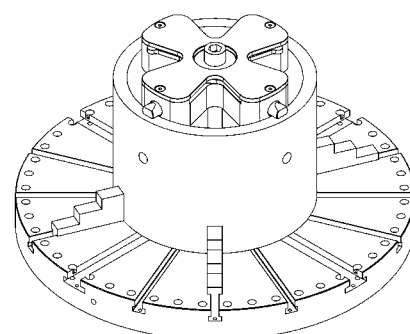
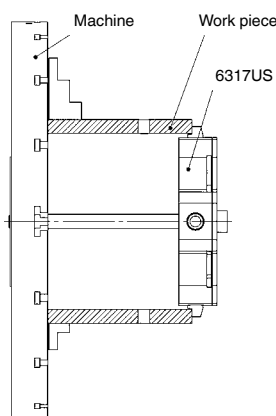
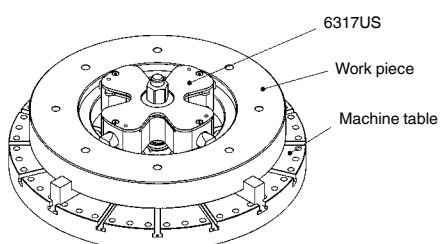
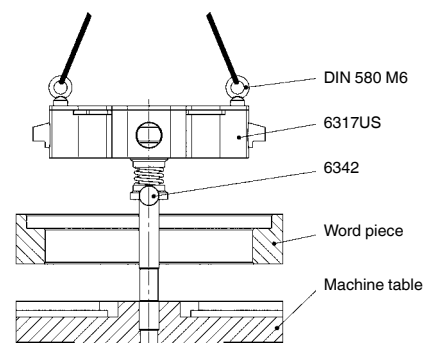
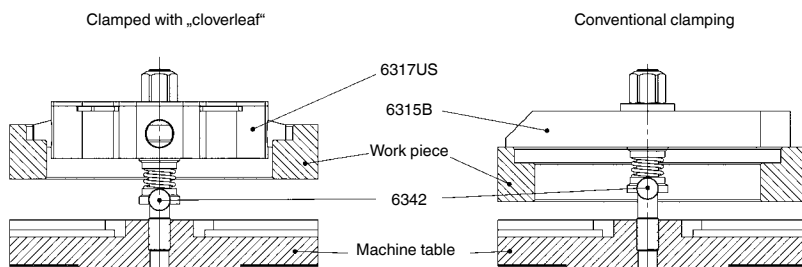
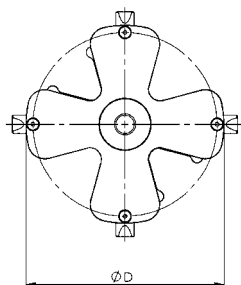
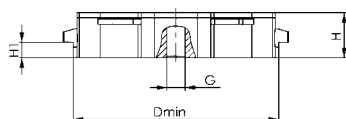
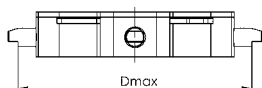


Subject to technical alterations.

No. 6317US

„Cloverleaf“ clamping element

NEW!



Subject to technical alterations.

Order no.	Size	Clamping force F max.	Clamping force F max.	Weight
		[kN]	[kN]	
550503	M12	20 / 35	40 / 60	2260
550504	M14	25 / 30	50 / 60	3295
550506	M18	40 / 45	100 / 120	4892
550507	M22	50 / 60	170 / 200	8541
550508	M24	45 / 70	150 / 250	13795

Application:

Using the centre hole in the universal clamping element, the „cloverleaf“ is clamped downward and centred by means of clamping pins (DIN787 or DIN6379, depending on machine table).

The „cloverleaf“ is also very well-suited for clamping rotating workpieces.

The clamping pins are set to the appropriate diameter by actuating the cam (can be operated by hand) (shown in the table from D min. to D max.).

Advantage:

- Available in 5 sizes for use with various diameters.
- High clamping forces possible thanks to the compact design.
- The „cloverleaf“ makes it possible to centre the workpiece.

Note:

- The stated torques must be observed with lubricated threads on the clamping screw.

- For better and faster handling when clamping, we recommend use of the spring-type clamp support no. 6342.

- The sizes M22 / M24 can be equipped with eyebolts for set-up and transport.

- The stated values for clamping force and tightening torque depend on the clamping diameter Dmin./Dmax.

For instance, size M12:

D max. = 165 mm -> F max. = 20 kN -> Md max. = 40 Nm

D min. = 145 mm -> F max. = 35 kN -> Md max. = 60 Nm

Dimensions:

Order no.	Size	dia. D	dia. D	dia. D	G	H	H1
550503	M12	140	145	165	M12	32	11,0
550504	M14	155	160	190	M14	38	11,5
550506	M18	180	185	220	M18	43	12,5
550507	M22	210	215	255	M22	53	18,0
550508	M24	240	250	295	M24	63	22,0

THE BLOCK-CLAMPING SYSTEM ELIMINATES HEAVY CLAMPING THANKS TO EASE OF HANDLING

For quick and safe clamping of workpieces at various heights, block-clamping systems are ideal for use on milling machines, CNC machines, machining centres and fixture systems, as they are

- > **easy** to set up
- > **quick** when tool changing
- > **reliable** when clamping
- > **economical** when removed

Further advantages:

- > Infinite adjustment to the correct workpiece height due to slide-in intermediate elements.
- > Stable and immovable position for **horizontal** or **vertical** use.
- > Quick clamping and unclamping of the workpiece using just one bolt.

No. 7200BB

Block-clamping system basic set

Consists of:

- 2 clamping units size 16
- 2 spacer elements 100 mm high
- 4 spacer elements 50 mm high
- 2 fastening sets each for grooves 18, 20, 22
- 1 adapter key width 24

Order no.	Size	Slot	Dimensions of case LxWxH	Weight [Kg]
374330	16	18, 20, 22	540 x 400 x 165	13,5

Application:

1. Position base element on machine table on workpiece. Position spacer element on base element using tension rods.
2. Push spacer element downwards.
3. Swivel spacer element in until it locks into place. Repeat this up to the required clamping height. Lastly, mount head element.
4. Turn tombstone to desired clamping position and secure on base element. Tighten clamping bolt for clamping.

Advantage:

- Low weight, advantages for assembly and handling.
- The contours of the basic elements and the open design mean hardly any projecting edges.
- Very low maintenance requirements, because all parts are easily accessible.
- Easy to grip - can be gripped securely even when wearing gloves, when oily and dirty.
- Elements are easy to combine in any position.
- Thanks to a minimum number of different parts and systematically modular design, the AMF block-clamping system 7200 is more economical than comparable block-clamping systems.
- The system is very secure. The sturdy interfaces and the minimal expansion of the tension rods mean that almost all of the torque is transmitted to the workpiece. This ensures high clamping forces.

Note:

- By exchanging the T-nuts the system is suitable for various T-grooves.
- Tension rod of hardened and tempered steel
- Body of aluminium
- All parts are exchangeable.
- Subsequent height extension possible through purchase of additional standardised spacer elements.



Subject to technical alterations.

No. 7200BR

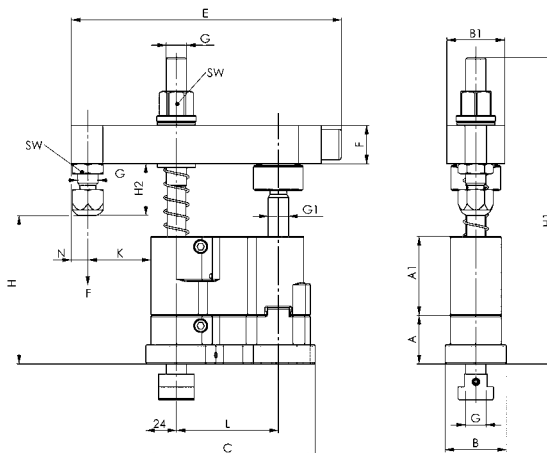
Clamping unit

consisting of base and head element.



Order no.	Size	Slot	A x B x C [mm]	H	F* [kN]	Tightening torque [Nm]	Weight [g]
374306	16	18	38x48x133	66-156	30	140	3080
374322	16	20	38x48x133	66-156	30	140	3080
374348	16	22	38x48x133	66-156	30	140	3080
374363	20	22	38x48x133	81-157	45	220	3744
374298	20	24	38x48x133	81-157	45	220	3744
374314	20	28	38x48x133	81-157	45	220	3744

* Achievable clamping force with the smallest clamp element dimension with nut, lubricated with screw compound no. 6339.



CAD

Recommendations



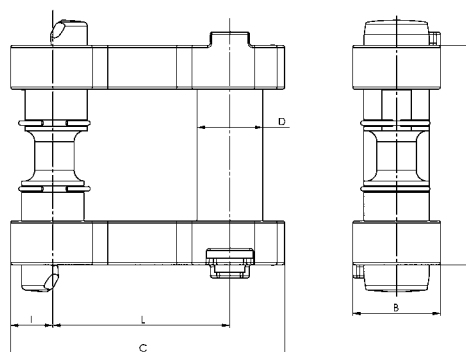
No. 7200B,
page 56

Dimensions:

Order no.	Size	A1	B1	E	G	G1	H1	H2	I	K	L	N	SW
374306	16	62	45,5	212	M16	M16	240	21-40	24	8-50,0	80	13	24
374322	16	62	45,5	212	M16	M16	240	21-40	24	8-50,0	80	13	24
374348	16	62	45,5	212	M16	M16	240	21-40	24	8-50,0	80	13	24
374363	20	62	50,0	216	M20	M16	232	28-55	24	10-60,5	80	17	30
374298	20	62	50,0	216	M20	M16	232	28-55	24	10-60,5	80	17	30
374314	20	62	50,0	216	M20	M16	232	28-55	24	10-60,5	80	17	30

No. 7200Z

Spacer element



Recommendations



No. 7200B,
page 56

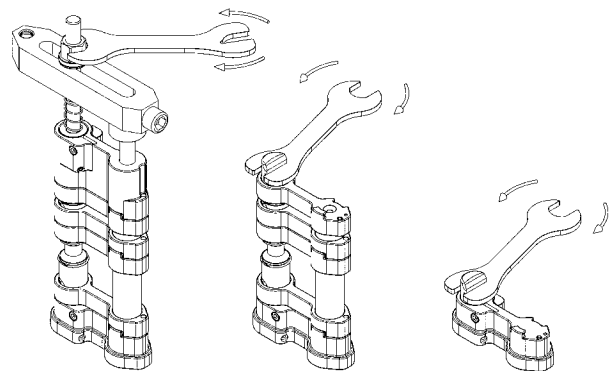
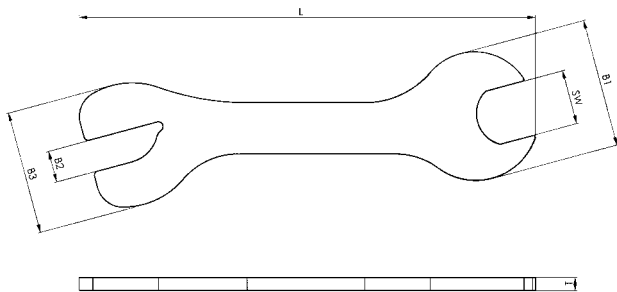


Subject to technical alterations.

No. 7200B

Adapter key

Order no.	SW	B1	B2	B3	L	T	Weight [g]
375386	24	57	14	55	203	6	285
375394	30	65	14	55	203	6	323



Subject to technical alterations.

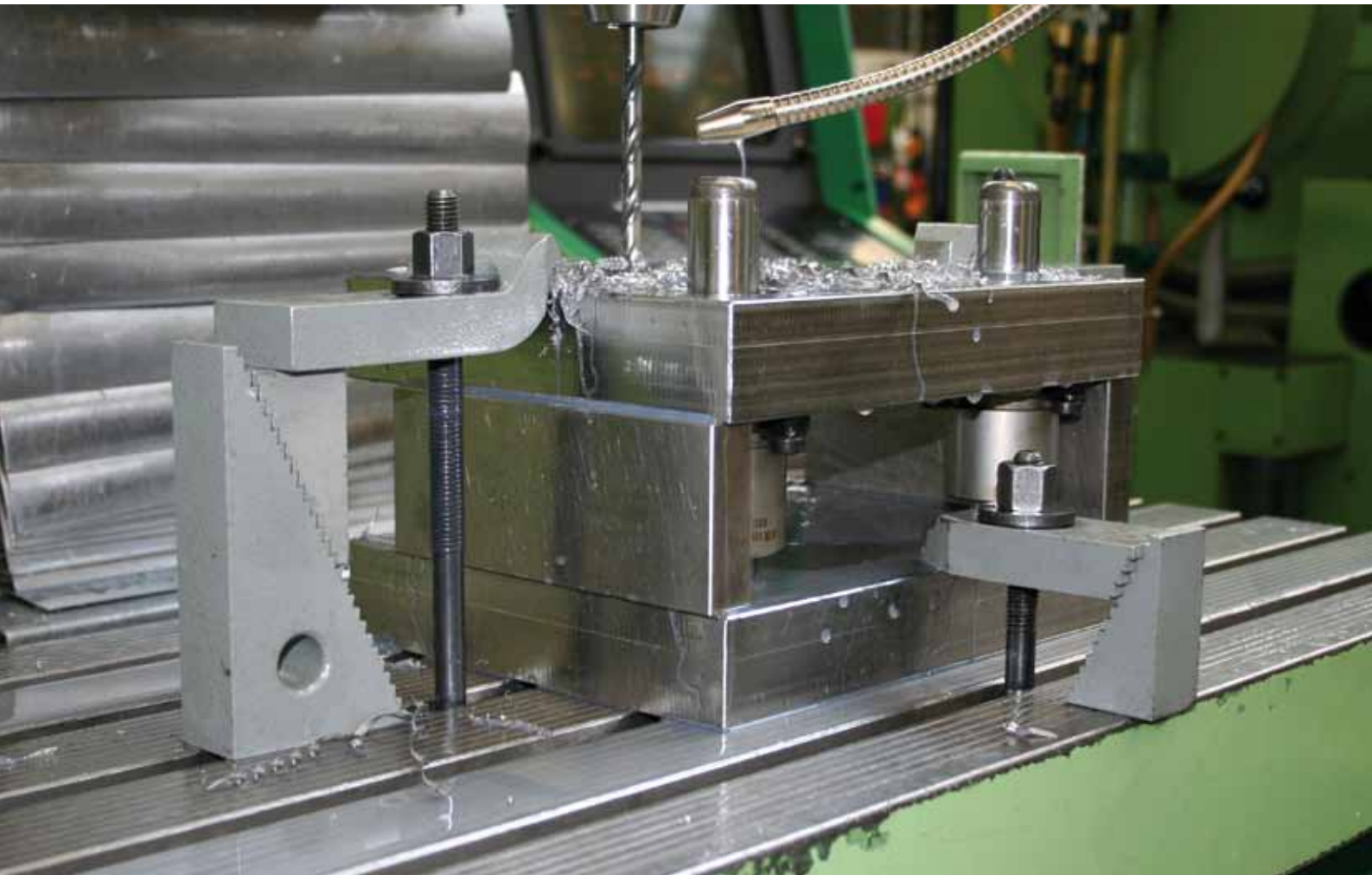
THE MOST IMPORTANT FACTS ABOUT SUPPORT BLOCKS

- > **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 70 to 75.

- > 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

CAD



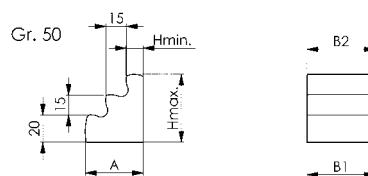
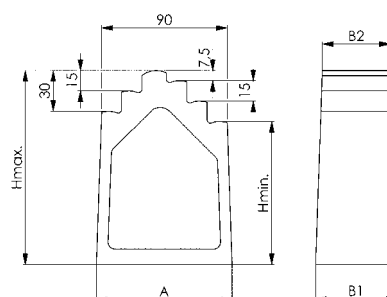
No. 6318B

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



CAD



Subject to technical alterations.

No. 6500E

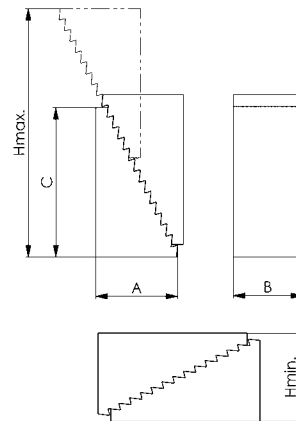
Universal step blocks

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 39



No. 6501,
page 60

CAD

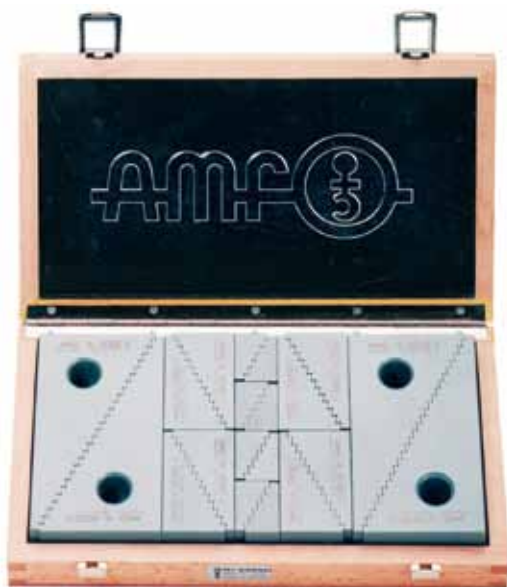


No. 6500H

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	22	208	280x155x40	8,4



Subject to technical alterations.

No. 6501

Step block

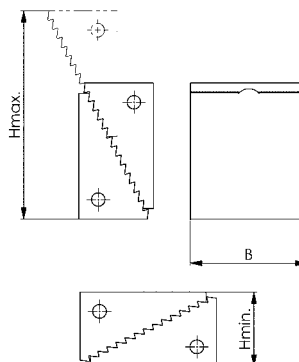
contact face 60 mm wide. With link spring.
Step increments: vertical 4.65 mm, horizontal 2.3 mm.
Tempering steel, varnished.



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

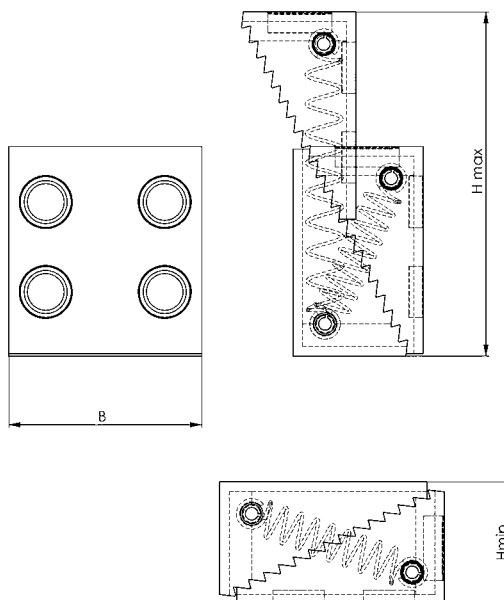
Mounting surface 60 mm wide, with connecting spring.
Step increments: vertical 4.65 mm, horizontal 2.3 mm.
Tempered steel, burnished.



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

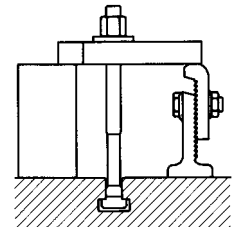
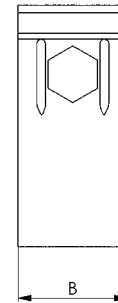
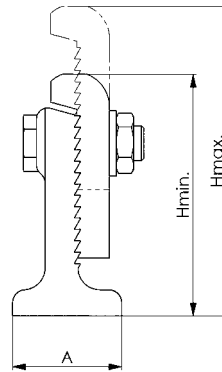


No. 6510

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.



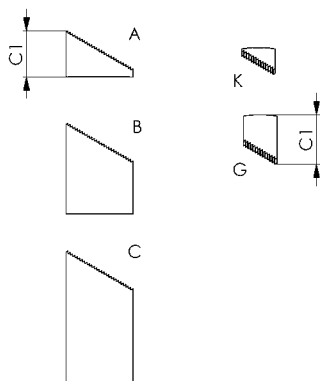
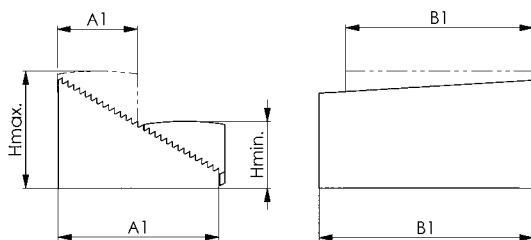
Order no.	Combination	H min.	H max.	Lower part	Upper part	Weight [g]
71969	AK	25	45	A	K	1050
71977	AG	45	65	A	G	1350
71985	BK	65	85	B	K	2500
71993	BG	85	105	B	G	2800
72009	CK	105	125	C	K	4000
72017	CG	125	145	C	G	4300
72025	AKG	25	65	A	KG	1550
72033	BKG	65	105	B	KG	3000
72041	CKG	105	145	C	KG	4500

DIN 6326

Support blocks for continuous adjustment, single

with spiral gearing. Tempering steel, varnished.

Order no.	Single parts	A1	B1	C1	Weight [g]
72090	A	60	80	42	850
72108	B	60	80	82	2300
72116	C	60	80	122	3800
72124	K	30	70	24	200
72132	G	30	70	44	500



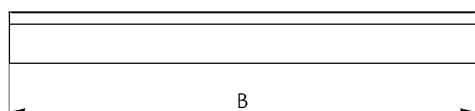
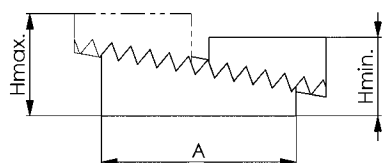
Subject to technical alterations.

No. 6475

Cutting tool support, flat, for continuous adjustment

with bevelled serrations. Tempering steel, varnished.

Order no.	Size	H min.	H max.	A	B	Weight [g]
72835	1	10,5	13	25	120	230
72843	2	12,5	16	40	160	600



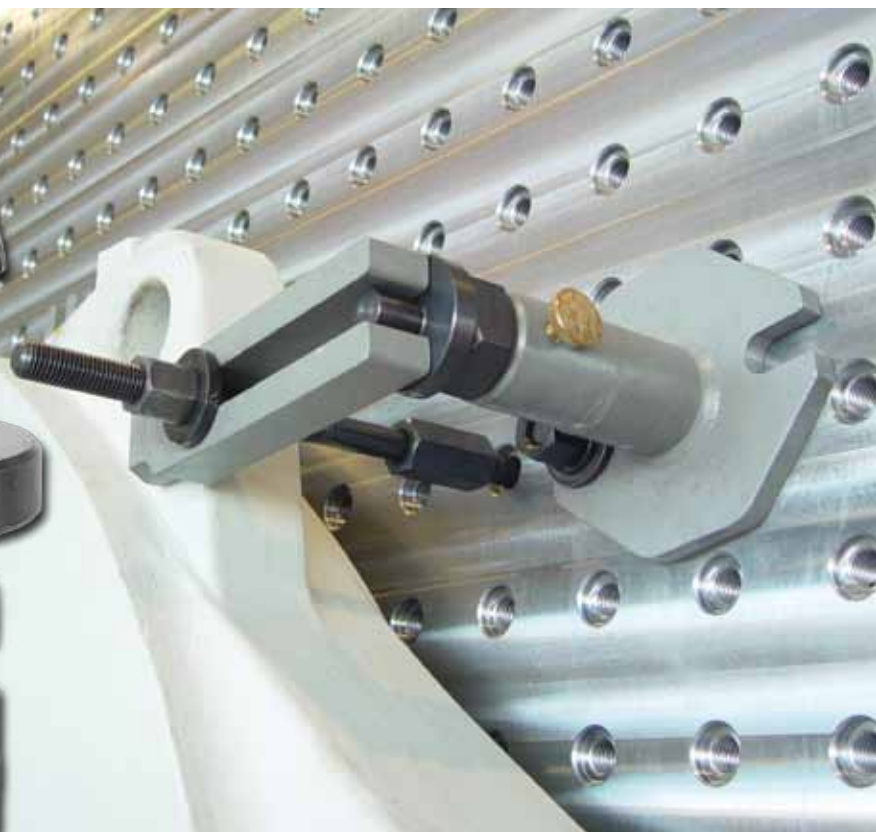
Subject to technical alterations.

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.



No. 6415

Height setting screw jack

with 2 locating pins DIN 6325 (12x50 and 12x80). Centring hole dia. 12 mm. Tempering steel, blued. Spindle: M30x1.5 metric fine thread with end stopbody. Bearing insert turns on pressed-in plain bearing bush.



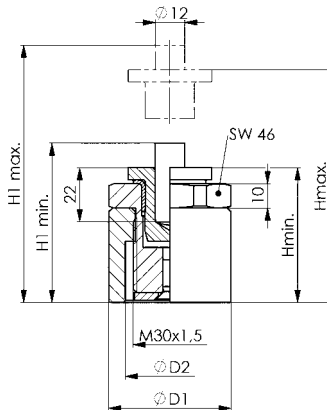
Order no.	Size	H min.	H max.	D1	D2	with location pin 12x50 H1min.-H1max.	with location pin 12x80 H1min.-H1max.	F max. [kN]	Weight [g]
86504	75	55	75	50	36	83-103	113-133	30	680
86512	115	75	115	50	36	103-143	133-173	30	880

Application:

The height setting screw jack can be used without locating pins or with pads no. 6440 and no. 6441. With centering pad no. 6242 combinations with all AMF-screw jacks are possible. They allow sensitive adjusting up to height of 1370 mm. A bearing insert prevents the workpiece from being turned while the jack is adjusted.

Note:

Suitable pads are no. 6440, 6441, 6442. Suitable base is no. 6442.



Recommendations



No. 6440, page 73



No. 6441, page 73



No. 6442, page 73

CAD



No. 6416

Height setting screw jack with magnetic base

with 2 locating pins DIN 6325 (12x50 and 12x80). Centring hole dia. 12 mm. Tempering steel, blued. Spindle: M30x1.5 metric fine thread with end stopbody. Bearing insert turns on pressed-in plain bearing bush.



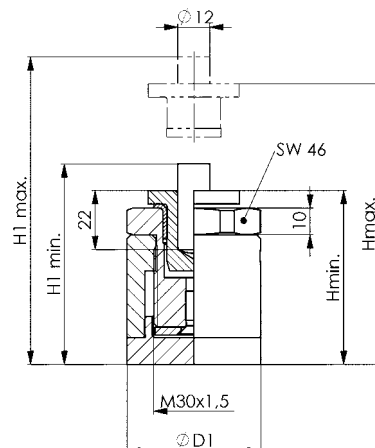
Order no.	Size	H min.	H max.	D1	with location pin 12x50 H1min.-H1max.	with location pin 12x80 H1min.-H1max.	F max. [kN]	Weight [g]
86520	85	65	85	50	93-113	123-143	30	800
86538	125	85	125	50	113-153	143-183	30	1000

Application:

The height setting screw jack can be used without locating pins or with pads no. 6440 and no. 6441. With centering pad no. 6242 combinations with all AMF-screw jacks are possible. They allow sensitive adjusting up to height of 1370 mm. A bearing insert prevents the workpiece from being turned while the jack is adjusted.

Note:

Suitable pads are no. 6440, 6441, 6442.



Recommendations



No. 6315GN, page 40



No. 6315GNG, page 40

CAD



No. 6420

Height setting screw jack with pivotable ball

Steel tempered, burnished. Ball made of hardened steel.



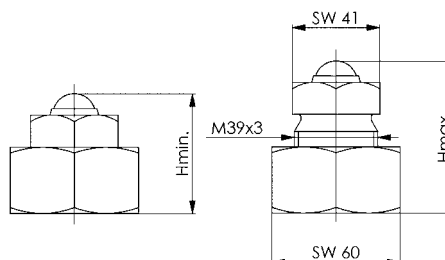
Order no.	Size	H min.	H max.	F max. [kN]	Weight [g]
72546	70	56	70	30	950

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. 6400,
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No. 6415,
page 64

CAD



No. 6400

Screw jack with flat support

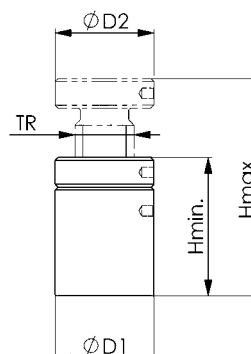
Centring hole dia. 12 mm. Spindle: Trapezoidal thread, self-locking with end stopbody. Tempering steel, varnished.



