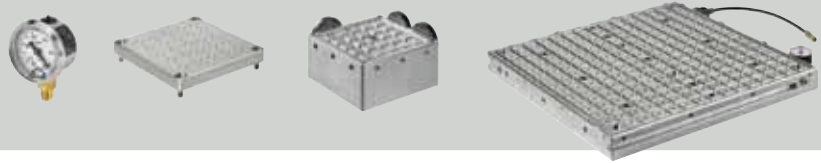


VACUUM CLAMPING TECHNOLOGY

6 - 18



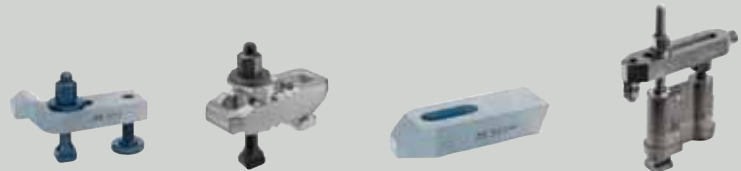
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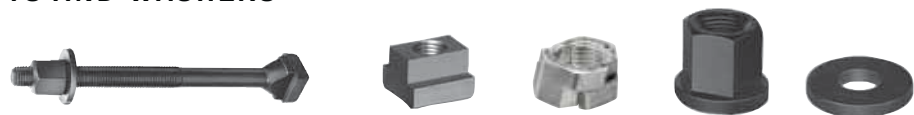
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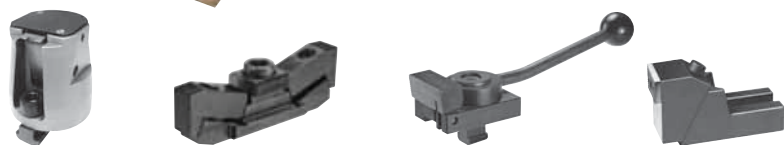
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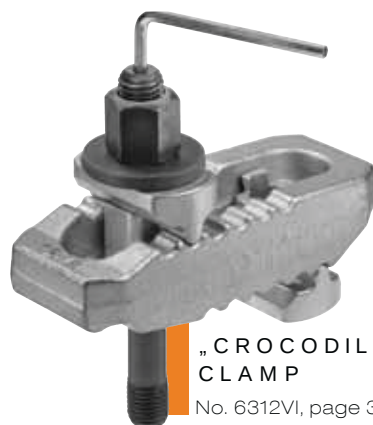
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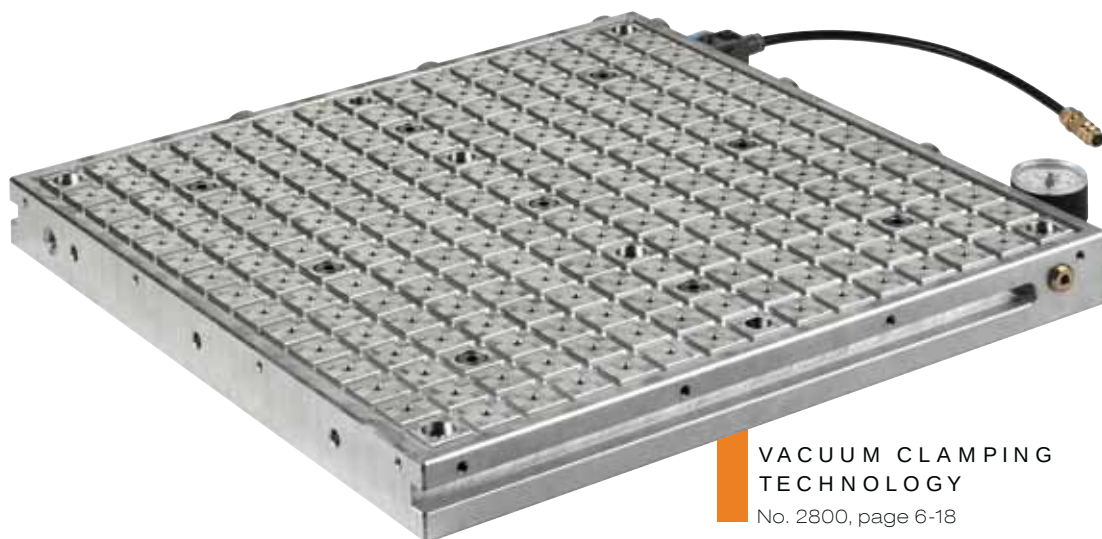
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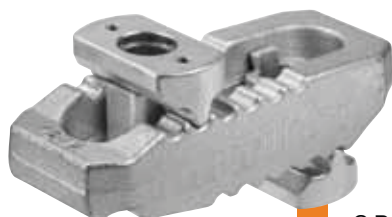
**„CROCODILE“
CLAMP**

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**VACUUM CLAMPING
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NEW!

**„CROCODILE“
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NEW size!



**PRECISION
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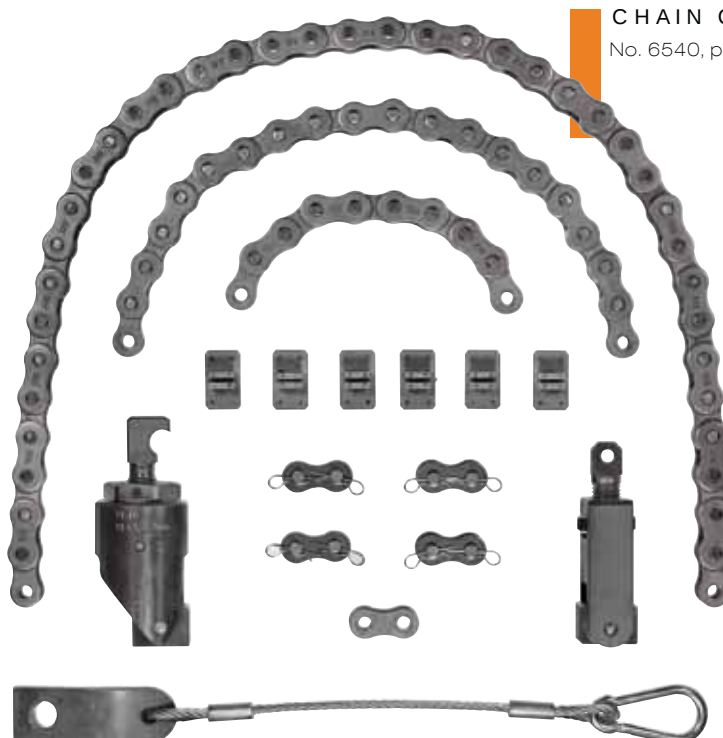
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NEW! Size M20 and M24

NEW!



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NEW!



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No. 6540, page 113

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NEW! Size M20 and M24



NEW!



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NEW!

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



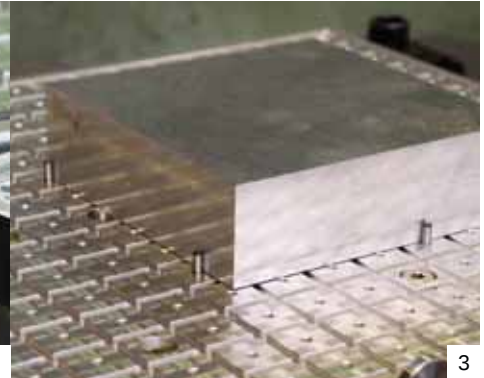
THE BENEFITS OF AMF VACUUM CLAMPING TECHNOLOGY



> 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.



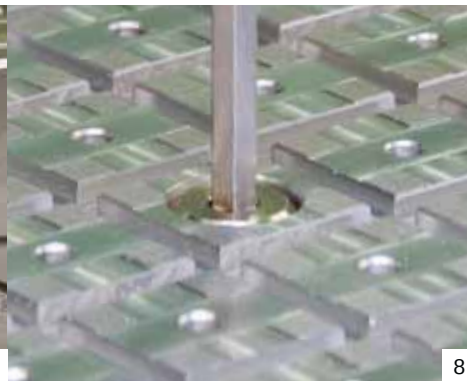
> Lateral grooves allow the vacuum clamping plate to be fastened to a baseplate or onto the machine table using AMF clamps No. 6325.



> 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. 7800X

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!

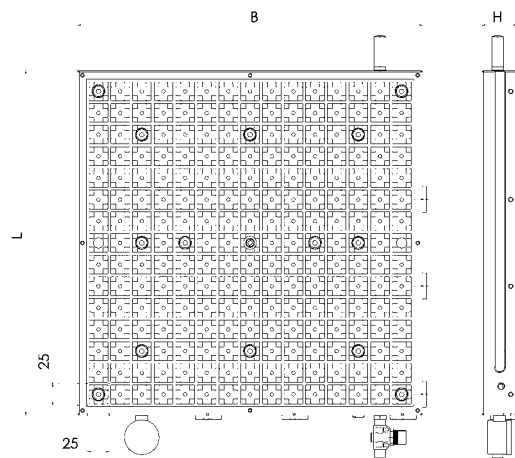
Max. suction volume against atmosphere: 21.8 l/min.

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

Please observe installation manual 7800.

On request:

Special dimensions





No. 7800AMGX

Adapter mat, rubber

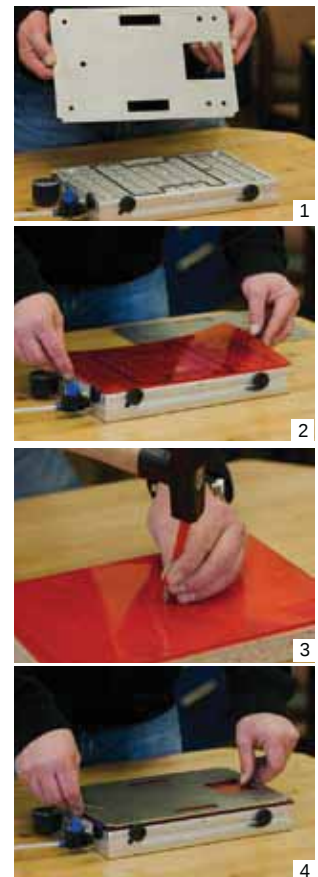
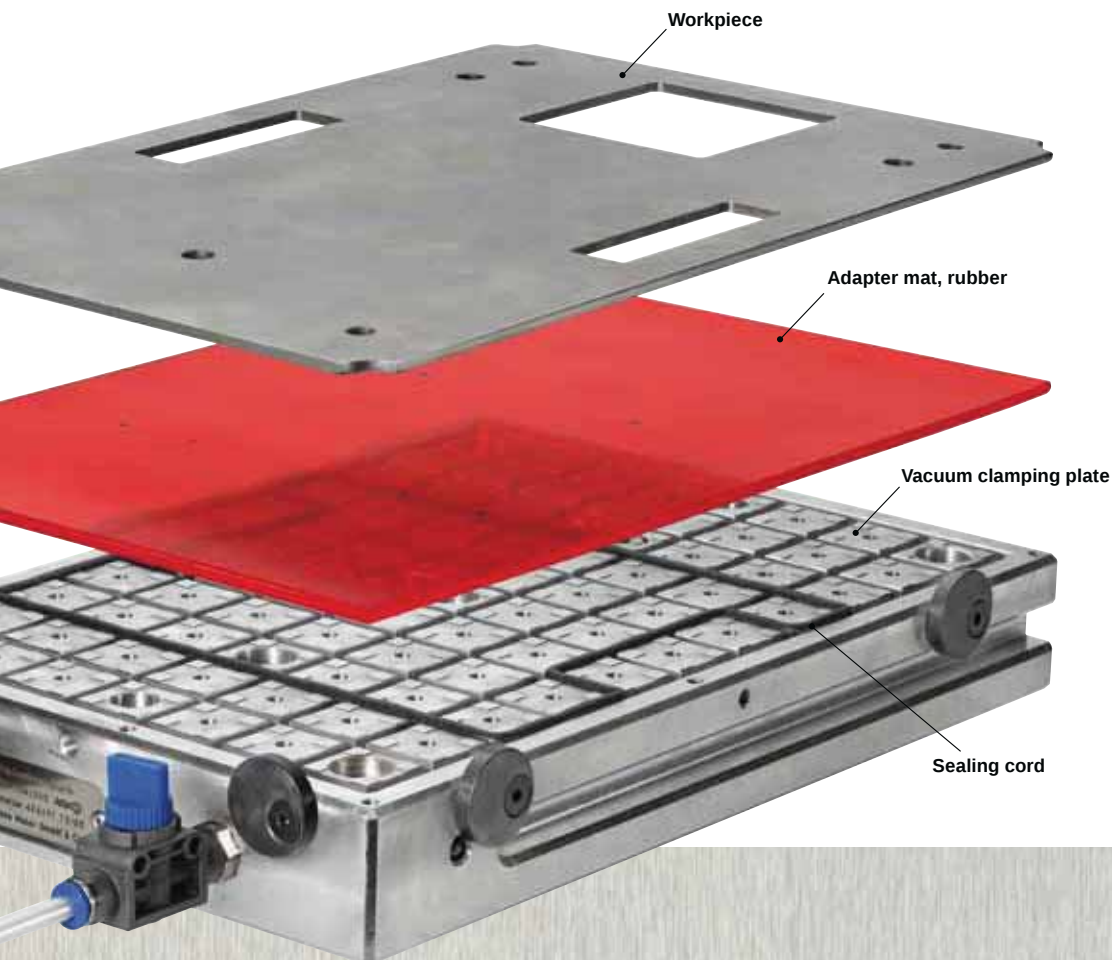
Order no.	Dimension [mm]	Material thickness ± 0.2 [mm]	Weight [g]
375485	150x150	4	110
375014	300x200	4	275
375022	300x400	4	550
375030	400x400	4	780
375048	400x600	4	1100

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. 7800APAX

Adapter plate, aluminium

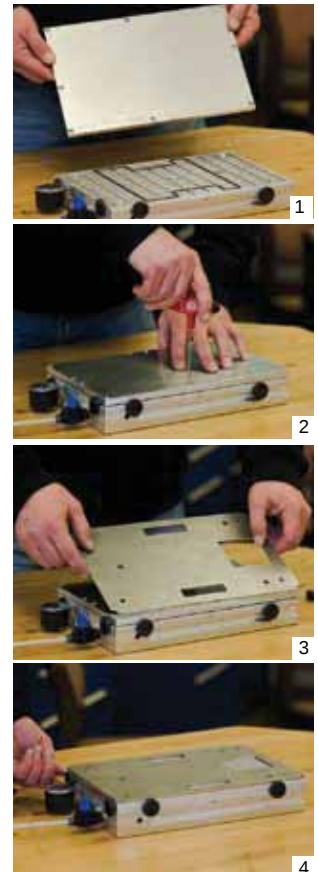
Order no.	Dimension [mm]	Material thickness ± 0.1 [mm]	Weight [g]
375097	150x150	10	0,6
374876	300x200	10	1,6
374892	300x400	10	3,3
374900	400x400	10	4,4
374918	400x600	10	6,6

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 $\Rightarrow$ elimination of cuts
- $\Rightarrow$ referred uses are for processing thin sheet metal, foils, boards and even paper.



Subject to technical alterations.

No. 7810ABX

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 [mbar]	Number of suction points	B	H	H	Weight [g]
375626	3	1	78	78	40	600

Design:

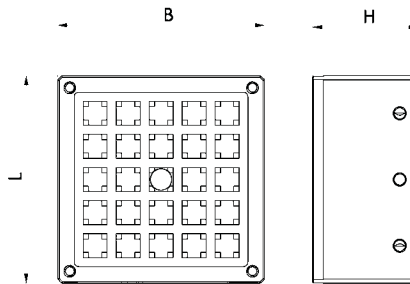
The surface-mounted block has grooves and a suction point on its upper side. The grid spacing is 12.5 mm. The field size is individually defined by inserting the sealing cord. The surface-mounted block is placed directly over a suction point on the vacuum clamping plate no. 7800. The underside is equipped 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 (order no. 374512).



No. 7810APAX

Adapter plate, aluminium

Suitable for surface-mounted block no. 7810.



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 (milling on both sides).
- Referred applications are the finishing of thin sheets, foils, films and even paper.

No. 7810AMGX

Adapter mat, rubber

Suitable for surface-mounted block no. 7810.



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 adapter mat 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. 7800VPX

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 [mbar]	Suction performance [m³/h]	Lubrication	Motor rating [kW]	Noise level [dB(A)]	Code class	Continuous operation [h]	Weight [kg]
374991	0.1	15	15	230/50	50	54	100	12

Application:

If compressed air is present where the vacuum clamping plate is used, we recommend using the M 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.

Note:

Replacement oil can be ordered under order no. 428722.

On request:

Other sizes and suction performances are available on request.

No. 7800VPFX

Liquid separator with vacuum filter

- Included in scope of supply
- Water separator
 - Vacuum filter
 - Fastening unit
 - Ball valve
 - Coupling plug 1/2" external thread - 15 mm
 - Plastic tube 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. 7800VPEX

Vacuum pump, external

Order no.	max. vacuum [mbar]	Max. suction volume flow [l/min.]	min. operating pressure [bar]	vac. connection outside dia. [mm]	neum. connection outside dia. [mm]	Weight [g]
376434	3	21,8	3,5	6	6	47

Design:

- Silencer open
- ball valve
- lug connection for hose

Application:

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. 7800DX

Sealing cord

Shore hardness 8-13

Order no.	roove 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. 7800VX

Vacuum meter

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



No. 7800VDSX

Vacuum pressure sensor with accessories

Electrical connection
able with connector according to 6047-5-2, round design M 8x1, 4-pin, cable length 0.3 m.

Scope of supply consists of:

- pressure sensor
- vacuum hose, outer 4 mm, length 30 cm
- lug connection 1/8-4

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

Application:

The threshold values variable 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. 7800VDX

Sealing ring

for vacuum meter



Order no.	Connection	Weight [g]
374561	1/8"	0,5

Application:

Sealing ring is used in installation of the vacuum meter.

No. 7800EX

Eccentric stop, dia. 30 mm

Steel, blued.

Complete with flat-head screw.



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. 7800VSDX

Sound absorber

Housing and absorber insert of PTFE.



Order no.	Connection	Ambient temp. [°C]	Weight [g]
374579	1/8"	-10 - 60	5

Application:

Can be screwed directly into the vacuum clamping plate.

Note:

Check sound absorber regularly for fouling.

No. 908X-G1/8

Screw plug

with rubber seal



Order no.	Connection	Weight [g]
374553	1/8"	7

No. 7800VAFX

Suction filter

Housing of brass, filter insert of tin bronze.



Order no.	Connection	Weight [g]
374884	1/8"	2

Application:

The suction filter is screwed into the vacuum clamping plate.

Note:

Check suction filter regularly for fouling.

No. 7800AVX

Ball-Valve

manually operated.



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

Application:

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

No. 7800VNSX

Plug-in nipple for quick coupling

with cap nut D7.2. 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. 7800ZSX

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. 2800WX-06

Pneumatic hose



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

No. 7800VABX

Locating pin

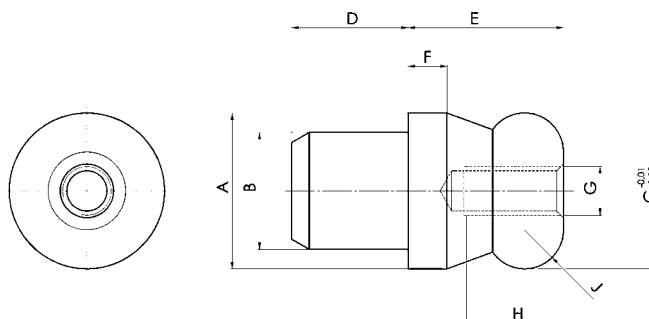
Steel.



Order no.	16	12	16	D	12	16	4	M5	H	10	4	Weight [g]
374629	16	12	16	12	16	4	M5	10	4	30		

Advantage:

Quick, precise alignment of the fixtures being clamped.



No. 7800VSBX

Sword pin

Steel.



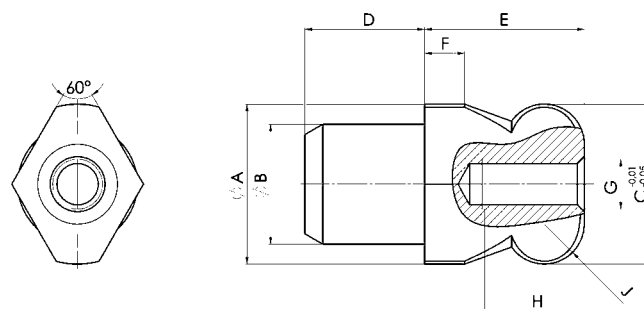
Order no.	16	12	16	D	16	4	16	H	16	12	Weight [g]
374637	16	12	16	12	16	4	M5	10	16	4.3	23

Application:

The sword pin is used for tolerance compensation ± 0.01

Advantage:

Quick, precise alignment of the fixtures being clamped.



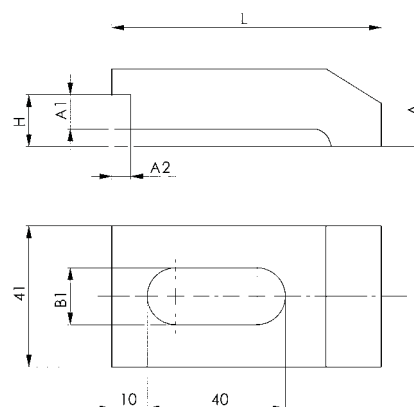
No. 6325

Clamps for machine vices

Tempering steel, blued, packaged in pairs.



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



No. 6370ZNX-20

Clamping nipple for clamping modules K20

Hardened, for hydraulic and pneumatic clamping modules
Size 20



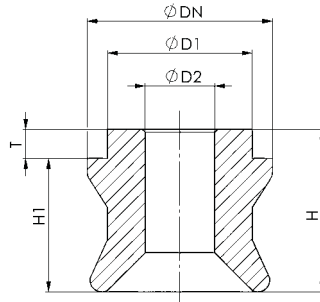
Order no.	Size	dia. D1	dia. D1	dia. D2	H	H1	T	Weight [g]
374645	20	32	25	12	28	23	5	110
374652	20	32	25	12	28	23	5	110
374660	20	32	25	12	28	23	5	110

Design:

Order no. 374645 Zero point nipple
Order no. 374652 Slit nipple
Order no. 374660 Indersized nipple

Note:

Our complete Zero point clamping programme can be found in our catalogue Zero-Point-Systems



No. 6370ZNSX-001

Engagement nipple screw

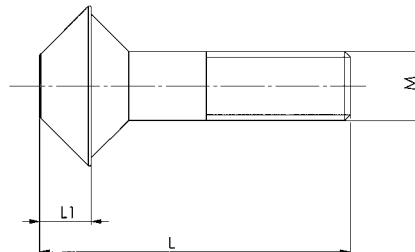
Strength class 10.9.



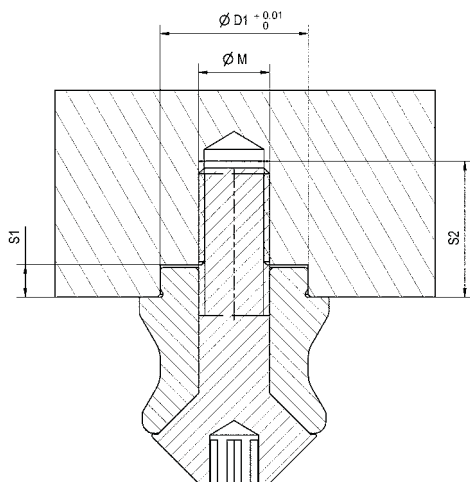
Order no.	Size	M	L	H1	Weight [g]
374678	20	M12	54		70

On request:

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



Dimensions for machining nipple mountings



Größe	D1	M	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]	Ø	H min.	H max.	Weight [g]
372961	16	16	M12	11	48	1240
373894	25	25	M12	0	63	2043
373902	25	25	M16	0	63	2022

Application:

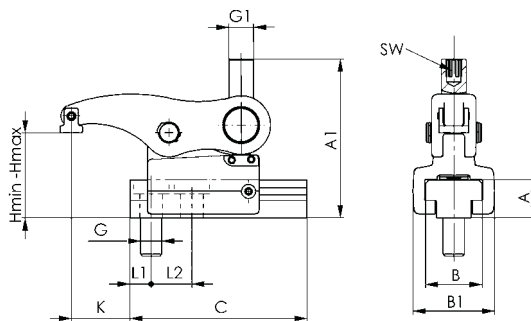
- Position and fasten carrier element on the tool plate.
- Push the base element into the desired position on the carrier table. After this is done, it is ready for operation.
- Adjust the height of the clamping arm with the adjusting bolt and clamp the tool.
- The very robust design enables quick and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

Advantage:

- max. load 16 kN Ø25 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

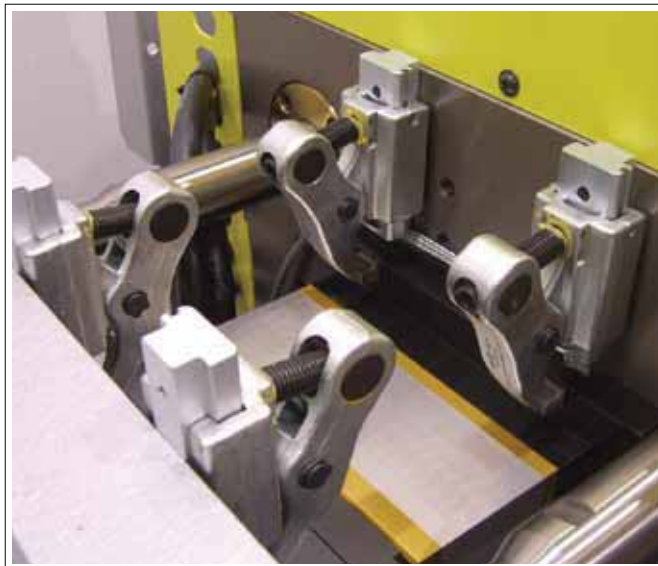
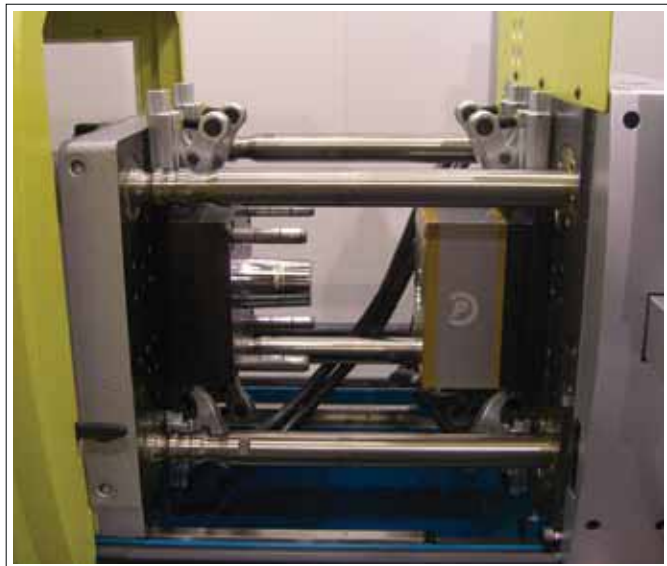
Note:

To reduce wear to the adjusting bolt, we recommend using M2 screw compound No. 633. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.

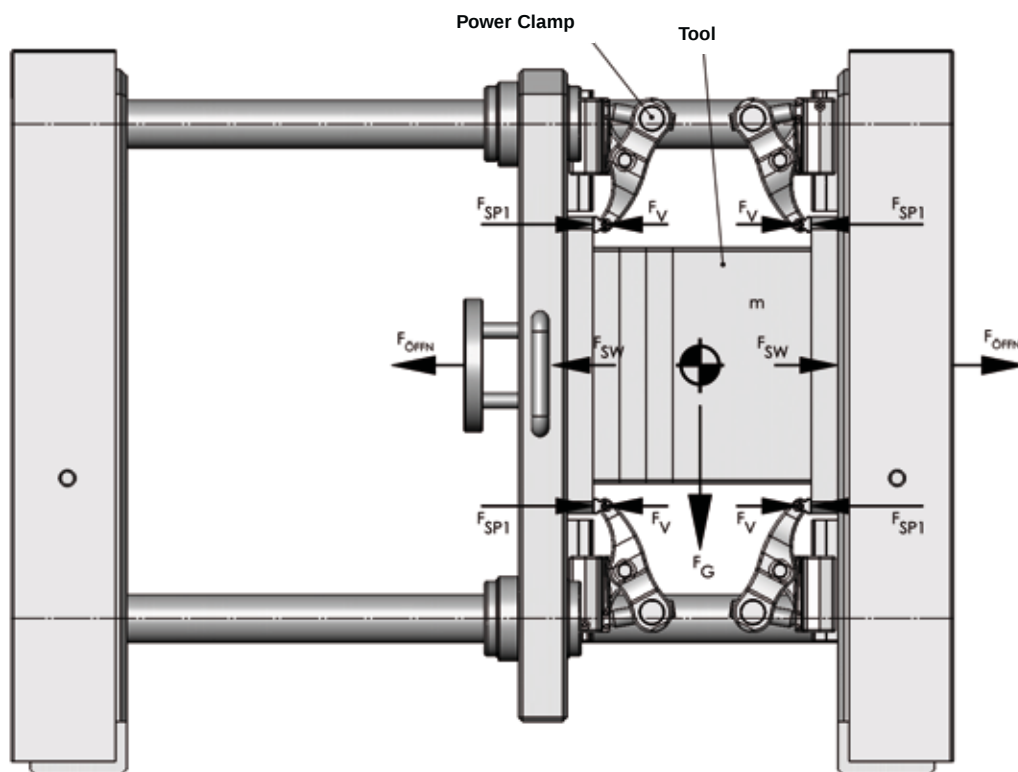


Dimensions:

Order no.	Size	Ø	Ø1	Ø	Ø1	Ø	Ø1	Ø	Ø1	Ø2	SW
372961	16	21,5	Ø0	32	46	100	M14	8-43	12	23	8
373894	25	32,0	125	40	54	135	M16	32-Ø7	16	25	8
373902	25	32,0	125	40	54	135	M16	32-Ø7	20	30	8



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. 7500S)
- F_{SP1} Difference between F_{SP} and F_V [kN]
- F_V Re-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]

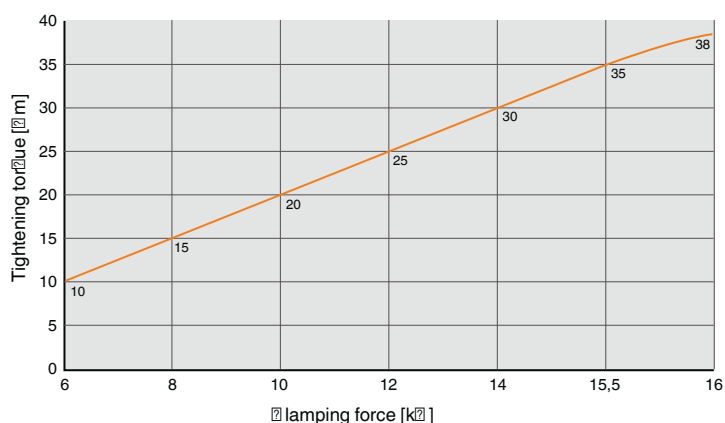
F_G	=	$\frac{m \times g}{1000}$
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2. Calculation of tool force [kN]

F_{SW}	=	$\frac{F_G}{\mu}$
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3. No. of power clamps required on basis of tool weight

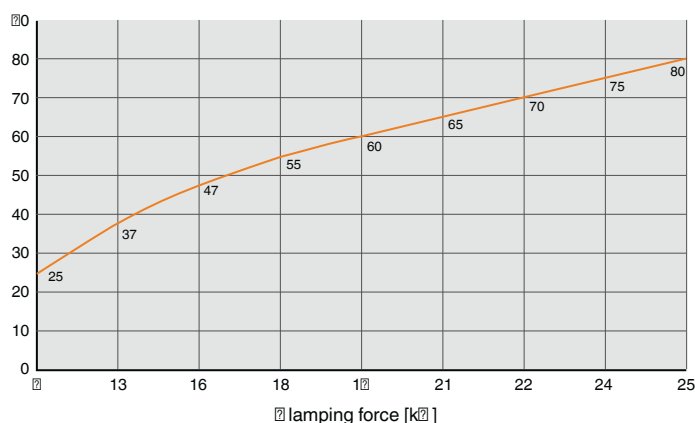
$n1$	=	$\frac{F_{SW}}{F_{SP1}}$
------	---	--------------------------
4. No. of power clamps required on basis of opening force

$n2$	=	$\frac{F_{OFFN}}{F_{SP1}}$
------	---	----------------------------
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. 7500



Order no.	Size clamping force [kN]	Ø	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:

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

Advantage:

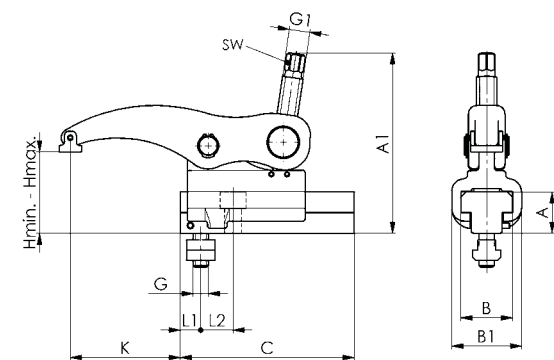
- Up to 16 kN / 25 kN clamping force
- Two joints for minimal wear
- Hip-deflecting design
- 14 - 28 mm T-grooves or M12 and M16 grid pallets
- 4 thrust-piece variants
- Variable clamping height, 0 - 180 mm

Note:

When size 16 and size 25 are employed and the Power Clamp is inserted parallel to the groove, mounting kit no. 7500 must be used with the base element for grooves size 18 or greater. To reduce wear to the adjusting bolt, we recommend using M screw compound No. 633. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.

Dimensions:

Order no.	Size	Ø	Ø1	Ø	Ø1	Ø	Ø1	Ø	Ø1	Ø2	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-Ø7	16	25	13
74104	25	32,0	135	40	54	135	M16	32-Ø7	16	25	13
75762	25	32,0	135	40	54	135	M16	32-Ø7	20	30	13
75838	25	32,0	135	40	54	135	M16	32-Ø7	20	30	13
75846	25	32,0	135	40	54	135	M16	32-Ø7	20	30	13
75853	25	32,0	135	40	54	135	M16	32-Ø7	20	30	13
75861	25	32,0	135	40	54	135	M16	32-Ø7	20	30	13



Subject to technical alterations.

No. 7500E

Power Clamp with spacer element, sliding

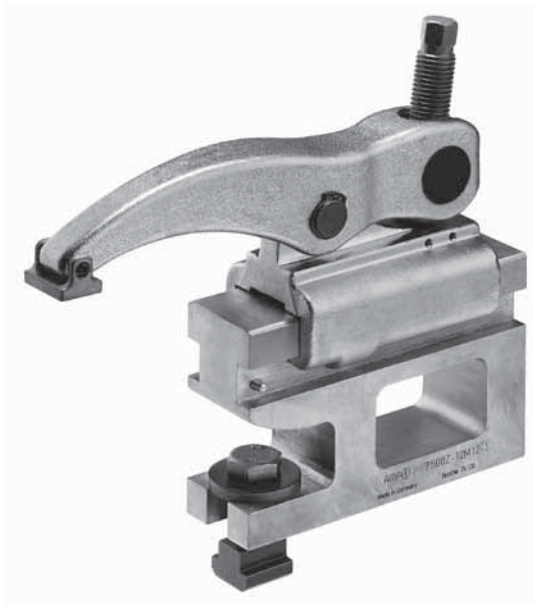
complete with mounting.

Clamping force 25 kN.

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

Components:

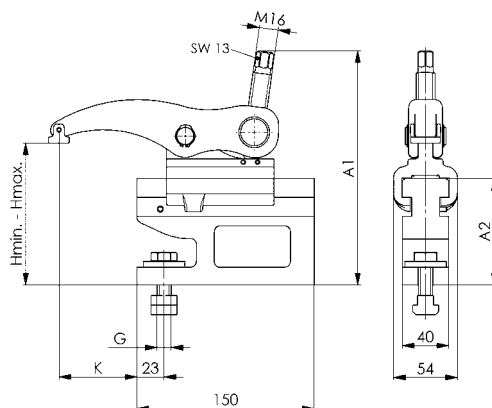
- Base element
- Spacer element
- Thrust piece with smooth surface
- Mounting kit o. 7500



Order no.	Ø	Slot	H min.	H max.	Ø 1	Ø 2	Ø	Weight [g]
75937	M12	14	60	120	108	100	32-84	4580
75945	M12	16	60	120	108	100	32-84	4600
76463	M16	18	60	120	108	100	32-84	4700
76471	M16	20	60	120	108	100	32-84	4760
76489	M16	22	60	120	108	100	32-84	4820
76851	M16	24	60	120	108	100	32-84	4920
76877	M16	28	60	120	108	100	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:

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

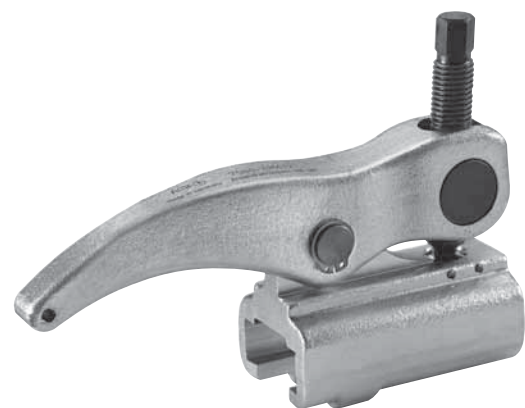


No. 7500G

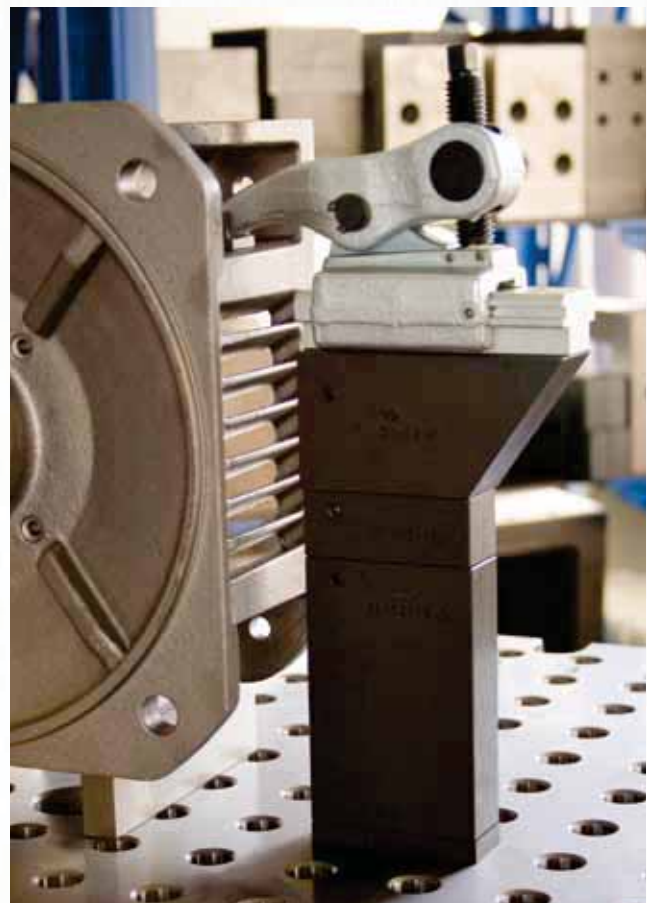
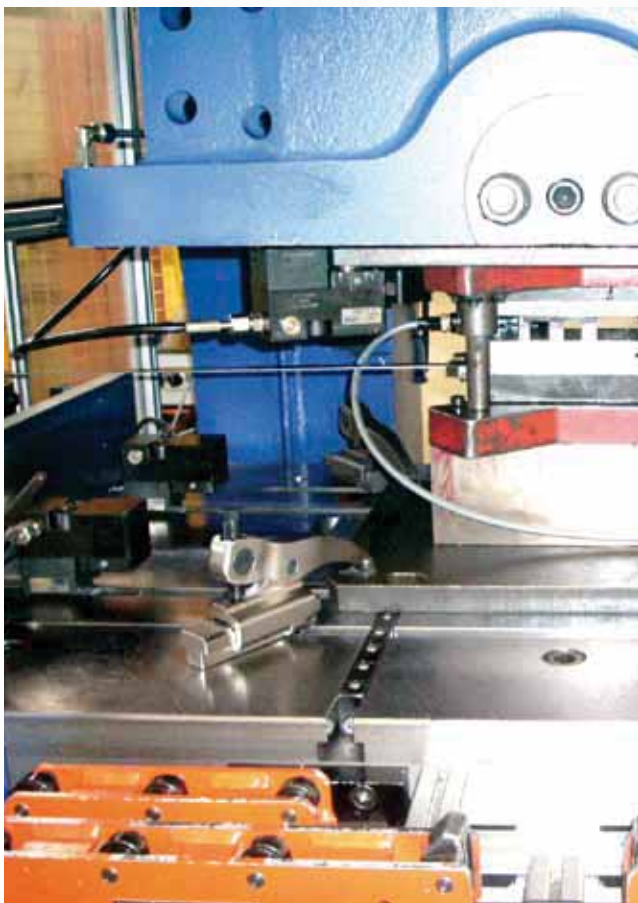
Base Element

with hexagon head or socket.

Tempered steel, hardened.



Order no.	Size Ø 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	-	1060
76604	25	14-28	-	8	1040



Subject to technical alterations.

No. 7500F

Foot element

Complete with mounting screw.

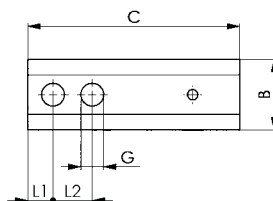
Tempered steel, hardened. Recommended use: groove size 16 and greater for size 16; groove size 25 and greater for size 18.



Order no.	Size clamping force [kN]	Ø	Slot	H min.	H max.	Ø	Ø	Ø	Ø1	Ø2	Weight [g]
372904	16	M12	14-18	15	52	5	35	100	12	23	115
74153	25	M12	14-18	3	62	8	45	135	16	25	314
74161	25	M16	18-28	3	62	8	45	135	20	30	304

Note:

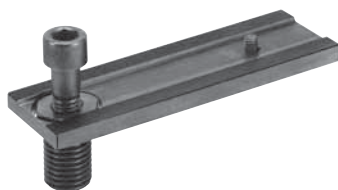
Mounting kits no. 750000, comprising cylinder-head bolt of grade 12.9 and T-groove key DIN 508, are not included in pack.



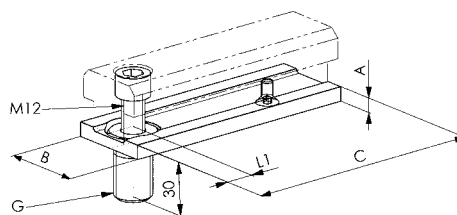
No. 7500A

Adapter element

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



Order no.	Size clamping force [kN]	Ø	H min.	H max.	Ø	Ø	Ø	Ø1	Weight [g]
79715	25	M18	3	62	8	45	135	16	425
79723	25	M20	3	62	8	45	135	16	440
79277	25	M24	3	62	8	45	135	16	472



No. 7110M-**-2

Adapter element

for Lock Clamping System no. 7110.