Order no.	Size	H min.	H max.	TR	D1	D2	F max. [kN]	Weight [g]
72397	50	38	50	20x 4	31	31	15	190
72389	52	42	52	30x 4	50	50	60	550
72405	70	50	70	30x 4	50	50	60	620
72413	100	70	100	30x 4	50	50	60	900
72421	140	100	140	40x 7	68	68	100	2760
72439	210	140	210	50x 8	80	70	170	4600
72447	300	190	300	65x10	100	80	350	9000
72496	200	140	200	65x10	100	80	350	6900
72504	280	190	280	80x10	140	110	600	19000

Note:

The light-duty screw jack was designed for clamps with slot-sizes up to 14 mm. Medium-duty screw jacks match clamps of slot-size 14 to 22 mm. The screw jacks no. 6430 are useful completions for large clamping heights. Heavy-duty screw jacks match clamps of slot-size 20 to 40 mm. The screw jacks no. 6435S are here useful completions for large clamping heights. When using clamps DIN 6315 B, 6315 C and 6315 GN with slot-sizes above 26 mm we recommend the locating pad no. 6443 for safety. Extra-heavy-duty screw jacks were designed for support of large workpieces. Suitable pads for size 52-100 are no. 6440, 6441, 6442, 6443/14 and 6445. Suitable base is no. 6442. Suitable pads for size 140-300 are no. 6440, 6441, 6442, 6443 and 6445.



Recommendations



No. 6440,
page 73



No. 6441,
page 73

CAD



No. 6400M

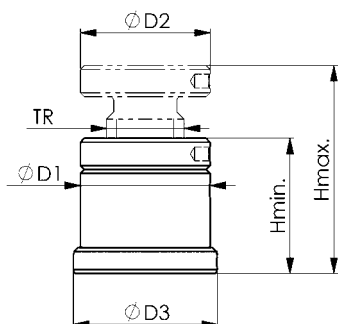
Screw jack with flat support and magnetic base

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	D3	F max. [kN]	Weight [g]
73320	62	52	62	30x4	50	50	55	60	700
73361	80	60	80	30x4	50	50	55	60	770
73403	110	80	110	30x4	50	50	55	60	1050

Note:

AMF-magnetic screw jacks are designed for horizontal and vertical applications. The permanent magnet ensures a lasting and precise positioning of workpiece on vertical faces. The screw jacks are suitable for clamps with a slot width 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 number no. 6443. Suitable caps for screw jack nr. 6400M are nos. 6440, 6441, 6443 and 6445. The suitable support for the dismantled magnetic base is no. 6442.



CAD



Recommendations



No. 6440,
page 73



No. 6443,
page 74

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.

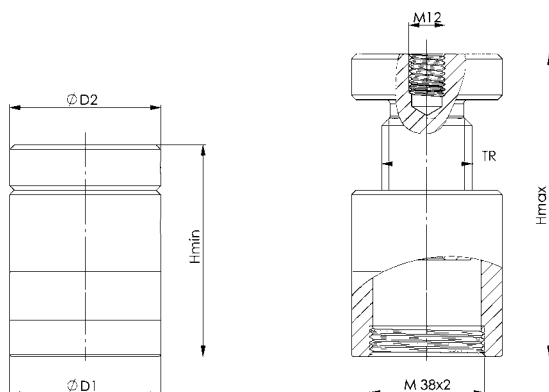
Order no.	Size	H min.	H max.	TR	D1	D2	F max. [kN]	Weight [g]
376194	52	42	52	30x4	50	50	60	550
376210	70	50	70	30x4	50	50	60	620
376236	100	70	100	30x4	50	50	60	948

Application:

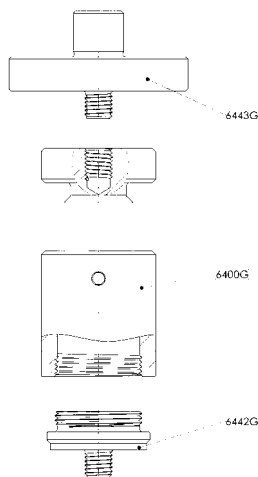
Especially suited for use on vertical turning and boring machines to achieve optimal clamping heights and absorb centrifugal forces.

Advantage:

Screw jack can be screwed onto the heavy screw jack no. 6435SG and thus ensure optimal security against the occurrence of centrifugal forces. In the screw jack top, the fixing cap no. 6443G or a screw for retaining a clamp can be incorporated.



CAD



Recommendations



No. 6440,
page 73



No. 6444,
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No. 6443,
page 74

Subject to technical alterations.

No. 6401

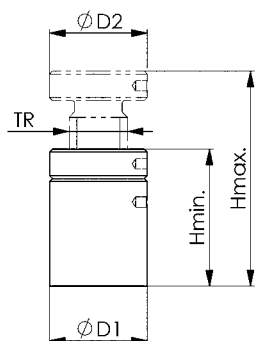
Aluminium screw jack

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	F max. [kN]	Weight [g]
75770	52	42	52	30x4	50	50	30	370
75788	70	50	70	30x4	50	50	30	430
75796	100	70	100	30x4	50	50	30	600

Note:

Safeguards machine tables against damage (swarf do not penetrate into table face but into alu-base). Useful for all machine tool tables, surface plates and plane tables with precision faces. For larger clamping heights use centering pad no. 6442 and screw jacks no. 6400. Suitable pads are no. 6440, 6441, 6442, 6443/14 and 6445. Suitable base is no. 6442. Do not adjust screw jack under load!



Recommendations



No. 6442,
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No. 6440,
page 73

No. 6405

Magnetic screw jack

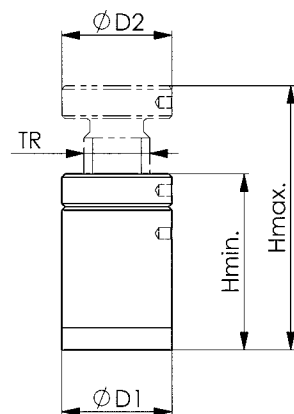
Centring hole dia. 12 mm. Spindle: Tempering steel, blued. Trapezoidal thread, self-locking with end stopbody. Base: Aluminium 400 N/mm² tensile strength.

Order no.	Size	H min.	H max.	TR	D1	D2	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

Note:

AMF-magnetic screw jacks are designed for horizontal and vertical applications. The permanent magnet ensures a lasting and precise positioning of workpiece on vertical faces. For larger clamping heights use centering pad no. 6442 and screw jacks no. 6400. Suitable pads are 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
- Alu-base (size 10) or magnetic base (size 20).

Order no.	Size	H min.	H max.	TR	D1	D2	D3	F max. [kN]	Weight [g]
72850	10	75	88	30x4	50	50	50	30*	630
72868	20	75	88	30x4	50	50	55	30*	720

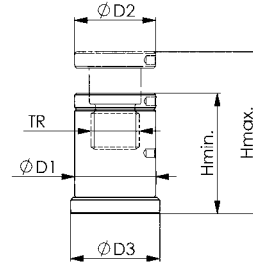
* ensured to max. 350 mm total height, danger of buckling for larger figures!

Note:

Suitable pads are no. 6440, 6441 and 6445.
Do not adjust screw jack under load!



CAD



Recommendations



No. 6406,
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No. 6440,
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No. 6441,
page 73

No. 6406

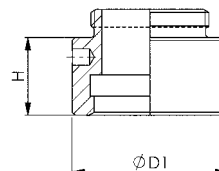
Alu-intermediate ring

for additional height increase.

Order no.	Size	H	D1	Weight [g]
72876	05	12,5	50	38
72884	06	25,0	50	76
72926	07	50,0	50	165



CAD



No. 6406M

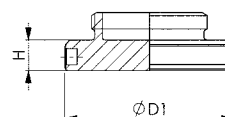
Magnetic base

for screw jacks.

Order no.	H	D1	Weight [g]
72157	10	55	210



CAD



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.

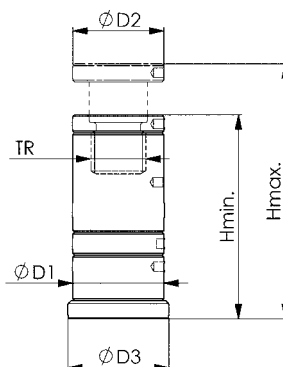
Composed of:

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

Order no.	H min.	H max.	TR	D1	D2	D3	F max. [kN]	Weight [g]
72371	75	125	30x4	50	50	55	30	920

Note:

Suitable pads are no. 6440, 6441 and 6445.
Do not adjust screw jack under load!



Recommendations



No. 6440,
page 73



No. 6441,
page 73



No. 6445,
page 74



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.

Order no.	Size	H min.	H max.	B1	B2	L	SW	H/U* [mm]	F max. [kN]	Weight [g]
72777	63	50	63	40	40	63	13	0,86	40	1300
72785	125	100	125	115	60	125	24	1,16	100	8600
72793	190	170	190	145	80	175	36	2,02	250	23750

*H/U= height adjustment per single turn.

Application:

At a max. load of 1/3 F, the whipstock can be adjusted slightly using normal manual force. 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 DIN 6325 12x30 cylinder pin is required for this purpose.

Note:

Suitable pads are no. 6440, 6441 and 6442.



Recommendations



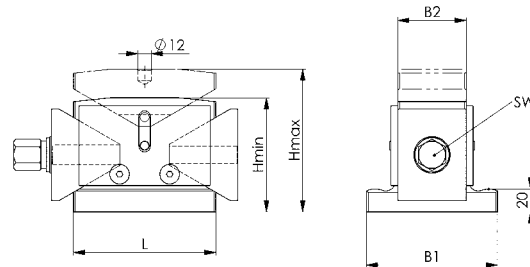
No. 6400M,
page 66



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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.

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. (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



Recommendations



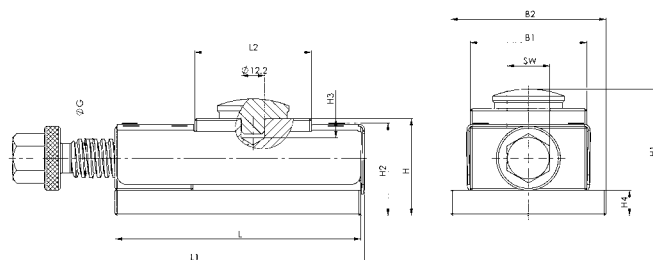
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Dimensions:

Order no.	B1	B2	G	H1	H2	H3	H4	L	L1	L2
375592	60	80	20	60-65	47,5	10	13	128	150-179	60
375618	100	140	30	87-95	74,0	20	15	210	242-287	81

Subject to technical alterations.

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.

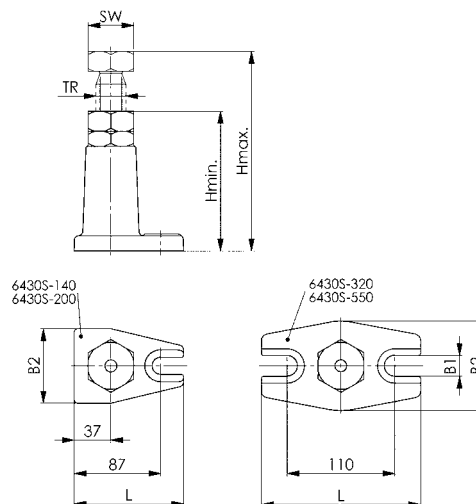


Order no.	Size	H min.	H max.	TR	B1	B2	L	SW	F max. [kN]	Weight [Kg]
72553	140	100	140	30x6	18	75	110	46	60	1,8
72561	200	140	200	30x6	18	75	110	46	60	2,2
72579	320	200	320	30x6	22	90	160	46	40	3,8
72587	550	320	550	30x6	22	90	160	46	25	4,9

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!



Recommendations



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No. 6435S

Heavy screw jack

with brass locking screw. Centring hole dia. 12 mm. Spindle complete: tempering steel with trapezoidal thread. Spindle head blued. Housing: tempering steel, varnished.

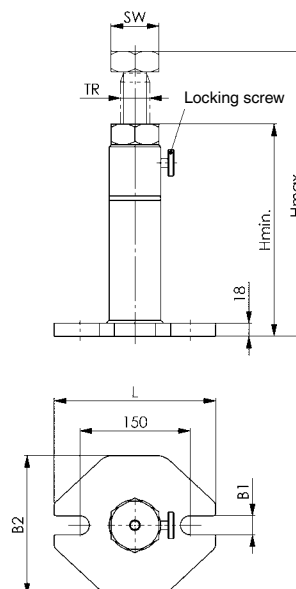


Order no.	Size	H min.	H max.	TR	B1	B2	L	SW	F max. [kN]	Weight [Kg]
72637	300	200	300	40x7	26	190	220	65	80	8,0
72645	460	290	470	40x7	26	190	220	65	60	12,0
72652	750	430	750	40x7	26	190	220	65	50	12,6
72660	1250	710	1250	40x7	26	190	220	65	40	16,5

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!



Recommendations



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No. 6438S

Screw jack

for quick and stepless adjustment with brass locking screw.
Centring hole dia. 12 mm. Spindle complete: tempering steel,
with trapezoidal thread. Spindle head blued. Housing: tempering
steel, varnished.

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:

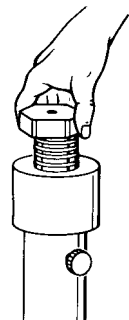
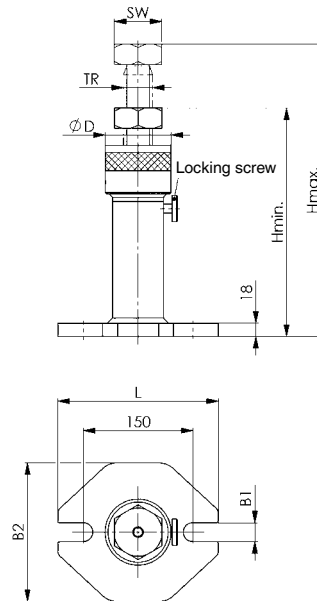
This screw jack allows for very fast pre-setting following with stepless adjusting for the whole height range. By turning the operating ring 60° the spindle is locked or released for fast pre-setting. Use locking screw for safe final adjusted position. Suitable pads are no. 6440, 6441, 6442, 6443 and 6445.

Note:

Important note for height adjustment:

- Hold spindle, max. 6 kg
- release locking screw
- turn spindle
- adjust to required height

Do not adjust screw jack under load!



Recommendations



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No. 6442,
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CAD

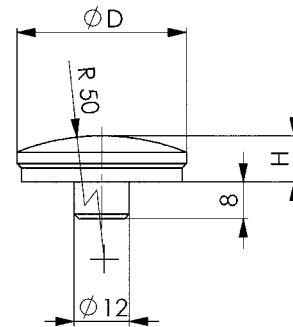


Subject to technical alterations.

No. 6440
Ball-pad

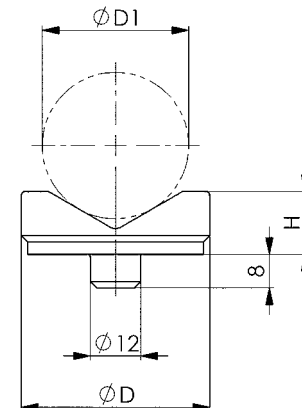
Steel tempered, burnished.

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


No. 6441
Vee-pad

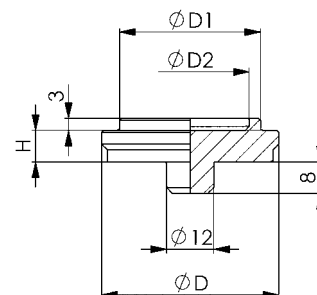
Steel tempered, burnished.

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


No. 6442
Centering-pad

Steel tempered, burnished.

Order no.	H	D	D1	D2	Weight [g]
72736	8	45	35,8	30	120



No. 6443

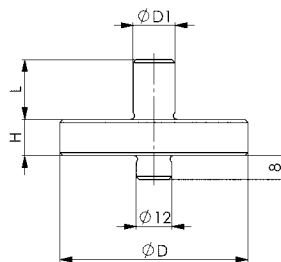
Locating-pad

for forked clamps. Steel tempered, burnished.

Order no.	Size	H	D	D1	L	Weight [g]
72751	14	12	63	14	20	325
72744	25	15	78	25	30	715



CAD



No. 6444

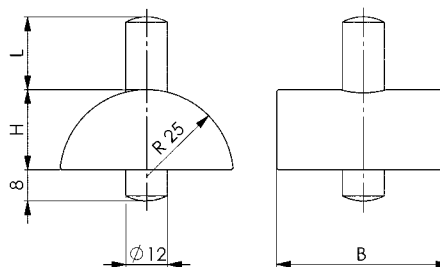
Locating-pad

with cylindrical face. Steel tempered and burnished.

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



CAD

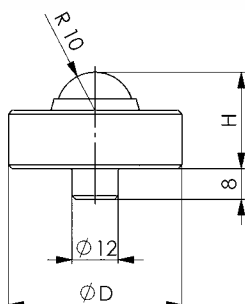


No. 6445

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



CAD

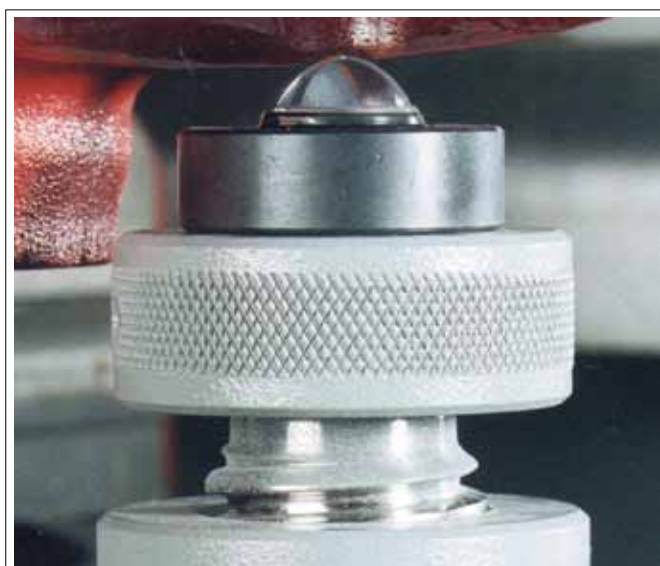


Application:

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. 6435SG

Heavy screw jack

with brass locking screw. Centring hole M12 mm. Spindle compl.: tempering steel with trapezoidal thread. Spindle head blued. Housing: tempering steel, varnished.

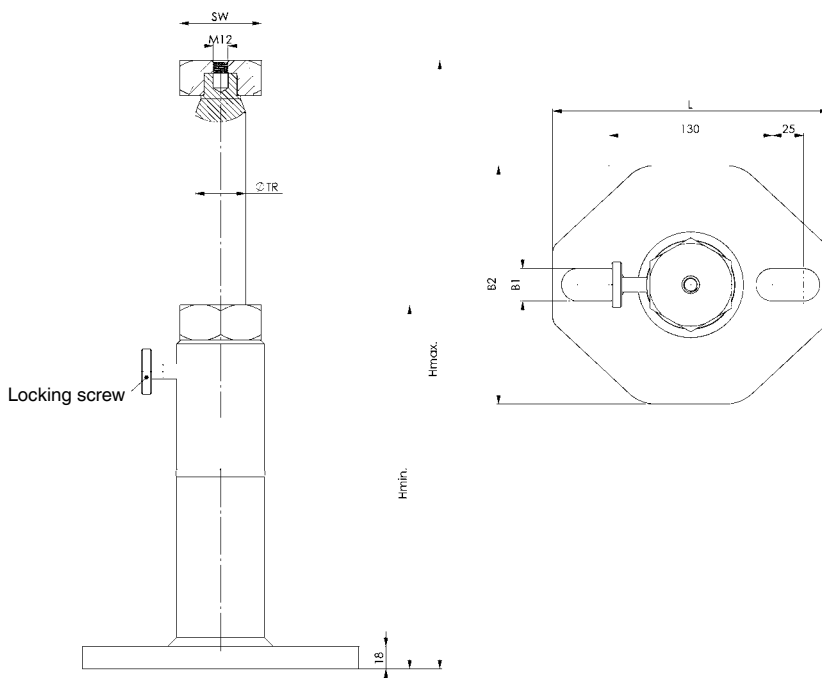
Order no.	Size	H min.	H max.	TR	B1	B2	L	SW	F max. [kN]	Weight [Kg]
376251	300	200	300	40x7	26	190	220	65	80	8,0
376277	460	290	470	40x7	26	190	220	65	60	12,0
376293	750	430	750	40x7	26	190	220	65	50	12,6
376319	1250	710	1250	40x7	26	190	220	65	40	16,5

Advantage:

- Base plate with closed elongated holes for use on vertical turning and boring machines
- Thread in the head's mounting surface for fixing the clamping elements used with centrifugal forces

Note:

When using clamps no. 6315GNG with slot-sizes above 26 mm we recommend the use of locating pad no. 6443G for safety. Suitable pads are no. 6442G and 6443G. Do not adjust screw jack under load!



Recommendations



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CAD

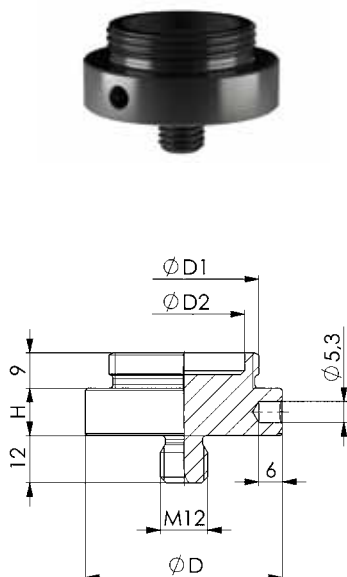
No. 6442G
Centring plate with thread

Steel tempered, burnished.

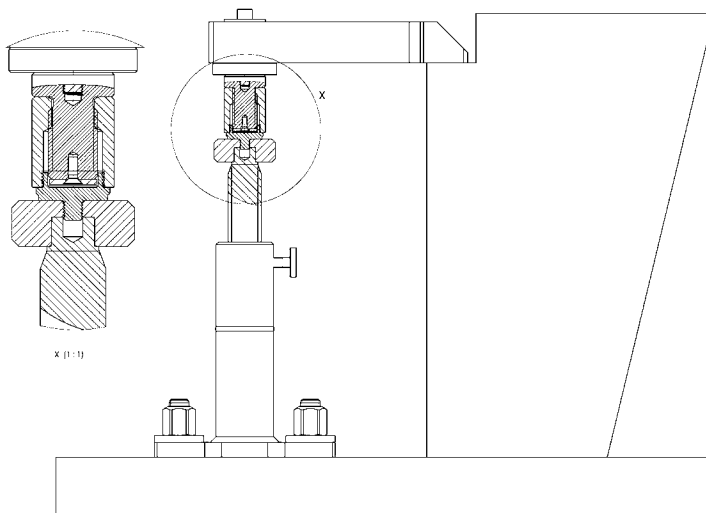
Order no.	H	D	D1	D2	Weight [g]
376335	12	50	M38x2	30,8	240

Advantage:

Centring plate can be screwed onto screw jacks. Safety with vertical turning and boring machines! The screw jacks no. 6400G can be screwed onto the centring plate.



CAD

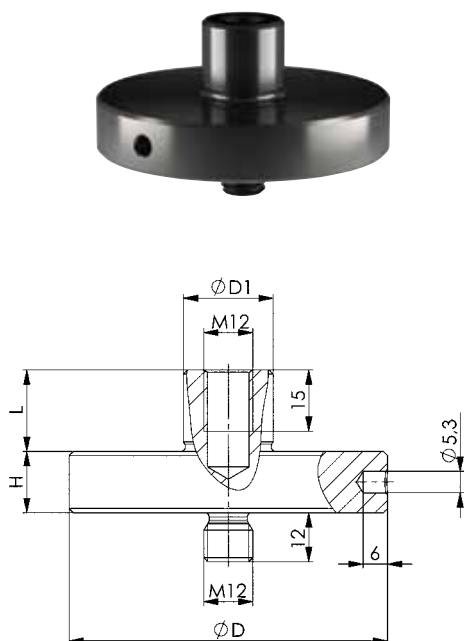

No. 6443G
Fixing cap with thread

for forked clamps. Steel tempered, burnished.

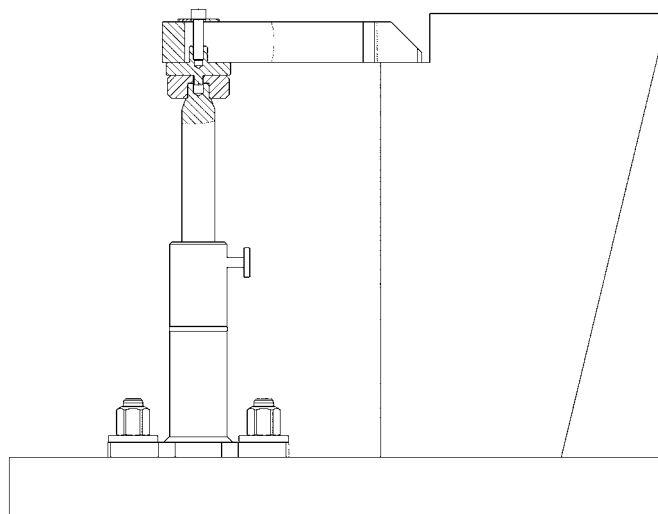
Order no.	Size	H	D	D1	L	Weight [g]
376350	25	15	78	25	20	601

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.



CAD



Subject to technical alterations.

No. 6417
Mandrel

blued, with brass thrust piece.

Order no.	Size	Slot	H $\pm 0,1$	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:

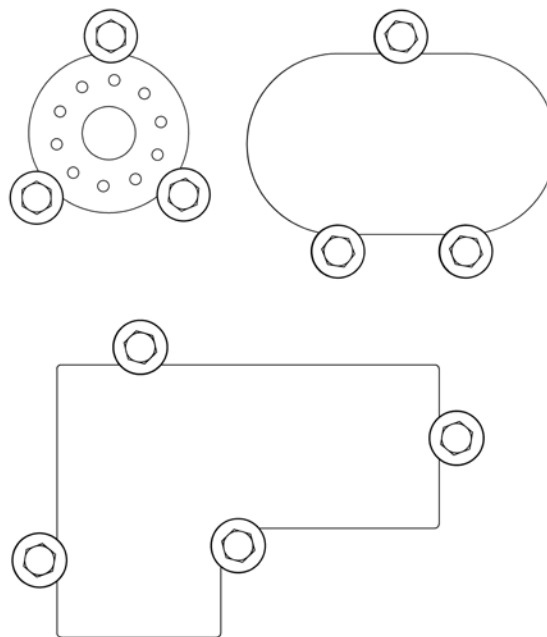
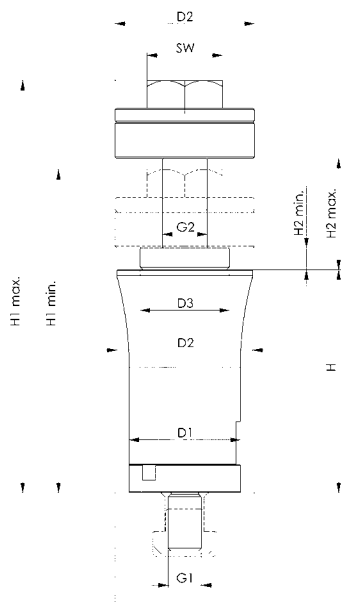
- The mandrels are fastened to the machine table by means of T-nuts.
- The mandrel is fixed on the slotted table by operating the SW 27 mm pre-tensioning nut.
- Clamping is by means of the SW 27 mm screw of tempered steel.
- Damage to the workpiece is prevented by a brass clamping ring.

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

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Subject to technical alterations.

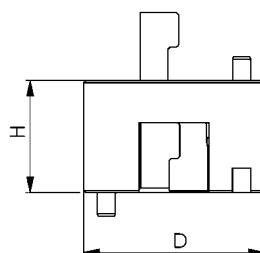
No. 6417Z
Spacer element

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

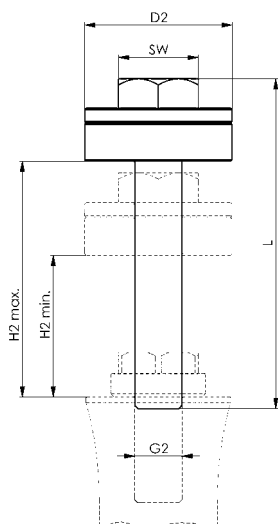

No. 6417SP
Vis longue

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:

- 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).
- 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.
- 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.
- 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:

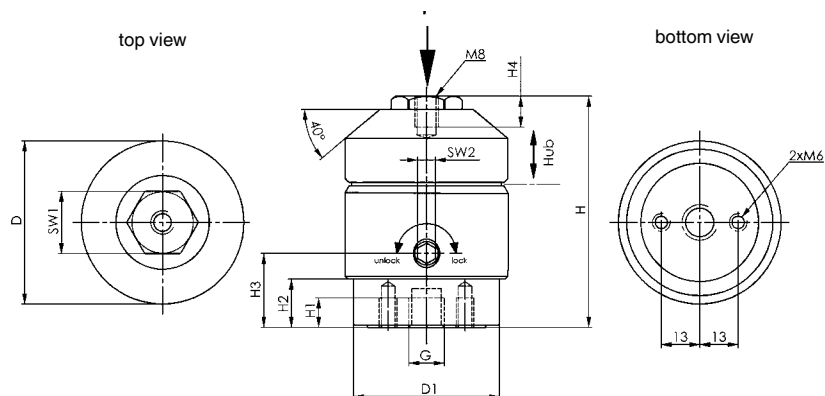
- Used as an extra support to prevent sagging and vibration of the workpiece.
- Mounted directly under a clamping point, it prevents distortion of the workpiece.
- Compensation of large workpiece tolerances (castings).

Note:

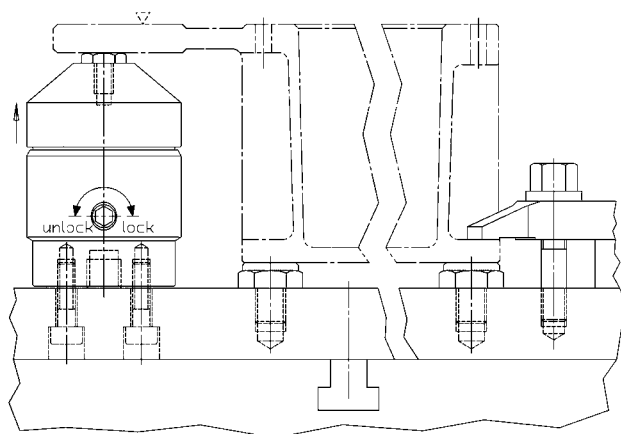
- M8 thread on supporting bolt can be mounted with pressure screws (Nos. 7110DHX, 7110DIX, 7110DKX, 7110DFX).
- Customer-specific extensions can also be mounted.
- For reliable function the M12 threaded hole must always be closed.

Dimensions:

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



Application example:



No. 6419

Floating clamp

incl mounting for T-grooves.



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.

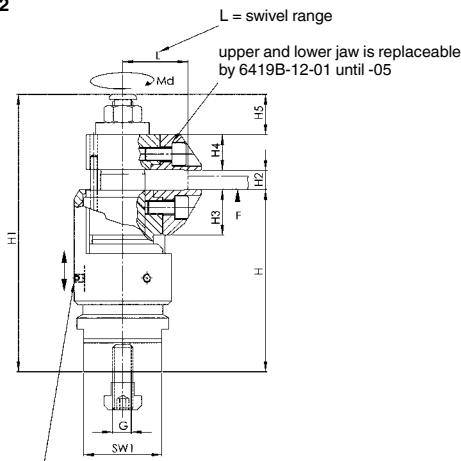
Advantage:

- 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)

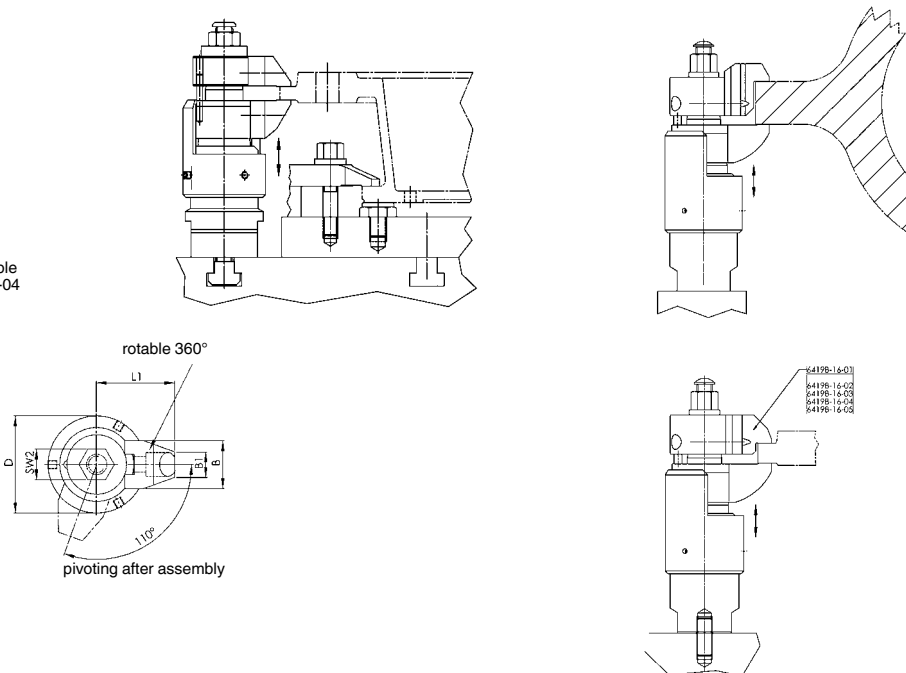
Size 12



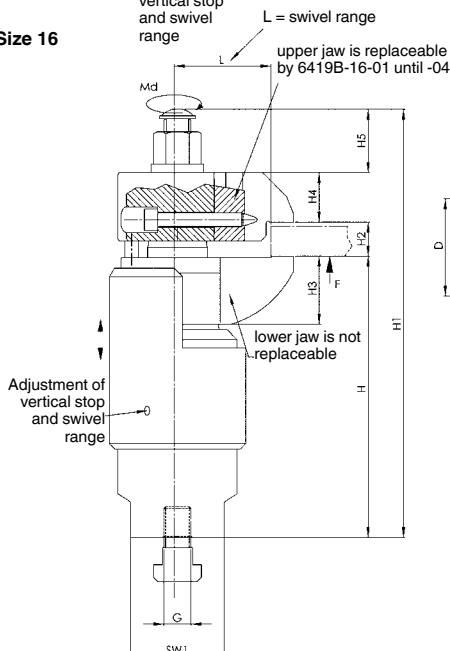
Dimensions:

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

Application examples:



Size 16



Subject to technical alterations.

No. 6419B-12-01

Clamping jaw

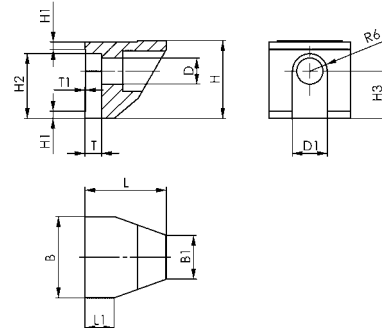
Case-hardened steel, nitrided and burnished.
Lower standard clamping jaw.



Order no.	Size	B	B1	D	D1	H -0,1	H1	H2	H3	L	L1	T +0,2	T1	Weight
					+0,02			-0,1	±0,1					[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.



CAD



No. 6419B-12-02

Clamping jaw

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

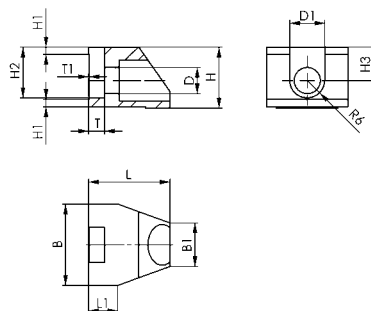


Order no.	Size	B	B1	D	D1	H -0,1	H1	H2	H3	L	L1	T +0,2	T1	Weight
					+0,02			-0,1	±0,1					[g]
71605	12	28	15	9	12	21	2,5	17,5	11,5	29,5	11,5	5,5	0,2	71

Clamping range = workpiece thickness 0-12 mm.

Note:

Fastening with ISO 4762-M8 cylinder bolts.



CAD



No. 6419B-12-03

Clamping jaw

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

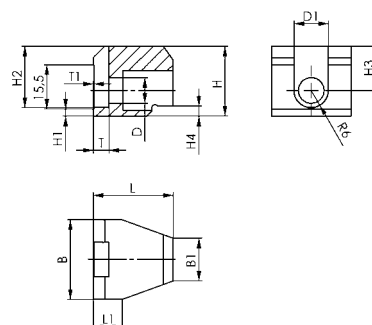


Order no.	Size	B	B1	D	D1	H -0,1	H1	H2	H3	H4	L	L1	T +0,2	T1	Weight
					+0,02			-0,1	±0,1						[g]
74229	12	28	15	9	12	24,5	2,5	21,5	15,5	3,5	29,5	11,5	5,5	0,2	94

Clamping range = workpiece thickness 4-16 mm.

Note:

Fastening with ISO 4762-M8 cylinder bolts.



CAD



Subject to technical alterations.

No. 6419B-12-04

Clamping jaw

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

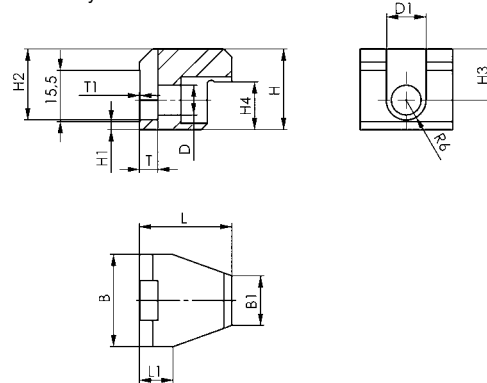


Order no.	Size	B	B1	D	D1	H -0,1	H1	H2	H3	H4	L	L1	T +0,2	T1	Weight [g]
74245	12	28	15	9	12	24,5	2,5	21,5	15,5	14,5	29,5	11,5	5,5	0,2	90

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.

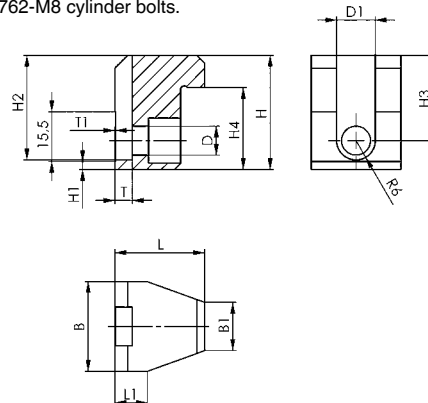


Order no.	Size	B	B1	D	D1	H -0,1	H1	H2	H3	H4	L	L1	T +0,2	T1	Weight [g]
75051	12	28	15	9	12	35,5	2,5	32,5	26,5	25,5	29,5	11,5	5,5	0,2	132

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.

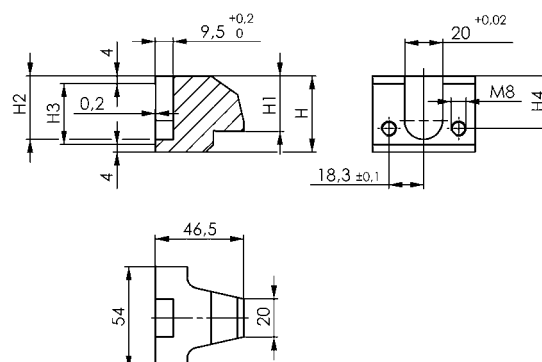


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75382	16	40	29	33,3	32	27,6	400

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.

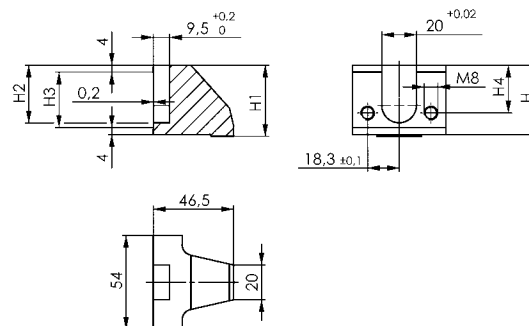


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75424	16	40	41	33,3	32	27,6	380

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.

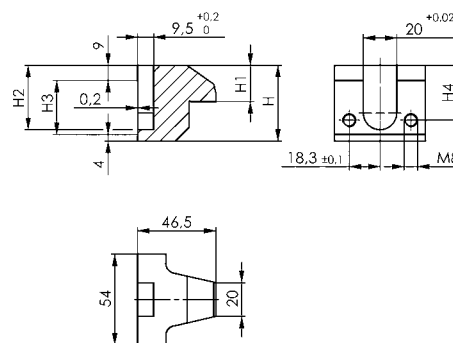


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75440	16	45	21,6	38,3	32	32,6	440

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.

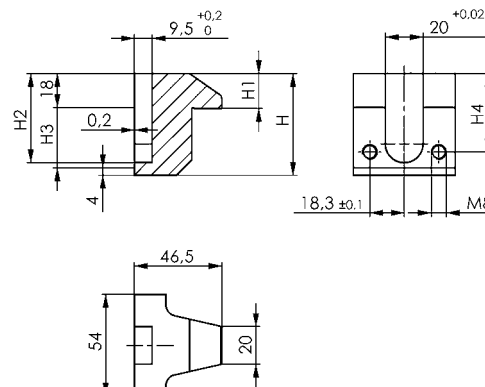


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75630	16	54	18,6	47,3	32	41,6	510

Clamping range = workpiece thickness 35-50 mm.

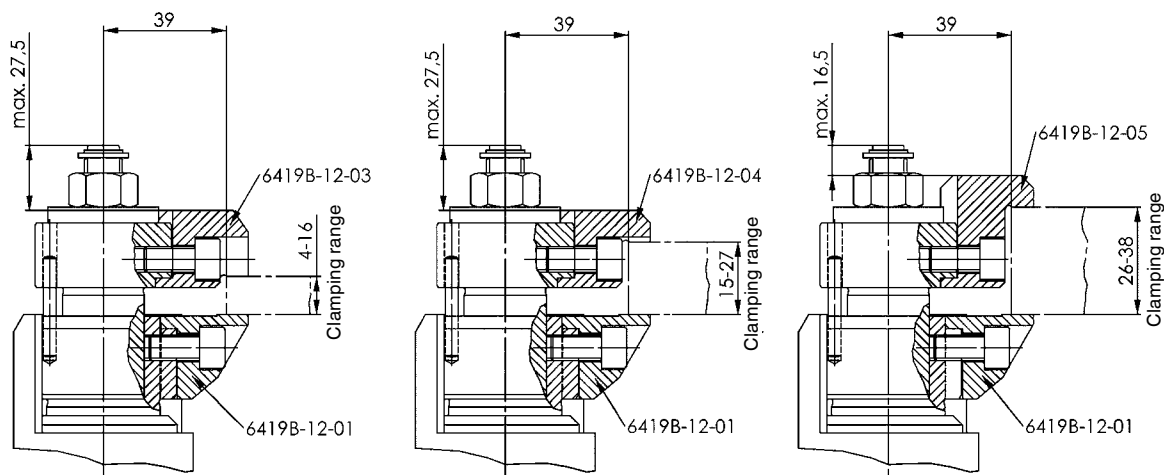
Note:

Fastening with ISO 4762-M8x50 cylinder bolts.

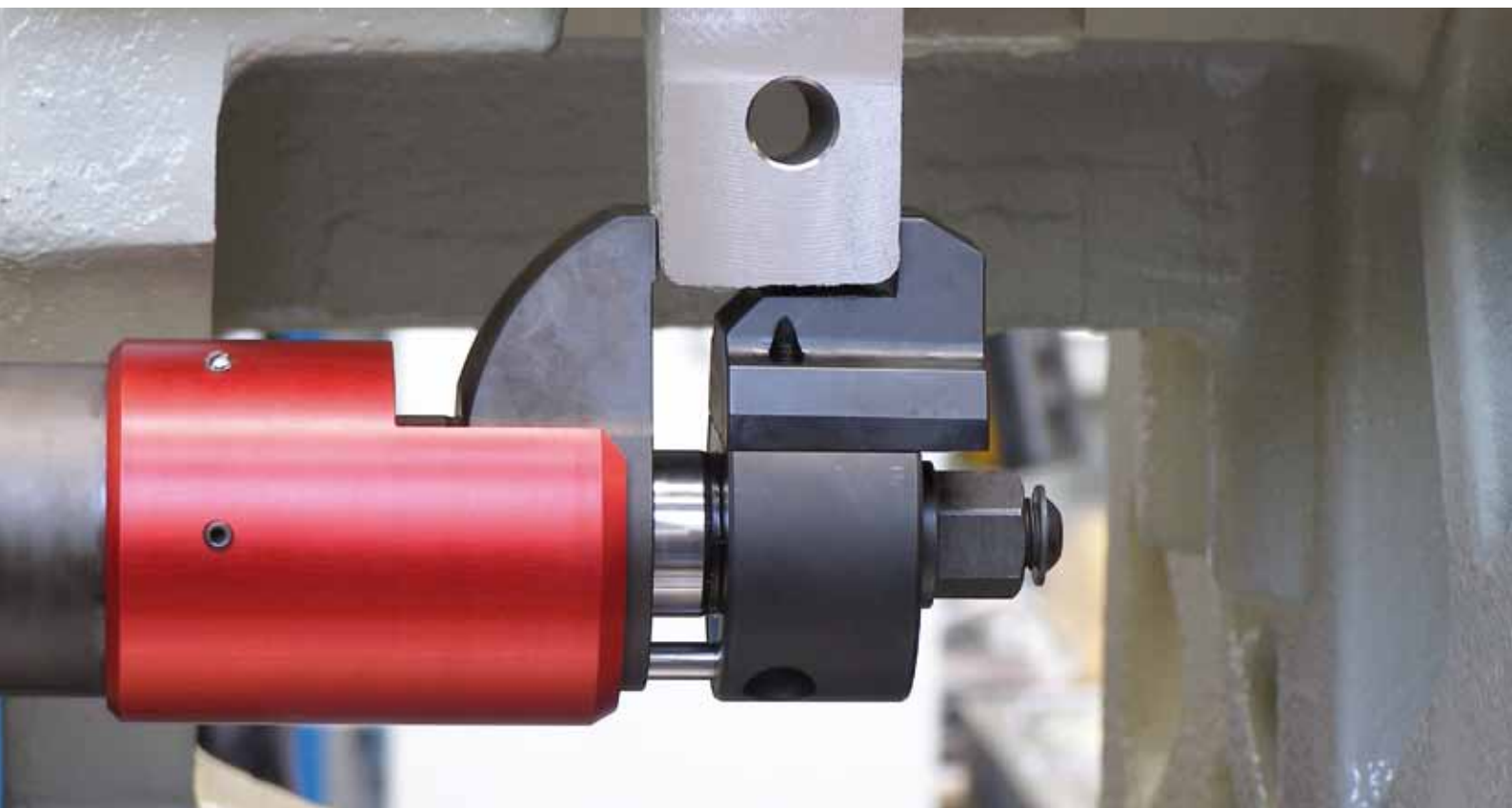
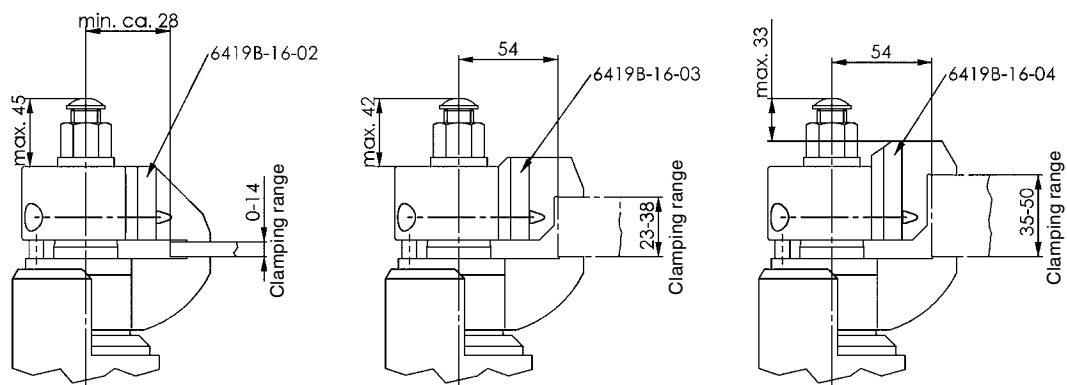


Subject to technical alterations.

Application example No. 6419B-12



Application example No. 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:

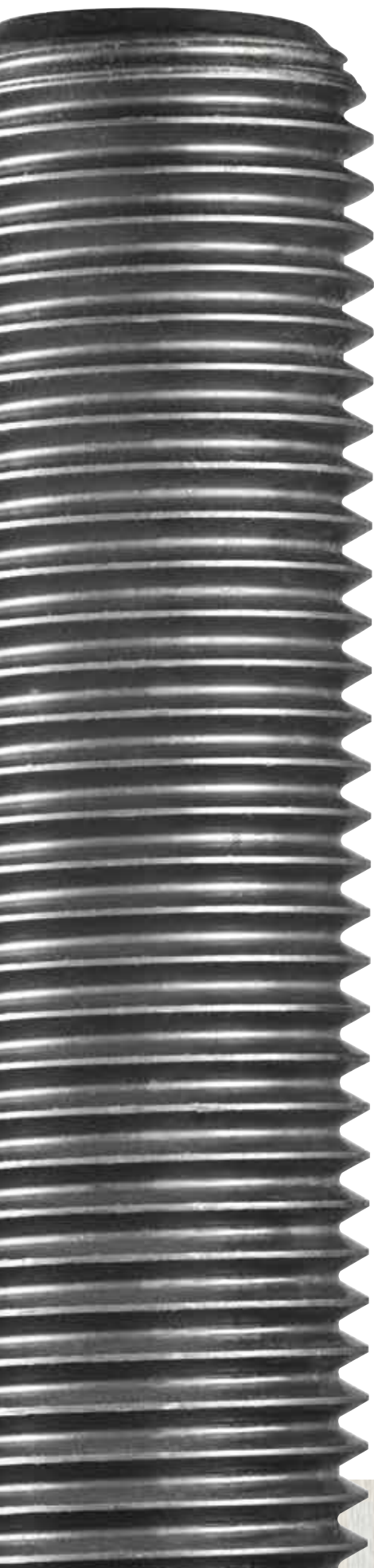
- > Strict checks guarantee a consistent quality level.
- > High quality clamping bolts and nuts last longer, reduce tool management and idle periods resulting in more economy in the long run.

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 DIN787 are manufactured within tensile strength classes 8.8, 10.9 and 12.9.

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

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

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

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

STRENGTH OF HEXAGON NUTS:

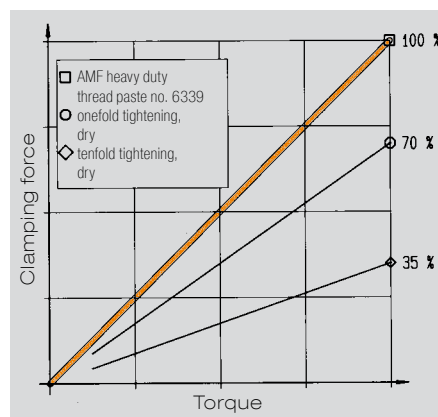
The individual characteristic in tensile strength class 10. defined is:

- 10. = minimum test strength = 1000 N/mm²

This test strength is equal to the minimum 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:

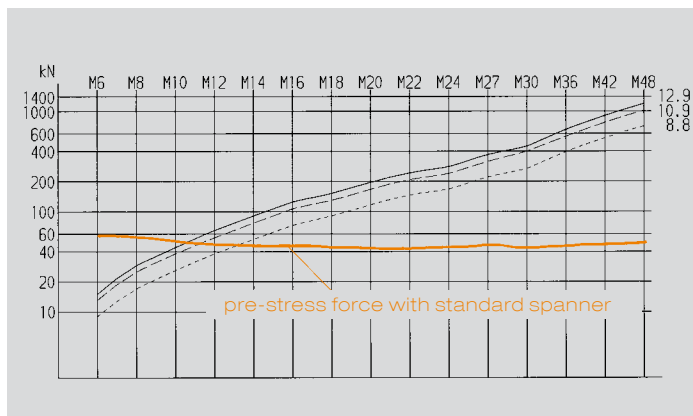
Frequent use of non-greased bolt/nut connections in fixtures will reduce clamping forces considerably at still constant torques, with additional wear involved!

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

	Tensile strength classes			
	8.8	10.9	12.9	10
DIN 787	X	X	X	-
DIN 6379	X	X	-	-
DIN 6330B DIN 6331 Nr. 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:

Thead	Tensile	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M36	M42	M48	
Pitch of thread		mm	1	1.25	1.50	1.75	2	2	2.50	2.50	2.50	3	3	3.50	4	4.50	5
Nuts:																	
Hardeness DIN6330/6331/6334	HRC	10	25 - 35													20 - 30	
Test force (AS x Sp) DIN EN 20898-2	kN	10	20.9	38.1	60	88	121	165	203	260	321	374	486	595	866	-	-
Nuts for T-Slots DIN508/DIN508L:																	
Size		M6x8	M8x10	M10x12	M12x14	-	M16x18	-	M20x22	-	M24x28	-	M30x36	M36x42	M42x48	M48x54	
Hardeness	HRC	22 - 30															
Test force	kN	16	29	46	67	-	128	-	196	-	282	-	448	653	653	653	
Bolts:																	
Hardeness	HRC	8.8	22 - 32						23 - 34								
		10.9	32 - 39														
		12.9	39 - 44														

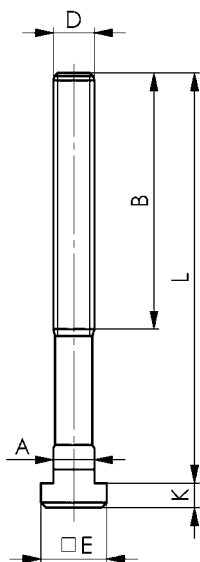
Tightening data: () Not in the AMF-range.																	
Minimum breaking force (AS x Rm)	kN	8.8	(16)	(29)	(46)	(67)	92	125	159	203	252	293	381	466	678	930	1222
		10.9	21	38	60	88	(120)	(163)	(200)	(255)	(315)	(367)	(477)	(583)	(850)	(1165)	(1531)
		12.9	(24)	(45)	71	103	(140)	192	(234)	299	(370)	431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

As = nominal cross section in mm² / Sp = min. clamping force in N/mm² / Rm = min. load factor in N/mm² / μ = friction

DIN 787

Bolts for T-slots

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



Recommendations



DIN 6331,
page 102



DIN 6340,
page 107

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

Subject to technical alterations.

DIN 787

Bolts for T-slots

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

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

() similar to DIN.

On request:

Other sizes on request.



CAD

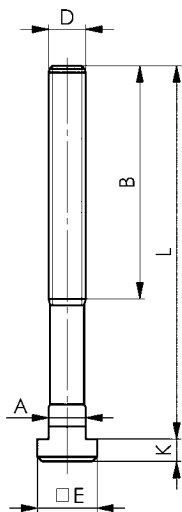


Subject to technical alterations.

DIN 787

Bolts for T-slots

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



Recommendations



DIN 6331,
page 102



DIN 6340,
page 107

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

Subject to technical alterations.

DIN 787

Bolts for T-slots

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

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

() similar to DIN.

On request:

Other sizes on request.

Note:

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



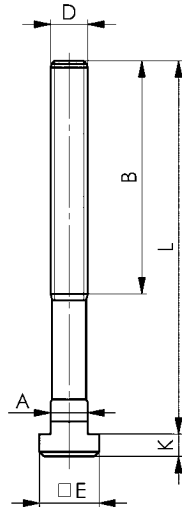
Subject to technical alterations.



DIN 787

Bolts for T-slots (12.9)

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

Matching nuts DIN 6330B and washers DIN 6340.

() similar to DIN.

Recommendations



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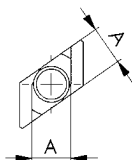
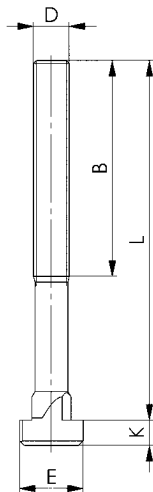


Subject to technical alterations.