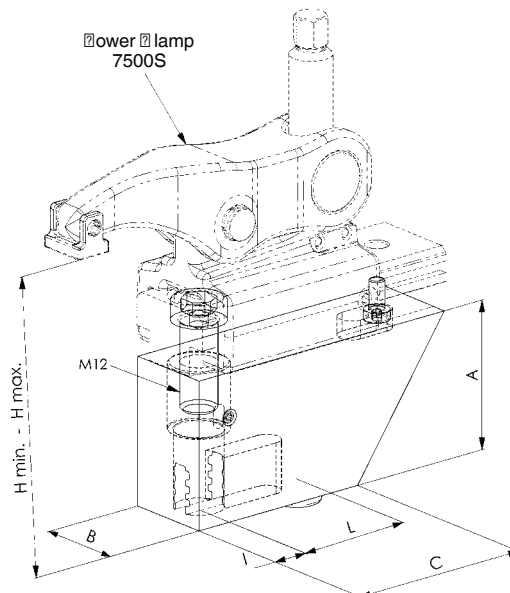
Order no.	Size	Suitable for power clamps, large	Ø	Ø	Ø	l	Ø	H min.	H max.	Weight [g]
77800	12	16	50	30	65	12,5	40	61	88	35
77909	16	25	50	30	80	16,0	40	50	113	1230

Application:

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

Note:

Additional elements of the Lock Clamping System can be found in our M catalogue clamping and fixture systems.



No. 7500T

Carrier

Tempering steel, hardened.

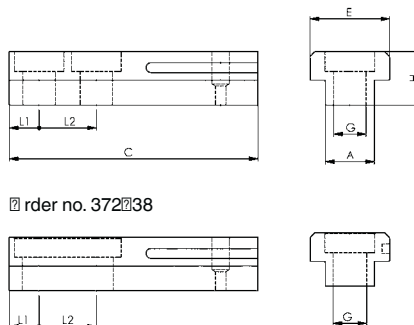


Order no. 372938

Order no.	Size  clamping force [kN]		Slot				H	 1	 2	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	446
74146	25	M16	18	24	135	40	32.0	20	30	885

Note:

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

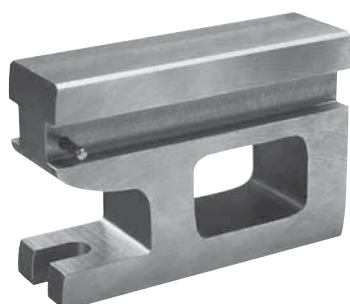


Order no. 372938

No. 7500Z

Spacer element

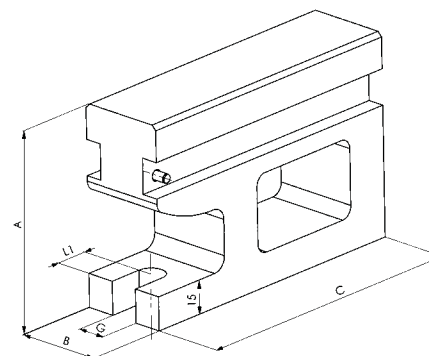
Tempering steel, hardened.



Order no.	Size  clamping force [kN]		Slot	H min.	H max.				 1	Weight [g]
74120	25	M12	14-18	60	120	 0	40	150	23	2520
74484	25	M16	18-28	60	120	 0	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. 7500Z, comprising hexagonal bolt ISO 4017-12.9, washer DIN 6340 and T-groove key DIN 508, are not included in pack.



No. 7500D

Pressure pad

complete with dowel pin.
Stainless steel.

7500D smooth contact surface,
7500D wavy contact surface,
7500D contact surface for cyl. workpieces, lengthwise,
7500D contact surface for cyl. workpieces, transverse.



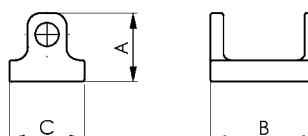
Order no. 372862

Order no. 74417

Order no. 74435

Order no. 74443

Order no.	Size clamping force [kN]	Form	Ø	Ø	Ø	Weight [g]
372862	16	D	14	17	12,5	10,0
74419	25	D	16	25	17,5	11,5
74427	25	D	16	25	17,5	17,8
74435	25	D	17	25	17,5	24,5
74443	25	D	17	25	17,5	25,0



Subject to technical alterations.

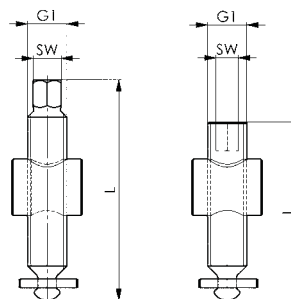
No. 7500SP

Clamping Bolt Set

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



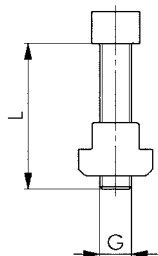
Order no.	Size $\varnothing$ clamping force [kN]	$\varnothing$ 1	$\varnothing$	SW outside	SW inside	Weight [g]
372946	16	M14	78	10	-	126
372953	16	M14	63	-	8	110
75408	25	M16	100	13	-	220
78121	25	M16	85	-	8	200



No. 7500BF

Mounting kit for carrier element

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

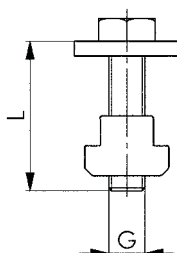


Order no.	Size $\varnothing$ clamping force [kN]	$\varnothing$	Slot	$\varnothing$	for 7500S	for 7500S/7500	Weight [g]
372979	16	M12	14	35	●	-	81
372987	16	M12	16	40	-	●	107
372995	16	M12	18	45	-	●	138
79590	25	M12	14	45	●	-	108
79608	25	M12	14	50	-	●	100
79616	25	M12	16	45	●	-	118
79624	25	M12	16	50	-	●	122
79632	25	M12	18	45	●	-	145
75747	25	M12	18	55	-	●	153
79640	25	M16	18	50	●	-	182
79657	25	M16	18	55	-	●	170
79665	25	M16	20	55	●	-	240
79673	25	M16	20	60	-	●	250
79681	25	M16	22	55	●	-	278
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

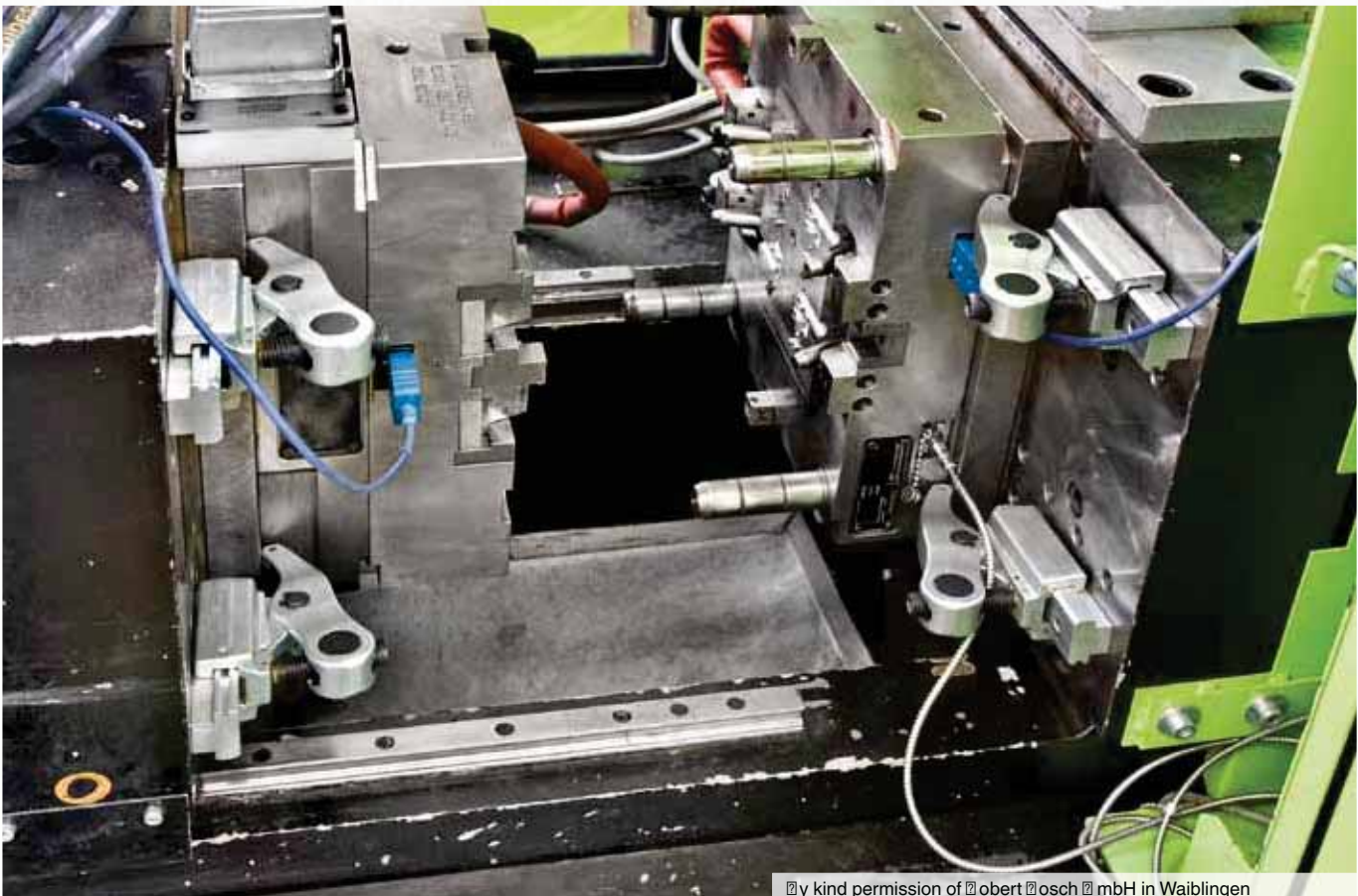
comprising hexagonal bolt IS 4017-12.9, washer DIN 6340 and T-groove key DIN 508.



Order no.	Size $\varnothing$ clamping force [kN]	$\varnothing$	Slot	$\varnothing$	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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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.

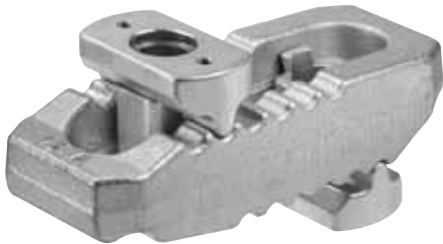


No. 6312V

„Crocodile“ clamp with counterholder, adjustable

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

NEW!



Order no.	Ø 1	Slot	Clamping force max. [kN]	H1	Weight [g]
79756	13	10, 12, 14	30	0-55	506
79798	17	12, 14, 16, 18	40	0-70	1382
79855	21	16, 18, 20, 22	60	0-80	2241
79913	25	20, 22, 24, 28	75	0-100	3477
376475	25	20, 22, 24, 28	75	0-100	4282

* Specified clamping forces in optimal clamping position (smallest distance from the clamping screw to the clamping point). Clamping forces can vary depending on 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 open and 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:

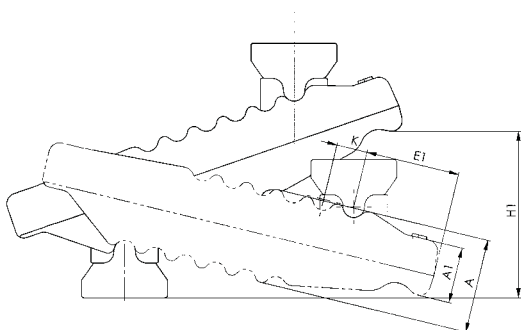
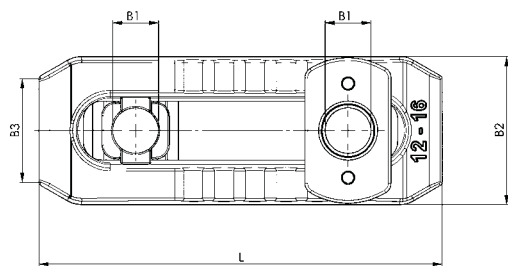
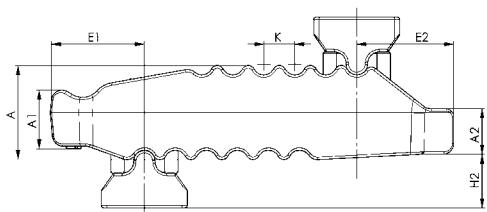
- Possibility of variable and quick adjustment at a distance from the workpiece
- Use in all areas of cutting and non-cutting processing
- Especially suitable for use on injection moulding machines and presses
- No additional supports to achieve the required clamping height
- Compression piece and counterholder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

Note:

Our choice of tensioning screws DIN 787, stud screws DIN 637 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:

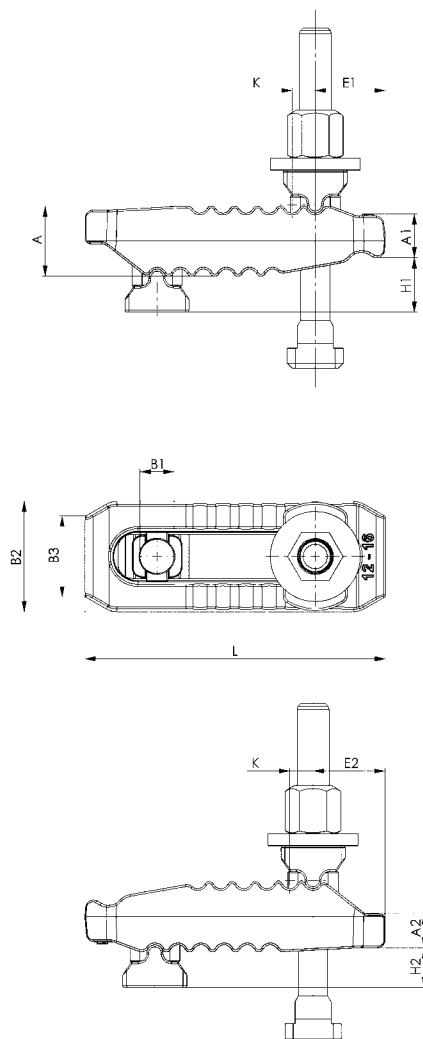
Order no.	Ø	Ø 1	Ø 2	Ø 2 x Ø	Ø 3	Ø 1	Ø 2	H2	Ø
79756	27	17	12	44x115	30	25	30	18	11
79798	36	21	17	55x150	41	35	36	20	12
79855	42	27	20	62x187	30	44	44	30	14
79913	51	34	24	70x235	30	60	47	31	17
376475	56	35	24	73x285	30	62	51	35	17



No. 6312V

„Crocodile“ clamp with counterholder, adjustable

complete with clamping bolt D1 787, washer D1 6340 and nut D1 6330. Infinitely adjustable, tempered, galvanised with captive compression piece and counter bearing.



Order no.	1	Slot	Clamping bolt D1 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	1521
79863	17	14	M12x14x160	35	0-70	1610
79889	17	16	M16x16x160	40	0-70	1728
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	4825
375006	25	28	M24x28x250	75	0-100	4266

* Specified clamping forces in optimal clamping position (smallest distance from the clamping screw to the clamping point). Clamping forces can vary depending on 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 open and 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:

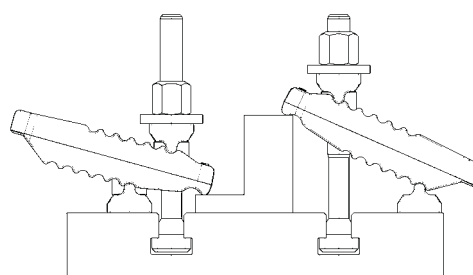
- Possibility of variable and quick adjustment at a distance from the workpiece
- Use in all areas of cutting and non-cutting processing
- Especially suitable for use on injection moulding machines and presses
- No additional supports to achieve the required clamping height
- Compression piece and counterholder 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. 6312.

Dimensions:

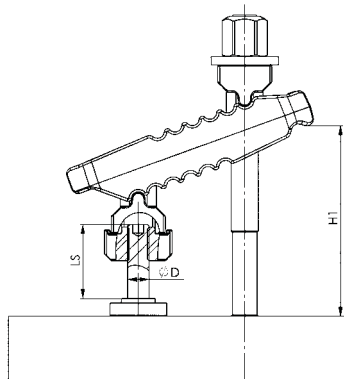
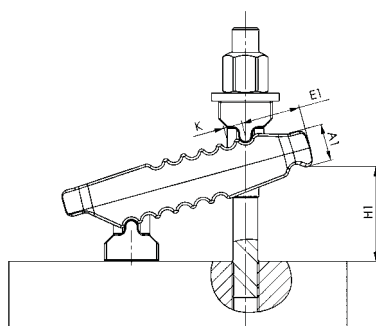
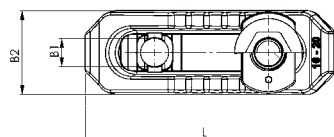
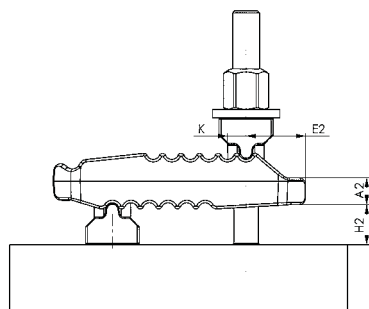
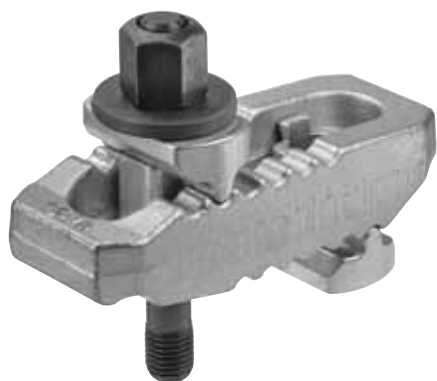
Order no.	Ø	Ø 1	Ø 2	Ø 2 x Ø	Ø 3	Ø 1	Ø 2	H2	Ø
79780	27	17	12	44x115	30	25	30	18	11
79806	27	17	12	44x115	30	25	30	18	11
79822	27	17	12	44x115	30	25	30	18	11
79848	36	21	17	55x150	41	35	36	20	12
79863	36	21	17	55x150	41	35	36	20	12
79889	36	21	17	55x150	41	35	36	20	12
79905	36	21	17	55x150	41	35	36	20	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



No. 6312V

„Crocodile“ clamp with counterholder, adjustable

complete with stud bolt D 637, washer D 6340 and nut D 6330. Infinitely adjustable, tempered, galvanised with captive compression piece and counter bearing.



Order no.	1	Clamping bolt D 637	Support extension 6312	Clamping force max. [kN]	H1	Weight [g]
375766	13	M12x100	-	30	0-30	630
375782	13	M12x125	-	30	0-55	650
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	M16x100	60	40-100	3704
375857	25	M20x315	M20x60	75	50-175	5438
375873	25	M20x400	M20x100	75	50-220	5873
375899	25	M24x315	M20x60	75	45-180	5850
375915	25	M24x400	M20x100	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 on 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 open and 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. 6312.

Dimensions:

Order no.	▣	▣ 1	▣ 2	▣ 2 x ▣	▣ 3	▣ 1	▣ 2	H2	▣
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-▣1	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

No. 6312VI

„Crocodile“ clamp with counterholder, adjustable

complete with stud bolt o. 637, washer D 6340 and nut D 6330. Infinitely adjustable, tempered, galvanised with captive compression piece and counter bearing.



Order no.	1	Clamping bolt o. 637	Clamping force max. [kN]	H1	SW [mm]	Weight [g]
375956	13	M12x100	30	0-30	4	63
375972	13	M12x125	30	0-55	4	65
375998	17	M12x125	40	0-40	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	0-100	5	4524
376095	25	M24x250	75	0-100	5	4524

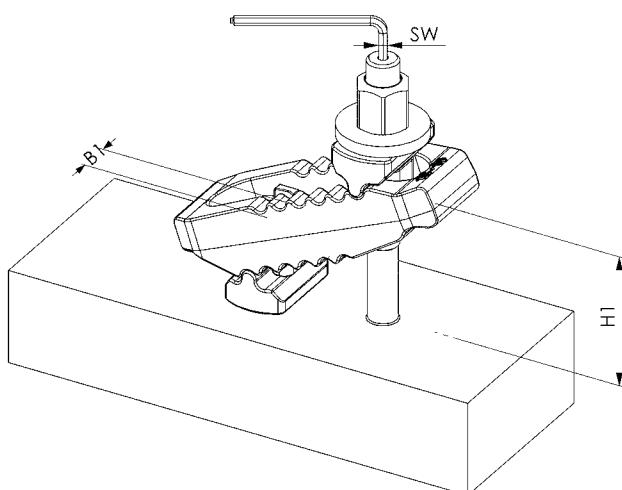
* Specified clamping forces in optimal clamping position (smallest distance from the clamping screw to the clamping point). Clamping forces can vary depending clamping, strength class of the clamping screw and condition of the thread (lubrication).

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. 6312.



Subject to technical alterations.

No. 6312V

Support extension

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



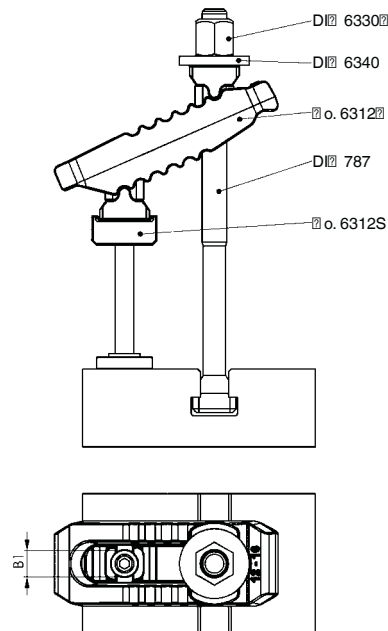
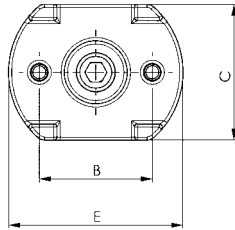
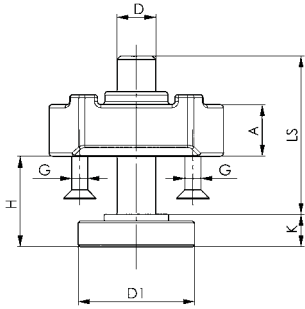
Order no.	D x S	1	2	1	2	D1	1	2	H	1	Weight [g]
79772	M10x30	10	30	13	30	30	44	M5	8-30	8	127
79814	M12x40	16	35	17	42	36	54	M5	10-37	10	433
79830	M12x44	16	35	17	42	36	54	M5	10-80	10	473
79871	M16x55	20	40	21	50	42	60	M5	13-41	13	424
79897	M16x60	20	40	21	50	42	60	M5	13-73	13	640
79749	M20x60	25	50	25	50	50	70	M6	16-52	16	1136
79764	M20x100	25	50	25	50	50	70	M6	16-111	16	1326

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 1. 30

18 groove 18 clamping force 40 kN 1 17 crocodile order no. 72728

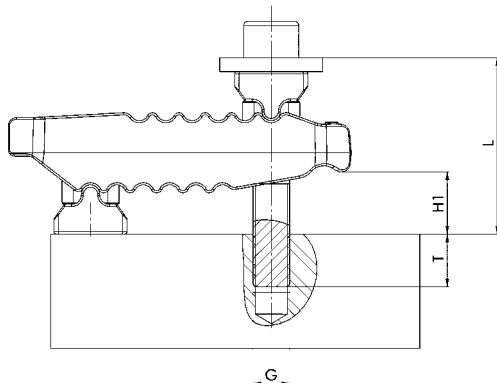
2) For a clamping height of 125 mm, support extension no. 6312S is used table p. 35, bottom

1 17 groove 18 clamping height 125 mm clamping range 26-166 mm DxS M12x4
Support extension order no. 72830 table S. 34

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

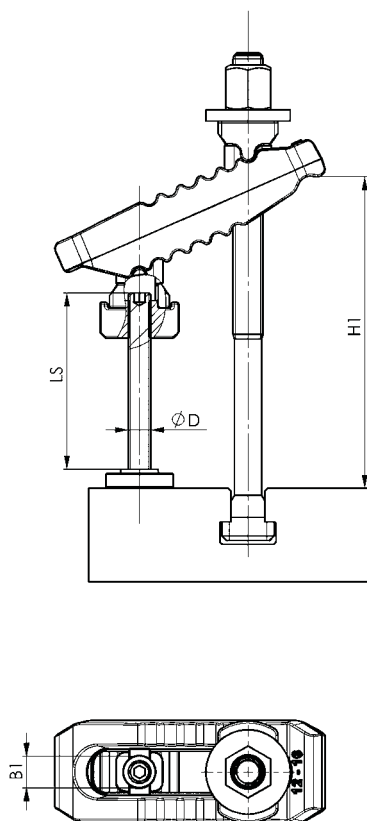
M16x18x250 order no. 81042

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



B1	Dimensions D x 12 x	Clamping height H1	Thread depth T
13	M10x80	4-25	15-31
13	M10x100	17-40	15-31
13	M10x120	31-55	15-31
13	M12x80	0-20	18-33
13	M12x100	10-34	18-36
13	M12x120	22-50	18-36
17	M12x140	0-22	18-34
17	M12x160	24-50	18-36
17	M12x180	38-66	18-36
17	M16x100	0-26	24-43
17	M16x120	12-40	24-44
17	M16x140	26-55	24-44
21	M16x160	2-22	24-44
21	M16x180	15-43	24-44
21	M16x200	43-72	24-44
21	M20x140	18-48	30-52
21	M20x160	31-63	30-52
21	M20x180	45-78	30-52
25	M20x200	23-54	30-52
25	M20x220	51-83	30-52
25	M20x240	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 S	Dimensions D 787	Clamping range H1
13	M10x30	M10x10x100	18-31
13	M10x40	M12x12x160	18-35
13	M10x50	M12x14x160	18-35
17	M12x40	M12x12x200	26-123
17	M12x50	M12x14x200	26-123
17	M12x60	M16x16x200	26-123
17	M12x70	M16x18x200	26-123
17	M12x80	M12x12x200	26-120
17	M12x90	M12x14x200	26-120
17	M12x100	M16x16x250	26-166
17	M12x110	M16x18x250	26-166
21	M16x55	M16x16x250	33-141
21	M16x65	M16x18x250	33-141
21	M16x75	M20x20x250	33-141
21	M16x85	M20x22x250	33-141
21	M16x95	M16x16x250	33-150
21	M16x105	M16x18x250	33-150
21	M16x115	M20x20x315	33-173
21	M16x125	M20x22x315	33-173
25	M20x60	M20x20x315	41-177
25	M20x70	M20x22x315	41-177
25	M20x80	M24x24x315	41-177
25	M20x90	M24x28x315	41-177
25	M20x100	M20x20x315	41-187
25	M20x110	M20x22x315	41-183
25	M20x120	M24x24x315	41-180
25	M20x130	M24x28x315	41-180

DIN 6314

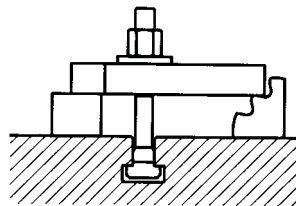
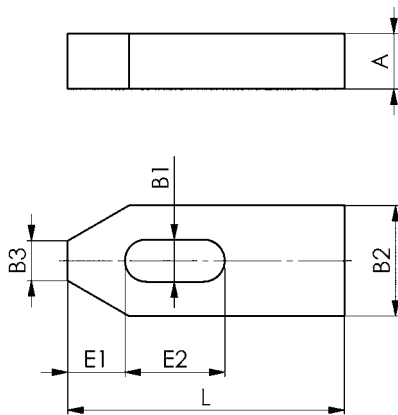
Plain clamp

Tempering steel, varnished.



Order no.	1	2	for clamping screw metric	for clamping screw inch	1	2	3	1	2	Weight [g]
70003	6,6	50	M6	1/4	10	20	8	10	20	63
70011	10	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	420
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	1060
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	4234
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

1/2 D 1/2 extended.



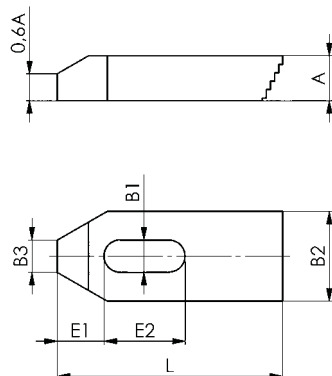
Subject to technical alterations.

No. 6314Z

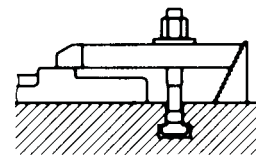
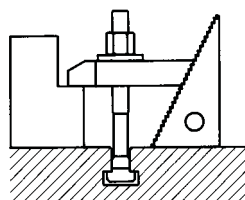
Step clamp

Tempering steel, varnished.

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



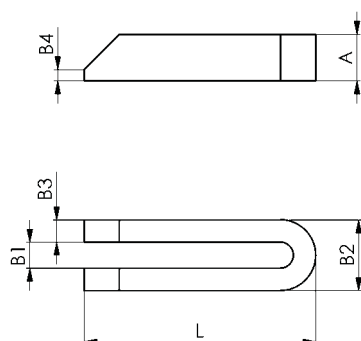
Order no.	1	2	for clamping screw metric	for clamping screw inch	1	2	3	1	2	Weight [g]
70359	6,6	50	M6	1/4	10	20	8	10	20	55
70227	6,6	80	M6	1/4	10	20	8	10	45	100
70367	10	60	M8	5/16	12	25	10	13	22	100
70243	10	100	M8	5/16	12	25	10	13	60	180
70375	11	80	M10	3/8	15	30	12	15	30	200
70235	11	125	M10	3/8	15	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	100	770
70391	18	125	M16 M18	5/8	25	50	18	26	45	1000
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



DIN 6315B

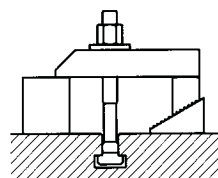
Forked clamp tapered

Tempering steel, varnished.



Order no.	1	2	for clamping screw metric	for clamping screw inch	1	2	3	4	Weight [g]
70466	6,6	60	M6	1/4	12	17	6	3	60
70474	10	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	1100
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	5162
70433	26	500	M24	1	50	66	20	10	7600
3079	26	600	M24	1	50	66	20	10	10420
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	12000
70458	33	1000	M30	1 1/4	60	74	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	27600

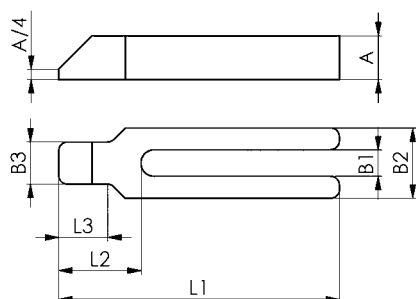
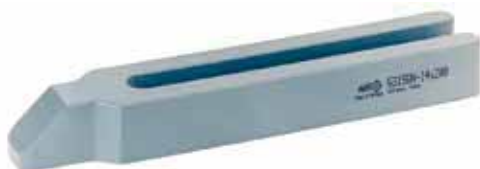
extended.



No. 6315GN

Forked clamp with shoe

Tempering steel, varnished.

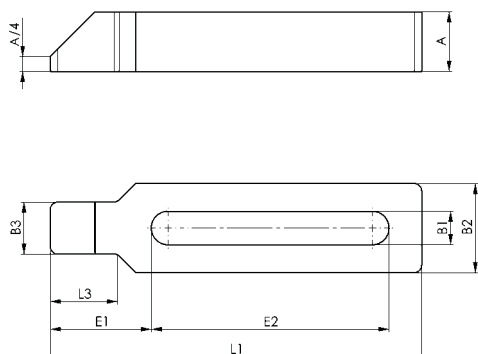


Order no.	1	1	for clamping screw metric	for clamping screw inch	1	2	3	2	3	Weight [g]
70862	1	100	M8	5/16	15	30	16	32	18	240
70870	11	125	M10	3/8	20	30	20	38	24	380
70888	14	160	M12 M14	1/2	25	40	24	47	30	800
70896	14	200	M12 M14	1/2	25	40	24	47	30	1050
70904	18	200	M16 M18	5/8	30	50	28	57	36	1500
70912	18	250	M16 M18	5/8	30	50	28	57	36	1850
70920	22	250	M20 M22	3/4	40	60	35	68	45	2000
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

No. 6315NG

Clamp with nose, closed

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



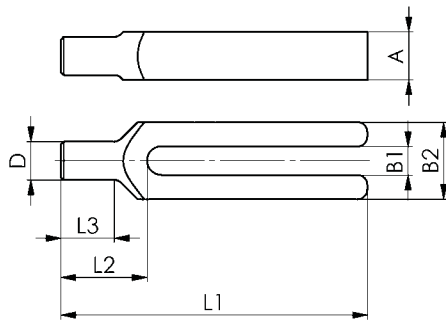
Order no.	1	2	for clamping screw metric	for clamping screw inch	1	2	3	1	2	3	Weight [g]
376145	22	250	M20 M22	3/4	40	60	35	68	160	45	3025
376160	22	315	M20 M22	3/4	40	60	35	68	220	45	3810
376186	22	400	M20 M22	3/4	50	60	35	68	300	45	5005
376202	22	500	M20 M22	3/4	50	60	35	68	400	45	7440
376228	26	250	M24	1	40	70	43	83	140	56	3630
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	8037
376301	33	315	M30	1 1/4	50	80	50	88	200	56	6242
376327	33	400	M30	1 1/4	50	80	50	88	283	56	7708
376343	33	500	M30	1 1/4	50	80	50	88	383	56	10607
376137	45	400	M36	1 1/2	60	115	75	125	220	70	10087
376152	45	500	M36	1 1/2	60	115	75	125	330	70	24022
376178	45	800	M36	1 1/2	80	115	75	125	630	70	36053

Subject to technical alterations.

DIN 6315C

Forked clamp with pin end

Tempering steel, varnished.

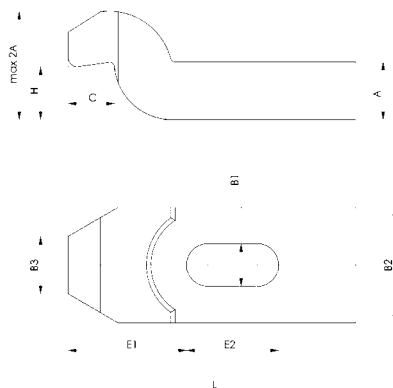


Order no.	1	1	for clamping screw metric	for clamping screw inch	1	2	D	2	3	Weight [g]
70706	7	100	M8	5/16	15	30	12	30	18	220
70714	11	125	M10	3/8	20	30	16	36	24	350
70722	14	160	M12 M14	1/2	25	40	20	45	30	750
70730	14	200	M12 M14	1/2	25	40	20	45	30	750
70748	18	200	M16 M18	5/8	30	50	24	55	36	1400
70755	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

DIN 6316

Single goose-neck clamp

Tempering steel, varnished.



Order no.	1	2	for clamping screw metric	for clamping screw inch	1	2	3	4	1	2	H	Weight [g]
71027	6,6	60	M6	1/4	10	20	10	8	22,0	20	7	81
71035	7	80	M8	5/16	12	25	12	7	27,5	25	11	166
71043	11	100	M10	3/8	15	30	15	12	36,0	32	14	277
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	1047
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	57,0	55	27	1711
71092	22	200	M20 M22	3/4	30	60	30	24	57,0	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	76,0	80	45	5225
71134	33	315	M30	1 1/4	50	80	40	40	76,0	100	45	8457
71159	43	400	M36 M42	1 7/8	60	100	50	50	105,0	120	55	17078

1 1/2 extended.

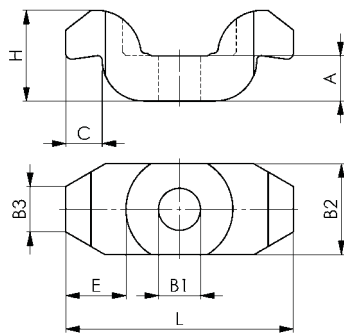
No. 6317

Double goose-neck clamp

Tempering steel, varnished.

Order no.	1	2	for clamping screw	1	2	3	4	5	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 DI 6340 or DI 6317.



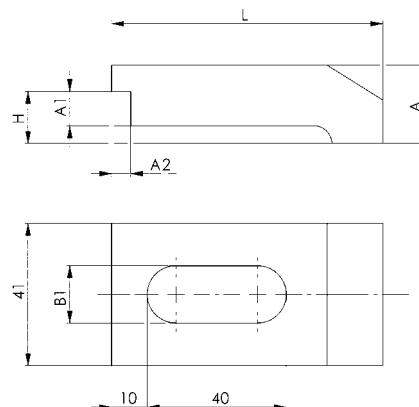
Subject to technical alterations.

No. 6325

Clamps for machine vices

Tempering steel, blued, packaged in pairs.

Order no.	1	2	for clamping screw metric	for clamping screw inch	for jaw width	1	1x2	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

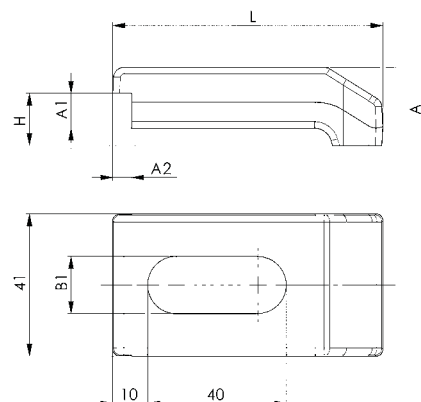


No. 6325G

Clamps for machine vices

Forged design, packaged in pairs.

Order no.	1	2	for clamping screw metric	for clamping screw inch	for jaw width	1	1x2	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

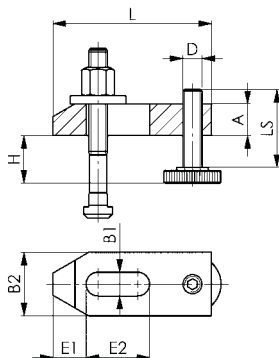


Subject to technical alterations.

No. 6314V

Tapered clamp with adjusting support screw

Tempering steel, varnished.



Order no.	Slot	H	sim. D 6314 1 x	lamping screw	D x S		2	1	2	Weight [g]
70177	10	8-37	11x80	-	M10x37	15	30	15	30	200
70193	12 14	10-47	14x100	-	M12x47	20	40	21	40	560
70821	12 14	10-22	14x100	-	M12x24	20	40	21	40	635
70219	16 18	13-52	18x125	-	M16x55	25	50	26	45	1110
70839	16 18	13-87	18x125	-	M16x20	25	50	26	45	1230
70201	20 22	16-65	22x160	-	M20x67	30	60	30	60	2050
70847	20 22	16-105	22x160	-	M20x107	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	M10x37	15	30	15	30	340
70276	12	10-40	14x100	M12x12x100	M12x47	20	40	21	40	700
72801	12	24-22	14x100	M12x12x160	M12x24	20	40	21	40	830
70284	14	10-38	14x100	M12x14x100	M12x47	20	40	21	40	720
72827	14	23-22	14x100	M12x14x160	M12x24	20	40	21	40	845
70292	16	13-48	18x125	M16x16x125	M16x55	25	50	26	45	1400
72942	16	15-83	18x125	M16x16x160	M16x20	25	50	26	45	1610
70300	18	13-46	18x125	M16x18x125	M16x55	25	50	26	45	1400
73056	18	13-81	18x125	M16x18x160	M16x20	25	50	26	45	1630
70326	20	16-65	22x160	M20x20x160	M20x67	30	60	30	60	2600
73064	20	21-105	22x160	M20x20x200	M20x107	30	60	30	60	2230
70318	22	16-65	22x160	M20x22x160	M20x67	30	60	30	60	2770
73072	22	17-105	22x160	M20x22x200	M20x107	30	60	30	60	2280
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	11225
382002	42	24-150	43x400	M36x42x400	M30x180	80	100	80	170	25683

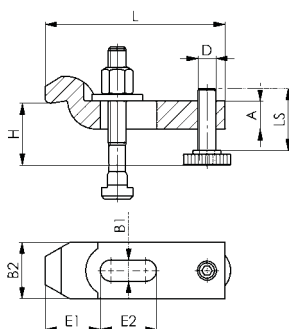
*depending on depth of slot to DIN 650 and position of fixture nut.

lamps 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.



Order no.	Slot	H	sim. D 6316 1 x	lamping screw	D x S		2	1	2	Weight [g]
71183	10	22-51	11x100	-	M10x37	15	30	36,0	32	344
71209	12 14	28-65	14x125	-	M12x47	20	40	44,0	40	761
71225	16 18	36-75	18x160	-	M16x55	25	50	51,5	50	1516
71217	20 22	43-22	22x200	-	M20x67	30	60	57,0	70	2667
71266	24 28	52-115	26x200	-	M24x87	35	70	76,5	60	3810
71274	10	22-46	11x100	M10x10x80	M10x37	15	30	36,0	32	440
71282	12	28-58	14x125	M12x12x100	M12x47	20	40	44,0	40	706
71290	14	28-56	14x125	M12x14x100	M12x47	20	40	44,0	40	726
71308	16	36-71	18x160	M16x16x125	M16x55	25	50	51,5	50	1857
71316	18	36-67	18x160	M16x18x125	M16x55	25	50	51,5	50	1875
71332	20	43-22	22x200	M20x20x160	M20x67	30	60	57,0	70	3322
71324	22	43-22	22x200	M20x22x160	M20x67	30	60	57,0	70	3352

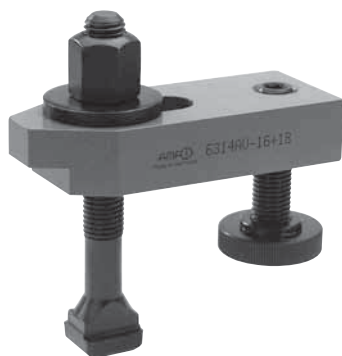
*depending on depth of slot to DIN 650 and position of fixture nut.

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

No. 6314AV

Stepped clamp with adjusting support screw

Tempering steel, varnished.

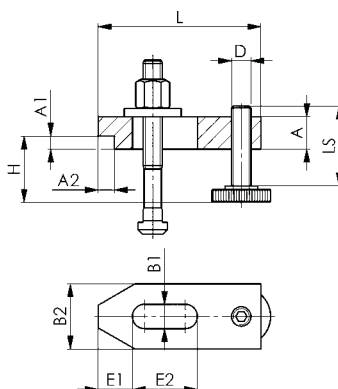


Order no.	Slot	H	sim. DI 6314 1x	lamping screw	D x S		1x2	2	1	2	Weight [g]
74567	12/14	10-55	14x100	-	M12x4	20	8 x10,0	40	21	40	580
74575	16/18	13-62	18x125	-	M16x55	25	10x12,5	50	26	45	1140
74583	20/22	16-77	22x160	-	M20x6	30	12x15,0	60	30	60	2100
74591	12	10-48	14x100	M12x12x100	M12x4	20	8 x10,0	40	21	40	745
74625	14	10-46	14x100	M12x14x100	M12x4	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	M20x6	30	12x15,0	60	30	60	2800
74666	22	16-77	22x160	M20x22x160	M20x6	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.

lamps 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.