No. 797

Rhombus-head screw for T-slots

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



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

Matching nuts DIN 6330B and washers DIN 6340.

Recommendations



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Application:

Additional clamping point with fixture already clamped.

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



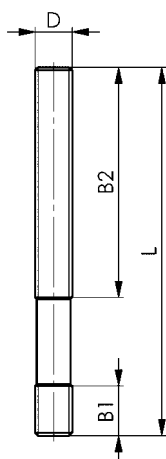
Subject to technical alterations.



DIN 6379

Studs

Rolled thread. M 6-M12 tempered to strength class 10.9,
M14-M42 tempered to strength class 8.8.
The specially developed AMF-studs for clamping purposes are
graduated by length according to DIN 323 series R10 figures.



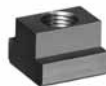
Recommendations



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

Subject to technical alterations.

DIN 6379
Studs

Rolled thread. M 6-M12 tempered to strength class 10.9,
M14-M42 tempered to strength class 8.8.
The specially developed AMF-studs for clamping purposes are
graduated by length according to DIN 323 series R10 figures.

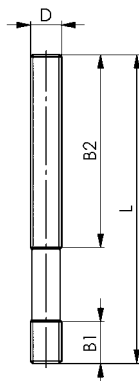
Order no.	D x L	B1	B2	Packaging Unit	Weight [g]
81695	(M27x125)	39	56	-	485
81703	(M27x200)	39	122	-	770
81711	(M27x315)	39	200	-	1110
86587	(M27x400)	39	250	-	1535
81729	(M27x500)	39	315	-	1930
85068	M30x125	43	56	-	590
81612	(M30x200)	43	122	-	950
81620	M30x315	43	200	-	1490
81638	M30x500	43	315	-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



Subject to technical alterations.

DIN 6379
Studs (12.9)

rolled thread. Tempered to strength class 12.9.
The stud bolts developed by AMF especially for clamping purposes have lengths adapted to the standard dimensions.



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

Recommendations


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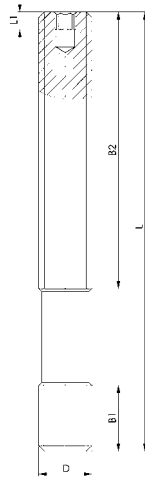


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CAD


DIN 6379I
**Threaded pins (12.9)
with hexagon socket**

rolled thread. Tempered to strength class 12.9.
The stud bolts developed by AMF especially for clamping purposes have lengths adapted to the standard dimensions.



Order no.	D x L	B1	B2	L1	SW	Weight [g]
381954	M12x100 *	15	63	4	4	82
381913	M12x125 *	15	75	4	4	90
381970	M12x160 *	15	100	4	4	130
381996	M16x125	19	75	4	4	161
381939	M16x160	19	100	4	4	207
382010	M16x200	19	125	4	4	259
382028	M20x160	27	100	5	5	321
382036	M20x200	27	125	5	5	410
382044	M20x250	27	160	5	5	577
382051	M24x200	35	125	5	5	670
382069	M24x250	35	160	5	5	835

* Tensile strength class 10.9.

Application:

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

Advantage:

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

Note:

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

CAD



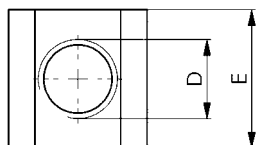
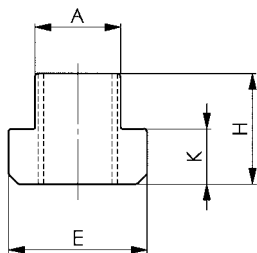
Subject to technical alterations.



DIN 508

Nuts for T-slots (T-nuts)

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



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

* Former standard 1928 or AMF works standard.

On request:

Special makes on request.

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CAD

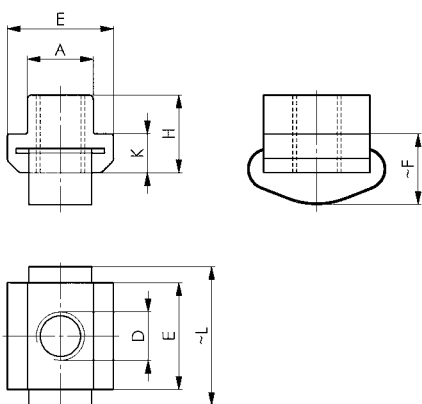


Subject to technical alterations.

No. 508F

T-nuts with spring (pat. pend.)

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



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

Advantage:

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

Recommendations



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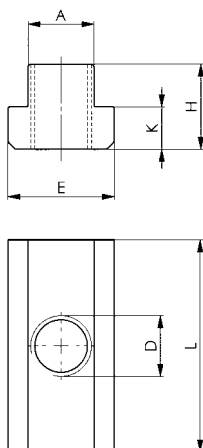
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No. 508L

Nuts for T-slots, extended

Hardened, strength class 10



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

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

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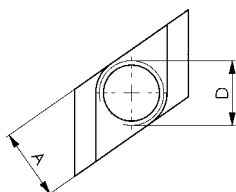
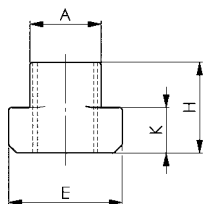


Subject to technical alterations.

No. 510

Nuts for T-slots „Rhombus“

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



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

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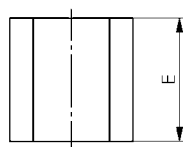
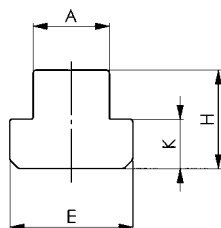
CAD



No. 508R

Blanks for T-nuts

Tempering steel 0.35-0.45 % C.



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

Note:

Heat treatment to tensile strength class 10, i.e. 22-32 HRC. Hardening: 880°C-45 minutes, quenched in oil of 75°C and tempered at 550°C-2 hours. These blanks allow economical manufacture of T-nuts with non standard threads.

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CAD

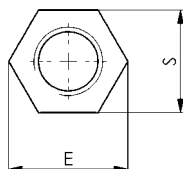
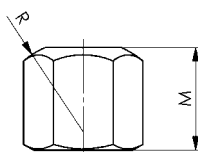


Subject to technical alterations.

DIN 6330B

Hexagon nut

height 1,5 dia. Tempered, tensile strength class 10. With spherical end matching taper face of washers DIN 6319 D or G. Flat end matching hardened washers DIN 6340.



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

* Old DIN standard.
() DIN expanded.

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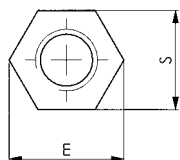
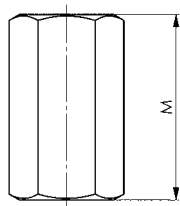
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No. 6334

Extension nut

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



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

* old DIN standard.

Application:

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

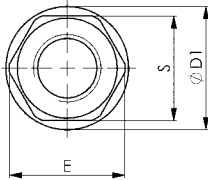
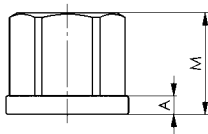


Subject to technical alterations.

DIN 6331

Collar nut

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



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

* Old DIN standard.
() DIN expanded.

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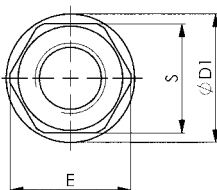
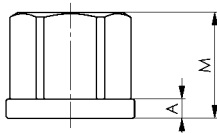
CAD



DIN 6331

Collar nut

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



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

() DIN extended.

Recommendations



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CAD

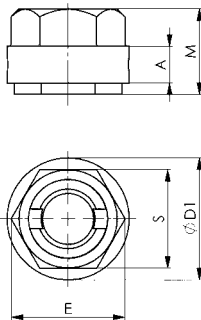


Subject to technical alterations.

No. 6331S

Quick-action clamping nut with collar

Forged, hardened, strength class 8.



Order no.	Size	A	D1	E	M	S	Weight [g]
88112	M16	10,4	35,5	30,68	23,4	27	105
88120	M20	12,5	42,0	38,60	29,0	34	210
88138	M24	16,0	50,4	46,72	34,8	41	365

Application:

Slide quick-action clamping nut over thread up to clamping point and lock. Tighten outer bushes by 1/2 turn.

Advantage:

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

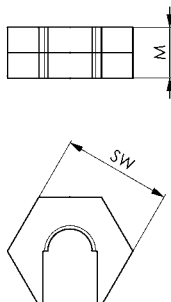
CAD



No. 6332S

Quick-action clamping nut without collar

hardened and zinc-plated, strength class 6.



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

Application:

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

Advantage:

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

CAD

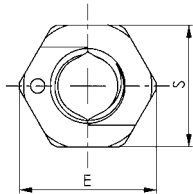
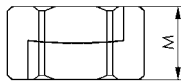


Subject to technical alterations.

No. 6333S

AMF-TWINNUT nut - without collar

with separation block.



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 savings with long and damaged studding
- Can be used over corroded or thread-damaged studding, or even studding bent up to 20°
- Compact design and extremely easy handling
- Fast mounting and dismounting with normal tools
- Holding power like solid nuts of the same size with FK10.

Note:

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

On request:

Other materials and special sizes on request.

Recommendations

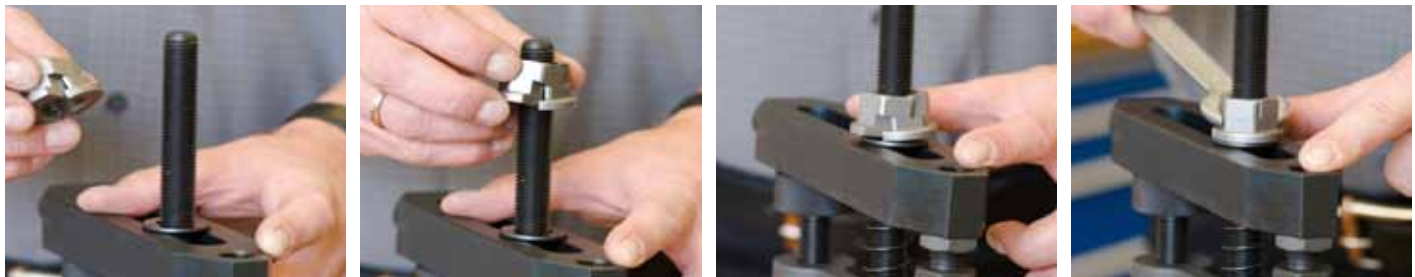


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Easy mounting of the TWINNUT collar nut:



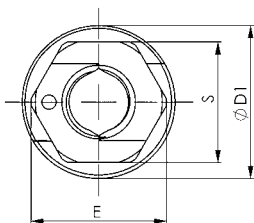
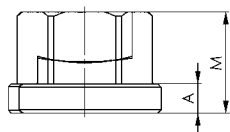
Easy removal of the TWINNUT collar nut:



No. 6333SB

AMF-TWINNUT nut - with collar

with separation block.



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 savings with long and damaged studding
- Can be used over corroded or thread-damaged studding, or even studding bent up to 20°
- Compact design and extremely easy handling
- Fast mounting and dismounting with normal tools
- Holding power like solid nuts of the same size with FK10.

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.

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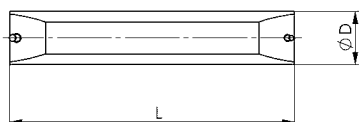
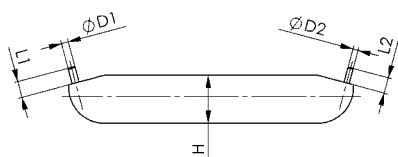


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No. 6333

Mounting key



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

Application:

For easy opening of the AMF-TWINNUT nuts.

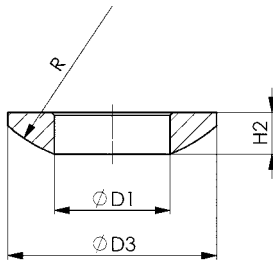
Note:

Usable for all nut sizes.

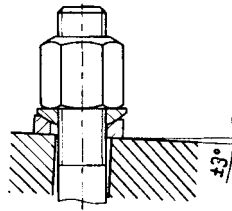
DIN 6319C

Spherical seat washer

Case hardened and phosphated.



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



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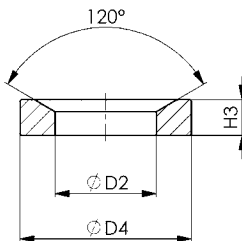


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DIN 6319D

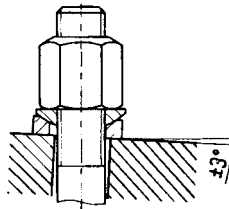
Dished washer

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



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

* max. transmittable static screw force.



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DIN 6319D

Dished washer

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

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

* max. transmittable static screw force.

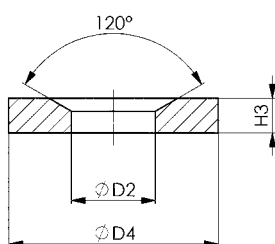


Subject to technical alterations.

DIN 6319G

Dished washer

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



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

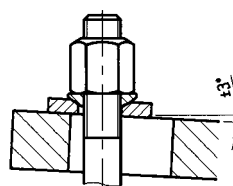
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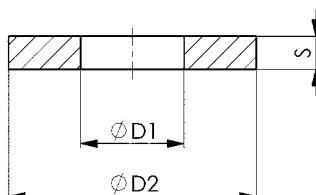
CAD



DIN 6340

Washer

tempered (350 + 80 HV30)

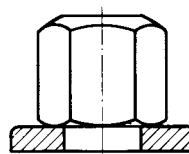


Order no.	Size	Size inch	D1	D2	S	Packaging Unit	Weight [g]
82818	M6	1/4	6,4	17	3	100	5
82826	M8	5/16	8,4	23	4	100	10
82834	M10	3/8	10,5	28	4	100	16
82842	M12	1/2	13	35	5	100	35
82859	(M14)	-	15	40	5	50	40
82867	M16	5/8	17	45	6	50	60
82875	(M18)	-	19	45	6	50	60
82883	M20	3/4	21	50	6	50	73
82891	(M22)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

Recommendations



DIN 6330B,
page 101



CAD



Subject to technical alterations.

No. 6530

Boxed set of assorted clamping elements

with low height clamping jaws no. 6490 and thread paste no. 6339.

These case assortments are for machine tools with T-slot tables and contain all necessary elements for fast clamping of dies, fixtures or workpieces. All items are interchangeable and can be replaced. They are made of tempering steel to DIN or work standard. Screw items to tensile strength class 8 or 10 resp. Wooden case with removable 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 spring type clamp support no. 6342 and thread paste no. 6339.

Description as for no. 6530, but without low height clamping jaws no. 6490. Included instead are 4 spring type clamp supports no. 6342 each.



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

supplied in solid wooden case with lid. All items tempered to strength class 8, resp. 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, 4x15, 4x160	4x	4x	4x	4x	4x	339x294x48	7,4
83048	M18x20	2)	6x80, 8x15, 4x200, 4x315	4x	4x	4x	-	4x	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 items of tempering steel, T-bolts tempered, rolled thread. Ideal set for toolroom, manufacturing and training purposes.



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, 4x100, 4x160	2x100, 2x160	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

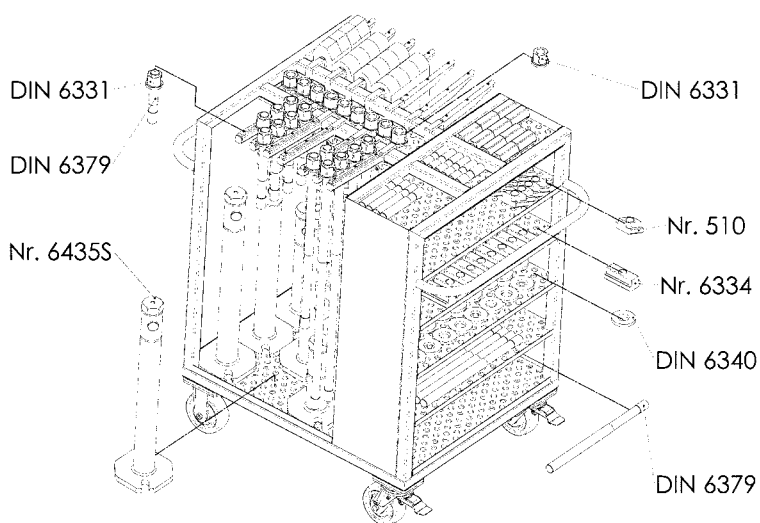
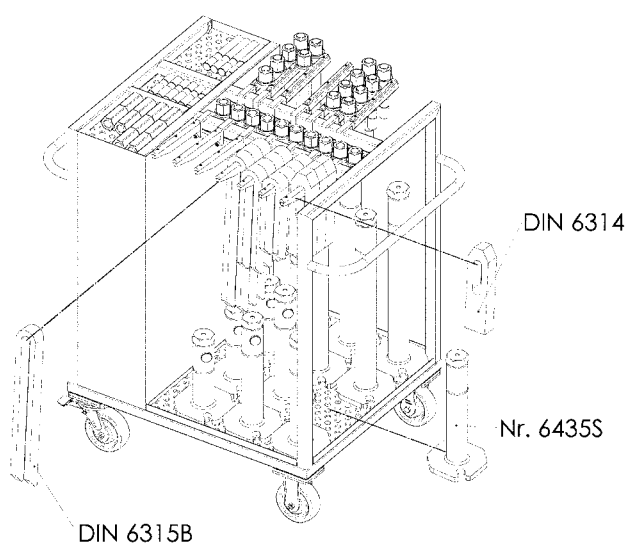
incl. clamping equipment tool cart no. 6470.



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

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

Subject to technical alterations.



No. 6470H-1

Holder for clamping bolts

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



No. 6470H-2

Holder for clamps

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



No. 6535

Set of assorted plastic clamping elements

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

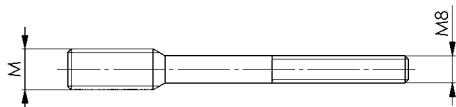
Order no.	Size	M	L x W x H	Weight [g]
83071	06	M6	440x370x50	1700
83105	08	M8	440x370x50	1740
83089	10	M10	440x370x50	1770
83097	12	M12	440x370x50	1800

Application:

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

Advantage:

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



Recommendations



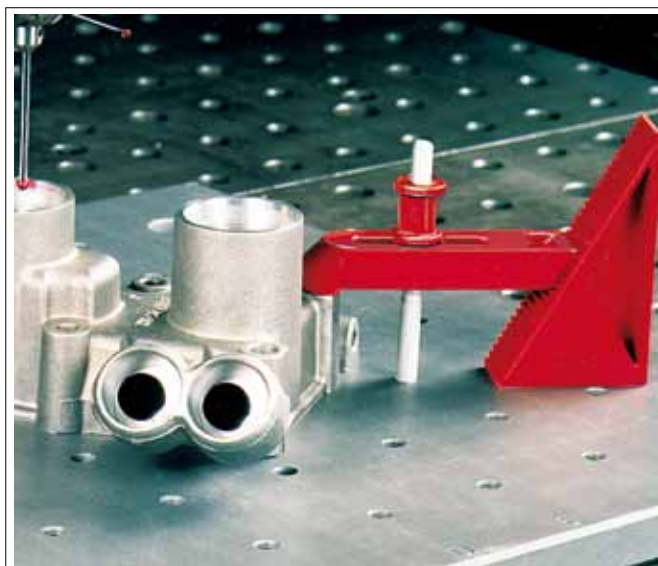
No. 6530,
page 108



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No. 6520,
page 109



Subject to technical alterations.

No. 6339

Heavy duty thread paste



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

Application:

Thread lubrication for nuts/bolts in clamping devices of high operating frequency, in particular when using aggressive cooling lubricants.

Non greased (dry) threaded connections are subject to high frictional forces and early wear at frequent strong operations, resulting in reduction of clamping force. AMF-thread paste provides optimal sliding characteristics for increased clamping force and improved thread life.

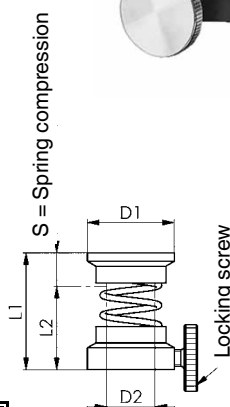
Features:

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.

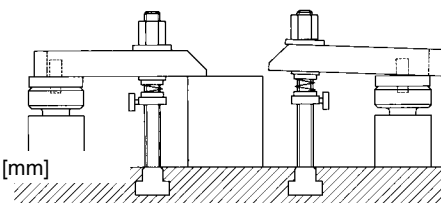
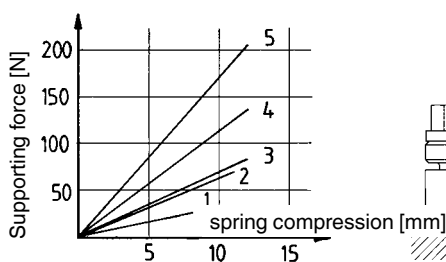
Recommendations



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No. 6485

T-slot scraper



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

Subject to technical alterations.

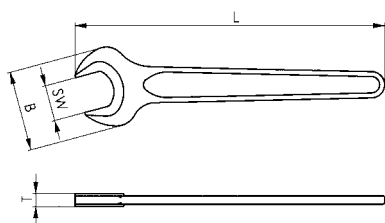
DIN 894

Open-ended spanner, single-ended

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



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



No. 6486

T-slot cover

of profiled aluminium.
Easily sawn to size.



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

Advantage:

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

CAD



Subject to technical alterations.

No. 6540

Chain clamping set

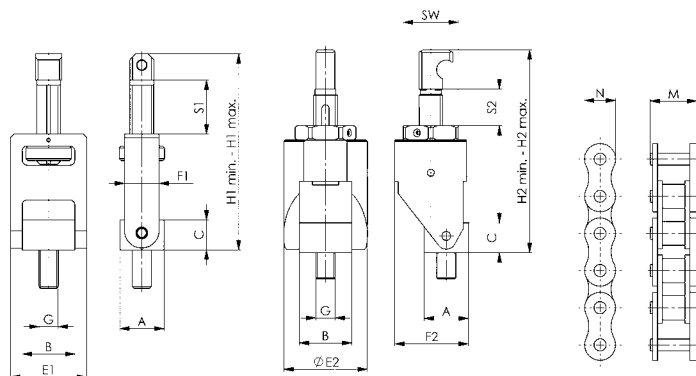
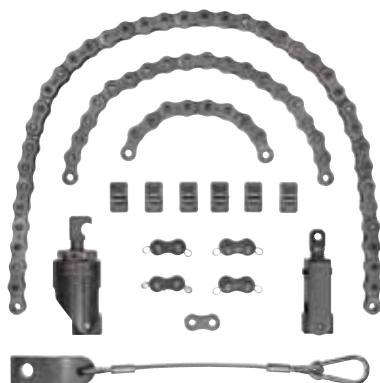
Tensioning hook and take-up unit are hardened and tempered. Chain is made of alloy steel. Please order mounting for T-slots (No. 6541) separately.

Consisting of:

- Tensioning hook
- Clamp chain protection set
- Take-up unit
- 4 different lengths of chain
- 4 connecting links with split pins
- 6 plastic clip elements (for workpiece protection)

Total length M12 = 1302 mm

Total length M16 = 1829 mm



Dimensions:

Order no.	A	B	C	E1	F1	H1 min.	H1 max.	Clamping stroke	E2	F2	H2 min.	H2 max.	Clamping stroke	M	N	SW
								S1					S2			
87601	36	36	18	49	21	95	125	30	54	49	111	127	16	20	15	36
87627	37	44	25	64	29	117	162	45	70	62	140	170	30	33	21	46

Order no.	Slot	Screw G	max. permissible torque [Nm]	max. possible clamping force [kN]	Weight [g]
87601	14, 16, 18	M12	45	15	2628
87627	18, 20, 22, 24	M16	90	40	7640

Application:

Mainly used for clamping cylindrical parts, such as valve bodies, flanges, pump housings, pistons etc. this device can be used both on machine tables and on clamping pallets. Initial selection of the chain length and setting clamping force is carried out at the take-up unit by turning the knurled nut. Finally, the torque necessary to generate clamping force is applied to the tensioning hook. Plastic pressure pads can be inserted in the chain links to protect the workpiece surface.

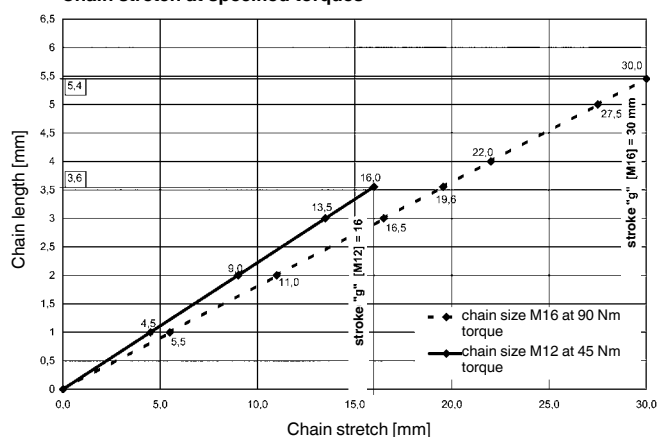
Advantage:

- Uniform pressure distribution reduces workpiece deformation.
- Workpiece can be protected by plastic pressure pads inserted in the chain links.
- Large range of adjustment (tensioning stroke) at take-up unit and tensioning hook.

Note:

For larger clamping tasks, the clamping hooks, counterholders and clamping chains of size M20 and M24 are used.

Chain stretch at specified torques

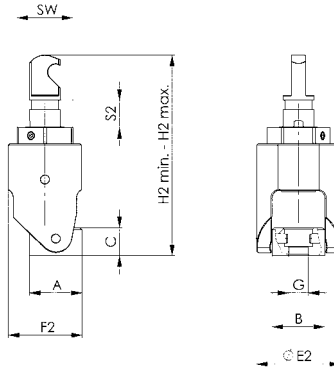


Subject to technical alterations.

No. 6540H

Hook end, mechanical

Order no.	Size	Slot	G	max. permissible torque [Nm]	max. possible clamping force [kN]	SW	Weight [g]
374934	M12	14, 16, 18	M12	45	15	36	853
374959	M16	18, 20, 22, 24	M16	90	40	46	1902
376517	M20	22-28	M20	190	75	65	6037
376533	M24	28-36	M24	300	120	65	6040



Dimensions:

Order no.	Size	A	B	C	E2	F2	H2 min.	H2 max.	Clamping stroke S2
374934	M12	36	36	18	54	49	111	127	16
374959	M16	37	44	25	70	62	140	170	30
376517	M20	58	64	41	98	80	220	272	52
376533	M24	58	64	41	98	80	222	285	63

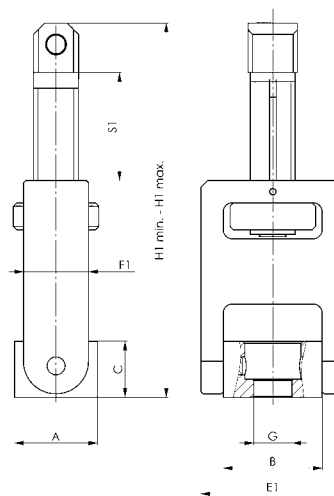
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No. 6540G

Counter catch

Order no.	Size	Slot	G	S1 Stroke	max. possible clamping force [kN]	Weight [g]
374710	M12	14, 16, 18	M12	30	15	450
374728	M16	18, 20, 22, 24	M16	45	40	1240
376657	M20	22-28	M20	50	75	3402
376632	M24	28-36	M24	60	120	4008



Dimensions:

Order no.	Size	A	B	C	E1	F1	H1 min.	H1 max.
374710	M12	36	36	18	49	21	95	125
374728	M16	37	44	25	64	29	117	162
376657	M20	58	64	41	92	48	175	228
376632	M24	58	64	41	92	48	186	246

CAD

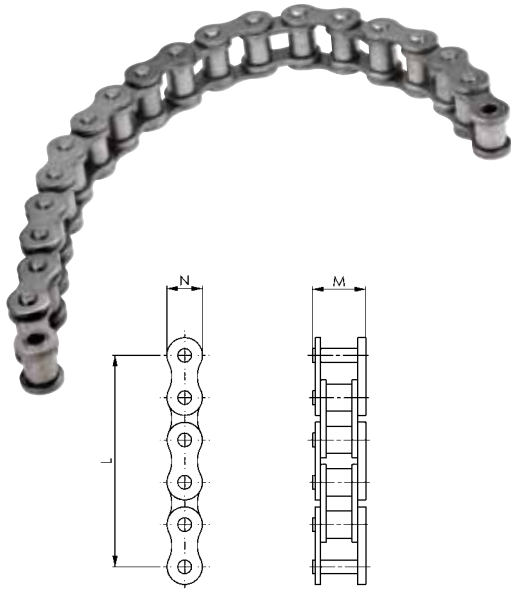


Subject to technical alterations.

No. 6540K

Roller chain

Single roller chain DIN 8187. ISO R 606 B, ST 37-2.
Surface: plain.



Order no.	Size	max. possible clamping force [kN]	L	M	N	Weight [g]
374736	M12	15	125	20	15	114
374744	M12	15	250	20	15	228
374751	M12	15	500	20	15	455
374769	M12	15	1000	20	15	910
374777	M16	40	125	33	21	335
374785	M16	40	250	33	21	670
374793	M16	40	500	33	21	1340
374801	M16	40	1000	33	21	2680
376673	M20	75	1000	43	25	3720
376699	M20	75	1500	43	25	5580
376715	M20	75	2000	43	25	7440
376723	M24	120	1000	55	34	7050
376749	M24	120	1500	55	34	10575
376764	M24	120	2000	55	34	14100

Application:

The individual chain lengths can be joined as required using the connecting links (No. 69540V). The chain can be shortened to any length as required.

Advantage:

- Chain can be extended or shortened to the required length with ease
- both sides usable with counter catches or hook ends
- resistant to temperature influences and soiling
- chains are tensioned to minimise elongation.

On request:

Customised lengths available!

No. 6540KS

Clamp chain protection set

Completely pre-assembled.



Order no.	Size	Max. clamping force to be secured	Weight [g]
		[kN]	
376111	M12	15	280
376129	M16	40	350
376491	M20	75	1313
376558	M24	120	1313

Application:

To use the clamp chain safely, the protection set is simply screwed below the hook end or the counterholder. Then, using the supplied connecting link, the protection set is fastened above the hook end or counterholder. This prevents the clamp chain from snapping uncontrolledly if the hook end or counterholder breaks.

Advantage:

- Easy mounting of the protection set
- Safe handling of the clamp chain
- Improved work safety.

Note:

If the protection set is damaged, the entire set must be replaced.

No. 6540V

Connecting links with spring cotter pin



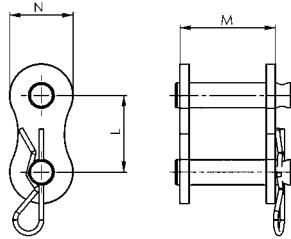
Order no.	Size	L	M	N	max. possible clamping force [kN]	Weight [g]
374819	M12	15,9	20	15	15	15
374827	M16	25,4	33	21	40	64
376780	M20	31,75	43	25	75	200
376806	M24	38,1	55	34	120	300

Application:

The connecting links are used for joining two chains together.

Advantage:

Chains simple and quick to combine and replace.



CAD



No. 6540F

Spring cotter pin

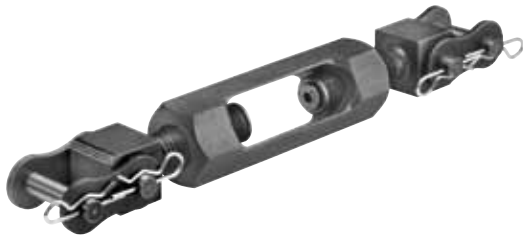
Packaging unit: 10 pcs.



Order no.	Size	Packaging unit [pc]	Weight [g]
374835	M12	10	0,5
374843	M16	10	1,0
376822	M20	10	2,2
376848	M24	10	6,5

No. 6540VS

Turnbuckle



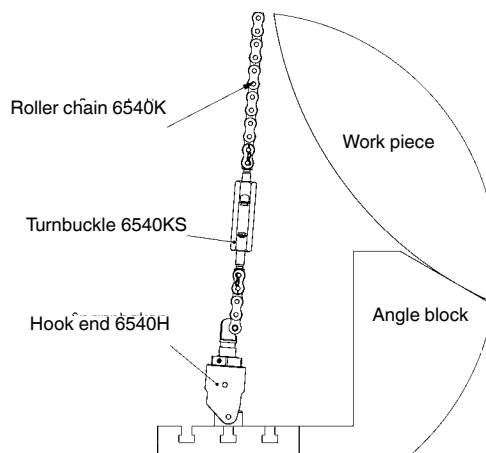
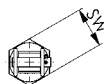
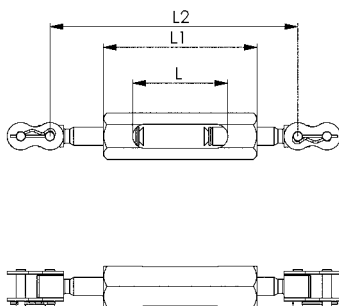
Order no.	Size	max. possible clamping force [kN]	L	L1	L2	B1	SW	Weight [g]
376459	M12	15	52	84	142	13	22	240
376616	M16	40	66	102	161	20	30	720
551514	M20	75	100	163	191 - 262	28	46	2222
551515	M24	120	105	170	230 - 296	31	50	3517

Application:

The turnbuckle is clamped between the chains using two locking links. The chain is pretensioned through turning, and the play (caused by lengthening of the chain) is removed.

Advantage:

- Optimal application of pretensioning with use of long clamping chains (3 m or longer)
- Counteracting chain stretching for long chains



CAD



Subject to technical alterations.

No. 6540S

Protective elements

for workpiece protection.
Packaging unit: 6 pcs.



Order no.	Size	Packaging unit [pc]	Weight [g]
374850	M12	6	3
374868	M16	6	5
376574	M20	6	10
376590	M24	6	16

Application:

The protective elements are pushed into the gaps between the chain links.

Advantage:

The workpiece surface is protected.

No. 6540P

Angle block, 120°

Tempered and burnished.



Order no.	Size	2R	B	B2	F	H2	H3	H4	L	L2	L3	L4	dia. S	dia. S1	Weight [g]
375568	M12	80	47	20	26	80	35	5,5	118	59	42	17	13,5	20	2499
375584	M16	100	47	20	33	100	44	5,5	148	74	44	17	17,5	26	3833

Advantage:

Optimised use of the clamp chain thanks to flexible positioning of the clamping prisms in the machine table groove.

The clamping prisms can also be used for simple clamping on the AMF clamping plates using grid holes.

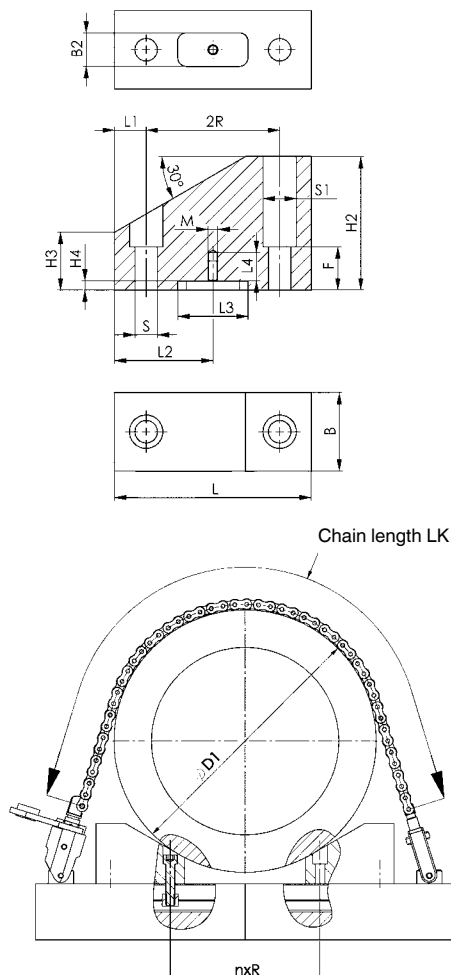
Note:

The use of a flat T-nut no. 6322A or no. 6322B enables the clamping prisms to be precisely positioned in the machine table groove.

Prisms for the sizes M20 and M24 are available on request.

On request:

Special versions are available on request.



CAD



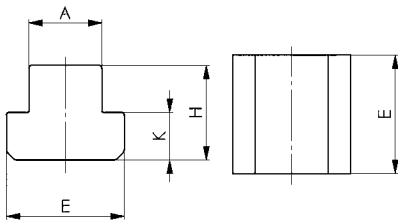
Order no.	n x R [m] Clearance of angle blocks	die. D1 [mm]	Chain length LK [mm] (x) = Number of links
375568	1 x 40 = 40	190 - 280	413 (26) - 635 (40)
	2 x 40 = 80	250 - 360	540 (34) - 826 (52)
	3 x 40 = 120	270 - 440	603 (38) - 1048 (66)
	4 x 40 = 160	300 - 520	635 (40) - 1238 (78)
	5 x 40 = 200	350 - 600	762 (48) - 1429 (90)
	6 x 40 = 240	430 - 680	953 (60) - 1619 (102)
	7 x 40 = 280	510 - 760	1143 (72) - 1810 (114)
	8 x 40 = 320	620 - 840	1397 (88) - 2000 (126)
	9 x 40 = 360	760 - 920	1778 (112) - 2191 (138)
	10 x 40 = 400	920 - 1000	2191 (138) - 2413 (152)
375584	1 x 50 = 50	250 - 370	559 (22) - 864 (34)
	2 x 50 = 100	320 - 470	711 (28) - 1118 (44)
	3 x 50 = 150	320 - 570	711 (28) - 1372 (54)
	4 x 50 = 200	320 - 670	711 (28) - 1575 (62)
	5 x 50 = 250	430 - 770	965 (38) - 1829 (72)
	6 x 50 = 300	530 - 870	1168 (46) - 2083 (82)
	7 x 50 = 350	630 - 970	1422 (56) - 2337 (92)
	8 x 50 = 400	760 - 1070	1727 (68) - 2591 (102)
	9 x 50 = 450	960 - 1170	2235 (88) - 1794 (110)
	10 x 50 = 500	1160 - 1270	2743 (108) - 3048 (120)

Subject to technical alterations.

No. 6541

Fixtures for T-nuts

For attaching the chain clamping set no. 6540 on the subplate, composed of nut for T-nut, resembling DIN 508, and screw complying with ISO 4762, class 8.8.



CAD



Order no.	D x Slot	A	E	H	K	Weight [g]
84251	M12 x 14	13,7	22	16	8	60
84269	M12 x 16	15,7	25	18	9	80
84277	M12 x 18	17,7	28	20	10	105
84285	M16 x 18	17,7	28	20	10	115
84293	M16 x 20	19,7	32	24	12	170
84343	M16 x 22	21,7	35	28	14	240
84350	M16 x 24	23,7	40	32	16	335
376483	M12x14 *	13,7	22	16	8	88
376509	M12x16 *	15,7	25	18	9	114
376525	M12x18 *	17,7	28	20	10	141
376541	M16x18 *	17,7	28	20	10	189
376566	M16x20 *	19,7	32	24	12	248
376582	M16x22 *	21,7	35	28	14	305
376608	M16x24 *	23,7	40	32	16	407

* For use of the protection set no. 6540KS

Note:

For clamping hooks and counterholders of sizes M20 and M24, fasteners for T-grooves are available on request.

Recommendations

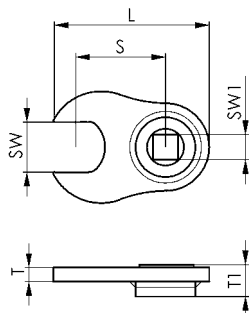


No. 6540H,
page 116

No. 902Md

Open-ended spanner with torque-wrench fitting

for clamping nuts. Drive 1/2" square socket with ball-engagement groove. Special steel, hardened and zinc-plated.



Order no.	SW	L	S	SW1 [Zoll]	T	T1	Weight [g]
52514	36	101	60	1/2	7	16	255
52522	46	108	60	1/2	8	16	340

Advantage:

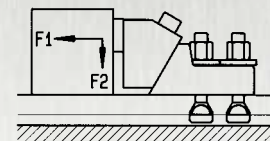
Controlled tightening prevents damage to spindle changing tools on a machine.

Note:

The set value for the torque wrench is dependant on insertion dimension „S“. The operating manual provided with your torque wrench contains the requisite information and calculation formulae.

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.



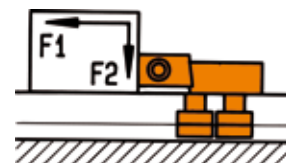
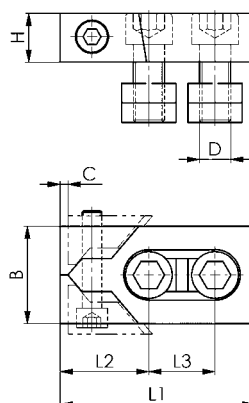
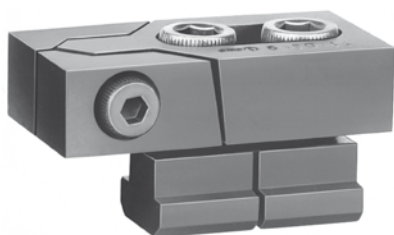
No. 6490

Low height clamping jaws, model „Bulle“

tempered and burnished. Packing: 2 units in carton, complete with cap screw ISO 4762-10.9, T-nuts DIN 508 and hexagon key ISO 2936.

Available in pairs only!

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



Recommendations



No. 911LG-H100F



No. 6491

Slot stop

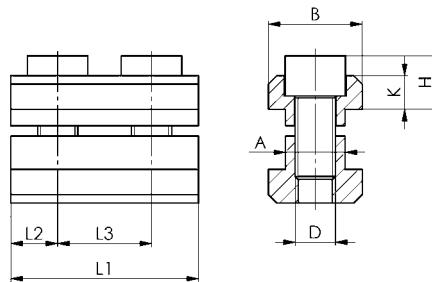
tempered and burnished.



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

CAD



No. 6492

Flat clamp, model „Mini-Bulle“

tempered and burnished. Packing: 2 units in carton, complete with fastening screws ISO 4762 (8.8) and hexagon key ISO 2936.

Only delivered in pairs!



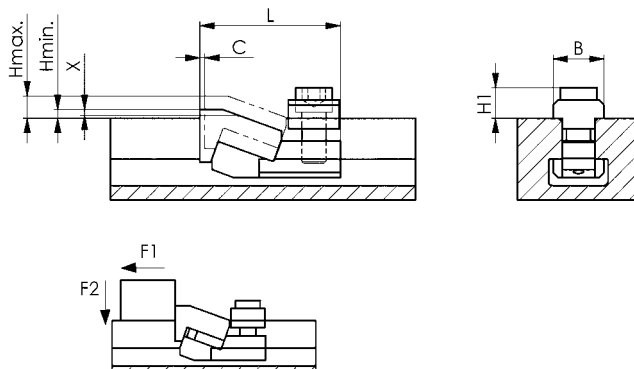
Order no.	Slot	H min.	H max.	B	C	H1	L	X	F1 [kN]	F2 [kN]	Weight [g]
73098	12	2,5	13,5	18	1,8	11	52	5	5,0	0,6	300
73106	14	1,5	13,5	22	1,8	11	55	5	5,5	0,7	380
73114	16	2,5	17,0	25	2,5	15	68	6	8,0	0,9	700
73122	18	1,5	16,0	28	2,5	15	71	6	9,0	1,0	830
73080	22	4,5	21,5	35	3,0	20	89	9	16	1,9	1740

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

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

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.



Recommendations



No. 911LG-H100F

CAD



Subject to technical alterations.

No. 6492D

Flat clamp, double, model „Mini-Bulle“

tempered and burnished. Packing: 2 units in carton, complete with fastening screws ISO 4762 (8.8) and hexagon key ISO 2936.

Only delivered in pairs!

Order no.	Slot	H min.	H max.	B	C	H1	L	X	F1 [kN]	F2 [kN]	Weight [g]
73486	12	2,5	13,5	18	1,8	11	86	5	5,0	0,6	370
73494	14	1,5	13,5	22	1,5	11	88	5	5,5	0,7	485
73791	16	2,5	17,0	25	2,5	15	112	6	8,0	0,9	850
73809	18	1,5	16,0	28	2,0	15	114	6	9,0	1,0	1060
73924	22	4,5	21,5	35	2,7	20	145	8	16,0	1,9	2200

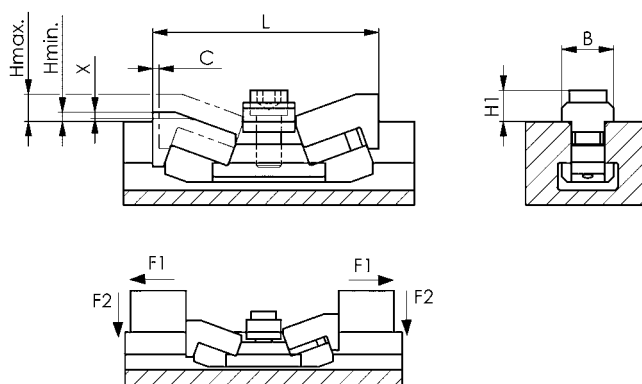
Hmin./Hmax.: depending on groove depth to DIN 650.

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



Application:

Particularly short workpieces can be clamped with these tempered flat clamps. The wedge effect of the jaws tightly and reliably presses the workpiece against the machine tool table. The horizontal forces are absorbed by a screw corresponding to the groove size, and this firmly clamps the clamp without damaging the table.



Recommendations



No. 911LG-
H100F



Subject to technical alterations.

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 screws or bolts. Available in pairs only!



CAD



Order no.	Slot	B1	B2	C	H1	H2	H3	L1	L2	F1* [kN]	F2* [kN]	Weight [g]
73130	10	13	40	3	50	20	30	115	60	6	0,2	1590
	12									10	0,4	
	14									15	0,6	
73148	16	19	50	4	60	25	35	150	72	20	0,8	2940
	18									28	1,1	
	20									36	1,4	
73155	22	31	80	5	75	30	45	205	102	38	1,5	7900
	24									38	1,5	
	28									40	1,6	
	30									40	1,6	
	32									44	1,7	
	36									44	1,7	

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

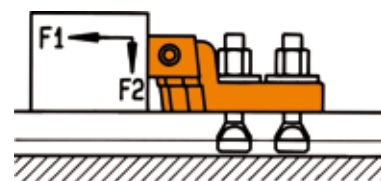
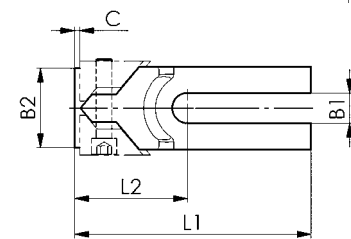
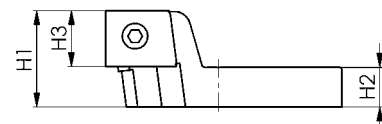
Application:

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. 6497

Extra strong clamping jaw

Reversible jaw plates. High type, with precise Vee-guide. Body: malleable cast iron. Jaws: steel, case hardened. Jaws reversible, plain face for machined work, ribbed face for rough work.

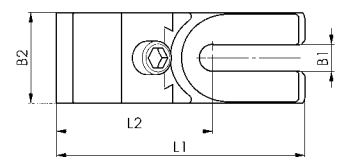
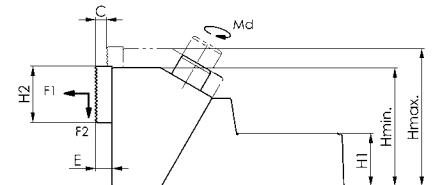
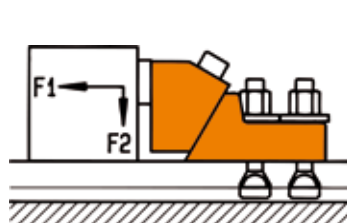


Order no.	Slot	B1	B2	C	E	H min.	H max.	H1	H2	L1	L2	F1* [kN]	F2* [kN]	Md [Nm]	Weight [g]
73213	12	19	65	8	12	85	99	38	40	179	112,5	8	1,2	20	4037
	14											15	2,2	40	
	16											20	3,0	45	
	18											28	4,2	60	
73221	20	26	75	11	12	100	118	45	40	230	138,5	25	4,5	85	6688
	22											25	4,5	85	
	24											32	4,8	95	
	28											32	4,8	95	
	30											36	5,4	110	
73239	32	38	90	15	12	120	145	56	40	265	158	50	7,5	160	11031
	36														
	42														

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

Application:

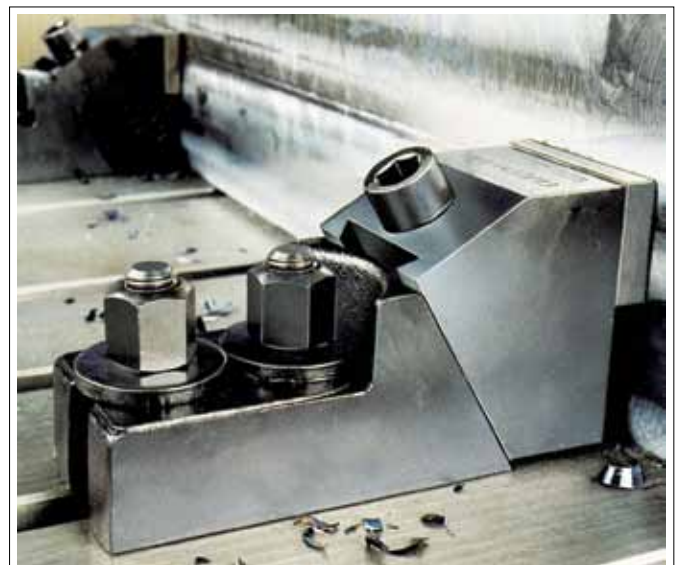
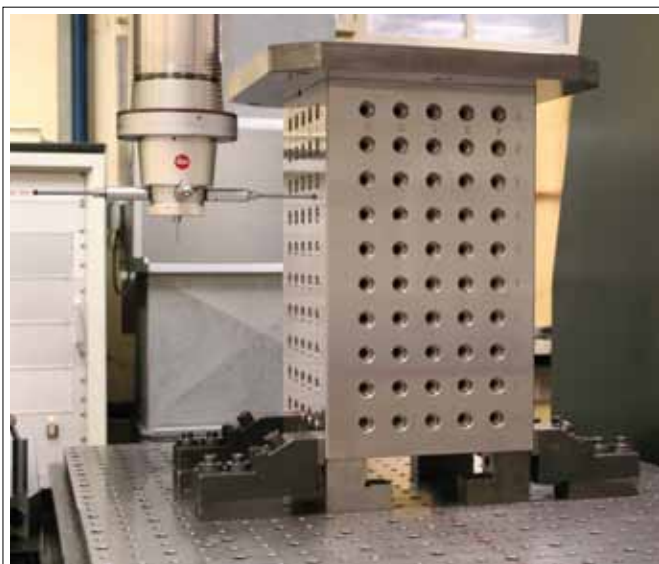
Due to their large clamping faces these clamping jaws are suitable for lateral clamping of high workpieces. For fastening on the machine table we recommend the use of 2 clamping screws! Related to T-slot size in use, 2 T-slot bolts DIN 787 for each clamp should be ordered separately.



Recommendations



No. 911LG-
H100F



Subject to technical alterations.

No. 6497G

Stable clamping jaws, closed

Reversible jaw plates. High type, with precise Vee-guide. Body: malleable cast iron. Jaws: steel, case hardened. Jaws reversible, plain face for machined work, ribbed face for rough work. Closed groove for use on vertical turning and boring machines.



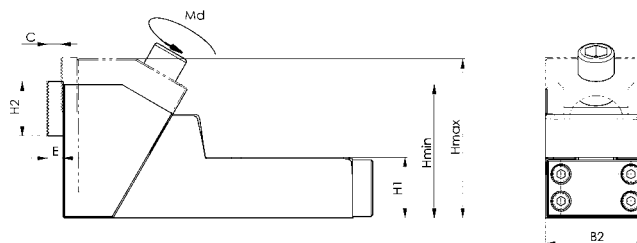
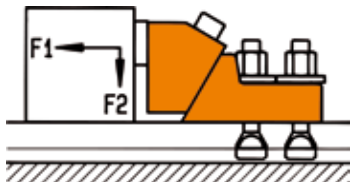
CAD



Order no.	Slot	B1	B2	C	E	H min.	H max.	H1	H2	L1	L2	L3	F1* [kN]	F2* [kN]	Md [Nm]	Weight [g]
376426	12	19	65	8	12	85	99	38	40	187	112,5	60	8	1,2	20	4202
	14												15	2,2	40	
	16												20	3,0	45	
	18												28	4,2	60	
376442	20	26	75	11	12	100	118	45	40	242	138,5	83	25	4,5	85	7029
	22												25	4,5	85	
	24												32	4,8	95	
	28												32	4,8	95	
376467	30	38	90	15	12	120	145	56	40	283	158,0	95	36	5,4	95	12150
	32												50	7,5	170	
	36															
	42															

Application:

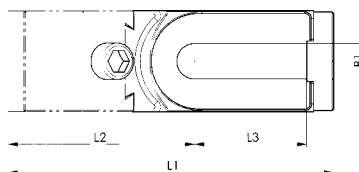
Due to their large clamping faces these clamping jaws are suitable for lateral clamping of high workpieces. For fastening on the machine table we recommend the use of 2 clamping screws! Related to T-slot size in use, 2 T-slot bolts DIN 787 for each clamp should be ordered separately.



Recommendations



No. 911LG-H100F



No. 6497A

Stop, fixed

Clamping jaw, reversible, tall.

Basic body: Cast steel.

Clamping jaw: Case-hardening steel, case-hardened.

With smooth side for machined workpieces and serrated side for rough clamping surfaces.

NEW!



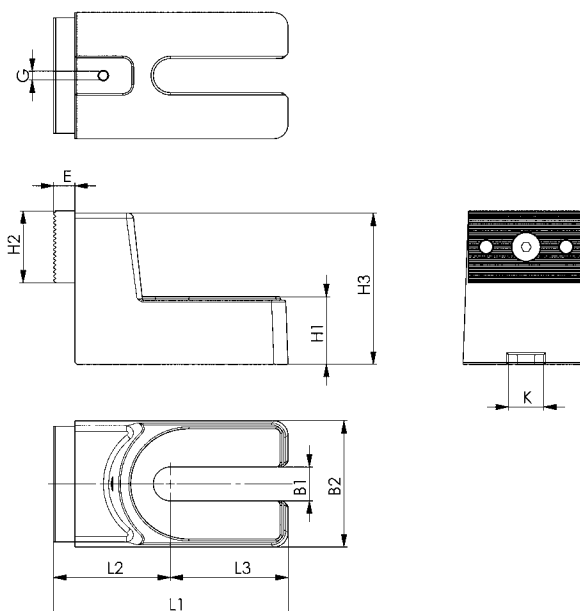
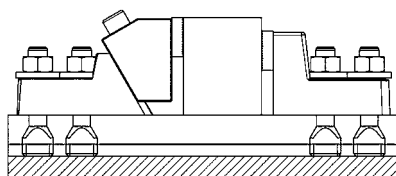
Order no.	Slot	B1	B2	E	G	H1	H2	H3	K	L1	L2	L3	Weight [g]
550509	12 14 16 18	19	71	12	M6	30	40	85	20	132	56,0	66,0	2857
550510	20 22 24 28 30	26	82	12	M6	47	40	100	20	177	72,5	91,5	4673
550511	32 36 42	38	100	12	M6	58	40	120	20	211	76,0	117,0	8788

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.



No. 6497B

Clamping plate

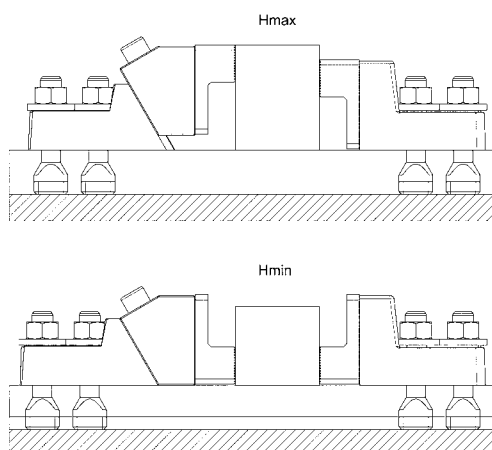
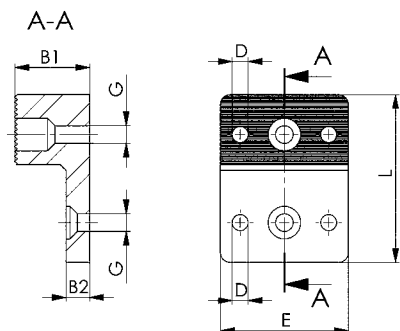
NEW!