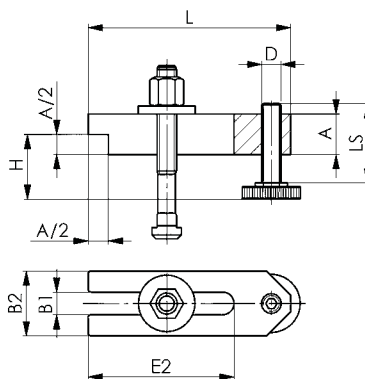


Order no.	Slot	H	sim. DI 6315 1x	lamping screw	D x S		2	2	Weight [g]
71167	10	8-47	11x100	-	M10x3	20	30	70	330
71175	12/14	10-5	14x125	-	M12x4	25	40	70	700
71191	16/18	13-67	18x160	-	M16x55	30	50	110	1300
71258	20/22	16-85	22x200	-	M20x6	40	60	135	2600
73189	10	8-37	11x100	M10x10x 80	M10x3	20	30	70	403
73197	12	10-48	14x125	M12x12x100	M12x4	25	40	70	720
73205	14	10-45	14x125	M12x14x100	M12x4	25	40	70	740
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	M20x6	40	60	135	3610
73288	22	16-75	22x200	M20x22x160	M20x6	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.

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



No. 6313K

Clamp short with saddle

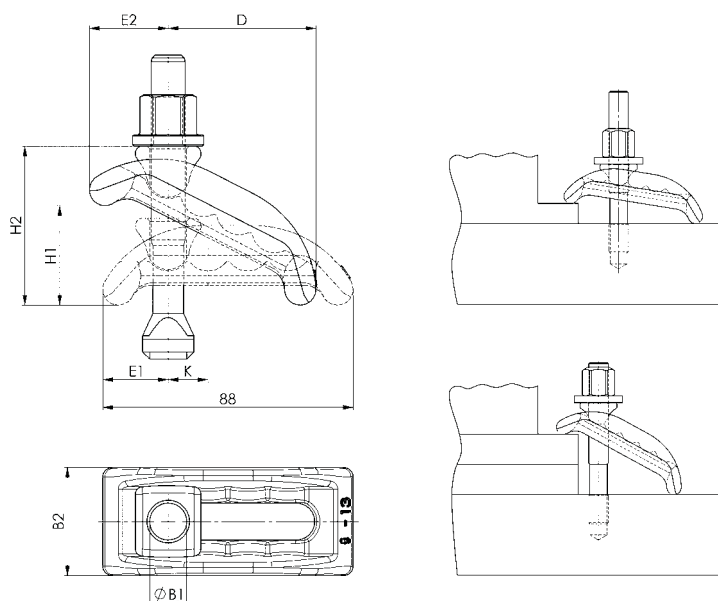
continuously adjustable, tempered, galvanized and blue passivated.



Order no.	1	Slot	Clamping screw	2 x 2	D	1	2	H1	H2		Weight [g]
73932	13	12x14	-	38x88	48	23	28	0-35	30-55	14	260
73940	18	16x18	-	56x130	74	27	38	0-55	42-84	18	807
73957	22	20x22	-	66x140	80	32	46	0-65	50-100	20	1253
73965	26	24x28	-	76x174	100	37	52	0-75	54-111	24	1718
73973	32	36	-	100x200	110	44	61	0-80	62-125	28	2785
77149	13	12	M12x12x100	38x88	52	23	27	0-35	30-55	14	325
77156	13	14	M12x14x100	38x88	52	23	27	0-35	30-55	14	415
77180	18	16	M16x16x160	56x130	77	27	37	0-55	42-84	18	1130
77198	18	18	M16x18x160	56x130	77	27	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: D 787 clamping bolts, D 6340 washers and D 6330 hexagon nuts.



No. 6313L

Goose-neck clamp long with saddle

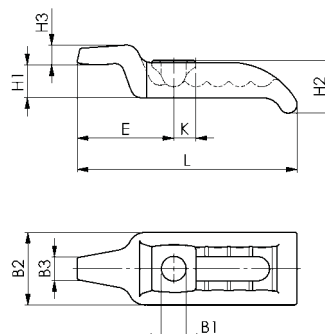
without clamping bolt, continuously adjustable, tempered, galvanized and blue passivated.



Order no.	1	Slot	for clamping screw	2 x 2	3		H1	H2	H3		Weight [g]
74005	22	20x22	M20	66x200	20	88	25-50	60	18	20	1608
74013	26	24x28	M24	76x232	23	107	30-70	70	22	24	2204
74021	32	36	M30	100x263	25	107	40-75	80	25	28	3557

Note:

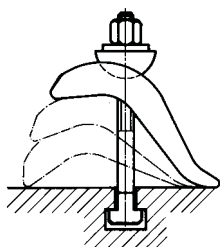
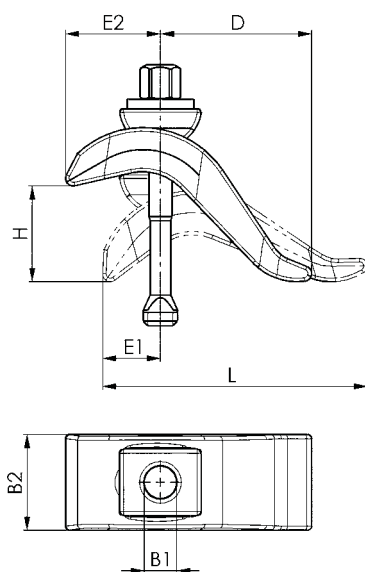
Suitable fastening elements: D 787 clamping bolts, D 6340 washers and D 6330 hexagon nuts.



No. 6321

Stepless height adjustable clamp

Steel, forged and tempered, zinc-plated.



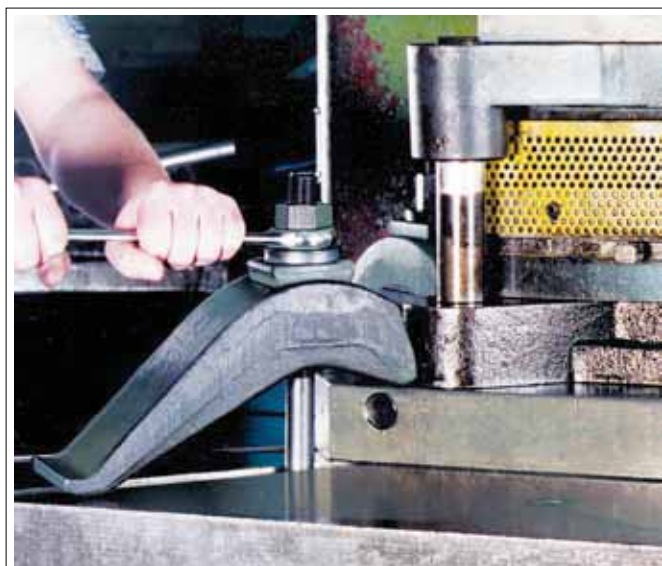
Order no.	Slot	Ø1	Ø2 x Ø3	D	Ø1	Ø2	H	Clamping screw	Weight [g]
71522	-	17	50x140	60	30	55	75	-	1000
71530	-	21	60x175	80	40	70	85	-	1600
74906	12	17	50x140	60	30	55	0-50	M12x12x125	1070
74914	14	17	50x140	60	30	55	0-50	M12x14x125	1080
74922	16	17	50x140	60	30	55	0-75	M16x16x160	1270
74930	18	17	50x140	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, DIN 787 T-slot bolts 160 mm long must be used.



Subject to technical alterations.

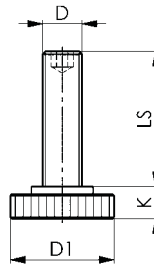
No. 6314S

Support screw

Hardened, strength class 8.8 Suitable for all lockable clamps.



Order no.	D x S	D1		Weight [g]
73437	M10x3	30	8	52
73445	M12x4	36	10	6
74039	M12x4	36	10	145
73452	M16x55	42	13	180
74047	M16x20	42	13	230
73460	M20x6	50	16	320
74054	M20x10	50	16	400
73478	M24x87	60	20	50
74062	M24x137	60	20	820
374413	M30x180	80	24	1704



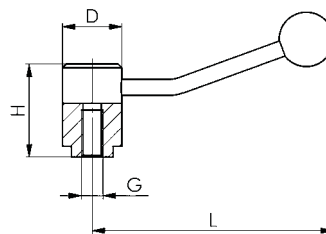
No. 6621

Detent clamp lever

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



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



No. 7000

Step clamp

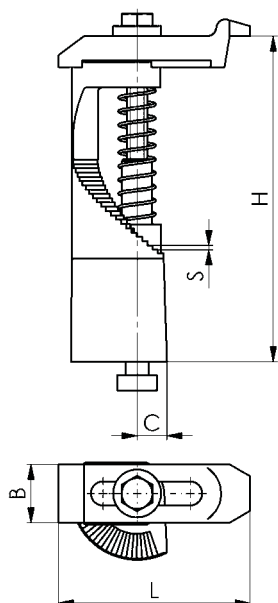
Special cast iron, screw and bushing 8.8.



Order no.	Side	Slot	W	H	H	W	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	120-185	112	2,50	1700
74757	5	12	34	18	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	120-185	112	2,50	1700
74815	5	14	34	18	180-255	112	2,50	2200
74823	0	16	50	20	0- 70	160	1,25	1000
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	4000
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.



Subject to technical alterations.

No. 6314AT

Clamping unit to clamp outside of the tool table

Tempered steel. Infinitely adjustable.

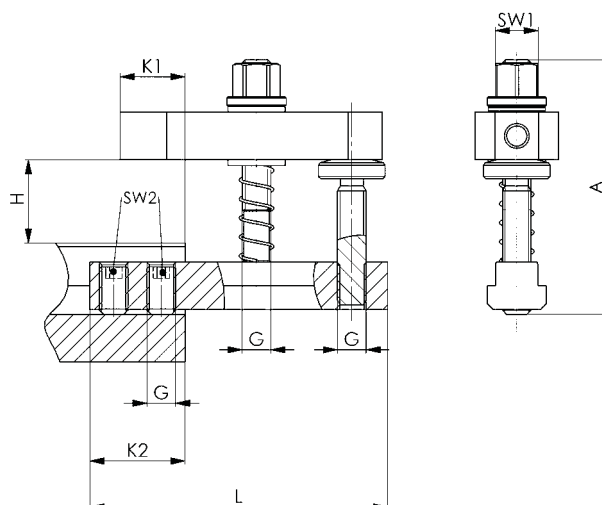
Order no.	Clamping force [kN]	Tightening torque [Nm]	Slot	Ø	H	Weight [g]
73999	15	70	18	M12	20-35	840
73981	25	170	22	M16	30-45	2126
79194	50	320	28	M20	40-53	5000

Application:

Used for clamping outside of the tool table. Or 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 p. 7110 7-1. Do not use on presses!



Dimensions:

Order no.	Ø	Ø	Ø1	Ø2	SW1	SW2
73999	105	125	27	40	18	6
73981	168	165	35	55	24	8
79194	206	255	33	85	30	10



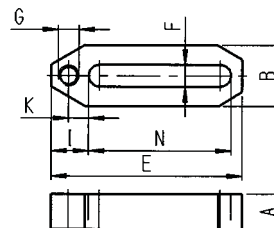
Subject to technical alterations.

No. 7110GX-**-1

Clamp, straight
tempered.



Order no.	Size	W x H	L	B	W	L	B	M	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

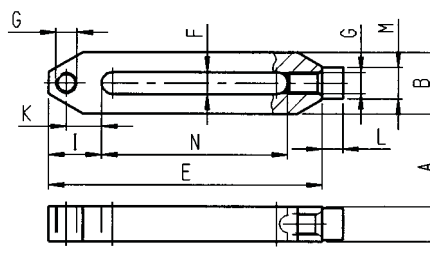


No. 7110GLX-**-1

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



Order no.	Size	W x H	L	B	W	L	B	M	Weight [g]
73551	12-1	20x35,0	156	12,5	M12	30	20	12	600
73577	16-1	30x45,5	186	17,0	M16	35	22	16	1400
73585	20-1	40x60,0	228	21,0	M20	47	30	20	3200

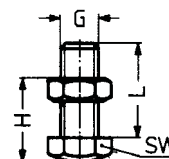


No. 7110DX-**-xM**

Set screw
ball-shaped, strength class 10.9.



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

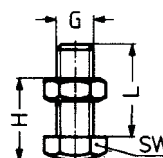


No. 7110DMX-**-xM**

Set screw
ball-shaped, brass, with steel nut.



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



No. 7110DHX-**xM**

Set screw

with flat-faced ball, adjustable, ribbed.



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

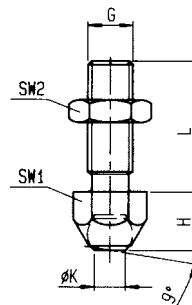
No. 7110DIX-**xM**

Set screw

with flat-faced ball, adjustable, plain.



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



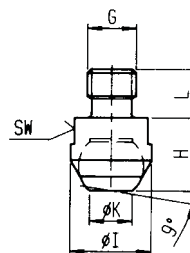
No. 7110DKX-**xM**

Set screw

with flat-faced ball.



Order no.	Size	$\square \times \square$	H	dia. I	dia. $\square$	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	147
73759	20xM20	M20x20	35	50	34,5	41	520



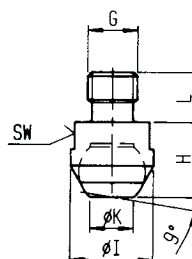
No. 7110DFX-**xM**

Set screw

with flat-faced ball, ribbed.



Order no.	Size	$\square \times \square$	H	dia. I	dia. $\square$	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	147
73783	20xM20	M20x20	35	50	34,5	41	520





- + Outstanding value for the money
- + Dramatic reduction in set-up times
- + Fast rationalisation effect
- + Repetition precision < 5µm
- + Stainless steel
- + Positive fit



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 slide 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.	Slide	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 M 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

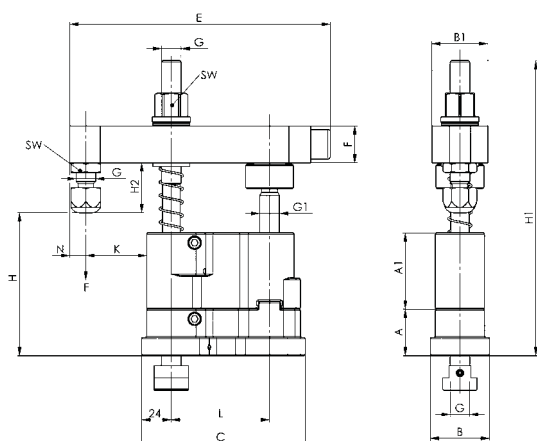
Clamping unit

consisting of base and head element.



Order no.	Size	Slot	$\square \times \square \times \square$ [mm]	H	$\square \square$ [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

Maximum achievable clamping force with the smallest clamp element dimension with nut, lubricated with screw compound no. 633.

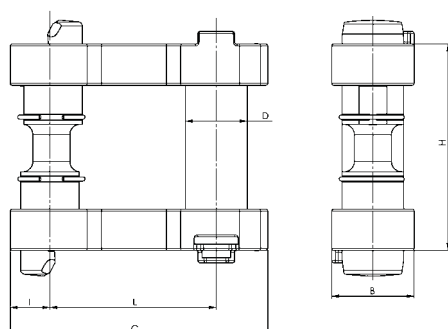


Dimensions:

Order no.	Size	$\square 1$	$\square 1$	$\square$	$\square$	$\square 1$	H1	H2	I	$\square$	$\square$	$\square$	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



Order no.	Size	$\square$	$\square$	D	H	I	$\square$	Weight [g]
374264	50	40	125	30	50	20	80	533
374272	100	40	125	30	100	20	80	838
374280	200	40	125	30	200	20	80	1224

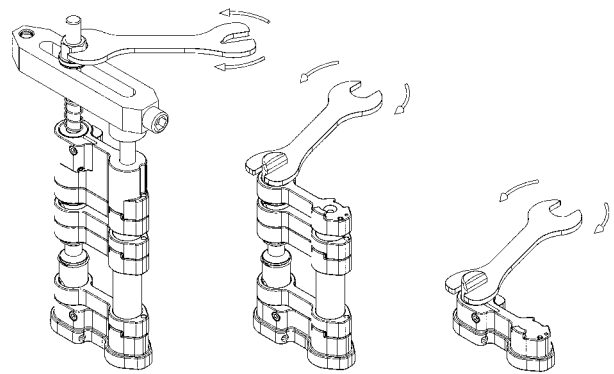
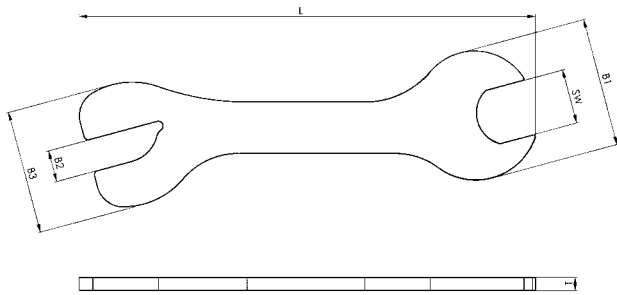


Subject to technical alterations.

No. 7200B

Adapter key

Order no.	SW	Ø 1	Ø 2	Ø 3	Ø	T	Weight [g]
375386	24	57	14	55	203	6	285
375394	30	65	14	55	203	6	323



Subject to technical alterations.

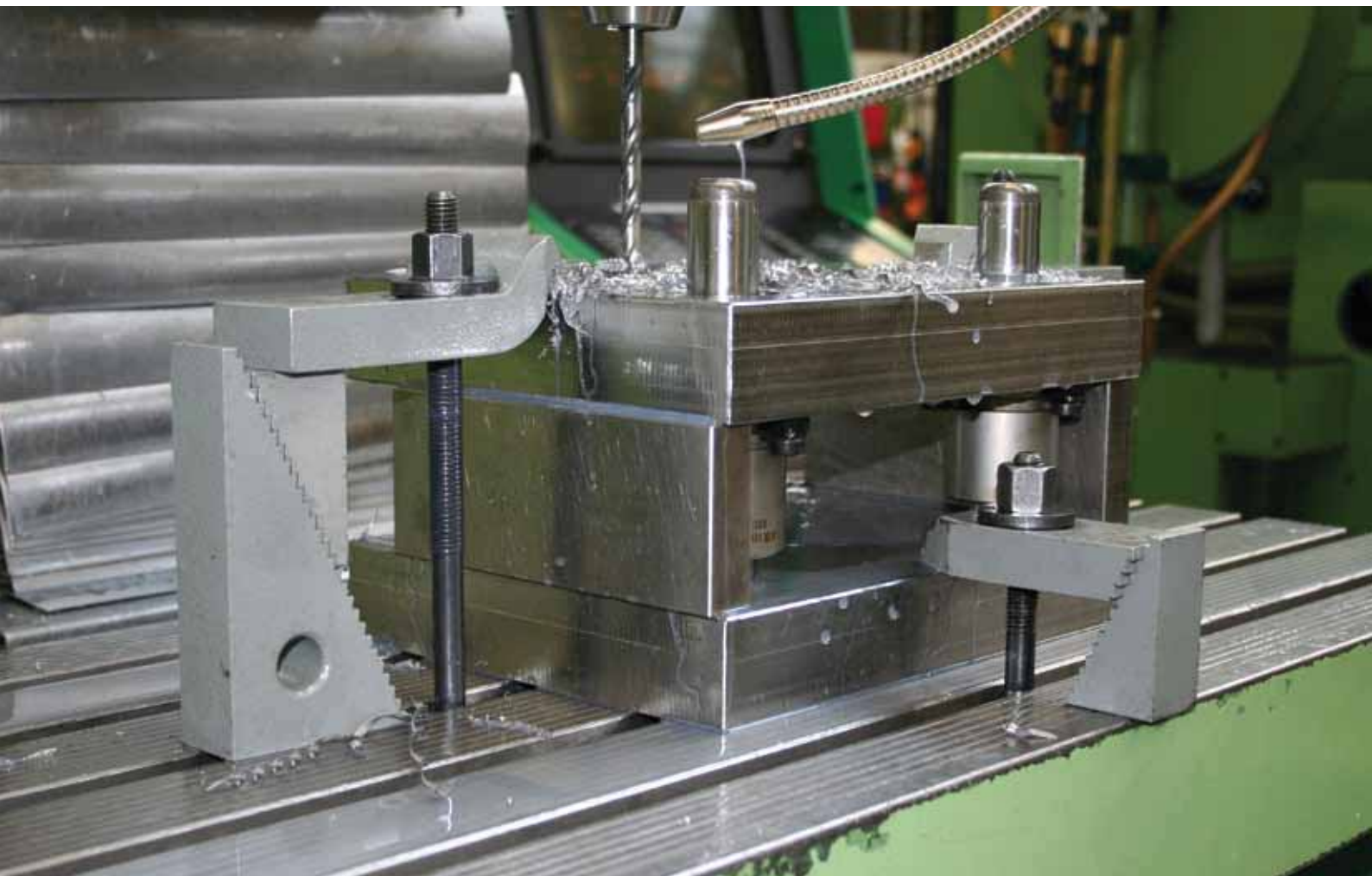
THE MOST IMPORTANT FACTS ABOUT SUPPORT BLOCKS

- > **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 69 to 74.

- > 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.	Ø	Ø 1	Ø 2	Weight [g]
71365	50	12,5	50	42,5	50	50	500
71373	Ø5	57,5	Ø5	Ø5,0	55	50	1600
71381	140	102,5	140	100,0	60	50	2000
71399	185	147,5	185	105,0	65	50	2Ø00
71407	230	1Ø2,5	230	110,0	70	50	3600
71415	275	237,5	275	115,0	75	50	4300
71423	320	282,5	320	120,0	80	50	5200

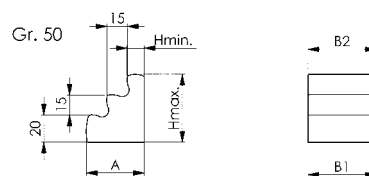
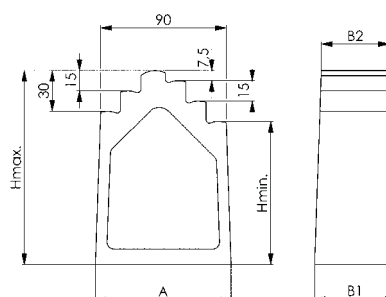
No. 6318B

Step blocks, wide

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



Order no.	Size	H min.	H max.	Ø	Ø 1	Ø 2	Weight [g]
71480	50	12,5	50	42,5	80	80	800
71498	Ø5	57,5	Ø5	Ø5,0	85	80	2300
71506	140	102,5	140	100,0	Ø0	80	3450



Subject to technical alterations.

No. 6500E

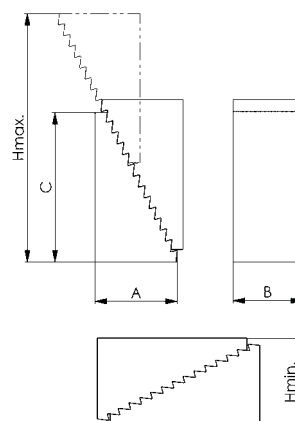
Universal step blocks

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

Order no.	Size	H min.	H max.	A	B	C	Weight [g]
73296	1	23	51	12,0	30	33	20
73304	2	32	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. 6314.

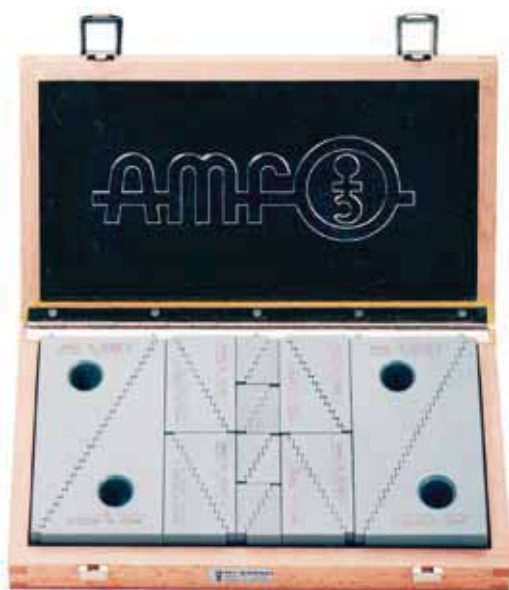


No. 6500H

Universal step block set

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

Order no.	Contents	H min.	H max.	Case A x B x H	Weight [g]
73346	8x6500H-1, 8x6500H-2, 4x6500H-3	22	208	280x155x40	8,4



Subject to technical alterations.

No. 6501

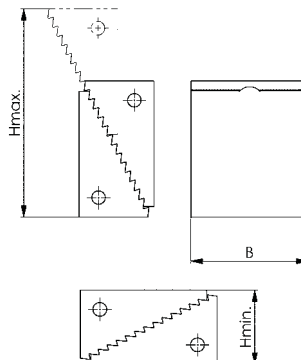
Step block

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 M-support blocks are linked with a spring for easy handling.



No. 6501M

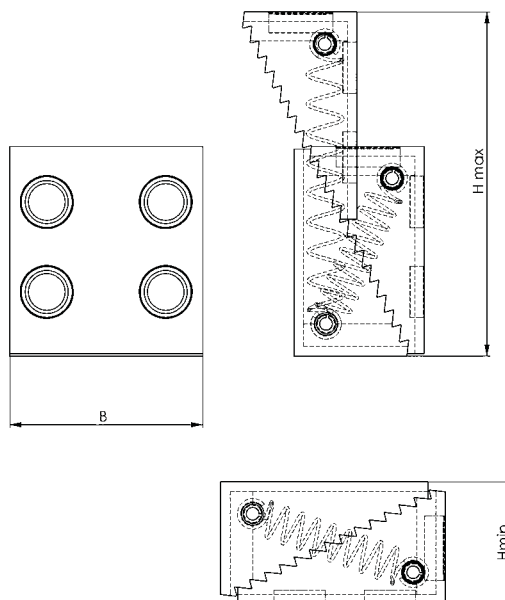
Support block with magnet

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	280

Note:

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



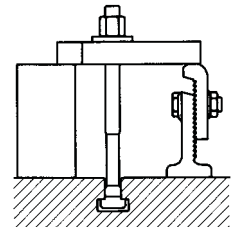
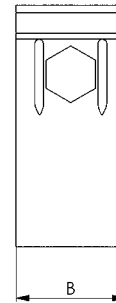
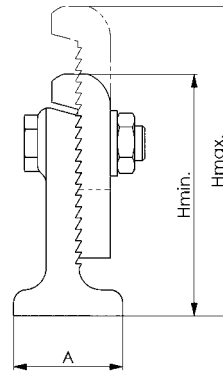
Verbindung mit Verbindungsfeder für 6501 und 6501M

No. 6510

Serrated heel block

Serrated jaws Step increments 5.2 mm. Malleable casting, varnished. Base mill finished.

Order no.	Size	H min.	H max.	Ø	Ø	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	100	6028



DIN 6326

Support blocks for continuous adjustment, combination

with spiral gearing. Tempering steel, varnished.

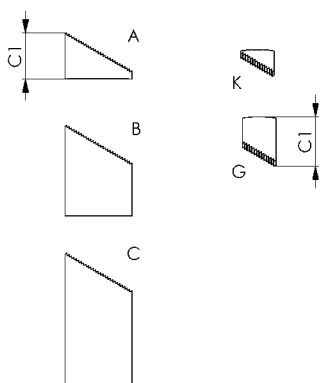
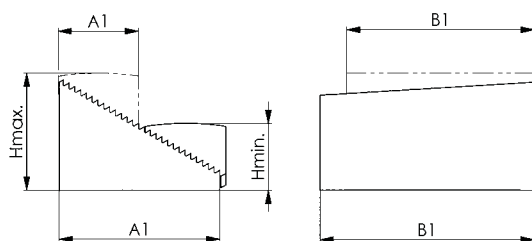
Order no.	Combination	H min.	H max.	Lower part	Upper part	Weight [g]
71969	ØØ	25	45	Ø	Ø	1050
71977	ØØ	45	65	Ø	Ø	1350
71985	ØØ	65	85	Ø	Ø	2500
71993	ØØ	85	105	Ø	Ø	2800
72009	ØØ	105	125	Ø	Ø	4000
72017	ØØ	125	145	Ø	Ø	4300
72025	ØØØ	25	65	Ø	ØØ	1550
72033	ØØØ	65	105	Ø	ØØ	3000
72041	ØØØ	105	145	Ø	ØØ	4500

DIN 6326

Support blocks for continuous adjustment, single

with spiral gearing. Tempering steel, varnished.

Order no.	Single parts	Ø 1	Ø 1	Ø 1	Weight [g]
72090	Ø	60	80	42	850
72108	Ø	60	80	82	2300
72116	Ø	60	80	122	3800
72124	Ø	30	70	24	200
72132	Ø	30	70	44	500



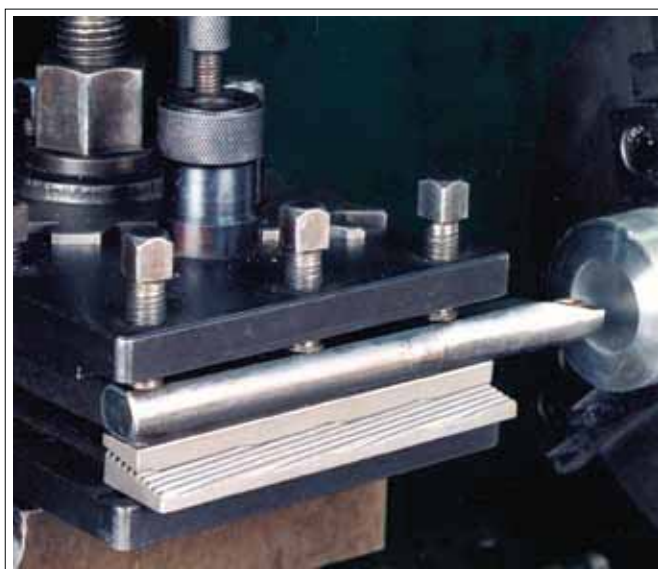
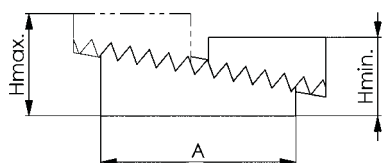
Subject to technical alterations.

No. 6475

Cutting tool support, flat, for continuous adjustment

with bevelled serrations. Tempering steel, varnished.

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



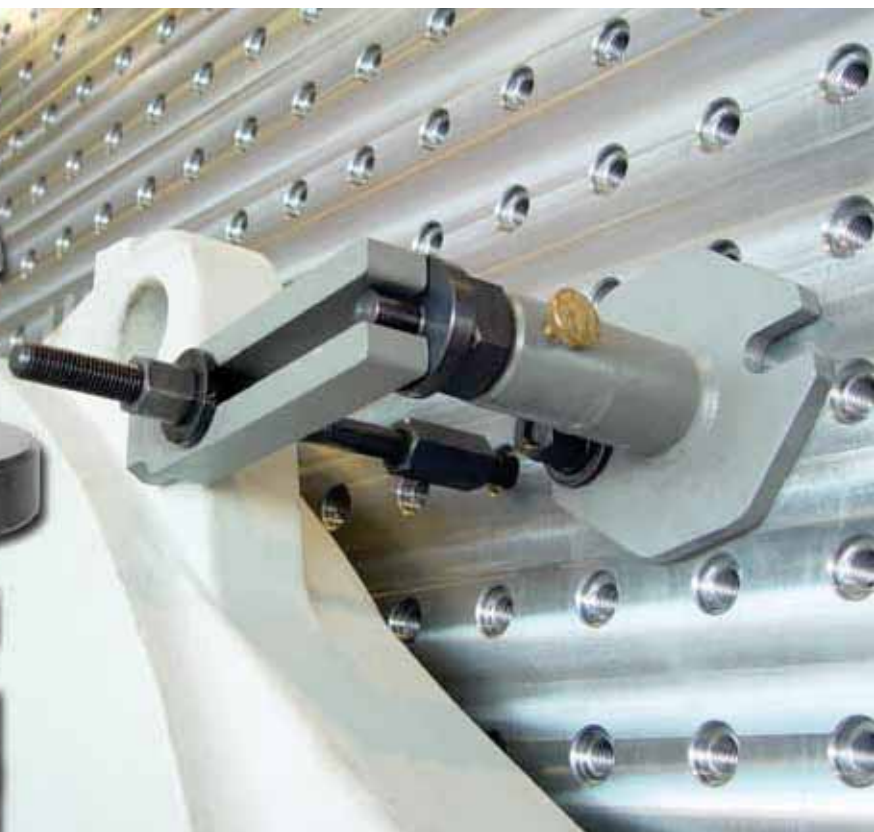
Subject to technical alterations.

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 D1 6325 12x50 and 12x80 entering 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.



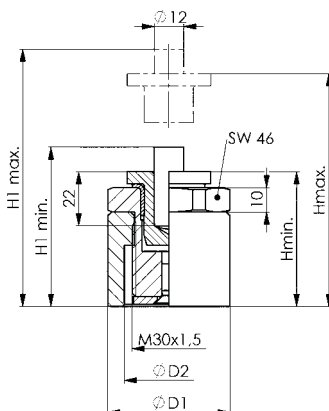
Order no.	Size	H min.	H max.	D1	D2	with location pin 12x50 H1min.-H1max.	with location pin 12x80 H1min.-H1max.	max. [kg]	Weight [g]
86504	75	55	75	50	36	83-103	113-133	30	680
86512	115	75	115	50	36	103-143	133-173	30	880

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 M-screw jacks are possible. They allow sensitive adjusting up to height of 1370 mm. 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.



No. 6416

Height setting screw jack with magnetic base

with 2 locating pins D1 6325 12x50 and 12x80 entering 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.



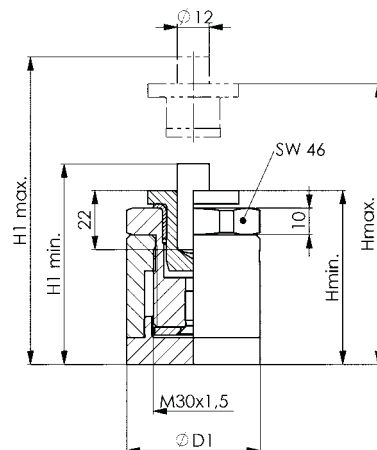
Order no.	Size	H min.	H max.	D1	with location pin 12x50 H1min.-H1max.	with location pin 12x80 H1min.-H1max.	max. [kg]	Weight [g]
86520	85	65	85	50	83-113	123-143	30	800
86538	125	85	125	50	113-153	143-183	30	1000

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 M-screw jacks are possible. They allow sensitive adjusting up to height of 1370 mm. bearing insert prevents the workpiece from being turned while the jack is adjusted.

Note:

Suitable pads are no. 6440, 6441, 6442.



No. 6420

Height setting screw jack with pivotable ball

Steel tempered, burnished. $\square$ all made of hardened steel.



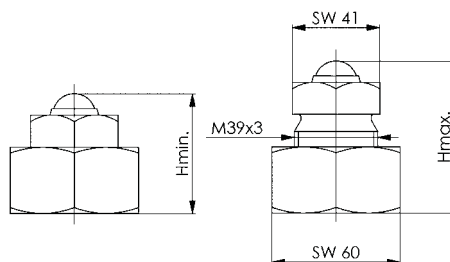
Order no.	Size	H min.	H max.	$\square$ max. [k $\square$]	Weight [g]
72546	70	56	70	30	1250

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.



No. 6400

Screw jack with flat support

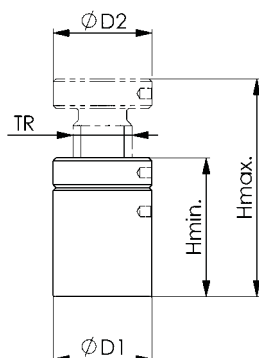
Entring hole dia. 12 mm. Spindle Trapezoidal thread, self-locking with end stop body. Tempering steel, varnished.



Order no.	Size	H min.	H max.	T $\square$	D1	D2	$\square$ max. [k $\square$]	Weight [g]
72397	50	38	50	20x 4	31	31	15	110
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	1000
72421	140	100	140	40x 7	68	68	100	2760
72439	210	140	210	50x 8	80	70	170	4600
72447	300	170	300	60x10	100	80	350	10000
72496	200	140	200	65x10	100	80	350	6000
72504	280	170	280	80x10	140	110	600	12000

Note:

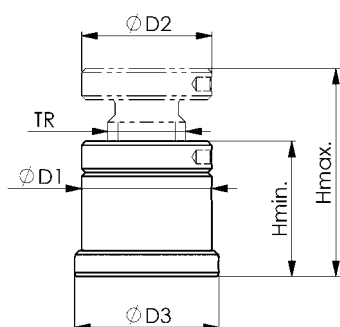
The light-duty screw jack was designed for clamps with slot-sizes up to 14 mm. Medium-duty screw jacks match clamps of slot-size 14 to 22 mm. The screw jacks no. 6430 are useful completions for large clamping heights. Heavy-duty screw jacks match clamps of slot-size 20 to 40 mm. The screw jacks no. 6435S are here useful completions for large clamping heights. When using clamps D1 6315 $\square$, 6315 $\square$ and 6315 $\square$ $\square$ 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 and 6445. Suitable base is no. 6442. Suitable pads for size 140-300 are no. 6440, 6441, 6442, 6443 and 6445.



No. 6400M

Screw jack with flat support and magnetic base

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



Order no.	Size	H min.	H max.	T	D1	D2	D3	μ 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

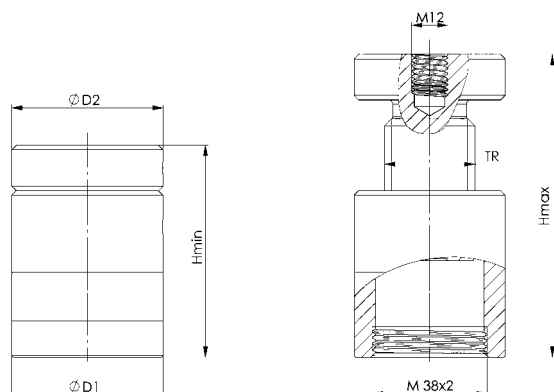
Note:

M-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 D 6415, 6315 and 6315 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.

No. 6400G

Screw jack with flat support and thread

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



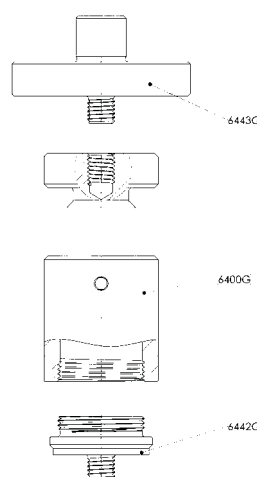
Order no.	Size	H min.	H max.	T	D1	D2	μ max. [kN]	Weight [g]
376194	52	42	52	30x4	50	50	60	550
376210	70	50	70	30x4	50	50	60	620
376236	100	70	100	30x4	50	50	60	48

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

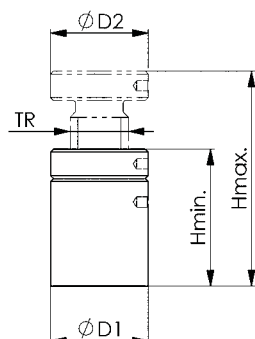


Subject to technical alterations.

No. 6401

Aluminium screw jack

Centring hole dia. 12 mm. Spindle: Tempering steel, blued.
Trapezoidal thread, self-locking with end stopbody.
Base: Aluminium 400 1mm² tensile strength.



Order no.	Size	H min.	H max.	T	D1	D2	W max. [kg]	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

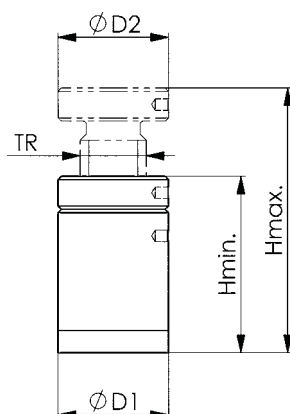
Note:

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, 4 and 6445. Suitable base is no. 6442.
Do not adjust screw jack under load.

No. 6405

Magnetic screw jack

Centring hole dia. 12 mm. Spindle: Tempering steel, blued.
Trapezoidal thread, self-locking with end stopbody.
Base: Aluminium 400 1mm² tensile strength.



Order no.	Size	H min.	H max.	T	D1	D2	W max. [kg]	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:

M-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, 4 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. Entering 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



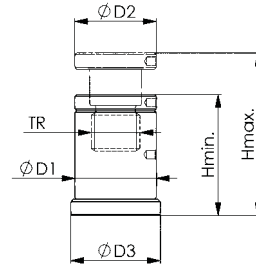
Order no.	Size	H min.	H max.	T	D1	D2	D3	F max. [kN]	Weight [g]
72850	10	75	88	30x4	50	50	50	30	630
72868	20	75	88	30x4	50	50	55	30	720

* 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!



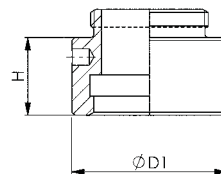
No. 6406

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



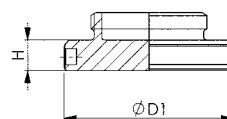
No. 6406M

Magnetic base

for screw jacks.



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



No. 6406

Aluminium screw jack with swarf protection

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

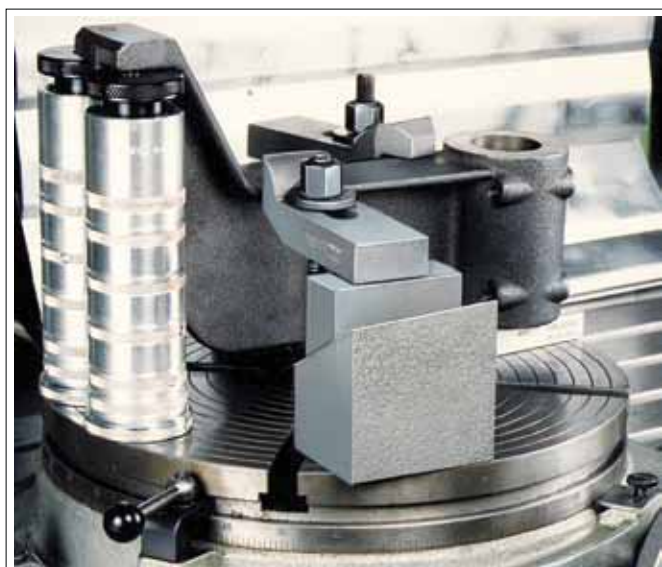
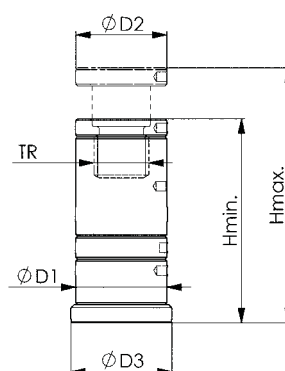
Composed of:

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

Order no.	H min.	H max.	T	D1	D2	D3	max. [kg]	Weight [g]
72371	75	125	30x4	50	50	55	30	20

Note:

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



Subject to technical alterations.

No. 6460

Wedge block „Herkules“ height wedge

entering 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.	1	2	3	SW	H [mm]	max. [kN]	Weight [g]
72777	63	50	63	-	40	63	8	0,86	40	1300
72785	125	100	125	115	60	125	14	1,16	100	8600
72793	170	170	170	145	80	175	22	2,02	250	23750

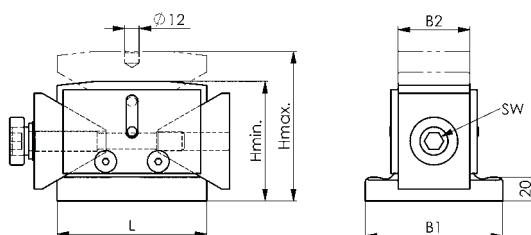
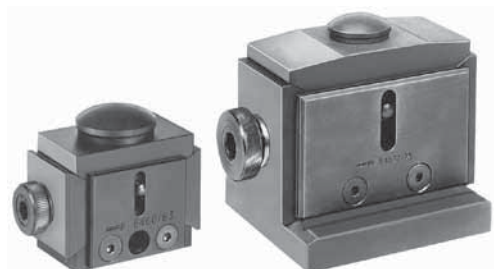
height adjustment per single turn.