Order no.	B1	B2	D	E	G	L	Weight [g]
550512	38	12	8,1	65	M8	85	889
550513	38	12	8,1	75	M8	100	1306
550514	38	12	8,1	90	M8	120	1829

Application:

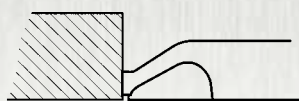
Clamping plate with serrated surface for machining of unmachined parts. Can be mounted on the stable clamping jaw or the stop.



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:



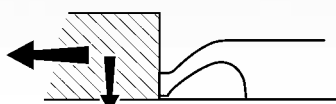
Contact:

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.

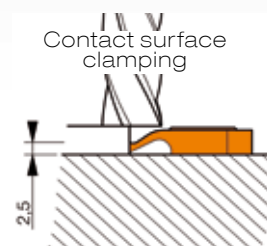
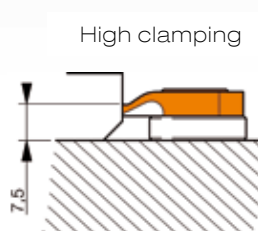
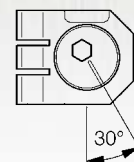
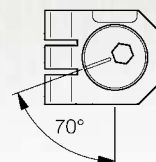


Clamping and positioning:

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. 6493N

Flat clamp for slotted table, horizontal

consisting of one clamping element and one stop.



Order no.	Slot	Clamping force [N]	Clamping height [mm]	Stroke	A	B	Weight [g]
70144	10	4000	7,5	1,2	46	18	140
70169	12	4000	7,5	1,2	48	18	150
70185	14	4000	7,5	1,2	52	22	162
70342	16	4000	7,5	1,2	48	25	178
70664	18	4000	7,5	1,2	48	25	190

Recommendations



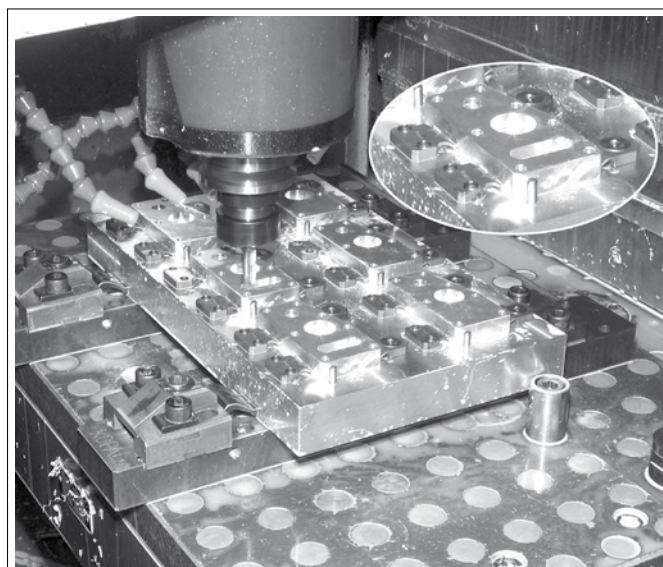
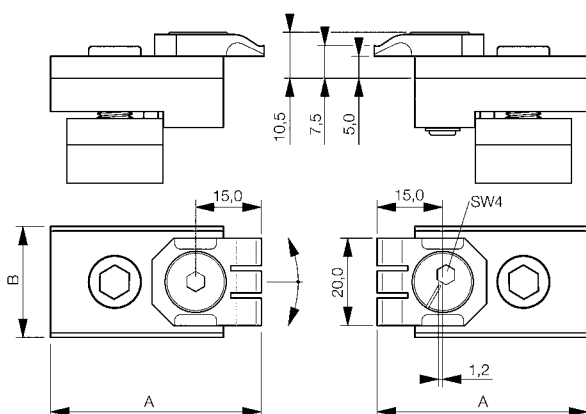
No. 6493SP, page 130



No. 6493S, page 130



No. 6493F, page 131



Subject to technical alterations.

No. 6493SP

Clamping element, horizontal



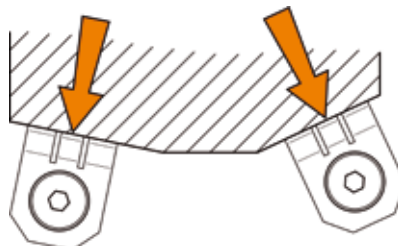
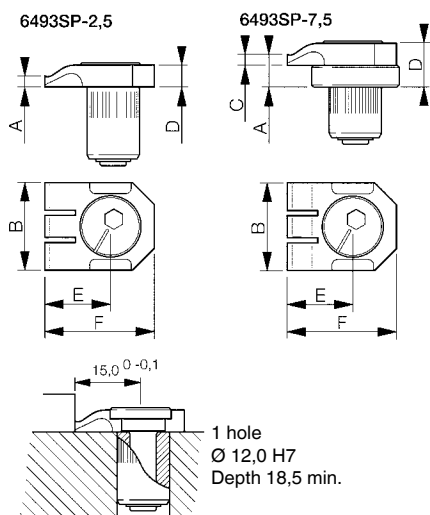
Order no.	Clamping force [N]	Clamping height A [mm]	B	C	D	E	F	Weight [g]
70680	4000	2,5	20	-	5	15*	25	29
70698	4000	7,5	20	2,5	10	15*	25	29

* Cam stroke = 1.2 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.



No. 6493S

Stop, pivoting

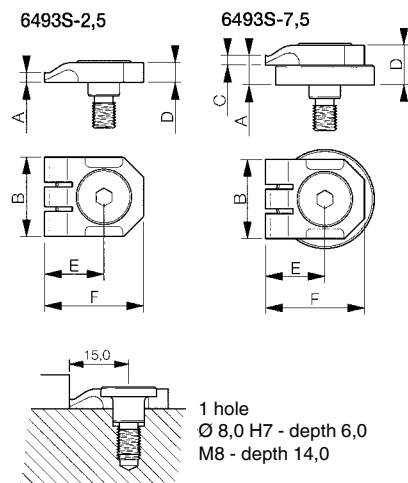
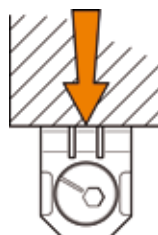
the rigid, ground, pivoting stops are secured by special screws that guarantee high accuracy during installation.



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.



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

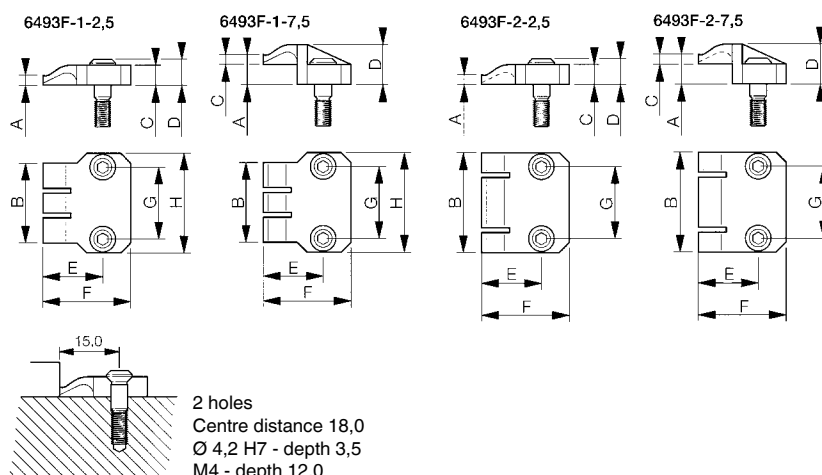
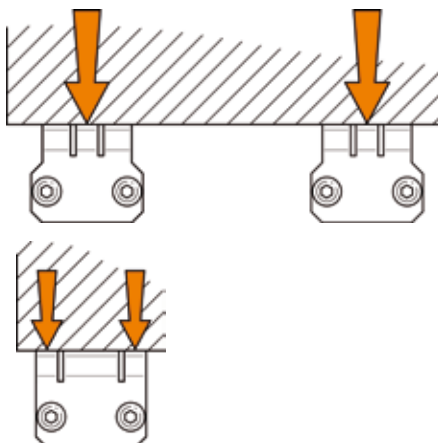
Size 2 - Double stop

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.

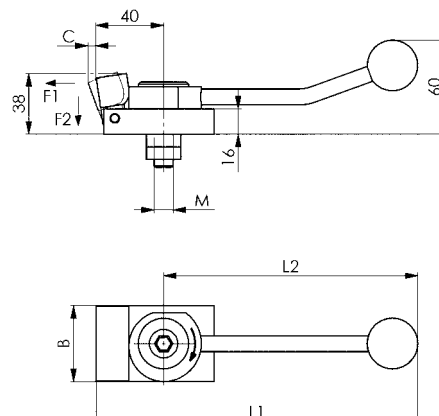


No. 6499

Low-height clamping jaw with eccentric lever

hardened and burnished. Eccentric lever for fast clamping. Low height eliminates need for re-clamping. The floating clamping jaw presses the workpiece simultaneously against a fixed jaw and the supporting surface.

Order no.	Slot	B	C	L1	L2	M	F1 [kN]	F2 [kN]	Weight [g]
73163	12	48	4	200	160	M10	9	0,6	840
73171	14	48	4	200	160	M12	9	0,6	860



Subject to technical alterations.

No. 6489

Mechanical pull-down spring clamp, eccentric



Order no.	Clamping force vertical [kN]	torque Md [Nm]	dia. K [mm]	Lateral compensation per clamp [mm]	Clamping rim height min. for Al-alloy [mm]	Weight [g]
375600	5	18	10,9-11,8	±0,25	9	2150
375667	5	18	11,9-12,8	±0,25	9	2150
375683	5	18	12,9-13,8	±0,25	9	2150
375709	5	18	13,9-14,8	±0,25	10	2250
375725	5	18	14,9-15,8	±0,25	10	2250
375741	5	18	15,9-16,8	±0,25	10	2250

Application:

- Used for workpieces with existing or retrofitted holes.
- Once the clamping segments are engaged in the holes, reliable 5-sided finishing is possible without a problem.
- A simple hexagon socket spanner (SW 10) is used to actuate the element.
- The existing clamping rim fastens the pull-down clamping element on the machine table.
- For positioning on a fixture, the underside has two positioning holes (pin ISO 8734 - 8 mm).

Advantage:

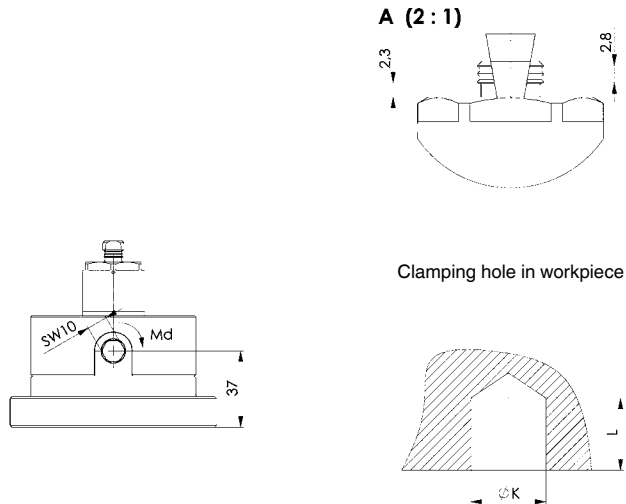
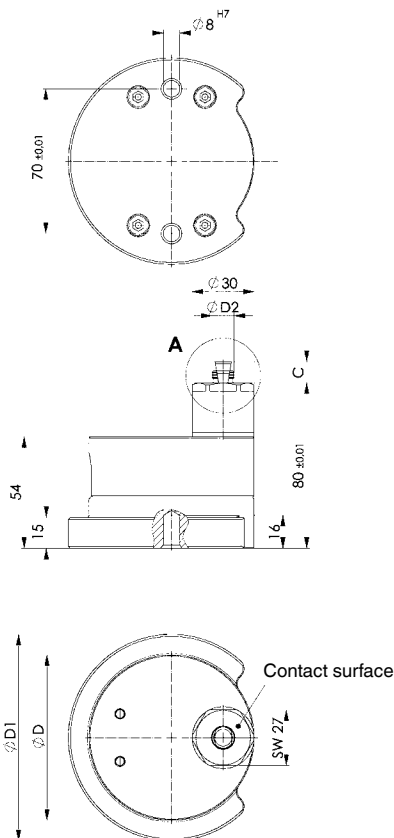
- All parts are made of tempered steel. All components are plasma-nitrided and are hence very resistant to wear and corrosion.
- Two-part clamping segments are interlocked externally.
- Flexible in use thanks to ease of handling and clamping on the machine table.

Note:

- Please check with us for clamping of hardened workpieces or workpieces made of GG / GGG.
- The radial force must be observed!
- The lateral force when positioning the workpiece must not exceed the „lateral force“ specified in the table.
- The clamping jaws for the machine vices can be used for clamping on the machine table (No. 6325; Order no.: 74682, 373878).

On request:

Other sizes and special versions without pull-down and as support elements.



Recommendations



DIN 6314,
page 38



No. 6310,
page 36



No. 6311,
page 37

Dimensions:

Order no.	Permissible horizontal force [kN]	Radial force of sleeve segments [kN]	Expansion of sleeve [mm]	Clamping piston diameter [mm]	Side load (unclamped) [N]	C	D	D1	D2
375600	2,8	27	1,5	22	100	10,5	80	100	10,6
375667	2,8	27	1,5	22	110	10,5	80	100	11,6
375683	3,0	27	1,5	22	130	10,5	80	100	12,6
375709	3,0	27	1,5	22	160	10,5	80	100	13,6
375725	3,5	27	1,5	22	200	10,5	80	100	14,6
375741	3,5	27	1,5	22	250	10,5	80	100	15,6

Subject to technical alterations.

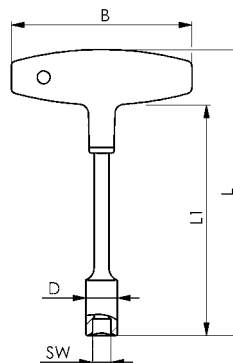
No. 916Q

Hexagon socket spanner with T-grip

Socket: CHROME-VANADIUM, hardened and matt chrom-plated.

Grip: impact-resistant plastic (cadmium-free).

Order no.	SW	L1	B	D	L	Weight [g]
44271	10	125	100	14	155	120
44206	10	230	100	14	260	160



Subject to technical alterations.

No. 6498

Edge Clamp

complete with mounting. 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	M20x24	24	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:

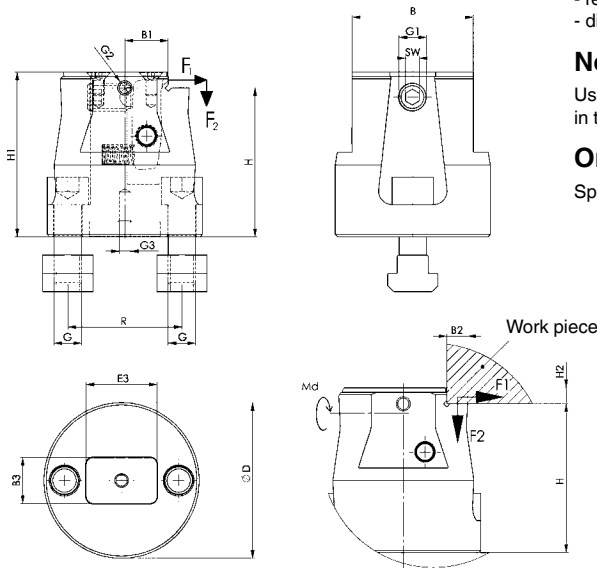
- compact dimensions
- workpiece fastened rigid and secure through pull-down effect
- plate tension increased to make holes and grooves
- lateral plate tension to completely finish surfaces without collision contour
- lateral thread enables a stop to be fastened
- can be used for horizontal and vertical 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	M20x24	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.

Order no.	Size	Slot	H ±0,1	B3	D +2	E3	E4	G	G3	R	Weight [g]
73916	M12x14	14	30	20	68	31,0	28,0	M12	M6	50	930
375527	M16x18	18	50	20	78	25,5	25,5	M16	M6	50	1780
374371	M20x24	24	60	20	108	40,0	31,0	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:

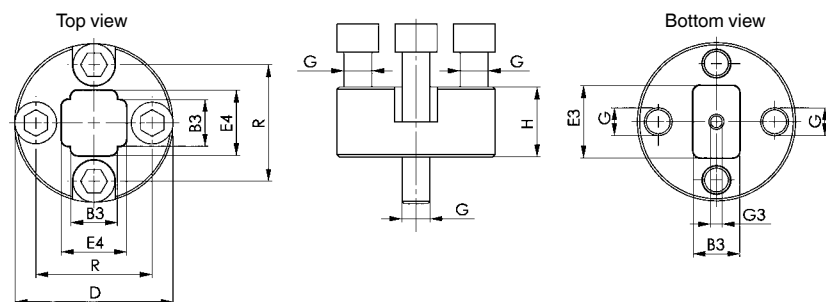
- Simple use of the side clamp when clamping along and across the groove
- Increase in the workpiece mounting surface.

Note:

Use of two flat sliding blocks no. 6322B enables exact connection of the side clamp to the round base plate. The base plate can be exactly positioned on the machine with the flat sliding blocks no. 6322A or no. 6322B.

On request:

Special versions (dimension H ±0.01) are available.



Recommendations



No. 911LG-H100F

No. 6498FT

Base plate

complete with mounting. 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	M20x24	24	60	120	75	150	M20	200	85	7614

Application:

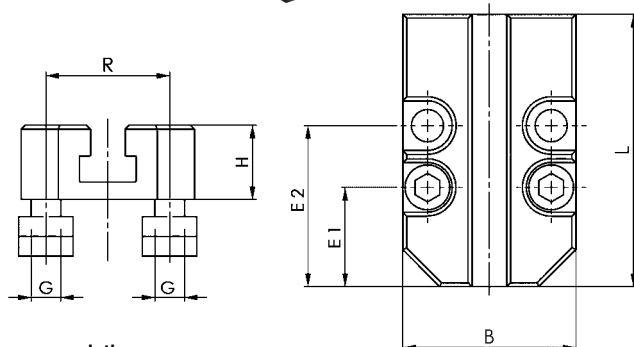
Used in conjunction with side clamp no. 6498 to also clamp across the table groove.

Advantage:

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

On request:

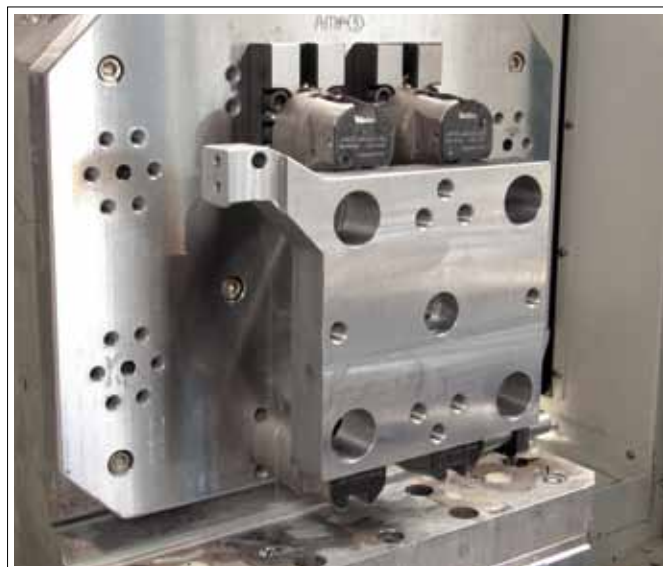
Special versions (dimension H ±0.01) are available.



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:

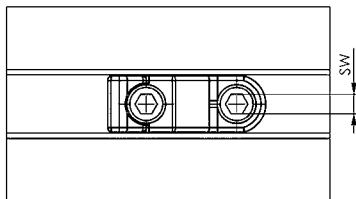
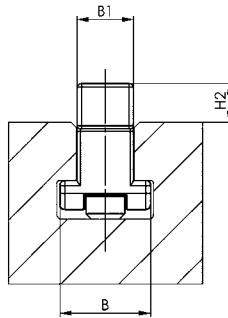
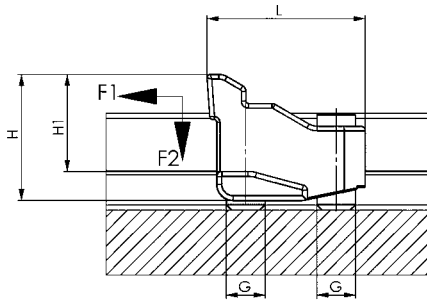
1. Slide T-slot clamp into T-slot of the machine table.
2. Position on workpiece.
3. Secure fastening bolt for machine table.
4. Actuating the clamping bolt clamps the workpiece.

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 wear to the fastening bolt, we recommend using AMF screw compound No. 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.



CAD



Recommendations



No. 911LG-
H100F

Dimensions:

Order no.	Size	B	B1	G	H	H1	L
374140	12	22	13,6	M10	31	24	40
374132	16	28	17,4	M12	39	30	49
374124	20	35	21,5	M16	50	37	63

No. 6495S

Fastening bolt for T-slot clamp

Strength class 10.9

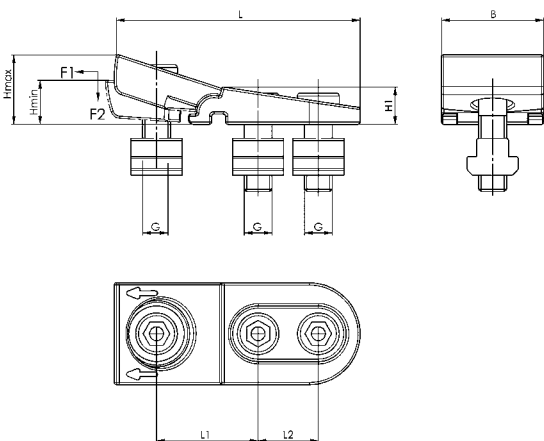


Order no.	Size	G	L	SW [mm]	Weight [g]
79186	12	M10	25	5	14
78907	16	M12	30	6	24
77834	20	M16	40	8	59

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	20	10,0	19	30	1011
374181	M16x20	20	M16	20	10,0	19	30	1055
374199	M20x22	22	M20	30	15,0	22	36	1670
374207	M20x24	24	M20	30	15,0	22	36	1705
374215	M20x28	28	M20	30	15,0	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 wear to the fastening bolts, we recommend using AMF screw compound No. 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.

Dimensions:

Order no.	Size	B	H1	L	L1	L2
374157	M12x14	44	16	110	45-48	26
374165	M12x16	44	16	110	45-48	26
374173	M16x18	56	19	130	50-54	33
374181	M16x20	56	19	130	50-54	33
374199	M20x22	62	22	152	58-63	41
374207	M20x24	62	22	152	58-63	41
374215	M20x28	62	22	152	58-63	41

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

No. 6496F

Spring with screw



Order no.	Size	Weight [g]
313510	M12	10
313536	M16	20
313551	M20	30

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.



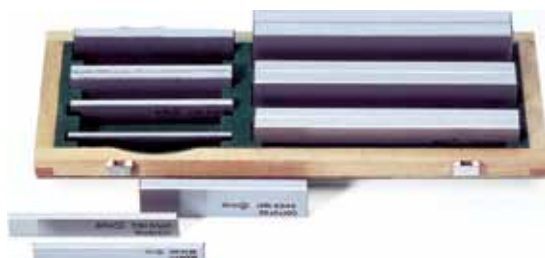
DIN 6346S

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

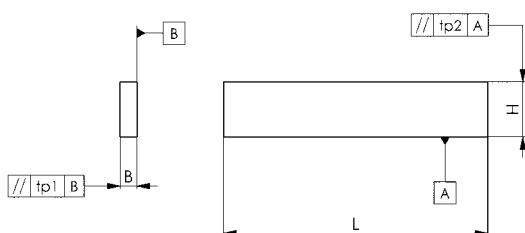
Parallel supports-pairs

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.	B	H	L	Weight [g]
75309	2,5	8	63	20
75317	3,2	10	63	30
75325	4,0	12	63	45
75333	5,0	16	63	80
75341	6,3	20	63	125
72181	4,0	12	100	75
72199	5,0	16	100	125
72207	6,3	20	100	200
72215	8,0	25	100	315
72223	10,0	32	100	500
72231	12,0	40	100	750
72249	8,0	25	160	500
72256	10,0	32	160	800
72264	12,0	40	160	1200
72272	16,0	50	160	2000
72280	20,0	63	160	3170
72298	20,0	63	250	4950
72306	25,0	80	250	7900
72314	32,0	100	250	12680
72363	40,0	100	400	25300



No. 6347SP

Parallel supports-set, super-precision

In wooden box with detachable folding lid.

Plain parallel, fine-ground, in pairs.

Size data on the product.

Case-hardened.

Pair tolerance tp at height 0.004 mm.

Rated dimensional tolerance in height ± 0.004 mm.

Remaining dimensions to DIN ISO 2768m.



Order no.	Pair	L	Weight [Kg]
84095	14	150	10,9

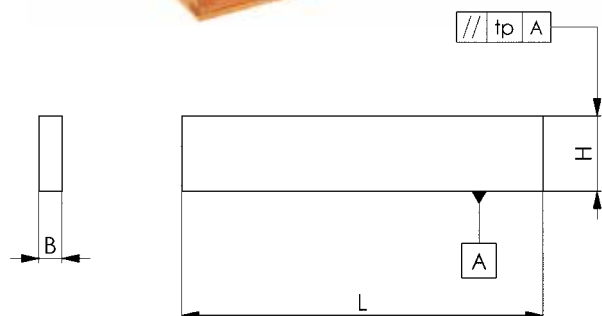
Design:

1 pair each (B x H):

10x14 / 10x16 / 10x18 / 10x20 / 10x22 / 10x24 / 10x26 / 10x28 / 10x30 / 10x32 / 10x35 / 10x40 / 10x45 / 10x50 mm.

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.



No. 6347P

Parallel supports-set, precision

In wooden box with detachable folding lid.

Plain parallel, fine-ground, in pairs.

Size data on the product.

Case-hardened.

Pair tolerance tp at height 0.01 mm.

Rated dimensional tolerance in height ± 0.01 mm.

Remaining dimensions to DIN ISO 2768m.



Order no.	Pair	L	Weight [Kg]
370965	14	150	10,9

No. 6347S

Parallel supports-set, standard

In wooden box with detachable folding lid.

Plain parallel, fine-ground, in pairs.

Size data on the product.

Case-hardened.

Pair tolerance tp at height 0.01 mm.

Rated dimensional tolerance in height and width to DIN ISO 2768m.

Remaining dimensions to DIN ISO 2768m.



Order no.	Pair	L	Weight [Kg]
83980	14	150	10,9

No. 6347PSP

Parallel supports-pairs, super-precision

Plain parallel, fine-ground, in pairs.

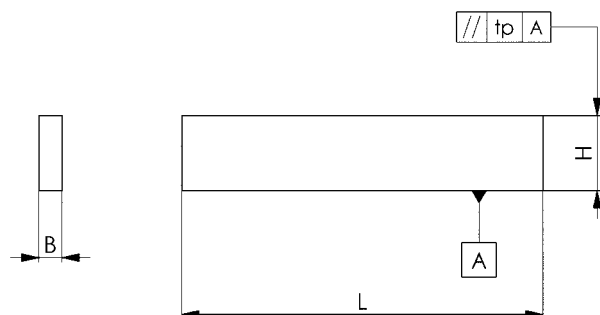
Size data on the product.

Case-hardened.

Pair tolerance tp at height 0.004 mm.

Rated dimensional tolerance in height ± 0.004 mm.

Remaining dimensions to DIN ISO 2768m.



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



No. 6347PP

Parallel supports-pairs, precision

Plain parallel, fine-ground, in pairs.