Application:

With loads up to 1 max. manual adjustment of wedge block is easy. The precision machined wedge faces allow for a smooth and sensitive adjusting within 10 mm, using a knurled nut or hexagon key. The dual wedge effect ensures a large travel and precise vertical movement without lateral deviation. The wedge blocks work well on difficult castings or forgings on large machine tools. An additional locating hole in the base plate allows to locate the wedge block on heavy screw jacks by using a locating pin D12 6325 12x30 mm.

Note:

Suitable pads are no. 6440, 6441 and 6442.



No. 6465

Precision wedge block

entering hole 12 mm. Case-hardened steel and fine-machined wedge surfaces. Spherical attachment no. 6440 is included with every precision whipstock.

Order no.	Size	H min.	H max.	H [mm]	max. [kN]	SW [mm]	Weight [g]
375592	55	50	55	0,71	40	22	2,6
375618	85	77	85	0,71	250	36	11,0

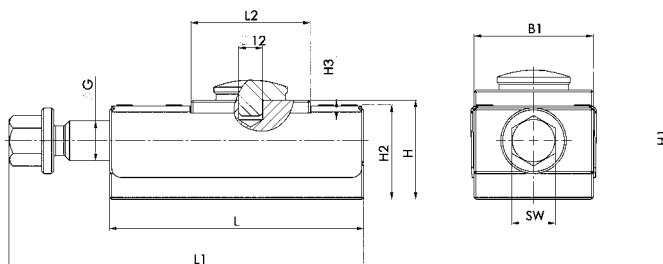
height adjustment per single turn.

Application:

- The fine-machined wedge surfaces permits a smooth, precise adjustment to less than 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 IS 8734 - 12 mm diameter.

Note:

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



Dimensions:

Order no.	B1	1	H1	H2	H3	1	1	2
375592	60	20	60-65	47,5	10	128	150-170	60
375618	100	30	87-95	74,0	20	210	242-287	81

Subject to technical alterations.

No. 6430S

Atlas screw jack with counter nut

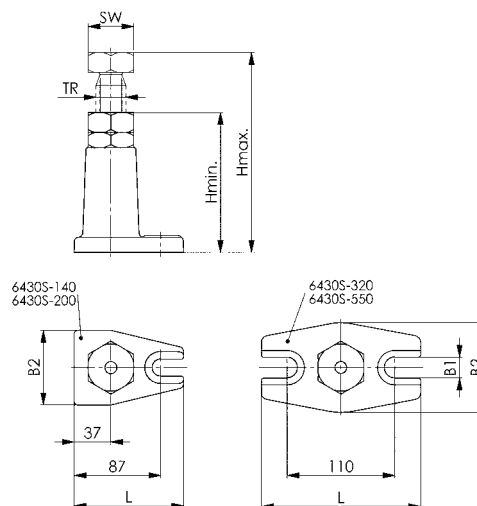
Entring hole dia. 12 mm. Spindle complete tempering steel with trapezoidal thread. Spindle head blued. Housing cast iron, varnished.



Order no.	Size	H min.	H max.	T	1	2		SW	max. [k]	Weight [g]
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	100	160	46	40	3,8
72587	550	320	550	30x6	22	100	160	46	25	4,2

Note:

When using clamps D 6315 and no. 6315 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.



No. 6435S

Heavy screw jack

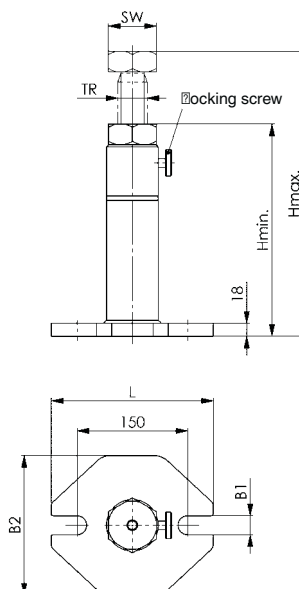
with brass locking screw. Entring hole dia. 12 mm. Spindle complete tempering steel with trapezoidal thread. Spindle head blued. Housing tempering steel, varnished.



Order no.	Size	H min.	H max.	T	1	2		SW	max. [k]	Weight [g]
72637	300	200	300	40x7	26	100	220	65	80	8,0
72645	460	200	470	40x7	26	100	220	65	60	12,0
72652	750	430	750	40x7	26	100	220	65	50	12,6
72660	1250	710	1250	40x7	26	100	220	65	40	16,5

Note:

When using clamps D 6315 and no. 6315 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.



No. 6438S

Screw jack

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

Order no.	Side	H min.	H max.	T	1	2	D		SW	max.	Weight
										[kg]	[g]
75705	450	320	450	40x7	26	100	20	220	65	50	11,5
75713	710	450	710	40x7	26	100	20	220	65	40	13,7
75721	1250	710	1250	40x7	26	100	20	220	65	30	18,3

Application:

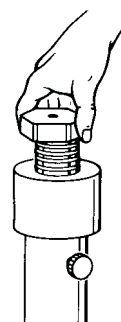
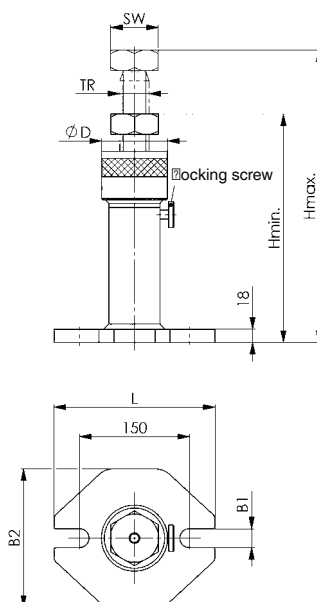
This screw jack allows for very fast pre-setting following with stepless adjusting for the whole height range. By turning the operating ring 60° the spindle is locked or released for fast pre-setting. Use locking screw for safe final adjusted position. Suitable pads are no. 6440, 6441, 6442, 6443 and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



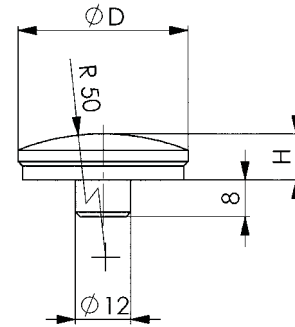
Subject to technical alterations.

No. 6440

Ball-pad

Steel tempered, burnished.

Order no.	H	D	Weight [g]
72710	10	37	70

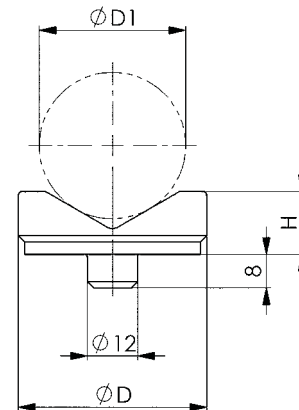


No. 6441

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

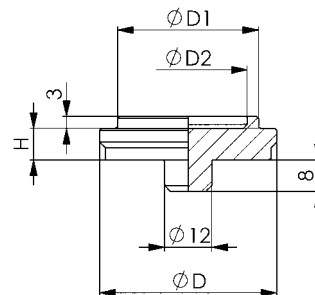


No. 6442

Centering-pad

Steel tempered, burnished.

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



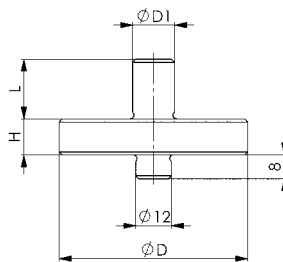
No. 6443

Locating-pad

for forked clamps. Steel tempered, burnished.



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



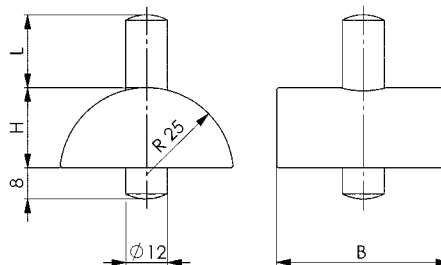
No. 6444

Locating-pad

with cylindrical face. Steel tempered and burnished.



Order no.	H	Ø	Ø	Weight [g]
72454	23	50	1Ø	370



No. 6445

Support with pivotable ball

Steel tempered, burnished. Ø all made of hardened steel.



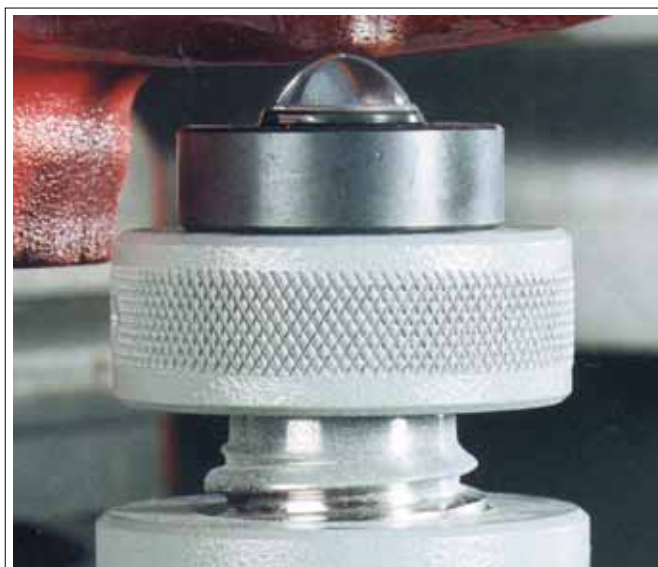
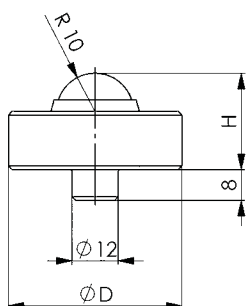
Order no.	H	D	Ø max. [kØ]	Weight [g]
72819	25	45	30	240

Application:

This rugged element was designed for the supporting and alignment of workpieces made of cast iron and forging-grade steels. Designed for use with MØ-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. $\varnothing$ entering hole M12 mm. Spindle compl. $\varnothing$ tempering steel with trapezoidal thread. Spindle head blued. Housing $\varnothing$ tempering steel, varnished.



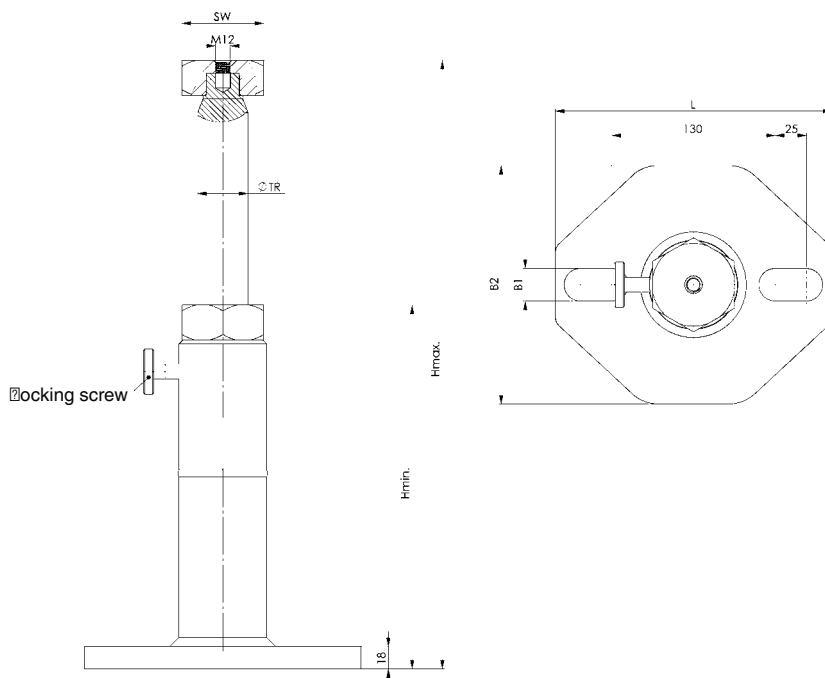
Order no.	Size	H min.	H max.	T	$\varnothing$ 1	$\varnothing$ 2	$\varnothing$	SW	$\varnothing$ max. [kN]	Weight [kg]
376251	300	200	300	40x7	26	120	220	65	80	8,0
376277	460	220	470	40x7	26	120	220	65	60	12,0
376293	750	430	750	40x7	26	120	220	65	50	12,6
376319	1250	710	1250	40x7	26	120	220	65	40	16,5

Advantage:

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

Note:

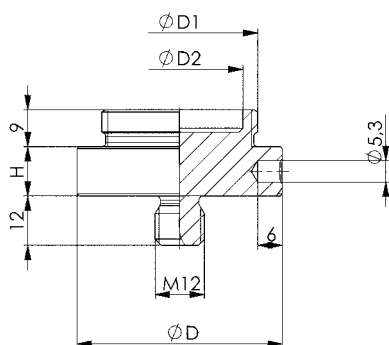
When using clamps no. 6315 $\varnothing$ $\varnothing$ with slot-sizes above 26 mm we recommend the use of locating pad no. 6443 $\varnothing$ for safety. Suitable pads are no. 6442 $\varnothing$ and 6443 $\varnothing$. Do not adjust screw jack under load $\varnothing$



No. 6442G

Centring plate with thread

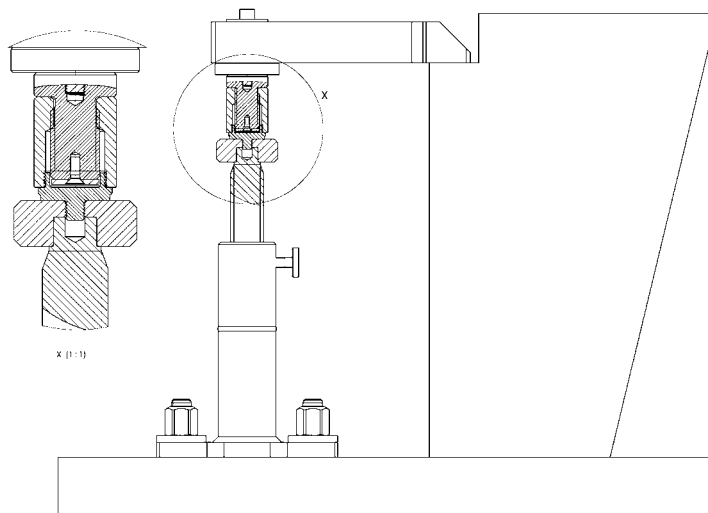
Steel tempered, burnished.



Order no.	H	D	D1	D2	Weight [g]
376335	8	45	M38x2	30,8	122

Advantage:

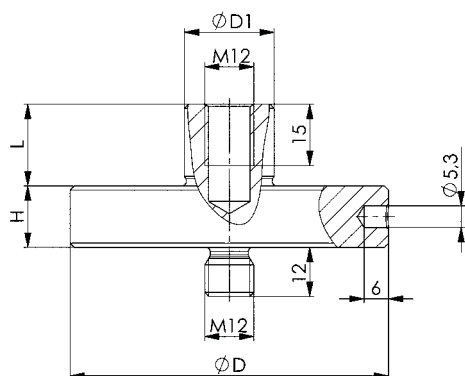
Centring plate can be screwed onto screw jacks. Safety with vertical turning and boring machines. The screw jacks no. 6400 can be screwed onto the centring plate.



No. 6443G

Fixing cap with thread

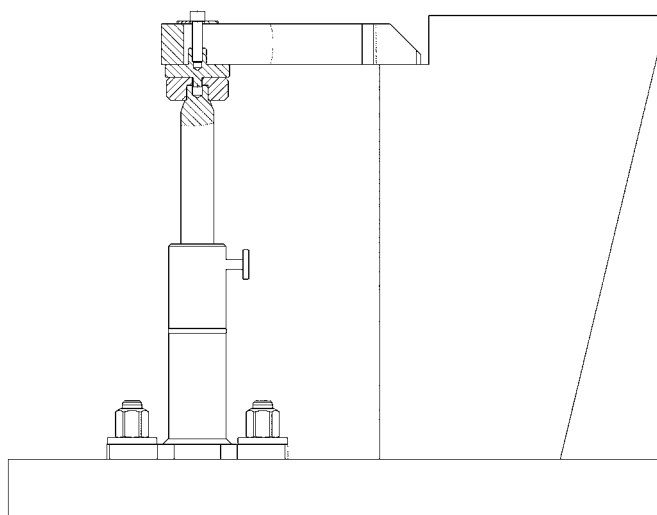
for forked clamps. Steel tempered, burnished.



Order no.	Size	H	D	D1	Ø	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.



Subject to technical alterations.

No. 6417

Mandrel

blued, with brass thrust piece.

Order no.	Side	Slot	H ±0,1	H1 min.	H1 max.	H2 min.	H2 max.	dia. D1	dia. D2	dia. D3	Ø 1	Ø 2	SW	Weight [g]
74179	80	14	80	116	148	8	40	40	50	32	M12	M16	27	1270

Application:

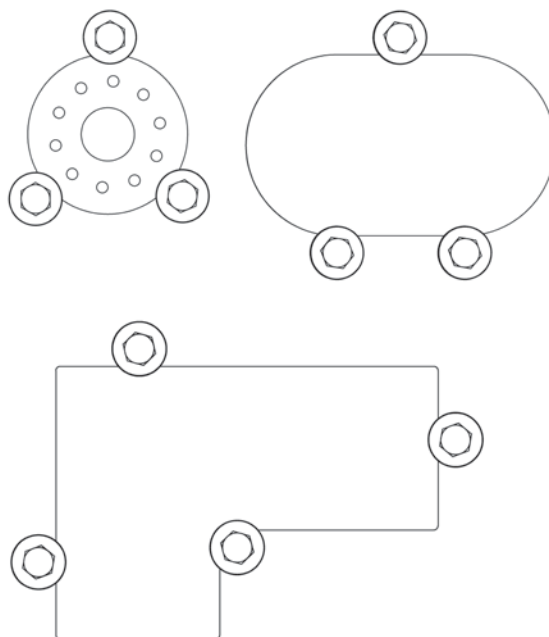
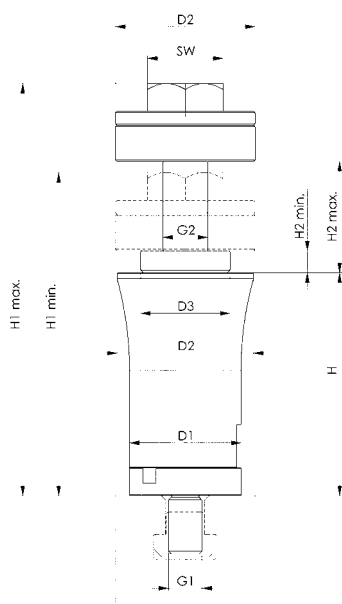
- The mandrels are fastened to the machine table by means of T-nuts.
- The mandrel is fixed on the slotted table by operating the SW 27 mm pre-tensioning nut.
- Clamping is by means of the SW 27 mm screw of tempered steel.
- Damage to the workpiece is prevented by a brass clamping ring.

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



Subject to technical alterations.

No. 6417Z

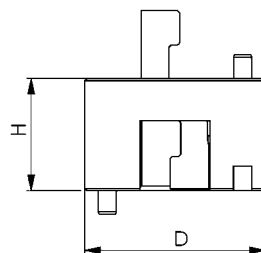
Spacer element

blued.

Order no.	Size	dia. D	H	Weight [g]
74195	25	40	25	214
74211	50	40	50	450

Application:

used to increase the support height.



No. 6417SP

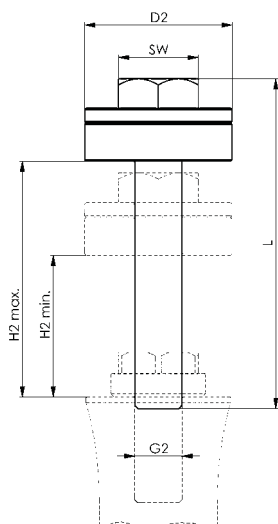
Vis longue

blued.

Order no.	Size	l	dia. D2	l 2	SW	H2 min.	H2 max.	Weight [g]
74237	M16	104	50	M16	27	40	72	423

Application:

used to increase the clamping height.



Subject to technical alterations.

No. 6418

Support element, mechanical

incl. DIN 508-M12x14 nut for T-grooves, M12x30-10 threaded stud. Body case-hardened steel, manganese phosphatised and ground. Body aluminium.



Order no.	Size	Support force $\bar{F}$ max. [kN]	H	Stroke [mm]	SW1	SW2	$\bar{F}$	Weight [g]
75416	M12	8	78-83	5	21	6	M12	232

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 21 e.g. for T-groove mounting
 - Defined operator side ensured
- Turning the clamping cam hexagon socket side 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:

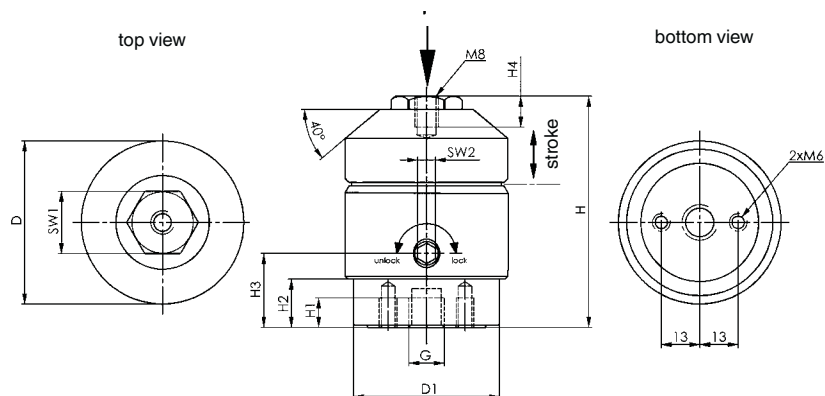
- Used as an extra support to prevent sagging and vibration of the workpiece.
- Mounted directly under a clamping point, it prevents distortion of the workpiece.
- Compensation of large workpiece tolerances Castings

Note:

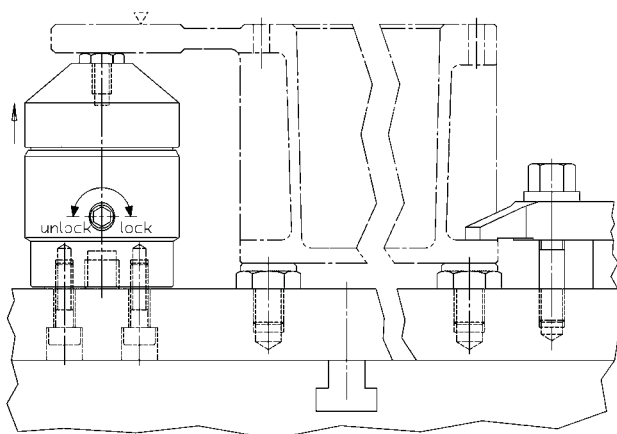
- M8 thread on supporting bolt can be mounted with pressure screws
os. 7110DH, 7110DI, 7110D, 7110D
- Customer-specific extensions can also be mounted.
- For reliable function the M12 threaded hole must always be closed.

Dimensions:

Order no.	Size	D	D1	H1	H2	H3	H4
75416	M12	55	47,4	10	16	25	10,5



Application example:



No. 6419

Floating clamp

incl mounting for T-grooves.



Order no.	Size	Slot	Ø	Md min. - max. [Nm]	Ø [kN]	Setting travel H	Clamping stroke H2 [mm]	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 for 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.

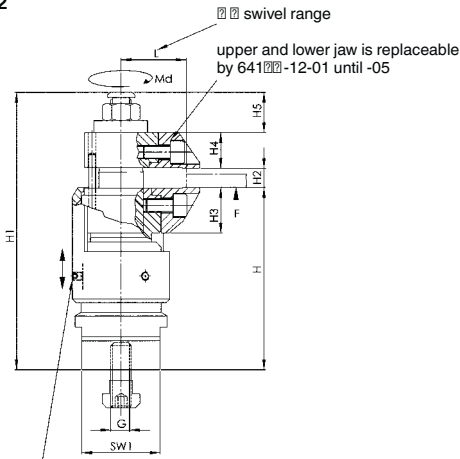
Advantage:

- 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.

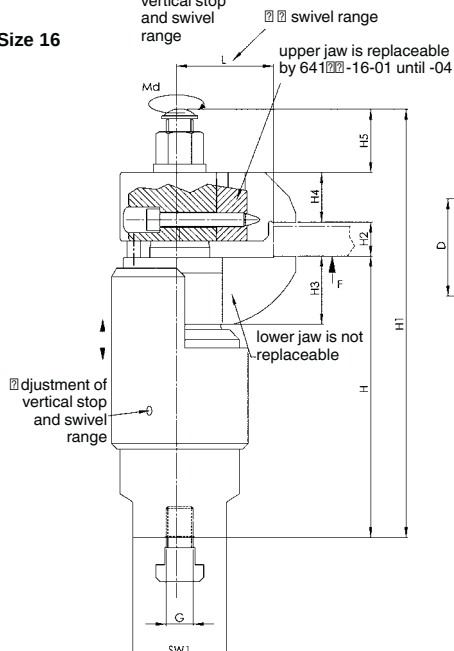
Note:

- 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. 64112-12 and 64116-16) max. tightening torque 43 Nm

Size 12



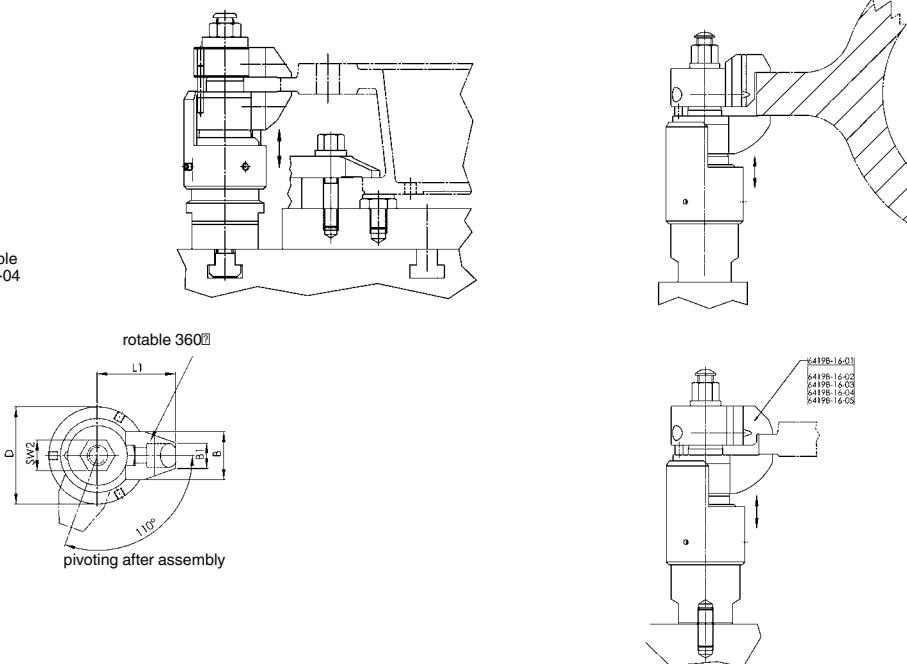
Size 16



Dimensions:

Order no.	Size	SW1	SW2	Ø	Ø1	D	H1	H3	H4	H5	Ø	Ø1
75754	12	46	18	28	15	57	163	26,8	21	32	32	46
75622	16	55	24	54	20	80	261	40,0	22	45	54	68

Application example:



No. 6419B-12-01

Clamping jaw

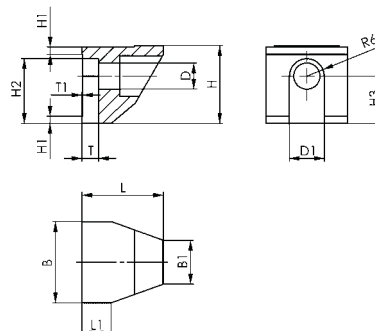
ase-hardened steel, nitrided and burnished.
Lower standard clamping jaw.



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

Note:

Fastening with IS 4762-M8 cylinder bolts.



No. 6419B-12-02

Clamping jaw

ase-hardened steel, nitrided and burnished.
pper standard clamping jaw.

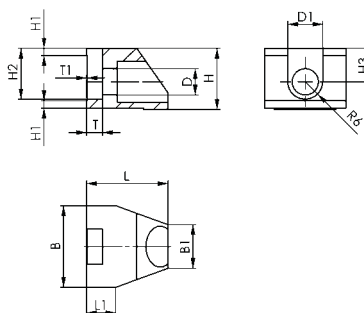


Order no.	Size	1	1	D	D1 0,02	H -0,1	H1	H2 -0,1	H3 ±0,1	1	1	T 0,2	T1	Weight [g]
71605	12	28	15	12	12	21	2,5	17,5	11,5	20,5	11,5	5,5	0,2	71

Clamping range workpiece thickness 0-12 mm.

Note:

Fastening with IS 4762-M8 cylinder bolts.



No. 6419B-12-03

Clamping jaw

ase-hardened steel, nitrided and burnished.
pper exchangeable clamping jaw.

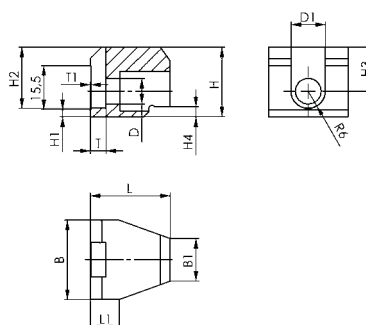


Order no.	Size	1	1	D	D1 0,02	H -0,1	H1	H2 -0,1	H3 ±0,1	H4	1	1	T 0,2	T1	Weight [g]
74229	12	28	15	12	12	24,5	2,5	21,5	15,5	3,5	20,5	11,5	5,5	0,2	104

Clamping range workpiece thickness 4-16 mm.

Note:

Fastening with IS 4762-M8 cylinder bolts.



No. 6419B-12-04

Clamping jaw

② Case-hardened steel, nitrided and burnished.
② Copper exchangeable clamping jaw.

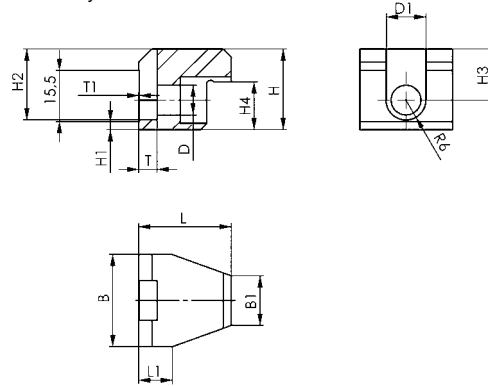


Order no.	Size	Ø	1	D	D1 Ø0,02	H -0,1	H1	H2 -0,1	H3 ±0,1	H4	Ø	Ø1	T Ø0,2	T1	Weight [g]
74245	12	28	15	Ø	12	24,5	2,5	21,5	15,5	14,5	2Ø,5	11,5	5,5	0,2	Ø0

□ lamping range □ workpiece thickness 15-27 mm.

Note:

Fastening with IS 4762-M8 cylinder bolts.



No. 6419B-12-05

Clamping jaw

⑦ Case-hardened steel, nitrided and burnished.
⑦ Copper exchangeable clamping jaw.

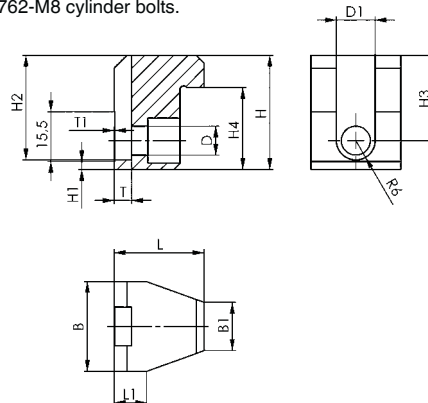


Order no.	Size	Ø	1	D	D1 Ø0,02	H -0,1	H1	H2 -0,1	H3 ±0,1	H4	Ø	1	T Ø0,2	T1	Weight [g]
75051	12	28	15	Ø	12	35,5	2,5	32,5	26,5	25,5	2Ø,5	11,5	5,5	0,2	132

□ lamping range □ workpiece thickness 26-38 mm.

Note:

Fastening with IS 4762-M8 cylinder bolts.



No. 6419B-16-01

Clamping jaw

⑦ Case-hardened steel, nitrided and manganese phosphatised.
⑦ Upper standard clamping jaw.

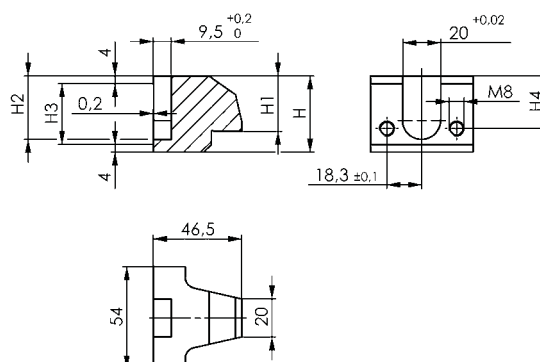


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75382	16	40	20	33,3	32	27.6	400

□ lamping range □ workpiece thickness 10-25 mm.

Note:

Fastening with IS 4762-M8x50 cylinder bolts.



Subject to technical alterations.

No. 6419B-16-02

Clamping jaw

ase-hardened steel, nitrided and manganese phosphatised.
pper exchangeable clamping jaw.

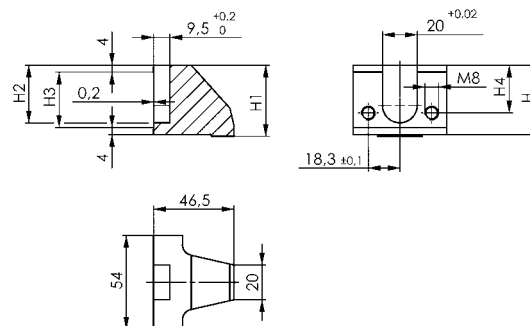


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75424	16	40	41	33,3	32	27,6	380

lamping range workpiece thickness 0-14 mm.

Note:

astening with IS 4762-M8x50 cylinder bolts.



No. 6419B-16-03

Clamping jaw

ase-hardened steel, nitrided and manganese phosphatised.
pper exchangeable clamping jaw.

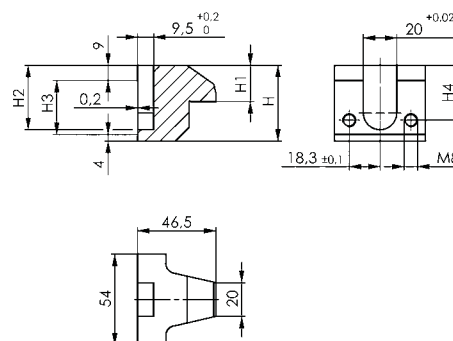


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75440	16	45	21,6	38,3	32	32,6	440

lamping range workpiece thickness 23-38 mm.

Note:

astening with IS 4762-M8x50 cylinder bolts.



No. 6419B-16-04

Clamping jaw

ase-hardened steel, nitrided and manganese phosphatised.
pper exchangeable clamping jaw.

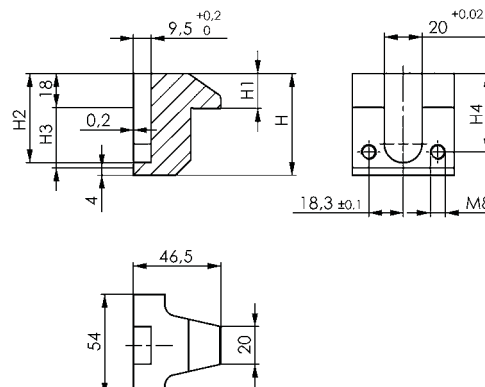


Order no.	Size	H	H1	H2	H3	H4	Weight [g]
75630	16	54	18,6	47,3	32	41,6	510

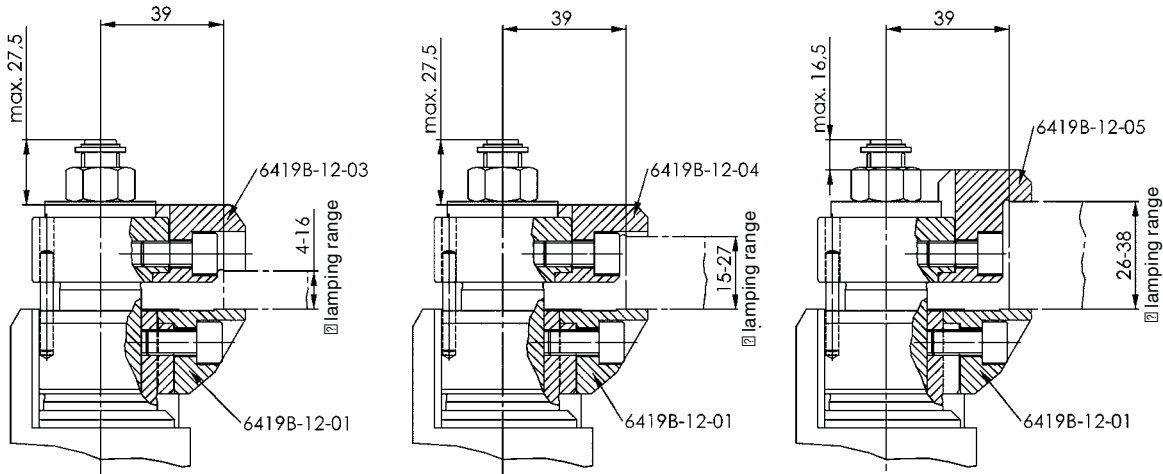
lamping range workpiece thickness 35-50 mm.

Note:

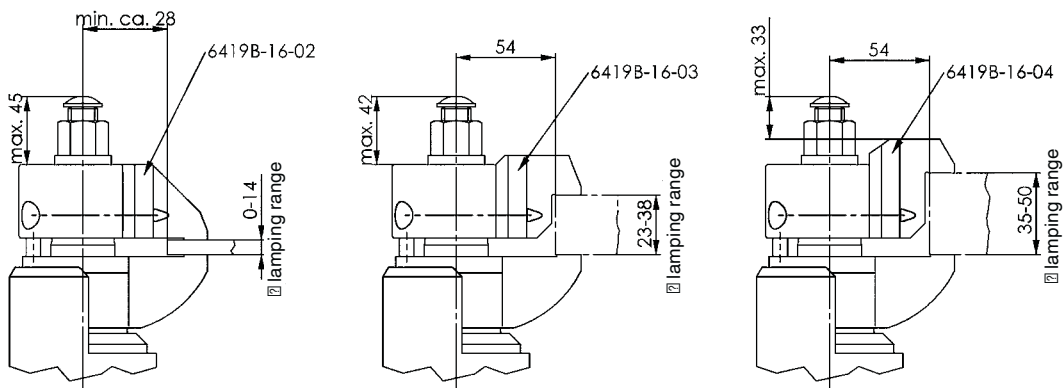
astening with IS 4762-M8x50 cylinder bolts.



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 DIN 787 are manufactured within tensile strength classes 8.8, 10.9 and 12.9.

AMF-STUDS DIN 6379 are manufactured within tensile strength class 8.8, 10.9 and 12.9.

AMF-HEXAGON NUTS DIN 6330B, DIN 6331 AND NO. 6334 are manufactured within tensile strength class 10.

The individual characteristics in tensile strength classes 8.8 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:

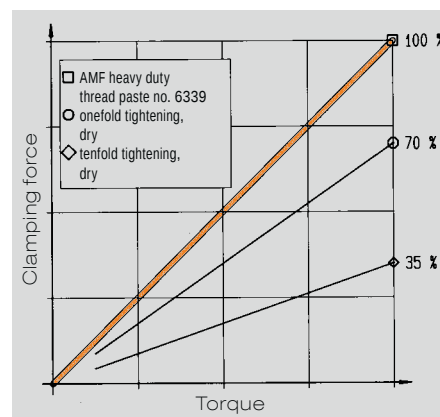
The individual characteristic in tensile strength class 10. defined is:

- 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:

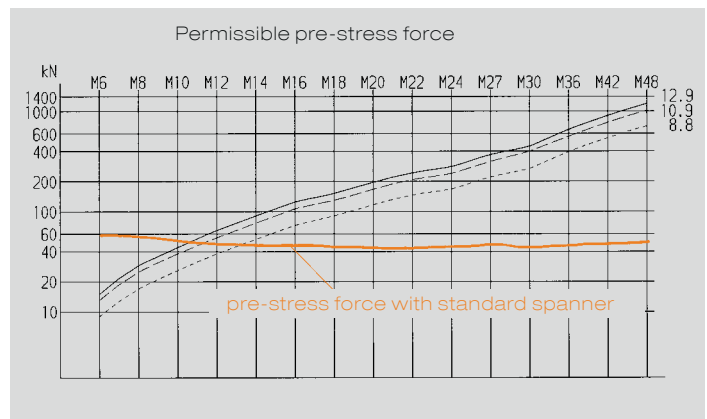
Frequent use of non-greased bolt/nut connections in fixtures will reduce clamping forces considerably at still constant torques, with additional wear involved!