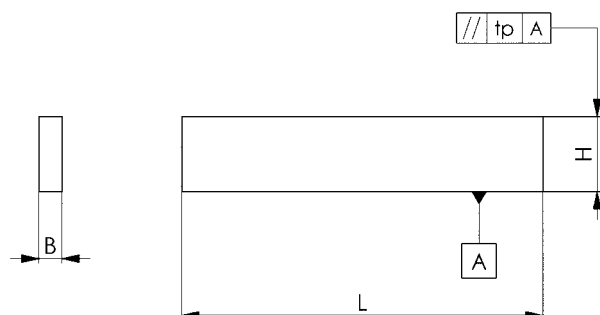
Size data on the product.

Case-hardened.

Pair tolerance tp at height 0.01 mm.

Rated dimensional tolerance in height ± 0.01 mm.

Remaining dimensions to DIN ISO 2768m.



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

Application:

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



Subject to technical alterations.

No. 6347PS

Parallel supports-pairs, standard

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

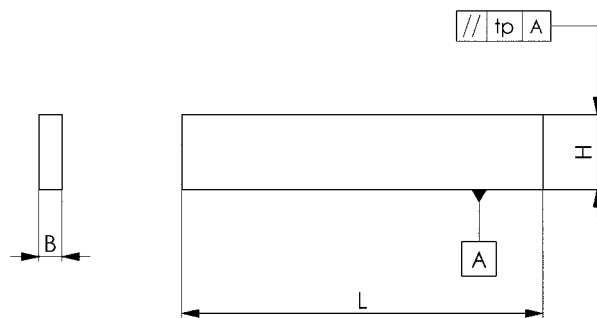
Pair tolerance tp at height 0.01 mm.
Rated dimensional tolerance in height and width to DIN ISO 2768m.
Remaining dimensions to DIN ISO 2768m.



Order no.	B	H	L	Weight [g]
370825	10	14	150	330
370833	10	16	150	380
370841	10	18	150	420
370858	10	20	150	470
370866	10	22	150	520
370874	10	24	150	570
370882	10	26	150	610
370890	10	28	150	660
370908	10	30	150	710
370916	10	32	150	750
370924	10	35	150	830
370932	10	40	150	940
370940	10	45	150	1060
370957	10	50	150	1180

Application:

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



CAD



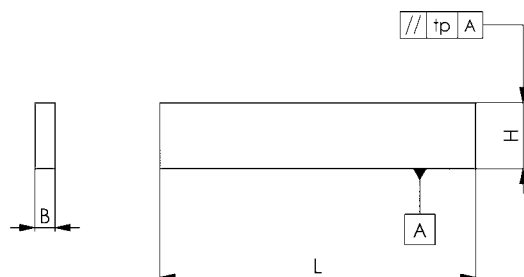
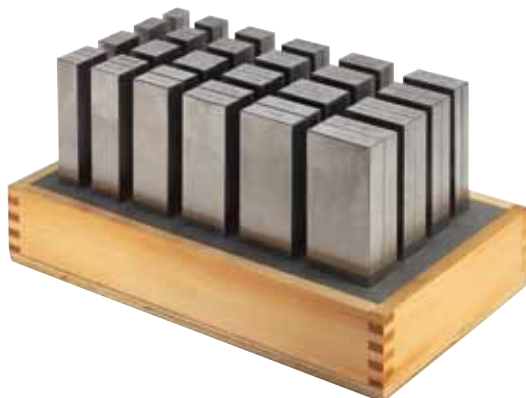
Subject to technical alterations.

No. 6348SP

Parallel supports-set, super-precision

In wooden stand.
Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

Pair tolerance tp at height IT 5.
Rated dimensional tolerance in height and width ± 0.01 mm.
Remaining dimensions to DIN ISO 2768m.



Order no.	Size	Pair	L	Weight [Kg]
75606	100	20	100	11
75614	125	24	125	14
75648	150	24	150	17

Design:

Size 100, 1 pair each (B x H):
2x5 / 2x10 / 2x15 / 2x20 / 3x6 / 3x11 / 3x16 / 3x21 / 4x7 / 4x12 / 4x17 / 4x22 / 5x8 / 5x13 / 5x18 / 5x23 / 6x9 / 6x14 / 6x19 / 6x24 mm.
Size 125, 1 pair each (B x H):
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.
Size 150, 1 pair each (B x H):
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.

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.

No. 6348P

Parallel supports-set, precision

In wooden stand.
Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

Pair tolerance tp at height IT 5.
Rated dimensional tolerance in height ± 0.01 mm.
Remaining dimensions to DIN ISO 2768m.



Order no.	Size	Pair	L	Weight [Kg]
371062	100	20	100	11
371070	125	24	125	14
371088	150	24	150	17

No. 6348S

Parallel supports-set, standard

In wooden stand.
Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

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



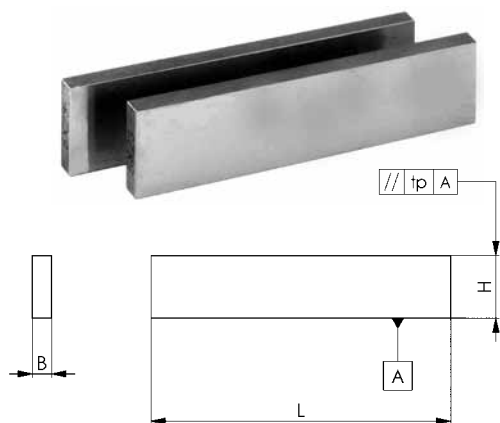
Order no.	Size	Pair	L	Weight [Kg]
371096	100	20	100	11
371104	125	24	125	14
371112	150	24	150	17

No. 6348PSP

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

Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

Pair tolerance tp at height IT 5.
Rated dimensional tolerance in height and width ± 0.01 mm.
Remaining dimensions to DIN ISO 2768m.



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

CAD

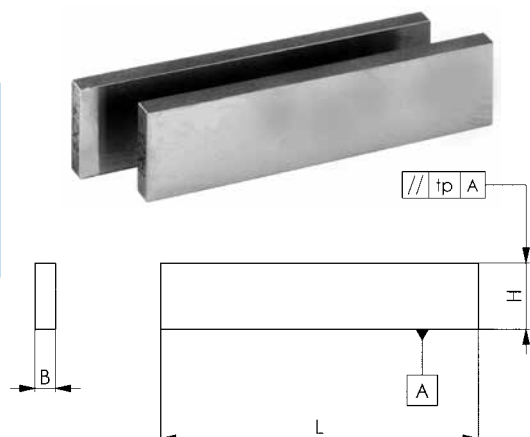


No. 6348PSP

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

Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

Pair tolerance tp at height IT 5.
Rated dimensional tolerance in height and width ± 0.01 mm.
Remaining dimensions to DIN ISO 2768m.



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

CAD



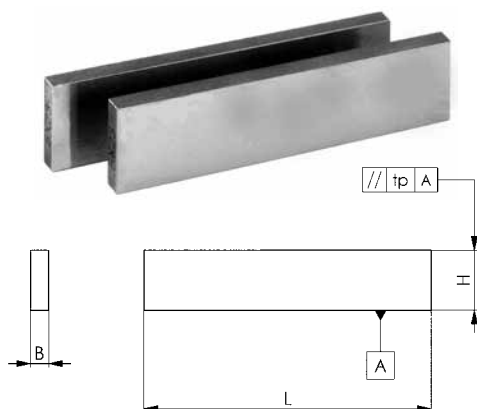
Subject to technical alterations.

No. 6348PSP

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

Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

Pair tolerance tp at height IT 5.
Rated dimensional tolerance in height and width ± 0.01 mm.
Remaining dimensions to DIN ISO 2768m.



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

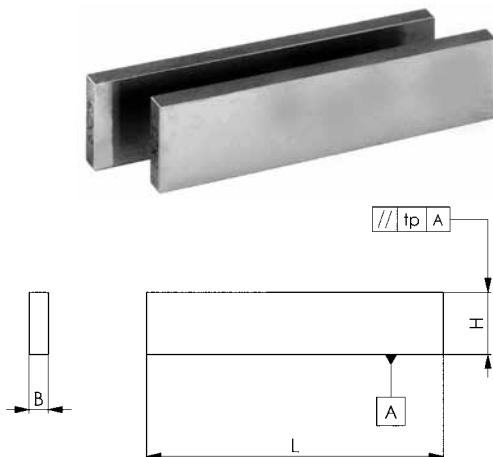


No. 6348PP

Parallel supports-pairs, precision, 100 mm long

Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

Pair tolerance tp at height IT 5.
Rated dimensional tolerance in height ± 0.01 mm.
Remaining dimensions to DIN ISO 2768m.



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

Application:

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



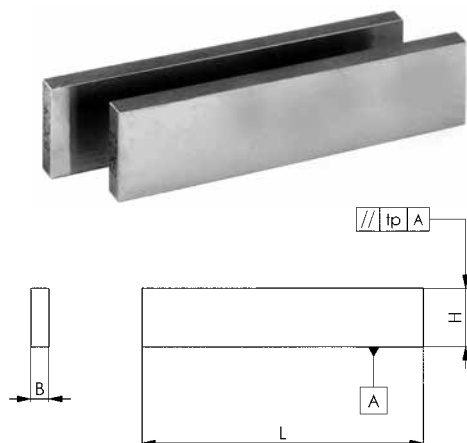
Subject to technical alterations.

No. 6348PP

Parallel supports-pairs, precision, 125 mm long

Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

Pair tolerance tp at height IT 5.
Rated dimensional tolerance in height ± 0.01 mm.
Remaining dimensions to DIN ISO 2768m.



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

Application:

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

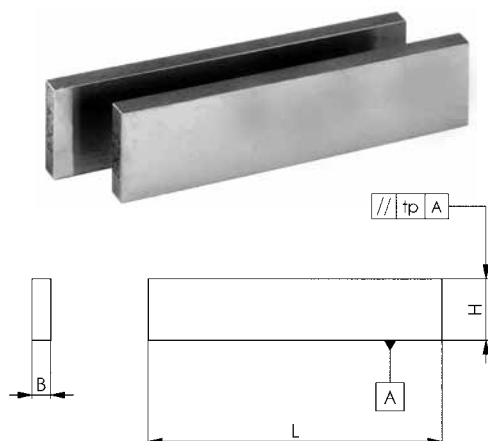


No. 6348PP

Parallel supports-pairs, precision, 150 mm long

Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

Pair tolerance tp at height IT 5.
Rated dimensional tolerance in height ± 0.01 mm.
Remaining dimensions to DIN ISO 2768m.



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

Application:

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



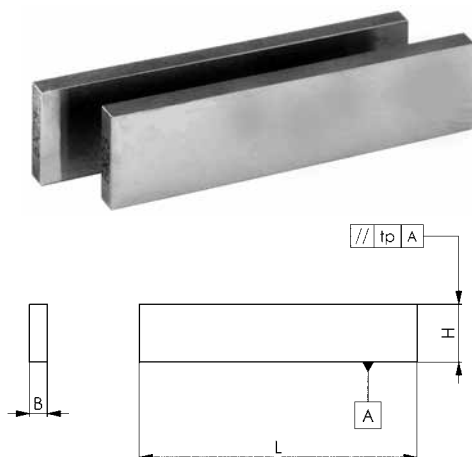
Subject to technical alterations.

No. 6348PS

Parallel supports-pairs, standard, 100 mm long

Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

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



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

Application:

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

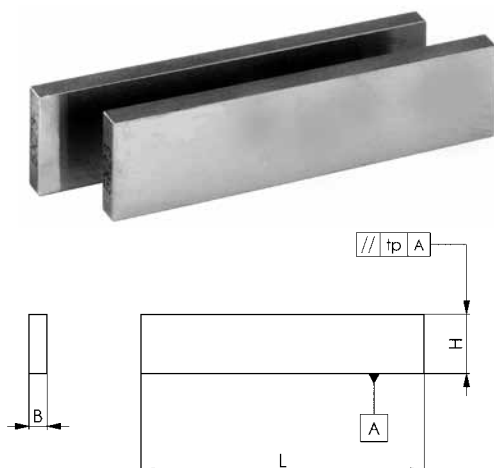


No. 6348PS

Parallel supports-pairs, standard, 125 mm long

Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

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



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

Application:

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



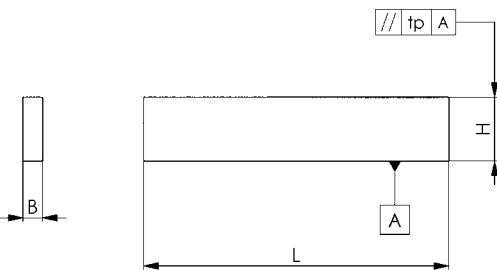
Subject to technical alterations.

No. 6348PS

Parallel supports-pairs, standard, 150 mm long

Plain parallel, fine-ground, in pairs.
Size data on front of product.
Sets offer a large range with 1 mm graduation.
Case-hardened.

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

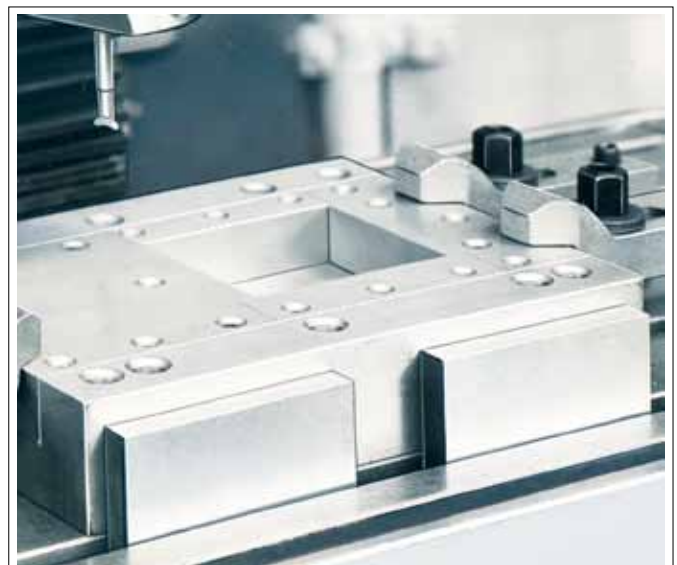
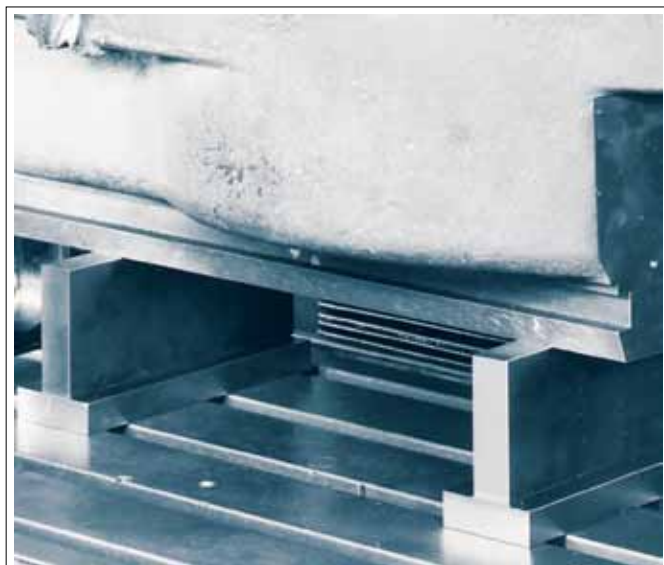


Order no.	B	H	L	Weight [g]
371567	8	11	150	203
371575	8	16	150	295
371583	8	21	150	389
371591	8	26	150	482
371609	8	31	150	574
371617	8	36	150	668
371625	10	13	150	300
371633	10	18	150	417
371641	10	23	150	533
371658	10	28	150	649
371666	10	33	150	768
371674	10	38	150	884
371682	12	15	150	416
371690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

Application:

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

CAD



Subject to technical alterations.

No. 6349PP

Parallel supports-pairs, precision

Plain parallel, fine-ground, in pairs.

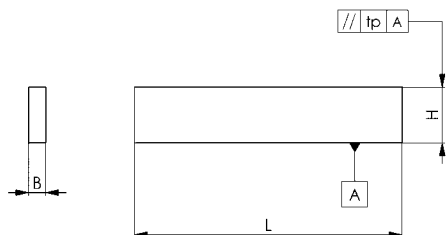
Size data on the product.

Hardened.

Pair tolerance tp at height IT 5.

Rated dimensional tolerance in height ± 0.01 mm.

Remaining dimensions to DIN ISO 2768m.



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

Application:

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



No. 6349P

Parallel supports-pairs, precision

In wooden stand.

Plain parallel, fine-ground, in pairs.

Size data on the product.

Pair tolerance t_p at height IT 5.

Rated dimensional tolerance in height ± 0.01 mm.

Remaining dimensions to DIN ISO 2768m.



Order no.	Size	Pair	L	Weight [Kg]
372482	24	24	125	4,5
372490	32	32	125	5,5

Design:

Size 24, 1 pair each (B x H):

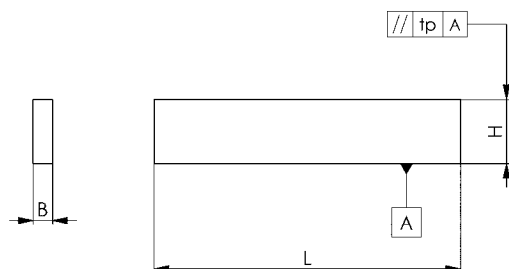
3x11 / 3x13 / 3x15 / 3x16 / 3x17 / 3x18 / 3x20 / 3x21 / 3x22 / 3x23 / 3x25 / 3x26 / 3x27 / 3x28 / 3x30 / 3x31 / 3x32 / 3x33 / 3x35 / 3x36 / 3x37 / 3x38 / 3x40 / 3x42 mm.

Size 32, 1 pair each (B 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.

Application:

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



No. 6344SP

Parallel supports-set, corrugated

In wooden box with folding lid.

Material thickness 0.3 mm.

Precision ground.

Hardened, tempered spring steel.

2 mm height graduation.

Pair tolerance t_p at height IT 5.

Rated dimension tolerance at height ± 0.004 mm.

Remaining dimensions to DIN ISO 2768m.



Order no.	Size	Pair	L	Weight [g]
372821	9 -23	8	110	450
372839	25-39	8	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:

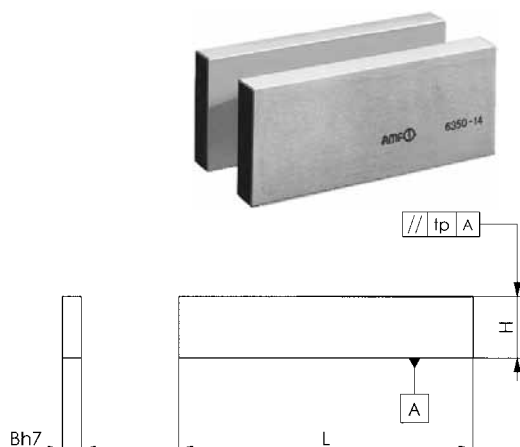
- no swarf remains on the mounting surface
- parallelism of the clamped workpiece is not affected
- several flat or single thin workpieces can easily be clamped.

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.

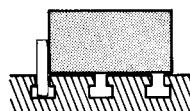
Pair tolerance t_p at height IT 5.
Rated dimensional tolerance in height ISO 2768m.
Rated dimensional tolerance in width h7.
Remaining dimensions to DIN ISO 2768m.



Order no.	B	H	L	Weight [g]
74260	8	25	100	315
74278	10	32	100	500
74286	12	40	100	750
74294	14	50	100	1100
74302	16	50	160	2000
74310	18	63	160	2850
74328	20	63	160	3170
74336	22	80	160	4400
74344	24	80	160	4800
74351	28	100	160	7000

Application:

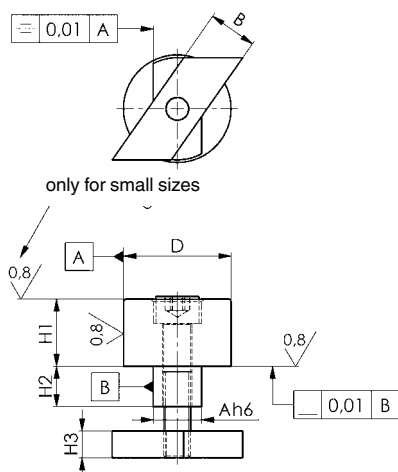
The parallel stops are intended primarily for small to medium-sized machines. Their thickness is matched to the machine groove with a tolerance of H8. A pair of these stops is inserted into a machine groove, allowing the workpieces to be quickly positioned parallel to the table.



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.



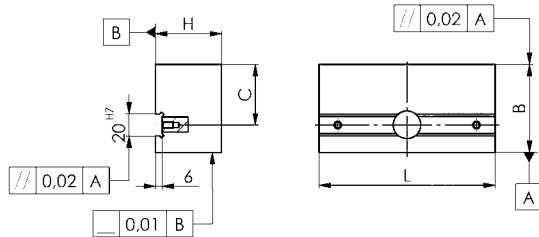
Order no.	Slot	B	C	H	L	suitable bolt combination: DIN508, ISO4762, DIN6340, DIN787 compl.	Weight [Kg]
75358	10-24	60	40	30	125	M10x10-M20x24	3,2
75366	12-36	80	55	60	160	M12x12-M24x36	11,4
75374	12-36	100	75	100	160	M12x12-M24x36	24,2

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.

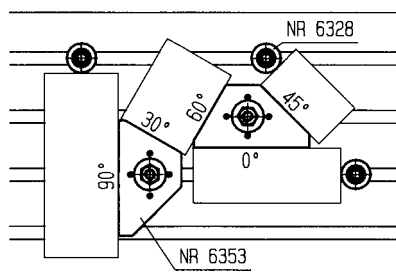
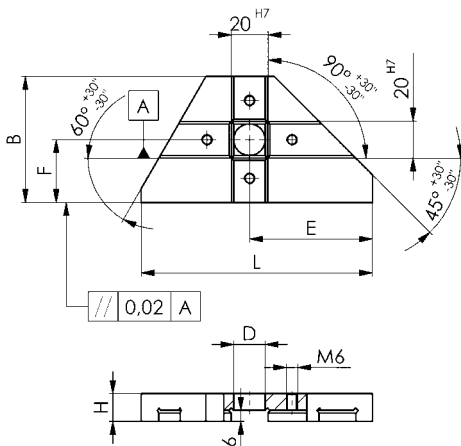
Setting: parallel and at angles of 30, 45, 60 and 90° related to T-slots. Guaranteed precision for all faces according to slots $\pm 30''$.



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

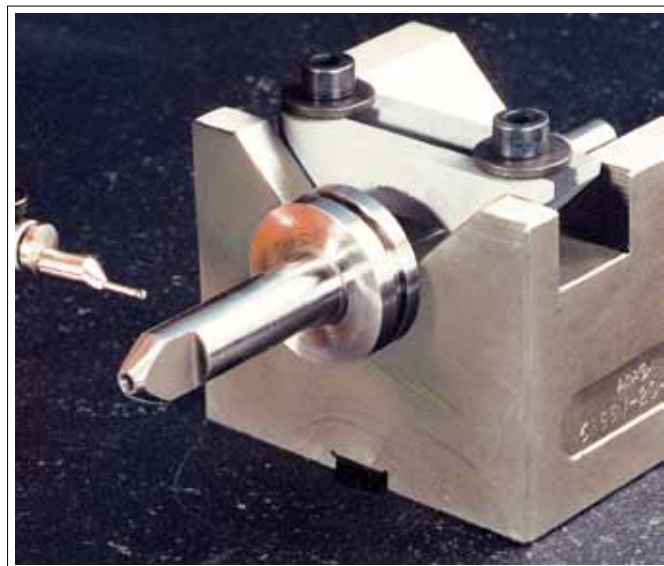
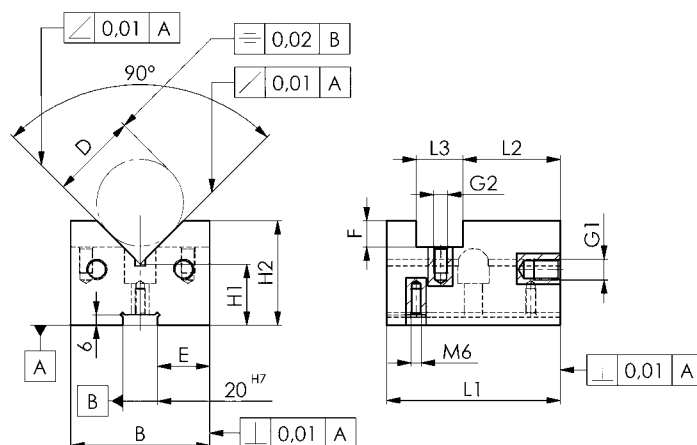
Prismatic clamping block, pair

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

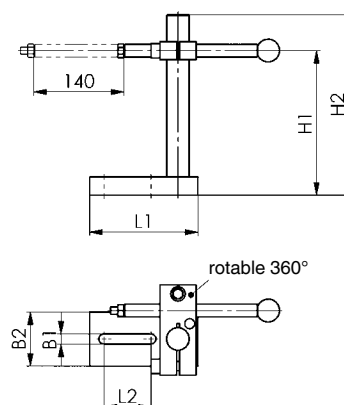
with hexagon key.
Tempering steel



Order no.	Size	Slot	B1	B2	H1	H2	L1	L2	Weight [g]
75655	2	10, 12, 14, 16, 18	11	60	30-190	200	120	52	2450
75663	3	16, 18, 20, 22, 24, 28	17	80	30-190	200	160	73	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

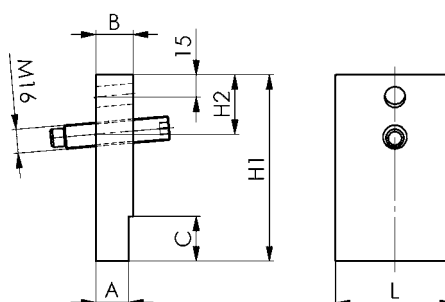
Tempering steel blued, with 2 threaded holes M16 for 2 positions. Set screw DIN 915 M16x80.



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.



Subject to technical alterations.

DIN 6323

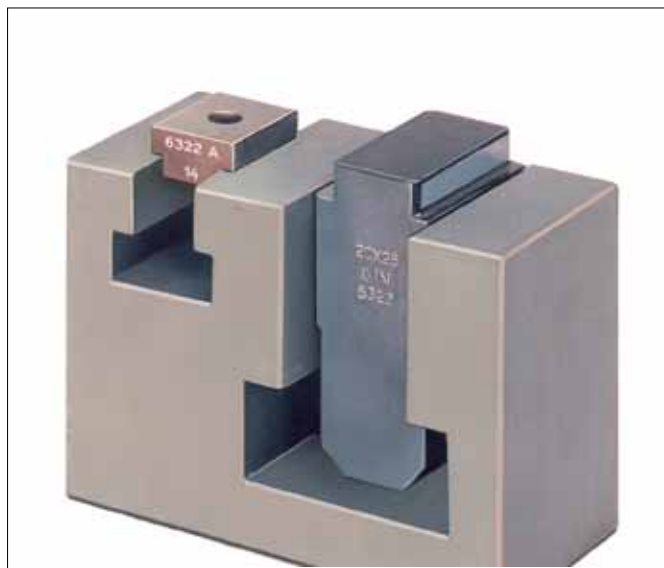
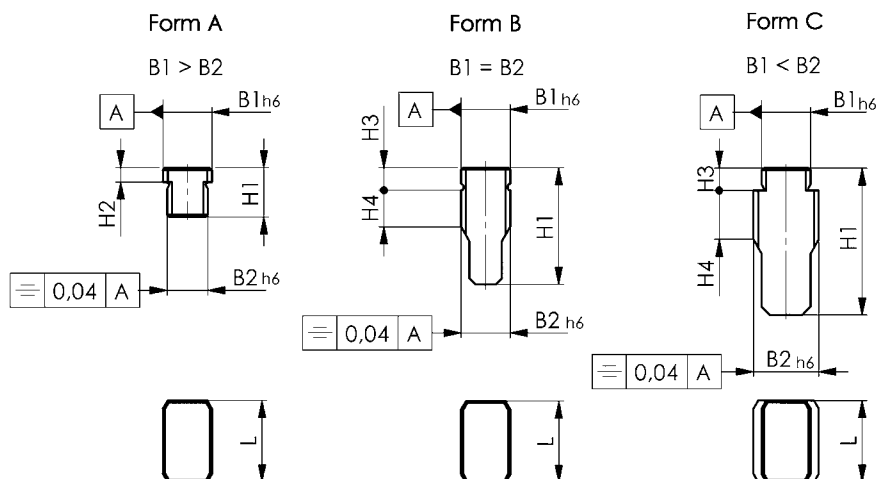
Loose type tenons

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

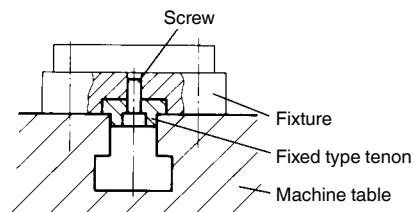
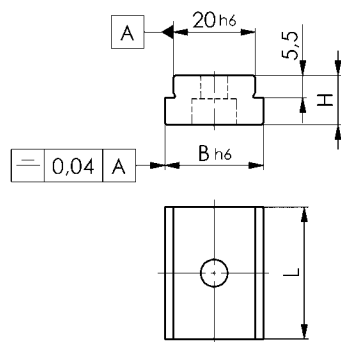
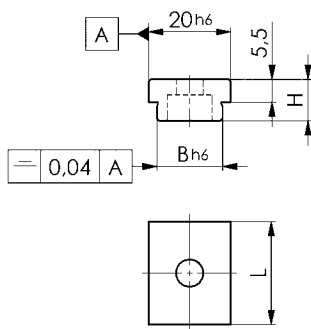
(previously DIN 6322 developed 1957)
C15 case-hardened.