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:

Thread		Tensile	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M36	M42	M48
Pitch of thread	mm		1	1.25	1.50	1.75	2	2	2.50	2.50	2.50	3	3	3.50	4	4.50	5
Nuts:																	
Hardeness DIN6330/6331/6334	HRC	10	25 - 35													20 - 30	
Test force (AS x Sp) DIN EN 20898-2	kN	10	20.0	38.1	60	88	121	165	203	260	321	374	486	575	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	27	46	67	-	128	-	176	-	282	-	448	653	653	653
Bolts:																	
Hardeness	HRC	8.8	22 - 32						23 - 34								
		10.9							32 - 37								
		12.9							37 - 44								

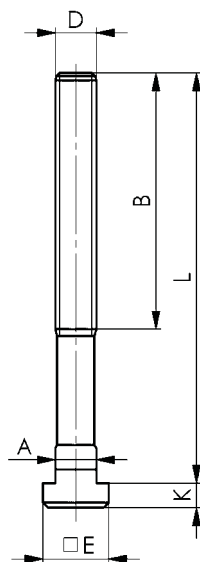
Tightening data: () Not in the AMF-range.																
Minimum breaking force (AS x Rm)	kN	8.8	10.9	12.9	10	12.9	10	12.9	10	12.9	10	12.9	10	12.9	10	12.9
		21	38	60	88	121	165	203	260	321	374	486	575	866	1653	5317
		12.9	24	45	71	103	140	182	234	297	360	431	560	684	1177	7077
Permissible bolt load max. 80% of yield point	kN	8.8	10	17	30	43	57	80	101	127	160	186	242	296	431	777
		10.9	14	27	43	63	86	118	144	184	228	265	345	421	614	1107
		12.9	17	32	51	74	101	138	167	215	266	310	404	473	717	1276
Test force (AS x Sp) to DIN EN ISO 898, part 1	kN	8.8	12	21	34	47	67	91	115	147	182	212	275	337	470	882
		10.9	17	30	48	70	96	130	162	203	252	293	381	466	678	1222
		12.9	20	35	56	82	112	152	186	238	294	342	445	544	772	1428
Permissible pre-stress force max. 90% of yield point and friction $\mu = 0,14$	kN	8.8	13	25	38	55	77	107	130	167	208	240	315	384	561	1018
		10.9	15	27	44	65	91	125	152	196	243	281	367	447	657	1171
		12.9	17	32	51	74	101	138	167	215	266	310	404	473	717	1276
Required torque for permissible pre-stress force and friction $\mu = 0,14$	Nm	8.8	10	25	46	82	130	206	284	407	542	678	1021	1355	2372	5730
		10.9	14	36	67	120	181	302	405	580	772	974	1455	1930	3378	8162
		12.9	17	43	77	141	223	354	474	677	903	1163	1703	2258	3853	9571
Required length for lever to achieve permissible pre-stress force	mm	8.8	30	65	125	215	330	470	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	100	110	125	140	150	170	185	225	240	300	330	410
		-	54	53	48	43	43	43	42	42	43	45	43	45	46	50
		-	54	53	48	43	43	43	42	42	43	45	43	45	46	50
*With this pre-stress force there is danger of	8.8															
	10.9															
	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, M-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	1	2	3	4	Packaging nit	Weight [g]
84004	M6x6x25	5,7	15	10	4	25	12
84012	M6x6x40	5,7	28	10	4	25	18
84020	M6x6x63	5,7	40	10	4	25	20
84038	M8x8x32	7,7	22	13	6	25	25
80374	M8x8x50	7,7	35	13	6	25	30
80382	M8x8x80	7,7	50	13	6	25	30
84046	M10x10x40	9,7	30	15	6	25	50
80390	M10x10x63	9,7	45	15	6	25	60
81323	M10x10x80	9,7	50	15	6	25	70
80408	M10x10x100	9,7	60	15	6	25	60
80416	(M12x12x50)	11,7	33	18	7	25	65
85605	M12x12x63	11,7	40	18	7	25	75
80424	M12x12x80	11,7	55	18	7	25	100
81406	M12x12x100	11,7	65	18	7	25	110
80432	M12x12x125	11,7	75	18	7	25	135
81497	M12x12x160	11,7	100	18	7	-	160
80440	M12x12x200	11,7	120	18	7	-	70
80457	(M12x14x50)	13,7	33	22	8	25	80
85613	M12x14x63	13,7	45	22	8	25	100
80465	M12x14x80	13,7	55	22	8	25	110
81851	M12x14x100	13,7	65	22	8	25	120
80473	M12x14x125	13,7	75	22	8	25	150
82966	M12x14x160	13,7	100	22	8	-	180
80481	M12x14x200	13,7	120	22	8	-	115
80499	M14x16x63	15,7	45	25	9	25	130
84426	M14x16x80	15,7	55	25	9	25	150
80507	M14x16x100	15,7	65	25	9	25	180
84434	M14x16x125	15,7	75	25	9	25	220
80515	M14x16x160	15,7	100	25	9	25	300
80523	M14x16x250	15,7	150	25	9	-	140
80531	(M16x16x63)	15,7	45	25	9	25	160
85621	(M16x16x80)	15,7	55	25	9	10	180
80549	(M16x16x100)	15,7	65	25	9	10	225
84384	(M16x16x125)	15,7	85	25	9	10	270
80556	(M16x16x160)	15,7	100	25	9	10	315
85647	(M16x16x200)	15,7	125	25	9	-	380
80564	(M16x16x250)	15,7	150	25	9	-	160
80572	M16x18x63	17,7	45	28	10	25	185
85639	M16x18x80	17,7	55	28	10	10	203
80580	M16x18x100	17,7	65	28	10	10	245
84400	M16x18x125	17,7	85	28	10	10	280
80598	M16x18x160	17,7	100	28	10	10	330
85654	M16x18x200	17,7	125	28	10	-	430
80606	M16x18x250	17,7	150	28	10	-	270
84103	(M20x20x80)	19,7	55	32	12	-	340
84053	(M20x20x100)	19,7	65	32	12	-	360
84111	(M20x20x125)	19,7	85	32	12	-	470
85662	(M20x20x160)	19,7	110	32	12	-	550
84129	(M20x20x200)	19,7	125	32	12	-	670
84079	(M20x20x250)	19,7	150	32	12	-	800
84137	(M20x20x315)	19,7	180	32	12	-	330
80614	M20x22x80	21,7	55	35	14	-	370
85829	M20x22x100	21,7	65	35	14	-	428
80622	M20x22x125	21,7	85	35	14	-	500
85670	M20x22x160	21,7	110	35	14	-	570
80630	M20x22x200	21,7	125	35	14	-	680
85845	M20x22x250	21,7	150	35	14	-	820
80648	M20x22x315	21,7	180	35	14	-	540
80770	(M24x24x100)	23,7	70	40	16	-	600
85688	(M24x24x125)	23,7	85	40	16	-	770
80788	(M24x24x160)	23,7	110	40	16	-	1000
85704	(M24x24x200)	23,7	125	40	16	-	1260
80796	(M24x24x250)	23,7	150	40	16	-	1410
84061	(M24x24x315)	23,7	180	40	16	-	650
80804	(M24x24x400)	23,7	240	40	16	-	720
80655	M24x28x100	27,7	70	44	18	-	800
85696	M24x28x125	27,7	85	44	18	-	850
80663	M24x28x160	27,7	110	44	18	-	1050
85712	M24x28x200	27,7	125	44	18	-	

Subject to technical alterations.

DIN 787

Bolts for T-slots

Forged, T-slot guid-faces milled, rolled thread, M-symbols 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	Ø	Ø	Ø	Ø	Packaging unit	Weight [g]
80671	M24x28x250	27,7	150	44	18	-	1120
84087	M24x28x315	27,7	180	44	18	-	1350
80689	M24x28x400	27,7	240	44	18	-	1480
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	-	1820
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	-	3830
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

Ø similar to DIN.

On request:

Other sizes on request.

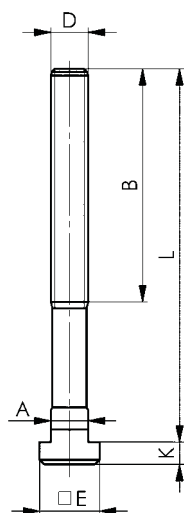


Subject to technical alterations.

DIN 787

Bolts for T-slots

complete with hexagon nut DIN 6330 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	Ø	Ø	Ø	Ø	Weight [g]
84202	M6x6x25	5,7	15	10	4	10
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	Ø,7	30	15	6	65
80838	M10x10x63	Ø,7	45	15	6	80
81356	M10x10x80	Ø,7	50	15	6	Ø0
80846	M10x10x100	Ø,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	1Ø5
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	Ø	200
84442	M14x16x80	15,7	55	25	Ø	220
80945	M14x16x100	15,7	65	25	Ø	230
84459	M14x16x125	15,7	75	25	Ø	280
80952	M14x16x160	15,7	100	25	Ø	310
80960	M14x16x250	15,7	120	25	Ø	3Ø0
80978	(M16x16x63)	15,7	45	25	Ø	250
85761	(M16x16x80)	15,7	55	25	Ø	275
80986	(M16x16x100)	15,7	65	25	Ø	2Ø0
84392	(M16x16x125)	15,7	85	25	Ø	300
80994	(M16x16x160)	15,7	100	25	Ø	380
85779	(M16x16x200)	15,7	125	25	Ø	435
81000	(M16x16x250)	15,7	150	25	Ø	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)	Ø,7	55	32	12	520
81547	(M20x20x100)	Ø,7	65	32	12	570
84319	(M20x20x125)	Ø,7	85	32	12	560
85803	(M20x20x160)	Ø,7	110	32	12	680
84327	(M20x20x200)	Ø,7	125	32	12	700
81562	(M20x20x250)	Ø,7	150	32	12	800
84335	(M20x20x315)	Ø,7	1Ø0	32	12	Ø40
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	1Ø0	35	14	Ø80
81216	(M24x24x100)	23,7	70	40	16	Ø10
85860	(M24x24x125)	23,7	85	40	16	Ø70
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	1Ø0	40	16	1640
81240	(M24x24x400)	23,7	240	40	16	1780
81091	M24x28x100	27,7	70	44	18	Ø80
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 D 6330 and washer D 6340.
forged, milled T-groove, rolled thread, stamped with M logo
and strength class. M6 to M12 hardened to strength class 10, M14 to M42 hardened to strength class 8.8.

Order no.	D x Slot x L	Ø	Ø	Ø	Ø	Weight [g]
81117	M24x28x250	27,7	150	44	18	1500
81604	M24x28x315	27,7	170	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	1750
81141	M30x36x200	35,6	135	54	22	2230
85910	M30x36x250	35,6	150	54	22	2555
81158	M30x36x315	35,6	200	54	22	2750
81166	M30x36x500	35,6	300	54	22	3750
81174	M36x42x160	41,6	100	65	26	3220
81182	M36x42x250	41,6	175	65	26	3840
81190	M36x42x400	41,6	250	65	26	4750
81208	M36x42x600	41,6	340	65	26	6500
84178	M42x48x160	47,6	100	75	30	6000
84186	M42x48x250	47,6	175	75	30	6700
84194	M42x48x400	47,6	250	75	30	8400

Ø similar to D.

On request:

other sizes on request.

Note:

M quality starts with controlled raw material

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

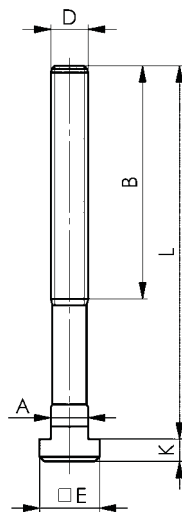


Subject to technical alterations.

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 $\varnothing$	$\varnothing$	$\varnothing$	$\varnothing$	$\varnothing$	Packaging nit	Weight [g]
83956	M10x10x40	7	30	15	6	25	30
83972	M10x10x50	7	35	15	6	25	40
83998	M10x10x80	7	50	15	6	25	60
83923	M10x10x100	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	8	25	140
87346	M16x16x80	15,7	55	25	8	10	160
86272	M16x16x100	15,7	65	25	8	10	180
87361	M16x16x125	15,7	85	25	8	10	225
86280	M16x16x160	15,7	100	25	8	10	270
87387	M16x16x200	15,7	125	25	8	-	315
86298	M16x16x250	15,7	150	25	8	-	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	-	270
86439	M20x20x125	19,7	85	32	12	-	370
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	170	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	170	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	-	1060
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	-	1470
81281	M30x36x160	35,6	110	54	22	-	1750
81364	M30x36x200	35,6	135	54	22	-	2230
81463	M30x36x250	35,6	150	54	22	-	2555
82131	M30x36x315	35,6	200	54	22	-	2950

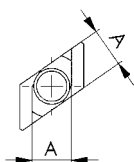
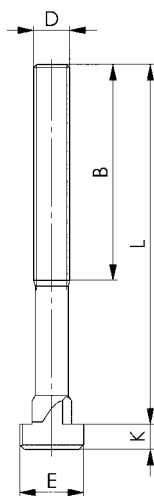
Matching nuts DIN 6330 and washers DIN 6340.

Similar to DIN.

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.



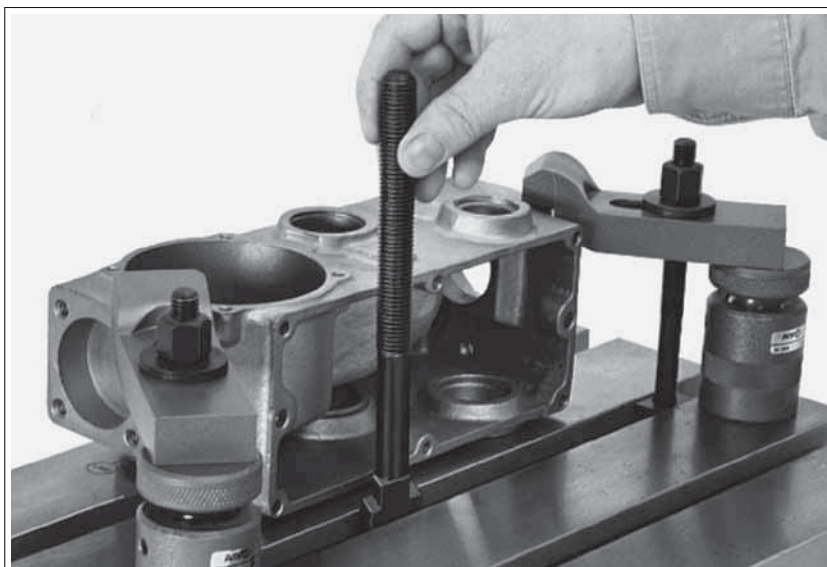
Order no.	D x Slot x $\varnothing$	$\varnothing$	$\varnothing$	$\varnothing$	$\varnothing$	Weight [g]
87296	M12x14x 50	13,7	35	22	8	70
87312	M12x14x 80	13,7	55	22	8	100
87338	M12x14x125	13,7	75	22	8	120
87353	M16x18x 63	17,7	45	28	10	160
87379	M16x18x100	17,7	65	28	10	220
87395	M16x18x160	17,7	100	28	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 6330 and washers DIN 6340.

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 637.

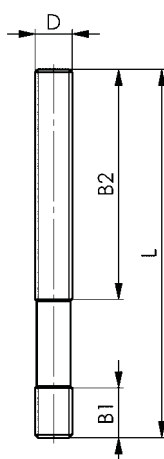


Subject to technical alterations.

DIN 6379

Studs

Roller thread. M 6-M12 tempered to strength class 10.9,
M14-M42 tempered to strength class 8.8.
The specially developed M12-studs for clamping purposes are
graduated by length according to DIN 913 series 10 figures.



Order no.	D x L	1	2	Packaging unit	Weight [g]
84772	(M 6x 32)	2	16	50	8
86546	(M 6x 40)	2	20	50	10
84780	M 6x 50	2	30	50	11
85522	(M 6x 63)	2	40	50	14
84798	M 6x 80	2	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	100
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	100
84475	(M14x125)	17	75	25	120
81398	(M14x160)	17	100	25	150
86553	(M14x200)	17	122	-	185
84897	(M14x250)	17	160	-	240
84905	M16x 63	18	32	25	85
81414	(M16x 80)	18	50	25	105
84913	M16x100	18	63	25	130
81422	(M16x125)	18	75	25	160
84921	M16x160	18	100	25	218
85498	(M16x200)	18	122	-	280
84939	M16x250	18	160	-	325
85548	(M16x315)	18	180	-	425
85472	(M16x500)	18	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	-	700
85027	(M22x400)	31	250	-	1070
85035	M24x100	35	45	-	280
85563	(M24x125)	35	70	-	380
81570	M24x160	35	100	-	470
85514	(M24x200)	35	122	-	580
81596	M24x250	35	160	-	730
86009	(M24x315)	35	200	-	1020
85043	M24x400	35	250	-	1160
86025	(M24x500)	35	315	-	1460
85050	(M24x630)	35	315	-	1860

Subject to technical alterations.

DIN 6379

Studs

Polished thread. M 6-M12 tempered to strength class 10.9,
M14-M42 tempered to strength class 8.8.
The specially developed M-studs for clamping purposes are
graduated by length according to DIN 323 series 10 figures.

Order no.	D x L	Ø 1	Ø 2	Packaging unit	Weight [g]
81695	(M27x125)	30	56	-	485
81703	(M27x200)	30	122	-	770
81711	(M27x315)	30	200	-	1110
86587	(M27x400)	30	250	-	1535
81729	(M27x500)	30	315	-	1930
85068	M30x125	43	56	-	520
81612	(M30x200)	43	122	-	850
81620	M30x315	43	200	-	1420
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)	50	200	-	2850
85597	(M42x400)	50	250	-	3750
85530	(M42x500)	50	315	-	4620



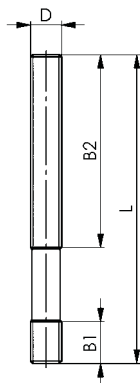
Subject to technical alterations.

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.



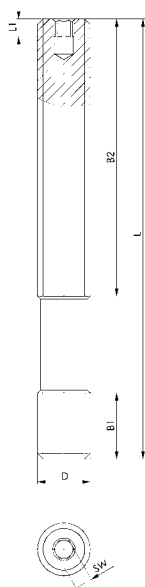
Order no.	D x l	l1	l2	Packaging unit	Weight [g]
82123	M12x 80	15	50	50	55
89193	M12x100	15	63	25	70
89250	M12x125	15	75	25	90
89276	M12x160	15	100	25	113
82180	M16x 80	12	50	25	105
82263	M16x100	12	63	25	130
85571	M16x125	12	75	25	160
87734	M16x160	12	100	25	218
87759	M16x200	12	125	-	280
87791	M16x250	12	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

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	l1	l2	l1	SW	Weight [g]
381954	M12x100	15	63	4	4	82
381913	M12x125	15	75	4	4	102
381970	M12x160	15	100	4	4	130
381996	M16x125	12	75	4	4	184
381939	M16x160	12	100	4	4	236
382010	M16x200	12	125	4	4	274
382028	M20x160	27	100	5	5	371
382036	M20x200	27	125	5	5	462
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
- specially suitable for use on injection moulding machines and presses

Note:

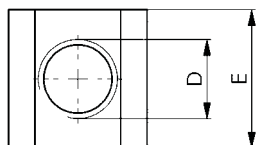
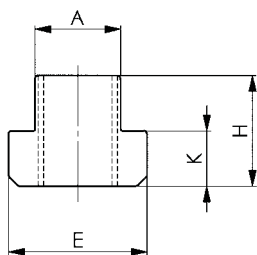
The nuts DIN 6330, strength class 10 and washers DIN 6340 must be used in combination with this threaded pin.



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	⌀	⌀	H	⌀	Packaging nit	Weight [g]
80002	M 5x 6	5,7	10	8	4	50	4
80010	M 6x 8	7,7	13	10	6	100	7
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	7	25	50
80366	M10x16	15,7	25	18	7	25	60
80168	M12x16	15,7	25	18	7	25	50
80051	M14x16	15,7	25	18	7	25	50
153478	M 8x18	17,7	28	20	10	25	71
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	-	520
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 ⌀M works standard.

On request:

Special makes on request.

No. 508F

T-nuts with spring (pat. pend.)

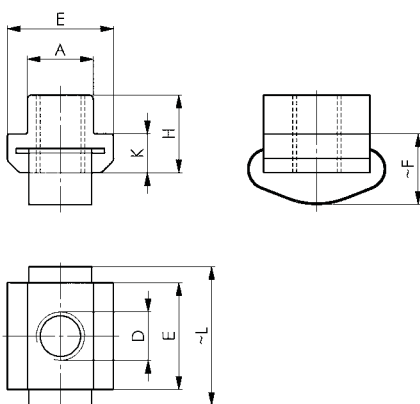
□ groove key □ with spring. Hardened, strength class 10.
Spring □ Stainless steel.



Order no.	D x Slot	□	□	□	H	□	□	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	□	42	63
89797	M10x16	15,7	25	15,5	18	□	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.



No. 508L

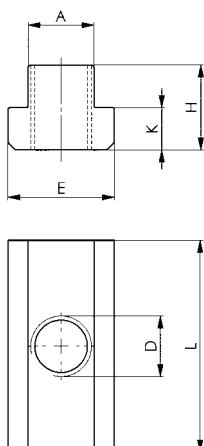
Nuts for T-slots, extended

Hardened, strength class 10



Order no.	D x Slot	□	□	H	□	□	□ackaging □ nit	Weight [g]
84640	M5x6	5,7	10	8	4	20	50	8
84657	M6x8	7,7	13	10	6	26	50	14
84665	M8x10	□,7	15	12	6	30	50	30
84673	M10x12	11,7	18	14	7	36	50	4□
84681	M12x14	13,7	22	16	8	44	25	82
84699	M14x16	15,7	25	18	□	50	50	120
84707	M16x18	17,7	28	20	10	56	20	170
84715	M18x20	1□,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	-	13□0

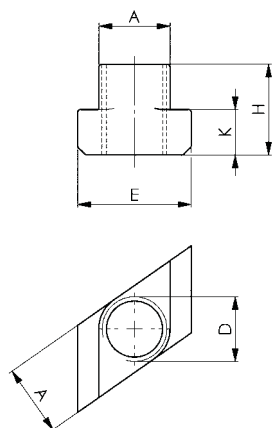
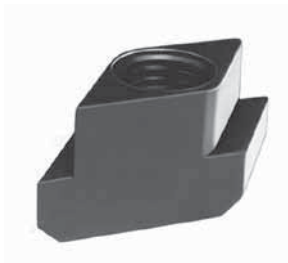
This extended form safeguards the T-slots of precision machine tables.



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.

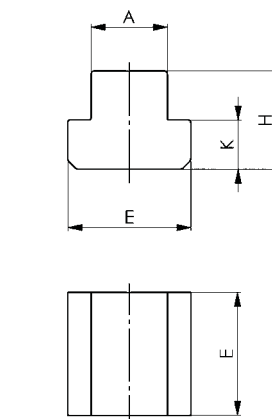


Order no.	D x Slot	Strength class	$\sigma_{\perp}$	$\sigma_{\parallel}$	H	$\sigma_{\perp}$	Packaging unit	Weight [g]
85993	M 6x8	8	7,6	13	10	5,8	50	7
87411	M 8x10	8	10,7	15	12	6	50	11
80259	M10x12	8	11,7	18	14	7	50	14
158220	M10x14	8	13,7	22	16	8	50	27
80267	M12x14	8	13,7	22	16	8	50	22
80275	M14x16	6	15,7	25	18	10	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	10,7	32	24	12	25	70
80291	M18x20	6	10,7	32	24	12	25	70
158246	M16x22	8	21,7	35	28	14	25	110
80309	M20x22	6	21,7	35	28	14	25	88
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	-	620

No. 508R

Blanks for T-nuts

Tempering steel 0.35-0.45 % C.



Order no.	Slot	$\sigma_{\perp}$	$\sigma_{\parallel}$	H	$\sigma_{\perp}$	Packaging unit	Weight [g]
84509	6	5,7	10	8	4	25	4
84517	8	7,7	13	10	6	25	10
84525	10	10,7	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	10	25	70
84566	18	17,7	28	20	10	25	85
84574	20	10,7	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

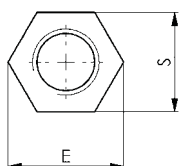
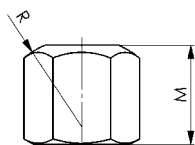
Note:

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.

DIN 6330B

Hexagon nut

height 1,5 dia. Tempered, tensile strength class 10. With spherical end matching taper face of washers DIN 631 D or Ø. Flat end matching hardened washers DIN 6340.



Order no.	Size	Ø	M	Ø	S	Packaging unit	Weight [g]
82362	M6	11,05	Ø	Ø	10	100	5
82370	M8	14,40	12	12	13	100	Ø
82354	M10	17,80	15	15	16	50	14
82388	M10	18,Ø0	15	15	Ø17	50	20
82347	M12	20,03	18	17	18	50	20
82396	M12	21,10	18	17	Ø1Ø	50	28
82321	ØM14Ø	23,40	21	20	21	50	34
82404	ØM14Ø	24,50	21	20	Ø22	50	45
82412	M16	26,80	24	22	24	50	58
82420	ØM18Ø	30,10	27	24	27	25	83
82438	M20	33,50	30	27	30	25	110
82339	ØM22Ø	37,70	33	30	34	10	185
82446	ØM22Ø	35,70	33	30	Ø32	10	130
82453	M24	40,00	36	32	36	10	1Ø5
82461	ØM27Ø	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,Ø0	72	67	75	-	1800

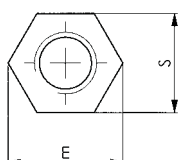
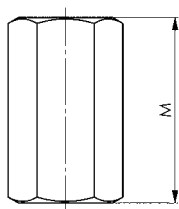
ØØ Id DIN standard.

Ø ØDØ expanded.

No. 6334

Extension nut

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



Order no.	Size	Ø	M	S	Packaging unit	Weight [g]
82651	M6	11,05	18	10	100	8
82669	M8	14,40	24	13	50	1Ø
82271	M10	17,80	30	16	25	30
82677	M10	18,Ø0	30	Ø17	25	42
82289	M12	20,03	36	18	25	48
82685	M12	21,10	36	Ø1Ø	25	64
82297	M14	23,40	42	21	25	73
82693	M14	24,50	42	Ø22	25	Ø5
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	3Ø0
82735	M22	35,70	66	Ø32	10	280
82743	M24	40,00	72	36	-	400
82750	M27	45,60	81	41	-	600
82768	M30	51,30	Ø0	46	-	850
82776	M36	61,30	108	55	-	1470
82784	M42	72,60	126	65	-	2340
82792	M48	83,Ø0	144	75	-	3600

Øold DIN standard.

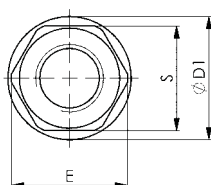
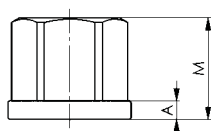
Application:

The extension nut no. 6334 is used to connect T-slot bolts DIN 787 with studs DIN 637Ø. Through-drive of thread is not possible. Øor function and safety both screws should match half the length of nut on either side. Minimum depth is 1 x dia of thread.

DIN 6331

Collar nut

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



Order no.	Size	$\frac{A}{M}$	D1	$\frac{S}{D1}$	M	S	Packaging unit	Weight [g]
82529	M6	3,0	14	11,05	10	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	18,00	15	17	50	25
82230	M12	4,0	25	20,03	18	18	25	30
82552	M12	4,0	25	21,10	18	17	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	85
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	83,00	72	75	-	2040

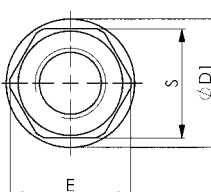
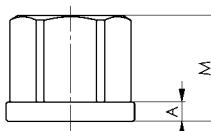
$\frac{A}{M}$ Id D standard.

$\frac{A}{M}$ D expanded.

DIN 6331

Collar nut

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



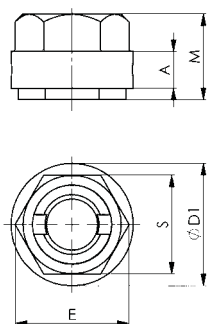
Order no.	Size	$\frac{A}{M}$	D1	$\frac{S}{D1}$	M	S	Packaging unit	Weight [g]
82198	M6	3,0	14	11,05	10	10	50	6
82115	M8	3,5	18	14,40	12	13	50	12
82214	M10	4,0	22	17,80	15	16	50	21
82107	M12	4,0	25	20,03	18	18	25	30
82149	M16	5,0	31	26,80	24	24	25	70
82206	M18	5,0	34	30,10	27	27	25	85
82156	M20	6,0	37	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

$\frac{A}{M}$ D extended.

No. 6331S

Quick-action clamping nut with collar

Forged, hardened, strength class 10.



Order no.	Size	Ø	D1	Ø	M	S	Weight [g]
88112	M16	10,4	35,5	30,68	23,4	27	105
88120	M20	12,5	42,0	38,60	27,0	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 1/2 turn.

Advantage:

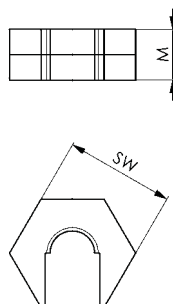
- reduced assembly and disassembly times
- effortless bridging of long screw thread and clamping spindles
- easy assembly and disassembly in tight and invisible spaces
- no searching for the thread
- no seizing on the thread due to outside influences
- no impaired performance through contamination such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



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	10,0	10
88534	M 8	17	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 1/4 to 1 1/2 turn.

Advantage:

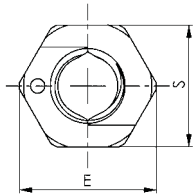
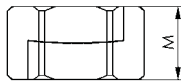
- effortless bridging of long screw thread and clamping spindles
- easy assembly and disassembly in tight and invisible spaces
- no searching for the thread
- no seizing on the thread due to outside influences
- no impaired performance through contamination such as paint residues or even rust.



No. 6333S

AMF-TWINNUT nut - without collar

with separation block.



Order no.	Size	Ø	M	S	Weight [g]
381772	M6	11	6	10	3
381780	M8	14	8	13	6
381798	M10	17	10	17	14
381806	M12	21	12	17	20
381814	M16	27	16	24	32
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 Ø 10.

Note:

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

On request:

Other materials and special sizes on request.

Easy mounting of the TWINNUT collar nut:



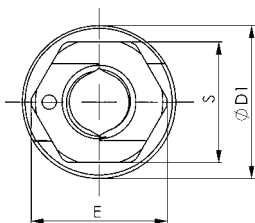
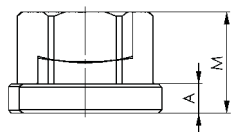
Easy removal of the TWINNUT collar nut:



No. 6333SB

AMF-TWINNUT nut - with collar

with separation block.



Order no.	Size	$\varnothing$	D1	$\varnothing$	M	S	Weight [g]
381848	M6	3,0	14	11	$\varnothing$	10	5
381855	M8	3,5	18	14	12	13	12
381863	M10	4,0	22	17	14	17	24
381871	M12	4,0	25	21	16	17	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 $\varnothing$ 10.

Note:

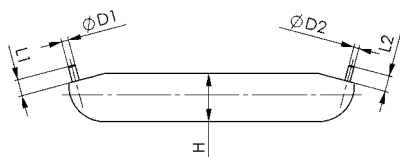
After they are pushed together, a 1 1/4 to 1 1/2 turn suffices for locking.

On request:

Other materials and special sizes on request.

No. 6333

Mounting key



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

Application:

For easy opening of the AMF-TWINNUT nuts.

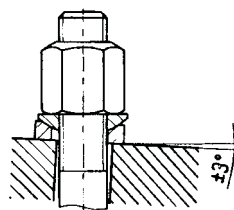
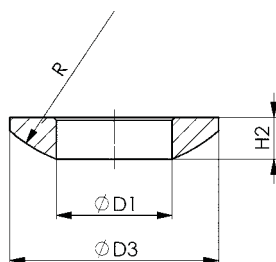
Note:

Suitable for all nut sizes.

DIN 6319C

Spherical seat washer

base hardened and phosphated.

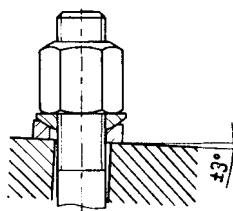
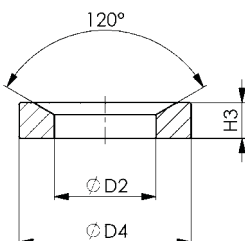


Order no.	Size	D1	D3	H2		Packaging unit	Weight [g]
81828	M6	6,4	12	2,3		100	1,0
81737	M8	8,4	17	3,2	12	100	2,5
81745	M10	10,5	21	4,0	15	100	5,0
81752	M12	13	24	4,6	17	100	7,0
81760	M14	15	28	5,0	22	50	10
81778	M16	17	30	5,3	22	100	12
81786	M20	21	36	6,3	27	50	23
81794	M24	25	44	8,2	32	25	42
81802	M30	31	56	11,2	41	-	87
81810	M36	37	68	14,0	50	-	184
81836	M42	43	78	17,0	58	-	277
81844	M48	50	92	21,0	67	-	525

DIN 6319D

Dished washer

base 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 6319C for these.



Order no.	Size	max. [kN]	D2	D4	H3	Packaging unit	Weight [g]
81950	M6		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	260	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.

DIN 6319D

Dished washer

made of A45. 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 6319C for these.

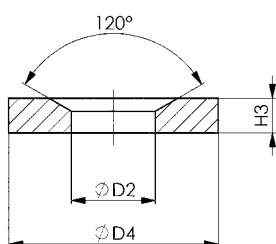
Order no.	Size	max. [kN]	D2	D4	H3	Packaging unit	Weight [g]
87171	M12	65	14,2	24	5,0	100	10
87197	M16	125	19,0	30	6,2	50	19
87239	M20	196	23,2	36	7,5	25	32
87254	M24	281	28,0	44	9,5	25	63

max. transmittable static screw force.

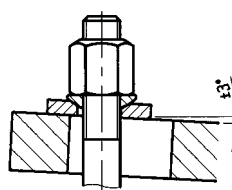
DIN 6319G

Dished washer

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



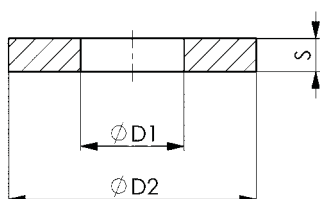
Order no.	Size	D2	D4	H3	Packaging unit	Weight [g]
82073	M6	7,1	17	4	25	5,5
81984	M8	10,6	24	5	100	13
81992	M10	12,0	30	5	100	17
82008	M12	14,2	36	6	100	32
82016	M14	16,5	40	6	50	48
82024	M16	19,0	44	7	50	56
82032	M20	23,2	50	8	25	74
82040	M24	28,0	60	10	10	167
82057	M30	35,0	68	10	-	218
82065	M36	42,0	80	12	-	350
82081	M42	49,0	100	15	-	640
82099	M48	56,0	110	17	-	830



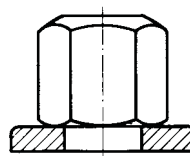
DIN 6340

Washer

tempered 350 80 H 30



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	122
82909	M24	7/8	25	60	8	20	170
82917	M27	1 1/8	28	68	10	-	210
82925	M30	1 1/8, 1 3/16	31	68	10	-	230
82933	M36	1 3/4, 1 3/8	38	80	10	-	350
82941	M42	1 7/8	44	100	15	-	670
82958	M48	1 7/8	50	110	17	-	1220



No. 6530

Boxed set of assorted clamping elements

with low height clamping jaws no. 6400 and thread paste no. 6330.
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	o. 6500 cs.xS	o. 6314 cs.xS	DIN 787 cs.xlength	DIN 637 cs. xlength	DIN 6330	DIN 631	o. 6334	o. 6400 cs.xS	o. 6485 cs.xS	o. 3113 cs.xS	o. 6330	x W x H	Weight [g]
83584	M10x10	4x1, 4x2, 2x3	4x 11x80	2x40, 4x63, 4x100	4x80	6x	6x	4x	4x12	-	1x 16x16	1x	355x270x47	1,2
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. 6400 are complete sets with T-nuts DIN 508, screws ISO 4762 and two hexagon keys ISO 236.
Single items available.

No. 6531

Boxed set of assorted clamping elements

with spring type clamp support no. 6342 and thread paste no. 6330.
Description as for no. 6530, but without low height clamping jaws no. 6400. Included instead are 4 spring type clamp supports no. 6342 each.



Order no.	Slot	o. 6500 cs.xS	o. 6314 cs.xS	DIN 787 cs.xlength	DIN 637 cs.xlength	DIN 508	DIN 6330	DIN 631	o. 6485 cs.xS	o. 3113 cs.xS	DIN 6342 cs.xS	o. 6334	o. 6330	x W x H	Weight [g]
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	350x333x57	11,0
83824	M12x14	4x2, 4x3	4x 14x100	4x80, 4x125	4x100	-	4x	6x	1x 14-20	1x 18x18	4x2	4x	1x	350x333x57	11,0
83832	M16x16	4x2, 4x3	4x 18x125	4x100, 4x160	4x125	-	4x	6x	1x 14-20	1x 24x24	4x3	4x	1x	300x415x55	16,5
83840	M16x18	4x2, 4x3	4x 18x125	4x100, 4x160	4x125	-	4x	6x	1x 14-20	1x 24x24	4x3	4x	1x	300x415x55	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	DI 787 cs.xlength	DI 637 cs.xlength	DI 508	DI 6330	o. 6334	DI 631	DI 6340	x W x H	Weight [g]
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	317x237x44	5,4
83022	M16x16	2x63, 4x100, 4x160	4x80, 4x125, 4x250	1	4x	4x	4x	4x	337x274x48	7,4
83030	M16x18	2x63, 4x100	4x80, 4x15, 4x160	4x	4x	4x	4x	4x	337x274x48	7,4
83048	M18x20	2	6x80, 8x15, 4x200, 4x315	4x	4x	4x	-	4x	357x342x56	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	444x407x72	23,6

1 T-nuts DI 508 not suitable for this size.

2 M18x20, included instead DI 787 are 4 studs DI 637x125 mm and 2x80 mm, with DI 508 T-nuts and DI 6340 washers each. Single items available.

No. 6532

Basic sortiment

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]	o. 6314 cs.xSize	o. 6500 cs.xSize	DI 787 cs.xlength	DI 637 cs.xlength	DI 6330	DI 6340	o. 6334	Weight [g]
83899	M12x14	20	165	70	2x14x100, 2x14x160	4x2, 4x3	2x50, 4x80, 4x125	2x100	6x	6x	2x	10,0
83915	M14x16	28	175	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.

Studded 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 o. 6470H-2 and clamping bolts o. 6470H-1 can be selected as required.

No. 6470-Mxx

Trolley for clamping equipment with basic set of clamping equipment

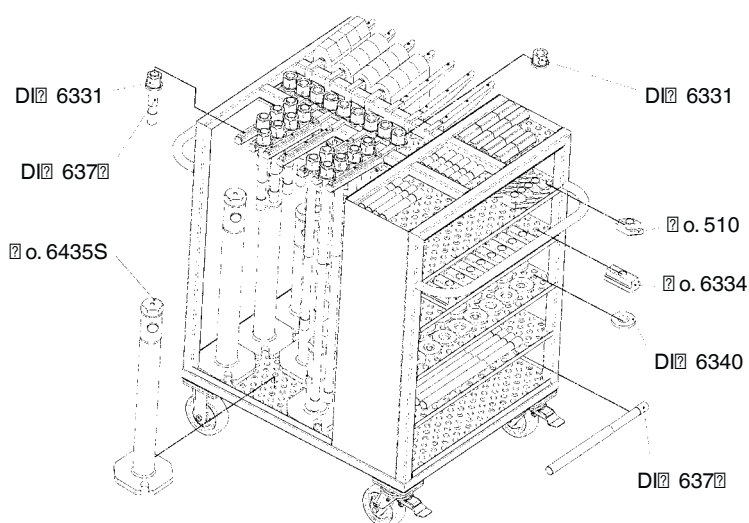
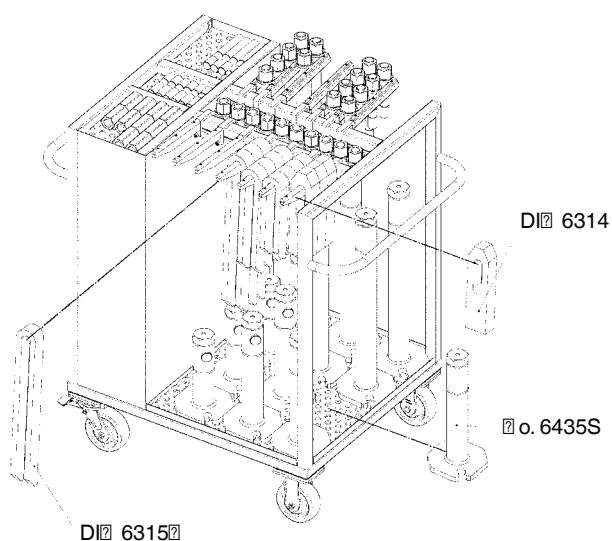
incl. clamping equipment tool cart no. 6470.



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	84888	M20x125	6	85563	M24x125	6	85068	M30x125	6
	85488	M16x200	6	81513	M20x200	6	85514	M24x200	6	81612	M30x200	6
	85548	M16x315	6	84886	M20x315	6	86008	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	82584	M20	30	82610	M24	30	82636	M30	30
DIN 6340	82867	M16	30	82883	M20	30	82808	M24	30	82825	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									
	72438	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	84748	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. 4 lamps, step blocks and nuts high strength plastic 100 T, red. Stud bolts aluminium anodised.

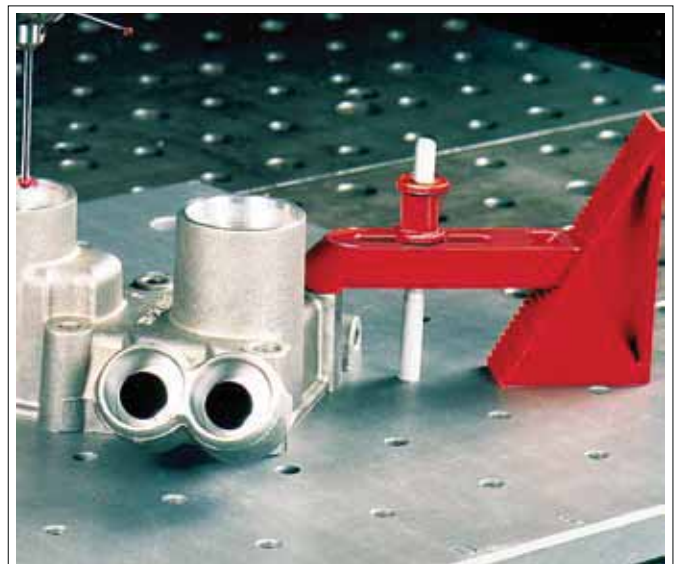
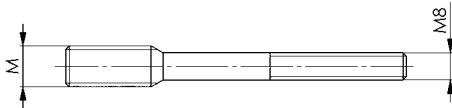
Order no.	Size	M	W x W x H	Weight [g]
83071	06	M6	440x370x50	1700
83105	08	M8	440x370x50	1740
83089	10	M10	440x370x50	1770
83097	12	M12	440x370x50	1800

Application:

Most suitable for 3D-coordinate measuring machines, engraving and 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.



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.

On 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.

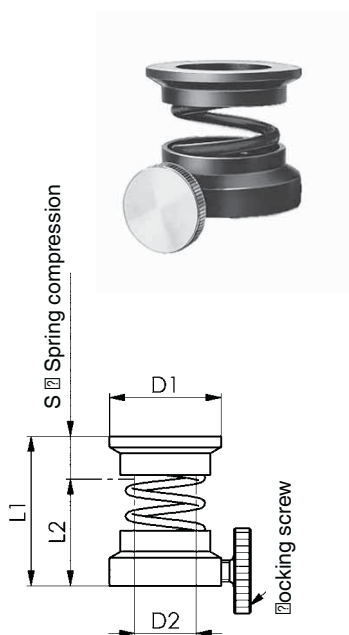
Features:

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. Washout test according DIN 51807, part 2: loss of lubricant after 1 h: 37.8% ± 1.4%

No. 6342

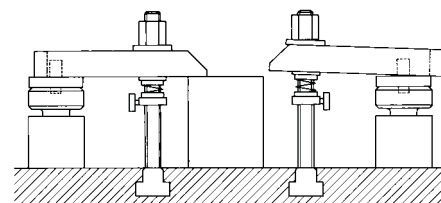
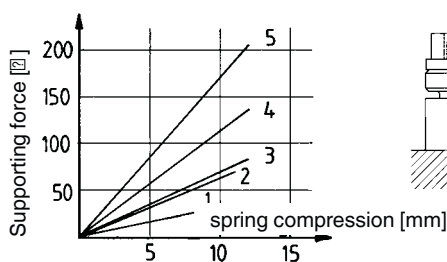
Spring type clamp support

with brass locking screw



Order no.	Size	D1	D2	Ø1	Ø2	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	82
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.



No. 6485

T-slot scraper

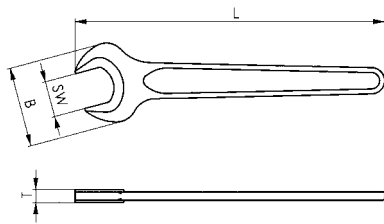


Order no.	Size	Slot	Packaging unit	Weight [g]
72892	14-20	14-20	100	105
72900	22-32	22-32	50	100
72918	36-54	35-54	-	360

DIN 894

Open-ended spanner, single-ended

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



Order no.	SW	Thread metric	□	□	T	□ackaging unit	Weight [g]
53579	8	5	1□	□4	4	10	13
53595	10	6	22	105	5	10	20
53611	12	-	26	125	5	10	28
53629	13	8	2□	125	5	10	35
53645	17	10□	36	155	6	10	65
53520	18	12	3□	155	7	10	70
53652	1□	12□	40	170	7	10	83
53660	22	14□	46	1□5	8	10	105
53678	24	16	50	215	□	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	2□5
53710	36	24	74	300	13	10	425

□Size to old DIN standard.

No. 6486

T-slot cover

of profiled aluminium.
□asily 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. □lways cover free slots by using the original □M□-T-slot cover before starting with machining. The T-slot covers can easily be removed after machining.



Subject to technical alterations.

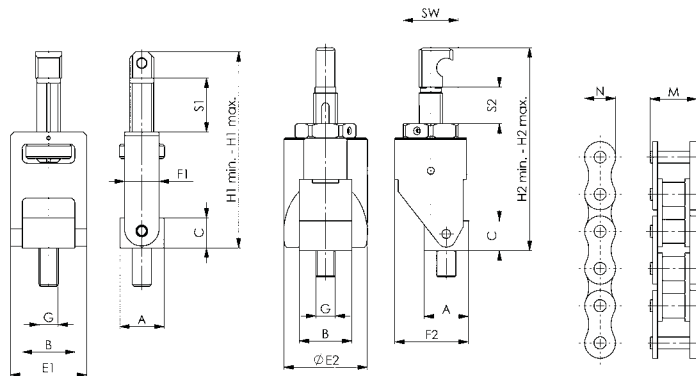
No. 6540

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
or 6541 separately.

Consisting of:

- Tensioning hook
 - Lamp 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 1822 mm



Dimensions:

Order no.	1	2	3	4	5	H1 min.	H1 max.	Clamping stroke S1	6	7	H2 min.	H2 max.	Clamping stroke S2	M	8	SW
87601	36	36	18	40	21	25	125	30	54	40	111	127	16	20	15	36
87627	37	44	25	64	27	117	162	45	70	62	140	170	30	33	21	46

Order no.	Slot	Screw	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	100	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. Elastic pressure pads can be inserted in the chain links to protect the workpiece surface.

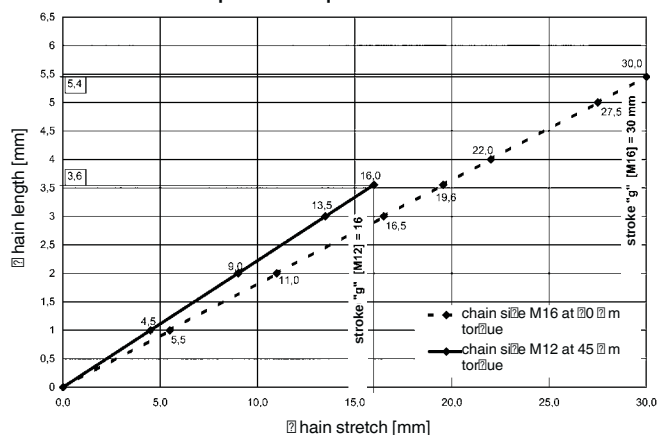
Advantage:

- 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.

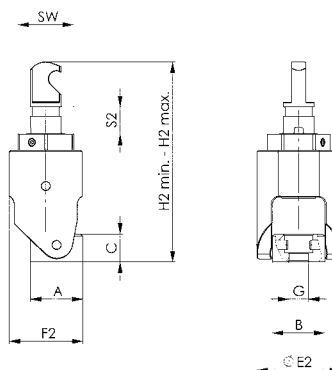
No. 6540H

Hook end, mechanical



NEW!

Order no.	Size	Slot	Ø	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	1202
376517	M20	22-28	M20	180	75	65	6037
376533	M24	28-36	M24	300	120	65	6040



Dimensions:

Order no.	Size	Ø	Ø	Ø	Ø2	Ø2	H2 min.	H2 max.	Ø clamping stroke S2
374934	M12	36	36	18	54	40	111	127	16
374959	M16	37	44	25	70	62	140	170	30
376517	M20	58	64	41	88	80	220	272	52
376533	M24	58	64	41	88	80	222	285	63

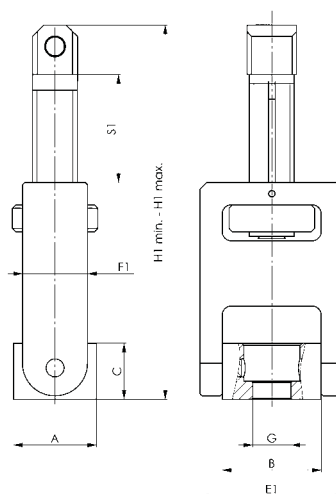
No. 6540G

Counter catch



NEW!

Order no.	Size	Slot	Ø	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:

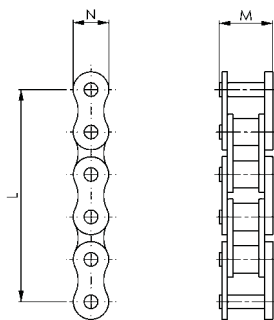
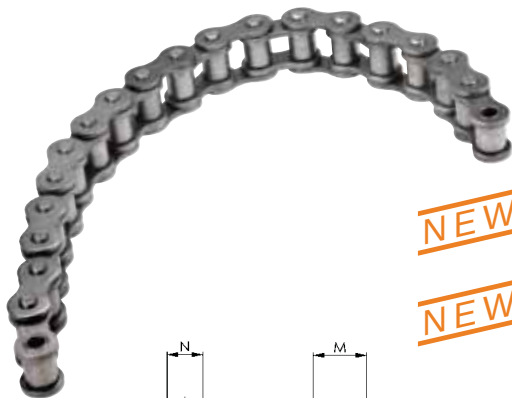
Order no.	Size	Ø	Ø	Ø	Ø1	Ø1	H1 min.	H1 max.
374710	M12	36	36	18	40	21	85	125
374728	M16	37	44	25	64	28	117	162
376657	M20	58	64	41	82	48	175	228
376632	M24	58	64	41	82	48	186	246

Subject to technical alterations.

No. 6540K

Roller chain

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



Order no.	Size	max. possible clamping force [kN]	Ø	M	Ø	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	1010
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	34	55	2000	14100

Application:

The individual chain lengths can be joined as required using the connecting links o. 6540K.
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.



NEW!

Order no.	Size	Max. clamping force to be secured [kN]	Weight [g]
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:

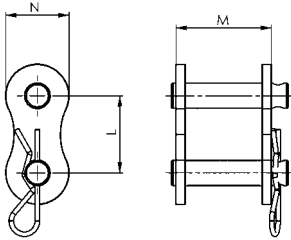
- Easy mounting of the protection set
- Safe handling of the clamp chain
- Improved work safety.

Note:

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

No. 6540V

Connecting links with spring cotter pin



Order no.	Size	Ø	M	Ø	max. possible clamping force [kN]	Weight [g]
374819	M12	15,0	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.

No. 6540F

Spring cotter pin

Packaging unit 10 pcs.

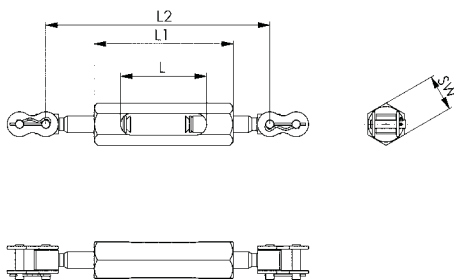
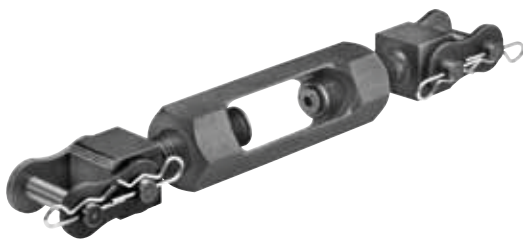


Order no.	Size	Packaging unit [pc]	Weight [g]
374835	M12	10	0,5
374843	M16	10	1,0
376822	M20	10	2,2
376848	M24	10	6,5

No. 6540KS

Turnbuckle

NEW!

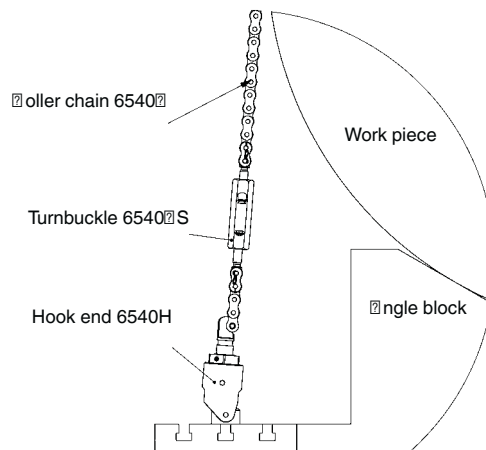


Application:

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



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	2	2	2	H2	H3	H4	2	2	3	4	dia. S	dia. S1	Weight [g]
375568	M12	80	47	20	26	80	35	5,5	118	52	42	17	13,5	20	2422
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 M clamping plates using grid holes.

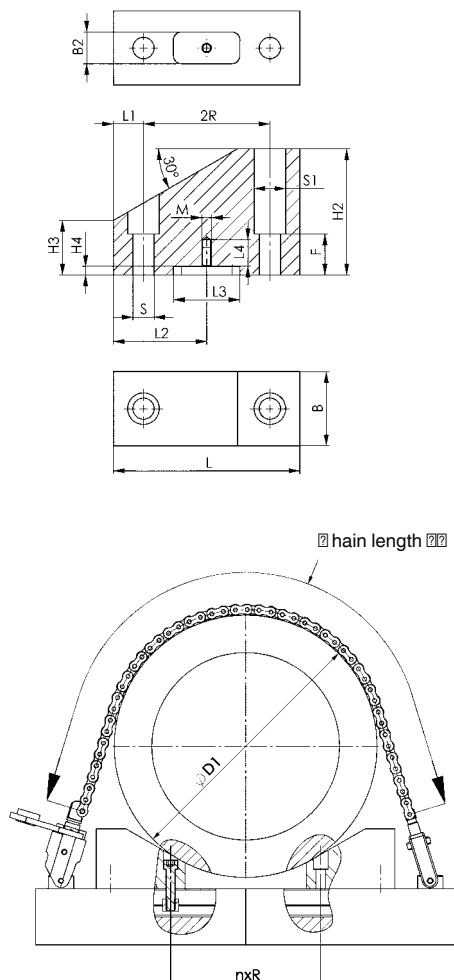
Note:

The use of a flat T-nut no. 6322 or no. 6322 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.



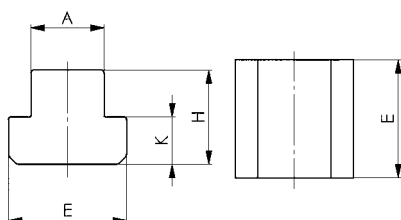
Order no.	n x [m] Clearance of angle blocks	die. D1 [mm]	Chain length [mm] Number of links
375568	1 x 40 40	120 - 280	413 262 - 635 240
	2 x 40 80	250 - 360	540 342 - 826 322
	3 x 40 120	270 - 440	603 382 - 1048 362
	4 x 40 160	300 - 520	635 402 - 1238 382
	5 x 40 200	350 - 600	762 482 - 1422 462
	6 x 40 240	430 - 680	853 562 - 1612 542
	7 x 40 280	510 - 760	1143 722 - 1810 702
	8 x 40 320	620 - 840	1327 882 - 2000 862
	10 x 40 360	760 - 1020	1778 1122 - 2111 1102
375584	10 x 40 400	1020 - 1000	2111 1382 - 2413 1362
	1 x 50 50	250 - 370	552 222 - 864 202
	2 x 50 100	320 - 470	711 282 - 1118 262
	3 x 50 150	320 - 570	711 282 - 1372 262
	4 x 50 200	320 - 670	711 282 - 1575 262
	5 x 50 250	430 - 770	865 382 - 1820 362
	6 x 50 300	530 - 870	1168 462 - 2083 442
	7 x 50 350	630 - 970	1422 562 - 2337 542
	8 x 50 400	760 - 1070	1727 682 - 2511 662
	10 x 50 450	1060 - 1170	2235 882 - 1704 862
	10 x 50 500	1160 - 1270	2743 1082 - 3048 1062

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.



Order no.	D x Slot	Ø	Ø	H	Ø	Weight [g]
84251	M12 x 14	13,7	22	16	8	60
84269	M12 x 16	15,7	25	18	Ø	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	1Ø,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 Ø	13,7	22	16	8	88
376509	M12x16 Ø	15,7	25	18	Ø	114
376525	M12x18 Ø	17,7	28	20	10	141
376541	M16x18 Ø	17,7	28	20	10	18Ø
376566	M16x20 Ø	1Ø,7	32	24	12	248
376582	M16x22 Ø	21,7	35	28	14	305
376608	M16x24 Ø	23,7	40	32	16	407

For use of the protection set no. 6540 S

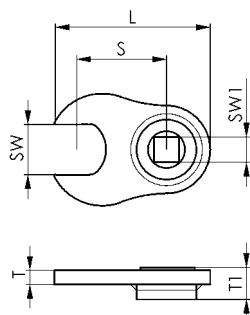
Note:

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

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	Ø	S	SW1 [inch]	T	T1	Weight [g]
52514	36	101	60	1Ø	7	16	255
52522	46	108	60	1Ø	8	16	340

Advantage:

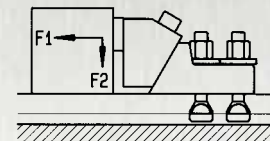
Controlled tightening prevents damage to spindle changing tools on a machine.

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.

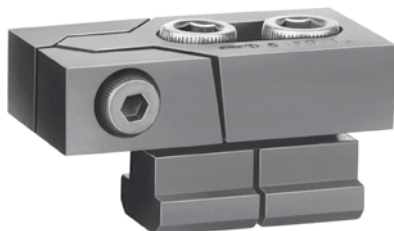


No. 6490

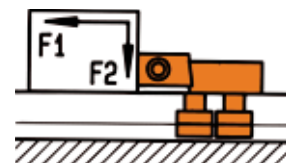
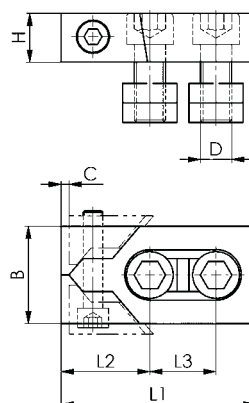
Low height clamping jaws, model „Bulle“

tempered and burnished. Packing 2 units in carton, complete with cap screw IS 4762-10, T-nuts D 508 and hexagon key IS 2336.

available in pairs only



Order no.	Slot	□	□	D	H	□1	□2	□3	□1 [kN]	□2 [kN]	Weight [g]
72959	12	40	3	M10	20	80	32	26	16	0,6	1150
72967	14	40	3	M12	20	80	32	26	22	0,8	1250
72975	16	40	3	M12	20	80	32	26	22	0,8	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	5280
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



Subject to technical alterations.

No. 6491

Slot stop

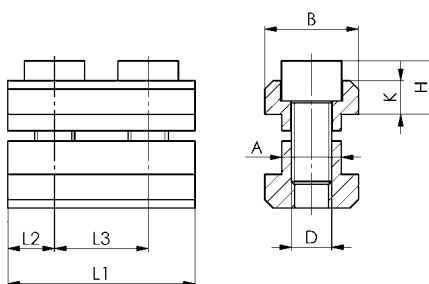
tempered and burnished.



Order no.	Slot	□	□	D	H	□	□1	□2	□3	Weight [g]
73817	12	11,7	18	M8	12	7	36	□,0	18	100
73825	14	13,7	22	M8	12	8	44	11,0	22	140
73833	16	15,7	25	M12	15	□	50	12,5	25	240
73841	18	17,7	28	M12	16	10	56	14,0	28	340
73858	20	1□,7	32	M16	1□	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.



No. 6492

Flat clamp, model „Mini-Bulle“

tempered and burnished. □acking □2 units in carton, complete with fastening screws IS □ 4762 □.8□ and hexagon key IS □ 2□36.

□ nly delivered in pairs□



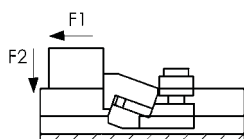
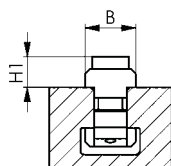
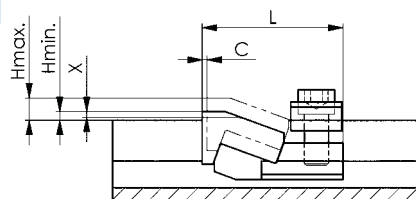
Order no.	Slot	H min.	H max.	□	□	H1	□	□	□1 [k□]	□2 [k□]	Weight [g]
73098	12	2,5	13,5	18	1,8	11	52	5	5,0	0,6	300
73106	14	1,5	13,5	22	1,8	11	55	5	5,5	0,7	380
73114	16	2,5	17,0	25	2,5	15	68	6	8,0	0,□	700
73122	18	1,5	16,0	28	2,5	15	71	6	□,0	1,0	830
73080	22	4,5	21,5	35	3,0	20	8□	□	16	1,□	1740

Hmin.□Hmax.□depending on groove depth to DI □ 650.

The clamping piece can be ground by □ 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.



No. 6492D

Flat clamp, double, model „Mini-Bulle“

tempered and burnished. Packing 2 units in carton, complete with fastening screws IS 4762 B.8 and hexagon key IS 2036.

Only delivered in pairs

Order no.	Slot	H min.	H max.	Ø	Ø	H1	Ø	Ø	Ø1 [k]	Ø2 [k]	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	0,8	850
73809	18	1,5	16,0	28	2,0	15	114	6	8,0	1,0	1060
73924	22	4,5	21,5	35	2,7	20	145	8	16,0	1,2	2200

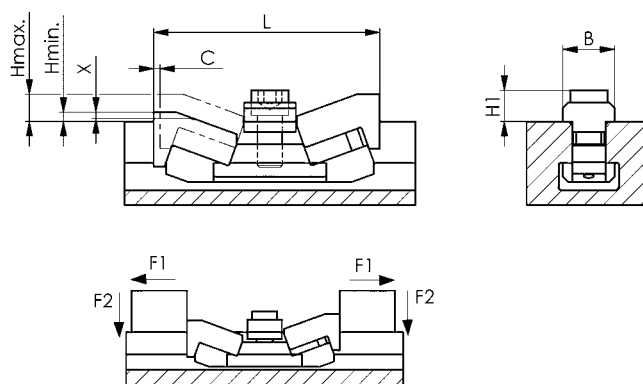
Hmin. Hmax. depending on groove depth to D 650.

The clamping piece can be ground by 0 mm. This allows lower clamping heights to be achieved.



Application:

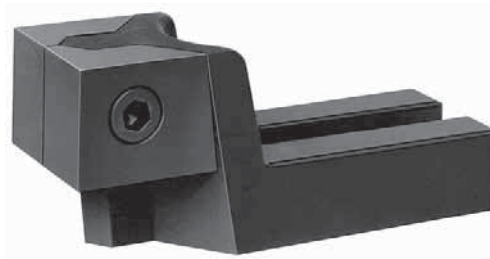
Especially short workpieces can be clamped with these tempered flat clamps. The wedge effect of the jaws tightly and reliably presses the workpiece against the machine tool table. The horizontal forces are absorbed by a screw corresponding to the groove size, and this firmly clamps the clamp without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



No. 6494

Low height clamping jaws, model „Maxi-Bulle“

Body: spherical casting. Jaws: tempered and burnished. Packing: 2 units in carton with hexagon key IS 236 without screws or bolts. Available in pairs only

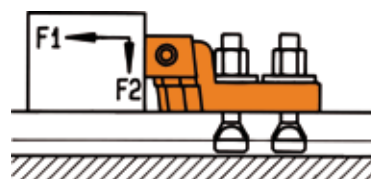
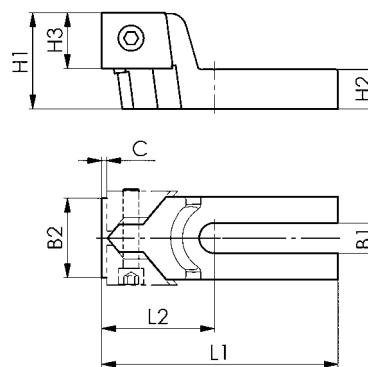


Order no.	Slot	1	2		H1	H2	H3	1	2	1	2	Weight
										[kN]	[kN]	[g]
73130	10 12 14	13	40	3	50	20	30	115	60	6 10 15	0,2 0,4 0,6	1500
73148	16 18 20	17	50	4	60	25	35	150	72	20 28 36	0,8 1,1 1,4	2040
73155	22 24 28 30 32 36	31	80	5	75	30	45	205	102	38 38 40 40 44 44	1,5 1,5 1,6 1,6 1,7 1,7	7000

Clamping forces 1 and 2 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. 6400. The wedge faces of these clamps are skillfully 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 IS 4762 with washers DIN 6340 and T-nuts 508.

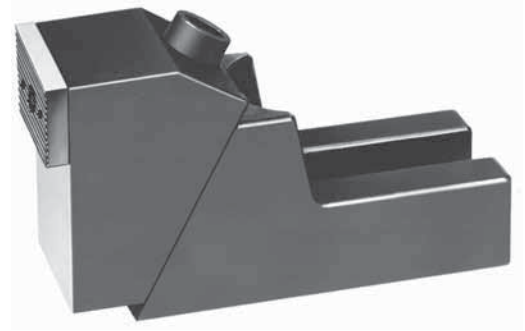


Subject to technical alterations.

No. 6497

Extra strong clamping jaw

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

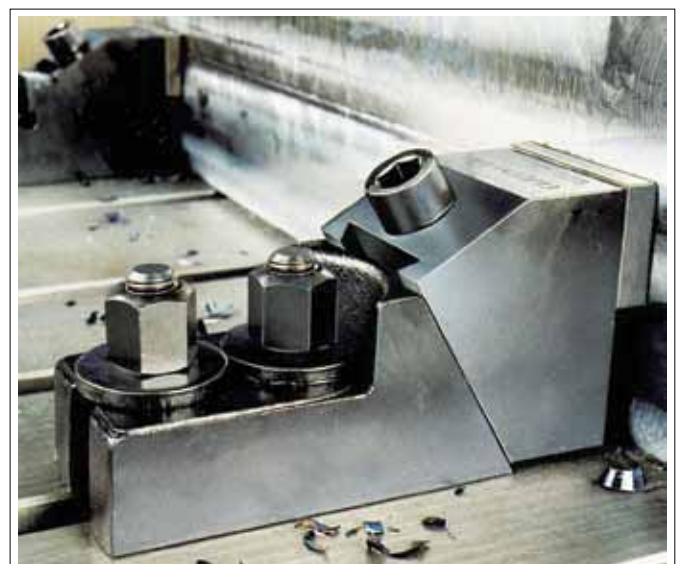
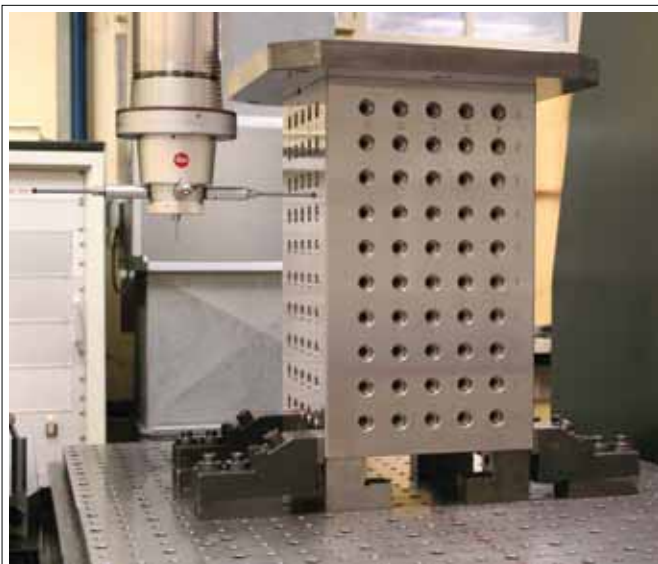
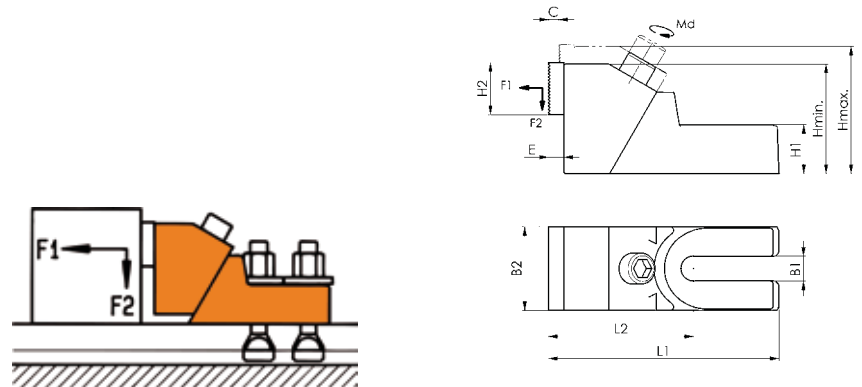


Order no.	Slot	B1	B2	B	B	H min.	H max.	H1	H2	B1	B2	F1 [kN]	F2 [kN]	Md [Nm]	Weight [g]
73213	12	10	65	8	12	85	110	38	40	170	112,5	8	1,2	20	4037
	14											15	2,2	40	
	16											20	3,0	45	
	18											28	4,2	60	
73221	20	26	75	11	12	100	118	45	40	230	138,5	25	4,5	85	6688
	22											25	4,5	85	
	24											32	4,8	105	
	28											32	4,8	105	
	30											36	5,4	110	
73239	32	38	100	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.



Subject to technical alterations.

No. 6497G

Stable clamping jaws, closed

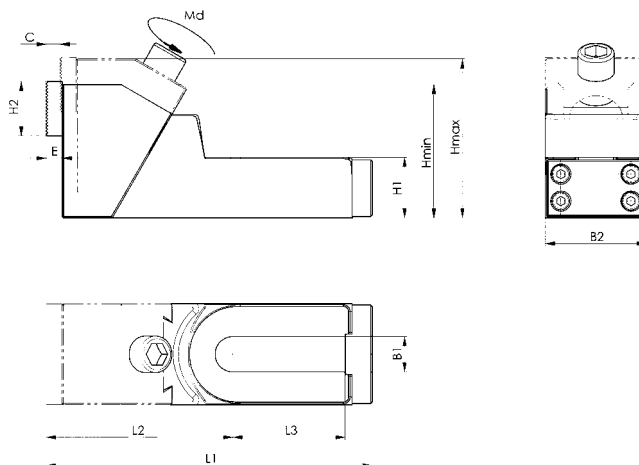
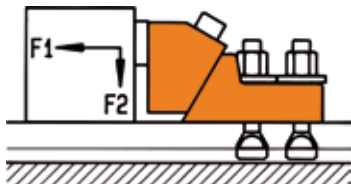
Reversible jaw plates. High type, with precise Vee-guide. Body of malleable cast iron. Jaws of steel, case hardened. Jaws reversible, plain face for machined work, ribbed face for rough work. Closed groove for use on vertical turning and boring machines.



Order no.	Slot	Ø1	Ø2	Ø3	Ø4	H min.	H max.	H1	H2	Ø1	Ø2	Ø3	Ø1Ø2 [kN]	Ø2Ø3 [kN]	Md [Nm]	Weight [g]
376426	12	18	65	8	12	85	118	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	7020
	22												25	4,5	85	
	24												32	4,8	105	
	28												32	4,8	105	
	30												36	5,4	125	
376467	32	38	80	15	12	120	145	56	40	283	158,0	105	50	7,5	170	12150
	36															
	42															

Application:

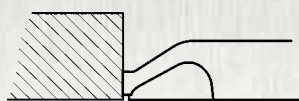
Due to their large clamping faces these clamping jaws are suitable for lateral clamping of high workpieces. For fastening on the machine table we recommend the use of 2 clamping screws related to T-slot size in use, 2 T-slot bolts DIN 913 for each clamp should be ordered separately.



CLAMPING WITH HORIZONTAL PRESSURE:

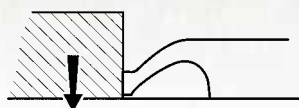
Fastening the horizontal clamp with screws is sufficient to hold and clamp the workpiece. The active part of the clamp consists of three elements - one rigid and two flexible parts

A workpiece is clamped in 3 steps:



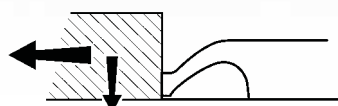
Contact:

The flexible clamp elements are positioned against the workpiece.



Hold:

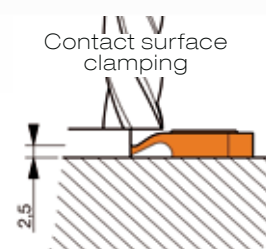
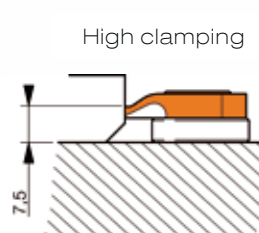
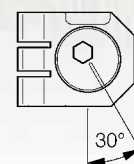
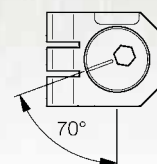
The flexible clamp elements push the workpiece down until it comes into contact with the rigid clamping fingers.



Clamping and positioning:

The rigid clamping finger clamps the workpiece.

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



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

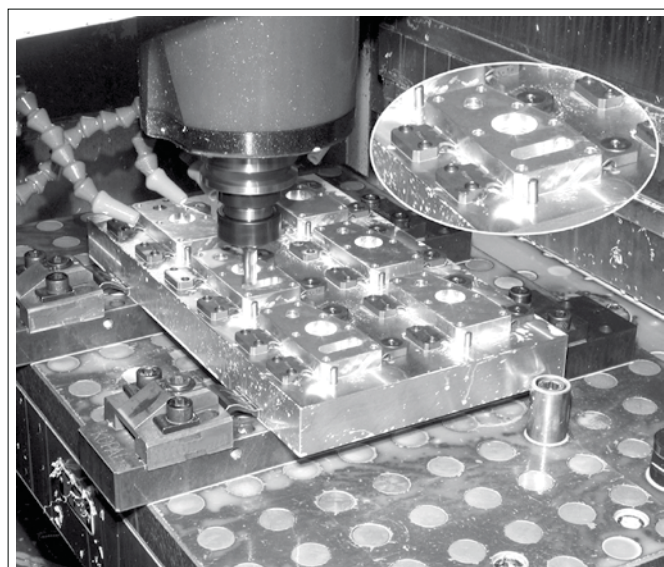
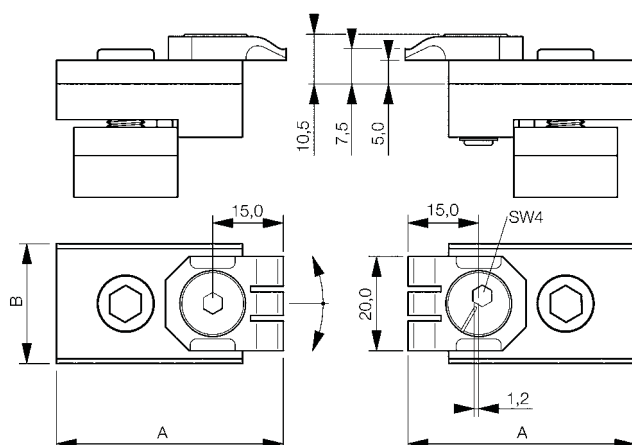
No. 6493N

Flat clamp for slotted table, horizontal

consisting of one clamping element and one stop.



Order no.	Slot	Clamping force [N]	Clamping height [mm]	Stroke	W	L	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	180



Subject to technical alterations.

No. 6493SP

Clamping element, horizontal



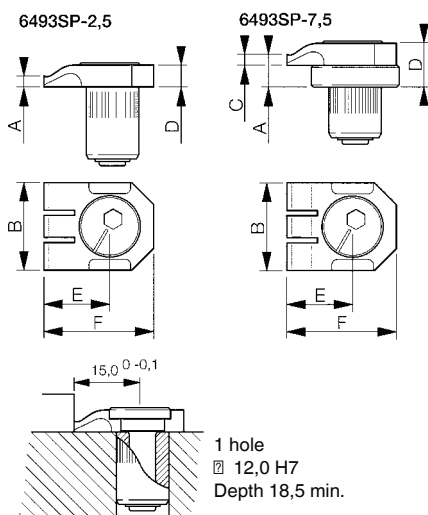
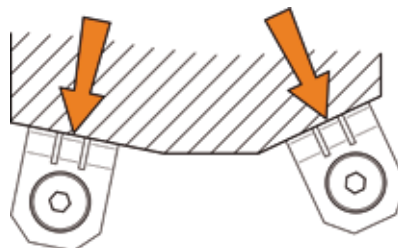
Order no.	Clamping force [N]	Clamping height [mm]	Ø	Ø	D	Ø	Ø	Weight [g]
70680	4000	2,5	20	-	5	15	25	2
70698	4000	7,5	20	2,5	10	15	25	2

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 rigid stop enables the workpiece to lie flush with the stops.



No. 6493S

Stop, pivoting

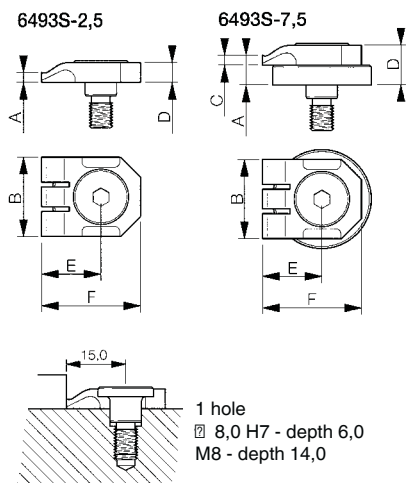
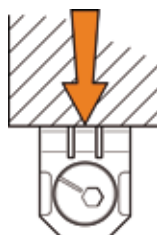
the rigid, ground, pivoting stops are secured by special screws that guarantee high accuracy during installation.



Order no.	Clamping height [mm]	Ø	Ø	D	Ø	Ø	Weight [g]
71142	2,5	20	-	5	15	25	1
71241	7,5	20	2,5	10	15	25	1

Application:

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



No. 6493F

Stop, fixed

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

Side 1 - Simple stop

Side 2 - Double stop

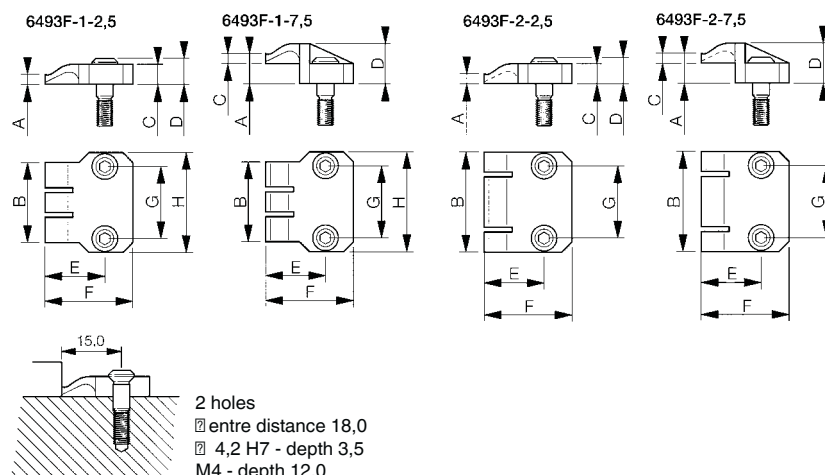
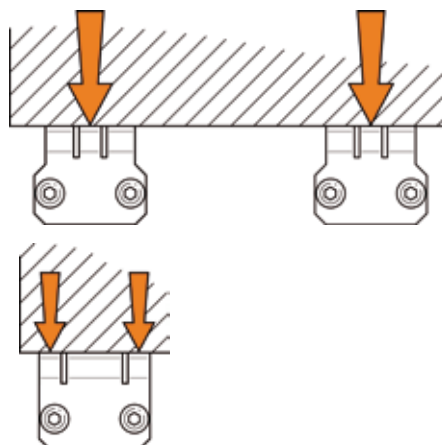


Order no.	Side	Clamping height [mm]	B	B1	D	E	F	G	H	Weight [g]
70987	1	2,5	20	5,0	6,5	15	22	18	25	23
70995	1	7,5	20	2,5	10,0	15	22	18	25	23
71001	2	2,5	25	5,0	6,5	15	22	18	-	23
71019	2	7,5	25	2,5	10,0	15	22	18	-	23

Application:

Side 1 - Single stop B1 rigid stop Two stops are required to position a workpiece along a straight line.

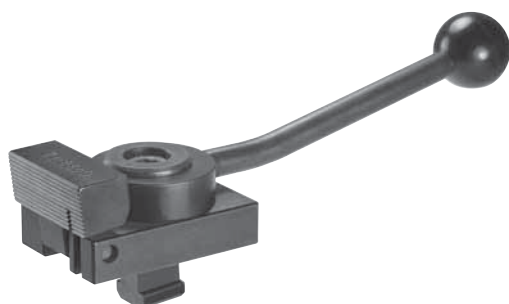
Side 2 - Double stop B2 rigid stops B1 one stop is sufficient to position a workpiece along a straight line.



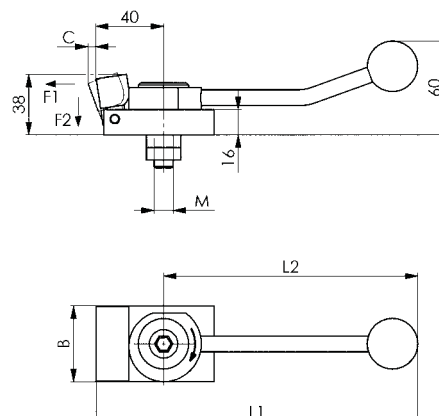
No. 6499

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	Ø	Ø	Ø1	Ø2	M	Ø1 [kØ]	Ø2 [kØ]	Weight [g]
73163	12	48	4	200	160	M10	Ø	0,6	840
73171	14	48	4	200	160	M12	Ø	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. [mm]	Lateral compensation per clamp [mm]	Clamping rim height min. for Al-alloy [mm]	Weight [g]
375600	5	18	10,0-11,8	±0,25	10	2150
375667	5	18	11,0-12,8	±0,25	10	2150
375683	5	18	12,0-13,8	±0,25	10	2150
375709	5	18	13,0-14,8	±0,25	10	2250
375725	5	18	14,0-15,8	±0,25	10	2250
375741	5	18	15,0-16,8	±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.
- 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 IS 8734 - 8 mm)

Advantage:

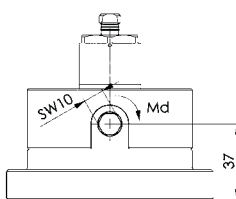
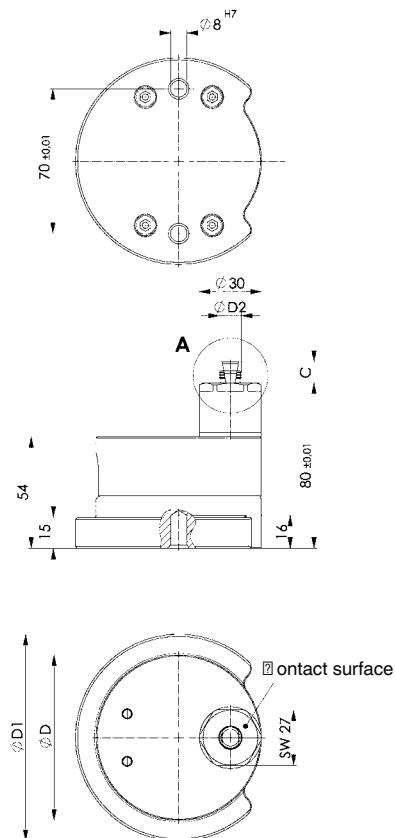
- All parts are made of tempered steel. All components are plasma-nitrided and are hence very resistant to wear and corrosion.
- Two-part clamping segments are interlocked externally.
- Flexible in use thanks to ease of handling and clamping on the machine table.

Note:

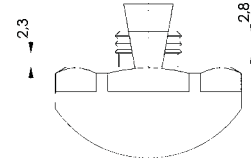
- Please check with us for clamping of hardened workpieces or workpieces made of Al.
- The radial force must be observed.
- The lateral force when positioning the workpiece must not exceed the lateral force specified in the table.
- The clamping jaws for the machine vices can be used for clamping on the machine table (order no. 6325, order no. 74682, 373878)

On request:

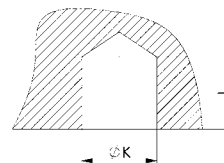
Other sizes and special versions without pull-down and as support elements.



A (2 : 1)



Clamping hole in workpiece



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]	D	D1	D2
375600	2,8	27	1,5	22	100	10,5	80	100
375667	2,8	27	1,5	22	110	10,5	80	100
375683	3,0	27	1,5	22	130	10,5	80	100
375709	3,0	27	1,5	22	160	10,5	80	100
375725	3,5	27	1,5	22	200	10,5	80	100
375741	3,5	27	1,5	22	250	10,5	80	100

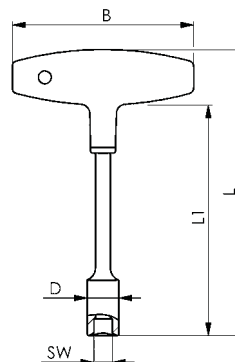
No. 916Q

Hexagon socket spanner with T-grip

Socket H₂ M₂-D₂ M, hardened and matt chrom-plated.

rip Impact-resistant plastic cadmium-free

Order no.	SW	Ø1	Ø2	D	Ø	Weight [g]
44271	10	125	100	14	155	120
44206	10	230	100	14	260	160

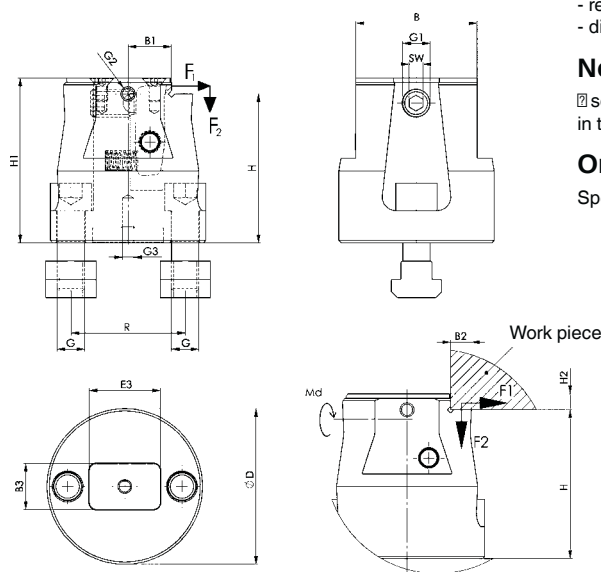


Subject to technical alterations.