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

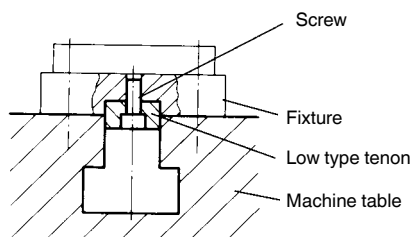
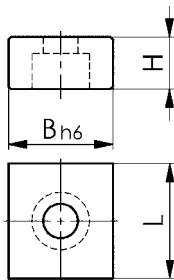
Steel C15, case hardened and ground.



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.

No. 6600

Eccentric clamp with end clamping

hardened and burnished.

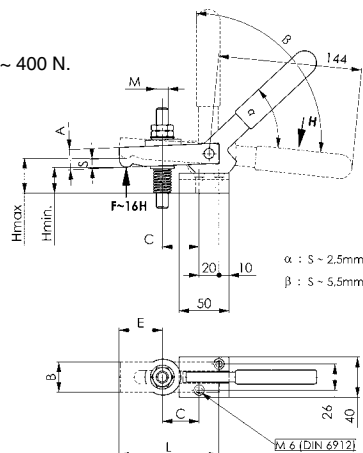


Order no.	Size	H min.	H max.	A	B	C	E	L	M	Weight [g]
73502	1	26	35	20	30	37	21-43	100	M12	1000
73510	2	26	35	20	40	45	34-66	125	M16	1400

Eccentric clamps are useful for specialized fixtures.

Note:

Actuation by hand - hand force ~ 400 N.



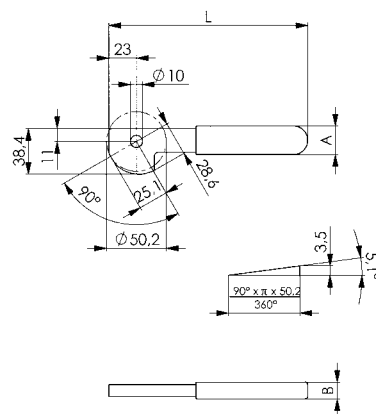
No. 6601

Eccentric lever, loose

for end clamping
(part of 6600)



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



No. 6610

Eccentric clamp with middle clamping

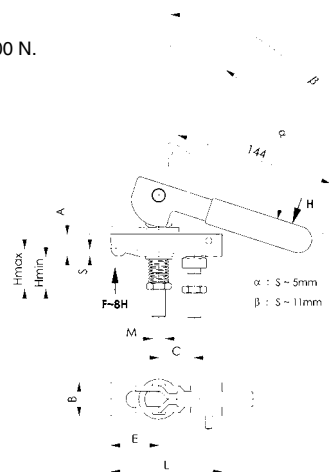
hardened and burnished, lever plastic coated.



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 ~ 400 N.



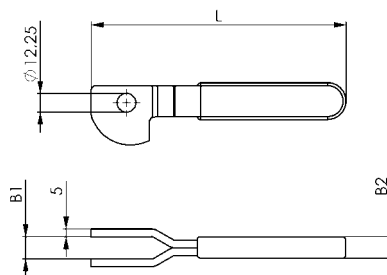
Subject to technical alterations.

No. 6611

Eccentric lever, loose

for middle clamping
(part of 6610)

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



CAD

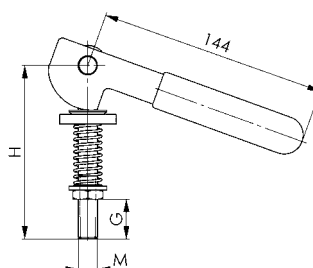


No. 6612

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



CAD



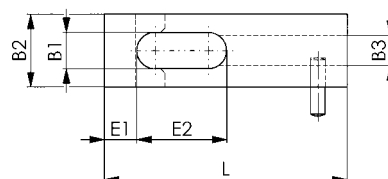
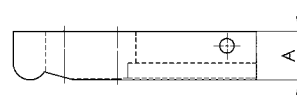
Subject to technical alterations.

No. 6614

Clamp with dowel

(part of 6610)

Order no.	Size	A	B1	B2	B3	E1	E2	L	Weight [g]
74526	1	20	15	30	12,5	13,5	37	100	350
74534	2	20	19	40	12,5	24,5	51	125	590

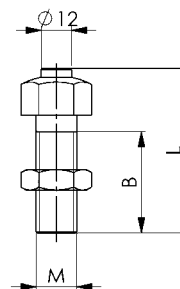


No. 6616

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

Centering tensioner

with flat-faced ball.
 Repeatability ± 0.025 mm
 Rotational accuracy $\pm 0,050$ mm



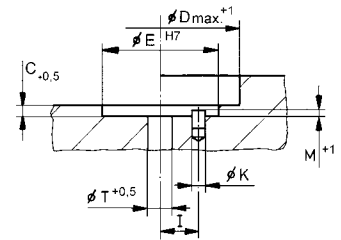
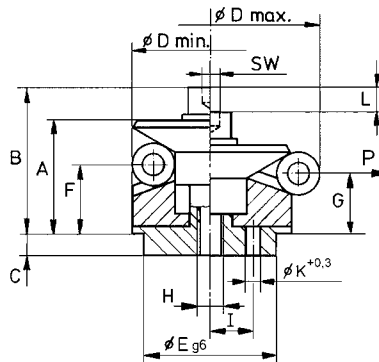
Order no.	D min.	D max.	Tightening torque [Nm]	SW	P [kN]	Weight [g]
373357	11,7	14,2	1,5	2,5	0,5	18
373365	14,5	18,5	3,7	3	3,5	20
373373	18,5	22,5	4,9	4	4,5	39
373381	22,5	26,5	8,5	5	5,0	60
373399	26,5	30,5	8,5	5	5,0	86
373407	30,5	38,5	8,5	5	5,0	125
373415	38,5	46,5	20,6	6	6,5	233
373423	46,5	54,5	20,6	6	6,5	323
373431	54,5	70,5	41,0	8	8,0	653
373449	70,5	86,5	71,0	10	10,0	1271
373456	86,5	102,5	71,0	10	10,0	1783

Application:

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

Note:

For deep installation, clearance D max. must be provided. Assembly tools: Retaining pin for determining the precise position of the balls.



Dimensions:

Order no.	A	B	C	E g6	F	G	H	I $\pm 0,1$	K	L	M	Q	QD	T
373357	12,0	15,5	3,5	10	9,2	8,6	M3	3,5	1,5	1,5	2,5	3	2,5	3,3
373365	14,1	19,7	5,5	12	9,1	7,9	M4	4,5	2,0	2,3	3,5	3	4,0	4,3
373373	16,6	23,6	7,5	15	11,6	10,4	M5	5,5	2,5	2,3	3,0	3	4,0	5,3
373381	20,1	29,1	6,0	15	15,1	13,9	M6	7,0	3,0	2,3	4,0	3	4,0	6,4
373399	20,1	29,1	6,0	20	15,1	13,9	M6	7,0	3,0	2,3	4,5	3	4,0	6,4
373407	24,2	33,4	7,0	25	15,2	12,8	M6	9,0	4,0	4,6	4,5	3	8,0	6,4
373415	27,1	37,6	7,5	30	18,1	15,7	M8	11,0	4,0	4,6	4,5	6	8,0	8,4
373423	27,1	37,6	7,5	30	18,1	15,7	M8	11,0	4,0	4,6	4,5	6	8,0	8,4
373431	40,7	54,2	9,0	45	23,7	19,0	M10	15,0	5,0	9,3	5,5	6	16,0	10,5
373449	45,6	61,6	10,0	60	28,3	23,6	M12	17,0	5,0	9,3	5,5	6	16,0	13,0
373456	45,6	61,6	10,0	60	28,3	23,6	M12	17,0	5,0	9,3	5,5	6	16,0	13,0

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

No. 6383ZES

Centering tensioner

With protective segments.
Repeatability ± 0.025 mm
Rotational accuracy ± 0.050 mm



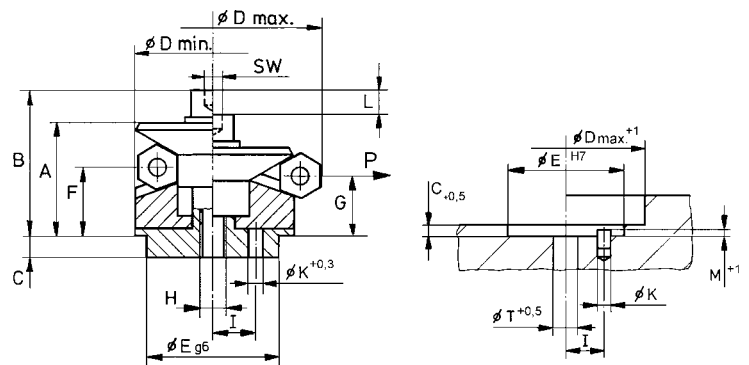
Order no.	D min.	D max.	Tightening torque [Nm]	SW	P [kN]	Weight [g]
373464	14,5	18,5	3,7	3	3,5	20
373472	18,5	22,5	4,9	4	4,5	39
373480	22,5	26,5	8,5	5	5,0	60
373498	26,5	30,5	8,5	5	5,0	86
373506	30,5	38,5	8,5	5	5,0	125
373514	38,5	46,5	20,6	6	6,5	233
373522	46,5	54,5	20,6	6	6,5	323
373530	54,5	70,5	41,0	8	8,0	653
373548	70,5	86,5	71,0	10	10,0	1271
373555	86,5	102,5	71,0	10	10,0	1783

Application:

For unmarred surfaces with central positioning and clamping in holes.

Note:

For deep installation, clearance D max. must be provided. Assembly tools: Retaining pin for determining the precise position of the segments.



Dimensions:

Order no.	A	B	C	E g6	F	G	H	I $\pm 0,1$	K	L	M	Q	QD	T
373464	14,1	19,7	5,5	12	9,1	7,9	M4	4,5	2,0	2,3	3,5	3	4	4,3
373472	16,6	23,6	7,5	15	11,6	10,4	M5	5,5	2,5	2,3	3,0	3	4	5,3
373480	20,1	29,1	6,0	15	15,1	13,9	M6	7,0	3,0	2,3	4,0	3	4	6,4
373498	20,1	29,1	6,0	20	15,1	13,9	M6	7,0	3,0	2,3	4,5	3	4	6,4
373506	24,2	33,4	7,0	25	15,2	12,8	M6	9,0	4,0	4,6	4,5	3	8	6,4
373514	27,1	37,6	7,5	30	18,1	15,7	M8	11,0	4,0	4,6	4,5	6	8	8,4
373522	27,1	37,6	7,5	30	18,1	15,7	M8	11,0	4,0	4,6	4,5	6	8	8,4
373530	40,7	54,2	9,0	45	23,7	19,0	M10	15,0	5,0	9,3	5,5	6	16	10,5
373548	45,6	61,6	10,0	60	28,3	23,6	M12	17,0	5,0	9,3	5,5	6	16	13,0
373555	45,6	61,6	10,0	60	28,3	23,6	M12	17,0	5,0	9,3	5,5	6	16	13,0

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



No. 6383ZUK

Centering tensioner

with flat-faced ball.
Repeatability ± 0.025 mm
Rotational accuracy $\pm 0,050$ mm



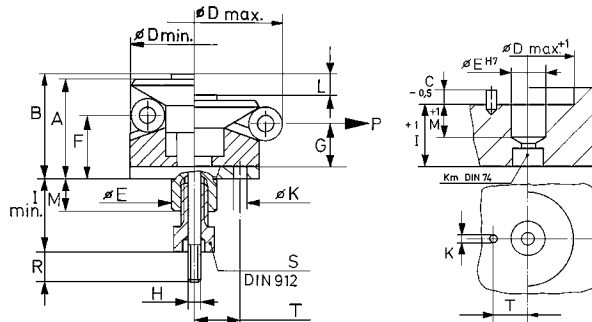
Order no.	D min.	D max.	max. pull force [kN]	S DIN912	P [kN]	Weight [g]
373563	11,7	14,2	2,3	M6x10	2,0	9
373571	14,5	18,5	2,3	M6x10	2,0	22
373589	18,5	22,5	4,0	M8x16	3,5	54
373597	22,5	26,5	6,5	M10x16	6,0	64
373605	26,5	30,5	6,5	M10x16	6,0	98
373613	30,5	38,5	9,0	M12x20	8,5	139
373621	38,5	46,5	9,0	M12x20	8,5	248
373639	46,5	54,5	9,0	M12x20	8,5	338
373647	54,5	70,5	17,0	M16x20	16,0	660
373654	70,5	86,5	17,0	M16x20	16,0	1252
373662	86,5	102,5	17,0	M16x20	16,0	1765

Application:

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

Note:

For deep installation, clearance D max. must be provided. Assembly tools: Hole K for retaining pin for determining the precise position of the balls.



Dimensions:

Order no.	A	B	C	E f7	F	G	H	I min.	K	L	M	Q	QD	R	T
373563	11,9	15,0	1,0	8	9,2	8,6	M3	19,5	1,5	1,5	7,5	3	2,5	10	5,2
373571	14,1	17,0	1,5	8	9,1	7,9	M3	19,5	2,0	2,3	7,5	3	4,0	10	6,0
373589	16,6	20,6	1,5	12	11,6	10,4	M4	28,0	2,5	2,3	11,5	3	4,0	16	7,8
373597	20,1	27,1	2,0	15	15,1	13,9	M5	30,0	3,0	2,3	11,5	3	4,0	14	9,4
373605	20,1	27,1	2,0	15	15,1	13,9	M5	30,0	3,0	2,3	11,5	3	4,0	14	10,5
373613	24,2	32,7	2,0	20	15,2	12,8	M6	36,0	4,0	4,6	15,5	3	8,0	16	12,5
373621	27,1	35,6	2,5	20	18,1	15,7	M6	36,0	4,0	4,6	15,5	6	8,0	16	12,5
373639	27,1	35,6	2,5	20	18,1	15,7	M6	36,0	4,0	4,6	15,5	6	8,0	16	12,5
373647	40,7	50,2	2,5	30	23,7	19,0	M8	43,0	5,0	9,3	16,5	6	16,0	16	20,0
373654	45,6	55,1	2,5	40	28,3	23,6	M8	43,0	5,0	9,3	16,5	6	16,0	16	25,0
373662	45,6	55,1	2,5	60	28,3	23,6	M8	43,0	5,0	9,3	16,5	6	16,0	16	36,5

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

No. 6383ZUS

Centering tensioner

With protective segments.
Repeatability ± 0.025 mm
Rotational accuracy $\pm 0,050$ mm



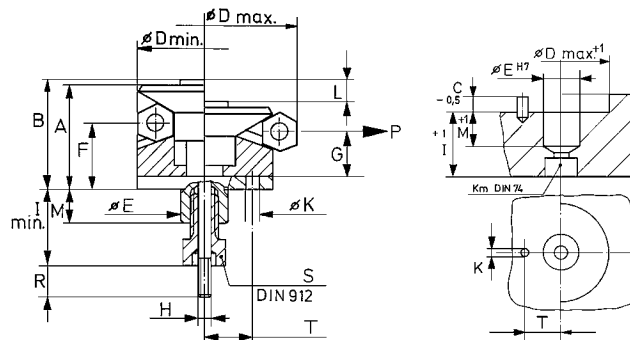
Order no.	D min.	D max.	max. pull force [kN]	S DIN912	P [kN]	Weight [g]
373670	14,5	18,5	2,3	M6x10	2,0	22
373688	18,5	22,5	4,0	M8x16	3,5	54
373696	22,5	26,5	6,5	M10x16	6,0	64
373704	26,5	30,5	6,5	M10x16	6,0	98
373712	30,5	38,5	9,0	M12x20	8,5	139
373720	38,5	46,5	9,0	M12x20	8,5	248
373738	46,5	54,5	9,0	M12x20	8,5	338
373746	54,5	70,5	17,0	M16x20	16,0	660
373753	70,5	86,5	17,0	M16x20	16,0	1252
373761	86,5	102,5	17,0	M16x20	16,0	1765

Application:

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

Note:

For deep installation, clearance D max. must be provided. Assembly tools: Hole K for retaining pin for determining the precise position of the segments.



Dimensions:

Order no.	A	B	C	E f7	F	G	H	I min.	K	L	M	Q	QD	R	T
373670	14,1	17,0	1,5	8	9,1	7,9	M3	19,5	2,0	2,3	7,5	3	4	10	6,0
373688	16,6	20,6	1,5	12	11,6	10,4	M4	28,0	2,5	2,3	11,5	3	4	16	7,8
373696	20,1	27,1	2,0	15	15,1	13,9	M5	30,0	3,0	2,3	11,5	3	4	14	9,4
373704	20,1	27,1	2,0	15	15,1	13,9	M5	30,0	3,0	2,3	11,5	3	4	14	10,5
373712	24,2	32,7	2,0	20	15,2	12,8	M6	36,0	4,0	4,6	15,5	3	8	16	12,5
373720	27,1	35,6	2,5	20	18,1	15,7	M6	36,0	4,0	4,6	15,5	6	8	16	12,5
373738	27,1	35,6	2,5	20	18,1	15,7	M6	36,0	4,0	4,6	15,5	6	8	16	12,5
373746	40,7	50,2	2,5	30	23,7	19,0	M8	43,0	5,0	9,3	16,5	6	16	16	20,0
373753	45,6	55,1	2,5	40	28,3	23,6	M8	43,0	5,0	9,3	16,5	6	16	16	25,0
373761	45,6	55,1	2,5	60	28,3	23,6	M8	43,0	5,0	9,3	16,5	6	16	16	36,5

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?

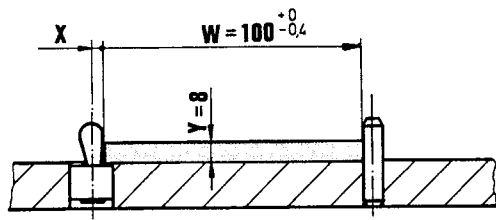
- > If nothing may extend over the plate 5 mm
- > If projection would not be a problem 6 or 8 mm
- > If clamping will be done additionally 6 mm
- > If drilling will be performed without additional clamping 8 mm

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

Workpiece height Y?

The tolerance can be ignored.



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

What force should be selected?

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

Dimension X for side thrust pieces with plastic spring?

- > See table or formula below
- Size 05 X = 1,6 mm
- Size 06 X = 1,9 mm
- Size 08 X = 2,7 mm

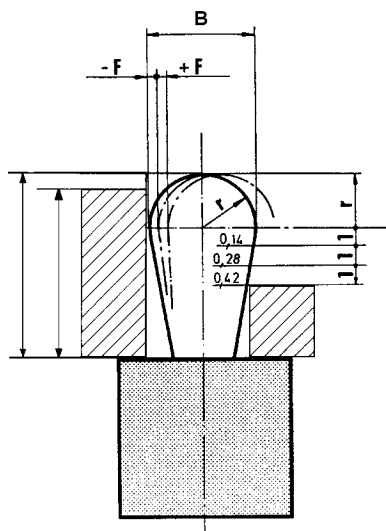
Dimension X for side thrust pieces with steel spring?

- > See table or formula below
- > Note that F is larger and thus allows greater leeway

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.

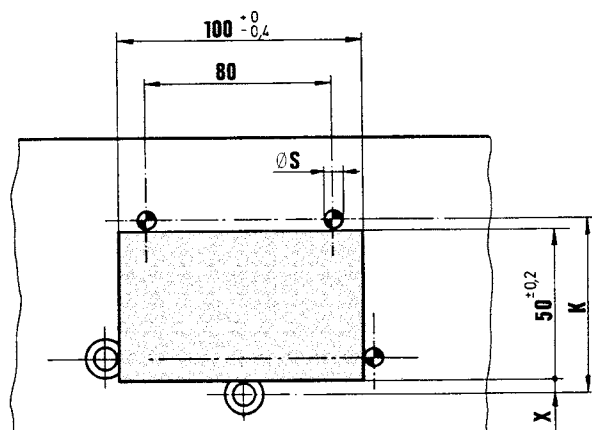
For workpieces that are smaller than C minus r, the table values for dimension X or the formula $X = B/2 - (-F) - [(C - r - Y) \times 0,123]$ apply.



Formula for coordinates:

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

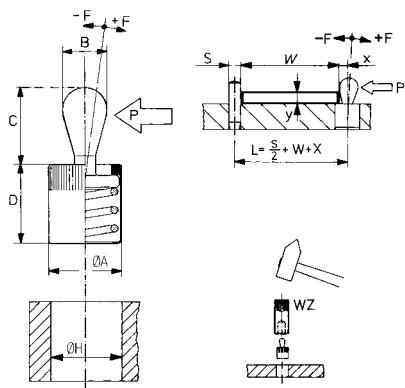
The table values are standard values that should ideally be checked using a sample clamping.



No. 6380

Lateral pressure pad

without seal.
Steel pin for clamping.



Order no.	dia. A	B	C	D - 1	ØH H8	F	~P [N]	X	suitable tool	Weight [g]
373001	6	3	4,0	7	6	±0,5	10	0,9	03	0,6
373019	6	3	4,0	7	6	±0,5	20	0,9	03	0,6
373027	6	3	4,0	7	6	±0,5	40	0,9	03	0,7
373035	10	5	6,7	11	10	±0,8	20	1,6	05	2,6
373043	10	5	6,7	11	10	±0,8	50	1,6	05	2,9
373050	10	5	6,7	11	10	±0,8	100	1,6	05	3,1
373068	10	6	10,7	11	10	±1,0	40	1,8	06	3,6
373076	10	6	10,7	11	10	±1,0	75	1,8	06	3,6
373084	10	6	10,7	11	10	±1,0	150	1,8	06	3,9
373092	12	8	13,9	13	12	±1,3	50	2,6	08	7,0
373100	12	8	13,9	13	12	±1,3	100	2,6	08	7,2
373126	16	10	16,7	17	16	±1,6	100	3,2	10	15,0
373134	16	10	16,7	17	16	±1,6	200	3,2	10	15,4
373142	16	10	16,7	17	16	±1,6	300	3,2	10	15,8

Note:

Without sealing for operations without dirt, temperature-resistant up to 250°C.
Installation by pressing in.

Recommendations



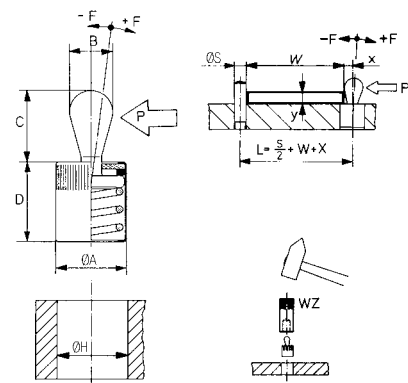
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No. 6380D

Lateral pressure pad

with seal against chips and dirt.
Steel pin for clamping.



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



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No. 6380WZ

Tool

for pressing in the lateral pressure pad.



Order no.	Size	Weight [g]
373308	03	15,9
373316	05	18,8
373332	08	64,3
373340	10	105,3

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]	MA [Nm]	Weight [g]
373779	11,0	M4	4,0	12	2,6	4,8	5,5	3	4,0	5,0	0,1	2	5
373787	15,6	M6	5,5	16	5,0	6,7	7,8	5	5,9	7,0	0,4	6	10
373795	19,1	M8	6,5	20	5,8	8,3	9,6	6	7,1	8,6	3,0	25	15
373803	23,7	M10	8,0	24	6,3	9,8	11,8	8	8,5	10,3	4,5	40	20
373811	27,3	M12	9,0	18	8,5	11,7	13,6	10	10,1	12,2	6,0	55	35
373829	27,3	M12	9,0	30	8,5	11,7	13,6	10	10,1	12,2	5,0	45	55
373837	35,4	M16	12,0	24	10,7	15,6	17,7	14	13,2	16,2	10,0	90	90
373845	35,4	M16	12,0	40	10,7	15,6	17,7	14	13,2	16,2	7,5	70	110

Application:

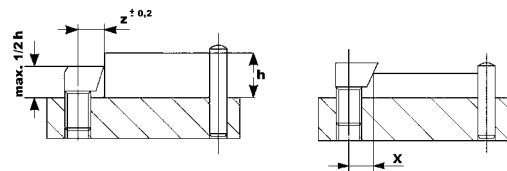
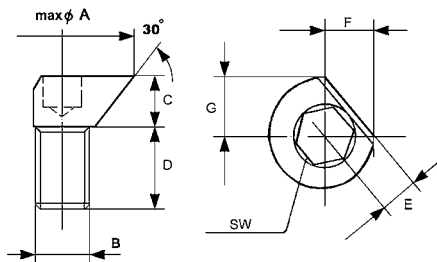
- Clamping above the machining surface
- Clamping below the machining surface
- Clamping in holes.

Advantage:

- stepless adjustment with eccentric
- high wear resistance.

On request:

The eccentric clamping bolt is also with available with left-hand thread on request.



Clamping above the machining surface



Clamping below the machining surface



Subject to technical alterations.

THE MANUFACTURE OF SPECIAL CLAMPING ELEMENTS TO CUSTOMERS' INDIVIDUAL REQUIREMENTS IS AN AMF-SPECIALITY.

For more than sixty years now, we manufacture and market clamping elements of the highest quality, and thus have extensive experience which we are pleased to place at your disposal. And we will, with certainty, be able to provide the clamping element you need for some special purpose. So if you are not able to find the clamping element you require in this catalogue, we will be pleased to make a further proposal in the form of a customer special. This could be a completely new, specially designed concept or employ cost-effective parts from existing tooling on the basis of the comprehensive AMF-range of products, and then modified to comply with your concept.

Please formulate your enquiry as precisely as possible. The following list is intended to help you with this, and, of course, you can extend it as required. With complete information, we will be able to give you a competent and concrete reply.

Please copy this page und send it to us in the post or by fax. We assure you that we will reply as quickly as possible.

We look forward to your enquiry.

1) Description of product:

2) Quantity:

3) Size or dimension:

4) Tolerances:

5) DIN designation or drawing-no.

6) Material:

7) Material condition (tempered, untreated, etc.):

8) Surface finish (zinc-plated, blued, etc.):

Address

Salutation

Street/Zip code

Town/Country

Phone/Fax/E-Mail



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DIN 6319D	106	No. 6339	113	No. 6419B-12-02	81	No. 6498	134	No. 7500BF	27
DIN 6319G	107	No. 6342	113	No. 6419B-12-03	81	No. 6498FR	135	No. 7500BZ	27
DIN 6323	155	No. 6344SP	150	No. 6419B-12-04	82	No. 6498FT	135	No. 7500D	26
DIN 6326	61	No. 6347P	140	No. 6419B-12-05	82	No. 6499	131	No. 7500E	23
DIN 6330B	101	No. 6347PP	141	No. 6419B-16-01	82	No. 6500E	59	No. 7500F	25
DIN 6331	102	No. 6347PS	142	No. 6419B-16-02	83	No. 6500H	59	No. 7500G	23
DIN 6340	107	No. 6347PSP	141	No. 6419B-16-03	83	No. 6501	60	No. 7500K	20
DIN 6346P	139	No. 6347S	140	No. 6419B-16-04	83	No. 6501M	60	No. 7500S	22
DIN 6346S	139	No. 6347SP	140	No. 6420	65	No. 6510	61	No. 7500SP	27
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