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	Ø1 [mm]	Ø2 [mm]	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	5226

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 6488T, the side clamp can also be placed across the table groove. In conjunction with round base plate no. 6488, 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:

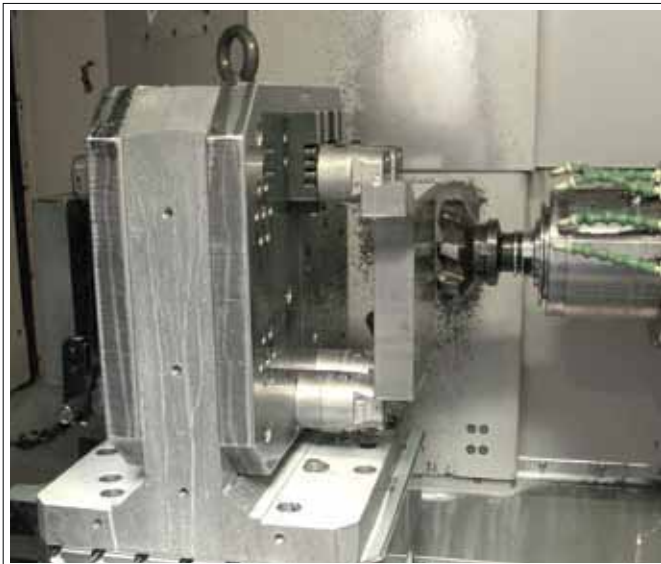
Use of a flat sliding block no. 6322 or no. 6322 enables the side clamp to be accurately positioned in the machine table groove.

On request:

Special versions dimension H ±0.01 are available.

Dimensions:

Order no.	Size	Ø	Ø1	Ø2	Ø3	D Ø2	Ø3	Ø	Ø1	Ø2	Ø3	H1	H2	Ø	SW
73890	M12x14	53	12,0	12,0	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	75	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	Ø3	D Ø2	Ø3	Ø4	Ø	Ø3	Ø	Weight [g]
73916	M12x14	14	30	20	68	31,0	28,0	M12	M6	50	230
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:

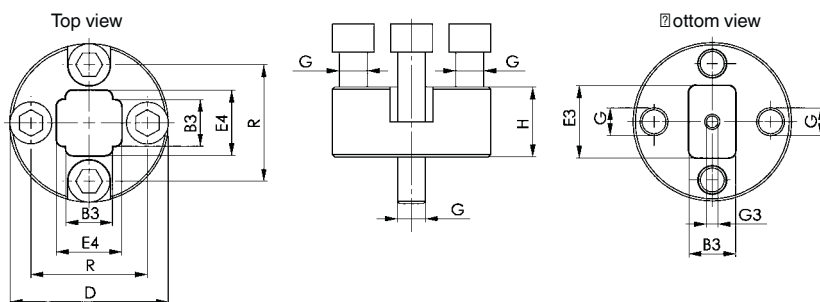
- Simple use of the side clamp when clamping along and across the groove
- Increase in the workpiece mounting surface.

Note:

Use of two flat sliding blocks no. 6322 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. 6322 or no. 6322.

On request:

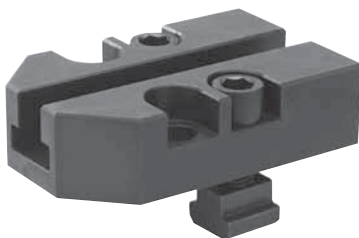
Special versions dimension H ±0.01 are available.



No. 6498FT

Base plate

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



Order no.	Size	Slot	H ±0,1	Ø	Ø1	Ø2	Ø	Ø	Ø	Weight [g]
73908	M12x14	14	30	70	40	65	M12	110	50	1330
375543	M16x18	18	50	125	40	Ø0	M16	130	100	4864
374397	M20x24	24	60	120	75	150	M20	200	85	7614

Application:

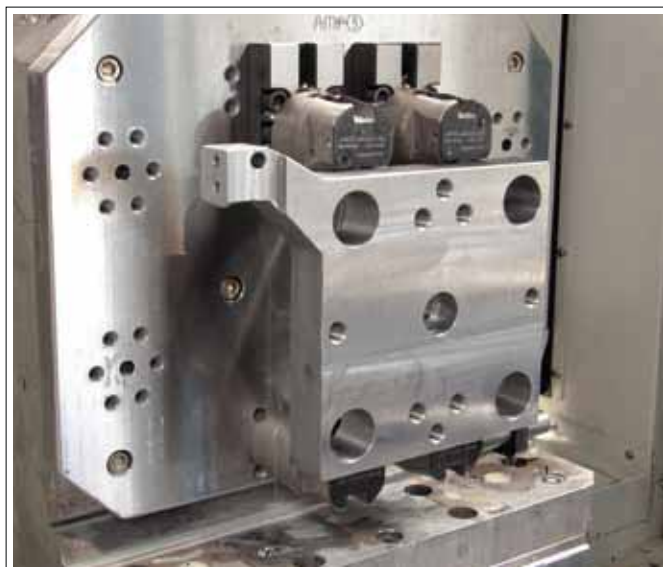
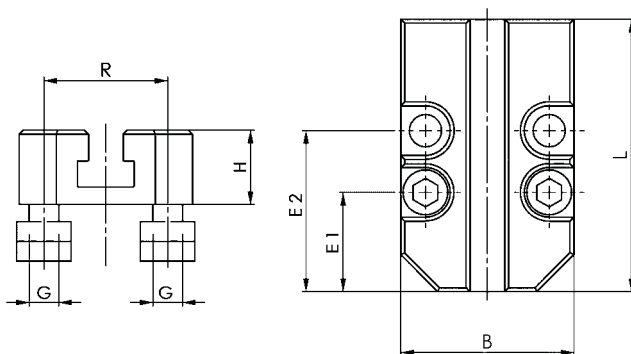
Used in conjunction with side clamp no. 6498 to also clamp across the table groove.

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.



Subject to technical alterations.

No. 6495

T-slot clamp

complete with mounting.
Steel, tempered and burnished.



Order no.	Size	Slot	Ø1 [kØ]	Ø2 [kØ]	H2	SW [mm]	Weight [g]
374140	12	14	7	3,5	10	5	Ø1
374132	16	18	10	5,0	12	6	188
374124	20	22	16	8,0	15	8	363

Application:

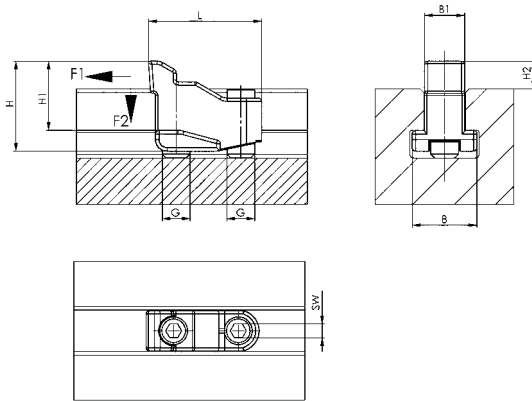
1. Slide T-slot clamp into T-slot of the machine table.
2. Position on workpiece.
3. Secure fastening bolt for machine table.
4. Actuating the clamping bolt clamps the workpiece.

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 M screw compound o. 633. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.



Dimensions:

Order no.	Size	Ø	Ø1	Ø	H	H1	Ø
374140	12	22	13,6	M10	31	24	40
374132	16	28	17,4	M12	37	30	47
374124	20	35	21,5	M16	50	37	63

No. 6495S

Fastening bolt for T-slot clamp

Strength class 10.9



Order no.	Size	Ø	Ø	SW [mm]	Weight [g]
79186	12	M10	25	5	14
78907	16	M12	30	6	24
77834	20	M16	40	8	57

No. 6496

Flat clamp

Complete with mounting.
Steel, tempered and burnished.



Order no.	Size	Slot	Ø	Ø1 [kØ]	Ø2 [kØ]	H min.	H max.	Weight [g]
374157	M12x14	14	M12	15	7,5	16	25	57
374165	M12x16	16	M12	15	7,5	16	25	600
374173	M16x18	18	M16	20	10,0	1	30	1011
374181	M16x20	20	M16	20	10,0	1	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:

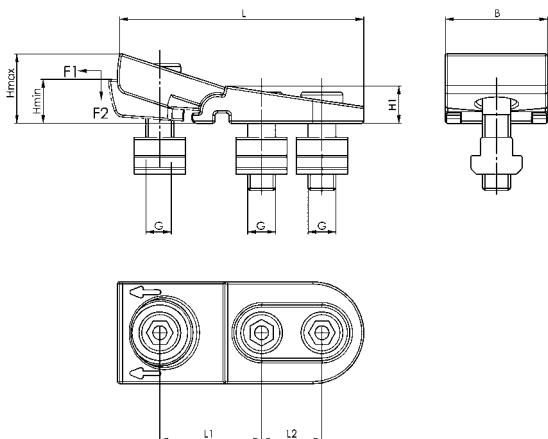
- Slide flat clamp into T-groove of the machine table.
- Position on workpiece.
- Secure fastening bolts for machine table.
- Actuating the clamping bolt clamps the workpiece.

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 M screw compound o. 633. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.



Dimensions:

Order no.	Size	Ø	H1	Ø	Ø1	Ø2
374157	M12x14	44	16	110	45-48	26
374165	M12x16	44	16	110	45-48	26
374173	M16x18	56	1	130	50-54	33
374181	M16x20	56	1	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 D 612 hexagonal bolts, 3 D 508 T-groove nuts and 1 D 631 spherical washer.



Order no.	Size	Slot	Ø	Ø	SW [mm]	Weight [g]
313379	M12x14	14	M12	30	10	4
313395	M12x16	16	M12	35	10	56
313411	M16x18	18	M16	35	14	10
313437	M16x20	20	M16	40	14	104
313452	M20x22	22	M20	45	17	177
313478	M20x24	24	M20	45	17	18
313494	M20x28	28	M20	55	17	228

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.

Main parallel, fine-ground, in pairs.

See data on the product.

Case-hardened.

Air 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 - 100 mm

8 - 63 mm over 40 different heights 8 - 113 mm

20 - 100 mm over 14 different heights 20 - 180 mm.



Order no.	Size	Air	Case x x x H	Weight [g]
72322	2,5-25	7	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	122x158x 75	4,0

Note:

Workshop sets

Size 2.5-25 including 1xHx1x1

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

Size 4.0-40 including 1xHx1x1

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

Size 8.0-63 including 1xHx1x1

8.0x25x100 10.0x32x100 12.0x40x100 16.0x50x160 20.0x63x160 mm

Size 20-100 including 1xHx1x1

20.0x63x250 25.0x80x250 32.0x100x250 mm

Ice sets

Size 4.0-32 including 1xHx1x1

4.0x12x100 5.0x16x100 6.3x20x100 8.0x25x100 10.0x32x100 mm

Size 8.0-50 including 1xHx1x1

8.0x25x160 10.0x32x160 12.0x40x160 16.0x50x160 mm

DIN 6346P

Parallel supports-pairs

Main parallel, fine-ground, in pairs.

See data on the product.

Case-hardened.

Air tolerance in height tp2 and width tp1 to IT 5.

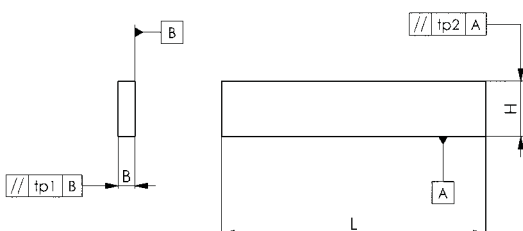
Rated dimensional tolerance in height and width to

DIN ISO 2768m.

Remaining dimensions to DIN ISO 2768m.



Order no.	W	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	4050
72306	25,0	80	250	7000
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.

▣ lain parallel, fine-ground, in pairs.

See data on the product.

▣ ase-hardened.

▣ air tolerance tp at height 0.004 mm.

▣ ated dimensional tolerance in height ± 0.004 mm.

▣ emaining dimensions to DIN ISO 2768m.



Order no.	▣ air	▣	Weight [g]
84095	14	150	10,▣

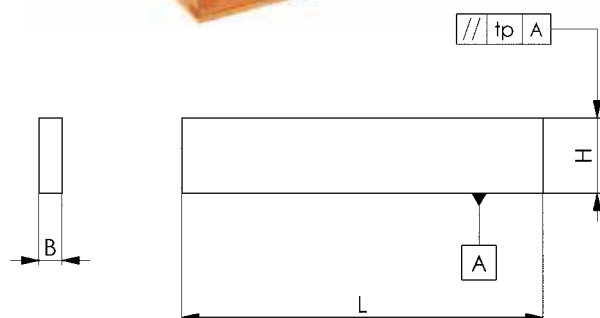
Design:

1 pair each ▣ 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.

▣ lain parallel, fine-ground, in pairs.

See data on the product.

▣ ase-hardened.

▣ air tolerance tp at height 0.01 mm.

▣ ated dimensional tolerance in height ± 0.01 mm.

▣ emaining dimensions to DIN ISO 2768m.



Order no.	▣ air	▣	Weight [g]
370965	14	150	10,▣

No. 6347S

Parallel supports-set, standard

In wooden box with detachable folding lid.

▣ lain parallel, fine-ground, in pairs.

See data on the product.

▣ ase-hardened.

▣ air tolerance tp at height 0.01 mm.

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

▣ emaining dimensions to DIN ISO 2768m.



Order no.	▣ air	▣	Weight [g]
83980	14	150	10,▣

No. 6347PSP

Parallel supports-pairs, super-precision

Plain parallel, fine-ground, in pairs.

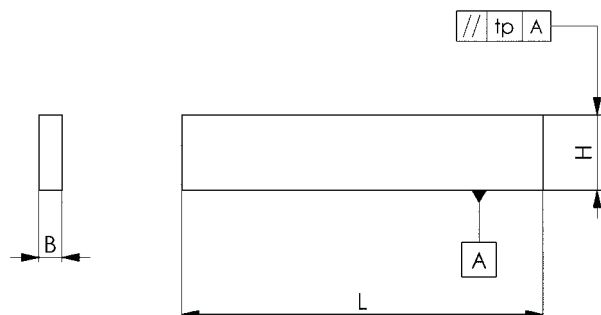
See data on the product.

Case-hardened.

Air tolerance t_p 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	1040
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.

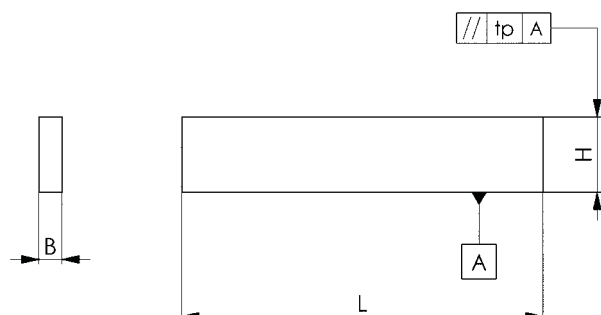
See data on the product.

Case-hardened.

Air tolerance t_p 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	1040
370809	10	45	150	1060
370817	10	50	150	1180

Application:

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

No. 6347PS

Parallel supports-pairs, standard

▣ lain parallel, fine-ground, in pairs.

▣ e data on the product.

▣ ase-hardened.

▣ air tolerance tp at height 0.01 mm.

▣ ated dimensional tolerance in height and width to

DIN ISO 2768m.

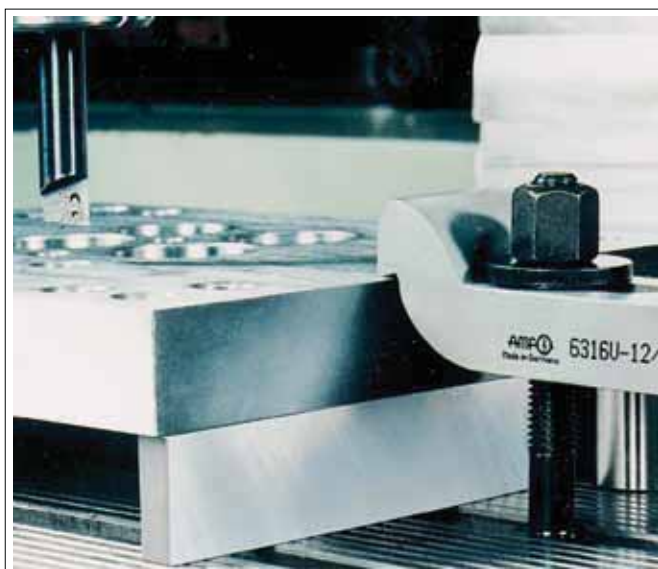
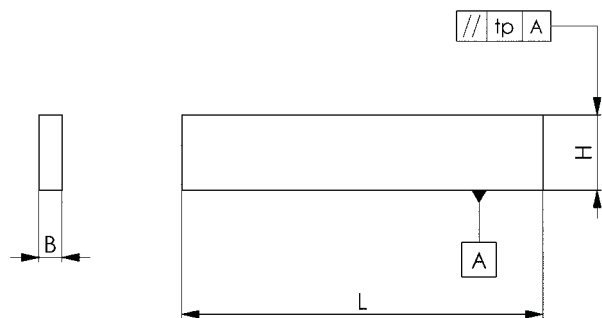
▣ emaining dimensions to DIN ISO 2768m.



Order no.	▣	H	▣	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	▣40
370940	10	45	150	1060
370957	10	50	150	1180

Application:

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



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.

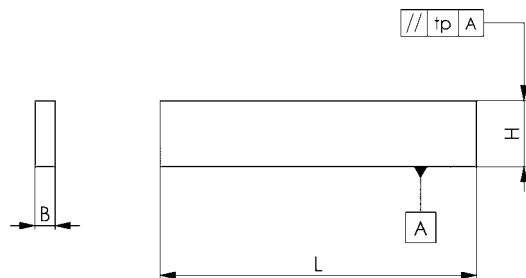
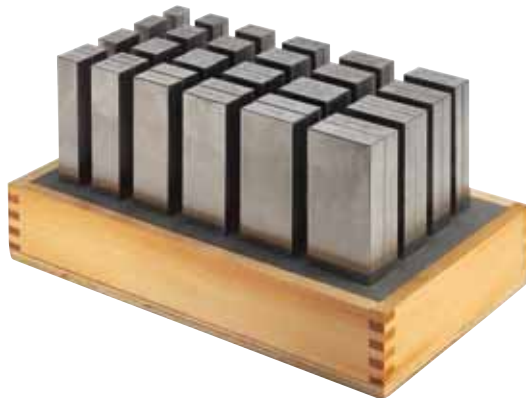
Sets offer a large range with 1 mm graduation.

Case-hardened.

Air 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		Weight [g]
75606	100	20	100	11
75614	125	24	125	14
75648	150	24	150	17

Design:

Size 100, 1 pair each $100 \times H$

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

Size 125, 1 pair each $125 \times H$

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 $150 \times H$

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.

Air tolerance tp at height IT 5.

Rated dimensional tolerance in height ± 0.01 mm.

Remaining dimensions to DIN ISO 2768m.



Order no.	Size	Pair		Weight [g]
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.

Air 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		Weight [g]
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

▣ lain parallel, fine-ground, in pairs.

▣ e data on front of product.

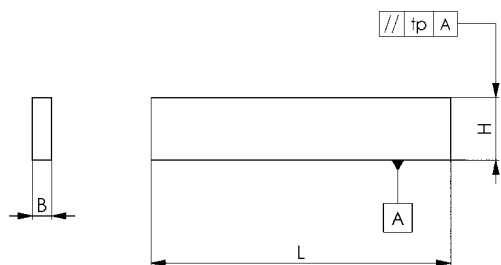
Sets offer a large range with 1 mm graduation.

▣ ase-hardened.

▣ air tolerance tp at height IT 5.

▣ ated dimensional tolerance in height and width ± 0.01 mm.

▣ emaining dimensions to DIN IS 2768m.



Order no.	▣	H	▣	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	108
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	172
370163	6	▣	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.

No. 6348PSP

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

▣ lain parallel, fine-ground, in pairs.

▣ e data on front of product.

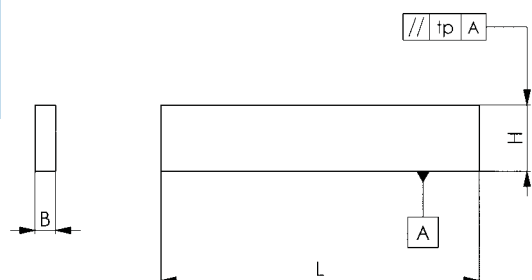
Sets offer a large range with 1 mm graduation.

▣ ase-hardened.

▣ air tolerance tp at height IT 5.

▣ ated dimensional tolerance in height and width ± 0.01 mm.

▣ emaining dimensions to DIN IS 2768m.



Order no.	▣	H	▣	Weight [g]
370205	8	11	125	171
370213	8	16	125	242
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	572
370403	14	27	125	684
370411	14	32	125	791
370429	14	37	125	902
370437	14	42	125	1144

Application:

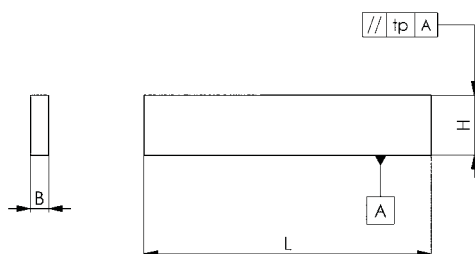
These documents are used as washers for workpieces exposed to diverse machining processes. The high precision of the parallel washers guarantees parallel workpiece clamping.

No. 6348PSP

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

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

Air tolerance tp at height IT 5.
Mated 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	235
370460	8	21	150	382
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	642
370544	10	33	150	768
370551	10	38	150	884
370569	12	15	150	416
370577	12	20	150	556
370585	12	25	150	624
370593	12	30	150	835
370601	12	35	150	774
370619	12	40	150	1113
370627	14	17	150	550
370635	14	22	150	714
370643	14	27	150	872
370650	14	32	150	1040
370668	14	37	150	1203
370676	14	42	150	1362

Application:

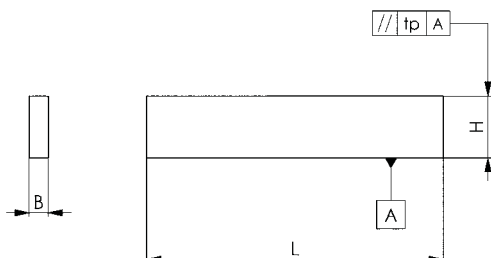
These documents are used as washers for workpieces exposed to diverse machining processes. The high precision of the parallel washers guarantees parallel workpiece clamping.

No. 6348PP

Parallel supports-pairs, precision, 100 mm long

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

Air tolerance tp at height IT 5.
Mated 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	172
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.

No. 6348PP

Parallel supports-pairs, precision, 125 mm long

Plain parallel, fine-ground, in pairs.

See data on front of product.

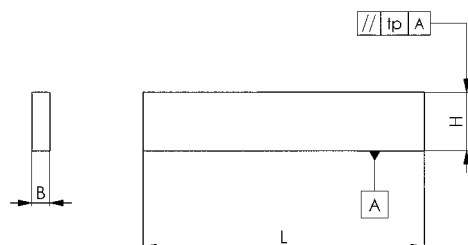
Sets offer a large range with 1 mm graduation.

Case-hardened.

Air tolerance tp at height IT 5.

Rated dimensional tolerance in height ± 0.01 mm.

Remaining dimensions to DIN ISO 2768m.



Order no.	B	H	A	Weight [g]
371328	8	11	125	171
371336	8	16	125	240
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	520
371526	14	27	125	734
371534	14	32	125	871
371542	14	37	125	1000
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.

See data on front of product.

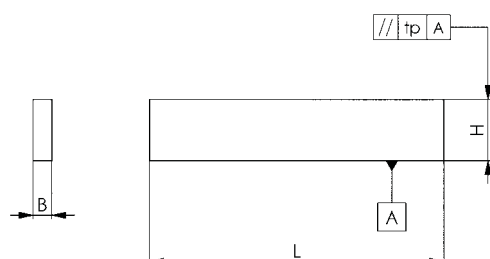
Sets offer a large range with 1 mm graduation.

Case-hardened.

Air tolerance tp at height IT 5.

Rated dimensional tolerance in height ± 0.01 mm.

Remaining dimensions to DIN ISO 2768m.



Order no.	B	H	A	Weight [g]
372243	8	11	150	203
372250	8	16	150	275
372268	8	21	150	380
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	640
372342	10	33	150	768
372359	10	38	150	884
372367	12	15	150	416
372375	12	20	150	556
372383	12	25	150	674
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	870
372458	14	32	150	1040
372466	14	37	150	1203
372474	14	42	150	1360

Application:

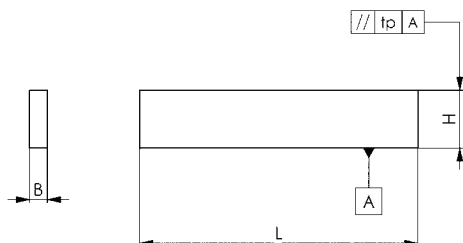
These documents are used as washers for workpieces exposed to diverse machining processes.

No. 6348PS

Parallel supports-pairs, standard, 100 mm long

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

Air 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	A	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	177
371963	6	9	100	84
371971	6	14	100	131
371989	6	19	100	178
371997	6	24	100	224

Application:

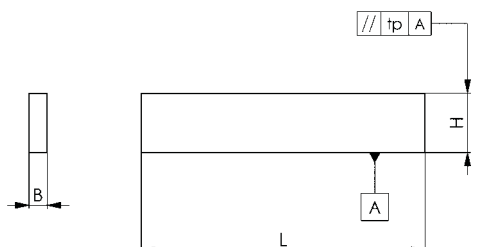
These documents are used as washers for workpieces exposed to diverse machining processes.

No. 6348PS

Parallel supports-pairs, standard, 125 mm long

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

Air 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	A	Weight [g]
372003	8	11	125	171
372011	8	16	125	247
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	597
372201	14	27	125	734
372219	14	32	125	871
372227	14	37	125	1007
372235	14	42	125	1144

Application:

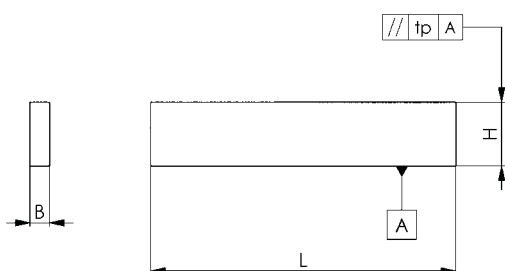
These documents are used as washers for workpieces exposed to diverse machining processes.

No. 6348PS

Parallel supports-pairs, standard, 150 mm long

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

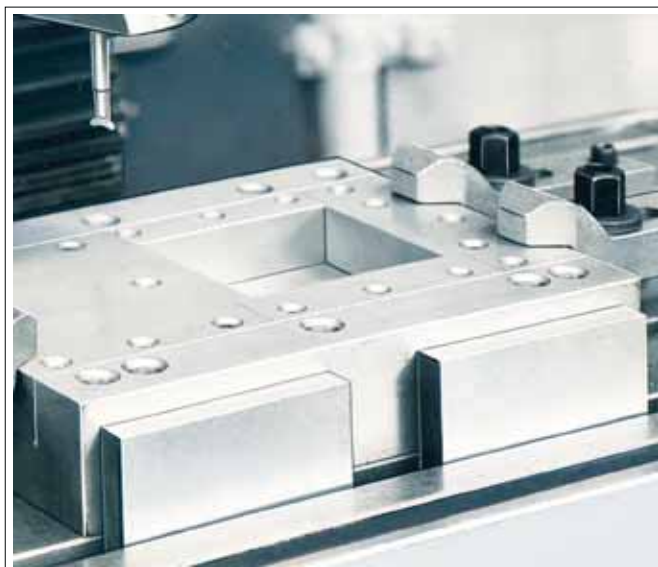
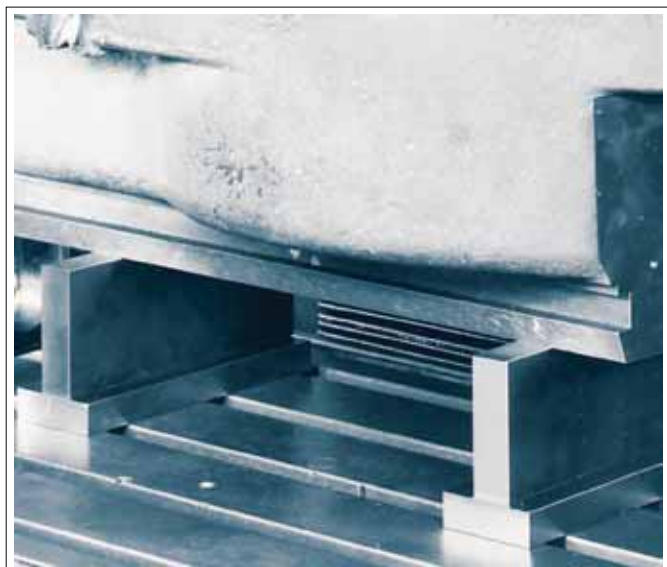
Air tolerance tp at height IT 5.
Rated dimensional tolerance in height and width to DIN ISO 2768m.
Remaining dimensions to DIN ISO 2768m.



Order no.	B	H	L	Weight [g]
371567	8	11	150	203
371575	8	16	150	225
371583	8	21	150	382
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	642
371666	10	33	150	768
371674	10	38	150	884
371682	12	15	150	416
371690	12	20	150	556
371708	12	25	150	624
371716	12	30	150	835
371724	12	35	150	774
371732	12	40	150	1113
371740	14	17	150	550
371757	14	22	150	714
371765	14	27	150	872
371773	14	32	150	1040
371781	14	37	150	1203
371799	14	42	150	1362

Application:

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



Subject to technical alterations.

No. 6349PP

Parallel supports-pairs, precision

Plain parallel, fine-ground, in pairs.

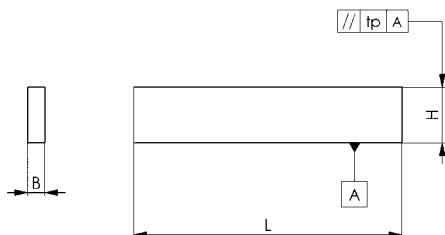
See data on the product.

Hardened.

Surface tolerance tp at height IT 5.

Rated dimensional tolerance in height ± 0.01 mm.

Remaining dimensions to DIN ISO 2768m.



Order no.	Ø	H	Ø	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.

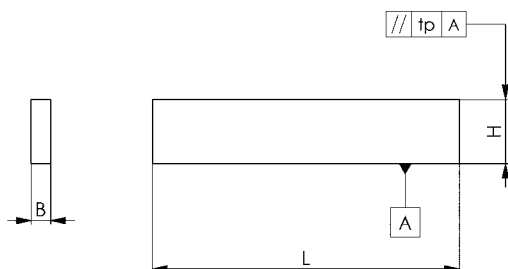
Plain parallel, fine-ground, in pairs.

See data on the product.

Air tolerance tp at height IT 5.

Rated dimensional tolerance in height ± 0.01 mm.

Remaining dimensions to DIN ISO 2768m.



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

Design:

Size 24, 1 pair each Q 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 Q 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.

Air tolerance tp at height IT 5.

Rated dimension tolerance at height ± 0.004 mm.

Remaining dimensions to DIN ISO 2768m.



Order no.	Size	Pair	Q	Weight [g]
372821	23	8	110	450
372839	25-37	8	110	470

Design:

Size 23, 1 pair each Q x H

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

Size 25-37, 1 pair each Q 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:

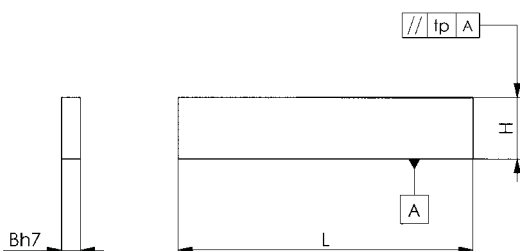
- no swarf remains on the mounting surface
- parallelism of the clamped workpiece is not affected
- several flat or single thin workpieces can easily be clamped.

No. 6350

Parallel stops in pairs

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

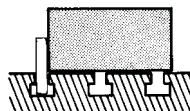
- Air tolerance t_p at height IT 5.
- Rated dimensional tolerance in height IS 2768m.
- Rated dimensional tolerance in width h7.
- Remaining dimensions to DIN IS 2768m.



Order no.	$\square$	H	$\square$	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

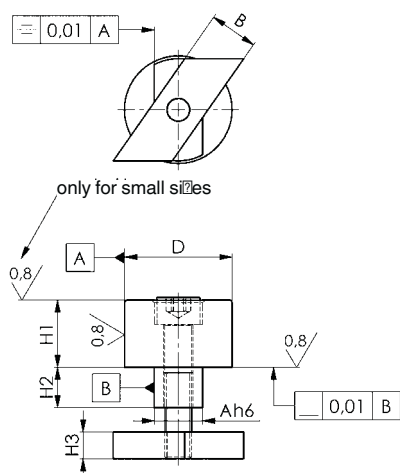
case hardened and ground. The short version, ground to ± 0.01 mm tolerance in height can be used as support.



Order no.	Slot	$\square$ h6	$\square$ -0.6	D ± 0.01	H1 ± 0.01 short	H1 ± 0.2 long	H2	H3	Screw IS 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	-	$\square$	8	M8x35	200
75218	14	0-0,011	14	32	-	50	$\square$	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	M12x $\square$ 0	$\square$ 50

On request:

Further sizes available.

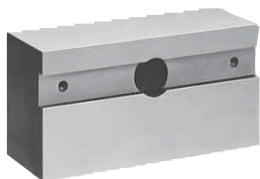


Subject to technical alterations.

No. 6351

Parallel stop, single

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

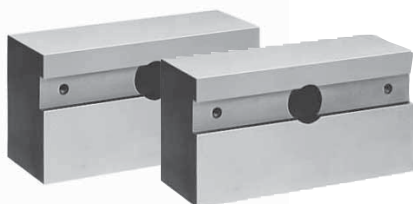


Order no.	Slot	B	H	D	suitable bolt combination DIN 508, IS 4762, DIN 6340, DIN 787 compl.	Weight [g]	
74369	10-24	60	40	30	125	M10x10-M20x24	1,6
74377	12-36	80	55	60	160	M12x12-M24x36	5,7
74385	12-36	100	75	100	160	M12x12-M24x36	12,1

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	H	D	suitable bolt combination DIN 508, IS 4762, DIN 6340, DIN 787 compl.	Weight [g]	
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:

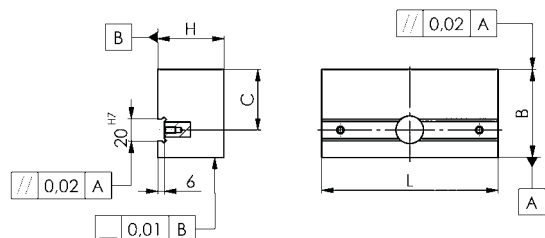
Parallel stops are the ideal setting elements for medium and large sized machines. Fixed type blocks 6322 and sliding blocks DIN 6323 fit the 20H7 slots of the parallel stop. Combinations with the various precision blocks allow use on tables with different slot sizes.

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 6330 and washers DIN 6340 or

2) Allen bolts IS 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 ±30°



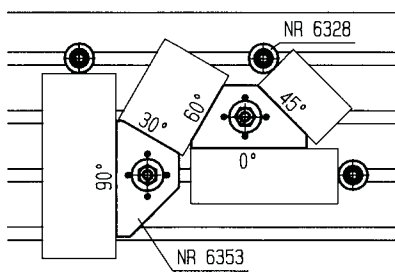
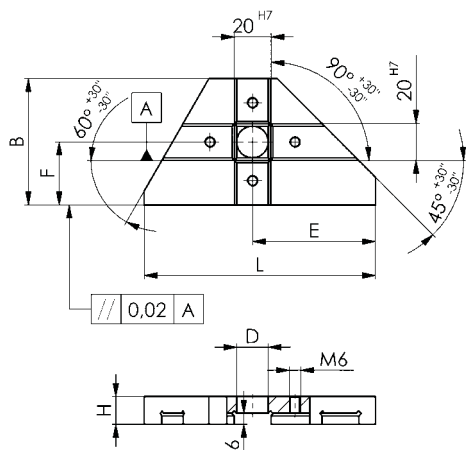
Order no.	Size	Slot	⌀	D	⌀	⌀	H	⌀	Weight [g]
74450	125	10-20	68	17	66,5	34	15	125	550
74468	200	12-36	88	25	100.0	40	20	200	1000

Application:

Fixed type tenons no. 6322 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 IS 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.



No. 6355V

Prismatic clamping block, single

case hardened and ground



Order no.	Size	□	D	□ ±0.01	□	□ 1	□ 2	H1 ±0.014	H2	□1	□2	□3	Weight [g]
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

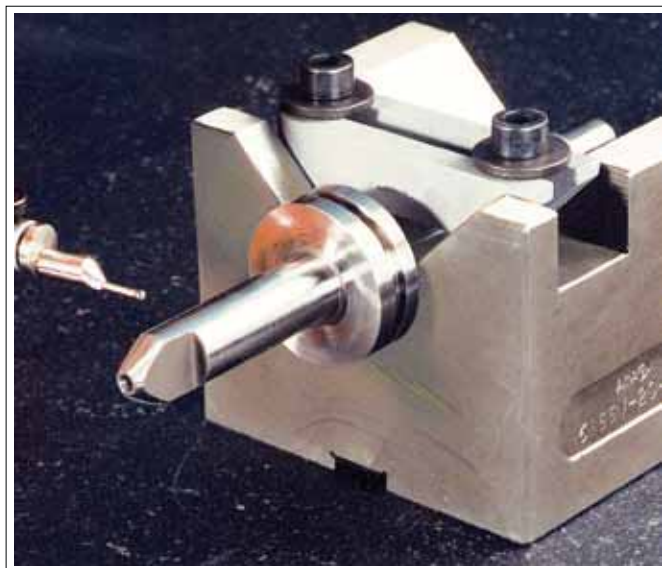
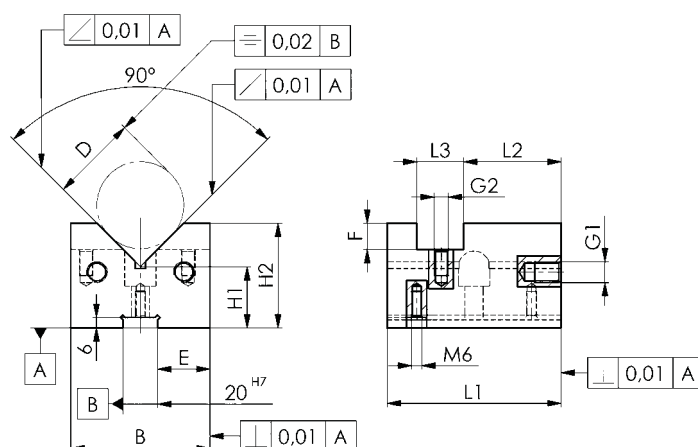
case hardened and ground



Order no.	Size	□	D	□ ±0.01	□	□ 1	□ 2	H1 ±0.014	H2	□1	□2	□3	Weight [g]
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

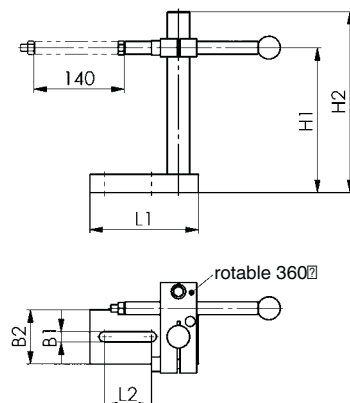
with hexagon key.
Tempering steel



Order no.	Side	Slot	Ø 1	Ø 2	H1	H2	Ø 1	Ø 2	Weight [g]
75655	2	10, 12, 14, 16, 18	11	60	30-1Ø0	200	120	52	2450
75663	3	16, 18, 20, 22, 24, 28	17	80	30-1Ø0	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

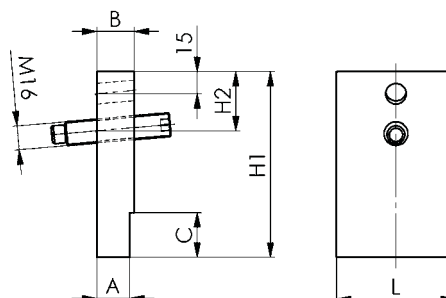
Tempering steel blued, with 2 threaded holes M16 for 2 positions. Set screw D15 M16x80.



Order no.	Slot	Ø	Ø	H1	H2	Ø	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	1Ø20
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 underside and locks the workpiece against the parallel stop, e.g. no. 6351.



DIN 6323

Loose type tenons

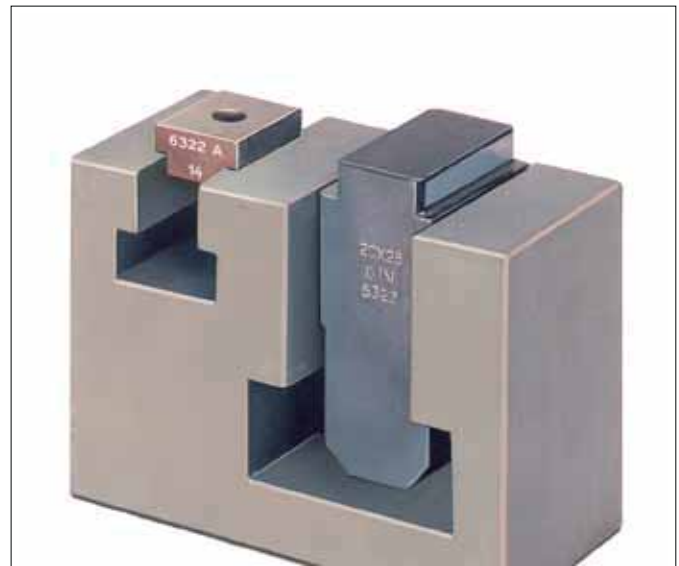
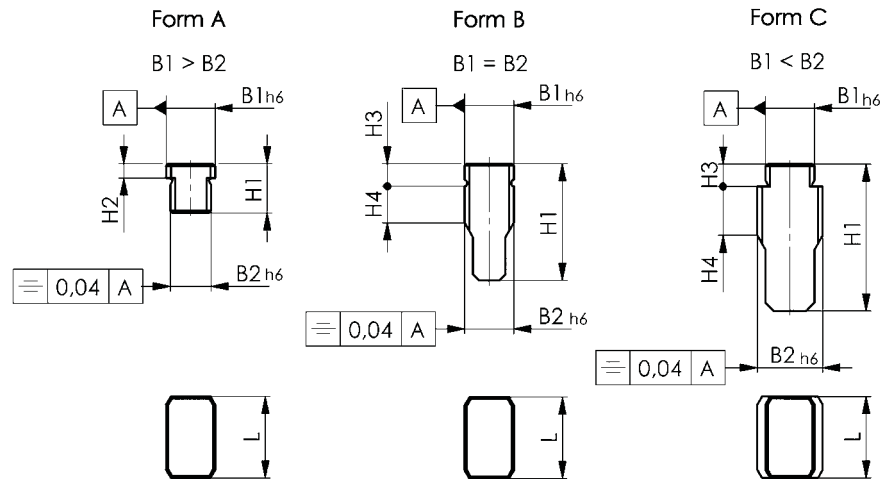
Steel S 15, case hardened and ground.



Order no.	Nominal width of T-slot on fixture B1	Nominal width of T-slot on machine S 2	Form	H1	H2	H3	H4	S	Weight [g]
71811	12	10	S	12,0	3,6	-	-	20	20
71829	12	12	S	28,6	-	5,5	S	20	45
71837	20	12	S	14,0	5,5	-	-	32	50
71845	20	14	S	14,0	5,5	-	-	32	55
71852	20	16	S	14,0	5,5	-	-	32	60
71860	20	18	S	14,0	5,5	-	-	32	65
71878	20	20	S	45,5	-	7	16	32	200
71886	20	22	S	50,5	-	7	18	40	270
71894	20	24	S	55,5	-	7	20	40	350
71902	20	28	S	61,5	-	7	24	40	460
71910	20	36	S	76,5	-	7	30	50	740

Application:

After rough alignment of fixture, the tenons DIN 6323 are pushed into T-slot from the side. No protruding 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

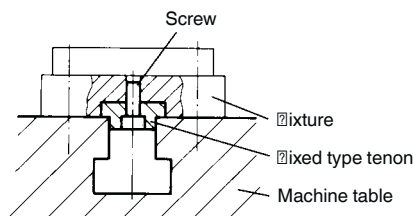
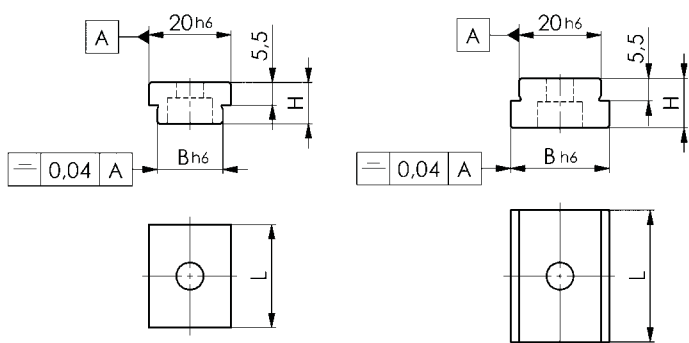
Previously DIN 6322 developed 1957
15 case-hardened.



Order no.	Nominal width of T-slot on machine	Nominal width of T-slot on fixture	H		Screw DIN 84 or ISO 4762	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

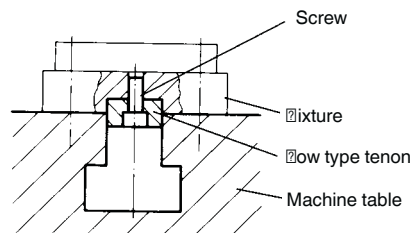
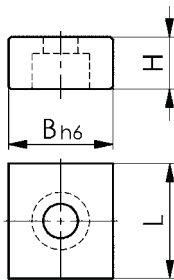
Steel 15, case hardened and ground.



Order no.		H		Screw DIN 84 or ISO 4762	Weight [g]
71696	10	8	20	M4x10	15
71704	12	8	20	M5x12	17
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.



No. 6600

Eccentric clamp with end clamping

hardened and burnished.

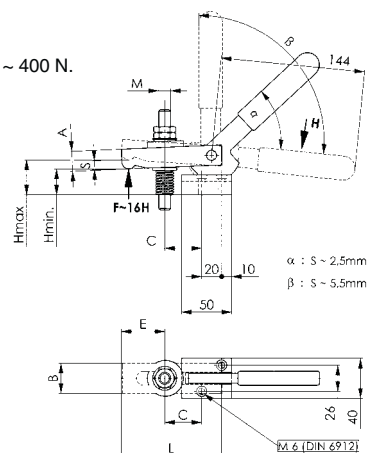


Order no.	Size	H min.	H max.	2	2	2	2	2	M	Weight [g]
73502	1	26	35	20	30	37	21-43	100	M12	1000
73510	2	26	35	20	40	45	34-66	125	M16	1400

Eccentric clamps are useful for specialized fixtures.

Note:

Actuation by hand - hand force ~ 400 N.



No. 6601

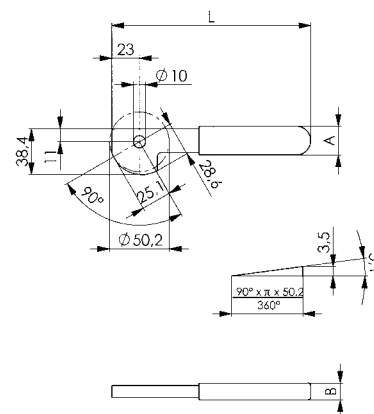
Eccentric lever, loose

for end clamping

part of 6600



Order no.	2	2	2	Weight [g]
73569	24	14	167	300



No. 6610

Eccentric clamp with middle clamping

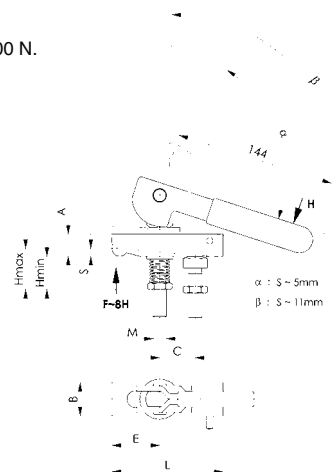
hardened and burnished, lever plastic coated.



Order no.	Size	H min.	H max.	2	2	2	2	2	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.



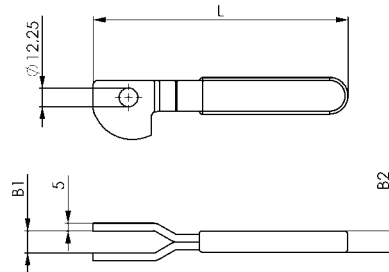
Subject to technical alterations.

No. 6611

Eccentric lever, loose

for middle clamping
part of 6610

Order no.	1	2		Weight [g]
73676	14	14	167	310

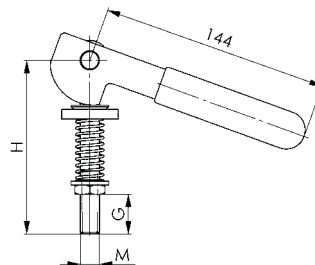


No. 6612

Eccentric lever with eye bolt

part of 6610

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



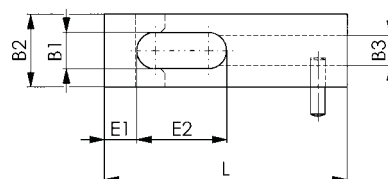
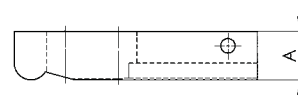
Subject to technical alterations.

No. 6614

Clamp with dowel

Part of 6610

Order no.	Size	Ø	Ø1	Ø2	Ø3	Ø1	Ø2	Ø	Weight [g]
74526	1	20	15	30	12,5	13,5	37	100	350
74534	2	20	18	40	12,5	24,5	51	125	500

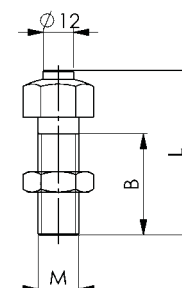


No. 6616

Set screw with nut

Part of 6610

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



No. 6383ZEK

Centering tensioner

with flat-faced ball.

Repeatability ± 0.025 mm

Rotational accuracy $\pm 0,050$ mm



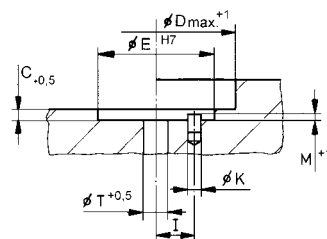
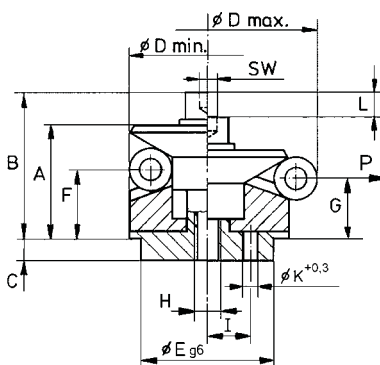
Order no.	D min.	D max.	Tightening torque [Nm]	SW	∇ [kN]	Weight [g]
373357	11,7	14,2	1,5	2,5	0,5	18
373365	14,5	18,5	3,7	3	3,5	20
373373	18,5	22,5	4,0	4	4,5	30
373381	22,5	26,5	8,5	5	5,0	60
373399	26,5	30,5	8,5	5	5,0	86
373407	30,5	38,5	8,5	5	5,0	125
373415	38,5	46,5	20,6	6	6,5	233
373423	46,5	54,5	20,6	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.	∇	∇	∇	∇ g6	∇	∇	H	I $\pm 0,1$	∇	∇	M	∇	∇ D	T
373357	12,0	15,5	3,5	10	2,2	8,6	M3	3,5	1,5	1,5	2,5	3	2,5	3,3
373365	14,1	18,7	5,5	12	2,1	7,0	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	28,1	6,0	15	15,1	13,0	M6	7,0	3,0	2,3	4,0	3	4,0	6,4
373399	20,1	28,1	6,0	20	15,1	13,0	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	10,0	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	10,0	45	23,7	18,0	M10	15,0	5,0	5,3	5,5	6	16,0	10,5
373449	45,6	61,6	10,0	60	28,3	23,6	M12	17,0	5,0	5,3	5,5	6	16,0	13,0
373456	45,6	61,6	10,0	60	28,3	23,6	M12	17,0	5,0	5,3	5,5	6	16,0	13,0

∇ number of balls, ∇ D diameter of the balls

No. 6383ZES

Centering tensioner

With protective segments.

Repeatability ± 0.025 mm

Rotational accuracy ± 0.050 mm



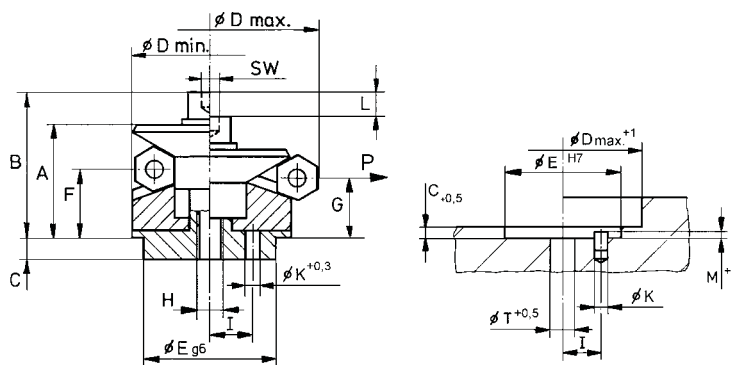
Order no.	D min.	D max.	Tightening torque [Nm]	SW	$\square$ [kg]	Weight [g]
373464	14,5	18,5	3,7	3	3,5	20
373472	18,5	22,5	4,0	4	4,5	30
373480	22,5	26,5	8,5	5	5,0	60
373498	26,5	30,5	8,5	5	5,0	86
373506	30,5	38,5	8,5	5	5,0	125
373514	38,5	46,5	20,6	6	6,5	233
373522	46,5	54,5	20,6	6	6,5	323
373530	54,5	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.	$\square$	$\square$	$\square$	$\square$ g6	$\square$	$\square$	H	I $\pm 0,1$	$\square$	$\square$	M	$\square$	$\square$ D	T
373464	14,1	10,7	5,5	12	0,1	7,0	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	20,1	6,0	15	15,1	13,0	M6	7,0	3,0	2,3	4,0	3	4	6,4
373498	20,1	20,1	6,0	20	15,1	13,0	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	0,0	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	0,0	45	23,7	10,0	M10	15,0	5,0	0,3	5,5	6	16	10,5
373548	45,6	61,6	10,0	60	28,3	23,6	M12	17,0	5,0	0,3	5,5	6	16	13,0
373555	45,6	61,6	10,0	60	28,3	23,6	M12	17,0	5,0	0,3	5,5	6	16	13,0

$\square$ $\square$ number of segments, $\square$ D $\square$ diameter of the segments

No. 6383ZUK

Centering tensioner

with flat-faced ball.

Repeatability ± 0.025 mm

Rotational accuracy ± 0.050 mm



Order no.	D min.	D max.	max. pull force [kN]	S DIN 912	Φ [kN]	Weight [g]
373563	11,7	14,2	2,3	M6x10	2,0	Φ
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	$\Phi 8$
373613	30,5	38,5	$\Phi, 0$	M12x20	8,5	13 Φ
373621	38,5	46,5	$\Phi, 0$	M12x20	8,5	248
373639	46,5	54,5	$\Phi, 0$	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

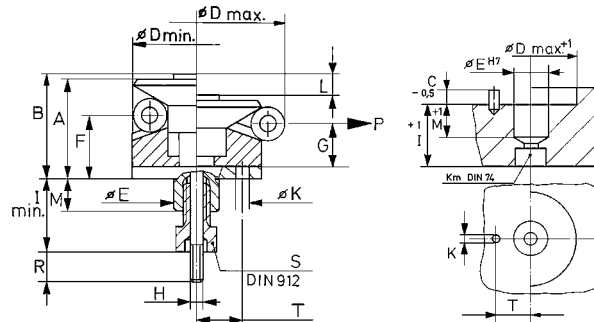
Application:

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 Φ for retaining pin for determining the precise position of the balls.



Dimensions:

Order no.	Φ	Φ	Φ	Φ f7	Φ	Φ	H	I min.	Φ	Φ	M	Φ	Φ D	Φ	T
373563	11,0	15,0	1,0	8	$\Phi, 2$	8,6	M3	10,5	1,5	1,5	7,5	3	2,5	10	5,2
373571	14,1	17,0	1,5	8	$\Phi, 1$	7,0	M3	10,5	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	13,0	M5	30,0	3,0	2,3	11,5	3	4,0	14	$\Phi, 4$
373605	20,1	27,1	2,0	15	15,1	13,0	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	10,0	M8	43,0	5,0	$\Phi, 3$	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	$\Phi, 3$	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	$\Phi, 3$	16,5	6	16,0	16	36,5

Φ number of balls, Φ D diameter of the balls

No. 6383ZUS

Centering tensioner

With protective segments.

Repeatability ± 0.025 mm

Rotational accuracy $\pm 0,050$ mm



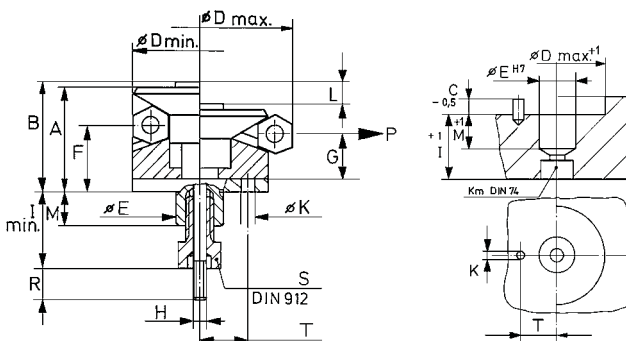
Order no.	D min.	D max.	max. pull force [kN]	S D 12	Φ [kN]	Weight [g]
373670	14,5	18,5	2,3	M6x10	2,0	22
373688	18,5	22,5	4,0	M8x16	3,5	54
373696	22,5	26,5	6,5	M10x16	6,0	64
373704	26,5	30,5	6,5	M10x16	6,0	78
373712	30,5	38,5	10,0	M12x20	8,5	132
373720	38,5	46,5	10,0	M12x20	8,5	248
373738	46,5	54,5	10,0	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 for retaining pin for determining the precise position of the segments.



Dimensions:

Order no.	Φ	Φ	Φ	Φ f7	Φ	Φ	H	I min.	Φ	Φ	M	Φ	Φ D	Φ	T
373670	14,1	17,0	1,5	8	11,1	7,7	M3	10,5	2,0	2,3	7,5	3	4	10	6,0
373688	16,6	20,6	1,5	12	13,1	10,4	M4	28,0	2,5	2,3	11,5	3	4	16	7,8
373696	20,1	27,1	2,0	15	16,1	13,2	M5	30,0	3,0	2,3	11,5	3	4	14	10,4
373704	20,1	27,1	2,0	15	16,1	13,2	M5	30,0	3,0	2,3	11,5	3	4	14	10,5
373712	24,2	32,7	2,0	20	19,2	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	18,0	M8	43,0	5,0	10,3	16,5	6	16	16	20,0
373753	45,6	55,1	2,5	40	28,3	23,6	M8	43,0	5,0	10,3	16,5	6	16	16	25,0
373761	45,6	55,1	2,5	60	28,3	23,6	M8	43,0	5,0	10,3	16,5	6	16	16	36,5

Φ number of segments, Φ D 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?

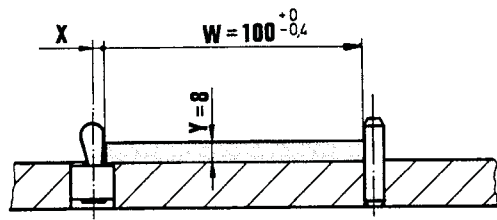
- > If nothing may extend over the plate 5 mm
- > If projection would not be a problem 6 or 8 mm
- > If clamping will be done additionally 6 mm
- > If drilling will be performed without additional clamping 8 mm

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

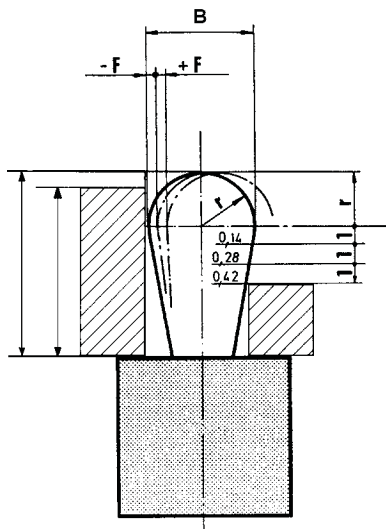
Dimension X for side thrust pieces with steel spring?

- > 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.

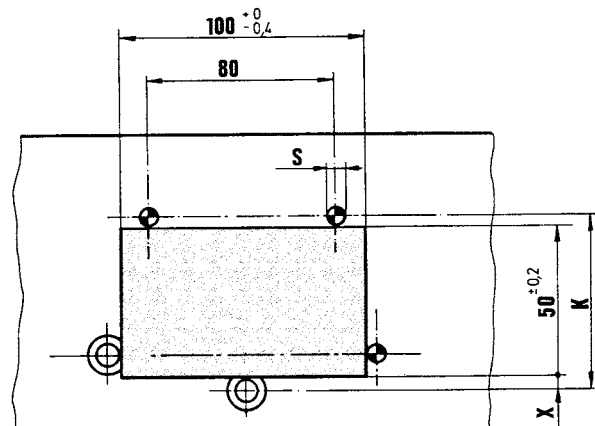
For workpieces that are smaller than C minus r, the table values for dimension X or the formula $X = B/2 - (-F) - [(C - r - Y) \times 0,123]$ apply.



Formula for coordinates:

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

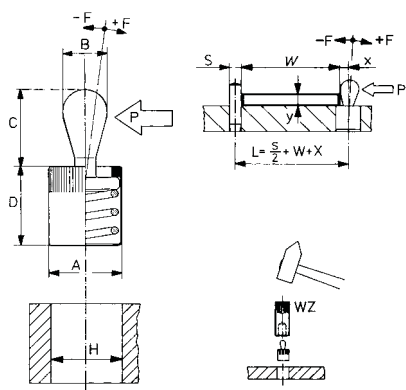
The table values are standard values that should ideally be checked using a sample clamping.



No. 6380

Lateral pressure pad

without seal.
Steel pin for clamping.



Order no.	6	3	4,0	D - 1	H H8	±	~P [N]	0,2	suitable tool	Weight [g]
373001	6	3	4,0	7	6	±0,5	10	0,2	03	0,6
373019	6	3	4,0	7	6	±0,5	20	0,2	03	0,6
373027	6	3	4,0	7	6	±0,5	40	0,2	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	2,2
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	3,2
373092	12	8	13,2	13	12	±1,3	50	2,6	08	7,0
373100	12	8	13,2	13	12	±1,3	100	2,6	08	7,2
373118	12	8	13,2	13	12	±1,3	200	2,6	08	7,4
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

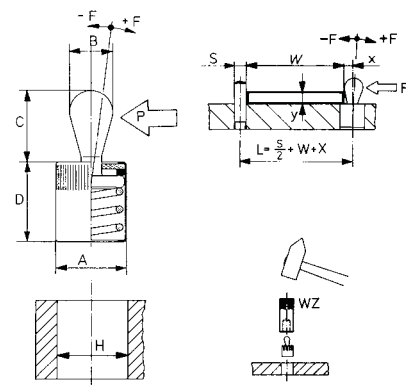
Note:

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

No. 6380D

Lateral pressure pad

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



Order no.	6	3	4	D - 1	H H8	±	~P [N]	0,2	suitable tool	Weight [g]
373159	6	3	4	7	6	±0,5	10	0,2	03	0,6
373167	6	3	4	7	6	±0,5	20	0,2	03	0,6
373175	6	3	4	7	6	±0,5	40	0,2	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	2,2
373209	10	5	6	12	10	±0,8	100	1,6	05	2,2
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	3,2
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 373290, black, 60 Shore. Installation by pressing in.

No. 6380WZ

Tool

for pressing in the lateral pressure pad.



Order no.	Size	Weight [g]
373308	03	15,0
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.	Ø	Ø	Ø	D	Ø	Ø	Ø	SW	Ø	Ø	max. holding force [kN]	max. torque [Nm]	Weight [g]
373779	11,0	M4	4,0	12	2,6	4,8	5,5	3	4,0	5,0	0,1	5	5
373787	15,6	M6	5,5	16	5,0	6,7	7,8	5	5,0	7,0	0,4	20	10
373795	18,1	M8	6,5	20	5,8	8,3	9,6	6	7,1	8,6	3,0	30	15
373803	23,7	M10	8,0	24	6,3	8,8	11,8	8	8,5	10,3	4,5	45	20
373811	27,3	M12	10,0	18	8,5	11,7	13,6	10	10,1	12,2	6,0	65	35
373829	27,3	M12	10,0	30	8,5	11,7	13,6	10	10,1	12,2	5,0	50	55
373837	35,4	M16	12,0	24	10,7	15,6	17,7	14	13,2	16,2	10,0	100	100
373845	35,4	M16	12,0	40	10,7	15,6	17,7	14	13,2	16,2	7,5	80	110

Application:

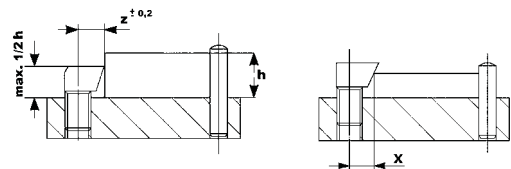
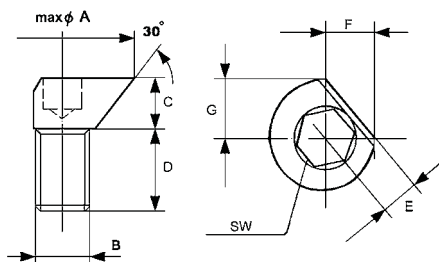
- clamping above the machining surface
- clamping below the machining surface
- clamping in holes.

Advantage:

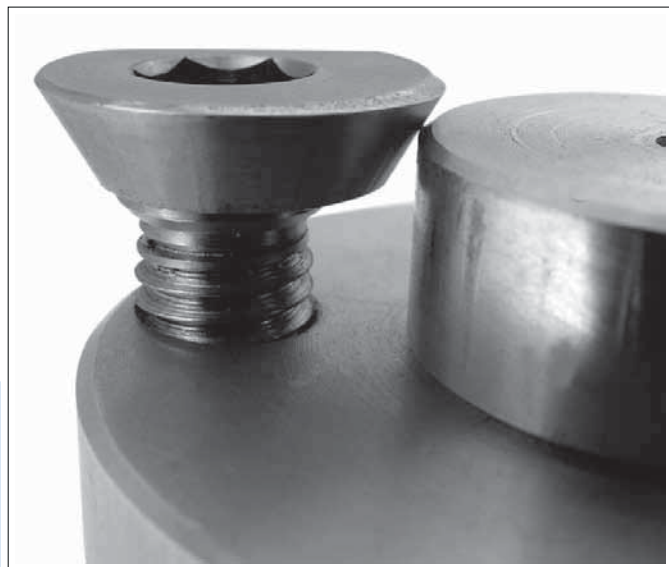
- stepless adjustment with eccentric
- high wear resistance.

On request:

The eccentric clamping bolt is also 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



PRACTICAL, SAFE AND ECONOMICAL

These magnetic lifters are a real revolution in magnetic handling. Compact dimensions, low weight, great power and total operational reliability are the special features of this device. They make this solution especially cost-effective for both small workshops and large industrial firms, with near zero operating costs and quick return on investment.

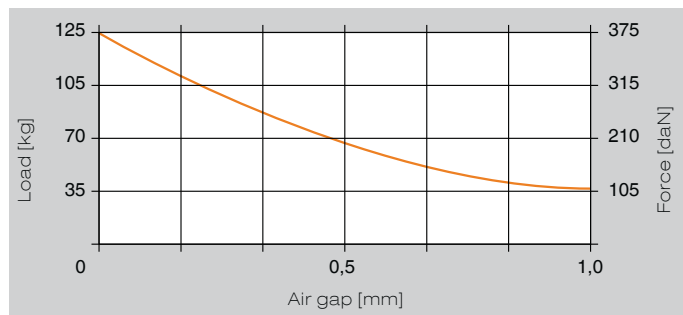
The series consists of 5 models with carrying capacities of up to 2000 kg. Easy to use and operate, they give huge advantages through increased efficiency and productivity in a great number of applications even with limited handling space and hoisting or lifting equipment with limited carrying capacities.

Ideal for handling workpieces in machine tools and oxygen cutting operation, for plates, sheet and iron blocks in steel structural works and ship-yards building, in steel industries and distribution centres, for changing tooling in production and in general for all the requirements of the modern mechanical workshops.

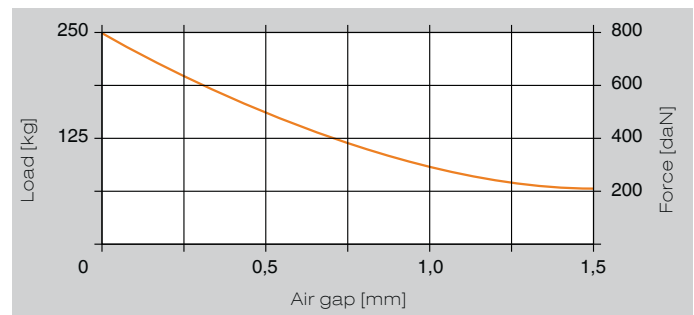
A single operator can handle the load, which is always anchored from above and lifted from the top without deformation or damage and with optimal use of the available work space, perfect human engineering and full safety for men and equipment.

POWER VS LOAD-AIR GAP CURVES (for common structural steel of type FE 370B with poles completely covered)

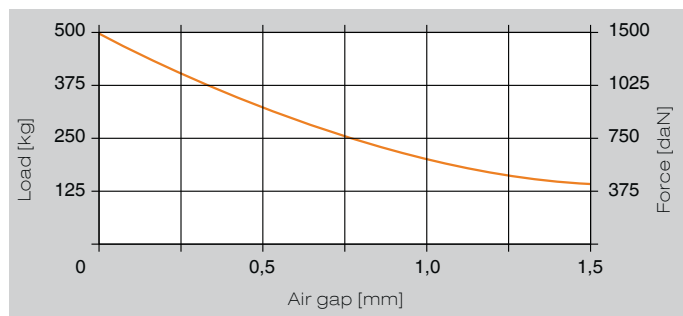
SIZE 125 - MINIMUM THICKNESS 20 MM



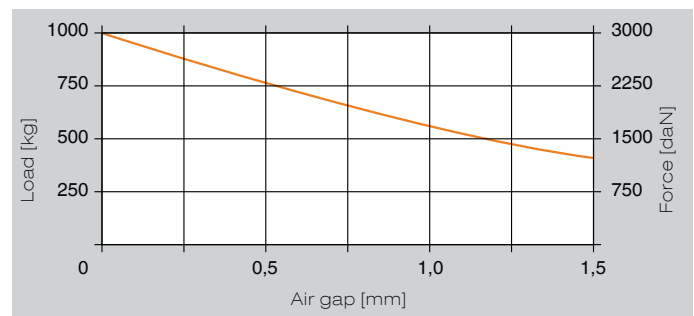
SIZE 250 - MINIMUM THICKNESS 20 MM



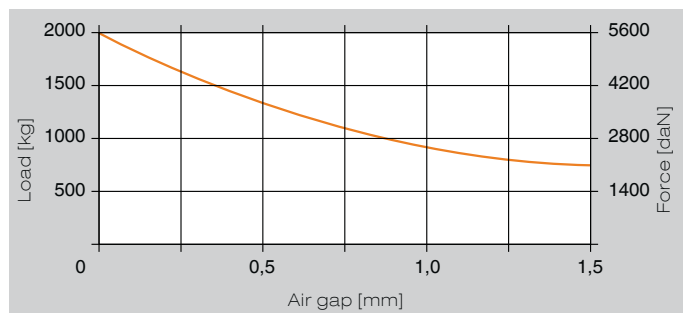
SIZE 500 - MINIMUM THICKNESS 25 MM



SIZE 1000 - MINIMUM THICKNESS 40 MM



SIZE 2000 - MINIMUM THICKNESS 55 MM



Definitions:

Load = carrying capacity [kg] (with safety factor = 3)

Force = max. tearing force [daN] (without safety factor)

No. 2940

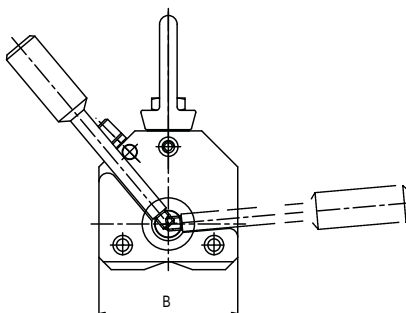
Magnetic lifting device with manual actuation



Order no.	Size	Ø	Ø	H	Weight [kg]
420752	125	121	70	145	4
420760	250	180	70	142	6
420778	500	250	106	180	15
420505	1000	342	133	210	34
420521	2000	457	166	233	80

Note:

Size 125 with rotatable hook.
Max. temperature of the load 280°C.



Technical data for lifting flat workpieces

Order no.	Size	Holding force up to [kg]	max. workpiece length [mm]	min. workpiece thickness [mm]
420752	125	125	1000	20
420760	250	250	1500	20
420778	500	500	2000	25
420505	1000	1000	3000	40
420521	2000	2000	3000	55

Technical data for lifting round workpieces

Order no.	Size	Holding force up to [kg]	min. workpiece diameter [mm]	max. workpiece diameter [mm]
420752	125	50	10	300
420760	250	100	10	300
420778	500	200	15	400
420505	1000	400	25	450
420521	2000	800	35	600



Subject to technical alterations.

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Article no.	Page	Article no.	Page	Article no.	Page	Article no.	Page	Article no.	Page
DIN 508	26	No. 6325	17, 41	No. 6400	63	No. 6491	120	No. 7110DHX	50
DIN 6314	36	No. 6325G	41	No. 6400G	64	No. 6492	120	No. 7110DIX	50
DIN 6315B	37	No. 6328	147	No. 6400M	64	No. 6492D	121	No. 7110DKX	50
DIN 6315C	32	No. 6331S	101	No. 6401	65	No. 6493F	127	No. 7110DMX	42
DIN 6316	32	No. 6332S	101	No. 6405	65	No. 6493N	125	No. 7110DX	42
DIN 6318	56	No. 6333	103	No. 6406	67	No. 6493S	126	No. 7110GLX	42
DIN 6319C	104	No. 6333S	102	No. 6406	66	No. 6493SP	126	No. 7110GX	42
DIN 6319D	104	No. 6333SB	103	No. 6406	66	No. 6494	122	No. 7110M-**-2	25
DIN 6319G	105	No. 6334	22	No. 6406M	66	No. 6495	132	No. 7200B	54
DIN 6323	151	No. 6339	111	No. 6415	62	No. 6495S	132	No. 7200BB	52
DIN 6326	52	No. 6342	111	No. 6416	62	No. 6496	133	No. 7200BR	53
DIN 6326	52	No. 6344SP	146	No. 6417	75	No. 6496BF	133	No. 7200Z	53
DIN 6330B	22	No. 6347P	136	No. 6417SP	76	No. 6496F	133	No. 7500A	25
DIN 6331	100	No. 6347PP	137	No. 6417Z	76	No. 6497	123	No. 7500BF	27
DIN 6331	100	No. 6347PS	138	No. 6418	77	No. 6497G	124	No. 7500BZ	27
DIN 6340	105	No. 6347PSP	137	No. 6419	78	No. 6498	130	No. 7500D	26
DIN 6346	135	No. 6347S	136	No. 6419B-12-01	72	No. 6498FR	131	No. 7500E	23
DIN 6346P	135	No. 6347SP	136	No. 6419B-12-02	72	No. 6498FT	131	No. 7500F	25
DIN 6379	24	No. 6348P	132	No. 6419B-12-03	72	No. 6499	127	No. 7500G	23
DIN 6379	22	No. 6348PP	142	No. 6419B-12-04	80	No. 6500E	57	No. 7500K	20
DIN 6379	23	No. 6348PP	142	No. 6419B-12-05	80	No. 6500H	57	No. 7500S	22
DIN 787	86-20	No. 6348PP	141	No. 6419B-16-01	80	No. 6501	58	No. 7500SP	27
DIN 894	112	No. 6348PS	144	No. 6419B-16-02	81	No. 6501M	58	No. 7500T	26
No. 2800WX-06	16	No. 6348PS	143	No. 6419B-16-03	81	No. 6510	52	No. 7500Z	26
No. 2940	165	No. 6348PS	143	No. 6419B-16-04	81	No. 6520	107	No. 7800AMGX	10
No. 508F	27	No. 6348PSP	141	No. 6420	63	No. 6530	106	No. 7800APAX	11
No. 508L	27	No. 6348PSP	140	No. 6430S	62	No. 6531	106	No. 7800AVX	16
No. 508R	28	No. 6348PSP	140	No. 6435S	62	No. 6532	107	No. 7800DX	14
No. 510	28	No. 6348S	132	No. 6435SG	73	No. 6535	110	No. 7800EX	15
No. 6312S	34	No. 6348SP	132	No. 6438S	70	No. 6540	113	No. 7800VABX	17
No. 6312V	30-32	No. 6349P	146	No. 6440	71	No. 6540F	116	No. 7800VAFX	15
No. 6312VI	33	No. 6349PP	145	No. 6441	71	No. 6540G	114	No. 7800VDSX	14
No. 6313K	44	No. 6350	147	No. 6442	71	No. 6540H	114	No. 7800VDX	14
No. 6313L	44	No. 6351	148	No. 6442G	74	No. 6540K	115	No. 7800VNSX	16
No. 6314AT	48	No. 6353	148	No. 6443	72	No. 6540KS	115	No. 7800VPFX	13
No. 6314AV	43	No. 6355V	142	No. 6443G	74	No. 6540P	117	No. 7800VPX	13
No. 6314S	46	No. 6357	150	No. 6444	72	No. 6540S	117	No. 7800VSBX	17
No. 6314V	42	No. 6358	150	No. 6445	72	No. 6540V	116	No. 7800VSDX	15
No. 6314Z	37	No. 6370ZNSX-001	18	No. 6460	68	No. 6541	118	No. 7800VX	14
No. 6315GN	38	No. 6370ZNX-20	18	No. 6465	68	No. 6600	153	No. 7800X	8
No. 6315GNG	38	No. 6379I	24	No. 6470	108	No. 6601	153	No. 7800ZSX	16
No. 6315V	43	No. 6380	161	No. 6470H-1	102	No. 6610	153	No. 7810ABX	12
No. 6316V	42	No. 6380D	161	No. 6470H-2	102	No. 6611	154	No. 7810AMGX	12
No. 6317	40	No. 6380WZ	162	No. 6470-Mxx	108	No. 6612	154	No. 7810APAX	12
No. 6318B	56	No. 6383ZEK	156	No. 6475	60	No. 6614	155	No. 797	21
No. 6319D	104	No. 6383ZES	157	No. 6485	111	No. 6616	155	No. 902Md	118
No. 6321	45	No. 6383ZUK	158	No. 6486	112	No. 6621	46	No. 908X-G1/8	15
No. 6322A	152	No. 6383ZUS	152	No. 6489	128	No. 7000	47	No. 916Q	122
No. 6322B	152	No. 6387	162	No. 6490	112	No. 7110DFX	50		

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153478	26	313452	133	370106	140	370262	140	370422	140
155630	26	313478	133	370114	140	370270	140	370437	140
158220	28	313424	133	370122	140	370288	140	370445	141
158238	28	313510	133	370130	140	370226	140	370452	141
158246	28	313536	133	370148	140	370304	140	370460	141
158253	28	313551	133	370155	140	370312	140	370478	141
158822	26	370007	140	370163	140	370320	140	370486	141
158207	26	370015	140	370171	140	370338	140	370424	141
159418	26	370023	140	370182	140	370346	140	370502	141
152426	26	370031	140	370127	140	370353	140	370510	141
30064	37	370042	140	370205	140	370361	140	370528	141
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370601	141	37141	142	372136	143	372862	26	37357	158
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370627	141	371435	142	372151	143	372888	22	373613	158
370635	141	371443	142	37216	143	37286	22	373621	158
370643	141	371450	142	372177	143	37204	25	37363	158
370650	141	371468	142	372185	143	372012	23	373647	158
370668	141	371476	142	37213	143	372020	23	373654	158
370676	141	371484	142	372201	143	372038	26	373662	158
370684	137	37142	142	37221	143	372046	27	373670	15
37062	137	371500	142	372227	143	372053	27	373688	15
370700	137	371518	142	372235	143	372061	20	373606	15
370718	137	371526	142	372243	142	37207	27	373704	15
370726	137	371534	142	372250	142	372087	27	373712	15
370734	137	371542	142	372268	142	37205	27	373720	15
370742	137	37155	142	372276	142	373001	161	373738	15
37075	137	371567	144	372284	142	37301	161	373746	15
370767	137	371575	144	37222	142	373027	161	373753	15
370775	137	371583	144	372300	142	373035	161	373761	15
370783	137	37151	144	372318	142	373043	161	37377	162
37071	137	37160	144	372326	142	373050	161	373787	162
37080	137	371617	144	372334	142	373068	161	37375	162
370817	137	371625	144	372342	142	373076	161	373803	162
370825	138	371633	144	37235	142	373084	161	373811	162
370833	138	371641	144	372367	142	373022	161	37382	162
370841	138	371658	144	372375	142	373100	161	373837	162
370858	138	371666	144	372383	142	373118	161	373845	162
370866	138	371674	144	37231	142	373126	161	373878	41
370874	138	371682	144	37240	142	373134	161	373886	41
370882	138	37160	144	372417	142	373142	161	373804	20
37080	138	371708	144	372425	142	37315	161	3730	37
37008	138	371716	144	372433	142	373167	161	37302	20
370016	138	371724	144	372441	142	373175	161	373028	42
370024	138	371732	144	372458	142	373183	161	373036	42
370032	138	371740	144	372466	142	37311	161	373044	42
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370057	138	371765	144	372482	146	373217	161	37306	58
370065	136	371773	144	37240	146	373225	161	374124	132
371062	13	371781	144	372508	145	373233	161	374132	132
371070	13	37170	144	372516	145	373241	161	374140	132
371088	13	371807	143	372524	145	373258	161	374157	133
371006	13	371815	143	372532	145	373266	161	374165	133
371104	13	371823	143	372540	145	373274	161	374173	133
371112	13	371831	143	372557	145	373282	161	374181	133
371120	141	37184	143	372565	145	373200	161	374100	133
371138	141	371856	143	372573	145	373308	162	374207	133
371146	141	371864	143	372581	145	373316	162	374215	133
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371105	141	371014	143	372631	145	373373	156	374306	53
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371211	141	371030	143	372656	145	37330	156	374322	53
37122	141	371048	143	372664	145	373407	156	374330	52
371237	141	371055	143	372672	145	373415	156	374348	53
371245	141	371063	143	372680	145	373423	156	374355	130
371252	141	371071	143	372608	145	373431	156	374363	53
371260	141	371080	143	372706	145	373440	156	374371	131
371278	141	371007	143	372714	145	373456	156	374307	131
371286	141	372003	143	372722	145	373464	157	374405	42
371204	141	372011	143	372730	145	373472	157	374413	46
371302	141	372020	143	372748	145	373480	157	374430	42
371310	141	372037	143	372755	145	373408	157	374447	50
371328	142	372045	143	372763	145	373506	157	374454	50
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371344	142	372060	143	372780	145	373522	157	374470	8
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374553	15	375766	32	376608	118	70201	42	70020	38
374561	14	375774	8	376632	114	70210	42	70038	38
374570	15	375782	32	376657	114	70227	37	70046	38
374587	16	375700	8	376673	115	70235	37	70053	38
374505	16	375808	32	376600	115	70243	37	70061	38
374603	16	375816	32	376715	115	70250	37	70070	38
374611	16	375824	32	376723	115	70268	42	70087	127
374620	17	375832	32	376740	115	70276	42	70005	127
374637	17	375840	32	376764	115	70284	42	71001	127
374645	18	375857	32	376780	116	70202	42	71010	127
374652	18	375865	32	376806	116	70300	42	71027	30
374660	18	375873	32	376822	116	70318	42	71035	30
374678	18	375881	32	376848	116	70326	42	71043	30
374604	14	375800	32	381772	102	70334	37	71050	30
374710	114	375007	32	381780	102	70342	125	71068	30
374728	114	375015	32	381708	102	70350	37	71076	30
374736	115	375023	32	381806	102	70367	37	71084	30
374744	115	375040	32	381814	102	70375	37	71002	30
374751	115	375056	33	381822	102	70383	37	71100	30
374760	115	375064	32	381830	102	70301	37	71118	30
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374785	115	375080	32	381855	103	70417	37	71134	30
374703	115	375008	33	381863	103	70425	37	71142	126
374801	115	376004	33	381871	103	70433	37	71150	30
374810	116	376012	33	381880	103	70441	37	71167	43
374827	116	376020	33	381807	103	70458	37	71175	43
374835	116	376038	33	381005	103	70466	37	71183	42
374843	116	376046	33	381021	103	70474	37	71101	43
374850	117	376053	33	381088	42	70482	37	71200	42
374868	117	376061	33	382002	42	70400	37	71217	42
374876	11	376070	33	420505	165	70508	37	71225	42
374884	15	376087	33	420521	165	70516	37	71233	70
374802	11	376005	33	420752	165	70524	37	71241	126
374000	11	376103	33	420760	165	70532	37	71258	43
374018	11	376111	115	420778	165	70540	37	71266	42
374026	31	376120	115	44206	120	70557	37	71274	42
374034	114	376137	38	44271	120	70565	37	71282	42
374042	31	376145	38	52514	118	70573	37	71200	42
374050	114	376152	38	52522	118	70581	37	71308	42
374067	31	376160	38	53520	112	70500	37	71316	42
374075	13	376178	38	53570	112	70607	37	71324	42
374083	31	376186	38	53505	112	70615	37	71332	42
374001	13	376202	38	53611	112	70623	37	71340	40
375006	31	376228	38	53620	112	70631	37	71357	40
375014	10	376244	38	53645	112	70640	37	71365	56
375022	10	376251	73	53652	112	70656	37	71373	56
375030	10	376260	38	53660	112	70664	125	71381	56
375048	10	376277	73	53678	112	70672	37	71300	56
375007	11	376285	38	53686	112	70680	126	71407	56
375105	8	376203	73	53604	112	70608	126	71415	56
375386	54	376301	38	53702	112	70706	30	71423	56
375304	54	376310	73	53710	112	70714	30	71440	112
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